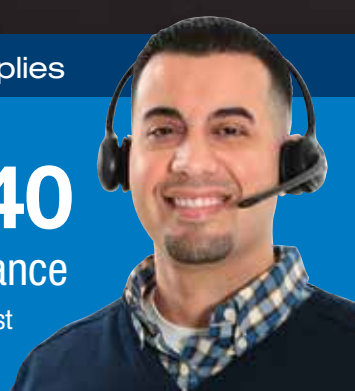
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Tedlar® Sampling Bags with Combination Valve

Easy control, single fitting with on/off valve and septum port

– Solid seam construction for added strength
– Corner opening with grommet allows tagging or hanging during transport and storage
– Includes certificate documenting lot compliance

Gas sampling bags are constructed of 2-mil thick Tedlar® with a solid seam to keep gases contained. Unique polypropylene combination valve features a ⅛" OD on/off stem suitable for tubing connections and integral PTFE/silicone septum for syringe sampling. Low permeability.

Volume	Dimensions (L x W)		Qty/cs	Catalog number	Price/cs*
	in.	cm			
1 L	7 x 7	17.8 x 17.8	10	XJ-86561-00	
3 L	9 x 12	22.9 x 30.5	10	XJ-86561-02	
5 L	12 x 12	30.5 x 30.5	10	XJ-86561-04	
10 L	12 x 19	30.5 x 48.3	10	XJ-86561-06	

***Discount:** Save 10% on 10 or more cases.



Reinforced grommet is ideal for tagging or hanging bags.

Dräger accuro® Pump Kit and Gas Detection Tubes

Easy, one-handed operation

– Wider diameter tubes with well-spaced graduation marks are easier to read

The accuro® gas detector pump is a manually operated bellows pump that draws a calibrated 100-mL sample through the short-term Dräger gas detection tubes (order tubes separately). Provides fast, accurate, reliable results in just seconds.

What's included: pump, tube opener, spare parts kit, rubber caps (10/pk), and nylon case.



Pump Kit

Description	Sample volume	Catalog number	Price
accuro® pump kit	100 mL	XJ-86514-00	

Gas Detection Tubes

Gas/vapor	Range	TLV	Catalog number	Price/ box of 10
Acetic acid	5 to 80 ppm	10 ppm	XJ-86514-10	
Acetone	10 to 12,000 ppm	750 ppm	XJ-86514-12	
Alcohol	25 to 5000 ppm methanol	200 ppm	XJ-86514-61	
	50 to 4000 ppm propanol	400 ppm		
	100 to 5000 butanol	50 ppm		
	25 to 2000 ethanol	1000 ppm		
Ammonia	0.05 to 10%	25 ppm	XJ-86514-13	
Ammonia‡	5 to 700 ppm	25 ppm	XJ-86514-14	
Ammonia	0.25 to 3 ppm	25 ppm	XJ-86514-15	
Arsine	0.05 to 3 ppm	0.05 ppm	XJ-86514-16	
Benzene	15 to 420 ppm	0.5 ppm	XJ-86514-20	
Carbon dioxide‡	0.1 to 1.2%	5000 ppm	XJ-86514-22	
Carbon dioxide	1 to 20%	5000 ppm	XJ-86514-24	
Carbon monoxide	2 to 300 ppm	25 ppm	XJ-86514-26	
Carbon monoxide‡	5 to 700 ppm	25 ppm	XJ-86514-27	
Carbon monoxide	0.1 to 7%	25 ppm	XJ-86514-28	
Chlorine	0.2 to 30 ppm	0.5 ppm	XJ-86514-30	
Chloroform	2 to 10 ppm	10 ppm	XJ-86514-29	
Ethyl acetate	200 to 3000 ppm	400 ppm	XJ-86514-53	
Ethylene	0.2 to 5 ppm	asphyx	XJ-86514-54	
Ethylene glycol	10 to 180 mg/m³	100 mg/m³	XJ-86514-31	
Ethylene oxide	1 to 15 ppm	1 ppm	XJ-86514-32	
Formaldehyde	2 to 40 ppm	0.3 ppm	XJ-86514-34	
Hydrochloric acid	1 to 10 ppm	5 ppm	XJ-86514-35	
Hydrogen fluoride	0.5 to 90 ppm	3 ppm	XJ-86514-59	
Hydrogen sulfide	0.2 to 5 ppm	10 ppm	XJ-86514-60	
Hydrogen sulfide	2 to 200 ppm	10 ppm	XJ-86514-37	
Hydrogen sulfide‡	1 to 200 ppm	10 ppm	XJ-86514-38	
Hydrogen sulfide	100 to 2000 ppm	10 ppm	XJ-86514-39	
Hydrogen sulfide	2 to 40%	10 ppm	XJ-86514-40	
Mercury	0.05 to 2 mg/m³	0.025 mg/m³	XJ-86514-62	
Methyl bromide	3 to 100 ppm	5 ppm	XJ-86514-64	
Nitrous gases	2 to 100 ppm	25 ppm NO 3 ppm NO_3	XJ-86514-65	
Oxygen	5 to 23%	—	XJ-86514-44	
Ozone	0.05 to 1.4 ppm	0.05 to 1 ppm	XJ-86514-46	
Petroleum hydrocarbons	10 to 300 ppm	—	XJ-86514-56	
Petroleum hydrocarbons	100 to 2500 ppm	—	XJ-86514-57	
Sulfur dioxide	1 to 25 ppm	2 ppm	XJ-86514-66	
Toluene	50 to 400 ppm	50 ppm	XJ-86514-50	
Trichloroethylene	2 to 250	50 ppm	XJ-86514-67	
Xylene	10 to 400 ppm	100 ppm	XJ-86514-52	

†Models contain 10 twin tubes (5 tests/box). ‡SEI certified by Safety Equipment Institute

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Protect workers from airborne contaminants. See our wide selection of respirators and masks. **Go to ColeParmer.com**



Digi-Sense™ Precalibrated Professional CFM/CMM Vane Thermoanemometer

Save time by storing up to 16 vent area sizes

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- User-selectable units of measure eliminate the need for conversion
- Large dual-function 4-digit LCD with backlight for easy reading
- Auto power-off extends battery life
- Fits comfortably in your hand



DIGI-SENSE™

The Digi-Sense Professional CFM/CMM vane thermoanemometer is designed to help you meet cooling and environmental requirements for safety and comfort. The large dual display allows you to simultaneously read air velocity or airflow, and air temperature. Air velocity, airflow, and temperature parameters can be measured on a single point, average, maximum, or minimum basis. Up to 16 memory storage locations (8 CFM and 8 CMM) for commonly tested air vent sizes are available to save time.

Description		Professional CFM/CMM vane thermoanemometer
Catalog number		XJ-20250-15
Air velocity	Range	80 to 5900 ft/min (0.4 to 30 m/s)
	Resolution	1 ft/min (0.01 m/s)
	Accuracy	±(3% + 40 ft/min) [±(3% + 0.20 m/s)]
Airflow	Range	0 to 999,900 CFM (0 to 999,900 CMM)
	Resolution	0.001 to 100 CFM/CMM
Temperature	Range	32 to 122°F (0 to 50°C)
	Resolution	0.1°F/°C
	Accuracy	4.0°F (2.0°C)
Units, selectable		ft/min, m/s, mph, km/h, knots, CFM, CMM, °F, °C
Airflow memory		16 commonly used area sizes (8 for CFM and 8 for CMM)
Sampling rate		Approximately once per second
Power		One 9 V battery, 80 hours typical
Price		

Digi-Sense™ Precalibrated CFM/CMM Hot-Wire Thermoanemometer

High precision at very low air velocities and flow rates

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Slim telescoping hot-wire probe for hard-to-reach areas
- Large dual-function LCD with backlight
- Auto power-off extends battery life



Designed for precision air velocity and airflow measurements in seven user-selectable units. Simultaneously reads air velocity or airflow, and air temperature and shows real time, maximum, minimum, and average values for the parameters under investigation. Slim telescopic probe reaches into small openings.

Handheld meter permits single-point measurements or average measurements taken over a given time period. Includes software and USB cable to download measurements into a PC for analysis and storage.

DIGI-SENSE™

Description		CFM/CMM hot-wire thermoanemometer
Catalog number		XJ-20250-16
Air velocity	Range	20 to 4925 ft/min (0.1 to 25 m/s)
	Resolution	1 ft/min (0.01 m/s)
	Accuracy	±(5% + 1 digit) reading or ±(1% + 1 digit) full scale, whichever is greater
Airflow	Range	0 to 99,999 CFM (0 to 99,999 CMM)
	Resolution	0.001 to 100 CFM/CMM
Temperature	Range	32 to 122°F (0 to 50°C)
	Resolution	0.1°F/°C
	Accuracy	2.0°F (1.0°C)
Units, selectable		ft/min, m/s, mph, km/h, knots, CFM, CMM, °F, °C
Memory		Maximum and minimum with recall
Sampling rate		Approximately once per 0.8 second
Power		One 9 V battery
Price		

Pocket Thermoanemometer

Measure three parameters on the go

- Simultaneously view air velocity/temperature or humidity/temperature
- Measure external temperatures with type K thermocouple probe (order separately)

Ideal for air duct and ventilation measurements. When powered off, the meter defaults to the last function used. Features include data hold, min/max readings, selectable °F/°C readings, auto shutoff, low-battery, and over-range indication.

What's included: wrist strap and 9 V battery.

CE

Description	Pocket thermoanemometer		
Catalog number	XJ-10201-30		
Mode	Range	Resolution	Accuracy
Air velocity	80 to 5910 ft/min	10 ft/min	±3% F.S.
	0.4 to 30 m/s	0.1 m/s	
	0.9 to 67 mph	0.1 mph	
	1.4 to 108 km/hr	0.1 km/hr	
	0.8 to 58.3 knots	0.1 knots	
Temp (internal)	32 to 122°F (0 to 50°C)	0.1°F/°C	±2.5°F (±1.2°C)
Temp (external)	–148 to 2372°F (–100 to 1300°C)	0.1°F/°C	±(1%+2°F) of rdg (±(1%+1°C) of rdg)
Humidity	10 to 95% RH	0.1% RH	±4% of rdg
Power	One 9 V battery (included)		
Price			



XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4

XJ-08517-55 **General-purpose probe,** type K. Max temp: 1400ºF (760ºC)

META Unisex Poly-Cotton Lab Coats

No more stains

– Polyester/cotton blend resists stains

Side slits allow easy access to pants pockets. Coats are 40" (101.6 cm) long and feature three spacious pockets and an adjustable back belt.

"Awesome protection."





Unisex size	Length	White	Light blue	Black	Navy blue
M (36-40)	40" (101.6 cm)	XJ-10503-04 /ea*	XJ-10505-04 /ea*	XJ-10503-14 /ea*	XJ-10504-04 /ea*
L (42-44)	40" (101.6 cm)	XJ-10503-05 /ea*	XJ-10505-05 /ea*	XJ-10503-15 /ea*	XJ-10504-05 /ea*
XL (46-48)	40" (101.6 cm)	XJ-10503-06 /ea*	XJ-10505-06 /ea*	XJ-10503-16 /ea*	XJ-10504-06 /ea*
XXL (50-52)	40" (101.6 cm)	XJ-10503-07 /ea*	XJ-10505-07 /ea*	XJ-10503-17 /ea*	XJ-10504-07 /ea*
XXXL (54-56)	40" (101.6 cm)	XJ-10503-08 /ea*	XJ-10505-08 /ea*	XJ-10503-18 /ea*	XJ-10504-08 /ea*

*Discounts: Save 10% on 6–11 coats; 15% on 12–23 coats; 20% on 24+ coats.

Cuffed Unisex Lab Coats

Make wearing a lab coat a snap

– Easy to secure with six snaps up front

– Protect wrist and arms with polyester knit cuffs

An inside breast pocket prevents product contamination. Two additional patch-type pockets can be used in less stringent environments. White polyester and cotton blend poplin is easy to care for, looks fresh, and stays wrinkle-free all day. Made in the USA.

Lab coats are also available with your name custom embroidered above the left breast pocket. Royal blue embroidery fashions your name in a roman block font measuring ¾" (1.9 cm) H. Please specify the name(s) you want embroidered (up to 11 characters) when you place your order.





Personalize your lab coat for a more professional look!

Size	Length	Lab coat		Embroidered lab coat	
		Cat. no.	Price	Cat. no.	Price
Small (36–38)	41½" (105 cm)	XJ-86351-00		XJ-86351-10	
Medium (38.5–42)		XJ-86351-02		XJ-86351-12	
Large (42.5–46)		XJ-86351-04		XJ-86351-14	
X-large (46.5–50)		XJ-86351-06		XJ-86351-16	

Tyvek® Lab Coats

No tearing or snags

– Tyvek material resists snags, tears, punctures, and abrasions for better protection against airborne contaminants

Feature serged seams, five-snap front, and collar. White color; unisex.



Size	Catalog number	Price/ea
Medium	XJ-86225-31	
Large	XJ-86225-32	
X-large	XJ-86225-33	

Flame-Resistant Lab Coats

Don't get burned by flames

– Protect yourself when working with flammable chemicals in the lab

Constructed of flame-resistant 100% cotton, these lab coats feature three outside pockets, side vent openings, hemmed sleeve ends, and a lapel collar. Rated to Arc Thermal Protective Value (ATPV) of 7.7 calories/cm² and a Hazard Risk Category level of HRC1. Color is light blue.



Size	Length	Catalog number	Price/ea
Small	41½" (105.4 cm)	XJ-86468-30	
Medium		XJ-86468-31	
Large		XJ-86468-32	
X-large		XJ-86468-33	

Polypropylene (PP) Shoe Covers

Contain particulates from shoe soles

– 100% spunbond PP

– Available in regular or skid-free



Description	Size	Qty/cs	Catalog number	Price per case	
				1 cs	12 cs
Regular sole	Extra large	150 pairs	XJ-86227-82		
Skid-free sole			XJ-86227-92		

Polylatex Shoe Covers

Keep your feet dry

– Resist liquid for better protection

This shoe cover is made of durable, water resistant, lint-free blue polylatex. Polylatex offers better protection from liquid and more durability than other materials.



Size	Qty/cs	Catalog number	Price/cs
Extra large	150 pair	XJ-86228-12	

WHIRL-PAK® Sterile Sampling Bags, LDPE

Keep samples safe—easy-seal bags hold solids and liquids

– Quick and easy sealing—flip bag around wire/tape and bend to seal

– No more poking—puncture-proof tabs keep wire intact even after extensive use

Sampling Bags are available with or without a white labeling area.

"Speci-Sponge" Bags are designed to sample surfaces and equipment for *Listeria*, *Salmonella*, and other food-borne pathogens; contain a 1½" x 3" (3.8 x 7.6 cm) sponge that is free of bactericides and noninhibitory; with white labeling area.

Sodium Thiosulfate Bags are EPA-compliant for potable water collection; contain a nontoxic, nonnutritive 10-mg active ingredient tablet of sodium thiosulfate to neutralize the chlorine at the point of collection; with white labeling area.

High-Temperature Bag is for hot fill samples with a temperature up to 215°F (102°C). The FDA-compliant film is a blend of low-density polyethylene and nylon that will hold liquids, solids, sauces, gravies, and other samples having a high temperature. Bag is self standing and does not need a rack or special holder to keep it upright, making sample collection safe and easy. With white labeling area.
Caution: Do not put bag in boiling water.



Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

STERILE

Capacity oz (mL)	Size (W x L)	Thickness (mil)	Catalog number	Qty/pk	Price/pk
Sampling bags without white labeling area					
4 (118)	3" x 7¼" (7.6 x 18.4 cm)	2.25	XJ-06499-10	500	
18 (532)	4½" x 9" (11.4 x 22.9 cm)	2.5	XJ-06499-20	500	
24 (710)	6" x 9" (15.2 x 22.9 cm)	3.0	XJ-06499-30	500	
36 (1065)	5" x 15" (12.7 x 38.1 cm)	3.0	XJ-06499-40	500	
42 (1242)	6" x 15" (15.2 x 38.1 cm)	3.0	XJ-06499-50	500	
69 (2041)	7½" x 15" (19.1 x 38.1 cm)	3.0	XJ-06499-54	500	
Standup sampling bags with white labeling area					
4 (118)	3" x 7¼" (7.6 x 18.4 cm)	2.5	XJ-06499-16	500	
18 (532)	4½" x 9" (11.4 x 22.9 cm)	3.0	XJ-06499-21	500	
24 (710)	6" x 9" (15.2 x 22.9 cm)	3.0	XJ-06499-31	500	
27 (798)	5" x 12" (12.7 x 30.5 cm)	3.0	XJ-06499-32	250	
36 (1065)	5" x 15" (12.7 x 38.1 cm)	4.0	XJ-06499-33	250	
42 (1242)	6" x 15" (15.2 x 38.1 cm)	4.0	XJ-06499-34	250	
69 (2041)	7½" x 15" (19.1 x 38.1 cm)	4.0	XJ-06499-35	250	
Sampling bags with white labeling area					
2 (58)	3" x 5" (7.6 x 12.7 cm)	2.5	XJ-06499-60	500	
4 (118)	3" x 7¼" (7.6 x 18.4 cm)	2.25	XJ-06499-70	500	
7 (207)	3¾" x 7" (9.5 x 17.8 cm)	2.5	XJ-06499-72	500	
13 (384)	5¼" x 7½" (13.3 x 19.1 cm)	2.5	XJ-06499-74	500	
18 (532)	4½" x 9" (11.4 x 22.9 cm)	2.5	XJ-06499-80	500	
24 (710)	6" x 9" (15.2 x 22.9 cm)	3.0	XJ-06499-85	500	
27 (798)	5" x 12" (12.7 x 30.5 cm)	3.0	XJ-06499-87	500	
69 (2041)	7½" x 15" (19.1 x 38.1 cm)	3.0	XJ-06499-89	500	
92 (2721)	10" x 15" (25.4 x 38.1 cm)	4.0	XJ-06499-94	250	
123 (3637)	10" x 20" (25.4 x 50.8 cm)	4.0	XJ-06499-98	250	
184 (5441)	15" x 20" (38.1 x 50.8 cm)	4.0	XJ-06499-99	100	
"Speci-Sponge" bags for surface sampling with sponge					
18 (532)	4½" x 9" (11.4 x 22.9 cm)	2.5	XJ-06499-13	100	
55 (1627)	7½" x 11¾" (19.1 x 29.8 cm)	4.0	XJ-06499-14	100	
18 (532)	4" x 9" (10.2 x 22.9 cm)	2.5	XJ-06499-52	100	
Sodium thiosulfate bags for water sampling with tablet					
3⅜ (100)	3" x 7¼" (7.6 x 18.4 cm)	2.5	XJ-06499-90	100	
10⅛ (300)	4½" x 9" (11.4 x 22.9 cm)	2.5	XJ-06499-95	100	
High-temperature bag					
18 (532)	4½" x 9" (11.4 x 22.9 cm)	3.0	XJ-06498-16	500	

†Model 06499-52 has a sterile glove.


Standup bags stay upright


Water scoop holds bag open for easy filling

Accessories

XJ-66203-10 Carrying rack for 2- and 4-oz bags. Double-grid design keeps bags upright and has 15 compartments. Vinyl coated, autoclavable

XJ-66203-00 Carrying rack for 18-oz bags. Double-grid design keeps bags upright. Rack has 20 compartments. Vinyl coated, autoclavable

XJ-06498-12 Water scoop, 18" (45.7 cm) L coated handle. Two alligator clips hold a variety of bag sizes


Rack

Cole-Parmer® Symmetry® PT Toploading Balances

Large weighing surface allows placement of a variety of samples

- Weighing modes include parts counting, percent weighing, checkweighing, animal/dynamic weighing and density determination
- USB and RS-232 interfaces offer connection to a computer or printer for GLP/GMP-compliant outputs
- Sealed keypad, splashproof design, and removable stainless steel weighing pan
- An oversized backlit LCD provides clear visibility of weighing results
- Digital filters compensate for vibration, drafts or temperature changes
- Fast stabilization and response time

Symmetry®

What's included: AC power adapter. The 210-g and 410-g models also include a draft shield.



Specifications

Calibration: Internal or external with calibration mass

Weighing units: g, ct, oz, dwt, mg, grains, oz, ozt, dwt, custom

Power: 115/220 VAC power adapter and built-in rechargeable battery pack (battery function not available on models 10001-06, -07, -13)

Capacity	Readability	Repeatability	Linearity	Pan size	Catalog number	Price
Internal calibration						
210 g	0.001 g	±0.002 g	±0.002 g	5⅛" x 5⅛" (13 x 13 cm)	XJ-10001-10	
410 g	0.001 g	±0.002 g	±0.002 g		XJ-10001-11	
2200 g	0.01 g	±0.02 g	±0.02 g	7½" x 6¼" (19 x 16 cm)	XJ-10001-12	
4200 g	0.01 g	±0.02 g	±0.02 g		XJ-10001-13	
External calibration						
210 g	0.001 g	±0.002 g	±0.002 g	5⅛" x 5⅛" (13 x 13 cm)	XJ-10001-02	
410 g	0.001 g	±0.002 g	±0.002 g		XJ-10001-03	
2200 g	0.01 g	±0.02 g	±0.02 g	7½" x 6¼" (19 x 16 cm)	XJ-10001-04	
4200 g	0.01 g	±0.02 g	±0.02 g		XJ-10001-05	
5000 g	0.1 g	±0.2 g	±0.4 g		XJ-10001-06	
15000 g	0.1 g	±0.2 g	±0.4 g		XJ-10001-07	

Accessories

XJ-11120-78 Compact thermal printer

XJ-10000-47 Kensington™ type security lock and cable

XJ-17101-52 NIST-traceable calibration with data for balances

Cole-Parmer® Symmetry® PA Analytical Balances

Discover Symmetry—affordable, advanced, accurate

- Three-door glass draft shield provides easy access inside the weighing chamber
- Oversized backlit LCD provides clear visibility of weighing results
- Sealed keypad, splashproof design, and removable stainless steel weighing pan offer safeguards in a messy lab environment
- Weighing modes include parts counting, percent weighing and checkweighing
- USB and RS-232 interfaces offer connection to a computer or printer for GLP/GMP-compliant output
- Digital filters compensate for vibration, drafts or temperature changes
- Selectable multi-language display and output
- Fast stabilization and response time

Symmetry®

What's included: AC power adapter and draft shield.



Specifications

Calibration: Internal or external with calibration mass

Weighing units: g, ct, oz, dwt, mg, grains, oz, ozt, dwt, custom

Power: 115/220 VAC power adapter

Capacity	Readability	Repeatability	Linearity	Pan size	Catalog number	Price
Internal calibration						
120 g	0.0001 g	±0.0002 g	±0.0002 g	3½" dia (9 cm)	XJ-10001-08	
220 g	0.0001 g	±0.0002 g	±0.0002 g		XJ-10001-09	
External calibration						
120 g	0.0001 g	±0.0002 g	±0.0002 g	3½" dia (9 cm)	XJ-10001-00	
220 g	0.0001 g	±0.0002 g	±0.0002 g		XJ-10001-01	

Accessories

XJ-11120-78 Compact thermal printer

XJ-10000-47 Kensington™ type security lock and cable

XJ-17101-52 NIST-traceable calibration with data for balances

Cole-Parmer® Symmetry® TT Precision Toploading and TA Analytical Touch-Screen Balances

Better weighing with just a touch!

- IR proximity sensors offer touch-free balance control
- Color capacitive touch-screen display provides clear visibility of weighing results
- Get secure data connections via USB, RS-232, Ethernet, and Wi-Fi interfaces
- Easily adjust filter settings depending on your working environment
- Customize the menu screen to meet your everyday needs
- Use statistics working mode to quickly analyze data from series of measurements
- Multiple working modes handle a variety of weighing functions
- Quickly diagnose weighing errors with autotest GLP function
- Industry-leading 5-year warranty

NEW



TT toploading model



Two programmable IR sensors—perform common functions with a swipe of your hand.

TA analytical model

Large color capacitive touch-screen display features a status bar, weighing result window, editable information fields, and editable tool bar. The area beneath the weight indication display can be customized to meet your personal programming needs.

Two built-in infrared (IR) proximity sensors can be programmed with different functions for each working mode enabling touch-free balance control, while minimizing cross-contamination and wear and tear on the buttons.

Working modes include weighing, parts counting, check weighing, dosing, percent weighing, density of solids, density of liquids, animal weighing, statistics, peak hold, and formulations.

Several databases allow you to record products, users, packaging, customers, formulations, formulation reports, ambient conditions, and weighing. Only users with appropriate access can add new records, export data, import data, delete records, and print saved data. Use the simple external connections to a computer or printer for GLP/GMP-compliant output.

Symmetry®

Specifications

Weighing units: g, mg, ct, lb, oz, ozt, dwt, tlh, tls, tlt, tlc, mom, gr, ti, N, baht, tola, msg, u1, u2
Stability indicator: yes
Output: USB interface (2), RS-232 (2), Ethernet, and Wi-Fi (internal cal only)
Power: universal AC power adapter (included)

With Internal Calibration and Wi-Fi Interface

Capacity	Read-ability	Repeat-ability	Linearity	Pan size	Catalog number	Price
TT toploading balances						
360 g	0.001 g	±0.001 g	±0.002 g	5" x 5" (12.8 x 12.8 cm)	XJ-10102-04‡	
600 g		±0.0015 g			XJ-10102-05	
1000 g					XJ-10102-06	
2100 g	0.01 g	±0.01 g	±0.01 g	7¾" x 7¾" (19.5 x 19.5 cm)	XJ-10102-07	
4500 g					XJ-10102-08	
6000 g		±0.015 g	±0.015 g		XJ-10102-09	
10,000 g			±0.03 g		XJ-10102-10	
TA analytical balances						
82/220 g	0.01/ 0.0001 g	±0.01/ 0.0001 g	±0.0002 g	3½" (9 cm)	XJ-10102-00†	
160 g	0.0001 g	±0.0001 g	±0.0002 g	4" (10 cm)	XJ-10102-01†	
220 g					XJ-10102-02†	
310 g					XJ-10102-03‡	

†Include tall enclosed glass draft shield with three doors. ‡Include short draft ring.

With External Calibration

Capacity	Read-ability	Repeat-ability	Linearity	Pan size	Catalog number	Price
TT toploading balances						
360 g	0.001 g	±0.001 g	±0.002 g	5" x 5" (12.8 x 12.8 cm)	XJ-10102-15‡	
600 g		±0.0015 g			XJ-10102-16‡	
1000 g					XJ-10102-17‡	
2100 g	0.01 g	±0.01 g	±0.02 g	7¾" x 7¾" (19.5 x 19.5 cm)	XJ-10102-18	
4500 g					XJ-10102-19	
6000 g		±0.015 g			XJ-10102-20	
6000 g	0.1 g	±0.1 g	±0.3 g		XJ-10102-21	
10,000 g		±0.08 g			XJ-10102-22	
TA analytical balances						
62 g	0.0001 g	±0.0001 g	±0.00006 g	3½" (9 cm)	XJ-10102-11†	
160 g			±0.0002 g	4" (10 cm)	XJ-10102-12†	
220 g					XJ-10102-13†	
310 g					XJ-10102-14†	

†Include tall enclosed glass draft shield with three doors. ‡Include short draft ring.

Accessories

XJ-10100-85 **Impact printer**
XJ-10100-86 **Printer paper.** Pack of 3
XJ-10100-87 **Density determination kit** for TA series
XJ-10100-88 **Density determination kit** for 5" x 5" (12.8 x 12.8 cm) weighing pan
XJ-10100-90 **Lock-down cable,** 36"L x 3/32" dia (91.4 x 0.3 cm)
XJ-10100-91 **Protective balance cover**
XJ-10100-93 **Draft shield** for 5" x 5" (12.8 x 12.8 cm) weighing pan
XJ-17101-52 **NIST-traceable calibration** with data for balances

Cole-Parmer® Symmetry® EC Toploading Balances

Popular weighing features at an economical cost

- Internal rechargeable battery for portability and convenience
- RS-232 interface allows for communication with a printer
- Print function for GLP compliance
- Capacity tracker warns of approaching overloads
- Security lock-down port

What's included: draft shield, built-in rechargeable battery, and AC power adapter.



Symmetry®

Specifications

Calibration: external, with calibration mass

Weighing units: g, lb†, oz, ct, dr, ozt, gn, N, tl T, tl H, tl S, custom

Power: AC adapter or internal rechargeable battery

Capacity	Readability	Repeatability	Linearity	Platform size (dia.)	120 VAC		230 VAC	
					Cat. no.	Price	Cat. no.	Price
100 g	0.001 g	±0.002 g	± 0.003 g	4¾" (12.0 cm)	XJ-20000-32		XJ-20000-33	
200 g	0.01 g	±0.02 g	± 0.02 g	4¾" (12.0 cm)	XJ-20000-34		XJ-20000-35	
300 g	0.1 g	±0.2 g	±0.2 g	4¾" (12.0 cm)	XJ-20000-48		XJ-20000-49	
400 g	0.01 g	±0.02 g	± 0.02 g	4¾" (12.0 cm)	XJ-20000-36		XJ-20000-37	
500 g	0.1 g	±0.2 g	±0.2 g	4¾" (12.0 cm)	XJ-20000-51		XJ-20000-52	
800 g	0.01 g	±0.02 g	± 0.03 g	4¾" (12.0 cm)	XJ-20000-38		XJ-20000-39	
1200 g	0.1 g	±0.1 g	± 0.2 g	4¾" (12.0 cm)	XJ-20000-40		XJ-20000-41	
2000 g	0.1 g	±0.2 g	± 0.2 g	5¾" (14.5 cm)	XJ-20000-42		XJ-20000-43	
4000 g	0.1 g	±0.2 g	± 0.2 g	5¾" (14.5 cm)	XJ-20000-44		XJ-20000-45	
6000 g	1 g	±1 g	± 2 g	5¾" (14.5 cm)	XJ-20000-46		XJ-20000-47	

†lb not available on 100 g models

Accessories

XJ-10000-38 **Compact thermal printer**

XJ-10000-47 **Kensington™-type security lock and cable**

XJ-17101-52 **NIST-traceable calibration** with data for balances

Adam Nimbus™ Toploading and Analytical Balances

Don't sacrifice rugged design for performance

- Stainless steel bottom makes balance easy to clean
- Be GLP-compliant—print out results via USB or RS-232 connection
- More weighing options—below-balance hook for difficult weighing
- Rugged and easy-to-use design—all metal housing with intuitive keypad
- Maintain records easily—date and time stored in memory



Specifications

Calibration: external, with calibration mass

Weighing units: g, kg, ct, oz, lb, N, dwt, gn, oz t, dr, custom

Output: RS-232 and USB interface

Power: 115 or 220 VAC power adapter; toploading models include a built-in rechargeable battery

Capacity	Readability	Repeatability	Linearity	Platform size	115 VAC		220 VAC	
					Catalog number	Price	Catalog number	Price
Toploading balances								
220 g	0.001 g	±0.001 g	±0.002 g	5¾" (14.5 cm) dia	XJ-11121-06		XJ-11121-07	
420 g					XJ-11121-08		XJ-11121-09	
2600 g	0.01 g	±0.01 g	±0.02 g	6¼" (16 cm) dia	XJ-11121-11		XJ-11121-12	
3600 g	0.01 g	±0.01 g	±0.02 g		XJ-11121-13		XJ-11121-14	
4200 g	0.1 g	±0.1 g	±0.2 g		XJ-11121-20		XJ-11121-21	
4600 g	0.01 g	±0.01 g	±0.02 g		XJ-11121-16		XJ-11121-17	
8200 g	0.1 g	±0.1 g	±0.2 g		XJ-11121-22		XJ-11121-23	
12,000 g	0.1 g	±0.1 g	±0.2 g		XJ-11121-24		XJ-11121-25	
16,000 g	0.1 g	±0.2 g	±0.4 g	11¾" L x 15¾" W (30 x 40 cm)	XJ-11121-26		XJ-11121-27	
22,000 g	0.1 g	±0.2 g	±0.4 g		XJ-11121-28		XJ-11121-29	
Analytical balances								
80 g	0.0001 g	±0.0002 g	±0.0004 g	3½" (9 cm)	XJ-11120-98		XJ-11120-99	
120 g					XJ-11124-08		XJ-11124-09	
160 g					XJ-11121-03		XJ-11121-04	

XJ-11120-78 **Compact thermal printer**

XJ-10000-47 **Kensington™-type security lock and cable**

XJ-17101-52 **NIST-traceable calibration** with data for balances

OHAUS® Scout® SPX and STX Toploading Balances

Upgrade to the next generation of portability!

- Get increased efficiencies with slim, stackable design and simplified operation
- Versatile—selectable printing and multiple connectivity options
- Enhanced parts counting, check/percent weighing, density determination, totalization, and display hold; STX models add dynamic and mole weighing
- SPX models feature a large backlit LCD with big digits to improve readability in poor lighting conditions
- STX models feature an informative color touch-screen display for effortless navigation and operation; GLP/GMP tracking capabilities assist in the monitoring and reporting of data



11015-12

Capacity	Readability	Repeatability	Linearity	Pan size (L x W)	SPX balances		STX touch-screen balances	
					Catalog number	Price	Catalog number	Price
120 g	0.001 g	±0.002 g	±0.003 g	3¾" (9.3 cm) dia	XJ-11015-27		—	—
220 g	0.001 g	±0.002 g	±0.003 g		XJ-11015-28		XJ-11015-12	
220 g	0.01 g	±0.01 g	±0.01 g	4¾" (12 cm) dia	XJ-11015-29		—	—
420 g	0.01 g	±0.01 g	±0.01 g		XJ-11015-32		XJ-11015-14	
420 g	0.1 g	±0.1 g	±0.1 g		XJ-11015-36		XJ-11015-18	
620 g	0.01 g	±0.01 g	±0.02 g		XJ-11015-33		—	—
620 g	0.1 g	±0.1 g	±0.1 g	6¾" x 5½" (17 x 14 cm)	XJ-11015-37		XJ-11015-19	
1200 g	0.01 g	±0.02 g	±0.03 g		XJ-11015-34		XJ-11015-16	
2200 g	0.01 g	±0.02 g	±0.03 g		XJ-11015-35		—	—
2200 g	0.1 g	±0.1 g	±0.1 g		XJ-11015-38		XJ-11015-22	
6200 g	0.1 g	±0.1 g	±0.2 g		XJ-11015-39		XJ-11015-23	
8200 g	1 g	±1 g	±1 g		XJ-11015-40		—	—

Specifications

Calibration: external, with calibration mass

Weighing units: SPX and STX: mg, g, kg, ct, N, oz, ozt, dwt, lb, lb:oz, grn; STX adds: hkt, sgt, twt, tical, tola, custom

Power: 100 to 240 VAC power adapter (included) or four AA batteries (not included)

Accessories

XJ-11015-47 Stacking and storage cover kit

XJ-17101-52 NIST-traceable calibration with data for balances

OHAUS® Adventurer™ AX Toploading and Analytical Balances

The perfect balance of modern connectivity and advanced applications

- Perform advanced functions: part counting, percent, dynamic, density, check weighing, totalization, and formulation modes
- Color touch screen offers easy and fast operation with or without gloves
- GLP/GMP compliance via real-time clock and recording of sample, project names, and balance ID
- Two USB ports (one on the front and one on the back) provide connectivity with both a PC and a portable external device at the same time
- Cloning feature saves settings to USB flash drive for transfer to other Adventurer balances



11019-16



11019-00

Capacity	Readability	Repeatability	Linearity	Pan size	Internal calibration		External calibration	
					Cat. no.	Price	Cat. no.	Price
Toploading balances								
120 g	0.0001 g	±0.0001 g	±0.0002 g	3½" (8.9 cm)	XJ-11019-00		XJ-11019-01	
220 g					XJ-11019-03		XJ-11019-04	
320 g					XJ-11019-05		—	—
Analytical balances								
220 g	0.001 g	±0.001 g	±0.002 g	5⅛" (13 cm)	XJ-11019-06		XJ-11019-07	
420 g					XJ-11019-09		XJ-11019-10	
520 g					XJ-11019-13		XJ-11019-14	
620 g	0.01 g	±0.01 g	±0.02 g	7" x 7¾" (17.5 x 19.5 cm)	XJ-11019-16		XJ-11019-17	
1520 g					XJ-11019-19		XJ-11019-20	
2200 g					XJ-11019-22		XJ-11019-23	
4200 g					XJ-11019-25		XJ-11019-26	
5200 g					XJ-11019-28		XJ-11019-30	
4200 g	0.1 g	±0.1 g	±0.2 g		XJ-11019-29		—	—
8200 g					XJ-11019-31		XJ-11019-32	

Specifications

Calibration: internal or external mass

Weighing units: g, mg, ct, oz, lb, mom, N, dwt, gn, oz t, m, tl, t, tical, baht, custom

Power: 100 to 240 VAC, 50/60 Hz

Accessories

XJ-11610-68 Impact printer

XJ-11610-65 Auxiliary display

XJ-11800-15 Density determination kit

XJ-11608-96 Security device (Laptop Lock)

XJ-11800-18 Cable, USB (A to B)

XJ-11800-26 RS-232 cable, 25 pin

XJ-11800-27 RS-232 cable, 9 pin

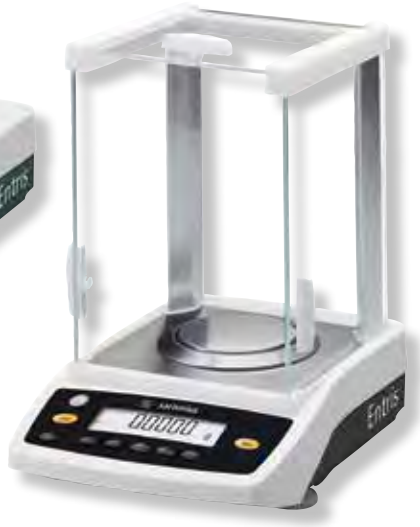
XJ-17101-52 NIST-traceable calibration with data for balances

Sartorius Entris® Toploading and Analytical Balances

Go beyond basic—get affordability, reliability, and quality

- Backlit high-contrast display delivers excellent viewability in any lighting condition
- Below balance, counting, percent, animal weighing, and density determination functions
- Document critical weights in GLP mode via RS-232 communication with PC or printer





Specifications

Calibration: external, with calibration mass
Weighing units: g, kg, ct, lb, oz, oz t, taels, grains, mg, parts/lb, mommes, Austrian carat, tola, baht, mesghal, tons, lb:oz, N
Output: RS-232
Power: 100 to 240 VAC (universal); optional rechargeable battery

Capacity	Readability	Repeatability	Linearity	Pan size	100 to 240 VAC	
					Catalog number	Price
Toploading balances						
150 g	0.001 g	±0.001 g	±0.002 g	4½" dia (11.5 cm)	XJ-11955-23	
320 g					XJ-11955-24	
620 g					XJ-11955-26	
820 g	0.01 g	±0.01 g	±0.03 g	6" dia (15 cm)	XJ-11955-27	
2200 g				7" x 7" (18 x 18 cm)	XJ-11955-28	
3200 g	0.01 g	±0.01 g	±0.03 g		XJ-11955-29	
4200 g					XJ-11955-31	
5200 g	0.1 g	±0.1 g	±0.3 g		XJ-11955-34	
Analytical balances						
60 g	0.1 mg	±0.1 mg	±0.2 mg	3½" dia (8.9 cm)	XJ-11955-19	
120 g					XJ-11955-21	
220 g					XJ-11955-22	

Accessories

XJ-11800-65 **Standard compact printer**
XJ-11800-75 **Optional external rechargeable battery kit**
XJ-11800-98 **Density weighing kit**
XJ-11800-97 **USB to RS-232 cable**
XJ-11200-50 **Kensington™-type security lock and cable**
XJ-17101-52 **NIST-traceable calibration** with data for balances

Sartorius Practum® Toploading and Analytical Balances

Start weighing right—everything you need for standard applications

- Touch screen with intuitive graphical interface walks user through standard applications
- Peak Hold function locks in highest reading
- Automatic data transfer to Excel® via USB port
- Mini USB interface port enables communication with a PC or printer
- Supervisor lock to prevent unintentional menu changes





Specifications

Calibration: external, with calibration mass
Weighing units: g, kg, ct, lb, oz, oz t, taels, grains, mg, parts/lb, mommes, Austrian carat, tola, baht, mesghal, tons, lb:oz, N
Output: mini-USB interface
Power: 100 to 240 VAC (universal); optional rechargeable battery

Capacity	Readability	Repeatability	Linearity	Pan size	Catalog number	Price
Toploading balances						
210 g	0.001 g	±0.001 g	±0.002 g	4¾" dia (11.4 cm)	XJ-11800-91	
310 g					XJ-11800-90	
510 g	0.001 g	±0.001 g	±0.002 g		XJ-11955-13	
610 g	0.01 g	±0.01 g	±0.02 g	7" dia (17.8 cm)	XJ-11800-94	
1100 g					XJ-11800-93	
2100 g					XJ-11800-92	
3100 g	0.01 g	±0.01 g	±0.03 g		XJ-11955-15	
5100 g	0.1 g	±0.1 g	±0.2 g		XJ-11800-95	
6100 g	0.1 g	±0.1 g	±0.3 g		XJ-11955-17	
Analytical balances						
64 g	0.1 mg	±0.1 mg	±0.2 mg	3½" dia (8 cm)	XJ-11955-12	
120 g					XJ-11800-89	
220 g					XJ-11800-88	

Accessories

XJ-11800-65 **Standard compact printer**
XJ-11800-75 **External rechargeable battery kit**
XJ-11800-98 **Density weighing kit**
XJ-11800-97 **USB to RS-232 cable**
XJ-11200-50 **Kensington™-type security lock and cable**
XJ-17101-52 **NIST-traceable calibration** with data for balances

Adam Eclipse™ Toploading Balances

Clearly read results with super-large illuminated LCD

- Endures rigorous lab use—rugged all-metal housing and internal optimization sensor
- Meet GLP compliance via RS-232 or USB connection
- Capacity tracker warns of approaching overloads
- Smooth soft-touch keypad wipes off for quick cleanup
- Weighing applications include parts counting, check weighing, check counting, net/total and density calculation, percent weighing, and dynamic/animal weighing



Models with readability of 0.001 g include a removable draft shield.

Specifications

Calibration: internal or external with calibration mass

Weighing units: g, kg, ct, gn, N, dr, lb, oz, ozt, dwt, mm, tl T, tl H, tl S, ti, t, custom

Output: optional RS-232 or USB interface

Power: 115 or 220 VAC power adapter (included)

Capacity	Read-ability	Repeat-ability	Linearity	Platform size	Balances with internal calibration				Balances with external calibration			
					115 VAC		220 VAC		115 VAC		220 VAC	
					Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
220 g	0.001 g	±0.001 g	±0.002 g	5¾" (14.5 cm) dia	XJ-11121-80		XJ-11121-81		XJ-11121-36		XJ-11121-37	
420 g					XJ-11121-84		XJ-11121-85		XJ-11121-40		XJ-11121-41	
620 g					XJ-11121-86		XJ-11121-87		XJ-11121-42		XJ-11121-43	
720 g	0.001 g	±0.001 g	±0.002 g	6¼" (16 cm) dia	XJ-11121-88		XJ-11121-89		XJ-11121-44		XJ-11121-45	
1600 g	0.01 g	±0.01 g	±0.02 g		XJ-11121-94		XJ-11121-95		XJ-11121-50		XJ-11121-51	
2600 g					XJ-11121-96		XJ-11121-97		XJ-11121-52		XJ-11121-53	
3600 g					XJ-11121-98		XJ-11121-99		XJ-11121-54		XJ-11121-55	
4200 g	0.1 g	±0.1 g	±0.2 g		—	—	—	—	XJ-11121-62		XJ-11121-63	
4600 g	0.01 g	±0.01 g	±0.02 g		XJ-11123-00		XJ-11123-01		XJ-11121-56		XJ-11121-57	
6200 g					XJ-11123-02		XJ-11123-03		XJ-11121-58		XJ-11121-59	
8200 g	0.1 g	±0.1 g	±0.2 g	11¾"L x 15 ¾"W (30 x 40 cm)	—	—	—	—	XJ-11121-64		XJ-11121-65	
12,000 g					—	—	—	—	XJ-11121-66		XJ-11121-67	
16,000 g	0.1 g	±0.2 g	±0.4 g		—	—	—	—	XJ-11121-68		XJ-11121-69	
22,000 g					—	—	—	—	XJ-11121-70		XJ-11121-71	
30,000 g					—	—	—	—	XJ-11121-72		XJ-11121-73	

XJ-10000-38 Compact thermal printer
XJ-10000-47 Kensington™-type security lock and cable
XJ-17101-52 NIST-traceable calibration with data for balances

Adam Eclipse™ Analytical Balances

Simplify even the most complex weighing applications

- Take up minimal space while still getting precise, consistent results
- Large illuminated display and capacitive touch keypad provide intuitive operation
- Multiple interfaces allow for GLP-compliant printing and advanced communication
- Weighing applications include parts counting, check weighing, check counting, net/total and density calculation, percent weighing and dynamic/animal weighing
- Easy cleanup: all-metal housing, stainless steel pan, and take-apart weighing chamber



Specifications

Calibration: internal or external with calibration mass

Weighing units: g, mg, ct, gn, dr, oz, ozt, dwt, mm, tl T, tl H, tl S, ti, t, custom

Output: RS-232, USB interface

Power: 115 or 220 VAC power adapter or built-in rechargeable battery (included)

Capacity	Readability	Repeatability	Linearity	Platform size	115 VAC		220 VAC	
					Cat. no.	Price	Cat. no.	Price
Internal calibration								
100 g	0.0001 g	±0.0002 g	±0.0004 g	3½" (9 cm) dia	XJ-11121-74		XJ-11121-75	
160 g					XJ-11121-76		XJ-11121-77	
210 g					XJ-11121-78		XJ-11121-79	
External calibration								
100 g	0.0001 g	±0.0002 g	±0.0004 g	3½" (9 cm) dia	XJ-11121-30		XJ-11121-31	
160 g					XJ-11121-32		XJ-11121-33	
210 g					XJ-11121-34		XJ-11121-35	

Accessories

XJ-10000-38 Compact thermal printer
XJ-10000-47 Kensington™-type security lock and cable
XJ-17101-52 NIST-traceable calibration with data for balances

METTLER TOLEDO NewClassic MS-TS Toploading and Analytical Balances

Get consistent results, faster



- Advanced MonoBloc™ weighing technology provides fast and accurate results
- Operate the extra-large, color touch screen while wearing cotton, silicone, or rubber gloves
- Unbalanced alert and onscreen help keep you level
- Stay within range with MinWeigh function
- ISOLog function maintains a record of all weighing relevant changes to the balance's settings
- Connect directly to a PC or printer via RS-232 or USB slot allowing convenient transfer of data

High-capacity toploading balances above 12,200 grams have a high-contrast display (HCD) with tactile buttons. These balances do not include the touch screen, LevelControl, MinWeigh, pass codes, or ISOLog features.



Capacity	Readability	Repeatability	Linearity	Pan size (L x W)	120 VAC	
					Catalog number	Price
NewClassic MS-TS precision toploading balances						
320 g	0.001 g	±0.001 g	±0.002 g	5" x 5" (12.7 x 12.7 cm)	XJ-11335-47	
420 g	0.001 g	±0.001 g	±0.002 g		XJ-11335-48	
620 g	0.001 g	±0.001 g	±0.002 g		XJ-11335-49	
1020 g	0.001 g	±0.001 g	±0.002 g		XJ-11335-50	
1620 g	0.01 g	±0.01 g	±0.02 g	6⅝" x 7⅞" (17 x 20 cm)	XJ-11335-51	
3200 g	0.01 g	±0.01 g	±0.02 g		XJ-11335-52	
4200 g	0.01 g	±0.01 g	±0.02 g		XJ-11335-53	
820/4200 g	0.01/0.1g	±0.01/0.06 g	±0.8 g		XJ-11335-54	
6200 g	0.01 g	±0.01 g	±0.02 g		XJ-11335-55	
1220/6200 g	0.01/0.1g	±0.01/0.06 g	±0.8 g		XJ-11335-56	
12,200 g	0.01 g	±0.01 g	±0.025 g		XJ-11334-58	
8200 g	0.1 g	±0.1 g	±0.2 g	7½" x 8⅞" (19 x 22.6 cm)	XJ-11335-57	
12,200 g	0.1 g	±0.1 g	±0.2 g	13⅞" x 9⅝" (35.1 x 24.5 cm)	XJ-11334-71	
16,200 g	0.1 g	±0.1 g	±0.2 g		XJ-11334-72	
32,200 g	0.1 g	±0.1 g	±0.3 g		XJ-11334-73	
32,200 g	1 g	±0.5 g	±1 g		XJ-11334-74	
NewClassic MS-TS analytical balances						
120 g 220 g 320 g	0.1 mg	±0.1 mg	±0.2 mg	3½" (9 cm) dia	XJ-11335-44 XJ-11335-45 XJ-11335-46	

METTLER TOLEDO XS Analytical Balances

Save time and money—fully automatic calibration



- As temperatures change and influence the accuracy of the weighing result, FACT adjusts the balance automatically
- SmartGrid® weighing pan is suspended into the weighing chamber to minimize air turbulence
- Three different display settings for user-friendly weighing and fast access to the menu via touch-screen operation with backlit graphics display
- Connect to peripheral devices via RS-232, Ethernet, or *Bluetooth*® wireless technology
- Determine densities, formula weigh and totalize, and display statistics

Specifications

Calibration: Internal, Fully Automatic Calibration Technology (FACT) **Power:** 115 VAC, 50/60 Hz

Weighing units: g, mg, kg, oz, lb, ozt, ct, dwt, gn, tael, tical, momme, baht, mesghal

Capacity	Readability	Repeatability	Linearity	Pan size (L x W)	Catalog number	Price
61 g	0.1 mg	±0.1 mg	±0.2 mg	3" x 3" (7.6 x 7.6 cm)	XJ-11333-00	
320 g	0.1 mg	±0.12 mg	±0.2 mg		XJ-11333-01	
120 g	0.1 mg	±0.1 mg	±0.2 mg		XJ-11333-02	
181/220 g	0.01/0.1 mg	±0.02 mg	±0.2 mg		XJ-11333-03	
41/120 g	0.01/0.1 mg	±0.1 mg	±0.2 mg		XJ-11333-08	
81/220 g	0.1/1 mg	±0.7 mg	±1 mg		XJ-11333-04	
81/220 g	0.01/0.1 mg	±0.1 mg	±0.02 mg		XJ-11333-10	
120 g	0.01 mg	±0.02 mg	±0.2 mg		XJ-11333-05	
220 g	0.1 mg	±0.1 mg	±0.2 mg		XJ-11333-06	

Accessories

XJ-11333-91 **RS-232 interface**

XJ-11336-75 **Bluetooth interface** for use with XP/XS

XJ-11333-95 **ErgoClip® accessory kit** includes 10 disposable aluminum pans, 50 weighing boats, weigh boat attachment, round-bottom flask holder, and test tube holder

XJ-17101-52 **NIST-traceable calibration** for balances

Disposable Aluminum Weigh Dishes

No more washing sample containers



Choose from crimpled-walled with side finger tab handle, smooth-walled weighing dishes, or slightly tapered dishes for moisture determination. All styles offer smooth bottom and may be used in a wide variety of applications.

Weigh capacity	Dimensions (dia x D)	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/cs	Price/cs
Crimpled-walled dishes with tab							
8 mL	1⅛" x ⅜" (29 x 10 mm)	—	—	—	XJ-01018-26	500	
20 mL	2" x ½" (51 x 13 mm)	XJ-01018-51	100		XJ-01017-51	1000	
60 mL	2½" x 19/32" (64 x 15 mm)	XJ-01018-50	100		XJ-01017-50	1000	
80 mL	3" x 19/32" (76 x 15 mm)	XJ-01018-52	100		XJ-01017-52	1000	
Smooth-walled dishes							
80 mL	2⅞" x 11/16" (73 x 17 mm)	XJ-01018-28	100		XJ-01018-29	1000	
150 mL	4" x ¾" (102 x 19 mm)	XJ-01018-32	100		XJ-01018-31	1000	
Slightly tapered dishes for moisture determination							
1.2 gr	2½" x ¼" (70 x 6 mm)	XJ-01018-19	50		XJ-01018-20	500	
2.5 gr	4" x 5/16" (102 x 8 mm)	XJ-01018-23	50		XJ-01018-24	500	
3.3 gr	5" x 3/16" (127 x 5 mm)	XJ-01018-21	100		XJ-01018-22	1000	

Cole-Parmer® Balance Draft Shield

Clear acrylic prevents drafts from affecting weighings

- Minimizes air movement around your balance for faster, more stable readings
- No assembly required
- Mouse hole in back panel for power cords
- Raised edges on top of enclosure allow secure placement of frequently used weighing accessories



Shield 01019-02 (balance not included)

Size	Dimensions (W x H x D)	Catalog number	Price
Small	13" x 13½" x 14¾" (33.0 x 34.3 x 37.5 cm)	XJ-01019-02	
Medium	15" x 15½" x 16¾" (38.1 x 39.4 x 42.5 cm)	XJ-01019-04	
Large	18" x 18½" x 19¾" (45.7 x 47.0 x 50.2 cm)	XJ-01019-06	

Troemner Cal-Paks™ Calibration Mass Sets

Handy for daily verifications



- USB flash drive with electronic NVLAP Certificate
- Use with all balance manufacturers' makes and models
- Weights 1 g through 1 kg are made of #8 alloy stainless steel

Three high-quality precision mass standards with the lowest measurement uncertainties possible enable you to meet all of your regulatory and audit needs. Cal-Pak components and master carrying case are linked through the use of a unique serial number.

What's included: rugged master case with each individual weight in its own polycarbonate case, and accessories needed for proper handling and care of weights.

Masses	Catalog number	Price
ASTM Class 1 mass sets with NVLAP certificate		
20 g, 2 g, 20 mg	XJ-11967-34	
20 g, 2 g, 200 mg	XJ-11967-35	
50 g, 5 g, 2 g	XJ-11967-05	
50 g, 5 g, 200 mg	XJ-11967-07	
100 g, 10 g, 2 g	XJ-11967-02	
100 g, 10 g, 200 mg	XJ-11967-01	
100 g, 10 g, 20 mg	XJ-11967-11	
200 g, 20 g, 2 g	XJ-11967-09	
200 g, 20 g, 200 mg	XJ-11967-06	
500 g, 50 g, 2 g	XJ-11967-10	
500 g, 50 g, 200 mg	XJ-11967-15	
500 g, 50 g, 20 mg	XJ-11967-18	
1 kg, 100 g, 20 g	XJ-11967-03	
1 kg, 100 g, 2 g	XJ-11967-12	
2 kg, 200 g, 20 g	XJ-11967-04	
2 kg, 200 g, 2 g	XJ-11967-08	
5 kg, 200 g, 2 g	XJ-11967-38	
5 kg grip handle, 200 g, 2 g	XJ-11967-39	
5 kg, 200 g, 20 g	XJ-11967-40	
5 kg grip handle, 200g, 20g	XJ-11967-41	
5 kg, 500 g, 20 g	XJ-11967-13	
5 kg, 500 g, 2 g	XJ-11967-16	
5 kg grip handle, 500 g, 2 g	XJ-11967-36	
5 kg grip handle, 500 g, 20 g	XJ-11967-37	
ASTM Class 0 mass sets with NVLAP certificate		
2 g, 200 mg, 1 mg	XJ-11967-14	
5 g, 500 mg, 1 mg	XJ-11967-17	

Square Weigh Boats

Minimize sample loss

- Flexible, antistatic polystyrene material
- Rounded corners simplify transfer of powdered or granular samples



Size	Weigh capacity	White		Blue	
		Catalog number	Price/pk of 500	Catalog number	Price/pk of 500
Small, 1⅝" x 5/16"	20 mL	XJ-01017-05		XJ-01017-07	
Medium, 3½" x 1"	100 mL	XJ-01017-15		XJ-01017-17	
Large, 5½" x ⅞"	330 mL	XJ-01017-25		XJ-01017-27	

Cole-Parmer® StableTemp® Digital Utility Water Baths

Get digital accuracy at an analog price



- Recall settings at the touch of a button
- Know when process is complete with built-in timer

Dual thermostat baths provide ±0.1°C precision and overtemperature safety feature prevents overheating. Seamless tank eliminates rusting and is easy to clean.

StableTemp

ISO9001:2008 CERTIFIED SUPPLIER

Specifications

Temperature range: 5°C above ambient to 100°C
Temperature uniformity: ±0.2°C
Temperature stability: ±0.1°C
Wetted materials: 304 SS
High-temperature cutoff: yes

Bath capacity	Opening (L x W)	Working depth	120 VAC, 60 Hz		240 VAC, 50 Hz	
			Cat. no.	Price	Cat. no.	Price
2 L	3⅞" x 4⅝"	5½"	XJ-14576-00		XJ-14576-02	
5 L	5" x 10¹³⁄₁₆"	5½"	XJ-14576-04		XJ-14576-06	
10 L	10⅝" x 11⅝"	5½"	XJ-14576-08		XJ-14576-10	
20 L	9½" x 17½"	5"	XJ-14576-12		XJ-14576-14	
28 L	9½" x 17½"	7"	XJ-14576-16		XJ-14576-18	

Cole-Parmer® Polystat® Cooling/Heating Recirculators

Save time with quick ramp up and cool-down



- Don't lose valuable bench space—powerful unit in a compact design
- Internal circulating tank design was built to minimize fluid evaporation
- Easy cooling for smaller instruments, jacketed reactors, and rotary evaporators
- Reliable, robust system maintains temperature to ±0.1°C and pumps to 21 L/min
- Includes funnel and 8- and 12-mm hose barb fittings

polystat®

Specifications

Internal reservoir capacity: 2.8
Temperature stability: ±0.1°

Cooling capacity at 20°C	Temperature range	115 VAC, 60 Hz		230 VAC, 50 Hz	
		Catalog number	Price	Catalog number	Price
Force pump; 17 L/min flow rate; 4.4 psi (300 mbar) max pressure					
250 W	–10 to 80°C	XJ-13042-01		XJ-13042-03	
500 W	–10 to 80°C	XJ-13042-17		XJ-13042-19	
Force/suction pump; 21 L/min flow rate; 11 psi (805 mbar) max pressure					
250 W	–10 to 80°C	XJ-13042-05		XJ-13042-07	
500 W	–10 to 80°C	XJ-13042-21		XJ-13042-23	

Cole-Parmer® Polystat® Cooling/Heating Circulating Baths

Get excellent cooling across range of temperatures



- Two-speed pump with up to 21 L/min flow
- Maximize bench space with compact size
- Protect samples and bath with high-temperature and low-level cut offs

Standard Digital Controller Baths feature five programmable set points, adjustable high-temperature cutoff, user-settable Min/Max temperature limits, and an adjustable pump nozzle. **Advanced Digital Controller Baths** offer all the features of the Standard Digital models (except adjustable pump nozzle) plus five programmable set points, a two-stage (force/suction) pump for greater circulation capacity, and a USB port.

What's included: lid, 6-ft (1.8-m) power cord with plug, M16 x 1 pump connection and 8- and 12-mm hose barb fittings with clamps for external circulation.

Specifications

Wetted materials: stainless steel, polymers
Low-level cutoff: yes

polystat® ISO9001:2008 CERTIFIED SUPPLIER

Bath capacity	Temperature range	Stability	Cooling capacity at 20°C	Pump type	Max pump pressure psi (mbar)	Max pump flow (L/min)	Working area (W x L x D)	Power (VAC, Hz)	Catalog number	Price
Standard digital controller baths										
6.5 L	–20 to 100°C	±0.05°C	250 W	Force	4.4 (310)	17	5⁵⁄₁₆" x 4¹³⁄₁₆" x 5⅞" (13.5 x 12.2 x 15 cm)	115, 60	XJ-12122-02	
								230, 50	XJ-12122-04	
8.6 L	–28 to 100°C	±0.05°C	500 W	Force	4.4 (310)	17	6¹³⁄₁₆" x 7³⁄₁₆" x 5⅞" (17.3 x 18.3 x 15 cm)	115, 60	XJ-12122-32	
								230, 50	XJ-12122-34	
8.6 L	–28 to 150°C	±0.05°C	500 W	Force	4.4 (310)	17	6 ¹³⁄₁₆" x 7³⁄₁₆" x 5⅞" (17.3 x 18.3 x 15 cm)	115, 60	XJ-12122-36	
								230, 50	XJ-12122-38	
Advanced digital controller baths										
6.5 L	–20 to 100°C	±0.025°C	250 W	Force/ suction	11.7 (750)	21	5⁵⁄₁₆" x 4¹³⁄₁₆" x 5⅞" (13.5 x 12.2 x 15 cm)	115, 60	XJ-12122-12	
								230, 50	XJ-12122-14	
6.5 L	–20 to 100°C	±0.025°C	250 W	Force/ suction	11.7 (750)	21	5⁵⁄₁₆" x 4¹³⁄₁₆" x 5⅞" (13.5 x 12.2 x 15 cm)	115, 60	XJ-12122-26	
								230, 50	XJ-12122-28	
8.6 L	–28 to 200°C	±0.025°C	500 W	Force/ suction	11.7 (750)	21	6¹³⁄₁₆" x 7³⁄₁₆" x 5⅞" (17.3 x 18.3 x 15 cm)	115, 60	XJ-12122-42	
								230, 50	XJ-12122-44	
8.6 L	–35 to 200°C	±0.025°C	800 W	Force/ suction	11.7 (750)	21	6¹³⁄₁₆" x 7³⁄₁₆" x 5⅞" (17.3 x 18.3 x 15 cm)	115, 60†	XJ-12122-56	
								230, 50†	XJ-12122-58	

†Requires 20 amp current.

Techne® Immersion Circulators

Remain in control with higher stability

Basic Digital Circulator offers precise PID temperature control at a competitive price. Unit also features digital LED display, ±0.01°C stability, overtemperature indicator light, pressure pump, and low-liquid level cutoff.

Standard Digital Circulator provides high ±0.005°C temperature stability, plus RS-232 interface capability. Bidirectional RS-232 lets you control bath remotely and download data to a computer for further analysis. Unit also features digital LED display, overtemperature indicator light, pressure pump, and low-liquid level cutoff.

What's included: 7½-ft (2.3-m) cord with three-prong plug (European plug on 240 VAC model) and a thermometer holder.



Standard digital circulator
01262-13

ISO9001:2008 CERTIFIED SUPPLIER

Specifications

Wetted materials: 316 stainless steel and PPS (polyphenylene sulfide)
Immersion depth: 4" to 5" (10.2 to 12.7 cm)

Controller type	Temperature range	Stability	Pump type	Max pump pressure psi (mbar)	Max flow (L/min)	Low-level cutoff	Power (VAC, Hz)	Catalog number	Price
Basic digital	Ambient +5 to 120°C	±0.01°C	Force	2.1 (145)	10	Yes	120, 50/60	XJ-01262-05	
							240, 50/60	XJ-01262-07	
Standard digital	Ambient +5 to 200°C	±0.005°C	Force	2.1 (145)	10	Yes	120, 50/60	XJ-01262-13	
							240, 50/60	XJ-01262-15	

Stuart® Shaking Water Bath

Customize to your needs with platforms and racks

- No need for tricky fittings—strong magnets make changing platforms easy
- Analog controls and digital temperature display simplify operation
- Overtemperature and low-level cutoffs improve safety

Versatile water bath can be a linear (reciprocating) or orbital shaker, or use as a static bath, depending on the platform you choose. The two shaking platforms come with high-tension springs which accommodate most bottle and flask sizes; with capacity of 8 x 250 mL, 6 x 500 mL, or 4 x 1000 mL Erlenmeyer flasks. For tubes and smaller vessels, order an optional stainless steel rack.

REQUIRED System Components
1) Water bath
2) Platform
OPTIONAL
3) Racks



Specifications

Temperature range: ambient +5°C to 95°C†
Temperature stability: ±0.25°C
Wetted materials: 304 stainless steel

Bath capacity	Bath opening (L x W)	Working depth	Shaking speed	Stroke length/ orbit size	Power		Catalog number	Price
					VAC	Hz		
24 L	12" x 19⅝" (30 x 50 cm)	7⅞" (20 cm)	20 to 150 rpm	¾" (20 mm)	120	60	XJ-12152-00	
					220	60	XJ-12152-01	
					230	50	XJ-12152-02	

†An accessory bath cover is required to reach temperatures above 90°C.

Accessories

XJ-12152-99 **Hinged polycarbonate bath cover** reduces heat loss and evaporation. . . . . .

Platforms (one required)

Description	Catalog number	Price
Reciprocating shaking action	XJ-12152-90	
Orbital shaking action	XJ-12152-91	
Perforated, for use as a nonshaking bath	XJ-12152-92	

Optional Tube Racks

Accommodates	Catalog number	Price
Centrifuge tubes, 25 x 50 mL	XJ-12152-93	
Microcentrifuge tubes, 143 x 1.5 mL	XJ-12152-94	
Culture tubes, 120 x 13 mm dia	XJ-12152-95	
Culture tubes, 72 x 16 mm dia	XJ-12152-96	
Culture tubes, 56 x 15 mL	XJ-12152-97	
Culture tubes, 30 x 26 mm dia	XJ-12152-98	

Cole-Parmer® Polystat® High-Capacity Recirculating Chillers

Cool across a wider range

- High and low temperature alarms
- Front-mount pressure gauge for easy view of pressure readings
- Eliminate tap water waste
- Large fill port for easy spill-proof filling

polystat®



Robust pump performance for closed loop recirculation up to 2.0 kW. Three pump options handle a variety of application requirements. These chillers have an intuitive digital controller with a seamless moisture-resistant keypad. Illuminated icons simplify monitoring and adjusting operation parameters. You can adjust display resolution of 1° or 0.1°C.

What's included: power cord and male pipe adapters with barbed fittings for ½" ID tubing.

Specifications

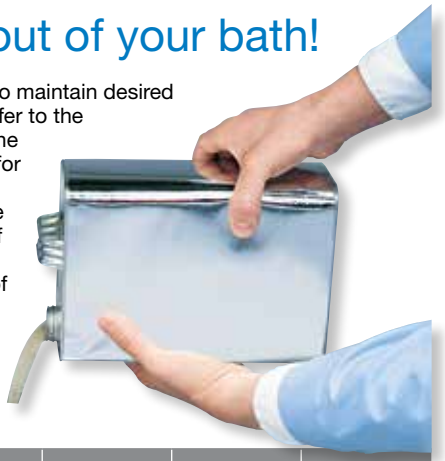
Wetted materials: polyethylene, brass, copper, PVC, stainless steel **Refrigerant:** R-134a

Reservoir capacity	Temperature range	Compressor hp	Cooling capacity (watts)			Max pump pressure psi (mbar)	Max flow at 0 head	Power (VAC, Hz, amps)	Catalog number	Price
			0°C	10°C	20°C					
7.6 L	–10 to 30°C	¼	200	475	700	95 (6550)	6.4 L/min	115, 60, 9.8	XJ-12911-00	
			175	410	600			230, 50, 5.1	XJ-12911-02	
7.6 L	–10 to 30°C	⅓	275	415	1000	95 (6550)	6.4 L/min	115, 60, 13.2	XJ-12911-04	
			240	375	900			230, 50, 6.3	XJ-12911-06	
7.6 L	–10 to 30°C	⅓	275	415	1000	95 (6550)	14 L/min	115, 60, 15.5	XJ-12911-08	
			240	375	900			230, 50, 7.6	XJ-12911-10	
7.6 L	–10 to 30°C	⅓	275	415	1000	7 (483)	13.2 L/min	115, 60, 11.5	XJ-12911-12	
			240	375	900	5 (345)	12.3 L/min	230, 50, 5.6	XJ-12911-14	
18.9 L	–10 to 30°C	¾	375	1100	2000	95 (6550)	6.4 L/min	208–230, 60, 8.8	XJ-12911-16	
			325	1025	1900			230, 50, 8.8	XJ-12911-18	
18.9 L	–10 to 30°C	¾	375	1100	2000	95 (6550)	14 L/min	208–230, 60, 10.1	XJ-12911-20	
			325	1025	1900			230, 50, 10.1	XJ-12911-22	

Bath Fluids

Get more out of your bath!

Use these bath fluids to maintain desired bath temperatures. Refer to the table below to select the appropriate bath fluid for your application. For operator safety, set the overtemperature cutoff of your bath/circulator below the flash point of the bath fluid you use.



Fluid type	Silicone 210	Dynalene® HK-50	Silicone 200 20 (hot)	Silicone 710 (hot)
Catalog number	XJ-01294-60	XJ-01297-00	XJ-01294-40	XJ-01294-00
Specific gravity	0.98	0.85	0.95	1.11
Temperature range	–65 to 280°C	–50 to 58°C	10 to 149°C	150 to 250°C
Freezing point	—	–60°C	–84°C	–22°C
Flash point	288°C	65°C	246°C	302°C
Viscosity	98 cp at 26°C	2.35 cp at 25°C	18.98 cp at 25°C	33 cp at 99°C
Quantity	1 gal. (3.8 L)	1 gal. (3.8 L)	1 gal. (3.8 L)	1 gal. (3.8 L)
Price				

Note: Do not use automotive antifreeze with circulating baths—additives can be harmful to the circulating pump. Silicone fluids are not compatible with silicone tubing.

Economical Hollow-Ball Bath Covers

Reduce vapor loss and cut heat loss by 75% with just one layer

Polypropylene balls form a tight cover over liquids to prevent change in temperature and reduce evaporation. Temperature range of balls is 0 to 110°C. Use instead of a bath lid with any of the baths and tanks within temperature range.



Ball diameter	10 mm	20 mm	20 mm	38 mm	38 mm
Catalog number	XJ-06821-00	XJ-06821-02	XJ-06821-04	XJ-06821-06	XJ-06821-08
Balls per sq ft	1076	270	270	74	74
Specific gravity	0.38	0.24	0.24	0.16	0.16
Qty/pk	2500	500	2500	500	1000
Price/pk					

Julabo FL-Series Recirculating Industrial Chillers

Reach temperatures down to –20°C

- Powerful circulating pumps with gauge and by-pass valve to adjust pressure
- Overload protection for pump motor and cooling unit
- "Black box" function with error memory for remote diagnosis
- Environmentally friendly operation with low energy consumption

Easy-to-setup PID temperature control with an LED display and a one point temperature calibration provide maximum accuracy. RS-232 interface allows quick temperature data transfer.



These powerful recirculating chillers are ergonomically designed for easy operation. Features include rollers for easy movement; easy filling with fill-level indicator; accessible drain tap; no side vents, so can be placed against other instruments; and removable grid venting makes it easy to keep the condenser clean and running at full cooling capacity.

Choose from air- and water-cooled models. See our full offering at ColeParmer.com.

What's included: two barbed fittings for ¾" ID tubing for pump connections and 6-ft (1.8-m) power cord.

ISO9001:2008 CERTIFIED SUPPLIER CE

Specifications

Reservoir capacity: 30 L
Temperature range: –20 to 40°C
Temperature stability: ±0.5°C
Wetted materials: stainless steel
Drain valve: yes

Cooling capacity (watts)			Max pump pressure psi (mbar)	Max flow (L/min)	Power (VAC, Hz)	Catalog number	Price
–10°C	0°C	20°C					
Air-cooled models							
1.2	1.5	2.5	43 (2900)	40	120, 60	XJ-12149-20	
					240, 50	XJ-12149-22	
1.5	2.4	4	43 (2900)	40	120, 60	XJ-12149-24	
					240, 50	XJ-12149-25	
Water-cooled models							
1.0	1.7	2.7	43 (2900)	40	120, 60	XJ-12149-30	
					240, 50	XJ-12149-32	
1.3	2.2	4.3	43 (2900)	40	120, 60	XJ-12149-34	
					240, 50	XJ-12149-36	

Wait!
There's More at ColeParmer.com
Find all the **product specs** you need!

Thermo Scientific™ ThermoFlex™ Recirculating Chillers

Configurable to your needs

- Up to 10% greater cooling capacity than comparable models
- High reliability for precious experiments
- Easy to operate and install

The recirculation system incorporates a highly reliable plumbing design to eliminate leaks and improve performance. Integrated air and fluid filters minimize wear to mechanical parts, which lowers lifetime maintenance costs and improves system reliability.

Units feature simple push-button operation with a quick-start guide to walk you through start-up. A visual fluid indicator gives instant status of fluid level while an integrated funnel allows quick, spill-proof filling. Integrated ramp and locking casters allow a single person to unpack, move, and install the chiller in minutes. Unit can be operated with two sides blocked for installation flexibility.



What's included: power cord with plug and ½" MPT plastic fittings.

ISO9001:2008 CERTIFIED SUPPLIER c UL us CE

Specifications

Reservoir capacity: 7.2 L
Temperature range: 5 to 40°C
Temperature stability: ±0.1°C

Cooling capacity at 20°C	Pump type‡	Maximum flow with water GPM (L/min)	Power		Catalog number	Price
			VAC	Hz		
ThermoFlex 900 EPR†						
750 W	PD 1	1.7 (6.4)	230	50	XJ-13042-14	
ThermoFlex 900 IPR†						
900 W	PD 1	2.1 (7.9)	115	60	XJ-13042-04	
750 W		1.7 (6.4)	230	50	XJ-13042-16	
900 W	PD 2	4.0 (15.1)	115	60	XJ-13042-10	
750 W		3.3 (12.5)	230	50	XJ-13042-22	
ThermoFlex 1400 EPR†						
1170 W	PD 1	1.7 (6.4)	230	50	XJ-13042-28	
ThermoFlex 1400 IPR†						
1400 W	PD 1	2.1 (7.9)	115	60	XJ-13042-34	
1170 W		1.7 (6.4)	230	50	XJ-13042-36	
1170 W	PD 2	3.3 (12.5)	230	50	XJ-13042-40	
ThermoFlex 2500 IPR†						
2500 W	PD 2	4.0 (15.1)	208-230	60	XJ-13042-46	
2200 W		3.3 (12.5)	230	50	XJ-13042-48	
ThermoFlex 5000 IPR†						
5000 W	PD 2	4.0 (15.1)	208	60	XJ-13042-58	
4400 W		3.3 (12.5)	230	50	XJ-13042-60	

†EPR = external pressure regulator; IPR = integral pressure regulator
‡PD 1 = lower flow rates; PD 2 = higher flow rates

Cole-Parmer® elements™ Griffin Low-Form Graduated Beakers, Glass

Suitable for all lab procedures

NEW

- Easy-read graduations and marking area
- Withstands wide temperature range –50 to 550°C
- Graduated tolerances from ±0.02 to ±0.05 depending on size
- Autoclavable

Borosilicate 3.3 glass beakers with pour spout provide excellent general use at an economical price.



elements™ Cole-Parmer®

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15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Catalog number	Qty/pk	Price/pk
10 (⅓)	—	10	XJ-34502-20	12	
20 (⅔)	5 to 20	5	XJ-34502-36		
25 (⅞)	5 to 25	5	XJ-34502-37		
30 (1)	10 to 30	5	XJ-34502-38		
50 (1¾)	10 to 50	10	XJ-34502-39		
100 (3)	20 to 100	10	XJ-34502-40	12	
150 (5)	25 to 150	12.5	XJ-34502-41		
200 (6)	50 to 200	25	XJ-34502-42		
250 (8)	50 to 250	25	XJ-34502-43		
300 (10)	50 to 300	25	XJ-34502-44	8	
400 (13)	100 to 400	50	XJ-34502-45		
500 (16)	100 to 500	50	XJ-34502-46		
600 (20)	100 to 600	50	XJ-34502-47		
800 (27)	200 to 800	100	XJ-34502-48	6	
1000 (32)	200 to 1000	100	XJ-34502-49		
1500 (51)	300 to 1500	100	XJ-34502-50	2	
2000 (64)	400 to 2000	200	XJ-34502-51		
3000 (96)	500 to 2500	250	XJ-34502-52	1	
4000 (128)	500 to 3500	250	XJ-34502-53		
5000 (160)	500 to 4500	500	XJ-34502-54		

PYREX® Brand 1000 Griffin Low-Form Beakers

Stand up to thermal shock

- Uniform wall thickness offers optimal balance of thermal shock resistance and mechanical strength
- Know how much is left and how much is gone—double graduation scale indicates approximate content (on 250- to 400-mL sizes only)
- No mystery liquids—extra-large marking spot for easy identification
- Reference: ASTM E-960



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Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Catalog number	Qty/pk	Price/pk
10 (⅓)	—	—	XJ-34502-01	12	
20 (⅔)	5 to 15	5	XJ-34502-02		
30 (1)	5 to 25	10	XJ-34502-03		
50 (1¾)	10 to 40	10	XJ-34502-04		
100 (3)	20 to 80	10	XJ-34502-05	12	
150 (5)	20 to 140	10	XJ-34502-06		
250 (8)	25 to 200	25	XJ-34502-07		
400 (13)	25 to 325	25	XJ-34502-08		
600 (20)	50 to 500	50	XJ-34502-09	6	
800 (27)	50 to 750	50	XJ-34502-10	6	
1000 (32)	50 to 1000	50	XJ-34502-11	6	
2000 (64)	200 to 2000	100	XJ-34502-13	4	
3000 (96)	250 to 2500	125	XJ-34502-14	1	
4000 (128)	500 to 3500	250	XJ-34502-15	1	
10 (⅓)	—	—	XJ-34502-21	48	
20 (⅔)	5 to 15	5	XJ-34502-22		
30 (1)	5 to 25	10	XJ-34502-23		
50 (1¾)	10 to 40	10	XJ-34502-24		
100 (3)	20 to 80	10	XJ-34502-25	48	
150 (5)	20 to 140	10	XJ-34502-26		
250 (8)	25 to 200	25	XJ-34502-27		
400 (13)	25 to 325	25	XJ-34502-28		
600 (20)	50 to 500	50	XJ-34502-29	36	
800 (27)	50 to 750	50	XJ-34502-30	24	
1000 (32)	50 to 1000	50	XJ-34502-31	24	
2000 (64)	200 to 2000	100	XJ-34502-33	8	
3000 (96)	250 to 2500	125	XJ-34502-34	6	
4000 (128)	500 to 3500	250	XJ-34502-35	6	
Starter set contains one each of 50 mL, 100 mL, 250 mL, 600 mL, 1000 mL			XJ-34502-90	5	

Cole-Parmer® Class A Griffin Low-Form Beakers, Glass

Easy readings and exceptional durability

- Double-scale graduations for easy measuring while pouring in or out
- Meet ASTM E960 specifications for Class A borosilicate glass beakers
- Stand up to temperatures of 445°F (230°C) for long-term, or 752°F (400°C) for short-term
- Autoclavable



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Capacity mL (oz)	Graduation interval (mL)	Catalog number	Qty/pk	Price/pk
10 (⅓)	—	XJ-34503-42†	12	
25 (⅞)	5	XJ-34503-44	12	
50 (1¾)	10	XJ-34503-46	12	
100 (3)	10	XJ-34503-48	12	
150 (5)	20	XJ-34503-50	12	
250 (8)	25	XJ-34503-52	12	
400 (13)	25	XJ-34503-54	12	
600 (20)	50	XJ-34503-56	6	
1000 (32)	50	XJ-34503-58	6	
2000 (64)	100	XJ-34503-60	4	
3000 (96)	125	XJ-34503-62	1	
5000 (160)	250	XJ-34503-64	1	

†The 10-mL beaker does not have graduations.

Disposable Griffin Low-Form Beakers, PP

Molded-in graduations won't wear off

- No need to convert volumes—graduated in mL and oz
- Won't stick together—stacking rib for easier separation
- Autoclavable



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Capacity mL (oz)	Graduations (mL)	Catalog number	Qty/pk	Price/pk
15 (0.5)	5	XJ-06006-12	100	
15 (0.5)	5	XJ-06006-15	1000	
30 (1)	5	XJ-06006-22	100	
30 (1)	5	XJ-06006-25	1000	
50 (1.7)	5	XJ-06006-32	100	
50 (1.7)	5	XJ-06006-35	1000	
100 (3.5)	5	XJ-06006-42	100	
100 (3.5)	5	XJ-06006-45	1000	
150 (5)	5	XJ-06006-52	100	
150 (5)	5	XJ-06006-55	1000	
250 (8)	10	XJ-06006-63	50	
250 (8)	10	XJ-06006-65	500	
400 (13)	25	XJ-06006-72	50	
400 (13)	25	XJ-06006-75	500	
600 (20)	25	XJ-06006-83	25	
600 (20)	25	XJ-06006-85	500	

Cole-Parmer® Broad-Spout Beakers, PTFE

Stand up to the harshest chemicals

- Pour easily with broad spout
- Heatable beakers can be used on hot plates to 518°F (270°C)
- Autoclavable



Heatable beaker 06300-02 has a PTFE carbon base.

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Capacity mL (oz)	Beaker			Optional cover		
	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/pk	Price/pk
Heatable beakers with PTFE-carbon base, for use on hot plates						
100 (3)	XJ-06300-02	1		XJ-06300-87	1	
250 (8)	XJ-06300-04	1		XJ-06300-91	1	
400 (13)	XJ-06300-06	1		XJ-06300-93	1	
Beakers						
1 (0.03)	XJ-06300-62	2		XJ-06300-79	2	
5 (1.17)	XJ-06300-64	2		XJ-06300-81	2	
10 (0.3)	XJ-06300-66	2		XJ-06300-81	2	
25 (0.8)	XJ-06300-68	2		XJ-06300-83	2	
50 (1.6)	XJ-06300-74	1		XJ-06300-85	1	
100 (3)	XJ-06300-76	1		XJ-06300-87	1	
150 (5)	XJ-06300-78	1		XJ-06300-89	1	
250 (8)	XJ-06300-82	1		XJ-06300-91	1	
400 (13)	XJ-06300-84	1		XJ-06300-93	1	
500 (16)	XJ-06300-86	1		XJ-06300-93	1	
600 (20)	XJ-06300-88	1		XJ-06300-95	1	
1000 (32)	XJ-06300-92	1		XJ-06300-95	1	
2000 (64)	XJ-06300-94	1		XJ-06300-97	1	
5000 (170)	XJ-06300-96	1		XJ-06300-99	1	

Cole-Parmer® Tri-Corner Beakers, PP

Easy pouring from three sides

- Easily mix on stirrer—flat bottom keeps stir bars centered
- Accurate to ±5%; molded graduations
- Withstand temperatures to 250°F (121°C)
- Autoclavable

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Capacity mL (oz)	Graduations (mL)	Cat. no.	Qty/pk	Price/pk
50 (1.5)	10	XJ-06020-01	100	
100 (3.5)	10	XJ-06020-03		
250 (8)	20	XJ-06020-05		
400 (13)	40	XJ-06020-07	100	
800 (26)	50	XJ-06020-09		
1000 (32)	50	XJ-06020-11		
Five of each above	—	XJ-06010-07	30	

Cole-Parmer® elements™ Graduated Beakers, PP

NEW

Molded-in graduations will not wear off

- Graduated in mL and oz for easy conversion
- Stacking ribs provide easy separation so beakers will not stick together
- Accurate to ±2.5%
- Withstands temperatures from 5 to 248°F (–15 to 150°C)



elements™ Cole-Parmer®

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15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity mL (oz)	Graduations (mL)	Cat. no.	Qty/pk	Price/pk
15 (½)	5	XJ-06200-02	100	
30 (1)	5	XJ-06200-04		
50 (1¾)	5	XJ-06200-06		
100 (3½)	5	XJ-06200-08		
150 (5)	5	XJ-06200-10		
250 (8)	10	XJ-06200-12	50	
400 (13)	25	XJ-06200-14		
600 (20)	25	XJ-06200-16	25	

Cole-Parmer® elements™ Graduated Beakers with Handle, PP

Molded-in handle for easy transport and pouring of contents

NEW

- Molded-in graduations will not wear off
- Withstands temperatures from 5 to 248°F (–15 to 150°C)



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Capacity mL (oz)	Graduations (mL)	Cat. no.	Qty/pk	Price/pk
250 (8)	50	XJ-06200-18	5	
500 (16)	50	XJ-06200-19	5	
1000 (32)	50	XJ-06200-20	5	
2000 (64)	100	XJ-06200-21	4	
3000 (96)	50	XJ-06200-22	5	
5000 (160)	100	XJ-06200-23	5	

Cole-Parmer® Beakers and Covers, 304 SS (medium gauge)

Recessed covers for easy storage



Cole-Parmer®

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20% off on 120+
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10% off on 6 to 29 packs or cases

NSF®

Capacity L (qt)	Qty/ pk	Beakers		Optional covers	
		Catalog number	Price/pk	Catalog number	Price/pk
1.2 (1¼)	1	XJ-07206-10		XJ-07207-10	
1.9 (2)	1	XJ-07206-20		XJ-07207-20	
3.1 (3¼)	1	XJ-07206-30		XJ-07207-30	
4.5 (4¾)	1	XJ-07206-40		XJ-07207-40	
5.8 (6⅛)	1	XJ-07206-60		XJ-07207-60	
7.6 (8)	1	XJ-07206-80		XJ-07207-80	
11.4 (12)	1	XJ-07206-90		XJ-07207-90	

Cole-Parmer® Covered Containers, 304 SS (medium gauge)

No more contamination of samples

- Keep dirt and other contaminants out with included lid
- Non-corrosive stainless steel
- Easy to clean
- Withstand temperatures to 650°F (182°C)



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NSF® 2 YEAR WARRANTY

Capacity, L (qt)	Catalog number	Qty/pk	Price/pk
0.3 (5⁄16)	XJ-07250-00		
1 (1 1⁄16)	XJ-07251-00	1	
1.5 (1 9⁄16)	XJ-07252-00		
2.6 (2¾)	XJ-07253-00		
4 (4¼)	XJ-07254-00	1	
7 (7⅜)	XJ-07258-00		

Cole-Parmer® Griffin Low Form Beakers, SS (medium gauge)

Get durable, economical mixing capabilities

- Sturdy vessels for general stirring or measuring of solutions



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10% off on 6 to 29 packs or cases

Capacity, mL (oz)	Catalog number	Qty/pk	Price/pk
125 (4.2)	XJ-07205-30	1	
250 (8.5)	XJ-07205-40	1	
600 (20.3)	XJ-07205-50	1	
1200 (40.6)	XJ-07205-60	1	
2000 (67.6)	XJ-07205-70	1	
3000 (101.4)	XJ-07205-80	1	
4000 (135.3)	XJ-07205-90	1	

Cole-Parmer® Graduated Pouring Beakers, SS (medium gauge)

Easily measure and pour samples

- Measure volumes easily with internal graduation markers
- Great for higher temperatures—withstand temperatures up to 650°F (182° C)



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NSF®

Capacity, mL (oz)	Graduations, mL (oz)	Catalog number	Qty/pk	Price/pk
500 (16)	50 (2)	XJ-07220-00	1	
1000 (32)	100 (2)	XJ-07222-00	1	
2000 (64)	100 (4)	XJ-07224-00	1	
5000 (160)	200 (4)	XJ-07226-00	1	

Cole-Parmer® Pouring Beakers, 304 SS (medium gauge)

No more struggling to pour

- Attached handle lets you grip beaker easily



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NSF® 2 YEAR WARRANTY

Capacity, L (qt)	Catalog number	Qty/pk	Price/pk
2 (1.9)	XJ-07208-20		
3 (2.8)	XJ-07208-30	1	
3.7 (4)	XJ-07208-50		

Environmental Express® Disposable BOD Bottles

Reduce contamination and increase test accuracy



- No precleaning required!
- Laboratory tested and US EPA approved
- Packed in plastic-lined boxes to eliminate dust and residue

These PET bottles offer a specially formulated carbon coating that prevents oxygen from diffusing into or out of your sample, unlike ordinary plastic bottles. The unique amorphous carbon inner wall is just 1000 angstroms thick, but it provides a superior barrier resulting in uniform blanks, precise standard recoveries, and quality test data. Accept glass or acrylic stoppers.

ENVIRONMENTAL EXPRESS® a Cole-Parmer company

Capacity	Numbered	Catalog number	Qty/pk	Price/pk
300 mL	Individually	XJ-53200-02	100	

XJ-53200-12 BOD bottle stopper, acrylic robotic-style. Pack of 25
XJ-53200-14 BOD overcap prevents evaporation. Pack of 50

Environmental Express® 300-mL Glass BOD Bottle with Stopper

Improved shoulder design removes entrapped air



- Flared mouth design prevents air from entering sample during incubation
- Displace excess sample with conical extension on stopper
- Conforms to ASTM E438, Type I, Class B, borosilicate glass
- Unnumbered; with glass pennyhead stopper

These bottles are designed for sampling and for incubation of aqueous samples for biochemical oxygen demand (BOD) analysis for reference Method 5210-B: 5-Day BOD Test (*Standard Methods for Examination of Water and Wastewater*).

ENVIRONMENTAL EXPRESS® a Cole-Parmer company

Capacity	Stopper type	Catalog number	Qty/cs	Price/cs
300 mL	Glass pennyhead	XJ-53200-19	24	

BOD Bottle Transfer and Storage Racks

Won't corrode

- Plastic coated for added durability
- Safely transport bottles with ease
- Save space by stacking racks



53200-22

Description	Capacity	Dimensions (W x H x D)	Catalog number	Price
BOD bottle transfer racks	20 x 60-mL bottles	13" x 6" x 10"	XJ-53200-21	
	12 x 300-mL bottles	13" x 8" x 10"	XJ-53200-22	
BOD bottle storage rack, autoclavable	12 x 300-mL bottles	12½" x 7¼" x 9¼"	XJ-53200-23	

Wheaton BOD Bottles with stopper

Easily identify samples

- Clear glass BOD bottles come with glass stoppers and a white write-on marking space



53200-18

Capacity mL (oz)	Stopper type	Number sequence	Catalog number	Qty/cs	Price/cs
60 (2)	Glass pennyhead	Unnumbered	XJ-53200-18	36	
300 (10)	Glass robotic	Unnumbered	XJ-03660-15	24	
300 (10)	Glass robotic	1–24	XJ-03660-16	24	
		25–48	XJ-03660-17		
		49–72	XJ-03660-18		
		73–96	XJ-03660-19		

BOD Accessories

Acrylic Robotic-Style Bottle Stopper fits standard 60- and 300-mL glass BOD bottles, and disposable BOD bottles above.

BOD Overcap is required by Standard Methods to prevent sample evaporation. Designed for disposable bottles above, the polyethylene overcap fits snugly against the rim and shoulder of the bottle.

A Bug's-Eye-View of the BOD Test helps remove the mystery from BOD testing and provides a better understanding of Standard Methods 5210B. Troubleshooting guide focuses on common problems, suggests causes, and recommends potential corrective actions. Includes 54 pages and supplementary compact disk.







Description	Catalog number	Price
Acrylic bottle stopper, robotic style	XJ-53200-12	/pk of 25
BOD overcap	XJ-53200-14	/pk of 50
A Bug's-Eye-View of the BOD Test	XJ-53200-28	

Cole-Parmer® Wide-Mouth Bottles, LDPE, HDPE, PP

Wide-mouth opening provides easier filling and sampling

- Offered in pack quantities or bulk pack quantities to meet your specific requirements
- Reliable and sturdy
- Choose from three materials; all include a leakproof PP closure

HDPE Bottles are manufactured with FDA-compliant resin for noncontaminating storage of chemicals and food-grade products.

LDPE Bottles are translucent and ideal for food and general-use laboratory applications.

PP Bottles are rigid and offer superior chemical resistance; perfect for storage and sampling of liquids and solids. **Autoclavable.**



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Cole-Parmer®

Capacity mL (oz)	Cap size	Catalog number	Qty/ pk	Price/ pk	Catalog number	Qty/ cs	Price/ cs
HDPE							
60 (2)	22 mm	XJ-06045-18	12		XJ-06045-23	72	
125 (4)	28 mm	XJ-06045-24	12		XJ-06045-25	72	
250 (8)	28 mm	XJ-06045-26	12		XJ-06045-27	72	
500 (16)	28 mm	XJ-06045-28	12		XJ-06045-29	48	
1000 (32)	28 mm	XJ-06045-44	6		XJ-06045-31	24	
2000 (64)	45 mm	XJ-06045-46	1		XJ-06045-33	6	
LDPE							
60 (2)	22 mm	XJ-06045-02	12		XJ-06045-03	72	
125 (4)	28 mm	XJ-06045-04	12		XJ-06045-05	72	
250 (8)	28 mm	XJ-06045-06	12		XJ-06045-07	72	
500 (16)	28 mm	XJ-06045-08	12		XJ-06045-09	48	
1000 (32)	28 mm	XJ-06045-14	6		XJ-06045-11	6	
PP							
30 (1)	22 mm	XJ-06045-48	12		XJ-06045-41	72	
60 (2)	22 mm	XJ-06045-56	12		XJ-06045-43	72	
125 (4)	28 mm	XJ-06045-58	12		XJ-06045-45	72	
250 (8)	28 mm	XJ-06045-62	12		XJ-06045-47	72	
500 (16)	28 mm	XJ-06045-66	12		XJ-06045-49	48	
1000 (32)	28 mm	XJ-06045-68	6		XJ-06045-51	24	
2000 (64)	45 mm	XJ-06045-74	1		XJ-06045-53	6	

Thermo Scientific™ Nalgene™ Wide-Mouth Bottles, LDPE

Get better sample visibility

- Translucent material provides flexibility and impact resistance
- Ideal for shipping liquids—include leakproof polypropylene (PP) screw caps



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Capacity mL (oz)	Cap size	Catalog number	Qty/ pk	Price/ pk
30 (1)	28 mm	XJ-06043-10	12	
60 (2)	28 mm	XJ-06043-20		
125 (4)	38 mm	XJ-06043-30		
250 (8)	43 mm	XJ-06043-40	12	
500 (16)	53 mm	XJ-06043-50		
1000 (32)	63 mm	XJ-06043-60	6	

Thermo Scientific™ Nalgene™ Economy Narrow-Mouth Bottles, HDPE

Stand up to your demands

- Sturdy, leakproof design
- Lightweight design for minimal additional weight



Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Capacity mL (oz)	Cap size	Catalog number	Qty/ pk	Price/ pk	Catalog number	Qty/ cs	Price/ cs
30 (1)	20 mm	XJ-06035-07	12		XJ-06035-09	72	
60 (2)	20 mm	XJ-06035-11	12		XJ-06035-13	72	
125 (4)	24 mm	XJ-06035-15	12		XJ-06035-17	72	
250 (8)	24 mm	XJ-06035-19	12		XJ-06035-21	72	
500 (16)	28 mm	XJ-06035-23	6		XJ-06035-25	48	
1000 (32)	38-430	XJ-06035-27	6		XJ-06035-29	24	

Thermo Scientific™ Nalgene™ Wide-Mouth Bottles, HDPE

Safely transport samples—leakproof lids for worry-free shipping

- Wide-mouth design for easier filling with dry or liquid samples
- Easy viewing of samples with translucent HDPE design
- Leakproof lids are made of polypropylene



Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Capacity mL (oz)	Cap size	Qty/ pk	Catalog number	Price/pk
30 (1)	28 mm	12	XJ-06047-10	
60 (2)	28 mm		XJ-06047-20	
125 (4)	38 mm		XJ-06047-30	
250 (8)	43 mm	12	XJ-06047-40	
500 (16)	53 mm		XJ-06047-50	
1000 (32)	63 mm	6	XJ-06047-60	
1500 (50)	63 mm		XJ-06047-65	

Cole-Parmer® Lab Markers

Fine-point fiber tip writes on cold, wet surfaces. Quick-drying ink permanently marks plastic; washes off glass, metal, or porcelain.



Color	Qty/pk	Catalog number	Price
Black	10	XJ-09964-00	
Blue		XJ-09964-10	
Green		XJ-09964-15	
Red		XJ-09964-20	

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Graduated Sample Containers, PP

Graduated for easier sampling



- Durable design—translucent, unbreakable, and chemical resistant
- Sterile containers are individually wrapped

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

STERILE

Capacity mL (oz)	Description	Catalog number	Qty/pk	Price/pk
118 (4)	Sterile, no tab	XJ-06049-40	100	
118 (4)	Nonsterile with white tab	XJ-06049-50	500	

Sample Bottles, HDPE

Store samples without breaking your budget



- Provide good chemical resistance for a wide range of uses
- Bottles are made of HDPE; included cap is made of polypropylene and lined with polyethylene foam
- Easy mailing with optional mailing tube (sold separately)

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity mL (oz)	Qty/pk	Catalog number	Price/pk
180 (6)	300	XJ-06043-01	
250 (8)	329	XJ-06049-01	
500 (16)	198	XJ-06050-05	

XJ-06049-30 **Mailing tubes** for bottle 06049-01. Carton of 240

Thermo Scientific™ Nalgene™ Economy Wide-Mouth Bottles, HDPE

Rugged design fits all your needs



- Leakproof, PP enclosure

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity mL (oz)	Cap size	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/cs	Price/cs
30 (1)	28 mm	XJ-06035-31			XJ-06035-33		
60 (2)	28 mm	XJ-06035-35	12		XJ-06035-37	72	
125 (4)	38 mm	XJ-06035-39			XJ-06035-41		
250 (8)	43 mm	XJ-06035-43	12		XJ-06035-45	72	
500 (16)	53 mm	XJ-06035-47	6		XJ-06035-49	48	
1000 (32)	63 mm	XJ-06035-51	6		XJ-06035-53	24	

Thermo Scientific™ Nalgene™ Heavy-Duty Bottles, PP

Withstand repeated full vacuum applications



- Use under repeated full vacuum for 24 hours at 68°F (20°C)
- PP closure with thermoplastic elastomer (TPE) gasket
- Autoclavable

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity, mL (oz)	Cap size	Catalog number	Qty/pk	Price/pk
250 (8)	53B	XJ-06257-05	6	
1000 (32)		XJ-06257-10	6	
2000 (64)		XJ-06257-20	2	
4000 (128)	83B	XJ-06257-00	1	
5000 (160)		XJ-06257-30		

PYREX® Brand 1395 Media Bottles

Permanent white graduations won't wear off



- Use for mixing or storing of your solutions—full capacity indicated by bead line on 100-mL to 2-L sizes
- Linerless, autoclavable polypropylene screw cap included on each bottle
- Color code your samples with optional color-coded PP caps

Caution: Bottles larger than 2 liters should not be used under vacuum pressure, as breakage may occur. Do not tighten caps immediately after autoclaving.

Buy More...Save More!
15% off on 10+ packs or cases
10% off on 5 to 9 packs or cases

Capacity mL (oz)	Graduation range (mL)	Thread size	Neck ID	Catalog number	Qty/cs	Price/cs
25 (¾)	10 to 25	GL25	14.5 mm	XJ-34514-20	10	
50 (1¾)	20 to 50	GL32	16.5 mm	XJ-34514-21	10	
100 (3)	40 to 80	GL45	29 mm	XJ-34514-22	10	
250 (8)	50 to 200	GL45	29 mm	XJ-34514-23	10	
500 (16)	100 to 400	GL45	29 mm	XJ-34514-24	10	
1000 (32)	100 to 900	GL45	29 mm	XJ-34514-25	10	
2000 (64)	400 to 1800	GL45	29 mm	XJ-34514-26	4	
5000 (160)	500 to 4500	GL45	29 mm	XJ-34514-28	1	
10,000 (320)	2000 to 9000	GL45	29 mm	XJ-34514-30	1	

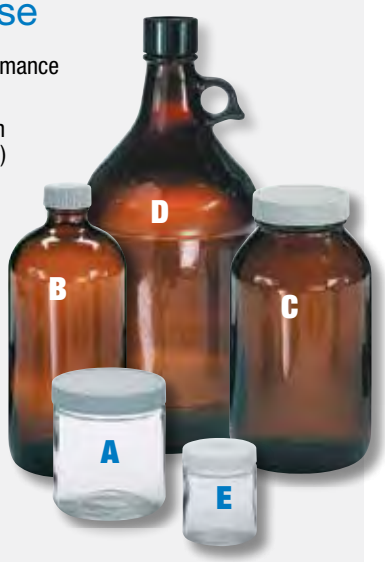
Accessories

XJ-34514-50 **Polypropylene cap,** orange, GL45. Cs of 20
XJ-34514-53 **Polypropylene cap,** green, GL45. Cs of 20
XJ-34514-54 **Polypropylene cap,** gray membrane, GL45. Cs of 10
XJ-34514-55 **Polypropylene cap,** red high-temp. GL45. Cs of 10
XJ-34514-60 **Pouring ring,** clear, low temperature. Cs of 50
XJ-34514-65 **Pouring ring,** red, high temperature. Cs of 50

Cole-Parmer® Precleaned EPA Sample Containers

No contaminants—precleaned and ready to use

- Include certificate of conformance to EPA specifications
- Identify samples easier with included labels (unattached)



A-D. Glass Bottles, Jars, and Jugs are processed and certified to meet the requirements of the current US EPA "Specifications and Guidance for Contaminant-Free Sample Containers" document for semi-volatile organics, pesticides, PCBs, metals, cyanide, fluoride, nitrate and nitrite analyses. Include PTFE-lined caps.

E. Glass Septa Jars are processed and certified to meet the requirements of the current US EPA "Specifications and Guidance for Contaminant-Free Sample Containers" document for purgeable volatile organic analysis. Include PTFE-lined silicone septa bonded to open-top caps.

Cole-Parmer®

Capacity mL (oz)	Neck size	Qty/ cs	Catalog number	Price/ cs
A. Clear wide-mouth glass jars				
60 (2)	53 mm	24	XJ-99540-40	
125 (4)	58 mm	24	XJ-99540-41	
250 (8)	70 mm	12	XJ-99540-42	
500 (16)	89 mm	12	XJ-99540-43	
950 (32)	89 mm	12	XJ-99540-44	
B. Amber narrow-mouth glass bottles				
125 (4)	22 mm	24	XJ-99540-30	
250 (8)	24-414	12	XJ-99540-31	
500 (16)	28 mm	12	XJ-99540-32	
1000 (34)	33-430	12	XJ-99540-33	
C. Amber wide-mouth glass bottles				
125 (4)	38 mm	12	XJ-99540-51	
250 (8)	45 mm	12	XJ-99540-53	
500 (16)	53 mm	12	XJ-99540-55	
950 (32)	53 mm	12	XJ-99540-57	
D. Amber narrow-mouth glass jugs				
2500 (80)	38-430	6	XJ-99540-34	
4000 (135)	38-430	4	XJ-99540-35	
E. Clear wide-mouth glass septa jars				
60 (2)	53 mm	24	XJ-99540-20	
125 (4)	58 mm	24	XJ-99540-21	

DON'T RISK IT!

Our chemical compatibility database provides important information on chemical resistance—check it out at **ColeParmer.com/ChemChart**

Qorpak® Precleaned Glass Sample Bottles

Save time—no need to prewash bottles

- Vacuum and ionization process removes contaminants such as dirt, dust, carton lint, oil, aerosols, and fine glass particles
- Individually sealed for long-term storage with no contamination
- Bottles come with PTFE-lined caps; jars are available with PTFE-lined or pulp/vinyl-lined caps
- Clear wide-mouth square glass bottles have French square design for a more efficient use of shelf space while making the container easier to grip when pouring



Buy More...Save More!

15% off on 10+ packs or cases
10% off on 5 to 9 packs or cases

Capacity mL (oz)	Neck size (mm)	Catalog number	Qty/ cs	Price/ cs
A. Clear narrow-mouth bottles				
30 (1)	20	XJ-34606-00	48	$
60 (2)	20	XJ-34606-10		
120 (4)	22	XJ-34606-20	24	
240 (8)	24	XJ-34606-30		
480 (16)	28	XJ-34606-40	12	
960 (32)	33	XJ-34606-50		
B. Clear wide-mouth square glass bottles				
15 (½)	20	XJ-34610-00		
30 (1)	24	XJ-34610-10	48	
60 (2)	28	XJ-34610-20		
120 (4)	33	XJ-34610-30		
240 (8)	43	XJ-34610-40	24	
480 (16)	48	XJ-34610-50		
960 (32)†	58	XJ-34610-60	12	
C. Amber narrow-mouth glass bottles				
60 (2)	20	XJ-34607-00		
120 (4)	22	XJ-34607-10	24	
240 (8)	24	XJ-34607-20		
480 (16)	28	XJ-34607-30	12	
960 (32)	33	XJ-34607-40		
D. Amber wide-mouth glass bottles				
30 (1)	28	XJ-34609-00		
60 (2)	33	XJ-34609-10		
120 (4)	38	XJ-34609-20	24	
240 (8)	45	XJ-34609-30		
480 (16)	53	XJ-34609-40	12	
960 (32)		XJ-34609-50		
E. Clear wide-mouth glass jars with PTFE lined caps				
30 (1)	43	XJ-34608-00	48	
60 (2)	53	XJ-34608-10		
120 (4)	58	XJ-34608-20	24	
270 (9)	70	XJ-34608-30		
480 (16)	89	XJ-34608-40	12	
960 (32)		XJ-34608-50		
F. Clear wide-mouth glass jars with pulp/vinyl lined caps (not shown)				
30 (1)	43	XJ-34608-05	48	
60 (2)	53	XJ-34608-15		
120 (4)	58	XJ-34608-25	24	
270 (9)	70	XJ-34608-35		
480 (16)	89	XJ-34608-45	12	
960 (32)		XJ-34608-55		

†Graduated in mL and oz.

Scienceware® Wash Bottles, LDPE

No leaking while dispensing

- One-piece polyallomer (PA) cap/delivery tube eliminates leaks
- Precise delivery with needle-thin stream



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20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity mL (oz)	Catalog number	Qty/pk	Price/pk
125 (4)	XJ-06053-21	12	
250 (8)	XJ-06053-41		
500 (16)	XJ-06053-61		
1000 (32)	XJ-06053-81		

Scienceware® Safety-Labeled Wash Bottles, LDPE

Keep solutions close at hand with easy identification

- Quickly identify contents by large lettering and color-coded caps
- These 500-mL bottles include a leakproof polyallomer (PA) cap and nozzle
- Assortment pack allows for easy ordering—includes one each of water, acetone, ethanol, isopropanol, methanol, and toluene†



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Labeled chemical	Cap color	Qty/pk	Catalog number	Price/pk
Water	Blue	6	XJ-06256-30	
Distilled water	Blue		XJ-06256-20	
Deionized water	Blue		XJ-06256-14	
Acetone	Red		XJ-06256-40	
Methanol	Green	6	XJ-06256-50	
Isopropanol	Yellow		XJ-06256-60	
Toluene†	Red		XJ-06256-70	
70% ethanol	Natural		XJ-06256-13	
100% ethanol	Natural		XJ-06256-81	
Bleach	Blue	6	XJ-06256-90	
Methyl ethyl ketone	Green		XJ-06256-10	
Soap	Blue		XJ-06256-11	
Assortment pack for water, acetone, ethanol, isopropanol, methanol, and toluene†	—	6	XJ-06256-00	

†Not recommended for long-term storage of toluene.

Thermo Scientific™ Nalgene™ Economy Wash Bottles, LDPE

Eliminate pesky leaks

- One-piece molded PP closure and stem eliminate leaks
- Easily cut stem to increase flow



Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity mL (oz)	Cap size	Catalog number	Qty/pk	Price/pk
125 (4)	24 mm	XJ-62304-20	6	
250 (8)	24 mm	XJ-62304-30		
500 (16)	28 mm	XJ-62304-40		
1000 (32)	38–430	XJ-62304-50	4	

Thermo Scientific™ Nalgene™ Unitary™ Wash Bottles, LDPE

Fill up faster with wide-mouth design

- No need to shake or tip to dispense sample
- Increase flow by trimming tip
- One-piece leakproof design with PP screw closure



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20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Capacity, mL (oz)	Cap size	Catalog number	Qty/pk	Price/pk
125 (4)	24 mm	XJ-06050-20	6	
250 (8)	38 mm	XJ-06050-30	4	
500 (16)	38 mm	XJ-06050-50	4	
750 (24)	38 mm	XJ-06050-70	4	
1000 (32)	43 mm	XJ-06050-90	2	

XJ-63000-04 **Replacement caps,** PP, 24 mm. Pack of 12
XJ-63000-10 **Replacement caps,** PP, 43 mm. Pack of 12

Cole-Parmer® Trigger Spray Bottle, HDPE

Get the stream you need

- Adjusts from fine mist to powerful stream
- Polypropylene cap and spray assembly with stainless steel bearings



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20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

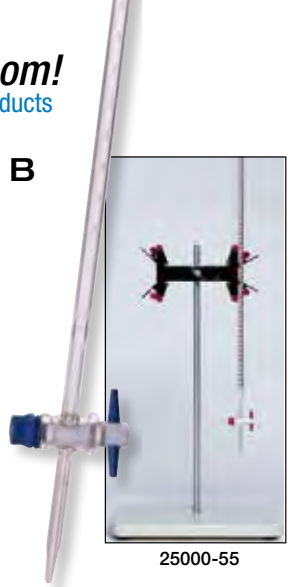
Cole-Parmer®

Capacity, mL (oz)	Catalog number	Qty/pk	Price/pk
650 (22)	XJ-06091-05	4	

Cole-Parmer® Class B Burettes

No more difficult readings

- White, permanent graduations for easy reading won't rub off
- Get reliable, accurate draining—noncontaminating PTFE stopcock with 2-mm straight bore
- Durable borosilicate glass



25000-55

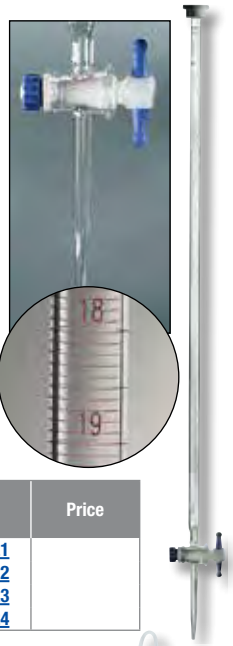
Capacity	Graduation interval	Tolerance	Catalog number	Price
10 mL	0.05 mL	±0.04 mL	XJ-63100-34	
25 mL	0.1 mL	±0.1 mL	XJ-63100-36	
50 mL	0.1 mL	±0.1 mL	XJ-63100-38	
100 mL	0.2 mL	±0.2 mL	XJ-63100-40	

XJ-25000-55 Burette and stand kit; includes 50-mL burette, stand and clamp

PYREX® Brand 2103 Class A Burettes

No more hard-to-read aliquots

- Get better readings with large, easy-to-read numbers and sharp lines
- Be more accurate—capacity tolerance calibrated to ASTM E 287, burettes calibrated to ASTM E 542
- Leak-resistant PTFE stopcock features 2-mm bore
- Maintain fluid integrity with included dust cover



Capacity	Graduation interval	Tolerance	Catalog number	Price
10 mL	0.05 mL	±0.02 mL	XJ-34543-21	
25 mL	0.10 mL	±0.03 mL	XJ-34543-22	
50 mL	0.10 mL	±0.05 mL	XJ-34543-23	
100 mL	0.20 mL	±0.10 mL	XJ-34543-24	

Automatic Self-Zeroing, Self-Supporting Burettes

Prevent contamination from outside elements

- Get easy, drop-by-drop delivery with unique push-button stopcock
- Quickly repeat titration by presetting drop speed
- Easy-to-read blue graduations



What's included: LDPE bottle, base, and tube; vinyl stopper; glass burette; and PP stopcock.

Capacity	Subdivisions	Reservoir	Catalog number	Price
10 mL	0.05 mL	500 mL	XJ-07879-10	
15 mL	0.1 mL	500 mL	XJ-07879-20	
25 mL	0.1 mL	1000 mL	XJ-07879-30	
50 mL	0.1 mL	1000 mL	XJ-07879-40	

Thermo Scientific™ Nalgene™ Automatic Self-Zeroing Burettes

No lubrication of PTFE plug needed

- Won't break—made of clear acrylic body, PTFE stopcock, and PMP tip
- Individually calibrated for accuracy to meet ASTM E 287 requirements

Unaffected by most dilute acids and bases (except HF and ammonium hydroxide). Use over full pH range. Not designed for use with alcohols or organic solvents. Include a cover, a squeeze bottle with closure, and 3 ft (1 m) of vinyl tubing.



Burette 06209-30 shown with stand 06703-00 and clamp 06703-10

Capacity	Graduation intervals	Reservoir	Catalog number	Price
10 mL	0.1 mL	500 mL	XJ-06209-10	
25 mL	0.1 mL	500 mL	XJ-06209-20	
50 mL	0.1 mL	1000 mL	XJ-06209-30	

XJ-06703-00 Support stand with center rod; 30" (76 cm) L x ½" (1.3 cm) dia

XJ-06703-10 Single burette clamp, HDPE

Titrette® Digital Bottletop Electronic Burettes

Easily calibrate for GLP and ISO compliance

- No more wasting titrant with SafetyPrime™ valve
- Eliminate meniscus reading errors—dispensed results displayed on LCD with 0.01-mL resolution
- Mount directly to bottle (not included), reducing liquid transfer
- Always view bottle label with 360° rotatable valve block
- Suitable for solutions up to 2N



What's included: 33-mm, 38-mm, and STJ 29/32 polypropylene (PP) bottle adapters; fine-tip titrating tube, a 195- to 350-mm telescoping filling tube, lithium battery, and a performance certificate.

ISO 9001:2008 CERTIFIED SUPPLIER CE

Specifications

Cumulative volume: up to 99.99 mL in 0.01-mL increments
Reproducibility: ±0.1%
Fitting: fits 45-mm bottle thread
Wetted materials: borosilicate glass, PP, PTFE, ETFE, FEP, PFA, platinum-iridium, and ceramic
Power: lithium battery (included) >60,000 titrations

Capacity	Accuracy	Catalog number	Price
25 mL	±0.2% (±50 µL)	XJ-07910-51	
50 mL	±0.2% (±100 µL)	XJ-07910-53	

XJ-07878-53 Drying tube. Protects sensitive reagents from moisture or CO_2

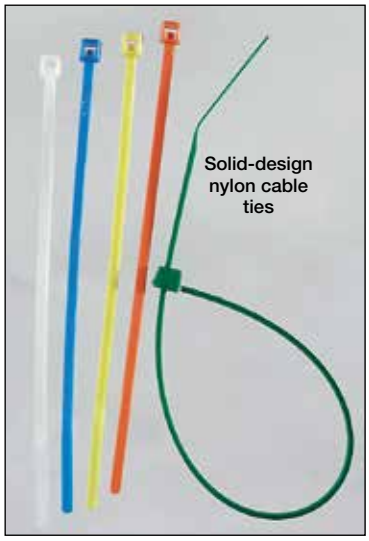
XJ-07193-05 Drierite® drying agent for 07878-53. Twelve 1-lb packs per carton

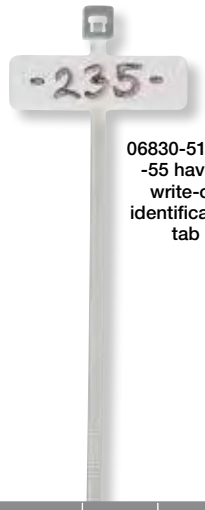
Solid-Design Cable Ties, Nylon

Won't corrode or stretch—made from injection-molded plastic

- Simply bend tip and pull through locking mechanism to secure
- Won't lose tension—even in vibrating, oily, or wet environments
- Withstand temperatures to 185°F (85°C), with melting point of 495°F (257°C)

Black ties are UV and weather resistant from –40 to 221°F (–40 to 105°C). UL-component recognized and self-extinguishing as per UL 94 Flam. class: V-2. Meet military specification MS3367.





06830-51 and -55 have a write-on identification tab

Length	Bundle diameter	Color	Catalog number	Qty/pk	Price/pk
Miniature, 18-lb tensile strength					
4" (10.2 cm)	⅞" (2.2 cm)	White	XJ-06830-66	100	
			XJ-06830-52	1000	
			XJ-06830-51†	1000	
4" (10.2 cm)	⅞" (2.2 cm)	Black	XJ-06830-68	100	
4" (10.2 cm)	⅞" (2.2 cm)	Red	XJ-06830-11	100	
			XJ-06830-61	1000	
4" (10.2 cm)	⅞" (2.2 cm)	Blue	XJ-06830-62	1000	
4" (10.2 cm)	⅞" (2.2 cm)	Green	XJ-06830-63	1000	
4" (10.2 cm)	⅞" (2.2 cm)	Yellow	XJ-06830-64	1000	
4" (10.2 cm)	⅞" (2.2 cm)	Orange	XJ-06830-65	1000	
Intermediate, 40-lb tensile strength					
5½" (14.0 cm)	1¼" (3.2 cm)	White	XJ-06830-54	1000	
5½" (14.0 cm)	1¼" (3.2 cm)	Black	XJ-06830-78	100	
8" (20.3 cm)	2⅛" (5.4 cm)	White	XJ-06830-30	1000	
8" (20.3 cm)	2⅛" (5.4 cm)	Black	XJ-06830-89	100	
			XJ-06830-88	1000	
8" (20.3 cm)	2⅛" (5.4 cm)	Red	XJ-06830-31	1000	
8" (20.3 cm)	2⅛" (5.4 cm)	Blue	XJ-06830-32	1000	
8" (20.3 cm)	2⅛" (5.4 cm)	Green	XJ-06830-33	1000	
8" (20.3 cm)	2⅛" (5.4 cm)	Yellow	XJ-06830-19	100	
8" (20.3 cm)	2⅛" (5.4 cm)	Orange	XJ-06830-41	1000	

Length	Bundle diameter	Color	Catalog number	Qty/pk	Price/pk
Standard, 50-lb tensile strength					
7½" (19.1 cm)	1¾" (4.4 cm)	White	XJ-06830-43	100	
			XJ-06830-56	1000	
			XJ-06830-55†	1000	
11" (27.9 cm)	3" (7.6 cm)	White	XJ-06830-47	100	
			XJ-06830-46	1000	
11" (27.9 cm)	3" (7.6 cm)	Black	XJ-06830-49	100	
			XJ-06830-48	1000	
15" (38.1 cm)	4" (10.2 cm)	White	XJ-06830-58	100	
15" (38.1 cm)	4" (10.2 cm)	Black	XJ-06830-29	100	
Heavy duty, 120-lb tensile strength					
14½" (36.8 cm)	4" (10.2 cm)	White	XJ-06830-36	50	
			XJ-06830-91	100	
28" (71.1 cm)	8" (20.3 cm)	White	XJ-06830-39	50	
Extra heavy duty, 175-lb tensile strength					
34" (86.4 cm)	10" (25.4 cm)	White	XJ-06830-42	50	

†Ties 06830-51 and -55 have a textured, write-on identification tab.

Autoclavable Solid-Design Cable Ties, PP

Keep items bundled during autoclaving

Polypropylene (PP) cable ties resist a number of chemicals and are UV-resistant. Sold in packs of 1000.



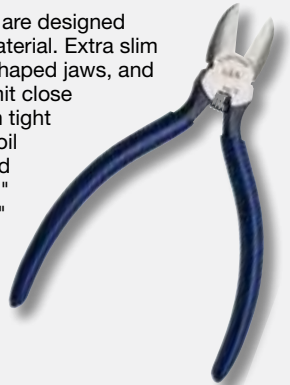


Length	Bundle dia	Tensile strength	Color	Catalog number	Price/ pk of 1000
4" (10.2 cm)	¾" (1.9 cm)	11 lb	Natural	XJ-06830-85	
8" (20.3 cm)	1¾" (4.4 cm)	25 lb	Black	XJ-06830-95	

Crescent® Plastic-Cutting Diagonal Pliers

Get close and accurate cutting

These solid-joint diagonal pliers are designed specifically for cutting plastic material. Extra slim design, ground-flat back, oval-shaped jaws, and flush ground cutting edges permit close trimming and accurate cutting in tight areas. Vinyl cushion grips and coil springs provide user comfort and reduce fatigue. Pliers measure 6" (15.2 cm) L; nose measures 27/32" (21 mm) L x 47/64" (19 mm) W.



Description	Catalog number	Price
Plastic-cutting diagonal pliers	XJ-97109-25	

Fluke® 750 Series Documenting Process Calibrators

Get four tools in one

- Meet regulatory needs—automated calibration and reporting tools for documentation
- PC interface for downloading procedures and uploading data for better analysis
- Measure volts, mA, RTDs, thermocouples, frequency, and ohms to test sensors, transmitters, and other instruments
- Source/simulate volts, mA, thermocouples, RTDs, frequency, ohms, and pressure to calibrate transmitters
- Power transmitters during test using loop supply with simultaneous mA measurement
- Measure/source pressure using any of 29 Fluke pressure modules (order separately online)
- Fluke 754 model also offers HART® communication capability



30008-70

What's included: stackable test leads, TP220 test probes with "extended tooth" alligator clips, AC280 hook clips, USB communication cable, DPC/TRACK 2 sample software, soft case, Li-ion battery pack, battery charger, and NIST-traceable report with data supplied by the manufacturer. Model 754 also includes a HART communication cable.

Specifications

Measurement Function

Input	Range	Accuracy (% of reading)
VDC	0 to 100 mV, 0 to 300 V	0.02% + 0.005 mV
VAC	0 to 300 V (40 to 500 Hz)	0.5% + 0.002 V
mA	0 to 110 mA	0.01% + 20 µA
Frequency	0 to 50 kHz	0.05 Hz
Thermocouple	J, K, T, E, N, U, B, R, S, C, L, BP, and XK	0.3°C (typical J, K, T, E)
Ohms	0 to 10 kΩ	0.05 + 50 MΩ
RTDs	100, 200, 500, 1000 Ω Pt; 10 Ω Cu; 120 Ω Ni	0.07°C (typical)
Pressure	29 modules ranging from 1.0 to 10,000 psi	0.05 full-scale (per pressure mod spec)

Source

Output	Range	Accuracy (% of reading)
V DC	0 to 110 mV, 0 to 15 V	0.01% + 0.005 mV
mA	0 to 22 mA	0.01% + 0.003 mA
Frequency	0.1 Hz to 50.000 kHz	0.01 Hz
Thermocouples	J, K, T, E, N, U, B, R, S, C, L, BP, and XK	0.3°C (typical J, K, T, E)
Ohms	0 to 10 kΩ	0.05 + 50 MΩ
RTDs	100, 200, 500, 1000 Ω Pt; 10 Ω Cu; 120 Ω Ni	0.07°C (typical)

Safety: CAN/CSA C22.2 No 1010.1-92, ASNI/ISA S82.01-1994, UL3111, and EN610-1:1993

Model	Power	Catalog number	Price
Fluke 753	Internal Li-ion battery pack; 7.2 V, 4400 mAh, 30 Wh	XJ-30008-70	
Fluke 754		XJ-30008-80	

Accessories

XJ-30008-83 DPC/TRACK 2 software package; Fluke model 750SW
XJ-30008-84 Smart instrument communication cable; Fluke model 754HCC
XJ-30008-81 Replacement battery charger; Fluke model BC7240
XJ-30008-82 Replacement lithium-ion battery pack; Fluke model BP7240
XJ-17101-82 NIST-traceable recalibration with data

Techne® Portable Dry Block Temperature Calibrator

Case is cool to the touch—even at maximum temperatures

- Maximum temperature of 806°F (430°C)
- Fast heat-up and cool-down
- Independent overtemperature cutout
- Temperature sensor burnout protection
- Built rugged to handle portable field use
- Lightweight, only 9 lb



What's included: one multi-well insert (⅛", 3⁄16", ¼", 5⁄16" & ⅜" well sizes), insert extractor, mains cable, and NIST-traceable calibration report supplied by the manufacturer.

Model	3028900	3028950
Catalog number	XJ-16101-97	XJ-16101-98
Minimum temperature	9°F / 5°C above ambient	
Maximum temperature	806°F / 430°C	
Cooling rate 400 to 100°C	21 min	
Heating rate, 20 to 400°C	12 min	
Independent overtemp. cutout	Approx. 842°F / 450°C	
Display resolution	0.1°F / 0.1°C	
Insert immersion depth	4½"	
Stability after 15 minutes	±0.03°C @ 200°C; ±0.05°C @ 400°C	
Display accuracy	±0.3°C @ 200°C; ±0.5°C @ 400°C	
Well-to-well uniformity	0.015°C @ 200°C; 0.025°C @ 400°C	
Dimensions (H x W x D)	8¾" x 8" x 8" (222 x 203 x 203 mm)	
Power (VAC, Hz, W)	120, 50/60, 900	240, 50/60, 900
Price		

Optional Inserts

Model	Description	Catalog number	Price
7032533	Insert 5 x ¼"	XJ-08510-70	
7032534	Insert ⅜" + 5⁄16" +¼" + 3⁄16" + ⅛"	XJ-16104-25	
7032535	Insert 2 x ⅜" + 2 x ¼"	XJ-16104-26	
7032536	Insert 2 x ½" + 2 x ¼"	XJ-16104-27	
7032537	Insert 1 x ¼"	XJ-16104-28	
7032538	Insert blank	XJ-16104-29	
7032574	Insert 1 x 9⁄16" & 1 x ¼"	XJ-16104-39	
7032575	Insert 1 x ⅝" & 1 x ¼"	XJ-16104-40	
7032576	Insert 1 x 11⁄16" & 1 x ¼"	XJ-16104-41	
7032577	Insert 1 x ¾" & 1 x ¼"	XJ-16104-42	

XJ-16104-43 Soft-side carrying case
XJ-17002-16 NIST-traceable recalibration with data

Thermo Scientific™ Nalgene™ Round Carboys, LDPE

No more leaks

- Leakproof, polypropylene cap for no worry transport
- Make transport easy with easy-grip handles
- Withstand corrosive materials
- Maintain adequate levels of solution—larger than 10-L carboys indicate 1-gallon and 5-liter increments
- Dispense easily with spigot models



Leakproof

Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
Carboys with shoulder handles				
10 (2½)	83B	XJ-06031-32	1	
15 (4)	83B	XJ-06031-42		
20 (5)	83B	XJ-06031-52		
25 (6½)	83B	XJ-06031-62		
50 (13)	83B	XJ-06031-72		
Wide-mouth carboys with shoulder handles				
10 (2½)	100 mm	XJ-06056-22	1	
15 (4)	100 mm	XJ-06056-32		
20 (5)	100 mm	XJ-06056-52		
Carboy with spigot and shoulder handles				
4 (1)	38-430	XJ-06065-10	1	
10 (2½)	83B	XJ-06065-22		
20 (5)	83B	XJ-06065-32		
25 (6½)	83B	XJ-06065-52		
50 (13)	83B	XJ-06065-62		
Carboys with ½" OD tubulation and shoulder handles				
10 (2½)	83B	XJ-06080-42	1	
20 (5¼)	83B	XJ-06080-52		

Accessories

XJ-06258-30 **Replacement cap,** PP, 83B. Pack of 2
XJ-63000-16 **Replacement cap,** PP, 100 mm. Pack of 12
XJ-63000-18 **Replacement cap,** PP, 38-430. Pack of 12
XJ-06070-22 **Replacement spigot,** PP

Cole-Parmer® Economical Heavy-Duty Carboys with Shoulder Handle, PP

Sturdy, octagonal design for added rigidity

- Easier filling and pouring with offset neck
- Leakproof spigot models have tube fitting for easier filling of containers
- Polypropylene closure reduces evaporation
- Autoclavable



Cole-Parmer®

Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
Heavy-duty carboys with shoulder handle				
5 (1¼)	45 mm	XJ-62507-00	1	
10 (2½)	90 mm	XJ-62507-10	1	
20 (5¼)	90 mm	XJ-62507-20	1	
Heavy-duty carboys with shoulder handle and spigot				
5 (1¼)	45 mm	XJ-62507-05	1	
10 (2½)	90 mm	XJ-62507-15	1	
20 (5¼)	90 mm	XJ-62507-25	1	

Thermo Scientific™ Nalgene™ FDA-Compliant Carboys, PP

Get a better grip with two-handle construction

- Dispense solutions more quickly with optional spigot models—accept ¼", ½", or ⅝" ID tubing
- Leakproof polypropylene (PP) cap
- Autoclavable



Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
FDA-compliant carboys, USP Class VI				
10 (2½)	83B	XJ-06063-12	1	
20 (5)	83B	XJ-06063-22		
50 (13)	83B	XJ-06063-32		
FDA-compliant carboys with spigot, USP Class VI				
10 (2½)	83B	XJ-06064-50	1	
20 (5)	83B	XJ-06064-60		
50 (13)	83B	XJ-06064-70		

CELLTREAT® Tissue Culture Plates

NEW

Choice of well shapes to fit your needs

- Multiwell plates feature alphanumeric markings and raised cell rims
- Treated hydrophilic surface optimizes cell growth
- Use the deep-well plates for growth of bacterial cultures



STERILE

Multiwell Plates with Treated Surface, PS

No. of wells	Cell growth area	Well shape	Sterile	Lid	Catalog number	Qty/cs	Price/cs
6	9.60 cm²	Flat	Yes	Yes	XJ-01959-01	50*	
12	3.85 cm²	Flat	Yes	Yes	XJ-01959-03		
24	1.93 cm²	Flat	Yes	Yes	XJ-01959-05		
48	0.84 cm²	Flat	Yes	Yes	XJ-01959-07		
96	0.33 cm²	Flat	Yes	Yes	XJ-01959-11		
					XJ-01959-13	100†	
		Round	Yes	Yes	XJ-01959-09	100‡	

*Individually packaged. †Not individually packaged. 5/sleeve.
‡Individually packaged. 50/sleeve.

STERILE

Multiwell Plates with Untreated Surface, PS

No. of wells	Working volume	Well shape	Sterile	Lid	Catalog number	Qty/cs	Price/cs
6	2 to 8 mL	Flat	Yes	Yes	XJ-01959-29	100‡	
12	2 to 4 mL	Flat	Yes	Yes	XJ-01931-13	100‡	
24	0.5 to 1.5 mL	Flat	Yes	Yes	XJ-01931-15	100‡	
48	0.3 to 1 mL	Flat	Yes	Yes	XJ-01959-15	100‡	
96	50 to 300 µL	Round	Yes	Yes	XJ-01959-21	100‡	
				No	XJ-01959-23	100‡	
		Flat		Yes	XJ-01959-27	100‡	
				No	XJ-01959-25	100‡	

‡Individually packaged. 50/sleeve.

Deep-Well Storage Plates, PP

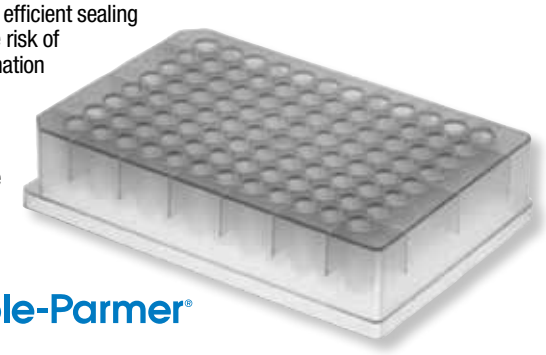
No. of wells	Working volume	Well shape	Sterile	Lid	Catalog number	Qty/cs	Price/cs
96	1.1 mL	V bottom	No	No	XJ-01959-17	25	
	2.0 mL	Pyramid bottom			XJ-01959-19		

Cole-Parmer® 96-Well Deep Well Plates

NEW

Meet SBS guidelines for robotic handling

- Certified free of RNase, DNase, endotoxins, and human DNA
- Autoclavable at 121°C for 20 minutes (polypropylene plates only)
- Alphanumeric pattern for simple sample identification
- Raised rims for efficient sealing to minimize the risk of cross-contamination
- Both 1.2- and 2.2-mL plates are stackable and compatible with pipetting



Cole-Parmer®

Well volume	Material	Well shape	Sterile	Catalog number	Qty/cs	Price/cs
0.5 mL	PP	Round	No	XJ-67104-56	56	
			Yes	XJ-67104-57	56	
1.2 mL	PP	Round	No	XJ-67104-61	32	
			Yes	XJ-67104-62	32	
		Round, raised rim	No	XJ-67104-65	32	
			Yes	XJ-67104-66	32	
	PS	Round	No	XJ-67104-58	32	
			Yes	XJ-67104-59	32	
		Round, raised rim	No	XJ-67104-63	32	
			Yes	XJ-67104-64	32	
2.2 mL	PP	Square, round bottom	No	XJ-67104-67	32	
			Yes	XJ-67104-68	32	

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

CELLTREAT® Treated Petri Dishes, PS

Optically clear for improved viewing

- Consistent flatness allows for even media distribution
- Manufactured from virgin polystyrene
- Save time—dishes sterilized by gamma irradiation
- Hydrophilic surface promotes cell attachment and growth



STERILE

Dia x H (mm)	Working volume	Growth area	Catalog number	Qty/cs	Price/cs
60 x 15	7 to 8 mL	21 cm²	XJ-01932-18	500	
100 x 15	15 to 16 mL	55 cm²	XJ-01932-25	500	
150 x 20	25 to 28 mL	143 cm²	XJ-01932-15	100	

Cole-Parmer® Sealing Mats

Reduce evaporation losses

- Prevent spillage and contamination between wells
- Easily pierceable with pipette tips
- Free of RNase, DNase, and endotoxins
- Suitable for 96-well deep well plates

NEW



Cole-Parmer®

Description	Material	Catalog number	Qty/pk	Price/pk
For 96-well deep well plates, 0.5- and 1.2-mL well volumes	TPE	XJ-67104-69	50	
For 96-well deep well plates, 2.2-mL well volume	EVA	XJ-67104-70	50	

Cole-Parmer® Multiwell Tissue Culture Plates, PS

Alphanumeric markings provide easy identification of individual wells

– Stacking ring on lid offers added stability when handling tall stacks of plates

Select from high-binding treated tissue culture plates or untreated plates. Raised rim on each well nests into the rings on the single direction lid to reduce evaporation and limit the risk of cross-contamination. Clear polystyrene (PS) construction. Each plate is sterilized by gamma irradiation and packaged individually (50/sleeve).

NEW



01959-39



01959-40

Cole-Parmer®

Multiwell Plates with Treated Surface

STERILE

Number of wells	Cell growth area	Well shape	Lid	Qty/sleeve	Catalog number	Qty/cs	Price/cs
6	9.60 cm²	Flat	Yes	50	XJ-01959-40	100	
12	3.85 cm²	Flat	Yes	50	XJ-01959-42	100	
24	1.93 cm²	Flat	Yes	50	XJ-01959-44	100	
48	0.84 cm²	Flat	Yes	50	XJ-01959-46	100	
96	0.33 cm²	Flat	Yes	50	XJ-01959-48	100	

Multiwell Plates with Untreated Surface

STERILE

Number of wells	Working volume	Well shape	Lid	Qty/sleeve	Catalog number	Qty/cs	Price/cs
6	2 to 8 mL	Flat	Yes	50	XJ-01959-31	100	
12	2 to 4 mL	Flat	Yes	50	XJ-01959-33	100	
24	0.5 to 1.5 mL	Flat	Yes	50	XJ-01959-35	100	
48	0.3 to 1 mL	Flat	Yes	50	XJ-01959-37	100	
96	50 to 300 µL	Flat	No	50	XJ-01959-39	100	
			Yes	50	XJ-01959-41	100	

CELLTREAT® Tissue and Cell Culture Roller Bottles, PS

Uniform, hydrophilic surface promotes cell attachment

– Clear polystyrene (PS) construction with easy-to-read black graduations

– Each bottle is gamma irradiated and individually bagged

– Large knurled cap for easy opening

NEW



01836-35

Select from vacuum gas plasma tissue culture treated or nontreated roller bottles. Expanded surface roller bottles (ESRB) 01836-34 and -35 have ribbed surfaces which increase the growth area from 850 cm² to 1900 cm². Bottles are available with either solid (nonvented) or vented caps; the vented caps are ideal for applications requiring continuous gas exchange.

STERILE

Surface type	Growth area	Working volume	Cap type	Catalog number	Qty/cs	Price/cs
Tissue culture treated, smooth	490 cm²	1000 mL	Nonvented	XJ-01836-30	24	
			Vented	XJ-01836-31	24	
	850 cm²	2000 mL	Nonvented	XJ-01836-32	12	
			Vented	XJ-01836-33	12	
Tissue culture treated, ribbed (ESRB)	1900 cm²	2000 mL	Nonvented	XJ-01836-34	12	
			Vented	XJ-01836-35	12	
Nontreated, smooth	—	1000 mL	Nonvented	XJ-01836-37	24	
		2000 mL		XJ-01836-38	12	

01836-31

Accessories

XJ-01836-36 **Vented caps for roller bottles,** sterile. Case of 24

Cole-Parmer® Single-Use Vented Flasks, PC

Phase out expensive stainless steel devices

- Leakproof cap assembly provides safe storage and transfer of fluids
- Cap manifold creates a closed system with one continuous flow path
- A hydrophobic PTFE filter offers clean ventilation inside the flask and in the event of a spill, it prevents contents from escaping

NEW

These single-use polycarbonate (PC) flasks with tubing and vent filters are perfect for fluid transfer and storage. Each polypropylene (PP) cap assembly features a platinum-cured silicone gasket for a leakproof system without any machining residue or bonding agents. Hose barb plug on tubing keeps line closed until ready for use. Pinch clamp helps control flow into the container or can close off the line completely. A 0.2 µm hydrophobic PTFE filter allows for ventilation while preventing media from escaping in the event of a spill. Rigid dip tube with notch provides easy filling and extraction of media.

What's included: PC flask, PP cap, rigid dip tube, TPE tubing, hose barb plug, pinch clamp, and PTFE filter.



Cole-Parmer®

STERILE

Capacity (mL)	Graduation range (mL)	Graduation (mL)	Overall height	Cap/stopper size	Catalog number	Qty/cs	Price/cs
1000	200 to 1000	100	8½"	53 mm	XJ-06061-38	6	
2000	600 to 2000	100	11"	53 mm	XJ-06061-39	6	

CELLTREAT® Sterile Tissue Culture Flasks, PS

Angled neck design offers easy access

- Easily view cells through clear polystyrene
- Sterilized by gamma irradiation; packaged in resealable bags

Select from treated culture flasks with hydrophilic surface which is ideal for cell attachment or low attachment untreated solution flasks. The 250- and 600-mL flasks have thicker walls for durability and feature printed lot numbers. The 600-mL flasks also have a larger neck opening for easier access. Vented caps feature a 0.22 µm hydrophobic membrane.

What's included: sterile caps (plug seal or vented).

NEW



Treated Culture Flasks

STERILE

Culture area	Capacity	Cap type	Catalog number	Packaging	Qty/cs	Price/cs
12.5 cm²	25 mL	Plug seal	XJ-01931-01	10/bag	200	
		Vent	XJ-01931-02	10/bag	200	
25 cm²	50 mL	Plug seal	XJ-01931-03	10/bag	200	
		Vent	XJ-01931-04	10/bag	200	
75 cm²	250 mL	Plug seal	XJ-01931-05	5/bag	100	
		Vent	XJ-01931-06	5/bag	100	
182 cm²	600 mL	Plug seal	XJ-01931-07	5/bag	40	
		Vent	XJ-01931-08	5/bag	40	
300 cm²	1250 mL	Vent	XJ-01931-09	3/bag	18	

Untreated Culture Flasks

STERILE

Capacity	Cap type	Catalog number	Packaging	Qty/cs	Price/cs
25 mL	Vent	XJ-01931-11	10/bag	200	
50 mL	Vent	XJ-01931-12	10/bag	200	
250 mL	Vent	XJ-01931-14	5/bag	100	
600 mL	Vent	XJ-01931-16	5/bag	40	

Replacement Caps

STERILE

Description	Cap type	Catalog number	Qty/cs	Price/cs
Fits 25-mL flasks	Plug seal	XJ-01931-25	5	
	Vent	XJ-01931-27		
Fits 50-mL flasks	Plug seal	XJ-01931-21	5	
	Vent	XJ-01931-23		
Fits 250-mL flasks	Plug seal	XJ-01931-29	5	
	Vent	XJ-01931-31		
Fits 600-mL flasks	Plug seal	XJ-01931-33	5	
	Vent	XJ-01931-35		

Chamber Slide™ Systems

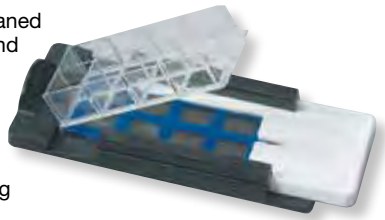
No need to transfer cells from vessel to slide

– One slide for culture, fixation, staining, and viewing

The systems consist of a lid for aseptic manipulation, removable polystyrene (PS) media chamber, and a standard 25 x 75 mm slide that functions as the growth substrate.

Choose from either cell-culture treated Permanox® plastic or glass (soda lime) slides. Both are ideal for analysis of fluorescent stained cell cultures as they do not interfere with fluorescent labels. All Chamber Slide systems are presterilized.

Chamber Slide System



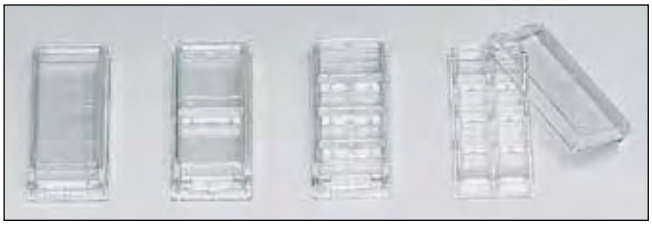
Glass slides are specially cleaned for optimal cell attachment and growth. Separate the media chamber from the slide using removal tool (included). Biocompatible acrylic adhesive seals the media chamber and slide, preventing well-to-well contamination. Wells feature a hydrophobic border that defines their growth area. Superfrost® writing area allows for easy sample identification.

STERILE

Number of wells	Growth area (cm^2)	Working volume (mL)	Slide material	Catalog number	Qty/ pk	Price/ pk
1	8.6	2.0 to 4.5	Glass	XJ-01838-00	16	
2	4.0	1.0 to 2.0		XJ-01838-01		
4	1.7	0.5 to 1.0		XJ-01838-02		
8	0.7	0.2 to 0.5		XJ-01838-04		

Chambered Cover Glass Systems

Systems consist of a miniature polystyrene media chamber with a #1 borosilicate cover glass as the growth surface. Chambered cover glasses are sealed to the media chamber using a nontoxic silicone gasket. Ultra-thin (0.13 to 0.17 mm) cover glasses permit viewing of cells at higher magnifications using an inverted microscope. Special German-origin borosilicate glass is ideal for growing fastidious cells such as neuronal cells. Media chambers are not removable.



Chambered cover glass media chamber is not removable.

STERILE

Number of wells	Growth area (cm^2)	Working volume (mL)	Slide material	Catalog number	Qty/ pk	Price/ pk
1	9.4	2.5 to 4.5	Glass	XJ-01838-10	16	
2	4.2	1.2 to 2.0		XJ-01838-11		
4	1.8	0.5 to 0.9		XJ-01838-12		
8	0.8	0.2 to 0.4		XJ-01838-13		

Centrifugal Concentrators with PES MWCO Membranes

Concentrate samples over 100x

– Disposable ultrafiltration devices concentrate/purify in a single spin

– Get faster filtration with increased surface area from twin vertical membranes

– Polyethersulfone membrane is excellent for most solutions

A. Vivaspin 500 for 100 to 600 µL Samples

The 500 µL centrifugal filter units can be used in either swing out or fixed-angle rotors accepting 2.2 mL centrifuge tubes. Minimize membrane fouling and get high speed concentration with the unique vertical membrane design and thin channel filtration chamber.



36228-00

MWCO	Cat. no.	Qty/pk	Price/pk
5,000 Dalton	XJ-36228-00	25	
10,000 Dalton	XJ-36228-02		
30,000 Dalton	XJ-36228-04		
50,000 Dalton	XJ-36228-06		
100,000 Dalton	XJ-36228-08	25	
300,000 Dalton	XJ-36228-10		
1,000,000 Dalton	XJ-36228-12		
0.2 µm	XJ-36228-14		

B. Vivaspin 6 for 2 to 6 mL Samples

Vivaspin 6 features twin vertical membranes for unparalleled filtration speeds and 100x plus concentrations. Remaining volume is easy to read from the printed scale on the side of the concentrator and the modified dead stop pocket further simplifies direct pipette recovery of the final concentrate.



36228-16

MWCO	Cat. no.	Qty/pk	Price/pk
5,000 Dalton	XJ-36228-16	25	
10,000 Dalton	XJ-36228-18		
30,000 Dalton	XJ-36228-20		
50,000 Dalton	XJ-36228-22		
100,000 Dalton	XJ-36228-24	25	
300,000 Dalton	XJ-36228-26		
1,000,000 Dalton	XJ-36228-28		
0.2 µm	XJ-36228-30		

C. Vivaspin 15 R for 2 to 15 mL Samples

Vivaspin 15 R has a modified regenerated cellulose membrane specially designed for "sticky" samples. This membrane has ultimate recovery at low adsorption (95 to 98%) and very small hold up volume (<20 µL). Ideal for desalting and concentration of Ig fractions.



36228-32

MWCO	Catalog number	Qty/pk	Price/pk
5,000 Dalton	XJ-36228-32	25	
10,000 Dalton	XJ-36228-34		
30,000 Dalton	XJ-36228-36		

D. Vivaspin 20 for 5 to 20 mL Samples

Vivaspin 20 handles up to 20 mL in swing bucket centrifuges and 14 mL in fixed-angle rotors accepting 50 mL centrifuge tubes.



36224-80

MWCO†	Cat. no.	Qty/pk	Price/pk
5,000 Dalton	XJ-36224-71	48	
10,000 Dalton	XJ-36224-73		
30,000 Dalton	XJ-36224-75		
50,000 Dalton	XJ-36224-77	48	
100,000 Dalton	XJ-36224-79		
0.2 µm	XJ-36224-81		

†Choose a pore size at least 50% smaller than the size of the molecule to be retained.

Cole-Parmer® Personal Microcentrifuges

Quickly and efficiently spin down samples

– Includes two rotors: one for 1.5- to 2.0-mL tubes and one for PCR tubes (0.4 mL)
– On/off switch lets you stop rotor before opening lid

These microcentrifuges offer a choice of five translucent lid colors. Operation is extremely simple, just close the lid and the rotor accelerates quickly to 6000 rpm. Rubber feet keep unit stable.



Cole-Parmer®

Specifications

Rotor (included): fixed-angle, 6 x 1.5- to 2.0-mL tubes, 2 x 0.2-mL strip tubes

Lid color	Speed range	Max RCF x g	110 VAC, 50/60 Hz		220 VAC, 50/60 Hz	
			Catalog number	Price	Catalog number	Price
Gray	6000 rpm	2000	XJ-17310-00		XJ-17310-05	
Blue	6000 rpm	2000	XJ-17310-10		XJ-17310-15	
Purple	6000 rpm	2000	XJ-17310-06		XJ-17310-07	
Teal	6000 rpm	2000	XJ-17310-08		XJ-17310-09	
Red	6000 rpm	2000	XJ-17310-16		XJ-17310-17	

Argos Technologies® Microcentrifuge

Visualize running samples from across the room

– Change color of illuminated LED light ring to personalize sample spinning
– Versatile rotor options suit many standard lab needs including 5-mL microtubes
– Operate in continuous, pulsed, or timed mode

This compact, versatile benchtop centrifuge is ideal for quick two-speed spindowns. Three rotors accommodate PCR, 0.5-mL, 1.5-mL, and 5-mL tubes. Regardless of setting, rotor will stop once the lid release button is pushed.

An outer ring of colored LED lights illuminate when the unit is active, and can be easily viewed through the transparent lid even in a dark room. The lights can be turned off or the color changed to red, green, or blue by a switch underneath the unit.



Choose from three colors of light while your samples spin

ARGOS TECHNOLOGIES

Specifications

Rotors (included): one of each rotor listed at right.

Speed range	Power		Plug type	Catalog number	Price
	VAC	Hz			
6000 rpm and 9200 rpm	120	50	US	XJ-22999-50	
	220	60	Euro	XJ-22999-51	
	220	60	UK	XJ-22999-52	

XJ-22999-56 **Replacement adapters** for 0.5-mL tubes. Pack of 8

Replacement Rotors

Type	Capacity	Max RCF x g		Catalog number	Price
		At 6000 rpm	At 9200 rpm		
Fixed-angle	8 x 1.5-mL tubes†	2012	4731	XJ-22999-53	
	4 x 5.0-mL tubes	2414	5677	XJ-22999-55	
Strip	Two 8 x 0.2-mL PCR strips or 16 x 0.2-mL PCR tubes	1509	3549	XJ-22999-54	

†Use adapters for 8 x 0.5-mL tubes.

Cole-Parmer® Fixed-Speed Centrifuges

Prevent splashes and aerosol damage to rotor

– Motor shuts off when the cover is opened
– Solid steel base and suction cup feet keep centrifuge firmly in place

Centrifuge includes a 60-minute timer with hold function. Transparent polycarbonate lid allows you to verify rotor operation and tube condition. Included rotor accepts 15 mL tubes with maximum dimensions of 130 mm L x 20 mm dia.



Cole-Parmer®

Specifications

Rotor (included): fixed-angle, 6 x 15-mL tubes **Max tube dimensions:** 130 mm L x 20 mm dia

Speed range	Max RCF x g	Timer	Power		Catalog number	Price
			VAC	Hz		
3400 rpm	1318	0 to 60	115	60	XJ-17250-10	

Cole-Parmer® FS-3500 Portable Centrifuges

Don't be tied down—portable design goes where you need it



- No more struggling—stainless steel handle for easy carrying
- Easily plugs into car—included 12 volt adapter with optional AC adapter also available
- Spin safely—dual latch lid for ensuring unit is secure
- Spin samples from 2 to 15 mL—fixed-angle rotor accepts optional adapters for other size tubes

Cole-Parmer®

Specifications

Rotor (included): fixed angle; six-place for models 17415-01 and -02; eight-place for models 17415-11 and -12

Description	Speed range	Max RCF x g	Timer	Power	Catalog number	Price
Six-place portable centrifuge	3500 rpm	1640	0 to 30 minutes	12 VDC	XJ-17415-01	
Six-place portable centrifuge with 18-place tube holder					XJ-17415-02	
Eight-place portable centrifuge					XJ-17415-11	
Eight-place portable centrifuge with 18-place tube holder					XJ-17415-12	

XJ-17415-22 **Power adapter,** 110 VAC
XJ-17415-23 **Power adapter,** 220 VAC
XJ-17415-26 **Small tube adapters** for 2-mL tubes. Pack of 2
XJ-17415-27 **Greiner tube lift adapters.** Pack of 12
XJ-17415-29 **Optional tube holder,** 18-place

Cole-Parmer® MS-3400 Centrifuge

Be more productive and more versatile



- Rotor options accommodate tube sizes from 0.5 to 50 mL
- Glove-friendly digital keypad interface keeps you safe from chemicals
- No annoying noise—centrifuge runs quietly

Two-line digital display shows status, time, rpm and RCF(g), and the 60-minute timer signals when run is complete. Easily repeat previous settings for quick testing. Stainless steel interior chamber is easily accessible for cleaning and will withstand years of use.

Cole-Parmer®

Specifications

Rotor (included): four-place swinging bucket **Noise level:** <50 dBA

Speed range	Max RCF x g	Maximum tube size	Timer	Power		Catalog number	Price
				VAC	Hz		
500 to 4000 rpm	2508	28 x 118 mm	60 minutes	120	60	XJ-17414-21	
				220	50	XJ-17414-22	
MS-3400 with complete set of tube adapters (17414-31, -32, -33)							
500 to 4000 rpm	2508	Various	60 minutes	120	60	XJ-17414-23	
				220	50	XJ-17414-24	

Optional Tube Adapters

Capacity	Catalog number	Qty/pk	Price/pk
5- to 15-mL tubes	XJ-17414-31	2	
3.5- to 6.5-mL tubes	XJ-17414-32	2	
0.5- to 3-mL tubes	XJ-17414-33	2	
2-mL small tubes	XJ-17415-26	2	
Greiner tube lift adapters	XJ-17415-27	12	

XJ-17414-38 **Tube shield.** Pack of 2
XJ-17414-37 **Tube holder**, 24-place

Cole-Parmer® FS-3400 and VS-4000 Centrifuges

Eliminate "dancing" on lab counter

Centrifuges include a fixed-angle rotor to spin tubes up to 10-mL. Models feature a 30-minute timer, suction cup rubber feet which firmly anchor them to the benchtop, and a stainless steel guard bowl to protect against spills. A safety lid latch cuts power to the motor if the lid is raised. Centrifuges accept tubes up to 17 mm in diameter.

Specifications

Rotor (included): fixed-angle, 6 x 10-mL tubes

Cole-Parmer®

Description	Speed range	Max RCF x g	Timer	Power		Catalog number	Price
				VAC	Hz		
FS-3400	3400 rpm	1350	0 to 30 minutes	115	60	XJ-83058-00	
VS-4000	300 to 4000 rpm	1830	0 to 30 minutes	115	60	XJ-83058-02	
				220	50	XJ-83058-42	



Optional Rotor

Capacity	Catalog number	Price
8 x 10 mL	XJ-83058-04	

Optional Tube Adapters

Capacity	Qty/pk	Catalog number	Price/pk
4- to 5-mL tubes	2	XJ-83058-08	
2-mL tubes	10	XJ-83058-10	

XJ-83058-06 **Tube shield**. Pack of 2

Cole-Parmer® MP and MPR Series Multipurpose Centrifuges

Rugged construction without sacrificing reliable performance

- Extra-thick stainless steel chamber and zinc-coated alloy and steel frame increase durability for inorganic separations requiring strong solvents
- Industrial-grade inverter drive (VFD) and brushless motor provide a long service life
- User-accessible service sections allow on-site maintenance
- Programmable memory quickly administers routine tests and accommodates multiple users
- Pulse feature lets you perform very short runs to 90 seconds, perfect for fast pelleting



MPR16

This Cole-Parmer multipurpose (MP and MPR) series of benchtop centrifuges features advanced safety elements, including lid with multipoint lock and gas struts, emergency lid release during power failure, and barrier ring to protect the chamber. Multiple sensors prevent damage to centrifuge in case of misuse or malfunction: lid lock detector ensures lid is secure before running, imbalance detector guarantees samples are loaded correctly, and overspeed and motor overheating sensors warn of mechanical or electronic failures.

Basic models feature three LED displays showing temperature, rpm, and time. Memory supports ten programs including acceleration and deceleration rates. Advanced models feature a large touch-screen LCD with memory for 108 programs. The refrigerated models (MPR) deliver accurate cooling to protect your valuable samples from heat.

Basic MP16 and MPR16 models include a fixed-angle rotor holding eight 50-mL tubes—perfect for civil, environmental, and water supply engineering applications.

Basic MPR315 model adds the automatic rotor recognition function. Automatic rotor recognition provides safety and convenience when different rotors are used. The installed rotor is recognized at the beginning of a run and is automatically limited to its rated maximum speed.

Advanced MPR115 model adds automatic rotor recognition function. Plus, the large intuitive touch-screen LCD is simple to navigate, saving you time in the lab. Programmable memory supports 108 programs including acceleration and deceleration rates for routine tasks, or use the W2t functionality normally found only on ultracentrifuges.



MPR115

Cole-Parmer®

ISO 9001:2008 CERTIFIED SUPPLIER

Model	Interface	Max speed (rpm)	Max RCF x g	Max capacity	Timer	Rotors included	120 VAC, 60 Hz		230 VAC, 50 Hz	
							Catalog number	Price	Catalog number	Price
Nonrefrigerated MP model										
MP16	Basic	6000	4800	1 L	0 to 99 minutes, 10-second increments	Fixed-angle rotor (17406-09)	XJ-17406-50		XJ-17406-55	
Refrigerated MPR models, 15.8 to 104°F (–9 to 40°C)										
MPR16	Basic	6000	4800	1 L	0 to 99 minutes, 10-second increments	Fixed-angle rotor (17406-09)	XJ-17406-20		XJ-17406-25	
MPR315	Basic	15,000	22,000	3 L	0 to 99 minutes, 1-second increments	Fixed-angle rotor (17406-03) and swing-out rotor (17406-01) with buckets (17406-02) and adapters (17406-04)	XJ-17406-16		XJ-17406-17	
MPR115	Advanced	15,000	22,000	1 L	0 to 9999 minutes, 1-second increments	Fixed-angle rotor (17406-13) and swing-out rotor (17406-11) with buckets (17406-12) and adapters (17406-14)	XJ-17406-18		XJ-17406-19	

Find even more online! Additional centrifuges, rotors, adapters, and reducers are available at ColeParmer.com.

Argos Technologies® CapLock™ Microcentrifuge Tube

Make sure your samples stay secure with double-locking cap

- Polypropylene is autoclavable at 121°C and freezable to –100°C
- Free of RNase, DNase, endotoxins, and human DNA
- Certified TSE/BSE free



Capacity (mL)	Max RCF (x g)	Sterile	Catalog number	Qty/pk	Price
1.5	30,000	No	XJ-04395-57	1000	

Argos Technologies® 5-mL Microcentrifuge Tubes

Perfect for medium-sized samples

NEW

- Easy-open attached cap eliminates hand fatigue and maintains sample integrity
- Polypropylene handles autoclaving to 120°C and freezing to –90°C
- Certified RNase-, DNase-, and pyrogen-free



These graduated 5-mL tubes were designed to fill the gap for samples too large for standard microcentrifuge tubes and too small to pipette without contamination from a 15-ml conical tube. Use in centrifuges that accept 15-mL tubes.

Capacity (mL)	Max RCF (x g)	Sterile	Color	Catalog number	Qty/pk	Price
5	5000	No	Natural	XJ-04395-47	200	
		Yes†	Natural	XJ-04395-48	200†	
		No	Blue	XJ-04395-49	200	
		No	Yellow	XJ-04395-50	200	
5	5000	No	Green	XJ-04395-51	200	
		No	Pink	XJ-04395-52	200	
		No	Black	XJ-04395-53	200	

†Sterile tubes are packaged as 10 bags of 20 tubes.

XJ-04395-54 **Acrylic tube rack** holds 10 x 5-mL microcentrifuges

Argos Technologies® BackSpring™ Tube

Easy opening and closing tubes

- RNase-free, DNase-free, and nonpyrogenic
- Boil-proof and withstands freezing to –90°C

This unique 1.5-mL microcentrifuge tube lets you open it from the back with just one hand, versus the traditional front-open style. Pivot design allows the tube to snap open when pressure is applied to the back of the cap—enabling quick, comfortable opening and closing of the lid. Tube features easy-puncture top, graduations, and frosted writing surface. **Autoclavable.**

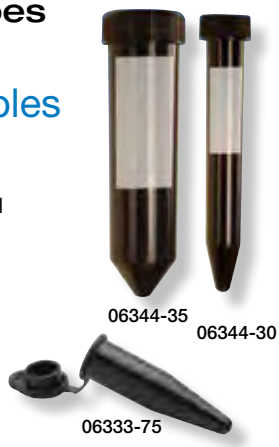


Capacity (mL)	Tube material	Max RCF (x g)	Color	Cap included	Sterile	Catalog number	Qty/pk	Price/pk
1.5	Homopolymer plastic	30,000	Clear	Yes	No	XJ-22999-00	500	

Argos Technologies® Microcentrifuge Tubes

Protect your photosensitive samples

Black tubes provide a completely opaque barrier, protecting even the most light-sensitive compounds. Ideal for use with fluorescent probes or ethidium bromide. Tubes are made of polypropylene with a click-fit cap to prevent accidental opening. Tubes can be stored down to –100°C and can be autoclaved to 122°C.



Capacity (mL)	Tube material	Max RCF x g	Sterile	Qty/pk	Catalog number	Price/pk
0.5	PP	15,000	No	500	XJ-06333-75	
1.5	PP	15,000	No	500	XJ-06333-80	
15	PP	8,400	No	50	XJ-06344-30	
30	PP	10,000	No	50	XJ-06344-35	

Cole-Parmer® Conical-Bottom Disposable Plastic Tubes

Perform separations without shattering glass

Cole-Parmer®

Capacity (mL)	Tube material	Dia x H (mm)	Max RCF (x g)	Cap style (cap included)	Sterile	Packaging	Qty/pk	Catalog number	Price/pk
15	PS	17 x 118	1800	Screw cap/rim seal	No	1 bag of 500	500	XJ-06344-20	
					Yes	10 trays of 50		XJ-06344-21	
15	PPCO	17 x 119	6400	Screw cap/rim seal	No	1 bag of 500	500	XJ-06344-22	
					Yes	10 trays of 50		XJ-06344-23	
					Yes	20 bags of 25		XJ-06344-24	
50	PPCO	29 x 115	10,000	Flat top/rim seal	No	1 bag of 500	500	XJ-06344-27	
					Yes	20 trays of 25		XJ-06344-28	
					Yes	20 bags of 25		XJ-06344-29	
50†	PPCO	29 x 115	—	Flat top/rim seal	No	20 bags of 25	500	XJ-06344-26	
					Yes	20 bags of 25		XJ-06344-25	

†Self-standing tube



Kinesis TELOS® QuEChERS Extraction Kits

Quickly and economically extract the required analytes into solution

- Salt pack helps transfer salt to the centrifuge tube quickly and easily with minimal waste
- Conform with documented AOAC 2007.01 and EN 15662 protocols



TELOS QuEChERS extraction kits offer the first stage cleanup for many sample types. This initial crude extraction and partitioning step uses organic solvent and salt solution to extract the required analytes into solution. Select from kits without tubes, with 50 mL centrifuge tubes, or with tubes and homogenizer beads. Beads aid in breaking up more complex sample types.

Methodology	Description	Qty/pk	Catalog number	Price/pk
4 g $MgSO_4$ (anhydrous), 1 g NaAc (anhydrous)				
AOAC 2007.01	Without tubes	50	XJ-06478-96	
	With tubes	50	XJ-06478-95	
	With tubes and beads	50	XJ-06478-97	
6 g $MgSO_4$ (anhydrous), 1.5 g NaAc (anhydrous)				
AOAC 2007.01	Without tubes	50	XJ-06478-89	
	With tubes	50	XJ-06478-88	
	With tubes and beads	50	XJ-06478-90	
6 g $MgSO_4$ (anhydrous), 1.5 g NaAc $3H_2O$				
AOAC 2007.01	Without tubes	50	XJ-06478-83	
	With tubes	50	XJ-06478-82	
	With tubes and beads	50	XJ-06478-84	
4 g $MgSO_4$ (anhydrous), 1 g NaCl, 0.5 g disodium citrate sesquihydrate (TSCD), 1 g sodium citrate (DHS)				
EN 15662	Without tubes	50	XJ-06479-01	
	With tubes	50	XJ-06479-00	
	With tubes and beads	50	XJ-06479-02	

Kinesis TELOS® SPE Blank Fixed 96-Well Microplates

Pack wells with custom sorbents

- Optimized for the sample processing and extraction of small volume fluids
- Use with vacuum or positive pressure



Individual well is designed to allow maximum interaction between the analyte and sorbent and ensure elution volumes are kept to a minimum. Fill with your own custom sorbent to meet your application. Each well is fitted with a polyethylene frit.

Description	Frit size	Qty/pk	Catalog number	Price
Fixed-well plates	10 µm	1	XJ-06478-31	
	20 µm	1	XJ-06478-28	

Kinesis TELOS® QuEChERS Cleanup Kits

Perform more advanced cleanup for cleaner samples

- Remove pigments, acids, and fats using three different combinations of SPE sorbents
- Anhydrous magnesium sulfate removes any excess water



Further cleanup of samples is easy with TELOS QuEChERS cleanup kits. After initial sample prep with the extraction kit, a more advanced cleanup is often required for the removal of interferences such as pigments, organic acids, and fats. The removal of these interferences is carried out using a combination of three different SPE sorbents (see below). Each cleanup kit comes with 2 mL or 15 mL centrifuge tubes, depending on the sample volume and methodology followed.

TELOS PSA: removes organic acids
TELOS C18: removes nonpolar interferences, including fats
TELOS PestiCarb: removes pigments, including chlorophyll and carotenoids

Method-ology	Sorbent	Included tube size	Qty/pk	Catalog number	Price /pk
General cleanup kits					
AOAC 2007.01	150 mg $MgSO_4$ (anhydrous) & 50 mg PSA	2 mL	100	XJ-06479-04	
	1.2 g $MgSO_4$ (anhydrous) & 400 mg PSA	15 mL	50	XJ-06479-07	
EN 15662	150 mg $MgSO_4$ (anhydrous) & 25 mg PSA	2 mL	100	XJ-06479-05	
	900 mg $MgSO_4$ (anhydrous) & 150 mg PSA	15 mL	50	XJ-06479-06	
Removal of fats and proteins					
AOAC 2007.01	150 mg $MgSO_4$ (anhydrous), 50 mg PSA, & 50 mg C18	2 mL	100	XJ-06478-65	
	1.2 g $MgSO_4$ (anhydrous), 400 mg PSA, & 400 mg C18	15 mL	50	XJ-06478-68	
EN 15662	150 mg $MgSO_4$ (anhydrous), 25 mg PSA, & 25 mg C18	2 mL	100	XJ-06478-66	
	900 mg $MgSO_4$ (anhydrous), 150 mg PSA, & 150 mg C18	15 mL	50	XJ-06478-77	
NYT 1380-2007	300 mg $MgSO_4$ (anhydrous), 100 mg PSA, & 100 mg C18	15 mL	50	XJ-06478-67	
Removal of pigments					
AOAC 2007.01	150 mg $MgSO_4$ (anhydrous), 50 mg PSA, & 50 mg PestiCarb	2 mL	100	XJ-06479-09	
	1.2 g $MgSO_4$ (anhydrous), 400 mg PSA, & 400 mg PestiCarb	15 mL	50	XJ-06479-14	
EN 15662	150 mg $MgSO_4$ (anhydrous), 25 mg PSA, & 2.5 mg PestiCarb	2 mL	100	XJ-06479-10	
	150 mg $MgSO_4$ (anhydrous), 25 mg PSA, & 7.5 mg PestiCarb	2 mL	100	XJ-06479-11	
Removal of fats, proteins, and pigments					
AOAC 2007.01	150 mg $MgSO_4$ (anhydrous), 50 mg PSA, 50 mg C18, & 50 mg PestiCarb	2 mL	100	XJ-06478-78	
	1.2 g $MgSO_4$ (anhydrous), 400 mg PSA, 400 mg C18, & 400 mg PestiCarb	15 mL	50	XJ-06478-80	

Diba Omnifit® EZ and EZ SolventPlus™ Chromatography Columns

Ergonomically designed endpieces provide simple and quick height adjustment

- Precision borosilicate glass columns provide inertness, visibility, and performance
- PEEK™ column threads offer outstanding durability
- Superior frit placement adds bed support and even distribution of sample flow
- Reusable columns let you pack your own media specific to your application

NEW



Ergonomically designed EZ columns are easy to use yet provide excellent results. Columns are ideal for low- to medium-pressure applications and are resistant to many solvents used in liquid chromatography. Modular design gives you the flexibility to mix and match column sizes with different endpiece types to meet your specific requirements.

Order **EZ SolventPlus columns** for techniques using organic solvents such as reversed phase chromatography. EZ SolventPlus columns have only the most chemically inert materials in the fluid path—borosilicate glass, PTFE, ETFE, and Chemraz®—ensuring the utmost chemical resistance.

Select from three endpiece configurations to suit your application—one fixed and one adjustable, two adjustable, or two fixed. Each adjustable endpiece gives you the flexibility to modify the bed length up to 80 mm in height (up to 160 mm with two adjustable endpieces). Once in place, fine adjustments can be made to position the endpiece to cause minimal disturbance to the packed bed. Each column is supplied assembled and ready to use, with all the tubing, fittings, and connections needed to get started.

What's included: a frit kit (contains two each of 10 µm PE, 10 µm PTFE, and 30 µm PTFE frits), a Click-N-Seal® 10-32 PEEK conical port fitting, and two 1/16" OD PTFE tubing assemblies with 1/4-28 UNF fitting at one end (PP for EZ columns and ETFE for EZ SolventPlus columns).

EZ Columns

Column ID	Column length	Max pressure	One fixed & one adjustable endpieces		Two adjustable endpieces		Two fixed endpieces	
			Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
6.6 mm	100 mm	900 psi	XJ-11942-94		XJ-11942-93		XJ-11942-95	
	250 mm		XJ-11943-00		XJ-11942-99		XJ-11943-01	
10 mm	250 mm	600 psi	XJ-11943-15		XJ-11943-14		XJ-11943-16	
	500 mm		XJ-11943-24		XJ-11943-23		XJ-11943-25	
15 mm	250 mm	300 psi	XJ-11943-33		XJ-11943-32		XJ-11943-34	
	400 mm		XJ-11943-39		XJ-11943-38		XJ-11943-40	
25 mm	250 mm	150 psi	XJ-11943-51		XJ-11943-50		XJ-11943-52	
	500 mm		XJ-11943-60		XJ-11943-59		XJ-11943-61	
35 mm	250 mm	150 psi	XJ-11943-66		XJ-11943-65		XJ-11943-67	
	330 mm		XJ-11943-69		XJ-11943-68		XJ-11943-70	
50 mm	250 mm	75 psi	XJ-11943-75		XJ-11943-74		XJ-11943-76	

EZ SolventPlus™ Columns

Column ID	Column length	Max pressure	One fixed & one adjustable endpieces		Two adjustable endpieces		Two fixed endpieces	
			Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
6.6 mm	100 mm	900 psi	XJ-11943-90		XJ-11943-89		XJ-11943-91	
	400 mm		XJ-11944-02		XJ-11943-01		XJ-11944-03	
10 mm	150 mm	600 psi	XJ-11944-08		XJ-11944-07		XJ-11944-09	
15 mm	250 mm	300 psi	XJ-11944-29		XJ-11944-28		XJ-11944-30	
25 mm	250 mm	150 psi	XJ-11944-47		XJ-11944-46		XJ-11944-48	
35 mm	250 mm	150 psi	XJ-11944-62		XJ-11944-61		XJ-11944-63	
50 mm	250 mm	75 psi	XJ-11944-71		XJ-11944-70		XJ-11944-72	

Accessories

XJ-11942-06 **Connection tubing assembly** for EZ columns. Comes with two (2 m and 0.5 m L) 1/16" OD PTFE tubing with 1/4-28 UNF PP fitting at one end plus a Click-N-Seal® 10-32 PEEK conical fitting

XJ-11942-65 **Connection tubing assembly** for EZ SolventPlus columns. Comes with two (2 m and 0.5 m L) 1/16" OD PTFE tubing with 1/4-28 UNF ETFE fitting at one end plus a Click-N-Seal 10-32 PEEK conical fitting

Configurations

All Omnifit columns are supplied assembled and ready for use, with tubing and fittings to connect the column into an existing system. Three configurations are available:

- One fixed endpiece as a bed support and one adjustable endpiece (plunger) to adjust the bed height. The adjustable endpiece is designed to give the user fine control over the movement of the endpiece, minimizing the risk of disturbance to the packed bed and giving 80 mm of height adjustment.
- Two adjustable endpieces for maximum flexibility in bed height. With an adjustable endpiece at both ends of the column, the user gains 160 mm of adjustment, offering a wide range of bed lengths and volumes.
- Non-adjustable with two fixed endpieces, a cost-effective option when height adjustment is not important.

Additional sizes are available—go to ColeParmer.com for the full selection.

Specifications

Materials	EZ columns	EZ SolventPlus columns
Column	Borosilicate glass	Borosilicate glass
Endpiece & plunger	PTFE	PTFE
Threaded ends	PEEK	PEEK
Frit (bed support)	PE	PTFE
O-ring	FKM/FPM	Chemraz
Adjusting nut	Acetal	Acetal
Retaining nut	Acetal	Acetal
Connection cap	Glass-filled PP	ETFE
Fitting nuts	Glass-filled PP	ETFE

BabyBio™ Prepacked Columns

Ready to use for quick and easy purification of proteins

– Reliable, reproducible, and efficient

Columns feature biocompatible polypropylene body and polyethylene top and bottom filters. Each column comes with a plug in the inlet and a snap-off end at the outlet. Easily connect to a syringe, pump, or chromatography system using finger-tight fittings (coned 10-32) for 1/16" OD tubing.

NEW



BabyBio™ Prepacked Ion Exchange Chromatography (IEC) Columns

– Rapid method screening and separation

– Agarose-based resin provides optimal selectivity, resolution, and purity

BabyBio IEC columns come prepacked with WorkBeads™ media, agarose-based chromatographic resins, which provide a tight size distribution and exceptional mechanical stability. Beads in columns maintain high capacity over broad pH ranges. Connect up to five columns in series to process larger sample volumes.

Dynamic binding capacity	pH stability	Qty	1 mL Columns		5 mL Columns	
			Catalog number	Price	Catalog number	Price
Strong anion exchange/Quaternary amine						
50 mg BSA/mL medium	3 to 12 pH	1	XJ-11947-46		XJ-11947-50	
		5	XJ-11947-48		XJ-11947-52	
Weak anion exchange/Diethylaminoethyl						
40 mg BSA/mL medium	3 to 9 pH	1	XJ-11947-54		XJ-11947-58	
		5	XJ-11947-56		XJ-11947-60	
Strong cation exchange/Sulfonate						
130 mg BSA/mL medium	3 to 13 pH	1	XJ-11947-62		XJ-11947-66	
		5	XJ-11947-64		XJ-11947-68	

BabyBio™ Prepacked Affinity Chromatography Columns

– Separate proteins using reverse interaction between the target protein and ligand of bead

– High binding capacity and purity in one step

Columns with WorkBeads™ activated media have a bromohydrin group that is reactive towards primary amines, thiol, or hydroxyl residues. With an exclusion limit of 1M kDa, they are ideal for separating small molecules and peptides.

Columns with QC-pretested affinity media are ideal for purification of monoclonal and polyclonal antibodies. The specificity of the recombinant Protein A for the Fc-region of IgG provides excellent purification.



Performance characteristics	pH stability	Qty	1 mL Columns		5 mL Columns	
			Catalog number	Price	Catalog number	Price
Activated media/small molecules and peptides						
Exclusion limit 1M kDa (globular proteins)	2 to 13 pH (after coupling)	1	XJ-11947-80		XJ-11947-84	
		5	XJ-11947-82		XJ-11947-86	
Affinity media/antibodies (IgG), bound via the Fc-region						
Dynamic binding capacity >40 mg human IgG/mL medium	3 to 10 pH (short term)	1	XJ-11947-88		XJ-11947-92	
		5	XJ-11947-90		XJ-11947-94	

BabyBio™ Prepacked Desalting and Buffer Exchange Columns

– Rapid and efficient desalting and buffer exchange

– Easy and convenient group separation of high and low molecular weight substances

Use size exclusion method to quickly and efficiently separate high molecular weight substances such as proteins and biomolecules from salts and other small molecules. Buffer exchange or desalting of a sample can be used to prepare for mass spectroscopy analysis or lyophilization, and after certain procedures such as ion exchange chromatography. Useful alternative to dialysis for larger or degradable samples. The molecular weight cutoff is 5000. Recommended flow rate is 1 mL/min for 1-mL column, 5 mL/min for 5-mL column. Stable over pH 2 to 12 working range.



Target substance	Qty	1 mL Columns		5 mL Columns	
		Catalog number	Price	Catalog number	Price
Proteins and other biomolecules of similar size (MWCO is 5000)	1	XJ-11947-70		XJ-11947-74	
	5	XJ-11947-72		XJ-11947-76	
	100	XJ-11947-79		XJ-11947-78	

Kinesis KX Microwave Reaction Vials

Decrease reaction times in organic synthesis

– Resealable silicone/PTFE septa allow multiple reagent additions and reaction monitoring

– Manufactured from contamination-free Type I borosilicate glass—will not taint mixtures



Use these reaction vials in the microwave to speed up the reaction time in organic synthesis, especially when using palladium (Pd), platinum (Pt), or other metal catalysts. These vials allow the reactions to be performed at temperatures above the boiling point of the solvents used. Heavy-walled glass is highly resistant to both chemicals and thermal shock. Order stirrer bars to use with vials to achieve a homogeneous mixture, ensuring reactions are completed in the minimum time. Includes 20-mm crimp caps.

Volume	Bottom style	Temperature range	Max pressure	Microwave reaction vials			Stirrer bars		
				Cat. no.	Qty/pk	Price/pk	Cat. no.	Qty/pk	Price/pk
0.5 to 2 mL	Conical	104 to 572°F (40 to 300°C)	435 psi (30 bar)	XJ-98720-20	100		XJ-98720-25	25	
2 to 5 mL	Rounded			XJ-98720-21	100		XJ-98720-26	25	
10 to 20 mL	Rounded	104 to 482°F (40 to 250°C)	290 psi (20 bar)	XJ-98720-22	50		XJ-98720-27	5	

XJ-98720-23 **Crimp caps;** silicone/PTFE septum, 20 mm. Pack of 1000

XJ-98720-24 **Crimp caps;** silicone/PTFE septum, 20 mm. Pack of 100

Kinesis

Kinesis KX Syringe Filters

Maximize product recovery, reliability, and reproducibility

NEW

– Solvent-resistant polypropylene (PP) filter housing with nominal extractable

– Leak-free Luer-Lok® and Luer-slip connections for easy, quick and tight connections to tubing, syringes, or needles

– Color-coded filters for easy organization

– Resealable storage container prevent contamination during multiple opening and closings

– Syringe filters with prefilter minimize unwanted buildup—ideal for high viscosity or high particulate samples



Membrane material	Diameter (mm)	Pore size (µm)	Qty/pk	Catalog number	Price/pk
Kinesis KX nonsterile syringe filters					
Hydrophilic PTFE	4	0.22	100	XJ-12918-59	
		0.45		XJ-12918-60	
	13	0.22	100	XJ-12916-80	
		0.45		XJ-12916-83	
	25	0.22	100	XJ-12916-86	
		0.45		XJ-12916-89	
	30	0.22	100	XJ-12916-92	
		0.45		XJ-12916-95	
Kinesis KX sterile syringe filters					
PTFE	13	0.22	48	XJ-12918-32	
		0.45		XJ-12918-33	
	25	0.22	50	XJ-12918-34	
		0.45		XJ-12918-35	
Kinesis KX nonsterile syringe filters with prefilter					
Hydrophilic PTFE	13	0.22	100	XJ-12916-82	
		0.45		XJ-12916-85	
	25	0.22	100	XJ-12916-88	
		0.45		XJ-12916-91	
	30	0.22	100	XJ-12916-94	
		0.45		XJ-12916-97	

Extensive range of filter membranes available—find them all at ColeParmer.com

Cellulose Acetate (CA) Filters feature hydrophilic membranes. These low protein binding membranes are ideal for aqueous protein solutions. The filters are nitrate-free, making them suitable for groundwater filtration.

Glass Fiber Filters have a broad chemical compatibility and are ideal for high output pre-filtration of particulate-laden and viscous samples. Use to eliminate particulate interfering with UV/Vis spectrophotometric analysis.

Mixed Cellulose Ester (MCE) Filters are hydrophilic with a very low protein binding. Filters have high porosity and fast flow rate—excellent for aqueous solutions, tissue culture, and sensitive biological samples.

Nylon Filters are hydrophilic with strong mechanical stability and excellent chemical compatibility. Use filters with aqueous and alcoholic solutions and most HPLC solvents. Filters are medium protein binding.

Polyether Sulfone (PES) Filters are hydrophilic and low protein binding. Filters offer fast flow rate and high throughput. Use filters with aqueous based samples.

Polyester (PET) Filters are hydrophilic and resistant to commonly used solvents and chemicals except for strong bases.

Polypropylene (PP) Filters are hydrophilic and low protein binding. Excellent for general filtration of biological samples, solvents, deionized water, and reducing the biological load. Filters are compatible with aqueous and most solvent based samples.

PTFE Filters are hydrophilic and characterized by very good chemical resistance. They are compatible with many non-aqueous and organic solvent mixtures. Filters are high protein binding.

PVDF Filters offer broad chemical compatibility and low UV absorbing extractable. Filters are resistant to many solvents and show low protein binding. Ideal for general filtration of biological samples.

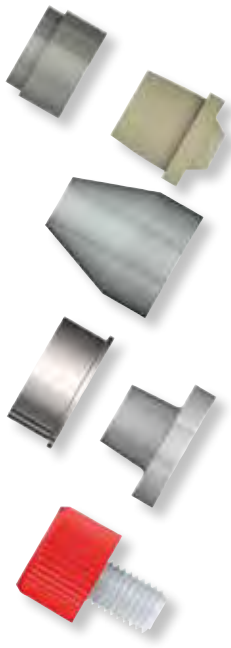
Regenerated Cellulose Filters are hydrophilic and resistant to most solvents and aqueous solutions. Use filters for particle removal from solvents and mobile phase filtration for HPLC.

Diba Click-N-Seal® Self-Torquing Fittings

Hand-tighten fittings without tools to create a secure seal

NEW

- When the cap clicks, you know the seal is tight
- Fittings can be unscrewed and reused



Use the Click-N-Seal adapters with flat-bottom ¼"-28 UNF(M) or M6 ISO(M) thread to connect soft-wall tubing.

Click-N-Seal fittings for flared tubing provide a seal with only the tube material in the fluid path. Fittings create a ferrule and leak-free connection while minimizing carryover.

Click-N-Seal fittings with inverted cones (order separately) provide a simple and easy-to-use low-pressure connection. Only the ETFE cone is in the fluid path. None of the parts are permanently attached to the tubing, so both fittings and inverted cones can easily be removed and reused.

Use Click-N-Seal fittings with Dibafit™ ferrule for high-pressure applications. The fitting can spin freely, preventing tubing from twisting. A recess in the fitting houses the ferrule allowing maximum thread engagement with the port. Type P ferrule system uses a one-piece ferrule that permanently attaches to the outside of semi-rigid tubing. Type S ferrule system uses a two-piece ferrule that fits permanently to the outside of the tubing. Two-part ferrule is made up of an inner PEEK or ETFE sealing surface surrounded by a stainless steel lock ring with only the inner portion in the fluid path.

For tube size	Thread	Material	Color	Qty/pk	Catalog number	Price
Click-N-Seal adapters for soft-wall tubing						
1/16" ID	¼"-28 UNF(M)	PC	White	10	XJ-21941-21	
		PEEK™	Natural	10	XJ-21941-26	
1/8" ID	¼"-28 UNF(M)	PC	Black	10	XJ-21941-42	
		PEEK	Natural	10	XJ-21941-50	
	M6 ISO(M)	PC	White	10	XJ-21941-46	
		PEEK	Natural	10	XJ-21941-51	
Click-N-Seal fittings for flared tubing						
1/16" OD	¼"-28 UNF(M)	Acetal	White	6	XJ-21942-40	
		PC	Red	6	XJ-21942-44	
		PEEK	Natural	6	XJ-21942-48	
Click-N-Seal fittings for use with Dibafit™ inverted cones						
1/16" OD	¼"-28 UNF(M)	Acetal	White	10	XJ-21941-60	
		PC	Black	10	XJ-21941-62	
			Red	10	XJ-21941-64	
	M6 ISO(M)	PC	White	10	XJ-21941-66	
1/8" OD	¼"-28 UNF(M)	Acetal	White	10	XJ-21941-75	
		PC	Red	10	XJ-21941-79	
		PEEK	Natural	10	XJ-21941-83	
	M6 ISO(M)	PC	Red	10	XJ-21941-82	
		PEEK	Natural	10	XJ-21941-84	
Click-N-Seal ¼"-28 and M6 fittings for use with Type P and Type S ferrules						
1/16" OD	¼"-28 UNF(M)	PC	Black	10	XJ-21941-94	
			White	10	XJ-21941-95	
			Red	10	XJ-21941-96	
		PEEK	Natural	10	XJ-21942-02	
1/8" OD	¼"-28 UNF(M)	Acetal	White	6	XJ-21942-18	
		PC	White	10	XJ-21942-21	
	M6 ISO(M)	PC	Red	10	XJ-21942-25	
		PEEK	Natural	10	XJ-21942-27	

Inverted Cones (Ferrules)

Tube OD	Material	Catalog number	Price/pk of 10
1/16"	ETFE	XJ-21940-43	
1.8 to 2.0 mm		XJ-21940-44	
2.5 mm		XJ-21940-45	
3.0 mm		XJ-21940-46	
1/8" (3.2 mm)		XJ-21940-47	

Type P and S Ferrules

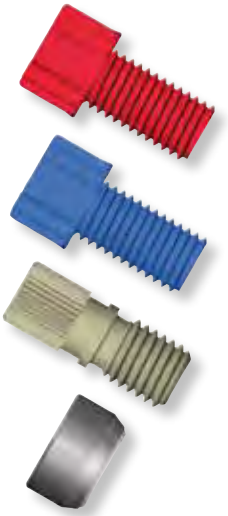
Description	Tube OD	Max pressure	Cat. no.	Price/pk of 10
Type P ferrules				
PTFE/SS	1/16"	1000 psi (69 bar)	XJ-21940-57	
	1/8"		XJ-21940-58	
PTFE/PEEK	1/16"	800 psi (56 bar)	XJ-21940-60	
	1/8"	600 psi (42 bar)	XJ-21940-62	
Type S ferrules				
PEEK ferrule & SS lock ring	1/16"	500 psi (34 bar)	XJ-21940-49	
	1/8"		XJ-21940-55	
ETFE ferrule & SS lock ring	1/16"		XJ-21940-66	
	1/8"		XJ-21940-67	

Dibafit™ Gripper Fittings

NEW

One-piece grippers withstand pressures up to 1000 psi!

- Permanently attached PTFE ferrules are ideal for repeated connect/disconnect
- Inner PTFE sealing face is the only material in the fluid path



Dibafit gripper fitting system uses a one-piece ferrule that permanently attaches to the outside of semi-rigid tubing. The fitting can spin freely, preventing tubing from twisting.

Select from polypropylene (PP) or PEEK™ fittings. PEEK fittings provide excellent chemical resistance and withstand higher temperatures.

Go online for our full portfolio of sizes, materials, and colors.

Thread	Material	Thread description	Color	Catalog number	Price/ pk of 10
Gripper fittings for 1/16" OD tubing					
¼"-28 UNF(M)	PP	Flat bottom	Red	XJ-21939-62	
¼"-28 UNF(M)	PEEK	Flat bottom	Natural	XJ-21939-72	
M6 ISO(M)	PEEK	Flat bottom	Natural	XJ-21939-75	
Gripper fittings for 1/8" OD tubing					
¼"-28 UNF(M)	PP	Flat bottom	Blue	XJ-21939-84	
¼"-28 UNF(M)	PEEK	Compact head, flat bottom	Natural	XJ-21939-89	
M6 ISO(M)	PEEK	Flat bottom	Natural	XJ-21939-93	

Grippers for Dibafit Gripper Fittings

For fitting thread type	Material	Max pressure	Catalog number	Price/pk of 10
For 1/16" tube OD				
¼"-28 UNF	PTFE/SS	1000 psi (69 bar)	XJ-21940-00	
M6 ISO			XJ-21940-02	
For 1/8" tube OD				
¼"-28 UNF	PTFE/SS	1000 psi (69 bar)	XJ-21940-01	
M6 ISO			XJ-21940-03	

XJ-21940-04 **Blanking plugs,** ¼"-28 UNF(M), ETFE, natural color; seal any unused ports. Pack of 2

Diba Omnifit® Valves, Filters, and Traps

Manual Injection Valves

NEW

Manual sample injection valve is designed for low-pressure chromatography systems. Easily introduce reproducible sample volumes using the included 0.5 mm, 1.0 mm, and 2.5 mm loops and 5-mL syringe. Six-port loop injection valve has a "click-stop" mechanism for easy port identification. It is constructed from PTFE with a PEEK™ casing and PCTFE rotor and withstands pressures up to 500 psi (33 bar). Valve accepts 1/4"-28 UNF(M) fittings and features a 0.8 mm bore and M3 mounting holes.



Description	Catalog number	Price
Sample injection valve	XJ-21939-18	
Six-port loop injection valve	XJ-21940-24	

High-Pressure Manual Rotary Valves

Use the chemically inert valves with a variety of flow configurations for sampling, flow splitting, mixing, and fluid-line interconnection. Constructed from PTFE with a PCTFE rotor and withstand pressures up to 500 psi (33 bar). Valves are four port, accept ¼"-28 UNF(M) fittings, and feature a 0.8 mm bore and M3 mounting holes.



Description	Catalog number	Price
Connect two ports at 90° to each other	XJ-21939-24	
Connect three ports in a "T"	XJ-21939-25	
Connect adjacent pairs of ports at the same time	XJ-21939-26	

Inline Filters

Use PTFE inline filters with aggressive and high-purity fluids. Filters remove particulates from the medium protecting instruments downstream from particulate damage. Each filter housing holds a removable PTFE filter.



Description	Pore size	Cat. no.	Price
Cap-style connection with a flat-bottom ¼"-28 port that accepts 1/16" to ⅛" rigid tubing	50 µm	XJ-21940-19	
¼-28 UNF(F) connection	20 µm	XJ-21940-20	

Bubble Traps

Effectively remove bubbles† from aqueous solutions inline or downstream with bubble traps. Traps feature ¼"-28 UNF(F) port and come with 10 µm PTFE filter. The high-flow trap features a vacuum port on the atmosphere (dry) side of the membrane. When vacuum is applied, the pressure differential between the system and atmosphere side increases (must not exceed 30 psi/2.1 bar), causing bubbles to be removed from the liquid and permitting increased liquid flow.



Description	Max flow rate	Pore size	Catalog number	Price
Bubble trap, PEEK™ body	6 mL/min	10 µm	XJ-21940-38	
High-flow bubble trap, PVC body	60 mL/min	10 µm	XJ-21940-39	

†These bubble traps do not remove dissolved gases.

Kinesis Deuterium Lamps for Chromatography and Spectroscopy Systems

Economical replacement lamps save you money

NEW

– Select from standard (typical 1000 hours) or long-life (typical 2000 hours) lamps





Kinesis

Instrument brand	Fits models	Type	Cat. no.	Price
ABI	757, 759, 783A, 785A, 1000S, 980, 120A, 130A	Standard	XJ-11941-10	
Agilent	1100 VWD, 1200, 1260	Long life	XJ-11941-11	
	1100 DAD, 8453	Standard	XJ-11941-12	
	1100/1200 DAD (to fit G1315/1365 A & B series detectors)	Long life	XJ-11941-13	
	1100/1200 DAD (to fit G1315/1365 C & D series detectors)	Long life	XJ-11941-14	
	1260, 1290	Long life	XJ-11941-15	
Biotage®	SP1/4, Isolera™	Standard	XJ-11941-16	
Dionex™	UltiMate™ 3000, 3000RS, 3100, 3400	Long life	XJ-11941-17	
Dionex/Gynkotek	UVD160, 170S, 170U, 320, 340S, 340U	Long life	XJ-11941-20	
Gilson®	170 DAD	Standard	XJ-11941-18	
	170 DAD	Long life	XJ-11941-19	
Interchim	PuriFlash (PF) 215, PF430, PF450, PF800, PF4100, PF1, SP2	Standard	XJ-11941-21	
Merck Hitachi	L & U series	Long life	XJ-11941-22	
Perkin Elmer®	Series 200	Standard	XJ-11941-23	
	LAMBDA 2 to 45, 800, 900, Bio, 55X series, LC480	Standard	XJ-11941-24	
Unicam	Thermo Unicam 4225	Standard	XJ-11941-25	
Shimadzu	SPD-10A, AVP, AV, AVVP, M10AVP, 20A, 20AV, M20A	Long life	XJ-11941-26	
	Spectrophotometers	Long life	XJ-11941-27	
	LC2010	Long life	XJ-11941-28	
Thermo	TSP UV100, 150, 200, 1000, 2000, 3000	Standard	XJ-11941-29	
	TSP SA6510, SP770, SP970, SP8480XR, SP8773XR	Standard	XJ-11941-30	
Varian	UV50, 100, 200, 9050, Prostar 310	Long life	XJ-11941-31	
	Prostar 325, 335	Long life	XJ-11941-33	
	Prostar 330 DAD	Long life	XJ-11941-32	
	Prostar 340, 345	Standard	XJ-11941-34	
Waters	996, 2996 PDA	Long life	XJ-11941-35	
	2487	Long life	XJ-11941-36	

Cole-Parmer® VapLock™ Closed Systems

Protect lab personnel from hazardous solvent vapors

- Minimize chemical exhaust from solvent reservoir bottles and waste containers—ideal for HPLC and other analytical testing instruments
- Avoid costly fines by maintaining regulatory compliance
- Achieve repeatable results and ensure the purity of the process
- Simply attach to any standard solvent bottle and waste container
- Versatile—large selection of components provides a solution for any system



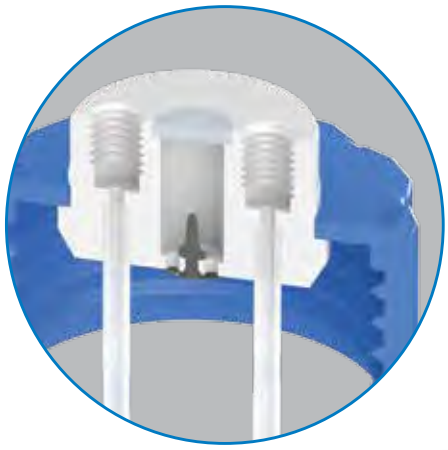
Solvent Delivery

– Cap seals securely to prevent contamination and evaporation

– Integral check valve prevents vapors from escaping

– Filtered air replaces fluid withdrawn from the container, maintaining equilibrium

– Simple and quick bottle changes—easy to remove without tangling inlet tubes



Solvent Delivery Container Caps. PTFE cap body, PP spin collar, PTFE/SS integrated air inlet valve, and 50 µm PTFE exhaust filter.

Cap size	Ports	Seal material	Catalog number	Price
GL45	(2) ¼"-28 UNF(F)	FFKM	XJ-12018-08	
		EPDM	XJ-12018-06	
	(4) ¼"-28 UNF(F)	FFKM	XJ-12018-09	
		EPDM	XJ-12018-07	

Waste Collection

– Fully enclosed and sealed system collects waste while containing harmful vapors

– Manifolds include multiple connection ports to adapt to your system; free-spinning collar allows quick disconnect

– Exhaust filter absorbs solvent vapors to prevent escaping to the environment; choose filter with breakthrough indicator to know when to replace

– Includes everything needed for closed waste containment—select a waste manifold kit to use with your existing container, or choose a system with waste container included



Waste Manifold Kits. Include a 10-port manifold [6 ports x ¼"-28 UNF(F), 3 ports x ¼" NPT(F), and 1 port x ½" NPT(F)], fittings, plugs for unused ports, tubing with connections, and exhaust filter with breakthrough indicator.

Cap size	Manifold material	Catalog number	Price
38-430	PTFE	XJ-12018-63	
Wako 38 mm	PP	XJ-12018-68	
Wako 38 mm	PTFE	XJ-12018-69	
GL45	PTFE	XJ-12018-75	
DIN 45	PP	XJ-12018-80	

Solvent Waste Systems. Include container, manifold, fittings, plugs for unused ports, tubing with connections, and exhaust filter with breakthrough indicator.

Container	Manifold	Fittings	Catalog number	Price
20-L capacity, translucent PE; FM approved, OSHA, NFPA, and EPA compliant	10 ports, PP	Quick-disconnect, PP	XJ-12020-69	
	10 ports, PTFE	Quick-disconnect, SS	XJ-12020-70	



Breakthrough Filter Indicator

UNEXPOSED — CHANGE IMMEDIATELY

Exhaust filter with breakthrough indicator changes color as the activated carbon filter absorbs hazardous carbon vapors.

Replacement Exhaust Filters. Activated carbon, HDPE cartridge, ¼" NPT(F) port.

Description	Qty	Catalog number	Price
75 g filter	1	XJ-12019-79	
	5	XJ-12019-81	
75 g filter with breakthrough indicator	1	XJ-12019-80	

A Solution for Any System

Vaplock Closed Systems are modular, with a full range of available options to adapt to most any system. Choose from a variety of materials for chemical compatibility, and multiple port connections and bottle sizes for versatility.



For our full selection, visit **ColeParmer.com/VapLock**.

Custom solutions are also available—contact our Application Specialists for details. **1-800-323-4340**

Parker Balston® Hydrogen Generators for Fuel Gas

Eliminate dangerous gas cylinders

- Save on helium costs by converting to hydrogen
- Outputs up to 510 mL/min—pays for itself in less than a year
- Removes baseline drift and oxygen to less than 0.01 ppm
- Get status checks at a glance with unique lighting display

Proton Exchange Membrane (PEM) cell eliminates the use of liquid electrolytes with hydrogen generators. Deionized water is all that is required to generate hydrogen for weeks of continuous operation. Simply change the filters every six months and the desiccant cartridge whenever it turns dark brown. All units meet NFPA requirements and OSHA 1910.103 regulations governing hydrogen storage.



ISO 9001:2008 CERTIFIED SUPPLIER

Specifications

Delivery pressure: 5 to 100 psig ±0.5 psig
Moisture adsorption: desiccant cartridge
Alarms: low water, poor water, over pressure, excessive capacity
Output: Remote control and remote monitoring capable by adding USB options bay controller (not included)
Outlet port: ⅛" compression
Power: 100/230 VAC, 50/60 Hz
Purity: 99.9999% pure H_2
Oxygen: < 0.01 ppm
Moisture: < 1 ppm

Flow rate	Catalog number	Price
100 mL/min	XJ-86442-00	
165 mL/min	XJ-86442-02	
260 mL/min	XJ-86442-04	
510 mL/min	XJ-86442-06	

Accessories

XJ-86442-50 **Replacement desiccant cartridge** for hydrogen generators
XJ-86442-51 **Hydrogen generator 6-month service kit;** includes desiccant cartridge and deionizer bags
XJ-86442-52 **Hydrogen generator 24-month service kit;** includes replacement water pump, desiccant cartridge and deionizer bags

Cole-Parmer® Column Temperature Control Systems

Don't let temperature get out of your control

Cole-Parmer®

A
42650-70



A. Single Compact HPLC Column Heater

This single-column heater is compact and simple to use with temperature ranges from ambient up to 90°C. Heater accepts columns that are ¼" or ⅜" diameter by up to 30 cm long. The chamber design provides quick access to the column and features a clear polycarbonate cover for easy viewing.

B. Single Programmable HPLC Heater/Chiller Column Oven

This programmable, single-column unit will accept column temperature ranges from 4.0°C to 100.0°C. With full programmability—each set can be programmed to repeat automatically from 1 to 99 times. Store five programs of up to ten steps each. Heater accepts columns that are ¼" or ⅜" diameter by up to 30 cm long.

C. High-capacity HPLC Chiller/Heater Column Oven

This compact high-capacity unit offers the reliability of a completely solid-state system. It will control the temperature from 4.0°C to 70.0°C for up to four columns that are 1" diameter by up to 30 cm long. Convection chilling and heating allows for even chamber temperatures.

Description		A. Single compact HPLC column heater	B. Single programmable HPLC heater/chiller column oven	C. High-capacity HPLC chiller/heater column oven
Catalog number		XJ-42650-70	XJ-42650-80	XJ-42650-75
Temperature	Range	Ambient to 90°C	4.0°C to 100.0°C	4.0°C to 70°C
	Readability	0.1°C	0.1°C	0.1°C
	Accuracy	± 0.2°C	±0.2°C	±0.2°C
	Stability	±0.1°C	± 0.2°C	± 0.2°C
Timer	Range	30 days	30 days	1 min to 99 hrs 99 mins
	Readability	1 second	1 second	1 second
	Audible Alarm	Yes	Yes	Yes
	Auto-off	Yes	Yes	Yes
Heater/chiller		Silicone rubber	Peltier	Peltier
Watts		50	100	100
Power		90 to 260 VAC, 50/60 Hz and converts to 12 VDC for unit†		
Price				

†Specify country at time of order for correct cord adapter.

Microcomputer-Controlled Fraction Collector

No difficult programming



- Easy programming through nine operational keys and gain control through your PC
- Know that system is operating correctly with graphical display of 500 events
- Fits your needs with five modes: simple, peak, window, manual, and sampling
- Versatile design accommodates tubes from 12 to 18.1 mm in diameter
- Deliver liquids accurately and quickly to desired position

What's included: test tube rack, drain, dust cover, I/O terminal collector, sample tubing, drain tubing, two tube suspenders, and power cord.

CE

Specifications

Test tube quantity: 120 tubes (12 to 18 mm OD x 105 to 180 mm L); remove tube holders for larger than 15 mm OD

Collection methods: by time, drop count, signal, or drop volume

Nozzle shift time: 0.1 second (tube center to center)

Programmable fraction range
Time: 99 min, 59 sec/tube max
Drop: 9999 count/tube max
Volume: 999.9 mL/tube max
Signal: 9999 count/tube max

Clock/quartz oscillation: operational display, 40 characters x 8 rows, LCD with backlight

Parameter memory: battery backup

Temperature range: 35 to 104°F (2 to 40°C)

Power: 100/115/240 VAC, 50/60 Hz, 0.23 A

Description	Catalog number	Price
Microcomputer-controlled fraction collector	XJ-01473-95	

Operational Modes

- Simple mode—collect by time, drops, volume, or signal.
- Peak mode—specify up to 10 peaks for identification; peak determination may be made using a combination of absolute value and slope angle.
- Window mode—set a maximum of 16 windows (time ranges) so that peaks are identified and fraction collection occurs only within each window. By setting the monitor time, nonpeaks may also be collected in test tubes.
- Manual mode—collect fractions while watching the chromatography signals displayed on the screen; a fraction may be reviewed under playback mode.
- Sampling mode—take samples from the effluent at specified time intervals during a set period and collect repeat samples into the same vessel.

Glass-Backed TLC Plates

Get efficient separations—economically



- Choose plates with or without an acid stable fluorescent indicator.
- Snap apart evenly to facilitate single-use separations or screening

Analytical TLC Plates

Soft Layer Plates use E. Merck silica gel and $CaSO_4$ binder for general organic separations. Not recommended for solvent systems >20% water.

Hard Layer Plates with Organic Binder use proprietary silica to enable separations using solvent media up to 80% water.

Hard Layer Plates with Inorganic Binder have a hard proprietary silica layer and are recommended for charring visualization applications.

Reversed Phase Plates have a nonpolar adsorbent—hydrocarbon-impregnated silica.

HPTLC Plates achieve fast, high-resolution separations using proprietary silica. Recommended for sample sizes <1 µL.

Preparative TLC Plates

Soft Layer Plates use E. Merck silica gel and $CaSO_4$ binder for general organic separations and easy scraping.

Reversed Phase Plates use a readily removed nonpolar adsorbent—hydrocarbon-impregnated silica.

Analytical TLC Plates

Plate size (cm)	Scored zones	Plates/pk	No indicator		Fluorescent indicator UV 254 nm	
			Catalog number	Price/pk	Catalog number	Price/pk
Soft layer, Silica Gel G, 250 µm thickness, 15 µm particle, 60 Å pore, $CaSO_4$ binder						
20 x 20	— 4	25	XJ-34101-00 XJ-34101-10		XJ-34101-05 XJ-34101-15	
10 x 20	— 8	25	XJ-34101-20 XJ-34101-30		XJ-34101-25 XJ-34101-35	
Hard layer, Silica Gel HL, 250 µm thickness, 10 µm particle, 60 Å pore, organic binder						
20 x 20	— 4	25	XJ-34101-40 XJ-34101-50		XJ-34101-45 XJ-34101-55	
10 x 20	—	25	XJ-34101-60		XJ-34101-65	
5 x 20	—	25	XJ-34101-80		XJ-34101-85	
Hard layer, Silica Gel GHL, 250 µm thickness, 15 µm particle, 60 Å pore, inorganic binder						
20 x 20	— 4	25	XJ-34102-00 XJ-34102-10		XJ-34102-05 XJ-34102-15	
10 x 20	— 8	25	XJ-34102-20 XJ-34102-27		XJ-34102-25 XJ-34102-28	
Reversed phase, 250 µm thickness, 15 µm particle, 60 Å pore						
20 x 20	— 4	25	XJ-34102-30 XJ-34102-40		XJ-34102-35 XJ-34102-45	
10 x 20	— 8	25	XJ-34102-50 XJ-34102-60		XJ-34102-55 XJ-34102-65	
HPTLC, Silica Gel HP-HL, 150 µm thickness, 10 µm particle, 60 Å pore, organic binder						
10 x 10 10 x 20	— 8	25	XJ-34103-50 XJ-34103-60		XJ-34103-55 XJ-34103-65	

Preparative TLC Plates

Plate size (cm)	Thickness (mm)	Plates/pk	No indicator		Fluorescent indicator UV 254 nm	
			Catalog number	Price/pk	Catalog number	Price/pk
Soft layer, Silica Gel G, 15 µm particle, 60 Å pore, $CaSO_4$ binder						
20 x 20 10 x 20	1000	25	XJ-34103-00 XJ-34103-20		XJ-34103-05 XJ-34103-25	
20 x 20 10 x 20	2000	25	XJ-34103-10 XJ-34103-30		XJ-34103-15 XJ-34103-35	
Reversed phase, 15 µm particle, 60 Å pore						
20 x 20	500 1000	25	XJ-34102-70 XJ-34102-80		XJ-34102-75 XJ-34102-85	

XJ-34105-35 **Adsorbent scraper,** 13 mm

XJ-34105-37 **Replacement scraper blades,** 13 mm. Pack of 5

Cole-Parmer® Jiffy-Jack® Lab Jacks

Safely position sample or equipment

- Easily position equipment or sample with a twist of the knob
- Rugged construction stands up to heavy loads
- Add optional support rod for probes, clamps, or other items

Top plate dimensions	Open height	Closed height	Max support static load	Catalog number	Price
Plastic lab jack					
8" x 8" (20.3 x 20.3 cm)	12" (30.5 cm)	3" (7.6 cm)	15 lb (6 kg)	XJ-08055-50	
Aluminum lab jacks					
4" x 4" (10.2 x 10.2 cm)	5" (12.7 cm)	2½" (6.4 cm)	66 lb (30 kg)	XJ-08057-10	
6" x 6" (15.2 x 15.2 cm)	9¾" (24.8 cm)	3" (7.6 cm)	132 lb (60 kg)	XJ-08057-20	
8" x 8" (20.3 x 20.3 cm)	13" (33.0 cm)	3½" (8.9 cm)	176 lb (80 kg)	XJ-08057-30	
10" x 10" (25.4 x 25.4 cm)	13" (33.0 cm)	3½" (8.9 cm)	198 lb (90 kg)	XJ-08057-40	
Stainless steel heavy-duty lab jacks					
3" x 3" (7.6 x 7.6 cm)	5" (12.7 cm)	2½" (6.4 cm)	20 lb (9.0 kg)	XJ-08057-12	
4" x 4" (10.2 x 10.2 cm)	5" (12.7 cm)	2½" (6.4 cm)	30 lb (13.6 kg)	XJ-08057-14	
6" x 6" (15.2 x 15.2 cm)	9¾" (24.8 cm)	3" (7.6 cm)	35 lb (15.8 kg)	XJ-08057-16	
8" x 8" (20.3 x 20.3 cm)	13" (33.0 cm)	3½" (8.9 cm)	55 lb (25.0 kg)	XJ-08057-18	
10" x 10" (25.4 x 25.4 cm)	13" (33.0 cm)	3½" (8.9 cm)	80 lb (36.3 kg)	XJ-08057-22	
12" x 12" (30.5 x 30.5 cm)	19½" (49.5 cm)	4" (10.2 cm)	150 lb (68.0 kg)	XJ-08057-24	
16" x 16" (40.6 x 40.6 cm)	19½" (49.5 cm)	4" (10.2 cm)	180 lb (81.6 kg)	XJ-08057-26	



Model 08057-20 supports up to 132 lb (60 kg).

XJ-08057-50 **Ratchet tool** adds extra leverage to models 08057-24 and -26

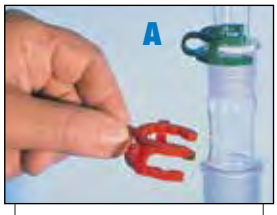
XJ-08057-52 **Support rod kit** allows you to mount a 17" (43.2 cm) L vertical support rod to models 08057-16, -18, -22, -24, and -26

Keck® Connectors, Clamps, and Clips

Keep connections together

A. Keck Original Standard Taper Clips

Economical standard taper clips securely hold conical joints under pressure without damaging glass. The polyoxymethylene (POM) acetal resin clips are safe to 302°F (150°C). Resistant to concentrated alkalies and dilute acids (not resistant to halogen gases and concentrated acids).



Plastic taper clips are easy to attach and remove.

Joint size no.	Color	Qty/pk	Catalog number	Price/pk
10	Green	12	XJ-06839-90	
12	Violet		XJ-06839-95	
14	Yellow		XJ-06840-05	
19	Blue	12	XJ-06840-10	
24	Green		XJ-06840-15	
29	Red		XJ-06840-20	
34	Orange	12	XJ-06840-25	
40	Yellow		XJ-06840-30	
45	Brown		XJ-06840-35	

XJ-06840-00 **Standard taper clip assortment pack.**
Six each of sizes 14, 19, 24, and 29 (24 total)

XJ-06840-50 **Standard taper clip assortment pack.**
Three each of all nine sizes in table above (27 total)

B. Keck Metal Standard Taper Clips

Durable nickel-plated steel taper clips securely hold conical joints under pressure. Clips offer superior chemical and temperature resistance—withstand temperatures to 932°F (500°C).



Joint size no.	Qty/pk	Cat. no.	Price/pk
14	6	XJ-06836-05	
19		XJ-06836-10	
24		XJ-06836-15	
29		XJ-06836-20	

C. Keck Ball-Joint Clips

Secure ball and socket joints—no locking screw required. Polyoxymethylene (POM) acetal resin clips are safe to 302°F (150°C). Resistant to concentrated alkalies and dilute acids (not resistant to halogen gases or concentrated acids).



Joint size no.	Color	Qty/pk	Catalog number	Price/pk
13	Violet	12	XJ-06838-10	
19	Blue		XJ-06838-15	
29	Red		XJ-06838-20	
35	Orange		XJ-06838-25	

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Cole-Parmer® Cleaning Products

Easily clean glass, metal, plastic, rubber, and other hard materials

- Safe and effective cleaning products
- Highly concentrated, aqueous solutions are free-rinsing
- Meet USDA guidelines for incidental contact with food processing systems
- Do not contain CFCs, phosphates, silicates, halogens, or phenols

Cole-Parmer®



Cleaner	Type	Cleaning applications	Dilution	pH	Packaging	Cat. no.	Price/ea	Cat. no.	Qty/cs	Price/cs
Micro-90®	Ionic, nonionic, USDA authorized	Manual or ultrasonic; removes most biological materials; cleans glass, most metals, plastic, and rubber†	1:100 to 2:100	9.5	0.26 gal. (1 L)	XJ-18100-05		XJ-18100-04	12	
					1 gal. (4 L)	—	—	XJ-18100-11	4	
					5 gal. (18.9 L)	—	—	XJ-18100-20	1	
					55-gal. drum (208 L)	XJ-18100-30		—	—	—
Zymit®	Enzymatic, USDA authorized	Machine, manual, or ultrasonic; dissolves protein and starch-based soils; may use for delicate materials	1:100	7.5	0.26 gal. (1 L)	XJ-18101-30		XJ-18101-20	12	
LF2100™	Low-sudsing, anionic, nonionic, amphoteric, USDA authorized	Automatic washers, high-pressure and high agitation applications†	1:100	9.7	0.26 gal. (1 L)	XJ-18102-00		XJ-18102-10	12	
					5.3 gal. (20 L)	XJ-18102-30		—	—	—
Surface-Cleanse/930®	Nonionic, USDA authorized	Cleans grease, petroleum, oils from glass, aluminum, lead, zinc, and plastic without surface damage	1:200	7.0	0.26 gal. (1 L)	XJ-18103-00		XJ-18103-10	12	
					5.3 gal. (20 L)	XJ-18103-30		—	—	—
Micro-A07®	Citric acid, nonionic, USDA authorized	Removes millstone, hard water scale, rust, mineral deposits, and other inorganic soils from filter membranes, labware, and industrial equipment	1:100 to 2:100	2.5	0.26 gal. (1 L)	XJ-18104-00		XJ-18104-01	12	
					5.3 gal. (20 L)	XJ-18104-30		—	—	—

†Do not use on zinc, magnesium, or aluminum.

DisCide® ULTRA Disinfecting Towelettes and Sprays

No wasting time—works in just one minute!

- No mixing or measuring—solutions are ready to use
- Eliminate separate towel requirements with towelettes



Description	Packaging	Qty/cs	Catalog number	Price
Towelettes, 6" x 6¾" (15.2 x 17.1 cm)	Canister of 160	12	XJ-86306-03	
Towelettes, 10½" x 10½" (26.7 x 26.7 cm)	Canister of 60	12	XJ-86306-05	
Spray bottle	1 quart bottle	12	XJ-86306-13	
Refill bottle	1 gallon bottle	4	XJ-86306-15	

Bacdown® Hand Soap

Won't dry your skin

- Formulated specifically for those washing frequently to minimize dry, chapped skin
- Protects against gram-negative and gram-positive bacteria as well as yeast and fungi



Packaging	Catalog number	Price/ea	Catalog number	Qty/cs	Price/cs
16 oz (500 mL)	XJ-86115-02		XJ-86115-00	12	
0.26 gal. (1 L)	XJ-86115-06		XJ-86115-04	12	
1.32 gal. (5 L)	XJ-86115-10		—	—	—

CONFLIKT® Detergent Disinfectant

No need to dilute—ready to use

- Don't worry about contaminants—easily and effectively decontaminates surfaces
- Ammonium-based detergent disinfects and cleans hard surfaces

This prediluted detergent is effective against a wide range of viruses, bacteria, pathogenic fungi, mold, and mildew. USDA approved and EPA registered. Comes in a 32-oz spray bottle and a 1-gal. refill.



Packaging	Catalog number	Price/ea	Catalog number	Qty/cs	Price/cs
32 oz (946 mL)	XJ-86115-40		XJ-86115-38	6	
1 gal. (3.7 L)	XJ-86115-44		XJ-86115-42	4	

Cole-Parmer® Ultra-Quiet Mini Lab Compressors

Get compressed air anywhere you need it

- Quick-connect port provides simple plug-and-play use of hoses and tools
- Control outlet pressure with the turn of a dial—up to 70 psi (4.8 bar)
- Easy maintenance—filters have long service lives

NEW



These versatile lab compressors are designed for point-of-use applications—move station with the integrated handle or optional transport cart. The built-in sound enclosure allows for ultra-quiet operation, and the compact design and low-vibration performance allow placement anywhere needed.

Quick-release coupling port comes with a ⅜" (9.5 mm) ID hose barb insert for easy tubing connection. Quickly see outlet pressure on the analog pressure gauge and use the control knob for adjustment up to 70 psi (4.8 bar)—ideal for cleaning dust off sensitive equipment and components.

Cole-Parmer®

Specifications

Maximum pressure: 101.5 psi (7 bar) operating; 70 psi (5 bar) outlet
Tank capacity: 0.52 gal. (2 L)
Inlet port: 10 mm OD compression
Duty cycle: continuous

Max flow at 0 psi (0 bar)		Port size	hp	Noise level	Dimensions (L x W x H)		Power			Catalog number	Price
cfm	L/min				in.	cm	VAC	Hz	Amps		
1.48	42	7.2 mm	0.5	53 dB	15⅝ x 12⅝ x 11⅝	39.6 x 32.1 x 29.5	115	60	3.2	XJ-22222-22	
2.71	77		0.75	54 dB			115	60	4.8	XJ-22222-23	

XJ-22222-24 **Air gun** with hose, for cleaning
XJ-22222-25 **Nozzle kit** with eight nozzles
XJ-22222-27 **Collapsible transport cart**

Cole-Parmer® Ultra-Quiet Lab Compressors

Quiet enough for benchtop use

- Run up to two air tools at once—quick-connect ports provide simple plug-and-play use
- Proprietary internally coated air tank and built-in membrane dryer deliver clean air for your lab needs
- Control outlet pressure with the turn of a dial—up to 116 psi (8 bar)
- Easy maintenance—filters are easy to replace and have long service lives

NEW



These versatile compressors are designed for point-of-use applications—take it wherever needed! Compact design and low-vibration performance allow placement on top of or under a lab bench. The built-in sound enclosure and swivel wheels allow for ultra-quiet, portable operation.

Quick-release coupling ports come with a ¼" (6.4 mm) ID hose barb insert for easy tubing connection. An additional port can be found on the rear of the unit for attachment of a second tool.

View outlet pressure on the analog pressure gauge and use the control knob for adjustment up to 87 psi (6 bar). The anti-corrosion, anti-bacterial coated air tank works with the membrane dryer (2 µm pore filter) to provide odor-free, clean air to your application.

Cole-Parmer®

Specifications

Maximum pressure: 116 psi (8 bar) operating; 87 psi (6 bar) outlet
Tank capacity: 6.6 gal. (25 L)
Inlet port: 10 mm OD compression
Duty cycle: continuous

Max flow	Port size	hp	Noise level	Dimensions (L x W x H)		Power			Catalog number	Price
				in.	cm	VAC	Hz	Amps		
2.5 cfm (73 L/min) at 0 psi (0 bar), 1.27 cfm (36 L/min) at 72 psi (5 bar), 1.06 cfm (30 L/min) at 101 psi (7 bar)	7.2 mm Quick Connect	0.75	49 dB	20 1/16 x 22 13/16 x 25 23/32	51 x 58 x 65.3	115	60	5.6	XJ-22222-29	
3.7 cfm (105 L/min) at 0 psi (0 bar), 2.37 cfm (67 L/min) at 72 psi (5 bar), 1.91 cfm (54 L/min) at 101 psi (7 bar)		1.54	53 dB			115	60	11.8	XJ-22222-30	

XJ-22222-31 **Air gun** with hose, for cleaning
XJ-22222-32 **Nozzle kit** with eight nozzles

Oakton® Waterproof EcoTestr™ CTS Pocket Meter

Better results—easier and faster

- Conductivity, TDS, and salinity combined into one meter
- Large dual-line display shows parameter and temperature readings simultaneously
- Easier, more intuitive interface and indicators for battery life, readiness, and calibration
- Use redesigned cap as sample cup and as a stabilizing base to stand the meter upright
- Convenient—attach a lanyard to prevent losing or dropping in the field

NEW



"Easy to use."

OAKTON

ISO9001:2008 CERTIFIED SUPPLIER

Description		EcoTestr (CTS) Con/TDS/Salinity
Catalog number		XJ-35462-11
Range	Conductivity	0.00 to 20.00 mS/cm
	TDS	0.00 to 20.00 ppt (with TDS factor 1.0)
	Salinity	0.0 to 10.0 ppt
	Temperature	32.0 to 122.0°F (0.0 to 50.0°C)
Resolution	Conductivity	10 µS, 0.1 mS
	TDS	10 ppm, 0.1 ppt
	Salinity	0.1 ppt
	Temperature	0.1°F (0.1°C)
Accuracy	Conductivity	±2% full-scale ±1 LSD
	TDS	±2% full-scale ±1 LSD
	Salinity	±2% full-scale ±1 LSD
	Temperature	±0.9°F (0.5°C) + 1 LSD
Temperature compensation		Automatic
Calibration		Single point
Power		Four 1.5 V miniature batteries (included)
Price		

Oakton® Waterproof EcoTestr™ Conductivity Pocket Testers

Designed to be durable and easy to use

- View measurements clearly on large, dual-line LCD
- IP67-rated housing is waterproof, dustproof, and floats in water
- Leakproof cap with fill line functions as a sample/calibration and hydrating cup
- Secure—attach a lanyard to prevent losing or dropping in the field

NEW



35634-08

OAKTON

Model		EC1	TDS1	Salt1
Catalog number		XJ-35634-06	XJ-35634-08	XJ-35634-12
Range	Conductivity	0.1 to 200.0 µS/cm, 0 to 2000 µS/cm, 0.00 to 20.00 mS/cm	—	—
	TDS	—	0.0 to 100.0 ppm, 0 to 1000 ppm, 0.00 to 10.00 ppt	—
	Salinity	—	—	0.00 to 10.00 ppt
	Temperature	32.0 to 122.0°F (0.0 to 50.0°C)		
Accuracy	Conductivity	±1% full-scale ±1 digit	—	—
	TDS	—	±1% full-scale	—
	Salinity	—	—	±1% full-scale
	Temperature	±0.9°F (0.5°C)	±0.9°F (0.5°C)	±0.9°F (0.5°C)
Temp. compensation		Automatic, 32 to 122°F (0 to 50°C)		
Calibration		1 or 2 points		1 point
Power		Four AAA batteries (included), 400 hours of continuous use		
Price				

Oakton® CTSTestr™ 50 Pocket Testers

Get benchtop accuracy in the field

NEW



- Measure conductivity, TDS, and salinity with ±1% FS accuracy
- Save money—replaceable sensor lets you use tester body over and over again
- Set up and calibrate quickly with easy-to-navigate interface
- Selectable TDS factor adds versatility
- Leakproof, stabilizing cap—use to calibrate, stand upright, and store sensor
- Waterproof IP67 rated and factory calibrated

OAKTON

ISO9001:2008 CERTIFIED SUPPLIER

Model		CTSTestr 50P (pin-style sensor)	CTSTestr 50C (cup-style sensor)
Catalog number		XJ-35634-55	XJ-35634-65
Range	Conductivity	0.0 to 200.0 µS, 200 to 2000 µS; 2.00 to 20.00 mS	
	TDS	0.0 to 100.0 ppm, 100 to 1000 ppm; 0.10 to 10.00 ppt (TDS factor 0.5)	
	Salinity	0.00 to 10.00 ppt	
	Temperature	32 to 140°F (0 to 60°C)	
Accuracy		±1% full-scale (conductivity, TDS, and salinity)	
Calibration		Up to 3 points (conductivity and TDS); 1 point (salinity)	
TDS factor		0.40 to 1.00 (selectable)	
Temp. compensation		Automatic	
Power		Four AAA 1.5 V batteries (included)	
Price			

Oakton® Waterproof CTSTestr™ 5 Pocket Tester

Save money by replacing sensor, not tester!

NEW



- Replaceable sensor lets you use the tester body over and over again
- Two-color backlight indicates operating mode—blue for measurement, green for calibration
- Rugged IP67-rated housing is waterproof, dustproof, and floats in water when sensor cap is on
- Leakproof cap with fill line functions as a sample/calibration and hydrating cup

OAKTON

Model		CTS5
Catalog number		XJ-35634-42
Range	Conductivity	0.1 to 200.0 µS/cm, 0 to 2000 µS/cm, 0.00 to 20.00 mS/cm
	TDS	0.0 to 100.0 ppm, 0 to 1000 ppm, 0.00 to 10.00 ppt
	Salinity	0.00 to 10.00 ppt
	Temperature	32.0 to 122.0°F (0.0 to 50.0°C)
Accuracy	Conductivity	±1% full-scale
	TDS	±1% full-scale
	Salinity	±1% full-scale
	Temperature	±0.9°F (±0.5°C)
Temp. compensation		Automatic, 32 to 122°F (0 to 50°C)
Calibration		1 to 3 points, automatic recognition of standards
Power		Four AAA batteries (included)
Price		

Oakton® CON 6+ and TDS 6+ Meter Kits

Easy, push-button calibration

- High accuracy at an affordable price, ±1% across full scale
- Five auto-ranging measurement modes—up to 200.0 mS (200.0 ppt)
- Get more accurate calibration for all five ranges
- Get temperature readings at the touch of a button

OAKTON®



Rubber boot protects meter and doubles as a convenient stand

Additional features include a convenient Hold function and auto-off function that shuts meter off after 20 minutes of nonuse. Programming functions allow customization of meter for temperature compensation, temperature coefficient, normalization, cell constant, and conductivity-to-TDS conversion factor (TDS 6+) for better accuracy in varying applications.

What's included: protective rubber boot with stand, conductivity/ TDS/temperature probe (K = 1.0), calibration solutions, sample bottles, rinse bottle, hard plastic carrying case, and four AAA batteries.

ISO 9001:2008 CERTIFIED SUPPLIER CE Meter only

Description		CON 6+ kit	Precalibrated CON 6+ kit	TDS 6+ kit	Precalibrated TDS 6+ kit
Catalog number		XJ-35604-04	XJ-35604-05	XJ-35604-24	XJ-35604-25
Range	Conductivity	0 to 20.00, 0 to 200.0, 0 to 2000 µS; 0 to 20.00, 0 to 200.0 mS		—	
	TDS	—		0 to 10.00, 10 to 100.0, 100 to 1000 ppm; 1.00 to 10.00, 10.0 to 100.0, up to 200.0 ppt†	
	Temperature	–10.0 to 110.0°C		–10.0 to 110.0°C	
Accuracy	Conductivity	±1% full-scale		—	
	Temperature	±0.5°C		±0.5°C	
Temp. compensation		Automatic or manual from 0.0 to 50.0°C			
Cell constant (K)		Selectable, 0.1, 1, and 10			
Conductivity-to-TDS conversion factor		—		0.4 to 1.00 adjustable	
Calibration points		5 maximum, one per range			
Power		Four AAA batteries (included)			
Price					

†With K = 10 probe

Save time, save money!

Choose Precalibrated
Includes a data-rich, ISO 17025-compliant certificate!
Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

Accessories

XJ-35606-53 **Conductivity probe,** K = 0.1
XJ-35606-55 **Replacement conductivity probe,** K = 1.0
XJ-35606-57 **Conductivity probe,** K = 10
XJ-09376-00 **Replacement batteries,** AAA. Pk of 12
XJ-17090-30 **NIST-traceable calibration** with data for conductivity meters

MYRON L Analog Conductivity, Resistivity, TDS, and Multiparameter Meters

No maintenance required

- Maintenance-free, built-in electrodes do not require replatinizing
- Don't worry about fluctuations in temperature with automatic temperature compensation



Analyze your samples on-site with these portable meters. Optional conductivity range extender expands range by a factor of 10. Minimum sample volume is 25 mL.

CE Meter only

Description		Conductivity meters			Conductivity/ resistivity meter	Total dissolved solid meters		pH/conductivity meter
Catalog number		XJ-01489-10	XJ-01489-20	XJ-01489-35	XJ-01489-30	XJ-01489-15	XJ-01489-25	XJ-01489-62
Range	Conductivity	0 to 5000 µS	0 to 50 µS, 0 to 500 µS, 0 to 5000 µS	0 to 10 µS, 0 to 100 µS, 0 to 1000 µS, 0 to 10,000 µS	0 to 0.5 µS, 0 to 5 µS 0 to 50 µS, 0 to 500 µS, 0 to 5000 µS	—	—	0 to 10,000 µS
	Resistivity	—	—	—	2 to 30 MΩ	—	—	—
	TDS	—	—	—	—	0 to 5000 ppm	0 to 50 ppm, 0 to 500 ppm 0 to 5000 ppm	—
	pH	—	—	—	—	—	—	2.0 to 12.0 pH
Temperature compensation		Automatic from 50 to 160°F (10 to 71°C)	Automatic from 50 to 160°F (10 to 71°C)	Automatic from 50 to 160°F (10 to 71°C)	Automatic from 32 to 120°F (0 to 49°C)	Automatic from 50 to 160°F (10 to 71°C)	Automatic from 50 to 160°F (10 to 71°C)	Automatic from 50 to 160°F (10 to 71°C)
Power		One 9 V battery (included)		Two 9 V batteries (included)		One 9 V battery (included)		Two 9 V batteries (included)
Price								

Accessories

XJ-01489-50 **Range extender** increases conductivity range by 10x (for example, 0 to 50,000 µS for model 01489-10)
XJ-01489-48 **Hard carrying case**
XJ-01489-51 **Calibration kit** for model 01489-62
XJ-01489-63 **Replacement pH sensor** for model 01489-62

Oakton® Waterproof CON 150 Meter

Get more for your money

- Best value for an IP67-rated waterproof meter
- Know the status of your probe—intuitive, user-friendly icon displays cell constant
- Get quick and easy electrode attachment to a beaker or container with Grip-Clip™ holder
- Recall more data with expanded data logging for up to 150 data sets
- Versatile power supply—battery or AC



Rugged, waterproof housing is ideal for use in any environment. View more data simultaneously with large, three-line LCD providing conductivity or TDS measurement with temperature. Get faster calibration with auto-ranging and auto-cal functions for one calibration point per measurement range.

Features include adjustable conductivity-**to-TDS factor, selectable temperature coefficient,** ready (stability) indicator, smart averaging, hold function, calibration alarm (visible), battery life indicator, and probe status.

Meter includes: conductivity cell (K = 1.0), holder, and two batteries.
Kit adds: two calibration standards and hard carrying case.

OAKTON ISO9001:2008 CERTIFIED SUPPLIER Meter only

Description		CON 150 meter with probe	CON 150 meter kit
Catalog number		XJ-35607-32	XJ-35607-90
Precalibrated cat. no.		XJ-35607-34	XJ-35607-91
Range	Conductivity	0 to 200 mS	
	TDS	0 to 200 ppt	
	Temperature	–17.0 to 230.0°F (–10.0 to 110.0°C)	
Resolution	Conductivity	0.01 µS to 0.1 mS	
	TDS	0.01 ppm to 0.1 ppt	
	Temperature	0.1°F/°C	
Accuracy	Conductivity	±1% full-scale	
	TDS	±1% full-scale	
	Temperature	±0.9°F (±0.5°C)	
Calibration	Conductivity	Auto/manual; 1 point/range	
	TDS	Auto/manual; 1 point/range	
	Temperature	Offset 0.1 increments	
Temperature compensation		Automatic or manual from –10 to 110°C	
Conductivity-to-TDS factor		0.4 to 1.0	
Data logging		Stores up to 150 data sets	
Power		Two AA batteries (included); universal power adapter (optional)	
Price			
Precalibrated price			

XJ-35608-55 **Conductivity cell,** K = 0.1
XJ-35608-50 **Replacement conductivity cell,** K = 1.0
XJ-35608-51 **Conductivity cell,** K = 10
XJ-35614-51 **Hard carrying case**
XJ-35420-72 **Optional power adapter,** 110/220 VAC
XJ-17090-30 **NIST-traceable calibration** with data for conductivity meter

Oakton® Waterproof CON 450 Meter

Easy to read in any environment

- Intuitive, user-friendly icon displays cell constant
- Easily attach electrode to a beaker or container with Grip-Clip™ holder
- Download and analyze up to 500 data sets with USB or RS-232 output
- ATC—more accuracy even in fluctuating temperatures



Waterproof, IP67-rated meter is ideal for even the harshest environments. View the main measurement simultaneously with temperature on backlit display. Get faster calibration with auto-cal function, which permits one calibration point per measurement range.

Features include adjustable conductivity-to-TDS factor, selectable temperature coefficient, ready (stability) indicator, smart averaging, hold function, calibration alarm, battery life-indicator, and electrode status.

OAKTON

Meter includes: conductivity cell (K = 1.0), holder, and batteries.
Kit adds: calibration standards and hard carrying case.

ISO9001:2008 CERTIFIED SUPPLIER Meter only

Description		CON 450 meter with probe	CON 450 meter kit
Catalog number		XJ-35608-32	XJ-35608-80
Precalibrated cat. number		XJ-35608-34	XJ-35608-81
Range	Conductivity	0 to 200 mS	
	TDS	0 to 200 ppt	
	Salinity	0 to 50 ppt	
	Temperature	–17.0 to 230.0°F (–10.0 to 110.0°C)	
Resolution	Conductivity	0.01 µS to 0.1 mS	
	TDS	0.01 ppm to 0.1 ppt	
	Salinity	0.01	
	Temperature	0.1°F/°C	
Accuracy	Conductivity	±1% full-scale	
	TDS	±1% full-scale	
	Salinity	±1% full-scale	
	Temperature	±0.9°F (±0.5°C)	
Calibration	Conductivity	Auto/manual; 1 point/range	
	TDS	Auto/manual; 1 point/range	
	Salinity	Auto/manual; 1 point/range	
	Temperature	±5.0° offset	
Temperature compensation		Automatic or manual from –10 to 110°C	
Data logging		Stores up to 500 data sets	
Output		USB or RS-232	
Power		Two AA batteries (included); AC adapter (optional)	
Price			
Precalibrated price			

XJ-35608-55 **Conductivity cell,** K = 0.1
XJ-35608-50 **Replacement conductivity cell,** K = 1.0
XJ-35608-51 **Conductivity cell,** K = 10
XJ-35614-51 **Hard carrying case**
XJ-35630-53 **Data cable** for USB connectivity
XJ-35420-01 **Data cable** for RS-232 connectivity
XJ-35420-72 **Optional power adapter,** 110/220 VAC

Oakton® Benchtop CON 700 and 2700 Meters

Don't waste your valuable bench space

- Space-saving design takes up less bench space
- No more squinting—large display allows for reading across the room
- Get the best resolution—autoranging feature reads 0 to 200.0 mS across five ranges
- More accurate—adjustable temperature coefficient, selectable cell constant, and automatic temperature compensation
- Store up to 500 readings for later retrieval

Oakton CON 2700 meter has advanced features for GLP-compliant readings—all calibration and stored data are stamped with time/date. Advanced setup options let you customize the meter to your needs. Informative display shows measurements together with temperature, electrode status, calibration points, time, and date all at once! Programmable functions include data logging intervals, limit alarms, and password protection. Data is easily exported to a computer via RS-232 port (order cable and adapter separately below).

What's included: conductivity/temperature probe 35608-74 (CON 700) or 35412-10 (CON 2700), electrode stand, and universal 100/240 VAC power supply.



Features water-resistant keypad and pull-out reference guide.

OAKTON®

Save time, save money!

Choose Precalibrated
Includes a data-rich, ISO 17025-compliant certificate!
Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

ISO 9001:2008 CERTIFIED SUPPLIER

CE Meter only 3 YEAR WARRANTY

Description		CON 700 meter	Precalibrated CON 700 meter	CON 2700 meter	Precalibrated CON 2700 meter
Catalog number		XJ-35411-00	XJ-35411-01	XJ-35412-00	XJ-35412-01
Range	Conductivity	0.0 to 20.00, 0 to 200.0, 0 to 2000 µS; 0 to 20.00, 0 to 200.0 mS		0.0 to 20.00, 0 to 200.0, 0 to 2000 µS; 0 to 20.00, 0 to 500.0 mS	
	TDS	0.00 to 100.0 ppt		0.050 to 500.0 ppt	
	Salinity	—		0.0 to 80.0 ppt	
	Resistivity	—		2.000 Ω to 20.0 MΩ	
	Temperature	32.0 to 212°F (0.0 to 100.0°C)		32.0 to 212°F (0.0 to 100.0°C)	
Resolution	Conductivity	0.01, 0.1, 1 µS; 0.01, 0.1 mS		0.01, 0.1 µS; 0.001, 0.01, 0.1 mS	
	TDS	0.01, 0.1, 1 ppm; 0.01, 0.1 ppt		0.01, 0.1 ppm; 0.001, 0.01, 0.1 ppt	
	Salinity	—		0.01, 0.1 ppm; 0.001, 0.01, 0.1 ppt	
	Resistivity	—		0.01 MΩ, 0.001, 0.01 kΩ, 0.01, 0.1 Ω	
	Temperature	0.1°F or °C		0.1°F or °C	
Accuracy	Conductivity	±1% full-scale		±1% full-scale	
	TDS	±1% full-scale		±1% full-scale	
	Salinity	—		±1% full-scale	
	Resistivity	—		±1% full-scale	
	Temperature	±0.9°F (±0.5°C)		±0.5°F (±0.3°C)	
Temperature compensation		Automatic or manual, adjustable from 0.0 to 10% per °F/°C		Automatic or manual, adjustable from 0.0 to 10% per °F/°C	
Cell constant (K)		Select from K = 0.1, 1.0, or 10		0.010 to 10.000	
Conductivity-to-TDS factor		Adjustable from 0.4 to 1.0		Adjustable from 0.4 to 1.0	
Data logging		100 data sets		500 data sets	
Output		—		RS-232	
Power		100/240 VAC with universal adapter (included)		100/240 VAC with universal adapter (included)	
Price					

2-cell vs 4-cell conductivity probes

Most conductivity meters use either 2-cell or 4-cell conductivity probes. 2-cell probes feature electrode surfaces made of platinum, titanium, gold-plated nickel, or graphite, and are good for general applications. 4-cell electrodes use a reference voltage to compensate for any polarization or fouling of the electrode plates. The reference voltage ensures measurements indicate actual conductivity independent of electrode condition, resulting in higher accuracy.

Conductivity Probes

Cell constant (K)	Body/electrode	Catalog number	Price
2-cell conductivity probes for CON 700 or CON 2700 meters			
0.1	Epoxy/platinum	XJ-35608-72	
1.0	Ultem®/stainless steel	XJ-35608-74	
1.0	Glass/platinum	XJ-35608-76	
10	Epoxy/platinum	XJ-35608-78	
4-cell conductivity probes for CON 2700 meter only			
0.1	Epoxy/platinum	XJ-35608-90	
1.0	Epoxy/graphite	XJ-35412-10	
1.0	Glass/platinum	XJ-35608-92	
10	Epoxy/platinum	XJ-35608-94	

Accessories

XJ-35420-01 **RS-232 cable**
for 2700 series meters

XJ-35630-53 **USB cable**
for 2700 series meters

XJ-17090-30 **NIST-traceable calibration**
with data for conductivity meters

Oakton® Calibration Solutions

Save money while calibrating



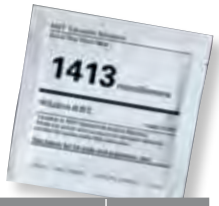
- KCl, NaCl, and 442 conversions printed right on the bottle
- Temperature corrections at hand—printed right on the bottle

OAKTON®

Conductivity (µS)	Conductivity-to-TDS calibration values			Catalog number	Price
	ppm KCl	ppm NaCl	ppm 442		
23	11.6	10.7	14.74	XJ-00653-23	
84	40.38	38.04	50.5	XJ-00653-16	
447	226	215	300	XJ-00653-47	
1413	745	702	1000	XJ-00653-18	
1500	757	737	1050	XJ-00653-15	
2070	1045	1041	1500	XJ-00653-27	
2764	1382	1414	2062	XJ-00653-20	
8974	5101	4487	7608	XJ-00653-89	
12,880	7447	7230	11,367	XJ-00606-10	
15,000	8759	8532	13,455	XJ-00653-50	
80,000	52,168	48,384	79,688	XJ-00653-32	

Conductivity Calibration Pouches

Calibrate on the go!



- Single-use pouches for easy calibrations
- Quick-reference conversion table printed on each pack

Conductivity (µS)	Conductivity-to-TDS calibration values			Catalog number	Price/ pk of 20
	ppm KCL	ppm NaCl	ppm 442		
10	4.8	4.7	7.0	XJ-35653-09	
447	226	216	300	XJ-35653-10	
1413	745	702	1000	XJ-35653-11	
2764	1382	1414	2062	XJ-35653-12	
15,000	8759	8532	13,445	XJ-35653-13	
Rinse solution	—	—	—	XJ-35653-00	

Cole-Parmer® Extended-Life Conductivity Standards

Extend shelf life to 5 years!



- Sealed, metal-lined storage envelope eliminates transpiration—store standards up to 5 years before opening
- Open sealed envelope to begin the 1-year shelf life—bottle and Certificate of Analysis have a convenient marking area to write the new expiration date
- NIST-traceable calibration report from an ISO Guide 34 and ISO 17025 accredited laboratory included with each 17-oz (500-mL) bottle

Cole-Parmer®

Conductivity (µS)	Resistivity (MΩ)	Conductivity-to-TDS calibration values (ppm KCl)	Catalog number	Price
2	0.5	0.3	XJ-00651-41	
10	0.1	4.4	XJ-00651-42	
100	0.01	51	XJ-00651-43	
147	0.007	73	XJ-00651-44	
1000	0.001	524	XJ-00651-45	
1413	0.00071	745	XJ-00651-46	
10,000	0.0001	5695	XJ-00651-47	
100,000	0.00001	65,611	XJ-00651-48	

Oakton® Traceable® Conductivity Solutions, NIST-Traceable Reference Materials

Trust your standards—high accuracy

- Up to ±0.25% accuracy verified by an ISO Guide 34 and ISO 17025 accredited lab



A. Batch-Tested Bottles, 500 mL

- Easy calibration with included instructions and temperature compensation chart
- Includes NIST-traceable certificate and batch testing information

B. Individually Tested Bottles, 500 mL

- Each bottle individually calibrated—NIST-traceable certificate included with serial number and testing information
- Easy calibration with step-by-step instructions and included temperature compensation chart

C. One-Shot® Vials, pack of six 100 mL vials

- Fresh solution each time you calibrate—single-use vials eliminate contamination
- Grab it and go—convenient for field use; calibrate right in vial
- Includes NIST-traceable calibration report and temperature compensation chart

OAKTON®

Conductivity (µS)	Resistivity (MΩ)	TDS (ppm)	Catalog number	Price
A. Batch tested, one 500 mL bottle				
1	1	0.66	XJ-00652-20	
5	0.2	3.3	XJ-00652-22	
10	0.1	6.6	XJ-00652-24	
100	0.01	66	XJ-00652-26	
1000	0.001	666	XJ-00652-28	
1413	0.00071	933	XJ-00652-30	
10,000	0.0001	6666	XJ-00652-32	
100,000	0.00001	66,666	XJ-00652-34	
150,000	0.0000066	100,000	XJ-00652-53	
200,000	0.000005	133,333	XJ-00652-55	
B. Individually tested, one 500 mL bottle				
1	1	0.66	XJ-00652-40	
5	0.2	3.3	XJ-00652-42	
10	0.1	6.6	XJ-00652-44	
100	0.01	66	XJ-00652-46	
1000	0.001	666	XJ-00652-48	
1413	0.00071	933	XJ-00652-50	
10,000	0.0001	6666	XJ-00652-52	
100,000	0.00001	66,666	XJ-00652-54	
150,000	0.0000066	100,000	XJ-00652-56	
200,000	0.000005	133,333	XJ-00652-58	
C. One-Shot®, pack of six 100 mL vials				
5	0.2	3.3	XJ-00652-60	
10	0.1	6.6	XJ-00652-62	
100	0.01	66	XJ-00652-64	
1000	0.001	666	XJ-00652-66	
1413	0.00071	933	XJ-00652-68	
10,000	0.0001	6666	XJ-00652-70	
100,000	0.00001	66,666	XJ-00652-72	
150,000	0.0000066	100,000	XJ-00652-76	
200,000	0.000005	133,333	XJ-00652-78	
Assortment†	—	—	XJ-00652-74	

†Assortment has one 100-mL vial each of 10, 100, 1000, 1413, 10,000, and 100,000 µS.

Texwipe® Cleanroom Swabs

Meet your validation requirements

– Ideal for cleaning small surface areas and for cleaning validation

Sealed swab handles are thermo-formed. Swabs with ESD handles eliminate damage from static electricity and are effective in all humidities.

Fabric Swabs have excellent chemical compatibility. Sealed swabs contain low chloride and other ionic contaminants.

Foam Swabs have sealed handles and are constructed from 100 pores-per-inch reticulated urethane foam—ideal for solvent dispersion and low-viscosity adhesives. Sealed foam swabs are perfect for removal of solvents and fluxes. Cleanfoam® swabs feature low levels of nonvolatile residue, particle generation, and are constructed of open-cell polyurethane foam for excellent solvent capacity.

Swab tip	Tip description	Handle description	Tip length	Swab length	Compliance	Qty/pk	Catalog number	Price/pk
Fabric swabs								
	Knit polyester	Sealed polypropylene	0.39" (1 cm)	2.75" (7 cm)	—	50	XJ-33676-01	
	Knit polyester	Sealed polypropylene	0.66" (1.7 cm)	6.39" (16.2 cm)	—	100	XJ-33676-07	
	Knit polyester	Sealed polypropylene	0.16" (0.4 cm)	2.76" (7 cm)	ISO Class 3	500	XJ-33677-58	
	Knit polyester	Sealed polypropylene	0.27" (0.7 cm)	6.39" (16.2 cm)	ISO Class 3	100	XJ-33677-60	
	Knit polyester	Sealed polypropylene	0.5" (1.3 cm)	5.00" (12.7 cm)	ISO Class 3	100	XJ-33677-62	
	Knit polyester	Sealed polypropylene	0.5" (1.3 cm)	5.00" (12.7 cm)	—	100	XJ-33677-63	
	Knit polyester	Sealed polypropylene	1.01" (2.6 cm)	5.02" (12.8 cm)	—	20	XJ-33677-64	
	Knit polyester	Sealed polypropylene	1.01" (2.6 cm)	5.02" (12.8 cm)	—	20	XJ-33677-65	
Foam swabs								
	Foam bud	Hardwood	1.10" (2.8 cm)	6.06" (15.4 cm)	—	500	XJ-33676-03	
	Cleanfoam	Polypropylene	0.13" (0.3 cm)	2.75" (7 cm)	ISO Class 5	500	XJ-33677-50	
	Flexible cleanfoam	Polypropylene	0.13" (0.3 cm)	2.67" (6.8 cm)	ISO Class 5	500	XJ-33677-52	
	Cleanfoam	Polypropylene	0.25" (0.6 cm)	6.37" (16.2 cm)	ISO Class 5	500	XJ-33677-55	
	Circular foam	Sealed polypropylene	0.81" (2.1 cm)	5.20" (13.2 cm)	ISO Class 5	100	XJ-33677-56	
	Cleanfoam	ESD	0.14" (0.4 cm)	3.50" (8.9 cm)	ISO Class 5	500	XJ-33677-72	
	Cleanfoam	ESD	0.15" (0.4 cm)	2.75" (7 cm)	ISO Class 5	500	XJ-33677-74	

Kimberly-Clark® Critical Task Wipes

Low-lint, absorbent, soft, and nonabrasive

– Won't scratch delicate surfaces

– Single- and two-ply delicate task wipes are made of a finely textured tissue

– Solvent-resistant Kimtech CL4 wipes are made of a single-ply, nonwoven fabric specially bonded to eliminate surface fibers and trap particles

Description	Compliance	Wipe size	Qty/bx	Box/cs	Catalog number	Price/cs*
Delicate task wipes						
Kimwipes® EX-L, 1 ply	—	4½" x 8½"	280	1	XJ-25000-35	
		4½" x 8½"	280	6	XJ-25000-37	
		4½" x 8½"	280	60	XJ-33670-04	
		15" x 16¾"	140	15	XJ-33670-06	
Kaydry® EX-L, 2 ply	—	15" x 16¾"	90	15	XJ-33670-10	
Cleanroom wipes						
Kimtech CL4 Cleanroom	ISO Class 4	12" x 12"	100	5	XJ-33670-20	

***Discounts:** Save 10% on 10 to 49 cases and 15% on 50 or more cases.



Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Worthington Storage Dewars

Get maximum holding times with superior construction

- Maximum insulation with sealed vacuum space between inner and outer shells and advanced insulation
- Durable, lightweight aluminum construction
- Reduce liquid nitrogen loss with necktube core design
- Move larger capacity Dewars easily with optional roller base





Capacity (L)	Neck ID	Static holding time†	Evaporation (L/day)†	Outer dim. (H x dia)	Catalog number	Price
4	1 3/16" (3.0 cm)	10 days	0.40	17" x 7 5/8" (43.2 x 19.4 cm)	XJ-03773-51	
5	5 5/8" (14.3 cm)	6 days	0.77	17 1/2" x 7 5/8" (43.2 x 19.4 cm)	XJ-03773-53	
10	2" (5.1 cm)	45 days	0.22	23 1/2" x 11 3/8" (59.7 x 28.9 cm)	XJ-03773-55	
25	2 1/2" (6.4 cm)	109 days	0.23	25 13/16" x 15 5/8" (65.5 x 39.7 cm)	XJ-03773-57	
35	2 1/2" (6.4 cm)	152 days	0.23	26 5/16" x 18 13/16" (66.8 x 47.8 cm)	XJ-03773-59	
50	2 1/2" (6.4 cm)	122 days	0.41	32 3/8" x 18 13/16" (82.2 x 47.8 cm)	XJ-03773-61	

†Static holding times and evaporation rates are nominal.

XJ-03773-63 **Dipper** removes 12 mL of liquid nitrogen from 10-, 25-, 35-, and 50-liter Dewars without tipping the flask
XJ-03773-70 **Tipping stand** supports the weight of the Dewar while you safely tip the unit. For model 03773-57 only

Insulated Containers

Store samples properly



A. Tabletop Ice Storage Chest has dry ice sublimation rate less than 2.5 lb per day at full 50 lb capacity. Chest is constructed from rugged polyethylene; molded bottom won't scratch tabletop.

B. Insulated Field Carrier has efficient, 2 1/4"-thick polyurethane foam insulation core and rugged, double-wall polyethylene construction. Includes carrying handle, hinged lid, and adjustable latches.

C. Large-Capacity Dry Ice Storage Chests contain extra-thick foam plastic insulation core. Six days for 90 lb of dry ice to sublimate to 5 lb in model 03721-02; 10 days for 155 lb in model 03721-00; and 15 days for 215 lb in model 03720-00.

Key	Capacity		Inside dimensions (L x W x H)		Catalog number	Price
	cu ft	lb	in.	cm		
A	—	—	11 1/2 x 9 3/4 x 9 1/4	29.2 x 24.8 x 23.5	XJ-03719-00	
B	—	—	16 5/8 x 10 1/4 x 10 3/4	42.2 x 26.0 x 27.3	XJ-03720-20	
C	1.6	90	15 1/4 x 14 x 15 1/4	38.7 x 35.6 x 38.7	XJ-03721-02	
	2.5	155	17 3/8 x 16 7/8 x 16 1/2	44.1 x 42.8 x 41.9	XJ-03721-00	
	5	215	21 x 13 1/2 x 24	53.3 x 34.3 x 61.0	XJ-03720-00	

XJ-03721-10 **Dolly** for 03721-00 and -02 containers
XJ-03720-10 **Dolly** for 03720-00 container

Lab-Grade Dewar Flasks

Move samples with less spillage



- Weighted base reduces spillage
- Dewars feature low heat conductivity, high vacuum and vented polyethylene stopper for minimal evaporation

Volume (mL)	Dimensions† (in., cm)				Catalog number	Price
	ID	OD	Depth	Ht		
350	2 13/16 (7.2)	3 3/8 (8.6)	4 7/8 (12.4)	6 5/16 (15.7)	XJ-03766-10	
665			7 11/16 (19.5)	9 1/2 (24.1)	XJ-03766-20	
1000	2 13/16 (7.2)	3 3/8 (8.6)	11 7/8 (30.1)	13 5/16 (33.8)	XJ-03766-30	
1900	4 11/16 (11.9)	5 7/8 (14.9)	7 1/2 (19.1)	9 7/8 (25.1)	XJ-03767-10	
4300	5 5/8 (14.3)	7 (17.8)	12 (30.5)	14 3/8 (36.6)	XJ-03767-20	

†All dimensions are ±0.2".

Cole-Parmer® Transportable Dewar Flasks

Keep lid on tight



- Insulated lid locks in place with two spring clips
- Rugged design features galvanized steel plate with baked enamel finish

Cole-Parmer®

Volume (L)	Dimensions (in., cm)				Catalog number	Price
	ID	OD	Depth	Ht		
1	4 (10.2)	5 7/8 (14.9)	6 5/8 (16.8)	7 5/16 (18.6)	XJ-03772-10	
2	5 1/2 (14.0)	6 5/16 (16.0)	6 11/16 (16.9)	8 1/2 (21.6)	XJ-03772-20	
4	5 1/2 (14.0)	6 5/16 (16.0)	12 3/16 (31.0)	14 3/8 (36.6)	XJ-03772-40	

All-Plastic Dewar Flasks

Implosion proof



- Safe to use with LN_2, dry ice, solvent mixtures, and hot fluids, will not implode
- Double-wall HDPE construction with broad base for reduced spills
- Keep lid in place with metal tabs

Volume (L)	Dimensions (in., cm)				Catalog number	Price
	ID	OD	Depth	Ht		
1	3 3/4 (9.5)	6 1/4 (15.9)	7 1/2 (19.1)	9 (22.9)	XJ-06726-20	
2	4 3/4 (12.1)	7 1/4 (18.4)	9 (22.9)	10 1/4 (26.0)	XJ-06726-40	
4	5 3/4 (14.6)	9 (22.9)	11 1/4 (28.6)	12 3/4 (32.4)	XJ-06726-60	
10	7 3/4 (19.7)	12 (30.5)	15 1/2 (39.4)	18 (45.7)	XJ-06726-80	

Argos Technologies® PolarSafe® Fiberboard Cryogenic Storage Boxes and Dividers

Customize to fit your needs

- Snug-fitting lid prevents accidental separation if dropped
- Bottom drain holes allow safe drainage of liquid nitrogen and prevent moisture buildup
- Moisture repellent coating for use in mechanical freezers or liquid nitrogen tanks to –196°C



Storage Boxes

Description	Vial size	Vials held	Dimensions (L x W x H)	Catalog number	Price
Boxes with cell dividers	0.5, 1.5, 2 mL	25	3" x 3" x 2"	XJ-06755-71	
	0.5, 1.5, 2 mL	81	5¼" x 5¼" x 2"	XJ-06755-72	
	0.5, 1.5 mL	100	5¼" x 5¼" x 2"	XJ-06755-73	
Boxes without cell dividers	—	—	3" x 3" x 2"	XJ-06755-74	
	—	—	5¾" x 5¾" x 4⅞"	XJ-06755-75	
	—	—	5¼" x 5¼" x 2"	XJ-06755-76	
	—	—	5¼" x 5¼" x 3"	XJ-06755-77	

Cell Dividers

For box model(s)	Vial size	Vials held	Dimensions (L x W x H)	Catalog number	Price/ pk of 12
06755-74	0.5, 1.5, 2 mL	25	2⅝" x 2⅝" x 1¼"	XJ-06755-80	
06755-75	50 mL	16	5⅜" x 5⅜" x 2¾"	XJ-06755-78	
	15 mL	36		XJ-06755-79	
06755-76, 06755-77	50 mL	25	4⅞" x 4⅞" x 1 5⁄16"	XJ-06755-81	
	1.5, 2 mL	49		XJ-06755-82	
	1.5, 2 mL	64		XJ-06755-83	
	0.5, 1.5, 2.0 mL	81	4⅞" x 4⅞" x 1 5⁄16"	XJ-06755-84	
	0.5, 1.5 mL	100		XJ-06755-85	
	0.5, 1.5 mL	144		XJ-06755-86	

Argos Technologies® Magne-Box™ Cryo-Boxes

Magnetic closure keeps your samples secure

NEW

- Clear lids with colored inserts and numbered grids for easy sample identification
- Polycarbonate design for use from –196 to 121°C
- Slot openings on the bottom of boxes allow for drainage
- Fits in standard-size freezer rack
- Available with 25-, 81-, and 100-place divisions to accommodate 2-mL cryovials; 81-tall boxes accommodate 4- to 5-mL cryovials



No. of tubes	Color	Dimensions (inches)	Catalog number	Qty/ pk	Price/pk
25	Orange	3 x 3 x 2 1⁄16	XJ-04200-03	8	
81	Assorted (purple, green, blue, orange)	5¼ x 5¼ x 2⅛	XJ-04200-04	4	
81-tall	Blue	5¼ x 5¼ x 3¾	XJ-04200-05	4	
100	Green	5¼ x 5¼ x 2 1⁄16	XJ-04200-06	4	

Cryo-Glove® Cryogenic Gloves

Keep hands from freezing

- Protect as low as –256°F (–160°C)
- Maximum protection while remaining flexible



Water-Resistant Gloves provide protection in closed systems. A stay-dry lining keeps you warm and comfortable. **Waterproof Gloves** have a nylon exterior and a seamless waterproof lining. Gloves keep you dry and wick moisture away from your hands. **Cryo-Industrial® Gloves** feature a rugged, abrasion- resistant outer shell that protects the glove and provides an excellent grip for heavy-duty applications. Waterproof liner protects against cryogenic splashes while the inner lining wicks moisture from your hands for enhanced comfort.

Note: Do not immerse gloves in liquid nitrogen.

CE

Description	Size	Length	Catalog number	Price per pair
Water-resistant Cryo-Glove gloves				
Wrist	Medium	12" (30 cm)	XJ-09113-02	
	Large		XJ-09113-04	
Mid-arm	Medium	15" (38 cm)	XJ-09113-12	
	Large		XJ-09113-14	
	X-large		XJ-09113-16	
Elbow	Medium	19" (48 cm)	XJ-09113-22	
	Large		XJ-09113-24	
	X-large		XJ-09113-26	
Waterproof Cryo-Glove gloves				
Mid-arm	Medium	15" (38 cm)	XJ-09113-30	
	Large		XJ-09113-32	
	X-large		XJ-09113-34	
Elbow	Medium	19" (48 cm)	XJ-09113-35	
	Large		XJ-09113-37	
	X-large		XJ-09113-39	
Cryo-Industrial heavy-duty gloves				
Mid-arm	Medium	15" (38 cm)	XJ-09113-62	
	Large		XJ-09113-64	
	X-large		XJ-09113-66	

Argos Technologies® PolarSafe® Dot- and Strip-Style Cryogenic Labels

Same label works for cryogenics, ultralow freezers, and incubators



- Inert polyester with a unique adhesive adheres to glass, plasticware, and most metals
- No need to self-laminate
- Available on rolls for individual labeling or on sheets for use with laser printers

PolarSafe labels withstand conventional freezing (–80°C) but can also be used for most cryogenic storage applications (vapor phase nitrogen storage at –196°C). Choose the size, color, and format to suit your labeling needs. The wide range of sizes allows you to label your whole experiment permanently.

The 3.3 x 1.3 cm strips are ideal for 1.5- and 2-mL tubes; the 2.4 x 1.3 cm strips are good for 0.5- and 1.5-mL tubes; the 6.7 x 2.5 cm strips can be used for racks and boxes; 3.8 x 0.6 cm strips are for microtiter plates, petri dishes, and storage boxes. The dots are suitable for use on cryotubes, glass vials, and microcentrifuge tubes.

Label size (in., cm)	Color	Catalog number	Qty/pk	Price/pk
Dots on rolls				
0.37 (0.95) dia	White	XJ-04396-68	1000	
0.37 (0.95) dia	White	XJ-04396-69	5000	
0.37 (0.95) dia	Blue	XJ-04396-86	1000	
0.37 (0.95) dia	Red	XJ-04396-87	1000	
0.37 (0.95) dia	Green	XJ-04396-88	1000	
0.37 (0.95) dia	Yellow	XJ-04396-89	1000	
0.37 (0.95) dia	Purple	XJ-04396-90	1000	
0.37 (0.95) dia	Assorted	XJ-04396-85	5000	
0.5 (1.3) dia	White	XJ-04396-65	1000	
0.75 (1.9) dia	White	XJ-04396-70	1000	
0.75 (1.9) dia	White	XJ-04396-71	5000	
Dots on sheets for laser printers				
0.37 (0.95) dia	White	XJ-04396-64	3840	
0.5 (1.3) dia	White	XJ-04396-84	3840	
0.75 (1.9) dia	White	XJ-04396-72	2160	
Strips on rolls				
0.78 W x 0.24 H (2.0 x 0.6)	White	XJ-04396-67	1000	
1.3 W x 0.5 H (3.3 x 1.3)	White	XJ-04396-66	1000	
1.3 W x 0.5 H (3.3 x 1.3)	Blue	XJ-04396-79	1000	
1.3 W x 0.5 H (3.3 x 1.3)	Red	XJ-04396-80	1000	
1.3 W x 0.5 H (3.3 x 1.3)	Green	XJ-04396-81	1000	
1.3 W x 0.5 H (3.3 x 1.3)	Yellow	XJ-04396-82	1000	
1.3 W x 0.5 H (3.3 x 1.3)	Purple	XJ-04396-83	1000	
Strips on sheets for laser printers				
0.94 W x 0.5 H (2.4 x 1.3)	White	XJ-04396-75	2380	
1.3 W x 0.5 H (3.3 x 1.3)	White	XJ-04396-73	1700	
1.3 W x 0.5 H (3.3 x 1.3)	Assorted	XJ-04396-74	2125	
1.5 W x 0.24 H (3.8 x 0.6)	White	XJ-04396-77	3120	
1.5 W x 0.24 H (3.8 x 0.6)	Assorted	XJ-04396-78	3900	
2.6 W x 0.98 H (6.7 x 2.5)	White	XJ-04396-76	600	

Accessories

XJ-04396-91 **Label dispenser,** blue acrylic. Accommodates up to 6 rolls of cryogenic dots or strips

Argos Technologies® PolarSafe® EPS Microtube Rack

Secure, stackable freezer storage

- Accommodates microtubes and cryovials up to 2.0 mL
- Snug-fitting lid remains in place during handling
- Grippable indentations allow easy removal from freezer
- Alphanumeric index in base lets you quickly locate tubes

NEW



This rack and storage box of expanded polystyrene (EPS) holds 100 microcentrifuge tubes and cryovials up to 2.0 mL. The deep wells and conical bottoms keep both tubes and vials firmly fixed in place, and the lid fits tightly enough to ensure tube safety during handling. Stacking design features circular feet on the bottoms that mate with circular depressions on the lids. Centered finger indentations in the lid and base make it easy to pull out a rack from the freezer, even if the rack is in the middle or bottom of the stack.



Unique finger indentations at both ends allow easy removal from freezer.



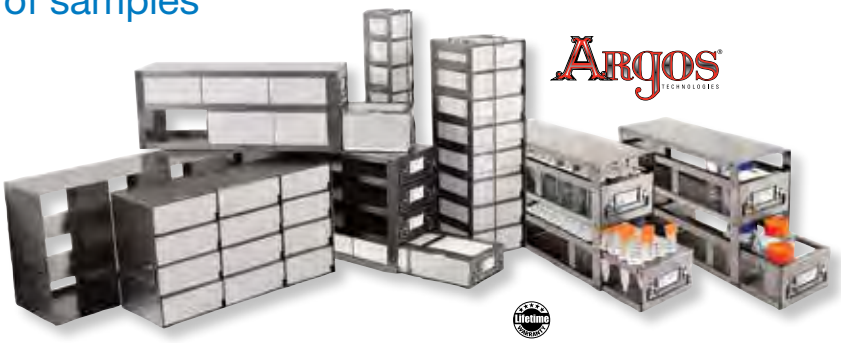
Deep wells with conical bottoms securely hold both microtubes and cryovials.

Vial size	Vials held	Dimensions (L x W x H)	Catalog number	Qty/pk	Price/pk
0.5 to 2.0 mL	100	14½" x 4⅛" x 3" (36.8 x 10.5 x 7.6 cm)	XJ-06755-01	10	
			XJ-06755-02	100	

Argos Technologies® PolarSafe® Stainless Steel Freezer Racks

Get organized for easier retrieval of samples

NEW



- Sturdy corrosion-resistant stainless steel construction for long-term use
- Designed to fit all major brands of –80°C ultralow upright and chest freezers

Racks feature handles at both ends to accommodate freezers with right- or left-handed doors. Drawer racks facilitate access to samples without having to remove the entire rack from the freezer. Vertical racks include stainless steel locking rods to secure containers. A wide range is available to accommodate your standard 2" and 3" storage boxes, 96- and 384-well microtiter plates, and 15- and 50-mL centrifuge tubes.

Racks for Upright Freezers

For use with	Capacity	Array	Rack dimensions (W x H x D)	Catalog number	Price
2" boxes	9	3 x 3	5½" x 6⅝" x 16⁵⁄₁₆"	XJ-04398-12	
	12	3 x 4	5½" x 8⅞" x 16⁵⁄₁₆₆"	XJ-04398-13	
	16	4 x 4	5½" x 8⅞" x 21⅝"	XJ-04398-14	
	20	4 x 5	5½" x 11" x 21⅝"	XJ-04398-15	
	20	5 x 4	5½" x 8⅞" x 26¾"	XJ-04398-17	
	24	4 x 6	5½" x 12⅝" x 21⅝"	XJ-04398-16	
	25	5 x 5	5½" x 11" x 26¾"	XJ-04398-18	
3" boxes	12	4 x 3	5½" x 9⅜" x 21⅝"	XJ-04398-30	
	16	4 x 4	5½" x 12⅝" x 22⅛"	XJ-04398-32	
2", 3", 3¾" boxes	16, 12, 10	4 open columns	5½" x 9⅜" x 21⅝"	XJ-04398-33	
Standard 96-/ 384-well plates	70 w/lids, 80 w/o lids	—	5½" x 9³⁄₁₆" x 18⅜"	XJ-04398-34	
	84 w/lids, 96 w/o lids	—	5½" x 9³⁄₁₆" x 22"	XJ-04398-35	
96-well deep well plates	36	6 x 6	5½" x 11" x 22"	XJ-04398-36	

Drawer Racks for Upright Freezers

For use with	Capacity	Array	Rack dimensions (W x H x D)	Catalog number	Price
2" boxes	9	3 x 3	5½" x 7⅛" x 16½"	XJ-04398-19	
	12	3 x 4	5½" x 9⁷⁄₁₆" x 16½"	XJ-04398-20	
	16	4 x 4	5½" x 9⁷⁄₁₆" x 22"	XJ-04398-21	
	20	4 x 5	5½" x 11¹³⁄₁₆" x 22"	XJ-04398-22	
	20	5 x 4	5½" x 9⁷⁄₁₆" x 26¾"	XJ-04398-24	
	24	4 x 6	5½" x 12⅝" x 22"	XJ-04398-23	
	25	5 x 5	5½" x 11¹³⁄₁₆" x 26¾"	XJ-04398-25	
3" boxes	12	4 x 3	5½" x 10¹⁄₁₆" x 22"	XJ-04398-31	
15-mL centrifuge tubes	160	2 drawers	5½" x 9¹⁵⁄₁₆" x 22"	XJ-04398-27	
50-mL centrifuge tubes	78	2 drawers	5½" x 9¹⁵⁄₁₆" x 22"	XJ-04398-26	

Vertical Racks for Chest Freezers

For use with	Capacity	Array	Rack dimensions (W x H x D)	Catalog number	Price
2" boxes	12	1 x 12	5⅝" x 26⅜" x 5½"	XJ-04398-28	
	13	1 x 13	5⅝" x 28¼" x 5½"	XJ-04398-29	

Find even more online! Go to ColeParmer.com for a wide selection of cryogenic storage products.

Corning® CoolCell® Containers

Less mess with alcohol-free cell freezing

- Solid thermoconductive core eliminates the hassle of IPA changes
- Control the rate of freezing to –1°C/minute in a –80°C freezer to maintain cell viability
- Highly reproducible cooling profile ensures repeatable results

NEW



This freezing system constructed of uniform-density cross-linked polyethylene foam with a solid-state core cools at a consistent rate, providing live samples the best opportunity to remain viable throughout the freezing and storage process.

Easy to use—load your sample tubes and place in the freezer. CoolCell containers rapidly return to room temperature when removed from the freezer, making them easy to handle.

Use filler vials (order separately) when you need to freeze less than a full load of samples to maintain a consistent cooling profile. Order additional vial modules to quickly change out all 30 vials at once; compatible with standard 5" x 5" x 2" (12.7 x 12.7 x 5.1 cm) cryogenic storage boxes.

Vial size	Vials held	Color	Catalog number	Price
For cryogenic vials without exposed tops				
1.0 to 2.0 mL	12	Purple	XJ-04392-00	
For cryogenic vials with exposed tops				
1.0 to 2.0 mL	12	Purple	XJ-04392-01	
		Green	XJ-04392-02	
		Orange	XJ-04392-03	
		Pink	XJ-04392-04	
1.0 to 2.0 mL	30	Purple	XJ-04392-06	
		Green	XJ-04392-08	
		Orange	XJ-04392-07	
		Pink	XJ-04392-09	
5.0 mL	12	Purple	XJ-04392-05	
For serum vials with exposed tops				
2.0 mL	12	Purple	XJ-04392-10	
10 mL	6	Purple	XJ-04392-11	

XJ-04392-76 **CoolCell filler vials,** 2 mL. Pack of 6

XJ-04392-77 **CoolCell filler vials,** 5 mL. Pack of 6

XJ-04392-78 **CoolCell 30-place vial module.** Pack of 10

Cole-Parmer® elements™ Graduated Cylinders, Glass

NEW

Hexagonal base prevents cylinder from tipping over

- Durable borosilicate 3.3 glass
- Easy-read graduations
- Withstands wide temperature range –50 to 550°C
- Graduated tolerances from ±0.1 to ±20 depending on size
- Autoclavable



34502-70



34502-76

Buy More...Save More!
15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity (mL)	Graduations (mL)	Tolerance (mL)	Catalog number	Qty/pk	Price/pk
5	0.1	±0.1	XJ-34502-68	2	
10	0.2	±0.2	XJ-34502-69		
25	0.5	±0.5	XJ-34502-70	1	
50	1	±1	XJ-34502-71		
100	1	±1	XJ-34502-72		
250	2	±2	XJ-34502-73		
500	5	±5	XJ-34502-74	1	
1000	10	±10	XJ-34502-75		
2000	20	±20	XJ-34502-76		

Cole-Parmer® elements™ Graduated Cylinders, PP

Molded one piece for enhanced durability

NEW

- Wide hexagonal base provides stability
- Accurate to ±2.5%
- Molded-in graduations will not wear off
- Bulk packed for greater savings

Featuring pour spouts, molded-in graduations, and heat resistance from –15 to 150°C, these translucent polypropylene (PP) cylinders are excellent for general use in the lab.



Buy More...Save More!
15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity mL (oz)	Graduation interval (mL)	Tolerance (± mL)	Catalog number	Qty/pk	Price/pk
50 (1.7)	1	±2.5%	XJ-06200-24	10	
100 (3.5)	1		XJ-06200-25		
250 (8)	5		XJ-06200-26		

Cole-Parmer® Serialized Class A Graduated Cylinders, Glass

Feel more confident about your aliquots—meet ISO 9000 requirements

- Easy-to-read single white metric scale
- Autoclavable

Choose cylinders with a report of traceability to NIST standards or with a report of calibration and traceability. Models with report of calibration and traceability feature fused-in serial numbers. All cylinders support ISO 9000 requirements and are calibrated in accordance with ASTM E 542. Cylinders meet ASTM E 694 specifications and accuracy requirements of ASTM 1272. Cylinder glass meets ASTM E 438.

Capacity (mL)	Graduations (mL)	Tolerance (mL)	With report of traceability			With reports of calibration and traceability		
			Cat. no.	Qty/pk	Price/pk	Cat. no.	Qty/pk	Price/pk
Cylinders calibrated "To Contain"								
10	0.1	±0.10	XJ-34300-17	1		—	1	—
25	0.2	±0.17	XJ-34300-19			XJ-34300-20		
50	1	±0.25	XJ-34300-21			XJ-34300-22		
100	1	±0.40	XJ-34300-23			XJ-34300-24		
250	2	±0.80	XJ-34300-25	1		XJ-34300-26	1	
500	5	±1.30	XJ-34300-27			XJ-34300-28		
1000	10	±3.0	XJ-34300-29			XJ-34300-30		
2000	20	±5.0	XJ-34300-31			XJ-34300-32		
Cylinders calibrated "To Deliver"								
10	0.1	±0.10	XJ-34300-01	1		—	1	—
25	0.2	±0.17	XJ-34300-03			XJ-34300-04		
50	1	±0.25	XJ-34300-05			XJ-34300-06		
100	1	±0.40	XJ-34300-07			XJ-34300-08		
250	2	±0.80	XJ-34300-09	1		XJ-34300-10	1	
500	5	±1.3	XJ-34300-11			XJ-34300-12		
1000	10	±3.0	XJ-34300-15			XJ-34300-16		
2000	20	±5.0	XJ-34300-13			XJ-34300-14		



34300-27 calibrated "To Contain"



34300-15 calibrated "To Deliver"

Digi-Sense™ Data Loggers with TraceableLIVE® Wireless Technology

Get alerts before you lose valuable samples

- Remotely monitor your critical environments 24/7 via Wi-Fi*
- View current conditions anywhere—cloud-based interface sends email, text, and push notifications
- Securely connect to data via smartphone, tablet, or PC
- No software required—web, Android™, Apple® iOS data visibility
- Ensure accurate, reliable measurements with included NIST-traceable calibration



DIGI-SENSE™

TraceableLIVE®

Digi-Sense data loggers with TraceableLIVE wireless technology provide a simple, efficient, and reliable way to ensure your critical samples are not compromised due to parameter variations. This latest technology is ideal for monitoring a process in real time, any time. Plus you get the value, accuracy, and peace of mind of NIST-traceable calibration at a noncalibrated price.

A-B. Digi-Sense Ultra-Low Temperature Data Loggers





C. Digi-Sense Refrigerator/Freezer Data Loggers



D. Digi-Sense Temperature/Humidity Data Loggers



E. Digi-Sense Multiparameter Data Loggers

Specifications

Sampling rate: 9 to 12 seconds
Memory: 672 (7 days if set to 15-minute intervals)
Max number of stored alarms: 100
Power: four AAA batteries (included)

Sensor included	Parameters			Catalog number	Price
	Range	Resolution	Accuracy		
A. Cryogenic data loggers					
One 316 SS probe with 6-ft (1.8-m) cable	–328 to 221°F (–200 to 105°C)	0.01°	±0.4°F (±0.25°C)	XJ-18001-08	
Two 316 SS probes with 6-ft (1.8-m) cable				XJ-18001-09	
B. Ultra-low temperature data loggers					
One 316 SS probe with 6-ft (1.8-m) cable	–130 to 221°F (–90 to 105°C)	0.01°	±0.18°F (±0.1°C)	XJ-18000-27	
Two 316 SS probes with 6-ft (1.8-m) cable				XJ-18000-28	
C. Refrigerator/freezer data loggers					
Two bottle probes	–58 to 140°F (–50 to 60°C)	0.01°	±0.45°F (±0.25°C)	XJ-99460-00	
One bottle probe and one bullet probe with detachable sensor and 10-ft (3-m) cable				XJ-99460-05	
Two bullet probes				XJ-99460-10	
Two SS probes with detachable sensor and 10-ft (3-m) cable				XJ-99460-15	
D. Temperature/humidity data loggers					
Ambient sensor dongle	Temp: 32 to 131°F (0 to 55°C) Humidity: 0 to 100% RH	Temp: 0.01° Humidity: 0.1%	Temp: ±0.72°F (±0.4°C) Humidity: ±3% (20 to 80% RH), ±5% (remaining)	XJ-18000-29	
External probe with 10-ft (3-m) cable				XJ-18000-30	
E. Multiparameter data loggers					
Ambient sensor dongle for temperature/humidity/CO_2	Temp: 32 to 131°F (0 to 55°C) Humidity: 0 to 95% RH CO_2: 0 to 10,000 ppm	Temp: 0.01° Humidity: 0.01% CO_2: 5% reading + 70 ppm	Temp: ±0.72°F (±0.4°C) Humidity: ±3% (5 to 75% RH), ±5% (remaining) CO_2: 1 ppm	XJ-18000-31	
External probe with 3-ft (0.9-m) cable for temperature/humidity/CO_2	Temp: 32 to 131°F (0 to 55°C) Humidity: 0 to 95% RH CO_2: 0 to 20%	Temp: 0.01° Humidity: 0.01% CO_2: 5% reading + 1 digit	Temp: ±0.72°F (±0.4°C) Humidity: ±3% (5 to 75% RH), ±5% (remaining) CO_2: 0.01%	XJ-18000-32	
Ambient sensor dongle for temperature/humidity/barometric pressure	Temp: 32 to 131°F (0 to 55°C) Humidity: 0 to 100% RH Barometric pressure: 500 to 1100 mbar	Temp: 0.01° Humidity: 0.01% Barometric pressure: 1 mbar	Temp: ±0.72°F (±0.4°C) Humidity: ±3% (5 to 75% RH), ±5% (remaining) Barometric pressure: ±4 mbar	XJ-18000-33	

*Requires a TraceableLIVE subscription.

Digi-Sense™ Traceable® Data Loggers with TraceableGO™ Wireless Capability

Easily access collected data between destinations

- Connect to your data via smartphone or tablet—any *Bluetooth*®-enabled device—using a downloadable *Bluetooth* App
- View and download data with free TraceableGO App
- Data loggers store up to 90 alarm events
- Get accurate, reliable measurements with included NIST-traceable calibration

NEW



18004-12



18004-13

Track environmental conditions of reagents, clinical samples, vaccines, pharmaceuticals, and food items during transport to any location.

Configure the data loggers from your device using the TraceableGO App to start; stop; change memory mode, unit preference, alarm setting, logging interval; and enable/disable alarm. When all the parameters are set, simply press START on the logger to begin monitoring. Once the shipment is delivered, double press START/STOP on the logger to enable *Bluetooth*® and export the data to your device. You will get an immediate response to see if your contents have been exposed to conditions outside the set parameters.

Measurements are updated every 5 seconds with user-defined reading intervals from 1 minute to 12 hours in 1-minute steps. Logging duration is 227 days (7.5 months) on a 5-minute logging interval.

You have the option to subscribe to cloud-based TraceableLIVE® service to upload data to cloud—ideal for tracking data from multiple loggers or to comply with regulatory agency requirements. The low-cost TraceableLIVE subscription provides unlimited trip data to be saved on the cloud as well as ability to send a report to an email.

What's included: two AAA batteries, free TraceableGO App for download to your device, and NIST-traceable calibration certificate.

Specifications

Memory: 64K (65,536) data points, 7.5 months on a 5-minute logging interval

Sampling rate: 1 minute to 12 hours, 1-minute steps

Dimensions (W x H x D): 3½" x 2" x 13/16" (8.9 x 5.1 x 2 cm)

Power: two AAA batteries (included)

DIGI-SENSE™

Description	Temperature data logger	Temperature/humidity data logger
Catalog number	XJ-18004-12	XJ-18004-13
Temperature range	–4 to 158°F (–20 to 70°C)	–4 to 158°F (–20 to 70°C)
Temperature resolution	0.1°	0.1°
Temperature accuracy	±0.7°F (±0.4°C)	±0.7°F between 14 and 158°F; otherwise ±0.9°F (±0.4°C between –10 and 70°C, otherwise ±0.5°C)
Humidity range	—	0 to 95% RH, noncondensing
Humidity resolution	—	0.1% RH
Humidity accuracy	—	±3% RH from 5 to 75%, otherwise ±5% RH
Price		

XJ-09376-00 **Replacement batteries,** AAA; 1.5 V. Pack of 12

Digi-Sense™ Temperature and Temp/RH USB Data Loggers

Use just about anywhere!

- Store, download, and analyze up to 32,000 data points with included software for analysis, graphing, printing
- Select your sample rate and level alarms with user-definable settings
- Choose your start-up mode: immediate, manual, or real-time



20250-41



20250-43

Description	Temperature	Temperature/RH	Temperature/RH with LCD	Temperature with 38" type K thermocouple probe
Catalog number	XJ-20250-41	XJ-20250-42	XJ-20250-43	XJ-20250-44
Range	–40 to 158°F (–40 to 70°C)	–40 to 158°F (–40 to 70°C), 0 to 100% RH (non condensing)		–328 to 2498°F (–200 to 1370°C)
Memory	32,000 data points	32,000 data points (16,000 per channel)		32,000 data points
Reading rate	1 reading every 2 seconds to 1 reading every 24 hours; user selectable			
Price				

DIGI-SENSE™

Digi-Sense® Traceable® Excursion-Trac™ Data Logging Refrigerator/Freezer Thermometers

Rolling memory retains most recent 525,600 temperature observations

NEW

- Get accurate, reliable measurements with included NIST-traceable calibration
- Memory can be cleared after downloading data and alarm events
- Set limits for and store up to 10 unique alarm events
- Smart-Alarm™ with visual/audible alarm continues to alert even if conditions return to normal range
- Triple-line display shows high, low, and current temperature simultaneously



94460-09

Easily monitor temperatures overnight or for any time period—minimum and maximum temperatures are stored until the memory is cleared. Set high and low alarms in 1° increments; alarm sounds when temperature rises above or falls below set points. The alarm tracking feature stores data for up to 10 different alarm events detailing when the alarm state occurred, as well as when the unit returned within range. Alarm state indicator includes visual LEDs, audio alerts, and flashing LCD segments.

Transfer data recorded in a .csv format to any computer via a USB flash drive—no software is required. Simply clear memory after downloading data to USB drive. Unit continues to record new data while downloading old data. Other status indicators include low-battery, memory full, USB data transfer, and active alarm state.



94460-11

Select from glycol-filled bottle probe (glass, plastic, or vaccine), standard plastic Bullet™ probe, or stainless steel (SS) probe. All probes are attached to a 10-ft (3-m) microcable that permits a door to close on it.

Bottle probes contain nontoxic glycol solution which simulates the temperature of other stored liquids and eliminates the rapid temperature fluctuation caused by opening the refrigerator/freezer door.

Use standard Bullet probe to measure air and liquid temperatures. Bullet probe sensor and cable may be completely immersed. Sensor measures ¾"L x 0.187" dia.

Durable SS probes withstand both low and high temperatures and are ideal for measuring temperatures of air, liquids, and semisolids. Sensor stem measures 6.25"L x ⅛" dia.



98768-58

What's included: probe(s) with 10-ft cable, flip-open stand, hook-and-loop fastener, magnetic strips, wall-mount receptacle, batteries, and NIST-traceable calibration certificate with data.

Specifications

Resolution: 0.01°
Sampling rate: 5 sec (10 sec for models 98768-53, 54, -57, and -58)
Logging interval: user selectable from 1 min to 24 hrs
Memory†: most recent 525,600 readings
Display: LCD, ½"H digits
Power: two AAA 1.5 V batteries (included)
Dimensions (W x H x D): 2¾" x 4¼" x ¾" (7 x 10.8 x 1.9 cm)

Temperature range	Accuracy	Included probe(s)	Catalog number	Price
–58.00 to 158.00°F (–50.00 to 70.00°C)	±0.45°F (±0.25°C)	1 glass bottle probe	XJ-94460-07	
		2 glass bottle probes	XJ-94460-09	
		1 vaccine bottle probe	XJ-98767-63	
		2 vaccine bottle probes	XJ-98767-64	
		1 plastic bottle probe	XJ-98767-67	
		2 plastic bottle probes	XJ-98767-68	
		1 Bullet probe	XJ-94460-11	
		2 Bullet probes	XJ-94460-14	
		1 glass bottle, 1 Bullet probe	XJ-94460-18	
		1 SS probe	XJ-94460-16	
		2 SS probes	XJ-94460-17	
–130.00 to 221.00°F (–90.00 to 105.00°C)	±0.36°F (±0.2°C)	1 SS probe	XJ-98768-53	
		2 SS probes	XJ-98768-54	
–328.00 to 221.00°F (–200.00 to 105.00°C)	±0.45°F (±0.25°C)	1 SS probe	XJ-98768-57	
		2 SS probes	XJ-98768-58	

†All data stored in Celcius (°C) and date format is MM/DD/YYYY.

XJ-09376-00 **Replacement batteries,** AAA; 1.5 V. Pack of 12
XJ-17101-61 **NIST-traceable recalibration** with data for digital indicator

DIGI-SENSE

Wait!
There's More at ColeParmer.com
Find all the **product specs** you need!

Digi-Sense® Traceable® Temperature Data Loggers

No need to download data first—display shows measurements and alarm duration

– Be alerted to out-of-limit conditions of sensitive items
– Download and analyze data with time-and-date stamp via required software
– Program and edit programs via software, even on multiple units

Temperature Data Logger is reusable and reprogrammable, ideal for the monitoring of perishable items during transport. **Temperature/Relative Humidity Data Logger** is ideal for transportation temperature monitoring, and for use with products that are sensitive to humidity levels. **Cryogenic Temperature Data Logger** has an external, 4.35" (110.5 mm) long stainless steel temperature probe—perfect for monitoring cryo-materials, reagents, samples, pharmaceuticals, and frozen food items.

What's included: battery and individually serialized NIST-traceable calibration certificate. Kit 18005-01 comes with five temperature data loggers, one copy of data download and analysis software, and one cradle with USB cable.



18005-00


Cradle
18005-03



Sleeves
18005-02

Description	Temperature data logger	Temperature data logger kit	Temperature/RH data logger	Cryogenic temperature data logger
Catalog number	XJ-18005-00†	XJ-18005-01	XJ-18005-05†	XJ-18005-06†
Temp range	–31 to 122°F (–35 to 50°C)		–20.2 to 161.6°F (–29 to 72°C)	–328 to 161.6°F (–200 to 72°C)
Temp resolution	0.1°F/C		0.1°F/C	0.1°F/C
Temp accuracy	±0.4°F (±0.2°C) from 32 to 50°F (0 to 10°C); ±2°F (±1°C) otherwise		±0.4°F (±0.2°C) from 32 to 50°F (0 to 10°C); ±1°F (±0.5°C) otherwise	±0.4°F (±0.2°C) from 32 to 86°F (0 to 30°C); ±2°F (±1°C) otherwise
RH range	—		0 to 100%	—
Memory capacity	7680 readings		30,720 readings	64,000 readings
Sampling rate	Adjustable from every 2 seconds to every 24 hours			
Required for data transfer†	Cradle 18005-03; Software 18005-04	Cradle and software included	Cable 18005-07; Software 18005-04	Cable 18005-07; Software 18005-04
Power	CR2450 3V lithium coin cell battery (included)			
Price				

†Order required items separately at right.

DIGI-SENSE

XJ-18005-03 **Cradle and USB cable** for temperature data logger
XJ-18005-07 **USB cable** for temp/RH and cryogenic data loggers
XJ-18005-04 **Software** for data analysis and setting parameters
XJ-18005-02 **Data logger sleeves.** Pack of 100
XJ-17102-20 **NIST-traceable recalibration** for temperature data logger

Digi-Sense™ Temperature/Humidity Touch-Screen Recorder

Virtually unlimited data logging with 8 GB of on-board memory

– Use right out of the box with resident self-booting software—no installation necessary!
– Quickly download data in .csv format via included USB cable
– Convenient wall-mount or desktop operation



This tablet-based instrument measures, displays, and logs temperature, relative humidity, and dew point conditions. Measured values are simultaneously displayed both graphically and digitally on a high-resolution, color display. Easily program sample frequency, sample size, alarm settings, start mode, and units of measure through the intuitive touch-screen menu. Monitor conditions related to pharmaceutical, food, and chemical processing and storage; also ideal for use in greenhouses, museums, and labs.

What's included: tablet with built-in stand, temperature/RH sensor, 6-ft (1.8-m) sensor extension cable, USB cable, wall-mounting bracket, power supply, and NIST-traceable calibration certificate.

Specifications

Memory: 8 GB
Sampling rate: 1 second to 24 hours
Display: 6" x 3½" (15.2 x 8.9 cm) color LCD, with 1024 x 600 resolution
Dimensions (W x H x D): 7⅝" x 4¼" x ⅝" (19.3 x 10.8 x 1.6 cm)
Power: 110 VAC; 2500 mAH rechargeable battery backup

Parameters	Range	Resolution	Accuracy	Catalog number	Price
Temperature	14 to 176°F (–10 to 80°C)	0.1°F (0.1°C)	±0.9°F (0.5°C)	XJ-20250-40	
Humidity	0 to 100% RH, noncondensing	0.1%	±2.0% at 25°C, 20% to 80% RH; ±2.5% for remaining		


Removable sensor allows local or remote measurements using extension cable.

DIGI-SENSE

Accessories

XJ-20250-47 **Additional extension cable for sensor,** 6 ft (1.8 m)

Thermo Scientific™ Nalgene™ Vacuum Desiccator, PC

Won't shatter

- Easily view samples through transparent material
- No need to grease silicone O-ring
- Holds maximum vacuum of 28" Hg for 24 hours
- Order desiccator plate separately



Plate dia (mm)	Total height (mm)	Clearance above plate (mm)	Qty/ pk	Catalog number	Price/pk
230	330	195	1	XJ-06520-05	

XJ-06521-00 **Desiccator plate;** ceramic metal, 230 mm dia
XJ-06520-06 **Replacement stopcock**

Scienceware® Vacuum Desiccators, PP/PC

No need for grease

- Maximize interior space with high crowned lid
- Control vacuum draw via stopcock, holds 29" Hg for 24 hours
- Includes perforated plate
- Room temperature use only—do not autoclave



Plate dia (mm)	Total height (mm)	Clearance above plate (mm)	Qty/ pk	Catalog number	Price/pk
140	206	122	1	XJ-06514-10	
190	260	157		XJ-06514-20	
230	311	198		XJ-06514-30	

Cole-Parmer® Desiccators, PP/PC

Secure, tight seal

- Neoprene O-ring provides tight seal—add grease for complete air tight storage
- Perforated plate holds samples above desiccant
- Chemical resistant body (PP), and polycarbonate cover



Desiccator has a chemical-resistant polypropylene (PP) body and polycarbonate (PC) cover. A neoprene O-ring offers a secure seal. Use grease on the flanges to make the unit completely airtight. Includes PP plate.

Cole-Parmer®

Plate dia (mm)	Total height (mm)	Clearance above plate (mm)	Catalog number	Price
138	204	123	XJ-06525-22	
190	257	166	XJ-06525-24	
248	315	207	XJ-06525-26	

Cole-Parmer® Desi-Vac™ Containers, PC

Easily remove air with built-in pump

- Get tight seal, maintains vacuum >200" H_2O
- Easily release vacuum via quick release button
- Ideal for airtight sample storage



Self-contained polycarbonate containers are ideal for drying, preserving, storing, and shipping samples. Built-in vacuum pump removes air via manual strokes. Rubber O-ring ensures a tight seal and maintains a vacuum of >200" H_2O (14.7" Hg) for over 24 hours. Quick-release button allows air back into unit to remove the lid.

Cole-Parmer®

Volume	Dimensions (L x W x H)	Catalog number	Price
700 mL	4¾" x 4⅛" dia (12.1 cm x 10.4 dia cm)	XJ-06525-02	
1500 mL	7⅛" x 4⅛" dia (18.1 cm x 10.4 dia cm)	XJ-06525-06	
3000 mL	8½" x 6½" x 7" (21.6 x 16.5 x 17.8 cm)	XJ-06525-08	

Vacuum Desiccators, Glass

Pull more vacuum

- Holds maximum vacuum of 29.9" Hg
- No need for grease to create tight seal
- Order desiccator plate separately

Warning: Do not heat or subject to pressure.



Plate dia (mm)	Bowl capacity	Total height (mm)	Clearance above plate (mm)	Catalog number	Price
140	2400 mL	239	81	XJ-34548-27	
190	5800 mL	296	115	XJ-34548-28	
230	10,500 mL	344	120	XJ-34548-29	

XJ-06518-30 **Desiccator plate;** porcelain, 140 mm dia
XJ-06518-40 **Desiccator plate;** porcelain, 190 mm dia
XJ-06518-50 **Desiccator plate;** porcelain, 230 mm dia

Wait!
There's More at ColeParmer.com
Find all the product specs you need!

Fluke® 77 IV and 170-Series Digital Multimeters and Kits

Don't sacrifice performance for price

– Wide 1000 V measurement range with manual or automatic ranging
– Min/Max to record signal fluctuations
– Measure more—frequency, capacitance resistance, continuity, and diode

Meters include: test leads and one 9 V battery. Model 179 includes a type K thermocouple probe.

Fluke 179/EDA2 Electronics multimeter combination kit includes: model 179 multimeter, fine point test probes, silicone test leads, heavy-duty hook clips, type K thermocouple probe, magnetic meter hanging kit, and soft carrying case.



Model number		77 IV	175	177	179	179/EDA2 Electronics kit
Catalog number		XJ-20005-71	XJ-26075-01	XJ-20005-67	XJ-26079-01	XJ-26079-04
DC voltage	Range	600 mV to 1000V			600 mV to 1000V	
	Accuracy	±0.3%	±0.15%	±0.09%	±0.09%	
AC voltage	Range	600 mV to 1000V			600 mV to 1000V	
	Accuracy	±2%	±1% of reading		±1% of reading	
DC current	Range	600 mA to 10 A			600 mA to 10 A	
	Accuracy	±1.5%	±1% of reading		±1% of reading	
AC current	Range	600 mA to 10 A			600 mA to 10 A	
	Accuracy	±2.5%	±1% of reading		±1% of reading	
Resistance		600 Ω to 50 MΩ			600 Ω to 50 MΩ	
Capacitance		1 nF to 9999 µF	1000 nF to 9999 µF		1000 nF to 9999 µF	
Compliance		CAT IV 600 V, CAT III 1000 V			CAT IV 600 V, CAT III 1000 V	
Power		One 9 V battery (included)			One 9 V battery (included)	
Price						

Portable Gauss/Tesla Meter

Get benchtop performance in your hand

– Digital signal processor provides the latest measurement technology

These autoranging meters measure in gauss and tesla, and feature auto zero, min/max and peak hold readings, relative mode and buit-in software for easy field calibration.

Model 20001-29 also measures in ampere/meters and features an analog output and USB communication port for downloading measurements to your PC.

What's included: 4" (10.2 cm) L transverse probe, zero gauss chamber, four AA batteries, and carrying case.



Model		5170	5170 W/STD18-040
Catalog number		XJ-20001-28	XJ-20001-29
Gauss	Range	200 G; 2, 20 kG	300 G; 3, 30 kG
	Resolution	0.1, 1.0, 10 G	0.1, 1.0, 10 G
Tesla	Range	20, 200 mT; 2T	30, 300 mT; 3 T
	Resolution	10, 100 µT; 1 mT	10, 100 µT; 1 mT
Ampere/ meters	Range	—	23, 238, 2388 kA/m
	Resolution	—	0.01, 0.1, 1 kA/m
Accuracy		±2%	±1%
Bandwidth		0 to 20 kHz	0 to 40 kHz
Outputs		—	±3 V, USB
Power		Four AA batteries (included)	
Price			

XJ-09376-01 **Replacement batteries,** AA. Pack of 4
XJ-20043-27 **Repl. transverse probe** for model 20001-28; 4"L
XJ-20001-31 **Repl. transverse probe** for model 20001-29; 4"L
XJ-20001-30 **Axial probe** for model 20001-28; 4"L
XJ-20043-28 **Axial probe** for model 20001-29; 4"L

Fluke® 80V-Series Industrial Multimeters

No more guessing at problems

– Diagnostic functions provide more problem-solving power
– Selectable filter accurately measures voltage and frequency on motor drives
– Withstand 8000 volt spikes caused by load switching on industrial circuits
– Auto and manual ranging for maximum flexibility during testing.
– Capture variations with Min/Max and average readings



What's included: test leads, alligator clips, holster, and one 9 V battery. Model 87V includes a temperature probe. Kit 87V/E2K includes removable test probes, a magnetic hanger, temperature probe, and case.

Model number		83V	87V	87V/E2Kit
Catalog number		XJ-26083-02	XJ-26087-02	XJ-26087-12
DC voltage	Range	600 mV to 1000 V	600 mV to 1000 V	
	Accuracy	±0.1% of reading + 1 digit	±0.05% of reading + 1 digit	
AC voltage	Range	600 mV to 1000 V	600 mV to 1000 V	
	Accuracy	±0.5% of reading + 2 digits	±0.7% of reading + 2 digits	
DC current	Range	60 mA to 10 A	60 mA to 10 A	
	Accuracy	±0.4% of reading + 2 digits	±0.2% of reading + 2 digits	
AC current	Range	60 mA to 10 A	60 mA to 10 A	
	Accuracy	±1.2% of reading + 2 digits	±1.0% of reading + 2 digits	
Resistance		600 Ω to 50 MΩ	600 Ω to 50 MΩ	
Capacitance		10 nF to 9999 µF		
Compliance		CAT III 1000 V, CAT IV 600 V		
Power		One 9 V battery (included)		
Price				

Extech® Heavy-Duty Industrial Multimeters

Ignore challenging environments—double-molded rugged case

- Rugged design withstands drops up to 6 feet
- Double-molded IP67-rated design provides waterproof protection
- Model 20034-48 features data acquisition mode for real-time data transmission to your PC
- Model 20034-49 includes a built-in noncontact infrared thermometer with laser pointer for added versatility



Rugged, waterproof design is drop proof tested to 6 ft and meets IP67 rating





These heavy-duty industrial multimeters provide 1000 V input protection on all functions and a diode open circuit voltage of 2.8 VDC. Additional features include dual sensitivity frequency functions, auto power-off with disable feature, min/max, relative, data hold, and a large backlit LCD with bar graph for easy operator interpretation.

What's included: double-molded test leads, magnetic hanging strap, carrying case, and one 9 V battery. Models with temperature include a type K bead wire temperature probe. Model 20034-48 also includes PC software and remote receiver with USB cable.

True RMS

Model	EX503	EX505	EX520	EX530	EX540	EX570
Catalog number	XJ-26852-16	XJ-26852-18	XJ-26852-22	XJ-26852-24	XJ-20034-48	XJ-20034-49
Averaging / True RMS	Averaging	True RMS	True RMS	True RMS	True RMS	True RMS
Basic accuracy	0.5%		0.09%	0.06%	0.06%	
DC voltage	0.1 mV to 1,000 VDC		0.1 mV to 1,000 VDC	0.01 mV to 1,000 VDC	0.01 mV to 1000 VDC	
AC voltage	0.1 mV to 1,000 VAC		1 mV to 1,000 VAC	0.1 mV to 1,000 VAC	0.1 mV to 1000 VAC	
DC/AC current	0.1 µA to 10 A		0.1 µA to 20 A	DC: 0.01 µA to 20 A AC: 0.1 µA to 20 A	0.01 µA to 20 A	
Resistance	0.1 Ω to 40 MΩ		0.1 to 60 MΩ	0.01 to 40 MΩ	0.01 Ω to 40 MΩ	
Capacitance	0.01 nF to 100 µF		0.01 nF to 1000 µF	0.001 nF to 40 mF	0.001 nF to 40 mF	0.001 nF to 10,000 µF
Frequency (electrical)	5 Hz to 1 kHz		10 Hz to 400 Hz	40 Hz to 400 Hz	40 to 400 Hz	
Frequency (electronic)	0.001 Hz to 10 MHz	0.001 Hz to 10 MHz	0.001 Hz to 40 MHz	0.001 Hz to 100 MHz	0.001 Hz to 100 MHz	0.0001 Hz to 40 MHz
Temperature (T/C)	—	–50 to 1382°F (–45 to 760°C)	–50 to 1382°F (–45 to 750°C)	–50 to 1382°F (–45 to 750°C)	–50 to 1382°F (–45 to 750°C)	
Temperature (IR)	—	—	—	—	—	–22 to 1022°F (–30 to 550°C)
Compliance	CE/UL/CAT IV - 600 V, CAT III - 1000 V		CE/UL/CAT IV - 600 V, CAT III-1000 V		CE/UL/CAT IV-600 V, CATIII-1000 V	
Price						

XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4

XJ-17090-00 **NIST-traceable calibration** with data

FLIR® 600 A AC/DC Thermal Imaging Clamp Meter

Quickly identify problems you can't see with a standard clamp meter!

NEW



- IGM™ infrared technology visually guides you to the precise location of a potential electrical problem
- Work safely—scan a panel or cabinet for hazards using IGM without direct contact
- Confirm findings with accurate amperage and voltage measurements, and center-point temperature readings
- Get into difficult locations with narrow 1⅜" (3.5 cm) jaw and compact form
- Laser and crosshair pinpoint problem locations through thermal images
- Verify problems, check load, and validate hot spots quickly and easily

What's included: silicone test leads and four AAA batteries.

Model number	CM174
Catalog number	XJ-20050-92
AC current	0.1 to 600 A
Basic AC A accuracy	±2.0%
DC current	0.1 to 600 A
AC voltage	0.1 mV to 1000 V
DC voltage	0.1 mV to 1000 V
Resistance	0.1 to 6000 Ω
Capacitance	0 to 1000 µF
Frequency	0 to 60 kHz
Temperature range	–13 to 302°F (–25 to 150°C)
Temperature accuracy	±5.4°F (3°C) or ±3% of rdg
Thermal image resolution	4800 pixels (60 x 80)
Field of view (V x H)	38.6° x 50.0°
Distance-to-spot ratio	30:1
Spectral response	8 to 14 µm
Emissivity	Four presets with custom adjustment
Price	

Accessories

XJ-20048-92 **Flex current probe,** 10" (25 cm)
XJ-20048-94 **Flex current probe,** 18" (45 cm)
XJ-09376-00 **Replacement batteries,** AAA. Pack of 12
XJ-17090-04 **NIST-traceable calibration** with data

Digi-Sense™ Industrial Digital Multimeters

Tough enough to handle your heavy-duty jobs

NEW

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Durable, impact-resistant housing is IP67 rated
- Bright, large 4000-count LCD with backlight
- Flashing red LED alerts you to presence of live voltage
- Automatically select the optimal measuring range with autoranging feature



Our industrial digital multimeters offer "must-have" measurements including 10 A AC/DC current, 1000 V AC/DC voltage, capacitance, and frequency. Plus you'll work more efficiently with advanced features such as diode testing, continuity check with audible buzzer, noncontact voltage detection, Hold function, overrange and low-battery indication, and auto power-off. Handy tilt stand allows hands-free viewing.

Model 20250-53 also provides relative and % duty cycle measurements. True RMS model 20250-54 provides improved reading accuracy in the presence of harmonic distortions present in electrical loads, and adds temperature measurement via a type K thermocouple, Max/Min and Peak hold functions, and an analog bar graph for viewing trends.

What's included: test leads, type K temperature probe (20250-54 only), carrying case, 9 V battery, and NIST-traceable calibration report.

DIGI-SENSE™ CE IP67 IEC 1010-1 CAT III 1000V IEC 1010-1 CAT IV 600V

Description	Industrial DMM	True RMS Industrial DMM
Catalog number	XJ-20250-53	XJ-20250-54
AC current	10 A	10 A
DC current	10 A	10 A
AC voltage	1000 V	1000 V
DC voltage	1000 V	1000 V
Resistance	40.00 MΩ	40.00 MΩ
Capacitance	40.00 mF	40.00 mF
Frequency	10.00 MHz	10.00 MHz
Duty cycle	0.1 to 99.9%	—
Continuity	Yes	Yes
Diode	Yes	Yes
Temperature (type K thermocouple)	—	–4 to 1400°F (–20 to 760°C)
Display	4000-count LCD	4000-count LCD with analog bar graph
Dimensions (L x W x H)	7 3/16" x 3 1/4" x 2 3/16" (18.2 x 8.2 x 5.5 cm)	
Power	One 9 V battery (included)	
Price		

Accessories

XJ-17090-00 **NIST-traceable recalibration** with data

Digi-Sense™ Compact Digital Multimeters

Pocket sized—have on hand wherever you go

NEW

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Stay safe and prevent damage with overload protection
- Increased durability with double-molded plastic housing
- Tilt stand for easy hands-free viewing



Versatile, simple-to-use digital multimeters safely measure common ranges of voltage, current, and resistance, and are packaged in a very convenient compact size. They feature diode testing, continuity check with audible buzzer, overrange and low-battery indication, and auto power-off.

Model 20250-50 offers manual ranging and measures AC and DC voltage to 600 V, resistance with continuity and diode function, and DC current to 10 A. Plus a dedicated battery test function lets you check the quality of your 9 V and 1.5 V batteries.

Full-featured model 20250-51 also measures AC current to 10 A, capacitance, frequency, duty cycle, and temperature via a type K thermocouple probe. An autoranging feature automatically selects the optimal measuring range for maximum resolution. Plus you'll work more efficiently with the data Hold and relative functions.

What's included: test leads, type K temperature probe (20250-51 only), carrying case, 9 V battery, and NIST-traceable calibration report.

DIGI-SENSE™ CE IEC 1010-1 CAT III 600V

Description	Manual ranging DMM	Autoranging DMM
Catalog number	XJ-20250-50	XJ-20250-51
AC current	—	10 A
DC current	10 A	10 A
AC voltage	600 V	600 V
DC voltage	600 V	600 V
Resistance	2.000 MΩ	40.00 MΩ
Capacitance	—	200.0 µF
Frequency	—	9.999 MHz
Duty cycle	—	0.1 to 99.9%
Continuity	Yes	Yes
Diode	Yes	Yes
Temperature (type K thermocouple)	—	–4 to 1400°F (–20 to 760°C)
Display	2000-count LCD	4000-count LCD
Dimensions (L x W x H)	5/8" x 2 3/4" x 1 7/8" (15 x 7 x 4.8 cm)	
Power	One 9 V battery (included)	
Price		

Accessories

XJ-17090-00 **NIST-traceable recalibration** with data

Digi-Sense™ 3-in-1 Digital Multimeter

Calculate core electrical measurements

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Practical—DMM, NCV, and flashlight in one compact unit
- Autoranging for quick measuring
- CAT III-1000 V and CAT IV-600 V safety ratings

What's included: permanently attached test leads, two AAA batteries, and NIST-traceable calibration report.

NEW



DIGI-SENSE™

Description	3-in-1 digital multimeter
Catalog number	XJ-20250-52
DC voltage	200 mV to 600 V
AC voltage	2.000 to 600 V
DC current	200.0 µA to 200 mA
AC current	200.0 µA to 200.0 mA
Resistance	200.0 Ω to 20.00 MΩ
Continuity	Yes
Diode test	Yes
Display	3½ digit, 2000-count LCD
Dimensions (L x W x H)	4" x 2 3/16" x 1 5/16" (10.4 x 5.5 x 3.3 cm)
Power	Two AAA batteries (included)
Price	

Accessories

XJ-09376-00 **Replacement batteries,** AAA, 1.5 V. Pk of 12
XJ-17090-00 **NIST-traceable recalibration** with data

Digi-Sense™ Insulation Tester

Feel safe with multiple safety features

NEW



- Live circuit detection prevents testing if voltage is present
- Automatic discharge of stored voltage for added protection
- Data Hold and test lock functions allow hands-free operation
- View measurements clearly on large dual-line backlit LCD, check trends on analog bar graph

What's included: test leads, plastic carrying case, and six AA batteries.

DIGI-SENSE™

Description		Insulation tester
Catalog number		XJ-20250-60
Insulation resistance	Range	4, 40, 400, 4000 MΩ
	Resolution	1 KΩ to 1 MΩ
	Accuracy	±2.0% ± 6
AC voltage	Range	750 V
	Max resolution	1 V
	Accuracy	±1.2% ± 10
DC voltage	Range	1000 V
	Resolution	1 V
	Accuracy	±0.8% ±3
Resistance	Range	40 to 400 Ω
	Resolution	0.01 to 0.1 Ω
	Accuracy	±1.5% ±6
Test voltage and current		125 V, 250 V, 500 V, 1000 V, and 1 mA nominal
Continuity test		Active sound level: ≤40 Ω, Test current: ≤200 mA
Power		Six AA batteries (included)
Price		

Fluke® Electrician's Multimeters

Compact True RMS multimeters for commercial applications



- Ideal for general electrical, HVAC, utility, and field service applications
- Feature True RMS, auto/manual ranging, resistance, continuity/diode test, Min/Max/Avg recording, display hold
- Model 117 features noncontact voltage detector capability with automatic AC/DC voltage selection
- Model 116 has built-in thermometer and temperature probe included for HVAC applications
- Model 115 features 40 MΩ resistance measurement capability

Model no.	Description	Cat. no.	Price
117	Commercial electricians True RMS multimeter	XJ-26016-32	
116	HVAC/R True RMS multimeter	XJ-26016-20	
115	Service technicians True RMS multimeter	XJ-26016-30	
—	NIST-traceable calibration	XJ-17090-00	

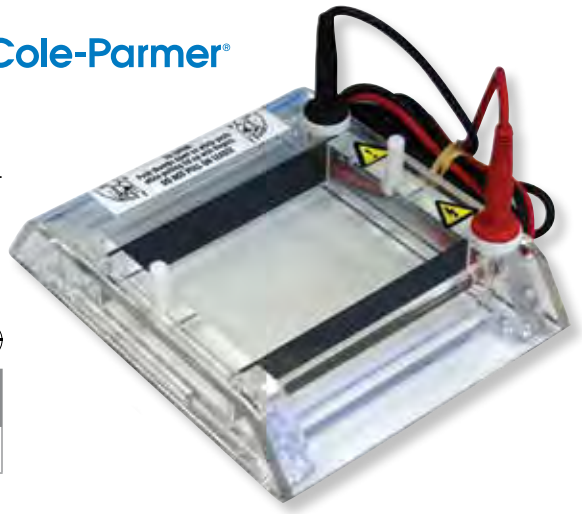
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Cole-Parmer® Horizontal Mini-Quick Gel Electrophoresis System

Stop waiting for results—takes less than an hour

– Save on reagents—require maximum of 50 mL of agarose
– Monitor sample easily with UV transparent base
– Minimize prep work—cast gels easily with snap-in PVC dams

The mini-quick horizontal system is designed for easy, simple, and safe runs. The uniplanar design has a buffer chamber only slightly longer than the gel itself, minimizing the amount of buffer required. Use one or two comb positions for up to a max of 40 sample output. Get elution of DNA in dialysis bags in less than fifteen minutes.



What's included: UV transparent base with grooves for gel casting dams, built-in storage compartment, two gel casting dams, and safety cover with attached leads. Two PVC combs are included with the system; specify comb size at time of order. Order additional comb sizes or gel casting dams below.

Gel size (W x L)	Buffer required (mL)	Cell dimensions (L x W x H)	Voltage limit	Catalog number	Price
7.5 x 10 cm	50	6 1/16" x 5 1/2" x 3 1/8" (17 x 14 x 8 cm)	100 VDC	XJ-28559-20	

Combs

Number of wells	1.0-mm combs			2.0-mm combs		
	Catalog number	Maximum vol./well	Price	Catalog number	Maximum vol./well	Price
4	XJ-28559-90	82 µL		XJ-28559-94	163 µL	
8	XJ-28559-91	36 µL		XJ-28559-95	72 µL	
16	XJ-28559-92	13 µL		XJ-28559-96	26 µL	
20	XJ-28559-93	22 µL		XJ-28559-97	44 µL	

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ColeParmer.com/Electrophoresis

Cole-Parmer® Horizontal Mid-Size Gel Electrophoresis Systems

Faster sequencing with reduced gel path

– No need for sealing or taping with tapered-baffle design
– No more floating gels with anchors within UV-transparent tray
– Pour two gels simultaneously with optional gel casters



What's included: safety cover with attached power leads; tapered baffles for casting gels, UV-transparent gel tray, and long-life platinum electrodes.

Gel size (W x L)	Buffer required	Cell dimensions (L x W x H)	Catalog number	Price
14 x 10 cm	700 mL	8½" x 6½" x 5½" (21.6 x 16.5 x 14.0 cm)	XJ-28560-00	
14 x 16 cm	750 mL	10¾" x 6½" x 5½" (27.3 x 16.5 x 14.0 cm)	XJ-28560-10	
14 x 20 cm	1500 mL	13¾" x 6" x 4" (34.9 x 15.2 x 10.2 cm)	XJ-28561-00	

Gel Sealing Tape for sealing glass plate assemblies.

XJ-28565-40 **Gel sealing tape;** 1" (2.5 cm) wide.
Roll of 72 yards (66 m)
XJ-28565-41 **Gel sealing tape;** 1½" (3.8 cm) wide.
Roll of 72 yards (66 m)

Combs are single sided and height adjustable; available in three thicknesses to accommodate different sample volumes. The 13- and 27-well combs are spaced to allow sample loading with multi-channel pipettors.

Number of wells	1.0-mm combs	1.5-mm combs	2.0-mm combs	Price
	Catalog number	Catalog number	Catalog number	
10	XJ-28560-50	XJ-28560-55	XJ-28560-60	
13	XJ-28560-51	XJ-28560-56	XJ-28560-61	
16	XJ-28560-52	XJ-28560-57	XJ-28560-62	
20	XJ-28560-53	XJ-28560-58	XJ-28560-63	
27	XJ-28560-54	XJ-28560-59	XJ-28560-64	

Gel Trays let you pour gels in the unit using the tapered baffles; outside of the unit by taping the ends of the tray; or outside of the unit using gel casters (sold below). Trays are UV-transparent acrylic. Multiple comb slots let you cast gels for simultaneous short runs.

XJ-28560-70 **Gel tray** for model 28560-00.
With two comb slots; pathlength of 3.6 cm/slot
XJ-28560-72 **Gel tray** for model 28560-10.
With four comb slots; pathlength of 3.1 cm/slot
XJ-28561-50 **Gel tray** for model 28561-00. With six comb slots, pathlength of 2.6 cm/slot

Gel Casters allow you to precast consistently flat, even gels using the gel trays sold above. Casters accommodate either one or two trays. Casters feature a three-point leveling base and soft, coated neoprene side gaskets that secure trays in place and effectively seal their ends during casting—eliminating the need for taping.

Number of places	For 28560-00	For 28560-10	For 28561-00	Price
	Catalog number	Catalog number	Catalog number	
1	XJ-28560-74	XJ-28560-78	XJ-28561-60	
2	XJ-28560-76	XJ-28560-79	XJ-28561-62	

Extech® Digital Sound Level Meters

Maintain safer noise levels

– Ideal for product noise reduction

Model 407730 features recording of Min/Max values over time, auto power off and Max Hold functions, analog bar graph with 50 dB Range, and is tripod mountable (optional tripod).

Model 407732 with Backlit Display meets IEC 651 Type 2 and ANSI S1.4 Type 2 standards.

What's included: Microphone windscreen and battery.

Kit includes: 407732 sound meter, microphone wind screen, calibration screw driver, 9 V battery, plus sound calibrator with two 9 V batteries and screwdriver supplied in a hard carrying case.

CE

Description	Type 1	Dual-range Type 2 meter only	Dual-range Type 2 meter kit	Dual-range Type 2 meter kit with NIST-traceable calibration
Model number	407730	407732		
Catalog number	XJ-40425-32	XJ-50509-82	XJ-50510-74	XJ-50509-78
Range	40 to 130 dB	Low: 35 to 100 dB; High: 65 to 130 dB		
Resolution	0.1 dB	0.1 dB		
Accuracy	±2 dB	±1.5 dB		
Display	2000-count LCD	2000-count LCD		
Weighting	A and C	A and C		
Response time	Fast/slow	Fast/slow		
Output	AC analog	—		
Power	One 9 V battery	One 9 V battery		
Price				



40425-32 50509-82

XJ-50509-86 **Sound level calibrator,** 94 dB
XJ-90415-32 **Tripod**
XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4
XJ-17101-53 **NIST-traceable calibration** for Type 2 meter

Digi-Sense™ Precalibrated Data Logging Light Meter

Don't get blinded—ensure safe environmental conditions

– Have confidence in your readings—precalibrated before you get it!
– Perfect for most applications—measures from 0 to 400 klux
– Count on your reading—accurate to ±3% with silicon photo diode and spectral response filter
– Record and analyze your data for future recall—stores up to 87,000 measurements
– More in-depth data analysis with included software right on your desktop



DIGI-SENSE™

Description	Data logging light meter
Catalog number	XJ-20250-00
Range	0 to 400,000 lux; 0 to 40,000 ftc
Resolution	0.01 lux/ftc
Accuracy	±3% rdg ±0.5% full-scale (<10,000 lux), ±4% rdg ± 10 digits (>10,000 lux)
Data logging	Up to 87,000 measurements
Functions	Data logging, record/recall, Min/Max/Hold, auto power-off
Output	USB
Power	Three AAA batteries (included)
Price	

Illuminance Meters

Get accurate measurements of next-generation lamps

– Don't worry about multipoint measurement needs—provides 2 to 30 points of data
– Get in hard-to-reach places with mini-receptor on T-10MA
– Conform to Class AA of JIS C 1609-1

Use the optional data management software to import your measurements into Excel® for report generation and analysis.

What's included: one mini-cap, carrying strap, carrying case, and two AA batteries.



Description	T-10A with integral sensor	T-10MA with remote mini-receptor
Catalog number	XJ-50537-07	XJ-50537-08
Range (illuminance)	fc: 0.001 to 29,990; Lux: 0.01 to 299,900	
Range (integrated illuminance)	Lux: 0.01 to 999,900 x 10^3 lux h .01 to 999,900 x 10^3 fc h / 0.001 to 9999 h	
Resolution	0.001 fc/lux	
Accuracy	±2% ±1 digit of displayed value	
Auto-range	Five manual ranges at the time of analog output	
Cosine response (f_2)	Within 3%	
User calibration function	CCF (color correction factor) setting function: measurement value = 0.500 to 2.000	
Digital output	USB	
Analog output	1 mV / digit, 3 V at max reading; output impedance: 10 kΩ; 90%; response time: 28 ms	
Power	Two AA batteries (included)	
Price		

XJ-50537-09 **Optional data management software**
XJ-09376-01 **Replacement batteries,** AA. 4/pk
XJ-17101-44 **NIST-traceable calibration** with data

Environmental Express® HotBlock® Digestion Systems

Perform digestions faster, cleaner, and more reliably

- Eliminate corrosion and sample contamination—made of PTFE-coated graphite and other nonmetallic materials
- No additional cables or controllers—all electronics housed below unit
- Get uniform heating to all samples, up to 150°C
- Easily transport samples with included polycarbonate transfer racks

HotBlock digestion systems are EPA approved for all methods approved for hot plate digestions including, but not limited to, methods 3005, 3010, 3050B, 200.2, 200.7, 200.8, 7470A, 7471A, 245.1 and 245.7.

HotBlock®

240 VAC models



Sample size†	Number of wells	Uniformity	Maximum temperature	Dimensions (W x H x D)	Power			Catalog number	Price
					VAC	Hz	Amps		
15 mL	96	±2.7°F (1.5°C)	302°F (150°C)	15" x 9" x 21½" (38 x 23 x 54 cm)	120	60	13	XJ-53205-00	
50 mL	36	±2.7°F (1.5°C)	302°F (150°C)	15" x 9" x 15" (38 x 23 x 38 cm)	120	60	9	XJ-53205-02	
					240	50	5	XJ-53205-03	
50 mL	54	±2.7°F (1.5°C)	302°F (150°C)	15" x 9" x 21½" (38 x 23 x 54 cm)	120	60	13	XJ-53205-04	
					240	50	7	XJ-53205-05	
100 mL	25	±2.7°F (1.5°C)	302°F (150°C)	15" x 9" x 15" (38 x 23 x 38 cm)	120	60	9	XJ-53205-06	
					240	50	15	XJ-53205-07	
100 mL	35	±2.7°F (1.5°C)	302°F (150°C)	15" x 9" x 21½" (38 x 23 x 54 cm)	120	60	13	XJ-53205-08	
					240	50	9	XJ-53205-12	

†Order PP cups separately on page 49.

Environmental Express® HotBlock® 200 Digestion Systems

Get uniform heating to all samples, up to 200°C

- Eliminate corrosion and sample contamination—made of PTFE-coated graphite and other nonmetallic materials
- Easily transport samples with included polycarbonate transfer racks
- Mount external controller safely outside the hood

Perform a wider range of experiments and digestions with the expanded temperature range—up to 200°C. The HotBlock 200 digestion system is available with 25 to 96 wells, and accepts cup sizes of 15, 50, or 100 mL. Blocks and controllers are sold separately.

Easy-to-use external controllers feature automatic shut-off, alarms, and ability to save profiles with ramp and soak settings. Dual-block controller 53206-02 can control up to two heating blocks independently and simultaneously. Safely place the controller outside the fume hood—mount to a metal surface using magnets, in an electrical outlet, or place on a benchtop.

Note: Use glass or PTFE digestion cups when operating at temperatures above 130°C.

NEW



REQUIRED System Components

1) Heating block
2) Controller

Specifications

Temperature range: ambient to 200°C
Temperature uniformity: ±0.2°C
Temperature resolution: 0.1°C
Temperature element: RTD

HotBlock®

1. Heating Blocks

Sample size†	Number of wells	Dimensions (L x W)	Power		Catalog number	Price
			VAC	Amps		
15 mL	96	21½" x 15" (54.6 x 38.1 cm)	120	9	XJ-53206-04	
50 mL	36	15" x 15" (38.1 x 38.1 cm)	120	9	XJ-53206-06	
	54	21½" x 15" (54.6 x 38.1 cm)	120	9	XJ-53206-08	
100 mL	25	15" x 15" (38.1 x 38.1 cm)	120	9	XJ-53206-10	
	35	21½" x 15" (54.6 x 38.1 cm)	120	9	XJ-53206-12	

†Order PP cups separately on page 77; only for use up to 130°C.

2. Controllers

Number of blocks accepted	Dimensions (L x W)	Power (VAC)	Catalog number	Price
1	6" x 7" (15.2 x 17.8 cm)	120	XJ-53206-00	
2			XJ-53206-02	

Environmental Express® HotBlock® Hot Plate

Heat vessels with flat bottoms with ease

- Durable graphite and Kydex® construction
- Uniform heating of samples
- Low-wattage mat uses a maximum of 1065 watts of power

HotBlock®



Temperature range	Dimensions (W x H x D)	Power			Catalog number	Price
		VAC	Hz	Amps		
Ambient to 302°F (150°C)	15" x 9" x 21½" (38 x 23 x 54 cm)	120	60	14	XJ-53205-10	
		240	50	7	XJ-53205-11	

Polycarbonate Transfer Racks

Safely place multiple samples into heating block

- No more moving one sample at a time
- Resists heat and acids



Description	Sample size	Number of racks/pk	Catalog number	Price/pk
(3) 32-place racks	15 mL	3 racks	XJ-53205-49	
(1) 18-place rack	50 mL	1 rack	XJ-53201-11	
(1) 15-place and (1) 10-place rack	100 mL	2 racks	XJ-53201-13	
(1) 15-place and (2) 10-place rack	100 mL	3 racks	XJ-53205-48	

Ribbed Watch Glasses

Achieve partial reflux during digestion

- Easily place and remove watch glass with center stem
- Free of contaminants—made of polypropylene



Description	Diameter	Catalog number	Qty/pk	Price/pk
For 15-mL digestion cups	19.5 mm	XJ-53201-02	1000	
For 50-mL digestion cups	44 mm	XJ-53201-04	1000	
For 100-mL digestion cups	52 mm	XJ-53201-08	500	

Disposable Reflux Cap

Center hole for smooth addition of reagents

- Fits 50-mL digestion cup
- Achieve equal reflux as the ribbed watch glasses



Diameter	Catalog number	Qty/pk	Price/pk
34 mm	XJ-53201-06	1000	

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Environmental Express® Digestion Cups

Graduated for better sample dilutions

- Cups that act as a digestion vessel, graduated cylinder, or storage container and fit perfectly into the HotBlock® systems
- Certified with low metals background and EPA approved for digestions

Environmental Express digestion cups are approved for hot plate digestions†, and certified for volume to 0.5%. The accurate graduations eliminate the need for graduated cylinders and transfer steps, saving you both time and labor costs. The clarified homopolymer polypropylene (PP) construction has greater chemical resistance and heat tolerance than commonly used co-polymer polypropylene.

All cups include a Certificate of Analysis for 68 trace metals—only metals-free materials come in contact with your sample. The Ultimate Clean Cup comes in packaging to ensure ready-to-use arrival and are further trace-metal analysis certified to parts-per-billion and parts-per-trillion levels.

The Ultimate Clean Cup™ and the Ultimate Cup™ vessels have been redesigned for increased durability, stability, and a tighter seal. The Ultimate Cup also comes in a Rack Lok version for simple one-handed cap placement and removal.

†Approved for, but not limited to, EPA Methods 3005, 3010, 3050B, 200.2, 200.7, 200.8, 7470A, 7471A, 245.1, and 245.7.

NEW



ENVIRONMENTAL EXPRESS®
a Cole-Parmer company

Description	Total capacity	Graduations	Dimensions	Cap	Catalog number	Qty/cs	Price/cs
15-mL digestion cup	18 mL	To 15 mL	17.5 x 105 mm	Natural, no liner	XJ-53201-01	1000	
50-mL Ultimate Clean Cup digestion cup	68 mL	To 50 mL	30 x 106 mm	Natural, no liner	XJ-53204-17	150	
50-mL Ultimate Cup digestion cup	68 mL	To 50 mL	30 x 106 mm	—	XJ-53203-03	500	
				Green with PE liner	XJ-53203-13	500	
				White with PE liner	XJ-53203-15	500	
				Natural, no liner	XJ-53203-17	500	
50-mL Ultimate Cup digestion cup with Rack Lok	68 mL	To 50 mL	30 x 106 mm	—	XJ-53203-23	500	
				White with PE liner	XJ-53203-25	500	
				Natural, no liner	XJ-53203-27	500	
100-mL digestion cup	125 mL	To 100 mL	46 x 100 mm	White with PE liner	XJ-53201-07	225	

Environmental Express® FilterMate® Filtration Systems

Eliminate sample transfer—filter and digest in the same cup

- Filter 15- and 50-mL samples within sample cups
- Simple to use—attach FilterMate plunger to filter assemby, then press down on plunger
- No need for separate filtration devices before analyzing samples

These easy-to-use filtration systems filter within vessels so you don't need to do a separate filtration of sample before analysis.

What's included: 100 filter assemblies and plungers.

FilterMate®





Optional holder keeps FilterMate stable

Membrane type	Pore size (µm)	Lot certified	Applications	Catalog number	Qty/pk	Price/pk
PTFE-faced polypropylene	2	No	Most laboratory applications	XJ-35202-00	100	
Acid-washed glass fiber with polyethylene frit	0.7	No	TCLP extractions	XJ-35202-01	100	
PVDF with PTFE prefilter	0.45	No	Dissolved metals only	XJ-35202-02	100	
Certified PTFE	2	Yes	Trace level analysis	XJ-35202-03	100	
PVDF with PTFE prefilter	0.45	Yes	Dissolved metals only	XJ-35202-04	100	
Polyethylene frit	2	No	Use with 15-mL digestion cups	XJ-35202-05	100	

Accessories

XJ-35202-06 **Holder for FilterMate filtrations,** secures the 50-mL digestion cup during filtration. HDPE material
XJ-35202-07 **Replacement plunger** fits 50-mL cup. Pack of 500

Environmental Express® SimpleDist® Micro Distillation System

Eliminate broken glassware

- Accepts disposable polypropylene distillation tubes—no more costly glass apparatus to clean or replace
- Save time—smaller sample size means quicker distillations
- Reduce waste—requires just 6 mL of sample
- Distills 26 samples simultaneously
- No need for cooling water
- For optimal results, use our disposable micro tubes

The EPA approves the use of micro distillation systems with disposable tubes for reporting of cyanide; system can be adapted for ammonia reporting as well. This high-throughput unit lets you distill 26 samples simultaneously, using only 6 mL of sample per tube. It's quick and easy—everything is done in the micro tube! Simply add sample, heat, and bring the distillate to volume in the collection part of the tube.

SimpleDist® Micro



SimpleDist Micro heating block shown with disposable distillation micro tubes—order tubes separately below.

Description	Number of wells	Temperature range	Power	Catalog number	Price
SimpleDist Micro heating block	26	Ambient to 150°C	120 VAC	XJ-35202-36	
			240 VAC	XJ-35202-38	

Accessories

XJ-35202-86 **Tube press**

Disposable Micro Tubes

- Save time and improve safety in your lab
- Eliminate broken glassware—made of polypropylene with hydrophobic membrane and cap
- No more having to wash distillation tubes—just use and toss!
- Molded-in graduations at 6 mL and 10 mL for easy measuring
- Score line for quick separation of collection tube

Qty/pk	Ammonia tubes		Cyanide tubes		Phenol tubes	
	Cat. no.	Price/pk	Cat. no.	Price/pk	Cat. no.	Price/pk
10	XJ-35202-90		XJ-35202-70		XJ-35202-80	
21	XJ-35202-91		XJ-35202-71		XJ-35202-81	
26	XJ-35202-92		XJ-35202-72		XJ-35202-82	
100	XJ-35202-93		XJ-35202-73		XJ-35202-83	

Environmental Express® SimpleDist® Distillation System

Perform safe and easy ammonia and cyanide distillations

- Minimize cleanup—only glassware to clean is the boiling tube
- No chiller or water lines required—distilled ammonia and cyanide collected right in the trap
- Conforms to established methods—uses the same reagents in the same molar concentrations as EPA Method 335.4 and Standard Method 4500-CN-C for Cyanide as well as EPA Method 350.1 and Standard Methods 4500-NH3 for ammonia

This complete SimpleDist system comes with a 12-place HotBlock® digestion system and a 12-valve manifold kit. Order additional accessories separately to optimize the system for your needs.

SimpleDist®

For HotBlock®

Description	Power	Catalog number	Price
SimpleDist complete 12-valve system	120 VAC, 6 A	XJ-35209-84	
	240 VAC, 3 A	XJ-35209-85	



Description	Cat. no.	Qty/pk	Price/pk
Boiling tube, borosilicate glass, 30 x 200 mm	XJ-35205-72	1	
Tube rack, 12-place	XJ-35209-89	1	
Collection traps, 25 mL	XJ-35209-90	100	
Reagent addition tube with funnel tip	XJ-35209-91	100	
Screw cap, open-top, polypropylene, 38 mm	XJ-35209-92	6	
Black washer, neoprene, for 38-mm screw caps	XJ-35209-93	6	
Two-port cap insert, for 38-mm screw caps	XJ-35209-94	6	
Tubing adapters to fit ¼" ID tubing and cyanide trap	XJ-35209-95	12	
Tubing kit; 12 precut pieces of tubing with adapters pre-inserted in one end	XJ-35209-96	1	

Cole-Parmer® Syringe Filters

Get easy, reliable filtration—just slip on and twist

- Easy identification—membrane type and pore size printed on each filter
- Filter more confidently—filters are 100% integrity tested and manufactured in accordance with ISO 9002 standards
- Get a secure fit—bidirectional membrane support and luer lock inlet/outlet
- Sterile filters are sterilized by gamma irradiation and certified nonpyrogenic, noncytotoxic, and blister packed

Cole-Parmer®

Choose the Right Filter!

Membrane type	Applications
Glass prefilter	One-step prefiltration and filtration. Choose the final membrane to meet your application needs. High particle loading capacity.
Cellulose acetate	Sterilization and clarification of aqueous solutions. Low protein binding.
Nylon	Filtration of organic and aqueous solutions. Low extractables.
PTFE	Sterilization of gases and alcohols; cleaning acids, alkalies, and organic solvents; venting purposes. For aggressive chemicals.
Nitrocellulose	High protein retention; microbiological analysis, waste water treatment; sterilization of aqueous solutions.

Specifications

Membrane dia	Housing type	Sample volume	Retention volume†	Pressure limit at 25°C	Max temp	Effective filtration area
15 mm	PP	≤5 mL	10 µL	87 psi	127°C	1.7 cm^2
25 mm	PP	≤100 mL	0.1 mL	87 psi	127°C	4.8 cm^2
26 mm	Acrylic	≤100 mL	0.1 mL	87 psi	50°C	5.3 cm^2
50 mm	PP	≤2 L	0.5 mL	60 psi	134°C	20 cm^2

†Varies for glass prefilters; see glass prefilter table at left.

Glass Prefilters with Final Filter

- Save time—borosilicate glass fiber prefilter and cellulose filter in one
- Prefilter extends life of final filter by removing particulates from sample
- Reduces retention volume and sample loss



Membrane Type	Membrane Dia	Pore size	Housing	Retention volume	Qty/bx	Catalog number	Price/bx
Nonsterile filters							
Cellulose acetate	26 mm	0.20 µm	Acrylic	0.23 mL	100	XJ-02915-90	
		0.45 µm				XJ-02915-92	
		0.80 µm				XJ-02915-94	
Sterile filter							
Cellulose acetate	26 mm	0.20 µm	Acrylic	0.23 mL	50	XJ-02915-40	

Cellulose Acetate Filters

- Low protein binding—ideal for biological solutions
- Use for sterilization and clarification of aqueous solutions



Pore size	Membrane dia	Housing	Color	Qty/bx	Catalog number	Price/bx
Nonsterile filters						
0.22 µm	26 mm	Acrylic	Blue	100	XJ-02915-60	
0.45 µm			Clear		XJ-02915-58	
0.80 µm			Green		XJ-02915-62	
Sterile filters						
0.22 µm	26 mm	Acrylic	Blue	50	XJ-02915-12	
0.45 µm			Clear		XJ-02915-00	
0.80 µm			Green		XJ-02915-10	

Nylon Filters

- Low levels of extractables with no wetting agents
- Hydrophilic nylon for good chemical resistance—ideal for aqueous and most organics



Pore size	Membrane dia	Housing	Color	Qty/bx	Catalog number	Price/bx
Nonsterile filters						
0.22 µm	25 mm	PP	Natural	100	XJ-02915-16	
0.45 µm					XJ-02915-14	
Sterile filters						
0.20 µm	25 mm	PP	Red	50	XJ-02915-04	
0.45 µm			Natural		XJ-02915-02	

PTFE Filters

- Ideal for aggressive chemicals—organic solvents, concentrated acids and bases, propellants and more
- Use for gas/air filtration
- 50-mm membranes have stepped hose barb connectors for ¼" to ½" ID tubing



Pore size	Membrane dia	Housing	Color	Qty/bx	Cat. no.	Price/bx
Nonsterile filters						
0.20 µm	15 mm	PP	Natural	100	XJ-29550-08	
0.45 µm					XJ-29550-10	
0.20 µm	25 mm	PP	Natural	100	XJ-02915-20	
0.45 µm					XJ-02915-22	
0.20 µm	50 mm	PP	Natural	20	XJ-02915-28	
0.45 µm					XJ-02915-30	
Sterile filters						
0.20 µm	25 mm	PP	Natural	50	XJ-02915-08	
0.50 µm					XJ-02915-06	

Nitrocellulose Filters

- Good for macromolecules—highest protein retention
- Get fast flow rates with aqueous solutions
- Ideal for microbiological analysis, waste water treatment, and sterilzation of aqueous solutions



Pore size	Membrane dia	Housing	Color	Qty/bx	Cat. no.	Price/bx
Nonsterile filter						
0.20 µm	26 mm	Acrylic	Blue	100	XJ-02915-56	
Sterile filters						
0.20 µm	26 mm	Acrylic	Blue	50	XJ-02915-52	
0.45 µm					XJ-02915-53	

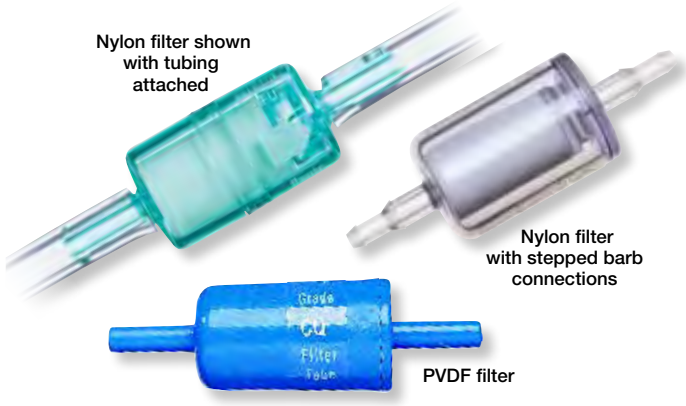
Disposable In-Line Gas/Liquid Filters

Choose opaque PVDF for the best chemical compatibility or transparent nylon for lower cost

Filter gases or liquids with these microfiber filters. All models have a borosilicate glass filter membrane. See table below for applications and efficiency ratings. Liquid efficiency ratings are 98% retention of particles of noted size; gas efficiency ratings are percentage retention of 0.01 µm particles.

Nylon and PVDF filters with ¼" OD and ½" OD ports accept flexible tubing for low-pressure applications; use compression fittings for higher-pressure applications. Models 02909-15, -35, and -55 have a stepped barb connector for secure connection of ¼" and ⅜" ID flexible tubing.

Max pressure for filters with ¼" OD ports is 125 psi (8.5 bar); max pressure for filters with ½" OD ports is 50 psi (3.4 bar). Max differential pressure for all filters is 40 psi (60 psi for 0.01 µm units).



Application	Material	Gas efficiency	Liquid efficiency	Air flow at 2 psi drop at indicated pressure (scfm)			Water flow at indicated pressure drop (GPH)		Max temp (at 0 psi)	Ports	Catalog number	Qty/ pk	Price/ pk
				2 psi	60 psi	100 psi	1 psi	5 psi					
High-purity compressed gas; absolute filtration to 0.01 µm	Nylon	100% at 0.01 µm	—	0.3	1.7	2	—	—	230°F (110°C)	¼" OD	XJ-02917-60	5	
Gas/air filtration—general-purpose use. Liquid filtration—remove most visible particles.	Nylon	93%	25 µm	1.2	5.4	8.3	12	30	230°F (110°C)	¼" OD	XJ-02909-10	5	
	Nylon	93%	25 µm	1.2	5.4	8.3	12	30	230°F (110°C)	¼" and ⅜" barb	XJ-02909-15	10	
	Nylon	93%	25 µm	—	—	—	54	129	150°F (66°C)	½" OD	XJ-02909-17	1	
	Nylon	98%	8 µm	1.0	125	6.9	10	25	230°F (110°C)	¼" OD	XJ-02909-20	5	
	PVDF	93%	25 µm	1.2	5.4	8.3	12	30	275°F (135°C)	¼" OD	XJ-02908-40	5	
	PVDF	98%	8 µm	1.0	125	6.9	10	25	275°F (135°C)	¼" OD	XJ-02908-50	5	
Gas/air filtration—complete oil and water droplet removal. Liquid filtration—remove all visible particles and most colloidal haze.	Nylon	99.99%	2 µm	0.8	3.6	5.4	3	15	230°F (110°C)	¼" OD	XJ-02909-30	5	
	Nylon		2 µm	0.8	3.6	5.4	3	15	230°F (110°C)	¼" and ⅜" barb	XJ-02909-35	10	
	Nylon		2 µm	—	—	—	13	56	150°F (66°C)	½" OD	XJ-02909-37	1	
	Nylon		2 µm	0.8	3.6	5.4	—	—	230°F (110°C)	¼" OD	XJ-02909-40‡	5	
	PVDF		2 µm	0.8	3.6	5.4	3	15	275°F (135°C)	¼" OD	XJ-02908-60	5	
Gas/air filtration—with carbon granules for removal of trace oil vapors	Nylon	99%	—	0.5	2.6	4.0	—	—	180°F (82°C)	¼" OD	XJ-02908-62	10	
Gas/air filtration—with silica gel for removal of water vapor	Nylon	99%	—	0.5	2.6	4.0	—	—	180°F (82°C)	¼" OD	XJ-02908-64‡	10	
Gas/air filtration—with mixed sodium and calcium hydroxides for removal of acidic gases	Nylon	99%	—	0.5	2.6	4.0	—	—	180°F (82°C)	¼" OD	XJ-02908-66	10	
Gas/air sterilizing. Liquid filtration—remove most bacteria.	Nylon	99.9999+%	0.9 µm	0.4	1.8	2.7	1.5	7.3	230°F (110°C)	¼" OD	XJ-02909-50	5	
	Nylon	99.9999+%	0.9 µm	0.4	1.8	2.7	1.5	7.3	230°F (110°C)	¼" and ⅜" barb	XJ-02909-55	10	
	Nylon	99.9999+%	0.3 µm	0.1	0.45	0.68	0.4	1.9	230°F (110°C)	¼" OD	XJ-02909-60	5	
	PVDF	99.9999+%	0.9 µm	0.4	1.8	2.7	1.5	7.3	275°F (135°C)	¼" OD	XJ-02908-80	5	
	PVDF	99.9999+%	0.3 µm	0.1	0.45	0.68	0.4	1.9	275°F (135°C)	¼" OD	XJ-02908-90	5	

‡Turns red when saturated.

Advantec® Filter Holders

Easy assembly

Polypropylene (PP) holders are ideal for ultracleaning and sterilizing liquids under pressure, or for aseptic sampling of liquids and gases. Holders feature PP dual support screens and silicone O-rings. Dual support screens allow for flow in both directions. Assemble holders quickly and efficiently without membrane tears with specially designed inlet cap and exterior lock.

The 25-mm holder features a female luer-lock on the inlet and a male luer-slip on the outlet. The 47-mm holder features a ¼" NPT(M) thread on the inlet and a ¼" NPT(M)-female luer-slip on the outlet. Both are autoclavable.


06623-22


06623-32

Type of holder	Diameter	Catalog number	Qty/ pk	Price/ pk
Syringe	25 mm	XJ-06623-32	6	
In-line	47 mm	XJ-06623-22	1	

XJ-02930-95 **Support screen,** 25 mm. Pack of 8

XJ-06645-90 **Support screen,** 47 mm. Pack of 4

Environmental Express® ProWeigh® and ProWeigh® Double Filters

No more washing, drying, and preweighing filters—it's already done for you!

– Get individual weights immediately—filter ID and weight is printed on each individual pan

– Eliminate loose fibers and inaccurate weights with precise, laser-cut edges

Save time and get faster results with these prepared filters. Each filter is washed, dried, and weighed robotically to the nearest 0.1 mg, then transferred to an aluminum dish that is printed with a barcode and the filter weight. Simply record the weight, filter your sample, dry the filter, and weigh the final product. ProWeigh filters are prepared and approved for use in *Standard Methods*.



Each filter is supplied in an aluminum dish.

ProWeigh Filters for Volatiles are specifically treated for use to determine fixed or volatile solids. After rinsing and drying, the filters are then heated to 550°C in a muffle furnace to drive off any volatile materials. They are then desiccated, weighed to 0.1 mg and quality inspected for accuracy.

ProWeigh Double Filters are weighed twice to ensure accuracy. After the initial weighing and labeling, the filters are reweighed to ensure a stable weight!

ProWeigh®

Standard Methods Approved for (Since 1997):		
Parameter	**EPA Method**	**Standard Method**
Total Dissolved Solids	160.1	2540C
Total Suspended Solids	160.2	2540D
Volatile Suspended Solids	160.4	2540E

Pore size (µm)	Filter size	Catalog number	Qty/pk	Price/pk
ProWeigh filters for total suspended solids (TSS)				
1.5	32 mm	XJ-53200-51	100	
1.5	42 mm	XJ-53200-52	100	
1.5	47 mm	XJ-53200-53	100	
1.5	55 mm	XJ-53200-54	100	
1.5	70 mm	XJ-53200-55	100	
1.5	76 mm	XJ-53200-56	100	
1.5	90 mm	XJ-53200-57	100	
1.5	110 mm	XJ-53200-58	100	
ProWeigh filters for volatiles				
1.5	42 mm	XJ-53200-62	100	
1.5	47 mm	XJ-53200-63	100	
1.5	55 mm	XJ-53200-64	100	
1.5	70 mm	XJ-53200-65	100	
1.5	76 mm	XJ-53200-66	100	
1.5	90 mm	XJ-53200-67	100	
1.5	110 mm	XJ-53200-68	100	
ProWeigh Double filters for total suspended solids (TSS)				
1.5	47 mm	XJ-53200-73	100	
1.5	76 mm	XJ-53200-76	100	
1.5	90 mm	XJ-53200-77	100	
ProWeigh Double filters for volatiles				
1.5	47 mm	XJ-53200-83	100	

No need to prepare your filters before use—it's already done for you!



Each ProWeigh filter is washed under vacuum three times with 20 mL aliquots of deionized water.



Filter drying in horizontal flow mechanical ovens ensures uniform drying with no dead spots.



Cooling in a desiccator provides moisture-free, stable filter weights.



All ProWeigh filters are weighed on certified electronic analytical balances.

Advantec® Mixed Cellulose Ester Membranes

High quality at low prices

– Made from over 90% cellulose nitrate for strength and thermostability

These MCE membranes can be exposed to temperatures up to 266°F (130°C). Ideal for filter sterilizing biological fluids, microbiology, contamination analysis, and air monitoring.



Pore size (µm)	Bubble point (psi)	Flow (L/min/cm²)		13 mm (100/pk)		25 mm (100/pk)		47 mm (100/pk)		90 mm (25/pk)		142 mm (25/pk)		293 mm (25/pk)	
		H_2O†	Air	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
0.10	35.3	0.027	0.67	XJ-06639-25		XJ-06639-28		XJ-06639-31		XJ-06639-34		XJ-06639-41		XJ-36230-81	
0.20	54.5	0.018	2.4	XJ-06639-01		XJ-06639-05		XJ-06639-13		XJ-06639-35		XJ-06639-17		XJ-36230-82	
0.45	35.0	0.045	3.7	XJ-06639-02		XJ-06639-06		XJ-06639-14		XJ-06639-36		XJ-06639-18		XJ-36230-83	
0.80	16.4	0.165	15.0	XJ-06645-30		XJ-06645-32		XJ-06645-34		XJ-06645-36		XJ-06645-38		XJ-36230-84	
1.00	13.9	0.220	20.4	XJ-06639-47		XJ-06639-49		XJ-06639-51		XJ-06639-55		XJ-06639-53		XJ-36230-85	
3.00	10.2	0.300	28.3	XJ-06639-26		XJ-06639-29		XJ-06639-32		XJ-06639-39		XJ-06639-42		XJ-36230-86	
5.00	8.5	0.400	40.9	XJ-06639-27		XJ-06639-30		XJ-06639-33		XJ-06639-40		XJ-06639-43		XJ-36230-87	

†Using water prefiltered to 0.1 µm at 10 psi.



Double-Open-End Liquid Filter Cartridges

A. Bonded Gradient-Density Cartridges. Ideal for removing a broad range of deformable and nondeformable particles. Rigid designs ideal for filtering high-solids, higher-viscosity fluids that require higher differential pressures. Polypropylene fiber medium is thermally bonded to a rigid core for added durability. Cartridges impart no taste, odor or color; suitable to 175°F (79°C).

µm rating, nominal	Flow rate†	Length	Catalog number	Price
1	2 GPM at <2 psid	10" (25.4 cm)	XJ-01512-00	
5			XJ-01512-08	
10			XJ-01512-18	
25			XJ-01512-28	
50			XJ-01512-38	
1	5 GPM at <2 psid	20" (50.8 cm)	XJ-01512-02	
5			XJ-01512-12	
10			XJ-01512-22	
25			XJ-01512-32	
50			XJ-01512-42	

B. String-Wound Gradient-Density Cartridges. Ideal for removing a broad range of deformable and non-deformable particles such as sand, silt, sludge, rust, and scale. String-wind pattern has lower pressure drop for higher flow. Polypropylene string is resistant to chemical and bacterial attack; suitable to 150°F (66°C).

µm rating, nominal	Flow rate†	Length	Catalog number	Price
5	10 GPM at <1 psid	10" (25.4 cm)	XJ-01513-00	
30			XJ-01513-02	
50			XJ-01513-04	

C. Spun Gradient-Density Cartridges. Ideal for removing a broad range of deformable and non-deformable particles such as sand, silt, sludge, rust, and scale. Polypropylene construction is resistant to chemical and bacterial attack. One-micron and five-micron cartridges are certified to NSF Standard 42 for materials and impart no taste, odor, or color. Suitable to 145°F (63°C).

µm rating, nominal	Flow rate†	Length	Cat. no.	Price
1	5 GPM at 0.6 psid	10" (25.4 cm)	XJ-01509-14	/ea
5	5 GPM at 0.2 psid		XJ-01509-15	/pk of 2
1	10 GPM at 0.6 psid	20" (50.8 cm)	XJ-01509-37	/ea
5	10 GPM at 0.6 psid		XJ-01509-40	/ea
25	10 GPM at 0.2 psid		XJ-01509-41	/ea

D. High-Efficiency Pleated Filter Cartridges. The pleated polypropylene (PP) design offers flow rates and dirt-loading capacities higher than spun or wound depth cartridges. Biologically safe and designed to meet FDA requirements for regulated industries. All-PP construction provides broad chemical compatibility. The gradient density microfiber media provides removal of a broader range of particle sizes than typical pleated filters. Suitable to 122°F (50°C).

µm rating, nominal	Flow rate†	Length	Catalog number	Price
0.2	2 GPM at 1 psid	10" (25.4 cm)	XJ-29830-00	
	2 GPM at <1 psid	20" (50.8 cm)	XJ-29830-01	

†psid refers to pounds per square inch pressure drop through the filter system. For optimal performance, change cartridges at 25 psid.
‡To use with aqueous solutions, prewet with methanol, then rinse with water before use.
††Pore sizes for polypropylene cartridges are nominal.
†††Filtration efficiency and chlorine reduction efficiency are reduced at higher flow rates; chlorine capacity based on 75% reduction using 2 ppm free chlorine feed concentration at 68°F (20°C).

E. Extra-Strength Pleated Cellulose Cartridges. This cellulose cartridge is blended with polyester for better wet strength. The polyester material allows more pleats to improve flow and dirt loading. Suitable to 165°F (74°C).

µm rating, nominal	Flow rate†	Length	Catalog number	Price
1	15 GPM at <1 psid	10" (25.4 cm)	XJ-01509-11	
5			XJ-01509-09	

F. Filter Cartridges for Ultrapure Applications. These cartridges are autoclavable to 250°F (121°C) and in-line sterilizable to 257°F (125°C) for up to 30-minute cycles. They are tolerant to an accumulated exposure of 10 hours. The filters may also be sanitized with compatible chemical agents. All cartridges are suitable to 180°F (82°C) at 10 psid.

The cartridges comply with U.S. CFR Title 21 guidelines for repeated food contact, comply with USP Class VI.121°C Plastics guidelines, and pass the MEM Elution Cytotoxicity Test. Aqueous extracts contain less than 0.25 EU/mL.

Multi-Layer Nylon Cartridges. These consist of two pleated nylon membranes with the top acting as a prefilter to increase cartridge life and efficiency.

Glass Microfiber Cartridges. Made of resin-bonded borosilicate glass microfibers that do not leach flavor-altering substances. Meet NSF Standard 53 for the reduction of cysts. Ideal as prefilters to protect membrane filter/RO systems.

Polypropylene (PP) Cartridges. Thermally bonded high-purity PP fiber. Economical for a chemically inert media with high dirt-loading capacity. Suitable for air/gas filtration; FDA-acceptable. Hydrophobic; prewet before liquid filtration.‡

Pleated PTFE Cartridges. Clean room-constructed using thermal welding instead of adhesives or additives. Ideal for the more aggressive liquid or air/gas filtration applications. Hydrophobic; prewet before liquid filtration.‡

Semiconductor Cartridges. Single-layer PES membrane over PP core. Each is flushed with high-purity water to leach less than 5 ppb TOC and less than 5 ppb trace metals. Ideal for any high-purity chemical or DI water application.

Cartridge type	µm rating††	Length	Catalog number	Price
Serial nylon	0.2	10" (25.4 cm)	XJ-06479-16	
	0.45		XJ-06479-20	
Glass fiber	3.0	10" (25.4 cm)	XJ-06479-24	
Polypropylene	1.0	10" (25.4 cm)	XJ-06479-32	
	3.0		XJ-06479-36	
Polypropylene	5	10" (25.4 cm)	XJ-06479-40	
	10		XJ-06479-44	
PTFE	0.1	10" (25.4 cm)	XJ-06479-48	
	0.2		XJ-06479-52	
Semiconductor	0.2	10" (25.4 cm)	XJ-06479-60	

G. Economical Carbon-Impregnated Cartridges. These cellulose cartridges remove organic tastes/odors and chlorine, plus reduce sediment. Best suited for chemically neutral waters with lower chlorine concentrations. The 10" cartridge can treat approximately 2500 gallons at 1 GPM for chlorine†††. The 10" cartridge meets NSF Standard 42 for materials. Suitable to 125°F (52°C).

µm rating, nominal	Flow rate‡‡	Length	Catalog number	Price
5	5 GPM at 4.0 psid	10" (25.4 cm)	XJ-01509-25	
	5 GPM at 1.0 psid	20" (50.8 cm)	XJ-01509-27	

Cole-Parmer® High-Flow Bottletop Filtration Systems

Eliminate leakage with molded one-piece funnel design

NEW

- Extra space in the bottle allows up to a 15% dilution
- Polystyrene funnel and bottle have large raised graduations for easy reading
- Entire assembly is gamma sterilized



Large-diameter 0.2 µm PES membrane covers the entire round bottom of the funnel, allowing you to obtain high throughput and fast flow rates. Cap features write-on surface and gripping area for easy handling. Receiving bottle also features molded-in finger grips.

Connect the funnel to a vacuum hose in three separate ways. Use the included vacuum hose adapter to make a direct connection. Order the optional pedestal or cradle ring to create a convenient docking station for hands-free filtering.

Cole-Parmer®

STERILE

Decription	Capacity	Pore size	Membrane dia	Catalog number	Qty/ pk	Price/ pk
Complete assembly	250 mL 500 mL 1000 mL	0.2 µm	66 mm 90 mm 90 mm	XJ-06060-57 XJ-06060-58 XJ-06060-56	12	
Funnel only	250 mL 500 mL 1000 mL	0.2 µm	66 mm 90 mm 90 mm	XJ-06060-60 XJ-06060-61 XJ-06060-59	12	

XJ-06060-95 **Pedestal stand** provides a permanent vacuum connection. Front on/off control knob

XJ-06060-96 **Cradle ring** attaches to any standard lab stand. Side on/off control knob

Cole-Parmer® Vacuum Filtration Assemblies

NEW

Presterilized to reduce contamination

- Made with a low protein binding and surfactant-free PES membrane
- Funnel and bottle are made of clear polystyrene material
- Centrifuge tube systems filter directly into tube, reducing the risk of spills
- Use with the optional pedestal or cradle ring to create a hands-free filtration system



06062-77

06062-83

Cole-Parmer®

STERILE

Reservoir capacity (mL)	Pore size (µm)	Membrane dia (mm)	Catalog number	Qty/cs	Price/cs
Vacuum filtration system with upper funnel, cap, and easy-grip media bottle					
250	0.1 0.45	66	XJ-06062-79 XJ-06062-80	12	
500	0.1 0.45	90	XJ-06062-81 XJ-06062-82	12	
1000	0.1 0.45	90	XJ-06062-77 XJ-06062-78	12	
Centrifuge tube filtration system with upper funnel and centrifuge tube					
15	0.1 0.2 0.45	40	XJ-06062-99 XJ-06062-85 XJ-06062-86	24	
50	0.1 0.2 0.45	40	XJ-06063-00 XJ-06062-83 XJ-06062-84	24	

XJ-06060-95 **Pedestal stand** provides a permanent vacuum connection. Front on/off control knob

XJ-06060-96 **Cradle ring** attaches to any standard lab stand. Side on/off control knob

Cole-Parmer® Vacuum Filtration Funnels

Reach higher throughput and faster flow rates

- Reduce the risk of spills by eliminating unnecessary fluid transfer
- Avoid possible contamination with gamma sterilized polystyrene housing funnels
- Use polypropylene funnels for harsh solvent filtration



These disposable plastic funnels contain a membrane for filtration of solvents, buffers, media, and other laboratory solutions.

The sterile polystyrene housing material funnels all have an asymmetric PES membrane material, which is low binding and surfactant free.

The polypropylene housing material funnels are designed to withstand the harsh solvents that would normally degrade polystyrene. The GL45 thread fits most laboratory bottles.

NEW

Cole-Parmer®

Housing material	Capacity (mL)	Pore size (µm)	Membrane dia (mm)	Membrane material	Catalog number	Qty/ cs	Price/ cs
Polystyrene, sterile	15	0.1	40	PES	XJ-06062-93	48	
		0.2			XJ-06062-94	48	
		0.45			XJ-06062-95	48	
	50	0.1	40	PES	XJ-06062-96	48	
		0.2			XJ-06062-97	48	
		0.45			XJ-06062-98	48	
	250	0.1	66	PES	XJ-06062-89	12	
		0.45			XJ-06062-90	12	
	500	0.1	90	PES	XJ-06062-91	12	
		0.45			XJ-06062-92	12	
	1000	0.1	90	PES	XJ-06062-87	12	
		0.45			XJ-06062-88	12	
Polypropylene	500	0.2	90	Nylon	XJ-06063-01	12	
				PES	XJ-06063-02	12	
		0.45	90	Nylon	XJ-06063-03	12	
				PTFE	XJ-06063-04	12	
	1000	0.2	90	Nylon	XJ-06063-05	12	
				PES	XJ-06063-06	12	
		0.45	90	Nylon	XJ-06063-07	12	
				PTFE	XJ-06063-08	12	

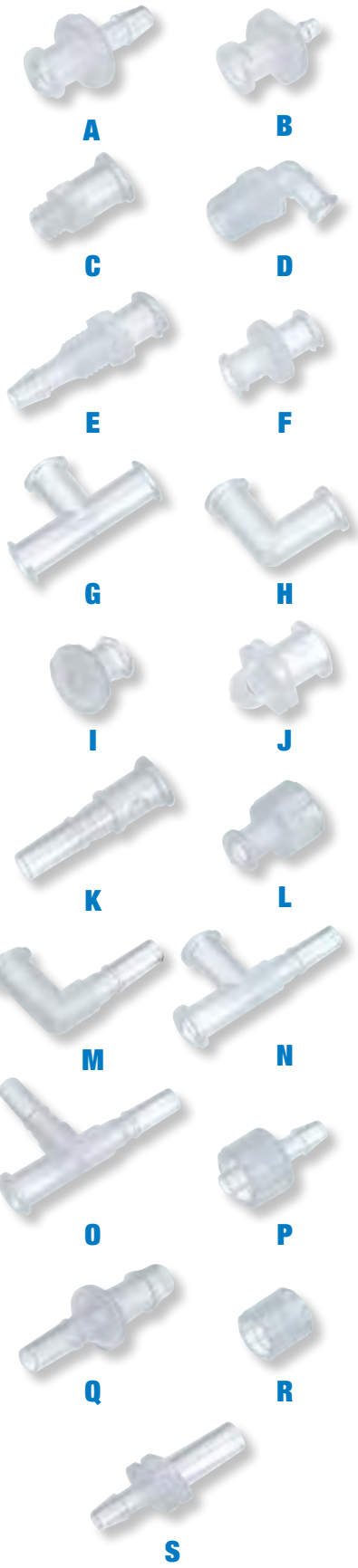
Cole-Parmer® Premium Luer Fittings

Premium luer fittings for critical applications

– Manufactured from 100% virgin raw materials in a Class 100,000 environment

– Full material traceability on all items

These luer fittings are ideal for a variety of applications, including syringes or small tubing. Manufactured in compliance with ISO 594-1 standards, these fittings are inspected to be free from contaminants, and are fully traceable. All parts meet tight dimensional tolerances for increased reliability and process purity. Choose from a range of sizes, 1/16" to 1/4", with a variety of connection options. **Pack of 25.**



Search

For our complete line of luer fittings, go to…
ColeParmer.com/Fittings

Buy More…Save More!
20% off on 100+
15% off on 50 to 99
10% off on 10 to 49 packs

FREE certificate of compliance for these fittings

Cole-Parmer®

Key	Description	Polypropylene		Polycarbonate		Nylon	
		Cat. no.	Price/pk	Cat. no.	Price/pk	Cat. no.	Price/pk
Female luer x hose barb adapters							
A	Female luer x 1/16" hose barb	XJ-45508-00		XJ-45501-00		XJ-45502-00	
	Female luer x 3/32" hose barb	XJ-45508-02		XJ-45501-02		XJ-45502-02	
	Female luer x 1/8" hose barb	XJ-30800-08		XJ-45501-04		XJ-45502-04	
	Female luer x 5/32" hose barb	XJ-45508-06		XJ-45501-06		XJ-45502-06	
	Female luer x 3/16" hose barb	XJ-45508-08		XJ-45501-08		XJ-45502-08	
	Female luer x 1/4" hose barb	XJ-30800-06		XJ-45501-20		XJ-45502-20	
Female luer x hose barb adapters (smooth bore)							
B	Female luer x 1/16" hose barb (smooth bore)	XJ-45508-50		XJ-45501-50		XJ-45502-50	
	Female luer x 3/32" hose barb (smooth bore)	XJ-45508-52		XJ-45501-52		XJ-45502-52	
	Female luer x 1/8" hose barb (smooth bore)	XJ-45508-54		XJ-45501-54		XJ-45502-54	
Female luer x thread adapters							
C	Female luer x 10-32 special tapered thread	XJ-45508-70		XJ-45501-70		XJ-45502-70	
	Female luer x 10-32 UNF thread	XJ-45508-60		XJ-45501-60		XJ-45502-60	
	Female luer x 1/4-28 UNF thread	XJ-45508-66		XJ-45501-66		XJ-45502-66	
	Female luer x 1/4-28 UNF bottom sealing thread	XJ-45508-76		—	—	XJ-45505-76	
	Female luer x 1/8-27 NPT thread	XJ-30800-00		—	—	XJ-45505-78	
D	Female luer x 1/8-27 NPT thread elbow	XJ-45518-80		—	—	XJ-45505-80	
Female luer bulkhead x hose barb adapters							
E	Female luer x 1/4-28 UNF thread to 1/16" hose barb	XJ-45508-30		XJ-45501-30		XJ-45502-30	
	Female luer x 1/4-28 UNF thread to 3/32" hose barb	XJ-45508-32		XJ-45501-32		XJ-45502-32	
	Female luer x 1/4-28 UNF thread to 1/8" hose barb	XJ-45508-34		XJ-45501-34		XJ-45502-34	
Female adapters							
F	Female luer x female luer	XJ-45508-22		XJ-45501-22		XJ-45502-22	
G	Female tee	XJ-45508-56		XJ-45501-56		XJ-45502-56	
H	Female elbow	XJ-45508-26		XJ-45501-26		XJ-45502-26	
I	Female luer x cap	XJ-30800-12		XJ-45501-28		XJ-45502-28	
J	Female luer x cap with tether loop	XJ-45508-64		XJ-45501-64		XJ-45502-64	
Male x female adapters							
K	Male luer x female luer coupler	XJ-45508-82		XJ-45501-82		XJ-45502-82	
L	Male luer x female luer coupler with lock ring	XJ-45508-80		XJ-45501-80		XJ-45502-80	
M	Male luer x female luer elbow	XJ-45508-84		XJ-45501-84		XJ-45502-84	
N	Male x female x female tee	XJ-45508-85		XJ-45501-85		XJ-45502-85	
O	Male x male x female tee	XJ-45508-75		XJ-45501-75		XJ-45502-75	
Male luer lock x hose barb adapters							
P	Male luer lock x 1/16" hose barb	XJ-45518-00		XJ-45504-00		XJ-45505-00	
	Male luer lock x 3/32" hose barb	XJ-45518-02		XJ-45504-02		XJ-45505-02	
	Male luer lock x 1/8" hose barb	XJ-30800-24		XJ-45504-04		XJ-45505-04	
	Male luer lock x 5/32" hose barb	XJ-45518-06		XJ-45504-06		XJ-45505-06	
	Male luer lock x 3/16" hose barb	XJ-45518-08		XJ-45504-08		XJ-45505-08	
	Male luer lock x 1/4" hose barb	XJ-30800-22		XJ-45504-19		XJ-45505-19	
Male luer x hose barb adapters (for use with separate rotating lock ring "R")							
Q	Male luer x 1/16" hose barb	XJ-45518-40		XJ-45504-40		XJ-45505-40	
	Male luer x 3/32" hose barb	XJ-45518-42		XJ-45504-42		XJ-45505-42	
	Male luer x 1/8" hose barb	XJ-45518-44		XJ-45504-44		XJ-45505-44	
	Male luer x 5/32" hose barb	XJ-45518-46		XJ-45504-46		XJ-45505-46	
	Male luer x 3/16" hose barb	XJ-45518-48		XJ-45504-48		XJ-45505-48	
	Male luer x 1/4" hose barb	XJ-45518-50		XJ-45504-50		XJ-45505-50	
R	Snap luer lock ring	XJ-45518-74		XJ-45504-74		XJ-45505-74	
Male slip luer x hose barb adapters (no lock ring)							
S	Male luer x 1/16" hose barb	XJ-45518-22		XJ-45504-22		XJ-45505-22	
	Male luer x 3/32" hose barb	XJ-45518-24		XJ-45504-24		XJ-45505-24	
	Male luer x 1/8" hose barb	XJ-45518-26		XJ-45504-26		XJ-45505-26	
	Male luer x 5/32" hose barb	XJ-45518-28		XJ-45504-28		XJ-45505-28	
	Male luer x 3/16" hose barb	XJ-45518-52		XJ-45504-52		XJ-45505-52	
	Male luer x 1/4" hose barb	XJ-45518-54		XJ-45504-54		XJ-45505-54	

Cole-Parmer® Barbed Fittings

No tools needed for assembly

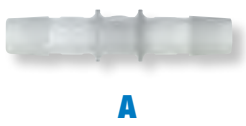
Combine these fittings with our flexible tubing for use in your low-pressure applications (less than 30 psi).

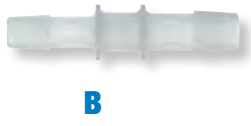
High-Density Polyethylene (HDPE). Very good chemical resistance. Temp range: –65 to 150°F (–53 to 65°C). Sterilize by ethylene oxide.

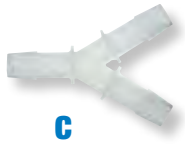
Nylon. Good chemical resistance. Temp range: –50 to 250°F (–46 to 121°C). Sterilize by ethylene oxide.

Polypropylene (PP). Very good chemical resistance. Temp range: 9 to 180°F (–13 to 66°C). Sterilize by ethylene oxide or gamma irradiation.

PVDF. Excellent chemical resistance. Temp range: –80 to 265°F (–62 to 129°C). Sterilize by ethylene oxide or autoclave.


A


B


C


D

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Tubing ID	HDPE			Nylon			Polypropylene			PVDF		
	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/pk	Price/pk	Catalog number	Qty/pk	Price/pk
A. Straight connectors												
1/16"	XJ-40622-47	10		XJ-40622-48	10		XJ-50622-49	10		XJ-40703-00	10	
3/32"	XJ-40622-44	10		XJ-40622-45	10		XJ-50622-46	10		XJ-40703-01	10	
1/8"	XJ-40622-53	10		XJ-40622-54	10		XJ-51518-05	10		XJ-40703-02	10	
3/16"	XJ-30622-55	10		XJ-30622-56	10		XJ-40622-57	10		XJ-30703-04	10	
1/4"	XJ-30621-85	10		XJ-30621-86	10		XJ-40610-00	10		XJ-30703-05	10	
3/8"	XJ-30621-89	10		XJ-30621-90	10		XJ-40610-02	10		XJ-30703-07	10	
1/2"	XJ-30621-92	10		XJ-30621-93	10		XJ-40610-03	10		XJ-30703-08	10	
5/8"	XJ-30621-79	10		XJ-30621-80	10		XJ-40610-04	10		XJ-30703-09	10	
3/4"	XJ-30621-81	10		XJ-30621-82	10		XJ-40610-05	5		XJ-30703-10	5	
1"	XJ-30621-83	10		XJ-30621-84	10		XJ-40610-06	5		XJ-30703-11	5	
B. Reducing connectors												
1/8" x 1/16"	XJ-41518-29	10		XJ-40622-22	25		XJ-50622-23	25		XJ-40703-41	10	
1/4" x 1/8"	XJ-30622-27	10		XJ-30622-28	10		XJ-41518-36	10		XJ-30703-50	10	
1/4" x 3/16"	XJ-30622-29	10		XJ-30622-30	10		XJ-40622-32	10		XJ-30703-52	10	
3/8" x 1/4"	XJ-30622-35	10		XJ-30703-99	10		XJ-40610-08	10		XJ-30703-54	10	
1/2" x 1/4"	XJ-30622-38	10		XJ-30622-39	10		XJ-40610-10	10		XJ-30703-56	10	
1/2" x 3/8"	XJ-30622-42	10		XJ-30622-43	10		XJ-40610-12	10		XJ-30703-58	10	
5/8" x 1/4"	XJ-30621-96	10		XJ-30621-97	10		XJ-40610-13	10		XJ-30703-59	10	
5/8" x 1/2"	XJ-30622-03	10		XJ-30622-04	10		XJ-40610-16	10		XJ-30703-62	10	
3/4" x 1/2"	XJ-30622-09	5		XJ-30622-10	5		XJ-40610-18	5		XJ-30703-64	5	
1" x 1/2"	XJ-30622-15	5		XJ-30622-16	5		XJ-40610-20	5		XJ-30703-66	5	
1" x 3/4"	XJ-30622-13	5		XJ-30622-14	5		XJ-40610-22	5		XJ-30703-68	5	
C. Y connectors												
1/16"	XJ-30726-01	10		XJ-30726-21	10		XJ-40726-41	10		XJ-30703-90	10	
3/32"	XJ-30726-02	10		XJ-30726-22	10		XJ-40726-42	10		XJ-30703-91	10	
1/8"	XJ-30726-03	10		XJ-30726-23	10		XJ-40726-43	10		XJ-30703-92	10	
3/16"	XJ-30726-04	10		XJ-30726-24	10		XJ-40726-44	10		XJ-30726-64	10	
1/4"	XJ-30726-05	10		XJ-30726-25	10		XJ-40726-45	10		XJ-30726-65	10	
3/8"	XJ-30726-06	10		XJ-30726-26	10		XJ-40726-46	10		XJ-30703-93	10	
1/2"	XJ-30726-07	10		XJ-30726-27	10		XJ-40726-47	10		XJ-30703-94	10	
5/8"	XJ-30726-08	10		XJ-30726-28	10		XJ-40726-48	10		XJ-30726-68	10	
D. NPT male threaded adapters, NPT(M) x tubing ID												
1/8" x 1/8"	XJ-30621-26	10		XJ-30621-27	10		XJ-40621-28	25		XJ-30704-07	10	
1/8" x 1/4"	XJ-30621-31	10		XJ-30621-32	10		XJ-40610-36	10		XJ-30704-09	10	
1/4" x 1/8"	XJ-30621-42	10		XJ-30621-44	10		XJ-40621-45	10		XJ-30621-43	10	
1/4" x 1/4"	XJ-30621-46	10		XJ-30621-47	10		XJ-40610-38	10		XJ-30704-11	10	
3/8" x 1/4"	XJ-30621-56	10		XJ-30621-57	10		XJ-40610-41	10		XJ-30704-14	10	
3/8" x 3/8"	XJ-30621-62	10		XJ-30621-63	10		XJ-40610-42	10		XJ-30704-15	10	
1/2" x 1/4"	XJ-30621-73	10		XJ-30621-74	10		XJ-40610-44	10		XJ-30704-17	10	
1/2" x 3/8"	XJ-30621-75	10		XJ-30621-76	10		XJ-40610-45	10		XJ-30704-18	10	
1/2" x 1/2"	XJ-30621-77	10		XJ-30621-78	10		XJ-40610-46	10		XJ-30704-19	10	
3/4" x 1/2"	XJ-30621-20	10		XJ-30621-21	10		XJ-40610-50	5		XJ-30704-23	5	
3/4" x 3/4"	XJ-30621-12	10		XJ-30621-13	10		XJ-40610-51	5		XJ-30704-24	5	
1" x 1"	XJ-31517-18	10		XJ-30401-34	10		XJ-40610-53	5		XJ-30704-26	5	

FREE certificate of compliance for noted fittings

Free Certificate of Compliance

Cole-Parmer will provide a certificate of resin or elastomer compliance FREE at your request with each order of fittings, gaskets, or tubing. Certificates list your company's PO number, order reference number, catalog number, formulation, compound number, lot number (where applicable), and the regulations and agencies the fitting, tubing, or gasket complies with, including FDA, USP, USDA, National Formulary, NSF International, GMP, and 3A. Look for the blue "check" icon throughout this catalog to identify when a certificate of compliance is available.

CPC™ Quick-Disconnect Couplings

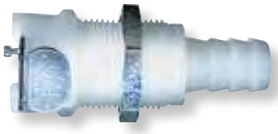
No more struggling—just press thumb latch

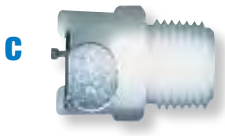
– Choose from four styles—hose barb, compression, push-to-connect, and NPT pipe adapter—for either standard in-line or panel-mount configurations

For each complete quick-disconnect fitting, order one body (below) and one insert (page 87) with the same flow size. Plug insert into body to connect fitting—fitting halves lock in place immediately. To disconnect fitting halves, simply press the thumb latch on the coupling body; a spring-operated valve in each fitting half seals the flow path. ("Straight-through" fittings without shutoff valves are also available.) All fitting bodies have 316 stainless steel springs and latches.

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Quick-Disconnect Bodies (Female Coupling Halves)

A. Hose Barb Bodies

Tubing ID	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/16"	1/8"	1.41"	Acetal	XJ-06360-19	
1/8"	1/8"	1.65"	Acetal	XJ-06360-20	
3/16"	1/8"	1.85"	Acetal	XJ-06360-22	
1/4"	1/8"	1.85"	Acetal	XJ-06360-25	
1/4"	1/4"	1.95"	Acetal	XJ-06360-65	
5/16"	1/4"	1.95"	Acetal	XJ-06360-67	
3/8"	1/4"	1.95"	Acetal	XJ-06360-70	
1/16"	1/8"	1.41"	PP	XJ-06364-19	
1/8"	1/8"	1.67"	PP	XJ-06364-20	
1/4"	1/8"	1.87"	PP	XJ-06364-25	
1/4"	1/4"	1.97"	PP	XJ-06364-65	
3/8"	1/4"	1.97"	PP	XJ-06364-70	
Straight-through fittings					
1/16"	1/8"	1.41"	Acetal	XJ-06361-09	
1/8"	1/8"	1.65"	Acetal	XJ-06361-11	
3/16"	1/8"	1.85"	Acetal	XJ-06361-12	
1/4"	1/8"	1.85"	Acetal	XJ-06361-13	
1/4"	1/4"	1.95"	Acetal	XJ-06361-51	
5/16"	1/4"	1.95"	Acetal	XJ-06361-52	
3/8"	1/4"	1.95"	Acetal	XJ-06361-53	

B. Panel-Mount Hose Barb Bodies

Tubing ID	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/16"	1/8"	1/2-24	Acetal	XJ-06360-09	
1/8"	1/8"	1/2-24	Acetal	XJ-06360-10	
3/16"	1/8"	1/2-24	Acetal	XJ-06360-12	
1/4"	1/8"	1/2-24	Acetal	XJ-06360-15	
1/4"	1/4"	11/16-24	Acetal	XJ-06360-55	
5/16"	1/4"	11/16-24	Acetal	XJ-06360-57	
3/8"	1/4"	11/16-24	Acetal	XJ-06360-60	
1/16"	1/8"	1/2-24	PP	XJ-06364-09	
1/8"	1/8"	1/2-24	PP	XJ-06364-10	
1/4"	1/8"	1/2-24	PP	XJ-06364-15	
1/4"	1/4"	11/16-24	PP	XJ-06364-55	
3/8"	1/4"	11/16-24	PP	XJ-06364-60	
Straight-through fittings					
1/16"	1/8"	1/2-24	Acetal	XJ-06361-03	
1/8"	1/8"	1/2-24	Acetal	XJ-06361-04	
3/16"	1/8"	1/2-24	Acetal	XJ-06361-05	
1/4"	1/8"	1/2-24	Acetal	XJ-06361-06	
1/4"	1/4"	11/16-24	Acetal	XJ-06361-46	
5/16"	1/4"	11/16-24	Acetal	XJ-06361-47	
3/8"	1/4"	11/16-24	Acetal	XJ-06361-48	

C. NPT(M) Pipe Adapter Bodies

NPT(M)	Flow size	Resin	Catalog number	Price/ pk of 1
Valved fittings				
1/8"	1/8"	Acetal	XJ-06359-70	
1/4"	1/8"	Acetal	XJ-06359-71	
1/4"	1/4"	Acetal	XJ-06359-72	
3/8"	1/4"	Acetal	XJ-06359-73	
1/8"	1/8"	PP	XJ-06359-80	
1/4"	1/8"	PP	XJ-06359-81	
1/4"	1/4"	PP	XJ-06359-82	
3/8"	1/4"	PP	XJ-06359-83	
Straight-through fittings				
1/8"	1/8"	Acetal	XJ-06361-00	
1/4"	1/8"	Acetal	XJ-06361-01	
1/4"	1/4"	Acetal	XJ-06361-42	
3/8"	1/4"	Acetal	XJ-06361-43	

D. Compression Bodies

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/8"	1.73"	Acetal	XJ-06360-98	
1/4"	1/4"	1.82"	Acetal	XJ-06359-90	
3/8"	1/4"	1.95"	Acetal	XJ-06359-91	
1/4"	1/8"	1.74"	PP	XJ-06364-90	
3/8"	1/4"	1.97"	PP	XJ-06364-91	
Straight-through fittings					
1/4"	1/8"	1.73"	Acetal	XJ-06361-08	
3/8"	1/4"	1.95"	Acetal	XJ-06361-49	

E. Panel-Mount Compression Bodies

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/8"	1/2-24	Acetal	XJ-06360-05	
1/4"	1/4"	11/16-24	Acetal	XJ-06360-49	
3/8"	1/4"	11/16-24	Acetal	XJ-06360-50	
1/4"	1/8"	1/2-24	PP	XJ-06364-05	
3/8"	1/4"	11/16-24	PP	XJ-06364-50	
Straight-through fittings					
1/4"	1/8"	1/2-24	Acetal	XJ-06361-02	
1/4"	1/4"	11/16-24	Acetal	XJ-06361-44	
3/8"	1/4"	11/16-24	Acetal	XJ-06361-45	

Specifications

Body material	Acetal	Polypropylene (PP)
Seal material	Buna N	EPR
Max temp	180°F (–82°C)	160°F (71°C)
Max pressure	120 psi	100 psi
Max vacuum	28" Hg	28" Hg
Sterilization	Autoclave or EtO	Gamma or EtO

F. Push-to-Connect Bodies

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/4"	1.95"	Acetal	XJ-31304-00	
3/8"	1/4"	2.08"	Acetal	XJ-31304-02	
Straight-through fittings					
1/4"	1/4"	1.95"	Acetal	XJ-31304-10	
3/8"	1/4"	2.08"	Acetal	XJ-31304-12	

G. Panel-Mount Push-to-Connect Bodies

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fitting					
1/4"	1/4"	1.95"	Acetal	XJ-31304-50	
Straight-through fitting					
1/4"	1/4"	1.95"	Acetal	XJ-31304-40	

H. 1/4-28 Flat-Bottom Port Valved Bodies

UNF (F)	Flow size	Length	Resin	Catalog number	Price/ pk of 1
In-line body					
1/4-28	1/8"	1.57"	PP	XJ-06368-69	
Panel-mount body					
1/4-28	1/8"	1.57"	PP	XJ-06368-70	

Wait! Don't Forget...

Flexible and Rigid Tubing, **see pages 236–243.**



I



L



O



Q



J



M



R



P

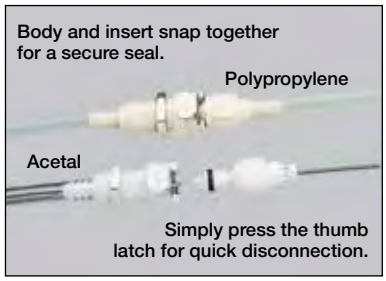


K



N





Quick-Disconnect Inserts (Male Coupling Halves)

I. Hose Barb Inserts

Tubing ID	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/16"	1/8"	1.35"	Acetal	XJ-06360-36	
1/8"	1/8"	1.55"	Acetal	XJ-06360-40	
3/16"	1/8"	1.75"	Acetal	XJ-06360-43	
1/4"	1/8"	1.58"	Acetal	XJ-06360-45	
1/4"	1/4"	1.86"	Acetal	XJ-06360-80	
5/16"	1/4"	1.86"	Acetal	XJ-06360-83	
3/8"	1/4"	1.86"	Acetal	XJ-06360-85	
1/16"	1/8"	1.35"	PP	XJ-06364-38	
1/8"	1/8"	1.55"	PP	XJ-06364-40	
1/4"	1/8"	1.58"	PP	XJ-06364-45	
1/4"	1/4"	1.86"	PP	XJ-06364-80	
3/8"	1/4"	1.67"	PP	XJ-06364-85	
Straight-through fittings					
1/16"	1/8"	0.80"	Acetal	XJ-06360-38	
1/8"	1/8"	1.05"	Acetal	XJ-06360-42	
3/16"	1/8"	1.25"	Acetal	XJ-06360-44	
1/4"	1/8"	1.25"	Acetal	XJ-06360-47	
1/4"	1/4"	1.35"	Acetal	XJ-06360-82	
5/16"	1/4"	1.35"	Acetal	XJ-06360-84	
3/8"	1/4"	1.35"	Acetal	XJ-06360-87	
1/16"	1/8"	0.80"	PP	XJ-06364-39	
1/8"	1/8"	1.05"	PP	XJ-06364-42	
1/4"	1/8"	1.25"	PP	XJ-06364-47	
1/4"	1/4"	1.35"	PP	XJ-06364-82	
3/8"	1/4"	1.35"	PP	XJ-06364-87	

J. Panel-Mount Hose Barb Inserts

Tubing ID	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/16"	1/8"	1.38"	Acetal	XJ-06361-33	
1/8"	1/8"	1.63"	Acetal	XJ-06361-34	
3/16"	1/8"	1.83"	Acetal	XJ-06361-35	
1/4"	1/8"	1.83"	Acetal	XJ-06361-36	
1/4"	1/4"	1.91"	Acetal	XJ-06361-71	
5/16"	1/4"	1.91"	Acetal	XJ-06361-72	
3/8"	1/4"	1.91"	Acetal	XJ-06361-73	
1/4"	1/4"	1.91"	PP	XJ-06361-92	
3/8"	1/4"	1.91"	PP	XJ-06361-93	
Straight-through fittings					
1/16"	1/8"	1.38"	Acetal	XJ-06361-21	
1/8"	1/8"	1.63"	Acetal	XJ-06361-22	
3/16"	1/8"	1.83"	Acetal	XJ-06361-23	
1/4"	1/8"	1.83"	Acetal	XJ-06361-24	
1/4"	1/4"	1.91"	Acetal	XJ-06361-58	
5/16"	1/4"	1.91"	Acetal	XJ-06361-59	
3/8"	1/4"	1.91"	Acetal	XJ-06361-61	
1/4"	1/4"	1.91"	PP	XJ-06361-82	
3/8"	1/4"	1.91"	PP	XJ-06361-83	

K. Hose Barb Elbow Inserts

Tubing ID	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/8"	1/8"	1.09"	Acetal	XJ-06361-39	
1/4"	1/8"	1.09"	Acetal	XJ-06361-41	
1/4"	1/4"	1.22"	Acetal	XJ-06361-75	
3/8"	1/4"	1.22"	Acetal	XJ-06361-76	
1/8"	1/8"	1.09"	PP	XJ-06361-98	
1/4"	1/8"	1.09"	PP	XJ-06361-99	
1/4"	1/4"	1.21"	PP	XJ-06362-00	
3/8"	1/4"	1.21"	PP	XJ-06362-01	
Straight-through fittings					
1/8"	1/8"	0.85"	Acetal	XJ-06361-27	
1/4"	1/8"	1.00"	Acetal	XJ-06361-28	
1/4"	1/4"	1.10"	Acetal	XJ-06361-63	
3/8"	1/4"	1.20"	Acetal	XJ-06361-64	
1/8"	1/8"	1.09"	PP	XJ-06361-85	
1/4"	1/8"	1.09"	PP	XJ-06361-86	
1/4"	1/4"	1.21"	PP	XJ-06361-87	
3/8"	1/4"	1.21"	PP	XJ-06361-88	

L. NPT(M) Pipe Adapter Inserts

NPT(M)	Flow size	Resin	Catalog number	Price/ pk of 1
Valved fittings				
1/8"	1/8"	Acetal	XJ-06361-29	
1/4"	1/8"	Acetal	XJ-06361-31	
1/4"	1/4"	Acetal	XJ-06361-65	
3/8"	1/4"	Acetal	XJ-06361-66	
1/8"	1/8"	PP	XJ-06361-89	
1/4"	1/4"	PP	XJ-06361-91	
Straight-through fittings				
1/8"	1/8"	Acetal	XJ-06361-17	
1/4"	1/8"	Acetal	XJ-06361-18	
1/4"	1/4"	Acetal	XJ-06361-54	
3/8"	1/4"	Acetal	XJ-06361-55	
1/8"	1/8"	PP	XJ-06361-79	
1/4"	1/4"	PP	XJ-06361-81	

M. Compression Inserts

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/8"	1.45"	Acetal	XJ-06360-30	
3/8"	1/8"	1.40"	Acetal	XJ-06360-35	
1/4"	1/4"	1.75"	Acetal	XJ-06360-74	
3/8"	1/4"	1.68"	Acetal	XJ-06360-75	
1/4"	1/8"	1.45"	PP	XJ-06364-30	
3/8"	1/4"	1.68"	PP	XJ-06364-75	
Straight-through fittings					
1/4"	1/8"	1.15"	Acetal	XJ-06360-32	
3/8"	1/8"	1.30"	Acetal	XJ-06360-37	
1/4"	1/4"	1.25"	Acetal	XJ-06360-76	
3/8"	1/4"	1.38"	Acetal	XJ-06360-77	
1/4"	1/8"	1.15"	PP	XJ-06364-32	
3/8"	1/4"	1.38"	PP	XJ-06364-77	

N. Panel-Mount Compression Inserts

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/8"	1.70"	Acetal	XJ-06361-32	
1/4"	1/4"	1.78"	Acetal	XJ-06361-68	
3/8"	1/4"	1.91"	Acetal	XJ-06361-69	
Straight-through fittings					
1/4"	1/8"	1.70"	Acetal	XJ-06361-19	
1/4"	1/4"	1.78"	Acetal	XJ-06361-56	
3/8"	1/4"	1.91"	Acetal	XJ-06361-57	

O. Compression Elbow Inserts

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/8"	1.20"	Acetal	XJ-06361-38	
3/8"	1/4"	1.22"	Acetal	XJ-06361-74	
1/4"	1/8"	1.09"	PP	XJ-06361-96	
3/8"	1/4"	1.22"	PP	XJ-06361-97	
Straight-through fittings					
1/4"	1/8"	1.17"	Acetal	XJ-06361-26	
3/8"	1/4"	1.22"	Acetal	XJ-06361-62	
3/8"	1/4"	1.29"	PP	XJ-06361-84	

P. Standard Push-to-Connect Inserts

Tubing OD	Flow size	Length	Resin	Catalog number	Price/ pk of 1
Valved fittings					
1/4"	1/4"	1.81"	Acetal	XJ-31304-30	
3/8"	1/4"	1.96"	Acetal	XJ-31304-32	
Straight-through fittings					
1/4"	1/4"	1.35"	Acetal	XJ-31304-20	
3/8"	1/4"	1.48"	Acetal	XJ-31304-22	

Q. Panel-Mount Push-to-Connect Inserts

Tubing OD	Flow size	Thread	Resin	Catalog number	Price/ pk of 1
Valved fitting					
1/4"	1/4"	11/16-24	Acetal	XJ-31304-70	
Straight-through fitting					
1/4"	1/4"	11/16-24	Acetal	XJ-31304-60	

R. 1/4-28 Flat-Bottom Port Panel-Mount Valved Insert

UNF (F)	Flow size	Length	Resin	Catalog number	Price/ pk of 1
1/4-28	1/8"	1.55"	PP	XJ-06368-71	

CPC™ Plastic Quick-Disconnect Fittings

Fittings connect in a snap

- Acetal fittings are ideal for use with corrosive fluids
- Polycarbonate and polysulfone materials meet USP Class VI requirements

Simply press the thumb latch to disconnect coupling halves. Polycarbonate and polysulfone materials meet USP Class VI requirements and pass all physicochemical, cytotoxicity, leachables, and extractables tests. Order complete couplings or separate bodies and inserts from the tables below.

Note: Standard bodies and inserts fit together; won't work with large bodies and inserts and vice versa.

FREE certificate of compliance for PC, PSF fittings

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20% off on 100+
15% off on 50 to 99
10% off on 10 to 49 packs

Specifications

Body material	Acetal	Polycarbonate (PC)	Polysulfone (PSF)
Temperature range	–40 to 180°F (–40 to 82°C)	–40 to 250°F (–40 to 121°C)	–40 to 300°F (–40 to 148°C)
Max pressure	120 psi	125 psi†	120 psi
Max vacuum	28" Hg	25" Hg	25" Hg
Sterilization	Autoclave or EtO	Autoclave, EtO, or gamma irradiation	Autoclave, EtO, or gamma irradiation

†Max pressure for ½" polycarbonate fittings is 60 psi.



Complete Couplings

Key	Catalog number	Size	Material	Length	Qty/pk	Price/pk
A	XJ-06360-90	¼" tubing ID	Acetal	—	10	
	XJ-31305-00		PC	—	10	
	XJ-06360-91	⅜" tubing ID	Acetal	—	10	
	XJ-31305-05		PC	—	10	
	XJ-31306-05		PSF	—	10	

Standard Bodies and Caps

Key	Catalog number	Size	Material	Length	Qty/pk	Price/pk
Barbed bodies						
B	XJ-06360-94	¼" tubing ID	Acetal	1.31" (33.3 mm)	10	
	XJ-31311-11		PC		5	
	XJ-31311-21		PSF		5	
	XJ-06360-95	⅜" tubing ID	Acetal	1.31" (33.3 mm)	10	
	XJ-31311-12		PC		5	
	XJ-31311-22		PSF		5	
Hose barb coupling bodies with lock						
C	XJ-31311-16	¼" tubing ID	PC	1.31" (33.3 mm)	5	
	XJ-31311-26		PSF		5	
	XJ-31311-17	⅜" tubing ID	PC	1.31" (33.3 mm)	5	
	XJ-31311-27		PSF		5	
BSP straight-through bodies						
D	XJ-06360-01	¼" BSP	Acetal	1.31" (33.3 mm)	10	
	XJ-06360-02	⅜" BSP			10	
NPT(M) bodies						
E	XJ-06360-00	¼" NPT	Acetal	1.31" (33.3 mm)	10	
	XJ-06360-96	⅜" NPT			10	
Compression coupling bodies						
F	XJ-06360-06	¼" OD	Acetal	1.31" (33.3 mm)	10	
	XJ-06360-08	⅜" OD			10	
Sealing caps						
G	XJ-31311-64	¼"	PC	1.31" (33.3 mm)	5	
	XJ-31311-74	¼"	PSF		5	
Sealing caps with lock						
H	XJ-31311-67	¼"	PC	1.31" (33.3 mm)	5	
	XJ-31311-77	¼"	PSF		5	

Standard Inserts and Plugs

Key	Catalog number	Size	Material	Length	Qty/pk	Price/pk
Barbed inserts						
I	XJ-06360-92	¼" tubing ID	Acetal	1.28" (32.5 mm)	10	
	XJ-31311-61		PC		5	
	XJ-31311-71		PSF		5	
	XJ-06360-93	⅜" tubing ID	Acetal	1.28" (32.5 mm)	10	
	XJ-31311-62		PC		5	
	XJ-31311-72		PSF		5	
BSP straight-through inserts						
J	XJ-06360-27	¼" BSP	Acetal	1.28" (32.5 mm)	10	
	XJ-06360-97	⅜" BSP			10	
NPT(M) inserts						
K	XJ-06360-16	¼" NPT	Acetal	1.28" (32.5 mm)	10	
	XJ-06360-18	⅜" NPT			10	
Compression coupling inserts						
L	XJ-06360-21	¼" OD	Acetal	1.28" (32.5 mm)	10	
	XJ-06360-24	⅜" OD			10	
Sealing caps						
M	XJ-06360-31	¼" OD	Acetal	1.28" (32.5 mm)	10	
	XJ-06360-34	⅜" OD			10	
Plugs with lock						
N	XJ-31311-68	¼"	PC	1.20" (30.5 mm)	5	
	XJ-31311-78	¼"	PSF		5	

Large Bodies and Inserts (use these bodies and inserts together)

Key	Catalog number	Size	Material	Length	Qty/pk	Price/pk
Barbed bodies						
O	XJ-31311-13	½" tubing ID	PC	1.96" (49.8 mm)	5	
	XJ-31311-23		PSF		5	
Hose barb coupling bodies with lock						
P	XJ-31311-18	⅜" tubing ID	PC	1.96" (49.8 mm)	5	
	XJ-31311-28		PSF		5	
Barbed inserts						
Q	XJ-31311-63	½" tubing ID	PC	1.90" (48.3 mm)	5	
	XJ-31311-73		PSF	1.40" (35.6 mm)	5	

CPC™ High-Flow Quick-Disconnect Couplings

No more leaks—valved couplings automatically shut off flow

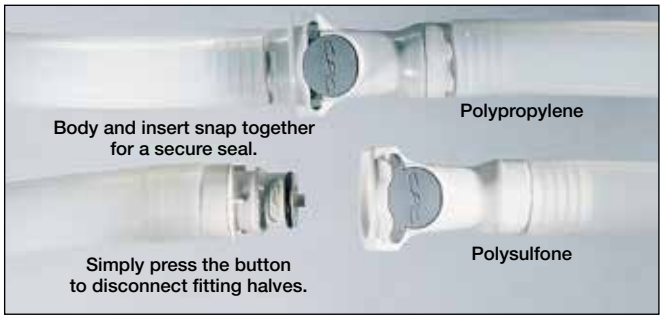
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A complete quick-disconnect fitting consists of a body and an insert (order fitting halves separately). Plug insert into coupling body to connect—fitting halves lock into place immediately. To disconnect, simply press the button on the coupling body.

Valved models have a spring-operated 316 SS valve that seals the flow path when fitting halves are disengaged. All fitting bodies have 316 SS latch springs and EPDM seals.

Specifications

Body material	Polypropylene	Polysulfone
Temperature range	32 to 160°F (0 to 71°C)	–40 to 280°F (–40 to 137°C)
Max pressure	60 psi	125 psi
Max vacuum	27.5" Hg	27.5" Hg
Sterilization	EtO or gamma	Autoclave, EtO, or gamma




A. 31303-00


D. 31303-30


B. 31303-10


E. 31303-40


C. 31303-20


F. 31303-50

Quick-Disconnect Bodies (Female Coupling Halves)

A. Threaded Adapter Bodies

Flow size	NPT(M)	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-00		XJ-31307-00	
⅜"	½"	XJ-31303-01		XJ-31307-01	
⅜"	¾"	XJ-31303-02		XJ-31307-02	
Straight-through fittings					
⅜"	⅜"	XJ-31303-05		XJ-31307-05	
⅜"	½"	XJ-31303-06		XJ-31307-06	
⅜"	¾"	XJ-31303-07		XJ-31307-07	

B. Hose Barb Bodies

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-10		XJ-31307-10	
⅜"	½"	XJ-31303-11		XJ-31307-11	
⅜"	⅝"	XJ-31303-12		XJ-31307-12	
⅜"	¾"	XJ-31303-13		XJ-31307-13	
Straight-through fittings					
⅜"	⅜"	XJ-31303-15		XJ-31307-15	
⅜"	½"	XJ-31303-16		XJ-31307-16	
⅜"	⅝"	XJ-31303-17		XJ-31307-17	
⅜"	¾"	XJ-31303-18		XJ-31307-18	

C. Bulkhead Panel Mount Hose Barb Bodies

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-20		XJ-31307-20	
⅜"	½"	XJ-31303-21		XJ-31307-21	
⅜"	⅝"	XJ-31303-22		XJ-31307-22	
⅜"	¾"	XJ-31303-23		XJ-31307-23	
Straight-through fittings					
⅜"	⅜"	XJ-31303-25		XJ-31307-25	
⅜"	½"	XJ-31303-26		XJ-31307-26	
⅜"	⅝"	XJ-31303-27		XJ-31307-27	
⅜"	¾"	XJ-31303-28		XJ-31307-28	

Quick-Disconnect Inserts (Male Coupling Halves)

D. Male Threaded Inserts

Flow size	NPT(M)	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-35		XJ-31307-35	
⅜"	½"	XJ-31303-36		XJ-31307-36	
⅜"	¾"	XJ-31303-37		XJ-31307-37	
Straight-through fittings					
⅜"	⅜"	XJ-31303-30		XJ-31307-30	
⅜"	½"	XJ-31303-31		XJ-31307-31	
⅜"	¾"	XJ-31303-32		XJ-31307-32	

E. Hose Barb Inserts

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-45		XJ-31307-45	
⅜"	½"	XJ-31303-46		XJ-31307-46	
⅜"	⅝"	XJ-31303-47		XJ-31307-47	
⅜"	¾"	XJ-31303-48		XJ-31307-48	
Straight-through fittings					
⅜"	⅜"	XJ-31303-40		XJ-31307-40	
⅜"	½"	XJ-31303-41		XJ-31307-41	
⅜"	⅝"	XJ-31303-42		XJ-31307-42	
⅜"	¾"	XJ-31303-43		XJ-31307-43	

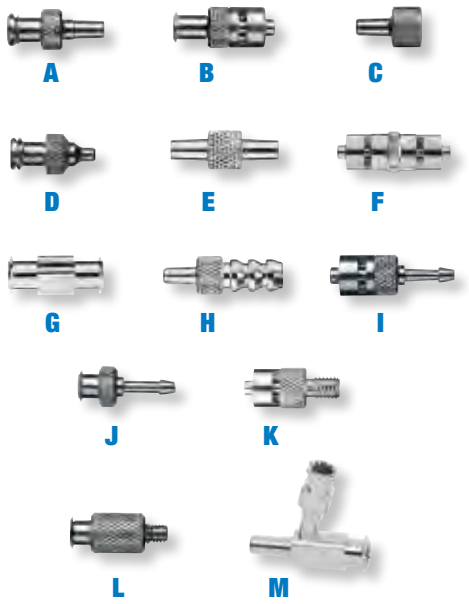
F. Elbow Hose Barb Inserts

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
⅜"	⅜"	XJ-31303-55		XJ-31307-55	
⅜"	½"	XJ-31303-56		XJ-31307-56	
Straight-through fittings					
⅜"	⅜"	XJ-31303-50		XJ-31307-50	
⅜"	½"	XJ-31303-51		XJ-31307-51	

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Worry-free cleaning with easy disassembly



- Exceptional durability
- Stopcock handles turn 180°
- Select 316 stainless steel fittings for your harsh chemical environments
- Autoclavable

316 Stainless Steel and Nickel-Plated Brass Fittings

Key	Description	316 stainless steel		Nickel-plated brass	
		Catalog number	Price/ea	Catalog number	Price/ea
A	Female luer x male luer	XJ-41507-20		XJ-41507-50	
B	Female luer x male luer lock	XJ-41507-21		XJ-41507-51	
C	Male luer plug Male luer lock plug	XJ-41507-22 XJ-41507-23		XJ-41507-54 XJ-41507-52	
D	Female luer plug	XJ-41507-24		XJ-41507-53	
E	Male luer x male luer	—	—	XJ-41507-57	
F	Male luer lock x male luer lock	XJ-41507-90		XJ-41507-55	
G	Female luer x female luer	XJ-41507-89		XJ-41507-56	
H	Male luer x 1/4" hose barb	—	—	XJ-41507-60	
I	Male luer lock x 1/16" hose barb Male luer lock x 1/8" hose barb Male luer lock x 1/4" hose barb	XJ-41507-26 XJ-41507-25 XJ-41507-27		XJ-41507-62 XJ-41507-61 XJ-41507-66	
J	Female luer x 1/16" hose barb Female luer x 1/8" hose barb Female luer x 3/16" hose barb	XJ-41507-29 XJ-41507-28 XJ-41507-30		XJ-41507-64 XJ-41507-63 XJ-41507-65	
K	Male luer lock x 10-32 UNF thread Male luer lock x 1/4-28 UNF thread Male luer lock x 1/8" NPT Male luer lock x 1/4" NPT	XJ-41507-31 XJ-41507-32 XJ-41507-44 XJ-41507-45		XJ-41507-70 XJ-41507-73 XJ-41507-84 XJ-41507-85	
L	Female luer x 10-32 UNF thread Female luer x 1/4-28 UNF thread Female luer x 1/8" NPT Female luer x 1/4" NPT	XJ-41507-33 XJ-41507-34 XJ-41507-46 XJ-41507-48		XJ-41507-71 XJ-41507-72 XJ-41507-86 XJ-41507-87	
M	Side arm injection port 2 female, 1 male luer	—	—	XJ-41507-83	

One-way stopcocks



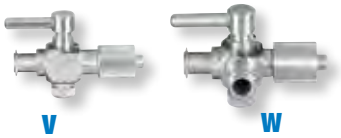
Three-way stopcocks



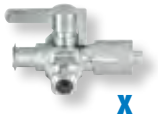
Nickel-Plated Brass and Stainless Steel Stopcocks

Key	Description	Catalog number	Price/ea
One-way stopcocks, nickel-plated brass			
N	Female luer x male luer	XJ-41507-00	
O	Female luer x male luer lock	XJ-41507-01	
P	Male luer lock x male luer lock	XJ-41507-02	
Three-way stopcocks, nickel-plated brass			
Q	Female luer x male luer x side-arm (right) female luer	XJ-41507-10	
R	Female luer x male luer lock x side-arm 1/8" hose barb	XJ-41507-11	
S	Female luer x male luer lock x side-arm female luer	XJ-41507-12	
T	Male luer lock x male luer lock x side-arm female luer	XJ-41507-13	
U	Y-stopcock 2 females, 1 male lock	XJ-41507-15	
Two- and three-way stopcocks, 303 SS			
V	Two-way, female x male luer	XJ-41607-00	
W	Three-way, female luer x male luer x male luer	XJ-41607-02	

Two- and three-way 303 SS stopcocks



Four-way stopcock





Questions?

Trust our **expert** Application Specialists to help you find the right product.

Polo, 8 years of experience

Call: 1-800-323-4340 E-mail: sales@coleparmer.com Chat live: ColeParmer.com

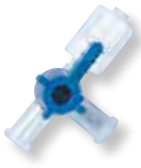
Plastic Luer Stopcocks and Manifolds

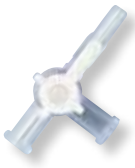
Regulate flow without any leaking

Buy More...Save More!
20% off on 100+
15% off on 50 to 99
10% off on 10 to 49 packs

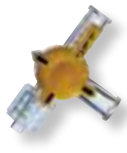

30600-00


30600-01


30600-02


30600-03


30600-04


30600-23


30600-12

Polycarbonate Stopcocks

HDPE handles rotate 360° on one-way stopcocks, 180° on three-way stopcocks, and 360° on four-way stopcocks.

Type	Description	Pack of 10		Pack of 100	
		Catalog number	Price	Catalog number	Price
Standard stopcocks					
1-way	Male lock	XJ-30600-00		XJ-30600-05	
1-way	Male luer	XJ-30600-01		XJ-30600-06	
3-way	Male lock	XJ-30600-02†		XJ-30600-07	
4-way	Male luer	XJ-30600-03		XJ-30600-08	
4-way	Male lock	XJ-30600-04		XJ-30600-09	
Large-bore stopcocks					
3-way	Male lock	XJ-30600-23		XJ-30600-25	
4-way	Male lock	XJ-30600-12		XJ-30600-17	

†Locking ring does not rotate.

PVDF Stopcocks

PVDF body with polypropylene insert.

Type	Description	Catalog number	Price‡
2-way	Female luer lock	XJ-31200-70	
3-way	Female luer lock	XJ-31200-80	

‡Quantity discounts do not apply to these items.


31200-70

High-Pressure Polycarbonate Stopcocks

Pressure rating up to 1050 psi.

Type	Description	Catalog number	Price/pk of 10
2-way	Male luer lock x female luer	XJ-30526-32	
3-way	Female luer (2) x male luer lock	XJ-30526-34	

Polycarbonate Manifolds

Manifolds have polyurethane stems, HDPE handles, and female ports.



Ports	Rotation	Individual manifolds		Pack of 10	
		Catalog number	Price	Catalog number	Price
2	180°	XJ-06464-81		XJ-30600-44	
3	360°	XJ-06464-83		XJ-30600-41	
4	180°	XJ-06464-85		XJ-30600-42	
5	360°	XJ-06464-87		XJ-30600-43	

Cole-Parmer® Gaskets for Tri-Clamp® Sanitary Fittings

Ensure a tight seal

- Meet FDA CFR Title 21 CFR 177.2600, USDA, 3A, and cGMP criteria
- Silicone, EPDM, FKM, and PTFE gaskets are free of animal-derived ingredients and meet USP Class VI, EP 3.1.9, and cytotoxicity criteria


30548-04


30548-64


30548-44

Platinum-Cured Silicone is ideal for most pharmaceutical, food, and beverage processing applications. Odorless and tasteless to ensure media purity. Usable from –58 to 446°F (–50 to 230°C). Maybe undergo SIP.

EPDM offers good chemical resistance. An economical choice for water, acetone, or ketone applications. Usable from –65 to 212°F (–54 to 100°C).

Buna N offers good chemical resistance, particularly for petroleum-based products or cold water. Usable over a range from –65 to 275°F (–54 to 135°C).

FKM offers excellent chemical resistance, especially to many acids and alkalis. Best choice for many pharmaceutical, chemical, automotive, or fuel applications. Usable from –25 to 400°F (–32 to 204°C). Sterilization is not recommended.


30548-24


30548-84

PTFE offers excellent chemical compatibility. Highly resistant to stress cracking and corrosion. Usable from –450 to 550°F (–268 to 288°C).

Cole-Parmer® 3A ANIMAL DERIVED INGREDIENT FREE

Size	Platinum-cured silicone		EPDM		Buna N		FKM		PTFE	
	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10
3/4"	XJ-30548-00		XJ-30548-60		XJ-30548-40		XJ-30548-20		XJ-30548-80	
1"	XJ-30548-02		XJ-30548-62		XJ-30548-42		XJ-30548-22		XJ-30548-82	
1 1/2"	XJ-30548-04		XJ-30548-64		XJ-30548-44		XJ-30548-24		XJ-30548-84	
2"	XJ-30548-06		XJ-30548-66		XJ-30548-46		XJ-30548-26		XJ-30548-86	
2 1/2"	XJ-30548-08		XJ-30548-68		XJ-30548-48		XJ-30548-28		XJ-30548-88	

Cole-Parmer® Polypropylene (PP) and PVDF Sanitary Clamp Fittings

Maintain sanitary conditions in your processes

- Meet USP Class VI for pharmaceutical use and FDA, USDA, and 3A standards for food contact
- All fittings are compatible with Tri-Clamp® fittings
- Excellent chemical resistance; low leachable characteristics

Note: Though both materials may be autoclaved, PVDF tolerates high temperatures better than PP does and will perform more consistently after repeated autoclaving.

Clamp size	PP		PVDF	
	Cat. no.	Price	Cat. no.	Price
A. Eccentric reducers				
1½" x ¾" mini	XJ-31805-01		XJ-31808-01	
B. Concentric reducers				
1" ladish x ¾" mini	XJ-31805-05		XJ-31808-05	
1½" x ¾" mini	XJ-31805-06		XJ-31808-06	
1½" x 1" ladish	XJ-31805-10		XJ-31808-10	
2" x 1" ladish	XJ-31805-11		XJ-31808-11	
2" x 1½"	XJ-31805-14		XJ-31808-14	
C. Barbed adapters, clamp x tubing ID				
¾" mini x ⅛"	XJ-31805-24		XJ-31808-24	
¾" mini x ¼"	XJ-31805-25		XJ-31808-25	
¾" mini x ⅜"	XJ-31805-26		XJ-31808-26	
¾" mini x ½"	XJ-31805-27		XJ-31808-27	
¾" mini x ⅝"	XJ-31805-28		XJ-31808-28	
¾" mini x ¾"	XJ-31805-29		XJ-31808-29	
1" ladish x ⅛"	XJ-31805-30		XJ-31808-30	
1" ladish x ¼"	XJ-31805-31		XJ-31808-31	
1" ladish x ⅜"	XJ-31805-32		XJ-31808-32	
1" ladish x ½"	XJ-31805-33		XJ-31808-33	
1" ladish x ¾"	XJ-31805-34		XJ-31808-34	
1" ladish x 1"	XJ-31805-35		XJ-31808-35	
1½" x 1"	XJ-31805-41		XJ-31808-41	
2" x 1"	XJ-31805-47		XJ-31808-47	
D. Pipe thread adapters, clamp x NPT(M)				
1" ladish x ⅛"	XJ-31805-56		XJ-31808-56	
1" ladish x ¼"	XJ-31805-57		XJ-31808-57	
1" ladish x ⅜"	XJ-31805-58		XJ-31808-58	
1" ladish x ½"	XJ-31805-59		XJ-31808-59	
1" ladish x ¾"	XJ-31805-60		XJ-31808-60	
1" ladish x 1"	XJ-31805-61		XJ-31808-61	
1" ladish x 1¼"	XJ-31805-62		XJ-31808-62	
1" ladish x 1½"	XJ-31805-63		XJ-31808-63	
1½" x ¾"	XJ-31805-68		XJ-31808-68	
1½" x 1"	XJ-31805-69		XJ-31808-69	
1½" x 1¼"	XJ-31805-70		XJ-31808-70	
1½" x 1½"	XJ-31805-71		XJ-31808-71	
2" x 1"	XJ-31805-77		XJ-31808-77	
2" x 1¼"	XJ-31805-78		XJ-31808-78	
2" x 1½"	XJ-31805-79		XJ-31808-79	
2" x 2"	XJ-31805-80		XJ-31808-80	
E. Pipe thread adapters, clamp x NPT(F)				
1" ladish x ¾"	XJ-31806-04		XJ-31809-04	
1" ladish x 1"	XJ-31806-05		XJ-31809-05	
1½" x 1½"	XJ-31806-15		XJ-31809-15	
F. 90° elbows				
¾" mini	XJ-31806-41		XJ-31809-41	
1" ladish	XJ-31806-42		XJ-31809-42	
1½"	XJ-31806-43		XJ-31809-43	
2"	XJ-31806-44		XJ-31809-44	
G. 45° elbows				
¾" mini	XJ-31806-51		XJ-31809-51	
1" ladish	XJ-31806-52		XJ-31809-52	
1½"	XJ-31806-53		XJ-31809-53	
2"	XJ-31806-54		XJ-31809-54	
H. Standard tees				
¾" mini	XJ-31806-61		XJ-31809-61	
1" ladish	XJ-31806-62		XJ-31809-62	
1½"	XJ-31806-63		XJ-31809-63	
2"	XJ-31806-64		XJ-31809-64	
I. Clamps				
¾" mini	—	—	XJ-31811-00	
1" and 1½"	—	—	XJ-31811-01	
2"	—	—	XJ-31811-02	
2½"	—	—	XJ-31811-03	

Specifications

Clamp size	Inner dimension (based on SS tube ID)
¾" mini	9⁄16"
1" maxi	⅞"
1" ladish†	⅞"
1½"	1⅜"
2"	1⅞"
2½"	2⅜"
3"	2⅞"

†Choose 1" ladish fittings for a direct match with 1" stainless steel sanitary connections.

Chemical resistance
PP: very good PVDF: excellent

Temperature range
PP: 15 to 180°F (–9 to 82°C)
PVDF: –40 to 280°F (–40 to 138°C)

Max pressure
In ambient conditions, using plastic true union style clamp
PP: 125 psi PVDF: 150 psi

Sterilization: EtO or autoclave

J. Nylon Clamps

Clamp size	Catalog number	Price
½" to ¾"	XJ-30508-21	
1" to 1½"	XJ-30508-23	
2"	XJ-30508-25	
3"	XJ-30508-27	
4"	XJ-30508-29	

Gaskets (not shown)

Gasket size	Catalog number	Price
Platinum-cured silicone		
¾" mini	XJ-30548-00	
1" ladish	XJ-30548-02	
1½"	XJ-30548-04	
2"	XJ-30548-06	
2½"	XJ-30548-08	
Viton®		
¾" mini	XJ-30548-20	
1" ladish	XJ-30548-22	
1½"	XJ-30548-24	
2"	XJ-30548-26	
2½	XJ-30548-28	
Buna N		
¾" mini	XJ-30548-40	
1" ladish	XJ-30548-42	
1½"	XJ-30548-44	
2"	XJ-30548-46	
2½"	XJ-30548-48	
EPDM		
¾" mini	XJ-30548-60	
1" ladish	XJ-30548-62	
1½"	XJ-30548-64	
2"	XJ-30548-66	
2½"	XJ-30548-68	
PTFE		
¾" mini	XJ-30548-80	
1" ladish	XJ-30548-82	
1½"	XJ-30548-84	
2"	XJ-30548-86	
2½"	XJ-30548-88	



Cole-Parmer® 316L and 304 Stainless Steel Sanitary Clamp Couplings

Meet FDA requirements and 3A Sanitary Standards

Cole-Parmer®

All couplings are compatible with standard 304L fittings clamps.

316L Stainless Steel Couplings are ideal for the pharmaceutical industry; they offer great chemical compatibility for use with corrosive acids and bases.

304 Stainless Steel Couplings are ideal for the food, beverage, and dairy industries; they offer good chemical compatibility and are cost effective.

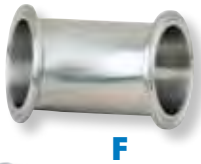
Key	Clamp size	316L stainless steel		304 stainless steel	
		Catalog number	Price	Catalog number	Price
Concentric reducers					
A	1" x ¾"	XJ-30700-50		—	—
	1½" x 1"	XJ-30700-51		XJ-30700-95	
	2" x 1"	XJ-30700-52		XJ-30700-96	
	2" x 1½"	XJ-30700-53		XJ-30700-97	
Eccentric reducers					
B	1" x ¾"	XJ-30700-54		—	—
	1½" x 1"	XJ-30700-55		XJ-30700-98	
	2" x 1"	XJ-30700-56		XJ-30700-99	
	2" x 1½"	XJ-30700-57		XJ-30701-00	
Barbed adapters					
C	¾" x ⅛"	XJ-30700-58		—	—
	¾" x ¼"	XJ-30700-59		—	—
	¾" x ⅜"	XJ-30700-60		—	—
	¾" x ½"	XJ-30700-61		—	—
	¾" x ¾"	XJ-30700-62		—	—
	1" x 1"	XJ-30700-63		XJ-30800-50	
	1½" x 1½"	XJ-30700-64		XJ-30800-51	
	2" x 2"	XJ-30700-65		XJ-30800-52	
Threaded adapters, clamp x NPT(M)					
D	¾" x ⅛"	XJ-30700-66		—	—
	¾" x ¼"	XJ-30700-67		—	—
	¾" x ⅜"	XJ-30700-68		—	—
	¾" x ½"	XJ-30700-69		—	—
	¾" x ¾"	XJ-30700-70		—	—
	1" x ¾"	XJ-30700-71		XJ-30800-53	
	1" x 1"	XJ-30700-72		XJ-30800-54	
	1" x 1½"	XJ-30700-74		XJ-30800-55	
	1" x 2"	XJ-30700-75		XJ-30800-56	
	1½" x ¾"	XJ-30700-76		XJ-30800-57	
	1½" x 1"	XJ-30700-77		XJ-30800-58	
	1½" x 1¼"	XJ-30700-78		XJ-30800-59	
	1½" x 1½"	XJ-30700-79		XJ-30800-60	
	1½" x 2"	—	—	XJ-30800-61	
90° elbows					
E	¾"	XJ-30700-80		—	—
	1"	XJ-30700-81		XJ-30800-62	
	1½"	XJ-30700-82		XJ-30800-63	
	2"	XJ-30700-83		XJ-30800-64	
45° elbows					
F	¾"	XJ-30700-84		—	—
	1"	XJ-30700-85		XJ-30800-65	
	1½"	XJ-30700-86		XJ-30800-66	
	2"	XJ-30700-87		XJ-30800-67	
Tees					
G	¾"	XJ-30700-88		—	—
	1"	XJ-30700-89		XJ-30800-68	
	1½"	XJ-30700-90		XJ-30800-69	
	2"	XJ-30700-91		XJ-30800-70	
Crosses					
H	1"	XJ-30700-92		XJ-30800-71	
	1½"	XJ-30700-93		XJ-30800-72	
	2"	XJ-30700-94		XJ-30800-73	
Clamps					
I	½" to ¾"	—	—	XJ-30800-74	
	1" to 1½"	—	—	XJ-30800-75	
	2"	—	—	XJ-30800-76	
	2½"	—	—	XJ-30800-77	
	3"	—	—	XJ-30800-78	
	4"	—	—	XJ-30800-80	

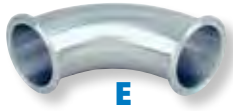

A

B


C


D


F


E


G

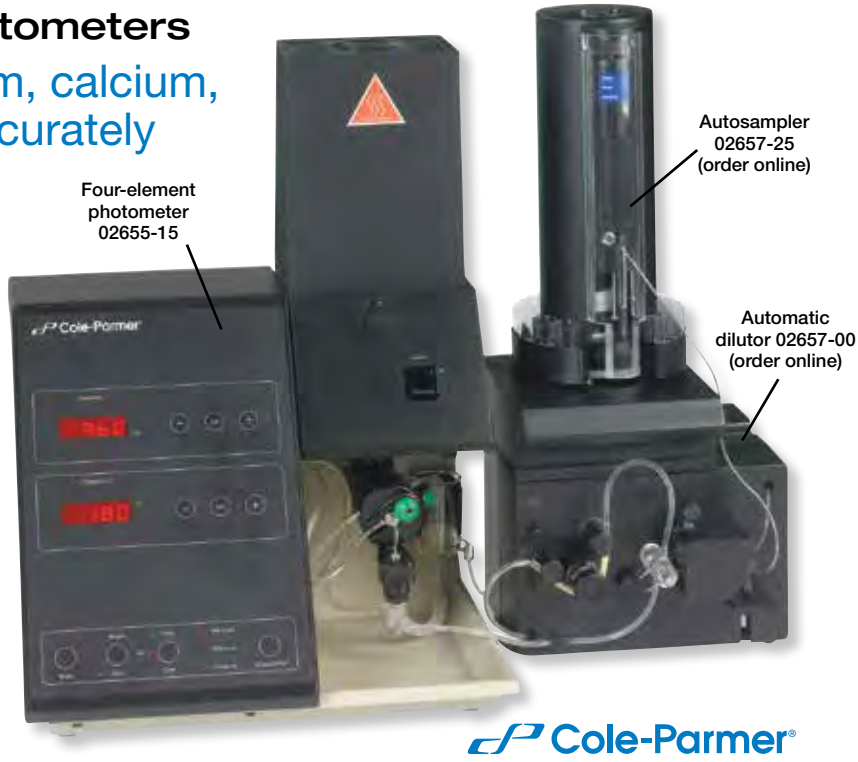

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Cole-Parmer® Flame Photometers

Determine levels of sodium, calcium, potassium, and lithium accurately

- Four-element model features additional calcium channel and lithium internal standard
- Autosampler works with the dual-channel and four-element models—ideal for your long sample runs



REQUIRED System Components

1) Pump
2) Regulator
3) Calibration standards
4) Cleaning solutions..... **ColeParmer.com**

Single-Channel Flame Photometer is designed with user ease and comfort in mind. The sample introduction port is located in the front. Filter replacement is made easy—there's no need to dismantle large sections of the unit. Special features ensure workplace safety, including an automatic gas shutoff if the flame becomes accidentally extinguished, as well as a thermally insulated chimney. Unit offers a wide measuring range of 0 to 1999.

Dual-Channel Three-Element Flame Photometer offers improved analytical performance over single-channel flame photometers in the measurement of sodium, potassium, and lithium ions. Features include automatic ignition sequence, lithium internal standard, monitoring and control software, and dual-channel display. Built-in linearizing software allows sodium measurements up to 40 ppm.

Obtain Na^+ and K^+ results simultaneously. The lithium internal standard signal reduces fluctuation in flame conditions, drift, and dilution errors—ensures reproducible results and precise measurements. The fully automatic ignition and flame optimization sequences reduce set up and calibration time. An automatic gas shutoff mechanism activates if the flame is accidentally extinguished or if air pressure drops. Monitoring and control software allow measurements only after blanking and calibration.

Dual-Channel Four-Element Flame Photometer offers the same great features found on our dual-channel flame photometer, plus a calcium channel and direct measurement of Ca^+ with potassium, which are two vital elements for soil analysis. Unit allows you to measure Ca^+ in combination with sodium, and also with lithium without an internal standard. Use this flame photometer as a detector in combination with multichannel analyzers from SEAL Analytical, Skalar, and Lachat. This system includes its own protocols for calibration, and features a special mode allowing you to set up the flame photometer within these protocols. User-selectable signal averaging is designed into the system allowing you to use these protocols along with analog output.

Specifications

Specificity: less than 0.5% interference when concentrations are equal to test sample concentrations
Linearity: less than ±1% at midpoint with 3 ppm K^+ set at 100
Aspiration rate: 3 to 6 mL/min
Fuel supply: high-grade propane, butane, or propane/butane mixture regulated at approx 30 psi (natural gas—only with single-channel photometer)

Required Components for all Flame Photometers

1. Vacuum/Compressor Air Pump

Description	Catalog number	Price
Vacuum/compressor air pump with regulator	XJ-07061-40	

2. Primary Regulators

Gas	Cylinder	Catalog number	Price
Propane	⅝" BSP	XJ-02655-20	
Butane	"Gaz" type	XJ-02655-24	
Natural	—	XJ-02655-26	
Propane	7.5 cu ft, disposable	XJ-02655-30	

3. Calibration Standards. Packaged in six 100-mL bottles.

Type	Concentration	Catalog number	Price/pk
Sodium	1000 ppm	XJ-02655-70	
Potassium	1000 ppm	XJ-02655-71	
Lithium	1000 ppm	XJ-02655-72	
Calcium	1000 ppm	XJ-02655-73	

4. Cleaning Solutions. Order at ColeParmer.com

Description	Single-channel	Dual-channel three-element	Dual-channel four-element
Catalog number	XJ-02655-00	XJ-02655-10	XJ-02655-15
Elements analyzed	Na^+, Ca^+, K^+, Ba^+, Li^+	Na^+, K^+ (with Li^+ internal standard), Li^+	Na^+, Ca^+, K^+ (with Li^+ internal standard), Li^+
Measuring ranges	0 to 1999	ppm: all 1.00 to 9.99, 10.0 to 199.9 mmol/L: as above except Li^+ only 1.00 to 5.00	ppm: all 1.00 to 9.99, 10.0 to 199.9 mmol/L: as above except Li^+ only 1.00 to 5.00
Readout	No units	No units or mmol/L	No units or mmol/L
Sensitivity (100 displayed)	Na^+ and K^+ = 0.5 ppm; Ca^+ = 5 ppm Ba^+ = 1000 ppm; Li^+ = 2 ppm	Na^+ and K^+ = 0.5 ppm; Li^+ = 2 ppm	Na^+ and K^+ = 0.5 ppm; Ca^+ = 5 ppm; Li^+ = 2 ppm
Reproducibility	Less than ±2%	Less than ±0.5%	Less than ±0.5%
Reading stabilization	20 seconds	Variable software command	Variable software command
Recorder output	0 to 200 mV fsd	Two outputs: 50 mV to 7.5 V via software command	Two outputs: 50 mV to 7.5 V via software command
Air supply (required)	6 liters/min at 12 psi, oil and moisture free	6 liters/min at 12 psi, oil and moisture free	6 liters/min at 15 psi, oil and moisture free
Price			

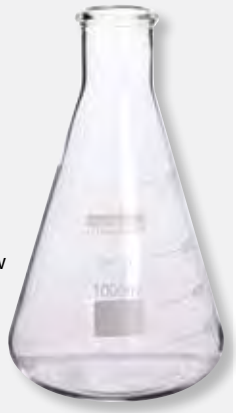
Cole-Parmer® elements™ Erlenmeyer Flasks, Glass

NEW

Economical option for everyday lab use

- Easy-read graduations and marking area
- Withstands wide temperature range –50 to 550°C; autoclavable
- Graduated tolerances to ±0.05

Made with durable borosilicate 3.3 glass and featuring a heavy-duty rim with narrow-mouth opening, there are very few applications these flasks cannot handle.



elements™ Cole-Parmer®

Buy More...Save More!
15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Catalog number	Qty/ pk	Price/pk
25 (⅞)	10 to 25	5	XJ-34502-55	24	
50 (1¾)	20 to 50	10	XJ-34502-56	12	
100 (3)	40 to 100	20	XJ-34502-57		
125 (4)	50 to 125	20	XJ-34502-58		
250 (8)	100 to 250	50	XJ-34502-59		
300 (10)	100 to 300	50	XJ-34502-60	8	
500 (16)	200 to 500	100	XJ-34502-61		
1000 (32)	400 to 1000	100	XJ-34502-62	6	
2000 (64)	800 to 2000	400	XJ-34502-63	1	
3000 (96)	1000 to 3000	500	XJ-34502-64		
4000 (128)	2000 to 4000	500	XJ-34502-65		
5000 (160)	2000 to 5000	500	XJ-34502-66		
6000 (192)	3000 to 6000	500	XJ-34502-67		

Cole-Parmer® elements™ Volumetric Flasks, Glass

Quality borosilicate 3.3 glass

- White easy-read marking for volume
- Calibrated "To Contain" (IN) by DIN at 20°C
- Withstands wide temperature range –50 to 550°C; autoclavable
- Tight tolerances from ±0.015 to ±1.2 depending on size
- With glass pennyhead stoppers

NEW



elements™ Cole-Parmer®

Buy More...Save More!
15% off on 10+ packs or cases **10%** off on 5 to 9 packs or cases

Capacity (mL)	Tolerance (mL)	Catalog number	Qty/ pk	Price/ pk
2	±0.015	XJ-34502-77	10	
5	±0.02	XJ-34502-78		
10	±0.025	XJ-34502-79	2	
20	±0.030	XJ-34502-80		
25	±0.04	XJ-34502-81		
50	±0.05	XJ-34502-82		
100	±0.1	XJ-34502-83	2	
200	±0.15	XJ-34502-84		
250	±0.15	XJ-34502-85		
500	±0.2	XJ-34502-86		
1000	±0.4	XJ-34502-87	1	
2000	±0.6	XJ-34502-88		
5000	±1.2	XJ-34502-89		

Cole-Parmer® Class A Erlenmeyer Flasks, Glass

Don't break the bank

- Easy-reading, white enamel graduations
- Stands up to the heat—752°F (400°C) for short-term exposure and 445°F (230°C) for long-term exposure
- Class A borosilicate glass meets ASTM E 1404, DIN 12380 specifications
- Autoclavable



Cole-Parmer®

Buy More...Save More!
15% off on 10+ packs or cases
10% off on 5 to 9 packs or cases

Capacity (mL)	Stopper no.	Graduation range (mL)	Graduation (mL)	Catalog number	Qty/ pk	Price/ pk
100	5	50 to 100	25	XJ-34506-10	12	
250	6	50 to 200	25	XJ-34506-12	12	
500	7	100 to 500	50	XJ-34506-14	6	
1000	9	250 to 1000	50	XJ-34506-16	6	
2000	10	600 to 1900	100	XJ-34506-18	1	
3000	10	1000 to 3000	500	XJ-34506-20	1	

PYREX® Brand 5580 Volumetric Flasks

Easy and accurate dilutions—sharp line for precise volume

- Durable construction for repeated use
- Class A glassware
- Snap caps included on 10- to 2000-mL sizes



Buy More...Save More!
15% off on 10+ packs or cases
10% off on 5 to 9 packs or cases

Capacity (mL)	Tolerance (±mL)	Catalog number	Qty/ pk	Price/ pk	Catalog number	Qty/ cs	Price/ cs
1	0.01	XJ-34560-01	6		XJ-34560-21	12	
2	0.015	XJ-34560-02	6		XJ-34560-22	12	
10	0.02	—	—	—	XJ-34560-24	12	
25	0.03	XJ-34560-05	6		XJ-34560-25	12	
50	0.05	XJ-34560-06	6		XJ-34560-26	12	
100	0.08	XJ-34560-07	6		XJ-34560-27	12	
200	0.10	XJ-34560-08	6		XJ-34560-28	12	
250	0.12	XJ-34560-09	6		XJ-34560-29	12	
500	0.20	XJ-34560-10	6		XJ-34560-30	12	
1000	0.30	XJ-34560-11	1		XJ-34560-31	6	
2000	0.50	XJ-34560-12	1		XJ-34560-32	4	

Cole-Parmer® Acrylic Variable-Area Flowmeters for Bench or Panel Mount

Don't sacrifice durability for precision

- Easily and precisely control flow of your application via manual valve
- Durable acrylic bodies with integral metering tubes for accurate readings
- Stand up to even aggressive plant environments
- Versatile—easy panel installation or move from bench to bench with optional tripod base 32462-50 (order separately at ColeParmer.com)



32461-60 flowmeter shown on tripod base 32462-50

For LIQUIDS For GASES

Specifications

Accuracy:
2" and 50-mm models: ±5% FS
4" and 100-mm models: ±3% FS
5" and 127-mm models: ±2% FS

Media type: liquids or gases

Max pressure: 100 psi (6.9 bar)

Max operating temp: 150°F (65°C)

Connections:
2", 4", 50-mm, and 100-mm models: ⅛" NPT(F)†
5" and 127-mm models: 1" NPT(F)

Materials of construction

Part	2" and 50 mm	4" and 100 mm	5" and 127 mm
Body	Acrylic		
Fittings	Brass		PVC
O-rings	Buna N		
Float	Black glass (BG), Aluminum (AL)	316 Stainless steel (SS)	

Flowmeters with Valves; English-Unit Scale

Float‡	For liquid applications			For air applications		
	Flow range	Cat. no.	Price	Flow range	Cat. no.	Price
Flowmeters with 2" scale						
BG	0.2–2 GPH	XJ-32460-00		0.1–1 scfh	XJ-32460-10	
SS	0.4–5 GPH	XJ-32460-02		0.2–2 scfh	XJ-32460-12	
BG	1–10 GPH	XJ-32460-04		0.4–5 scfh	XJ-32460-14	
SS	2–20 GPH	XJ-32460-06		0.5–10 scfh	XJ-32460-16	
BG	—	—	—	4–50 scfh	XJ-32460-22	
SS	4–40 GPH	XJ-32460-08		10–100 scfh	XJ-32460-24	
SS	—	—	—	20–200 scfh	XJ-32460-26	
Flowmeters with 4" scale						
SS	1–10 GPH	XJ-32461-00		0.4–5 scfh	XJ-32461-10	
SS	2–25 GPH	XJ-32461-02		1–10 scfh	XJ-32461-12	
SS	6–60 GPH	XJ-32461-06		4–40 scfh	XJ-32461-16	
SS	0.2–2.5 GPM	XJ-32461-07†		10–100 scfh	XJ-32461-18	
SS	0.4–5 GPM	XJ-32461-08†		20–200 scfh	XJ-32461-22	
AL	—	—	—	0.5–5 scfm	XJ-32461-24†	
SS	—	—	—	1–10 scfm	XJ-32461-26†	
Flowmeters with 5" scale						
SS	1–10 GPM	XJ-32466-50		3–25 scfm	XJ-32466-60	
SS	2–20 GPM	XJ-32466-52		4–50 scfm	XJ-32466-62	

†These models have dual scale: GPM/GPH, scfm/scfh, LPM/LPH; they also have ¼" NPT(F) connections and use optional tripod base 32462-60 sold separately online.
‡Float material key: BG = black glass, SS = stainless steel, AL = aluminum.

Flowmeters without Valves; English-Unit Scales

Float‡	For liquid applications			For air applications		
	Flow range	Cat. no.	Price	Flow range	Cat. no.	Price
Flowmeters with 4" scale						
SS	1–10 GPH	XJ-32458-00		0.4–5 scfh	XJ-32458-10	
SS	—	—	—	0.5–5 scfm	XJ-32458-24†	
SS	—	—	—	1–10 scfm	XJ-32458-26†	
Flowmeters with 5" scale						
SS	0.4–5 GPM	XJ-32462-00		3–25 scfm	XJ-32458-10	
SS	2–20 GPM	XJ-32462-04		—	—	—

Flowmeters with Valves; Metric-Unit Scales

Float‡	For liquid applications			For air applications		
	Flow range (mL/min)	Catalog number	Price	Flow range (LPM)	Catalog number	Price
Flowmeters with 50-mm scale						
BG	—	—	—	0.04 to 0.5	XJ-32460-40	
SS	10 to 100	XJ-32460-32		0.1 to 1	XJ-32460-42	
SS	20 to 240	XJ-32460-34		0.4 to 5	XJ-32460-44	
SS	—	—	—	1 to 10	XJ-32460-46	
AL	—	—	—	2 to 25	XJ-32460-48	
SS	—	—	—	4 to 50	XJ-32460-50	
SS	—	—	—	10 to 100	XJ-32460-52	
Flowmeters with 100-mm scale						
SS	4 to 50	XJ-32461-30		0.4 to 5	XJ-32461-50	
SS	10 to 120	XJ-32461-32		1 to 10	XJ-32461-52	
BG	25 to 225	XJ-32461-34		2 to 20	XJ-32461-54	
SS	40 to 400	XJ-32461-36		3 to 30	XJ-32461-56	
SS	40 to 660	XJ-32461-38		4 to 50	XJ-32461-58	
SS	100 to 1500	XJ-32461-40		10 to 100	XJ-32461-60	
SS	200 to 3000	XJ-32461-42		14 to 140	XJ-32461-62†	
SS	0.8 to 9 LPM	XJ-32461-44†		30 to 280	XJ-32461-64†	
SS	1.5 to 20 LPM	XJ-32461-46†		—	—	—
Flowmeters with 127-mm scale						
SS	4 to 36 LPM	XJ-32466-54		100 to 700	XJ-32466-66	
SS	—	—	—	400 to 3400	XJ-32466-70	

Flowmeters without Valves; Metric-Unit Scales

Float‡	For liquid applications			For air applications		
	Flow range (mL/min)	Catalog number	Price	Flow range (LPM)	Catalog number	Price
Flowmeters with 50-mm scale						
BG	—	—	—	0.04 to 0.5	XJ-32457-40	
BG	10 to 100	XJ-32457-32		0.1 to 1	XJ-32457-42	
SS	20 to 240	XJ-32457-34		0.4 to 5	XJ-32457-44	
SS	—	—	—	1 to 10	XJ-32457-46	
Flowmeters with 100-mm scale						
BG	4 to 50	XJ-32458-30		0.4 to 5	XJ-32458-50	
SS	10 to 120	XJ-32458-32		1 to 10	XJ-32458-52	
BG	25 to 225	XJ-32458-34		2 to 20	XJ-32458-54	
SS	40 to 400	XJ-32458-36		3 to 30	XJ-32458-56	
SS	40 to 660	XJ-32458-38		4 to 50	XJ-32458-58	
SS	100 to 1500	XJ-32458-40		10 to 100	XJ-32458-60	
SS	200 to 3000	XJ-32458-42		14 to 140	XJ-32458-62†	
SS	0.8 to 9 LPM	XJ-32458-44†		30 to 280	XJ-32458-64†	
SS	1.5 to 20 LPM	XJ-32458-46†		80 to 560	XJ-32458-65†	
Flowmeters with 127-mm scale						
SS	1 to 15 LPM	XJ-32462-20		100 to 700	XJ-32462-30	
SS	4 to 36 LPM	XJ-32462-22		100 to 1400	XJ-32462-32	
SS	5 to 75 LPM	XJ-32462-24		400 to 3000	XJ-32462-34	

Cole-Parmer® Flowmeters and Proportional Controllers for Gases

Measure 130 standard gases—user selectable from display

– Accuracy of ±0.8% of reading +0.2% full-scale; repeatability of ±0.2%
– 100 to 1 turndown with ranges of 1 SCCM full-scale up to 1000 SLPM
– Models with 4 to 20 mA output or totalizer are available

These meters measure flow via pressure drop across a laminar flow element (LFE). Because the flow element makes the flow stream laminar, placement in the process does not require straight pipe runs upstream or downstream of the meter, greatly simplifying installation. As compared to thermal mass technologies, the LFE design provides an ultrafast response within 10 milliseconds and offers "instant on" with no warm-up time.

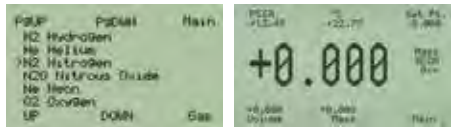
An integrated keypad around the display is all that is required to program the unit for service. The 0 to 5 VDC output allows transmission of the flow value to a remote display, recorder, or controller regulating a valve or pump.

Flow controllers feature an integrated PID to direct the unit's response to process changes. Flow set point is established with keypad, the optional set point control module, a 0 to 5 V signal, or an RS-232 input signal. Order set point control modules separately from the table. For portable flow metering applications, order the battery pack listed below table.

What's included: 120/230 VAC power adapter with communications cable 32929-89 and NIST-traceable calibration report supplied by the manufacturer.



Flow controller
32907-51



Meters and controllers feature a dynamic display that simultaneously shows flow rate, line pressure, fluid temperature, and (for controllers) the set point. For the units shown, both power and input/output signals are transmitted through a single multi-pin connector.



Mass flowmeter 32908-59
shown with optional
battery pack 32929-50

Cole-Parmer®

CE For GASES

Specifications

Max particulate size:
Up to 1 LPM: 20 µm
>1 LPM to 1000 LPM: 50 µm
Accuracy: ±0.8% of reading, +0.2% full-scale
Repeatability: ±0.2%
Response time:
Flowmeters: 10 msec
Flow controllers: 50 msec
Operating temperature:
14 to 122°F (–10 to 50°C)
Max pressure: 145 psig (9.9 bar)

Pressure drop: 0.8 to 3.2 psig (flowmeter)
Output signal: 0 to 5 VDC, RS-232
Input signal: 0 to 5 VDC and RS-232
Wetted materials:
Flowmeters: 302 and 303 SS, Viton®, silicone RTV, and glass-reinforced nylon, aluminum
Flow controllers: 302, 303; Viton, silicone RTV, glass-reinforced nylon, aluminum, brass, 410 SS, silicon, glass

Power:
Flowmeters: 7 to 30 VDC at 30 mA
Flow controllers
Models ≤10 LPM: 12 to 30 VDC at 250 mA
Models ≤50 LPM: 24 to 30 VDC at 750 mA
Display type: four-digit, seven-line LCD; ¼"H flow display
Connections:
≤ 10 mL/min: 10-32 UNF
50 mL/min to 10 LPM: ⅛" NPT(F)
50 to 100 LPM: ¼" NPT(F)
100 and 250 LPM: ½" NPT(F)
500 and 1000 LPM: ¾" NPT(F)

Flow range	Mass flowmeters		Mass flow controllers		Set point modules†	
	Catalog number	Price	Catalog number	Price	Catalog number	Price
0.01 to 1 mL/min	XJ-32908-51		XJ-32907-51		XJ-32907-83	
0.05 to 5 mL/min	XJ-32908-53		XJ-32907-53		XJ-32907-85	
0.1 to 10 mL/min	XJ-32908-55		XJ-32907-55		XJ-32907-87	
0.5 to 50 mL/min	XJ-32908-57		XJ-32907-57		XJ-32907-89	
1 to 100 mL/min	XJ-32908-59		XJ-32907-59		XJ-32907-91	
2 to 200 mL/min	XJ-32908-61		XJ-32907-61		XJ-32907-93	
5 to 500 mL/min	XJ-32908-63		XJ-32907-63		XJ-32907-97	
0.01 to 1 LPM	XJ-32908-67		XJ-32907-67		XJ-32907-83	
0.05 to 5 LPM	XJ-32908-69		XJ-32907-69		XJ-32907-85	
0.1 to 10 LPM	XJ-32908-71		XJ-32907-71		XJ-32907-87	
0.5 to 50 LPM	XJ-32908-73		XJ-32907-73		XJ-32907-89	
1 to 100 LPM	XJ-32908-75		XJ-32907-75		XJ-32907-91	
2.5 to 250 LPM	XJ-32908-77		XJ-32907-77		XJ-32907-95	
5 to 500 LPM	XJ-32908-79		XJ-32907-79		XJ-32907-97	
10 to 1000 LPM	XJ-32908-81		XJ-32907-81		XJ-32907-99	

†May be ordered as an option.

XJ-17080-10 **NIST-traceable recalibration**
XJ-32929-50 **Battery pack,** for portable operation of mass or volumetric flowmeter only

XJ-32929-89 **Replacement communication cable,** 8-DIN to stripped ends

Cole-Parmer® Handheld Doppler Flowmeter

Diagnose flow profiles throughout a process easily



– Unit uses advanced signal processing to measure flow in pipe sized 1" to 60" (2.5 to 152.4 cm) in diameter

This noninvasive design is uniquely suited for measuring slurries and dirty fluids—ideal for chemical industry, construction, mining, food processing, and sewage/water treatment plants.

Install sensor on dense-material pipes (not typically transit/clay, concrete or fiberglass). View flow velocity in ft/sec or m/sec (switch selectable) on a large character 4-digit LCD; also displayed is signal strength and low-battery condition. The unit's power management capabilities extend battery life to 30 continuous hours.

What's included: case, sensor with 6-ft (1.8-m) cable, tube of transducer couplant, and four AA batteries.

Cole-Parmer®

Range	Accuracy	Repeatability	Catalog number	Price
0.30 to 30 ft/sec (0.1 to 9 m/sec)	±2% full-scale	±1% full-scale	XJ-32986-00	

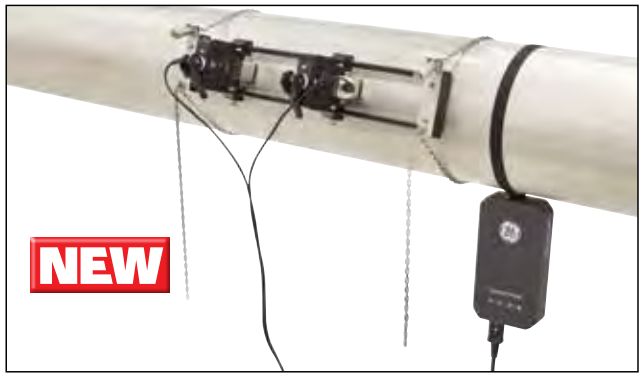
XJ-09376-01 **Replacement batteries,** AA. Pack of four

Specifications

Liquid type: fluids with particulates or bubbles; 100 ppm, 100 microns, or larger
Operating temperature: –28 to 140°F (–20 to 60°C)
Display: single-line 4-digit LCD
Power: four alkaline AA batteries (included)

GE Measurement & Control TransPort® PT900 Portable Ultrasonic Flowmeter

Get more done in a day with intuitive tablet interface



– *Bluetooth*® communication and tablet compatibility increase portability
– Foolproof clamping fixture ensures precise measurements
– Onboard transmitter memory stores 8 GB of log data
– Easy to install—ideal for spot metering flow, checking other meters, or for temporary installations
– No need to stop process while taking measurements with noninvasive clamp-on design

Using any tablet with Android™, download and install the free app for setup, control, and data collection. Parameters measured include velocity, volume, mass, energy, and total flow. The fast-response single-channel transmitter features status indicator LEDs to ensure it's always ready to use.

Rugged transducers are IP65 rated and work with acoustically conductive liquids, from clean water to crude oil. Versatile transit-time technology is compatible with all metal and most plastic pipe materials, pipe sizes up to 300" (750 cm) dia, and pipe wall thickness up to 3" (7.62 cm). The clamp-on fixture is easy to install, eliminating confusion and time lost to repositioning.

Choose from two complete kits (24500-23 and -24) or order the flowmeter transmitter (24500-00) and adapter (24500-84) separately if you already have transducers (C-RS, C-PT, or C-ET models) and a universal clamping fixture (32486-67 or -68).

Specifications

Flow range: 0.1 to 40 ft/s (0.03 to 12.19 m/s), bidirectional
Clamp-on accuracy: ±1% of reading for pipe sizes greater than 2" (50 mm) dia; ±2% of reading for pipe sizes ½" to <2" (15 to <50 mm) dia
Repeatability: ±0.2% of reading
Analog input: 4 to 20 mA
Analog output: 4 to 20 mA
Digital output: pulse (totalizer), frequency, alarm
Digital communication: Modbus via RS-485 port, *Bluetooth*® wireless, micro-USB port
Operating temperature: –4 to 140°F (–20 to 55°C) transmitter; –40 to 302°F (–40 to 150°C) transducers and clamp-on fixture
Power: rechargeable Li-ion battery (included)

Description	Catalog number	Price
Ultrasonic flowmeter transmitter, cables, soft-sided case	XJ-24500-00	
Kit: ultrasonic flowmeter transmitter, cables, transducers for 2" to 24" (5 to 60 cm) dia pipe, clamp-on fixture, and soft-sided case	XJ-24500-23	
Kit: ultrasonic flowmeter transmitter, cables, transducers for 2" to 24" (5 to 60 cm) dia pipe, clamp-on fixture, and hard-sided case	XJ-24500-24	

XJ-24500-84 **Transducer cable adapter** for C-RS, C-PT or C-ET transducer models; TNC to BNC
XJ-32486-67 **Universal clamping fixture** for 2" to 12" pipes
XJ-32486-68 **Universal clamping fixture** for 2" to 24" pipes

Wait!
There's More at ColeParmer.com
Find all the product specs you need!

Cole-Parmer® Heavy-Duty Flowmeters/Totalizers

Eliminate the need for expensive wiring with battery power

- Two totalizers allow for process or period-specific volume monitoring
- Measure linerly across a range and record a cumulative volume



05609-17

05609-21

Cole-Parmer®

These heavy-duty in-line flowmeters/totalizers display flow rate and accumulated flow in GPM or LPM. The compact yet robust design makes them ideal for use in manufacturing, pilot-plant, or quality control areas. Meters are factory-calibrated using water, but can store two application-specific K-factors determined in process. To conserve power, the six-digit display automatically turns on with flow and then turns off four minutes after flow ceases.

ATEX Zone 2 · For Liquids

Specifications

Fluid types: Low-viscosity liquids
Accuracy: Models up to 20 GPM (76 LPM) : ±2% of reading; remaining models: ±1.5% of reading
Repeatability: ±0.1% of reading
Display: 6-digit LCD, ½"H (with floating decimal)
Operating temperature: 14 to 140°F (–10 to 60°C)
Maximum particulate size:
Models with ≤50 GPM max flow rate: 125 µm
Models with >50 GPM max flow rate: 500 µm
Power: Two 3 V lithium batteries (included)
Battery life: 9000 hours nominal

Flow range	Connections	Body material	Catalog number	Price
1 to 10 GPM (3.8 to 37.9 LPM)	½" NPT(F)	Aluminum	XJ-05609-01	
	½" NPT(F)	316 SS	XJ-05609-03	
	¾" Sanitary†	316 SS	XJ-05609-05	
2 to 20 GPM (7.6 to 75.7 LPM)	¾" NPT(F)	Aluminum	XJ-05609-07	
	¾ " NPT(F)	316 SS	XJ-05609-09	
	1" Sanitary†	316 SS	XJ-05609-11	
5 to 50 GPM (18.9 to 190 LPM)	1" NPT(F)	Aluminum	XJ-05609-13	
	1" NPT(F)	316 SS	XJ-05609-15	
	1½" Sanitary†	316 SS	XJ-05609-17	
	1" ANSI‡	316 SS	XJ-05609-19	
10 to 100 GPM (38 to 380 LPM)	1½" NPT(F)	Aluminum	XJ-05609-21	
	1½" NPT(F)	316 SS	XJ-05609-23	
	2" Sanitary†	316 SS	XJ-05609-25	
	1½" ANSI‡	316 SS	XJ-05609-27	
20 to 200 GPM (6 to 760 LPM)	2" NPT(F)	Aluminum	XJ-05609-29	
	2" NPT(F)	316 SS	XJ-05609-31	
	2½" Sanitary†	316 SS	XJ-05609-33	
	2" ANSI‡	316 SS	XJ-05609-35	

†Sanitary flange ‡150# ANSI flange

Masterflex® Ultrasonic Flow Sensors

Maintain accurate flow rates without affecting working fluid



Clamp-on sensor design makes setup easy—simply place the tubing in the sensor channel and close the lid.

- Noninvasive design eliminates contact with working fluid—ideal for applications with strict hygienic standards
- Provides accurate readings not affected by fluid color, tube color, or electromagnetic properties of liquids
- Continuously monitor peristaltic pump flow rates and send data directly to your computer with optional communications package
- Ready to use out of the box—calibrated for use with Masterflex L/S® and I/P® platinum-cured silicone tubing
- Easily adapt application settings using optional communications package

Each sensor comes calibrated to national measurement standards for the appropriately sized Masterflex platinum-cured silicone tubing when water is the working fluid and across the full flow range. Adapt for use with other working fluids or Masterflex tubing materials of the same size with the optional communications package. For best accuracy, the sensor should be calibrated for the specific working fluid.

What's included: flow sensor, cable, and calibration certificate.

MASTERFLEX® IP65

Specifications

Accuracy: ±2 to 4% after using calibration software
Output: RS-485, 4 to 20 mA, 0 to 20 kHz, or PNP-NPN
Enclosure rating: IP65

For Masterflex tubing size	Max flow rate†		Min flow rate		Catalog number	Price
	GPH	mL/min	GPH	mL/min		
Engineered for L/S Precision tubing						
13	0.57	36	0.48	30	XJ-33501-13	
14	2.06	130	0.48	30	XJ-33501-14	
16	7.61	480	0.48	30	XJ-33501-16	
25	15.85	1000	0.48	30	XJ-33501-25	
17	26.95	1700	0.48	30	XJ-33501-17	
18	36.46	2300	0.48	30	XJ-33501-18	
Engineered for L/S High-Performance Precision tubing						
15	14.4	1100	0.48	30	XJ-33501-15	
24	28.53	1800	0.48	30	XJ-33501-24	
35	41.21	2600	0.48	30	XJ-33501-35	
36	53.89	3400	0.48	30	XJ-33501-36	
Engineered for I/P Precision tubing						
26	63.4	4000	0.48	30	XJ-33501-26	
73	126.8	8000	0.48	30	XJ-33501-73	

†Higher flow rates can be measured, the stated maximum flow rate is that of the tubing.

XJ-33501-96 **Communications package** for Masterflex ultrasonic flow sensors. Includes software for data capture and calibration on USB drive and connector cable

LEVIFLOW® Single-Use Precision Ultrasonic Flowmeters

Be ultraclean with your high-purity fluids

NEW

- Avoid contamination—no moving or obtrusive parts
- Nonintrusive design won't affect the working fluid
- Easily configure flow sensor parameters via software
- Integrated sanitary clamp fittings for one-time use



These noninvasive ultrasonic flowmeter systems are designed for use in applications were cleanliness and precision are a necessity! The starter kit includes components to get a system in place, then just choose a flow sensor at your desired flow range and sterility.

REQUIRED System Components

1) Starter kit
2) Flow sensor

Starter kit includes a single-channel flow converter with DSP for processing the sensor's signals, connection cables for meter to PC and meter to flow sensor, power supply and cord, and configuration software on a USB stick. Converter also features a 4-digit LED display indicating the flow value.

Flow sensors feature integral sanitary Tri-Clamp® connections and polypropylene (FDA, USP VI, ADI-free) wetted material; sterile models are gamma irradiated. Sensors are IP65 rated and have a watertight connection box. Accuracy is ±1%.

1. Starter Kit

CE

Model	Fluid temperature	Power	Catalog number	Price
LFC-1C-PC-SK	50 to 140°F (10 to 60°C)	24 VDC ±10%	XJ-24500-07	

2. Single-Use Flow Sensors

Model	±1% accuracy at flow range	Connection size	Sterile	Catalog number	Price
LFS-03SU-Z	35 to 800 mL/min	⅜" Tri-Clamp	—	XJ-24500-08	
LFS-03SU-Z-G25			Yes	XJ-24500-09	
LFS-06SU-Z	1.7 to 8 L/min	⅜" Tri-Clamp	—	XJ-24500-10	
LFS-06SU-Z-G25			Yes	XJ-24500-11	
LFS-06SU-Z-SC1	0.08 to 8 L/min	⅜" Tri-Clamp	—	XJ-24500-12	
LFS-06SU-Z-SC1-G25			Yes	XJ-24500-13	
LFS-10SU-Z	4.7 to 20 L/min	½" Tri-Clamp	—	XJ-24500-14	
LFS-10SU-Z-G25			Yes	XJ-24500-15	
LFS-20SU-Z	18.8 to 80 L/min	1" Tri-Clamp	—	XJ-24500-16	
LFS-20SU-Z-G25			Yes	XJ-24500-17	

LEVIFLOW® Integrated Ultrasonic Flowmeter

Simple, compact design reduces cabling and setup time

- Noninvasive flow measurement eliminates contamination
- Requires no special maintenance due to lack of moving parts
- Easily configure flow sensor parameters with PC software
- No corner or dead zones with straight-through flow path



This integrated ultrasonic flowmeter is designed for noninvasive flow measurement of high-purity fluids found in the semiconductor and chemical industries. Flow is sensed by two piezoelectric transducers mounted at both ends of the measuring path of the fluid stream, generating and receiving an ultrasonic wave. The wave going in direction of the flow (with-stream wave) is accelerated and the wave going against (against-stream wave) the flow direction is slowed down. The two waves are processed by a signal converter. The difference of the transmit time of both waves is proportional to the velocity of the fluid.

The flowmeter consists of a ⅜" (9.5 mm) PFA tube (9.52 mm OD, 6.38 mm ID), a flow sensor, and an integrated converter with a digital signal processor (DSP) containing special algorithms, which increase the robustness of the measurement against bubbles. Simple, compact design features one connection cable, an analog and digital output, a two-wire RS-485 bus to communicate with a computer, high/low LED alarm indicators, LED flow indicator, and zero adjustment activation button.

What's included: 16.4-ft (5-m) PVC extension cable.

CE IP65

Specifications

Operating temperature: 32 to 122°F (0 to 50°C)
Fluid temperature: 50 to 176°F (10 to 80°C)
Max pressure: 5 bar (72.5 psi)
Wetted materials: PFA
Housing material: PPS (body), FKM (sealing gaskets), PEEK™ (screws), and PET (label)
Output: MODBUS®, RS-485, and 0 to 20 mA
Dimensions (L x W x H): 11¾" x ⅞" x 2¼" (30 x 2.1 x 5.7 cm)
Power: 24 VDC

Flow range (LPM)	Accuracy of reading at 68°F (20°C) water	Kinematic viscosity	Catalog number	Price
0 to 10	>1.7 L/min: ±2%; <1.7 L/min: ±34 mL/min	0.36 to 1.3 cSt	XJ-24500-21	

Accessories

XJ-24500-22 **USB to RS-485 adapter** for computer communications

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Shimpo Digital Force Gauges

Simple, cost-effective tension and compression testing with data logging

- Three modes of operation—track, peak and preset limits—offer maximum flexibility
- Set limits for quick visual and audible indication if a test passes or fails
- 180° reversible display with tension/compression icons and vertical printed keypad allow for portable or mounting configurations
- Comparator output function provides easy pass/fail testing system integration capabilities
- Multilanguage and engineering units offer additional flexibility
- Free downloadable data logging/graphing software for quick and easy data analysis
- Rugged, ergonomic construction withstands demanding applications



The Shimpo FG-3000 series digital force gauges allow you to log up to 500 readings and to view data on the screen, send to the optional printer, or upload via the free downloadable software for graphing and statistical analysis capabilities. The wide measuring range (2.2 to 220 lb) is ideal for incoming quality inspection, finished goods testing, R&D, and almost any portable or force stand testing applications.

What's included: hook, flat tip, conical tip, chisel tip, notched tip, extension shaft, USB cable, carrying case, batteries, AC adapter/charger, and calibration report supplied by the manufacturer.

Specifications

Accuracy: ±0.3% full scale
Sampling rate: 1000 Hz
Overload: 150% of full scale (LCD flashes beyond 110% of full scale)
Outputs: USB, RS-232, high and low limit NPNs
Memory: 500 data points
Display: alphanumeric backlit LCD
Operating temperature: 14 to 104°F (–10 to 40°C)
Dimensions (L x W x H): 5½" x 2¾" x 1½" (14 x 7.1 x 3.6 cm)
Power: rechargeable NiMH batteries; universal 100 to 240 VAC USB/BM charger

Model	Capacity	Resolution	Catalog number	Price
FG-3003	2.2 lb / 35 oz / 1 kg / 10 N	0.0005 lb / 0.01 oz / 0.0001 kg / 0.001 N	XJ-25301-66	
FG-3005	11 lb / 180 oz / 5 kg / 50 N	0.001 lb / 0.05 oz / 0.0005 kg / 0.005 N	XJ-25301-67	
FG-3006	22 lb / 350 oz / 10 kg / 100 N	0.005 lb / 0.1 oz / 0.001 kg / 0.01 N	XJ-25301-68	
FG-3008	110 lb / 1800 oz / 50 kg / 500 N	0.01 lb / 0.5 oz / 0.005 kg / 0.05 N	XJ-25301-69	
FG-3009	220 lb / 3500 oz / 100 kg / 1000 N	0.05 lb / 1 oz / 0.01 kg / 0.1 N	XJ-25301-70	

XJ-93957-27 **Portable thermal printer**
XJ-17080-16 **NIST-traceable recalibration** with data

Mark-10® Premium M5 Digital Force Gauges

Fast 7000 Hz peak sampling rate



- USB, RS-232, Mitutoyo, and analog outputs
- 1000-point data memory with statistics and outputs, and averaging mode
- Live load bar graph with set point markers
- Programmable set points, with alarms and outputs
- Peak readings and set points always displayed

Capacity	Resolution	Cat. no.	Price
0.12 lb / 50 g / 0.5 N	0.00002 lb / 0.01 g / 0.0001 N	XJ-25300-53	
0.25 lb / 100 g / 1 N	0.00005 lb / 0.02 g / 0.0002 N	XJ-25300-55	
0.5 lb / 250 g / 2.5 N	0.0001 lb / 0.05 g / 0.0005 N	XJ-25300-57	
2 lb / 1 kg / 10 N	0.0005 lb / 0.0002 kg / 0.002 N	XJ-25300-58	
5 lb / 2.5 kg / 25 N	0.001 lb / 0.0005 kg / 0.005 N	XJ-25300-59	
10 lb / 5 kg / 50 N	0.002 lb / 0.001 kg / 0.01 N	XJ-25300-63	
20 lb / 10 kg / 100 N	0.005 lb / 0.002 kg / 0.02 N	XJ-25300-65	
50 lb / 25 kg / 250 N	0.01 lb / 0.005 kg / 0.05 N	XJ-25300-67	
100 lb / 50 kg / 500 N	0.02 lb / 0.01 kg / 0.1 N	XJ-25300-69	
200 lb / 100 kg / 1000 N	0.05 lb / 0.02 kg / 0.2 N	XJ-25300-74	
500 lb / 250 kg / 2500 N	0.1 lb / 0.05 kg / 0.5 N	XJ-25300-75	

Mark-10® Digital Cap Torque Testers

Measure in real time or peak torque

- Accepts samples up to 7.5" (18.9 cm) in diameter



Adjustable posts effectively grip a broad range of container shapes and sizes, while a set of flat rubber-edged jaws and adjustable jaws are used for unique profiles. Data output via RS-232 and Mitutoyo enable reporting and analysis of test data via PC (order optional software 25304-07 separately).

What's included: 110 VAC adapter, rechargeable battery, and calibration document supplied by manufacturer.

Capacity	Resolution	Accuracy	Cat. no.	Price
12 lbF-in/ 140 kgF-mm/ 135 N-cm	0.005 lbF-in/ 0.1 kgF-mm/ 0.1 N-cm	±0.3% full-scale ±1 digit	XJ-25304-00	
50 lbF-in/ 580 kgF-mm/ 570 N-cm	0.02 lbF-in/ 0.5 kgF-mm/ 0.5 N-cm		XJ-25304-01	
100 lbF-in/ 1150 kgF-mm/ 1150 N-cm	0.5 lbF-in/ 1 kgF-mm/ 0.5 N-cm		XJ-25300-02	

XJ-25300-45 **Adapter,** RS-232 to USB
XJ-25304-03 **Sample gripping jaws,** flat
XJ-25304-05 **Sample gripping jaws,** adjustable
XJ-25304-06 **Serial cable,** tester to RS-232, 9 pin
XJ-25304-07 **Optional software**

Cole-Parmer® StableTemp™ Muffle Furnaces

Get up to temperature fast

– Reach maximum temperature in as fast as 25 minutes
– Autotune feature helps eliminate temperature overshoot
– Energy efficient insulation keeps exterior safe to touch
– Models available with extensive programming capabilities

StableTemp



The fully embedded heating elements maintain temperature uniformity. A door switch cuts power to the heating elements when the door is opened minimizing your exposure to hot temperatures and extending the life of the heating elements.

Basic Control Furnaces feature a single LED display that toggles between actual and set point temperatures. **Single Set Point Control Furnaces** have two LED displays to simultaneously display actual and set point temperatures. **Programmable Control Furnaces** have two LED displays to simultaneously display actual and set point temperatures. These furnaces can store up to 31 programs with up to 126 segments total.†

Specifications

Operating temperature range: 100 to 1100°C **Temperature control accuracy:** ±1°C **Temperature uniformity:** ±5°C

Controller only

Capacity cu in. (L)	Dimensions (W x H x D)		Rise time (to 1050°C)	Power		Shpg wt		Catalog number	Price
	Chamber	Overall		VAC, Hz	Watts	lb	kg		
Basic control furnaces									
323 (5.3)	6" x 6" x 9" (15.2 x 15.2 x 22.9 cm)	17" x 21½" x 21" (43.2 x 54.6 x 53.3 cm)	25 minutes	120, 50/60 240, 50/60	1800	110	49.9	XJ-33858-00 XJ-33858-05	
1123 (18.4)	9" x 9" x 14" (22.9 x 22.9 x 35.6 cm)	21" x 26" x 25¾" (53.3 x 66.0 x 65.4 cm)	35 minutes	208/240, 50/60	3500	150	68.1	XJ-33858-10	
2592 (42.48)	12" x 12" x 18" (30.5 x 30.5 x 45.7 cm)	24" x 28" x 30" (61.0 x 71.1 x 76.2 cm)	45 minutes	208/240, 50/60	5600	165	74.9	XJ-33858-20	
Single set point control furnaces									
323 (1.6)	6" x 6" x 9" (15.2 x 15.2 x 22.9 cm)	17" x 21½" x 21" (43.2 x 54.6 x 53.3 cm)	25 minutes	120, 50/60	1800	110	49.9	XJ-33858-30	
1123 (18.4)	9" x 9" x 14" (22.9 x 22.9 x 35.6 cm)	21" x 26" x 25¾" (53.3 x 66.0 x 65.4 cm)	35 minutes	208/240, 50/60	3500	150	68.1	XJ-33858-40	
2592 (42.48)	12" x 12" x 18" (30.5 x 30.5 x 45.7 cm)	24" x 28" x 30" (61.0 x 71.1 x 76.2 cm)	45 minutes	208/240, 50/60	5600	165	74.9	XJ-33858-50	
Programmable control furnaces†									
323 (1.6)	6" x 6" x 9" (15.2 x 15.2 x 22.9 cm)	17" x 21½" x 21" (43.2 x 54.6 x 53.3 cm)	25 minutes	120, 50/60 240, 50/60	1800	110	49.9	XJ-33858-60 XJ-33858-65	
1123 (18.4)	9" x 9" x 14" (22.9 x 22.9 x 35.6 cm)	21" x 26" x 25¾" (53.3 x 66.0 x 65.4 cm)	35 minutes	208/240, 50/60	3500	150	68.1	XJ-33858-70	
2592 (42.48)	12" x 12" x 18" (30.5 x 30.5 x 45.7 cm)	24" x 28" x 30" (61.0 x 71.1 x 76.2 cm)	45 minutes	208/240, 50/60	5600	165	74.9	XJ-33858-80	

†Program capacity is dependent on memory (351 byte maximum available). For example: furnaces can store one program with up to 116 segments (using 349 bytes), or four programs with up to 28 segments each (using 340 bytes).

XJ-33858-90 **RS-485** communications port lets you use furnace with computer. Factory-installed; must be ordered at same time as furnace. Order software separately

XJ-33858-92 **Cable,** 7.6-m L. Required to connect furnace to computer

XJ-33910-52 **Cable,** daisy chain

Thermo Scientific™ Thermolyne™ Benchtop Muffle Furnaces

Achieve better control with programmable operation



Single set point models feature digital temperature control. LED displays chamber temperature continuously; displays set point at touch of a button. Single set point (SSP) models let you monitor both set point and actual chamber temperatures. Choose an 8-segment controller (four ramp and four dwell) with additional programming capabilities, and oven temperature protection relay.

Furnaces with 350 cubic-inch chambers include a ceramic shelf to double your capacity. A safety interlock switch disconnects power to heating elements when door is opened. Models 33903-02 and 02053-18 feature a single set point controller with one ramp and one dwell, and an overtemperature protection delay.

Specifications

Temperature control accuracy: ±3°C

ISO9001:2008 CERTIFIED SUPPLIER

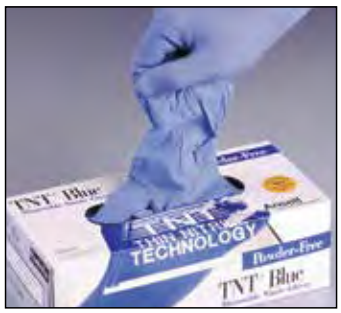
Control type	Operating temperature range	Capacity cu in. (L)	Dimensions (W x H x D)		Temp uniformity (at 1000°C)	Rise time (to 1200°C)	Watts	120 VAC, 50/60 Hz		240 VAC, 50/60 Hz	
			Chamber	Overall				Catalog number	Price	Catalog number	Price
SSP	100 to 1200°C	120 (2)	5" x 4" x 6" (12.7 x 10.2 x 15.2 cm)	11¼" x 18" x 15½" (28.6 x 45.7 x 39.4 cm)	±4.8°C	72 minutes	1000	XJ-02053-00		XJ-02053-02	
8 segment	100 to 1200°C	120 (2)			±3.6°C	72 minutes	1000	XJ-02053-13		—	—
SSP	200 to 1200°C	350 (5.74)	7" x 5" x 10" (17.8 x 12.7 x 25.4 cm)	13¼" x 19" x 19½" (33.7 x 48.3 x 49.5 cm)	±3.6°C	80 minutes	1800	XJ-02053-12		XJ-02053-14	
SSP w/ 1 ramp, 1 dwell								XJ-33903-02		XJ-02053-18	

Ansell TNT™ Blue Disposable Nitrile Gloves

Durable and comfortable

- Static dissipative to eliminate static electricity
- Textured fingertips for better gripping
- Powder-free
- Ambidextrous

Compliance: FDA regulations for food contact.



Size	Length	Thickness	Qty/ bx	Catalog number	Price per box	
					1 bx	10 bx
Small	9½" (24 cm)	5 mil	100	XJ-81601-04		
Medium				XJ-81601-05		
Large				XJ-81601-06		
X-large				XJ-81601-07		

Cole-Parmer® Nitrile Gloves

Don't lose your grip

- Soft feel with textured fingertips for better grip
- Powder-free
- Ambidextrous



Cole-Parmer®

Size	Length	Thickness	Qty	Catalog number	Price
Small	9½" (24 cm)	4.0 mil	1 box of 100	XJ-15954-42	
Medium				XJ-15954-43	
Large				XJ-15954-44	
X-large				XJ-15954-45	
Small			10 boxes of 100 (1000 total)	XJ-15954-24	
Medium				XJ-15954-25	
Large				XJ-15954-26	
X-large				XJ-15954-46	

Cryo-Glove® Cryogenic Gloves

Keep hands from freezing

- Protect as low as –256°F (–160°C)
- Maximum protection while remaining flexible

Water-Resistant Gloves provide protection in closed systems. A stay-dry lining keeps you warm and comfortable. **Waterproof Gloves** have a nylon exterior and a seamless waterproof lining. Gloves keep you dry and wick moisture away from your hands. **Cryo-Industrial® Gloves** feature a rugged, abrasion- resistant outer shell that protects the glove and provides an excellent grip for heavy-duty applications. Waterproof liner protects against cryogenic splashes while the inner lining wicks moisture from your hands for enhanced comfort.

Note: Do not immerse gloves in liquid nitrogen.



CE

Description	Size	Length	Catalog number	Price per pair
Water-resistant Cryo-Glove gloves				
Wrist	Medium	12" (30 cm)	XJ-09113-02	
	Large		XJ-09113-04	
Mid-arm	Medium	15" (38 cm)	XJ-09113-12	
	Large		XJ-09113-14	
	X-large		XJ-09113-16	
Elbow	Medium	19" (48 cm)	XJ-09113-22	
	Large		XJ-09113-24	
	X-large		XJ-09113-26	
Waterproof Cryo-Glove gloves				
Mid-arm	Medium	15" (38 cm)	XJ-09113-30	
	Large		XJ-09113-32	
	X-large		XJ-09113-34	
Elbow	Medium	19" (48 cm)	XJ-09113-35	
	Large		XJ-09113-37	
	X-large		XJ-09113-39	
Cryo-Industrial heavy-duty gloves				
Mid-arm	Medium	15" (38 cm)	XJ-09113-62	
	Large		XJ-09113-64	
	X-large		XJ-09113-66	

Ansell Touch N Tuff™ Nitrile Gloves

Keep dexterity without sacrificing safety

- Thin formulation, yet resists punctures and tears
- No fillers—gloves are 100% nitrile
- Ambidextrous

Compliance: FDA regulations for food contact



CE

Size	Length	Thickness	Qty/ bx	Catalog number	Price per box	
					1 bx	10 bx
Powdered gloves						
Small	9½" (24 cm)	4 mil	100	XJ-81602-40		
Medium				XJ-81602-50		
Large				XJ-81602-60		
X-large				XJ-81602-70		
Powder-free gloves						
Small	9½" (24 cm)	4 mil	100	XJ-81602-45		
Medium				XJ-81602-55		
Large				XJ-81602-65		
X-large				XJ-81602-75		

Microflex® MidKnight™ Black Nitrile Gloves

Won't show stains

- Fully textured for consistently reliable gripping
- Power free
- Ambidextrous



Size	Length	Thickness	Qty/case	Catalog number	Price per case
Small	9½" (24 cm)	5.5 mil	1000	XJ-86445-15	
Medium				XJ-86445-16	
Large				XJ-86445-17	
X-large				XJ-86445-18	

Sample Prep and **Storage** Made Easy

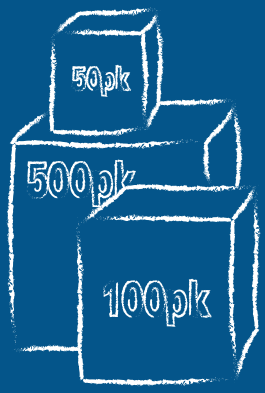
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Chemical Compatibility

Check material compatibility before you buy

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- And much more



Techne® Dry Block Heaters

Engineered for accuracy

- Versatile—work with many size sample tubes and plates
- Lightweight and flat top surface allow heaters to be stacked taking up less space
- Independent indicator lights show power, heater action, and overtemperature cutout

REQUIRED System Components

1) Block heater
2) Heating blocks



1. Block Heaters

Analog Heaters let you set the temperature in 2°C increments using a calibrated rotary dial. Excellent stability at 40°C for two-block model and at 40°C for three-block model.

Digital Heaters produce a fast heat-up rate (7 to 9 minutes from 25 to 100°C) and achieve temperature stability at 37°C. Quickly set and view temperature on LED display. Side panels help dissipate heat from the outer surfaces. Adjust the countdown timer between 1 minute and 100 hours in 1-minute increments.

Select a dual-control unit to independently control the temperature of two blocks—ideal for multiple users or for applications where samples have to be transferred quickly between temperatures. Use three- and four-block models for high-throughput applications. Model 36620-16 has an RS-232 connection so you can set and receive block temperature using your computer.

What's included: block extraction tool and power cord (US plug on 115 VAC; UK and Euro plugs on 230 VAC).

Max temp	Uniformity	No. of blocks accepted†	Power (50/60 Hz) VAC	Power (50/60 Hz) Watts	Catalog number	Price
Analog dry block heaters						
100°C	0.2°C between block at 40°C	2	115	300	XJ-36620-13	
			230		XJ-36620-12	
200°C		3	115	450	XJ-36620-15	
			230		XJ-36620-14	
Digital dry block heaters						
100°C	0.2°C within the block at 37°C; 0.5°C between block at 37°C	2	115	300	XJ-36620-01	
			230		XJ-36620-00	
		2 (dual controls)	115	300	XJ-36620-03	
			230		XJ-36620-02	
		3	115	450	XJ-36620-05	
			230		XJ-36620-04	
		4	115	600	XJ-36620-07	
			230		XJ-36620-06	
200°C	0.2°C within the block at 37°C; 0.5°C between block at 37°C	2	115	300	XJ-36620-09	
			230		XJ-36620-08	
		3	115	450	XJ-36620-11	
			230		XJ-36620-10	
		3 (RS-232 output)	230	450	XJ-36620-16	

†Indicates the number of single-width blocks accepted by each block heater. A heater that accepts two single-width blocks will accept one double-width block.

Sample Concentrators

Use only with three-block heaters to quickly concentrate multiple samples at once. Concentrator blows gas over the surface of your samples through stainless steel needles (order separately). Insert needles into a silicone membrane in virtually any configuration. Fully adjustable gas reservoir provides accurate height control. Choose PTFE-coated needles for use with corrosive samples.

XJ-36620-40 **Sample concentrator** for use with test tubes
XJ-36620-41 **Sample concentrator** for use with 96-well plates
XJ-36620-96 **Stainless steel needle,** 76 mm long. 100/pk
XJ-36620-97 **Stainless steel needle,** 127 mm long. 100/pk
XJ-36620-99 **PTFE-coated SS needle,** 76 mm long. 100/pk
XJ-36620-98 **PTFE-coated SS needle,** 127 mm long. 100/pk

2. Interchangeable Heating Blocks

Aluminum heating blocks provide excellent thermal conductivity. Depending on the combination of blocks selected, plastic spacers can be used to fill a half-width recess for optimal thermal performance. Most blocks have a separate hole to accept a thermometer.

Flexi-block inserts hold multiple size tubes, vials, or cuvettes at once. They use high-density, autoclavable ceramic beads and come in double or triple width. Unskirted PCR plates can be heated in either size flexi-block. Skirted microtiter plates, deep-well plates, and PCR plates can only be incubated in the triple-width version.

Accommodates	No. of wells	Well depth	Well shape	Catalog number	Price category
Single-width heating blocks					
6-mm dia tubes	30	38 mm	Tapered	XJ-36620-51	
7-, 9-mm dia tubes	20, 10	38 mm	Conical	XJ-36620-62‡	
10-mm dia tubes	20	48 mm	Conical	XJ-36620-52	
12-mm dia tubes	20	20 mm	Flat	XJ-36620-87	
12-mm dia tubes	20	24 mm	Flat	XJ-36620-85	
12-mm dia tubes	20	24 mm	Conical	XJ-36620-82	
12-mm dia tubes	20	48 mm	Conical	XJ-36620-53	
13-mm dia tubes	20	48 mm	Conical	XJ-36620-54	
15-mm dia tubes	12	30 mm	Flat	XJ-36620-86	
15- mm dia tubes	12	48 mm	Conical	XJ-36620-55	
16-mm dia tubes	12	25 mm	Flat	XJ-36620-89	
16-mm dia tubes	12	48 mm	Conical	XJ-36620-56	
19-mm dia tubes	8	48 mm	Conical	XJ-36620-57	
20-mm dia tubes	8	48 mm	Conical	XJ-36620-81	
24-mm dia tubes	6	48 mm	Conical	XJ-36620-63	
25-mm dia tubes	6	48 mm	Conical	XJ-36620-58	
26-mm dia tubes	6	48 mm	Conical	XJ-36620-64	
30-mm dia tubes	5	48 mm	Conical	XJ-36620-79	
43-mm dia tubes	2	45 mm	Flat	XJ-36620-80	
0.2-mL tubes	72	13.8 mm	Tapered	XJ-36620-72	
0.5-mL tubes	30	27 mm	Tapered	XJ-36620-66	
1.5-mL tubes	20	35 mm	Tapered	XJ-36620-65	
2.0-mL tubes	20	35 mm	Conical	XJ-36620-71	
50-mL tubes	5	48 mm	Conical	XJ-36620-77	
Gelation timer	1	—	Flat	XJ-36620-75	
10-mm cuvettes (13 mm W)	2 channels	38 mm	Flat	XJ-36620-59	
Solid (no holes)	—			XJ-36620-50‡	
Solid (no holes)	—			XJ-36620-61	
Double-width heating blocks					
96-well PCR plate	96	17.3 mm	Tapered	XJ-36620-73	
384-well PCR plate	384	7 mm	Tapered	XJ-36620-76	
96-well culture plate	96	—	Round	XJ-36620-69	
96-well culture plate	96	—	Flat wells	XJ-36620-70	
96-well high-temp	96	—	Round	XJ-36620-68	
96-well plate	Flat perimeter ridge		Flat bottom	XJ-36620-78	
1.0-mL Porvair plate	96	—	—	XJ-36620-74‡	
Flexi-block	—			XJ-36620-90	
Triple-width heating blocks					
20-mm dia tubes	18	35 mm	Flat	XJ-36620-83	
43-mm dia bottles	4	85 mm	Flat	XJ-36620-84	
Flexi-block	—			XJ-36620-91	
Solid (no holes)	—			XJ-36620-60	

‡No thermometer hole.

XJ-36620-67 **Plastic spacers,** half-width. Measure 95 x 37 x 50 cm. Pack of 2

Cole-Parmer® StableTemp™ Dry Block Heaters

Adjust to your needs

– Customizable to your needs—blocks available (below) for microtubes, centrifuge tubes, vials, microplates, and PCR strips or tube

Analog Dry Block Heaters. Economical temperature controllers are adjustable with separate high and low temperature control knobs.

Digital Dry Block Heaters. Proportional integrative derivative (PID) controller allows you to select a particular temperature with ease, enables rapid heat-up, and provides excellent stability to maintain results. No hot spots—units have exceptional temperature uniformity and digital display shows set and actual temperature. Additional features include timer, audible alarm, and builit-in temperature calibration mode.

External Temperature Probe Kit enables the digital heaters to read block or sample temperature and display it on the control panel. The RTD probe fits into the thermometer well located within each modular block.

Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed to run as a dry bath/incubator.



Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Number of blocks accepted	Uniformity	Temperature range	Power		Catalog number	Price
			VAC	Watts		
Analog dry block heaters						
1	±0.1° within the block at 98°F (37°C)	Low range: ambient to 212°F (ambient +5°C to 100°C) High range: 167 to 302°F (75 to 150°C)	120	110	XJ-36600-12	
			230	110	XJ-36600-13	
2	±0.1° within the block at 98°F (37°C), ±0.1° across similar blocks at 98°F (37°C)		120	210	XJ-36600-14	
			230	210	XJ-36600-15	
3	±0.1° within the block at 98°F (37°C), ±0.15° across similar blocks at 98°F (37°C)		120	210	XJ-36600-16	
			230	210	XJ-36600-17	
Digital dry block heaters						
1	±0.1° within the block at 98°F (37°C)	Ambient to 248°F (ambient to 120°C)	120	110	XJ-36600-01	
			230	110	XJ-36600-02	
2	±0.1° within the block at 98°F (37°C), ±0.1° across similar blocks at 98°F (37°C)		120	210	XJ-36600-03	
			230	210	XJ-36600-04	
3	±0.1° within the block at 98°F (37°C), ±0.15° across similar blocks at 98°F (37°C)		120	210	XJ-36600-06	
			230	210	XJ-36600-07	
Digital dry block heaters with heated lid						
2	±0.1° within the block at 98°F (37°C), ±0.1° across similar blocks at 98°F (37°C)	Ambient to 248°F (ambient to 120°C)	120	400	XJ-36600-69	
			230	400	XJ-36600-70	

XJ-36600-68 **Optional external temperature probe kit**

Cole-Parmer® StableTemp™ Modular Blocks for Dry Block Heaters

No need to buy a new heater—easy switchout for new requirements

Find even more online! See more block options at ColeParmer.com

– Get maximum heat-up and retention with close contact of tubes to wall
– Constructed of solid anodized aluminum for durability
– Know the actual temperature of your wells—thermometer well for easy block temperature measurement

Single block dimensions (L x W x H): 3¾" x 3" x 2" (9.5 x 7.6 x 5.1 cm). Double block sizes are available online to fit 2/4/6-block heaters.



Microcentrifuge Tube Blocks (single block size)

Accommodates	No. of wells	Well dia.	Well depth	Catalog number	Price
0.5 mL tube	30	7.9 mm	27.6 mm	XJ-36600-22	
1.5 mL tube	20	11.1 mm	39.1 mm	XJ-36600-23	
1.5 mL Eppendorf® tube	20	11.5 mm	36.9 mm	XJ-36600-24	
2 mL Eppendorf tube	20	11.5 mm	38.1 mm	XJ-36600-25	
2 mL Corning® tube	20	10.9 mm	38.1 mm	XJ-36600-26	

Conical-Bottom Centrifuge Tube Blocks (single block size)

Accommodates	No. of wells	Well dia.	Well depth	Catalog number	Price
15 mL tube	12	17.1 mm	44.5 mm	XJ-36600-28	
50 mL tube	5	29 mm	47.6 mm	XJ-36600-29	

Electrothermal Electromantle Extraction Heaters and Heater/Stirrers

No need for multiple units

- Simultaneously heat samples with different boiling points with independent temperature controllers
- Don't get burned—case remains cool to the touch
- Increase efficiencies by adding stirring option
- Heat up to 450°C; stir from 50 to 1000 rpm on stirrer models

What's included: three ½" (12.7 mm) dia support rods, and 6-ft (1.8 m) power cord.



Specifications

Maximum element temperature: 450°C
Housing material: polypropylene top on powder-coated aluminum
Thermal insulation: ceramic fiber/ mineral wood
Stirring speed range (combination models only): 50 to 1000 rpm

Number of positions	Flask capacity	Power (VAC, Hz)	Plug type	Heaters			Heater/stirrers		
				Catalog number	Watts	Price	Catalog number	Watts	Price
Three	250 mL	115, 50/60	US	XJ-03076-03	450		XJ-03076-15	490	
		230, 50/60	UK	XJ-03076-04	450		XJ-03076-16	490	
		230, 50/60	Euro	XJ-03076-05	450		XJ-03076-17	490	
	500 mL	115, 50/60	US	XJ-03076-06	600		XJ-03076-18	640	
		230, 50/60	UK	XJ-03076-07	600		XJ-03076-19	640	
		230, 50/60	Euro	XJ-03076-08	600		XJ-03076-20	640	
Six	100 mL	115, 50/60	US	XJ-03076-24	360		XJ-03076-36	440	
		230, 50/60	UK	XJ-03076-25	420		XJ-03076-37	500	
		230, 50/60	Euro	XJ-03076-26	420		XJ-03076-38	500	
	250 mL	115, 50/60	US	XJ-03076-27	900		XJ-03076-39	980	
		230, 50/60	UK	XJ-03076-28	900		XJ-03076-40	980	
		230, 50/60	Euro	XJ-03076-29	900		XJ-03076-41	980	

Electrothermal EM Series Electromantles

"Safe to the touch," durable, chemical-resistant polypropylene housing

- Flexible heating element ensures minimum risk of flask breakage

These controlled and grounded electromantles feature a built-in power regulator and safety earth (ground) screen. Unique ventilation slots keep the exterior cool even while in use.

Coiled heating element is suspended within a thermal insulating cartridge to provide maximum heat transfer and support. Ceramic fiber insulation keeps the chemical-resistant polypropylene case cool. Buillt-in power controller has dial markings from 1 to 10 for repeatability.



Mantles feature indicator lights: an amber-colored "power on" light and a clear-colored "heater on" light. All mantles are double fused and include a single support rod clamp that accepts a ½" rod. The stainless steel grounding screen provides added protection against shock in the event of spillage or flask breakage. Heating mantles accept round-bottom, Erlenmeyer, and volumetric flasks. Mantles include 6½-ft (2-m) power cord; the 115 VAC models include a US plug (230 VAC models do not include plugs). Call our Application Specialists to order replacement heating element cartridges.

Watts	Flask size (mL)	Maximum temperature	Dimensions (W x H x D)		Catalog number	VAC	Price
			in.	cm			
60	50	842°F (450°C)	10⅛ x 5 x 7	25.8 x 12.7 x 17.8	XJ-36002-00	115	
					XJ-36002-02	230	
60	100	842°F (450°C)	10⅛ x 5 x 7	25.8 x 12.7 x 17.8	XJ-36002-04	115	
					XJ-36002-06	230	
150	250	842°F (450°C)	10⅛ x 5 x 7	25.8 x 12.7 x 17.8	XJ-36002-08	115	
					XJ-36002-10	230	
200	500	842°F (450°C)	12⅛ x 5⅔ x 9⅓	30.9 x 14.4 x 23.7	XJ-36002-12	115	
					XJ-36002-14	230	
300	1000	842°F (450°C)	12⅛ x 5⅔ x 9⅓	30.9 x 14.4 x 23.7	XJ-36002-16	115	
					XJ-36002-18	230	
500	2000	842°F (450°C)	15⅘ x 7½ x 13⅘	40.1 x 19.1 x 35.0	XJ-36002-20	115	
					XJ-36002-22	230	
500	3000	842°F (450°C)	15⅘ x 7½ x 13⅘	40.1 x 19.1 x 35.0	XJ-36002-24	115	
					XJ-36002-26	230	
300/500	5000	842°F (450°C)	15⅘ x 7½ x 13⅘	40.1 x 19.1 x 35.0	XJ-36002-28	115	
					XJ-36002-30	230	

BriskHeat® High-Temperature Heating Tapes

Stop wasting energy—provide heating right where you need it

– Maintain heat with heavy-duty insulated design



These high-temperature heating tapes are made of resistance wires that are insulatedwith braided fiberglass knitted into a flat tape and covered with heavy fiberglass fabric.Available with either a one-piece standard plug or a two-piece opposite-end power lead configuration which provides increased flexibility when wrapping the tape around unique objects. Nongrounded.

The 120 VAC tapes have a plug; 240 VAC tapes are supplied with bare leads. The 120 VAC tapes with opposite-end lead configuration are supplied with a half-plug on each end; the half-plugs fit together and connect to form a standard 120 VAC two-prong plug.

Caution: Heating tapes should not be overlapped.

What's included: reusable tie straps on each end and 2-ft (0.6-m) power cord (120 VAC models also include plug).

Watts	Length	Width	Max exposure temperature	Leads emerging from same end		Leads emerging from opposite ends			
				120 VAC		120 VAC		240 VAC	
				Catalog number	Price	Catalog number	Price	Catalog number	Price
Fibrox® fiberglass insulated tapes									
105	2 ft (0.6 m)	½" (1.3 cm)	900°F (482°C)	XJ-36110-00		XJ-03105-20		XJ-03105-21	
210	4 ft (1.2 m)	½" (1.3 cm)	900°F (482°C)	XJ-36110-02		XJ-03105-40		XJ-03105-41	
310	6 ft (1.8 m)	½" (1.3 cm)	900°F (482°C)	XJ-36110-04		XJ-03105-60		XJ-03106-00	
420	8 ft (2.4 m)	½" (1.3 cm)	900°F (482°C)	XJ-36110-06		XJ-03105-80		XJ-03106-01	
210	2 ft (0.6 m)	1" (2.5 cm)	900°F (482°C)	XJ-36110-10		XJ-03106-20		XJ-03106-21	
420	4 ft (1.2 m)	1" (2.5 cm)	900°F (482°C)	XJ-36110-12		XJ-03106-40		XJ-03106-41	
620	6 ft (1.8 m)	1" (2.5 cm)	900°F (482°C)	XJ-36110-14		XJ-03106-60		XJ-03106-61	
830	8 ft (2.4 m)	1" (2.5 cm)	900°F (482°C)	XJ-36110-16		XJ-03106-80		XJ-03106-02	
418	4 ft (1.2 m)	1¾" (4.4 cm)	900°F (482°C)	XJ-36110-22		XJ-03107-40		—	—
Samox® fiberglass insulated tapes									
156	2 ft (0.6 m)	½" (1.3 cm)	1400°F (760°C)	XJ-36115-00		XJ-03115-20		XJ-03115-21	
313	4 ft (1.2 m)	½" (1.3 cm)	1400°F (760°C)	XJ-36115-02		XJ-03115-40		XJ-03115-41	
470	6 ft (1.8 m)	½" (1.3 cm)	1400°F (760°C)	XJ-36115-04		XJ-03115-60		XJ-03115-61	
627	8 ft (2.4 m)	½" (1.3 cm)	1400°F (760°C)	XJ-36115-06		XJ-03115-80		XJ-03115-81	
313	2 ft (0.6 m)	1" (2.5 cm)	1400°F (760°C)	XJ-36115-10		XJ-03117-20		XJ-03117-21	
627	4 ft (1.2 m)	1" (2.5 cm)	1400°F (760°C)	XJ-36115-12		XJ-03117-40		XJ-03106-09	
940	6 ft (1.8 m)	1" (2.5 cm)	1400°F (760°C)	XJ-03106-11		XJ-03106-12		XJ-03117-60	
1245	8 ft (2.4 m)	1" (2.5 cm)	1400°F (760°C)	—	—	—	—	XJ-03117-80	

Electrothermal CMU Series Heating Mantles

Outside stays "safe to the touch"

– Hold round-bottom, Erlenmeyer, and volumetric flasks
– Maximum element temperature of 842°C (450°C)
– Built-in energy regulator



Electrothermal

Controlled electric heating mantles incorporate a heating element suspended within a ceramic fiber insulating material for safe heat transfer. They have a stainless steel grounded earth screen covering the element and are double-fused for added safety. Units have a built-in power controller with a 1 to 10 scale. The metal case remains "cool to the touch" when in operation.

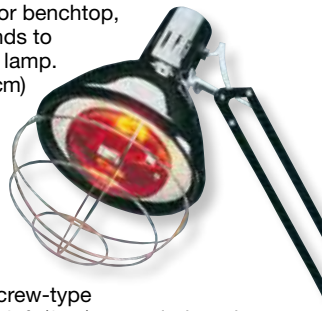
Two colored lights indicate "power on" and "heat on." Single support rod clamp accepts a ½" rod. Include 6½-ft power cord; 115 VAC models: US plug: 230 VAC models: no plug.

Watts	Flask size (mL)	Maximum temperature	Dimensions (W x H x D)	VAC	Catalog number	Price
150	250	842°F (450°C)	9¼" x 4½" x 13½" (23.5 x 11.4 x 34.3 cm)	115	XJ-03012-31	
				230	XJ-03012-33	
200	500	842°F (450°C)	11" x 5½" x 15⅜" (27.9 x 14 x 39 cm)	115	XJ-03012-41	
				230	XJ-03012-43	
300	1000	842°F (450°C)	11" x 5½" x 15⅜" (27.9 x 14 x 39 cm)	115	XJ-03012-51	
				230	XJ-03012-53	

Infrared Heating Lamp

Ideal for drying coatings

Mount to any table or benchtop, or use our floor stands to support the heating lamp. Adjust the 42" (107 cm) swiveling extension arm to position lamp exactly where you want it. Dual reflector prevents excessive heat buildup.



What's included: screw-type mounting bracket, 10-ft (3-m) grounded cord with plug, and 250-watt infrared bulb.

Power	Cat. no.	Price
115 VAC, 50/60 Hz	XJ-03057-00	

XJ-03057-01 **Replacement bulb,** 250 watt

XJ-03057-50 **Floor stand** with caster base, 38½" (98 cm) H

XJ-03057-52 **Floor stand** with pedestal base

Cole-Parmer® LabGEN® 850 Homogenizer

Process virtually any laboratory sample in seconds

NEW

– Variable-speed range performs from 5000 to 25,000 rpm
– Sample range from 200 µL to 5 L
– Versatile—use as a handheld unit or mount to optional stand for hands-free operation

Cole-Parmer's LabGEN 850 homogenizer is well-suited for a wide range of processing applications. The homogenizer features an advanced, integrated push-button digital control system that ensures accuracy and repeatability. The digital timer can be set from seconds to minutes, and includes a 30-second countdown timer, which is great for remote applications in fume hoods or biosafety cabinets. Smooth-start feature minimizes splashing and provides steady processing.

Use the homogenizer with either the stainless steel rotor-stator generators or the plastic tip probes (tip adapter 04727-88 required). Order components separately.

What's included: cross rod, stand clamp, tool kit, and power cord.

REQUIRED System Components

1) Homogenizer
2) Rotor-stator generator
OR
3) Plastic tip probes and required tip adaptor 04727-88
OPTIONAL
4) Stand and Motor support rod



1. Homogenizer

LabGEN

Description	Sample volume	Power	Motor	Catalog number	Price
LabGEN 850 homogenizer	0.02 mL to 5 L	115 VAC, 50/60 Hz	850 W	XJ-04727-28	
		220 VAC, 50/60 Hz		XJ-04727-29	

2. Stainless Steel Rotor-Stator Generators

Dispersion type	Sample volume range	Diameter	Length	Catalog number	Price
Fine	0.02 to 5 mL	5 mm	75 mm	XJ-04727-31	
Fine	0.05 to 5 mL	5 mm	75 mm	XJ-04727-60	
Fine	0.25 to 30 mL	7 mm	115 mm	XJ-04727-33	
Coarse				XJ-04727-35	
Fine	1.5 to 100 mL	10 mm	115 mm	XJ-04727-37	
Coarse				XJ-04727-39	
Fine	100 to 2000 mL	20 mm	195 mm	XJ-04727-41	
Coarse				XJ-04727-43	
Fine	200 to 5000 mL	30 mm	195 mm	XJ-04727-45	
Coarse				XJ-04727-46	

3. Plastic Tip Probes

Sample volume	Tissue type	Tip size (L x dia)	Cat. no.	Qty/pk	Price/pk
0.25 to 30 mL	Hard	110 x 7 mm	XJ-04727-84	25	
			XJ-04727-85	50	

XJ-04727-88 **Tip adapter,** required for use with plastic tip probes

4. Optional Stand

XJ-04727-89 **Homogenizer stand** with support rod

IKA® T10 basic ULTRA-TURRAX® Homogenizer

No need for tools—quick-release for easy change outs

– Lightweight, ergonomic form is ideal for manual operation

This compact homogenizer is great for high-speed handheld operation. Through a combination of shear, impact, collision, and cavitation, the generator rapidly disperses and disintegrates the material suspended in the media. Stainless steel rotor-stator generators detach quickly and clean completely for reuse.

What's included: storage case, clamp 04720-80, and 6-ft (1.8-m) power cord.

REQUIRED System Components

1) Homogenizer
2) Rotor-stator generator



04720-72

1. Homogenizer

Description	Handheld homogenizers	
Catalog number	XJ-04720-50	XJ-04720-51
Speed range	8000 to 30,000 rpm	
Batch volume range	0.5 to 100 mL	
Noise rating	65 dB	
Speed adjustment	Stepless	
Wattage	125 input, 75 output	
Power (VAC, Hz)	115, 50/60	230, 50/60
Price		

2. Rotor-Stator Generators

Sample volume range	Dimensions (L x OD)	Qty	Catalog number	Price
0.5 to 10 mL	92 x 5 mm	1	XJ-04720-72	
1 to 50 mL	115 x 8 mm	1	XJ-04720-73	
1 to 100 mL	115 x 10 mm	1	XJ-04720-74	

XJ-04720-79 **Support stand** (requires cross sleeve 04720-81)
XJ-04720-81 **Cross sleeve,** attaches stand to clamp
XJ-04720-80 **Replacement clamp** (one is included with homogenizer)

Erlab Captair Smart Ductless Fume Hoods

Simplify lab safety with Smart Technology™

NEW

– Audible and visual alerts warn you when there is a problem or malfunction
– Mobile app lets you monitor and control conditions remotely
– Single-button activation begins air purification quickly and easily

Create a comprehensive air purification solution in your laboratory with this series of smart fume hoods and an optional Halo™ laboratory-grade air filtration system.

Ductless filtering fume hoods provide a safe working environment for chemical handling, featuring either a hinged angled sash with arm ports or a vertical sliding sash. The versatile filtering unit (order filters separately) can be configured to handle gases, solvents, powders, and particulates and meet ANSI/AFNOR standards for filtration efficiency (Classes 1 and 2). An electronic anemometer automatically monitors face velocity.

Each hood features Smart Technology—an exclusive set of tools comprised of smart-light communication™, chemical sensors, real-time status, and the eGuard app. Simply press a button to activate—a soft band of light at the top of the hood lets you know the unit is operating safely. The band of light will slowly pulse to let you know if the airflow is compromised, if there is a fan failure, or it is time to change your filters. Use the app to remotely control and monitor the hood, change the settings, and deliver safety alerts.



REQUIRED System Components

1) Hood
2) Filter(s)
3) Work surface
4) Base

1. Ductless Fume Hoods

Model	Description	Airflow	Face velocity	Dimensions (W x H x D)	Power		Catalog number	Price
					VAC	Hz		
321	Hinged angled sash with arm ports	135 cfm (220 m³/h)	79 to 118 fpm (0.4 to 0.6 m/s)	30¾" x 50⁹⁄₁₆"" x 24⁷⁄₁₆" (78 x 128.5 x 62 cm)	80 to 220	50 to 60	XJ-33520-01	
391				39⅜" x 50⁹⁄₁₆"" x 24⁷⁄₁₆" (100 x 128.5 x 62 cm)			XJ-33520-03	
481				49⅝" x 50⁹⁄₁₆"" x 24⁷⁄₁₆" (126 x 128.5 x 62 cm)			XJ-33520-05	
392	Vertical sliding sash	259 cfm (440 m³/h)	79 to 118 fpm (0.4 to 0.6 m/s)	39⁹⁄₁₆" x 59⅝" x 29½" (100.5 x 151.5 x 75 cm)	80 to 220	50 to 60	XJ-33520-04	
483		388 cfm (660 m³/h)		50⁷⁄₁₆ x 59⅝" x 29½" (128 x 151.5 x 75 cm)			XJ-33520-06	
633		388 cfm (660 m³/h)		63" x 59⅝" x 29½" (160 x 151.5 x 75 cm)			XJ-33520-07	
714		518 cfm (880 m³/h)		70⅞" x 59⅝" x 29½" (180 x 151.5 x 75 cm)			XJ-33520-11	

2. Filters

XJ-33520-35 **Solvent detector sensor**
XJ-33520-26 **HEPA particulate filter;** 0.01 µm, 99.995% efficiency
XJ-33520-90 **Filter for acid, inorganic, organic, and solvent vapors**
XJ-33520-98 **Filter for organic vapors**

3. Work Surfaces

For hood model	Tempered glass with rounded edges		Phenolic resin with built-in retention tray	
	Catalog number	Price	Catalog number	Price
321	XJ-33520-39		XJ-33520-43	
391	XJ-33520-45		XJ-33520-49	
392	XJ-33520-53		XJ-33520-55	
481	XJ-33520-59		XJ-33520-61	
483	XJ-33520-63		XJ-33520-64	
633	XJ-33520-66		XJ-33520-67	
714	XJ-33520-69		XJ-33520-70	

4. Bases

For hood model	Description	Catalog number	Price
321	Metal rolling cart; 4 wheels, 2 locking	XJ-33520-41	
391		XJ-33520-47	
392	Metallic fixed bench, height adjustable	XJ-33520-51	
481		XJ-33520-57	
483		XJ-33520-62	
633		XJ-33520-65	
714		XJ-33520-68	

Halo™ Laboratory Air Filtration System

Continuously eliminate noxious fumes and improve air quality by safely capturing chemicals and recirculating clean air back into your laboratory—soft LED lights will pulse to let you know the air is being cleaned. System is easily installed in the ceiling, but does not need to be tied in to existing HVAC. As a stand-alone unit, it can be placed anywhere that would be most effective and you can use multiple units to cover larger areas. Choose from two filter options using semiconductor sensors for detection and Neutrodyne carbon filters for purification.

NEW



Description	Airflow	Dimensions (W x H x D)	Power	Cat. number	Price
Broad spectrum semiconductor detection and filtration (Chemplus filter included)	135 cfm (220 m³/h)	35⅛" x 23⁵⁄₁₆" x 10¼" (89.2 x 59.2 x 26 cm)	80 to 240 VAC, 50/60 Hz	XJ-33520-31	
Volatile organic carbon semiconductor detection and filtration (VOC filter included)				XJ-33520-33	

Labconco® Basic™ 47" and 70" Fume Hoods

Maintain your safety while handling chemicals

– Safe light-duty chemical handling for a broad range of applications

REQUIRED System Components

1) Hoods	**below**
2) Work surface	**online**
3) Cabinet	**online**

These hoods utilize by-pass airflow design to assure safe continuous ventilation regardless of sash height. All models incorporate advanced design features such as a removable curved air foil and an adjustable two-piece baffle to ensure optimal air routing.

All fume hoods include a 3⁄16" (0.5 cm) thick tempered safety glass counterbalanced sash and a 10" (25.4 cm) diameter duct collar.

Hoods are constructed of glacier white epoxy-coated 16 gauge steel. Hoods do not include a cabinet or work surface—order both online.

The 115 VAC models are shipped fully assembled; 220 VAC models require assembly. Cord and plug are not included.



Basic steel fume hood 33503-10 with cabinet 09115-06 and work surface 09115-42

ISO9001:2008 CERTIFIED SUPPLIER CE

Specifications

Fume hood size	47-inch	70-inch
Blower size	1⁄3-hp motor (Spark proof models: 1⁄2-hp)	3⁄4-hp motor
Construction	Epoxy-coated steel	
Ductwork size	10" (25 cm)	10" (25 cm)
Fixtures	Optional electrical outlet, air/gas/vacuum/water service connections, and cupsink and faucet—call our Application Specialists for details.	
Light†	One 100-watt incandescent bulb (included)	
Switches (included)	No-blower models: two Standard models: two Spark proof models: none	No-blower models: two Standard models: two Spark proof models: none
Overall dimensions‡ (W x H x D)	47" x 48" x 25" (119 x 122 x 64 cm)	70" x 48" x 25" (178 x 122 x 64 cm)

†Spark-proof models have one 100-watt explosion-proof incandescent light.
‡Models with blower module are 53" (135 cm) H.

Blower	Power		Shpg wt		Catalog number	Price
	VAC	Hz	lb	kg		
47-inch conventional Basic fume hoods						
None†	115	60	272	123	XJ-33503-00	
	220	50			XJ-33503-05	
Standard	115	60	272	123	XJ-33503-10	
	220	50			XJ-33503-15	
Spark proof	115/230	60	455	206	XJ-33503-20	
	220	50			XJ-33503-25	
70-inch conventional Basic fume hoods						
None†	115	60	426	193	XJ-33504-00	
	220	50			XJ-33504-05	
Standard	115	60	451	205	XJ-33504-10	
	220	50			XJ-33504-15	
Spark proof	115/230	60	469	213	XJ-33504-20	
	220	50			XJ-33504-25	

†Hood must be used with an existing blower only.

Cole-Parmer® Compact Fume Hoods

Don't order separate components

– Complete with dished composite resin work surface, vaporproof light, and built-in exhaust blower

Fume chamber features molded seamless construction with coved corners, factory mounted with a chemical-resistant composite resin work surface to contain spills. Varaflow baffle system is designed to efficiently direct air through the chamber. Blower rated for 12-ft maximum duct run.

Cole-Parmer®



33731-00 shown on cabinet 33731-70

Hood width	Dimensions (W x H x D)	Power (VAC, Hz)	Shpg wt lb	Shpg wt kg	Catalog number	Price
30" (76 cm)	30" x 45" x 26" (76 x 114 x 66 cm)	115, 60	194	88	XJ-33731-00	
		230, 50			XJ-33731-05	
36" (91 cm)	36" x 45" x 26" (91 x 114 x 66 cm)	115, 60	243	110	XJ-33731-10	
		230, 50			XJ-33731-15	
48" (122 cm)	48" x 45" x 26" (122 x 114 x 66 cm)	115, 60	280	127	XJ-33731-20	
		230, 50			XJ-33731-25	

Cabinets

Hood width	Acid-storage base cabinets		Base cabinets	
	Catalog number	Price	Catalog number	Price
30" (76 cm)	XJ-33731-70		XJ-33731-72	
36" (91 cm)	XJ-33731-74		XJ-33731-76	
48" (122 cm)	XJ-33731-78		XJ-33731-80	

Cole-Parmer® Ducted and Ductless Benchtop Fume Hoods

Stay safe just about anywhere

– Exhaust low-level corrosive vapors, heat, steam, fumes, and odors

– Interior fiberglass material provides good chemical resistance

– Recessed resin work surfaces contain spills

What's included: flexible ductwork, exhaust blower, and a light. Ductless model also includes a carbon filter for small-scale operations.



Cole-Parmer®

UL CE

Description	Dimensions (W x H x D)	Power VAC	Power Hz	Catalog number	Price
Ducted	24" x 24" x 15" (61 x 61 x 38 cm)	115	60	XJ-33730-00	
		220	50	XJ-33730-05	
Ductless	24" x 24" x 15" (61 x 61 x 38 cm)	115	60	XJ-33730-10	
		220	50	XJ-33730-15	

Digi-Sense™ Traceable® Digital Thermohygrometers

Don't let the humidity get to you

DIGI-SENSE™

A. Thermohygrometer with Dew Point and Wet Bulb



This thermohygrometer monitors temperature, humidity, dew point, and wet bulb. Displays current conditions along with minimum and maximum readings. High/low alarm for all four readings (temperature in °F or °C, humidity, dew point, and wet bulb) may be set in 0.1 increments. Alarm will sound for one minute and the red LED light will flash until readings return to a non-alarm condition. Wall mount or place on desktop.

Includes two AA batteries and NIST-traceable calibration report.

B. Jumbo Display Thermohygrometer



This thermohygrometer is perfect for both indoor and outdoor applications. Large, 1⅛"H display can be read as far as 35 feet away!

Thermohygrometer includes a submersible temperature sensor on a 10-ft cable and one AAA battery. Unit features ABS plastic housing. Wall-mount the thermohygrometer or use the flip-open stand. Includes NIST-traceable calibration report.

C. Thermohygrometer with Minimum/Maximum Function



Thermohygrometer displays temperature-compensated relative humidity in % RH, and temperature in °F or °C. Stores minimum and maximum RH and temperature readings—just press the front-panel MIN and MAX buttons to read stored values. Press the RESET button to continue displaying current RH and temperature conditions.

Thermohygrometer features an integral stand for easy desktop viewing and a wall mounting bracket. Includes NIST-traceable calibration report.

D. Handheld Thermohygrometer with Data Output



Measure and download temperature and humidity with these thermohygrometers.

Meters feature data hold, min/max, memory storage, selectable °F/°C, and auto-off. Model 37950-11 also calculates dew point and features an alarm for out-of-range conditions.

Includes hard case and one 9 V battery.

Key letter		A	B	C	D	
Catalog number		XJ-90080-03	XJ-03313-86	XJ-37101-00	XJ-37950-03	XJ-37950-11
Humidity	Range	1 to 99%	25 to 95%	25 to 95%‡	10 to 95%	
	Resolution	0.10%	1%	1%	0.1%	
	Accuracy	±4% from 20 to 80%	±2% at 60%, ±4% for remaining range	±4% from 40 to 80%, 7% for remaining range	±3% from 20 to 90% at 77°F (25°C)	±2% from 0 to 95% at calibration temp
Temp	Range	–40 to 158°F (–40 to 70°C)	32 to 122°F (0 to 50°C)†	32 to 122°F (0 to 50°C)	0 to 199°F (–18 to 93°C)	
	Resolution	0.1°F (0.1°C)	1°F (1°C)	1°F (1°C)	0.1°F (0.1°C)	
	Accuracy	±1.8°F (±1°C)	±2°F (1°C)	±2°F (±1°C) from 32 to 104°F, ±4°F (±2°C) for remaining range	±0.5° from 32 to 122°F (0 to 50°C)	
Dew point		Calculated†	—	—	—	32 to 122°F (0 to 50°C)
Wet bulb		Calculated†	—	—	—	32 to 122°F (0 to 50°C)
Response time		30 seconds to 3.5 minutes	30 seconds to 3.5 minutes	30 seconds to 3.5 minutes	8 seconds	
Output		—	—	—	RS-232	
Power		Two AA batteries (included)	One AAA battery (included)	Two AAA batteries (included)	One 9 V battery (included)	One 9 V battery (included)
Price						
Replacement batteries		XJ-09376-01	XJ-09376-00	XJ-09376-00	XJ-09376-04	XJ-09376-04
Price		/pk of 4	/pk of 12	/pk of 12	/pk of 4	/pk of 4

†Meter takes the information gathered from the sensors and calculates dew point and wet bulb.

‡RH range at temperatures from 59 to 104°F (15 to 40°C).

XJ-17030-28 **NIST-traceable calibration** with data for standard thermohygrometers

Wait! There's More at ColeParmer.com

Browse **100,000+** products plus find **Technical Resources** to help you choose

Digi-Sense™ Precalibrated Pocket Size Moisture Meter

Don't let moisture get to your sample



- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Measure the moisture level in wood and hardened materials with one hand
- Don't let battery die on you—low-battery indicator alerts to concern

This pin-style meter is ideal for measuring the moisture level in wood products (sawn timber, cardboard, and paper) and hardened materials (plaster, concrete, and mortar). Advanced features include °F/°C unit selection, wood or material humidity measurement mode, backlit display, low-battery indicator, and auto power-off.

What's included: four LR44 batteries and NIST-traceable calibration report with data supplied by InnoCal.

DIGI-SENSE™

Moisture range	Moisture accuracy	Temperature range	Catalog number	Price
Wood: 6 to 44%; Material: 0.2 to 2.0%	Wood: ±2%, Material: ±0.2%	32 to 122°F (0 to 50°C)	XJ-20250-35	

XJ-86531-52 **Replacement pins.** Pk of 50
XJ-09376-14 **Replacement battery**

Digi-Sense™ Precalibrated Humidity/Temperature Indicators

Accurately gauge proper humidity levels



- Environment comfort indicator warns of comfortable, wet, or dry conditions
- °F/°C unit selection, Min/Max reading, and clock with alarm and date

"Small, accurate, easy to use."

DIGI-SENSE™

Specifications

Parameters	Range	Resolution
Humidity	10 to 90% RH	0.1%
Temperature (internal sensor)	32 to 120°F (0 to 50°C)	0.1°F/C
Temperature (external sensor, model 20250-31 only)	–58 to 158°F (–50 to 70°C)	0.1°F/C

Description	Cat. no.	Price
Humidity/temperature indicator	XJ-20250-30	
Humidity/temperature indicator with external temperature probe	XJ-20250-31	

Extech® Precision Thermohygrometers with Dew Point and Wet Bulb

Get faster, accurate response



- Get faster response time (just 30 seconds) with precision capacitance sensor, providing ±2% accuracy
- More readings at a glance—read humidity plus temperature, dew point, or wet bulb simultaneously
- Features data hold, Min/Max readings, and auto power off

What's included: Carrying case and 9 V battery.

Specifications

Parameters	Range	Resolution	Accuracy
Humidity	0 to 100%	0.1%	±2% from 20 to 90%, ±3% from 10 to 20% and 90 to 95%, ±4% rest of range
Temperature	–22 to 199°F (–30 to 100°C)	0.1°F (0.1°C)	<±1.8°F (±1°C)
Grains (RH 490)	0 to 1120 GPP (0 to 160 g/kg)		
Dew point†	Included		
Web bulb†	Included		
Power	One 9 V battery		

†Meter takes the information gathered from the sensors and calculates dew point and wet bulb.

Model	Description	Catalog number	Price
RH390	Precision thermohygrometer	XJ-37803-33	
RH490	Precision thermohygrometer (GPP, g/kg)	XJ-37851-01	

XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4
XJ-17030-28 **NIST-traceable calibration** with data

Extech® Big-Digit Thermohygrometers

No more squinting



- Super-large LCD with 1" digits
- Simultaneously displays humidity and temperature

Unit features a Min/Max function that displays the highest and lowest readings from when the reset button was last pressed, and °F/°C selection.

What's included: wall mounting bracket, built-in desk stand, and one AAA battery.

Specifications

Mode	Humidity	Temperature
Range	10 to 99%	14 to 140°F (–10 to 60°C)
Resolution	2%	0.1°F (0.1°C)
Accuracy†	±5% RH within 25 to 85% RH	±1.8°F from 14 to 122°F (±1.0°C from –10 to 50°C)
Power	One AAA battery (included)	

†Accuracy at 32 to 122°F (0 to 50°C).

Description	Cat. no.	Price
Thermohygrometer with built-in sensor	XJ-37802-10	
Thermohygrometer with remote probe	XJ-37809-16	
Thermohygrometer with remote probe and dew point	XJ-37803-26	
Indoor/outdoor thermohygrometer with built-in sensor and remote probe	XJ-37809-15	

XJ-17030-28 **NIST-traceable calibration** with data for standard thermohygrometers

FLIR® Thermal Imaging Moisture Meters

Get right to the problem spot

– Quickly scan and target moisture issues with IGM™ infrared technology
– Document thermal images and moisture readings on screen, and generate reports
– Flexible—take either nonintrusive or intrusive moisture measurements

Versatile "all-in-one" meters feature a built-in thermal camera to visually guide you to problem areas for more confident moisture readings, and the integrated laser and crosshair let you easily reference problem areas. Once you've located the optimal testing location, measure moisture content with the integrated pinless sensor or an external pin probe. Model MR176 also measures and displays air temperature, relative humidity, dew point, mixing ratio, and vapor pressure. Both meters have data Hold, Min/Max, store, and recall functions.

What's included: standard pin probe, FLIR Tools reporting software, USB cable, and micro-USB rechargeable battery.



For detector only

Model number	MR160	MR176
Catalog number	XJ-37802-06	XJ-37802-13
Moisture range – pinless	0 to 100 relative measurement	
Moisture range – pin	0 to 100% WME ±5%	
Air temperature	—	–32 to 122°F (0 to 50°C) / ±1.1°F (±0.6°C)
Relative humidity	—	0 to 100% RH / ±2.5% RH
Dew point	—	–22 to 122°F (–30 to 50°C) / ±1.8°F (1.0°C)
Vapor pressure	—	0 to 12 kPa / ±0.05 kPa
Mixing ratio	—	0 to 566 GPP (0 to 80 g/kg) / ±2 GPP (0.25 g/kg)
Thermal detector type	FLIR Lepton™ microbolometer	
Thermal image resolution	4800 pixels (80 x 60)	
Field of view	51° x 38°	
Thermal sensitivity (NETD)	≤150 mK	
Display type	2.3" (5.8 cm) color TFT	
Price		

Accessories

XJ-37802-08 **Protective carrying case**
XJ-37802-07 **Impact pin probe** for high-density materials
XJ-37802-15 **Hammer probe** for subfloor and flooring
XJ-37802-14 **Wall cavity pin probe** for drywall
XJ-37802-16 **Combination hammer and wall cavity probe kit**

Oakton® Thermohygrometer with Digital Thermometer

No maintenance

– Remains accurate and stable without adjustments
– Switchable °F/°C scale
– Corrosion-resistant ABS plastic

What's included: one AA battery, mounting bracket, and screws.



Mode	Humidity	Temperature
Cat. no.	XJ-35700-00	
Range	20 to 100%	0 to 160°F (–18 to 72°C)
Resolution	2%	0.1°F (0.1°C)
Accuracy	±4%, 20 to 90%; ±8%, 90 to 100%	±1.8°F (±1.0°C)
Response time	1 minute	
Power	One AA battery (included)	
Price		

XJ-09376-01 **Replacement batteries,** AA. Pack of 4
XJ-17030-28 **NIST-traceable calibration** with data for standard thermohygrometers

Cole-Parmer® Brass Case Thermohygrometers

Get the readings you need

– Units for %RH or %RH and temperature available

Include a calibration document supplied by the manufacturer, ensuring conformance to stated specifications. Indicators have a solid brass case, a 5" diameter glass face, and predrilled holes for wall mounting.



Mode		%RH	%RH, °F/°C
Catalog number		XJ-03310-20	XJ-03310-40
Humidity	Range	0 to 100%	0 to 100%
	Resolution	1%	2% RH
	Accuracy	±3% (35 to 95%), ±5% (<35%, >95%)	
Temperature	Range	—	10 to 170°F (–12 to 76°C)
	Resolution	—	5°F 5°F (2°C)
	Accuracy	—	±1% full-scale
Response time		1 minute	
Price*			

***Discount:** Save 15% on three or more indicators.

XJ-17030-28 **NIST-traceable calibration** with data for standard thermohygrometers

H-B Instrument DURAC® Specific Gravity Glass Hydrometers

- Temperature standard is 60°F (15.6°C)
- Plain form hydrometers are individually serialized for easy identification
- Ensure accuracy with multi-language statement of accuracy supplied by manufacturer
- All hydrometers are 100% nonmercury

Precision Hydrometers, plain form, have 0.0005 divisions and feature metal ballast.

ASTM Hydrometers, plain form, are designed to conform to the accuracy requirements of ASTM, and have their scales affixed using a clear epoxy for increased durability. Feature metal ballast.

Precision Hydrometers, combined form, fuse together a hydrometer and thermometer into one convenient unit. These thermohydrometers have an organic performance liquid that is 100% mercury free and feature wax paraffin and steel shot ballast.



For Liquids Lighter than Water

General-Purpose Hydrometers, plain form

Range	Divisions	Length	Catalog number	Price
0.600 to 0.670	0.001	165 mm	XJ-08298-46	
0.640 to 0.710	0.001	165 mm	XJ-08298-47	
0.650 to 1.000	0.005	300 mm	XJ-08299-09	
0.690 to 0.800	0.002	165 mm	XJ-08298-11	
0.700 to 0.770	0.001	165 mm	XJ-08298-17	
0.700 to 0.810	0.001	300 mm	XJ-08298-27	
0.760 to 0.830	0.001	165 mm	XJ-08298-19	
0.790 to 0.900	0.002	165 mm	XJ-08298-13	
0.800 to 0.910	0.001	300 mm	XJ-08298-29	
0.820 to 0.890	0.001	165 mm	XJ-08298-21	
0.880 to 0.950	0.001	165 mm	XJ-08298-23	
0.890 to 1.000	0.002	165 mm	XJ-08298-15	
0.900 to 1.000	0.001	300 mm	XJ-08298-31	
0.940 to 1.010	0.001	165 mm	XJ-08298-25	

Precision Hydrometers, plain form

Range	Divisions	Length	Catalog number	Price
0.600 to 0.670	0.0005	325 mm	XJ-08298-51	
0.640 to 0.710	0.0005	325 mm	XJ-08298-53	
0.700 to 0.770	0.0005	325 mm	XJ-08298-55	
0.760 to 0.830	0.0005	325 mm	XJ-08298-57	
0.820 to 0.890	0.0005	325 mm	XJ-08298-59	
0.880 to 0.950	0.0005	325 mm	XJ-08298-61	
0.940 to 1.010	0.0005	325 mm	XJ-08298-63	

ASTM Hydrometers, plain form

ASTM no.	Range	Divisions	Length	Catalog number	Price
82H	0.650 to 0.700	0.0005	330 mm	XJ-08297-81	
83H	0.700 to 0.750	0.0005	330 mm	XJ-08297-83	
84H	0.750 to 0.800	0.0005	330 mm	XJ-08297-85	
85H	0.800 to 0.850	0.0005	330 mm	XJ-08297-87	
86H	0.850 to 0.900	0.0005	330 mm	XJ-08297-89	
87H	0.900 to 0.950	0.0005	330 mm	XJ-08297-91	
88H	0.950 to 1.000	0.0005	330 mm	XJ-08297-93	
89H	1.000 to 1.050	0.0005	330 mm	XJ-08297-95	
102H	0.650 to 0.700	0.001	260 mm	XJ-08297-97	
103H	0.700 to 0.750	0.001	260 mm	XJ-08297-99	
104H	0.750 to 0.800	0.001	260 mm	XJ-08298-01	
105H	0.800 to 0.850	0.001	260 mm	XJ-08298-03	
106H	0.850 to 0.900	0.001	260 mm	XJ-08298-05	
107H	0.900 to 0.950	0.001	260 mm	XJ-08298-07	
108H	0.950 to 1.000	0.001	260 mm	XJ-08298-09	

Precision Hydrometers, combined form

Range	Divisions	Temperature range	Divisions	Length	Catalog number	Price
0.700 to 0.810	0.001	0 to 150°F	2°F	381 mm	XJ-08297-57	
0.800 to 0.910	0.001	0 to 150°F	2°F	381 mm	XJ-08297-59	
0.900 to 1.000	0.001	0 to 150°F	2°F	381 mm	XJ-08297-61	

For Liquids Heavier than Water

General-Purpose Hydrometers, plain form

Range	Divisions	Length	Catalog number	Price
1.000 to 1.070	0.001	165 mm	XJ-08298-60	
1.000 to 1.220	0.002	300 mm	XJ-08298-84	
1.000 to 1.250	0.005	165 mm	XJ-08298-50	
1.000 to 1.600	0.005	300 mm	XJ-08298-80	
1.000 to 2.000	0.01	300 mm	XJ-08298-94	
1.060 to 1.130	0.001	165 mm	XJ-08298-62	
1.120 to 1.190	0.001	165 mm	XJ-08298-64	
1.180 to 1.250	0.001	165 mm	XJ-08298-66	
1.200 to 1.420	0.002	300 mm	XJ-08298-86	
1.200 to 1.450	0.005	165 mm	XJ-08298-52	
1.240 to 1.310	0.001	165 mm	XJ-08298-68	
1.300 to 1.370	0.001	165 mm	XJ-08298-70	
1.360 to 1.430	0.001	165 mm	XJ-08298-48	
1.400 to 1.620	0.002	300 mm	XJ-08298-88	
1.400 to 1.650	0.005	165 mm	XJ-08298-54	
1.420 to 1.490	0.001	165 mm	XJ-08298-72	
1.480 to 1.550	0.001	165 mm	XJ-08298-74	
1.540 to 1.610	0.001	165 mm	XJ-08298-76	
1.500 to 2.000	0.005	300 mm	XJ-08298-82	
1.600 to 1.670	0.001	165 mm	XJ-08298-78	
1.600 to 1.820	0.002	300 mm	XJ-08298-90	
1.600 to 1.850	0.005	165 mm	XJ-08298-56	
1.660 to 1.730	0.001	165 mm	XJ-08298-49	
1.720 to 1.790	0.001	165 mm	XJ-08294-91	
1.780 to 1.850	0.001	165 mm	XJ-08294-93	
1.800 to 2.000	0.002	300 mm	XJ-08298-92	
1.800 to 2.000	0.001	165 mm	XJ-08298-58	
1.840 to 1.920	0.001	165 mm	XJ-08294-95	
1.900 to 1.970	0.001	165 mm	XJ-08298-96	
1.970 to 2.040	0.001	165 mm	XJ-08298-97	

Precision Hydrometers, plain form

Range	Divisions	Length	Catalog number	Price
1.000 to 1.070	0.0005	325 mm	XJ-08298-65	
1.060 to 1.130	0.0005	325 mm	XJ-08298-67	
1.120 to 1.190	0.0005	325 mm	XJ-08298-69	
1.180 to 1.250	0.0005	325 mm	XJ-08298-71	
1.240 to 1.310	0.0005	325 mm	XJ-08298-73	
1.300 to 1.370	0.0005	325 mm	XJ-08298-75	
1.360 to 1.430	0.0005	325 mm	XJ-08298-77	
1.420 to 1.490	0.0005	325 mm	XJ-08298-79	
1.480 to 1.550	0.0005	325 mm	XJ-08298-81	
1.540 to 1.610	0.0005	325 mm	XJ-08298-83	
1.600 to 1.670	0.0005	325 mm	XJ-08298-85	
1.660 to 1.730	0.0005	325 mm	XJ-08299-01	
1.720 to 1.790	0.0005	325 mm	XJ-08298-87	
1.780 to 1.850	0.0005	325 mm	XJ-08298-89	
1.840 to 1.920	0.0005	325 mm	XJ-08299-03	

ASTM Hydrometers, plain form

ASTM no.	Range	Divisions	Length	Catalog number	Price
125H	1.000 to 1.050	0.001	260 mm	XJ-08297-80	
126H	1.050 to 1.100	0.001	260 mm	XJ-08297-82	
127H	1.100 to 1.150	0.001	260 mm	XJ-08297-84	
128H	1.150 to 1.200	0.001	260 mm	XJ-08297-86	
129H	1.200 to 1.250	0.001	260 mm	XJ-08297-88	
130H	1.250 to 1.300	0.001	260 mm	XJ-08297-90	
131H	1.300 to 1.350	0.001	260 mm	XJ-08297-92	
133H	1.400 to 1.450	0.001	260 mm	XJ-08297-94	

Precision Hydrometers, combined form

Range	Divisions	Temperature range	Divisions	Length	Catalog number	Price
1.000 to 1.220	0.002	0 to 150°F	2°F	381 mm	XJ-08297-63	
1.200 to 1.420	0.002	0 to 150°F	2°F	381 mm	XJ-08297-65	
1.400 to 1.620	0.002	0 to 150°F	2°F	381 mm	XJ-08297-67	
1.600 to 1.820	0.002	0 to 150°F	2°F	381 mm	XJ-08297-69	
1.800 to 2.000	0.002	0 to 150°F	2°F	381 mm	XJ-08299-07	

For Liquids Considerably Heavier than Water

General-Purpose Hydrometers, plain form

Range	Divisions	Length	Catalog number	Price
2.000 to 3.000	0.01	300 mm	XJ-08298-98	

H-B Instrument DURAC® Hydrometers

Calcium Chloride Salt Glass Hydrometers (Salometer)

– Determine percent of saturation, specific gravity, or freezing point of calcium chloride ($CaCl_2$)

Range	Divisions	Length	Cat. no.	Price
0 to 120% saturation	1%	300 mm	XJ-08299-21	
1.000 to 1.280 specific gravity; –40 to 30°F freezing point	0.2 specific gravity; 5°F freezing point	300 mm	XJ-08299-22	



Soil Glass Hydrometers

– Easy measurement of specific gravity of soil in suspension

ASTM no.	Range	Divisions	Length	Catalog number	Price
151H	0.995 to 1.038 specific gravity	0.001	280 mm	XJ-08297-40	
152H	–5 to 60 g/L	1	280 mm	XJ-08297-42	



Polycarbonate Hydrometers

– Won't break when dropped

Type	Range	Divisions	Length	Cat. no.	Price
Specific gravity	0.920 to 1.080	0.002	300 mm	XJ-08298-39	
	1.000 to 1.180	0.002	300 mm	XJ-08298-38	
	1.050 to 1.220	0.002	300 mm	XJ-08298-40	
	1.200 to 1.420	0.002	300 mm	XJ-08298-41	
	1.400 to 1.620	0.002	300 mm	XJ-08298-42	
Baumé	0 to 12°	0.2°	255 mm	XJ-08298-26	
	9 to 21°	0.2°	255 mm	XJ-08298-28	
	19 to 31°	0.2°	255 mm	XJ-08298-30	
Brix	0 to 35°	0.5°	300 mm	XJ-08298-36	
	15 to 50°	0.5°	300 mm	XJ-08298-37	
Salt brine	0 to 80%	1%	300 mm	XJ-08298-43	
	10 to 100%	1%	300 mm	XJ-08298-44	
Sodium chloride	4 to 26.5%	0.2%	300 mm	XJ-08298-45	



Alcohol Glass Hydrometers

– Determine proof of ethyl alcohol spirits

– Made according to the Bureau of Internal Revenue, US Treasury Department

– Tolerances listed for these hydrometers are those outlined in Circular 555 of the National Bureau of Standards, Testing of Hydrometers

The dual-scale alcohol hydrometer features both Proof and Tralle scales. The Proof scale indicates the proof of alcohol at 60°F (15.6°C); the Tralle scale indicates percent ethyl alcohol by weight in water.



Internal Rev. code	Range	Divisions	Length	Catalog number	Price
Proof hydrometers					
F	0 to 20%	0.2%	300 mm	XJ-08296-01	
G	20 to 40%	0.2%	300 mm	XJ-08296-03	
H	40 to 60%	0.2%	300 mm	XJ-08296-05	
I	60 to 80%	0.2%	300 mm	XJ-08296-07	
K	75 to 95%	0.2%	300 mm	XJ-08296-09	
L	90 to 110%	0.2%	300 mm	XJ-08296-11	
M	105 to 125%	0.2%	300 mm	XJ-08296-13	
N	125 to 145%	0.2%	300 mm	XJ-08296-15	
P	145 to 165%	0.2%	300 mm	XJ-08296-17	
Q	165 to 185%	0.2%	300 mm	XJ-08296-19	
R	185 to 206%	0.2%	300 mm	XJ-08296-21	
Dual-scale Proof/Tralle hydrometer					
—	Proof scale: 0 to 200%; Tralle scale: 0 to 100%	Proof scale: 2%; Tralle scale: 1%	305 mm	XJ-08285-58	

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Hydrometer Storage Cases

– Keep hydrometers safe

These sturdy storage cases protect your hydrometers from shock or rough handling. Heavy-wall polyvinyl chloride (PVC) tube is fully cushioned with foam padding and has a twist-lock cap.

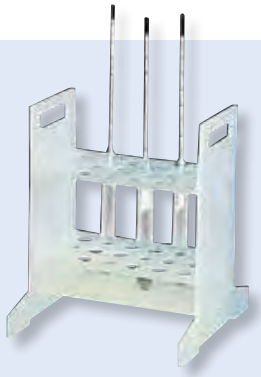


Accommodates	Catalog number	Price
One hydrometer up to 8" (190 mm) L	XJ-08285-98	
One hydrometer up 15" (381 mm) L	XJ-08285-97	

Hydrometer Racks

– Keep hydrometers close at hand

These polypropylene hydrometer racks securely hold up to 18 hydrometers. Wide base 8¼" x 8½" (21.0 x 21.6 cm) prevents rack from tipping. Autoclavable.



For hydrometer length	Catalog number	Price
>280 mm	XJ-06695-00	
<280 mm	XJ-06695-10	

Cole-Parmer® Mini Incubator

Compact and economical

– Holds up to 14 microwell plates or 54 test tubes
– Stack units to increase capacity without using more bench space
– Heating element lies in the back—eliminating the risk of scorching the sample when placed on the chamber floor

Cole-Parmer®



Capacity cu ft (L)	Temperature range	Dimensions (W x H x D)		Power (VAC, Hz)	Catalog number	Price
		Chamber	Overall			
0.1 (2.8)	5° above ambient to 42°C	7¼" x 5¼" x 5¾" (18.4 x 13.3 x 14.6 cm)	7$^{11}/_{16}$" x 6$^{3}/_{16}$" x 6½" (19.5 x 15.7 x 16.5 cm)	120, 50/60	XJ-03608-14	
				230, 50/60	XJ-03608-15	

Low-Cost Analog and Digital Incubators

Versatile and dependable

– Be alerted to malfunctions with self-diagnostic function
– Tinted, see-through acrylic door lets you view the entire chamber without opening the door

Incubators are microprocessor controlled and include a unique temperature tracking feature which stores maximum process temperature deviation from set point in 0.1 degree units.



c UL us

3 year warranty on heating element

Capacity cu ft (L)	Temperature range	Temperature stability	Dimensions (W x H x D)		Shelf positions	Shelves included	VAC, Hz	Shpg wt lb (kg)	Catalog number	Price
			Chamber	Overall						
Analog incubators										
0.7 (19.8)	Ambient +5 to 93°C	±0.5°C	12" x 10" x 10" (30.5 x 25.4 x 25.4 cm)	13" x 15" x 11" (33 x 38.1 x 27.9 cm)	7	1	115, 50/60	26 (11.8)	XJ-03613-00	
0.7 (19.8)	Ambient +5 to 62°C	±0.5°C	12" x 10" x 10" (30.5 x 25.4 x 25.4 cm)	13" x 15" x 11" (33 x 38.1 x 27.9 cm)	7	1	115, 50/60	24 (10.9)	XJ-03613-10	
2.0 (56.6)	Ambient +5 to 62°C	±0.5°C	18" x 16" x 12" (45.7 x 40.6 x 30.5 cm)	19" x 21" x 13" (48.3 x 53.3 x 33 cm)	13	1	115, 50/60	40 (18.2)	XJ-03613-20	
Digital incubators										
0.7 (19.8)	Ambient +5 to 62°C	±0.5°C	12" x 10" x 10" (30.5 x 25.4 x 25.4 cm)	13" x 15" x 11" (33 x 38.1 x 27.9 cm)	7	1	120, 50/60	23 (10.5)	XJ-03613-30	
							230, 50/60		XJ-03613-35	
2.0 (56.6)	Ambient +5 to 62°C	±0.5°C	18½" x 16" x 12" (47 x 40.6 x 30.5 cm)	19" x 21" x 13" (48.3 x 53.3 x 33 cm)	13	1	120, 50/60	48 (19.5)	XJ-03613-40	
							230, 50/60		XJ-03613-45	

Cole-Parmer® StableTemp™ General-Purpose Analog and Digital Incubators

Don't worry about your samples

– Over-range thermostat protects samples and alerts user
– Don't let temperature fluctuate while viewing samples with see-through polycarbonate doors*
– Easy-to-clean aluminum interior

StableTemp

UL CSA CE



Capacity cu ft (L)	Temperature range	Stability at 37°C	Uniformity at 37°C	Dimensions (W x H x D)		Shelf positions	Shelves included	Power (VAC, Hz)	Shpg wt lb (kg)	Catalog number	Price
				Chamber	Overall						
Analog incubators											
5 (141.6)	10° above ambient to 90°C	±1°C	±1.5°C	17" x 30" x 17" (43.2 x 76.2 x 43.2 cm)	19¼" x 36" x 23" (48.9 x 91.4 x 58.4 cm)	6	3	115, 60	74 (33.6)	XJ-01100-48	
								230, 50		XJ-01100-50	
Digital incubators											
0.5 (14.2)	10° above ambient to 90°C	±0.5°C	±0.7°C	9½" x 9½" x 9½" (24.1 x 24.1 x 24.1 cm)	11½" x 15½" X 15½" (29.2 x 39.4 x 39.4 cm)	3	1	115, 60	24 (10.9)	XJ-01100-20	
								230, 50		XJ-01100-22	
								115, 60		XJ-01100-21†	
								230, 50		XJ-01100-23†	
1.4 (39.6)				13½" X 13½" X 13½" (34.3 x 34.3 x 34.3 cm)	15¼" x 19½" x 19" (39.4 x 49.5 x 48.3 cm)	4	2	115, 60	36 (16.3)	XJ-01100-24	
								230, 50		XJ-01100-26	
2.5 (70.8)				17" x 15" x 17" (43.2 x 38.1 x 43.2 cm)	19¼" x 21" x 23" (48.9 x 53.3 x 58.4 cm)	5	2	115, 60	48 (21.5)	XJ-01100-28	
								230, 50		XJ-01100-30	

†Models 01100-21 and 01100-23 feature solid doors.

Heratherm™ General Protocol Incubators

No more difficult setting of parameters



– Corrosion-resistant stainless steel interior
– Internal glass door allows sample viewing without disturbing temperature

These gravity convection incubators provide top-quality temperature uniformity, ranging from 5°C above ambient to 75°C. A unique airflow design, advanced microprocessor control, and automatic overtemperature alarm ensure that an optimal environment is maintained.

What's included: two adjustable stainless steel shelves and power cord.

ISO9001:2008 CERTIFIED SUPPLIER

Capacity cu ft (L)	Temperature range	Accuracy at 37°C	Temperature uniformity at 37° C	Dimensions (W x H x D)		Shelf positions	Shelves included	VAC, Hz	Shpg wt lb (kg)	Catalog number	Price
				Chamber	Overall						
2.6 (75)	+5°C to 75°C	±0.2°C	±0.6°C	14" x 20" x 16¼" (35.4 x 50.8 x 41.4 cm)	20⅞" x 28⅜" x 22⅝" (53 x 72 x 56.5 cm)	13	2	120, 60	88 (40.0)	XJ-38800-02	
4.0 (117)	+5°C to 75°C	±0.2°C	±0.6°C	18¼" x 24" x 16¼" (46.4 x 60.8 x 41.4 cm)	25¼" x 32¼" x 22⅝" (64 x 82 x 56.5 cm)	16	2	120, 60	112 (50.9)	XJ-38800-04	
6.85 (194)	+5°C to 75°C	±0.2°C	±0.6°C	18¼" x 27⅞" x 23⅛" (46.4 x 70.8 x 58.9 cm)	25¼" x 36¼" x 29" (64 x 92 x 73.8 cm)	19	2	120, 60	143 (64.9)	XJ-38800-06	
14.3 (405)	+5°C to 75°C	±0.4°C	±0.4°C	21⅜" x 51½" x 22⅜" (54.4 x 130.7 x 56.9 cm)	30⅝" x 60¹³⁄₁₆" x 30⁵⁄₁₆" (77.8 x 154.5 x 77 cm)	39	2	120, 60	320 (145)	XJ-38800-03	
26.4 (747)	+5°C to 75°C	±0.4°C	±1.3°C	39½" x 51½" x 22⅜" (100.4 x 130.7 x 56.9 cm)	49¾" x 60¹³⁄₁₆" x 30⁵⁄₁₆" (126.1 x 154.5 x 77 cm)	39	2	120, 60	443 (201)	XJ-38800-05	

Heratherm™ Advanced Protocol Incubators

Put equipment right inside



– Internal socket allows the use of other lab equipment inside the unit
– Microprocessor control with vacuum fluorescent display

Dual convection allows for different applications; fan speed is adjustable from 0 to 100%. Corrosion-resistant stainless steel interior is easy to clean and internal glass door allows sample viewing without impacting temperature. Digital timer can be set for daily or weekly on/off cycles. Small footprint saves space in your lab.

What's included: two adjustable stainless steel shelves and power cord.

ISO9001:2008 CERTIFIED SUPPLIER

Capacity cu ft (L)	Accuracy at 37°C	Temperature range	Temperature uniformity at 37°C	Dimensions (W x H x D)		Shelf positions	Shelves included	VAC, Hz	Shpg wt lb (kg)	Catalog number	Price
				Chamber	Overall						
2.3 (66)	±0.1°C	5°C above ambient to 105°C	±0.6° C	13¹⁵⁄₁₆" x 20" x 14½" (35.4 x 50.8 x 36.8 cm)	20¹⁵⁄₁₆" x 28⁵⁄₁₆" x 22¼" (53 x 72 x 56.5 cm)	13	2	120,60	99 (45)	XJ-38800-08	
3.67 (104)	±0.1°C		±0.6° C	18⁵⁄₁₆" x 23¹⁵⁄₁₆" x 14½" (46.4 x 60.8 x 36.8 cm)	25¼" x 32⁵⁄₁₆" x 22¼" (64 x 82 x 56.5 cm)	16	2	120, 60	123 (56)	XJ-38800-10	
6.3 (178)	±0.1°C		±0.6° C	18⁵⁄₁₆" x 27¹⁵⁄₁₆" x 21⁷⁄₁₆" (46.4 x 70.8 x 54.3 cm)	25¼" x 36¼" x 29⅛" (64 x 92 x 73.8 cm)	19	2	120, 60	154 (70)	XJ-38800-12	

Lab Companion Digital Mechanical Convection Incubators

Monitor and control remotely



– RS-232 communication interface and software for remote PC control
– CLS (customer logical safe)—control system thermal safety features
– Fine tune the PID temperature control with auto-tuning feature
– Electronic programmable timer for setting start and stop automatically

What's included: RS-232 cable and software, two wired shelves, and 6-ft (1.8-m) power cord.

Specifications

Temperature range: 5° above ambient to 75°C **Accuracy at 40°C:** ±0.1°C **Uniformity at 40°C:** ±0.4°C

Capacity cu ft (L)	Dimensions (W x H x D)		Shelf positions	Shelves included	VAC, Hz	Shpg wt lb (kg)	Catalog number	Price	Wire shelves		Perforated shelves	
	Chamber	Overall							Cat. no.	Price	Cat. no.	Price
2.1 (59.5)	15¾" x 16½" x 14¼" (40 x 41.9 x 36.2 cm)	23½" x 29¼" x 21¾" (59.7 x 74.3 x 55.2 cm)	8	2	120, 60	99 (45)	XJ-79510-02		XJ-79510-04		XJ-79510-06	
					240, 50/60		XJ-79510-00					
3.7 (104.8)	19" x 20½" x 16" (48.3 x 52.1 x 40.6 cm)	26½" x 33½" x 23¾" (67.3 x 85.1 x 60.3 cm)	12	2	120, 60	121 (55)	XJ-79510-10		XJ-79510-12		XJ-79510-14	
					240, 50/60		XJ-79510-08					
5.4 (152.9)	24" x 21¼" x 18" (61 x 54 x 45.7 cm)	31½" x 34¾" x 25¾" (80 x 88.3 x 65.4 cm)	12	2	120, 60	137 (62)	XJ-79510-18		XJ-79510-20		XJ-79510-22	
					240, 50/60		XJ-79510-16					

Cole-Parmer® Analog Melting Point Apparatus

Safe, simple to use, and accurate



Cole-Parmer®

- No complicated programming—place sample in capillary tube, set heating rate, and watch for melt
- Monitor sample through magnifying lens and read temperature on included spirit-filled thermometer
- See sample more easily with integrated LED lamp
- Ideal for educational settings

Unit includes open-ended capillary tubes—seal one end before using. Process multiple runs faster by cooling sample with optional cooling plug.

What's included: thermometer and pack of 100 capillary tubes (open at both ends).

Specifications

Number of samples: up to 3 simultaneously
Temperature range: ambient to 250°C
Ramp rate: 1 to 20°C per minute to melt
Heat-up time: 15 min from 50 to 350°C

Power (VAC, Hz)	Catalog number	Price
120, 60	XJ-03013-01	
230, 50	XJ-03013-06	

Accessories

XJ-03013-62 Replacement thermometer, spirit filled, 0 to 250°C
XJ-03013-63 Replacement capillary tubes, open both ends. Pack of 100
XJ-03013-64 Optional capillary tubes, open one end. Pack of 100
XJ-03013-65 Optional capillary tubes, closed both ends. Pack of 100
XJ-03013-66 Brass cooling plug

Find even more online!
Go to ColeParmer.com to search more than 100,000 products.

Cole-Parmer® Digital Melting Point Apparatus

No more reading glass thermometers



Cole-Parmer®

- Get more accuracy—select, measure, and display temperature digitally
- Be more productive—test two samples simultaneously
- Easily see melt via magnifying lens with built-in illumination

Save time by setting a plateau temperature for initial warm-up, with heating rate continuing at 2°C until melt temperature is reached. Extendable back feet optimize viewing angle.

High-resolution models 03012-07 and -17 offer 0.1°C resolution and variable ramp rate so you can choose either a faster result or a more accurate slow one. Hold key allows more time to record the exact melt temperature.

What's included: pack of 100 capillary tubes (open at one end).

Specifications

Number of samples: up to 2 simultaneously
Temperature range: ambient to 300°C
Temperature accuracy: ±1.0°C at 20°C, ±2.5°C at 300°C
Ramp rate:
Models 03011-30 and -35: 20°C per minute to plateau, 2°C per minute to melt
Models 03012-07 and -17: 20°C per minute to plateau, variable between 1 and 10°C per minute to melt
Heat-up time: 15 min from 50 to 350°C

Display	Resolution	Power (VAC, Hz)	Catalog number	Price
3-digit LED	1°C	120, 60	XJ-03011-30	
		230, 50	XJ-03011-35	
4-digit LED	0.1°C	120, 60	XJ-03012-07	
		230, 50	XJ-03012-17	

Accessories

XJ-03013-64 Replacement capillary tubes, open one end. Pack of 100

Stuart® Automatic Digital Melting Point Apparatus

Capture and display a video of the melt



- Accurately identify the melting point with advanced digital image processing
- Get up and running quickly—intuitive setup and navigation on large color touch screen
- Use the rapid ramp mode to take a fast scan of the full temperature range
- Conforms to USP and GLP requirements

Advanced features with icon-driven interface make this the ideal melting point apparatus for your pharmaceutical, raw material, and quality control applications. Video image of melt provides proof of measurement—observe in real time or post melt. Download videos and reports to a USB flash drive or use the optional printer for direct printing of results. Stored video results are stamped of with melt temperature.

What's included: pack of 100 capillary tubes (open at one end), and storage compartment with glass cutter.

Specifications

Number of samples: up to 3 simultaneously
Temperature range: ambient to 400°C
Temperature resolution: 0.1°C
Ramp rate: 0.1 to 20°C per min (0.1°C increments)
Heat-up time: 6 min from 50 to 350°C
Display: 7" (17.8 cm) color touch screen
Memory: 8 GB (approx. 300 results with video)
Output: USB, for flash drive
Power: 120/230 VAC, 50/60 Hz

Description	Catalog number	Price
Automatic digital melting point apparatus	XJ-03013-02	
Automatic digital melting point apparatus with IQ/OQ documentation	XJ-03013-03	

Accessories

XJ-83056-79 Optional printer
XJ-03013-64 Replacement capillary tubes, open one end. Pack of 100
XJ-03013-65 Optional capillary tubes, open both ends. Pack of 100

Cole-Parmer® Dehydrated Culture Media

Get consistent and reliable results

– Use when ready or dehydrated culture extends shelf life
– Individually numbered with certificate of compliance expiration date, and shelf-life guarantee
– Quick dissolve for faster processing
– For laboratory use only

Cole-Parmer®



Media	Description	Size (g)	Catalog number	Price
Agar, bacteriological	This clear gel agar is high grade and manufactured using the ice method	500	XJ-14200-10	
Azide dextrose broth	Use for detection of fecal *Streptococci* in water and sewage	500	XJ-14202-00	
Baird parker agar	Use for the selective isolation of coagulase positive *Staphylococci* in food	500	XJ-14202-01	
Blood agar base with low pH	Use to cultivate a wide variety of bacteria	500	XJ-14202-02	
Bile Esculin agar	This is used as a differential medium in the isolation and presumptive identification of enterococci/group *D streptococci*	500	XJ-14202-03	
Brain heart infusion agar	Use to cultivate a wide spectrum of bacteria, yeasts, and molds	500	XJ-14200-12	
Brain heart infusion broth	Use to cultivate fastidious aerobic and anaerobic bacteria	500	XJ-14202-05	
Brilliant green bile broth	A standard methods medium for confirmed and completed tests for coliforms in water	500	XJ-14200-14	
Buffered peptone water	Helps in the recovery of *Salmonella* from foods after preservation techniques	500	XJ-14202-08	
Cetrimide agar	Use for the selective isolation of *Pseudomonas aeruginosa*	500	XJ-14200-52	
D/E neutralizing Broth	This broth is especially suited for environmental sampling where neutralization of the chemical is important to determining the bactericidal activity	500	XJ-14202-11	
EC	Use to isolate *E. coli* from water, milk, and shellfish; and for differentiation of coliform bacteria at 37°C and *E. coli* at 45.5°C	500	XJ-14202-12	
Eosin methylene blue agar, Levine	Use this selective medium to detect gram-negative enteric bacteria. Contains double the concentration of lactose found in eosin methylene blue (HH&T), and no sucrose.	500	XJ-14202-14	
Fluid thioglycollate medium	Use to test sterile materials for the presence of aerobic, anaerobic, and microaerophilic microorganisms	500	XJ-14202-16	
Fraser broth base	Use to isolate *Listeria sp.* from food and environmental materials	500	XJ-14202-18	
Hektoen enteric agar	Use this selective, differential medium to isolate *Salmonella* and *Shigella* from research materials	500	XJ-14202-22	
Lactobacilli MRS broth	Use to cultivate *Lactobacilli* from dairy products and other food materials	500	XJ-14202-24	
Lactose broth	A standard methods medium for the growth of coliform bacteria from water, food, and dairy products	500	XJ-14202-26	
Lauryl tryptose broth	A standard methods medium for the growth of coliform bacteria in water and food	500	XJ-14202-30	
		2 kg	XJ-14202-32	
Letheen broth base, AOAC	Use to test items sanitized with quaternary ammonium compounds	500	XJ-14202-34	
Listeria enrichment broth	A selective enrichment of *Listeria* monocytogenes from milk	500	XJ-14202-36	
m-endo agar	Recommended media for the enumeration of coliforms in water by membrane filtration.	500	XJ-14202-37	
m-Enterococcus agar	Use this highly selective medium to isolate *Enterococci* from water, food, and other materials	500	XJ-14202-38	
m-FC agar	Use to detect fecal coliforms at elevated temperatures by membrane filter technique	500	XJ-14200-44	
MacConkey agar	Use as a selective and differential medium for the detection of coliforms and other enteric organisms	500	XJ-14200-22	
Mannitol salt agar	Use this selective medium to isolate and enumerate *Staphylococci.* Recommended by the USP for microbial limit tests.	500	XJ-14202-44	
Mueller Hinton agar	Use for the determination of antibiotic susceptibility in the disk-agar diffusion method	500	XJ-14202-46	
Nutrient agar	A general-purpose medium for the cultivation of nonfastidious organisms	500	XJ-14200-24	
Nutrient gelatin	Use to detect gelatin liquefaction	500	XJ-14202-50	
Pancreatic digest of casein	Use this general-purpose peptone to promote growth in various media formulations	500	XJ-14200-26	
Pancreatic digest gelatin	Use this general-purpose peptone to promote growth in various media formulations	500	XJ-14202-54	
Phosphate buffer; pH 7.2	Use to prepare dilution blanks for samples of water, food, and dairy products	500	XJ-14200-54	
Potato dextrose agar	Use this standard methods medium to culture yeasts and molds from dairy and other food products	500	XJ-14200-28	
Rappaport-Vassiliadis	Use in the AOAC method to rapidly detect motile *Salmonella* in food products	500	XJ-14202-60	
Sabouraud dextrose agar	Use this USP medium to perform total combined yeast and mold counts (microbial limit tests)	500	XJ-14202-62	
Selenite cystine broth	Use this USP and AOAC enrichment medium to detect *Salmonella* in food and dairy products, and other materials	500	XJ-14202-64	
Skim milk	Use as a media ingredient	500	XJ-14202-66	
Standard methods agar	Use this standard methods medium to analyze water, food, and dairy products	500	XJ-14200-32	
Tetrathionate broth base	Use this standard methods medium for the enrichment of *Salmonella* from samples of water, food, and research material	500	XJ-14200-48	
Triple sugar iron agar	Use to identify gram-negative enteric organisms based on carbohydrate fermentation and H_2S production	500	XJ-14202-72	
Tryptic soy agar	Use this USP medium for the total aerobic portion of microbial limit testing. Also use as a primary media for preparing blood plates.	500	XJ-14200-34	
		2 kg	XJ-14202-75	
Tryptic soy broth	A USP soybean-casein digest broth for sterility testing and general-purpose use	500	XJ-14200-36	
		2 kg	XJ-14202-77	
Violet red bile agar	Use this standard methods medium for the selective detection of coliforms in water, dairy products, and other food materials.	500	XJ-14202-82	
XLT4 agar	A selective medium with Tergitol 4 added for the detection and isolation of nontyphi *Salmonella*	500	XJ-14202-84	
Yeast extract	This is the water soluble portion of autolysed yeast; a water soluble, clear solution after autoclaving	500	XJ-14202-86	

Warning—These products are not approved or intended for, and should not be used for, medical, clinical, surgical or other patient oriented applications.

Prepared Media Plates

Save time and money

– Consistent, reliable performance

Each includes a certificate of compliance and quality control that shows lot numbers, expiration dates, and shelf-life guarantee. **Pack of 10.**



Media	Description	Cat. no.	Price/pk
Blood Agar, 5%	General-purpose growth media for the isolation, cultivation, and differentiation of a wide variety of microorganism	XJ-14201-40	
TSA	General growth medium for the isolation and cultivation of microorganisms	XJ-14201-42	
Standard Methods Agar	Determine the microbial content in dairy products, food, water and other material of sanitary importance	XJ-14201-44	
Mannitol Salt Agar	Selective and differential medium for the isolation of pathogenic *Staphylococci*	XJ-14201-46	
Baird Parker Agar	Selective medium for the detection and enumeration of coagulase-positive *Staphylococci* from food samples	XJ-14201-48	
Sab Dex	For the isolation, cultivation, and maintenance of nonpathogenic and for pathogenic species of fungi and yeasts	XJ-14201-50	
PDA (Potato Dextrose Agar)	For cultivation of yeasts and mold and for the inducement of sporulation	XJ-14201-52	
XLD Agar	Selective and differential medium for the isolation of gram negative enteric pathogens from fecal and other specimen	XJ-14201-54	
HE Enteric Agar	Selective and differential medium for the isolation and differentiation of gram negative enteric pathogens	XJ-14201-56	
MacConkey Agar with Sorbital	Selective and differential medium for the detection of enterohemorrhagic *E. coli* 0157:H7	XJ-14201-58	
Centrimide Agar	Recommended for the selective isolation and identification of *Pseudomonas aeruginosa*	XJ-14201-62	

Warning—These products are not approved or intended for, and should not be used for, medical, clinical, surgical or other patient oriented applications.

Prefilled Dilution Vials

Easy-open design



– Flip top lid, 145-mL vials for easy handling

– Prediluted with final pH of 7.2 ±0.2 at 25°C

– Lab use only

Application	Fill capacity	Qty/pk	Catalog number	Price/pk
Butterfield's phosphate buffer				
Foods, dairy products, water, wastewater	99 mL	50	XJ-36150-00	
	90 mL	50	XJ-36150-02	
Phosphate buffer with magnesium chloride				
Beverages, dairy products	99 mL	50	XJ-36150-10	
	90 mL	50	XJ-36150-12	
Peptone water, gamma irradiated				
Foods, dairy products	99 mL	50	XJ-36150-20	
	90 mL	50	XJ-36150-22	
Buffered peptone water, gamma irradiated				
Foods, dairy products	99 mL	50	XJ-36150-30	
	90 mL	50	XJ-36150-32	

Contact Plate Media

Cultivate microorganisms from environmental surfaces



These high-quality, economical plates feature a specified grid molded into the bottom of the plate for easy colony counting. **10/pack (except -28; 20/pack).**

Media	Description	Catalog number	Price/pk
TSA w/ Lecithin & Tween 80	For the cultivation of microorganisms from environmental surfaces.	XJ-14201-20	
SabDex with Lecithin & Tween 80	For the cultivation of fungi.	XJ-14201-24	
Blood Agar, 5%	For cultivation of microorganisms from environmental surfaces.	XJ-14201-28	
Baird Parker Agar	For the selective isolation and enumeration of coagulase positive *staphylococci* from food and environmental surfaces.	XJ-14207-06	
Eosin Methylene Blue, EMB	For isolation and differentiation of gram negative bacilli.	XJ-14201-32	
Rose Bengal Agar	For the selective isolation and enumeration of yeasts and molds.	XJ-14201-36	

Cole-Parmer® Digital Counter-Pen™

Ensure accurate counts

– Easy-to-read LCD displays up to 99,999 units

– Counter beeps each time a mark is made

Features single button reset and comes with cap.



Cole-Parmer®

Description	Catalog number	Price
Digital counter pen	XJ-20610-30	

XJ-20610-31 **Replacement ink cartridge,** black

Cole-Parmer® Sterile Cell Lifters

Easily harvest cells from culture dishes, plates, and tubes

NEW



Double-ended lifters have a 19-mm beveled edge blade on one end and a narrow blade or J-hook on the other end. Use the tapered narrow blade for 96-well plates or microcentrifuge tubes. The curved end of the J-hook blade is ideal for 6-, 12-, 24-, and 48-well plates. Each lifter is made of high-density polyethylene; sterilized by gamma irradiation and come individually wrapped.

Cole-Parmer®

STERILE

Description	Overall length	Catalog number	Qty/cs	Price/cs
Narrow blade	9" (23 cm)	XJ-01959-14	100	
J-hook blade		XJ-01959-16	100	

Thermo Scientific™ Nalgene™ Sterile Media Bottles, PETG

No prewashing needed

- Radiation-sterilized and nonpyrogenic—no need to wash, depyrogenate, or autoclave
- PETG bottle with HDPE closures for long term storage and sterility



Capacity mL (oz)	Closure size	Qty/cs	Catalog number	Price/cs
30 (1)	20 mm	96	XJ-06254-00	
60 (2)	24 mm	96	XJ-06254-10	
125 (4)	38-430 mm	48	XJ-06254-20	
250 (8)	38-430 mm	48	XJ-06254-30	
500 (16)	38-430 mm	24	XJ-06254-40	
1000 (32)	38-430 mm	24	XJ-06254-50	
2000 (128)	53B mm	12	XJ-06254-60	

Thermo Scientific™ Nunc™ Lab-Tek™ Sterile Petri Dishes, PS

Get better cultures

- Sterilized by gamma irradiation



STERILE

Dia x H (mm)	Vented	Stacking ring	Qty/cs	Catalog number	Price/cs
100 x 15	Yes	No	320	XJ-14007-01	
100 x 25	No	Yes	300	XJ-14007-04	
140 x 20	Yes	No	80	XJ-14007-05	
150 x 25	No	No	72	XJ-14007-14	
100 x 15	Yes	No	500	XJ-14007-10†	

†Model 14007-10 is square in shape

Cole-Parmer® Slideable Sterile Petri Dish

Easily slide a single dish from a large stack

- Ventilation ribs reduce condensation and allow air circulation
- Partial edge ring on base allows a single dish to be slid from a large stack and enhances stability when stacked
- Consistent flatness provides for even media distribution



Cole-Parmer®

Dia x H (mm)	Working volume	Cell growth area	Packaging	Catalog number	Qty/cs	Price/cs
100 x 15	15 to 16 mL	55 cm²	20/bag	XJ-01932-31	500	

Sterile Petri Dishes, PS

Stacks won't tip over—convenient stacking ridges for better stability

- Use what you need—packaged in bags of 20 dishes
- Save time—already sterilized by gamma irradiation

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases



STERILE

Dia x H (mm)	Qty/pk	Catalog number	Price/pk
60 x 15	500	XJ-06139-01	
100 x 15	500	XJ-06139-00	
150 x 20	100	XJ-06139-02	

Oxford® Bacti-Cinerator® IV

No more cross-contamination

- Safely and conveniently sterilize platinum loops and needles
- Don't waste time—sterilize in just 5 to 7 seconds
- Infrared heat has optimum sterilizing temperature of 1500°F



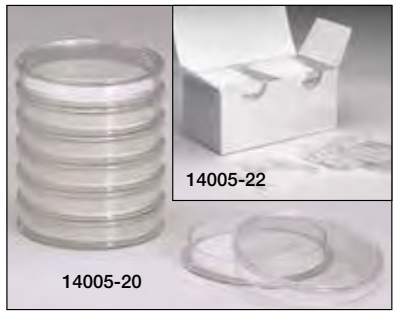
Description	Power(VAC,Hz)	Catalog number	Price
Bacti-Cinerator IV	120, 60 220, 50/60	XJ-01850-22 XJ-01850-24	

XJ-01850-26 **Replacement heater element** for 01850-22
XJ-01850-28 **Replacement heater element** for 01850-24

Advantec® Disposable 50-mm Sterile Petri Dishes, PS

No need to presterilize

- Sterilized dishes are ready to use
- Use only what you need—come in convenient packs of 20
- Polystyrene dishes come with or without 47-mm absorbent cellulose pad and hold 1.8 to 2.0 mL of liquid media
- Ridges for easy stacking



STERILE

Description	Dia x H (mm)	Qty/cs	Catalog number	Price/cs
Petri dish with pad	50 x 11	100 500	XJ-14005-20 XJ-14005-28	
Petri dish without pad	50 x 11	100 500	XJ-14005-24 XJ-14005-26	

XJ-14005-22 **Presterilized absorbent pads.**
Box of 100 individual packages

CELLTREAT® Petri Dishes

Optically clear for improved imaging and observation

– Consistent flatness allows for even media distribution

– Manufactured from virgin polystyrene; supplied sterile (gamma irradiated)

Treated Surface Petri Dishes provide a hydrophilic surface to promote cell attachment and growth. Lids feature molded spacers to allow gas exchange and stacking rings for increased stability. The 35-mm dish has an offset bottom for improved handling.

Untreated Petri Dishes are hydrophobic making them ideal for cell culture suspensions. Lids have molded spacers (except 01932-17) to reduce condensation and allow air circulation. Stacking rings on the lids (except 01932-30) provide increased stability. The 35-mm dishes have an offset bottom for improved handling.

Order heavy-duty petri dishes made with thick plastic for increased durability. General-purpose and slippable dishes feature flared lid skirt and squared corners for easy one-handed operation, even while wearing gloves. Use slippable dishes with automated filling and streaking systems; they feature side arrows and ISO Market Target for automation. Special slideable dishes have a partial edge ring on base which allows a single dish to be slid from a large stack and enhances stability when stacked. Compartment dishes let you perform multiple experiments in one dish, saving you money.

NEW



01932-12



01932-23

Treated Surface Petri Dishes

STERILE

Dia x H (mm)	Working volume	Growth area	Qty/ bag	Catalog number	Qty/ cs	Price/ cs
35 x 11	5 mL	8.5 cm²	10†	XJ-01932-12	500	
60 x 15	7 to 8 mL	21 cm²	10†	XJ-01932-18	500	
70 x 15	7 to 8 mL	36.3 cm²	10†	XJ-01932-21	500	
100 x 15	15 to 16 mL	55 cm²	10†	XJ-01932-25	500	
100 x 20	15 to 16 mL	60.5 cm²	10†	XJ-01932-10	300	
150 x 20	25 to 28 mL	143 cm²	1	XJ-01932-14	60	
150 x 20	25 to 28 mL	143 cm²	5†	XJ-01932-15	100	

†Packaged in resealable bag.

Compartmentalized Treated Surface Petri Dishes

STERILE

No. of compartments	Dia x H (mm)	Working volume††	Qty/ bag	Catalog number	Qty/ cs	Price/ cs
2	100 x 15	7 to 8 mL	25	XJ-01932-22	500	
3	100 x 15	5 mL	25	XJ-01932-23	500	
4	100 x 15	4 mL	25	XJ-01932-24	500	

††Volume per compartment.

Untreated Petri Dishes

STERILE

Description	Dia x H (mm)	Working volume	Qty/ bag	Catalog number	Qty/ cs	Price/ cs
Heavy duty, vented lid	35 x 10	5 mL	10	XJ-01932-13	960	
	60 x 15	7 to 8 mL	10	XJ-01932-19	500	
	100 x 15	15 to 16 mL	10	XJ-01932-26	300	
	100 x 15	15 to 16 mL	10	XJ-01932-27	500	
	100 x 20	15 to 16 mL	10	XJ-01932-11	300	
	150 x 20	25 to 28 mL	5	XJ-01932-16	100	
Heavy duty, nonvented lid	150 x 20	25 to 28 mL	5	XJ-01932-17	100	
General use	60 x 15	7 to 8 mL	20	XJ-01932-20	500	
	100 x 15	15 to 16 mL	25	XJ-01932-29	500	
Slippable	100 x 15	15 to 16 mL	25	XJ-01932-30	500	
Slideable	100 x 15	15 to 16 mL	20	XJ-01932-28	500	

CELLTREAT® Cell Scrapers

Maximize recovery with soft, pliable blades

"Scraper" blade is parallel to the handle for a windshield-wiper-like scraping. "Lifter" blade is perpendicular to the handle for use with a raking motion. "Pivoting" blade adjusts to the desired position providing access to all corners of the flask or tissue culture vessel. Scrapers feature ABS handle and TPE blade. Certified nonpyrogenic and packaged sterile (gamma irradiated) in individual wrappers.

NEW



STERILE

Description	Blade length	Handle length	Catalog number	Qty/ cs	Price/ cs
Scraper blade	20 mm	25 cm	XJ-01959-30	100	
	30 mm	39 cm	XJ-01959-36	100	
Lifter blade	20 mm	25 cm	XJ-01959-32	100	
	30 mm	39 cm	XJ-01959-38	100	
Pivoting blade	20 mm	30 cm	XJ-01959-34	100	

Argos Technologies® Cell Spreaders

Spread bacterial cultures evenly

– Apply cultures over an entire petri dish or plate with the L-shaped spreader

– Reduce the risk of damaging the agar—smooth spreading surface with slight upward return

– Composed of polypropylene and presterilized in bags of 10 or packaged individually

NEW

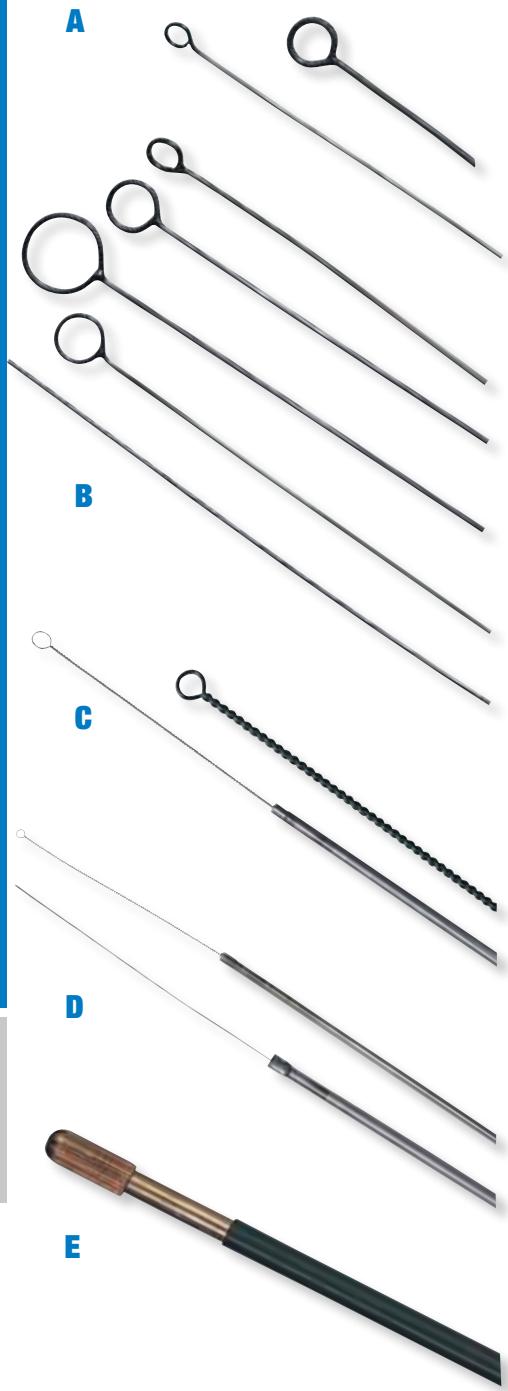


ARGOS TECHNOLOGIES

STERILE

Material	Sterile	Catalog number	Qty/bag	Qty/cs	Price
PP	Yes	XJ-04396-51	10	500	
		XJ-04396-52	1	100	

Inoculation Loops and Needles



A. Platinum Calibrated Loops

The 1-µL loops are made of B&S platinum wire with 15% iridium. The 10-µL loops are calibrated to American Public Health Association (APHA) standards and made of B&S platinum wire with 5% rhodium. Order insulated loop and needle holder separately below.

Contained volume	Inside dia	B&S gauge	Length	Catalog number	Price/ea
1 µL	1.45 mm	26	70 mm	XJ-01850-00	
10 µL	4 mm	19	25 mm	XJ-01850-02	

B. Platinum Loops and Needles

Use for transferring bacterial cultures. These loops and needles are made of B&S platinum wire with 15% iridium added for rigidity, permitting a thinner wire for delicate work. Loops are fused to form a "perfect circle" with an inside tolerance of ±0.02 mm to ensure accurate delivery. Order insulated loop and needle holder separately below.

Description	Inside dia	B&S gauge	Length	Catalog number	Price/ea
Loop	2 mm	24	45 mm	XJ-01850-04	
	3 mm			XJ-01850-06	
	5 mm			XJ-01850-08	
	3 mm	26		XJ-01850-10	
	3 mm		70 mm	XJ-01850-12	
Needle	—			XJ-01850-14	

C. Inoculating Loops

These loops are manufactured to very close tolerance levels and can be used for semi-quantitative counting of bacteria. Calibrated loops meet APHA standards. Made of 26-gauge wire. Order insulated loop and needle holder for individual loop separately below ("E").

Description	Loop length	Contained volume	Catalog number	Price
Calibrated inoculating loops				
No handle	3"	1 µL	XJ-14203-31	/ea
6" (15.2 cm) insulated handle	1¾"	1 µL	XJ-14203-25	/ea
		10 µL	XJ-14203-26	/ea
Inoculating loops				
No handle	2 mm	—	XJ-14203-27	/pk of 12
	3 mm	—	XJ-14203-28	/pk of 12
	4 mm	—	XJ-14203-29	/pk of 12
	5 mm	—	XJ-14203-30	/pk of 12

D. Inoculating Loops and Needles with Handles

Ideal for use in semi-quantitative procedures, these loops and needles are 2¾" (7.0 cm) L with 6" (15.2 cm) or 8" (20.3 cm) handle. The 24 gauge is the most durable; the 25 gauge is for general use; and 26 gauge is designed for rapid cooling. Choose from insulated or noninsulated aluminum handles.

Description	Inside dia.	Handle length and type	B&S wire gauge	Qty/pk	Catalog number	Price/pk
Loop	2 mm	8" (20.3 cm), insulated	26	6	XJ-14203-24	
	3 mm	8" (20.3 cm), insulated	26	6	XJ-14203-23	
	3 mm	6" (15.2 cm), noninsulated	24	12	XJ-14203-20	
	3 mm	8" (20.3 cm), noninsulated	25	12	XJ-14203-22	
	4 mm	8" (20.3 cm), noninsulated	24	12	XJ-14203-21	
Needle	—	6" (15.2 cm), noninsulated	24	12	XJ-14203-32	
	—	8" (20.3 cm), insulated	24	6	XJ-14203-33	

E. Insulated Brass Loop and Needle Holder

Holder is constructed of durable, heat-resistant brass with insulating sleeve. Works with all gauges of Oxford and Nichrome V loops and needles.

XJ-14203-34 **Insulated brass holder.** Measures 8" (20.3 cm) L

F. Inoculating Needle and Loop

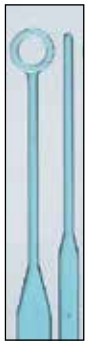


Prevent the risk of cross-contamination with these sterile, disposable needles and loops. Color coded for easy identification. **Box of 960** (32 per bag, 30 bags per box).

STERILE

Description	Color	Dimensions	Catalog number	Price/bx
Needle	White	9" L	XJ-06231-11	
1 µL loop	Blue	9" L x 1 mm ID loop	XJ-06231-21	
10 µL loop	Yellow	9" L x 4 mm ID loop	XJ-06231-31	

G. Combination Inoculating Needle/Loop



Flexible polystyrene inoculating device has needle on one end, loop on the other. Color coded for easy identification. **Case of 1000** (20 per bag, 50 bags per case).

STERILE

Description	Capacity	Color	Dimensions	Catalog number	Price/cs
Needle/loop	10 µL	Blue	7¾" L x 4 mm ID loop	XJ-14200-00	
Needle/loop	1 µL	Clear	7¾" L x 1 mm ID loop	XJ-14200-01	

Dual-Purpose Microscopes/Telescopes

Versatile—magnify up to 45x or view objects at a distance

Scopes are constructed of durable aluminum and plastic. Lenses come with covers to protect against scratches. Eyepiece has a soft edge for comfort and safety. Models include a neck strap, a micro lens stand, hard carrying case, and carrying strap. Model 03098-00 also includes a soft vinyl case.

Close Focus Microscopes/Telescopes

Ideal for industrial applications in quality control and inspection. Easy to use—simply screw the micro lens and stand onto the monocular for close microscopic work. For distant viewing, unscrew the micro lens and stand, then use the monocular as a telescope. Focus is adjustable in both microscope and telescope modes.

Microscopes/Telescopes With Built-In Reticles

Ideal for macroscopic quality control and inspection procedures. Select scopes with straight line, square mesh, or cross hair reticle.

For microscopic viewing with models 03097-00, -10, and -30, screw the micro lens and stand onto the monocular. For distant telescopic viewing, unscrew the micro lens and stand, and use the monocular as a telescope (these scopes are not intended for close range telescopic viewing). Focus is adjustable in both microscope and telescope modes. Model 03098-00 has an adjustable focus distance from one foot at 17.5x to infinity at 8x.

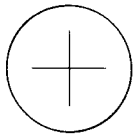


03098-00

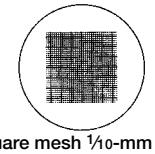


Monocular, micro lens, and stand unscrew for versatility.

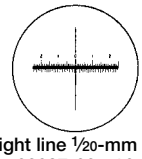
Scale References



Cross hair reticle 03098-00



Square mesh 1/10-mm scale 03097-30



Straight line 1/20-mm scale 03097-00, -10

Description	Close focus microscopes/telescopes				Microscopes/telescopes with built-in reticle			
Catalog number	XJ-03096-00	XJ-03096-10	XJ-03096-30	XJ-03096-40	XJ-03097-00	XJ-03097-10	XJ-03097-30	XJ-03098-00
As a microscope								
Magnification	20x	35x	40x	45x	25x	25x	25x	35x
Field of view	13.0 mm	7.2 mm	8.0 mm	6.3 mm	9.0 mm	11.0 mm	9 mm	7.0 mm
Working distance	79 mm	64 mm	65 mm	65 mm	75 mm	75 mm	75 mm	64 mm
As a telescope								
Magnification	6x	8x	8x	10x	8x	8x	8x	8x
Field of view	10°	7°	8.5°	6°	6.5°	8.5°	6.5°	6.5°
Magnification (close distance)	11x	19.5x	13.5x	15x	—	—	—	17.5x
Focus (close distance)	26 cm	30 cm	60 cm	70 cm	—	—	—	30 cm
Field (close distance)	36 mm	25 mm	72 mm	60 mm	—	—	—	23 mm
Field at 1000 m	175 m	122 m	148 m	105 m	115 m	148 m	115 m	115 m
Objective lens aperture	16 mm	20 mm	30 mm	30 mm	20 mm	30 mm	20 mm	20 mm
Brightness	6.7	6.2	13.6	9	6.2	13.6	6.2	6.2
Dimensions: H† x dia (mm)	155 x 33	172 x 32	213 x 42	233 x 42	180 x 27	222 x 42	180 x 27	191 x 32
Price								

†Height specified is with micro lens and stand attached.

Positioning Holders



Allow easy positioning for hands-free operation of your scopes. Standard ¼-20 screw hole lets you use holder with a standard tripod, or order our camera mount adapter 08024-51 to design your own support system.

XJ-03099-60 Positioning holder for 20-mm aperture scopes

XJ-03099-62 Positioning holder for 30-mm aperture scopes

XJ-08024-51 Camera mount adapter

Handheld Digital USB Microscopes

Put the world of microphotography at your fingertips!

- Active Pixel Technology produces sharp images and accurate color reproduction
- Six built-in lights with adjustable brightness ensure proper illumination
- Includes software for image/video capture and measurement

For versions with the 10x to 200x magnification range, magnification automatically adjusts based on the distance from the object. Units include a basic stand with adjustable height; order optional boom or gooseneck stand for greater flexibility.



48708-20 shown with included stand

Magnification	10x to 200x	500x	10x to 200x	10x to 200x	10x to 200x	10x to 200x
Catalog number	XJ-48708-20	XJ-48708-22	XJ-48708-23	XJ-48708-25	XJ-48708-26	XJ-48708-28
Lighting	Six LEDs	Six LEDS	UV bulbs (405 nm)	Six LEDs w/polarizer	Six near-infrared LEDs	Six LEDs
Imaging sensor	¼" CMOS	¼" CMOS	¼"CMOS	¼" CMOS	½" CMOS	¼" CMOS
Pixels	1,300,000	1,300,000	1,300,000	1,300,000	1,300,000	5,000,000
Resolution	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	1280 x 1024	2048 x 1536
Output	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0	USB 2.0
Power	5 VDC, via USB	5 VDC, via USB	5 VDC, via USB	5 VDC, via USB	5 VDC, via USB	5 VDC, via USB
Price						

XJ-48708-24 Optional boom stand

XJ-48708-27 Optional gooseneck stand

XJ-48708-29 Optional dual-view stand

Compound Microscopes with Digital Camera

Get high-image quality and flatness of field



Powerful software tools make image analysis easy: view live images on your PC; accurately measure and quantify your specimen and export results in an Excel® format for analysis; count and evaluate cell quantity with the Auto Segmentation and Calculation tool; combine two images to bring out differences; add text, symbols, and even sound recordings to your image.

Specifications

Objectives: achromatic
Imaging sensor: 3 megapixel
Output: USB
Cable: USB
Data transfer: 480 MB/sec
Operating requirements: Windows®: XP or Vista, 1GHz, 256 MB RAM, USB 2.0 Mac: OSX, 1GHz, 256 RAM, USB 2.0

Total magnification	Head	Head	Stage dimensions (W x D)	Illumination	Power	Catalog number	Price
40x, 100x, 400x, 1000x (ef-plan)	Binocular	Widefield 10x/20 mm	140 x 135 mm	30 W halogen with intensity control	100 to 240 VAC, 50/60 Hz	XJ-03911-40	
40x, 100x, 400x, 1000x (ef-plan)			160 x 140 mm	30 W halogen with intensity control and Koehler illumination	100 to 240 VAC, 50/60 Hz	XJ-03911-45	

Compound Microscopes with LCD Tablet and Camera

Include everything you need to view and capture images



- Edit images directly on the tablet touchscreen
- View images comfortably on large, 8" tablet display
- Share images with others using built-in Wi-Fi

These microscopes are an all-in-one image capture solution—built-in 8" (20.3 cm) LCD allows you to view your specimen while the internal camera captures the image. Edit, measure, and annotate saved images directly on the touchscreen or on a computer with the included software. Display features an Android™ operating system and a micro-SD card for additional memory. Wi-Fi signal connects to a computer for image download and sharing.

Siedentopf binocular head allows for easy adjustability and the 20-mm eyepieces provide an increased field of view. Choose from semi-plan, plan, and phase contrast models; semi-plan and plan versions include an Abbe condenser; the phase-contrast version has a multi-phase, rack and pinion condenser.

What's included: software, 4 GB Micro SD card, calibration slide, and dust cover.

Specifications

Display resolution: 1280 x 800
Stage dimensions (W x D): 142 mm x 140 mm
Imaging sensor: 1/2.5" CMOS, 5.0 megapixels
Output: USB, HDMI, SD card, Wi-Fi
Cables: USB, HDMI

Total magnification	Head	Eyepiece	Illumination	Power	Catalog number	Price
40x, 100x, 400x, 1000x (semi-plan)	Trinocular	Widefield 10x/20 mm	3 W LED, variable	110/220 VAC	XJ-48925-11	
40x, 100x, 400x, 1000x (plan)					XJ-48925-12	
40x, 100x, 400x, 1000x (phase contrast)					XJ-48925-13	

Cole-Parmer® Slides

Won't stick or scratch

- Easy to write on
- Measure 75 x 25 mm and 1-mm thick



Cole-Parmer®

Type	One gross (144 slides)		One case (10 gross)	
	Cat. number	Price	Cat. number	Price/cs
Plain	XJ-48500-00		XJ-48500-20	
Frosted	XJ-48501-00		XJ-48501-20	
Pink Colorfrost	XJ-48503-02		XJ-48503-22	

Cole-Parmer® Microscope Slides with Wells

Keep samples isolated

- Hydrophobic epoxy ink withstands frequent washing and resists chemicals **NEW**
- Increase throughput without adding to cleanup



Cole-Parmer®

Description	Cat. no.	Price/gross (144 slides)
One well	XJ-75955-17	
Two well	XJ-75955-19	
Three well	XJ-75955-21	
Four well	XJ-75955-23	
Six well	XJ-75955-25	
Eight well	XJ-75955-27	
48 well	XJ-75955-29	

Cole-Parmer® Cover Glass

Protect samples



Cole-Parmer®

Thickness	Approx qty	Catalog number	Price
Square (22 x 22 mm)			
No. 1	156	XJ-48510-00	
No. 1.5	138	XJ-48510-10	
Rectangular (22 x 40 mm)			
No. 1	87	XJ-48511-00	
No. 1.5	76	XJ-48511-10	
Rectangular (24 x 60 mm)			
No. 1	54	XJ-48511-30	

IKA® Economical Analytical Mill

Grind dry, brittle, fibrous, or moist materials

- Grind substances of up to 6 Mohs hardness with 420 SS beater
- Process up to 80-mL sample in heavy-duty chamber
- Eliminate misuse with safety switch
- Fits in one hand.



Specifications

Speed: 28,000 rpm (fixed)

Sample capacity	Feed particle size	Final particle size	Power (VAC, Hz)	Catalog number	Price
80 mL	10 mm maximum	<500 µm	115, 50/60	XJ-04300-10	

IKA® Heavy-Duty Analytical Mill

Keep samples cool with water-jacketed chambers

- Handles up to 250 mL samples and grinds in seconds
- Auto shutoff safeguards against overheating and overloading

Durable chamber and blade care are made of 304 stainless steel. Water jacketed chamber accepts ⅜" ID tubing via barbed fittings



Specifications

Speed: 20,000 rpm

Sample capacity	Feed particle size	Final particle size	Power (VAC, Hz)	Catalog number	Price
250 mL	20 mm maximum	1 to 100 µm	115, 50/60	XJ-04301-10	
			230, 50/60	XJ-04301-15	

Accessories

XJ-04300-24 **Tungsten-carbide blade** for grinding materials with a hardness factor up to 9 Mohs

XJ-04300-26 **Star-shaped 301 SS blade** for grinding fibrous materials such as paper and vegetation

XJ-04300-28 **Additional grinding chamber,** 304 SS. Order blade separately

XJ-04300-52 **Replacement blade,** 304 SS grinds materials with a hardness factor up to 5 Mohs



Questions?

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High-Capacity Laboratory Jar Mills

Grind more simultaneously

- Single tier units hold two jars simultaneously
- Heavy-duty construction holds up to 75 lb per tier
- Grinds wet and dry materials effectively

These jar mills handle twice as much as other jar mills. The adjustable rollers accommodate jars from 2" to 10" in diameter. Maximize productivity in minimal space with two-tiered unit.

REQUIRED
System Components

1) Jar mills
2) Milling jars **ColeParmer.com**
3) Grinding media **ColeParmer.com**



Tiers	Roller length	Accepts jar size†	Max load per tier	Power		Catalog number	Price
				VAC	Hz		
1	13"	2" to 10" OD	60 lb	115	60	XJ-04149-00	
				230	50	XJ-04149-05	
1	24"	2" to 10" OD	75 lb	115	60	XJ-04149-10	
2	13"	2" to 10" OD	60 lb	115	60	XJ-04149-20	

†Jars are not included—order separately online. Model 04149-10 accepts up to two jars.

Cole-Parmer® Digital Reversing Mixer

Time your cycles for more efficient mixing

- Won't lose speed—brushless, 142 in-oz torque motor maintains speed
- Minimize aeration and vortexing—reversing feature alters mixing pattern for better mixing
- No more moving mixer head to change impeller depth—through-shaft housing for easier positioning
- No more motor burn out—overload protection if torque exceeds ratings
- See what you're mixing—integrated sample light illuminates sample area

Mix samples up to 20,000 cps or up to 6.6 gallons (25 liters) easily and effectively. Repeat mixing conditions accurately with LED display, with control to ±1 rpm or 3% of reading. Set timer from 1 to 2000 minutes, with audible alert when complete.

Mixer includes: mixer head, adjustable chuck (accepts rod up to ⅜" [9.5 mm] dia), chuck key, mounting support rod, external power supply, and grounded power cord with plug assembly.

Complete system adds: propeller/shaft, support stand, and clamp.



Complete system 50004-10 includes mixer, support stand, clamp, and mixer propeller.

Cole-Parmer®

Description	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
Mixer only	40 to 2010	1/10	142	100 to 230, 50/60	XJ-50004-00	
Complete system					XJ-50004-10	

XJ-17050-03 **NIST-traceable calibration** for mixers

Cole-Parmer® Digital Batch Mixer

Tackle volumes up to 55 gallons (200 L)

NEW

- User-friendly operation—PLC/PC programmability, data logging, and intuitive graphic touch-screen interface
- Two-speed transmission provides smooth, quiet operation
- Through-shaft design allows for easy impeller adjustment, less downtime

This portable batch mixer has enough power to mix up to 55 gallons (200 L) and viscosity up to 180,000 cps. Enclosed fan-cooled brushless DC motor maintains a constant power transfer to the shaft at speeds up to 1500 rpm. Adjustable chuck accommodates up to ⅝" (15.8 mm) dia impeller shaft.

Ideal for both laboratory and industrial uses, the mixer features RS-232 and USB interfaces to record date, time, speed, and torque data. Easy-to-use resistive digital touch-screen control enables you to select time and speed with a gloved hand or pencil tip. Other functions include alarms, timers, torque zero, torque min/max setting, and clockwise and counterclockwise rotation.

Safety features include a shaft/chuck guard, chemical-resistant housing, and overload, overheat and vibration protection. A safety screen protects the display from splashes.

What's included: chuck (accepts up to ⅝" dia shafts), chuck key, shaft guard, installed screen protector, memory stick, mounting bolts, and power cord.



Cole-Parmer®

Speed range (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
50 to 1500	½	4248	120, 60	XJ-50009-00	

Accessories

XJ-50019-94 **Stainless steel plate mount**
XJ-50019-95 **Replacement screen protector kit**
XJ-50019-96 **Stainless steel multiposition C-clamp set**
XJ-50019-97 **Replacement stainless steel chuck** with key, 16-mm shaft diameter
XJ-50019-98 **Replacement chuck shaft guard**
XJ-50019-99 **Repl. stainless steel chuck key**

Stir-Pak® Heavy-Duty Mixer Systems

Easily customize to your needs

1. Speed Controller

- Simple controls—speed adjustment knob and separate "forward/off/reverse" switch
- Reduce gear failure with torque limiting protection

2. Mixer Heads

- Don't limit your mixing angle—adjustable tilt from 0 to 30° for proper propeller placement
- Maintenance-free, rugged motor
- For more viscous or larger samples, choose a high-torque, low-speed mixer head with keyless chuck
- For lower viscosity samples, use a high-speed low-torque mixer head with through shaft for easy shaft positioning

Complete systems include: speed controller, mixer head, shaft, propeller, clamp and stand.

REQUIRED
System Components
1) Speed controller
2) Mixer head
or choose complete system



1. Speed controller			2. Mixer heads						Complete systems	
Power (VAC, Hz)	Catalog number	Price	Description	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price	Catalog number	Price
115, 50/60	XJ-50007-00		High torque, low speed; with keyless chuck	2 to 180	1/15	340	115, 50/60	XJ-50007-10		XJ-50007-12	
230, 50/60	XJ-50007-05						230, 50/60	XJ-50007-15		XJ-50007-17	
115, 50/60	XJ-50007-00			9 to 900	1/15	70	115, 50/60	XJ-50007-20		XJ-50007-22	
230, 50/60	XJ-50007-05						230, 50/60	XJ-50007-25		XJ-50007-27	
115, 50/60	XJ-50007-00		High speed, low torque; with adjustable through-shaft collet	23 to 2300	1/10	45	115, 50/60	XJ-50007-30		XJ-50007-32	
230, 50/60	XJ-50007-05						230, 50/60	XJ-50007-35		XJ-50007-37	
115, 50/60	XJ-50007-00			60 to 6000	1/10	17	115, 50/60	XJ-50007-40		XJ-50007-42	
230, 50/60	XJ-50007-05						230, 50/60	XJ-50007-45		XJ-50007-47	

IKA® RW 20 Digital Dual-Range Mixer

Two speed ranges for a variety of applications

- No difficult controls—easy-to-use knob and LED display for accurate setting
- No need to move mixer head to reposition propeller—through-shaft design allows for easy movement
- Maintenance-free motor for continuous duty

Use this versatile, affordable mixer for liquid volumes up to 5 gallons (18.9 liters) and viscosities up to 10,000 cps (approximately the viscosity of honey). Select speed from 60 to 2000 rpm in two ranges for a variety of applications.

Complete system includes: mixer, chuck (accepts up to 3/8" [10 mm] dia shafts), 6¼"L x ½" dia (159 mm L x 10 mm dia) mounting rod, four-blade propeller mixer stand, and clamp.





Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
60 to 500/ 240 to 2000	1/25	259	115, 50/60	XJ-50705-00	
			230, 50/60	XJ-50705-10	

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Real-Torque Digital™ Brushless Mixers

Get precise speeds with user-friendly keypad

- Won't let speed change even as viscosity changes
- Maintenance-free, nonventilated motor for continuous use
- Set torque reading at zero via torque tare function
- Easily alter shaft length with through-shaft design

These mixers feature overload protection that automatically shuts off the mixer if maximum torque is exceeded—an LED light signals overload conditions.

What's included: calibration certificate, stainless steel chuck and key (accepts up to ⅜" [9.5 mm] dia shafts), chuck guard, 5"L x ½" dia (127 mm L x 13 mm dia) mounting rod, and 6-ft (1.8-m) cord with three-prong plug.



Speed range (torque)		Motor	Power (50/60 Hz)	Catalog number	Price
Low speed	High speed				
12 to 360 rpm (800 in-oz)	360 to 1800 rpm (160 in-oz)	⅛ hp	115 VAC	XJ-50800-00	
			230 VAC	XJ-50800-05	
20 to 600 rpm (480 in-oz)	600 to 3000 rpm (96 in-oz)	⅛ hp	115 VAC	XJ-50800-10	
			230 VAC	XJ-50800-15	
40 to 1200 rpm (240 in-oz)	1200 to 6000 rpm (48 in-oz)	⅛ hp	115 VAC	XJ-50800-20	
			230 VAC	XJ-50800-25	

IKA® EUROSTAR Digital Constant-Speed Mixers

Speed won't change even as viscosity does

- Automatic adjustment to desired speed with unique continuous speed comparison
- No need to move mixer head to remove samples—through-shaft design for impeller adjustments
- Worry-free operation—maintenance-free motor with overload protection
- Handle even large samples—up to 26.4 gallons (100 liters)



EUROSTAR 60 Digital Mixer (50704-20 and -25) handles volumes up to 10.6 gallons (40 liters) and viscosities up to 50,000 cps.

EUROSTAR 100 Digital Mixer (50704-30 and -35) will mix volumes up to 26.4 gallons (100 liters) and viscosities up to 70,000 cps.

What's included: chuck (accepts up to ⅜" [10 mm] dia shaft) and 6¼"L x ½" dia (159 mm x 13 mm) mounting rod.

Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
Eurostar 60 digital mixer					
30 to 2000	3/16	85	115, 50/60	XJ-50704-20	
			230, 50/60	XJ-50704-25	
Eurostar 100 digital mixer					
30 to 1300	⅛	142	115, 50/60	XJ-50704-30	
			230, 50/60	XJ-50704-35	

IKA® EUROSTAR Digital Mixers

Mix viscous samples up to 30,000 cps

- Speed won't change even as viscosity changes
- Won't overheat—thermal overload shut-off for safety
- Maintenance-free design for continuous duty



EUROSTAR 20 Digital Mixer handles volumes up to 4 gallons (15 liters) and viscosities up to 10,000 cps.

EUROSTAR 40 Digital Mixer will mix volumes up to 6.6 gallons (25 liters) and viscosities up to 30,000 cps.

What's included: chuck (accepts up to ⅜" [10 mm] dia shaft) and 6¼"L x ½" dia (159 mm x 13 mm) mounting rod.

Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
Eurostar 20 digital mixer					
30 to 2000	1/16	28.3	115, 50/60	XJ-50702-30	
			230, 50/60	XJ-50702-35	
Eurostar 40 digital mixer					
30 to 2000	⅛	56.6	115, 50/60	XJ-50702-40	
			230, 50/60	XJ-50702-45	

Accessories for Laboratory Mixers

A. Shafts. All ⅜" (10 mm) dia shafts are machined on one end to accept a 5/16" (8 mm) bore dia propeller.

Key	Shaft dimensions, dia x L, in. (mm)	Catalog number	Price
A	5/16 x 12 (8 x 305)	XJ-04552-20	
	5/16 x 18 (8 x 457)	XJ-04552-30	
	⅜ x 12 (10 x 305)	XJ-04552-25	
	⅜ x 18 (10 x 457)	XJ-04552-35	
	⅜ x 24 (10 x 610)	XJ-04552-00	
	⅜ x 30 (10 x 762)	XJ-04552-05	

B. Turbine Propellers are for airless mixing in deep containers.

C. Marine-Style Propellers are for general-purpose mixing. Use alone or mount several on a single shaft for thorough agitation.

D. Folding Propeller is for use in narrow-mouth vessels. Folded diameter is 11/16" (18 mm).

Key	Description	Bore dia in. (mm)	Overall dia in. (mm)	Catalog number	Price
B	Turbine style	⅜ (9.5)	2 (51)	XJ-04552-15	
		5/16 (8)	2 (51)	XJ-04552-10	
C	Marine style	5/16 (8)	1 (25)	XJ-04552-40	
		5/16 (8)	1½ (38)	XJ-04552-45	
		5/16 (8)	2 (51)	XJ-04552-50	
		⅜ (9.5)	2 (51)	XJ-04552-55	
		5/16 (8)	3 (76)	XJ-04552-60	
D	Folding style	5/16 (8)	2 (51) open	XJ-04543-00	

E-G. Clamps ensure a sturdy connection between mixer and stands.

Key	Catalog number	Price
E	XJ-08041-22	
F	XJ-04340-50	
G	XJ-04560-24	

H. Stand. Corrosion resistant, electropolished cast steel base; 303 SS support rod. Both legs accept an extra support rod.

I. Mixer Stand has a cast-iron base and a stainless steel rod.

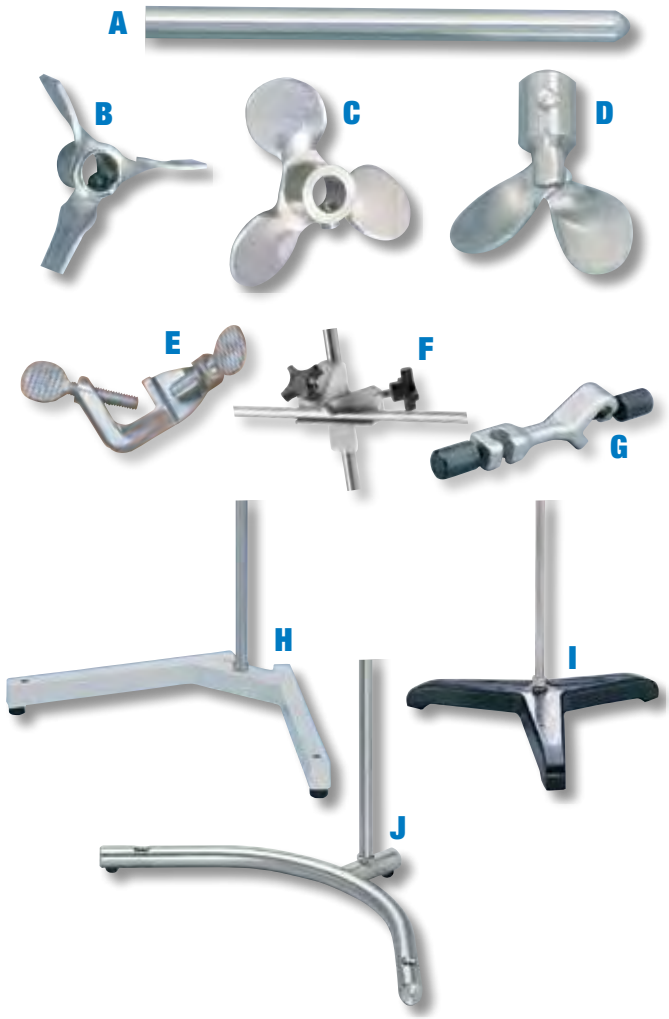
J. 316 SS Mixer Stand accepts extra screw-in support rods in both legs.

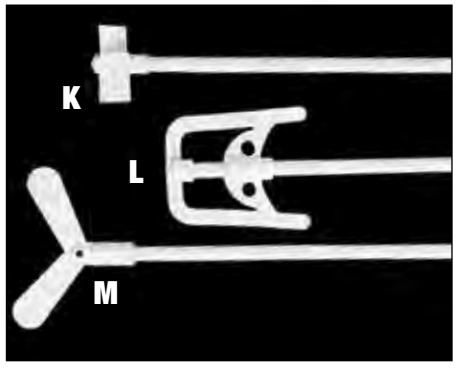
Key	Dimensions H x dia, in. (mm)	Stand		Extra support rod	
		Cat. no.	Price	Cat. no.	Price
H	29 x 5/8 (737 x 16)	XJ-04552-80		XJ-04552-85	
I	24 x 5/8 (610 x 16)	XJ-04546-00		—	—
J	29 x 5/8 (737 x 16)	XJ-04344-00		XJ-04344-10	

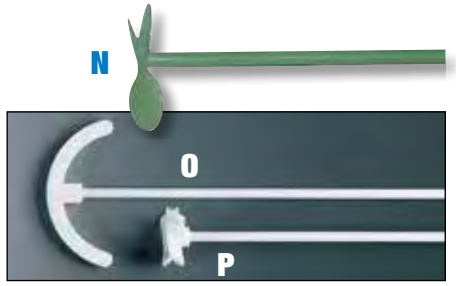
K-P. Plastic Mixing Paddle Assemblies

Use these plastic paddle assemblies for mixing most acids and corrosive solutions. Plastic-coated steel assemblies provide better chemical resistance than stainless steel alone.

Material	Shaft, dia x L, in. (mm)	Max paddle dia, in. (mm)	Catalog number	Price
K. Fixed, dual-blade paddle assembly—for mixing medium-viscosity liquids				
Polypropylene	5/16 x 13 3/16 (8 x 350)	1⅝ (41)	XJ-06367-10	
L. A-shaped, blade paddle assembly—for mixing highly viscous liquids				
Polypropylene	5/16 x 13 3/16 (8 x 350)	2⅝ (67)	XJ-06367-20	
M. Swing-out, dual-blade paddle assembly—for use in narrow-necked vessels				
Polypropylene	5/16 x 13 3/16 (8 x 350)	2⅜ (60)	XJ-06367-40	
	5/16 x 13 3/16 (8 x 350)	4 (102)	XJ-06367-60	
N. Three-blade paddle assembly—for general-purpose mixing				
PTFE	5/16 x 12 (8 x 305)	2 (51)	XJ-04449-06	
PTFE	5/16 x 18 (8 x 457)	2 (51)	XJ-04449-10	
O. Anchor-style paddle assembly—for mixing medium- to high-viscosity liquids				
PTFE	⅜ x 22 (10 x 559)	4 (102)	XJ-06367-70	
P. Four-blade paddle assembly—for mixing low- to medium-viscosity liquids				
PTFE	⅜ x 22⅛ (10 x 562)	2⅜ (60)	XJ-06367-80	







Cole-Parmer® StableTemp™ Economical Gravity Convection Ovens

Save money while getting the features you need

– Durable powder-coated cold-rolled steel exterior

– Double-wall aluminum interior with 1"-thick (2.5 cm) silica-based insulation

These economical gravity convection ovens are designed for the budget-conscious laboratory needing to perform basic drying and baking applications. Temperature is controlled via a bimetallic thermostat from ambient ±5 to 210°C. All models feature a pilot light to indicate when the oven is in operation and a preset high temperature limit safety thermostat. Includes two adjustable chrome-plated wire shelves, one fixed shelf.



StableTemp

Specifications

Temperature range: ambient ±5°C to 210°C
Temperature accuracy: ±9°C at 100°C
Temperature display: glass thermometer (not included)

Capacity, cu ft (L)	Shelf positions	Dimensions (W x H x D), in. (cm)		Shpg wt lb (kg)	120 VAC, 60 Hz		230 VAC, 50/60 Hz	
		Chamber	Overall		Catalog number	Price	Catalog number	Price
1.7 (48.1)	3	16 x 16¼ x 11½ (41 x 41 x 29)	18½ x 22½ x 13½ (47 x 57 x 34)	57 (26)	XJ-52120-02		XJ-52120-03	

XJ-52100-50 **Replacement shelf** for ovens 52120-02 and -03

XJ-17002-30 **NIST-traceable calibration** with data for ovens

Cole-Parmer® StableTemp™ Mechanical Convection Ovens

Dry samples faster

– Get greater drying efficiency with fast heat-up and uniform temperature

– Forced-air convection with a noiseless fan ensures good mixing and strong dispersion

– Corrosion-resistant Incoloy® sheath heating element and stainless steel interior

– Foamed silicone rubber door gasket creates a tight seal for excellent insulation

Ovens are programmable for delayed start and stop. Timer offers you the convenience of unattended operation. The dual-wall door opens 180° for greater access to the chamber.

What's included: two stainless steel wire shelves and power cord.



Specifications

Temperature range: ambient +10°C to 250°C
Resolution: 1°C
Temperature control accuracy: ±1°C at 100°C
Temperature display: digital LED
Interface: RS-232 with controlling software
Timer: 1 min to 99 hrs, 59 min

StableTemp

Capacity cu ft (L)	Temperature uniformity	Rise time (minutes)	Shelf positions	Dimensions (W x H x D), in. (cm)		Shpg wt lb (kg)	115 VAC, 60 Hz		230 VAC, 50/60 Hz	
				Chamber	Overall		Cat. no.	Price	Cat. no.	Price
2.1 (59.5)	±1°C at 100°C	15 to 100°C	8	15¾ x 16½ x 14¼ (40 x 42 x 36)	22¾ x 30 x 25¼ (58 x 76 x 64)	138 (63)	XJ-52412-77		XJ-52412-80	
3.6 (101.9)			12	19 x 20½ x 16 (48 x 52 x 41)	26 x 34¼ x 27¼ (66 x 87 x 70)	166 (76)	XJ-52412-78		XJ-52412-81	
5.3 (150.1)			16	22 x 23½ x 18 (56 x 60 x 46)	28¾ x 38¼ x 29¼ (73 x 97 x 74)	210 (96)	XJ-52412-79		XJ-52412-82	

Accessories

XJ-79510-04 **Wire shelf** for 2.1 cu ft units
XJ-79510-12 **Wire shelf** for 3.6 cu ft units
XJ-79510-20 **Wire shelf** for 5.3 cu ft units
XJ-17002-30 **NIST-traceable calibration** with data for ovens

Wait! There's More at ColeParmer.com

Browse 100,000+ products plus find Technical Resources to help you choose

Yamato® Programmable Mechanical Convection Ovens

Accurately heat your samples



– Oven calibration functions are ideal for validation work
– Easily read "set" and actual temperature on LED display

These ovens feature excellent uniformity, autotune, calibration offset, and zero-span calibration. Self-diagnostic functions alert you both visually and audibly if sensor or heater malfunctions; heater circuit automatically turns off. Input up to 15-segment/30-step programs including automatic start, automatic stop, and ramp-and-soak modes through the keypad. Includes two stainless steel shelves (33959-07 includes four stainless steel shelves) and a 6-ft (1.8-m) power cord with US standard plug on 115 VAC models (no plug on 220 VAC model).

ISO 9001:2008 CERTIFIED SUPPLIER

Specifications

Temperature uniformity: ±2.5°C at 210°C **Timer:** 1 minute to 99 hours, 59 minutes

Capacity cu ft (L)	Temperature range	Rise time (minutes)	Shelf positions	Dimensions (W x H x D), in. (cm)		Power (VAC, Hz)	Shpg wt lb (kg)	Catalog number	Price
				Chamber	Overall				
3.2 (90)	Ambient +10°C to 260°C	90	11	17¾ x 17¾ x 17¾ (45 x 45 x 45)	22 x 32¼ x 23¾ (56 x 82 x 60)	115, 50/60	195 (89)	XJ-33959-05	
5.3 (150)		90	13	23½ x 20 x 20 (60 x 51 x 51)	28 x 35 x 25½ (71 x 89 x 65)	115, 50/60	245 (112)	XJ-33959-06	
10.7 (303)		60	29	23½ x 39½ x 20 (60 x 100 x 51)	28 x 64 x 25½ (71 x 162 x 65)	220, 50/60	356 (162)	XJ-33959-07	

XJ-17002-30 **NIST-traceable calibration** with data for ovens

Lab Companion® Vacuum Ovens

Get better control of your application



– Heat-tempered full-view window allows continuous monitoring of chamber
– User-friendly digital control panel simplifies operation

Separate vacuum and vent ports allow greater control of vacuum rates. Vacuum levels are maintained by a tightly sealed door gasket and push-button latch. Block heaters and anodized aluminum plate shelves provide uniform heating throughout the oven chamber. Includes two or three aluminum plate shelves and power cord.

Specifications

Temperature range: 5° above ambient to 250°C **Vacuum range:** 0 to 0.1 Mpa
Temperature control accuracy: ±2°C at 100°C **Timer:** 1 min to 99 hr, 59 min with delayed on/off

Capacity cu ft (L)	Temperature uniformity	Rise time to 100°C (minutes)	Shelves positions	Dimensions (W x H x D), in. (cm)		Power (VAC, Hz)	Shpt wt lb (kg)	Catalog number	Price
				Chamber	Overall				
1 (28.3)	±2°C at 100°C	70 min	2	12 x 12 x 12 (30 x 30 x 30)	27 x 19½ x 18 (68 x 49 x 46)	120, 50/60	139 (63)	XJ-52402-95	
						230, 50/60	139 (63)	XJ-52402-97	
2.3 (65.1)	±2°C at 100°C	85 min	3	15¾ x 15¾ x 16 (40 x 40 x 41)	31¾ x 23½ x 22 (80 x 60 x 56)	120, 50/60	227 (103)	XJ-52402-96	
						230, 50/60	227 (103)	XJ-52402-98	

XJ-17002-30 **NIST-traceable calibration** with data for ovens

SalvisLab Thermocenter Mechanical Convection Ovens

Get the ultimate in efficiency



– SalvisTEQ touch screen controller continually monitors what it has done, where it is, and where it wants to go!

Short heating and precise temperature control make these ovens ideal for a variety of heating and drying tasks. High-quality insulation and airtight design prevent heat loss. The intuitive SalvisTEQ controller features real-time temperature monitoring during the heat-up phase, set point temperature, gradient and actual temperature.

Oversized heat ring and adjustable-speed fan ensure excellent uniformity. Other features include programmable timer, real-time clock, alarms, self-diagnostics, and USB connection. Stainless steel interior and shelves resist aggressive substances. Include one shelf.

Capacity cu ft (L)	Max temperature	Temperature uniformity	Rise time (minutes)	Shelf positions	Dimensions (W x H x D), in. (cm)		Power (VAC, Hz)	Shpg wt lb (kg)	Catalog number	Price
					Chamber	Overall				
1.4 (40)	200°C	±1.5°C at 150°C	24	8	13⅜ x 14⅝ x 13 (34 x 37 x 33)	18¼ x 19¼ x 20¾ (46 x 49 x 53)	115, 50/60	99 (45)	XJ-52403-01	
							220, 50/60		XJ-52403-06	
3.5 (100)	200°C	±1.7°C at 150°C	35	8	17¾ x 19¾ x 18⅛ (45 x 50 x 46)	22⅜ x 24¾ x 25¾ (57 x 62 x 66)	115, 50/60	132 (60)	XJ-52403-11	
							220, 50/60		XJ-52403-16	

Oakton® Waterproof DO 450 Dissolved Oxygen Meter

Eliminate maintenance time and costs



- Affordable optical RDO technology reduces maintenance time and costs
- Rugged, waterproof, and dustproof with IP67 rating for use in any environment
- More accurate readings with barometric pressure and salinity correction
- Download and analyze data easily with USB and RS-232 output for up to 500 data sets
- Take it with you—500 hours battery life or optional universal power adapter

Get faster response, long-term stability, and minimal maintenance with optical measurement technology. Ensure measurement accuracy with automatic temperature compensation (ATC), barometric pressure compensation, and salinity correction. View % saturation or mg/L (ppm) simultaneously with temperature on the large LCD screen. Additional features include ready (stability) indicator, smart averaging, hold function, calibration alarm, and battery-life indicator.

Meter only includes: two AA batteries.

Kit adds: RDO probe (35640-53), sensor cap (35640-51), RDO weight, RDO calibration chamber, sample bottles, and hard carrying case.

OAKTON®

ISO 9001:2008 CERTIFIED SUPPLIER · Meter only

Description		DO 450 meter only	DO 450 meter kit
Catalog number		XJ-35640-32	XJ-35640-90
Precalibrated catalog number		XJ-35640-34	XJ-35640-91
Range	Dissolved oxygen	0 to 20 ppm; 0 to 200%	
	Temperature	–17.0 to 230.0°F (–10.0 to 110.0°C)	
Resolution	Dissolved oxygen	0.1 ppm; 0.10%	
	Temperature	0.1°C/°F	
Accuracy	Dissolved oxygen	±2%	
	Temperature	±0.9°F (±0.5°C)	
Calibration	Dissolved oxygen	Zero and saturation	
	Temperature	±5.0° offset	
Barometric pressure compensation		Manual	
Salinity correction		Manual; 0 to 45	
Temperature compensation		Automatic or manual from –10 to 110°C	
Data logging		Stores up to 500 data sets	
Output		USB or RS-232	
Power		Two AA batteries (included), >500 hours continuous use; AC adapter (optional)	
Price			
Precalibrated price			

XJ-35640-51 **Replacement RDO sensor cap**
XJ-35640-53 **Replacement RDO probe,** 10-ft (3-m) cable
XJ-35640-55 **RDO probe,** 20-ft (6-m) cable
XJ-35640-57 **RDO probe,** 50-ft (15-m) cable
XJ-35640-58 **RDO calibration chamber**
XJ-35640-59 **RDO weight,** screw thread to attach to probe
XJ-35630-53 **Data cable** for USB connectivity
XJ-35420-01 **Data cable** for RS-232 connectivity
XJ-35420-72 **Optional AC adapter,** 110/220 VAC

Oakton® DO 6+ Dissolved Oxygen Meter

High accuracy without a high price



- No warm-up time required
- No need to hold meter—protective rubber boot is also a stand
- Low-maintenance, galvanic probe
- Choose display—ppm or mg/L

Six simple buttons for freezing measurements, toggling between units and temperature results, setup, calibration, and automatic barometric and salinity compensation. View electrode slope, zero offset, and millivolt values for electrode diagnostics.

Meter includes: electrolyte solution, membrane cap, protective rubber boot/stand, and four AAA batteries.

Kit adds: two membrane caps, solution bottles, rinse bottle, and hard plastic carrying case.



Protective boot also functions as a stand.

Save time, save money!

Choose Precalibrated
Includes a data-rich, ISO 17025-compliant certificate!
Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

OAKTON®

ISO 9001:2008 CERTIFIED SUPPLIER · Meter only

Specifications

Mode	mg/L (ppm)	% O_2 saturation	Temperature (°C)
Range	0.00 to 20.00	0.0 to 200.0	0.0 to 50.0
Resolution	0.01	0.1	0.1
Accuracy	±1.5% full-scale	±1.5% full-scale	±0.5

Temperature compensation: automatic from 0 to 50°C

Salinity compensation: Manual input, automatic correction Range: 0.0 to 50.0 ppt Resolution: 0.1 ppt

Barometric pressure compensation: Manual input, automatic correction Range: 500 to 1499 mm Hg Resolution: 1 mm Hg

Memory: none

Power: four AAA batteries (included)

Description	Meter		Precalibrated meter	
	Catalog number	Price	Catalog number	Price
DO 6+ meter only	XJ-35643-10		XJ-35643-11	
DO 6+ meter with probe 35642-50	XJ-35643-12		XJ-35643-13	
DO 6+ meter kit	XJ-35643-14		XJ-35643-15	

XJ-35642-50 **Replacement DO probe** with 3-ft (0.9-m) cable
XJ-35642-52 **DO probe** with 10-ft (3-m) cable
XJ-35642-54 **DO probe** with 30-ft (9-m) cable
XJ-35642-55 **Replacement DO probe maintenance kit** includes one membrane cap and 10 mL of electrolyte solution
XJ-09376-00 **Replacement batteries;** AAA. Pack of 12

PCRmax Combination Microplate Shaker and Vortex Mixer

No need for two separate mixers



- Mix 96- or 384-well microplates in skirted, semi-skirted, unskirted, or deep-well formats
- Use the included adapters for PCR plates, or even 0.2-, 0.5-, 1.5-, and 2.0-mL microtubes
- Vortex sealed, conical- or round-bottom, skirted or un-skirted, tubes from 0.5- to 100-mL capacities
- Effortlessly change between mixing modes or save up to 190 user-defined programs to suit your mixing needs

This combination microplate shaker and vortex mixer takes up less lab space than two stand-alone instruments—ideal for cramped fume hoods and benchtops. Both the plate shaker and vortex mixer may be run at the same time. Save up to 190 user-defined mixing programs with unique names, or use the preprogrammed settings to adjust speed and time freely. The easy-to-navigate touch screen display has large icons for quick changes or program selection—even with gloves on.

Adapters are included to mix a wide variety of microwell plates and microtubes using the plate shaker portion. Set the orbital mixing speed from 200 to 3000 rpm (2000 rpm maximum for deep-well and plates with a mass over 80 grams) from 5 seconds to 28 days.

Use the vortex mixer to homogenize samples in sealed, plastic tubes from 0.5 to 100-mL capacities with round or conical bottoms. Adjust the speed from 700 to 3500 rpm—simply press the tube to the vortexer pad to activate. **Note:** Use of glass, open-top, or flat-bottom tubes/flasks is not recommended.

What's included: three adapter blocks: (1) 0.2-mL PCR plates, (1) 0.5-mL microwell plates or microtubes, and (1) 1.5-/2.0-mL microwell plates or microtubes.†

Description	Combination microplate shaker and vortexer
Catalog number	XJ-13204-31
Speed range	200 to 3000 rpm (shaker with 0 to 80 g load); 200 to 2000 (shaker with 81 to 300 g load); 700 to 3500 rpm (vortexer)
Timer range	5 seconds to 28 days (shaker); 2 to 60 seconds (vortexer)
Orbit size	3 mm dia (shaker and vortexer)
Maximum load	0.66 lb (300 g)
Operating conditions	50 to 100°F (10 to 38°C), 20 to 85% RH
Platform dimensions	2" (5.1 cm) dia (vortexer)
Overall dimensions (W x H x D)	7½" x 13¾" x 7⅞" (19 x 35 x 20 cm)
Power (VAC, Hz)	100 to 240, 50/60
Price	

†Plates must conform to the ANSI/SBS Standard for Microplates to ensure proper positioning in the holder and adapters.

PCRmax Alpha Cyclers

Easily create, modify and access programs, saving time



- Flexible—your choice of one, two, or four block capacities in 96-well, 384-well, or mixed formats
- Independently control each block for simplified temperature and protocol optimization
- Software allows quick access to commonly used protocols
- Save precious lab space with 2- or 4-block systems

These compact thermal cyclers deliver reproducible results every run—with little to no training needed. Features include a clear responsive touch screen, secure user-specific programming, adjustable heated lid, and active sample cooling for sharper amplification.

A Program Wizard generates a protocol specific to your sequence in seconds—a quick way to optimize new assays. Units also retain approximately 1000 reports for reviewing at a later date and run on an intuitive, HD Android™ tablet interface. Save your personal settings to your USB drive; sign in is as simple as inserting your USB drive, no password needed.

Choose multiple-block systems to save bench space and money. Control each block separately for added versatility and use by more than one person at a time, or run on the same program to increase throughput. Each block also has its own independent heated lid—no interruption of assays running at different settings.

Specifications

Block temperature range: 10 to 100°C (4°C final hold)
Max heating rate: 3.4°C per sec.
Block uniformity at 55°C: ±0.3°C
Temp. accuracy at 50°C: ±0.25°C
Thermal gradient: 29°C maximum, 1°C minimum
Heated lid temp: 35 to 115°C, or off
Heated lid pressure: adjustable
Max programs stored: 1000
Data transfer: USB port
Auto restart on power failure: yes
Power: 100 to 230 VAC, 50/60 Hz

Model	Block format	Dimensions (W x H x D)	Catalog number	Price
Alpha Cycler 1	(1) 384-well block	16 15/16" x 10¼" x 13" (43 x 26 x 33 cm)	XJ-93945-00	
	(1) 96-well blocks		XJ-93945-02	
Alpha Cycler 2	(2) 384-well blocks	18½" x 21 1/16" x 13" (47 x 53.5 x 33 cm)	XJ-93945-28	
	(2) 96-well blocks		XJ-93945-22	
	(1) 384-well block, (1) 96-well block		XJ-93945-20	
Alpha Cycler 4	(4) 384-well blocks	27 9/16" x 21 1/16" x 13" (70 x 53.5 x 33 cm)	XJ-93945-08	
	(3) 384-well blocks, (1) 96-well block		XJ-93945-04	
	(2) 384-well blocks, (2) 96-well block		XJ-93945-06	
	(1) 384-well block, (3) 96-well blocks		XJ-93945-10	
	(4) 96-well blocks		XJ-93945-12	

PCRmax Dry Block Heater

High accuracy with a small footprint

- Obtain consistent results—temperature accuracy of ±0.1°C and uniformity of ±0.5°C or 1%
- Easily set temperature and run time through the intuitive, touch screen display
- Save commonly used programs for efficient and consistent sample processing
- Reduce condensation and evaporation—independent base and lid temperature control
- Place heater on a benchtop or in a fume hood—compact footprint takes up minimal space

REQUIRED System Components

1) Dry block heater
2) Heating block



Heat samples in microtubes and plates with this dry block heater using the interchangeable heating block modules (sold separately). Each heating block module comes precalibrated and ready to use. Load a module onto the heater, set the time and temperature using the digital touch screen, and wait for the audible alarm to alert that the run has finished—it's that simple! Use the heating blocks in different heaters to run using the same program—the intelligent modules save the last run settings, or save commonly used programs directly into the dry block heater.

1. Dry Block Heater

Number of blocks accepted	Uniformity	Max temperature	Dimensions (W x H x D)	Power			Catalog number	Price
				VAC	Hz	Watts		
1	Dependent upon block used	Ambient to 105°C	7½" x 3⅛" x 8⅞" (19 x 8 x 25 cm)	100 to 240	50 to 60	100 max	XJ-13204-35	

2. Heating Blocks

Accommodates	Number of wells	Well diameter	Well depth	Uniformity	Max temperature	Catalog number	Price
0.5 mL tube, conical bottom	24	8.0 mm	25.4 mm	±0.5°C or 1% (whichever is greater)	Base: ambient to 99.9°C Lid: 4 to 105°C	XJ-13204-45	
1.5 mL tube, conical bottom	24	11.0 mm	35.5 mm			XJ-13204-37	
2.0 mL tube, round bottom	24	11.0 mm	36.5 mm			XJ-13204-47	
0.15 mL microplate, conical bottom	96	6.4 mm	14.0 mm			XJ-13204-49	
0.25 mL microplate, conical bottom	96	6.4 mm	21.0 mm			XJ-13204-50	
0.2 mL tube, conical bottom	96	6.4 mm	19.5 mm			XJ-13204-51	

PCRmax Variable-Temperature Microplate Heat Sealer

No need to rotate or repeat to get a good seal

- Electronic feedback and LED display ensure consistent sealing
- Uniform heat distribution seals with a single lever pull
- Ergonomic lever action prevents repetitive strain injury
- Compatible with polypropylene, polyethylene, and polystyrene plate materials

REQUIRED System Components

1) Heat sealer
2) Adapter plate(s)
3) Films and foils



This microplate heat sealer features simplified keypad controls and digital display to make temperature and time optimization easy, ensuring reliable plate seals. Internal heater plate produces a uniform temperature distribution and the audible pressure alert lets you know the sealing process is working properly. Warm-up time is less than 10 minutes to reach 170°C, so you can quickly get to work.

What's included: power cords with plugs for US, UK, and EU.

1. Heat Sealer

Range	Timer	Dimensions (W x H x D)	Power		Catalog number	Price
			VAC	Hz		
125 to 200°C	1 to 9 seconds	8⅝" x 16¾" x 12¾" (22 x 42.5 x 32.5 cm)	115/230	50/60	XJ-13204-01	

2. Adapter Plates

Microplates accepted	Cat. no.	Price
96-well standard, 384-well standard, 96-well skirted PCR	XJ-13204-03	
96-well semi-skirted and unskirted PCR	XJ-13204-05	
Deep well	XJ-13204-07	

3. Films and Foils

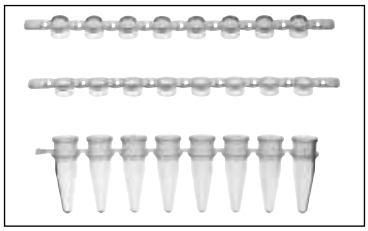
Type	Description	Temperature range	Compatible plate materials	Color code	Catalog number	Price/pk of 100 sheets
Film	Pierceable, 75 µm, suitable for PCR at 110°C	–80 to 80°C	PP, PE, PS	Clear	XJ-13204-27	
	Peelable, 105 µm, suitable for PCR at 110°C	–80 to 180°C			XJ-13204-43	
Foil	Pierceable, 20 µm	–20 to 120°C	PP, PE, PS	Green	XJ-13204-21	
	Pierceable and peelable†, 38 µm	–20 to 110°C	PP, PE, PS	Blue	XJ-13204-23	
	Peelable, 70 µm, DMSO resistant	–80 to 80°C	PP, PE	Red	XJ-13204-19	
	Peelable, 85 µm	–200 to 110°C	PP	Black	XJ-13204-25	

†Only peels from PS plate material.

PCRmax PCR Tube and Cap Strips

Five color choices for quick identification

NEW



- Constructed of pure high-quality polypropylene without any additives
- Ultrathin walls for optimal heat transfer
- Certified RNase, DNase, and endotoxin free
- Autoclavable at 121°C for 20 minutes

PCRmax

Suitable for use in common thermal cyclers, these strip tubes are available in PCR as well as qPCR options. Both options come in a strip of 8 connected tubes. Corresponding caps provide a tight seal to prevent sample loss; order separately.

Description	Max well volume	Color	Cat. no.	Qty/cs	Price/cs
8-tube strips, PCR	0.2 mL	Clear	XJ-67104-07	125	
		Pink	XJ-67104-08		
		Yellow	XJ-67104-09		
		Green	XJ-67104-11		
		Blue	XJ-67104-12		
Strip of 8 domed caps, PCR	—	Clear	XJ-67104-15	125	
		Pink	XJ-67104-16		
		Yellow	XJ-67104-17		
		Green	XJ-67104-18		
		Blue	XJ-67104-19		
8-tube strips, qPCR	0.2 mL	White	XJ-67104-13	125	
Strip of 8 flat caps, PCR/qPCR	—	Clear	XJ-67104-14	125	

PCRmax Transparent PCR Plates

Ultrathin walls provide faster heat transfer and cycle times

NEW



- Quality polypropylene for optimal clarity and solvent resistance
- Certified free of RNase, DNase, endotoxins, and human DNA
- Autoclavable

Description	No. of wells	Well volume	Catalog number	Qty/cs	Price/cs
Full skirt, low profile	96	0.2 mL	XJ-67104-21	50	
Half skirt, standard profile	96	0.2 mL	XJ-67104-23	50	
Half skirt, low profile	96	0.2 mL	XJ-67104-25	50	
Half skirt, low profile, elevated rim	96	0.2 mL	XJ-67104-27	50	
Unskirted, standard profile	96	0.2 mL	XJ-67104-29	50	
Unskirted, low profile	96	0.2 mL	XJ-67104-31	50	
Full skirt	384	40 µL (25 µL sample)	XJ-67104-33	50	

Arcis Sample Prep Kit

Amplify sample in less than 3 minutes

NEW



- Simple 2-step process
- No instrumentation required
- Stable DNA for 30 days; RNA for 8 days
- No refrigeration needed—shipped and stored at ambient temperatures

Convenient sample preparation kit allows fast analysis and identification without the need for isolation or purification. The complete, ready-to-use system enables you to go from sample to amplifiable DNA and RNA in less than 3 minutes.

The sample is prepared and stabilized without need for heating or cooling steps and there are no spins—it's a simple 2-step tube protocol. The sample is suitable for use in PCR, qPCR, and sequencing reactions using standard and fast cycling protocols.

What's included: 1 tube of lysis buffer and 1 tube of wash buffer.

Description	No. of reactions	Catalog number	Price
Sample prep kit	50	XJ-13204-52	
Demo sample prep kit	12 x 3	XJ-13204-53	

PCR Sealing Film

Transport microplates safely



PCR sealing film is specifically designed for PCR applications and the sealing of microplates for transport. The clear, 2-mL pressure-resistant polypropylene film eliminates well-to-well contamination and is RNase and DNase safe.

Description	Catalog number	Qty/pk	Price/pk
PCR sealing film	XJ-67103-55	100	

Oakton® Waterproof EcoTestr™ pH1 Pocket Tester

NEW

Economical, easy to use

- Automatically recognizes pH buffer standards
- Rugged IP67-rated housing is waterproof, dustproof, and floats in water
- Leakproof cap with fill line functions as a sample/calibration and hydrating cup



Model		EcoTestr pH1
Catalog number		XJ-35634-05
Range	pH	0 to 14.0 pH
	Temperature	32 to 122°F (0 to 50°C)
Resolution	pH	0.1 pH
	Temperature	0.1°F/°C
Accuracy	pH	±0.1 pH
	Temperature	±0.9°F (0.5°C)
Temperature compensation		Automatic, 32 to 122°F (0 to 50°C)
Calibration		1 to 3 points
Buffer recognition		USA, NIST
Power		Four AAA batteries (included), 400 hours of continuous use
Price		

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Oakton® Waterproof EcoTestr™ pH2+ Pocket Tester

NEW

Better results—easier and faster

- Large dual-line display shows pH and temperature readings simultaneously
- Automatic temperature compensation ensures accuracy
- Easier, more intuitive interface and indicators for calibration, readiness, and battery life
- Use redesigned cap as sample cup and as a stabilizing base to stand the meter upright
- Secure—attach a lanyard to prevent dropping in the field



Model		EcoTestr pH2+
Catalog number		XJ-35423-01
Range	pH	0.0 to 14.0 pH
	Temperature	32.0 to 122.0°F (0.0 to 50.0°C)
Resolution	pH	0.1 pH
	Temperature	0.1°F (0.1°C)
Accuracy	pH	±0.1 pH
	Temperature	±0.9°F (0.5°C) + 1 LSD
Temperature compensation		Automatic
Calibration		Up to 3 points
Buffer recognition		USA, NIST
Power		Four 1.5 V miniature alkaline batteries (included)
Price		

Oakton® Waterproof Testr™ 5 Pocket Testers

NEW

Save money by replacing sensor, not the tester

- Unique three-color backlight indicates operating mode
- Simple to calibrate with automatic standard recognition—USA and NIST
- Rugged IP67-rated housing is waterproof, dustproof, and floats in water with sensor cap on
- Leakproof cap with fill line functions as a sample/calibration and hydrating cup
- Choose model with flat probe for surface or micro-volume testing, or spear tip for testing semisolid and solid materials



Model		pH5	pH5F	pH5S	ORP5
Catalog number		XJ-35634-16	XJ-35634-46	XJ-35634-52	XJ-35634-54
Sensor type		Glass bulb	Flat surface	Spear tip	Glass bulb
Range	pH	-2 to 16 pH			—
	ORP	±1000 mV			±1000 mV
	Temp	32 to 122°F (0 to 50°C)			
Resolution	pH	0.01 pH			—
	ORP	1 mV			1 mV
	Temp	0.1°F/°C			
Accuracy	pH	±0.01 pH ±1 digit			—
	ORP	±0.2% FS			±0.2% FS
	Temp	±0.9°F (0.5°C)			
Temp compensation		Automatic, 32 to 122°F (0 to 50°C)			—
Calibration		1 to 3 points			1 point
Power		Four AAA batteries (included), 400 hours continuous use			
Price					

Oakton® Waterproof pHTestr® 30 Pocket Tester

Use with confidence

- Features ±0.01 pH accuracy—suitable for most ASTM and EPA test procedures
- Resistant to most chemicals with Valox® sensor housing
- Auto buffer recognition for calibration up to 3 points
- Don't let temperature interfere—ATC minimizes impact

Double-junction electrode sensor handles wastewater and solutions containing sulfides, heavy metals, and Tris buffers. Replaceable electrode sensor features a clog-resistant Kynar® PVDF junction and a recessed, glass pH bulb to prevent breakage.



Model		pHTestr 30
Catalog number		XJ-35634-30
Range	pH	–1.00 to 15.00 pH
	Temperature	32 to 122°F (0 to 50°C)
Resolution	pH	0.01 pH
	Temperature	0.1°F/°C
Accuracy	pH	±0.01 pH
	Temperature	±0.9°F (0.5°C)
Temperature compensation		Automatic, 32 to 122°F (0 to 50°C)
Calibration		Up to three pH points
Buffer recognition		4.01, 7.00, 10.01 USA; 4.01, 6.86, 9.18 NIST
Power		Four 1.5 V button cell batteries (included)
Price		

Oakton® pHTestr® 50 Pocket Tester

NEW

Bring the performance of your lab instruments into the field

- High ±0.01 pH accuracy—suitable for most ASTM and EPA test procedures
- Clog-resistant, double-junction pH electrode sensor is dependable and long-lasting!
- Use with confidence—even with demanding samples containing sulfides, heavy metals, organics, Tris buffer, or protein solutions
- Save money—replaceable sensor module lets you use tester body over and over again
- Set up and calibrate quickly with easy-to-navigate interface
- Don't let temperature interfere—automatic temperature compensation minimizes impact
- Recessed, glass pH bulb protects against breakage
- Leakproof, stabilizing cap—use to calibrate, stand upright, and store sensor
- Waterproof, IP67-rated housing resists most chemicals



OAKTON® ISO9001:2008 CERTIFIED SUPPLIER CE IP67

Model		pHTestr 50
Catalog number		XJ-35634-15
Range	pH	–1.00 to 15.00 pH
	Temperature	32 to 140°F (0 to 60°C)
Resolution	pH	0.01 pH
	Temperature	0.1°F/°C
Accuracy	pH	±0.01 pH
	Temperature	±0.9°F (0.5°C) + 1 LSD from 32 to 122°F (0 to 50°C); ±1.8°F (1.0°C) + 1 LSD from 122 to 140°F (50 to 60°C)
Temperature compensation		Automatic, 32 to 140°F (0 to 60°C)
Calibration		Up to 3 points
Buffer recognition		USA 4.01, 7.00, 10.01; NIST 4.01, 6.86, 9.18
Power		Four AAA 1.5 V batteries (included)
Price		

XJ-35634-17 **Replacement sensor**

Oakton® PCTSTestr™ 50 Multiparameter Pocket Tester

One tester measures it all!

NEW

- Versatile tester combines up to five measurements in one pocket-sized meter
- Parameters include pH, conductivity, TDS, salinity, and temperature
- Compatible with a wide range of samples with long-life pH electrode and stainless steel pin-style conductivity sensor
- Features up to 3-point pH calibration with NIST or USA autobuffer recognition, user-adjustable temperature coefficient, and self-adjusting TDS and salinity factor
- Leakproof cap functions as a sample/calibration cup, hydrating cup and as a stabilizing base to stand the meter upright
- Easy-to-replace sensor module lets you use tester body over and over again



OAKTON® ISO9001:2008 CERTIFIED SUPPLIER CE IP67

Model		PCTSTestr 50
Catalog number		XJ-35634-35
Range	pH	–1.00 to 15.00 pH
	Conductivity	0.0 to 200.0 µS, 200 to 2000 µS; 2.00 to 20.00 mS
	TDS	0.0 to 100.0 ppm, 100 to 1000 ppm; 0.10 to 10.00 ppt (TDS factor 0.5)
	Salinity	0.00 to 10.00 ppt
	Temperature	32 to 140°F (0 to 60°C)
Resolution	pH	0.01 pH
	Conductivity	0.1 µS, 1 µS; 0.01 mS
	TDS	0.1 ppm, 1 ppm; 0.01 ppt
	Salinity	0.10 ppt
	Temperature	0.1°F/°C
Accuracy	pH	±0.01 pH
	Conductivity	±1% full-scale
	TDS	±1% full-scale
	Salinity	±1% full-scale
	Temperature	±0.9°F (0.5°C) from 32 to 122°F (0 to 50°C); ±1.8°F (1.0°C) from 122 to 140°F (50 to 60°C)
Temperature compensation		Automatic, 32 to 144°F (0 to 60°C)
Calibration		3 points (pH, conductivity, TDS); 1 point (salinity)
Buffer recognition		USA 4.01, 7.00, 10.01; NIST 4.01, 6.86, 9.18
Power		Four AAA 1.5 V batteries (included)
Price		

XJ-35634-37 **Replacement sensor**



Can't choose?

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1-800-323-4340 **sales@coleparmer.com** **ColeParmer.com**

Jeevan, 25+ years of experience

Oakton® pH 5+ and pH 6+ Meters

Get high accuracy at low prices

- Autobuffer recognition for up to five-point calibration provides ±0.01 pH accuracy
- Take this compact unit anywhere
- Get pH and temperature readings at the push of a button
- Improve your accuracy with automatic temperature compensation (ATC) from 0 to 100°C
- Protect your unit with protective rubber boot that doubles as a stand
- Choose the pH 6+ meter to also read mV



Meter includes: ATC probe, protective rubber boot, and batteries.

Meter with probe adds: pH electrode 59001-65.

Meter kit adds: "All-in-one" pH electrode, pH buffer solutions, sample bottles, rinse bottle, and carrying case.

Save time, save money!

Choose Precalibrated
Includes a data-rich, ISO 17025-compliant certificate!
Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

OAKTON®

ISO9001:2008 CERTIFIED SUPPLIER CE 3 YEAR WARRANTY Meter only

Specifications

Mode	pH	mV (pH 6+ only)	Temperature
Range	0.00 to 14.00 pH	±1000 mV or rel mV	0 to 100.0°C
Resolution	0.01 pH	1 mV	0.1°C
Accuracy	±0.01 pH	±2 mV	±0.5°C
Calibration	Up to five points: pH 1.68, 4.01, 7.00, 10.00, 12.45 (USA); pH 1.68, 4.01, 6.86, 9.18, 12.45 (NIST) pH 4.10, 6.97 (Pb)	±20 mV	Offset 0.1°C increments

Temp compensation: automatic with ATC probe, 0 to 100°C
Power: four AAA batteries (included)

Model	Description	Meter		Precalibrated	
		Catalog number	Price	Catalog number	Price
pH 5+	Meter only	XJ-35613-50		XJ-35613-51	
pH 6+		XJ-35613-20		XJ-35613-41	
pH 5+	Meter with probe	XJ-35613-52		XJ-35613-53	
pH 6+		XJ-35613-22		XJ-35613-42	
pH 5+	Meter kit	XJ-35613-54		XJ-35613-55	
pH 6+		XJ-35613-24		XJ-35613-44	

Accessories

XJ-59001-65 **Replacement pH electrode;** single-junction, gel-filled. Epoxy body, BNC connector

XJ-35811-71 **"All-in-one" combination pH probe** with built-in ATC; single-junction sealed, epoxy body, BNC connector

XJ-35811-72 **"All-in-one" combination pH probe** with built-in ATC; double-junction sealed, epoxy body, BNC connector

XJ-35613-05 **Replacement ATC probe,** stainless steel

XJ-09376-00 **Replacement batteries,** AAA. Pack of 12

Oakton® Waterproof pH 150 Meter

Get more for your money!

- Intuitive, user-friendly icons show electrode status as pH slope
- Get quick and easy electrode attachment to a beaker or container with Grip-Clip™ holder
- Recall more data with expanded data logging for up to 150 data sets
- mV offset for calibration of ORP standards, zeroing mV value, and pH diagnostics
- Use as a benchtop meter as well—built-in stand or wall-mount option



View more simultaneously with large, three-line LCD providing pH or mV measurement with temperature and calibration % slope. Get faster calibration with auto buffer recognition which identifies the correct pH buffer. Be more accurate with up to six calibration points from USA, NIST, and DIN pH buffer sets and automatic temperature compensation (ATC).

Additional features include ready (stability) indicator, smart averaging, hold function, calibration alarm (visible), battery-life indicator, and electrode status.

Meter only includes: Grip-Clip holder and two AA batteries.
Meter with probe adds: "All-in-One" pH electrode (35808-71).
Meter kit further adds: pH buffers, storage solution, rinse solution, and hard carrying case.

OAKTON® ISO9001:2008 CERTIFIED SUPPLIER TÜV GS CE IP67 3 YEAR WARRANTY Meter only

Description		Meter only	Meter with probe	Meter kit
Model		pH 150		
Catalog number		XJ-35614-32	XJ-35614-30	XJ-35614-90
Precalibrated cat. no.		XJ-35614-34	XJ-35614-33	XJ-35614-91
Range	pH	–2.00 to 16.00		
	mV	±2000 mV		
	Temperature	–17.0° to 230.0° F (–10.0° to 110.0°C)		
Resolution	pH	0.01		
	mV	0.1 mV ±999.9 mV; 1 mV beyond		
	Temperature	0.1°F/C		
Accuracy	pH	±0.01		
	mV	±0.2 mV ±2 LSD or ±0.5% of reading; whichever is greater		
	Temperature	±0.9°F (±0.5°C)		
Calibration	pH	Up to 6 points: USA, NIST, DIN		
	mV	±200 mV		
	Temperature	Offset 0.1 increments		
Temperature compensation		Automatic or manual from –10 to 110°C		
Data logging		Stores up to 150 data sets		
Power		Two AA batteries (included); universal adapter (optional)		
Price				
Precalibrated price				

XJ-35808-71 **Replacement "All-in-One" combination pH electrode** with built-in ATC; single-junction, epoxy body, BNC connector

XJ-35618-05 **ATC probe.** Use with any standard pH electrode for temperature compensation

XJ-35614-50 **Replacement Grip-Clip,** holder attaches probe to side of container for hands-free measurement

XJ-35614-51 **Hard carrying case,** for 150/450 meters

XJ-35420-72 **Optional power adapter,** 110/220 VAC

XJ-09376-01 **Replacement batteries,** AA. Pack of 4

XJ-17106-20 **NIST-traceable calibration** with data for pH meter

METTLER TOLEDO Seven2Go™ Pro Handheld pH/Ion Meter

NEW

No more juggling while multitasking



- Comfortable, single-handed operation frees a hand for other tasks
- Robust IP67-rated housing protects meter from harsh conditions
- Enhanced contrast screen is readable in any light condition—even bright sunlight
- Compatible with InLab® ISM sensors for quick electrode changes without recalibration

Choose meter only or select a convenient kit with electrode that best fits your application. The InLab Expert Pro-ISM electrode is ideal for general applications in or out of doors, with a rugged PEEK body and double junction to protect the sensor from dirty samples. The InLab Routine Pro-ISM electrode is best suited to analytical laboratory applications, providing fast results with a greater degree of chemical resistance. For fluoride measurements, the perfectION™ combination ion-selective electrode features the built-in Click & Clear™ reference junction to prevent clogging and provide faster, more stable readings.

What's included: LabX direct pH software, USB cable, electrode holder, stabilizing/mounting base, wrist strap, test report, and batteries.

Specifications

Range	pH	–2 to 20
	mV	±1999
	ISE	Depends on the ISE used†
	Temperature	–5 to 130°C
Resolution	pH	0.001, 0.01, 0.1
	mV	0.1, 1
	ISE	3 or 4 digits (autorange)
	Temperature	0.1°C
Accuracy	pH	±0.002
	mV	±0.1
	ISE	±0.5%
	Temperature	±0.2°C up to 105°C, ±0.5°C above 105°C
Temperature compensation		Automatic or manual
Calibration		Up to 5 points
Buffer recognition		NIST, DIN, JIS, MERCK, MT USA, MT Europe, JJG 119, Technical, custom
Data logging		2000 readings with time and date
Output		Micro-USB
Power		Four AA batteries or USB

†The perfectION Fluoride electrode (included in the Fluoride kit) has a lower limit of detection of 0.02 mg/L

Description	Catalog number	Price
Seven2Go Pro pH/ion meter with standard accessories	XJ-35903-61	
Standard kit: adds InLab Expert Pro pH electrode and buffer sachet set	XJ-35903-62	
Field kit: adds InLab Expert Pro pH electrode, buffer sachet set, solution bottles, and carrying case	XJ-35903-63	
Biotech kit: adds InLab Routine Pro pH electrode, buffer sachet set, solution bottles, and carrying case	XJ-35903-64	
Fluoride kit: adds perfectION fluoride electrode	XJ-35903-65	

XJ-17106-20 **NIST-traceable calibration** with data for pH meters

Oakton® Waterproof pH 450 Meter

Easy-to-read measurements



- Use it in any environment with backlit display and rugged design
- Intuitive, user-friendly icons show electrode status as pH slope
- Easily attach electrode to a beaker or container with Grip-Clip™ holder
- Download and analyze up to 500 data sets with USB or RS-232 output
- Use as a benchtop meter as well—built-in stand and wall-mount option

Waterproof, IP67-rated meter is ideal for even the harshest environments. View the main measurement simultaneously with temperature and calibration data with % slope on the large, backlit LCD. Be more accurate with up to six calibration points from USA, NIST, DIN, and custom pH buffers. Automatic temperature compensation (ATC) ensures measurement accuracy even in fluctuating temperatures.

Additional features include ready (stability) indicator, smart averaging, hold function, calibration alarm (visible), battery-life indicator, and electrode status.

Meter only includes: Grip-Clip holder and two AA batteries.

Meter with probe adds: "All-in-one" pH/temperature electrode (model 35808-71).

Meter kit further adds: pH buffer solutions, storage solution, rinse solution, and hard carrying case.

OAKTON® ISO 9001:2008 CERTIFIED SUPPLIER — Meter only

Description		Meter only	Meter with probe	Meter kit
Model		pH 450		
Catalog number		XJ-35618-32	XJ-35618-30	XJ-35618-90
Precalibrated cat. no.		XJ-35618-34	XJ-35618-33	XJ-35618-91
Range	pH	–2.00 to 16.00		
	mV	±2000 mV		
	Ion	0.0 to 19,999		
	Temperature	–17.0 to 230.0°F (–10.0 to 110.0°C)		
Resolution	pH	0.01		
	mV	0.1 mV ±999.9 mV; 1 mV beyond		
	Ion	0.01		
	Temperature	0.1°F/°C		
Accuracy	pH	±0.01		
	mV	±0.2 mV ±2 LSD or ±0.5% of reading; whichever is greater		
	Ion	±0.5% full-scale (monovalent); ±1% full-scale (divalent)		
	Temperature	±0.9°F (±0.5°C)		
Calibration	pH	Up to 6 points: USA, NIST, DIN		
	mV	±200 mV		
	Ion	Up to 6 points		
	Temperature	Offset 0.1 increments		
Temperature compensation		Automatic or manual from –10 to 110°C		
Output		USB or RS-232		
Data logging		500 data sets		
Power		Two AA batteries (included) or optional universal power adapter (sold at right)		
Price				
Precalibrated price				

Oakton® Benchtop pH 700 and Ion 700 Meters

No more lost data—store and recall up to 100 data sets

- Takes up less bench space—40% smaller than comparable models
- Super-large dual-line display is easy to read
- Simple calibrations with 5-point automatic pH buffer recognition for USA and NIST buffers
- More accurate measurements with up to 5-point calibration for ion concentration on Ion 700 model
- Versatile—use with any pH, ORP, or ISE electrodes with BNC connector

pH 700 meter measures pH, mV, relative mV, and temperature. Ion 700 meter adds ion concentration measurement and reads directly in ppm for easy use. Automatic temperature compensation (ATC) maintains reading accuracy even with fluctuating temperatures.

Meters feature Auto-Hold, selectable °F or °C measurement, and easy recall of electrode slope or offset.



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Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

Keep procedures handy with quick-reference pull out

Search
For our complete selection of pH/ion meters, go to…
ColeParmer.com/pHMeters

OAKTON® ISO9001:2008 CERTIFIED SUPPLIER CE 3 YEAR WARRANTY Meter only

Specifications

Model		pH 700	Ion 700
Range	pH	–2.00 to 16.00	–2.00 to 16.00
	mV/rel mV	±2000	±2000
	ISE	—	0.01 to 2000 ppm
	Temperature	32 to 100°F (0.0 to 100.0°C)	32 to 100°F (0.0 to 100.0°C)
Resolution	pH	0.01 pH	0.01 pH
	mV/rel mV	0.1 within ±199.9 mV, 1 beyond ±199.9 mV	0.1 within ±199.9 mV, 1 beyond ±199.9 mV
	ISE	—	0.01 to 2000 ppm
	Temperature	0.1°F or °C	0.1°F or °C
Accuracy	pH	±0.01 pH	±0.01 pH
	mV/rel mV	±0.2 within ±199.9 mV, ±2 beyond 199.9 mV	±0.2 within ±199.9 mV, ±2 beyond 199.9 mV
	ISE	—	±0.5% of reading (monovalent); ±1% of reading (divalent)
	Temperature	±0.9°F (±0.5°C)	±0.9°F (±0.5°C)
Calibration	pH	Up to 5 points with autobuffer recognition	Up to 5 points with autobuffer recognition
	mV	Up to ±150 mV offset adustment	Up to ±150 mV offset adustment
	ISE	—	From 2 to 5 consecutive points (0.1, 1.0, 10.0, 100.0, 1000 ppm)
Temperature compensation		Automatic or manual from 32 to 100°F (0 to 100°C)	Automatic or manual from 32 to 100°F (0 to 100°C)
Buffer recognition		USA or NIST buffer sets	USA or NIST buffer sets
Data logging		100 data sets	100 data sets
Power		100/240 VAC, 50/60 Hz	100/240 VAC, 50/60 Hz

Model	Description	Meter		Precalibrated meter	
		Catalog number	Price	Catalog number	Price
pH 700	Meter only	XJ-35419-00		XJ-35419-01	
pH 700	Meter with "all-in-one" pH/ATC electrode	XJ-35419-03		XJ-35419-05	
Ion 700		XJ-35419-23		XJ-35419-27	
pH 700	Meter with double-junction pH electrode, ATC probe, and removable electrode holder	XJ-35419-10		XJ-35419-11	
Ion 700		XJ-35419-20		XJ-35419-24	
pH 700	Meter with removable electrode holder	XJ-35419-12		XJ-35419-15	
Ion 700		XJ-35419-22		XJ-35419-26	

XJ-59001-65 **Combination pH electrode;** single junction, gel-filled, epoxy body

XJ-59001-70 **Combination pH electrode;** double junction, gel-filled, epoxy body

XJ-35811-71 **"All-in-one" combination pH electrode;** single junction, gel-filled, epoxy body

XJ-35805-04 **Replacement combination pH electrode;** double junction, refillable, glass body

XJ-35613-13 **Replacement ATC probe,** SS

XJ-35420-54 **Replacement electrode arm**

XJ-17106-20 **NIST-traceable calibration** with data for pH/ion meter

Oakton® Benchtop PC 700 and PC 2700 Meters

Get all the readings you need in one compact unit

– Economical PC 700 for basic laboratory use

– Advanced PC 2700 for research grade use with ion capability

PC 700 Meter features pH auto-buffer recognition for both USA and NIST buffer sets, automatic or manual temperature compensation, and selectable temperature units. Previous calibration points, electrode slope and offset, and conductivity/TDS cell constants are stored in memory for quick and easy retrieval. Store up to 100 data sets in the meter's memory for retrieval later.

PC 2700 Meter meets GLP requirements—meter stamps all calibration and stored data with time/date. Nonvolatile memory stores up to 500 data sets to simplify documenting large volumes of pH, mV, ISE, conductivity, TDS, salinity, or resistivity measurements. Data is easily exported to a computer via RS-232 port. Order RS-232 and optional RS-232-to-USB adapter separately below.

Meter only includes: universal 110/240 VAC power supply and electrode stand.

Meter with probes adds: combination pH electrode 35805-04 and conductivity/temperature probe 35608-74 (PC 700) or 35412-10 (PC 2700).



OAKTON®

ISO9001:2008 CERTIFIED SUPPLIER CE Meter only

Specifications

Conductivity cell constant: fixed at K = 1.0 cm^{-1} **Conductivity-to-TDS factor:** adjustable from 0.4 to 1.0

Model		PC 700	PC 2700
Range	pH	–2.00 to 16.00	–2.000 to 20.000
	mV/Rel mV	±2000	±2000.0
	ISE	—	0.001 to 19999 ppm
	Conductivity	0.0 µS to 200 mS	0.050 µS to 500.0 mS
	TDS	0.00 ppm to 100.0 ppt @ 0.5 factor (200.0 ppt @ 1.0 factor)	0.050 to 500.0 ppt
	Salinity	—	0.0 to 80.0 ppt
	Resistivity	—	2.000 Ω to 20.0 MΩ
	Temperature	32.0 to 212°F (0.0 to 100.0°C)	32.0 to 212°F (0.0 to 100.0°C)
Resolution	pH	0.01 pH	0.001, 0.01, 0.1 pH
	mV/Rel mV	0.1 within ±199.9 mV, 1 beyond ±199.9 mV	0.1 mV
	ISE	—	2 or 3 digits
	Conductivity	0.01, 0.1, 1 µS; 0.01, 0.1 mS	0.01, 0.1 µS; 0.001, 0.01, 0.1 mS
	TDS	0.01, 0.1, 1 ppm; 0.01 0.1 ppt	0.01, 0.1 ppm; 0.001, 0.01, 0.1 ppt
	Salinity	—	0.1 ppt
	Resistivity	—	0.01 mΩ, 0.001, 0.01 kΩ, 0.01, 0.1 Ω
	Temperature	0.1°F or °C	0.1°F or °C
Accuracy	pH	±0.01 pH	±0.002 pH
	mV/Rel mV	±0.2 within ±199.9 mV, ±2 beyond 199.9 mV	±0.2 mV
	ISE	—	0.5% full scale (monovalent), 1% full scale (divalent)
	Conductivity	±1% full-scale	±1% full-scale
	TDS	±1% full-scale	±1% full-scale
	Salinity	—	±1% full-scale
	Resistivity	—	±1% full-scale
	Temperature	±0.9°F (±0.5°C)	±0.5°F (±0.3°C)
Calibration	pH	Up to 5 points (USA or NIST buffer sets)	Up to 6 (USA, NIST, DIN, or custom buffer sets)
	ISE	—	Up to 8 points
	Conductivity/TDS	5 points (one point per range)	5 points (one point per range)
Temperature compensation		Automatic or manual	Automatic or manual
Data logging		100 data sets	500 data sets
Output		—	RS-232
Power		110/240 VAC universal adapter	110/240 VAC universal adapter

Model	Description	Meters		Precalibrated meters	
		Catalog number	Price	Catalog number	Price
PC 700	Meter only	XJ-35413-20		XJ-35413-21	
	Meter with pH and conductivity/temperature probes	XJ-35413-00		XJ-35413-01	
PC 2700	Meter only	XJ-35414-20		XJ-35414-21	
	Meter with pH and conductivity/temperature probes	XJ-35414-00		XJ-35414-01	

XJ-35420-01 **RS-232 cable** for 2700-series meter
XJ-35630-53 **USB cable** for 2700-series meter
XJ-17106-20 **NIST-traceable calibration** with data for pH meters
XJ-17090-30 **NIST-traceable calibration** with data for conductivity meters

Save time, save money!

Choose Precalibrated
Includes a data-rich, ISO 17025-compliant certificate!
Precalibrated by INNOCAL® INNOVATIVE CALIBRATION SOLUTIONS

Thermo Scientific™ Orion™ Star™ A-Series Benchtop pH and pH/Ion Meters

Don't second-guess readings—stable readings locked in with Auto-Read™ function

- Star A111 basic meter is perfect for simple, accurate pH measurements
- Star A211 and A214 meters provide advanced data security and data logging

Star A111 pH Meter is a low-cost option that combines simplicity with accuracy—making it great for everyday pH measurements.

Star A211 pH and A214 pH/Ion Meters support a multilanguage interface, improved stability algorithms, expanded data logging, and better data security over the Star meter. Meters use RS-232 or USB for connectivity and include data analysis software.

Meters include: electrode arm with redesigned probe holder and universal power adapter.

Star A111 meter kit adds: Orion Triode™ pH/ATC electrode 05719-14 and 60 mL each of 4, 7, 10 buffers, storage solution, and cleaning solution.

Star A211 and 214 meter kits add: ROSS™ Triode pH/ATC electrode 05718-28; ATC probe; Star stirring probe; and 475 mL each of 4, 7, 10 buffers and storage solution.



ISO 9001:2008 CERTIFIED SUPPLIER

Meter only

Model		A111 pH meter only	A111 pH meter kit	A211 pH meter only	A211 pH meter kit	A214 pH/ion meter only	A214 pH/ion meter kit
Catalog number		XJ-58825-02	XJ-58825-04	XJ-58825-22	XJ-58825-24	XJ-58825-26	XJ-58825-28
Parameters		pH/mV/temperature		pH/mV/temperature		pH/mV/ion/temperature	
Range	pH	–2.00 to 16.00		–2.000 to 20.000		–2.000 to 20.001	
	mV	±1600.0 mV; ±1999.9 rel mV		±2000.0 mV		±2000.0 mV	
	ISE	—		—		0 to 19999	
	Temperature	23 to 221°F (–5 to 105°C)		23 to 221°F (–5 to 105°C)		23 to 221°F (–5 to 105°C)	
Resolution	pH	0.1, 0.01		0.1, 0.01, 0.001		0.1, 0.01, 0.001	
	mV	0.1		0.1		0.1	
	ISE	—		—		3 significant digits	
	Temperature	0.1		0.1		0.1	
Accuracy	pH	±0.01		±0.002		±0.002	
	mV	±0.2 or 0.05% of reading		±0.2 or 0.05% of reading		±0.2 or 0.05% of reading	
	ISE	—		—		±0.2 mV or 0.05% of reading	
	Temperature	±0.1		±0.1		±0.1	
Temperature compensation		Automatic or manual		Automatic or manual		Automatic or manual	
Calibration points		Up to 3		Up to 5		Up to 5	
Buffer recognition		USA, NIST, and DIN		USA, NIST, and DIN		USA, NIST, and DIN	
Data logging		50 points		2000 points with time/date stamp		2000 points with time/date stamp	
Output		—		RS-232, USB		RS-232, USB	
Power		100 to 240 VAC (power adapter included) or four AA batteries (not included)		100 to 240 VAC (power adapter included) or four AA batteries (not included)		100 to 240 VAC (power adapter included) or four AA batteries (not included)	
Price							

Accessories

XJ-58825-50 **Electrode arm**
XJ-58825-51 **Base for electrode arm**
XJ-58822-03 **Universal AC power adapter**
XJ-05719-14 **Orion Triode pH/ATC electrode;** refillable, epoxy body
XJ-05718-28 **Ross Triode pH/ATC electrode**
XJ-55350-68 **pH buffer kit.** Includes 473 mL each of 4, 7, 10 buffers and storage solution, and 60 mL of cleaning solution
XJ-09376-01 **Batteries,** AA. Pack of 4
XJ-17106-20 **NIST-traceable calibration** with data for pH meter

Cole-Parmer® Epoxy-Body Combination pH and ORP Electrodes

Get fast, stable readings

Cole-Parmer®

– Impact resistant—epoxy-body housing for added strength
– Ideal for your general-purpose applications in the lab or field
– Compatible with most brands of pH meter

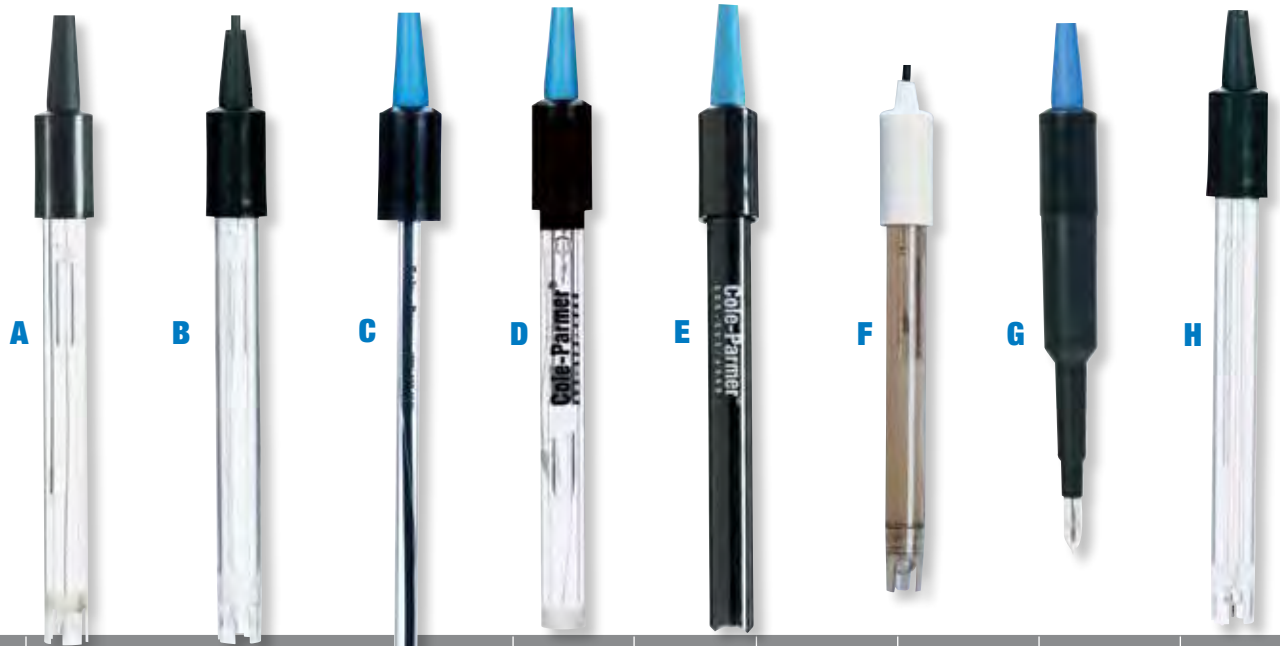
These electrodes are ideal for prolonged pH or ORP readings. Electrodes with sealed, gel-filled design require virtually no maintenance. Electrodes with PTFE reference-junction offer extended electrode life. All listed electrodes have Ag/AgCl reference cells.

What's included: 3.3-ft (1-m) cable with BNC connector.

See How to...



Maintain it!
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Key	Description	Reference junction	Type	Maximum temperature	Length x dia (mm)	Catalog number	Price
General-purpose pH electrodes							
A	General purpose	Single	Sealed	176°F (80°C)	127 x 12	XJ-59001-65	
	For dirty samples	Double				XJ-59001-70	
B	General purpose, refillable	Single	Refillable†	176°F (80°C)	148 x 12	XJ-05992-30	
	For dirty samples, refillable	Double				XJ-05991-12	
C	Extra-long neck for test tube sampling	Single	Sealed	176°F (80°C)	220 x 6	XJ-05990-45	
D	Flat tip for surface or low-volume sampling	Single	Sealed	176°F (80°C)	127 x 12	XJ-05990-65	
PTFE reference-junction pH electrodes (clog resistant)							
E	General purpose	Single	Sealed	212°F (100°C)	110 x 12	XJ-05992-00	
	For dirty samples	Double				XJ-05992-02	
Special-purpose pH electrodes							
F	Coiled-cable for dirty samples	Double	Sealed	176°F (80°C)	140 x 12	XJ-05993-28	
G	Spear-tip for dirty samples				110 x 10	XJ-59002-24	
ORP electrodes							
A	General purpose	Single	Sealed	176°F (80°C)	127 x 12	XJ-59001-75	
	For dirty samples	Double				XJ-59001-77	
H	General purpose, refillable	Single	Refillable††	176°F (80°C)	155 x 12	XJ-05990-55	

†Use fill solution 05992-48 ††Use fill solution 05992-47

XJ-05992-48 Reference fill solution, 4 M KCl. Two 125-mL bottles

XJ-05992-47 Reference fill solution, 3.8 M KCl with AgCl. Two 125-mL bottles

XJ-05983-25 Adapter, BNC to US standard plug meter

Oakton® Flexible Electrode Holder

Keep electrodes in position

– Holds up to four standard-size electrodes and one ATC probe.
– Weighted base pivots 360° for added convenience

Description	Catalog number	Price
Electrode holder	XJ-35617-50	



Thermo Scientific™ Orion™ ROSS™ and ROSS Ultra™ pH Electrodes

Don't worry about drift—drift is less than 0.002 pH per day

– Get fast, accurate, and stable pH readings

– Ideal for food, pharmaceuticals, or biological samples

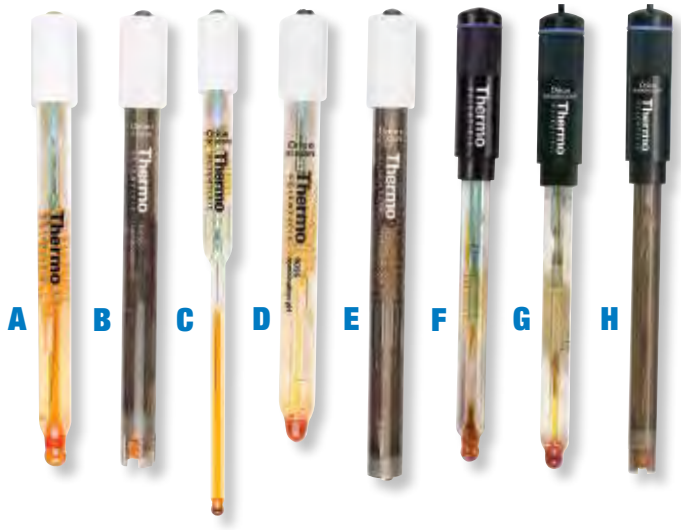
These pH electrodes offer a great mercury-free alternative to calomel electrodes—excellent for use in Tris buffer. The double-junction design protects the inner reference solution and prolongs the life of the electrode. Readings stabilize to 0.01 pH in less than 30 seconds—even with a 50°C temperature change. Electrodes read pH from 0 to 14. Maximum temperature is 212°F (100°C).

ROSS pH Electrodes utilize a platinum wire with 3 M KCl to prevent sample contamination with silver and mercury ions. All ROSS pH electrodes have BNC connector.

What's included: 3.3-ft (1-m) cable and BNC connector, and 60 mL of 3 M KCl filling solution.

ROSS Ultra pH Electrodes use a nonmetallic reference system featuring instantaneous liquid-liquid equilibration for contamination-free sampling, greater stability, and more accurate results. Maintains 0.01 pH precision over long periods of time. Backed by 2-year replacement warranty.

What's included: 3.3-ft (1-m) cable and the exclusive Star™ Series waterproof BNC connector (compatible with any pH meter that accepts BNC input), and 60 mL of 3 M KCl filling solution.



ISO9001:2008 CERTIFIED SUPPLIER

Applications	Description	Length x dia (mm)	ROSS pH electrodes			ROSS Ultra pH electrodes		
			Key	Catalog number	Price	Key	Catalog number	Price
General-purpose, Tris buffers, nonaqueous solutions, and DI water	Glass body	120 x 12	A	XJ-05718-02		F	XJ-05718-70	
For rugged general-purpose use, Tris buffers, nonaqueous solutions, and DI water	Epoxy body	120 x 12	B	XJ-05718-07		G	XJ-05718-77	
Small sample size or samples in small-diameter vessels	Glass body	165 (total); 95 x 6	C	XJ-05718-16		—	—	—
Rugged general-purpose and field use, nonaqueous solutions, and DI water	Glass body with rugged bulb	120 x 12	D	XJ-05718-27		H	XJ-05718-73	
Soft, moist surfaces of solids or semisolids such as agar plates	Epoxy body, flat surface	120 x 12	E	XJ-05718-32		—	—	—

Accessories

XJ-05730-52 **Filling solution** for all ROSS and ROSS Ultra electrodes, 3 M KCl. Case of five 60-mL bottles

XJ-05730-60 **ROSS pH electrode storage solution,** 475-mL bottle

Thermo Scientific™ Orion™ ROSS™ Triode™ pH Electrodes

Be more accurate with automatic temperature compensation (ATC)

– Best temperature response of any pH electrode available

– Built-in temperature for use with Thermo Scientific Orion meters

– No waiting—stable readings to 0.01 pH in less then 30 seconds

Measure both pH and temperature in one convenient 12-mm electrode. Mercury-free, double-junction reference is compatible with samples containing Tris, sulfides, and proteins. Glass-body electrode is available as a refillable junction. Epoxy-body electrodes are available in long-lasting refillable and low-maintenance sealed (gel-filled) options.

What's included: 3.3-ft (1-m) cable, BNC pH connector, and a MiniDIN ATC connector for use with Orion Star Series™ pH meters.

ISO9001:2008 CERTIFIED SUPPLIER



Key	Description	ATC connector	Catalog number	Price
A	Glass body, refillable	MiniDIN for Star Series pH meters	XJ-05718-28	
B	Epoxy body, refillable	MiniDIN for Star Series pH meters	XJ-05718-34	
C	Epoxy body, gel-filled	MiniDIN for Star Series pH meters	XJ-05718-44	

XJ-05730-52 **Filling solution** for all ROSS and ROSS Ultra electrodes, 3 M KCl. Case of five 60-mL bottles

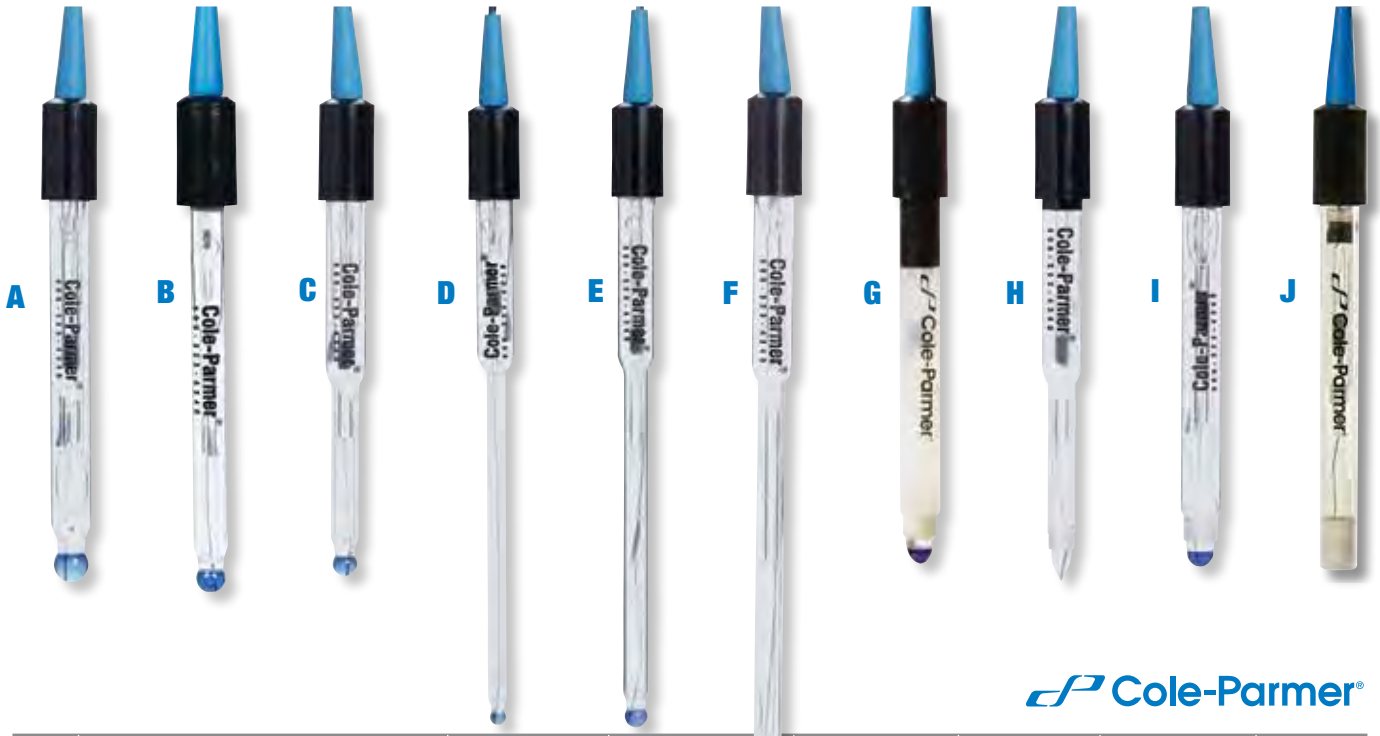
Cole-Parmer® Glass-Body Combination pH and ORP Electrodes

Faster response and increased stability across 0 to 14 pH range

- More durable—dome bulb for better protection from breakage
- Withstand higher temperatures and chemical attack
- Get more stability in low-ionic strength solutions
- Resistant to Na^+ ion interferences
- Compatible with most brands of pH meters

Available as refillable or sealed design for single, double, and annular Ag/AgCl junctions. Single-junction is ideal for clean samples; double junction is compatible with sulfates, Tris, and proteins; and annular junction is ideal for dirty samples.

What's included: 3.3-ft (1-m) cable and BNC connector.



Cole-Parmer®

Key	Description	Reference junction	Type	Maximum temperature	Length x dia (mm)	Catalog number	Price
General-purpose pH electrodes							
A	General-purpose, laboratory	Single	Refillable	212°F (100°C)	154 x 12	XJ-05991-22	
	General-purpose for TRIS, sulfates, proteins	Double			154 x 12	XJ-59001-34	
B	Rugged, low maintenance	Single	Sealed	212°F (100°C)	123 x 9.5	XJ-05991-81	
	Rugged for TRIS, sulfates, proteins	Double			124 x 9.5	XJ-59001-36	
C	General-purpose, thin neck	Single	Refillable†	212°F (100°C)	154 x 8	XJ-05991-42	
D	Long neck for small test tubes				210 x 6	XJ-05991-61	
E	Long neck for large test tubes				210 x 8	XJ-05991-51	
F	Extra-long neck for flasks and bottles				326 x 8	XJ-05990-40	
Special-purpose pH electrodes							
G	High temperature, KNO_3 gel	Double	Sealed	248°F (120°C)	130 x 12	XJ-05998-30	
H	Spear tip for piercing semisolids and foods	Single	Sealed	212°F (100°C)	159 x 8	XJ-05998-20	
I	Soil electrode, eliminates "suspension effect"	Annular	Refillable†	212°F (100°C)	145 x 12	XJ-05992-62	
J	Flat-tip for surface or low volume sampling	Double	Refillable†	212°F (100°C)	130 x 12	XJ-05991-44	
ORP electrodes							
A	General purpose	Single	Sealed	212°F (100°C)	110 x 12	XJ-05991-08	
	For dirty samples	Double				XJ-05991-18	

†Use fill solution 05992-47.

Accessories

XJ-05992-47 **Reference fill solution** for refillable electrodes, 3.8 M KCl with AgCl. Two 125-mL bottles

XJ-05983-25 **Adapter,** BNC to US standard plug meter

Cole-Parmer® Combination Ion-Selective Electrodes and Solutions

Save money and frustration—cost effective and easy to use

– Easily fit into small spaces—no additional reference electrode is needed

Electrodes are double-junction combination ion-selective electrodes and are convenient to use in places where two electrodes won't fit. Use with a meter that has a resolution of 0.1 mV for the most accurate results; a meter with direct readings in ppm is preferred. For monitoring ions not listed below or for more electrode application information, call our Application Specialists.

Economy Epoxy Electrodes have a durable epoxy body and are well-suited for portable field applications. Outer reference chamber is silver-free and resists contamination. These electrodes are refillable.

Laboratory Glass Electrodes are double-junction in design, with a glass body that provides high-quality measurements for your laboratory applications. Improved glass seal enhances performance and reliability. Sealed inner junctions and refillable outer junctions accommodate special reference fill solutions—ideal for low-concentration measurements.

What's included: a 15-mL bottle of reference solution, a reference filling pipette, and a 3.3-ft (1-m) cable and BNC connector. Solid-state electrodes also have twelve polishing strips.

"Fast and stable."



Cole-Parmer®

Ion-selective electrode	Type	Concentration range	Temperature/ pH range†	Interferences‡	Economy epoxy electrodes		Laboratory glass electrodes	
					Cat. no.	Price	Cat. no.	Price
Ammonia (NH_3)	See page 149 for ordering information							
Ammonium (NH_4^+)	PVC membrane	5 x 10^{-6} to 1.0 M (0.1 to 18,000 ppm)	0 to 50°C/ 4 to 10	K^+	XJ-27504-00		XJ-27502-03	
Bromide (Br^-)	Solid-state	5 x 10^{-6} to 1.0 M (0.4 to 79,900 ppm)	0 to 80°C/ 2 to 14	S^{-2}, I^-, CN^-; high Cl^- and NH_3 levels	XJ-27504-02		XJ-27502-05	
Cadmium (Cd^{+2})	Solid-state	10^{-7} to 10^{-1} M (0.01 to 11,200 ppm)	0 to 80°C/ 2 to 12	Ag^+, Hg^{+2}, Cu^{+2}; high Pb^{+2} and Fe^{+2} levels	XJ-27504-04		XJ-27502-07	
Calcium (Ca^{+2})	PVC membrane	5 x 10^{-6} to 1.0 M (0.2 to 40,000 ppm)	0 to 50°C/ 3 to 10	Pb^{+2}, Hg^{+2}, Cu^{+2}, Ni^{+2}, Fe^{+2}, Mg^{+2}, Zn^{+2}, Ba^{+2}, K^{+2}, K^+, Na^+	XJ-27504-06		XJ-27502-09	
Chloride (Cl^-)	Solid-state	5 x 10^{-5} to 1.0 M (1.8 to 35,500 ppm)	0 to 80°C/ 2 to 12	S^{-2}, I^-, CN^-, Br^-, OH^-, NH_3, $S_2O_3^{-2}$	XJ-27504-08		XJ-27502-13	
Copper (Cu^{+2})	Solid-state	10^{-8} to 10^{-1} M (0.0006 to 6350 ppm)	0 to 80°C/ 2 to 12	Ag^+, Hg^{+2}, high Cl^-, Br^- Fe^{+2}, and Cd^{+2} levels	XJ-27504-10		XJ-27502-15	
Cyanide (CN^-)	Solid-state	5 x 10^{-6} to 10^{-2} M (0.1 to 260 ppm)	0 to 80°C/ 11 to 13	S^{-2}, I^-, Br^-, Cl^-	XJ-27504-12		XJ-27502-17	
Fluoride (F^-)	Solid-state	10^{-6} to saturated (0.02 to saturated)	0 to 80°C/ 5 to 8	OH^-	XJ-27504-14		XJ-27502-19	
Iodide (I^-)	Solid-state	5 x 10^{-8} to 1.0 M (0.006 to 127,000 ppm)	0 to 80°C/ 0 to 14	S^{-2}, CN^-, Br^-, Cl^- NH_3, $S_2O_3^{-2}$	XJ-27504-18		XJ-27502-23	
Lead (Pb^{+2})	Solid-state	10^{-6} to 10^{-1} M (0.2 to 20,700 ppm)	0 to 80°C/ 3 to 8	Ag^{+2}, Hg^{+2}, Cu^{+2}, high Cd^{+2} and Fe^{+2} levels	XJ-27504-20		XJ-27502-25	
Nitrate (NO_3^-)	PVC membrane	7 x 10^{-6} to 1.0 M (0.5 to 62,000 ppm)	0 to 50°C/ 2.5 to 11	ClO_4^-, I^-, CN^-, BF_4^-	XJ-27504-22		XJ-27502-31	
Perchlorate (ClO_4^-)	PVC membrane	7 x 10^{-6} to 1.0 M (0.7 to 98,000 ppm)	0 to 50°C/ 2.5 to 11	NO_3^-, NO_2^-, CN^-, ClO_3^-, I^-	XJ-27504-24		XJ-27502-35	
Potassium (K^+)	PVC membrane	10^{-6} to 1.0 M (0.04 to 39,000 ppm)	0 to 50°C/ 2 to 12	Cs^+, NH_4^+, Tl^+, H^+, Ag^+, Li^+, Na^+, $Tris1^+$	XJ-27504-26		XJ-27502-39	
Silver/Sulfide (Ag^+/S^{-2})	Solid-state	10^{-7} to 1.0 M (Ag^+, S^{-2}) (0.01 to 107,900 ppm Ag^+; 0.003 to 32,100 ppm S^{-2})	0 to 80°C/ 2 to 12	Hg^{+2}	XJ-27504-28		XJ-27502-41	
Sodium (Na^+)	Glass membrane	10^{-6} M to saturated (0.02 ppm to saturated)	0 to 80°C/ 5 to 12	H^+, K^+, Li^+, Ag^+, NH_4^+, Rb^+, Cs^+, Tl^+	XJ-27504-30		XJ-27502-43	
Surfactant (X^+/X^-)	PVC membrane	10^{-5} to 5 x 10^{-2} M (1.0 to 12,000 ppm)	2 to 12	Similar types of surfactants	XJ-27504-32		XJ-27502-45	
Water hardness (Ca^{+2}/Mg^{+2})	PVC membrane	10^{-5} to 1.0 M (0.4 to 40,000 ppm as Ca^{+2})	0 to 50°C/ 5 to 10	Cu^{+2}, Zn^{+2}, Ni^{+2}, Fe^{+2}	XJ-27504-34		XJ-27502-49	

†Optimal pH range for direct measurement. ‡These ions are listed in order of decreasing concentrations of interference.

Solution Kits sold separately below include all of the solutions needed for accurate measurements. Each kit includes one reference filling pipette, one 60-mL bottle of reference fill solution, one 475-mL bottle of 1000 ppm standard solution, and one 475-mL bottle of ionic strength adjustor (except models 27502-69 and 27502-91, which come in a one-gallon bottle).

Replacement ionic strength adjustors come in 475-mL bottles (except model 27503-58, which comes in a one-gallon bottle).



Solution kit 27502-63 and ISA bottle 27503-51

Ion	Standards and fill solution kits			Replacement ionic strength adjustors†		
	Catalog number	Formulations for fill/standard solutions	Price	Catalog number	Solution formulation	Price
NH_3	See adjacent ad for ordering information					
NH_4^+	**XJ-27502-53**	0.1 M NaCl/ 1000 ppm as N		XJ-27503-53	5 M NaCl	
Br^-	**XJ-27502-55**	1 M KNO_3/ 1000 ppm as Br^-		XJ-27503-51	5 M $NaNO_3$	
Cd^+	**XJ-27502-57**	1 M KNO_3‡		XJ-27503-51	5 M $NaNO_3$	
Ca^{+2}	**XJ-27502-59**	4 M KCl/ 1000 ppm as Ca^{+2}		XJ-27503-52	4 M KCl	
Cl^-	**XJ-27502-63**	1 M KNO_3/ 1000 ppm as Cl^-		XJ-27503-51	5 M $NaNO_3$	
Cu^{+2}	**XJ-27502-65**	1 M KNO_3/ 1000 ppm as Cu^{+2}		XJ-27503-51	5 M $NaNO_3$	
CN^-	—	—	—	—	—	—
F^-	**XJ-27502-69**	4 M KCl/ 1000 ppm as F^-		XJ-27503-58	TISAB I	
I^-	**XJ-27502-73**	1 M KNO_3/ 1000 ppm as I^-		XJ-27503-51	5 M $NaNO_3$	
Pb^{+2}	—	—	—	XJ-27503-56	5 M $NaClO_4$	
NO_3^-	**XJ-27502-79**	0.1 M $(NH_4)_2SO_4$/ 1000 ppm as NO_3^-		XJ-27503-60	2 M $(NH_4)_2SO_4$	
ClO_4^-	**XJ-27502-85**	0.1 M $(NH_4)_2SO_4$/ 1000 ppm as ClO_4^-		XJ-27503-60	2 M $(NH_4)_2SO_4$	
K^+	**XJ-27502-89**	0.1 M NaCl/ 1000 ppm as K^+		XJ-27503-53	5 M NaCl	
Ag^+/ S^{-2}	**XJ-27502-91**	1 M KNO_3/ 1000 ppm as Ag^+		XJ-27503-51	5 M $NaNO_3$	
Na^+	**XJ-27502-93**	0.1 M NH_4Cl/ 1000 ppm as Na^+		XJ-27503-54	4 M NH_4Cl with 4 M NH_4OH	
X^+/X^-	**XJ-27502-95**	4 M KCl/ 0.05 M Hyamine® and 0.01 M SLS††		—	—	—
Ca^{+2}/ Mg^{+2}	**XJ-27502-99**	4 M KCl/ 1000 ppm as Ca^{+2}		XJ-27503-52	4 M KCl	

†A 475-mL bottle of ionic strength adjustor is supplied with kit.
‡Customer-formulated standard solution required. ††None required.

Cole-Parmer® Ammonia Ion-Selective Electrodes

Combines reference electrode and half-cell

- Fast and accurate readings in less than 30 seconds
- Save money with easily changeable membranes
- Measure concentrations to 17,000 ppm

Single-junction ammonia electrodes feature durable, epoxy bodies. The electrode with loose membranes is for users who prefer that style of installation. The electrode with pre-membraned caps makes electrode membrane replacement easier. Use electrodes with almost any existing meter.

What's included: 3.3-ft (1-m) cable and BNC connector, 15 mL of electrolyte, replacement membrane, and filling pipette. Order standards, ionic strength adjustors, and fill solution separately below.



27502-00

Cole-Parmer®

"Excellent performance."

27512-00 with membrane cap

Type	Concentration range	Temp/ pH range†	Interferences	Catalog number	Price
Electrode with loose membranes					
Gas sensing	5 x 10^{-7} to 1.0 M (0.01 to 17,000 ppm)	0 to 50°C/ above 11	Volatile amines	XJ-27502-00	
Electrode with pre-membraned cap					
Gas sensing	5 x 10^{-7} to 1.0 M 0.01 to 17,000 ppm	0 to 50°C/ above 11	Volatile amines	XJ-27512-00	

†Optimal pH range for direct measurement

Accessories

XJ-27503-00 Ammonia standard,
0.1 M NH_4Cl, 475-mL bottle

XJ-27503-93 Ammonia standard,
1000 ppm ammonia as nitrogen, 475-mL bottle

XJ-27503-94 Ammonia standard,
100 ppm ammonia as nitrogen, 475-mL bottle

XJ-05730-51 Ionic strength adjustor,
NaOH and EDTA, 475-mL bottle

XJ-27503-71 Ammonia fill solution,
0.1 M NH_4Cl, 125-mL bottle

XJ-27503-95 Replacement membranes.
Ten membrane tapes, one O-ring, and tweezers

XJ-27512-95 Replacement membrane caps
for 27512-00. Pack of 3

Oakton® pH Buffer Solutions

Keep your readings accurate with these quality buffers

Save by ordering larger sizes or by the case!

– Standardized against NIST-traceable pH references for meters with 0.01 resolution

OAKTON®



pH	500-mL bottles				1-L bottles		4-L bottles			
	Catalog number	Price/ea	Catalog number	Price/cs of 12	Catalog number	Price/ea	Catalog number	Price/ea	Catalog number	Price/cs of 4
1.68	XJ-00654-01		—	—	—	—	—	—	—	—
4.01	XJ-00654-00		XJ-05942-21		XJ-05942-22		XJ-05942-24		XJ-05942-25	
6.86	XJ-00654-03		—	—	—	—	—	—	—	—
7.00	XJ-00654-04		XJ-05942-41		XJ-05942-42		XJ-05942-44		XJ-05942-45	
9.18	XJ-00654-07		—	—	—	—	—	—	—	—
10.00	XJ-00654-08		XJ-05942-61		XJ-05942-62		XJ-05942-64		XJ-05942-65	
12.45	XJ-00654-12		—	—	—	—	—	—	—	—

Cole-Parmer® pH Buffers, NIST-Traceable Reference Materials

Feel more confident about accuracies

– Calibrated by ISO Guide 34 and ISO 17025 accredited laboratory—includes NIST-traceable certificate supplied by manufacturer

– Easy calibrations—include instructions and temperature compensation chart

NEW



OAKTON®

pH	500-mL bottles		1-L bottles		4-L bottles	
	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
Colorless buffers						
4.01	XJ-00651-00		XJ-00651-30		XJ-00651-70	
7.00	XJ-00651-02		XJ-00651-32		XJ-00651-72	
10.00	XJ-00651-04		XJ-00651-34		XJ-00651-74	
Color-coded buffers						
4.01 (red)	XJ-00651-06		XJ-00651-36		XJ-00651-76	
7.00 (yellow)	XJ-00651-08		XJ-00651-38		XJ-00651-78	
10.00 (blue)	XJ-00651-10		XJ-00651-40		XJ-00651-80	

pH Buffer Capsules

No more wasted buffer

– Make only the buffer you need—empty one capsule into 100 mL of water and stir

– Accurate to ±0.02 pH



pH	Color	Catalog number	Price/vial of 10
4.0	Orange	XJ-05977-12	
7.0	Green	XJ-05977-14	
9.0	Yellow	XJ-05977-16	
10.0	Blue	XJ-05977-18	

Oakton® pH Buffer Pouches

Accuracy even on the go!

– Single-use pouch—just tear, dip, calibrate

– Standardized to NIST-traceable pH references

OAKTON®



pH	Catalog number	Price/pk of 20 pouches
4.01	XJ-35653-01	
7.00	XJ-35653-02	
10.00	XJ-35653-03	
Rinse solution	XJ-35653-00	

XJ-35653-04 **Buffer pouch assortment pack;** contains five pouches each of pH 4, 7, and 10 buffers and rinse solution

Oakton® pH Buffer and pH Solution Packs

Maintain accuracy and your budget

– Save money by purchasing buffer pack—includes 500-mL bottle of pH 4, 7, and 10 NIST-traceable buffers

– Keep electrodes clean and stored correctly—purchase solution pack which adds 500-mL bottles of cleaning and storage solutions



OAKTON®

Description	Qty/pk	Catalog number	Price/pk
pH buffer pack	3 bottles	XJ-05942-10	
pH solution pack	5 bottles	XJ-05942-15	

Oakton® Electrode Cleaning and Storage Solutions

Clean electrodes make clean measurements

– Easily remove grease, protein, and other deposits with cleaning solution

– Make electrode last longer—store in our storage solution

– Choose 500-mL bottle or case of 24 500-mL bottles



OAKTON®

Solution type	Catalog number	Price/ea	Catalog number	Price/cs
Cleaning	XJ-00653-06		—	—
Storage	XJ-00653-04		XJ-35655-04	

Argos Technologies® Omega Zen™ Pipette Controllers

Exceptional control in an ergonomic design

NEW

- Easily fine-tune pipetting speed with thumbwheel control and speedometer display
- Accepts glass or plastic serological pipettes, from 1 to 100 mL
- Durable, UV-resistant plastic housing is ideal for use in cleanrooms and fume hoods
- Maintain sterility with removable nosepiece autoclavable at 121˚C

Portable, lightweight pipette controller features rounded design with contoured buttons to help prevent hand fatigue after hours of use. Eight speeds from drip dispense to 8.3 mL/second allow for precision and versatility while pipetting. Gravity mode is nonmotorized drop dispensing, in which the speed of the drops being dispensed can be controlled by the dispense trigger.

What's Included: two 0.45 µm sterile filters (one installed), wall-mount holder, rechargeable Li-ion battery, charging desk stand, and 100–240 VAC, 50/60 Hz adapter.



Housing color	Catalog number	Price
Blue	XJ-25300-96	
Purple	XJ-25300-97	
Steel gray	XJ-25300-98	

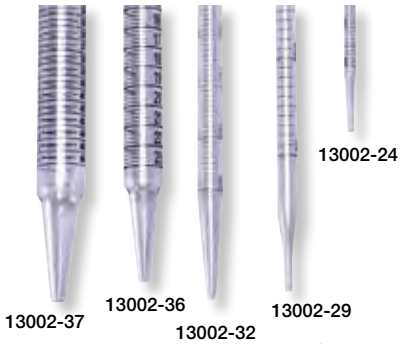
Cole-Parmer® Serological Pipettes, PS

Fits just about any pipettor

These serological pipettes are made from transparent polystyrene (PS), sterilized by gamma irradiation, and designed for quick and accurate fluid dispensing. The highly legible permanent graduations prevent ambiguity and guarantee precise dispensing to ±2%. Graduations show volume removed or remaining on all pipettes larger than 1 mL. Generous negative graduations provide additional pipetting volume.

Filter plug eliminates lint fibers and ensures plug stays in place to prevent overfilling. The uniform mouth piece fits all major pipettors and has color-coded TD rings for easy identification. Each lot is tested for endotoxins and cytotoxicity, and guaranteed nonhemolytic—ideal for your tissue culture applications.

The individually wrapped pipettes are supplied in a fiber-free paper/plastic combination that is easy to open. The dispenser box allows you to remove pipettes without opening the top. Universal stacking requires less space and each box is color coded for quick recognition.



STERILE

Capacity (mL)	Graduation interval (mL)	Tip style	Color ring	Individually wrapped			Bulk wrapped			
				Catalog number	Qty/cs	Price/cs	Catalog number	Qty/bag	Qty/cs	Price/cs
1	0.01	Standard	Yellow	XJ-13002-12	500		XJ-13002-24	25	1000	
1	0.1	Standard	Red	XJ-13002-14	500		XJ-13002-26	25	1000	
2	0.01	Standard	White	XJ-13002-15	500		XJ-13002-28	25	1000	
5	0.1	Standard	Blue	XJ-13002-16	200		XJ-13002-29	25	500	
10	0.1	Standard	Orange	XJ-13002-17	200		XJ-13002-30	25	400	
10	0.1	Wide	Orange	—	—	—	XJ-13002-32	25	400	
25	0.2	Standard	Green	XJ-13002-19	150		XJ-13002-36	10	150	
50	0.5	Standard	Purple	XJ-13002-20	100		XJ-13002-37	10	100	

Argos Technologies® Trifill Reservoir

Three reagent basins in one unit

- Use one side for single-channel pipettor, or flip over to use for 8- and 12-channel pipettors
- Multichannels are individually numbered for quick reagent identity



Compartments	Material	Catalog number	Qty/pk	Price/pk
One 50-mL graduated reservoir; eight 5-mL channels, twelve 5-mL channels	Polypropylene	XJ-25200-71	10	

Mini Serological Pipettes

Easier fit for easier storage—4" shorter than standard pipettes

- Easy-to-read graduations from +1 to 2%
- Identify pipettes easily with color-coded rings



- No lint fibers with unique, stay-put filter plug
- Gamma sterilized, polystyrene is nonpyrogenic
- Shorter length reduces distance between sample and pipettor, aiding in more ergonomic pipetting

STERILE

Capacity	Graduation (mL)	Color ring	Qty/cs	Catalog number	Price/cs
5 mL	0.1	Blue	200	XJ-22999-30	
10 mL	0.2	Orange	150	XJ-22999-31	
25 mL	0.5	Green	100	XJ-22999-32	

Find our full selection of pipettes, pipettors, and pipetting accessories at ColeParmer.com/pipettes.

BioSafe Serological Pipettes, PS

Filtered for sample integrity and user safety

- Eliminate cross-contamination—barrier filter plug prevents overaspiration
- Sterile, individually wrapped, and disposable
- Ideal for use with potentially hazardous or dangerous biological fluids
- Use in place of filtered pipette tips

These polystyrene (PS) serological pipettes feature a special filter plug that locks in fluid and vapors if overaspiration occurs. Come individually wrapped.



STERILE

Capacity (mL)	Negative graduation (mL)	Graduation interval (mL)	Accuracy (mL)	Catalog number	Qty/cs	Price/cs
5	0.1	0.1	±0.1	XJ-13002-52	200	
10	0.1	0.1	±0.2	XJ-13002-53	200	
25	0.2	0.2	±0.5	XJ-13002-54	150	

Cole-Parmer® Transfer Pipettes

No more breakage or cross-contamination

- Translucent, shatterproof LDPE is nontoxic and biologically inert
- Nonbinding for cells and proteins to prevent sample loss
- Heat sealable for liquid-tight transport and storage

NEW



Key	Description	Bulb type	Total capacity	Drops per mL (±1)	Graduations		Length in. (mm)	Sterile	Catalog number	Qty	Price
					Increments	Maximum					
A	Exact volume	Precision	0.25 mL	23	—	—	4 1/16 (102)	No	XJ-06226-07	500	
B	Mini	Standard	1.2 mL	25	—	—	2 1/2 (64)	No	XJ-06226-30	500	
			1.7 mL	25	—	—	3 7/16 (87)	No	XJ-06226-21	500	
C	General purpose	Standard	7.5 mL	20	—	—	6 1/8 (155)	No	XJ-06226-11	500	
								Yes†	XJ-06226-31	500	
		Large	8.0 mL	20	—	—	5 7/8 (152)	No	XJ-06226-17	400	
D	Graduated	Small	1.5 mL	21	0.1 mL	0.3 mL	4 7/16 (113)	No	XJ-06226-13	500	
			3.0 mL	25	0.25 mL	1 mL	5 1/2 (140)	No	XJ-06226-29	500	
		Standard	3.0 mL	25	0.25 mL	1 mL	5 7/16 (138)	No	XJ-06226-23	500	
		Large	5.0 mL	25	0.25 mL	1 mL	6 1/8 (155)	No	XJ-06226-12	500	
								Yes†	XJ-06226-15	500	
			6.7 mL	25	1 mL	2 mL	5 7/8 (152)	No	XJ-06226-26	500	
			7.5 mL	20	0.5 mL	3 mL	6 1/8 (155)	No	XJ-06226-01	500	
E	Double graduated	Large	5.0 mL	25	0.25 mL	1 mL	6 1/8 (155)	No	XJ-06226-19	500	
F	Narrow stem	Standard	4.0 mL	25	—	—	3 3/8 (86)	No	XJ-06226-27	500	
				22	—	—	6 1/8 (155)	No	XJ-06226-28	500	
		Extra large	15.0 mL	19	—	—	6 1/8 (155)	No	XJ-06226-32	250	
G	Extra long	Large	6.0 mL	25	—	—	9 (230)	No	XJ-06226-22	500	
		Extra large	23.0 mL	20	—	—	12 (300)	No	XJ-06226-24	100	
H	Collection tubes	Standard	5.0 mL	25	—	—	6 1/8 (155)	No	XJ-06226-25	500	
				25	0.5 mL	2 mL	6 1/8 (155)	No	XJ-06226-03	500	

†Sterile pipettes are packaged 20 per bag.

Cole-Parmer® Single-Channel Pipettors



Don't sacrifice performance for price

– Ergonomic, lightweight design with soft plunger movement minimizes hand fatigue

Pipettors feature streamlined, low-pressure tip ejector for easy access to narrow containers. They facilitate last drop dispensing and reverse pipetting technique with two-stage plunger operation for blow-out. Easy to calibrate and disassemble for routine servicing or autoclaving.

Adjustable-volume pipettors feature quick, easy click-stop, digital volume settings. Individually calibrated in accordance with DIN 12650 Standards and supplied with a computer-generated calibration document supplied by the manufacturer and calibration tool.

Cole-Parmer®

Specifications

Tip ejector: tip ejector with blow-out step
Autoclavable: autoclavable tip cone and lower section assembly

Volume	Increments	Accuracy	Reproducibility	Catalog number	Price
Fixed-volume pipettors					
100 µL 200 µL 500 µL 1000 µL 5000 µL	—	±0.3%	±0.2%	XJ-21600-00 XJ-21600-02 XJ-21600-04 XJ-21600-06 XJ-21600-08	
Adjustable-volume pipettors					
0.1 to 10 µL	0.1 µL	±2.5%	1.33%	XJ-21600-10	
5 to 50 µL	1.0 µL	±1.3%	0.7%	XJ-21600-12	
20 to 100 µL	1.0 µL	±1.1%	0.4%	XJ-21600-14	
40 to 200 µL	1.0 µL	±0.9%	0.3%	XJ-21600-16	
200 to 1000 µL	10.0 µL	±0.8%	0.2%	XJ-21600-18	
1 to 5 mL	100.0 µL	±0.6%	0.2%	XJ-21600-20	

Tips, Polypropylene

Volume (µL)	Qty/pk	Catalog number	Price/pk
0.2 to 10	Bag of 1000	XJ-25711-06	
0 to 200	Bag of 1000 10 racks of 96	XJ-25711-12 XJ-25711-14	
50 to 1000	Bag of 1000	XJ-18889-08	
1000 to 5000	Bag of 1000 Bag of 500 Bag of 250	XJ-25711-70 XJ-25711-71 XJ-25711-72	

Cole-Parmer® Single-Channel Electronic Pipettors



Save time on routine tasks

– Program up to six presets with function, volume, speed, and number of dispenses
– Nine pipetting functions cover common and specialized pipetting applications
– Adjust brightness and background on large color display to suit any lighting condition



What's included: rechargeable battery, USB power cord, and two AC adapters (US and Euro).

Cole-Parmer®

Specifications

Tip ejector: yes, soft touch
Autoclavable: tip cone

Volume (µL)	Increments	Accuracy†	Reproducibility†	Catalog number	Price
0.2 to 10	0.01 µL	±1.0%	≤0.4%	XJ-24500-01	
5 to 100	0.1 µL	±0.6%	≤0.2%	XJ-24500-02	
20 to 300	0.5 µL	±0.5%	≤0.2%	XJ-24500-03	
50 to 1200	1 µL	±0.4%	≤0.2%	XJ-24500-04	
500 to 5000	5 µL	±0.5%	≤0.2%	XJ-24500-05	
1000 to 10,000	10 µL	±0.4%	≤0.2%	XJ-24500-06	

†Accuracy and reproducibility at full-scale volume.

Tips, Polypropylene

Volume (µL)	Pack description	Catalog number	Price
0.1 to 10	Bag of 1000	XJ-25711-49	
	10 racks of 96	XJ-25711-51	
	10 racks of 96, sterile	XJ-25711-53	
	10 racks of 96, sterile, filtered	XJ-25711-55	
1 to 200	Bag of 1000	XJ-25711-57	
	10 racks of 96	XJ-25711-59	
	10 racks of 96, sterile	XJ-25711-61	
	10 racks of 96, sterile, filtered	XJ-25711-65	
1000 to 5000	Bag of 500	XJ-25711-71	
1000 to 10,000	Bag of 500	XJ-25711-73	
	Bag of 1000	XJ-25711-66	
	10 racks of 96	XJ-25711-67	
	10 racks of 96, sterile	XJ-25711-68	
	10 racks of 96, sterile, filtered	XJ-25711-69	

Pipetting Controller



No more noisy pipetting

– Versatile—choose motor driven or gravity run-out of contents
– Maintain constant control with five-stage speed control
– Accepts pipettes from 0.1 to 200 mL

Pipetting rate	Number of speeds	Memory	Autoclavability	Power (VAC)	Catalog number	Price
7.1 mL/sec	5	No	Nosepiece	115/230	XJ-22800-04	

Cole-Parmer® Gilmont® Micrometer Dispensers



Get consistent dispensing velocity

– Simply turn handle for precise, small volume delivery

Fluids touch only borosilicate glass tip, PTFE barrel, and Viton® O-rings. Dispenser is autoclavable. The syringe-style tip terminates in a luer fitting, enabling needle attachment and fluid delivery through septa. Includes one tip.

GILMONT®

Volume	Division	Accuracy	Cat. no.	Price
0.2 mL	0.0002 mL	±0.5% reading or ±1 scale division	XJ-07840-00	
2.0 mL	0.002 mL		XJ-07844-00	

Cole-Parmer® Autoclavable Ergonomic Pipettors

Get optimal performance with stainless steel piston

- Ergonomic, lightweight design and soft plunger movement
- Fully autoclavable—no disassembly required
- Available in fixed and adjustable-volume styles

Cole-Parmer®



These fully autoclavable pipettors are equipped with a stainless steel piston for improved accuracy, precision, and performance. Two-stage plunger operation provided for last-drop blow-out and reverse pipetting. Separate, streamlined tip ejector designed for access into narrow-neck containers and tubes. Individually calibrated in accordance with DIN 12650 Standards and supplied with a computer-generated calibration report and calibration tool. Nozzle accepts Cole-Parmer and universal tips.

Volume	Increments	Accuracy	Reproducibility	Catalog number	Price
Fixed-volume pipettors					
100 µL	—	±0.3%	≤0.2%	XJ-21600-50	
200 µL				XJ-21600-52	
500 µL				XJ-21600-54	
1000 µL				XJ-21600-56	
5000 µL				XJ-21600-58	
Adjustable-volume pipettors					
0.1 to 10 µL	0.1 µL	±5.0% to ±1.0%	≤2.8% to ≤0.4%	XJ-21600-60	
2.0 to 20 µL	0.1 µL	±5.0% to ±1.0%	≤1.5% to ≤0.3%	XJ-21600-62	
5.0 to 50 µL	1 µL	±2.5% to ±0.7%	≤1.5% to ≤0.3%	XJ-21600-64	
10 to 100 µL	1 µL	±2.0% to ±0.8%	≤0.7% to ≤0.2%	XJ-21600-66	
20 to 200 µL	1.0 µL	±1.5% to ±0.6%	≤0.3% to ≤0.2%	XJ-21600-68	
100 to 1000 µL	10.0 µL	±1.3% to ±0.5%	≤0.3% to ≤0.2%	XJ-21600-70	
500 to 5000 µL	100.0 µL	±0.8% to ±0.6%	≤0.2% to ≤0.2%	XJ-21600-72	
1000 to 10,000 µL	100.0 µL	±1.2% to ±0.6%	≤0.2% to ≤0.2%	XJ-21600-74	

Specifications

Wetted materials: polypropylene
Tip ejector: yes
Autoclavable: yes

Tips, Polypropylene

Volume (µL)	Qty/pk	Catalog number	Price/pk
0.2 to 10	Bag of 1000	XJ-25711-06	
0 to 200	Bag of 1000	XJ-25711-12	
	10 racks of 96	XJ-25711-14	
50 to 1000	Bag of 1000	XJ-18889-08	
1000 to 5000	Bag of 1000	XJ-25711-70	
	Bag of 500	XJ-25711-71	
	Bag of 250	XJ-25711-72	

Eppendorf® Research® plus Adjustable-Volume Pipettors

Eliminate wrist stress and fatigue

- Requires up to 50% less pipetting force

Applications
✓ Reaction monitoring
✓ Plate fill
✓ Cell culture testing



Spring-loaded tip cone achieves optimal tightness and minimal attachment forces—doing most of the work for you! Make your volume adjustments with just one hand, only a few turns will get you to your desired volume. Four-digit volume display is easy to view. Multichannel pipettors offer channel indicators, in addition to flexibility of removing any of the independent channels—use as many as you need. Secondary adjustment gives you greater accuracy for specific liquid types.

ISO 9001:2008 CERTIFIED SUPPLIER

Volume	Increments	Accuracy†	Precision†	Control button color	Catalog number	Price
Single-channel pipettors						
0.1 to 2.5 µL	0.002 µL	±1.4%	±0.7%	Dark gray	XJ-24505-01	
0.5 to 10 µL	0.01 µL	±1%	±0.4%	Gray	XJ-24505-02	
2 to 20 µL	0.02 µL	±1%	±0.3%	Light gray	XJ-24505-03	
2 to 20 µL	0.02 µL	±1%	±0.3%	Yellow	XJ-24505-04	
10 to 100 µL	0.1 µL	±0.8%	±0.2%	Yellow	XJ-24505-05	
20 to 200 µL	0.2 µL	±0.6%	±0.2%	Turquoise	XJ-24505-06	
30 to 300 µL	0.2 µL	±0.6%	±0.2%	Orange	XJ-24505-07	
100 to 1000 µL	1 µL	±0.6%	±0.2%	Blue	XJ-24505-08	
0.5 to 5 mL	5 µL	±0.6%	±0.15%	Violet	XJ-24505-09	
1 to 10 mL	10 µL	±0.6%	±0.15%	Turquoise	XJ-24505-11	
Eight-channel pipettors						
0.5 to 10 µL	0.01 µL	±2%	±1%	Gray	XJ-24505-12	
10 to 100 µL	0.1 µL	±0.6%	±0.3%	Yellow	XJ-24505-13	
30 to 300 µL	0.2 µL	±0.8%	±0.3%	Orange	XJ-24505-14	
Twelve-channel pipettors (not shown)						
0.5 to 10 µL	0.01 µL	±2%	±1%	Gray	XJ-24505-15	
10 to 100 µL	0.1 µL	±0.6%	±0.3%	Yellow	XJ-24505-16	
30 to 300 µL	0.2 µL	±0.8%	±0.3%	Orange	XJ-24505-17	

†Accuracy and precision values given at maximum volume of pipettor.

Specifications

Material of construction: Fortron® PPS
Tip ejector: yes
Autoclavable: yes, fully

Ashcroft® Digital Pressure Gauges with Backlight

Simple three-button programming



- Easy-to-read, 5-digit display with backlight and 20-segment bar graph
- Stainless steel sensor; IP67-rated case
- Features tare, min/max memory, and nine engineering plus one custom engineering units

ISO9001:2008 CERTIFIED SUPPLIER

Specifications

Accuracy: ±0.5% full-scale
Dial size: 2½" (64 mm)
Operating temp: –4 to 140°F (–20 to 60°C)
Units of measure: psi, " Hg, cm Hg, mm Hg, kPa, mPa, bar, kg/cm², ft H_2O, and user-defined unit
Wetted materials: 17-4 ph and 316L stainless steel
Lens: polycarbonate
Process connection: ¼" NPT(M)
Power: two AA batteries (included)

Range	Resolution	Catalog number	Price
0 to 30" Hg	0.01" Hg	XJ-68334-01	
30" Hg to 30 psi	0.01" Hg	XJ-68334-03	
30" Hg to 100 psi	0.01" Hg	XJ-68334-07	
0 to 15 psi	0.001 psi	XJ-68334-09	
0 to 30 psi	0.001 psi	XJ-68334-11	
0 to 60 psi	0.001 psi	XJ-68334-13	
0 to 100 psi	0.01 psi	XJ-68334-15	
0 to 200 psi	0.01 psi	XJ-68334-17	
0 to 300 psi	0.01 psi	XJ-68334-19	
0 to 500 psi	0.01 psi	XJ-68334-21	
0 to 1000 psi	0.1 psi	XJ-68334-25	
0 to 5000 psi	0.1 psi	XJ-68334-27	
0 to 10,000 psi	1 psi	XJ-68334-31	

XJ-09376-01 **Batteries,** AA. Pk of 4
XJ-17040-12 **NIST-traceable calibration** with data

WIKA® 3A Sanitary Gauges

Get better readings



- Glycerin fill reduces fluctuations
- Manufactured for clean-in-place (CIP) applications
- All-welded gauge assembly contains an external flush diaphragm
- Assembly meets the criteria set forth by 3A standards

ISO9001:2008 CERTIFIED SUPPLIER

Specifications

Accuracy: ±3-2-3% of span
Operating temp: 50 to 257°F (10 to 125°C)
Wetted materials: 316L SS
Lens: polycarbonate
Process connection: ¾" Tri-Clamp®
Casing: 304 SS
Dial size: 2½" (64 mm)

Range	Resolution	Catalog number	Price
30 psi	0.5 psi	XJ-68056-72	
60 psi	1 psi	XJ-68056-74	
100 psi	2 psi	XJ-68056-76	
160 psi	2 psi	XJ-68056-78	

XJ-17040-10 **NIST-traceable calibration** with data

Handheld Differential Pressure Meters

Intrinsically safe models for hazardous use



- Select one of nine units
- Feature zero, hold, maximum, minimum, and out-of-range, functions
- Smooth fluctuating pressure readings with filter function
- Displays average of last sixteen pressure readings

ATEX Zone 0

Specifications

Accuracy: ±0.2% full scale
Operating temperature: 32 to 122°F (0 to 50°C)
Temperature range (compensated): 68 to 86°F (20 to 30°C)
Media compatibility: clean, noncorrosive, inert gases
Process connections: ⅛" BSP
Units of measure: psi, " H_2O, cm H_2O, " Hg, mm Hg, mbar, torr, kPa, and kg/cm²
Power: one 9 V battery (included)
Approval (intrinsically safe models): EEx Ia IIC T4

Range	Resolution	Catalog number	Price
Intrinsically safe differential pressure gauges			
–5 to 5 psid	0.001 psi	XJ-68600-06	
–30 to 30 psid	0.01 psi	XJ-68600-02	
–100 to 100 psid	0.1 psi	XJ-68600-04	
Non-intrinsically safe differential pressure gauges			
–5 to 5 psid	0.001 psi	XJ-68600-10	
–30 to 30 psid	0.01 psi	XJ-68600-12	
–100 to 100 psid	0.1 psi	XJ-68600-14	

XJ-95616-00 **PVC tubing,** 4 mm ID x 6 mm OD. Pack of 25 ft.
XJ-17090-31 **NIST-traceable calibration** with data

Cole-Parmer® Sealed SS Pressure Transducers

No epoxies to cause signal instability or drift



- Stainless steel (SS) diaphragm and polysilicon strain gauge are bonded by vapor deposition

Cole-Parmer® ISO9001:2008 CERTIFIED SUPPLIER

Specifications

Temp range (compensated): –4 to 176°F (–20 to 80°C)
Process connection: ¼" NPT(M)
Power: 9 to 30 VDC
Output: 4 to 20 mA (call for models with 1 to 5 V output)
Wetted materials: PH 17-4 SS
Dimensions (L x dia): 2¾" x 1½" (7 x 3.8 cm)

Range	Catalog number	Price
Vacuum and compound transducers; ±0.4% accuracy (BFSL)		
30" Hg to 0 psi	XJ-07356-10	
30" Hg to 30 psi	XJ-07356-11	
Pressure transducers; ±0.4% accuracy (BFSL)		
0 to 30 psi	XJ-07356-51	
0 to 60 psi	XJ-07356-52	
0 to 100 psi	XJ-07356-53	
0 to 300 psi	XJ-07356-54	
0 to 750 psi	XJ-07356-55	
0 to 1000 psi	XJ-07356-56	
Pressure transducers; ±0.25% accuracy (BFSL); with NIST-traceable calibration report		
0 to 100 psi	XJ-68001-04	
0 to 200 psi	XJ-68001-05	

Cole-Parmer® Low-Pressure Mechanical Gauges

Perfect for accurately measuring pressures below 10 psi



– Manufactured with a chrome-plated case, use these gauges to measure low pressure in filter systems, cleanrooms, or fluidic systems

Cole-Parmer®

Specifications

Accuracy: ±1½% full scale
Dial size: 2½" (64 mm)
Operating temp: 0 to 150°F (0 to 66°C)
Wetted materials: brass
Lens: polycarbonate
Process connection: ¼" NPT(M)
Casing: black steel

Range	Catalog number	Price
0 to 10" H_2O	XJ-68357-00	
0 to 15" H_2O	XJ-68357-02	
0 to 30" H_2O	XJ-68357-04	
0 to 60" H_2O	XJ-68357-06	
0 to 100" H_2O	XJ-68357-08	
0 to 3 psi	XJ-68357-14	
0 to 5 psi	XJ-68357-16	
0 to 10 psi	XJ-68357-18	

XJ-17040-10 **NIST-traceable calibration** with data

Ashcroft® Digital Sanitary Pressure Gauges



Get more flexibility

– Offer 3A rating with the functionality of a digital gauge
– Get readings how you need them—ten engineering units
– Unlimited deadband throughout its range

ISO9001:2008 CERTIFIED SUPPLIER CE

FM APPROVED 3A CIP Clean In Place SIP Steam In Place IP65

Specifications

Accuracy: ±0.25% full-scale
Dial size: 3½" (89 mm)
Operating temp: 14 to 140°F (10 to 60°C)
Units of measure: psi, " H_2O, ft H_2O, mPa, mbar, kPa, kg/cm², bar, " Hg, mm Hg
Display: 5-digit LCD, 0.88"H
Process connection: 1½" sanitary Tri-Clamp®
Wetted materials: 316 stainless steel
Casing: 300 stainless steel
Lens: polyester
Power: two C batteries

Range	Resolution	Catalog number	Price
30 to 0" Hg	0.0001" Hg	XJ-68901-50	
0 to 30 psi	0.0001 psi	XJ-68901-51	
0 to 60 psi	0.005 psi	XJ-68901-52	
0 to 100 psi	0.005 psi	XJ-68901-53	
0 to 200 psi	0.01 psi	XJ-68901-54	

XJ-17040-12 **NIST-traceable calibration** with data

Cole-Parmer® High-Accuracy Pressure Transducers

Be more accurate, affordably



– SS sensor attached to SS electrode forms a variable capacitor

Cole-Parmer®

ISO9001:2008 CERTIFIED SUPPLIER CE

Specifications

Accuracy: ±0.25% full-scale
Temp range (compensated): –4 to 176°F (–20 to 80°C)
Process connection: ¼" NPT(M)
Power: 9 to 30 VDC
Wetted materials: PH 17-4 SS
Dimensions (L x dia): 2¾" x 1½" (7 x 3.8 cm)

Range	4 to 20 mA output		0.5 to 5.5 V output	
	Catalog number	Price	Catalog number	Price
Compound transmitters				
–14.7 to 0 psi	XJ-68075-00		XJ-68075-30	
–14.7 to 15 psi	XJ-68075-02		XJ-68075-32	
Gauge pressure transmitters				
0 to 5 psi	XJ-68075-10		XJ-68075-40	
0 to 10 psi	XJ-68075-12		XJ-68075-42	
0 to 25 psi	XJ-68075-14		XJ-68075-44	
0 to 50 psi	XJ-68075-16		XJ-68075-46	
0 to 100 psi	XJ-68075-18		XJ-68075-48	
0 to 250 psi	XJ-68075-20		XJ-68075-50	

Cole-Parmer® Economical Pressure Transducers

Accuracy in a compact, durable package



– High-performance ASIC married to a very stable polysilicon thin-film pressure sensor
– Sensor is electron-beam welded to a SS pressure fitting for high overpressure capability and outstanding durability against shock and vibration
– Circuitry is held securely within an internal cage and housed in a reinforced nylon enclosure

Cole-Parmer®

ISO9001:2008 CERTIFIED SUPPLIER CE IP65

Specifications

Accuracy: ±1% span
Temp range (compensated): –40 to 257°F (–40 to 125°C)
Process connection: ¼" NPT (M)
Power: 9 to 36 VDC
Wetted materials: PH 17-4 SS
Dimensions (dia x L): 1" x 2½" (2.5 x 6.4 cm)

Range	4 to 20 mA output		1 to 5 VDC output	
	Catalog number	Price	Catalog number	Price
30 " Hg to 30 psi	XJ-68900-48		XJ-68900-62	
0 to 30 psi	XJ-68900-50		XJ-68900-64	
0 to 100 psi	XJ-68900-52		XJ-68900-66	
0 to 200 psi	XJ-68900-54		XJ-68900-68	
0 to 500 psi	XJ-68900-56		XJ-68900-70	
0 to 1000 psi	XJ-68900-58		XJ-68900-72	
0 to 3000 psi	XJ-68900-60		XJ-68900-74	

Why Masterflex® Peristaltic Pumps?

1 **Easy**
- Quick installation
- Low maintenance
- Easy tubing changeover

2 **Durable**
- Trusted for over 45 years
- Broad chemical compatibility

3 **Versatile**
- From research to process
- Handles just about any fluid
- Multichannel capabilities

4 **Customizable**
- Configurable systems
- Many tubing options
- Easy scale-up

5 **Accurate**
- Flow ranges from 0.0006 mL/min to 42 L/min
- Rigorous design and testing standards
- Tubing is custom manufactured to precise tolerances



Selecting a Masterflex® Pump: *As Easy As*

Application Requirements
- What is my required flow rate?
- What chemical am I pumping?
- Do conditions such as viscosity or back pressure play an important role in my decision?

Base a Pump Series on Your Flow Rate
- Use the table below to find the pump series that best fits your flow rate needs

Complete Your System
- L/S and I/P pump series are divided into three components—pump head, tubing, and drive
- Select the three components from the same series or choose a complete preconfigured system

Masterflex pump series	Features	Flow range	Speed		Remote control capability	Multichannel capabilities	Page(s)
			Fixed	Variable			
C/L®	Compact, low-flow pump that easily fits on benchtop or mounts within a panel	0.002 to 43 mL/min		✓	Yes	Yes	**183**
L/S®	High-accuracy drives for precise flow control and dispensing	0.00001 to 3400 mL/min	✓	✓	Yes	Yes	**161–178**
I/P®	Powerful systems that provide better protection from possible hazards such as dust and water	0.0006 to 26 LPM	✓	✓	Yes	Yes	**179–181**
B/T®	Highest flow rates—ideal for large batch fluid transfer with excellent hazard protection	0.71 to 42 LPM	✓	✓	Yes	Yes	**182**

Custom **OEM** Pump Systems

When an off-the-shelf pump just won't cut it, you need a solution custom-built for your requirements

With more than 100 years of combined experience, our design engineers will partner with you to create the exact pump you need. Contact our Application Specialists to get started!

For more information, go to ColeParmer.com/Masterflex

MasterflexLive™

Masterflex® Cloud-Enabled Drives Featuring MasterflexLive™

Real-time remote pump control and monitoring

- Secure, cloud-enabled platform for control and monitoring of select L/S® and I/P® pumps
- Get real-time control of all pump parameters, including speed, flow rate, dispense volume, and more
- Push notifications alert you to operating conditions and error messages
- Monitor and adjust critical processes running 24/7—no need to be onsite
- "Hands-free" operation lets you control pumps operating inside cleanrooms, glove boxes or isolation chambers
- Access from your PC, tablet or smart-phone (iOS and Android compatible)
- Internet connection via standard Ethernet (RJ45) jack on rear of drive





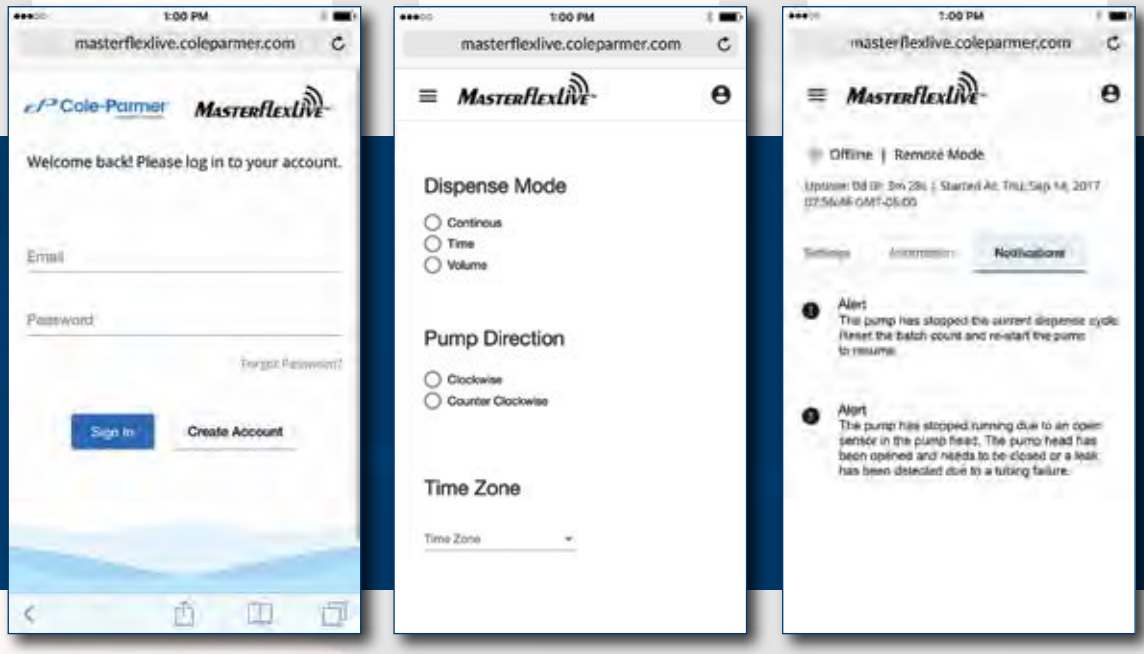
Monitor and control your pumps via the cloud.

24/7 remote access from anywhere

Create a free account

Manage & control pump parameters

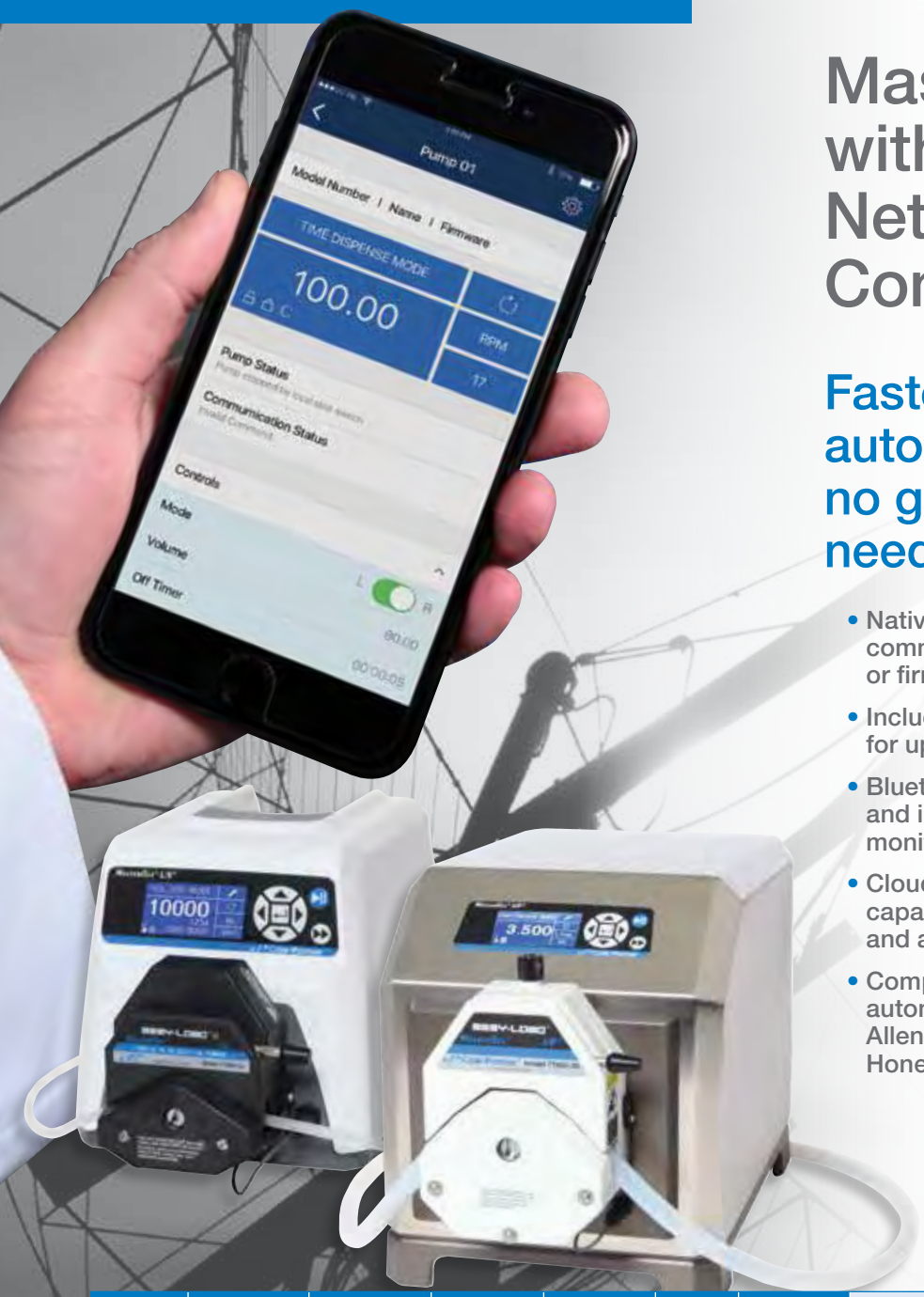
Get alerts & notifications



rpm	Flow range (mL/min)	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Power (50/60 Hz)	Catalog number	Price
L/S cloud-enabled digital drive									
0.02 to 100	0.001 to 588	±0.1%	Yes	2	1/10 hp (75 W)	IP33	90 to 260 VAC	XJ-07551-60	
0.1 to 600	0.006 to 3400							XJ-07551-50	
L/S cloud-enabled digital process drive with 316 stainless steel housing									
0.1 to 600	0.006 to 3400	±0.1%	Yes	2	1/10 hp (75 W)	IP66	90 to 260 VAC	XJ-07575-70	
L/S cloud-enabled digital process drive with powder-coat steel housing									
0.1 to 600	0.006 to 3400	±0.1%	Yes	2	1/10 hp (75 W)	IP66	90 to 260 VAC	XJ-07575-72	
I/P cloud-enabled digital process drive with 316 stainless steel housing									
0.1 to 650	0.6 to 26,000	±0.1%	Yes	2	3/8 hp (280 W)	IP66	90 to 260 VAC	XJ-77420-50	
I/P cloud-enabled digital process drive with powder-coat steel housing									
0.1 to 650	0.6 to 26,000	±0.1%	Yes	2	3/8 hp (280 W)	IP66	90 to 260 VAC	XJ-77420-60	

For more information, go to

ColeParmer.com/MasterflexLive



Masterflex® Drives with Advanced Networking and Communication

Faster, less expensive automation integration—no gateways or adapters needed

- Native Ethernet/IP or Profibus communication—no additional hardware or firmware required
- Includes .EDS or GSD standard text files for upload
- Bluetooth Low Energy (BLE) connectivity and iOS-based mobile app permit local pump monitoring and control
- Cloud-based remote pump monitoring capability provides operational status and alerts
- Compatible with most of today's advanced automation control systems, such as Allen-Bradley®, Siemens®, Emerson®, and Honeywell®

rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Power (50/60 Hz)	With Ethernet/IP		With Profibus	
							Catalog number	Price	Catalog number	Price
L/S network-compatible digital drive										
0.1 to 600	±0.1%	Yes	2	1/10 hp (75 W)	IP33	90 to 260 VAC	XJ-07551-40		XJ-07551-42	
L/S network-compatible digital process drive with 316 stainless steel housing										
0.1 to 600	±0.1%	Yes	2	1/10 hp (75 W)	IP66	90 to 260 VAC	XJ-07575-50		XJ-07575-52	
L/S network-compatible digital process drive with powder-coat steel housing										
0.1 to 600	±0.1%	Yes	2	1/10 hp (75 W)	IP66	90 to 260 VAC	XJ-07575-60		XJ-07575-62	
I/P network-compatible digital process drive with 316 stainless steel housing										
0.1 to 650	±0.1%	Yes	2	3/8 hp (280 W)	IP66	90 to 260 VAC	XJ-77420-30		XJ-77420-32	
I/P network-compatible digital process drive with powder-coat steel housing										
0.1 to 650	±0.1%	Yes	2	3/8 hp (280 W)	IP66	90 to 260 VAC	XJ-77420-40		XJ-77420-42	

For more information, go to
ColeParmer.com/Masterflex-comms

Masterflex® L/S® Computer-Compatible Digital Drives

Automate your process by interfacing drives with a computer

- Flow rate: 0.001 to 3400 mL/min with L/S tubing
- Interface drive to your PC via DB9 serial or USB connector
- Graphical LCD shows four operating modes: continuous run, time dispense, copy dispense, and volume dispense. View pump performance continually
- Antidrip function ensures dispensing accuracy
- Remote control capabilities via DB25 female connector on drive
- Models equipped with open-head sensor stop drive motor when pump head is opened—pair with an open-head sensor equipped pump head (see pages 174–175)

FEATURES

- ✓ Flow rates: 0.001 to 3400 mL/min
- ✓ Variable speed from 0.02 to 600 rpm
- ✓ Programmable, reversible motor accepts up to four pump heads
- ✓ Remote functionality



Drive 07551-20 shown with L/S Easy-Load II pump head 77200-62

Drives offer analog remote control options and simple programming—ideal for automated process applications. Precise PWM speed control (±0.1%) maximizes accuracy and efficiency while the brushless motor gives you quiet, maintenance-free reliability.

What's included: 6-ft (1.8-m) line cord with IEC 320/EE22 socket. Shipped with country-specific plug/cord set; please specify ultimate destination when ordering.

MASTERFLEX®

ISO9001:2008 CERTIFIED SUPPLIER

rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz)		Catalog number	Price
							VAC	Amps		
0.1 to 600	±0.1% (0.1 rpm at 600 rpm; 0.01 rpm at 100 rpm)	No	2	1/10 hp (75 W)	IP33	10" x 8½" x 8½" (25.4 x 21.6 x 21.6 cm)	90 to 260 VAC	2.2 at 115 VAC, 1.1 at 230 VAC	XJ-07551-20	
		Yes							XJ-07551-28	
0.02 to 100		No	4						XJ-07551-30	
		Yes							XJ-07551-38	

Accessories

XJ-07523-92 **Foot switch,** momentary start/stop; 6-ft (1.8-m) cable

XJ-07523-94 **DB25 male connector.** Use to create your own cable

XJ-07523-95 **Cable assembly,** DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends for remote control

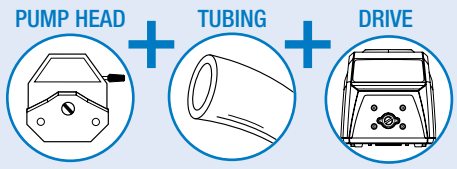
XJ-07523-98 **Tilt bail,** use to securely elevate front of drive

XJ-07523-97 **Handheld remote controller,** DB9; for on/off control; route tubing through handle for filling and dispensing applications

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive

Wait!
There's More...

See pages **174–178** for L/S pump heads and **pages 184–185** for Masterflex tubing.



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.08 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Computer-compatible drive 07551-20 0.1 to 600 rpm	115/230 VAC, 50/60 Hz	XJ-77924-55	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			XJ-77924-65	

Masterflex® L/S® Digital Console Process Drives

Transfer, dispense, and meter in lab, process and washdown environments

- IP66 and NEMA 4X rated. Sealed housing and sealed keypad are protected from dust, water, and chemicals in the washdown environment—simply hose down to clean.
- Flow rate: 0.001 to 3400 mL/min with L/S tubing depending on drive rpm and tubing size
- Graphical LCD shows six different parameters: motor rpm, flow rate, dispense volume, cumulative volume, dispense interval time, and copy number.
- Brushless, maintenance-free motor with ±0.1% speed control accuracy and a 6000 to 1 turndown ratio
- Dispense by: volume—volume, copy, or time with programmable delay interval.
- Remote control capabilities via waterproof connection
- Models equipped with open-head sensor stop drive motor when pump head is opened—pair with an open-head sensor equipped pump head (see pages 174–175)

FEATURES

✓ Flow rates: 0.001 to 3400 mL/min

✓ IP66 and NEMA 4X rated

✓ Programmable, reversible motor accepts two or four pump heads and offers remote functionality



Drive 07575-38 shown with L/S Easy-Load II pump head 77200-32

What's included: 6-ft (1.8-m) line cord—features IEC 320/CEE 22 connector coupler; watertight cord connection. Please specify destination country when ordering; drive is shipped with country-specific plug/cord set.

MASTERFLEX®

ISO9001:2008 CERTIFIED SUPPLIER

rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power	Catalog number	Price
Digital process drive with 316 stainless steel housing									
0.1 to 600	±0.1%	No	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07575-30	
		Yes						XJ-07575-38	
0.02 to 100		No	4					XJ-07575-35	
Digital process drive with powder-coat steel housing									
0.1 to 600	±0.1%	No	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07575-40	
		Yes						XJ-07575-48	
0.02 to 100		No	4					XJ-07575-45	

Accessories

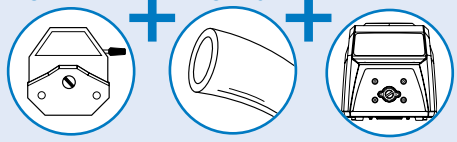
XJ-07575-84 **Washdown foot switch,** momentary start/stop; 6-ft (1.8-m) cable

XJ-07575-80 **Cable assembly** for remote control; 31-pin round connector and 25-ft (7.9-m) cable with stripped wire ends

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive

Choose a convenient Complete System

One catalog number includes all 3!



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.28 to 1700 mL/min	Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital console process drive with 316 SS housing 07575-30 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77975-25	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital console process drive with powder-coat steel housing 07575-40 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77975-45	

Masterflex® L/S® Variable-Speed Digital Drives

Versatile, worry-free operation

- Brushless, maintenance-free motor provides ±0.1% speed control accuracy with 6000:1 turndown ratio
- Bright graphical LCD offers easy programming, four operating modes, and seven languages
- Get more accurate dispensing with preprogrammed calibration
- Drives accept all L/S pump heads for more pumping versatility
- Models equipped with open-head sensor stop drive motor when pump head is opened—pair with an open-head sensor equipped pump head (see pages 174–175)
- Operate remotely via DB25 female connector

FEATURES

- ✓ Flow rates: 0.001 to 3400 mL/min
- ✓ Variable speed from 0.02 to 600 rpm
- ✓ Programmable, reversible motor accepts up to four pump heads
- ✓ Ensure dispensing accuracy with antidrip function
- ✓ Hands-free dispensing via time interval dispense cycles

Four operating modes for more functionality: continuous run, time dispense, copy dispense, and volume dispense



MASTERFLEX®

ISO 9001:2008 CERTIFIED SUPPLIER

rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power	Catalog number	Price
0.1 to 600	±0.1% (0.1 rpm at 600 rpm; 0.01 rpm at 100 rpm)	No	2	1/10 hp (75 W)	IP33	10" x 8.5" x 8.5" (25.4 x 21.6 x 21.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07522-20	
		Yes						XJ-07522-28	
0.02 to 100		No	4	1/10 hp (75 W)	IP33	10" x 8.5" x 8.5" (25.4 x 21.6 x 21.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07522-30	
		Yes						XJ-07522-38	

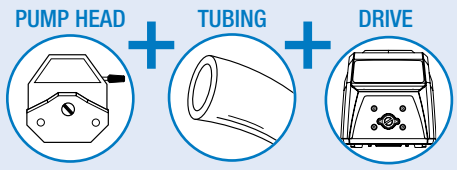
XJ-07523-92 **Foot switch,** momentary start/stop; 6-ft (1.8-m) cable

XJ-07523-94 **DB25 male connector.** Use to create your own cable

XJ-07523-95 **Cable assembly** for remote control; DB25 male connector and 25 ft (7.9 m) cable with stripped wire ends

XJ-07523-97 **Handheld remote controller;** route tubing through handle for dispensing into containers

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.08 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Digital drive 07522-20 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77921-65	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			XJ-77921-75	

Application Solution



Challenge

A manufacturer of safety glass and laminated glass was looking for a pump that could dispense coating resins for plate glass to provide protection and build shatter resistance. The resins used in the process could be polyurethane, epoxy, or other coatings, and in the past the resins ate through dispensing tubing. As a result, the manufacturer needed to find a pump system with tubing that had the appropriate chemical compatibility. Likewise, the pump system needed to offer quick maintenance for tube changes.

Solution

The customer tested silicone tubing for chemical resistance and found it to be suitable for the resins being dispensed. The customer then chose the L/S variable-speed digital drive 07522-20 for its precision pumping and speed control. The manufacturer also selected an Easy-Load II pump head for quick maintenance and reduced downtime during tubing changes.

Masterflex® L/S® Digital Modular Dispensing Drives

Three dispensing modes and precision low-maintenance motor

– Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense

– Dispense by mL—volume in mL of each dispense, 0.001 to 9999 mL; Copy—1 to 9999 dispense cycles; or SEC—time interval between each dispense cycle (1 to 9999 secs)

– Antidrip function ensures dispense accuracy

– Brushless, maintenance-free motor offers ±0.1% speed control accuracy and a 6000 to 1 turndown ratio

– Remote control capabilities: speed, direction, start/stop/prime, and tach output

What's included: 6-ft (1.8-m) cable to connect drive and controller and 6-ft (1.8-m) line cord with IEC 320/CEE22 socket. Shipped with country-specific plug/cord set; please specify destination when ordering.



A

FEATURES

✓ Flow rates: 0.001 to 3400 mL/min depending on drive rpm and tubing size

✓ Variable speed

✓ Programmable, reversible motor accepts up to two pump heads and offers remote functionality



B
Model 77301-50 and -70 include wall-mount controller

A. Modular Drive with Benchtop Controller

– Stackable, splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy finished steel, IP33 rated

– Remote control via a DB25 female connector on back of controller

B. Washdown Modular Drive with Wall-Mount Controller

– Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA4X rated for washdown

– Remote control via weather-resistant connection on controller

MASTERFLEX®

ISO 9001:2008 CERTIFIED SUPPLIER

rpm	Speed control	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz) VAC	Power (50/60 Hz) Amps	Catalog number	Price
A. Digital modular drive with benchtop controller									
0.1 to 600	±0.1%	2	1/10 hp (75 W)	IP33	Controller: 10½" x 8¼" x 5" (26.7 x 21 x 12.7 cm) Drive: 10½" x 3 13/16" x 4⅝" (26.7 x 9.7 x 11.7 cm)	90 to 260	2.2 at 115 VAC, 1.1 at 230 VAC	XJ-77301-40	
0.02 to 100		4						XJ-77301-60	
B. Digital washdown modular drive with washdown, wall-mount controller									
0.1 to 600	±0.1%	2	1/10 hp (75 W)	IP66	Controller: 9" x 11¾" x 4½" (23 x 30 x 11.4 cm) Drive: 15 9/16" x 7" x 6" (39.5 x 17.8 x 15.2 cm)	90 to 260	2.2 at 115 VAC, 1.1 at 230 VAC	XJ-77301-50	
0.02 to 100		4						XJ-77301-70	

XJ-07523-95 **Cable assembly,** for benchtop modular drives 77301-40 and -60; DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends for remote control

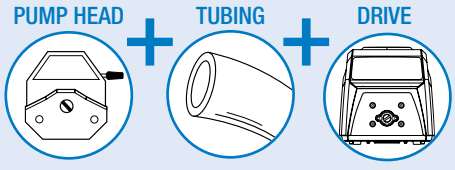
XJ-77301-82 **Extension cable,** 9 ft (2.7 m) extends distance between motor and controller

XJ-07575-80 **Remote control cable** for washdown modular drives 77301-50 and -70; wire to controller/PLC; 25-ft (8.3-m) length

XJ-17050-01 **NIST-traceable calibration** for peristaltic pump drive

Choose a convenient Complete System

One catalog number includes all 3!



System	Flow range	What's included: Pump head	What's included: Tubing	What's included: Drive	Power	Catalog number	Price
	0.28 to 1700 mL/min	Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital modular drive 77301-40 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77923-80	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital washdown modular drive 77301-50 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77923-90	

Masterflex® L/S® Precision Variable-Speed Console Drives

Don't lose control of your metering applications—digital display gives you repeatable control

- Accurate and repeatable settings with 3-digit LED display of rpm
- Pump fluid in either direction with reversible motor—perfect for purging tubing
- Save space and increase productivity by stacking 2 or 4 pump heads on the same drive to create a multichannel pump system
- Maximize processes in a minimal footprint by stacking splash-resistant, IP33-rated drives
- Two ways to control speed, direction, and start/stop—use either the membrane keypad or remote control capabilities
- Customize for your application—drives accept nine pump head types: Standard, Easy-Load®, Easy-Load® II, Easy-Load® 3, Multichannel, High-Performance, Cartridge, PTFE-Tubing, and PTFE-Diaphragm

FEATURES

✓ Flow rates: 0.06 to 3400 mL/min

✓ Variable speed from 1 to 600 rpm

✓ Reversible motor accepts up to four pump heads



Stack up to 4 heads to maximize productivity in less space

MASTERFLEX®

Flow Rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head—see page 175)

rpm	Precision pump tubing						High-performance precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
	Standard†, Easy-Load, Easy-Load II, Easy-Load 3						Multichannel‡, Standard†, Easy-Load II, Easy-Load 3, High-Performance			
	Cartridge, Multichannel			Cartridge			Easy-Load			
6 to 600	0.36 to 36	1.3 to 130	4.8 to 480	10 to 1000	17 to 1700	23 to 2300	10 to 1000 (11 to 1100)	17 to 1700 (18 to 1800)	23 to 2300 (26 to 2600)	29 to 2900 (34 to 3400)
1 to 100	0.06 to 6	0.21 to 21	0.8 to 80	1.7 to 170	2.8 to 280	3.8 to 380	1.7 to 170 (1.8 to 180)	2.8 to 280 (3.0 to 300)	3.8 to 380 (4.3 to 430)	4.8 to 480 (5.8 to 580)

†The Standard pump head is not available for L/S 25. ‡Multichannel head is not available for L/S 36. Multichannel and Cartridge heads are available for microbore tubing.

ISO 9001:2008 CERTIFIED SUPPLIER

rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz)		Catalog number	Price
						VAC	Amps		
6 to 600	±0.25% (1 rpm at 600 rpm; 0.1 rpm at 100 rpm)	2	1/10 hp (75 W)	IP33	10" x 8.5" x 8.5" (25.4 x 21.6 x 21.6 cm)	90 to 260	1.8 at 115 VAC, 1.2 at 230 VAC	XJ-07528-10	
3 to 300		2						XJ-07528-20	
1 to 100		4						XJ-07528-30	

Accessories

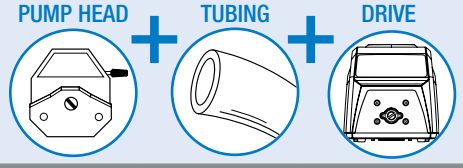
XJ-07595-45 **Connector,** DB9 male. Use for 4 to 20 mA remote control

XJ-07595-47 **Cable assembly,** DB9 male connector and 25-ft (7.9-m) cable with stripped wire terminal ends. Use for remote control

XJ-77595-35 **Foot switch,** DB9 male

XJ-07528-80 **Handheld remote controller;** for remote control of start/stop, route tubing through handle for dispensing into containers

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	4.8 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Precision console drive 07528-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77916-10	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			XJ-77916-20	

Masterflex® L/S® Precision Console Process Drives

Stand up to process and washdown applications—simply hose down to clean

NEW

- IP66 and NEMA 4X rated; sealed housing and sealed membrane keypad
- Available with either a 316 SS or a powder-coat steel housing
- Three-digit LED display shows motor rpm—confirm speed setting at a glance
- Easy up-front control of speed, direction, and start/stop
- Open-head sensor stops drive motor when pump head is opened—pair with an open-head sensor equipped pump head (see pages 174–175)
- Pump fluid in either direction with reversible motor—perfect for purging tubing
- Remote control capabilities via a watertight connector on back of drive

FEATURES

- ✓ Flow rates: 0.06 to 3400 mL/min
- ✓ Variable speed from 1 to 600 rpm
- ✓ IP66 and NEMA 4X rated
- ✓ Stack up to four pump heads for increased flow rates
- ✓ Remote control

MASTERFLEX®



Drive 07528-40 shown with L/S Easy-Load II pump head 77200-32

Accurate console drives have powerful motors, speed display, and ±0.25% speed control for precise flow regulation—ideal for metering applications. Separate speed and power (on/off) control lets you maintain speed setting while turning pump on/off. Remote speed control requires cable assembly 77300-32.

What's included: 6-ft (1.8-m) line cord with IEC 320/CEE22 socket. Shipped with country-specific plug/cord set; please specify ultimate destination when ordering.

ISO9001:2008 CERTIFIED SUPPLIER

rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power	Catalog number	Price
Precision process drives with 316 stainless steel housing									
6 to 600	±0.25%	Yes	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07528-40	
1 to 100			4					XJ-07528-45	
Precision process drives with powder-coat steel housing									
6 to 600	±0.25%	Yes	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XJ-07528-50	
1 to 100			4					XJ-07528-55	

XJ-77300-32 **Cable assembly,** for precision process drives; 18-pin round connector and 25-ft (7.9 m) cable with stripped wire ends

XJ-17050-01 **NIST-traceable calibration** for peristaltic pump drive

Choose a convenient Complete System

One catalog number includes all 3!

PUMP HEAD + TUBING + DRIVE

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	4.8 to 480 mL/min	Easy-Load® II (open-head sensor) 77200-30	C-Flex® ULTRA L/S 16 tubing 06434-16, 10 ft (3 m)	Drive with 316 SS housing 07528-40 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77916-40	
	17 to 1700 mL/min	Easy-Load II (open-head sensor) 77200-32	C-Flex ULTRA L/S 24 tubing 06434-24, 10 ft (3 m)			XJ-77916-42	
	4.8 to 480 mL/min	Easy-Load II (open-head sensor) 77200-30	C-Flex ULTRA L/S 16 tubing 06434-16, 10 ft (3 m)	Drive with powder-coat steel housing 07528-50 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77916-50	
	17 to 1700 mL/min	Easy-Load II (open-head sensor) 77200-32	C-Flex ULTRA L/S 24 tubing 06434-24, 10 ft (3 m)			XJ-77916-52	

Masterflex® L/S® Precision Variable-Speed Modular Drives

Place where convenient—ideal for limited spaces, hoods, or isolation chambers

- Three-digit LED display shows motor rpm—confirm speed setting at a glance
- Remote control capabilities: speed, direction, and start/stop
- ±0.25% speed control for precise flow regulation—ideal for metering applications

A. Modular Drives with Benchtop Controller

- Splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy finished steel, IP33 rated
- Remote control capabilities via a DB9 female connector on back of controller

B. Washdown Modular Drives with Wall-Mount Controller

- Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA 4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA 4X rated for washdown
- Remote control capabilities via weather-resistant connection on controller



FEATURES

- ✓ Flow rates: 0.06 to 3400 mL/min
- ✓ Easy up-front control of speed, direction, and start/stop
- ✓ Reversible motor—purge tubing before or after pumping; pump fluid in either direction



B Models 07557-60 and -70 include wall-mount controller

MASTERFLEX®

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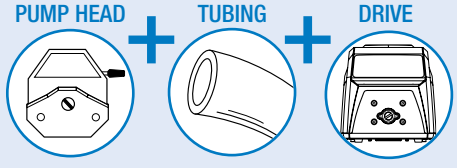
rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz) VAC	Power (50/60 Hz) Amps	Catalog number	Price
A. Precision modular drives with benchtop controller									
6 to 600	±0.25% (1 rpm at 600 rpm;	2	1/10 hp (75 W)	IP33	Controller: 10½" x 8¼" x 5"	90 to 260	2.2 at 115 VAC,	XJ-07557-00	
1 to 100	0.1 rpm at 100 rpm)	4			Drive: 10¾" x 4⅜" x 4½"		1.1 at 230 VAC	XJ-07557-10	
B. Precision washdown modular drives with washdown wall-mount controller									
6 to 600	±0.25% (1 rpm at 600 rpm;	2	1/10 hp (75 W)	IP66	Controller: 9" x 11¾" x 4½"	90 to 260	2.2 at 115 VAC,	XJ-07557-60	
1 to 100	0.1 rpm at 100 rpm)	4			Drive: 15⁹⁄₁₆" x 7" x 6"		1.1 at 230 VAC	XJ-07557-70	

XJ-07557-51 Extension cable, 9 ft (2.7 m); extend distance between motor and controller

XJ-07595-47 Cable assembly, for benchtop modular drives; DB9 male connector and 25 ft (7.9 m) cable with stripped wire terminal ends. Use for remote control

XJ-77300-32 Cable assembly, for washdown modular drives; 18-pin round connector and 25 ft (7.9 m) cable with stripped wire terminal ends. Use for remote control

XJ-17050-01 NIST-traceable calibration with data for peristaltic pump drive



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included: Pump head	What's included: Tubing	What's included: Drive	Power	Catalog number	Price
	4.8 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Modular drive 07557-00 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77913-60	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Modular drive 07557-00 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77913-70	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Modular drive 07557-60 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	XJ-77913-80	

Masterflex® L/S® Variable-Speed Economy Modular Drives

Versatile with a wide flow range and simple controls

- Separate motor and controller are connected via a 6-ft (1.9 m) cable—place components where convenient or where space allows
- Single-turn speed control and on/off switch with green power indicator—maintain speed setting while turning pump on and off
- The 1/10-hp reversible motor has soft start and back EMF for ±2% speed control
- Painted steel housing is IP33 rated for protection from vertically falling water
- 115 VAC models are ETL and cETL listed; 230 VAC models are CE marked in compliance with EU standards



FEATURES
- ✓ Flow rates: 0.06 to 3400 mL/min
- ✓ Variable speed— 1 to 100 or 6 to 600 rpm
- ✓ Convenient modular design

MASTERFLEX®

A perfect upgrade from a fixed-speed drive, these variable-speed drives offer a wider rpm range, ±2% speed regulation, and ETL and CE listings. For added versatility, drives accept all L/S pump heads.

What's included: 6-ft (1.8-m) line cord—115 VAC: US standard plug; 230 VAC: IEC 320/CEE22 socket. Please specify country of destination when ordering.

Flow Rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head—see page 175)

rpm	Precision pump tubing						High-performance precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
	Standard†, Easy-Load, Easy-Load II, Easy-Load 3						Multichannel‡, Standard†, Easy-Load II, Easy-Load 3, High-Performance			
	Cartridge, Multichannel			Cartridge			Easy-Load			
6 to 600	0.36 to 36	1.3 to 130	4.8 to 480	10 to 1000	17 to 1700	23 to 2300	10 to 1000 (11 to 1100)	17 to 1700 (18 to 1800)	23 to 2300 (26 to 2600)	29 to 2900 (34 to 3400)
1 to 100	0.06 to 6	0.21 to 21	0.8 to 80	1.7 to 170	2.8 to 280	3.8 to 380	1.7 to 170 (1.8 to 180)	2.8 to 280 (3.0 to 300)	3.8 to 380 (4.3 to 430)	4.8 to 480 (5.8 to 580)

†The Standard pump head is not available for L/S 25.
‡Multichannel head is not available for L/S 36. Multichannel and Cartridge heads are available for microbore tubing.

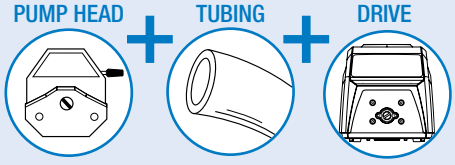
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rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz) VAC	Power (50/60 Hz) Amps	Catalog number	Price
6 to 600	±2%	2	1/10 hp (75 W)	Controller: IP33 Motor: IP21	Controller: 8" x 6.4" x 3.4" (20.4 x 16.4 x 8.7 cm) Motor: 7.8" x 3.8" x 4.5" (19.8 x 9.7 x 11.5 cm)	90 to 130	2.2 at 115 VAC	XJ-07559-00	
						190 to 260	1.2 at 230 VAC	XJ-07559-05	
1 to 100	±2%	4	1/10 hp (75 W)	Controller: IP33 Motor: IP21	Controller: 8" x 6.4" x 3.4" (20.4 x 16.4 x 8.7 cm) Motor: 7.8" x 3.8" x 4.5" (19.8 x 9.7 x 11.5 cm)	90 to 130	2.2 at 115 VAC	XJ-07559-10	
						190 to 260	1.2 at 230 VAC	XJ-07559-15	

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive

Choose a convenient Complete System

One catalog number includes all 3!



System	Flow range	What's included: Pump head	What's included: Tubing	What's included: Drive	Power	Catalog number	Price
	4.8 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Modular drive 07559-00 6 to 600 rpm	115 VAC, 50/60 Hz	XJ-77913-02	
				Modular drive 07559-05 6 to 600 rpm	230 VAC, 50/60 Hz	XJ-77913-07	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Modular drive 07559-00 6 to 600 rpm	115 VAC, 50/60 Hz	XJ-77913-12	
				Modular drive 07559-05 6 to 600 rpm	230 VAC, 50/60 Hz	XJ-77913-17	

Masterflex® L/S® Variable-Speed Economy Console Drives

Economical variable-speed drive with a wide flow range

- Pump head flow rate: 0.42 to 2900 mL/min; cartridge head flow rate: 0.0035 to 1700 mL/min
- Separate single-turn speed control and on/off switch with green power indicator. Maintain speed setting while turning on/off
- The 1/20-hp unidirectional motor has soft start and back EMF for ±5% speed control. Smooth operation and long service life.
- 115 VAC models: UL and cUL listed; 230 VAC models: CE compliant

Drives accept nine different pump head types: Standard, Easy-Load®, Easy-Load II, Easy-Load 3, Multichannel, High-Performance, Cartridge, PTFE-tubing, and PTFE-diaphragm. Drives 07554-90 and -95 are not recommended for use with the PTFE-tubing and PTFE-diaphragm pump heads.

What's included: 6-ft (1.8-m) line cord—115 VAC: US standard plug; 230 VAC: IEC 320/CEE22 socket. Please specify country of destination when ordering.



FEATURES
- ✓ Flow rates: 0.0035 to 2900 mL/min
- ✓ Variable speed from 7 to 600 rpm
- ✓ Low-flow metering or general fluid transfer

MASTERFLEX®

Flow Rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head—see page 175)

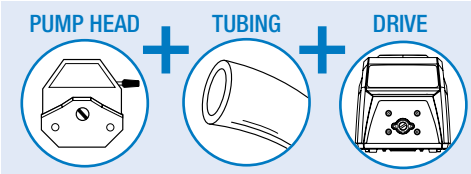
rpm	Precision pump tubing						High-performance precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
	Standard†, Easy-Load®, Easy-Load® II, Easy-Load® 3						Multichannel‡, Standard, Easy-Load II, Easy-Load 3, High-Performance			
	Cartridge, Multichannel			Cartridge			Easy-Load			
20 to 600	1.2 to 36	4.2 to 130	16 to 480	34 to 1000	56 to 1700	76 to 2300	34 to 1000	56 to 1700	76 to 2300	96 to 2900
7 to 200	0.42 to 12	1.4 to 43	5.6 to 160	12 to 330	20 to 570	27 to 770	12 to 330 (13 to 370)	20 to 570 (21 to 600)	27 to 770 (30 to 870)	34 to 970 (41 to 1130)

†The Standard pump head is not available for L/S 25.
‡Multichannel head is not available for L/S 36. Multichannel and Cartridge heads are available for microbore tubing.

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rpm	Speed control	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz) VAC	Power (50/60 Hz) Amps	Catalog number	Price
20 to 600	±5%	1	1/20 hp (37 W)	IP22	9" x 7" x 5¼" (22.9 x 18.1 x 13.3 cm)	90 to 130	1.5	XJ-07554-90	
						180 to 260	0.8	XJ-07554-95	
7 to 200		2				90 to 130	1.5	XJ-07554-80	
						180 to 260	0.8	XJ-07554-85	

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included: Pump head	What's included: Tubing	What's included: Drive	Power	Catalog number	Price
	16 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Console drive 07554-90 20 to 600 rpm	115 VAC, 50/60 Hz	XJ-77910-30	
				Console drive 07554-95 20 to 600 rpm	230 VAC, 50/60 Hz	XJ-77910-35	
	56 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Console drive 07554-90 20 to 600 rpm	115 VAC, 50/60 Hz	XJ-77910-20	
				Console drive 07554-95 20 to 600 rpm	230 VAC, 50/60 Hz	XJ-77910-25	

Masterflex® L/S® High-Pressure Pumps

Pump at pressures up to 125 psi (8.5 bar)

- Three-digit LED display shows motor rpm—confirm speed setting at a glance
- High-performance pump head offers automatic occlusion—optimized when pump head is closed and latched—load tubing in 15 seconds or less
- Pump at pressures up to 125 psi (8.5 bar) with included L/S 16HP tubing—ideal for feed, filtration, and metering applications
- Models equipped with open-head sensor stop the drive motor when pump head is opened

NEW



77914-25, -27

MASTERFLEX®

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System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.9 to 90 mL/min	High-Performance 77252-72	PharMed BPT L/S 16HP high-pressure tubing 05664-16 8 ft (2.4 m)	Precision console drive with ABS plastic housing 07528-30 1 to 100 rpm	90 to 260 VAC, 50/60 Hz	XJ-77914-20	
	0.9 to 90 mL/min	High-Performance (open-head sensor) 77252-62		Precision process drive with powder-coat steel housing 07528-55 1 to 100 rpm		XJ-77914-25	
	0.9 to 90 mL/min			Precision process drive with stainless steel housing 07528-45 1 to 100 rpm		XJ-77914-27	

Masterflex® Ultrasonic Flow Sensors

Maintain accurate flow rates without affecting working fluid

- Noninvasive design eliminates contact with working fluid—ideal for applications with strict hygienic standards
- Provides accurate readings not affected by fluid color, tube color, or electromagnetic properties of liquids
- Continuously monitor peristaltic pump flow rates and send data directly to your computer with optional communications package
- Ready to use out of the box—calibrated for use with Masterflex L/S® and I/P® platinum-cured silicone tubing
- Easily adapt your application settings using optional communications package

Each sensor comes calibrated to national measurement standards for the appropriately sized Masterflex platinum-cured silicone tubing when water is the working fluid and across the full flow range. Adapt for use with other working fluids or Masterflex tubing materials of the same size with the optional communications package. For best accuracy, the sensor should be calibrated for the specific working fluid.

What's included: flow sensor, cable, and calibration certificate.

MASTERFLEX®

Specifications

Accuracy: ±2 to 4% after using calibration software
Output: RS-485, 4 to 20 mA, 0 to 20 kHz, or PNP-NPN
Enclosure rating: IP65



NEW

Clamp-on sensor design makes setup easy—simply place the tubing in the sensor channel and close the lid.

For Masterflex tubing size	Max flow rate†		Min flow rate		Catalog number	Price
	GPH	mL/min	GPH	mL/min		
Engineered for L/S Precision tubing						
13	0.57	36	0.48	30	XJ-33501-13	
14	2.06	130	0.48	30	XJ-33501-14	
16	7.61	480	0.48	30	XJ-33501-16	
25	15.85	1000	0.48	30	XJ-33501-25	
17	26.95	1700	0.48	30	XJ-33501-17	
18	36.46	2300	0.48	30	XJ-33501-18	
Engineered for L/S High-Performance Precision tubing						
15	14.4	1100	0.48	30	XJ-33501-15	
24	28.53	1800	0.48	30	XJ-33501-24	
35	41.21	2600	0.48	30	XJ-33501-35	
36	53.89	3400	0.48	30	XJ-33501-36	
Engineered for I/P Precision tubing						
26	63.4	4000	0.48	30	XJ-33501-26	
73	126.8	8000	0.48	30	XJ-33501-73	

†Higher flow rates can be measured, the stated maximum flow rate is that of the tubing.

XJ-33501-96 **Communications package** for Masterflex ultrasonic flow sensors. Includes software for data capture and calibration on USB drive and connector cable

Masterflex® L/S® Digital Miniflex® Pumps

Small footprint, yet delivers accurate flow over a wide range

- Flow range of 0.005 to 381 mL/min (depending on tubing size)
- Tubing calibration function ensures accuracy
- Open-head sensor stops drive when pump head is opened
- Remote control via 25-pin connector on back of drive
- Automatic tubing retention makes tube loading quick and easy

Compact, stackable pump with durable ABS housing is easy to wipe down. The Miniflex pump head features a wide occlusion angle that prevents fluid backflow up to the rated pressure of the tubing. Self-lubricating thermoplastic polyester rollers are low friction and long wearing for smooth operation and long life.

FEATURES
- ✓ Flow rates: 0.005 to 381 mL/min
- ✓ Intuitive icon-driven programming
- ✓ Tubing calibration for accuracy
- ✓ Single- or dual-channel models



MASTERFLEX®

ISO9001:2008 CERTIFIED SUPPLIER

Power supplies are:

Flow Rates (mL/min) at 0.1 to 300 rpm

Pump model	Precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25
07525-20	0.005 to 14	0.018 to 55	0.061 to 184	0.127 to 381
07525-40	0.005 to 14	0.018 to 55	0.061 to 184	—

Number of channels	rpm	Speed control (repeatability)	Reversible motor	IP rating	Dimensions (L x W x H)	Power (50/60 Hz)		Catalog number	Price
						VAC	Amps		
1	0.1 to 300	±0.1%	Yes	IP33	9.4" x 5.5" x 6.2" (23.9 x 14.0 x 15.7 cm)	90 to 260	0.34 at 115 VAC, 0.2 at 230 VAC	XJ-07525-20	
2								XJ-07525-40	

XJ-07523-92 Foot switch, momentary start/stop; DB25 male; 6-ft (1.8-m) cable

XJ-07523-95 Cable assembly, DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends

XJ-07523-97 Handheld remote controller, DB25 male, route tubing through handle for dispensing applications; 6-ft (1.8-m) cable

XJ-17050-01 NIST-traceable calibration with data for peristaltic pump drive

Masterflex® L/S® Fixed-Speed Drives

Get consistent, repeatable flow rates

- Stackable drives are ideal for field or lab use
- Lighted power switch on front of drive indicates that pump is running
- Accept five different pump head types: Standard, Easy-Load®, Easy-Load II, Easy-Load 3, and Cartridge

What's included: 6-ft (1.8-m) line cord. 115 VAC models: US standard plug; 230 VAC models: European plug.

FEATURES
- ✓ Flow rates: 0.06 to 290 mL/min
- ✓ General, intermittent-duty fluid transfer applications



Drive 07540-01 shown with Easy-Load II pump head 77200-62

MASTERFLEX®

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Flow Rates in mL/min††

rpm	Precision pump tubing					
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18
	Standard†, Easy-Load, Easy-Load II, Easy-Load 3					
	Cartridge‡					
1	0.06	0.21	0.8	1.7	2.8	3.8
2	0.12	0.42	1.6	3.4	5.6	7.6
6	0.36	1.3	4.8	10	17	23
12	0.72	2.5	9.6	20	34	46
20	1.2	4.2	16	34	56	76
30	1.8	6.3	24	50	84	110
60	3.6	13	48	100	170	230

rpm	High-Performance Precision pump tubing			
	L/S 15	L/S 24	L/S 35	L/S 36
	Standard, Easy-Load II, Easy-Load 3			
	Easy-Load			
1	1.7	2.8	3.8	4.8
2	3.4	5.6	7.6	9.6
6	10	17	23	29
12	20	34	46	58
20	34	56	76	96
30	50	84	110	140
60	100	170	230	290

†Standard pump head is not available for L/S 25. ‡Cartridge heads are available for microbore tubing. ††Motor rpm and flow rates for the 230 VAC, 50 Hz economy drives are approximately ⅚ of values shown.

rpm	Speed control	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Catalog number	Price
115 VAC/60 Hz models							
1	None‡‡	2	Sub-fractional (<1/25 hp)†††	IP22	6" x 5¼" x 4⅝" (15.2 x 13.4 x 11.9 cm)	XJ-07540-01	
2						XJ-07540-02	
6						XJ-07540-06	
12	None‡‡	2				XJ-07540-12	
20						XJ-07540-20	
30						XJ-07540-30	
60		1				XJ-07540-60	
230 VAC/50 Hz models							
1	None‡‡	2	Sub-fractional (<1/25 hp)†††	IP22	6" x 5¼" x 4⅝" (15.2 x 13.4 x 11.9 cm)	XJ-07542-01	
2						XJ-07542-02	
5						XJ-07542-06	
10	None‡‡	2				XJ-07542-12	
17						XJ-07542-20	
25						XJ-07542-30	
50		1				XJ-07542-60	

‡‡Drive speed may vary ±15%, subject to fluctuations in line voltage and frequency. †††Maximum power required is 70 W or less.

Masterflex® Drives Powering Quattroflow™ Pumps

Specifically designed to move delicate biological fluids

NEW

– Diaphragms enable soft, gentle pumping through the strokes generated by the eccentric shaft
– No mechanical seal or rotating parts that can fail—only the diaphragm and body come in contact with the fluid

MASTERFLEX®



Quattroflow Pumps offer a unique four diaphragm (chamber) design, providing the constant low-pulsation, low-shear pumping needed for your biological fluids. In addition, the quaternary diaphragm design enables risk-free dry-running, self-priming, and a high turn-down ratio. Both the single-use and multiple-use models safely and reliably pump plasma products, proteins, monoclonal antibodies, vaccines, and more.

Single-use pump heads have a disposable wetted chamber constructed of solid polypropylene (PP) that can be replaced as a complete unit. This saves you time and money by eliminating the cleaning validation, sterilization process normally associated with permanent multiple-use systems. You can quickly turn around equipment from one batch to the next, maximizing production operations. Plus, fluid path integrity and sterility is ensured with no chance of cross-batch or cross-product contamination. Come presterilized and double bagged.

Multiple-use pump systems ensure total product containment without abrasion and minimal particle creation. Stainless steel construction handles higher pressure applications including cross-flow filtration and chromatography columns.

Special Masterflex Drives were developed to best take advantage of the operating parameters of the Quattroflow pumps. Drives feature an intuitive interface, remote control functionality, and a brushless, maintenance-free motor with ±0.1% speed control accuracy. The graphical LCD shows six different parameters: motor rpm, flow rate, dispense volume, cumulative volume, dispense interval time, and copy number. Dispense by volume or time with a user-defined time interval between cycles.

Plastic-enclosed drive has an IP33 rating for benchtop lab applications and has been combined with the lower flow QF150 series pump head.

Stainless steel drives have IP66 and NEMA 4X ratings and are designed for both the QF150 and QF1200 series. Sealed stainless steel housing and sealed keypad are protected from dust, water, and chemicals in the washdown environment—simply hose down to clean.

Applications

– Cross-flow systems
– Tangential flow filtration
– Chromatography systems
– Reaction dosing
– Virus or sterile filtration
– Buffer mixing systems
– Virus cultures
– Bacterial and viral vaccines
– Cell cultures
– Cell culture supernatants
– Enzyme solutions
– Antibodies
– Virus inactivation

Systems				Replacement pump heads	
Pump head model	Drive type	Catalog number	Price	Catalog number	Price
QF150SU (single use)	ABS plastic, IP33	XJ-74000-35		XJ-76000-00	
	Stainless steel, IP66 and NEMA 4X	XJ-74000-37		XJ-76000-00	
QF150S (multiple use)	ABS plastic, IP33	XJ-74000-31		XJ-76000-06	
	Stainless steel, IP66 and NEMA 4X	XJ-74000-33		XJ-76000-06	
QF1200SU (single use)	Stainless steel, IP66 and NEMA 4X	XJ-74000-47		XJ-76000-02	
QF1200S (multiple use)	Stainless steel, IP66 and NEMA 4X	XJ-74000-43		XJ-76000-08	

Specifications for Quattroflow Pumps

Model		QF150SU (single use)	QF150S (multiple use)	QF1200SU (single use)	QF1200S (multiple use)
Flow range		1 to 180 L/h (0.26 to 48 GPH)	1 to 180 L/h (0.26 to 48 GPH)	20 to 960 L/h (5.3 to 253 GPH)	20 to 960 L/h (5.3 to 253 GPH)
Max pressure	For fluid temp <104°F (40°C)	58 psi (4 bar)	58 psi (4 bar)	58 psi (4 bar)	87 psi (6 bar)
	For fluid temp >104°F (40°C)	58 psi (4 bar)	58 psi (4 bar)	58 psi (4 bar)	58 psi (4 bar)
Max fluid temperature		140°F (60°C)	176°F (80°C)	140°F (60°C)	176°F (80°C)
Suction lift at 300 rpm		6.6 to 9.8 ft (2 to 3 m)	6.6 to 9.8 ft (2 to 3 m)	13.1 to 14.7 ft (4 to 4.5 m)	13.1 to 14.7 ft (4 to 4.5 m)
Volume per revolution	At free output	1.2 mL	1.2 mL	9.6 mL	9.6 mL
	Without connector	15 mL	15 mL	75 mL	75 mL
Connection type		¼" Tri-Clamp®	¼" Tri-Clamp	¾" Tri-Clamp	¾" Tri-Clamp
Position of connectors		In-line	In-line	In-line	In-line
Connector direction options		4	4	4	4
Wetted materials		PP (housing, valve plate), TPE (diaphragm), EPDM (valves, O-rings)	316L SS (housing, valve plate), TPE (diaphragm), EPDM (valves, O-rings)	PP (housing, valve plate), TPE (diaphragm), EPDM (valves, O-rings)	316L SS (housing, valve plate), TPE (diaphragm), EPDM (valves, O-rings)

Specifications for Masterflex Drives

Description	ABS plastic drive for QF150	Stainless steel drive for QF150	Stainless steel drive for QF1200
Speed	3000 rpm	3000 rpm	1700 rpm
Speed control	±0.1%	±0.1%	±0.1%
Motor size	1/16 hp (0.05 kW)	1/16 hp (0.05 kW)	3/8 hp (0.26 kW)
IP rating	IP33	IP66 and NEMA 4X	IP66 and NEMA 4X
Dispense modes	Motor rpm, flow rate, dispense volume, cumulative volume, dispense interval time, and copy number		
Input/output communications	Speed control: scalable 0 to 20 mA, 4 to 20 mA, 0 to 10 V; Pumping direction: requires open collector or contact enclosure; Start/stop/purge: requires open collector or contact closure; Tachometer output: scalable 0 to 20 mA, 4 to 20 mA, 0 to 10 V		
Power	90 to 260 VAC		

Masterflex® Drives Enhance Worker Protection

You take your safety seriously, and so do we.

You review every step of the process to take care of your staff and to benefit your business. We've added a new option to our Masterflex product line to help enhance protection in your workplace.



Open-Head Interlock Sensor Technology

Available integrated into select L/S® and I/P® drives or as a retrofit system, the open-head interlock sensors add an extra level of protection for operators who maintain pumps. When paired with an open-head sensor equipped pump head, the drive automatically shuts down when the pump head is opened, eliminating exposure to the moving rollers connected to the drive shaft.

Read the article *How Masterflex Pumps with Open Head Sensors Enhance Worker Protection* on our web site at https://www.coleparmer.com/tech-article/enhanced-worker-safety-open-head-interlock-sensor

Masterflex products with integrated open-head sensors

L/S Computer-Compatible Digital Drives page 161
L/S Digital Console Process Drives page 162
L/S Variable-Speed Digital Drives page 163
L/S Precision Console Process Drives page 166
L/S High-Pressure Pumps page 170
L/S Digital Miniflex® Pumps page 171
L/S Easy-Load II Pump Heads page 174
L/S High-Performance Pump Heads page 175

I/P Digital Console Process Drives page 179
I/P Easy-Load Pump Head page 181

Upgrade your Existing Drives

Use the retrofit system controller to incorporate open-head sensors into pump systems you already have. The system includes a control box that easily connects to your drive and an open-head sensor equipped pump head. If pump head is opened during operation, the interlock control box instantly shuts down the drive.

The retrofit system is compatible with select L/S and I/P drives. Controller 77097-00 includes power cables and a single extension cable to connect one sensor-equipped pump head. Order optional extension cable 77097-20 to connect a second pump head.



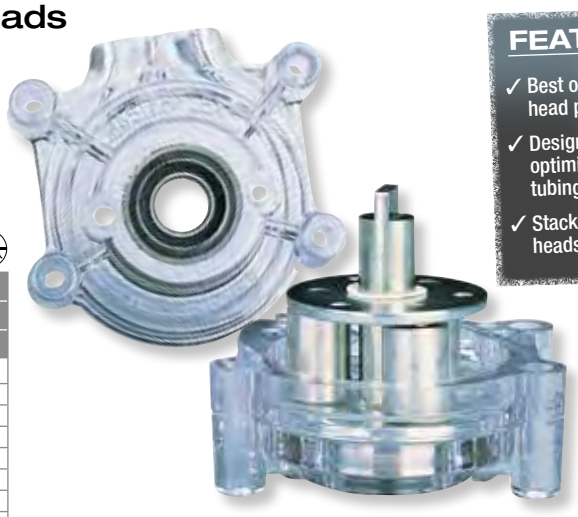
XJ-77097-00 Open-head interlock sensor control box
XJ-77097-02 Power cable for hard-wired 115 VAC drives
XJ-77097-20 Optional extension cable, 6 ft (1.8 m)

Masterflex® L/S® Standard Pump Heads

Ideal for accurate and repeatable fluid transfer applications

– PC housing allows you to see pump in operation; PPS housing and SS rotors have excellent chemical resistance

MASTERFLEX® ISO 9001:2008 CERTIFIED SUPPLIER



FEATURES
- ✓ Best overall pump head performance
- ✓ Designed and optimized for one tubing size
- ✓ Stack up to four heads

Pump tubing size	mL per rev	Flow rates in mL/min		Catalog number†‡		
		0.02 to 100 rpm	6 to 600 rpm	PC housing		PPS housing
				CRS rotor	SS rotor	SS rotor
A. Standard pump heads for Precision pump tubing						
L/S 13	0.06	0.001 to 6	0.36 to 36	XJ-07013-20	XJ-07013-21	XJ-07013-52
L/S 14	0.21	0.004 to 21	1.3 to 130	XJ-07014-20	XJ-07014-21	XJ-07014-52
L/S 16	0.8	0.016 to 80	4.8 to 480	XJ-07016-20	XJ-07016-21	XJ-07016-52
L/S 17	2.8	0.059 to 280	17 to 1700	XJ-07017-20	XJ-07017-21	XJ-07017-52
L/S 18	3.8	0.077 to 380	23 to 2300	XJ-07018-20	XJ-07018-21	XJ-07018-52
			Price			
B. Standard pump heads for High-Performance Precision pump tubing						
L/S 15	1.7	0.033 to 170	10 to 1000	XJ-07015-20	XJ-07015-21	XJ-07015-52
L/S 24	2.8	0.057 to 280	17 to 1700	XJ-07024-20	XJ-07024-21	XJ-07024-52
L/S 35	3.8	0.077 to 380	23 to 2300	XJ-07035-20	XJ-07035-21	—
			Price			
L/S 36	4.8	0.096 to 480	29 to 2900	XJ-07036-30	XJ-07036-31	—
			Price			—

†PC = polycarbonate PPS = polyphenylene sulfide
CRS = cold-rolled steel SS = stainless steel

‡Maximum system pressure = L/S 13, L/S 14, L/S 15, L/S 16, L/S 24: 40 psi (2.7 bar); L/S 17, L/S 36: 20 psi (1.4 bar); L/S 18: 15 psi (1.0 bar); L/S 35: 35 psi (2.4 bar)

Mounting Hardware

Stack up to four L/S Standard pump heads on one drive. Hardware is stainless steel.

Heads to be mounted	Catalog number	Price/st
Hardware for Standard Heads L/S 13 to 35		
One	XJ-07013-04	
Two	XJ-07013-05	
Three	XJ-07013-08	
Four	XJ-07013-09	
Hardware for Standard Heads L/S 36		
One	XJ-07036-01	
Two	XJ-07036-02	

Masterflex® L/S® Easy-Load® II Pump Heads

Automatic retention holds tubing securely in place

– Reduced pulsation and improved pressure performance and mechanical stability with standard four-roller rotor

– Choice of rotors—economical CRS rotors or SS rotors for better chemical resistance and durability

– Don't let pressure get to you. Choose models with adjustable occlusion—tighten for higher pressure, loosen for longer tubing life

– Models with open-head interlock sensor stop drive motor when pump head is open (when used with sensor-equipped drives)

What's included: single-channel mounting hardware and a 15" (38-cm) length of silicone pump tubing. Pump head comes ready to mount to drive.



FEATURES
- ✓ Load tubing easily
- ✓ Accepts several tubing sizes for a wide flow range
- ✓ Stack up to four heads
- ✓ Durable PPS housing

MASTERFLEX® ISO 9001:2008 CERTIFIED SUPPLIER

Pump tubing size accepted	mL per rev	Flow rates in mL/min		Max system pressure† psi (bar)	Fixed occlusion						Adjustable occlusion	
		1 to 100 rpm	6 to 600 rpm		CRS‡ rotor		SS‡ rotor		SS‡ rotor and open-head sensor		SS‡ rotor	
					Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
A. Easy-Load II pump heads for Precision pump tubing (not shown)												
L/S 13	0.06	0.06 to 6	0.36 to 36	40 (2.7)	XJ-77200-50		XJ-77200-60		XJ-77200-30		XJ-77201-60	
L/S 14	0.21	0.21 to 21	1.3 to 130	40 (2.7)								
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)								
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)								
L/S 17	2.8	2.8 to 280	17 to 1700	20 (1.4)								
L/S 18	3.8	3.8 to 380	23 to 2300	15 (1.0)								
B. Easy-Load II pump heads for High-Performance Precision pump tubing												
L/S 15	1.7	1.7 to 170	10 to 1000	40 (2.7)	XJ-77200-52		XJ-77200-62		XJ-77200-32		XJ-77201-62	
L/S 24	2.8	2.8 to 280	17 to 1700	40 (2.7)								
L/S 35	3.8	3.8 to 380	23 to 2300	35 (2.4)								
L/S 36	4.8	4.8 to 480	29 to 2900	20 (1.4)								
C. Two-channel Easy-Load II pump heads for Precision pump tubing												
L/S 13	0.06	0.06 to 6	0.36 to 36	40 (2.7)	XJ-77202-50		XJ-77202-60		—	—	—	—
L/S 14	0.21	0.21 to 21	1.3 to 130	40 (2.7)								
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)								
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)								

†Actual performance varies depending on pump tubing formulation—values shown are for firm pump tubing. ‡CRS = cold-rolled steel SS = stainless steel

Mounting Hardware. Mount up to four L/S Easy-Load II pump heads on a single drive. Mounting hardware is stainless steel.

Heads to be mounted	One	Two	Three	Four
Catalog number	XJ-77200-01	XJ-77200-02	XJ-77200-03	XJ-77200-04
Price/st				

Masterflex® L/S® High-Performance Pump Heads

All-new design offers faster tubing changes and improved ergonomics

- Simply close the pump head and tubing occlusion is optimal and automatic
- Flow rates up to 3400 mL/min with L/S high-performance precision tubing
- Reinforced nylon housing and occlusion bed with stainless steel rotor/roller assembly
- Models with open-head interlock sensor stop drive motor when pump head is open (when used with sensor-equipped drives)
- Compatible with all L/S drives that accept two or more pump heads

NEW

FEATURES
- ✓ Pressures up to 150 psi with L/S high-pressure (HP) pump tubing
- ✓ Automatic tubing occlusion—no need to adjust
- ✓ ATEX Zone 2 rated models available

MASTERFLEX®



ATEX Zone 2 77252-80, 82

What's included: mounting hardware and 15" (38 cm) of pump tubing.

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Pump tubing size	mL per rev	Flow rates in mL/min		Max system pressure psi (bar)	Catalog number		
		0.02 to 100 rpm	0.1 to 600 rpm		High-Performance pump head with open-head sensor	High-Performance pump head	ATEX-approved High-Performance pump head
High-performance pump heads for Precision pump tubing							
L/S 16	0.9	0.018 to 90	0.09 to 614	40 (2.7)	XJ-77252-60	XJ-77252-70	XJ-77252-80
L/S 25	1.9	0.038 to 187	0.19 to 1278	40 (2.7)			
L/S 17	3.0	0.06 to 307	0.30 to 1883	20 (1.4)			
L/S 18	3.8	0.076 to 377	0.38 to 2812	40 (2.7)			
High-performance pump heads for High-Performance Precision pump tubing							
L/S 14HP†	0.3	0.006 to 30	Not recommended	150 (10.3)	XJ-77252-62	XJ-77252-72	XJ-77252-82
L/S 16HP†	0.9	0.018 to 90	Not recommended	125 (8.5)			
L/S 15HP†	1.7	0.034 to 170	Not recommended	100 (6.8)			
L/S 24HP†	2.4	0.048 to 240	Not recommended	80 (5.5)			
L/S 15	1.8	0.036 to 180	0.18 to 1100	40 (2.7)			
L/S 24	3.0	0.06 to 300	0.30 to 1800	40 (2.7)			
L/S 35	4.3	0.086 to 430	0.43 to 2600	35 (2.4)			
L/S 36	5.8	0.116 to 580	0.58 to 3400	20 (1.4)			
				Price			

†L/S 14HP, L/S 15HP, L/S 16HP and L/S 24HP pump tubing is for use only with the L/S High-Performance pump head mounted on any L/S 100 rpm drive capable of running two or more pump heads. **Note:** High-Performance pump heads are not stackable.

Masterflex® L/S® Easy-Load® 3 Pump Heads

No tools or hardware needed

- Mount and stack heads in seconds with twist-lock mounting feature
- CRS rotor is more economical while SS offers greater durability and chemical resistance
- Mount up to four pump heads without tools or hardware when using mounting plate
- Included mounting plate adapts Easy-Load 3 pump heads to L/S drives

FEATURES
- ✓ Same side tubing entry/exit for space-limited applications
- ✓ Automatic tubing retention
- ✓ Stack up to four heads

MASTERFLEX®

ISO 9001:2008 CERTIFIED SUPPLIER



Pump tubing sizes accepted	mL per rev	Flow rates in mL/min		Maximum system pressure† psi (bar)	Catalog number‡	
		1 to 100 rpm	6 to 600 rpm		CRS rotor	SS rotor
Easy-Load 3 pump heads for Precision pump tubing						
L/S 13	0.06	0.06 to 6	0.36 to 36	40 (2.7)	XJ-77800-50	XJ-77800-60
L/S 14	0.22	0.22 to 22	1.3 to 130	40 (2.7)		
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)		
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)		
L/S 17	2.8	2.8 to 280	17 to 1700	20 (1.4)		
L/S 18	3.8	3.8 to 380	23 to 2300	15 (1.0)		
Easy-Load 3 pump heads for High-Performance Precision pump tubing						
L/S 15	1.7	1.7 to 170	10 to 1000	30 (2.0)	XJ-77800-52	XJ-77800-62
L/S24	2.8	2.8 to 280	17 to 1700	30 (2.0)		
L/S 35	3.8	3.8 to 380	23 to 2300	25 (1.7)		
L/S 36	4.8	4.8 to 480	29 to 2900	20 (1.4)		
				Price		

†Actual performance varies depending on pump tubing formulation—values shown are for firm pump tubing.
‡CRS = cold-rolled steel SS = stainless steel

XJ-77800-00 Replacement mounting kit, for mounting Easy-Load 3 pump head to Masterflex L/S pump drives. Includes mounting plate and four screws

Masterflex® L/S® Easy-Load® Pump Heads

Save time with fast tubing changes and reduced maintenance

- No need to remove head to change tubing
- PPS housing offers improved chemical resistance; SS rotor offers increased durability and chemical resistance
- Get four separate pumping channels by mounting up to four heads on one drive
- ATEX Zone 2 approved models rated to EEx II 3 G c II C T6
- Ready to use—include single-channel mounting hardware and 15" (38 cm) of silicone tubing

FEATURES

- ✓ Fixed occlusion averaged for several tubing sizes
- ✓ Stack up to four heads
- ✓ ATEX Zone 2 rated models available



ISO9001:2008 CERTIFIED SUPPLIER

ATEX Zone 2 07516-40, -42

MASTERFLEX®

Pump tubing sizes accepted	mL per rev	Flow rates in mL/min		Maximum system pressure psi (bar)	Catalog number†			
					White PPS housing		Black PPS housing	ATEX-approved PPS housing
		1 to 100 rpm	6 to 600 rpm		CRS rotor	SS rotor	SS rotor	SS rotor
Easy-Load pump heads for Precision pump tubing								
L/S 13	0.06	0.06 to 6	0.36 to 36	40 (2.7)	XJ-07516-00	XJ-07516-10	XJ-07518-60	XJ-07516-40
L/S 14	0.21	0.21 to 21	1.3 to 130	40 (2.7)				
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)				
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)				
L/S 17	2.8	2.8 to 280	17 to 1700	20 (1.4)				
L/S 18	3.8	3.8 to 380	23 to 2300	15 (1.0)				
Easy-Load pump heads for High-Performance Precision pump tubing								
L/S 15	1.7	1.7 to 170	10 to 1000	40 (2.7)	XJ-07516-02	XJ-07516-12	XJ-07518-62	XJ-07516-42
L/S 24	2.8	2.8 to 280	17 to 1700	40 (2.7)				
				Price				

†PSF = polysulfone PPS = polyphenylene sulfide CRS = cold-rolled steel SS = stainless steel

Mounting Hardware

for Easy-Load Heads

Stack up to four L/S Easy-Load pump heads on one drive. Order mounting hardware based on number of mounted pump heads. Hardware is stainless steel.

Heads to be mounted	Catalog number	Price/st
One	XJ-07013-04	
Two	XJ-07013-05	
Three	XJ-07013-08	
Four	XJ-07013-09	

Masterflex® L/S® PTFE-Tubing Pump Head

Ideal for high-purity fluids and aggressive organic solvents

- Pump fluids at pressures up to 100 psi (6.9 bar)
- Use for applications including filtration, chemical injection, and high-purity sampling
- PTFE tubing is the only wetted part; anodized aluminum and acetal body; stainless steel rotor assembly
- Compatible with L/S drives that accept two or more pump heads (1/10 hp min); For best results, run at 1 to 300 rpm

Note: PTFE-tubing pump head accepts **only** the Masterflex L/S PTFE tubing sets sold below; ordinary PTFE tubing cannot be substituted. Use the connectors to adapt the tubing sets to your system.

FEATURES

- ✓ PTFE is the only wetted part—safely transfer aggressive organic solvents
- ✓ Adjustable occlusion for higher pressure or longer tubing life
- ✓ Use with rigid tubing for pressures up to 100 psi (6.9 bar)
- ✓ Not stackable



MASTERFLEX®

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Flow rates (mL/min at 1 to 300 rpm)		Maximum continuous pressure	Max suction lift	Avg tubing life (100 rpm, 0 psi)	Number of rollers	Catalog number	Price
4-mm OD tubing	6-mm OD tubing						
0.06 to 17	0.25 to 65	100 psi (6.9 bar)	8 ft (2.4 m)	500 hours	Six	XJ-77390-00	

PTFE-Tubing Sets include two 15" (38 cm) lengths and cannot be substituted with ordinary PTFE tubing.

XJ-77390-50 **PTFE-tubing set.** 2-mm ID, 4-mm OD. Set of 2

XJ-77390-60 **PTFE-tubing set.** 4-mm ID, 6-mm OD. Set of 2

Compression Fittings adapt tubing sets to your system.

For 4-mm OD PTFE-Tubing Sets

XJ-31321-61 **Straight connector,** 40 psi (2.8 bar) max

XJ-06605-53 **PTFE extension tubing,** 4-mm OD. Pack of 25 ft (7.6 m)

For 6-mm OD PTFE-Tubing Sets

XJ-31321-64 **Straight connector,** 135 psi (9.2 bar) max

XJ-06605-54 **PTFE extension tubing,** 6-mm OD. Pack of 25 ft (7.6 m)

Masterflex® L/S® Cytoflow™ Pump Heads

- Convex-roller design is gentler on live cells and shear-sensitive fluids—validated by independent test data
- Large-diameter rotor delivers higher flow rates at lower speeds
- Low-speed pumping lets you maintain the consistency and characteristics of shear-sensitive fluids
- 2-roller and 3-roller configurations available—choose 2 rollers for maximum flow rate, 3 rollers for less pulsation
- Compatible with all Masterflex L/S drives that accept two or more pump heads

Developed specifically for pumping delicate live cells and shear-sensitive fluids, the Masterflex L/S Cytoflow pump head is ideal for use in biopharma and microbiology applications where peristaltic pump operators want to minimize cell hemolysis. The extra-large tubing bed combined with fewer rollers results in high flow rates at low motor speeds, which furthers its cell viability advantages.

MASTERFLEX®

Pump tubing size	mL per rev	Flow rates in mL/min		Max system pressure psi (bar)	Catalog number	Price
		0.02 to 100 rpm	0.1 to 600 rpm			
2-roller pump heads for Precision pump tubing						
L/S 16	1.7	0.03 to 170	0.17 to 1000	22 (1.5)	XJ-77253-00	
L/S 25	3.9	0.08 to 390	0.39 to 2300	22 (1.5)		
L/S 17	6.1	0.12 to 600	0.61 to 3600	22 (1.5)		
L/S 18	8.6	0.17 to 850	0.86 to 5100	22 (1.5)		
2-roller pump heads for High-Performance Precision pump tubing						
L/S 15	4.0	0.08 to 390	0.40 to 2300	22 (1.5)	XJ-77253-02	
L/S 24	6.2	0.12 to 600	0.62 to 3700	22 (1.5)		
L/S 35	9.5	0.19 to 930	0.95 to 5600	22 (1.5)		
L/S 36	12.8	0.26 to 1270	1.3 to 7600	22 (1.5)		
3-roller pump heads for Precision pump tubing						
L/S 16	1.6	0.03 to 160	0.16 to 980	22 (1.5)	XJ-77253-10	
L/S 25	3.5	0.07 to 340	0.35 to 2000	22 (1.5)		
L/S 17	5.6	0.11 to 550	0.56 to 3300	22 (1.5)		
L/S 18	7.7	0.15 to 770	0.77 to 4600	22 (1.5)		
3-roller pump heads for High-Performance Precision pump tubing						
L/S 15	3.5	0.07 to 340	0.35 to 2000	22 (1.5)	XJ-77253-12	
L/S 24	5.7	0.11 to 570	0.57 to 3400	22 (1.5)		
L/S 35	7.8	0.16 to 780	0.78 to 4600	22 (1.5)		
L/S 36	9.6	0.19 to 950	0.96 to 5700	22 (1.5)		

✓ Ensure the survival and vitality of live cells
✓ Maintain the consistency of shear-sensitive fluids
✓ High flow at low rpm



Cell Viability Test Data

Hemolysis of blood cells was used to evaluate the sensitivity of several pump designs for live cell circulation. In vitro testing was completed using citrated bovine blood circulated through several peristaltic pump systems and settings to establish optimal conditions. Each pump system was evaluated against its Average Hemolytic Index for 180 minutes.

Factors Affecting Shear Sensitivity

Pump Motor Speed

Flow rates in peristaltic pumps are dictated by the rotation speed of the motor, measured in revolutions per minute (rpm). Peristaltic pumps generally present linear flow rates versus rpm with the tubing diameter, number of rollers, and overall occlusion bed size affecting the amount of flow per revolution. Chart 1 shows that the motor speed is very dominant in a pump's ability to maintain cell viability during recirculation.

Pump Head Occlusion

Less tubing occlusion allowed space for the blood cells to shift around the force of the roller which decreased the overall percent of hemolysis. Chart 2 compares the effect of flat rollers versus convex rollers on pumps running at the same speed. In this case, equipping a pump head with less than full occlusion improves cell viability 10 to 25%.

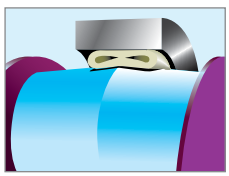

Convex roller

Chart 1: Comparison of Speeds on Cell Hemolysis

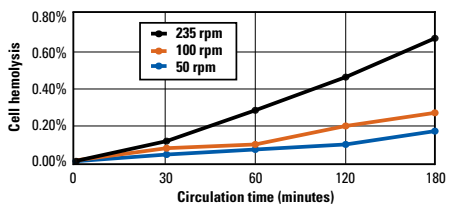
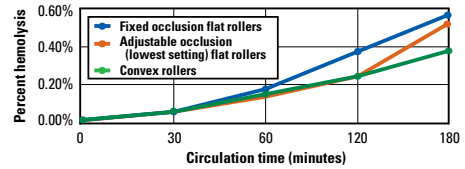


Chart 2: Percent Hemolysis Comparing Pump Head Occlusion Settings



Masterflex® L/S® Multichannel Pump Heads

Get low-pulsation synchronous flow in multiple channels without cartridges

- Load the tubing, latch the occlusion bed, and run the pump—two-stop tubing gives you optimal tension with no adjustment
- Stackable two, four, or eight-channel heads for up to 24 channels
- Six roller heads deliver low-pulsation flow; three-roller heads offer higher flow rates
- Heads for L/S Precision pump tubing accept two-stop tubing set sizes L/S 13, L/S 14, and L/S 16; heads for L/S High-Performance Precision pump tubing accept two-stop tubing set sizes L/S 15, L/S 24, and L/S 35
- Compatible with L/S drives that accept two or more pump heads; 1/10 hp min

What's included: mounting hardware and hex key tool.



FEATURES

- ✓ Stackable for up to 24 synchronous flow channels
- ✓ Models for L/S two-stop tubing sets available
- ✓ Durable stainless steel and anodized aluminum construction



Stack heads for even more channels!

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Number of channels	Number of rollers	Max channels with stacked heads†		Catalog number	Price
		100 rpm drive	600 rpm drive		
A. L/S Multichannel pump heads for Precision pump tubing, sizes L/S 13, L/S 14, L/S 16					
4	6	24	12	XJ-07535-04	
8				XJ-07535-08	
B. L/S Multichannel pump heads for High-Performance Precision pump tubing, sizes L/S 15, L/S 24, L/S 35					
2	3	12	6	XJ-07536-02	
4				XJ-07536-04	

†Maximum channel capacity depends on drive torque capability and tubing formulation used.

L/S Two-Stop Precision Tubing Sets Ordering Information for 07535- and 07536-series pump heads

Pump tubing formulation	L/S Precision pump tubing			L/S High-Performance Precision pump tubing		
	L/S 13	L/S 14	L/S 16	L/S 15	L/S 24	L/S 35
Tygon® E-LFL	XJ-06447-13 /pk of 8	XJ-06447-14 /pk of 8	XJ-06447-16 /pk of 8	XJ-06447-15 /pk of 4	XJ-06447-24 /pk of 4	XJ-06447-35 /pk of 4
Silicone (platinum-cured)	XJ-06421-13 /pk of 8	XJ-06421-14 /pk of 8	XJ-06421-16 /pk of 8	XJ-06421-15 /pk of 4	XJ-06421-24 /pk of 4	XJ-06421-35 /pk of 4
BioPharm Plus Silicone (platinum-cured)	XJ-96116-13 /pk of 8	XJ-96116-14 /pk of 8	XJ-96116-16 /pk of 8	XJ-96116-15 /pk of 4	XJ-96116-24 /pk of 4	XJ-96116-35 /pk of 4
PharMed® BPT	XJ-96114-13 /pk of 8	XJ-96114-14 /pk of 8	XJ-96114-16 /pk of 8	XJ-96114-15 /pk of 4	XJ-96114-24 /pk of 4	XJ-96114-35 /pk of 4
Chem-Durance® Bio	XJ-96117-13 /pk of 8	XJ-96117-14 /pk of 8	XJ-96117-16 /pk of 8	XJ-96117-15 /pk of 4	XJ-96117-24 /pk of 4	XJ-96117-35 /pk of 4
Viton®	XJ-96428-13 /pk of 8	XJ-96428-14 /pk of 8	XJ-96428-16 /pk of 8	XJ-96428-15 /pk of 4	XJ-96428-24 /pk of 4	XJ-96428-35 /pk of 4

Flow Rates per Channel in mL/min with L/S Two-Stop Precision Pump Tubing Sets above

Drive rpm	Precision pump tubing			High-Performance Precision pump tubing		
	L/S 13	L/S 14	L/S 16	L/S 15	L/S 24	L/S 35
1 to 100	0.045 to 4.5	0.16 to 16	0.47 to 47	1.6 to 160	2.8 to 280	3.8 to 380
6 to 600	0.27 to 27	0.96 to 96	2.8 to 280	10 to 1000	17 to 1700	23 to 2300

Application Solution



Challenge

A pharmaceutical manufacturer needed to dispense volumes of 300 mL in 15 seconds or less repeating three times per minute; and 20 mL in 2 seconds or less repeating 20 times per minute. The desired accuracy target for both applications was ±1.5%. The efficiency of simultaneously pumping multiple channels was critical.

Solution

The manufacturer now uses a Masterflex L/S digital drive with an L/S four-channel pump head 07536-04. Size L/S 15 two-stop silicone tubing (06421-15) met the smaller flow requirement; while size L/S 35 two-stop silicone tubing (06421-35) met the larger flow requirement. Careful calibration of the drive, and the synchronous multichannel flow capability of the pump head enabled the manufacturer to meet the accuracy target.

Masterflex® I/P® Digital Console Process Drives

Maintenance-free drives built for process applications

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Dispense by volume, copy, or time with programmable delay interval
- Models equipped with open-head sensor stop drive motor when pump head is opened—pair with an open-head sensor equipped pump head (see page 181)

Models 77420-10 and -18 feature a 316 stainless steel housing with an anodized aluminum base. Ideal for pharmaceutical, dairy, biotech, and food and beverage applications.

Models 77420-20 and -28 feature a powder-coated steel housing with anodized aluminum base. Use in process, manufacturing, and water-treatment applications where stainless steel is not a critical requirement.

What's included: 6-ft (1.8-m) line cord with IEC 320/CEE22 socket. Shipped with country-specific plug/cord set; please specify ultimate destination when ordering.

FEATURES

- ✓ Flow rates: 0.0006 to 19 LPM
- ✓ Accuracy of ±0.1% speed control
- ✓ Four-line graphical display
- ✓ Reversible motor
- ✓ IP66-rated for easy washdown
- ✓ Accept up to 2 pump heads



77420-10 shown with I/P High-Performance pump head 77600-62

MASTERFLEX®

ISO9001:2008 CERTIFIED SUPPLIER

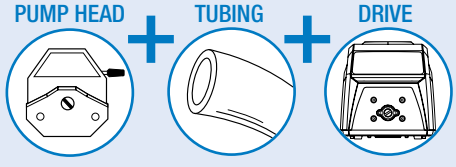
rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power	Catalog number	Price
Digital process drive with 316 stainless steel housing									
0.1 to 650	±0.1%	No	2	⅜ hp (280 W)	IP66	16 11/16" x 11⅛" x 12⅞"	90 to 260 VAC, 50/60 Hz	XJ-77420-10	
		Yes						XJ-77420-18	
Digital process drive with powder-coat steel housing									
0.1 to 650	±0.1%	No	2	⅜ hp (280 W)	IP66	16 11/16" x 11⅛" x 12⅞"	90 to 260 VAC, 50/60 Hz	XJ-77420-20	
		Yes						XJ-77420-28	

Accessories

XJ-07575-84 **Washdown foot switch,** momentary start/stop; 6-ft (1.8-m) cable

XJ-07575-80 **Cable assembly,** 31-pin round connector and 25-ft (7.9-m) cable with stripped wire ends for remote control

XJ-17050-01 **NIST-traceable calibration** for peristaltic pump drive



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.001 to 8.0 LPM	Easy-Load® 77602-10	C-Flex® ULTRA I/P 73 tubing 06434-73 10 ft (3 m)	Digital process drive with 316 SS housing 77420-10 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	XJ-77964-20	
	0.001 to 8.0 LPM	Easy-Load 77602-10	C-Flex® ULTRA I/P 73 tubing 06434-73 10 ft (3 m)	Digital process drive with powder-coat steel housing 77420-20 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	XJ-77964-30	

Masterflex® I/P® Precision Process Drives

Powerful, low-maintenance drives keep you pumping

- Don't worry about moisture, chemicals, or dust—IP55-rated nonchip epoxy-coated steel housing
- Goes where you need it—compact and light enough to carry with one hand, powerful enough to drive two pump heads
- Get up to speed quickly—easy to adjust speed knob and LED display for improved repeatability

FEATURES

- ✓ Flow rates: 0.2 to 19 LPM
- ✓ Accuracy of ±0.25% speed control
- ✓ LED display
- ✓ Reversible motor and remote control capabilities
- ✓ Accept up to 2 pump heads

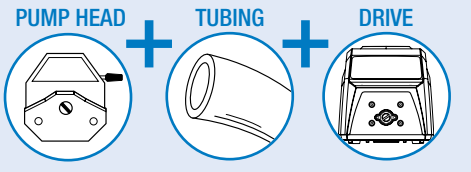


MASTERFLEX® ISO9001:2008 CERTIFIED SUPPLIER

Motor speed (rpm)	Speed control (repeatability)	Pump heads accepted	Motor size	Dimensions	Power (50/60 Hz)		Catalog number	Price
					VAC	Amps		
Variable-speed brushless process drive								
33 to 650	±0.25% (2% of max rpm)	2	⅓ hp (0.25 kW)	14"L x 10"W x 9"H (35.6 x 25.4 x 22.9 cm)	90 to 260	4.5 at 115 VAC, 2.6 at 230 VAC	XJ-77410-10	
Variable-speed brushless process drive with remote input/output								
33 to 650	±0.25% (2% of max rpm)	2	⅓ hp (0.25 kW)	14"L x 10"W x 9"H (35.6 x 25.4 x 22.9 cm)	90 to 260	4.5 at 115 VAC, 2.6 at 230 VAC	XJ-77411-00	

XJ-07595-43 **Washdown foot switch** for model 77411-00

XJ-77300-32 **Remote cable kit.** Required for model 77411-00 to operate the remote inputs and outputs



Choose a convenient Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.4 to 8 LPM	Easy-Load® 77602-10	C-Flex® ULTRA I/P 73 tubing 06434-73 10 ft (3 m)	Brushless process drive 77410-10 33 to 650 rpm	90 to 260 VAC, 50/60 Hz	XJ-77963-10	
	0.7 to 17 LPM	High-Performance 77600-62	Tygon® E-LFL I/P 88 tubing 06440-88 3 ft (1 m)	Brushless process drive 77410-10 33 to 650 rpm	90 to 260 VAC, 50/60 Hz	XJ-77963-20	



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Kim, 12 years of experience

Masterflex® I/P® High-Performance Pump Heads

Get higher flow rates and pressure

- Easily transfer viscous fluids
- Pump up to 19 LPM for higher volume processing
- Durable design for longer life—made of stainless steel rollers, bearings, rotor plates, and rotor shaft. Occlusion bed is made of thermoset polyester
- Compatible with I/P drives that accept two or more pump heads; pump head is not stackable



MASTERFLEX® ISO9001:2008 CERTIFIED SUPPLIER ATEX Zone 2 77600-82

Pump tubing sizes accepted	mL per rev	Flow rates (LPM) at 20 to 650 rpm	Maximum system psi (bar)	Catalog number†	
				Polyester and SS housing, SS rotor	ATEX-approved; polyester and SS housing, SS rotor
I/P 70	12.3	0.26 to 8	40 (2.7)	XJ-77600-62	XJ-77600-82
I/P 88	26.2	0.4 to 17	35 (2.4)		
I/P 89	29.2	0.52 to 19	20 (1.4)		
			Price		

†SS = stainless steel

FEATURES
- ✓ Easy to load tubing
- ✓ Adjustable tubing retention
- ✓ "C"-shaped design—tubing enters/exits the same side
- ✓ ATEX Zone 2 rated model available

Masterflex® I/P® Easy-Load® Pump Heads

Minimize downtime with faster tubing changes

- Optimize pressure capabilities and tubing life with adjustable occlusion
- Less maintenance and quieter operation with included tang boot
- No more loose pump heads—five-screw mounting for more secure attachment
- Adjust flow rate to your needs—can pump from 0.01 to 13 LPM
- PPS housing with CRS or SS rotor available. CRS rotors have sealed bearings; SS rotors have PTFE-sealed bearings
- Model with open-head interlock sensor stops drive motor when pump head is open (when used with sensor-equipped drives)

FEATURES
- ✓ Load tubing without removing pump head from drive
- ✓ Automatic tubing retention
- ✓ Stack up to two pump heads
- ✓ ATEX Zone 2 rated model available



MASTERFLEX® ISO9001:2008 CERTIFIED SUPPLIER ATEX Zone 2 77602-80

Pump tubing sizes accepted	mL per rev	Flow rates (LPM) at indicated rpm			Maximum system psi (bar)	Catalog number†				
						White PPS housing			Black PPS housing	ATEX-approved; PPS housing
		100	540	20 to 650		CRS rotor	SS rotor	SS rotor and open-head sensor	SS rotor	SS rotor
I/P 26	6.15	0.6	3.2	0.12 to 4	40 (2.7)	XJ-77602-00	XJ-77602-10	XJ-77602-30	XJ-77601-60	XJ-77602-80
I/P 73	12.3	1.2	6.8	0.2 to 8						
I/P 82	20.0	2.0	11.0	0.4 to 13	20 (1.4)					
					Price					

†PPS = polyphenylene sulfide CRS = cold-rolled steel SS = stainless steel

XJ-77601-96 **Dual-channel mounting hardware** for two pump heads, stainless steel

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Masterflex® B/T® Fixed- and Variable-Speed Pumps

Achieve the highest flow rates of any Masterflex pump—up to 42 LPM (11.1 GPM)

Fixed-Speed Pumps

- Economical and easy to operate
- Reversible motor: purge before or after pumping, pump fluid in either direction
- IP55-rated motor—wash off dirt and debris

Air-Powered Pump

- Use in locations where electricity is unsafe or impractical
- Includes pressure regulator—control your compressor air to match pump requirements
- 24 cfm (0.68 m^3), 100 psi (6.9 bar) minimum air required, supply your own compressor to power pump
- IP56-rated motor protects against dust and strong water jets
- Rated for ATEX Zone 2 EEx II 3 G c IIC T6; NEC Class 1, Division 2, Groups A, B, C, D, T6

Variable-Speed Modular Pump

- Place washdown controller wherever it's convenient
- Controller with 16-ft (4.9-m) cord mounts on pump or wall
- IP56-rated motor protects against dust and strong water jets
- Reversible motor: purge before or after pumping, pump fluid in either direction

Variable-Speed Modular Digital Pump

- High-volume, high-accuracy dispensing
- Dispense by volume or time, or pump continuously
- Separate motor and controller by up to 6 feet (1.8 m) for convenient operation
- IP56-rated controller and motor protect against dust and water

What's included: a Rapid-Load® pump head, 3 ft (1 m) of Tygon® E-LFL B/T 91 pump tubing, and a 6-ft (1.8-m) power cord (115 VAC: US standard plug; 230 VAC: European plug).



Fixed-speed pump
77111-60



Variable-speed modular digital pump
77111-70

FEATURES

- ✓ Flow rates up to 42 LPM
- ✓ Interlock switch shuts off power when pump head is opened
- ✓ Washdown pumps handle the toughest process and production applications, then clean up with ease
- ✓ Gentle peristaltic action is ideal for pumping shear-sensitive or viscous fluids (up to 10,000 cps)
- ✓ Rotor and occlusion bed design allow easier tube loading and prevent "tubing roll" during operation

Flow Rates in LPM (GPM)

rpm	PerfectPosition® pump tubing	
	B/T 87	B/T 91
321	18.9 (5.0)	42 (11.1)
271	16.0 (4.2)	35 (9.4)
35 to 321	1.9 to 17.7 (0.5 to 4.7)	4.0 to 37 (1.06 to 9.8)
12 to 321	0.71 to 18.9 (0.19 to 5.0)	1.4 to 42 (0.4 to 11.1)

ISO 9001:2008 CERTIFIED SUPPLIER

77111-37, -67, -77, -80

ATEX Zone 2 77111-80

IP55 77111-30, -37

IP56 Except 77111-30, -37

MASTERFLEX®

Motor type	Motor size	rpm	IP rating	Mounting type	Dimensions (L x W x H)	Power		Catalog number	Price
						VAC (Hz)	Amps		
Fixed-speed	1 hp (0.75 kW)	321	IP55	Direct-drive	27" x 15.8" x 15.1"(68.6 x 40 x 38.4 cm)	115 (60)	12.6	XJ-77111-30	
		271				220 (50)	6.3	XJ-77111-37	
Variable-speed, air powered	¾ hp (0.56 kW)	35 to 321	IP56	Direct-drive	27" x 15.8" x 15.1" (68.6 x 40 x 38.4 cm)	Requires 24 cfm (0.68 m^3) 100 psi (6.9 bar) minimum		XJ-77111-80	
Variable-speed (±5%)	½ hp (0.37 kW)	12 to 321	Controller: IP56 Drive: IP56	Direct-drive	27" x 15.8" x 17.4" (68.6 x 40 x 44.2 cm)	115 (50/60)	6.5	XJ-77111-60	
						230 (50/60)	3.3	XJ-77111-67	
Variable-speed digital (±0.3%)	¾ hp (0.56 kW)	12 to 321		Direct-drive	Controller: 9" x 11" x 4½" (22.9 x 27.9 x 11.4 cm) Drive: 27" x 15¾" x 15" (68.6 x 40.0 x 38.4 cm)	90 to 130 (50/60)	10.5	XJ-77111-70	
						190 to 260 (50/60)	5.7	XJ-77111-77	

XJ-77300-32 **Remote cable,** required for remote control operation of models 77111-70 and -77; 25 ft (7.6 m)
XJ-77111-90 **Bracket for digital controller** on models 77111-70 and -77

Masterflex® C/L® Variable-Speed Compact Pumps

Pump in even the tightest spaces!

– Pump fluids in either direction—easily switchable reversing motor
– Easy tubing changes—open cover and release occlusion bed in one motion

A. C/L Single-Channel Pumps

– Stop/start remotely via contact closure
– MAX button quickly primes or purges tubing
– Pump from 0.002 to 43 mL/min

B. C/L Digital Microflex® Pump

– Icon-driven menu allows quick programming and setup
– Flow range of 0.00013 to 43 mL/min
– Copy dispense function for filling and dispensing applications
– Remote control of speed, direction, and start/stop/prime via 25-pin connector on back of drive
– Microflex pump head accepts continuous lengths of tubing for clean flow paths
– Tubing calibration ensures accuracy

NEW



FEATURES
✓ Flow range: 0.00013 to 43 mL/min
✓ Reversible pumping
✓ Remote control capabilities

MASTERFLEX® ISO9001:2008 CERTIFIED SUPPLIER

Power supplies are:

rpm	Speed control (repeatability)	Number of channels	Number of rollers	Reversible motor	IP rating	Dimensions—¼ DIN (L x W x H)	Power		Catalog number	Price
							VAC, Hz	Amps		
A. C/L single-channel compact pumps										
1.7 to 10	±5%	1	4	Yes	IP22	7" x 3¾" x 3½" (17.8 x 9.5 x 8.9 cm)	90 to 260, 50/60	110 mA at 115 VAC	XJ-77122-04	
							12 VDC†	—	XJ-77122-06	
13 to 80							90 to 260, 50/60	175 mA at 115 VAC	XJ-77122-14	
							12 VDC†	—	XJ-77122-16	
50 to 300			3				90 to 260, 50/60	400 mA at 115 VAC	XJ-77122-24	
							12 VDC†	—	XJ-77122-26	
B. C/L digital Microflex pump										
0.1 to 300	±0.1%	1	3	Yes	IP33	8 1/16" x 5½" x 6 3/16" (20.5 x 14 x 15.7 cm)	90 to 260	0.34 at 115 VAC, 0.2 at 230 VAC	XJ-77123-00	

†Power supply not included with 12 VDC models.

XJ-17050-01 **NIST-traceable calibration** with data for peristaltic pump drive

For A models:

XJ-77120-03 **Brackets** for panel mounting. Set of 2
XJ-77200-07 **Replacement power supply,** 100 to 240 VAC, for pump 77122-24
XJ-77120-11 **Replacement power supply,** 100 to 240 VAC, for pumps 77122-04, -14

For B model:

XJ-07523-92 **Foot switch,** momentary start/stop; DB25 male; 6-ft (1.8-m) cable
XJ-07523-95 **Cable assembly,** DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends
XJ-07523-97 **Handheld remote controller,** DB25 male, route tubing through handle for dispensing applications; 6-ft (1.8-m) cable
XJ-77123-80 **Replacement single-channel Microflex pump head**
XJ-07525-90 **Replacement power supply,** 90 to 260 VAC

Tube ID (mm)	Tygon® E-Lab	Silicone (platinum-cured)	Silicone (peroxide-cured)	PharMed® BPT	Tygon E-LFL (long flex life)	Viton®	Puri-Flex™	C-Flex®	Solvent/ hydrocarbon
0.19	XJ-06460-10	—	XJ-07625-10	XJ-95809-10	XJ-06449-10	—	XJ-96418-10	XJ-95718-10	XJ-95712-10
0.25	XJ-06460-12	—	XJ-07625-12	XJ-95809-12	XJ-06449-12	—	XJ-96418-12	XJ-95718-12	XJ-95712-12
0.51	XJ-06460-18	XJ-95590-18	XJ-07625-18	XJ-95809-18	XJ-06449-18	XJ-97632-18	XJ-96418-18	XJ-95718-18	XJ-95712-18
0.89	XJ-06460-26	XJ-95590-26	XJ-07625-26	XJ-95809-26	XJ-06449-26	XJ-97632-26	XJ-96418-26	XJ-95718-26	XJ-95712-26
1.14	XJ-06460-30	XJ-95590-30	XJ-07625-30	XJ-95809-30	XJ-06449-30	XJ-97632-30	XJ-96418-30	XJ-95718-30	XJ-95712-30
1.42	XJ-06460-34	XJ-95590-34	XJ-07625-34	XJ-95809-34	XJ-06449-34	XJ-97632-34	XJ-96418-34	XJ-95718-34	XJ-95712-34
2.06	XJ-06460-42	XJ-95590-42	XJ-07625-42	XJ-95809-42	XJ-06449-42	XJ-97632-42	XJ-96418-42	XJ-95718-42	XJ-95712-42
2.79	XJ-06460-48	XJ-95590-48	XJ-07625-48	XJ-95809-48	XJ-06449-48	XJ-97632-48	XJ-96418-48	XJ-95718-48	XJ-95712-48
Length/pk	30.4 m (100 ft)	15.2 m (50 ft)	15.2 m (50 ft)	30.4 m (100 ft)	30.4 m (100 ft)	15.2 m (50 ft)	15.2 m (50 ft)	15.2 m (50 ft)	15.2 m (50 ft)
Price/pk									

Flow Rates in mL/min

rpm	Microbore pump tubing size (ID)							
	0.19 mm	0.25 mm	0.51 mm	0.89 mm	1.14 mm	1.42 mm	2.06 mm	2.79 mm
1.7 to 10	0.002 to 0.013	0.004 to 0.022	0.015 to 0.087	0.041 to 0.25	0.064 to 0.39	0.09 to 0.57	0.18 to 1.05	0.28 to 1.65
13 to 80	0.017 to 0.10	0.03 to 0.18	0.12 to 0.70	0.33 to 2.0	0.52 to 3.1	0.75 to 4.5	1.4 to 8.5	1.8 to 11.0
50 to 300	0.06 to 0.39	0.11 to 0.66	0.43 to 2.6	1.2 to 7.5	1.9 to 11.4	2.8 to 17.1	5.3 to 32	7.2 to 43
0.1 to 300	0.00013 to 0.39	0.0002 to 0.66	0.0009 to 2.6	0.003 to 7.5	0.004 to 11.4	0.006 to 17.1	0.011 to 32	0.014 to 43

Masterflex® Pump Tubing

Ensure optimal performance from your Masterflex Pump

Silicone (platinum-cured)
- Low protein binding, fungus resistant, phthalate and latex-free
- Accommodates a wide temperature range
- USP Class V, EP, FDA, REACH, RoHS, ADCF

Silicone (peroxide-cured)
- Greater physical compression capability
- Economical, longer tubing life
- USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF

BioPharm Silicone (platinum-cured)
- Low absorption; excellent biocompatibility
- Very low extractable; weather, ozone, corona, radiation resistant
- USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF

BioPharm Plus Silicone (platinum-cured)
- Ultra-smooth—minimizes particle entrapment
- Very low extractable—ideal for lab, biotech, and pharmaceutical
- USP Class VI, EP, FDA, REACH, RoHS, ADCF

Puri-Flex™
- Heat sealable, weldable, and economical
- Long pump life when compared to silicone or many other TPE tubings
- USP Class VI, FDA, 3A, REACH, RoHS, ADCF

C-Flex®
- Heat sealable, weldable, economical
- Better resistance to pH fluctuations
- USP Class VI, EP, REACH, RoHS, ADCF

C-Flex® ULTRA
- Longest life of any C-Flex formulation
- Lowest spallation and reduced residue
- USP Class VI, EP, REACH, RoHS, ADCF

PharMed® BPT
- >10,000 hours of tubing life; sealable, weldable
- Ideal for tissue and cell culture work
- USP Class VI, EP, FDA, NSF, REACH, RoHS

PharmaPure®
- Nontoxic and nonhemolytic biocompatible
- Long life even under pressure with VERY low spallation
- USP Class VI, EP, FDA, REACH, RoHS

GORE® STA-PURE® Series PCS
- Long life—even in pressures up to 100 psi
- Excellent flow stability
- USP Class VI

GORE® STA-PURE® Series PFL
- Long life—even in pressures up to 100 psi
- Excellent biocompatibility and flow stability
- USP Class VI

Chem-Durance® Bio
- Excellent chemical compatibility and biocompatibility
- Excellent life and durability under pressure
- USP Class VI, FDA, REACH, RoHS

Solve-Flex®
- Excellent chemical resistance, especially solvents
- Fluoropolymer lined with low spallation
- USP Class VI

Tygon® E-LFL
- Longest life of all Tygon formulations
- Broad chemical resistance
- USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADCF

Tygon E-Food (B-44-4X)
- Smooth inner surface unaffected by commercial sanitizers
- Nontoxic; will not affect taste or odor
- FDA, EU Food, NSF, 3A, REACH, RoHS, ADCF

Tygon E-Lab (E-3603)
- Ideal for general transfer use
- Nonaging, nonoxidizing, low gas permeability
- USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADCF

Tygon Fuel & Lubricant (F-4040-A)
- Formulated to transport hydrocarbons, petroleum products, and distillates
- Low gas permeability
- REACH, RoHS, ADCF

Tygon Chemical (2001)
- Excellent chemical resistance
- Plasticizer-free with low gas permeability
- FDA 21 CFR 175.300, REACH, RoHS, ADCF

Norprene® (A-60 G)
- Up to 10,000 hours of tubing life
- Excellent choice for pressure/vacuum applications
- NSF, REACH, RoHS

Norprene Food (A 60 F)
- Ideal for high-temperature food applications
- Resists heat, ozone, acids, and alkalis
- FDA, 3A, NSF, REACH, RoHS

Viton®
- Perfect for applications where FDA and chemical compatibility is needed
- Resists corrosives, solvents, and oils at elevated temperatures
- FDA, ADCF

Masterflex® Gamma Irradiated Tubing

Reduce the risk of microbial contamination

- Save time—many sizes of packaged and pretreated tubing available for quick shipment!
- Tubing is double bagged prior to gamma irradiation
- Irradiation at 32.5 kGy offers optimal microbial control for the tubing's critical fluid pathway
- Gamma-sensitive labeling confirms treatment
- Select from popular biocompatible tubing formulations

Formulation	Qty/pk	L/S 16		L/S 15		L/S 24		I/P 73		I/P 82	
		Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96119-16		XJ-96119-15		XJ-96119-24		XJ-96119-73		XJ-96119-82	
PharMed® BPT	7.6 m (25 ft)	XJ-96122-16		XJ-96122-15		XJ-96122-24		XJ-96122-73		XJ-96122-82	
C-Flex®	7.6 m (25 ft)	XJ-96123-16		XJ-96123-15		XJ-96123-24		XJ-96123-73		XJ-96123-82	

	Qty/pk	L/S® Precision Pump Tubing						L/S® High-Performance Precision Pump Tubing			
		L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
		0.06 to 36 mL/min	0.21 to 130 mL/min	0.8 to 480 mL/min	1.7 to 1000 mL/min	2.8 to 1700 mL/min	3.8 to 2300 mL/min	1.7 to 1000 mL/min (1.8 to 1100 mL/min)	2.8 to 1700 mL/min (3.0 to 1800 mL/min)	3.8 to 2300 mL/min (4.3 to 2600 mL/min)	4.8 to 2900 mL/min (5.8 to 3400 mL/min)
Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96410-13	XJ-96410-14	XJ-96410-16	XJ-96410-25	XJ-96410-17	XJ-96410-18	XJ-96410-15	XJ-96410-24	XJ-96410-35	XJ-96410-36
Silicone (peroxide-cured)	7.6 m (25 ft)	XJ-96400-13	XJ-96400-14	XJ-96400-16	XJ-96400-25	XJ-96400-17	XJ-96400-18	XJ-96400-15	XJ-96400-24	XJ-96400-35	XJ-96400-36
BioPharm Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96420-13	XJ-96420-14	XJ-96420-16	XJ-96420-25	XJ-96420-17	XJ-96420-18	XJ-96420-15	XJ-96420-24	XJ-96420-35	XJ-96420-36
BioPharm Plus Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96440-13	XJ-96440-14	XJ-96440-16	XJ-96440-25	XJ-96440-17	XJ-96440-18	XJ-96440-15	XJ-96440-24	XJ-96440-35	XJ-96440-36
Puri-Flex™	7.6 m (25 ft)	XJ-96419-13	XJ-96419-14	XJ-96419-16	XJ-96419-25	XJ-96419-17	XJ-96419-18	XJ-96419-15	XJ-96419-24	XJ-96419-35	XJ-96419-36
C-Flex®	7.6 m (25 ft)	XJ-06424-13	XJ-06424-14	XJ-06424-16	XJ-06424-25	XJ-06424-17	XJ-06424-18	XJ-06424-15	XJ-06424-24	XJ-06424-35	XJ-06424-36
C-Flex® ULTRA	7.6 m (25 ft)	—	XJ-06434-14	XJ-06434-16	XJ-06434-25	XJ-06434-17	XJ-06434-18	XJ-06434-15	XJ-06434-24	XJ-06434-35	XJ-06434-36
PharMed® BPT	7.6 m (25 ft)	XJ-06508-13	XJ-06508-14	XJ-06508-16	XJ-06508-25	XJ-06508-17	XJ-06508-18	XJ-06508-15	XJ-06508-24	XJ-06508-35	XJ-06508-36
PharmaPure®	7.6 m (25 ft)	XJ-06435-13	XJ-06435-14	XJ-06435-16	XJ-06435-25	XJ-06435-17	XJ-06435-18	XJ-06435-15	XJ-06435-24	—	—
GORE® STA-PURE® Series PCS	35.6 cm (14")	—	XJ-96211-14	XJ-96211-16	XJ-96211-25	XJ-96211-17	XJ-96211-18	XJ-96211-15	XJ-96211-24	XJ-96211-35	XJ-96211-36
GORE® STA-PURE® Series PFL	35.6 cm (14")	—	XJ-96212-24	XJ-96212-35	XJ-96212-36	XJ-96212-17	XJ-96212-18	XJ-96212-15	XJ-96212-24	XJ-96212-35	XJ-96212-36
Chem-Durance® Bio	15.2 m (50 ft)	XJ-06442-13	XJ-06442-14	XJ-06442-16	XJ-06442-25	XJ-06442-17	XJ-06442-18	XJ-06442-15	XJ-06442-24	XJ-06442-35	XJ-06442-36
Solve-Flex®	3.6 m (12 ft)	—	—	—	—	XJ-96446-17	—	—	XJ-96446-24	—	—
Tygon® E-LFL	7.6 m (25 ft)	XJ-06440-13	XJ-06440-14	XJ-06440-16	XJ-06440-25	XJ-06440-17	XJ-06440-18	XJ-06440-15	XJ-06440-24	XJ-06440-35	XJ-06440-36
Tygon E-Food (B-44-4X)	15.2 m (50 ft)	XJ-06418-13	XJ-06418-14	XJ-06418-16	XJ-06418-25	XJ-06418-17	XJ-06418-18	XJ-06418-15	XJ-06418-24	XJ-06418-35	XJ-06418-36
Tygon E-Lab (E-3603)	15.2 m (50 ft)	XJ-06509-13	XJ-06509-14	XJ-06509-16	XJ-06509-25	XJ-06509-17	XJ-06509-18	XJ-06509-15	XJ-06509-24	XJ-06509-35	XJ-06509-36
Tygon Fuel & Lubricant (F-4040-A)	15.2 m (50 ft)	XJ-06401-13	XJ-06401-14	XJ-06401-16	XJ-06401-25	XJ-06401-17	XJ-06401-18	XJ-06401-15	XJ-06401-24	XJ-06401-35	XJ-06401-36
Tygon Chemical (2001)	15.2 m (50 ft)	XJ-06475-13	XJ-06475-14	XJ-06475-16	XJ-06475-25	XJ-06475-17	XJ-06475-18	XJ-06475-15	XJ-06475-24	—	—
Norprene® (A-60 G)	15.2 m (50 ft)	XJ-06404-13	XJ-06404-14	XJ-06404-16	XJ-06404-25	XJ-06404-17	XJ-06404-18	XJ-06404-15	XJ-06404-24	XJ-06404-35	XJ-06404-36
Norprene Food (A 60 F)	15.2 m (50 ft)	XJ-06402-13	XJ-06402-14	XJ-06402-16	XJ-06402-25	XJ-06402-17	XJ-06402-18	XJ-06402-15	XJ-06402-24	XJ-06402-35	XJ-06402-36
Viton®	7.6 m (25 ft)	XJ-96412-13	XJ-96412-14	XJ-96412-16	XJ-96412-25	XJ-96412-17	XJ-96412-18	XJ-96412-15	XJ-96412-24	XJ-96412-35	XJ-96412-36

	Qty/pk	I/P® Precision Pump Tubing			Qty/pk	I/P® High-Performance Precision Pump Tubing			Qty/pk	B/T® PerfectPosition® Pump Tubing	
		I/P 26	I/P 73	I/P 82		I/P 70	I/P 88	I/P 89		B/T 87	B/T 91
		0.01 to 4 LPM 0.002 to 1.1 GPM	0.01 to 8 LPM 0.002 to 2.1 GPM	0.02 to 13 LPM 0.005 to 3.5 GPM		0.01 to 8 LPM 0.002 to 2.1 GPM	0.02 to 17 LPM 0.005 to 4.5 GPM	0.03 to 19 LPM 0.007 to 5.0 GPM		0.67 to 18.9 LPM 0.17 to 5.0 GPM	1.4 to 42 LPM 0.4 to 11.1 GPM
Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96410-26	XJ-96410-73	XJ-96410-82	3 m (10 ft)	XJ-96510-70	XJ-96510-88	XJ-96510-89	3 m (10 ft)	XJ-96510-87	XJ-96510-91
Silicone (peroxide-cured)	7.6 m (25 ft)	XJ-96400-26	XJ-96400-73	XJ-96400-82	—	—	—	—	3 m (10 ft)	XJ-96400-87	XJ-96400-91
BioPharm Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96420-26	XJ-96420-73	XJ-96420-82	3 m (10 ft)	XJ-96421-70	XJ-96421-88	XJ-96421-89	—	—	—
BioPharm Plus Silicone (platinum-cured)	7.6 m (25 ft)	XJ-96440-26	XJ-96440-73	XJ-96440-82	3 m (10 ft)	XJ-96441-70	XJ-96441-88	XJ-96441-89	3 m (10 ft)	XJ-96445-87	XJ-96445-91
Puri-Flex™	7.6 m (25 ft)	XJ-96419-26	XJ-96419-73	XJ-96419-82	3 m (10 ft)	XJ-96419-70	XJ-96419-88	XJ-96419-89	3 m (10 ft)	XJ-96419-87	XJ-96419-91
C-Flex®	7.6 m (25 ft)	XJ-06424-26	XJ-06424-73	XJ-06424-82	3 m (10 ft)	XJ-06424-70	XJ-06424-88	XJ-06424-89	3 m (10 ft)	XJ-06424-87	XJ-06424-91
PharMed® BPT	7.6 m (25 ft)	XJ-06508-26	XJ-06508-73	XJ-06508-82	7.6 m (25 ft)	XJ-06508-70	XJ-06508-88	—	3 m (10 ft)	XJ-06507-87	XJ-06507-91
PharmaPure®	7.6 m (25 ft)	XJ-06435-26	XJ-06435-73	XJ-06435-82	—	—	—	—	3 m (10 ft)	XJ-06437-87	XJ-06437-91
GORE® STA-PURE® Series PCS	0.6 m (2 ft)	XJ-96211-26	XJ-96211-73	XJ-96211-82	0.6 m (2 ft)	—	XJ-96211-88	XJ-96211-89	—	—	—
GORE® STA-PURE® Series PFL	0.6 m (2 ft)	XJ-96212-26	XJ-96212-73	XJ-96212-82	0.6 m (2 ft)	—	XJ-96212-88	XJ-96212-89	—	—	—
Chem-Durance® Bio	15.2 m (50 ft)	XJ-06442-26	XJ-06442-73	XJ-06442-82	15.2 m (50 ft)	XJ-06442-70	XJ-06442-88	XJ-06442-89	3 m (10 ft)	XJ-06443-87	XJ-06443-91
Tygon® E-LFL	7.6 m (25 ft)	XJ-06440-26	XJ-06440-73	XJ-06440-82	7.6 m (25 ft)	XJ-06440-70	XJ-06440-88	XJ-06440-89	3 m (10 ft)	XJ-06440-87	XJ-06440-91
Tygon E-Food (B-44-4X)	15.2 m (50 ft)	XJ-06418-26	XJ-06418-73	XJ-06418-82	15.2 m (50 ft)	XJ-06418-70	XJ-06418-88	XJ-06418-89	3 m (10 ft)	XJ-06418-87	XJ-06418-91
Tygon E-Lab (E-3603)	15.2 m (50 ft)	XJ-06509-26	XJ-06509-73	XJ-06509-82	15.2 m (50 ft)	XJ-06509-70	XJ-06509-88	XJ-06509-89	15.2 m (50 ft)	—	—
Norprene® (A-60 G)	15.2 m (50 ft)	XJ-06404-26	XJ-06404-73	XJ-06404-82	7.6 m (25 ft)	XJ-06404-70	XJ-06404-88	XJ-06404-89	7.6 m (25 ft)	—	—
Norprene Food (A 60 F)	15.2 m (50 ft)	XJ-06402-26	XJ-06402-73	XJ-06402-82	7.6 m (25 ft)	—	XJ-06402-88	XJ-06402-89	3 m (10 ft)	XJ-06399-87	XJ-06399-91

Masterflex® Pump Accessories

A. Pulse Dampener

Virtually eliminates pulsation in output flow. Five pairs of fittings and PTFE-pipe thread tape are included. Accepted tubing: all L/S® sizes, I/P® 26, nominal from 1/16" to 3/8" ID (1.6 to 9.5 mm ID). Fittings included (tubing ID x NPT(M) thread): 1/16" x 1/8", 1/8" x 1/8", 3/16" x 1/8", 1/4" x 1/8", and 3/8" x 1/8". Dampener connections: 1/8" NPT(F). Dead volume: 190 mL. Max pressure: 60 psi (4.3 bar). Polyethylene body.



Description	Catalog number	Price
Pulse dampener	XJ-07596-20	

B. On/Off Foot Switches

Foot switches allow for remote control of specific functions of your Masterflex drive. All units have a 6-ft (1.8 m) cord. Verify the connector type on your drive before ordering.



Description	Cat. no.	Price
DB9 male connector; for 07528-, 07557-, and 07591-series Masterflex drives	XJ-77595-35	
DB25 male connector; for 07522-, 07523-, 07551-, 77301-, and 07594-series Masterflex drives	XJ-07523-92	
18-pin round water-tight connector; for 07557-, 07591-, and 77411-series Masterflex drives	XJ-07595-43	
31-pin round water-tight connector; for 07575-, 77301-, 07594-, and 77420-series Masterflex drives	XJ-07575-84	

C. DB9 Cable Assembly

Use these 9-pin interface cable assemblies with Masterflex L/S® drives (07550- and 07551-series). Cable measures 6 ft (1.8 m) long.



Description	Catalog number	Price
Interface cable with DB9 (M/F)	XJ-22050-54	

D. USB to DB9(M) RS-232 Serial Adapter Cable

Use this cable to connect the Masterflex 07550- and 07551-series Computer Compatible drives to a PC with USB port. Will also connect other peripheral devices equipped with RS-232 serial interface including balances, printers, scanners, and PDA's. Includes 2-ft cable and driver software. Supports data transfer speeds up to 12 Mbps; compatible with Windows® 2000/XP/Vista/7.



Description	Catalog number	Price
USB to DB9(M) RS-232 serial adapter cable	XJ-22050-58	

Combine these connectors with 20 to 22 gauge shielded wire to create your own interface cable. Maximum cable length is 1000 ft (300 m).



Description	Cat. no.	Price
DB9 male connector. Wire only the pins needed	XJ-07595-45	
DB25 male connector. Wire only the pins needed	XJ-07523-94	

F. Handheld Remote Controllers



These handheld controllers are designed to control basic drive operations. Route tubing through the handle for filling and dispensing applications. Handles accept Masterflex tubing sizes L/S® 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18, L/S 15, and L/S 24 (up to 7/16" nominal OD).

Description	Cat. no.	Price
DB9 male connector; for 07528-series Masterflex L/S drives; control start/stop and direction	XJ-07528-80	
DB25 male connector; for 07523-series and 07551-series Masterflex L/S drives; control start/stop, direction, and prime	XJ-07523-97	
Stripped wire ends; control start/stop, direction, and prime	XJ-07595-62	

G. Remote Control Cable Assemblies



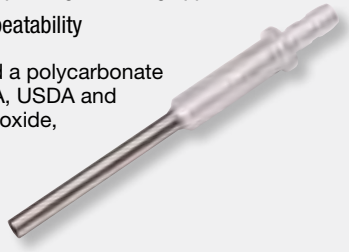
Cable assemblies include terminal connector and 25 ft (7.9 m) cable with stripped wire ends. Verify the connector type on your drive before ordering.

Description	Cat. no.	Price
DB9 male connector; for 07528-, 07557-, and 07591-series Masterflex drives	XJ-07595-47	
DB25 male connector; for 07522-, 07523-, 07551-, 77301-, and 07594-series Masterflex drives	XJ-07523-95	
18-pin round water-tight connector; for 07557-, 07591-, and 77411-series Masterflex drives	XJ-77300-32	
31-pin round water-tight connector; for 07575-, 77301-, 07594-, and 77420-series Masterflex drives	XJ-07575-80	

Overlook Filler/Dispensing Nozzles

- Maximize the speed, precision, and accuracy of dispensing and filling applications
- Dimensional tolerances of ±0.05% for assured repeatability

Nozzles feature a 316L stainless steel needle and a polycarbonate base with hose barb adapter. Materials meet FDA, USDA and USP Class VI requirements. Sterilize by ethylene oxide, autoclaving, or gamma irradiation.



Tubing ID	Catalog number	Price/ea
1/32"	XJ-30619-06	
1/16"	XJ-30619-01	
1/8"	XJ-30619-07	
3/16"	XJ-30619-02	
1/4"	XJ-30619-08	
5/16"	XJ-30619-03	
3/8"	XJ-30619-09	
1/2"	XJ-30619-04	
5/8"	XJ-30619-10	
3/4"	XJ-30619-05	

Ismatec® Reglo Independent Channel Control (ICC) Pumps

Pump each channel at different speeds and directions!

- Each pump performs the job of up to four separate pumps
- Additional options in channel and roller configurations allow balanced pulsation control at desired flow rate
- USB interface for quick computer connections using redesigned graphical user-interface

These two-, three- and four-channel peristaltic pumps let you individually control the flow and direction of each channel from the intuitive keypad or via your computer—expanding your benchtop pumping capabilities with a single compact unit! Pump delivers continuous pumping or precision dispensing up to 43 mL/min with the capability of Bidirectional flow in each channel. Plus, independent channel calibration minimizes tube-to-tube differences, resulting in high calibration accuracy.



Deliver or dispense at multiple flow rates—all from a single space-saving pump.

ISMATEC®

3-Stop Tubing

See pages 192–193.

Specifications

Speed: 0.1 to 100 rpm **Pressure:** up to 14.5 psi (1.0 bar)
Accuracy: ±1%

ISO9001:2008 CERTIFIED SUPPLIER CE

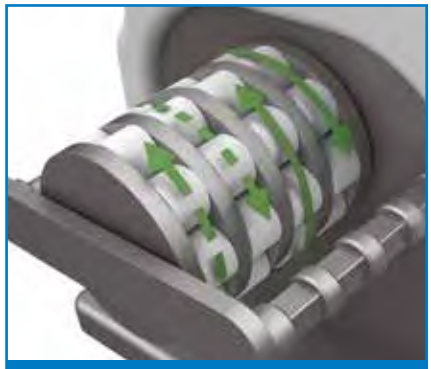
Channels	Rollers	Tubing	Power (VAC, Hz)	Catalog number	Price
Benchtop pumps					
2	6	Three-stop	100 to 240, 50/60	XJ-78001-58	
	8			XJ-78001-60	
	12			XJ-78001-62	
3	6	Three-stop	100 to 240, 50/60	XJ-78001-68	
	8			XJ-78001-70	
	12			XJ-78001-72	
4	6	Three-stop	100 to 240, 50/60	XJ-78001-78	
	8			XJ-78001-80	
	12			XJ-78001-82	
Panel-mount pumps					
2	8	Three-stop	100 to 240, 50/60	XJ-78001-43	
3	8			XJ-78001-45	
4	8			XJ-78001-47	
4	12			XJ-78001-49	

Accessories

XJ-78016-98 **Replacement Click'n'go™ tubing cassette,** POM-C
XJ-78016-96 **Click'n'go™ tubing cassette,** PVDF

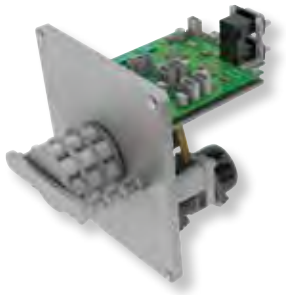
Flow Ranges (mL/min per channel)

Tubing ID (mm)	6 rollers	8 rollers	12 rollers
0.13	0.0002 to 0.14	0.0002 to 0.11	0.0001 to 0.093
0.51	0.0019 to 1.9	0.0017 to 1.7	0.0016 to 1.6
0.57	0.0024 to 2.4	0.0021 to 2.1	0.0019 to 1.9
0.64	0.0030 to 3.0	0.0026 to 2.6	0.0024 to 2.4
0.95	0.0064 to 6.4	0.0056 to 5.6	0.0050 to 5.0
1.02	0.0073 to 7.3	0.0063 to 6.3	0.0056 to 5.6
1.42	0.013 to 13	0.011 to 11	0.0094 to 9.4
1.75	0.019 to 19	0.016 to 16	0.013 to 13
1.85	0.021 to 21	0.017 to 17	0.014 to 14
2.54	0.033 to 33	0.027 to 27	0.019 to 19
2.79	0.036 to 36	0.031 to 31	0.021 to 21
3.17	0.043 to 43	0.035 to 35	0.024 to 24



Independent Channel Design

- ✔ Up to four independently controllable channels
- ✔ Flexibility of bidirectional flow in each channel
- ✔ Continuous pumping or precision dispensing
- ✔ Enhanced accuracy through separate channel calibration



Panel mount configuration can install into custom systems.

Ismatec® IPC Low-Flow High-Accuracy Pumps

Fewer tubing changes

- Planetary drive for less pulsation and longer tubing life
- Smooth rotation and accurate liquid flow provided by eight SS rotors
- Easy repeatability with four-digit LED
- Simple to use—automatic occlusion cartridges provide reproducible results
- Five modes for pumping or dispensing including flow rate, time, batches, drip-free, and volume
- Control via keypad, computer, or remote control
- IP and IP-N pumps available online



Choose from 4, 8, 12, 16 and 24 channel configurations for application flexibility.



ISMATEC®

2-Stop Tubing

See pages 192–193.

Specifications

Accuracy: better than ±1%

Pressure
Click'n'go cassettes: up to 14.5 psi (1 bar)
Pressure lever cassettes: up to 22 psi (1.5 bar)

ISO 9001:2008 CERTIFIED SUPPLIER

Flow range per channel (mL/min)	Channels	Rollers	Speed (rpm)	Cassette style	Tubing	115 VAC, 50/60 Hz		230 VAC, 50/60 Hz	
						Catalog number	Price	Catalog number	Price
IPC-N models									
0.0004 to 11	4	8	0.11 to 11.25	Click'n'go	Two-stop	XJ-78001-00		XJ-78001-06	
	8					XJ-78001-10		XJ-78001-16	
	12					XJ-78001-20		XJ-78001-26	
	16					XJ-78001-30		XJ-78001-36	
	24					XJ-78001-40		XJ-78001-46	
0.0004 to 11	8	8	0.11 to 11.25	Pressure lever (adjustable occlusion)	Two-stop	XJ-78000-11		XJ-78000-17	
	16					XJ-78000-31		XJ-78000-37	
	24					XJ-78000-41		XJ-78000-47	
IPC models									
0.002 to 44	4	8	0.4 to 45	Click'n'go	Two-stop	XJ-78001-02		XJ-78001-08	
	8					XJ-78001-12		XJ-78001-18	
	12					XJ-78001-22		XJ-78001-28	
	16					XJ-78001-32		XJ-78001-38	
	24					XJ-78001-42		XJ-78001-48	
0.002 to 44	4	8	0.4 to 45	Pressure lever (adjustable occlusion)	Two-stop	XJ-78000-03		XJ-78000-09	
	8					XJ-78000-13		XJ-78000-19	
	12					XJ-78000-23		XJ-78000-29	
	16					XJ-78000-33		XJ-78000-39	
	24					XJ-78000-43		XJ-78000-49	

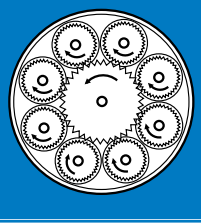
Order extra cartridges/adapters when fast tubing changes are crucial.

XJ-78001-95 **Replacement Click'n'go™ cartridge,** POM-C
XJ-78001-90 **Repl. adjust. occlusion cartridge** with pressure lever

XJ-07618-71 **Replacement adapters** hold two-stop color-coded tubing in cartridge. Two adapters required per cartridge. Pack of 12

Planetary Drive System

With the planetary drive system, each roller is directly driven by the sun wheel. This mechanism prevents axial push-pull friction on the tubing—resulting in longer tubing life, lower pulsation, and high repeatability.



Pressure Level Cassettes

These cassettes feature a pressure lever that allows you to set a different tubing pressure for each channel. Depending on the application, tubing material, and diameter, you can adjust to optimal tubing pressure for your requirements.



Ismatec® ecoline Pumps

Save space—pumps stack easily

– Durable stainless steel housing and four stabilizing feet for easier stacking

– Simple setup and operation—start, stop, and reverse flow with a single switch

– Rotors accommodate 1.6 or 2.4 mm wall tubing

Pumps A, B, C, and E are controllable remotely via an analog input signal (0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, or 4 to 20 mA); start/stop drive or reverse direction via contact closure (eight-pin DIN). Input signals from your existing instruments actuate drive functions.

A–C. Single-Channel Pumps

– Minimize tubing wear and ensure automatic centering with convex roller

D. Masterflex® L/S® Easy-Load® Pump

– Change tubing quickly with easily accessible head

– Polysulfone housing and stainless steel rotor

ISMATEC®

E. Minicartridge Pumps

– No adjustments needed—spring-loaded cassettes for optimal occlusion at all times

– Get consistent, low-pulse flow with 6 or 12 rollers

ISO9001:2008 CERTIFIED SUPPLIER

Key	Flow range per channel (mL/min)	Channels	Rollers	Speed	Tubing	115 VAC, 60 Hz		230 VAC, 50 Hz	
						Cat. no.	Price	Cat. no.	Price
Single-channel pumps									
A	1.7 to 5400	1	2	3.5 to 350 rpm	Pump (pg 193)	XJ-78022-10		XJ-78022-12	
B	1.6 to 5000		3			XJ-78022-20		XJ-78022-22	
C	0.25 to 1300		3			XJ-78022-30		XJ-78022-32	
Easy-Load pump									
D	0.23 to 1600	1	3	3.5 to 350 rpm	Masterflex® (pgs 184–185)	XJ-78022-50		XJ-78022-52	
Minicartridge pumps with Click'n'go cassettes									
E	0.01 to 130	8	6	3.5 to 350 rpm	Three-stop (pgs 192–193)	XJ-78022-40		XJ-78022-42	
	0.0075 to 75	4	12			XJ-78022-60		XJ-78022-62	



XJ-07624-64 Optional adjustable occlusion cassette with pressure lever, POM-C

XJ-78016-98 Replacement Click'n'go™ cassette, POM-C

XJ-07610-25 Foot switch, momentary contact

XJ-17050-01 NIST-traceable calibration with data for peristaltic pump drive

Ismatec® Reglo Compact Multichannel Pumps

No more inconsistent results

– Consistent flow and reduced tubing wear for improved results

– Very small footprint for a stand-alone "smart" pump

– Easy channel changes—Click'n'go™ minicartridges snap in place

A. Reglo Analog Pumps. Speed is adjustable in 1% steps (2 to 100%) via 2-digit potentiometer. Control speed remotely. Start/stop pump or change direction via contact closure; monitor speed through frequency output.

B. Reglo Digital Programmable Pumps. Continuously pump or dispense in any of four modes—flow rate, time, batches, or drip-free. Pumps feature analog input and output controls, as well as an RS-232 interface for control by a computer. Remote control capable.



ISMATEC®

3-Stop Tubing

ISO9001:2008 CERTIFIED SUPPLIER



B Reglo digital pump 78017-00 is fully programmable.

Channels	Rollers	Speed (rpm)	Tubing	A. Reglo Analog pumps				B. Reglo Digital programmable pumps with calibrating function		
				Flow range per channel (mL/min)	115 VAC, 50/60 Hz		230 VAC, 50/60 Hz		Flow range per channel (mL/min)	115/230 VAC, 50/60 Hz	
					Cat. no.	Price	Cat. no.	Price		Cat. no.	Price
2	6	3.2 to 160	Three-stop	0.005 to 68	XJ-78016-00		XJ-78016-02		0.003 to 68	XJ-78016-42	
	8			0.004 to 57	XJ-78016-10		XJ-78016-12		0.002 to 57	XJ-78017-02	
	12			0.003 to 38	XJ-78017-25		XJ-78017-27		0.002 to 38	XJ-78016-47	
4	6	2.0 to 100	Three-stop	0.003 to 43	XJ-78017-30		XJ-78017-32		0.002 to 43	XJ-78017-42	
	8			0.003 to 35	XJ-78016-30		XJ-78016-32		0.002 to 35	XJ-78017-12	
	12			0.002 to 24	XJ-78017-35		XJ-78017-37		0.001 to 24	XJ-78017-22	

Minicartridges

Optional adjustable-occlusion minicartridge to manually vary pressure on each channel.

XJ-07624-64 Optional adjustable occlusion cassette with pressure lever, POM-C

XJ-07624-96 Replacement Click'n'go cassette, PVDF

Ismatec® BVP and MCP Quick-Couple Drives

Create a custom system with interchangeable pump heads

- Mount pump heads quickly with turn-and-lock mounting system
- Select from interchangeable tubing pump heads to achieve flow rates from 0.003 to 3700 mL/min
- Remote control and programming options add versatility
- Process washdown drives are IP-65 rated

BVP Standard and Process Drives

- **Prime, flush, or prevent overflow with Max/Slow toggle switch**

BVP Standard Drive features analog input that remote control of speed, start/stop or flow direction. **BVP Process Washdown Drive** is similar to the BVP Standard model, plus has a digital display for speed. The IP65-rated housing is ideal for dusty, humid, or corrosive environment and in cleanroom areas. The stainless steel housing is sealed for added durability.

MCP Standard and Process Programmable Digital Drives

- Save time—recall and store up to four programs
- Preprogrammed with tubing sizes and heads for faster setup
- Use the RS-232 interface to automate your lab or operate independently via the keypad—RS-232 in for remote operation; RS-232 out for cascading pumps

MCP Standard Drive is programmable to dispense by volume, time, flow rate, batches with variable pause time, stored programs, roller back steps, or number of dispensing cycles. Digital display shows speed, flow rate, dispensing volume, dispensing time, and pause time. **MCP Process Washdown Drive** adds an IP65-rated housing for washdown applications—ideal for dispensing and filling in dusty, humid, or corrosive environment and in cleanroom areas. The stainless steel housing is sealed for added durability.



BVP Standard drive 78002-10

MCP Standard programmable digital drive 78002-00 can store four programs downloaded from your computer.

BVP Process washdown drive 78003-10

REQUIRED System Components

1) Quick-couple drive	**190**
2) Pump head	**190–191**
3) Tubing	**192–193**

Specifications

Duty cycle: continuous

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IP 65 78003-08, -10, -12 only

Model	BVP Standard drive		BVP Process washdown drive		MCP Standard drive		MCP Process washdown drive
Catalog number	XJ-78002-10	XJ-78002-12	XJ-78003-10	XJ-78003-12	XJ-78002-00	XJ-78002-02	XJ-78003-08
Programmable	No		No		Yes		Yes
Speed	2.4 to 240 rpm (indicated as 1 to 99.9%)		1 to 240 rpm		1 to 240 rpm		1 to 240 rpm
Resolution	0.1% via 3-digit potentiometer		0.1 rpm		0.1 rpm		0.1 rpm
Flow range/channel	0.003 to 3700 mL/min		0.001 to 3700 mL/min		0.001 to 3700 mL/min		0.001 to 3700 mL/min
Flow rate settings	—		—		µL/min, mL/min, L/min		µL/min, mL/min, L/min
Remote control capabilities	Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 12 kHz Start/stop, rotation direction		Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 7.2 kHz Start/stop, rotation direction, autostart		RS-232 (1 in, 1 out), 1 analog Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 12 kHz Start/stop, rotation direction, autostart		RS-232 (1 in, 1 out), 1 analog Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 7.2 kHz Start/stop, rotation direction, autostart
IP rating	IP30		IP65		IP30		IP65
Power	115 VAC, 50/60 Hz	230 VAC, 50/60 Hz	115 VAC, 50/60 Hz	230 VAC, 50/60 Hz	115 VAC, 50/60 Hz	230 VAC, 50/60 Hz	115/230 VAC, 50/60 Hz
Price							

Pump Heads for Quick-Couple Drives

A. Washdown Pump Heads

Dismantle for easy cleaning—ideal for hygienic applications. Convex rollers and concave tube-bed maintain the integrity of material being pumped. Coated aluminum with stainless steel rollers.

Flow range (mL/min)	Channels	Rollers	Tubing	Wall thickness	Max pressure	Catalog number	Price
0.49 to 3700	1	2	Pump (pages 192–193)	1.6 mm	22 psi (1.5 bar)	XJ-78002-11	
3.6 to 3100	1	2		2.4 mm	36 psi (2.5 bar)	XJ-78002-13	
0.45 to 3400	1	3		1.6 mm	22 psi (1.5 bar)	XJ-78002-16	
3.3 to 2900	1	3		2.4 mm	36 psi (2.5 bar)	XJ-78002-14	

A



B. Minicartridge Pump Heads

Minimize pulsation with more rollers. Get up to 24 channels with 78002-50 and 07623-00 below. Get up to 16 channels of the smoothest flow with 78002-90 and 07623-30 below.

Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
0.002 to 100	8 (up to 24)	6	Three-stop (pages 192–193)	14.5 psi (1.0 bar)†	XJ-78002-50	
0.001 to 57	4 (up to 16)	12			XJ-78002-90	

†22 psi (1.5 bar) achievable with pressure lever cassettes.

XJ-07623-00 **Eight-channel extension pump head.** Use up to two with 78002-50 to get 24 channels

XJ-07623-30 **Four-channel extension pump head.** Use up to three with 78002-90 to get 16 channels


B

C. Standard Cartridge Pump Heads

Ideal pump head for multichannel applications at higher flow rates. Click'n'go™ cartridges allow quick and easy tubing changes.

Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
0.002 to 230	8	8	Two-stop (pages 192–193)	14.5 psi (1.0 bar)†	XJ-78002-34	
	12				XJ-78002-36	

†22 psi (1.5 bar) achievable with pressure lever cassettes.


C

D. Tubing Bed Pump Heads

Ideal for delicate substances which require gentle occlusion setting. Spring-loaded tubing bed adjusts occlusion for optimum pressure and tubing.

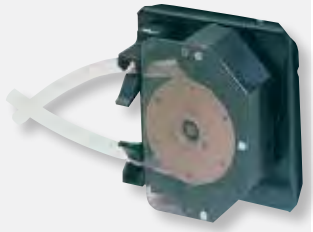
Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
1.1 to 1110	2	6	Pump (pages 192–193)	22 psi (1.5 bar)	XJ-07611-10	
0.09 to 530	3				XJ-07611-15	


D

E. Quick-Change Pump Heads

Hinged tube-bed allows rapid tube change-over. Easily accessible pump head. Self-centering tube-track results in longer tubing-life. Stainless steel rollers.

Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
0.08 to 880	1	3	Pump (pages 192–193)	22 psi (1.5 bar)	XJ-78002-22	
0.44 to 2800					XJ-78002-20	


E

F. High-Viscosity Pump Head

Ideal for media with high viscosity or with a certain level of solid content. Accepts tubing with 1.6-mm and 2.4-mm wall thickness (for elevated differential pressures). Stainless steel rollers. Pressure on tubing adjustable via rollers.

Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
0.41 to 3600	1	3	Pump (pages 192–193)	36 psi	XJ-78002-60	


F

G. Masterflex® Easy-Load® Pump Heads

Allows for fast and easy tubing changes. Accepts Masterflex L/S® pump tubing (see pages 184–185). Requires mounting plate below.

Flow range (mL/min)	Channels	Rollers	Tubing	Max pressure	Catalog number	Price
3.4 to 672	1 (up to 2)	3	L/S 15, L/S 24	20 psi	XJ-07516-12	
0.12 to 912			L/S 13, L/S 14, L/S 16, L/S 17, L/S 18, L/S 25		XJ-07516-10	

XJ-78020-90 **Mounting plate** for Masterflex Easy-Load pump head

XJ-07013-05 **Mounting hardware** to stack two Easy-Load pump heads


G

H. PTFE-Diaphragm Pump Heads

Pump almost any fluid with these chemically inert PTFE-diaphragm pump heads. Pump heads withstand temperatures up to 150°F (66°C). Requires adapter 78002-70 to mount to Quick-Couple drives.

Flow range (mL/min)	Ball check	Rollers	Tubing	Max pressure	Catalog number	Price
0.5 to 60	Glass	⅛" NPT(M)	Pump (pages 192–193)	75 psi	XJ-07090-62	
4 to 480	PTFE	¼" NPT(M)		50 psi	XJ-07090-42	

XJ-78002-70 **Adapter** for mounting PTFE Diaphragm pump heads onto 78002- and 78003-series drives


H

2- and 3-Stop Color-Coded Tubing for Ismatec® Pumps

Don't confuse your tubing—color-coded stops for easy identification

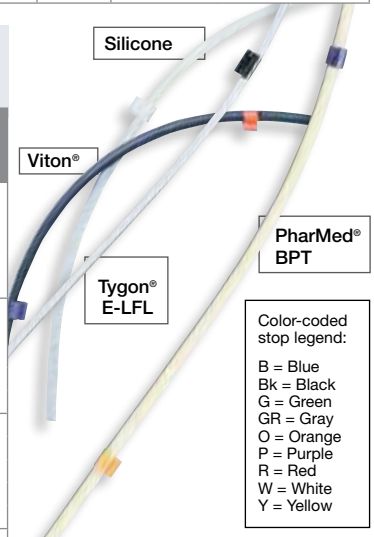
STEP 1: Choose a tubing material & select the catalog number prefix.
Make sure to choose 2-stop or 3-stop tubing based on what your pump uses!

STEP 3: Complete your system with extension tubing.
Connect stopped and extension tubing with barbed fittings or splicing.

Material	Description	Suffixes for the available sizes	Tubes/pk (length)	2-Stop Tubing		3-Stop Tubing		Extension Tubing		
				Cat. no. prefix	Price/pk*	Cat. no. prefix	Price/pk*	Cat. no. prefix	Length/pk	Price/pk*
Tygon® E-LFL	– Complies with USP Class VI, EP, FDA, EU food, REACH, RoHS, ADCF – Longest life of all Tygon formulations – Broad chemical resistance	10, 12, 14, 18, 22, 24, 26, 28, 30, 31, 33, 34, 36, 37, 40, 42, 43, 47, 48	12 (16")	XJ-96449-XX		XJ-96450-XX		XJ-06449-XX	100 ft	
Tygon® E-Food	– Complies with FDA, EU Food, NSF, 2A, REACH, RoHS, ADCF – Smooth inner surface; nontoxic	10, 12, 18, 26, 30, 34, 42, 48	12 (16")	XJ-96457-XX		XJ-96458-XX		XJ-06457-XX	100 ft	
Tygon® E-Lab	– Complies with USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADCF – Ideal for general transfer applications – Nonaging/nonoxidizing, low gas permeability	09, 10, 12, 14,16, 18, 19, 22, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 38, 39, 40, 42, 44, 46, 48, 49	12 (16")	XJ-96460-XX		XJ-96461-XX		XJ-06460-XX	100 ft	
Silicone (peroxide cured)	– Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF – Greater physical compression capability – Economical, long tubing life	10, 12, 14, 18, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (16")	XJ-07616-XX		XJ-07624-XX		XJ-07625-XX	50 ft	
Silicone (platinum cured)	– Complies with USP Class V, EP, FDA, REACH, RoHS, ADCF – Low protein binding, fungus-resistant, phthalate and latex free	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (16")	XJ-95602-XX		XJ-95603-XX		XJ-95612-XX	50 ft	
Viton®	– Complies with FDA, ADCF – Resists corrosives, solvents, and oils at elevated temperatures	18, 22, 24, 26, 30, 34, 38, 42, 46, 48	12 (12")	XJ-97628-XX		XJ-97629-XX		XJ-97632-XX	50 ft	
PharMed® BPT	– Complies with USP Class VI, EP, FDA, NSF, REACH, RoHS – Over 10,000 hours of tubing life, sealable, weldable – Ideal for tissue and cell culture work	10, 12, 14, 18, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	12 (16")	XJ-95723-XX		XJ-95714-XX		XJ-95809-XX	100 ft	
Autoclavable PharMed® BPT		12, 32, 48	6 (16")	XJ-95692-XX		XJ-95693-XX				
PVC Solvent/ hydrocarbon	– Resistant to ozone and UV light – Resists to cracking, swelling, hardening – Ideal for fuels, distillates, lubricants, and glycol-based coolants	10, 12, 14, 18, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	12 (16")	XJ-95606-XX		XJ-95605-XX		XJ-95712-XX	50 ft	
Chem-Durance® Bio	– Suitable for acetone, MEK, and other highly aggressive chemicals – Long life and outstanding fatigue resistance	14, 18, 24, 26, 30, 34, 36, 42, 48	6 (16")	XJ-96327-XX		XJ-96328-XX		None (PharMed BPT recommended for extension tubing; see 95809-XX above)		

STEP 2:
Find your desired flow rate and select the catalog number suffix. **See page 193 for more.**

Flow rate† (mL/min) with Fixed-Speed Pumps (order online)								Catalog number suffix	ID (mm)	Color-coded stops
78012-00, 78012-05	78012-20, 78012-25	78012-30, 78012-35	78012-40, 78012-45	78012-50, 78012-55	78012-60, 78012-65	78012-80, 78012-85	78012-90, 78012-95			
0.047	0.14	0.047	0.093	0.056	0.11	0.17	0.056	**-10**	0.19	O/R
0.081	0.24	0.08	0.16	0.1	0.19	0.29	0.1	**-12**	0.25	O/B
0.19	0.56	0.19	0.37	0.22	0.43	0.65	0.22	**-14**	0.38	O/G
0.25	0.75	0.25	0.5	0.29	0.58	0.86	0.29	**-16**	0.44	G/Y
0.34	1	0.34	0.67	0.38	0.77	1.2	0.38	**-18**	0.51	O/Y
0.52	1.6	0.52	1	0.6	1.2	1.8	0.6	**-22**	0.64	O/W
0.73	2.2	0.73	1.5	0.84	1.7	2.5	0.84	**-24**	0.76	Bk/Bk
1	2.9	1	2	1.1	2.3	3.4	1.1	**-26**	0.89	O/O
1.3	3.8	1.3	2.5	1.5	2.9	4.4	1.5	**-28**	1.02	W/W
1.6	4.7	1.6	3.1	1.8	3.6	5.4	1.8	**-30**	1.14	R/R
2	5.9	2	3.9	2.3	4.6	6.9	2.3	**-32**	1.3	GR/GR
2.3	6.8	2.3	4.6	2.7	5.4	8	2.7	**-34**	1.42	Y/Y
2.6	7.7	2.6	5.1	3	6	9.1	3	**-36**	1.52	Y/B
2.9	8.8	2.9	5.8	3.5	6.9	10	3.5	**-38**	1.65	B/B
3.5	10	3.5	7	4.2	8.4	13	4.2	**-40**	1.85	G/G
4.1	12	4.1	8.2	5	10	15	5	**-42**	2.06	P/P
4.8	14	4.8	9.5	5.8	12	17	5.8	**-44**	2.29	P/Bk
5.5	16	5.5	11	6.6	13	20	6.6	**-46**	2.54	P/O
6.2	19	6.2	12	7.4	15	22	7.4	**-48**	2.79	P/W



***Save** 10% on 20–49 packs; 15% on 50–99 packs; 20% on 100+ packs in any combination of tubing (except Chem-Durance Bio and Autoclavable PharMed® BPT) from pages 192–193.

STEP 2 (continued): Find your desired flow rate and select the catalog number suffix.

Flow ranges† (mL/min) with indicated pump system (page 189 and online)													Catalog number suffix	ID (mm)	Color-coded stops
78016-00, 78016-02	78016-10, 78016-12	78016-30, 78016-32	78016-42	78017-02	78017-10, 78017-12	78017-20, 78017-22	78017-25, 78017-27	78017-30, 78017-32	78017-35, 78017-37	78017-45, 78017-47	78022-40, 78022-42	78022-60, 78022-62			
0.009-0.45	0.008-0.37	0.005-0.23	0.005-0.45	0.004-0.37	0.003-0.23	0.003-0.21	0.007-0.34	0.006-0.28	0.005-0.21	0.004-0.34	0.01-0.98	0.0075-0.75	-10	0.19	O/R
0.015-0.76	0.013-0.65	0.009-0.41	0.008-0.76	0.007-0.65	0.005-0.41	0.004-0.38	0.012-0.61	0.01-0.48	0.008-0.38	0.007-0.61	0.017-1.7	0.013-1.3	-12	0.25	O/B
0.035-1.7	0.03-1.5	0.019-0.94	0.017-1.7	0.015-1.5	0.01-0.94	0.009-0.88	0.028-1.4	0.022-1.1	0.018-0.88	0.014-1.4	0.038-3.8	0.031-3.1	-14	0.38	O/G
0.046-2.3	0.04-2	0.025-1.3	0.023-2.3	0.02-2	0.013-1.3	0.012-1.2	0.038-1.9	0.029-1.4	0.024-1.2	0.019-1.9	0.05-5	0.041-4.1	-16	0.44	G/Y
0.061-3.1	0.054-2.7	0.034-1.7	0.031-3.1	0.027-2.7	0.017-1.7	0.016-1.6	0.05-2.5	0.038-1.9	0.031-1.6	0.025-2.5	0.067-6.7	0.055-5.5	-18	0.51	O/Y
0.096-4.8	0.084-4.2	0.052-2.6	0.048-4.8	0.042-4.2	0.026-2.6	0.024-2.4	0.077-3.9	0.06-3	0.048-2.4	0.039-3.9	0.1-10	0.085-8.5	-22	0.64	O/W
0.13-6.7	0.12-5.8	0.073-3.6	0.067-6.7	0.058-5.8	0.036-3.6	0.33-3.3	0.11-5.3	0.084-4.2	0.067-3.3	0.053-5.3	0.15-15	0.12-12	-24	0.76	Bk/Bk
0.18-9	0.16-7.9	0.098-4.9	0.09-9	0.079-7.9	0.049-4.9	0.044-4.4	0.14-7.1	0.11-5.7	0.088-4.4	0.071-7.1	0.2-20	0.15-15	-26	0.89	O/O
0.23-12	0.2-10	0.13-6.3	0.12-12	0.1-10	0.063-6.3	0.056-5.6	0.18-9	0.15-7.3	0.11-5.6	0.09-9	0.26-26	0.2-20	-28	1.02	W/W
0.29-14	0.25-12	0.16-7.8	0.14-14	0.12-12	0.078-7.8	0.067-6.7	0.22-11	0.18-9	0.13-6.7	0.11-11	0.32-32	0.24-24	-30	1.14	R/R
0.37-18	0.31-16	0.2-10	0.18-18	0.16-16	0.1-10	0.083-8.3	0.26-13	0.23-11	0.17-8.3	0.13-13	0.4-40	0.29-29	-32	1.3	GR/GR
0.43-21	0.37-18	0.23-11	0.21-21	0.18-18	0.11-11	0.094-9.4	0.3-15	0.27-13	0.19-9.4	0.15-15	0.47-47	0.33-33	-34	1.42	Y/Y
0.48-24	0.41-20	0.26-13	0.24-24	0.2-20	0.13-13	0.1-10	0.33-17	0.3-15	0.21-10	0.17-17	0.53-53	0.36-36	-36	1.52	Y/B
0.56-28	0.47-23	0.29-15	0.28-28	0.23-23	0.15-15	0.12-12	0.37-19	0.35-17	0.23-12	0.19-19	0.61-61	0.41-41	-38	1.65	B/B
0.67-34	0.56-28	0.35-17	0.34-34	0.28-28	0.17-17	0.13-13	0.43-21	0.42-21	0.27-13	0.21-21	0.73-73	0.47-47	-40	1.85	G/G
0.79-40	0.66-33	0.41-20	0.4-40	0.33-33	0.2-20	0.15-15	0.49-24	0.5-25	0.3-15	0.24-24	0.87-87	0.53-53	-42	2.06	P/P
0.92-46	0.76-38	0.48-24	0.46-46	0.38-38	0.24-24	0.17-17	0.55-27	0.58-29	0.34-17	0.27-27	1-100	0.6-60	-44	2.29	P/Bk
1.1-53	0.88-44	0.55-27	0.53-53	0.44-44	0.27-27	0.19-19	0.62-31	0.66-33	0.39-19	0.31-31	1.2-120	0.68-68	-46	2.54	P/O
1.2-59	0.99-50	0.62-31	0.59-59	0.5-50	0.31-31	0.21-21	0.69-34	0.74-37	0.43-21	0.34-34	1.3-130	0.75-75	-48	2.79	P/W

Flow ranges† (mL/min) with indicated pump system (page 188 and online)						Catalog number suffix	ID (mm)	Color-coded stops
IPC-N models	IPC models	78002-34	78002-36	78002-50	78002-90			
0.0007-0.066	0.003-0.26	0.004-0.94	0.004-0.94	0.003-0.67	0.003-0.51	-10	0.19	O/R
0.001-0.1	0.005-0.41	0.008-1.8	0.008-1.8	0.005-1.1	0.004-0.91	-12	0.25	O/B
0.003-0.22	0.009-0.86	0.019-4.5	0.019-4.5	0.011-2.6	0.009-2.1	-14	0.38	O/G
0.003-0.28	0.011-1.1	0.025-6.1	0.025-6.1	0.014-3.5	0.012-2.8	-16	0.44	G/Y
0.004-0.38	0.015-1.5	0.034-8.2	0.034-8.2	0.019-4.6	0.016-3.8	-18	0.51	O/Y
0.006-0.58	0.023-2.3	0.053-13	0.053-13	0.03-7.2	0.024-5.8	-22	0.64	O/W
0.009-0.81	0.032-3.2	0.074-18	0.074-18	0.042-10	0.033-8	-24	0.76	Bk/Bk
0.011-1.1	0.044-4.4	0.1-24	0.1-24	0.057-14	0.044-11	-26	0.89	O/O
0.014-1.4	0.057-5.7	0.13-31	0.13-31	0.073-18	0.056-13	-28	1.02	W/W
0.017-1.7	0.07-7	0.16-38	0.16-38	0.09-22	0.067-16	-30	1.14	R/R
0.022-2.2	0.089-8.9	0.2-47	0.2-47	0.11-27	0.083-20	-32	1.3	GR/GR
0.026-2.6	0.11-11	0.23-55	0.23-55	0.13-32	0.094-23	-34	1.42	Y/Y
0.03-3	0.12-12	0.26-62	0.26-62	0.15-36	0.1-25	-36	1.52	Y/B
0.035-3.5	0.14-14	0.3-71	0.3-71	0.17-42	0.12-28	-38	1.65	B/B
0.43-4.3	0.17-17	0.36-86	0.36-86	0.21-50	0.13-32	-40	1.85	G/G
0.52-5.2	0.21-21	0.43-100	0.43-100	0.25-59	0.15-37	-42	2.06	P/P
0.062-6.2	0.25-25	0.51-120	0.51-120	0.29-69	0.17-41	-44	2.29	P/Bk
0.075-7.5	0.3-30	0.63-150	0.62-150	0.33-79	0.19-46	-46	2.54	P/O
0.088-8.8	0.35-35	0.74-180	0.74-180	0.37-89	0.21-52	-48	2.79	P/W

†Flow ranges (mL/min) are nominal. Actual flow depends on factors such as occlusion, fluid viscosity, temperature, and pressure.

How to order 2- and 3-stop tubing

Step 1: Choose a tubing material and select the corresponding catalog number prefix from the table on page 192. Make sure to choose 2-stop or 3-stop tubing based on what your pump uses!

Step 2: Find your pump system and desired flow rate and select the catalog number suffix from the tables on pages 192–193.

Step 3: Complete your system with extension tubing from page 192. You can connect stopped tubing and extension tubing with hose barb fittings or by splicing together.

Pump Tubing for Ismatec® Pumps

ID (mm)	OD (mm)	Wall (mm)	Tygon® E-Lab			Silicone (peroxide cured)			Silicone (platinum cured)			Norprene®			Viton®		
			Cat.no.	Ft/pk	Price/pk*	Cat.no.	Ft/pk	Price/pk*	Cat.no.	Ft/pk	Price/pk*	Cat.no.	Ft/pk	Price/pk*	Cat.no.	Ft/pk	Price/pk*
0.8	4.0	1.6	XJ-06509-13	50		XJ-96400-13	25		XJ-95802-01	25		XJ-06404-13	50		XJ-96412-13	25	
1.6	4.8	1.6	XJ-06407-72	50		XJ-96400-14	25		XJ-96410-14	25		XJ-06410-01	50		XJ-96412-14	25	
3.2	6.4	1.6	XJ-06407-76	50		XJ-06411-67	25		XJ-95802-05	25		XJ-06410-02	50		—	—	—
4.8	8.0	1.6	XJ-06407-78	50		XJ-06411-03	25		XJ-95802-09	25		XJ-06410-04	50		XJ-96412-25	25	
6.4	9.5	1.6	XJ-06407-80	50		XJ-06411-71	25		XJ-95802-12	25		XJ-06410-05	50		XJ-96412-18	25	
6.4	11.1	2.4	XJ-06509-24	50		XJ-06411-72	25		XJ-95802-13	25		XJ-06410-06	50		XJ-96412-24	25	
8.0	11.2	1.6	XJ-06407-83	50		XJ-06411-75	25		XJ-95802-15	25		XJ-06410-08	50		XJ-06434-05	25	
9.5	12.7	1.6	XJ-06407-86	50		XJ-06411-12	25		XJ-95802-18	25		XJ-06410-10	50		XJ-06434-06	25	
11.1	14.3	1.6	XJ-06407-87	50		—	—	—	—	—	—	XJ-06410-13	50		—	—	—
12.8	16.0	1.6	XJ-06407-90	25		XJ-06411-80	25		XJ-95802-21	25		XJ-06410-14	50		XJ-06434-07	25	
16.0	22.4	3.2	—	—	—	XJ-06411-58	25		XJ-95802-25	25		XJ-06410-17	50		XJ-06434-08	25	

ID (mm)	Flow ranges (mL/min) with indicated pump system†† (pages 189–191 and online)								
	78025-00, -05	78022-10, -12	78022-20, -22	78022-30, -32	07611-10‡	07611-15‡	78002-20‡	78002-22‡	78002-60‡
0.8	—	—	—	0.25 to 25	—	0.22 to 22	—	0.072 to 17	—
1.6	—	1.7 to 170	1.6 to 160	0.9 to 90	—	0.63 to 63	0.44 to 100	0.026 to 62	0.41 to 99
3.2	—	6.6 to 660	5.9 to 590	3.5 to 350	2.6 to 260	2.4 to 240	1.7 to 400	1.0 to 240	1.5 to 370
4.8	—	15.0 to 1500	13.0 to 1300	7.7 to 770	5.5 to 550	5.3 to 530	3.6 to 860	2.2 to 530	3.4 to 830
6.4	37 to 3700	25.0 to 2500	23.0 to 2300	13.0 to 1300	8.9 to 890	—	6.0 to 1400	3.7 to 880	6.2 to 1500
8.0	—	37.0 to 3700	34.0 to 3400	—	11.1 to 1110	—	8.8 to 2100	—	9.5 to 2300
9.5	80 to 8000	48.0 to 4800	44.0 to 4400	—	—	—	12 to 2800	—	13 to 3000
11.1	—	54.0 to 5400	50.0 to 5000	—	—	—	—	—	15 to 3600
12.8	100 to 10000	—	—	—	—	—	—	—	—
16.0	130 to 13000	—	—	—	—	—	—	—	—

††**Note:** Lower flow rates achievable with digital drives. ‡Flow rate with Digital Drive 78002-10; lower flow rate achievable with Programmable Drive 78002-00.

Magnetic Drive Pumps with Enclosed Motors

Easily handle thrust loads

– Quiet, energy efficient, and compact
– Internal cooling circuit reduces bearing temperature
– Enclosed motor for use in harsh environments

A. Moderate-Flow Polypropylene Pumps are ideal for process, recirculation, or transfer applications where continuous flow and excellent chemical resistance are needed.

B. High-Head Polypropylene Pumps (not shown) have a closed impeller design to significantly increase the output pressure. Polypropylene construction provides excellent chemical resistance in applications, such as filtration, where a high-head is needed.

C. Fluoroplastic Pumps with carbon fiber-reinforced ETFE are designed for highly corrosive or high-purity applications.



A
Polypropylene moderate-flow pump
72010-20



C
Fluoroplastic pump
72011-00

A–B. Polypropylene Pumps

115 V only 220 V only

Specifications

Wetted parts:
Front/rear casings and impeller/magnet capsule: glass fiber-reinforced polypropylene
Spindle and thrust ring: alumina ceramic 99.5%
Casing O-ring: Viton®
Bearing: PTFE

Duty cycle: continuous

Max flow		Max head		Max pressure		Max temp		Connections		Motor		Power		Dimensions (L x W x H)		Catalog number	Price
GPM	LPM	ft	m	psi	bar	°F	°C	Hose barb	NPT (M)	hp	rpm	VAC	Amps	in.	cm		
A. Moderate-Flow Polypropylene Pumps																	
3.1	11.7	6.8	2.1	4.3	0.3	176	80	1/2"	—	1/125	3400	115 220	0.40 0.20	4 1/8 x 3 x 3 3/4	10.5 x 7.6 x 9.5	XJ-72010-10 XJ-72010-15	
5	18.9	11.1	3.4	7.2	0.5	176	80	1/2"	—	1/75	3400	115 220	0.29 0.15	7 1/8 x 3 3/4 x 4 1/2	18.1 x 9.5 x 11.4	XJ-72010-20 XJ-72010-25	
10	37.9	17.7	5.4	11.6	0.8	176	80	—	3/4"	1/16	3400	115 220	1.10 0.55	10 1/8 x 4 3/4 x 4 1/8	25.7 x 12.1 x 10.5	XJ-72010-40 XJ-72010-45	
35.6	134.8	39	11.9	25.6	1.8	176	80	—	1"	1/3	3400	115 220	3.40 1.70	12 3/4 x 6 1/4 x 7	32.4 x 15.9 x 17.8	XJ-72010-80 XJ-72010-85	
B. High-Head Polypropylene Pumps																	
2.9	11.0	22.6	6.9	14.2	1.0	176	80	5/8"	—	1/38	3400	115 230	0.53 0.27	8 3/8 x 4 1/4 x 5	21.3 x 10.8 x 12.7	XJ-72012-00 XJ-72012-05	
4.6	17.4	36.1	11.0	24.2	1.7	176	80	5/8"	—	1/16	3400	115 230	1.00 0.50	9 5/8 x 4 3/4 x 5 1/8	24.4 x 12.1 x 13.0	XJ-72012-10 XJ-72012-15	
11.4	43.2	66.6	20.3	42.7	2.9	176	80	—	3/4"	1/4	3400	115 230	3.80 1.90	9 3/4 x 5 3/4 x 6 1/2	24.8 x 14.6 x 16.5	XJ-72012-20 XJ-72012-25	

C. Fluoroplastic Pumps

230 V only

Specifications

Wetted parts:
Front/rear casings and impeller/magnet capsule: carbon fiber-reinforced ETFE
Spindle and thrust ring: silicone carbide
Casing O-ring: Viton®
Bearing: silicone carbide

Duty cycle: continuous



Questions?

Trust our **expert** Application Specialists to help you find the right product.

Bob, 7 years of experience

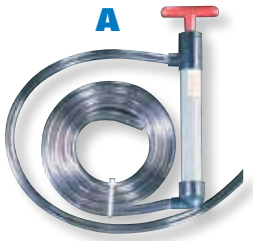
Call: 1-800-323-4340
E-mail: sales@coleparmer.com

Max flow		Max head		Max pressure		Max temp		Connections NPT(M)	Motor		Power		Dimensions (L x W x H)		Catalog number	Price
GPM	LPM	ft	m	psi	bar	°F	°C		hp	rpm	VAC	Amps	in.	cm		
3.2	12.1	26	7.9	17	1.2	176	80	1/2"	1/16	3300	115 230	0.25 0.13	9 1/8 x 4 3/4 x 5 1/8	23.2 x 12.1 x 13.0	XJ-72011-00 XJ-72011-05	

Plastic Hand-Operated Drum Pumps

No need for electricity

– Ideal for most acid/base or ionic salt applications



06437-00



06433-60





06437-10



70607-20





06425-05



06433-20



06433-30



06433-40

A. Siphon/Lift Pail Pump

– Suitable for pumping petroleum products or water
– Cut inlet tube to fit your container
– Maximum suction lift is 10 ft (3.0-m)

B. Threaded Hand Pump

– Pump detergents, water, dilute alkalies, and waxes from drums or pails—¾" NPT(M) intake threads permit semi-permanent attachment
– Optional adapters securely attach pump to a variety of containers—order below

Adapters for B

Description	Catalog number	Price
Fits Rieke Sr. covers	XJ-06433-62	
Fits Rieke Jr. covers	XJ-06433-64	
Fits 70-mm openings	XJ-06433-66	
Fits 2" IPS bung openings	XJ-06433-68	

C. Siphon/Lift Drum Pump

– Equipped with a 2" IPS bung adapter for pumping detergents, water, dilute alkalies, or waxes from drums
– Cut inlet tube to fit your container

D. FDA-Compliant Pumps

– Materials comply with FDA CFR 21 regulations for indirect food contact
– Available with outlet hose (70607-20) or spout (70607-22)

E. Water and Chemical Siphons

– Portable and self-priming
– Water siphon (70607-00) includes 60" (152 cm) outlet hose—cut to fit your application
– Chemical siphons (70607-10, -12) are suitable for acid and alkali transfer

F. HDPE Hand Pump

– Pump acids, alcohols, and alkalies from carboys, drums, or tanks
– Self-cleaning ball valve ensures free flow and long pump life
– Order optional LDPE adapter to securely mount pump on drums (order below)

Adapter for F

Description	Catalog number	Price
Fits 2" IPS bung openings	XJ-06425-09	

G. Heavy-Duty Acid-Transfer Pumps

– UL-listed for sulfuric acid transfer at 50% concentration
– Withstand temperatures up to 120°F (49°C)
– Self-priming, will not siphon

Key	Strokes/ gal. (L)	Wetted materials	Container adapter	Inlet tube		Outlet hose		Dimensions		Catalog number	Price
				L in. (cm)	OD in. (cm)	L in. (cm)	OD in. (cm)	L in. (cm)	Dia in. (cm)		
A	32 (9)	PVC barrel/hose, urethane-buna valves/seals	—	72" (182.9)	½" (1.3)	36" (91.4)	½" (1.3)	9" (22.9)	1¼" (3.2)	XJ-06437-00	
B	26 (7)	PVC body/hose, Hypalon® valves/seals, LDPE tube	¾" NPT(M)†	18" (45.7)	9/16" (1.4)	9" (22.9)	9/16" (1.4)	12" (30.5)	1¼" (3.2)	XJ-06433-60	
C	16 (5)	PVC body/hose, Hypalon valves/seals, LDPE tube	2" IPS	18" (45.7)	9/16" (1.4)	48" (121.9)	9/16" (1.4)	18" (45.7)	1¼" (3.2)	XJ-06437-10	
D	26 (7)	PVC barre/hose, Viton® valves/seals, LDPE tube	¾" NPT(M)	12" (30.5)	9/16" (1.4)	9" (22.9)	9/16" (1.4)	12" (30.5)	1¼" (3.2)	XJ-70607-20	
		PVC barrel, Viton valves/seals, LDPE tube/spout				6" (15.2) spout	9/16" (1.4)	12" (30.5)	1¼" (3.2)	XJ-70607-22	
E	32 (9)	PVC barrel, shaft, and hose	—	—	—	60" (152.4)	9/16" (1.4)	9" (22.9)	1¼" (3.2)	XJ-70607-00	
	26 (7)	PVC barrel/hose, LDPE tube	2" IPS	18" (45.7)	9/16" (1.4)	48" (121.9)	9/16" (1.4)	12" (30.5)	1¼" (3.2)	XJ-70607-10	
	12 (4)	PVC barrel/hose, PVC tube		—	—	48" (121.9)	9/16" (1.4)	36" (91.4)	1¼" (3.2)	XJ-70607-12	
F	6 (2)	All HDPE parts	None	34" (86.4)	1½" (3.8)	14" (35.6)	1½" (3.8)	38" (96.5)	1 13/16" (4.6)	XJ-06425-05	
G	6 (2)	Solvent-welded PVC body and shaft, Viton valves and seals	Glass carboy	—	—	36" (91.4)	1¼" (3.2)	38" (96.5)	1½" (3.8)	XJ-06433-00	
			—							XJ-06433-10	
			2" IPS							XJ-06433-20	
			Buttress Dell drum (M)							XJ-06433-30	
			83-mm buttress (F)							XJ-06433-40	

†Optional adapter available—order separately above.

Cole-Parmer® Digital Gear Drive with Remote Control

Easier setup and operation

NEW

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Get pulse-free flow in combination with Micropump® A-mount head
- Maximize bench space by stacking up to three drives
- Control speed, direction, and more remotely via DB25 female connector on drive



Cole-Parmer®

Analog remote control options and simple programming make this drive ideal for automated process applications. Drive features set time interval between dispense cycles for hands-free dispensing. Batch count function counts down and displays batches completed. Cumulative volume function enables you to track total volume dispensed over multiple cycles.

What's included: 6-ft (1.8-m) line cord with IEC 320/CEE22 socket. These models are shipped with country specific plug/cord set; please specify ultimate destination when ordering.

Motor rpm	Motor hp	Motor type	Power VAC	Power Hz	Catalog number	Price
36 to 3600	1/10	PMDC	90 to 260	50/60	XJ-75211-70	

XJ-07523-92 **Foot switch** for momentary start/stop; 6-ft (1.8-m) cable

XJ-07523-94 **Male connector,** DB25. Use to create your own cable

Micropump® A-Mount Gear Pump Heads

Achieve leak-free, pulseless flow

Magnetic drive and static seals keep fluids securely inside and potential contaminants out. Chemical resistant materials handle a wide range of materials (due to wetted parts). Pump heads are compact and easy to service. Modular design offers flexibility—configure to your specific needs.

Cavity-style pump heads are designed to handle higher inlet pressures. Models without internal bypass are reversible.

Suction shoe pump heads provide higher delivery pressures and temperatures, plus increased efficiency.



73011-00



73004-00

Specifications

Port size: 1/8" NPT(F)
Max viscosity: 0.2 to 1500 cp
Suction lift
Cavity style: 24" of H_2O (at 1750 rpm)
Suction shoe: 12" of H_2O (3450 rpm)
Duty cycle: continuous

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Flow rates (mL/min)†			Max pressure psi (bar)		Wetted parts			Temperature range	Internal bypass	Max speed (rpm)	Catalog number	Price	Service kits	
mL/rev	at 50 rpm	at 5000 rpm	Diff	System	Body	Gears	Seals						Cat. no.	Price
Cavity-style pump heads reversible units without internal bypass														
0.32	16	1600	80 (5.5)	300 (20.7)	316 SS	PEEK	PTFE	–45 to 170°F (–73 to 77°C)	No	10,000	XJ-73011-00		—	—
			80 (5.5)			PEEK		–45 to 170°F (–73 to 77°C)	Yes		XJ-73011-02		—	—
			50 (3.4)			PTFE		–45 to 130°F (–43 to 54°C)	Yes		XJ-07002-17		XJ-07144-38	
0.64	32	3200	50 (3.4)	300 (20.7)	316 SS	PTFE	PTFE	–45 to 130°F (–43 to 54°C)	Yes	10,000	XJ-07002-23		—	—
			75 (5.2)			PPS		–45 to 170°F (–43 to 77°C)			XJ-07001-80		XJ-07001-89	
0.64	32	3200	80 (5.5)	300 (20.7)	316 SS	PEEK	PTFE	–45 to 170°F (–73 to 77°C)	No	10,000	XJ-73011-08		XJ-73011-84	
									Yes		XJ-73011-10		XJ-73011-84	
0.91	45.5	4550	80 (5.5)	300 (20.7)	316 SS	PEEK	PTFE	–45 to 170°F (–43 to 77°C)	No	10,000	XJ-73011-16		—	—
			80 (5.5)			PEEK		–45 to 170°F (–43 to 77°C)	Yes		XJ-73011-18		—	—
			50 (3.4)			PTFE		–45 to 130°F (–43 to 54°C)	Yes		XJ-07001-40		XJ-07001-41	
Suction shoe pump heads provide higher delivery pressures and superior priming performance														
0.017	0.85	85	20 (1.4)	300 (20.7)	316 SS	Graphite	PTFE	–50 to 250°F (–46 to 120°C)	No	8000	XJ-07002-25		XJ-07144-42	
0.042	2.10	210	40 (2.8)					–50 to 250°F (–46 to 120°C)	No	8000	XJ-07002-26		—	—
0.084	4.20	420	40 (2.8)					–50 to 250°F (–46 to 120°C)	No	8000	XJ-07002-27		XJ-07144-47	
0.092	4.60	460	75 (5.2)	300 (20.7)	316 SS	PEEK	PTFE	–50 to 250°F (–46 to 120°C)	No	8000	XJ-73003-14		—	—
						PPS					XJ-07002-14		XJ-07144-34	
0.261	13.05	1305	125 (8.6)	300 (20.7)	316 SS	PEEK	Viton®	–50 to 250°F (–46 to 120°C)	Yes	10,000	XJ-73004-00		—	—
0.58	29.00	2900	125 (8.6)	300 (20.7)	316 SS	PEEK	Viton	–50 to 250°F (–46 to 120°C)	Yes	10,000	XJ-73004-02		—	—
			75 (5.2)			PPS					XJ-07003-02		XJ-07003-12	
1.17	58.50	5850	60 (4.1)	300 (20.7)	316 SS	PEEK	Viton	–50 to 250°F (–46 to 120°C)	Yes	10,000	XJ-73004-04		—	—
						PPS					XJ-07003-04		XJ-07003-14	

Note: Viscosity for all models is dependent on the parameters (flow rate, pressures, etc.) of the specific application.
†Flow rates based on water at room temperature and no back pressure.

Cole-Parmer® Console Drive

Optimize performance of long-term applications

- 100:1 speed-control range controls flow over a wide range
- Separate on-off switch maintains speed (flow) setting when drive is powered down
- Maximum continuous-duty flow rates possible with Micropump® A-mount pump heads
- Gradual, one-second acceleration for smooth flow rate changes

Simple variable speed control provides flow control for many fluid handling applications from filtration to chemical injection.

What's included: a 6-ft (1.8-m) modular line power cord; the 115 VAC model has a US standard plug and the 230 VAC model has an IEC 320/CEE 22 connector (specify country to obtain correct plug).



Cole-Parmer®

ISO 9001:2008 CERTIFIED SUPPLIER

Specifications

Duty cycle: continuous
Remote control (input): none
Remote control (output): none
Max system temperature: 104°F (40°C)

Motor			Power		Catalog number	Price
rpm	hp	Type	VAC	Hz		
50 to 5000	0.07	PMDC	115	50/60	XJ-75211-10	
			230	50/60	XJ-75211-15	

Pumping Viscous Liquids with Gear Pumps

Gear pumps are well suited for pumping viscous liquids if the following rules are observed:

1) Pump speed (rpm) must be reduced if viscosity is above 100 cp. When pumping viscosities above 100 cp, call our Application Specialists to determine optimal rpm and other operating parameters.

2) Suction and discharge lines must be increased by at least one, or better, two pipe sizes over the size of the pump ports.

3) Horsepower of the motor must be increased over the power required for pumping water under the same pressure and flow.

Ismatec® Compact Programmable Digital Drive

Dispense by flow rate, volume, time, or number of cycles

- No more dripping—program pump to draw back fluid
- Control via a PC with RS-232 interface
- Get more accuracy with calibration of flow rate and dispensing volume

IP44-rated housing protects internal components from damage. Multiple operating modes allow for continuous pumping by drive speed, flow rate, volume, time, volume within a pre-set time or interval dispensing by volume with a pause or time with a pause. The number of dispensing cycles may also be into the pump. Pump is capable of reversible rotation (only with cavity style pump heads that indicate reversible operation). Both dispensing and pause time settings are from 0.1 seconds up to 999 hours.

What's included: an adapter plate for mounting Micropump® A pump heads (except 07003-02, 07003-04, 73004-00, 73004-02, and 73004-04), a driving magnet and a 6-ft (1.8-m) power cord with plug.

ISMATEC®

Specifications

Duty cycle: continuous from 50 to 5000 rpm
Remote control (input):
Speed control: RS-232 (DB9F) for pump control via PC. 9600 baud, 8 bit, 1 stopbit, no parity
On/off control: TTL contact (for footswitch)
0 to 10 kHz for speed monitoring
Remote control (output):
RS-232 (DB9M) for cascading of up to 8 pumps
Max temperature: 104°F (40°C)

Motor rpm	Power		Catalog number	Price
	VAC	Hz		
50 to 5000	90 to 264	47 to 63	XJ-78008-15	

XJ-70738-94 **Replacement adapter plate;** for mounting Micropump A-mount pump heads (except models 07003-02, 07003-04, 73004-00, 73004-02, 73004-04)



Programmable digital drive 78008-15 with Micropump pump head 07002-14 (pump head not included)

Cole-Parmer® Syringe Pumps

Ideal for low-flow, low-pressure applications

- Backlit alphanumeric LCD guides you through setup and operating procedures
- Don't lose your settings—nonvolatile memory retains settings even after pump is turned off

A. Single-Syringe Infusion Pump automatically selects display units based on syringe used, obtaining precise flow rates down to 0.2 µL/hr. A wide dynamic range (6000:1) provides excellent flexibility.

B. Multi-Syringe Pumps achieve flow rates down to 0.001 µL/hr. Easy programming via keypad—infusion/withdrawal pumps sequence operations. Control from a computer with RS-232 interface.†

C. Multi-Step Multi-Syringe Pumps allow flow rates to vary from a slow trickle to a steady stream down to 0.001 µL/hr. Program up to 8 commands and repeat up to 10 times. Pumps allow you to program flow rate hold, pause, and change of direction; each program can be run up to 12 hours. Pumps can also sequence operations. Operate your pump from a computer—great for daisy-chaining pumps!

Cole-Parmer®

Pump continuously and automatically delivers exact quantities of liquid.



Specifications

Accuracy: ±<1%
Reproducibility: ±0.1%

Description	Number of syringes accepted	Flow rate per syringe	Syringe size accepted	Linear force	Power (VAC, Hz)	Catalog number	Price
A. Single-syringe pump							
Infusion	1	0.2 µL/hr to 500 mL/hr	10 µL to 60 mL	20 lb (9.1 kg)	115, 50/60	XJ-74900-00	
					230, 50/60	XJ-74900-05	
B. Multi-syringe pumps							
Infusion	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	XJ-74900-10	
					230, 50/60	XJ-74900-15	
	10				115, 50/60	XJ-74900-30	
					230, 50/60	XJ-74900-35	
Infusion/ withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	XJ-74900-20	
					230, 50/60	XJ-74900-25	
	10				115, 50/60	XJ-74900-40	
C. Multi-step multi-syringe pumps							
Infusion	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	XJ-74900-60	
					230, 50/60	XJ-74900-65	
	10				115, 50/60	XJ-74900-80	
					230, 50/60	XJ-74900-85	
Infusion/ withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	XJ-74901-00	
					230, 50/60	XJ-74901-05	
	10				115, 50/60	XJ-74901-10	
					230, 50/60	XJ-74901-15	

†Order RS-232 cables separately online or call our Application Specialists.

Cole-Parmer® High-Pressure Piston Pumps

Precision pumping for your HPLC application

Cole-Parmer®

- Digital stepper motor ensures accuracy at low flow rates
- Self-flush feature washes piston with every stroke
- Interactive keypad controls make programming at the pump easy
- Pressure and leak sensors (except single-head pumps) alert you to malfunctions
- Remotely control pump with a PC via RS-232 and micro USB



Single-Head Pumps precisely meter and dispense chemicals, perfect for small-scale laboratory fluid transfers and HPLC applications. Small footprint saves bench and fume hood space. **High-Flow Dual-Head Pumps** are ideally suited to preparative and simulated moving bed chromatography applications and other high throughput processes. **High-Performance Isocratic Pumps** are best suited to semi-prep and other small-scale HPLC separations, and general metering and dispensing applications. **Low-Pulsation Dual-Head Pump** provides virtually pulse-free operation with a low dead-volume pulse dampener, automatic pressure compensation, and advanced linear cam technology.

Specifications

Wetted parts: synthetic ruby, sapphire, UHMWPE, PTFE
Maximum temperature (fluid): 212°F (100°C)
Duty cycle: continuous
Self-priming: no
Power: 100 to 240 VAC, 50/60 Hz

Description		Single-head pumps			High-flow dual-head pumps			High-performance isocratic pumps		Low-pulsation dual-head pump
Catalog number		XJ-74931-00	XJ-74931-01	XJ-74931-20	XJ-74931-10	XJ-74931-11	XJ-74931-12	XJ-74931-25	XJ-74931-45	XJ-74931-30
Pump head material		PEEK	316 SS	316 SS	PEEK	316 SS	316 SS	316 SS	316 SS	316 SS
Flow	Range (mL/min)	0 to 10			0 to 100		0 to 300	0 to 100	0 to 10	0 to 12
	Accuracy	±2% of set point			±3% of set point			±3% of set point	±2% of set point	±2% of set point
	Repeatability	±1%		±0.2%	±0.5%			±0.5%		±0.2%
Pressure range (psi)		0 to 2000		0 to 6000	0 to 4000		0 to 1000	0 to 4000	0 to 5000	0 to 6000
Pulse dampener		No		Yes	Yes	No	No	Yes		Yes
Output		RS-232, micro USB, run/stop		RS-232, micro USB, voltage flow control, run/stop	RS-232, micro USB, voltage flow control, run/stop			RS-232, micro USB, voltage flow control, run/stop		RS-232, micro USB, voltage flow control, run/stop
Price										

Cole-Parmer® Entry-Level Touch-Screen Syringe Pumps

Get more done simultaneously

- Accommodate two syringes for infusion and two syringes for withdrawal at the same time
- Control flow rates from 0.58 pL/min to 88.28 mL/min via full-color touch screen
- Daisy chain up to 99 pumps together with the built-in RS-485 connectivity
- Accept syringes from 0.5 µL to 60 mL

These pumps feature a continuous push and pull (infusion/withdrawal) pump. When used with check valves, the pump will draw fluid from a reservoir while opposite side is dispensing fluid. After dispensing the user-settable volume, the pump automatically switches direction and dispenses from the other side while the just-consumed side is being refilled.

Pump can be placed on its side to provide a smaller footprint with the display automatically rotating.



Cole-Parmer®

Specifications

Accuracy: ±0.5%
Reproducibility: ±0.05%
Linear force: 75 lb (34 kg)
Output: RS-232, RS-485, USB, 15 pin D-sub connector
Power: 100 to 240 VAC, 50/60 Hz

Number of syringes	Syringe sizes accepted	Flow rate per syringe	Catalog number	Price
Infusion only pumps				
1	0.5 µL to 60 mL	1.28 pL/min to 88.28 mL/min	XJ-74905-02	
2	0.5 µL to 10 mL		XJ-74905-06	
Infusion/withdrawal programmable pumps				
1	0.5 µL to 60 mL	1.28 pL/min to 88.28 mL/min	XJ-74905-04	
2	0.5 µL to 10 mL	1.28 pL/min to 88.28 mL/min	XJ-74905-08	
2	0.5 µL to 10 mL	0.58 pL/min to 11.70 mL/min	XJ-74905-12	
1	0.5 µL to 1000 µL	3.66 pL/min to 363 µL/min	XJ-74905-34	

Low-Flow Piston Pump Systems

Remote flow rate control via analog signal or RS-232

- Flow down to 0.002 mL/min; pressure up to 6000 psi (414 bar)
- Smooth fluid delivery from intra RPM stepper motor control
- Integrated piston wash to rinse away crystallized chemicals

Software control of refill rates and compressibility compensation add to the versatility of the pumps and enhance pump performance. Precise metering is attained by a positive-displacement reciprocating piston assembly. The high-resolution stepper motor is used to maximize flow output and minimize pulsation.

Choose pumps with an integrated pulse damper to further reduce pulsation. Pumps also feature the ability to monitor pressure and set high and low limits.



Specifications

Viscosity: 500 cp max
Repeatability: typically ±0.3%
Duty cycle: continuous
Maximum fluid temperature: 248°F (120°C)
Power: 110 to 220 VAC, 50/60 Hz

Flow rate (mL/min)		Max pressure psi (bar)	Wetted parts		Connection		Standard		Integrated pulse damper	
Min	Max		Body	Piston	Inlet	Outlet	Catalog number	Price	Catalog number	Price
0.002	2.5	6000 (413)	316 SS	PE	¼" fitting for ⅛" tubing	Ferrule for 1/16" tubing	XJ-73150-00		XJ-73150-02	
0.003	5	6000 (413)					XJ-73150-10		XJ-73150-12	
0.01	20	3000 (206)			⅛" Swagelok®	⅛" Swagelok	XJ-73150-20		—	—
0.003	5	6000 (413)	316 SS	PE	¼" fitting for ⅛" tubing	Ferrule for 1/16" tubing	XJ-73150-30		XJ-73150-32	
0.01	10	6000 (413)					XJ-73150-40		XJ-73150-42	
0.02	40	1500 (103)			⅛" Swagelok	⅛" Swagelok	XJ-73150-50		—	—
0.01	10	3000 (206)	316 SS	PE	¼" fitting for ⅛" tubing	Ferrule for 1/16" tubing	XJ-73150-60		—	—
0.01	20	1500 (103)					XJ-73150-70		—	—
0.04	80	750 (52)			⅛" Swagelok	⅛" Swagelok	XJ-73150-80		—	—

Wait! There's More at ColeParmer.com

Browse **100,000+** products plus find **Technical Resources** to help you choose

Air-Powered Double-Diaphragm Pumps

Move high-viscosity fluids easily—even sludge!

- High flow rates—up to 106 GPM
- No need to worry about electrical sparking
- Won't lose seal even after repeated servicing
- Easy pump head access for maintenance needs
- No lubrication of valve required

Safely handles abrasive fluids and slurries—ideal for high-viscosity and shear-sensitive materials. Encapsulated muffler provides excellent sound dampening.



Specifications

Suction lift: 10 ft (3 m) H_2O
Viscosity: up to 11,000 cp
Max temperature:
PP models: 150°F (66°C)
PVDF models: 200°F (93°C)
SS models: 212°F (100°C)
Duty cycle: continuous
Run dry: yes

Polypropylene (PP) Pumps

ISO9001:2008 CERTIFIED SUPPLIER

Max GPM (LPM)	Max psi (bar)	Port size	Max particle size	Diaphragm material	Air inlet requirements			Catalog number	Price
					Connection	Max psi (bar)	scfm (m^3/h)		
4 (15.1)	100 (6.9)	¼" NPT(F)	1/32"	Santoprene®	¼" NPT(F)	100 (6.9)	1 to 6 (1.7 to 10.2)	XJ-74000-70	
				PTFE				XJ-74000-72	
14 (53)	100 (6.9)	½" NPT(F)	⅛"	Santoprene	¼" NPT(F)	100 (6.9)	2 to 16 (3.4 to 27.2)	XJ-74000-00	
				PTFE				XJ-74000-42	
23 (87.1)	100 (6.9)	¾" NPT(F)	⅛"	Santoprene	¼" NPT(F)	100 (6.9)	4 to 25 (6.8 to 42.5)	XJ-74000-11	
				PTFE				XJ-74000-13	

PVDF Pumps

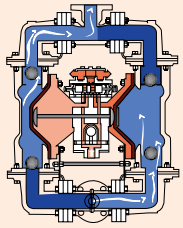
Max GPM (LPM)	Max psi (bar)	Port size	Max particle size	Diaphragm material	Air inlet requirements			Catalog number	Price
					Connection	Max psi (bar)	scfm (m^3/h)		
4 (15.1)	100 (6.9)	¼" NPT(F)	1/32"	Santoprene	¼" NPT(F)	100 (6.9)	1 to 6 (1.7 to 10.2)	XJ-74000-80	
				PTFE				XJ-74000-82	
14 (53)	100 (6.9)	½" NPT(F)	⅛"	PTFE	¼" NPT(F)	100 (6.9)	2 to 16 (3.4 to 27.2)	XJ-74000-46	
23 (87.1)	100 (6.9)	¾" NPT(F)	⅛"	Santoprene	¼" NPT(F)	100 (6.9)	4 to 25 (6.8 to 42.5)	XJ-74000-21	
45 (170.3)	100 (6.9)	1" flange	¼"	Santoprene	½" NPT(F)	100 (6.9)	5 to 45 (8.5 to 76.5)	XJ-74000-22	

Stainless Steel Pump

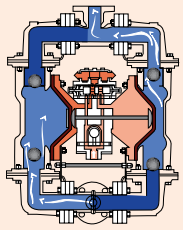
Max GPM (LPM)	Max psi (bar)	Port size	Max particle size	Diaphragm material	Air inlet requirements			Catalog number	Price
					Connection	Max psi (bar)	scfm (m^3/h)		
4.4 (16.7)	125 (8.6)	¼" NPT(F)	1/16"	PTFE	¼" NPT(F)	125 (8.6)	1 to 8 (1.7 to 13.6)	XJ-74007-00	

How Double-Diaphragm Pumps Work

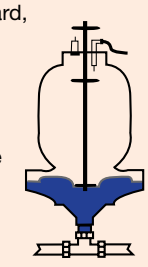
Discharge Stroke—Pressurized air is directed to the left diaphragm, pushing it outward. Liquid is forced from the left outer chamber, through the chamber, an open discharge check valve, and exits the pump at the discharge manifold.



Suction Stroke—As the left diaphragm is pushed out, a connecting rod pulls the right diaphragm inward, filling the right chamber with fluid. Liquid enters the pump at the suction manifold, moves through an open suction check valve, and fills the chamber.



Surge Suppressor—Liquid pressure pushes the diaphragm upward, and a balancing air cushion keeps the diaphragm centered at midstroke. The diaphragm flexes within the mid-range position, absorbing and equalizing discharge pulsation.



Honeywell® DR4500A 12" Recorders

No need to order multiple chart types

- One pen creates chart, data, and up to four traces as data is collected—eliminates offset errors due to multiple pen design
- Configurable to your changing needs—options available at ColeParmer.com
- Don't have multiple power supplies—excitation voltage for up to two transmitters
- Configurable alarms and password protection for added protection
- Meet NEMA 3 requirements



80663-00 "One-pen" printhead produces up to four traces and prints alphanumeric chart data

Specifications

Input ranges
DC voltage: 0 to 50 mV, 1 to 5 V
Current: 4 to 20 mA
Thermocouples: J, K, T, E, R, S, B, NNM, NIC, W5
RTD: 100 Ω Pt, 500 Ω Pt
Accuracy: ±0.1% of span

Chart size: 12" diameter
Chart speed: 6 to 744 hr/revolution
Power: 102 to 132/204 to 264 VAC, 50/60 Hz
Panel cut-out dimensions (W x H): 12¾" x 12¾" (32.2 x 32.2 cm)

Number of channels	Catalog number	Price
One	XJ-80663-00	
Two	XJ-80663-10	
Three	XJ-80663-20	
Four	XJ-80663-30	

XJ-80663-90 **Replacement thermal paper.** Pack of 100 sheets
XJ-80663-92 **Replacement thermal pen**
XJ-17100-00 **NIST-traceable calibration** with data for recorders

Honeywell® DR4300 10" Recorders

Be certain of your readings—universal input and self-test built-in

- Configurable to your application
- Meet NEMA 3 requirements



Basic Recorders are fully programmable in the field via DIP switches. Select pre-configured input type, range, and chart speed.

Digital Display Recorders let you view results on their bright, vacuum fluorescent display. Configure recorder via integral keypad; choose from a wider selection of input types, ranges, and chart speeds.

Specifications

Input ranges
DC voltage: 0 to 10 mV, 0 to 100 mV, 0 to 200 mV; 0 to 1 V, 0 to 2 V, 0 to 5 V, 1 to 5 V, 0 to 10 V
Current: 0 to 20 mA, 4 to 20 mA
Thermocouples: J, K, T, E, R, S, B, NNM, NIC, W5
RTD: 100 Ω Pt

Accuracy
Basic recorder: ±0.35% of span
Recorder with display: ±0.10% of span (field calibrated)
Panel cut-out dimensions (W x H): 12¾" x 12¾" (32.3 x 32.3 cm)
Chart size: 10" diameter
Chart speed
Basic recorder: 24 hrs, 7 days
Recorder with display: 1 to 744 hours
Power: 100 to 240 VAC, 50/60 Hz

Model	Number of channels	Catalog number	Price
Basic recorder	One	XJ-80661-00	
	Two	XJ-80661-10	
Recorder with digital display	One	XJ-80661-20	
	Two	XJ-80661-30	

XJ-80661-92 **Replacement pen,** for channel one; purple. Pack of 6
XJ-80661-90 **Replacement pen,** for channel two; red. Pack of 6
XJ-80661-80 **Replacement chart paper,** 7-day, 100 divisions. Pack of 100 sheets
XJ-17100-00 **NIST-traceable recalibration** with data for recorders

Cole-Parmer® Disposable Temperature Recorders

Save money while knowing temperature of samples

- Simple to use—just pull out tab to start recorder
- Unique identifier and tamper-evident seal makes sure data is not corrupt
- Water and shock resistant

Cole-Parmer®



Create a permanent record of temperature conditions during shipment.

Specifications

Range: –20 to 100°F (–28 to 38°C)
Chart: pressure-sensitive 36" strip chart
Accuracy:
Temperature: ±2°F (±1°C)
Time: ±20 seconds per month average

Power: one AA alkaline battery (included)
Dimensions (W x H x D): 4" x 5½" x 2½" (10.2 x 14.0 x 6.4 cm)

Chart speed	Catalog number	Price
5 days	XJ-80150-40	
10 days	XJ-80150-50	
20 days	XJ-80150-60	
30 days	XJ-80150-70	

Dickson 8" Temperature/Humidity Recorders

View temperature and humidity/ dew point simultaneously

- Selectable units and scales—choose chart paper based on your needs
- No inadvertent changes with lock-out dip switch



Model 81001-51 features a large digital display. Model 80001-53 features a large digital display, audible/visual high/low alarms, and sensor probe with 10-ft cable. All models have a green "power on" light.

What's included: red, blue pens, 120 VAC adapter, probe with 10-ft (3.0-m) cable (model 80001-53), and one 9 V battery (backup power).

CE

Specifications

Temperature accuracy: ±1.8°F (±1°C)
Humidity range: 0 to 100% (noncondensing)
Humidity accuracy: ±2% from 0 to 60%, ±3% from 60 to 95%
Dew point range: –22 to 122°F (–30 to 50°C)
Dew point accuracy: 10 to 95% RH, ±7.2°F (±4°C)
Power: 120 VAC, 50/60 Hz
Dimensions (W x H x D): 13¼" x 10½" x 2¾" (33.7 x 26.7 x 7.0 cm)

Type	Catalog number	Price
Recorder with digital display	XJ-80001-51	
Recorder with digital display, alarms, and remote probe	XJ-80001-53	

Measuring range	Chart paper (pk of 60)			Price/pk
	24-hour	7-day	31-day	
	Cat. no.	Cat. no.	Cat. no.	
32 to 120°F	XJ-80013-01	XJ-80013-11	XJ-80013-21	
40 to 110°F	XJ-80013-05	XJ-80013-15	XJ-80013-23	
0 to 50°C	XJ-80013-03	XJ-80013-13	XJ-80013-25	
5 to 40°C	XJ-80013-07	XJ-80013-17	XJ-80013-27	
–20 to 120°F	XJ-80013-01	XJ-80013-11	XJ-80013-21	
0 to 185°F	XJ-80013-09	XJ-80013-48	—	
40 to 110°F	XJ-80013-05	XJ-80013-15	XJ-80013-23	
–20 to 50°C	XJ-80013-03	XJ-80013-13	XJ-80013-25	
5 to 40°C	XJ-80013-07	XJ-80013-17	XJ-80013-27	

XJ-08498-50 **Replacement** pen, red
XJ-08498-51 **Replacement** pen, blue
XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4
XJ-17030-26 **NIST-traceable calibration** with data for temperature/humidity recorders

Wait!
There's More at ColeParmer.com
Find all the **product specs** you need!

Cole-Parmer® Economical 100- and 200-mm Flatbed Recorders

Cost-effective way to record your data



Cole-Parmer®

Cole-Parmer 100- and 200-mm flatbed recorders combine accuracy with value. Measure reliably using the recorders' zero control, 12 selectable input ranges, and adjustable 5:1 attenuation.

What's included: 115 VAC adapter, one roll of paper, and pen.

CE

Specifications

Input ranges: 1, 2, 5, 10, 20, 50, 100, 200, 500 mV; 1, 2, 5 V
Accuracy: ± 0.5% full-scale
Chart size: 100 or 200 mm
Chart speeds: 1, 2, 5, 10, 20, 30 cm/min and cm/hr
Input impedance: >1 MΩ
Attenuation: 5:1
Pen response: 0.5 sec full-scale
Power: 115 VAC, 12 VAC, or 12 to 15 VDC

Number of channels	Chart width	Catalog number	Price
One	100 mm	XJ-80550-00	
Two		XJ-80550-10	
One	200 mm	XJ-80550-20	
Two		XJ-80550-30	

Partlow™ Programmable 10" Circular Chart Recorder

Use in shallow spaces with compact panel depth



- High/low limit capability available
- Up to 2 alarms per pen
- 4-digit red LED display
- Input types include thermocouple, RTD, current, and voltage

Model no.	Description	Cat. no.	Price
51000011	1-channel recorder, NEMA 3 case, 90 to 264 VAC	XJ-49001-86	
51100011	2-channel recorder, NEMA 3 case, 90 to 264 VAC	XJ-49001-87	
60500402	Replacement pens, red. Pack of 5	XJ-49004-98	
60500401	Replacement pens, green. Pack of 5	XJ-49004-99	
—	NIST-traceable calibration with data	XJ-17100-00	

Cole-Parmer® Analog Refractometers

Quick and easy operation with reliable measurements

NEW

- Easy calibration via the calibration screw for enhanced accuracy
- No more worrying about temperature fluctuations with the automatic temperature compensation (ATC) models



These units come in many Brix, salinity, and refractive index ranges for all applications. The models that feature automatic temperature compensation (ATC) allow you to concentrate on the measurements without worrying about the temperature. The compensation range is 50 to 86°F (10 to 30°C).

Cole-Parmer®

All models also feature a zero% adjust with distilled water. This allows for immediate and easy calibration for precise measurements at all times.

Brix Refractometers

Range	Resolution	Accuracy	ATC	Catalog number	Price
0 to 10% Brix	0.10%	±0.1%	No	XJ-81150-23	
			Yes	XJ-81150-34	
0 to 18% Brix	0.10%	±0.1%	No	XJ-81150-24	
			Yes	XJ-81150-35	
0 to 32% Brix	0.20%	±0.2%	No	XJ-81150-25	
			Yes	XJ-81150-36	
0 to 60% Brix	0.50%	±0.3%	No	XJ-81150-29	
28 to 62% Brix	0.20%	±0.2%	No	XJ-81150-26	
			Yes	XJ-81150-37	
0 to 80% Brix	0.50%	±0.3%	No	XJ-81150-31	
0 to 50%, 50 to 80% Brix	0.50%	±0.3%	No	XJ-81150-30	
45 to 82% Brix	0.50%	±0.3%	No	XJ-81150-27	
			Yes	XJ-81150-38	
0 to 90% Brix	0.50%	±0.3%	No	XJ-81150-32	
0 to 42%, 45 to 71%, 71 to 90% Brix	0.20%	±0.2%	No	XJ-81150-33	
58 to 92% Brix	0.20%	±0.2%	No	XJ-81150-28	
			Yes	XJ-81150-39	

Salt/Combination Refractometers

Range	Resolution	Accuracy	ATC	Catalog number	Price
0 to 28% salinity	0.20%	±0.2%	No	XJ-81150-41	
			Yes	XJ-81150-45	
0 to 28% salinity; 0 to 32% Brix	0.20%	±0.2%	No	XJ-81150-43	
			Yes	XJ-81150-47	
0 to 100% salinity; 1.000 to 1.070 RI	1%; 0.005	±0.5%; ±0.001	No	XJ-81150-40	
			Yes	XJ-81150-44	
0 to 100% salinity; 1.000 to 1.070 RI; 0 to 10% Brix	1%; 0.005; 0.10%	±0.5%; ±0.001; ±0.1%	No	XJ-81150-42	
			Yes	XJ-81150-46	

Accessories

XJ-17105-00 **NIST-traceable calibration** with data for refractometers
XJ-06226-13 **Transfer pipette,** 1.5 mL. Box of 500

Find even more online!
Go to ColeParmer.com to see full product details.

Cole-Parmer® Digital Refractometers

Never wait for readings again

- Rugged design is IP65 rated
- Easy calibration for precise results at all times
- No more worrying about temperature fluctuations with built-in ATC

NEW



Cole-Parmer®

These digital refractometers feature an LCD, eliminating reading errors common with handheld refractometers. All models feature built-in automatic temperature compensation (ATC) which removes temperature fluctuations allowing the user to concentrate on the measurements. The compensation range is 41 to 104°F (5 to 40°C).

Many range options are available for measurements within any application. All models also feature a zero% adjust with distilled water, allowing for immediate and easy calibration for precise measurements at all times.

What's included: soft and clean cloth, carrying case, and two AAA batteries.

IP65

Specifications

Temperature range: 32 to 104°F (0 to 40°C)
Temperature accuracy: ±1°F (0.5°C)
Sample volume: 0.3 mL
Response time: ≤3 seconds
Power: two AAA batteries
Battery life: ≥5000 readings

Range	Resolution	Accuracy	Catalog number	Price
0 to 45% Brix, 1.3330 to 1.4098 RI	0.1, 0.0001	±0.2, ±0.0003	XJ-81150-48	
0 to 85% Brix, 1.3330 to 1.5100 RI	0.1, 0.0001	±0.2, ±0.0003	XJ-81150-55	
0 to 95% Brix, 1.3330 to 1.5400 RI	0.1, 0.0001	±0.2, ±0.0003	XJ-81150-56	
0 to 28% salinity, 1.330 to 1.4100 RI	0.1, 0.0001	±0.1, ±0.0003	XJ-81150-49	
0 to 45% Brix, 0 to 28% salinity, 1.3330 to 1.4100 RI	0.1, 0.1, 0.0001	±0.2, ±0.1, ±0.0003	XJ-81150-57	
0 to 14 g/dl serum protein, 1.3330 to 1.3900 RI	0.2, 0.0001	±0.2, ±0.0003	XJ-81150-51	
0 to 60% v/v, w/w ethyl alcohol	0.1	±0.3	XJ-81150-52	
0 to 60% v/v, w/w isopropyl alcohol; –58 to 32°F (–50 to 0°C)	0.1	±0.5	XJ-81150-53	
0 to 75% ethylene glycol, –58 to 32°F (–50 to 0°C)	0.1	±0.3, ±1°F, ±0.5°C	XJ-81150-54	

Accessories

XJ-09376-00 **Replacement batteries,** AAA. Pack of 12
XJ-17105-00 **NIST-traceable calibration** with data for refractometers
XJ-06226-13 **Transfer pipette,** 1.5 mL. Box of 500

Cole-Parmer® StableTemp™ Laboratory Refrigerators

Ideal for the requirements of daily lab applications



– Fully insulated chamber ensures minimal temperature fluctuation
– Sliding wire shelves pull out fully for easy access to all samples
– Thermal line recorder for easy tracking of temperature

NEW

Our complete line of refrigerators provides the reliability that is essential for your valuable samples in the 2 to 10°C (35 to 50°F) range. Performance is driven on all models by a high-efficiency evaporation system made with low corrosive materials and a fully insulated stainless steel chamber. An intuitive easy-to-use control panel has VFD and touch-sensitive buttons for controlling all the essential functions.

Adjustable full-extension sliding shelves provide efficient and customizable use of interior space and easy access to stored samples. Built-in 50-mm diameter cable port allows use of external temperature probes. Bright fluorescent lighting (except 52412-00 to -02) for convenient viewing of samples. Safety features include high/low temperature and overcurrent protection, open door alarm, automatic fan stop, keypad lock function, and built-in door lock with key permit access control.

What's included: plastic-coated wire sliding shelves and brackets, thermal line recorder, and power cord with plug.

StableTemp

Capacity	Temperature range	Dimensions (W x H x D)		No. of doors	No. of shelves	Max no. of shelves	Power†			Shpg wt lb (kg)	Catalog number	Price
		Interior	Exterior				VAC	Hz	Amps			
5.5 cu ft (156 L)	2 to 10°C (35.6 to 50°F)	21¾" x 22¾" x 19⁵⁄₁₆" (55 x 58 x 49 cm)	26¹⁵⁄₁₆" x 31⅛" x 34⁷⁄₁₆" (68.3 x 79.1 x 87 cm)	1	2	4	120	60	5	253 (115)	XJ-52412-00	
							230	50	2.5		XJ-52412-02	
10.7 cu ft (303 L)	2 to 10°C (35.6 to 50°F)	55" x 55" x 100" (21.7 x 21.7 x 39.4 cm)	26⁷⁄₁₆" x 30⅜" x 59⅝" (67 x 77 x 151.5 cm)	1	3	7	120	60	5	319 (145)	XJ-52412-03	
							230	50	2.5		XJ-52412-05	
21.3 cu ft (603 L)	2 to 10°C (35.6 to 50°F)	25⅝" x 25¼" x 57⅛" (65 x 64 x 145 cm)	30⁵⁄₁₆" x 34⅛" x 77⁷⁄₁₆" (77 x 86.5 x 196.5 cm)	1	3	11	120	60	5	495 (224)	XJ-52412-06	
							230	50	4		XJ-52412-08	
28.4 cu ft (805 L)	2 to 10°C (35.6 to 50°F)	29½" x 29⅛" x 57⅛" (75 x 74 x 145 cm)	34⁵⁄₁₆" x 37¹⁵⁄₁₆" x 77⁷⁄₁₆" (87 x 96.5 x 196.5 cm)	1	3	11	120	60	5	605 (274)	XJ-52412-09	
							230	50	4		XJ-52412-11	
46.9 cu ft (1327 L)	2 to 10°C (35.6 to 50°F)	56⁵⁄₁₆" x 25¼" x 57⅛" (143 x 64 x 145 cm)	61" x 34⅛" x 77⁷⁄₁₆" (155 x 865 x 196.5 cm)	2	6	22	120	60	10	880 (399)	XJ-52412-12	
							230	50	7.5		XJ-52412-14	

†Additional voltages available; call for details.

Cole-Parmer® StableTemp™ –86°C Upright ULT Freezers

Optimal efficiency with minimal temperature loss



– Eye-level controls for quick programming and easy viewing
– Individually sealed inner doors minimize frost buildup and temperature loss when open
– Outer door has four gaskets for maximum thermal efficiency
– Multiple alarm features mean you are always aware of any operation errors

NEW

These ULT freezers are designed to meet your cold storage needs down to –86°C. High-performance insulation panels in the cabinet minimize heat gain improving temperature stability. Separate inner storage chambers have their own insulated doors which offer independent access to storage space, minimizing frost buildup inside the chambers and providing maximum protection of stored samples. The outer door seal's unique design reduces temperature loss while the door is open, and a robust door latch keeps the door securely closed.

Microprocessor controller is simple to use with push-button control and has an easy-to-read operational status display. Large LED show internal temperature, set temperature, ambient temperature, and input voltage for quick viewing of operation parameters. Other features include USB port for downloading data, sample port for external temperature probe, heated pressure equalization port for easy door opening, and casters for smooth portability.

What's included: power cord and plug.

StableTemp

Capacity	Temperature range	Dimensions (W x H x D)		No. of doors	No. of shelves	Power†			Shpg wt lb (kg)	Catalog number	Price
		Interior	Exterior			VAC	Hz	Amps			
11.9 cu ft (338 L)	–86 to –40°C (–122 to –40°F)	18⁵⁄₁₆" x 45¹³⁄₁₆" x 24¹³⁄₁₆" (46.5 x 116.5 x 63 cm)	31¹⁵⁄₁₆" x 72¹¹⁄₁₆" x 35⅛" (81.2 x 184.6 x 89.3 cm)	1 outer, 2 inner	3	115	60	18	612 (277)	XJ-44260-03	
						220	50	7.5		XJ-44260-01	
17.1 cu ft (486 L)	–86 to –40°C (–122 to –40°F)	23⁹⁄₁₆" x 51⁹⁄₁₆" x 24¹³⁄₁₆" (59 x 131 x 63 cm)	37⁹⁄₁₆" x 78" x 35⁷⁄₁₆" (94.5 x 198 x 90 cm)	1 outer, 4 inner	3	115	60	18	683 (309)	XJ-44260-09	
						220	50	9		XJ-44260-04	
20.4 cu ft (578 L)	–86 to –40°C (–122 to –40°F)	24⁷⁄₁₆" x 51⁹⁄₁₆" x 28³⁄₁₆" (62 x 131 x 71.6 cm)	35¼" x 78" x 38⁹⁄₁₆" (89.5 x 198 x 98 cm)	1 outer, 4 inner	3	115	60	18	727 (329)	XJ-44260-13	
						220	50	9		XJ-44260-11	
25.7 cu ft (728 L)	–86 to –40°C (–122 to –40°F)	30⅛" x 51⁹⁄₁₆" x 28³⁄₁₆" (76.6 x 131 x 71.6 cm)	40¹⁵⁄₁₆" x 78" x 38⁹⁄₁₆" (104.1 x 198 x 98 cm)	1 outer, 4 inner	3	115	60	18	848 (384)	XJ-44260-19	
						220	50	9		XJ-44260-17	
29.2 cu ft (828 L)	–86 to –40°C (–122 to –40°F)	34¼" x 51⁹⁄₁₆" x 28³⁄₁₆" (87 x 131 x 71.6 cm)	45⅛" x 78" x 38⁹⁄₁₆" (114.5 x 198 x 98 cm)	1 outer, 4 inner	3	220	50	9	903 (409)	XJ-44260-21	

†Additional voltages available; call for details.

Argos Technologies® Sterile Sampling Scoops, PS

NEW

Comfortable, curved handle



- Flat bottom surface helps prevent spillage
- Sterilized by gamma irradiation and packaged individually in sealed easy-open bags

ARGOS TECHNOLOGIES

STERILE

Capacity mL (oz)	Size (L x W)		Handle length		Catalog number	Qty/cs	Price/cs
	in.	cm	in.	cm			
60 (2)	3	20.3	5	12.7	XJ-06260-01	100	
120 (4)	3½	22.9	5	12.7	XJ-06260-02	100	

Scienceware® Sterile Sampling Scoops, PS

No need to presterilize



- Come sterilized in individual polyethylene bags
- Ideal for single use

STERILE

Capacity mL (oz)	Scoop (L x W)		Handle length		Catalog number	Qty/cs	Price/cs
	in.	cm	in.	cm			
60 (2)	3 x 1	7.6 x 2.5	4	10.2	XJ-06260-10	100	
120 (4)	3½ x 1	8.9 x 2.5			XJ-06260-20		

Lab Spatulas, Nickel/Stainless Steel

Get precise sampling of powders or salts



- Easy-to-clean finish
- Choose the right end style for your needs

Buy More...Save More!

20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

End styles	Overall length		Qty/pk	Catalog number	Price/pk
	in.	cm			
A. Spooned†/flat	5¾	14.6	3	XJ-06369-09†	
B. V-shaped/sharpened bent tip	6¼	15.9	3	XJ-06369-08	
C. Spooned†/plastisol handle	6½	16.5	3	XJ-06369-03†	
D. Tapered/rounded	8	20.3	3	XJ-06369-06	
E. Rounded/rounded	8¼	21.0	3	XJ-06369-05	
F. Tapered/rounded	7⅛	18.1	3	XJ-06369-07	
G. Squared/rounded	7½	19.1	3	XJ-06369-18	
H. Spooned/squared	8⅞	22.5	3	XJ-06369-16	

†Hayman type end

Smart Spatula™ Disposable Spatulas, PP

Reduce cross-contamination



- Each spatula has scoop and spatula ends for better sampling
- Flexible design will not shatter even if exposed to liquid nitrogen
- Autoclavable

STERILE

Description	Overall length		Catalog number	Qty/pk	Price/pk
	in.	cm			
A. Blue	8¾	22.2	XJ-06265-18	300	
B. Opaque	8¾	22.2	XJ-06265-12	300	
C. Opaque, antistatic	5½	14.0	XJ-06265-14	300	
D. Green, large	12¼	31.1	XJ-06265-16	150	
E. Opaque, sterile	8¾	22.2	XJ-06265-20	100	

Scienceware® Sterile Sampling Spatula, PS

Get more volume per scoop



- Designed to hold twice the volume of standard spatulas
- Break up caked material easily with sturdy edge
- Individually sterilized and bagged

STERILE

Overall length	Catalog number	Qty/cs	Price/cs
9" (22.9 cm)	XJ-06262-00	100	

Cole-Parmer® Double-Ended Spoon Set, 304 SS

Sample from both ends



- Minimize discomfort—solid rounded shafts for more comfortable handling

Set contains three spoons: a 5⅞" (14.9 cm) long spoon with 0.5 mL and 2.0 mL bowls, an 8¼" (21 cm) long spoon with 1.6 mL and 5.0 mL bowls, and an 11⅞" (30.2 cm) long spoon with 2.0 mL and 8.0 mL bowls.

Set contains three spoon sizes

Cole-Parmer®

Buy More...Save More!

20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

Qty/set	Catalog number	Price/set*
Three spoons	XJ-06261-00	

*One set qualifies as one pack for discount savings.

Outfit your entire lab...

Cole-Parmer® StableTemp™ Stirrers and Stirring Hot Plates

Precision control ensures accurate, repeatable results



- Stay safe—hot surface warning until plate cools below 50°C
- Don't worry about spills—raised display diverts liquids away from critical components
- Optional temperature probe maintains your sample at the set temperature
- Keep samples in place—optional rod and clamps secure containers to the top plate

See page 215

Cole-Parmer® Polystat® Cooling/ Heating Circulating Baths

Get excellent cooling across range of temperatures



- Two-speed pump with up to 21 L/min flow
- Maximize bench space with compact size
- Protect samples and bath with high-temperature and low-level cutoffs

See page 16

Not sure what to choose? Get free tech support at 1-800-323-4340!

…quality products you can trust

Cole-Parmer® MP/MPR Series Multipurpose Centrifuges

Rugged construction, reliable performance



- Extra-thick stainless steel chamber and zinc-coated alloy and steel frame increase durability for inorganic separations requiring strong solvents
- Industrial-grade inverter drive and brushless motor provide a long service life
- User-accessible service sections allow on-site maintenance
- Programmable memory quickly administers routine tests and accommodates multiple users

See page 38

Cole-Parmer® Digital Reversing Mixer

Time your cycles for more efficient mixing



- Won't lose speed—brushless, 142 in-oz torque motor maintains speed
- Minimize aeration and vortexing—reversing feature alters mixing pattern for better mixing
- No more moving mixer head to change impeller depth—through-shaft housing for easier positioning
- Eliminate motor burn out—overload protection if torque exceeds ratings

See page 128

Cole-Parmer® Orbital Shakers

Designed for problem-free continuous use

- Smooth, uniform circular motion—perfect for both multiwell plates and large flasks
- Fit into environmental chambers and incubators for culturing and aeration applications
- Easily set and read speed and time on the digital display



Cole-Parmer®

Compact Shaker is ideal for smaller sample sizes of 0.5 to 5 mL in multiwell plates, dishes, and petri dishes. Included flat platform holds up to four standard-sized microwell plates on a nonslip rubber mat. Or order the optional expansion platform to double the plate capacity to eight plates. Choose the optional cradle-type platform with adjustable rubber bars to securely hold four 250-mL flasks or any combination of vessel sizes for maximum flexibility.

Large-Capacity Shaker includes a cradle-type platform with four adjustable rubber bars to hold a variety of bottles and flasks; accommodates twelve 250-mL, nine 500-mL, six 1000-mL, or two 2000-mL Erlenmeyer flasks. A larger cradle platform with six bars is available. Or order the optional flat platform for processing up to twelve standard microwell plates simultaneously.

Specifications

Speed range: 30 to 300 rpm **Timer:** 1 to 999 minutes
Orbit size: ⅝" (16 mm) dia

Platform dimensions	Max load	Overall dimensions (W x H x D)	Power		Catalog number	Price
			VAC	Hz		
Compact shaker						
8²¹⁄₃₂" x 8²¹⁄₃₂" (22 x 22 cm)	6.6 lb (3 kg)	9½" x 5½" x 11⅞" (24 x 14 x 30 cm)	120	60	XJ-51700-13	
			230	50	XJ-51700-14	
Large-capacity shaker						
13³⁄₁₆" x 13³⁄₁₆" (33.5 x 33.5 cm)	22 lb (10 kg)	14⅛" x 10⅝" x 16½" (36 x 27 x 42 cm)	120	60	XJ-51700-15	
			230	50	XJ-51700-16	

For Compact Shaker

XJ-51700-97 **Cradle platform** with four rubber securing bars
XJ-51700-98 **Expansion platform** with nonslip rubber mat. Holds 8 microwell plates
XJ-51700-99 **Plastic cover**

For Large-Capacity Shaker

XJ-51700-95 **Cradle platform** with six rubber securing bars, measures 20" x 20" (51 x 51 cm). Max speed is 150 rpm
XJ-51700-96 **Flat platform** with nonslip rubber mat. Holds 12 microwell plates

Cole-Parmer® Microplate Shakers

Mix micro-volumes effectively

- Digital display ensures reproducible results
- Platform with lip and nonskid mat holds plates securely
- Set built-in timer for up to 9999 minutes or use continuous mode



This shaker operates with a small orbit at high speed. Program a saved time and speed profile for routine tasks with the user-friendly interface. Optional tube adapter racks hold microcentrifuge tubes.

Cole-Parmer®

Specifications

Speed range: 250 to 1250 rpm **Orbit size:** 1⁄16" (1.5 mm)

Number of plates	Max load	Platform dimensions	Power		Catalog number	Price
			VAC	Hz		
4	2.2 lb (1 kg)	8⅝" x 8⅝" (22 x 22 cm)	120	60	XJ-51900-57	
			230	50	XJ-51900-55	
8	4.4 lb (2 kg)	12¹⁄₁₆" x 12¹⁄₁₆" (30.6 x 30.6 cm)	120	60	XJ-51900-51	
			230	50	XJ-51900-53	

XJ-51900-97 **Tube holder rack,** 50 x 1.5 mL
XJ-51900-98 **Tube holder rack,** 50 x 0.5 mL
XJ-51900-99 **Tube holder rack,** 50 x 0.2 mL

Cole-Parmer® Tube Roller Shakers

Get complete mixing

- Rocking and rolling action is ideal when minimum aeration is needed—like viscous substances or liquid-solid suspensions
- Solid construction—use in cold rooms or incubators
- Expand your capacity with optional stacking kit



The 6-roller units offer a space-saving design perfect for incubator use while the larger 9-roller units offer high throughput. Both accommodate most tube and bottle sizes.

Cole-Parmer®

Speed range	Number of rollers	120 VAC, 60 Hz		230 VAC, 50 Hz	
		Catalog number	Price	Catalog number	Price
Analog tube roller shakers					
Fixed at 33 rpm	6	XJ-04750-22		XJ-04750-20	
	9	XJ-04750-30		XJ-04750-28	
Digital tube roller shakers with built-in timer					
Adjustable from 5 to 60 rpm	6	XJ-04750-26		XJ-04750-24	
	9	XJ-04750-34		XJ-04750-32	

XJ-04653-09 **Stacking kit** includes four blocks. One kit will stack two shakers; order two kits to stack three shakers

Vortex-Genie Shakers

Maximize high-speed touch mixing

– Won't "walk" across your benchtop

Vortex-Genie® 1 Shaker has a single high-speed mixing action that eliminates operator error for highly reproducible results. Includes pop-off cup; 3" (7.6-cm) platform sold separately below.

Vortex-Genie® 2 Shaker allows you to control speed intensity by varying pressure to the head. The variable speed shaking allows you to adjust the level of mixing from gentle shaking to vigorous vortexing. Easy-to-change platforms allow you to adapt your shaker to a variety of applications. Shaker comes with a pop-off cup for single tube shaking and a standard 3" (7.6-cm) platform for multiple tube or flask shaking. Order optional platform starter kits below to customize the shaker for your application.

Vortex-Genie® 2T Shaker features both touch and hands-free operation. Shake samples from 1 to 60 seconds in touch mode, 1 to 60 minutes in hands-free mode, or continuously in the automatic untimed mode. The 2T shaker accepts all standard Genie attachments and accessories making it an economical addition to you laboratory. Includes pop-off cup and 3" (7.6-cm) platform.

Digital Vortex-Genie® 2 Shaker features both touch and hands-free operation with increased timer range. Shake samples from 1 to 99 seconds in touch mode, 1 to 99 minutes in hands-free mode, or continuously in the automatic untimed mode. Digital display provides accuracy, reproducibility, and repeatability. Accepts all standard Genie attachments and accessories and includes pop-off cup and 3" (7.6-cm) platform.

Vortex-Genie® Pulse Shaker offers true pulsing action, providing more collisions and random motion. Ideal for applications requiring more aggressive action than standard vortexing. Fully programmable—the variable run/stop time provides quick pulsing or interval mixing to keep samples in suspension, or use in continuous mode for vortexing. Featuring digital control and display of speed and time, this shaker will deliver reproducible and accurate mixing. Accepts all standard Genie attachments and accessories and includes pop-off cup and 3" (7.6-cm) platform.

What's included: power cord with plug (no plug on 230 VAC models).

Speed range	Timer range		Platform dimensions	Power			Catalog number	Price
	Touch mode	Hands-free mode		VAC	Hz	Amps		
Vortex-Genie 1 shaker								
600 to 3200 rpm	—	—	1⅛" dia pop-off cup	120	60	0.65	XJ-04724-10	
600 to 2700 rpm				230	50/60	0.5	XJ-04724-15	
Vortex-Genie 2 shaker								
600 to 3200 rpm	—	—	1⅛" dia pop-off cup, 3" dia platform	120	60	0.65	XJ-04724-00	
600 to 2700 rpm				230	50/60	0.5	XJ-04724-05	
Vortex-Genie 2T shaker								
600 to 3200 rpm	1 to 60 seconds	1 to 60 minutes	1⅛" dia pop-off cup, 3" dia platform	120	60	0.65	XJ-04724-20	
600 to 2700 rpm				230	50/60	0.5	XJ-04724-25	
Digital Vortex-Genie 2 shaker								
500 to 3000 rpm	1 to 99 seconds	1 to 99 minutes	1⅛" dia pop-off cup, 3" dia platform	120	60	0.65	XJ-04724-40	
				230	50/60	0.5	XJ-04724-45	
Vortex-Genie Pulse shaker								
500 to 3000 rpm	0.1 sec to 99 minutes	1 to 99 minutes	1⅛" dia pop-off cup, 3" dia platform	120	60	0.65	XJ-04724-38	
				230	50/60	0.5	XJ-04724-39	

XJ-04724-61 **Platform with cover,** 3" (7.6-cm) dia

XJ-04724-60 **Replacement cup** for single tube shaking

XJ-04724-70 **Thermoplastic rubber cover** protects standard 3" (7.6-cm) platform

XJ-04724-54 **Small ampule shaker attachment**

XJ-04724-55 **Large ampule shaker attachment**

XJ-04724-57 **TurboMix™ shaker attachment**

XJ-04724-63 **Microtube holder** for 12 x 2-mL tubes

XJ-04724-64 **Vertical tube holder.** Holds 3 x 50-mL tubes

XJ-04724-65 **Vertical tube holder.** Holds 6 x 15-mL tubes

XJ-04724-89 **Vertical tube holder.** Holds 6 x 50-mL, 6 x 15-mL, and 12 microtubes

XJ-04724-66 **Vertical microtube holder.** Holds 9 microtubes

XJ-04724-67 **Molded bottom closure** and screw kit

XJ-04724-83 **Platform,** 6" (15.2 cm)

XJ-04724-84 **Recessed platform**

XJ-04724-85 **Tube insert†,** foam; 9–16 mm. Set of 2

XJ-04724-86 **Tube insert†,** foam; 14–29 mm. Set of 2

XJ-04724-87 **Tube insert†,** foam; 29–37 mm. Set of 2

XJ-04724-88 **Blank insert†,** foam. Set of 2

†Requires recessed platform 04724-84 (sold separately above).



Beaker/Tube Platform Starter Kit includes one recessed platform for beakers up to 250 mL, two elastic bands, and one tube insert assortment set (Set includes one foam insert each for 9 to 16 mm, 14 to 29 mm, and 29 to 37 mm tubes; and one blank insert).

XJ-04724-80 **Beaker/tube platform starter kit**

XJ-04724-82 **Replacement elastic bands†.** Set of 2

XJ-04724-81 **Replacement tube insert assortment†.** Set of 4

†Requires recessed platform 04724-84 (sold separately at left).

Microtube/Microwell Plate Platform Starter Kit contains one 6" (15.2 cm) platform, one 6" (15.2 cm) foam insert for 60 microcentrifuge tubes, and one 6" (15.2 cm) foam insert for a single microwell plate.

XJ-04724-50 **Microtube/microwell plate platform** starter kit

XJ-04724-51 **Replacement micro tube inserts‡** hold up to 60 microtubes. Pack of 2

XJ-04724-53 **Double-tier microwell plate insert**

‡Requires platform 04724-83 (sold separately at left).

W. S. Tyler® Ro-Tap® E, Ro-Tap®, and Ro-Tap II® Sieve Shakers

Get reproducible hand-sieving without the hand shaking

– Set the time and walk away—99-minute digital timer with 0.1-second accuracy

Ro-Tap® E Sieve Shaker for 8" dia sieves is stand-alone benchtop unit that is virtually maintenance-free, offer quiet operation and can be operated directly on a laboratory countertop. Options include automatic controlled amplitude, and in fine and coarse analysis settings.

Ro-Tap Sieve Shakers for 8" dia sieves hold up to six full-height or 13 half-height sieves with top cover and receiving pan. Shakers for 12" dia sieves hold up to four full-height or ten half-height sieves with top cover and receiving pan.

Ro-Tap II Sieve Shakers double your shaking capacity while maintaining the accuracy of a single mechanical shaker. Dual-capacity shakers hold up to 12 full-height sieves or 26 half-height sieves.



Ro-Tap shaker
59986-60


Ro-Tap E shaker
59996-68

ISO9001:2008 CERTIFIED SUPPLIER

rpm	Power (VAC/Hz)	Dimensions (W x H x D)	Shpg wt lb (kg)	Catalog number	Price
Ro-Tap E shaker for 8" dia sieves					
1750	110/60	18" x 18" x 30" (45.7 x 45.7 x 76.2 cm)	80 (36)	XJ-59996-68	
Ro-Tap shakers for 8" dia sieves					
1750	110/60	28" x 25" x 21" (71.1 x 63.5 x 53.3 cm)	226 (102)	XJ-59986-60	
1450	220/50		170 (77.2)	XJ-59986-62	
Ro-Tap shakers for 12" dia sieves					
1750	110/60	28" x 25" x 21" (71.1 x 63.5 x 53.3 cm)	180 (81.7)	XJ-59996-60	
1450	220/50		225 (102)	XJ-59996-62	
Ro-Tap II shakers for 8" dia sieves					
1750	110/60	30" x 26" x 27" (76.2 x 66.0 x 68.6 cm)	230 (104)	XJ-59986-50	
1450	220/50		220 (99.8)	XJ-59986-52	


Ro-Tap II dual-capacity shaker
59986-50

Cole-Parmer® Brass and Stainless Steel Testing Sieves

Meet ASTM E11 specifications for compliance



These 8" diameter testing sieves are serialized and come with test sieve certificate. For our full selection of sieves, including 12" diameter sieves and sieves with NIST-traceable calibration report, go to ColeParmer.com/sieves.

Cole-Parmer®

ISO9001:2008 CERTIFIED SUPPLIER

Sieve opening (mm)	US standard	Tyler standard	Brass frame/brass wire				SS frame/SS wire				Brass frame/SS mesh			
			Full height†		Half height†		Full height†		Half height†		Full height†		Half height†	
			Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
2.36	No. 8	8 mesh	XJ-59980-00		XJ-59981-00		XJ-59984-00		XJ-59985-00		XJ-59940-00		XJ-59941-00	
2.00	No. 10	9 mesh	XJ-59980-01		XJ-59981-01		XJ-59984-01		XJ-59985-01		XJ-59940-01		XJ-59941-01	
1.70	No. 12	10 mesh	XJ-59980-02		XJ-59981-02		XJ-59984-02		XJ-59985-02		XJ-59940-02		XJ-59941-02	
1.40	No. 14	12 mesh	XJ-59980-03		XJ-59981-03		XJ-59984-03		XJ-59985-03		XJ-59940-03		XJ-59941-03	
1.18	No. 16	14 mesh	XJ-59980-04		XJ-59981-04		XJ-59984-04		XJ-59985-04		XJ-59940-04		XJ-59941-04	
1.00	No. 18	16 mesh	XJ-59980-05		XJ-59981-05		XJ-59984-05		XJ-59985-05		XJ-59940-05		XJ-59941-05	
0.850	No. 20	20 mesh	XJ-59980-06		XJ-59981-06		XJ-59984-06		XJ-59985-06		XJ-59940-06		XJ-59941-06	
0.710	No. 25	24 mesh	XJ-59980-07		XJ-59981-07		XJ-59984-07		XJ-59985-07		XJ-59940-07		XJ-59941-07	
0.600	No. 30	28 mesh	XJ-59980-08		XJ-59981-08		XJ-59984-08		XJ-59985-08		XJ-59940-08		XJ-59941-08	
0.500	No. 35	32 mesh	XJ-59980-09		XJ-59981-09		XJ-59984-09		XJ-59985-09		XJ-59940-09		XJ-59941-09	
0.425	No. 40	35 mesh	XJ-59980-10		XJ-59981-10		XJ-59984-10		XJ-59985-10		XJ-59940-10		XJ-59941-10	
0.355	No. 45	42 mesh	XJ-59980-11		XJ-59981-11		XJ-59984-11		XJ-59985-11		XJ-59940-11		XJ-59941-11	
0.300	No. 50	48 mesh	XJ-59980-12		XJ-59981-12		XJ-59984-12		XJ-59985-12		XJ-59940-12		XJ-59941-12	
0.250	No. 60	60 mesh	XJ-59980-13		XJ-59981-13		XJ-59984-13		XJ-59985-13		XJ-59940-13		XJ-59941-13	
0.212	No. 70	65 mesh	XJ-59980-14		XJ-59981-14		XJ-59984-14		XJ-59985-14		XJ-59940-14		XJ-59941-14	
0.180	No. 80	80 mesh	XJ-59980-15		XJ-59981-15		XJ-59984-15		XJ-59985-15		XJ-59940-15		XJ-59941-15	
0.150	No. 100	100 mesh	XJ-59980-16		XJ-59981-16		XJ-59984-16		XJ-59985-16		XJ-59940-16		XJ-59941-16	
0.125	No. 120	115 mesh	XJ-59980-17		XJ-59981-17		XJ-59984-17		XJ-59985-17		XJ-59940-17		XJ-59941-17	
0.106	No. 140	150 mesh	XJ-59980-18		XJ-59981-18		XJ-59984-18		XJ-59985-18		XJ-59940-18		XJ-59941-18	
0.090	No. 170	170 mesh	XJ-59980-19		XJ-59981-19		XJ-59984-19		XJ-59985-19		XJ-59940-19		XJ-59941-19	
0.075	No. 200	200 mesh	XJ-59980-20		XJ-59981-20		XJ-59984-20		XJ-59985-20		XJ-59940-20		XJ-59941-20	
0.063	No. 230	250 mesh	XJ-59980-21		XJ-59981-21		XJ-59984-21		XJ-59985-21		XJ-59940-21		XJ-59941-21	
0.053	No. 270	270 mesh	XJ-59980-22		XJ-59981-22		XJ-59984-22		XJ-59985-22		XJ-59940-22		XJ-59941-22	
0.045	No. 325	325 mesh	XJ-59980-23		XJ-59981-23		XJ-59984-23		XJ-59985-23		XJ-59940-23		XJ-59941-23	
0.038	No. 400	400 mesh	—	—	XJ-59981-24		—	—	XJ-59985-24		XJ-59940-24		XJ-59941-24	

†Full height sieves measure 2" deep; half height sieves measure 1" deep.

Jenway® 74-Series Spectrophotometers

Day In, Day Out Spectroscopy Just Got Easier!



Intuitive Touchscreen Interface

Large, 7" HD color display makes navigation easy. The touchscreen is fast and responsive, even with gloves.

Versatile Sample Chamber

Large, domed lid provides easy access, even for tall multi-cell chambers or tubes.

Memory & USB Ports

10 GB onboard storage lets you store methods and results, with easy-access USB ports to transfer data or connect a printer.

CPLive™ Connectivity

Keep your data secure and easily accessible with CPLive connectivity—results are automatically uploaded and stored in the cloud.

Transfer and store all your spectrophotometry protocols and results to one place, and effortlessly share with colleagues. Simultaneously manage multiple devices through your free CPLive account, via tablet or computer. Or, use the CPLive app on your smartphone.

Learn more at **ColeParmer.com/CPLive**



Description	7410 Visible wavelength	7415 UV/visible wavelength	7415 Nano UV/visible wavelength
Catalog number	XJ-83056-21	XJ-83056-22	XJ-83056-23
Min sample size	3 mL	3 mL	0.5 µL (at 0.2 mm), 1.0 µL (at 0.5 mm)
Bandwidth	5 nm	5 nm	
Wavelength range	320 to 1000 nm	198 to 1000 nm	
Wavelength accuracy	±2 nm	±2 nm	
Wavelength reproducibility	±0.5 nm	±0.5 nm	
Photometric range	0 to 199.9%, –0.300 to 2.500 A		
Photometric accuracy	±1%T, ±0.01 Abs at 1.000 Absorbance		
Source lamp	Tungsten halogen lamp	Xenon lamp	
Price			

Specifications

Quantitation range: –300 to 9999
Kinetics measurement time: 2 to 9999 seconds
Spectrum scan interval: Selectable 1, 2 ,5 or 10 nm
Output: USB Type A x 2, USB Type B x 1, Ethernet (RJ45) connection
Internal memory: 10GB for results and methods
Power: 100 to 240 VAC, 50/60 Hz

Jenway Genova Plus and Genova Nano UV/Vis Spectrophotometers

Versatile—get life science specific analysis as well as standard functions

- Meet the requirements of any busy laboratory—ideal for DNA, RNA, and protein measurements, but function as standard spectrophotometers
- Detects DNA concentrations as low as 2 ng/µL
- Save your methods and results to USB memory stick
- Icon-driven software with large graphical display and intuitive navigation



Genova Plus Spectrophotometer (model 83070-00) offers enhanced optics dedicated to life science analysis, allowing the measurement of DNA concentrations and purity ratios using wavelengths recorded at 260, 280 and 230 nm, with an optional correction at 320 nm. Or use as a standard spectrophotometer with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, quantitation, and kinetics.

This life science spectrophotometer is preprogrammed with methods for protein analysis in addition to nucleic acid concentrations. The OD measurement mode lets you measure optical density at 600 nm for cell harvesting. The purity scan across the entire wavelength range from 198 to 1000 nm displays any distorted peaks, easily identifying impurities.

Optional accessories let you choose the best way to measure your samples. The TrayCell accessory (83070-29) enables you to measure sample volumes as low as 0.7 µL and is ideal for RNA, DNA, and protein measurements requiring 1:10 or 1:50 dilutions.

Genova Nano Spectrophotometer (model 83070-02) offers the same features as the Genova Plus but adds a preinstalled pedestal platform which allows you to measure sample volumes as low as 0.5 µL—conserving your precious samples. Measuring small sample volumes eliminates the need to perform dilutions or use cuvettes, saving you time and money.

The versatile Genova Nano measures sample volumes with a high degree of accuracy and reproducibility in less than 6.5 seconds. Its stainless steel read head with an embedded quartz lens uses the natural surface tension of the droplet to form the bond between the read head surfaces for optimal results. When your reading is complete, simply wipe the sample with a microfiber cloth to remove all trace of the sample. The ease of cleaning allows faster changeover between samples, increasing sample throughput.

What's included: Model 83070-00 includes a 10 x 10 mm cuvette holder, micro-cuvette holder, 4 GB USB memory stick, 100 disposable micro-cuvettes, and universal power supply. Model 83070-02 includes a micro-volume accessory, 10 x 10 mm cuvette holder, micro-cuvette holder, 4 GB USB memory stick, and universal power supply.

Specifications

Measurement time: <6.5 seconds
Sample pedestal material of construction (model 83070-02): stainless steel and quartz

Description		Genova Plus	Genova Nano
Catalog number		XJ-83070-00	XJ-83070-02
Sample mode(s)		Cuvette	Cuvette and pedestal
Minimum sample size		0.7 µL†	0.5 µL at 2.0 mm, 1.0 µL at 0.5 mm
Maximum sample size		5 mL	5.0 µL
Bandwidth		5 nm (spectral)	
Path length		10 mm	0.2 or 0.5 mm (auto-ranging)
Wavelength	Transmittance	0 to 199.9%	
	Range	198 to 1000 nm	
	Resolution	±2 nm	
	Accuracy	1 nm	
Source lamp		Press-to-read Xenon lamp	
Detector		Photo-diode detector	
Detection limit		—	2.0 ng/µl (dsDNA) at 0.2 mm pathlength
Measurement	Range	–0.300 to 2.500 A (10-mm pathlength equivalent = –15.0 to 125.0 A)	
	Precision	—	<0.005 A between 0 and 1 A (at 260 nm and 0.5 mm)
	Accuracy	±1% T, ±0.01 A at 1.000 A	±2% at 1 A
Maximum concentration		—	6000 ng/µl (dsDNA)
DNA measurement modes		dsDNA, ssDNA, RNA, oligonucleotides, 260/280, 260/230, variable ratio	
Protein measurement modes		BCA, Bradford, Lowry, Biuret, Direct UV	
Memory		Up to 312 methods (including preprogrammed methods)	
Input/Output		USB, analog, RS-232, and optional integral printer	
Power (VAC, Hz)		90 to 260, 50 to 60	
Price			

†The 0.7 µL sample volume requires TrayCell accessory 83070-29 sold separately at right.



Accessories

XJ-83070-29 TrayCell accessory for Genova Plus (83070-00), for microvolume samples from 0.7 µL to 5 µL

XJ-83070-31 Automatic eight-cell cuvette holder for multiple sample measurements. Accepts 10 x 10 mm pathlength cuvettes

XJ-83070-33 Sipper pump, requires flow-through cuvette

XJ-83070-35 Peltier temperature controller, 20 to 50°C

XJ-83070-37 Combined sipper pump/Peltier temperature control

XJ-83070-39 Printer for instant results. Fits into top of spectrophotometer to save space

XJ-83070-41 Replacement cuvette holder, 10 x 10 mm pathlength

XJ-83070-43 Test tube and cuvette holder, 13/16/24-mm diameter x 100 mm height; compatible with 10-mm square cuvettes

XJ-83070-45 Test tube and cuvette holder, 13-mm dia; compatible with 10-mm square cuvettes

XJ-83056-80 Cuvette holder, 10 x 100 mm pathlength

XJ-83056-82 Replacement micro-cuvette holder, for small sample volumes down to 50 µL

XJ-83070-51 Water-heated cuvette holder, 10 x 10 mm pathlength (requires heated circulating bath for operating temperatures from 5 to 50°C)

Jenway® 72 Series and Genova Bio Scanning Spectrophotometers

Scan entire wavelength range in as little as 6 seconds

NEW

- Color touch screen and user-friendly interface make setup and navigation easy
- Multiple measurement modes for broad application compatibility
- Save quantitation curves to USB memory stick—no need to recreate for each measurement
- Two USB ports for data storage and printer connectivity
- Flexible and versatile—compatible with a wide range of interchangeable cell holders



The multi-element detector on the scanning spectrophotometers measures the entire wavelength range at once, reducing wait times. Plus, each dataset contains readings from the complete spectrum, making the data readily available for future analysis. The detector's orientation shields the array from stray light, allowing you to perform measurements with the lid open, quickly exchange samples, and decreases user errors in results.

Large 4" display allows full spectrum scans, quantitation curves and kinetics runs to be viewed easily. The touch-screen capability lets you zoom in and out and select spectral analysis points all by simply tapping the screen. Measurement modes include photometrics, concentration, optical density (OD at 600 nm), quantitation, spectrum scanning, and kinetics.

Compact design with small footprint takes up less space on your benchtop. The large sample chamber permits easy access for loading samples. The USB port on the rear connects with a printer (order separately), while the USB on the front accepts flash drives for data storage, quantitation curve uploads, and firmware updates.

Genova Bio, a dedicated life science UV/Vis spectrophotometer, is preprogrammed with methods for measuring nucleic acid concentrations, protein assays, and optical density of bacterial cell cultures such as *E. coli* and yeast cells. Compatible with ultra-micro, semi-micro, micro, and macro cuvettes.

What's included: standard 10 x 10 mm cuvette holder for models 83056-01 and -02, micro-cuvette holder for model 83056-04, USB memory stick, and power adapter with three plugs (US, EU, and UK).



Large chamber allows easy access for loading and unloading samples, plus it accommodates the optional heated cuvette and adjustable pathlength holders.

Meter and xenon lamp

Model		7200 (Vis)	7205 (UV/Vis)	Genova Bio (UV/Vis)
Catalog number		XJ-83056-01	XJ-83056-02	XJ-83056-04
Minimum sample size		0.7 µL†	0.7 µL†	0.7 µL†
Maximum sample size		4 mL	4 mL	4 mL‡
Bandwidth (spectral)		7 nm	5 nm	3 nm
Pathlength		10 mm	10 mm	10 mm
Wavelength	Range	335 to 800 nm	198 to 800 nm	
	Accuracy	±2 nm	±2 nm	
	Repeatability	±2 nm	±2 nm	
Photometrics	Transmittance	0 to 199.9%		
	Absorbance	–0.300 to 2.500 A		
	Accuracy	±0.01 A at 1.0 A and 546 nm		
	Stability (A)	±0.005 A/h at 0.04 A and 546 nm		
	Noise	±0.002 A at 0.04 A and ±0.02 A at 2.0 A and 546 nm		
	Stray light at 340 nm, %T	<1% T according to ANSI/ASTM E387-72		
Beam height		15 mm		
Source lamp		Tungsten halogen lamp	Xenon lamp	
Scan time		6 seconds		
Memory		Dependent on attached mass storage device		
Outputs		(2) USB		
Power (VAC, Hz)		100 to 240, 50 to 60		
Price				

†The 0.7 µL sample volume requires TrayCell accessory 83070-29 sold separately.
‡Model 83056-04 comes fitted with the micro-cuvette holder; would require cuvette holder 83070-41 for a 4-mL sample size.

Find even more online!
Go to ColeParmer.com to see full product details.

Accessories

XJ-83070-41 Single cuvette holder, 10 x 10 mm

XJ-83056-06 Micro-cuvette holder for cuvettes with 8.5 mm beam height

XJ-83056-82 Micro-cuvette holder with reduced aperture, for cuvettes with 15 mm beam height

XJ-83056-77 Heated cuvette holder for 10 x 10 mm cuvettes, 32 to 42°C

XJ-83056-80 Adjustable pathlength cuvette holder, 10 to 100 mm

XJ-83070-43 Test tube holder; accepts 10 mm square cuvettes and 16- and 24-mm diameter test tubes

XJ-83070-29 TrayCell accessory for ultra-micro sample volumes, supplied with caps for 1 and 0.2 mm

XJ-83056-79 External printer with battery and power adapter with three plugs (US, EU, and UK)

XJ-99959-81 Print paper. One roll

XJ-99610-33 Plastic cuvettes, visible only; 10 mm path, 3 mL. Pack of 100

XJ-06343-73 Plastic cuvettes, UV/Vis; 10 mm path, 3 mL. Pack of 100

XJ-83070-38 Plastic micro-cuvettes, UV/Vis; 70 µL to 1.5 mL. Pack of 100

Cole-Parmer® Visible Spectrophotometers

Get precise results

- Save time and reduce errors with auto-zeroing
- Maintain calibration and prevent damage with end-of-range stop on adjustment knob
- No manual adjustments—built-in filters automatically switch to accommodate wavelength setting



What's included: twelve 10-mm diameter test tubes cuvettes, cuvette adapter, dust cover, and 7-ft (2.1-m) cord with a US standard plug.

Cole-Parmer® ISO 9001:2008 CERTIFIED SUPPLIER

Bandwidth		20 nm	10 nm
Catalog number		XJ-83055-10	XJ-83055-20
Wavelength range		335 to 1000 nm	
Wavelength accuracy		±2 nm	
Photometric ranges	Transmittance	0 to 125% T	0 to 125% T
	Absorbance	0 to 2 A	0 to 1.95 A
	Concentration	—	0 to 1999 C
Output		USB	RS-232 / USB
Power (50/60 Hz)		115/230 VAC switchable	
Price			

XJ-83055-21 **PC application software** for model 83055-20. Standard Curve, Abs./%T/Conc., and Abs. vs. Time; for Windows® 95, 98, and XP. Includes serial cable 83055-24

XJ-83055-24 **RS-232 cable** for model 83055-20. Female 9-pin to female 9-pin

XJ-83055-22 **Printer cable** for model 83055-20. Male 25-pin to female 9-pin

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Cole-Parmer® UV/Visible Spectrophotometers

Store and recall 200 test methods

- Leverage software for DNA/RNA/protein and kinetics analysis
- Be more productive with included four-position cuvette holder
- Responds precisely to transmittance changes for better results
- Optional Peltier temperature controller and/or sipper system for total utility
- Create standard curves and get wavelength scanning feature with optional software



What's included: a 7-ft (2.1-m) detachable cord, dust cover, two-position 10-mm cuvette holder, four glass cuvettes, and two quartz cuvettes.

Cole-Parmer® ISO 9001:2008 CERTIFIED SUPPLIER

Power (VAC, Hz)		115, 60	230, 50
Catalog number		XJ-83059-10	XJ-83059-15
Bandwidth		4 nm	
Wavelength range		200 to 1000 nm	
Wavelength accuracy		± 2 nm	
Photometric ranges	Transmittance	0 to 125% T	
	Absorbance	–0.1 to 2.5 A	
	Concentration	0 to 1999 C	
Memory capability		Up to 200 standard curves	
Output		RS-232/USB	
Price			

XJ-83057-65 **Software, graphics.** Standard curve, Abs./%T/Conc., Abs. vs time; for Windows® XP

XJ-83057-66 **Temperature control system;** 115 VAC, 15 to 40°C. With external controller and Peltier 10 mm cell holder

XJ-83057-68 **Sipper system,** 115 VAC. With external controller unit and peristaltic pump; requires flow cell and tubing

XJ-83057-74 **Sipper system,** 230 VAC. With external controller unit and peristaltic pump; requires flow cell and tubing

XJ-83057-70 **Temperature control/sipper system,** 115 VAC. Combines 83057-66 and 83057-68; requires flow cell and tubing

XJ-83057-78 **Flow cell,** glass (visible spectra)

XJ-83057-79 **Flow cell,** quartz (UV spectra)

XJ-83057-64 **Two-position long cuvette holder,** 100 mm max

Disposable Cuvettes

No more washing cuvettes!

Use these economical, single-use cuvettes to obtain consistent spectrophotometric data. Use polystyrene cuvettes for visible spectral analysis; polymethacrylate cuvettes are preferred for UV range testing. Pathlength: 10 mm.

Type	Capacity (mL)	No. of clear sides	Dimensions W x H x D (mm)	Polystyrene		Methacrylate	
				Cat. number	Price/pk of 500*	Cat. number	Price/pk of 500*
Standard	4.5	2	12.5 x 45 x 12.5	XJ-06343-10		XJ-06343-15	
Semi-micro	1.5			XJ-06343-20		XJ-06343-70	
Fluorometry	4.5	4	12.5 x 45 x 12.5	XJ-06343-60		XJ-06343-80	

XJ-06343-31 **Cuvette caps,** LDPE. Case of 1000

XJ-06343-35 **Cuvette stirring spatulas,** PS. Case of 1000



***Discounts:** Save 10% on 2–9 pks, 15% on 10–39 pks, and 20% on 40+ pks.

Cole-Parmer® StableTemp™ Stirrers and Stirring Hot Plates

Precision control ensures accurate, repeatable results

- Stay safe—hot surface warning until plate cools below 50°C
- Don't worry about spills—raised display diverts liquids away from critical components
- Optional temperature probe maintains your sample at the set temperature
- Keep samples in place—optional rod and clamps secure containers to the top plate
- Optional splash guard protects you and your sample from mishaps

Advanced Stirrer and Stirring Hot Plate

- Greater accuracy and repeatability for advanced applications
- Set ramp/dwell programs and save settings for quick repeat
- Always know your status—view actual and set values simultaneously
- Protect you and your sample with overtemperature protection



What's included: PTFE-coated stir bar and detachable power cord with plug (EU plug for 230 VAC models). Advanced stirring hot plate also includes a temperature probe kit.

Top plate		Heating		Stirring		Power		Catalog number	Price
Dimensions	Material	Temperature range	Max load	Speed range	Max capacity	VAC	Hz		
Stirrers									
4¼" x 4¼" (10.8 x 10.8 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	1 L	100 to 120	50/60	XJ-03406-01	
						230	50/60	XJ-03406-06	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120	50/60	XJ-03406-11	
						230	50/60	XJ-03406-16	
10¼" x 10¼" (26 x 26 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	6 L	100 to 120	50/60	XJ-03406-31	
						230	50/60	XJ-03406-36	
Stirring hot plates									
4¼" x 4¼" (10.8 x 10.8 cm)	Ceramic	86 to 1004°F (30 to 540°C)	25 lb (11.4 kg)	50 to 1500 rpm	1 L	100 to 120	50/60	XJ-03407-01	
						230	50/60	XJ-03407-06	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	86 to 1004°F (30 to 540°C)	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120	50/60	XJ-03407-11	
						230	50/60	XJ-03407-16	
10¼" x 10¼" (26 x 26 cm)	Ceramic	86 to 752°F (30 to 400°C)	25 lb (11.4 kg)	50 to 1500 rpm	6 L	100 to 120	50/60	XJ-03407-31	
						230	50/60	XJ-03407-36	
Advanced stirrer and stirring hot plate									
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120	50/60	XJ-03406-41	
						230	50/60	XJ-03406-46	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	86 to 842°F (30 to 450°C)	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120	50/60	XJ-03407-41	
						230	50/60	XJ-03407-46	

†Based on water contained in a 20-L glass flat-bottom flask.

Accessories

XJ-04600-88 Transparent splash shield for 4¼" x 4¼" units
XJ-04600-89 Transparent splash shield for 7¼" x 7¼" units
XJ-04600-90 Transparent splash shield for 10¼" x 10¼" units
XJ-04600-91 External temperature probe, 100 Ω Pt, stainless steel, 32 to 752°F (0 to 400°C)
XJ-04600-92 External temperature probe, 1000 Ω Pt, stainless steel, 32 to 752°F (0 to 400°C)
XJ-04600-93 External temperature probe, 1000 Ω Pt, Hastelloy®, 32 to 752°F (0 to 400°C)
XJ-04600-98 Support rod for securing sample containers
XJ-04600-99 Clamp and holder for securing sample containers

Cole-Parmer® Hot Plates and Multiposition Stirrers and Stirring Hot Plates

Reach max temperature in two minutes

- Stir bar won't dance—unique U-shaped magnet holds 900 stir bar tightly
- Front-panel controls are positioned to prevent you from touching the hot plate
- Stepless speed control provides smooth stirring action to 1500 rpm

230 VAC models



Number of stirring positions	Volume per position	Top plate		Heating		Speed range	Power		Catalog number	Price
		Dimensions	Material	Temp range	Max load		VAC	Hz		
Hot plates										
—	—	12" x 12" (30.5 x 30.5 cm)	Ceramic	120 to 842°F (49 to 450°C)	25 lb (11.4 kg)	—	115	60	XJ-04801-14	
							230	50	XJ-04801-16	
Multiposition stirrers										
5	800 mL	12" x 12" (30.5 x 30.5 cm)	Ceramic	—	—	100 to 1500 rpm	120	60	XJ-51450-21	
							230	50	XJ-51450-26	
9	400 mL						120	60	XJ-51450-23	
							230	50	XJ-51450-28	
Multiposition stirring hot plates										
5	800 mL	12" x 12" (30.5 x 30.5 cm)	Ceramic	212 to 845°F (100 to 450°C)	40 lb (18.2 kg)	100 to 1500 rpm	120	60	XJ-51450-71	
							230	50	XJ-51450-76	
9	400 mL						120	60	XJ-51450-73	
							230	50	XJ-51450-78	

Accessories

XJ-17050-04 NIST-traceable calibration with data for stirrers

Corning® Digital Stirrers and Stirring Hot Plates

Maintain constant speed and temperature

- Conserve lab space—fits inside a hood or cabinet
- Get uniform heating, easy cleaning, and scratch-resistance
- Temperature display is adjustable in 5° increments and indicates when set temperature is reached
- Glass ceramic top holds up to 25 lbs



230 VAC models only

Top plate dimensions	Temp range	Stirring speed range	Power VAC	Power Hz	Catalog number	Price
Stirrers						
5" x 7" (12.7 x 17.8 cm)	—	60 to 1150 rpm	120	60	XJ-84302-40	
			220	50	XJ-84302-45	
10" x 10" (25.4 x 25.4 cm)	—	60 to 1150 rpm	120	60	XJ-84302-50	
			220	50	XJ-84302-55	
Stirring hot plates						
5" x 7" (12.7 x 17.8 cm)	41 to 1022°F (5 to 550°C)	60 to 1150 rpm	120	60	XJ-84303-40	
			220	50	XJ-84303-45	
10" x 10" (25.4 x 25.4 cm)	41 to 1022°F (5 to 550°C)	60 to 1150 rpm	120	60	XJ-84303-50	
			220	50	XJ-84303-55	

XJ-17002-27 **NIST-traceable calibration** with data for stirrers and hot plates

Cole-Parmer® Stirrers, Hot Plates, and Stirring Hot Plates

Reduce clutter in your workspace with space-saving design

- Heat one large vessel or several small ones—easily accommodate four 250-mL beakers
- Be safe—flashing light warns when top plate is hot (above 50°C), even when unplugged
- Unique housing allows legs of a support stand to slide underneath
- Choose ceramic top for better chemical resistance and higher temperatures



04801-65

04801-64

Cole-Parmer®

Analog Stirrers feature powerful magnets and motor to support speeds up to 2000 rpm and large-volume mixing up to 15 L (4 gal.).

Advanced Analog Hot Plates and Stirring Hot Plates feature an innovative LED temperature indicator scale, which lights up in colored increments as the top plate heats up, and shows you when the plate has reached its temperature set point. Use with the optional digital temperature controller to accurately regulate sample temperature.

Advanced Digital Stirring Hot Plates feature an LED display of surface temperature, ensuring high repeatability and accuracy. Compatible with the optional controller for precise sample temperatures.

Optional Digital Temperature Controller can be used in two different modes: as a precise temperature controller from 20 to 200°C or as a digital thermometer from –4 to 325°C. With digital setting and display of temperature, the temperature controller is accurate to ±0.5°C.

Top plate Dimensions	Top plate Material	Temperature range	Stirring Speed range	Stirring Max capacity†	Power VAC	Power Hz	Catalog number	Price
Analog stirrers								
6" x 6" (15 x 15 cm)	Ceramic	—	100 to 2000 rpm	15 L	120	60	XJ-04801-50	
					230	50	XJ-04801-52	
	Stainless steel	—			120	60	XJ-04801-54	
					230	50	XJ-04801-56	
Advanced analog hot plates								
6" x 6" (15 x 15 cm)	Ceramic	Ambient to 842°F (450°C)	—	—	120	60	XJ-04801-20	
					230	50	XJ-04801-22	
	Coated aluminum	Ambient to 617°F (325°C)			120	60	XJ-04801-24	
					230	50	XJ-04801-26	
Advanced analog stirring hot plates								
6" x 6" (15 x 15 cm)	Ceramic	Ambient to 842°F (450°C)	100 to 2000 rpm	15 L	120	60	XJ-04801-60	
					230	50	XJ-04801-62	
	Coated aluminum	Ambient to 617°F (325°C)			120	60	XJ-04801-65	
					230	50	XJ-04801-67	
Advanced digital stirring hot plates								
6" x 6" (15 x 15 cm)	Ceramic	Ambient to 842°F (450°C)	100 to 2000 rpm	15 L	120	60	XJ-04801-64	
					230	50	XJ-04801-66	
	Coated aluminum	Ambient to 617°F (325°C)			120	60	XJ-04801-68	
					230	50	XJ-04801-70	

†Based on water contained in a 20-L glass flat-bottom flask.

XJ-04801-80 **Digital temperature controller** for advanced models

Cole-Parmer® Slim-Line® Stir Bars

Get complete mixing

- Slimmer profile and larger length to diameter ratio



Cole-Parmer®

Size Length	Size Diameter†	With spinning ring Cat. no.	With spinning ring Price	Without spinning ring Cat. no.	Without spinning ring Price
1" (25.4 mm)	5/16" (7.9 mm)	XJ-04775-45		XJ-04775-40	
1 1/2" (38.1 mm)		XJ-04775-55		XJ-04775-50	
2" (50.8 mm)		XJ-04775-65		XJ-04775-60	

†Diameter given does not include the diameter of the spinning ring.

Velp® Compact Magnetic Stirrers

Won't overheat even after hours of continuous operation

– White surface lets you easily see particles and color changes

Analog model features a speed control knob with a numerical division scale to ensure repeatable results.

Digital model features a digital display of rpm. A timer allows you to do other work without having to monitor the sample. Auto-reverse function alternates stirring direction at a programmable interval.



ISO 9001:2008 CERTIFIED SUPPLIER

Description	Analog	Digital
Catalog number	XJ-86579-15	XJ-86579-05
Top plate	12 x 14.5 cm	12 x 14.5 cm
Material	Technopolymer	Technopolymer
Speed range	0 to 1100 rpm	0 to 1500 rpm
Max stirring capacity	5 L	5 L
Timer	—	1 to 900 minutes
Power	100 to 240 VAC, 50/60 Hz	
Price		

Cole-Parmer® Battery-Powered Magnetic Stirrer

Portable—ideal for field analysis

– Stepless speed control to 700 rpm

Take this compact, battery-powered magnetic stirrer anywhere or use it in the lab and eliminate the need for cumbersome extension cords. Stirrer features stepless speed control knob, corrosion-resistant epoxy-coated metal case, nonskid rubber top plate, and four rubber feet.

What's included: two AA batteries.



Cole-Parmer®

Top plate		Speed range	Max load	Max stirring capacity	Catalog number	Price
Dimensions	Material					
3¾" x 3¾" (9.5 x 9.5 cm)	Metal	200 to 700 rpm	10 lb (4.5 kg)	2.5 L	XJ-04804-01	

Corning® Economical Large-Capacity Stirrer

Stir up to 38 liters (10 gallons) of aqueous solution

– Handles many applications that previously required an overhead mixer

– Ideal for carboy/vessel mixing and seed culture flasks

Powerful "rare earth" magnet automatically pulls stir bar into position and stays coupled even under the most demanding stirring conditions. Stirrer accommodates stir bars up to 3" (7.6 cm) L.

What's included: a 6-ft (1.8-m) power cord with plug.



c UL us

ABS plastic top plate dimensions	Speed range	Max load	Max stirring capacity	Power		Cat. no.	Price
				VAC	Hz		
11" x 11" (27.9 x 27.9 cm)	100 to 1500 rpm	100 lb (45 kg)	38 L	120	50/60	XJ-84302-30	

XJ-17050-04 **NIST-traceable calibration** with data for stirrers

Large Volume Stir Bars

– Strong alnico V magnets encased in chemically inert PTFE



XJ-04627-00 **Large volume stir bar,** 4 1/4"L x 11/16" dia

XJ-04627-10 **Large volume stir bar,** 6 1/4"L x 11/16" dia

Stir Bar Retrievers

Retrieve stir bars without messy spills or breakage. Alnico V magnet is completely enclosed. Model 08555-20 features a flexible shaft of PTFE for odd-shaped, and narrow-mouth containers.

XJ-08555-20 **Stir bar retriever,** flexible shaft; PTFE, 14¾"L (37.5 cm)

XJ-08555-40 **Stir bar retriever,** polyethylene, 17"L (43.2 cm)



08555-20 08555-40

IKA® Multiposition Stirrers and Stirring Hot Plates

Maintain consistent and silent operation with wear-free and maintenance-free motor

- Stir consistently in all positions
- Adjust speed in 10-rpm increments—speed remains constant
- Stirring hot plates feature synchronous heating and stirring, and homogeneous temperature distribution

What's included: RO models include a removable transparent antislip cover, power cord and adapters to work with US, EU, Canada, Australia and UK outlets. RT models include a power cord and plug.



Stirring positions	Top plate Dimensions (W x D)	Power VAC	Power Hz	Catalog number	Price
RO multiposition stirrers; 0 to 1200 rpm					
5	4¾" x 18½" (12 x 47 cm)	100–240	50/60	XJ-04671-91	
10	7½" x 18½" (19 x 47 cm)			XJ-04671-92	
15	11" x 18½" (28 x 47 cm)			XJ-04671-93	
RT multiposition stirring hot plates; 0 to 1100 rpm; ambient to 248°F (120°C)					
5	4 5/16" x 19½" (11 x 49.5 cm)	115	50/60	XJ-04671-94	
		230		XJ-04671-95	
10	7⅛" x 19½" (18 x 49.5 cm)	115	50/60	XJ-04671-96	
		230		XJ-04671-97	
15	10⅝" x 19½" (27 x 49.5 cm)	115	50/60	XJ-04671-98	
		230		XJ-04671-99	

Specifications

Top plate material: stainless steel
Volume per position: 400 mL

Accessories

XJ-17050-04 **NIST-traceable calibration** with data for stirrers
XJ-17002-27 **NIST-traceable calibration** with data for stirrer and hot plate

IKA® RCT and RET Basic IKAMAG® Round-Top Digital Stirring Hot Plates

Safe for unsupervised operation

- Both units have a high safety level due to their improved heat control technology
- Stronger motor for higher speed range—up to 1700 rpm

Platinum RTD temperature sensor ensures precise temperature control. You can digitally set safety temperature limit. Hot top indicator warns to prevent burns.

RCT basic model features a polished aluminum round top plate which provides more efficient heat transfer than standard top plates. Hot plate features an over-temperature safety circuit adjustable from 122 to 680°F (50 to 360°C) to protect your samples from overheating. Adjustable speed up to 1500 rpm.

RET basic model offers the same features of the RCT basic model (above) plus a stainless steel top plate for better chemical resistance and higher temperatures. Speed range is up to 1700 rpm for more demanding applications.

What's included: 1000 Ω Pt external temperature sensor and 5-ft (1.5-m) cord.



04671-21

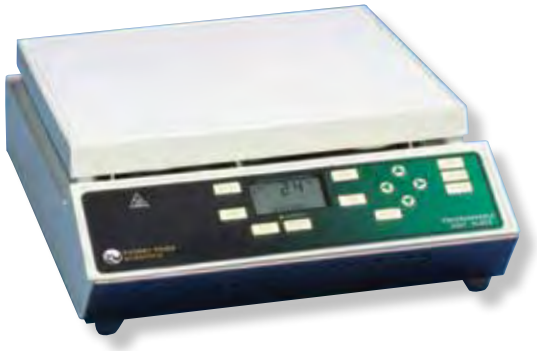
Top plate Dimensions	Top plate Material	Temperature range	Speed range	Max stirring capacity	Overall dimensions (W x H x D)	Power VAC	Power Hz	Power Amps	Power Watts	Catalog number	Price
RCT basic stirring hot plate											
5" (12.7 cm) dia	Aluminum alloy	122 to 680°F (50 to 360°C)	50 to 1500 rpm	20 L	6¼" x 3¾" x 10½" (15.9 x 9.5 x 26.7 cm)	115	50/60	0.1	600	XJ-04671-21	
						230	50/60	0.1	600	XJ-04671-23	
RET basic stirring hot plate											
5" (12.7 cm) dia	Stainless steel	122 to 644°F (50 to 340°C)	50 to 1700 rpm	20 L	6¼" x 3¾" x 10½" (15.9 x 9.5 x 26.7 cm)	115	50/60	0.1	600	XJ-04671-25	
						230	50/60	0.1	600	XJ-04671-27	

Wait! There's More at ColeParmer.com

Browse 100,000+ products plus find Technical Resources to help you choose

Programmable Digital Hot Plates

Don't keep reprogramming—stores up to 10 programs



- Worry-free operation—unit monitors program and runs automatically so you can focus on other things
- Get heating faster—maximum temperature is reached in approximately 2 minutes
- Get more precision with platinum RTD temperature sensor for ±1% accuracy

Features timed operation to 99 hours, 59 minutes with auto-off option. Unit can be programmable or non-programmable in operation. Offers RS-232 interface for control or recording data via a computer. Choose between a chemical-resistant ceramic top plate or milled aluminum for fast and accurate heat disbursement.

Top plate		Temperature range	Power		Catalog number	Price
Dimensions	Material		VAC	Hz		
6" x 6" (15.2 x 15.2 cm)	Ceramic	Ambient to 842°F (ambient to 450°C)	115	50/60	XJ-51808-91	
			230		XJ-51808-93	
6" x 6" (15.2 x 15.2 cm)	Aluminum		115	50/60	XJ-51808-95	
			230		XJ-51808-97	
12" x 12" (30.5 x 30.5 cm)	Ceramic	Ambient to 842°F (ambient to 450°C)	115	50/60	XJ-51808-99	
			230		XJ-51809-01	
12" x 12" (30.5 x 30.5 cm)	Aluminum		115	50/60	XJ-51809-03	
			230		XJ-51809-05	

Ceramic top plates are chemical resistant, heat up very quickly, and are easy to clean.

Aluminum top plates offer a more uniform heating surface and they will not crack or chip.

Cast-Aluminum Hot Plates

Eliminate pesky hot spots



- Hot plates feature uniform heating across entire surface
- Won't buckle under heavy loads—handles up to 40 lbs
- Stainless steel construction resists spills and corrosion

See table below

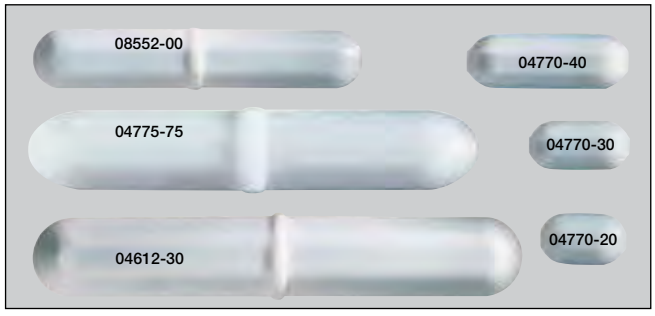
Top plate		Temperature range	Max load	Power		Certification	Catalog number	Price
Dimensions	Material			VAC	Hz			
6¼" x 6¼" (15.9 x 15.9 cm)	Aluminum	100 to 700°F (38 to 371°C)	20 lb	240	50	CSA-certified	XJ-03400-10	
				240	60	None	XJ-03400-02	
12" x 12" (30.5 x 30.5 cm)	Aluminum	100 to 700°F (38 to 371°C)	40 lb	120	50	UL-listed	XJ-03450-00	
				240	60	UL-listed, CSA-certified	XJ-03452-00	
24" x 12" (61.0 x 30.5 cm)	Aluminum	100 to 700°F (38 to 371°C)	40 lb	120	50	UL-listed, CSA-certified	XJ-03460-00	
				240	60	UL-listed, CSA-certified	XJ-03462-00	

Cole-Parmer® Mono-Mold® Stir Bars

Resist spin out at high speeds

- Super-strong alnico V magnets remain coupled to drive magnets even at high speeds
- Chemically inert, low-friction, leakproof PTFE coating provides smooth spinning and maximum energy transfer

Cole-Parmer®



Size		With spinning ring		Without spinning ring	
Length	Diameter†	Catalog number	Price	Catalog number	Price
7/16" (11.1 mm)	3/16" (4.8 mm)	—	—	XJ-04775-10	
1/2" (12.7 mm)	5/16" (7.9 mm)	XJ-08548-00		XJ-04770-20	
5/8" (15.9 mm)	5/16" (7.9 mm)	XJ-08549-00		XJ-04770-30	
1" (25.4 mm)	3/8" (9.5 mm)	XJ-08550-00		XJ-04770-40	
1 1/2" (38.1 mm)	3/8" (9.5 mm)	XJ-08551-00		XJ-04770-50	
2" (50.8 mm)	3/8" (9.5 mm)	XJ-08552-00		XJ-04770-60	
2 1/2" (63.5 mm)	3/8" (9.5 mm)	XJ-04775-75		—	—
2 1/2" (63.5 mm)	1/2" (12.7 mm)	—	—	XJ-04770-70	
3" (76.2 mm)	1/2" (12.7 mm)	XJ-04612-30		XJ-04612-40	

†Diameter given does not include the diameter of the spinning ring.

Find even more online!
Go to ColeParmer.com to search more than 100,000 products.

BD™ Disposable Syringes

Luer-Lok™ tips allow for easy connection of syringe filters

Use these latex-free, disposable polycarbonate syringes for your general-purpose applications. Available in either Luer-Lok or slip-tip versions. Autoclavable.



Nonsterilized Syringes

Capacity	Graduations	Type	Qty	Catalog number	Price
1 mL	1/100 mL	Slip tip	100/pk	XJ-07944-00	
3mL	1/10 mL	Luer-Lok	100/pk	XJ-07944-02	
		Slip tip		XJ-07944-04	
5 mL	1/5 mL	Luer-Lok	100/pk	XJ-07944-06	
		Slip tip		XJ-07944-08	
10 mL	1/5 mL	Luer-Lok	50/pk	XJ-07944-12	
		Slip tip		XJ-07944-14	
20mL	1 mL, 3/4 oz in 1/8 oz	Luer-Lok	25/pk	XJ-07944-16	
		Slip tip		XJ-07944-18	
30 mL	1 mL, 1 oz in 1/8 oz	Luer-Lok	25/pk	XJ-07944-24	
		Slip tip		XJ-07944-22	
60 mL	1 mL, 2 oz in 1/4 oz	Luer-Lok	25/pk	XJ-07944-28	
		Slip tip		XJ-07944-30	

Nonsterilized Bulk-Pack Syringes

Capacity	Graduations	Type	Qty	Catalog number	Price
1 mL	1/100 mL	Slip tip	3000/cs	XJ-07945-00	
3 mL	1/10 mL	Luer-Lok	1600/cs	XJ-07945-02	
		Slip tip		XJ-07945-04	
5 mL	1/5 mL	Luer-Lok	1400/cs	XJ-07945-06	
		Slip tip		XJ-07945-08	
10 mL	1/5 mL	Luer-Lok	850/cs	XJ-07945-12	
		Slip tip		XJ-07945-14	
20 mL	1 mL, 3/4 oz in 1/8 oz	Luer-Lok	325/cs	XJ-07945-16	
		Slip tip		XJ-07945-18	
30 mL	1 mL, 1 oz in 1/8 oz	Luer-Lok	225/cs	XJ-07945-24	
		Slip tip		XJ-07945-22	
60 mL	1 mL, 2 oz in 1/4 oz	Luer-Lok	125/cs	XJ-07945-28	
		Slip tip		XJ-07945-30	

Warning—These products are not approved or intended for, and should not be used for, medical, clinical, surgical or other patient oriented applications.

Hamilton Gastight® High-Performance Micro and Macro Syringes

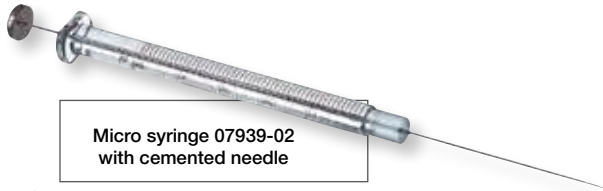
Don't lose samples—gas and liquid tight to 200 psi

- Handle virtually anything—including corrosives, radioactive materials, and sterile solutions
- Samples don't stick—PTFE-coated plungers for complete sample release

Cemented Needle Syringes include an epoxy-cemented, 304 stainless steel needle with noncoring tip. Not for use at temperatures above 50°C.

Removable Needle Syringes use a threaded hub and PTFE sealing ferrule that can be tightened to compensate for wear. Syringes include a 304 stainless steel needle with noncoring tip. Do not heat above 115°C; autoclavable when disassembled.

Syringes with Luer Tip and PTFE Luer-Lock Connections feature a ground glass, luer taper. Autoclavable if plunger is removed. Needles are not included.



Micro syringe 07939-02 with cemented needle



Macro syringe 07939-63 with removable needle

Micro Syringes

Syringes		Needles		Catalog number	Price/ea
Capacity	Type	Gauge‡	Tip type		
10 µL	Cemented needle Removable needle Luer tip†	26s	Noncoring beveled	XJ-07939-00 XJ-07939-10 XJ-07939-20	
25 µL	Cemented needle Removable needle Luer tip†	22s	Noncoring beveled	XJ-07939-01 XJ-07939-11 XJ-07939-21	
50 µL	Cemented needle Removable needle Luer tip† PTFE luer-lock†	22s	Noncoring beveled	XJ-07939-02 XJ-07939-12 XJ-07939-22 XJ-07939-32	
100 µL	Cemented needle Removable needle Luer tip† PTFE luer-lock†	22s	Noncoring beveled	XJ-07939-03 XJ-07939-13 XJ-07939-23 XJ-07939-33	

†Luer tip and luer-lock syringes do not include a needle; order separately.
‡An "s" denotes "small bore"—reduces dead volume and improves transfer accuracy.

Macro Syringes

Syringes		Needles		Catalog number	Price/ea
Capacity	Type	Gauge	Tip type		
1.0 mL	Removable needle Luer tip†† PTFE luer-lock††	22	Noncoring beveled	XJ-07939-60 XJ-07939-70 XJ-07939-80	
2.5 mL	Removable needle Luer tip†† PTFE luer-lock††	22	Noncoring beveled	XJ-07939-62 XJ-07939-72 XJ-07939-82	
5 mL	Removable needle Luer tip†† PTFE luer-lock††	22	Noncoring beveled	XJ-07939-63 XJ-07939-73 XJ-07939-83	
10 mL	Removable needle Luer tip†† PTFE luer-lock††	22	Noncoring beveled	XJ-07939-64 XJ-07939-74 XJ-07939-84	
25 mL	PTFE luer-lock††	—	—	XJ-07939-85	
50 mL	PTFE luer-lock††	—	—	XJ-07939-86	

††Luer tip and luer-lock syringes do not include a needle; order separately online.

Warning—These products are not approved or intended for, and should not be used for, medical, clinical, surgical or other patient oriented applications.

Digi-Sense™ Precalibrated Digital Contact/Photo Tachometer

Eliminate costly repairs

- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Get more accurate readings with microprocessor-based design and accuracy of ±0.05%
- Stores up to twenty last average measurements for additional flexibility
- Large backlit display is perfect for poorly lit environments

DIGI-SENSE™



Easily configure for either contact or noncontact measurements. Use the included adapters in contact mode for quickly taking measurements; take measurements from a distance (19 11/16", 50 cm) when in photo mode for use on dangerous running equipment.

Meter features include Max, Min, and values stored, autoranging, and built-in memory recall of up to twenty last average measurements.

What's included: contact converter, surface speed wheel, rpm contact adapter, large male rpm rubber cone, small male rpm rubber cone, female rpm rubber cone, reflective tape (23 5/8", 60 cm), four set screws, carrying case, four AA batteries, and NIST-traceable calibration certificate.

Description	Digital contact/photo tachometer	
Catalog number	XJ-20250-26	
Mode	Contact	Photo
Range	0.5 to 19,999 rpm	2.5 to 99,999 rpm
Resolution	0.1 rpm (0.5 to 999.9 rpm); 1 rpm (over 1000 rpm)	0.1 rpm (2.5 to 999.9 rpm); 1 rpm (over 1000 rpm)
Accuracy	±(0.05% + 1 digit)	±(0.05% + 1 digit)
Surface speed	0.2 to 6561 ft/min; 0.05 to 1999.9 m/min	
Sampling time	0.8 second (over 60 rpm)	
Detecting distance	—	50 to 500 mm
Display	5-digit LCD with backlit display	
Dimensions (L x W x H)	8 1/4" x 2 7/8" x 1 1/2" (21 x 7.4 x 3.7 cm)	
Power	Four AA batteries (included)	
Price		

Pocket Stroboscope

Get high performance in an affordable unit



- Internal lithium ion battery provides two hours of continuous operation
- Can operate continuously using supplied AC adapter
- Fits in pocket or can be worn on optional belt holster
- Accepts input from sensor for external flash triggering

The pocket stroboscope is a highly stable instrument for taking noncontact rpm measurements and inspecting moving parts by "freezing" or "slowing down" the action. The pocket stroboscope requires only one hand to operate, yet delivers performance comparable to much larger and more expensive "pistol-grip"-type models.

What's included: External triggering jack, hard-shell carrying case, universal AC adapter/charger with plug adapter, and calibration document supplied by the manufacturer.

Model number	PK2X-N
Catalog number	XJ-53561-00
Flash range	30 to 12,500 FPM
Flash brightness	1200 lux (@ 4500 FPM from 8" distance)
Resolution	±1 FPM over the entire range
Accuracy	±0.01% over the entire range ±1 digit
Flash energy	170 mJ maximum
Flash tube longevity	200 million flashes
External trigger	0 to 5 volt, DTL/TTL compatible 1/8" jack
Power	Rechargeable internal lithium-ion battery (2-hr run time regardless of flash rate) or universal 100–240 VAC adapter (continuous use)
Price	

Laser Noncontact/Contact Tachometers

Precise rpm measurement from 20 feet



- Exceptional accuracy (±0.006% of reading)
- Multi-mode speed selection allows optimal versatility
- Broad speed range up to 99,999 rpm
- Large 5-digit display
- Stores last/min/max readings for thorough process inspection

Model no.	Description	Cat. no.	Price
DT-205LR	LCD noncontact/contact tachometer for normal ambient light conditions	XJ-87304-00	
DT-207LR	LED noncontact/contact tachometer for low ambient light conditions	XJ-98806-31	
DT-205LR-S12	LCD noncontact/contact tachometer for normal ambient light conditions, with standard 12" circumference wheel	XJ-98806-30	
DT-207LR-S12	LED noncontact/contact tachometer for low ambient light conditions, with standard 12" circumference wheel	XJ-98806-32	
—	NIST-traceable calibration with data	XJ-17050-00	

Find even more online!
Go to ColeParmer.com to see full product details.

Rectangular Tanks with Cover, HDPE and PP

Won't split at corners—seamless design for added strength

– Easy to handle—outside rim flange for easy gripping

High-Density Polyethylene (HDPE) Tanks have very good chemical resistance and a maximum service temperature of 150°F (65°C). HDPE tanks have a hard, smooth surface that is easy to clean. Tanks comply with FDA Regulation 177.1520.

Polypropylene (PP) Tanks have very good chemical resistance, excellent stress crack resistance, and a maximum service temperature of 220°F (104°C). PP tanks feature a hard, smooth surface that is easy to clean and is highly resistant to pickling and plating solutions.

†**Note:** Cole-Parmer recommends that all rectangular tanks having a dimension of 18" or more, and those used at elevated temperatures or with high specific gravity products, be externally supported. Call our Application Specialists for more information.

††Measured at bottom of tank. Add 3" to L and W to approximate outer dimensions at top of tank.

‡ Ship by motor freight only.



ISO 9001:2008 CERTIFIED SUPPLIER

Gallons (liters)	Inner dimensions† L††	W††	H	Shpg wt lb (kg)	HDPE tanks Cat. no.	Wall	Price	PP tanks Cat. no.	Wall	Price
2 (8)	8"	8"	8"	4 (2)	XJ-06323-03	5/32"		XJ-06322-73	3/16"	
6 (23)	14"	10"	10"	8 (4)	XJ-06323-05	5/32"		XJ-06322-75	3/16"	
6 (23)	18"	4"	18"	8 (4)	XJ-06323-09	5/32"		XJ-06322-76	3/16"	
7 (26)	12"	12"	12"	9 (4)	XJ-06323-11	5/32"		XJ-06322-77	3/16"	
11 (42)	12"	12"	18"	10 (5)	XJ-06323-17	5/32"		XJ-06322-78	3/16"	
11 (42)	18"	12"	12"	10 (5)	XJ-06323-21	5/32"		XJ-06322-79	3/16"	
12 (45)	24"	4"	30"	14 (6)	XJ-06323-27	1/8"		XJ-06322-80	3/16"	
15 (57)	24"	12"	12"	14 (6)	XJ-06323-29	5/32"		XJ-06322-81	3/16"	
15 (57)	18"	12"	18"	14 (6)	XJ-06323-31	5/32"		XJ-06322-82	3/16"	
22 (83)	18"	12"	24"	15 (7)	XJ-06323-35	5/32"		XJ-06322-83	1/4"	
25 (95)	24"	8"	30"	16 (7)	XJ-06323-37	1/8"		XJ-06322-84	3/16"	
30 (114)	24"	18"	18"	21 (10)	XJ-06323-41	5/32"		XJ-06322-85	1/4"	
45 (170	24"	18"	24"	25 (11)	XJ-06323-47	5/32"		XJ-06322-86	1/4"	
60 (227)	36"	20"	20"	38 (17)‡	XJ-06323-51	5/32"		XJ-06322-87	1/4"	
90 (341)	36"	24"	24"	45 (20)‡	XJ-06323-63	3/16"		XJ-06322-88	1/4"	
140 (530)	30"	30"	36"	124 (56)‡	XJ-06323-64	3/16"		XJ-06322-89	5/16"	

Cylindrical Tanks with Cover, HDPE and PP

Sturdy design complies with FDA 21 CFR 177.1520

– Contain drips with stepped-flange design

– Get easier sampling of liquids—tanks over 30 gallons are designed for near-total drainage

– No separate part number for lid—all tanks include lid of same wall thickness

– Rated for use with 1.8 specific gravity media

– High-density polyethylene (HDPE) tanks have good chemical resistance and max temperature of 150°F (65°C)

– Polypropylene (PP) tanks offer good stress-crack and chemical resistance; max service temperature is 220°F (104°C)



ISO 9001:2008 CERTIFIED SUPPLIER

Gallons (liters)	Dimension (H x OD)†	Graduation gal. (liters)	Wall	Shpg wt lb (kg)	HDPE tanks Cat. no.	Price	PP tanks Cat. no.	Price
5 (19)	15" x 11"	0.5 (2)	3/16"	6 (3)	XJ-06317-50		XJ-06317-53	
7.5 (28)	18" x 12"	0.5 (N/A)	3/16"	8 (4)	XJ-06317-55		XJ-06317-58	
10 (38)	20" x 13"	1 (N/A)	3/16"	9 (4)	XJ-06317-60		XJ-06317-63	
15 (57)	27" x 13"	1 (4)	3/16"	12 (5)	XJ-06317-65		XJ-06317-68	
30 (114)	30" x 18"	2.5 (10)	3/16"	18 (8)	XJ-06317-70		XJ-06317-73	
55 (208)	36" x 22"	2.5 (10)	1/4"	31 (14)‡	XJ-06317-75		XJ-06317-78	
80 (303)	48" x 24"	5 (20)	1/4"	42 (19)‡	XJ-06317-80		XJ-06317-83	
100 (379)	44" x 28"	5 (20)	1/4"	49 (22)‡	XJ-06317-10		XJ-06317-13	
150 (568)	49" x 31"	10 (40)	1/4"	77 (35)‡	XJ-06317-20		XJ-06317-23	
200 (757)	51" x 36"	25 (100)	1/4"	136 (62)‡	XJ-06317-31		XJ-06317-34	
275 (1041)	49" x 42"	25 (100)	1/4"	193 (88)‡	XJ-06317-41		—	—
360 (1363)	49" x 48"	25 (100)	1/4"	206 (93)‡	XJ-06317-85		XJ-06317-88	
500 (1893)	62" x 53"	25 (100)	5/16"	600 (272)‡	XJ-06318-86		—	—

†Measured at bottom of tank. Add 2" for approximate OD at top of tank. ‡Ship by motor freight only.

Sterile Single-Use Tank Liners, LLDPE

Ready to use

– Save money and time—no more washing, cleaning, or revalidation

– Sterile and pyrogen-free

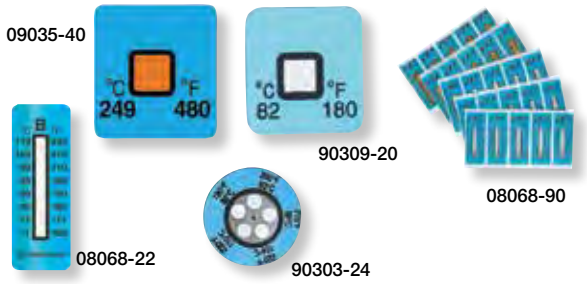


Capacity Gal. (L)	Size (H x OD)	Catalog number	Qty/pk	Price/pk
13.2 (50)	27" x 13"	XJ-06310-01	40	
34.4 (130)	30" x 18"	XJ-06310-02	20	
52.8 (200)	36" x 22"	XJ-06310-04	20	
79.3 (300)	48" x 24"	XJ-06310-06	20	
106 (401)	44" x 28"	XJ-06310-08	20	
148 (560)	49" x 31"	XJ-06310-10	10	
198 (750)	51" x 36"	XJ-06310-12	10	
264 (1000)	49" x 42"	XJ-06310-14	10	
343 (1298)	49" x 48"	XJ-06310-16	10	

Digi-Sense® Irreversible High-Temperature Labels

Save time and money due to costly recalls

– Use as a quick inspection tool that the product is in usable condition during the shipping and receiving process



Self-adhesive labels are made up of a series of temperature-sensitive elements sealed between heat-resistant substrates with transparent windows. Each element changes color distinctly as its rated temperature is met or exceeded. The changes to the label are irreversible, providing a temperature history of the surface being monitored. The labels will not delaminate when removed, allowing them to be attached to an inspection report to serve as a permanent record. Ideal for use in the food, automotive, molding and metal working industries. Accuracy is ±1°C from 29 to 99°C, ±1.5°C from 100 to 154°C, and ±1% + 1°C from 160 to 280°C. Shelf life: one year after date of purchase.

One-Temperature Point—Square Labels

Temperature point		Dimensions (W x H)		Catalog number	Price/pk of 50
°F	°C	in.	mm		
84	29	½ x ½	13 x 13	XJ-08068-31†	
93	34			XJ-08068-32†	
99	37			XJ-08068-33†	
104	40	½ x ½	13 x 13	XJ-08068-34†	
108	42			XJ-08068-35†	
111	44			XJ-08068-36†	
115	46	½ x ½	13 x 13	XJ-90309-00†	
120	49			XJ-09035-26	
129	54			XJ-09035-27	
140	60	½ x ½	13 x 13	XJ-90309-05	
149	65			XJ-09035-28	
160	71			XJ-90309-10	
171	77	½ x ½	13 x 13	XJ-90309-15	
180	82			XJ-90309-20	
190	88			XJ-90309-25	
199	93	½ x ½	13 x 13	XJ-09035-29	
210	99			XJ-90309-30	
219	104			XJ-09035-30	
230	110	½ x ½	13 x 13	XJ-90309-35	
241	116			XJ-09035-31	
250	121			XJ-90309-40	
261	127	½ x ½	13 x 13	XJ-90309-45	
280	138			XJ-09035-32	
300	149			XJ-09035-33	
320	160	½ x ½	13 x 13	XJ-90309-50	
340	171			XJ-09035-34	
360	182			XJ-09035-35	
380	193	½ x ½	13 x 13	XJ-09035-36	
399	204			XJ-09035-37	
421	216			XJ-09035-38	
450	232	½ x ½	13 x 13	XJ-09035-39	
480	249			XJ-09035-40	
500	260			XJ-09035-41	
536	280	½ x ½	13 x 13	XJ-09035-42	
554	290			XJ-09035-43	

Multi-Temperature Points

Temperature points		Dimensions (W x H)	Catalog number	Price/pk
°F	°C			
Four-temperature points—micro horizontal labels (pack of 10)				
104, 108, 111, 115	—	5/32" x ½"	XJ-08068-41†	
120, 129, 140, 149	—		XJ-08068-42†	
160, 171, 180, 190	—	5/32" x ½"	XJ-08068-43	
199, 210, 219, 230	—		XJ-08068-44	
241, 250, 261, 270	—	5/32" x ½"	XJ-08068-45	
280, 289, 300, 309	—		XJ-08068-46	
320, 331, 340, 351	—		XJ-08068-47	
Four-temperature points—horizontal labels (pack of 10)				
99, 111, 120, 129	37, 44, 49, 54	⅞" x 1¾"	XJ-90308-40†	
140, 149, 160, 171	60, 65, 71, 77		XJ-90308-45	
180, 190, 199, 210	82, 88, 93, 99	⅞" x 1¾"	XJ-90308-50	
219, 230, 241, 250	104, 110, 116, 121		XJ-90308-55	
261, 270, 280, 289	127, 132, 138, 143	⅞" x 1¾"	XJ-90308-60	
300, 309, 320, 331	149, 154, 160, 166		XJ-90308-65	
340, 351, 361, 370	171, 177, 182, 188	⅞" x 1¾"	XJ-90308-70	
379, 390, 399, 410	193, 199, 204, 210		XJ-90308-75	
Five-temperature points—round labels (pack of 25)				
105, 110, 115, 120, 130	40, 43, 46, 49, 54	⅝" dia	XJ-90303-20†	
140, 150, 160, 170, 180	60, 65, 71, 77, 82		XJ-90303-22	
190, 200, 210, 220, 230	88, 93, 99, 104, 110		XJ-90303-24	
240, 250, 260, 270, 280	116, 121, 127, 132, 138	⅝" dia	XJ-90303-26	
290, 300, 310, 320, 330	143, 149, 154, 160, 166		XJ-90303-28	
340, 350, 360, 370, 380	171, 177, 182, 188, 193		XJ-90303-30	
390, 399, 410, 421, 435	199, 204, 210, 216, 224	⅝" dia	XJ-08068-21	
450, 466, 480, 489, 500	232, 241, 249, 254, 260		XJ-08068-23	
Five-temperature points—vertical labels (pack of 10)				
99, 104, 109, 111, 115	37, 40, 42, 44, 46	¾" x 1½"	XJ-09035-09†	
120, 129, 140, 149, 160	49, 54, 60, 65, 71		XJ-09035-10	
171, 180, 190, 199, 210	77, 82, 88, 93, 99		XJ-09035-19	
219, 230, 241, 250, 261	104, 110, 116, 121, 127	¾" x 1½"	XJ-09035-20	
270, 280, 289, 300, 309	132, 138, 142, 149, 154		XJ-09035-21	
320, 331, 340, 351, 360	160, 166, 171, 177, 182		XJ-09035-22	
370, 379, 390, 399, 410	188, 193, 199, 204, 210	¾" x 1½"	XJ-09035-23	
421, 435, 450, 466, 480	216, 224, 232, 241, 249		XJ-09035-24	
480, 489, 500, 536, 554	249, 254, 260, 280, 290		XJ-09035-25	
Six-temperature points—horizontal labels (pack of 10)				
84, 91, 93, 99, 104, 108	29, 33, 34, 37, 40, 42	½" x 1¼"	XJ-90308-91†	
111, 115, 120, 129, 140, 144	44, 46, 49, 54, 60, 62	½" x 1¼"	XJ-90308-92†	
149, 160, 171, 180, 190, 199	65, 71, 77, 82, 88, 93	½" x 1¼"	XJ-90308-93	
210, 219, 230, 241, 250, 261	99, 104, 110, 116, 121, 127	½" x 1¼"	XJ-90308-94	
270, 280, 289, 300, 309, 320	132, 138, 143, 149, 154, 160	½" x 1¼"	XJ-90308-95	
331, 340, 351, 360, 370, 379	166, 171, 177, 182, 188, 193	½" x 1¼"	XJ-90308-96	
390, 399, 410, 421, 435, 450	199, 204, 210, 216, 224, 232	½" x 1¼"	XJ-90308-97	
460, 480, 489, 500, 536, 554	240, 249, 254, 260, 280, 290	½" x 1¼"	XJ-90308-98	
Eight-temperature points—vertical labels (pack of 25)				
100, 105, 110, 115, 120, 130, 140, 150	37, 40, 43, 46, 49, 54, 60, 65	¾" x 2"	XJ-08068-20†	
160, 170, 180, 190, 200, 210, 220, 230	71, 77, 82, 88, 93, 99, 104, 110	¾" x 2"	XJ-08068-22	
240, 250, 260, 270, 280, 290, 300, 310	116, 121, 127, 132, 138, 143, 149, 154	¾" x 2"	XJ-08068-24	
320, 330, 340, 350, 360, 370, 380, 390	160, 166, 171, 177, 182, 188, 193, 199	¾" x 2"	XJ-08068-26	
Nine-temperature points—vertical label (pack of 25)				
400, 410, 420, 435, 450, 465, 480, 490, 500	204, 210, 216, 224, 232, 240, 249, 254, 260	¾" x 2"	XJ-08068-28	
Eight- and nine-point label kit (pack of 25)				
			XJ-08068-90†	
Ten-temperature points—horizontal labels (pack of 10)				
104, 108, 111, 115, 120, 129, 140, 144, 149, 160	40, 42, 44, 46, 49, 54, 60, 62, 65, 71	¾" x 2"	XJ-09035-00†	
171, 180, 190, 199, 210, 219, 230, 241, 250, 261	77, 82, 88, 93, 99, 104, 110, 116, 121, 127	¾" x 2"	XJ-09035-06	
270, 280, 289, 300, 309, 320, 331, 340, 351, 360	132, 138, 143, 149, 154, 160, 166, 171, 177, 182	¾" x 2"	XJ-09035-07	
370, 379, 390, 399, 410, 421, 435, 450, 466, 480	188, 193, 199, 204, 210, 216, 224, 232, 241, 249	¾" x 2"	XJ-09035-08	

†**Note:** Express shipping by air is required to prevent activation while in transit.

Digi-Sense® Blue Spirit PFA-Coated Safety Glass Thermometers

Stop contamination with PFA jacket

– Nonmercury blue spirit liquid
– Statement of accuracy included

PFA coating contains broken liquid and glass, preventing contamination or injury. Thermometers feature permanently fused markings, blue spirit liquid, white background glass; are also individually serial numbered. Include a statement of accuracy supplied by manufacturer and a triangular-style antiroll fitting.



DIGI-SENSE®

Temperature range	Scale divisions	Accuracy	Length	Partial immersion			Total immersion	
				Catalog number	Immersion depth	Price	Catalog number	Price
Celsius-scale thermometers								
–10 to 110°C	2°	1.5°	200 mm	XJ-08077-65	50 mm		XJ-08077-79	
–10 to 150°C	2°	1.5°, 2° above 100°C	200 mm	XJ-08077-66	50 mm		XJ-08077-80	
–20 to 110°C	1°	±1.5°	300 mm	XJ-08077-68	76 mm		XJ-08077-81	
–20 to 150°C	1°	1.5°, 2° above 100°C	300 mm	XJ-08077-76	76 mm		XJ-08077-82	
Fahrenheit-scale thermometers								
0 to 230°F	2°	3°, 4° above 212°F	300 mm	XJ-08077-77	76 mm		XJ-08077-83	
0 to 300°F	2°	3°, 4° above 212°F	300 mm	XJ-08077-78	76 mm		—	—

Digi-Sense® Blue Spirit Verification Bottle Thermometers

Minimize fluctuations of readings

DIGI-SENSE®

– Nonmercury blue spirit liquid on white background for easy reading
– Statement of accuracy and individual serial number for better record keeping

All thermometers are supplied in a glass bead filled unbreakable plastic bottle and can be removed from the bottle for recalibration. Use the magnetic attachment with pressure-sensitive backing to attach the bottle to a metal wall or door.

Thermometers 08077-21, -22 and -23 are supplied with a NIST-traceable calibration report supplied by the manufacturer with stated corrections to one-tenth of the smallest division.



Temperature range	Application	Bottle fill	Scale divisions	Accuracy	Length	Calibration points	Catalog number	Price
Precision accuracy thermometers with NIST-traceable calibration report								
–25 to –5°C	Freezer	Glass beads	0.1°	±0.4°	210 mm	–20, 10°C	XJ-08077-21	
–2 to 10°C	Refrigerator	Glass beads	0.1°	±0.4°	180 mm	0, 5°C	XJ-08077-22	
25 to 45°C	Incubator	Glass beads	0.1°	±0.4°	190 mm	30, 40°C	XJ-08077-23	
Precision accuracy thermometers								
–25 to –5°C	Freezer	Glass beads	0.1°	±0.4°	210 mm	—	XJ-08077-31	
–2 to 10°C	Refrigerator	Glass beads	0.1°	±0.4°	180 mm	—	XJ-08077-32	
15 to 30°C	Incubator	Glass beads	0.1°	±0.4°	180 mm	—	XJ-08077-33	
25 to 45°C	Incubator	Glass beads	0.1°	±0.4°	190 mm	—	XJ-08077-34	
95 to 115°C	Oven	Glass beads	0.1°	±0.4°	200 mm	—	XJ-08077-35	
Standard accuracy thermometers								
–90 to 25°C	Ultra low freezer	Glass beads	1°	±1.5°C, 2.5 below –50°C	145 mm	—	XJ-08077-41	
–30 to 1°C	Freezer	Glass beads	0.5°	±0.75°	135 mm	—	XJ-08077-42	
–5 to 20°C	Refrigerator	Glass beads	0.5°	±0.75°	135 mm	—	XJ-08077-43	
–5 to 15°C	Refrigerator	Glass beads	0.5°	±0.75°	125 mm	—	XJ-08077-44	
10 to 45°C	Incubator	Glass beads	0.5°	±0.75°	125 mm	—	XJ-08077-45	
15 to 50°C	Incubator	Glass beads	0.5°	±0.75°	135 mm	—	XJ-08077-46	
20 to 130°C	Oven	Glass beads	1°	±1.5°, 2° above 105°C	145 mm	—	XJ-08077-47	
50 to 200°C	High-temp oven	Glass beads	2°	±2.5°, 5° above 130°C	145 mm	—	XJ-08077-48	
PFA-coated standard accuracy thermometers with liquid-filled bottle								
–90 to 25°C	Ultralow freezer	Propylene glycol	1°	±2°, 3° below –50°C	145 mm	—	XJ-90300-69	
–5 to 20°C	Refrigerator	Ethylene glycol	0.5°	±1°	135 mm	—	XJ-90300-72	
–30 to 1°C	Freezer	Propylene glycol	0.5°	±1°	135 mm	—	XJ-90300-70	
–5 to 15°C	Refrigerator	Ethylene glycol	0.5°	±1°	125 mm	—	XJ-90300-67	
15 to 50°C	Incubator	Ethylene glycol	0.5°	±1°	135 mm	—	XJ-90300-68	
20 to 130°C	Oven	Vermiculite	1°	±2°	145 mm	—	XJ-90300-71	
50 to 200°C	High-temp oven	Vermiculite	2°	±4°, 6° above 130°C	145 mm	—	XJ-90300-73	

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

NSF-Approved Digital Pocket Thermometers

Maintain product safety with accurate readings

– Antimicrobial protection inhibits bacterial and fungal growth
– 304 stainless steel penetration stem
– All include a protective case with pocket clip and a battery

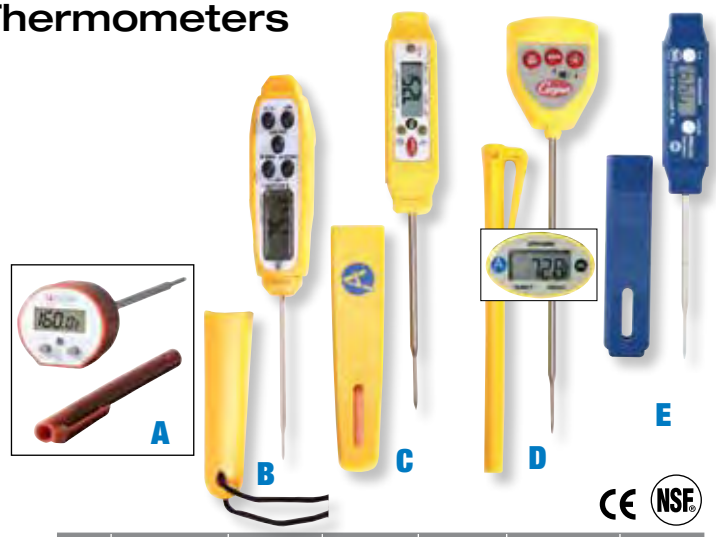
A. Taylor® Flat-Edged Dial Safe-T-Guard Thermometer is waterproof for dependable use in kitchen or lab environments. Field calibratable. °F/°C switchable. Auto-off feature saves on battery life.

B. Taylor Easy-Read Reduced-Tip Pen-Style Safe-T-Guard Thermometer is waterproof and dishwasher safe. Field calibratable. Features °F/°C switchable ranges, Max and Hold functions, 1.5-mm FDA-recommended step-down tip, back-lit LCD, and auto-off. Includes lanyard.

C. Cooper-Atkins® Reduced-Tip Pen-Style Waterproof Thermometer is factory calibrated to three temperature points and guaranteed to never need field adjustment. Features include IP67 rating, stainless steel shaft, 6-second response time, °F/°C switchable ranges, hold function, min/max reading, and auto-off.

D. Cooper-Atkins Reduced-Tip Waterproof Thermometer with alarm. Same features as "C" plus the addition of a unique adjustable alarm function. Dishwasher-safe.

E. Comark® Reduced-Tip Waterproof Thermometer has a 2¾" (68.5 mm) long stem and a 0.6" (1.5 mm) diameter tip. This field-calibratable meter features °F/°C switchable ranges, hold function, display that updates every 1.5 seconds and low battery indicator.



Key letter	Range	Resolution	Accuracy†	Probe diameter	Catalog number	Price
A	–40 to 450°F (–40 to 230°C)	0.1°F (0.1°C)	±1°F (±0.6°C)	5"L x 0.15"	XJ-90000-60	
B	–40 to 450°F (–40 to 230°C)	0.1°F (0.1°C)	±1°F (±1°C)	2.5"L x 0.16"	XJ-90000-68	
C	–40 to 392°F (–40 to 150°C)	0.1°F (0.1°C)	±2°F (±1°C)	2.75"L x 0.156"	XJ-90025-02	
D	–40 to 450°F (–40 to 232°C)	0.1°F (0.1°C)	±2°F (±1°C)	4.625"L x 0.140"	XJ-90025-01	
E	–40 to 450°F (–40 to 230°C)	0.1°F (0.1°C)	±2°F (1°C)	2.7"L x 0.6"	XJ-90000-62	

†Basic accuracy shown, full accuracy is available online

XJ-17003-00 **NIST-traceable calibration** with data for pocket thermometers

Digi-Sense® Traceable® Table/Wall-Mount Thermometers

Don't be caught off guard

– Alarm provides alert when temperature rises above or falls below a set point



Display simultaneously shows maximum, minimum, and current probe temperatures. Min/Max monitors high/low readings for any time period. Model 94460-74 is supplied with the temperature sensor enclosed in a nontoxic glycol-filled bottle, protecting it from rapid temperature changes when refrigerator door is opened. Model 94460-73 has the temperature sensor enclosed in a 5-mL bottle, allowing it to fit into a tray while protecting it from rapid temperature changes.

What's included: hook-and-loop and magnetic strips, one AAA alkaline battery, and NIST-traceable calibration certificate.

DIGI-SENSE

Application	Sensor type	Range	Resolution	Accuracy	Cat. no.	Price
General purpose	Wire probe	–58 to 158°F (–50 to 70°C)	0.1°	±0.5°	XJ-94460-88	
Refrigerator/ freezer	Bottle probe				XJ-94460-74	
Refrigerator/ freezer	5-mL bottle probe				XJ-94460-73	

XJ-09376-00 **Replacement batteries,** AAA. Pack of 12
XJ-17101-61 **NIST-traceable recalibration** with data for digital indicator

Digi-Sense® Thermometer with Alarm/Timer

See more data simultaneously

– View temperature, time, and set point
– Set audible alarm for temperature and time
– Remote, heat-resistant probe



Timer counts down from 24 hours. Built-in alarm for both time and temperature—once the alarm sounds, the timer counts up from set point. Display pivots on magnetic stand or folds flush with stand for convenient storage and wall mounting.

What's included: probe and one AAA battery.

DIGI-SENSE

Specifications

Probe: 6.5"L x 0.13" dia, stainless steel (SS) probe with 4-ft (1.2-m) L SS straight wire cable (included)
Power: one AAA battery (included)

Range	Resolution	Accuracy	Catalog number	Price
32 to 392°F (0 to 200°C)	2°F (1°C)	±3.6°F (±2°C)	XJ-90080-00	

XJ-90080-05 **Replacement probe**
XJ-09376-00 **Replacement batteries,** AAA. Pack of 12
XJ-17101-61 **NIST-traceable recalibration** with data for digital indicator

Digi-Sense® Traceable® General-Purpose and Refrigerator/Freezer Thermometers

Get multiple readings simultaneously

- Simultaneously view high, low, and current temperature
- Keep samples safe—programmable alarm alerts when temperature deviates from set point
- Monitor conditions—Min/Max feature stores the highest and lowest readings until cleared
- Get more done—monitor multiple applications with dual-probe units
- Versatile units are mountable on wall or benchtop



A



D

Standard Refrigerator/Freezer Thermometers provide accurate readings even when door is opened, as temperature sensor is enclosed within a glycol-filled bottle.

Advanced Thermometers feature high accuracy, one-button field calibration, and date/time stamp. Unit displays the exact time and date when thermometer alarms are triggered. RTD thermometers provide greater accuracy and a unique Min/Max feature that displays temperatures for previous 24 hours (each hour) or previous 31 days (for each day).

"Great thermometers."



E

Data Logging Thermometers record up to 525,600 data points to be transferred to a computer using a USB flash drive. The alarm tracking feature stores up to 10 unique alarm events. "Memory lock" option does not allow the internal memory to be cleared, and logging capacity increases to 1 million data points.

What's included: one AA battery and NIST-traceable calibration certificate.

Application	Sensor type	Range	Resolution	Accuracy	Power	Catalog number	Price
A. Standard thermistor models							
Refrigerator/freezer	One bottle probe	–58 to 158°F (–50 to 70°C)	1°	±1°C	One AA battery (included)	XJ-94460-72	
Refrigerator/freezer	One 5-mL bottle probe					XJ-94460-71	
General purpose	One wire probe					XJ-94460-70	
B. Advanced thermistor models with improved accuracy (not shown)							
Refrigerator/freezer	Two bottle probes	–58 to 158°F (–50 to 70°C)	0.01°	±0.30°C	One AA battery (included)	XJ-94460-92	
General purpose	Two wire probes					XJ-94460-91	
General purpose	One solid SS probe					XJ-94460-98	
General purpose	Two solid SS probe					XJ-94460-99	
C. Advanced thermistor models with improved accuracy and data logging (not shown)							
Refrigerator/freezer	One bottle probe	–58 to 158°F (–50 to 70°C)	0.01°	±0.25°C	One AA battery (included)	XJ-94460-07	
Refrigerator/freezer	Two bottle probes					XJ-94460-09	
General purpose	One wire probe					XJ-94460-11	
General purpose	Two wire probes					XJ-94460-14	
General purpose and refrigerator/freezer	One wire and one bottle probe					XJ-94460-18	
General purpose	One solid SS probe					XJ-94460-16	
General purpose	Two solid SS probes					XJ-94460-17	
D. Advanced thermistor models with improved accuracy and "memory lock" data logging							
Refrigerator/freezer	One bottle probe	–58 to 158°F (–50 to 70°C)	0.01°	±0.25°C	One AA battery (included)	XJ-94460-37	
Refrigerator/freezer	Two bottle probes					XJ-94460-39	
General purpose	One wire probe					XJ-94460-41	
General purpose	Two wire probes					XJ-94460-43	
General purpose and refrigerator/freezer	One wire and one bottle probe					XJ-94460-47	
General purpose	One solid SS probe					XJ-94460-44	
General purpose	Two solid SS probes					XJ-94460-46	
E. Advanced RTD high-accuracy models							
Refrigerator/freezer	One bottle probe	–58 to 158°F (–50 to 70°C)	0.01°	±0.1°C	One AA battery (included)	XJ-37803-88	
General purpose	One wire probe					XJ-37804-03	
General purpose	One wire probe	–148 to 158°F (–100 to 70°C)				XJ-37804-05	
General purpose	One solid SS probe	–148 to 199.99°F (–100 to 199.99°C)				XJ-37804-04	

Digi-Sense® Traceable® Mini Thermometers with Remote Probe

Easily read temperature from a distance

– 304 stainless steel penetration stem

DIGI-SENSE

A. Standard Remote Probe Thermometer has a 3-ft flexible cord and °F/°C switchable ranges. Magnetic back allows for placement on metal surfaces such as freezers, incubators, or water baths. Includes flip-open stand, and spring fastener for clipping onto any edge.

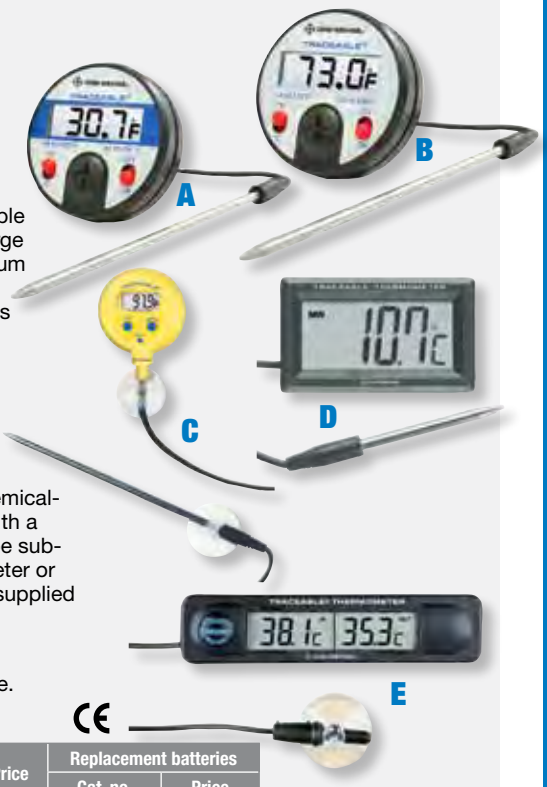
B. Deluxe Remote Probe Thermometer features a 3-ft flexible cord, °F/°C switchable ranges, display updates every second, high/low alarm, Min/Max memory, and Hold function. Magnetic back allows for placement on metal surfaces; freezers, incubators or water baths. Includes a flip-open stand, and spring fastener for clipping on to any edge.

C. Waterproof Remote Probe Thermometer has a 10-ft flexible cord, °F/°C switchable ranges, a display that updates every second, and Min/Max memory. Perfect for wet areas—case is water/shockproof and probe is impervious to acid and solvents. Supplied with suction cups, magnet, and self-adhesive hook and loop tabs to attach to any surface.

D. Panel-Mount Remote Probe Thermometer features a 10-ft flexible cord, °F/°C switchable ranges, a large easy-view LCD, and records minimum and maximum readings over time. Versatile panel-mount module snaps into place or can be used as a stand-alone unit.

E. Stick-Style Remote Probe Thermometers have a 3-ft flexible cord, Min/Max memory, and simultaneous display of probe and ambient temperatures. Meter is chemical-resistant and shockproof; comes with a remote sensor and cable that can be submerged. Use as a pocket thermometer or mount for continuous use with the supplied self-adhesive hook and loop tabs.

What's included: battery and NIST-traceable calibration certificate.



Key letter	Range	Resolution	Accuracy	Probe	Catalog number	Price	Replacement batteries	
							Cat. no.	Price
A	–58 to 500°F (–50 to 250°C)	0.1°F (0.1°C)	±1°C between –20 to 100°C, otherwise ±1.5° outside range	5½"L x 0.14" dia	XJ-90205-20		XJ-09376-14	/ea
B	–58 to 572°F (–50 to 300°C)	0.1°F (0.1°C)	±1°C between –20 to 100°C, otherwise ±1.5° outside range	5½"L x 0.14" dia	XJ-90205-21		XJ-09376-14	/ea
C	–58 to 572°F (–50 to 300°C)	0.1° from –19 to 199.9°; 1° outside this range	±2.0°F (±1°C)	5"L x 0.14" dia	XJ-90205-22		XJ-09377-16	/ pk of 6
D	–58 to 572°F (–50 to 300°C)	0.1° from –20 to 200°; 1° outside this range	±1°C between –20 to 100°C, otherwise ±1.5° outside range	2¾"L x 0.14" dia	XJ-90205-26		XJ-09376-14	/ea
E	–58 to 158°F (–50 to 70°C)	0.1°F	±1.0°F	0.20" dia	XJ-90205-24		XJ-09376-14	/ea
		0.1°C	±1.0°C		XJ-90205-23			

Accessories

XJ-17003-00
NIST-traceable recalibration with data for pocket thermometers

Extech® Waterproof Temperature Indicators

Won't fail under occasional splashing

– Waterproof, dustproof housing is IP65-rated
– Won't permit out-of-range failures—visual and audible alarms alert you to under- and over-range conditions

NEW
Model available

Indicators feature selectable temperature scale (°F/°C), high/low set points, Min/Max reading, data hold, alarm icons, and low-battery indicator.

What's included: probe, magnetic back, foot stand, and battery.



Model	TM20	TM25	TM26
Catalog number	XJ-95001-55	XJ-95001-56	XJ-39758-99
Range	–40 to 158°F (–40 to 70°C)	–40 to 392°F (–40 to 200°C)	
Resolution	0.1°F or °C		
Accuracy	±0.9°F (0.5°C) from 32 to 75°F (0 to 24°C); ±1.8°F (1.0°C) from –4 to 31°F (–20 to –1°C) and 76 to 120°F (25 to 49°C); ±3.6°F (2.0°C) from –40 to –5°F (–40 to –21°C) and 121 to 392°F (50 to 200°C)		
Probe	¾" (20 mm) blunt tip with 9.6-ft (2.9-m) cable	4" (105 mm) penetration tip with 5-ft (1.5-m) cable	
Certifications	—	—	NSF
Power	One CR2032, 3 V battery (included)		
Price			

Don't Get Burned—Gain More Confidence in Your Readings

- ✓ **Save time and money—** precalibrated to NIST-traceable standards before you receive it
- ✓ **Don't let** probe errors interfere with readings—electronic offset compensates for errors
- ✓ **Choose your readout—** measures in °F, °C, or Kelvin (K) with 0.1 resolution
- ✓ **Features** for your convenience:
  - Min/Max/Avg
  - Hold
  - Relative time stamp
  - Auto-off to save battery life
- ✓ Take measurements from a distance with **optional infrared wand** on Professional series

Precalibration provided by
INNOCAL®
Precalibration I Recalibration I Onsite
866-InnoCal (866-466-6225)
InnoCalSolutions.com

Digi-Sense® Precalibrated Thermocouple Thermometers

– Compact, affordable units provide accurate and dependable readings

– No need to worry about reading measurements—large, backlit LCD makes readings easy

General-Purpose Thermocouple Thermometers accept both type K or J thermocouple probes with miniconnector. The two- and four-channel models provide data logging of up to 18,000 readings; USB interface lets you easily download data to a PC for analysis with included software.

Professional Thermocouple Thermometers with IR Input deliver accurate readings in an ergonomic design. Models accept type K probes and an optional infrared (IR) wand for noncontact measurements from a distance. Two- and four-channel models continually scan each channel for real-time measurements. Data logging models allow you to download and analyze data fully.



20250-01



20250-17

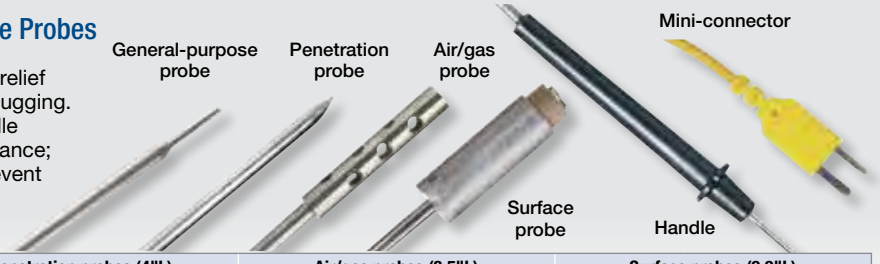
DIGI-SENSE

Description	General-purpose thermometers			Professional thermocouple thermometers with IR input			
Catalog number	XJ-20250-01	XJ-20250-02	XJ-20250-03	XJ-20250-18	XJ-20250-17	XJ-20250-19	XJ-20250-20
Thermocouple (T/C) inputs	1 (type K or J)	2 (type K or J)	4 (type K or J)	1 (type K)	2 (type K)	2 (type K)	4 (type K)
T/C range	K: –328 to 2501°F (–200 to 1372°C) J: –346 to 2012°F (–210 to 1100°C)			K: –328 to 2501°F (–200 to 1372°C)			
IR range	—			–31 to 1022°F (–35 to 550°C), with optional IR wand 20250-24			
Resolution	0.1°F/C below 1000°, 1°F/C above 1000°			0.1°F/C below 1000°, 1°F/C above 1000°			
T/C accuracy	Above –148°F (–100°C): ±[0.5% rdg + 1.8°F (1°C)] Below –148°F (–100°C): ±[0.5% rdg + 3.6°F (2°C)] Differentials: ±[0.5% rdg + 3.6°F (2°C)]			Above –148°F (–100°C): ±[0.15% rdg + 1.8°F (1°C)] Below –148°F (–100°C): ±[0.5% rdg + 3.6°F (2°C)] Differentials: ±[0.5% rdg + 1.8°F (1°C)]			
IR accuracy	—			Above 14°F (–10°C): ±[2.0% rdg + 3.6°F (2°C)]; Below 14°F (–10°C): ±9°F (5°C); T/C–IR differentials: ±[2.0% rdg + 5.4°F (3°C)] above 14°F (–10°C); ±11°F (6°C) below 14°F (–10°C)			
Data logging	No	18,000 points		No		18,000 points	10,000 points
USB interface	No	Yes		No		Yes	
Temp differential	No	Yes		Yes			
Scan function	No			No	Yes		
Price							

XJ-20250-24 **Optional infrared wand** for professional thermocouple thermometers only. Features 8:1 distance-to-spot ratio. Measures 6½" x 2" x 1½" (16.4 x 5 x 4 cm). Includes one 9 V battery

Some of Our Most Popular Thermocouple Probes

All probes include a 5-ft coiled cord with strain relief spring that protects from repeated flexing and tugging. Ergonomic, easy-to-grip glass-filled nylon handle provides maximum insulation and impact resistance; fingerstops prevent fingers from sliding and prevent probe from rolling. Rugged thermoset plastic miniconnector also included.



Probe Type	General-purpose probes (5"L)			Penetration probes (4"L)			Air/gas probes (8.5"L)			Surface probes (9.9"L)		
	Max temp	Cat. no.	Price	Max temp	Cat. no.	Price	Max temp	Cat. no.	Price	Max temp	Cat. no.	Price
J	1400°F (760°C)	XJ-08517-55		1400°F (760°C)	XJ-08517-65		1000°F (537°C)	XJ-08517-75		1200°F (649°C)	XJ-08517-60	
K	1652°F (900°C)	XJ-08516-55		1652°F (900°C)	XJ-08516-65		1000°F (537°C)	XJ-08516-75		1200°F (649°C)	XJ-08516-60	
T	752°F (400°C)	XJ-08500-55		752°F (400°C)	XJ-08500-65		1000°F (537°C)	XJ-08500-75		650°F (343°C)	XJ-08500-60	

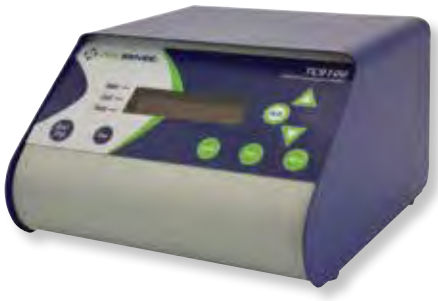
Digi-Sense® Benchtop Temperature Control Consoles

Direct plug-in of heating or cooling devices

NEW Improved design

TC9100 Model (Thermocouple)

- Simple on/off to sophisticated PID control
- Simultaneous view of both the measured and set point on the two-line alphanumeric display
- Offset function allows you to correct for probe error
- Front panel indicates output and alarm conditions



- Mount to lab frame or grid with built-in support bracket

TC9600 Data Logging Model (Thermocouple, RTD, Thermistor)

Offers all the features of the TC9100 controller, plus nine-segment ramp and soak profiling for more complex processes, USB computer interface, and free software that features real-time visual of set points and process activity, along with data logging.

- Ramp rate and ramp-and-soak profiling for more complicated processes
- USB computer interface and free software that features real-time graphing and programming setup
- Data log more than 100 K data points in adjustable increments from 1 second to 999 seconds

DIGI-SENSE

ISO 9001:2008 CERTIFIED SUPPLIER

Specifications

Input type	Range
J	–190 to 1000°C (–310 to 1832°F)
K	–200 to 1372°C (–328 to 2502°F)
T	–200 to 400°C (–328 to 752°F)
E	–200 to 1000°C (–328 to 1832°F)
N	–200 to 1300°C (–328 to 2372°F)
B	200 to 1800°C (392 to 3272°F)
R	0 to 1768°C (32 to 3214°F)
S	0 to 1768°C (32 to 3214°F)
Thermistor†	400 series: –30 to 100°C (–22 to 212°F) 700 series: –15 to 100°C (5 to 212°F)
100 Ω Pt RTD†	–200 to 800°C (–328 to 1472°F)

†For TC9600 model only.

Resolution: 0.1°; 1° above 999.9° and below –99.9°

Alarm output (TC9600 only): SPT relay rated for 24 VAC, 1 A max

Communication (TC9600): USB

Accuracy: [span equals 540°C (1000°F) min]
Types J, K, T, E, and N: ±0.1% of span
Types B, R, and S: ±0.2% of span
Thermistor: ±0.4% of span 0.5°C (0.7°F)
RTD: ±0.1% of span

Model	Control output (50/60 Hz)‡	Control output load	Power‡	Catalog number	Price
TC9100 (thermocouple)	120 VAC	15 A max	120 VAC	XJ-89800-11	
	240 VAC	10 A max	240 VAC	XJ-89800-12	
TC9600 (thermocouple, thermistor, RTD)	120 VAC	15 A max	120 VAC	XJ-89800-13	
	240 VAC	10 A max	240 VAC	XJ-89800-14	

‡For 230 VAC models, the power and heater/cooler output uses IEC plugs. You may need to order an adapter sold separately per your local requirements.

XJ-17101-63 **NIST-traceable calibration** with data

Digi-Sense® Precalibrated Thermometers

Perfect for the lab to production floor



- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Electronic offset function allows compensation of probe errors
- Robust, reliable handheld temperature meters work in tough environments

Single-Input Thermometers feature an easy-to-use control panel, Min/Max and Hold functions, offset adjustment, °F/°C selection, backlit display, low-battery indicator, and auto shutoff.

Dual-Input Data Logging Thermometers store up to 16,000 sets of readings in real time, and data can be downloaded to your PC via a USB port. Logging interval is selectable from 1 second to 60 minutes. Meters also feature Min/Max, Hold, and average functions; differential temperature; offset adjustment; °F/°C selection; time stamp/clock; out-of-range alarm with audible/visible indicator; backlit display; low-battery indicator; and auto shutoff.

What's included: protective rubber armor boot with built-in stand, one 9 V battery, and NIST-traceable calibration report with data. Data logging models 20250-92, -94, and -96 also include a USB cable and software.

DIGI-SENSE

Specifications

Input type	Range
J	–328 to 1832°F (–200 to 1000°C)
K	–418 to 2501°F (–250 to 1372°C)
T	–418 to 752°F (–250 to 400°C)
Thermistor	–40 to 257°F (–40 to 125°C)
RTD	–320 to 1562°F (–200 to 850°C)

Power: one 9 V battery (included)

Models 20250-92, -94, -96: Data logging: 16,000 sets of readings

Description	Resolution	Accuracy	Catalog number	Price
Thermocouple meters				
Single input	0.1°F (0.1°C) from –148 to 1832°F (–99.9 to 999.9°C); 1°F (1°C) outside range	±1% of reading + 1.8°F (1°C) below –148°F (–99.9°C); ±1% of reading + 0.9°F (0.5°C) above –148°F (–99.9°C)	XJ-20250-91	
Dual input with data logging			XJ-20250-92	
Thermistor meters				
Single input	0.1°F (0.1°C)	±0.9°F (±0.5°C) from 32 to 158°F (0 to 70°C); ±2°F (1°C) outside range	XJ-20250-93	
Dual input with data logging			XJ-20250-94	
RTD meters				
Single input	0.1°F (0.1°C) from –148 to 1562°F (–99.9 to 850°C); 1°F (1°C) outside range	±1.5°F (0.8°C) from –148 to 392°F (–99.9 to 199.9°C); ±2°F (1°C) ±0.5% of reading outside range	XJ-20250-95	
Dual input with data logging			XJ-20250-96	

Find even more online! Go to ColeParmer.com to search more than 100,000 products.

Fluke® Thermocouple Thermometers

Stand up to your demands



- Rugged, splash- and dust-resistant housing
- Models 53 and 54 include data logging to 500 points of internal memory, time-stamped

Dual backlit display provides readout of channel temperature, differential temperature (dual-input models), and Min/Max/Avg readings with time stamp of all channels simultaneously.

What's included: one type K bead thermocouple per input channel and protective holster.

Specifications

Range†:
J: –346 to 2192°F (–210 to 1200°C)
K: –328 to 2501°F (–200 to 1372°C)
T: –418 to 752°F (–250 to 400°C)
E: –238 to 1832°F (–150 to 1000°C)
N: –328 to 2372°F (–200 to 1300°C)
R and S: 32 to 3216°F (0 to 1767°C)

Resolution:
0.1°F/°C <1000°; 1°F/°C >1000°

Accuracy†:
Above –148°F (–100°C):
J, K, T, E, N: ±(0.05% + 0.3°C)
R and S: ±(0.05% + 0.4°C)
Below –148°F (–100°C):
J, K, E, N: ±(0.20% + 0.3°C)
T: ±(0.50% + 0.3°C)

Power: Three AA batteries

Model	Description	Cat. no.	Price
51-II	Single-input (types J, K, T, E)	XJ-91500-04	
52-II	Dual-input (types J, K, T, E)	XJ-91500-06	
53-II-B	Data logging single-input (types J, K, T, E, R, S, N)	XJ-91500-08	
54-II-B	Data logging dual-input (types J, K, T, E, R, S, N)	XJ-91500-10	

Comark® Foodservice Thermocouple Thermometer

Ensure food safety with antimicrobial protection



- IP67-rated case is water- and dustproof
- NSF-approved with BioCote® antimicrobial protection

This thermometer produces a high degree of accuracy with a rapid response time. The meter features °F/°C selectable units, data hold, auto-off function, clock, multifunction countdown timer, and built-in protective boot. Designed to accept any type K thermocouple probe with miniature connection.

What's included: protective boot, certificate of conformity, and two AA batteries.

Specifications

Resolution
Below 100°F (100°C): 0.1°
Above 100°F (100°C): 1°

Accuracy: ±0.1% of reading, ±0.4°F/±0.2°C

Power: two AA batteries (included)

Type	Range	Catalog number	Price
Single input, K	–328 to 1112°F (–200 to 600°C)	XJ-90025-34	

XJ-90025-41 **Wall bracket** for 90025-34
XJ-09376-01 **Replacement batteries,** AA. Pack of 4
XJ-17002-10 **NIST-traceable calibration** for thermocouple system (meter and probe)

Digi-Sense® Thermocouple Thermometers

Reliable, robust meters in an ergonomic design



NEW

- Withstand the toughest conditions—splash-resistant ABS plastic housing and rubber armor boot
- Individually calibrated and easy-to-use automatic field calibration ensures accurate readings
- Large, easy-to-read LCD with backlight

Single-Input Thermometers feature an easy-to-use control panel; Min/Max and Hold functions; °F/°C selection; low-battery indicator; and auto shutoff. **Dual-Input Thermometer** is designed for either single or simultaneous dual readings. Store up to 1000 sets of readings in the nonvolatile memory. Take differential temperature measurements with the T1/T2 function. Meter resolution is keypad selectable. **Data Logging Thermometer** can manually store or automatically log up to 2000 sets of readings in real time, and data can be downloaded to your PC via a USB port. These meters also feature Min/Max, Hold, and average functions; °F/°C selection; time stamp/clock; countdown timer; out-of-range alarm with audible/visible indicator; low-battery indicator; and auto shutoff.

What's included: protective rubber armor boot with built-in stand and three AA batteries.

Description	Range	Resolution	Accuracy	Catalog number	Price
Single input	Type J: –346 to 2192°F (–210 to 1200°C)	0.1°F/°C between –199.9 to 999.9°, 1° below –199.9° and above 999.9°	Below –238°F (–150°C): ±0.25% of reading ±2°F (±1°C) Above –238°F (–150°C): ±0.1% of reading ±0.7°F (±0.4°C)	XJ-91428-00	
	Type K: –418 to 2501°F (–250 to 1372°C)			XJ-91428-01	
	Type T: –418 to 752°F (–250 to 400°C)			XJ-91428-02	
Dual input	Type J: –346°F to 2192°F (–210°C to 1200°C) Type K: –418°F to 2501°F (–250°C to 1372°C) Type T: –418°F to 752°F (–250°C to 400°C) Type E: –418°F to 1832°F (–250°C to 1000°C)	0.1°F/°C between –99.9 to 999.9°, 1° below –99.9° and above 999.9°	Below –148°F (–99.9°C): ±0.25% of reading ±2°F (±1°C) Above –148°F (–99.9°C): ±0.1% of reading ±0.7°F (±0.4°C)	XJ-91428-03	
Dual input with data logging	Type J: –346 to 2192°F (–210 to 1200°C) Type K: –418 to 2501°F (–250 to 1372°C) Type T: –418 to 752°F (–250 to 400°C) Type E: –418 to 1832°F (–250 to 1000°C) Type R: 32 to 3214°F (0 to 1768°C) Type S: 32 to 3214°F (0 to 1768°C) Type N: –418 to 2372°F (–250 to 1300°C) Type B: 392 to 3272°F (200 to 1800°C)	0.1°F/°C between –199.9 to 999.9°, 1° below –199.9° and above 999.9°	Type J, K, T, E, and N: ±0.25% of reading ±2°F (±1°C) below –148°F (–99.9°C), ±0.1% of reading ±0.7°F (±0.4°C) above –238°F (–150°C) Type R, S, and B: ±0.1% of reading ±2°F (±1°C)	XJ-91428-04	

XJ-35427-85 **Optional "hands-free" kit** includes two magnets and hook-and-loop strap
XJ-35427-86 **USB cable** for data logging models
XJ-17000-10 **NIST-traceable calibration** with data for thermocouple meter

Digi-Sense® TempTestr® Infrared Thermometer

Take quick surface temperatures affordably

- Get readings in less than 1 second
- Point, press button, and read
- Selectable °F/°C reading

Super-Mini TempTestr includes built-in pocket clip, wrist strap, and two batteries.

Min TempTestr includes metal case, wrist strap, and spare battery.



39642-01



39642-00

"Excellent little unit."

DIGI-SENSE

Model	Super-Mini TempTestr	Mini TempTestr
Catalog number	XJ-39642-01	XJ-39642-00
Range	–27 to 230°F (–33 to 110°C).	–30 to 430°F (–33 to 220°C).
Resolution	0.5°F (0.2°C) of reading	0.5°F (0.2°C) of reading
Accuracy	±2.5% of reading or 3.6°F (2.0°C)	±2% of reading or ±4°F (2°C)
Response time	Less than one second for 95% of reading	Less than one second
Emissivity	0.95 fixed	Adjustable from 0.01 to 1.00
Distance-to-target ratio	1:1	1:1
Power	Two LR44/359 batteries (included)	One 3V battery (included)
Price		

Digi-Sense® Precalibrated Infrared Stick Thermometers

Get quick and easy, one-button reading



- Reliable measurements, guaranteed! Precalibrated to NIST-traceable standards
- Unique ergonomic stick-style design fits comfortably in your hand
- Water- and dust-resistant IP54 rating
- Laser sighting to pinpoint the center of the measurement area
- Safely and easily locate hot and cold spots, preventing problems and saving costs

Unit features automatic data Hold, selectable °C/°F units, fixed emissivity, and backlit display.

What's included: lanyard, battery, and NIST-traceable calibration report with data.

DIGI-SENSE

Description	Precalibrated IR stick thermometers	
Catalog number	XJ-20250-09	XJ-35625-16
Range	0 to 575°F (–18 to 302°C)	
Resolution	0.1°F/C	
Accuracy	±3.6°F (2°C) or ±2% of reading	
Response time	Less than 500 ms	
Emissivity	Fixed at 0.95	
Laser sighting	Single laser	
Distance-to-sight ratio	8:1	4:1
Power	One 9 V battery (included)	
Dimensions (L x W x H)	7" x 1¾" x 1½" (17.8 x 4.4 x 3.8 cm)	
Price		

XJ-35625-80 **Soft carrying case**

XJ-09376-04 **Replacement batteries,** 9 V. Pack of 4

Digi-Sense® Precalibrated Infrared Thermometers

Save money and prevent breakdowns—easily locate hot and cold spots



- Reliable measurements—guaranteed! Precalibrated to NIST-traceable standards
- Get easy readings from a distance—just aim, pull trigger and read!
- Continuous scanning via trigger lock

DIGI-SENSE

General-Purpose IR models feature Min/Max and Hold functions, °F/°C units, single targeting laser, and large backlit LCD for easy reading. Models 20250-05 and -06 also offer adjustable emissivity and temperature alarm with indicator.

Professional IR models provide high distance-to-sight ratio and enhanced temperature range in a heavy-duty housing. Get a more precise measurement area with dual targeting lasers and external type K thermocouple (one included). Min/Max/Avg and Hold, temperature differential, high/low alarms, adjustable emissivity, data logging, and more!

Description	General-purpose infrared thermometers			Professional infrared thermometers	
Catalog number	XJ-20250-04	XJ-20250-05	XJ-20250-06	XJ-20250-07	XJ-20250-08
Range (IR)	–4 to 630°F (–20 to 332°C)	–31 to 1000°F (–35 to 537°C)	–31 to 1472°F (–35 to 800°C)	–58 to 3002°F (–50 to 1650°C)	–58 to 3362°F (–50 to 1850°C)
Resolution	0.1°F/C	0.1°F/C below 1000°, 1°F/C		0.1°F/C below 1000°, 1°F/C above 1000°	
Response time	Less than 1 sec	Less than 300 ms		Less than 150 ms	
Distance-to-sight ratio	10:1	12:1	20:1	30:1	50:1
Emissivity	0.95 fixed	0.10 to 1.0 adjustable		0.10 to 1.0 adjustable	
Laser sighting	Single Class II laser			Dual Class II laser	
Temperature alarm	No	Yes		Yes	
USB interface	No			Yes (cable and software included)	
Data logging	No			Yes, 100 internal readings	
Power	One 9 V battery			One 9 V battery	
Price					

FLIR® Thermal Camera Attachment for Smartphones and Tablets

Converts your device into a thermal imager!

- Connect to your personal device for viewing and capturing thermal images right on your phone
- View invisible heat sources, compare relative temperatures, and see through light fog and smoke
- Won't drain the battery on your device—powered by its own internal battery



Enhance your experience with the free FLIR ONE™ App. The App provides a simple and intuitive user interface with a variety of functions that make it easy to collect and share thermal images.

What's included: charging cable (either micro-USB or Lightning connector).



39756-01 (Phone not included)

CE

Model number	FLIR ONE for Android	FLIR ONE for iOS
Catalog number	XJ-39756-01	XJ-39756-00
Range	–4 to 248°F (–20 to 120°C)	
Accuracy	±3.6°F (2°C) or 2% at 25°C, whichever is greater	
Resolution (pixels)	18,200	
Detector size	160 x 120	
Thermal sensitivity (NETD)	<0.18°C	
Price		

FLIR® C2 Pocket-Size Thermal Imager

Pocket portable—never miss an opportunity to uncover issues

- Radiometric image capable of capturing thermal measurements from 14 to 302°F (–10 to 150°C)
- MSX®-enhanced thermal images provide amazing detail to help you identify problem areas via 4800-pixel resolution display
- Stream video via FLIR Tools software for additional analysis
- Bright 3" (7.6 cm) intuitive touch screen with auto orientation for easy viewing



Model number	C2
Catalog number	XJ-39756-64
Range	14 to 302°F (–10 to 150°C)
Accuracy	±3.6°F (2°C) or 2% at 25°C whichever is greater
Resolution (pixels)	4800
Detector size	80 x 60
Measurement modes	Thermal, visual, MSX and gallery
Power	3.7 V rechargeable Li-ion polymer battery
Price	

FLIR® TG165 Imaging Infrared Thermometer

Eliminate targeting guesswork

- Instantly see where the heat is and where to aim
- Measure from –13 to 716°F (–25 to 380°C) with 4800 pixel resolution
- Easy and intuitive—no special training necessary
- See clear thermal patterns of heat problems normally invisible to the eye
- 24:1 distance-to-target ratio and 80 x 60 image resolution help you capture reliable readings from a safe distance



Model no.	Description	Cat. no.	Price
TG165	Imaging IR thermometer, 4800 pixels	XJ-39755-96	
—	Belt holster	XJ-39755-98	
—	Hard carrying case	XJ-39755-97	

FLIR® Ex-Series Point-and-Shoot Thermal Imagers

No need to refer back to visual images

- Exclusive MSX® thermal imaging technology gives more detailed images for better results
- Minimize fatigue with easy-grip handle
- Get hours of operation with robust, Li-ion battery
- Transfer and analyze data easily with web-based software



39753-14

What's included: analysis and reporting software, USB cable, hard carry case, AC adapter/charger, and Li-ion rechargeable battery. Model E8 also includes an extra battery and external battery charger.

CE IP 54 2 Year Full 5 Year Battery 10 Year Detector

Model number	E4	E5	E6	E8
Catalog number	XJ-39753-14	XJ-39753-15	XJ-39753-16	XJ-39753-18
Range	–4 to 482°F (–20 to 250°C)			
Accuracy	±2% or 4°F (2°C)			
Resolution (pixels)	4,800	10,800	19,200	76,800
Detector size	80 x 60	120 x 90	160 x 120	320 x 240
Thermal sensitivity (NETD)	<0.15°C at 25°C	<0.10°C at 25°C	<0.06°C at 25°C	
Digital zoom	No	No	No	No
Field of view	45° x 34°	45° x 34°	45° x 34°	45° x 34°
Image annotation	No	No	No	No
Picture-in-picture	No		Yes (fixed)	
Thermal fusion	No		No	
Price				

Digi-Sense™ Traceable® General-Purpose Timers

Track time, maintain accuracy, and save money

A. Four-Channel Large-Display Clock/Timer

- Easy monitoring of four experiments simultaneously
- Channels feature distinct alarms that sound for one minute
- Set up to 100 hours in count up or countdown modes
- Time of day in 12- or 24-hour format

What's included: magnetic clip, stand, and button cell battery.

B. 100-Hour, Triple-Display Clock/Timer

- Know which channel is done with unique tones
- Use as digital clock, timer, or stopwatch
- Easily recall previous time set via memory
- Alarm condition indicated by flashing LCD

What's included: one AAA battery and NIST-traceable calibration report.

C. Jumbo Digit Dual-Channel Clock/Timer

- See time easily—tilts for better viewing
- Use both channels for simultaneous countdown, or time of day with count up timer
- Choose 12- or 14-hour display format
- Alarm sounds at end of cycle and shows elapsed time

What's included: wall-mounting bracket and one AAA battery.

DIGI-SENSE™

D. Flashing LED Big-Digit Timer

- Never wonder about remaining time again
- Easily view 1"H display across the room
- LED flashes green for last 10 seconds of timer, flashes red when alarm sounds
- Don't annoy others—adjust alarm volume to high, low, or off
- Store three countdown times for easy recall

What's included: magnetic back, flip-open easel stand, spring fastener for clipping, an opening for a lanyard, two AAA batteries, and NIST-traceable calibration report.

E. Triple-Display Clock/Timer

- Get timing faster—recall all channels' settings instantly
- Use as a countdown timer, count up stopwatch, or clock
- Count up to 24 hours, count down to 20 hours
- Displays time elapsed since alarm

What's included: magnetic clip and one AAA battery.

F. Dual-Channel Flashing LED Big-Digit Timer

- Flashing red LED when time is up
- View two timers, each with a distinctive alarm
- Alerts to end time with flashing green LED for the last ten seconds
- Adjust the alarm to the right volume—high, low, and off
- Store three countdown times in memory for easy recall

What's included: two AAA batteries and NIST-traceable calibration report.



Key	A	B	C	D	E	F
Number of channels	Four	Three	Two	One	Three	Two
Timing capacity	100 hours	100 hours	24 hours	100 min	24 hr up/20 hr down	100 hours
Resolution	1 sec	1 sec	1 sec	1 sec	1 sec	1 sec
Accuracy	±0.01%	±0.001%	±0.01%	±0.01%	±0.01%	±0.01%
Count direction	Up/down	Up/down	Up/down	Down	Up/down	Up/down
Display	LCD, ¾"H	LCD, ⅜"H	Dual LCD, 1"H	LCD, 1"H	Triple LCD, 7/16"H	LCD, ⅝"H
Clock	Yes	Yes	Yes	No	Yes	No
Alarm	1 min beep	1 min beep and visual	1 min beep	1 min beep and visual	1 min beep	1 min beep and visual
Battery included	One 1.5 V button cell	One AAA battery	One AAA battery	Two AAA battery	One AAA battery	Two AAA battery
Catalog number (timer)	XJ-08649-10	XJ-94411-10	XJ-94440-10	XJ-94461-15	XJ-94440-00	XJ-94461-16
Price/ea*						
Catalog number (battery)	XJ-09377-16	XJ-09376-00	XJ-09376-00	XJ-09376-00	XJ-09376-00	XJ-09376-00
Price/pk	**/pk of 6**	**/pk of 12**	**/pk of 12**	**/pk of 12**	**/pk of 12**	**/pk of 12**

***Discounts:** Save 10% on 10–24 timers and 20% on 25+ timers.

Digi-Sense™ Traceable® Digital Stopwatches

Time the length of any event or activity

A. Water-Resistant Stopwatches

- Separate start/stop and reset buttons
- Alarm clock shows time of day and day of week
- Split-mode timing to freeze the split-time display while total timing continues
- Model 35002-11 does not include an NIST-traceable calibration certificate‡

What's included: neck cord, battery, and NIST-traceable calibration certificate‡.

B. Waterproof/Shockproof Stopwatch

- Shock-proof case is ideal for lab or plant use
- Displays time of day, date, and day of week
- Time-of-day alarm

What's included: neck cord, battery, and NIST-traceable calibration certificate.

C. Big-Digit Stopwatch

- Displays time-of-day, date, and day of week
- Keep track of time with time of day alarm
- Water-, dust-, and shock-resistant

What's included: neck cord, clip, hook-and-loop strip, battery, and NIST-traceable calibration certificate.

D. Stopwatch/Repeat Timer

- Report function is ideal for analysis that must be noted at regular intervals
- Cycles automatically until stopped and displays number of cycles
- Set to countdown from 10 hours to 1 second

What's included: neck cord, battery, and NIST-traceable calibration certificate.

DIGI-SENSE™

E. 60-Memory Stopwatch

- Recall up to 60 events
- Simultaneosuly displays running time, cumulative split, and interval split
- Set to countdown from 10 hours to 1 second
- Displays time, date, and day of the week

What's included: neck cord, battery, and NIST-traceable calibration certificate.

F. 300-Memory All-Function Stopwatch

- Recall up to 300 memories both during and after event timing
- Simultaneously shows running time, cumulative split, and interval split
- Functions include pacer, stroke, and speed calculations
- Displays time, date, and day of the week

What's included: neck cord, clip, hook-and-loop strip, battery, and NIST-traceable calibration certificate.

G. High-Accuracy Stopwatch

- Quartz crystal—over 100 times more accurate than othher stopwatches!
- Features 30 memories
- Display count box shows how many times the cycle has been repeated
- Indicates time, date, and day of the week

What's included: neck cord, battery, and NIST-traceable calibration certificate.



A



B


C


D


E


F


G

Key	A		B	C	D	E	F	G
Timing modes	Single-event, lap, cumulative split		Single-event, lap, cumulative split	Single-event, pause, cumulative split	Single-event, lap, cumulative split, pacer	Single-event, time-out/ time-in, continuous timing, cumulative split, interval split, auto-repeat, sample counter, pacer	Time-out/time-in, continuous timing, cumulative split, interval split, sample counter, pacer	Time-out/time-in, continuous timing, cumulative split, interval split, cycle counter, pacer
Timing capacity	24 hours		24 hours	24 hours	10 hours	10 hours	10 hours	10 hours
Resolution	0.01/1 sec†		0.01/1 sec†	0.01/1 sec†	0.01 sec	0.01 sec	0.01 sec	0.01 sec
Accuracy	±5 sec/day		±0.01	±0.001%	±0.001%	±0.001%	±0.001%	±0.0005%
Count direction	Up		Up	Up	Up/down	Up/down	Up/down	Up/down
Display	LCD, ⅜"H		LCD, ½"H	LCD, ⅝"H	2-line LCD, ⅝"H	3-line LCD, 3⁄16"H	3-line LCD, ¼"H	3-line LCD, 3⁄16"H
Clock alarm	1 min beep		1 min beep	1 min beep	1 min beep	3 short beeps	Yes	Audible
Battery included	1.5 V button cell		1.5 V button cell	1.5 V button cell	1.5 V button cell	3 V button cell	3 V button cell	3 V button cell
Catalog number	XJ-35002-11‡	XJ-35002-13	XJ-94460-55	XJ-94460-28	XJ-94460-10	XJ-98766-02	XJ-98766-09	XJ-98766-05
Price								

†Resolution is 0.01 second for the first 30 minutes of timing and 1 second thereafter. ‡Model 35002-11 does not include a Traceable® NIST-traceable calibration certificate.

Mettler Toledo EasyPlus™ Titrator Systems

No more manual titrations

- Easy operation via Apps-based user interface
- Ensure the accuracy of your measurements with precise burettes and sensors
- Download and analyze data with optional EasyDirect™ software



Everything you need in one affordable package for acid/base, acidity, precipitation, redox, and Karl Fischer volumetric titrations. Although small in size, these quality titrators provide highly accurate and consistent results.

Operation is simple and intuitive thanks to the smartphone-based Apps-driven user interface; use it to control all major functions. Easily perform basic titrations and receive automatic results from predefined formulas. Setup and tutorial with navigation is available in 14 languages. Minimize downtime with diagnostic tools for most common issues.

What's included: EasyPlus titrator, sensor, burette, sample vessel, stirrer, tubing, fittings, and power cord.

ISO 9001:2008 CERTIFIED SUPPLIER CE

Specifications

Resolution: 0.1 mV
Repeatability: 0.5% RDS
Output: USB
Power: 100 to 240 VAC, 50/60 Hz

Model	Tests	Catalog number	Price
Mettler Easy pH titrator system	Acid/base	XJ-94190-02	
Mettler Easy Cl titrator system	Precipitation	XJ-94190-04	
Mettler Easy Ox titrator system	Redox	XJ-94190-06	
Mettler Easy Pro titrator system	Acid/base, precipitation, and redox	XJ-94190-08	
Mettler Easy KFV titrator system	Karl Fischer volumetric	XJ-94190-10	

Accessories

XJ-94190-55 **EasyDirect titration software package**
XJ-94190-50 **Replacement pH electrode,** with BNC connector
XJ-94190-51 **pH electrode,** for non-aqueous applications, with BNC connector
XJ-94190-52 **Replacement redox electrode,** with BNC connector
XJ-94190-53 **Replacement KF electrode,** with BNC connector
XJ-94190-54 **Replacement precipitation electrode,** with BNC connector

Find even more online!
Go to ColeParmer.com to see full product details.

Cou-Lo Aquamax Coulometric Karl Fischer Titrator

Use it wherever you need it!



- Guaranteed synchronization of electrolysis current produced and count rate displayed with automatic compensation
- Get hard copy of results with built-in high-speed printer
- Easy to use for determination of water in liquids, gases, and powders
- Meets ASTM D1533, D4928, D6304, IP 386, API MPMS Chapter 10.9, and BS 60814 test methods

The Cou-Lo Aquamax titrator sets new standards in versatility and ease of operation for determining water content in liquids, gases, and powders. The unique ACE (Automatic Compensation of Errors) control system guarantees that the actual electrolysis current produced and the count rate displayed are always correctly synchronized, regardless of changes to the electrolysis cell resistance.

Titrator displays results in %, ppm, mg/kg, and µg of water. Delayed start, automatic three-fold end point indication, and four different calculation modes accommodate a variety of applications. Printed results show statistics, data input parameters, sample ID numbers, and time-and-date stamp. Results can also be downloaded via the optional Results Manager software package into a PC spreadsheet format.

What's included: built-in stirrer, titration vessel, detector electrode, generator electrode, drying tube, injection septa, glass syringe, luer needle, molecular sieve, stir bar, funnel, printer, paper, universal AC voltage adapter, DC car adapter, and internal battery.

CE

Specifications

Range: 1 µg to 100 mg water
Resolution: 0.1 µg
Rate: 2.0 mg/min max titration
Moisture range: 1 ppm to 100%
Accuracy
From 10 to 100 µg: ±3 µg
From 100 µg to 1 mg: ±5 µg
Above 1 mg: ±0.5%
Units displayed: %, ppm, mg/kg, µg

Description	Power	Catalog number	Price
Cou-Lo Aquamax Coulometric Karl Fischer Titrator	90 to 264 VAC, 47 to 63 Hz	XJ-94101-00	

Accessories

XJ-94101-50 **Carrying case**
XJ-94101-55 **Results Manager software package**
XJ-94101-60 **Replacement reagents pack**

Cole-Parmer® Silicone Tubing

No need to worry about the heat—use for applications up to 460°F

Peroxide Silicone



Applications: Pharmaceutical, biotechnology, food and beverage, aerospace, and general lab applications.
Characteristics: Peroxide-cured, excellent heat resistance, low compression set, odorless, nontoxic, translucent.
Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI requirements. Tubing is manufactured according to GMP.
Temperature range: –60 to 460°F (–51 to 238°C)
Sterilize: Autoclave or gamma irradiation.

Platinum Silicone



Applications: Pharmaceutical, biotechnology, aerospace, food and beverage, and general lab applications.
Characteristics: Platinum-cured, excellent heat resistance, low compression set, odorless, nontoxic, translucent.
Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI. Tubing is manufactured according to GMP.
Temperature range: –58 to 446°F (–50 to 230°C)
Sterilize: Autoclave or gamma irradiation.

Cole-Parmer®

Buy More...Save More!
20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

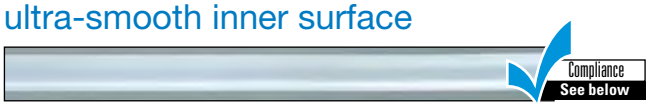
Dimensions: in. (mm)			Max psi at 70°F (21°C)	Peroxide silicone		Platinum silicone	
ID	OD	Wall		Catalog number	Price/ 25-ft pk	Catalog number	Price/ 25-ft pk
1/50 (0.5)	1/12 (2.1)	1/32 (0.8)	30	XJ-06411-59		XJ-95802-00	
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	30	XJ-06411-60		XJ-95802-01	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	15	XJ-06411-62		XJ-95802-02	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	15	XJ-06411-63		XJ-95802-03	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	10	XJ-06411-64		XJ-95802-04	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	20	XJ-06411-67		XJ-95802-05	
1/8 (3.2)	3/8 (9.6)	1/8 (3.2)	25	XJ-06411-68		XJ-95802-06	
5/32 (4.0)	5/32 (4.0)	1/32 (0.8)	10	XJ-06411-65		XJ-95802-07	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	9	XJ-06411-66		XJ-95802-08	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13	XJ-06411-03		XJ-95802-09	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	22	XJ-06411-69		XJ-95802-10	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	9	XJ-06411-70		XJ-95802-11	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10	XJ-06411-71		XJ-95802-12	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	17	XJ-06411-72		XJ-95802-13	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	17	XJ-06411-74		XJ-95802-14	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	10	XJ-06411-75		XJ-95802-15	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	16	XJ-06411-76		XJ-95802-16	
5/16 (8.0)	9/16 (14.4)	1/8 (3.2)	20	XJ-06411-77		XJ-95802-17	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	10	XJ-06411-12		XJ-95802-18	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	12	XJ-06411-78		XJ-95802-19	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	15	XJ-06411-79		XJ-95802-20	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	9	XJ-06411-80		XJ-95802-21	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	10	XJ-06411-19		XJ-95802-22	
1/2 (12.8)	3/4 (19.2)	1/8 (3.2)	12	XJ-06411-55		XJ-95802-23	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	10	XJ-06411-82		XJ-95802-24	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	12	XJ-06411-58		XJ-95802-25	
3/4 (19.2)	1 (25.4)	1/8 (3.2)	9	XJ-06411-83		XJ-95802-26	

DON'T RISK IT!

Our chemical compatibility database provides important information on chemical resistance—check it out at **ColeParmer.com/ChemChart**

Tygon® BioPharm Silicone Tubing

Reduce particle entrapment with ultra-smooth inner surface



Formulation: Tygon® 3350 silicone, platinum cured.
Applications: Pharmaceutical, cosmetic, industrial, and auto-analysis applications.
Characteristics: Ultra-smooth inner surface reduces particle entrapment and minimizes bacterial growth. Good for mild to medium concentration bases, salts, and alcohols; is odorless, tasteless, and nontoxic. Transparent.
Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI requirements, NSF criteria and EP 3.2.9 requirements. Tubing is manufactured according to GMP.
Temperature range: –112 to 392°F (–80 to 200°C)
Sterilize: Ethylene oxide, gamma irradiation, or autoclave for 30 min, 15 psi (1.0 bar).

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10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	16 (1.1)	XJ-95702-00	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	10 (0.7)	XJ-95702-01	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	15 (1.0)	XJ-95702-02	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	7 (0.5)	XJ-95702-03	
3/32 (2.4)	7/32 (5.6)	1/16 (1.6)	12 (0.8)	XJ-95702-04	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	7 (0.5)	XJ-95702-05	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	9 (0.6)	XJ-95702-06	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	5 (0.3)	XJ-95702-08	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	7 (0.5)	XJ-95702-09	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	9 (0.6)	XJ-95702-10	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	5 (0.3)	XJ-95702-13	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	7 (0.5)	XJ-95702-14	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	5 (0.3)	XJ-95702-16	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	6 (0.4)	XJ-95702-17	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	4 (0.3)	XJ-95702-18	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	5 (0.3)	XJ-95702-19	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	7 (0.5)	XJ-95702-20	

Benchtop Tubing Cutter

Steel blade makes right-angle cuts in plastic tubing 1/16" to 5/8" OD.



Description	Catalog number	Price
Benchtop cutter	XJ-06438-10	
Replacement blade	XJ-06438-11	

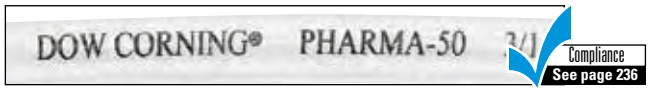
Free Certificate of Compliance

Cole-Parmer will provide a certificate of resin or elastomer compliance FREE at your request with each order of fittings or tubing. Certificates list your company's PO number, order reference number, catalog number, formulation, compound number, lot number (where applicable), and the regulations and agencies the tubing or fitting complies with, including FDA, USP, USDA, National Formulary, NSF International, GMP, and 3A. Look for the blue "check" icon throughout this catalog to identify when a certificate of compliance is available.

FREE certificate of compliance for noted tubing

Dow Corning® Pharma-50 Tubing

No organic additives and low extractables



Compliance
See page 236

Applications: Pharmaceutical, biotechnology, and ultrapure fluid processing.

Characteristics: 50 durometer, translucent platinum-cured silicone tubing with a very low extractable profile. Pharma tubing remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer exceeds test guidelines for USP Class VI Plastics and the tubing itself meets or exceeds FDA (21 CFR 177.2600), 3A Sanitary Standards and European Pharmacopoeia (EP) requirements. Produced under Bulk Pharmaceutical (BP) and current GMP principles.

Temperature range: –60 to 460°F (–51 to 232°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	21 (1.4)	XJ-96105-00	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	16 (1.1)	XJ-96105-02	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	12 (0.8)	XJ-96105-03	
1/4 (6.4)	7/16 (11.1)	3/32 (2.4)	17 (1.2)	XJ-96105-04	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	17 (1.2)	XJ-96105-05	
5/16 (8.0)	1/2 (14.0)	1/8 (3.0)	16 (1.1)	XJ-96105-06	
3/8 (9.6)	9/16 (14.3)	3/32 (2.4)	13 (0.9)	XJ-96105-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	14 (1.0)	XJ-96105-09	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	10 (0.7)	XJ-96105-11	
5/8 (16.0)	7/8 (22.2)	1/8 (3.2)	9 (0.6)	XJ-96105-12	

Cole-Parmer® Platinum-Cured Reinforced Silicone Tubing

Withstands pressures to 312 psi



Compliance
See page 236

Formulation: Tygon® 3370 I. B., silicone, platinum cured.

Applications: Demanding sanitary high-pressure pharmaceutical, biotechnology, food and beverage, and cosmetic applications.

Characteristics: Excellent heat resistance, low compression set, odorless, and nontoxic, translucent.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and USP Class V extractables; exceeds Class VI implant; exceeds 3A Sanitary Standards; produced to Bulk Pharmaceutical cGMPs (FDA 21 CFR 210, 211). Tubing is manufactured according to GMP.

Temperature range: –60 to 320°F (–51 to 160°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Qty/pk	Catalog number	Price/pk
ID	OD	Wall				
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	312 (21.5)	50 ft	XJ-95703-00	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	248 (17.1)	50 ft	XJ-95703-01	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	180 (12.4)	50 ft	XJ-95703-02	
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	168 (11.6)	50 ft	XJ-95703-03	
5/8 (16.0)	15/16 (24.0)	5/32 (4.0)	144 (9.9)	50 ft	XJ-95703-04	
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	144 (9.9)	50 ft	XJ-95703-05	
1 1/4 (31.8)	1 5/8 (41.4)	3/16 (4.8)	96 (6.6)	25 ft	XJ-95703-07	

Find even more online!
Go to ColeParmer.com to see full product details.

Silastic® Laboratory Tubing

Resists bacteria and fungus growth



Compliance
See page 236

Applications: Pharmaceutical, biotech, filtration, and environmental analysis.

Characteristics: Platinum-cured silicone, nonpyrogenic, bacteria and fungus-resistant, extremely low extractables, and does not impart a taste or odor.

Certifications: Exceeds USP Class VI Plastics Test requirements, elastomer and tubing are manufactured under Bulk Pharmaceutical cGMPs in an FDA-registered, ISO-9002-certified facility.

Temperature range: –65 to 480°F (–54 to 249°C)

Sterilize: Autoclave or radiation.

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20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Catalog number	Price/ 50-ft pk
ID	OD	Wall		
0.012 (0.3)	0.025 (0.6)	0.0065 (0.2)	XJ-96115-00	
0.02 (0.5)	0.037 (0.9)	0.0085 (0.22)	XJ-96115-02	
0.025 (0.6)	0.047 (1.2)	0.011 (0.3)	XJ-96115-04	
0.03 (0.8)	0.065 (1.7)	0.0175 (0.4)	XJ-96115-06	
0.04 (1)	0.085 (2.2)	0.0225 (0.6)	XJ-96115-08	
0.058 (1.5)	0.077 (2.0)	0.0095 (0.2)	XJ-96115-10	
0.062 (1.6)	0.095 (2.4)	0.0165 (0.4)	XJ-96115-12	
0.062 (1.6)	0.125 (3.2)	0.0315 (0.8)	XJ-96115-14	
0.078 (2)	0.125 (3.2)	0.0235 (0.6)	XJ-96115-16	
0.104 (2.6)	0.192 (4.9)	0.044 (1.1)	XJ-96115-18	
0.132 (3.4)	0.183 (4.6)	0.0255 (0.6)	XJ-96115-20	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	XJ-96115-22	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	XJ-96115-24	
3/16 (4.8)	3/8 (9.5)	3/32 (2.4)	XJ-96115-26	
1/4 (6.4)	3/8 (9.5)	1/16 (1.6)	XJ-96115-28	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	XJ-96115-30	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	XJ-96115-32	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	XJ-96115-34	
3/8 (9.5)	5/8 (15.9)	1/8 (3.2)	XJ-96115-40	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	XJ-96115-44	

Cole-Parmer® Vinyl Tubing

Ideal for general-purpose applications



Compliance
See page 236

Applications: General-purpose lab use.

Characteristics: Fair chemical and abrasion resistance, odorless, nontoxic and transparent.

Certifications: Tubing is manufactured according to GMP.

Temperature range: –45 to 180°F (–43 to 82°C)

Sterilize: Ethylene oxide.

Cole-Parmer®

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Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Ft/pk	Price/pk
ID	OD	Wall				
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	40 (2.8)	XJ-06405-01	50	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	59 (4.0)	XJ-06405-02	50	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	51 (3.5)	XJ-06405-03	50	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	46 (3.2)	XJ-06405-04	100	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	51 (3.5)	XJ-06405-06	50	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	55 (3.8)	XJ-06405-07	100	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	64 (4.4)	XJ-06405-08	50	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	46 (3.2)	XJ-06405-09	50	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	55 (3.8)	XJ-06405-10	100	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	41 (2.8)	XJ-06405-12	50	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	46 (3.2)	XJ-06405-15	100	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	55 (3.8)	XJ-06405-16	100	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	28 (1.9)	XJ-06405-18	50	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	36 (2.5)	XJ-06405-19	100	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	41 (2.8)	XJ-06405-20	50	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	32 (2.2)	XJ-06405-25	100	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	36 (2.5)	XJ-06405-27	50	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	32 (2.2)	XJ-06405-31	50	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	23 (1.6)	XJ-06405-36	50	
1 1/4 (31.8)	1 3/4 (44.5)	1/4 (6.4)	41 (2.8)	XJ-06405-46	50	

PharMed® BPT Tubing

Protect your light-sensitive samples



Compliance
See page 236

Applications: Cell and tissue culture work and pharmaceutical uses. Also good for light-sensitive samples.

Characteristics: Nontoxic; nonhemolytic; extremely low permeability; resists acids, alkalies, oxidizing agents, and animal and vegetable oils; heat-sealable, bondable, and formable. Opaque beige.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI and NSF (Standard 51) requirements. Meets EP requirements. Tubing is manufactured according to GMP.

Temperature range: –60 to 275°F (–51 to 135°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/50 (0.5)	9/64 (3.7)	1/16 (1.6)	50 (3.4)	XJ-96880-00	
1/32 (0.8)	5/32 (4.0)	1/16 (1.6)	40 (2.8)	XJ-96880-02	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	34 (2.3)	XJ-96880-04	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	19 (1.3)	XJ-96880-06	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13 (0.9)	XJ-96880-08	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10 (0.7)	XJ-96880-10	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	19 (1.3)	XJ-96880-12	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	8 (0.6)	XJ-96880-14	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	13 (0.9)	XJ-96880-16	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	11 (0.8)	XJ-96880-18	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	8 (0.6)	XJ-96880-20	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	7 (0.5)	XJ-96880-22	

Microbore PharMed BPT Tubing

Dimensions: in. (mm)			Fits needle gauge	Catalog number	Price/ 100-ft pk
ID	OD	Wall			
0.010 (0.25)	0.082 (2.08)	0.036 (0.91)	30	XJ-95809-12	
0.020 (0.51)	0.096 (2.44)	0.038 (0.97)	24	XJ-95809-18	
0.035 (0.89)	0.111 (2.82)	0.038 (0.97)	20	XJ-95809-26	
0.045 (1.14)	0.121 (3.07)	0.038 (0.97)	18	XJ-95809-30	
0.051 (1.30)	0.127 (3.23)	0.038 (0.97)	18	XJ-95809-32	
0.056 (1.42)	0.132 (3.35)	0.038 (0.97)	17	XJ-95809-34	
0.060 (1.52)	0.136 (3.45)	0.038 (0.97)	16	XJ-95809-36	
0.073 (1.85)	0.149 (3.78)	0.038 (0.97)	15	XJ-95809-40	

Dow Corning® Pharma-65 Tubing

Resilient for extended service life



Compliance
See page 236

Characteristics: 65 durometer, platinum-cured silicone tubing with a very low extractable profile; it contains no phthalates, plasticizers, latex, or other organic additives. Remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI requirements. Meets 3A Sanitary Standards and European Pharmacopoeia (EP) requirements. Tubing is manufactured according to Bulk Pharmaceutical (BP) and current GMP.

Temperature range: –60 to 460°F (–51 to 232°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	19 (1.3)	XJ-96107-00	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13 (0.9)	XJ-96107-01	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	15 (1.0)	XJ-96107-02	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	20 (1.4)	XJ-96107-04	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	19 (1.3)	XJ-96107-05	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	13 (0.9)	XJ-96107-09	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	11 (0.8)	XJ-96107-11	

Custom Cut Tubing
For details, call **1-800-323-4340**

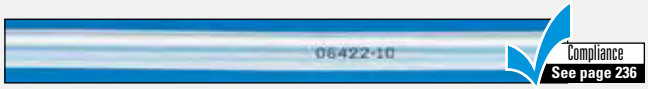
C-Flex® Tubing

Meets the demands of various industries

– Available in three formulations—standard, clear, and animal-derived component-free (ADCF)

Applications: General-purpose lab uses requiring high performance and long life.

Characteristics: Exceptional tensile and tear strength, good biocompatibility, excellent chemical resistance, low gas permeability, and a smooth surface. Standard C-Flex is opaque white; C-Flex Clear and C-Flex ADCF are clear.



Compliance
See page 236

Certifications: Meets USP Class VI. Tubing is manufactured according to GMP.

Temperature range: –50 to 275°F (–45 to 135°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions in. (mm)			C-Flex			C-Flex Clear			C-Flex ADCF		
ID	OD	Wall	Catalog number	Max psi at 70°F (21°C)	Price/ 25-ft pk	Catalog number	Max psi at 70°F (21°C)	Price/ 25-ft pk	Catalog number	Max psi at 70°F (21°C)	Price/ 50-ft pk
1/50 (0.5)	1/12 (2.1)	1/32 (0.8)	XJ-06424-59	30		XJ-06422-00	50		—	—	—
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	XJ-06424-60	31		XJ-06422-01	51		—	—	—
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	XJ-06424-62	15		XJ-06422-02	25		—	—	—
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	XJ-06424-63	14		XJ-06422-03	23		—	—	—
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	XJ-06424-64	10		XJ-06422-04	17		—	—	—
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	XJ-06424-67	21		XJ-06422-05	35		XJ-06432-50	35	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	XJ-06424-65	10		XJ-06422-06	17		—	—	—
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	XJ-06424-66	9		XJ-06422-07	15		—	—	—
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	XJ-06424-03	13		XJ-06422-08	22		XJ-06432-51	22	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	XJ-06424-69	22		XJ-06422-09	36		—	—	—
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	XJ-06424-71	12		XJ-06422-10	20		XJ-06432-53	20	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	XJ-06424-72	17		XJ-06422-11	28		XJ-06432-54	28	
1/4 (6.4)	1/2 (12.7)	1/8 (3.2)	XJ-06424-74	17		XJ-06422-12	28		XJ-06432-55	28	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	XJ-06424-75	10		XJ-06422-13	17		—	—	—
5/16 (8.0)	1/2 (12.7)	3/32 (2.4)	XJ-06424-76	16		XJ-06422-14	27		XJ-06432-56	27	
3/8 (9.6)	1/2 (12.7)	1/16 (1.6)	XJ-06424-12	10		XJ-06422-15	17		XJ-06432-57	17	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	XJ-06424-79	14		XJ-06422-16	23		XJ-06432-59	23	
1/2 (12.7)	11/16 (17.6)	3/32 (2.4)	XJ-06424-19	10		XJ-06422-17	17		XJ-06432-60	17	
1/2 (12.7)	3/4 (19.1)	1/8 (3.2)	XJ-06424-81	10		XJ-06422-18	17		XJ-06432-61	17	

Tygon® Non-DEHP Lab Tubing

Pliable formulation for sharp radius bending



Compliance
See page 236

Formulation: Tygon E-3603

Applications: General lab, food & beverage, biopharm, analytical instruments.

Characteristics: Non-DEHP, phthalate free. Long-life, chemical resistant, nonoxidizing; able to bend to sharp radius curves and easily works with fittings. Transparent.

Certifications: FDA-compliant (21 CFR 175.300); meets USP Class VI and NSF 51 requirements.

Temperature range: –51 to 165°F (–46 to 74°C)

Sterilize: Autoclave or ethylene oxide.

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10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 50- ft pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	69 (4.8)	XJ-06407-70	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	36 (2.5)	XJ-06407-71	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	69 (4.8)	XJ-06407-72	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	25 (1.7)	XJ-06407-73	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	20 (1.4)	XJ-06407-75	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	36 (2.5)	XJ-06407-76	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	17 (1.2)	XJ-06407-77	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	25 (1.7)	XJ-06407-78	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	36 (2.5)	XJ-06407-79	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	20 (1.4)	XJ-06407-80	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	28 (1.9)	XJ-06407-81	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	35 (2.5)	XJ-06407-82	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	17 (1.2)	XJ-06407-83	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	23 (1.6)	XJ-06407-84	
5/16 (8.0)	9/16 (14.4)	1/8 (3.2)	30 (2.1)	XJ-06407-85	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	14 (1.0)	XJ-06407-86	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	20 (1.4)	XJ-06407-87	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	25 (1.7)	XJ-06407-88	
7/16 (11.2)	9/16 (14.4)	1/16 (1.6)	13 (0.9)	XJ-06407-89	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	12 (1.8)	XJ-06407-90	
1/2 (12.8)	11/16 (1.6)	3/32 (2.4)	15 (1.0)	XJ-06407-91	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	20 (1.4)	XJ-06407-92	
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	24 (1.7)	XJ-06407-93	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	13 (0.9)	XJ-06407-94	
5/8 (16.0)	7/16 (11.2)	1/8 (3.2)	17 (1.2)	XJ-06407-95	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	14 (1.0)	XJ-06407-96	
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	20 (1.4)	XJ-06407-97	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	12 (0.8)	XJ-06407-98	
1 (25.4)	1 1/2 (66.8)	1/4 (6.4)	20 (1.4)	XJ-06407-99	

Microbore/Autoanalysis Tubing

Dimensions: in. (mm)			Fits needle gauge	Catalog number	Price/ 100-ft pk
ID	OD	Wall			
0.008 (0.19)	0.080 (2.03)	0.036 (0.91)	33	XJ-06460-10	
0.010 (0.25)	0.082 (2.08)	0.036 (0.91)	30	XJ-06460-12	
0.017 (0.44)	0.093 (2.36)	0.036 (0.91)	26	XJ-06460-16	
0.020 (0.51)	0.096 (2.44)	0.036 (0.91)	24	XJ-06460-18	
0.025 (0.64)	0.101 (2.57)	0.036 (0.91)	23	XJ-06460-22	
0.035 (0.89)	0.111 (2.82)	0.036 (0.91)	20	XJ-06460-26	
0.040 (1.02)	0.116 (2.95)	0.036 (0.91)	19	XJ-06460-28	
0.045 (1.14)	0.121 (3.07)	0.036 (0.91)	18	XJ-06460-30	
0.056 (1.42)	0.132 (3.35)	0.036 (0.91)	17	XJ-06460-34	
0.081 (2.06)	0.157 (3.99)	0.036 (0.91)	14	XJ-06460-42	
0.110 (2.79)	0.186 (4.72)	0.036 (0.91)	12	XJ-06460-48	

Handheld Tubing Cutter

Steel blade coated with PTFE resin produces clean, straight cuts through tubing up to 1 1/4" OD (cuts polyethylene tubing up to 1 1/2" OD). Order carrying pouch and replacement blade separately below.



Description	Catalog number	Price
Handheld tubing cutter	XJ-06438-90	
Tubing cutter pouch	XJ-06438-81	
Replacement blade	XJ-06438-92	

Cole-Parmer® Flexible PVC Tubing

Stop oxidation and bacteria problems



Applications: Food and beverage processing, pharmaceutical, biotech, and general lab applications.

Characteristics: Extremely flexible. Resistant to oxidation, chemicals and bacteria. Transparent.

Certifications: FDA-compliant (21 CFR 175.300) and meets USP Class VI and USDA requirements; meets 3A sanitary standards.

Temperature range: –41 to 165°F (–41 to 74°C)

Sterilize: Ethylene oxide or gamma irradiation.

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Dimensions: in. (mm)			Max psi at 68°F (bar at 20°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	68 (4.7)	XJ-96605-01	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	55 (3.8)	XJ-96605-02	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	55 (3.8)	XJ-96605-03	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	70 (4.8)	XJ-96605-05	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	50 (3.4)	XJ-96605-06	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	40 (2.8)	XJ-96605-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	65 (4.5)	XJ-96605-10	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	30 (2.1)	XJ-96605-11	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	45 (3.1)	XJ-96605-13	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	40 (2.8)	XJ-96605-15	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	35 (2.4)	XJ-96605-16	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	28 (1.9)	XJ-96605-19	
1 1/4 (31.8)	1 3/4 (44.5)	1/4 (6.4)	45 (3.1)	XJ-96605-25	

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Find all the **product specs** you need!

Dow Corning® Pharma-80 Tubing

Economical alternative to reinforced tubing



Compliance
See page 236

Characteristics: 80 durometer, semi-transparent platinum-cured silicone tubing with a very low extractable profile; it contains no phthalates, plasticisers, latex or other organic additives. Pharma tubing is hydrophobic, and remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer exceeds test guidelines for USP Class VI Plastics; tubing itself meets or exceeds FDA (21 CFR 177.2600), 3A Sanitary Standards, and European Pharmacopoeia (EP) requirements. Pharma tubing is produced under Bulk Pharmaceutical (BP) current GMP principals.

Temperature range: –60 to 460°F (–51 to 232°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	249 (17.2)	XJ-96109-00	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	249 (17.2)	XJ-96109-01	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	249 (17.2)	XJ-96109-03	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	260 (17.9)	XJ-96109-05	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	231 (15.9)	XJ-96109-09	

Tygon® High-Purity Reinforced Tubing

Keeps visual track of samples



Formulation: 2475 I.B.

Applications: Pharmaceutical and cosmetic processing, deionized water systems, cell harvest and media process systems, chemical transfer, preservative and sterile fill lines.

Characteristics: Plasticizer free, smooth inner surface (inhibits particulate buildup and bacterial growth), and nontoxic. Transparent.

Certifications: Resin is FDA-compliant (21 CFR 177.1550) and meets NSF criteria and European Pharmocopoeia.

Temperature range: –103 to 130°F (–75 to 54°C)

Sterilize: Ethylene oxide, gamma irradiation.

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10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Ft/ pk	Price/ pk
ID	OD	Wall				
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	150 (10.3)	XJ-95360-50	50	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	135 (9.3)	XJ-95360-51	50	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	125 (8.6)	XJ-95360-52	50	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	120 (8.3)	XJ-95360-53	50	
1 (25.4)	1 3/8 (35.0)	3/16 (4.8)	112 (7.7)	XJ-95360-55	25	

Tygon® High-Purity Tubing

Resists build-up and bacterial growth



Formulation: 2475

Applications: Sensitive fluid transfer applications requiring high purity.

Characteristics: Plasticizer free, smooth inner surface (inhibits particulate buildup and bacterial growth), safely dispose through incineration. Nontoxic. Transparent.

Certifications: Resin is FDA-compliant (21 CFR 177.1520) and meets USP 23 Class VI requirements. Tubing is manufactured according to GMP.

Temperature range: –94 to 125°F (–70 to 52°C)

Sterilize: Ethylene oxide or gamma irradiation.

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15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Ft/ pk	Price/ pk
ID	OD	Wall				
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	49 (3.4)	XJ-95635-50	50	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	27 (1.9)	XJ-95635-51	50	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	19 (1.3)	XJ-95635-52	50	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	16 (1.1)	XJ-95635-53	50	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	13 (0.9)	XJ-95635-54	50	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	11 (0.8)	XJ-95635-55	50	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	15 (1.0)	XJ-95635-56	50	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	13 (0.9)	XJ-95635-57	50	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	11 (0.8)	XJ-95635-58	50	
1 (25.4)	1 3/8 (35.0)	3/16 (4.8)	11 (0.8)	XJ-95635-59	25	

Ratchet Tubing Clamps



06833-00

Durable Celcon® plastic tubing clamps are autoclavable; won't rust, corrode, or distort. Twelve-position ratchet control adjusts from full flow to complete closure. Mini-clamp is suitable for up to 1/8" (2.1 mm) OD tubing. Standard clamp accepts flexible tubing to 1/2" (12.7 mm) OD.

XJ-06833-01 **Mini tubing clamp.** Pack of 25
XJ-06833-00 **Tubing clamp.** Pack of 25

Platinum-Cured Silicone Spools

Cut tubing to your needs



Reduce unpacking time, save money on shipping, and ensure that you always have enough tubing on hand with bulk tubing.

Dimensions in. (mm)		Length per spool	Catalog number	Price
ID	OD			
1/32 (0.8)	3/32 (2.4)	500 ft (152 m)	XJ-98906-00	
1/16 (1.6)	1/8 (3.2)		XJ-98906-02	
1/8 (3.2)	1/4 (6.4)	300 ft (91 m)	XJ-98906-04	
3/16 (4.8)	5/16 (8.0)		XJ-98906-06	
1/4 (6.4)	3/8 (9.6)		XJ-98906-08	
3/8 (9.6)	5/8 (16.0)		XJ-98906-10	
5/8 (16.0)	7/8 (22.4)		XJ-98906-12	

Tygon® Microbore Autoanalysis Tubing

Clear to easily view sample



Formulation: ND-100-80

Applications: General laboratory and pharmaceutical use, especially with precision injection or dispensing applications. Also excellent with low-flow peristaltic pump applications.

Characteristics: Extremely flexible. Nontoxic; nonpyrogenic; biocompatible. Crystal clear.

Certifications: FDA-compliant. Resin meets USP Class VI requirements. Tubing is manufactured according to GMP.

Temperature range: –25 to 185°F (–31 to 85°C)

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

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15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Fits needle gauge	Catalog number	Price/ 100-ft
ID	OD	Wall			
0.010 (0.25)	0.030 (0.76)	0.010 (0.25)	30	XJ-06419-00	
0.020 (0.51)	0.060 (1.52)	0.020 (0.51)	25	XJ-06419-01	
0.030 (0.76)	0.090 (2.29)	0.030 (0.76)	20 to 21	XJ-06419-03	
0.040 (1.02)	0.070 (1.78)	0.015 (0.38)	18 to 19	XJ-06419-04	
0.050 (1.27)	0.090 (2.29)	0.020 (0.51)	17 to 18	XJ-06419-05	

XJ-06418-10 **Tygon® microbore tubing assortment pack.** One 100-ft (30.4-m) roll of 06418-01, -02, -03, -04, and -05 (500-ft [152.4-m] total) . . . . . .

Viton® Tubing

Worry-free acid transfer



Compliance
See page 236

Applications: Acid and solvent transfer; high-temperature work.

Characteristics: Opaque black.

Certifications: Tubing is manufactured according to GMP.

Temperature range: 8 to 400°F (–13 to 204°C)

Sterilize: Not recommended.

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20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

ISO 9001:2008 CERTIFIED SUPPLIER

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	23 (1.6)	XJ-06434-01	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	21 (1.4)	XJ-06434-02	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	19 (1.3)	XJ-06434-03	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	17 (1.2)	XJ-06434-04	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	20 (1.4)	XJ-06434-05	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	18 (1.2)	XJ-06434-06	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	16 (1.1)	XJ-06434-07	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	17 (1.8)	XJ-06434-08	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	15 (1.0)	XJ-06434-09	

Cole-Parmer® PFA Tubing

Withstands highly corrosive materials



Compliance
See page 236

Applications: Demanding lab, chemical, electrical, mechanical, pharmaceutical, and automotive applications. For the transfer of high-temperature or highly corrosive materials. Also good for high-purity work.

Characteristics: Chemically inert, nontoxic, and virtually nonporous. Excellent crack- and stress-resistance. Low coefficient of friction. Translucent.

Certifications: Resin is FDA-compliant (21 CFR 177.1550). Tubing is manufactured in ISO 9001-2008 approved facility.

Temperature range: –320 to 500°F (–195 to 260°C)

Sterilize: Autoclave, ethylene oxide, or dry heat.

Cole-Parmer®

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20% off on 20+ **15%** off on 10 to 19 **10%** off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/32 (0.8)	1/16 (1.6)	1/64 (0.4)	600 (41.4)	XJ-06371-00	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	592 (40.8)	XJ-06375-01	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	471 (32.5)	XJ-06371-01	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	385 (26.5)	XJ-06371-02	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	600 (41.4)	XJ-06371-21	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	421 (29.0)	XJ-06375-02	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	280 (19.3)	XJ-06371-03	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	471 (32.5)	XJ-06371-22	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	220 (15.2)	XJ-06371-04	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	388 (26.8)	XJ-06375-05	
19/64 (7.5)	3/8 (9.6)	5/128 (1.0)	229 (15.8)	XJ-06371-23	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	180 (12.4)	XJ-06371-05	
5/16 (8.0)	7/16 (11/2)	1/16 (1.6)	324 (22.3)	XJ-06371-24	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	283 (19.5)	XJ-06375-07	
2/5 (10.2)	1/2 (12.8)	1/20 (1.2)	220 (9.5)	XJ-06371-25	
7/16 (11/2)	1/2 (12.8)	1/32 (0.8)	133 (9.2)	XJ-06371-07	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	220 (15.2)	XJ-06371-26	
5/8 (16.0)	3/4 (19.0)	1/16 (1.6)	150 (10.3)	XJ-06375-08	
11/16 (17.5)	3/4 (19.0)	1/32 (0.8)	87 (6.0)	XJ-06371-28	
3/4 (19.0)	7/8 (22.2)	1/16 (1.6)	153 (10.5)	XJ-06371-29	

Cole-Parmer® PTFE Tubing

Won't crack under heat or pressure



Compliance
See page 236

Applications: Demanding lab, chemical, electrical, mechanical, and pharmaceutical applications. High-purity work. Extreme temperatures.

Characteristics: Chemically inert, nontoxic, and virtually nonporous. Excellent crack- and stress-resistance. Low coefficient of friction. Translucent.

Certifications: Resin is FDA-compliant (21 CFR 177.1550).

Temperature range: –400 to 500°F (–240 to 260°C)

Sterilize: Autoclave, ethylene oxide, or dry heat.

Cole-Parmer®

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20% off on 20+ **15%** off on 10 to 19 **10%** off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/32 (0.8)	1/16 (1.6)	1/64 (0.4)	370 (25.5)	XJ-06407-41	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	370 (25.5)	XJ-06605-27	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	294 (20.3)	XJ-06605-28	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	240 (16.5)	XJ-06605-29	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	375 (25.9)	XJ-06605-30	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	274 (18.9)	XJ-06605-31	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	175 (12.1)	XJ-06605-32	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	294 (20.3)	XJ-06605-33	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	137 (9.4)	XJ-06605-34	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	240 (16.5)	XJ-06605-35	
19/64 (7.5)	3/8 (9.6)	1/25 (1.0)	143 (9.9)	XJ-06605-36	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	113 (7.8)	XJ-06605-37	
3/8 (9.6)	7/16 (11.2)	1/32 (0.8)	96 (6.6)	XJ-06605-39	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	175 (12.1)	XJ-06605-40	
2/5 (10.2)	1/2 (12.8)	1/20 (1.4)	137 (9.4)	XJ-06605-41	
7/16 (11.2)	1/2 (12.8)	1/32 (0.8)	83 (5.7)	XJ-06605-42	
1/2 (12.8)	9/16 (14.3)	1/32 (0.8)	73 (5.0)	XJ-06605-44	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	137 (9.4)	XJ-06605-45	
9/16 (14.3)	5/8 (16.0)	1/32 (0.8)	66 (4.6)	XJ-06605-46	
5/8 (16.0)	11/16 (17.5)	1/32 (0.8)	59 (4.1)	XJ-06605-48	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	113 (7.8)	XJ-06605-49	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	96 (6.6)	XJ-06605-51	

Tygon® Ultra Chemical-Resistant Tubing

Won't allow particulate build-up



Formulation: Tygon 2375

Applications: For use with highly aggressive chemicals—acids, bases, ketones, salts, and alcohols.

Characteristics: Plasticizer free, smoother inner surface (inhibits particulate build-up), hydrophobic, minimal outgassing, safe disposal via incineration, and nontoxic. Transparent.

Certification: FDA-(21 CFR 177.1550) and REACH-compliant. Meets NSF 51 Standard.

Temperature range: –108 to 130°F (–78 to 54°C)

Sterilize: Ethylene oxide or gamma irradiation.

Buy More...Save More!
20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/16 (1.6)	1/8 (3.2)	1/32 0.8)	33 (2.8)	XJ-95630-10	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	55 (3.8)	XJ-95630-11	
3/32 (2.4)	5/32 (4.0)	1/32 0.8)	22 (1.5)	XJ-95630-12	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	33 (2.8)	XJ-95630-13	
5/32 (4.0)	7/32 (5.5)	1/32 0.8)	16 (1.1)	XJ-95630-14	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	22 (1.5)	XJ-95630-15	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	19 (1.3)	XJ-95630-16	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	16 (1.1)	XJ-95630-17	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	14 (1.0)	XJ-95630-18	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	24 (1.6)	XJ-95630-19	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	19 (1.3)	XJ-95630-20	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	16 (1.1)	XJ-95630-21	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	14 (1.1)	XJ-95630-22	
1 (25.4)	1 3/8 (35.0)	3/16 (4.8)	15 (1.0)	XJ-95630-23	

Tygon® Non-DEHP Tubing

Drains completely



Formulaton: Tygon ND-100-65

Characteristics: Non-DEHP, phthalate free. Non-wetted surface permits complete drainage. Bondable, weldable. Clear.

Certifications: USP Class VI, REACH, ISO 10993

Temperature range: -44 to 165°F (-42 to 74°C)

Sterilize: Autoclave, ethylene oxide, or irradiation.

Buy More...Save More!
20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	100 (6.9)	XJ-95666-00	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	55 (3.8)	XJ-95666-01	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	40 (2.8)	XJ-95666-03	
3/32 (2.4)	7/32 (5.6)	1/16 (1.6)	70 (4.8)	XJ-95666-04	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	30 (2.1)	XJ-95666-05	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	55 (3.8)	XJ-95666-06	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	25 (1.7)	XJ-95666-07	
5/32 (4.0)	9/32 (7.1)	1/16 (1.6)	45 (4.3)	XJ-95666-08	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	20 (1.4)	XJ-95666-09	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	40 (2.8)	XJ-95666-10	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	55 (3.8)	XJ-95666-11	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	30 (2.1)	XJ-95666-14	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	45 (1.7)	XJ-95666-15	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	55 (3.8)	XJ-95666-16	
3/8 (9.6)	9/16 (14.3)	3/32 (2.4)	30 (2.1)	XJ-95666-21	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	40 (2.8)	XJ-95666-22	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	25 (1.7)	XJ-95666-27	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	30 (2.1)	XJ-95666-28	

Cole-Parmer® PTFE Microbore Tubing

Minimize friction, maximize chemical resistance

Compliance
See page 236



Use this translucent tubing in extreme temperatures and in harsh chemical environments. It's chemically inert, has low permeability, and has the lowest friction coefficient of any tubing. Temperature range is –400 to 500°F (–240 to 260°C); melts at 620°F (327°C). Tensile strength is 2500 to 4000 psi. PTFE tubing resin is UL-recognized and complies with FDA (21 CFR 177.1550) and USP Class VI requirements.

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20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Cole-Parmer®

Dimensions			Fits needle gauge	Catalog number	Price/ 100 ft
ID	OD	Wall			
Ultramicrobore PTFE tubing (finer than a human hair)					
0.002"	0.014"	0.006"	44	XJ-06417-70	
0.004"	0.016"	0.006"	38	XJ-06417-72	
0.006"	0.016"	0.005"	34	XJ-06417-74	
0.008"	0.016"	0.004"	33	XJ-06417-76	
Microbore PTFE tubing					
0.012"	0.030"	0.009"	30	XJ-06417-11	
0.022"	0.042"	0.010"	24	XJ-06417-21	
0.032"	0.056"	0.012"	21	XJ-06417-31	
0.042"	0.066"	0.012"	18	XJ-06417-41	
0.052"	0.076"	0.012"	16	XJ-06417-51	

XJ-06417-60 **Microbore tubing assortment pack.** One 100-ft (30.4-m) roll each of 06417-11, -21, -31, -41, and -51 (500-ft [152.4-m] total). . . . . .

Cole-Parmer® Corrugated FEP Tubing

No kinks or distortion



Compliance
See page 236

High flexibility and excellent chemical resistance. Corrugations prevent kinking and help tubing retain its shape without limiting pressure or vacuum abilities. Simply cut this custom-extruded tubing to desired length. Sold in 5-ft lengths; each length has alternating sections of corrugated (10"L) and noncorrugated (2"L) tubing, with noncorrugated 1"L sections at both ends. Temperature range: –300 to 400°F (–184 to 205°C). Withstands 27" Hg vacuum.

Cole-Parmer®

Cuff ID	Cuff OD	Wall	Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 5-ft length*
Tubing compatible with barbed fittings					
1/4"	9/32"	1/64"	250 (17.2)	XJ-06407-50	
3/8"	13/32"	1/32"	200 (13.8)	XJ-06407-52	
Tubing compatible with compression fittings					
7/32"	1/4"	1/64"	250 (17.2)	XJ-06407-60	
21/64"	3/8"	1/32"	200 (13.8)	XJ-06407-62	
29/64"	1/2"	1/32"	170 (11.7)	XJ-06407-64	
11/16"	3/4"	1/32"	120 (8.3)	XJ-06407-66	

***Discounts:** Save 10% on 10 to 49, 15% on 50 to 99, and 20% on 100 5-ft lengths or more.

Cole-Parmer® FEP Tubing

Does not deteriorate with age



Compliance
See page 236

Applications: Demanding lab, chemical, electrical, mechanical, pharmaceutical, and automotive applications. Excellent for the transfer of extreme temperature or highly corrosive materials. Also good for high-purity work.

Characteristics: Chemically inert, nontoxic, heat resistant, with a low coefficient of friction. Doesn't deteriorate with age. Tough, but bends even at –454°F (–270°C). Translucent.

Certifications: Resin is FDA-compliant (21 CFR 177.1550). Tubing is manufactured in ISO 9001-2008 approved facility.

Temperature range: –454 to 400°F (–270 to 205°C)

Sterilize: Autoclave, ethylene oxide, or dry heat.

Buy More...Save More!
20% off on 20+ **15%** off on 10 to 19 **10%** off on 4 to 9 packs

Cole-Parmer®

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/32 (0.8)	1/16 (1.6)	1/64 (0.4)	500 (34.5)	XJ-06406-60	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	444 (30.6)	XJ-06406-62	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	353 (24.3)	XJ-06406-63	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	289 (19.9)	XJ-06406-64	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	450 (31.0)	XJ-06450-05	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	329 (22.7)	XJ-06450-04	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	209 (14.4)	XJ-06406-66	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	353 (24.3)	XJ-06450-06	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	150 (10.3)	XJ-06406-72	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	288 (19.9)	XJ-06450-07	
19/64 (7.5)	3/8 (9.6)	5/128 (1.0)	172 (11.9)	XJ-06450-02	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	140 (9.7)	XJ-06406-74	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	243 (16.8)	XJ-06450-08	
3/8 (9.6)	7/16 (11.2)	1/32 (0.8)	110 (7.6)	XJ-06406-12	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	210 (14.5)	XJ-06450-09	
7/16 (11.1)	1/2 (12.8)	1/32 (0.8)	102 (7.0)	XJ-06406-76	
7/16 (11.1)	9/16 (14.3)	1/16 (1.6)	185 (12.8)	XJ-06450-14	
1/2 (12.8)	9/16 (14.3)	1/32 (0.8)	88 (6.1)	XJ-06406-18	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	165 (11.4)	XJ-06450-15	
5/8 (16.0)	11/16 (17.5)	1/32 (0.8)	71 (4.9)	XJ-06450-00	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	135 (9.3)	XJ-06450-17	
11/16 (17.5)	3/4 (19.1)	1/32 (0.8)	65 (4.5)	XJ-06450-01	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	115 (7.9)	XJ-06450-19	

Tygon® FEP-Lined Tubing

Keep samples free of odors and taste



Formulation: Tygon SE-200

Applications: Chemical and pharmaceutical processing, beverage dispensing, paint and solvent production, semiconductor processing.

Characteristics: Bio-based, phthalate-free. Flexible, chemically resistant, inert, non-contaminating. Odorless, nontoxic, and taste free. Clear.

Certifications: FDA-compliant (21 CFR 177.1550) for contact food products.

Temperature range: –49 to 165°F (–45 to 74°C)

Sterilize: Ethylene oxide.

Buy More...Save More!
20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Price/ 50-ft pk
ID	OD	Wall			
1/16 (1.5)	1/8 (3.2)	1/32 (0.7)	100 (6.9)	XJ-95713-50	
1/8 (3.2)	1/4 (6.4)	1/16 (1.5)	85 (5.9)	XJ-95713-00	
3/16 (4.8)	5/16 (8.0)	1/16 (1.5)	75 (5.2)	XJ-95713-10	
1/4 (6.4)	3/8 (9.6)	1/16 (1.5)	55 (3.8)	XJ-95713-20	
3/8 (9.6)	9/16 (14.4)	3/32 (2.3)	50 (3.4)	XJ-95713-30	
1/2 (12.8)	3/4 (19.1)	1/8 (3.1)	45 (3.1)	XJ-95713-41	
3/4 (19.0)	1 (25.4)	1/8 (3.1)	30 (2.1)	XJ-95713-60	

Tubing Accessories

Handheld Tubing Cutter

Steel blade coated with PTFE resin produces clean, straight cuts through tubing up to 1 1/4" OD (cuts polyethylene tubing up to 1 1/2" OD). Order carrying pouch and replacement blade separately below.



XJ-06438-90 Handheld tubing cutter
XJ-06438-81 Tubing cutter pouch
XJ-06438-92 Replacement blade for handheld tubing cutter 06438-90

Benchtop Tubing Cutter

Steel blade makes right-angle cuts in plastic tubing 1/16" to 5/8" OD.



XJ-06438-10 Benchtop cutter
XJ-06438-11 Replacement blade

Stainless Steel Hose Clamps



SS strap and screw housing with a steel screw. Band-type worm drive.

Clamp diameter		Catalog number	Price/ pk of 10*
Min	Max		
7/32"	5/8"	XJ-06403-11	
11/16"	1 1/4"	XJ-06403-12	
13/16"	1 3/4"	XJ-06403-13	
1 1/16"	2"	XJ-06403-14	
1 5/16"	2 1/4"	XJ-06403-15	
2"	2 3/4"	XJ-06403-16	
2 3/4"	3 1/2"	XJ-06403-21	
3 1/2"	4 3/8"	XJ-06403-22	
4 3/8"	5 1/8"	XJ-06403-23	
5 1/8"	5 7/8"	XJ-06403-24	
5 1/2"	6 1/4"	XJ-06403-25	

***Discounts:** Save 10% on 5–24 pks, 15% on 25–99 pks, and 20% on 100+ pks.

Plastic Clamp Ties



Perfect for flexible fuel line, water line, and vacuum line applications. Special curved clamp tie head ensures a tight seal. Ties measure 8"L x 0.18"W; maximum diameter of 1 3/4". Black resin resists UV degradation.

XJ-95615-00 Clamp ties, white. 100/pk
XJ-95615-10 Clamp ties, black. 100/pk

Cole-Parmer® Plastic Hose Clamps and Kits

Reusable white acetal copolymer clamps will not rust or corrode. Recommended for continuous use from ambient temperature to 200°F (93°C). Clamps are nonconducting and stable in a wide variety of chemicals.

Once set, clamps stay put. To use, just position clamp on hose or tubing bundle and press the jaws together with a pair of pliers. Order clamps individually or in a handy kit.



Cole-Parmer®

Inside diameter				Catalog number	Qty/pk	Price/ pk**
Decimal inches		Millimeters				
Min	Max	Min	Max			
0.228	0.256	5.8	6.5	XJ-06832-01	100	
0.269	0.291	6.8	7.4	XJ-95614-00	100	
0.307	0.342	7.8	8.7	XJ-06832-03	100	
0.351	0.394	8.9	10.0	XJ-06832-02	100	
0.387	0.440	9.8	11.2	XJ-95614-01	100	
0.404	0.452	10.3	11.5	XJ-06832-04	100	
0.449	0.511	11.4	13.0	XJ-06832-06	100	
0.513	0.586	13.0	14.9	XJ-06832-08	100	
0.569	0.650	14.5	16.5	XJ-06832-10	100	
0.616	0.707	15.7	18.0	XJ-06832-12	100	
0.702	0.801	17.8	20.4	XJ-06832-14	100	
0.759	0.848	19.3	21.5	XJ-06832-16	100	
0.779	0.899	19.8	22.8	XJ-06832-18	100	
0.859	0.989	21.8	25.1	XJ-06832-20	100	
0.928	1.072	23.6	27.2	XJ-06832-22	100	
0.985	1.135	25.0	28.8	XJ-06832-24	100	
1.123	1.296	28.5	32.9	XJ-06832-28	50	
1.218	1.405	30.9	35.7	XJ-06832-32	50	

****Discounts:** Save 10% on 4–19 pks, 15% on 20–79 pks, and 20% on 80+ pks.

XJ-06832-99 White acetal copolymer hose-clamp kit includes 170 assorted clamps from 0.228" to 1.405" ID.

Your Complete Source for **Fluid Handling** Products



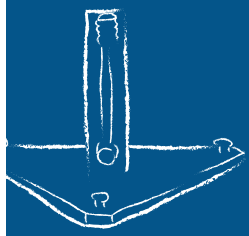
Get Pumping: >2300 Pumps



See it Through: >170 Tubing Formulations plus Custom Cut Sizes



The Right Fit: 4500+ Fitting Options



In the Flow: More than 3200 Flowmeter Options



Pressure Relief: Select from 3000+ Pressure Gauges



Control your Flow: More than 1000 Valves

MORE ONLINE ColeParmer.com

Cole-Parmer® Waterproof Turbidity Meter

Achieve more accurate readings across entire range

- Sealed optical system with infrared light for higher accuracy
- Meets performance criteria as specified by ISO 7027 (DIN EN 27027) method
- Get full-range accuracy with 4-point push-button calibration
- Autoranging from 0 to 1000 nephelometric turbidity units (NTU)
- Waterproof and dustproof with IP67-rated housing that floats



The Cole-Parmer turbidity meter is easy to calibrate—meter automatically prompts you to the next calibration standard. Large custom LCD displays reading and units of measure. Other features include diagnostic error messages and auto off.

What's included: primary standards, cuvettes, hard carrying case, and four AA batteries.

Cole-Parmer®

Specifications

Range: 0 to 1000 NTU
Resolution: 0.01, 0.1, 1 NTU
Accuracy: ±2% of reading from 0 to 500 NTU; ±3% of reading from 500 to 1000 NTU
Light source: infrared LED
Sample volume: 10 mL
Response time: <6 seconds
Data logging capabilities: none
Output: none

Description	Power	Catalog number	Price
Waterproof turbidity meter	Four AA batteries (included)	XJ-59200-70	

Accessories

XJ-35635-52 **Replacement calibration set.** Includes 4 x 60 mL bottles of 0.02, 20, 100 and 800 NTU standards
XJ-35653-55 **Cuvettes.** Pack of 3
XJ-09376-01 **Replacement batteries,** AA. Pack of 4

Hach® 2100Q Portable Turbidity Meter

No more difficult calibrations

- Meets or exceeds design and performance criteria as specified in US EPA method 180.1
- Eliminate guesswork or duplicate runs with the innovative Rapidly Settling Turbidity™ (RST)—allows for accurate and repeatable measurement of rapidly settling samples
- Customizable power and connectivity options for added versatility



This portable turbidity meter features a unique optical system that compensates for potential interferences. Intuitive user interface prompts you during calibration and verification for hassle-free setup.

Additional meter features include 23 preprogrammed menu languages, time-and-date stamped readings, and closed cap control eliminating stray light interference.

What's included: StablCal™ primary calibration standards in sealed vials (20, 100, 800 NTU), six sample cells, 10 NTU primary verification standard, silicone oil, oiling cloth, batteries, and carrying case.

ISO 9001:2008 CERTIFIED SUPPLIER

Specifications

Range: 0 to 1000 NTU
Resolution: 0.01 NTU on lowest range
Accuracy: ±2% of reading
Light source: tungsten filament lamp
Photodetector: silicon photodiode
Sample volume: 10 mL
Sample cell size: 60 mm H x 25 mm dia
Response time: mode dependent
Data logging capabilities: 500 points
Output: optional USB

Description	Power	Catalog number	Price
2100Q portable turbidity meter	Four AA batteries (included) or 100 to 230 VAC, 50/60 Hz (with optional power module)	XJ-99511-10	

Accessories

XJ-99511-13 **Power module** with USB output; 100 to 230 VAC, 50/60 Hz
XJ-99511-14 **Power module;** 100 to 230 VAC, 50/60 Hz
XJ-99511-20 **Replacement StablCal calibration standards.** Includes one sealed vial each of 20, 100, 800 NTU
XJ-99511-21 **Replacement 10 NTU verification standard**
XJ-99512-75 **Replacement silicone oil,** 15 mL
XJ-99511-55 **Replacement sample cells.** Pack of 6
XJ-99512-68 **Degassing kit**

Search
For turbidity standard solutions, go to…
ColeParmer.com

General-Purpose Tweezers and Forceps,

Stainless Steel (SS) and Plastic

Get a more precise grip

Buy More...Save More!
20% off on 120+
15% off on 30 to 119
10% off on 6 to 29 packs or cases

SS Tweezers,
straight tips and finger serrations.



Length	Catalog number	Qty/ pk	Price/pk
7"	XJ-07288-04	12	

SS Straight: Thick, Flat Strong Tips,
serrated tips and grips. Style OOD.



Length	Catalog number	Qty/ pk	Price/pk
4¾"	XJ-07287-03	1	

SS Self-Locking Tweezers,
straight narrow tips.



Length	Catalog number	Qty/ pk	Price/pk
4¼"	XJ-07288-01	12	

SS Tweezers,
smooth spade tips.



Length	Catalog number	Qty/ pk	Price/pk
4¼"	XJ-07288-07	12	

SS Solder Utility Tweezers,
curved tips and finger serrations.



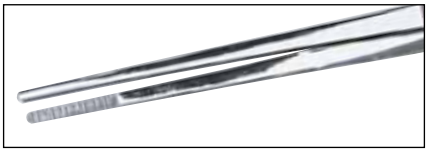
Length	Catalog number	Qty/ pk	Price/pk
7"	XJ-07288-03	12	

SS Tweezers,
curved serrated tips.



Length	Catalog number	Qty/ pk	Price/pk
4¼"	XJ-07288-05	12	

SS Forceps,
straight serrated tips.



Length	Catalog number	Qty/ pk	Price/pk
6"	XJ-07288-12	1	
12"	XJ-07288-14	1	

SS Forceps,
plastic-coated rounded tips.



Length	Catalog number	Qty/ pk	Price/pk
12"	XJ-07288-10	1	

PTFE-Covered Nickel-Plated Forged Steel Forceps are heat and chemical resistant. **Autoclavable.**



Length	Catalog number	Qty/ pk	Price/pk*
4¼"	XJ-06440-00	2	

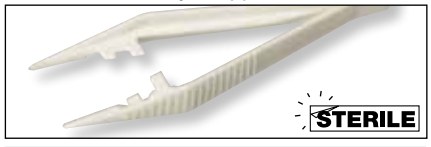
*Quantity discount does not apply.

Reinforced Nylon Forceps have corrugated handles, serrated blades, and rounded tips. **Autoclavable.** Sterile—individually wrapped.



Sterile	Length	Catalog number	Qty/ pk	Price/pk
No	4⅞"	XJ-06443-15	100	
Yes	4⅞"	XJ-06443-26	100	

Nylon Forceps feature corrugated handles and serrated blades. **Autoclavable.** Sterile—individually wrapped.



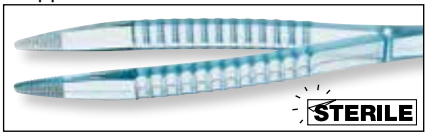
Sterile	Length	Catalog number	Qty/ pk	Price/pk
No	4¼"	XJ-06443-25	100	
Yes	4¼"	XJ-06443-27	70	

PA (Polyamide) Tweezers,
rounded tips.



Length	Catalog number	Qty/ pk	Price/pk
7"	XJ-06446-20	1	

Polystyrene Disposable Sterile Forceps feature corrugated handles and rounded serrated tips. Sterile—come individually wrapped.



Length	Catalog number	Qty/ pk	Price/pk*
4⅞"	XJ-06443-20	100	

*Quantity discount does not apply.

Plastic Curved: Smooth Rounded Tips 2AB



Length	Catalog number	Qty/ pk	Price/pk
4½"	XJ-07290-06	12	

Plastic Curved: Very Fine and Smooth Tips 7-STD



Length	Catalog number	Qty/ pk	Price/pk
4½"	XJ-07290-08	12	

Cole-Parmer® Ultrasonic Cleaners

Quicker cleaning and degassing of samples

- High-frequency sound waves provide greater cleaning and reliability
- Gentle cleaning with 40 kHz sound waves won't damage delicate items
- Durable, leakproof design for worry-free cleaning

Basic Ultrasonic Cleaners

- Set timer and don't worry—control cleaning cycles up to 60 minutes
- Get better cleaning with optional heater models—heat to 156°F (69°C) with overtemperature protection

Advanced Ultrasonic Cleaners

- Easily control your precise applications—feature digital timer, power tracking, sleep, and degas mode
- Worry-free processes—set timer for up to 90 minutes, unit automatically compensates for heavier loads
- Get deeper cleaning with optional heater option



08895-43

Cole-Parmer®

Capacity gal. (L)	Tank dimensions (L x W x H)	Power (50/60 Hz)	Basic cleaner with mechanical timer			Basic cleaner with mechanical timer and heater			Advanced cleaner with digital timer, power tracking, and degas			Advanced cleaner with digital timer, power tracking, high/low power, degas and heater		
			Amps	Cat. no.	Price	Amps	Cat. no.	Price	Amps	Cat. no.	Price	Amps	Cat. no.	Price
½ (1.9)†	6" x 5½" x 4" (15.2 x 14 x 10.2 cm)	115 VAC	0.8	XJ-08895-21		1.2	XJ-08895-23		0.8	XJ-08895-25		1.3	XJ-08895-27	
		230 VAC	0.4	XJ-08895-29		0.7	XJ-08895-31		0.4	XJ-08895-33		0.7	XJ-08895-35	
¾ (2.8)†	9½" x 5½" x 4" (24.1 x 14 x 10.2 cm)	115 VAC	1.1	XJ-08895-37		2	XJ-08895-39		1.1	XJ-08895-41		2	XJ-08895-43	
		230 VAC	0.6	XJ-08895-45		1.1	XJ-08895-47		0.6	XJ-08895-49		1.1	XJ-08895-51	
1½ (5.7)‡	11½" x 6" x 6" (29.2 x 15.2 x 15.2 cm)	115 VAC	1.1	XJ-08895-53		2.9	XJ-08895-55		1.1	XJ-08895-57		2.9	XJ-08895-59	
		230 VAC	0.6	XJ-08895-61		1.5	XJ-08895-63		0.6	XJ-08895-65		1.6	XJ-08895-67	
2½ (9.5)‡	11½" x 9½" x 6" (29.2 x 24.1 x 15.2 cm)	115 VAC	1.5	XJ-08895-69		4	XJ-08895-71		1.5	XJ-08895-73		4.1	XJ-08895-75	
		230 VAC	0.8	XJ-08895-77		2.1	XJ-08895-79		0.8	XJ-08895-81		2.1	XJ-08895-83	
5½ (20.8)‡	19½" x 11" x 6" (49.5 x 27.9 x 15.2 cm)	115 VAC	2.7	XJ-08895-85		7.7	XJ-08895-87		2.7	XJ-08895-89		7.8	XJ-08895-91	
		230 VAC	1.4	XJ-08895-93		4	XJ-08895-95		1.4	XJ-08895-97		4	XJ-08895-99	

†The ½- and ¾-gallon cleaners have a pour spout. ‡The 1½-, 2½-, and 5½-gallon cleaners have a built-in pour drain.

Cole-Parmer® SS Ultrasonic Cleaners

Stainless steel durability at a great price

NEW



- Multiple power settings handle both normal or delicate cleaning
- Degas mode for improved cleaning efficiency and easy sample prep
- Timed operation from 1 to 99 minutes or continuous
- Adjustable heating to 176°F (80°C) for deeper cleaning

Cole-Parmer ultrasonic cleaners are extremely effective at removing dirt and grime which would normally require tedious manual cleaning. The 40 kHz high-frequency ultrasonic wave vibrations create microscopic bubbles that implode violently causing the cavitation which creates an intense scrubbing action on the surface of the item being cleaned. The microscopic nature of the bubbles ensures that even the tiniest crevices will be cleaned thoroughly. These units can clean almost any nonporous item that can normally be immersed in water.

These stainless steel cleaners feature a bright LED display for time and temperature and easy push-button control. Sturdy rubber feet prevent movement while in use, handles allow easy portability, and the larger sizes (6 liter and above) have external drains for easy replenishment of cleaning solutions.

What's included: lid, mesh basket, outlet filter, and power cord with plug.

Cole-Parmer®

Capacity gal. (L)	Tank dimensions (L x W x H)	Overall dimensions (L x W x H)	Power (VAC, Hz)	Catalog number	Price
0.5 (2)	5 15/16" x 5½" x 3 15/16" (15 x 14 x 10 cm)	7½" x 6 11/16" x 8 11/16" (19 x 17 x 22 cm)"	120, 60 240, 50	XJ-08895-01 XJ-08895-03	
0.75 (3)	9 7/16" x 5½" x 3 15/16" (24 x 14 x 10 cm)	10 5/8" x 6 11/16" x 9 7/16" (27 x 17 x 24 cm)"	120, 60 240, 50	XJ-08895-05 XJ-08895-07	
1.5 (6)	11 13/16" x 6⅛" x 5 15/16" (30 x 15.5 x 15 cm)	13" x 7 1/16" x 12 3/16" (33 x 18 x 31 cm)"	120, 60 240, 50	XJ-08895-09 XJ-08895-11	
2.5 (9)	11 13/16" x 9 7/16" x 5 15/16" (30 x 24 x 15 cm)"	13" x 10 7/16" x 12 3/16" (33 x 27 x 31 cm)"	120, 60 240, 50	XJ-08895-13 XJ-08895-15	
3.5 (13)	13" x 11 13/16" x 5 15/16" (33 x 30 x 15 cm)	14 3/16" x 13" x 12 3/16" (36 x 33 x 31 cm)"	120, 60 240, 50	XJ-08895-17 XJ-08895-19	
5.25 (20)	19 11/16" x 11 13/16" x 5 15/16" (50 x 30 x 15 cm)"	21 11/16" x 13" x 12 3/16" (55 x 33 x 31 cm)"	120, 60 240, 50	XJ-08895-72 XJ-08895-74	
7.25 (27)	19 11/16" x 11 13/16" x 7⅞" (50 x 30 x 20 cm)"	21 11/16" x 13" x 14 3/16" (55 x 33 x 36 cm)"	120, 60 240, 50	XJ-08895-76 XJ-08895-78	

Cole-Parmer® Air Cadet® Vacuum/Pressure Pumps

Get better results with minimal dead space

- Minimizes dead space and air entrapment with unique cavity configuration
- No maintenance needed—AC motors are brushless with sealed ball bearings
- Worry-free pumping with reduced stress, wear, and heat buildup



A–B. Single- and Dual-Head Pumps

- Handle tough applications easily
- Increase your capacity with dual-head models independently pumping or connected in series
- Easy shut-off with power switch on all models except 07532-65

What's included: PTFE thread tape and polyethylene ⅜" NPT(M) x ⅜" hose barb adapters.

C. Vacuum/Pressure Stations

- Increase productivity—evacuate or pressurize two systems simultaneously with auxiliary port
- Get control with built-in bronze and brass gauge and stainless steel regulator

What's included: PTFE thread tape, two polyethylene ⅜" NPT(M) x ⅜" hose barb adapters, and one polyethylene ¼" NPT(M) x ⅜" hose barb adapter (for auxiliary port).

D. OEM Vacuum/Pressure Pumps

- Get long, reliable operation—continuous operation up to 18 psi for 4000 service hours
- Provides pumping with minimal stress and heat buildup

ISO 9001:2008 CERTIFIED SUPPLIER

RUNS DRY

Free-air capacity cfm (LPM)	Max vacuum " Hg (Torr)	Max pressure psi (bar)	Wetted parts	Noise rating	Port size	Power	Catalog number	Price
A. Single-head pumps								
0.54 (15.5)	20 (508)	18 (1.24)	Noryl® pump head, FKM diaphragm, PTFE valves, and polyethylene (PE) adapters	72 dB(A)	⅜" hose barb	115 VAC, 60 Hz	XJ-07532-40	
0.45 (13)						230 VAC, 50 Hz	XJ-07532-45	
B. Dual-head pumps								
1.1 (31)†	20 (508)	18 (1.24)	Noryl pump head, FKM diaphragm, PTFE valves, and PE adapters	76 dB(A)	⅜" hose barb	115 VAC, 60 Hz	XJ-07532-60	
0.91 (26)†						230 VAC, 50 Hz	XJ-07532-65‡	
C. Vacuum/pressure stations								
0.5 (14.1)	20 (508)	18 (1.24)	FKM diaphragm, SS regulator, bronze/brass gauge, and PE adapters	73 dB(A)	⅜" hose barb	115 VAC, 60 Hz	XJ-07532-80	
0.4 (11.3)						230 VAC, 50 Hz	XJ-07532-85	
D. OEM vacuum/pressure pumps								
0.6 (17)	20 (508)	18 (1.24)	Noryl pump head, FKM diaphragm, PTFE valves	72 dB(A)	⅜" NPT(F)	115 VAC	XJ-07530-85	
	18 (457.2)	15 (1.03)	Noryl pump head, FKM diaphragm, PTFE valves, and PE adapters			12 VDC	XJ-07532-25	

† Total free-air capacity. Single-channel capacity is half this value. ‡Power switch not available on this model. **Note:** Do not use metal fittings with any Air Cadet pump.

Accessories

XJ-07395-20 Vacuum/pressure gauge connector kit, brass. Contains two PE adapters and one each of bushing, pipe tee, and adapter for pipe mount

XJ-07530-06 Service kit. Contains long-life nitrile diaphragm, Noryl pump head, two PTFE valves, and two Noryl retainers

Replacement Parts

XJ-07530-77 Pump head assembly, Valox®. Includes valves and retainers. For continuous pressures greater than 14 psi

XJ-07530-71 Diaphragm clamp assembly; includes diaphragm clamp and shaft, and eccentric assembly

XJ-07530-79 Diaphragm shaft

XJ-07530-75 Eccentric assembly

XJ-08270-33 Thread sealer tape of PTFE resin. Each roll measures 260"L x ½"W. Pack of 10 rolls

Standard-Duty Dry Vacuum Piston Pumps

Great for filtering, aspirating, degassing, and desiccating

– Oil free for life science applications
– Water trap prevents liquid from being drawn into the pump
– Muffler provides quiet operation

Use the convenient gauge and control knob to adjust vacuum level. Single-head models also provide pressure. Avoid using pump with organic, acidic, or basic vapors.

What's included: gauge, control knob, water trap, carrying handle, suction cup feet, on/off switch, two ¼" barbed fittings, and a 6-ft (1.8-m) cord (115 VAC models come with a standard US plug; 230 VAC models come with a European (Schuko) plug.

Service kits include all components commonly required for refurbishment.


79204-00


79204-70

230 VAC models only

RUNS DRY

Free-air capacity cfm (L/min)	Ultimate† vacuum	Maximum pressure	Wetted parts	Motor hp	Noise rating	Port size (tube ID)	Power (VAC, Hz)	Catalog number	Price	Service kits	
										Catalog number	Price
Single-head pumps											
0.76 (22)	26.0" Hg	100 psig (6.89 bar)	Aluminum (treated for corrosion resistance), SS, and PTFE	1/8	62 dB(A)	1/4"	115, 60	XJ-79204-00		XJ-79204-01	
0.67 (19)	(100 Torr)						230,50	XJ-79204-05			
1.20 (34)	27.2" Hg	50 psig (3.45 bar)		1/8		1/4"	115, 60	XJ-79204-10		XJ-79204-11	
0.99 (28)	(70 Torr)						230,50	XJ-79204-15			
1.60 (45)	27.6" Hg	100 psig (6.89 bar)		1/4		1/4"	115, 60	XJ-79204-20		XJ-79204-21	
1.34 (38)	(60 Torr)						230,50	XJ-79204-25			
Dual-head pumps											
2.1 (60)	29.8" Hg	—	Aluminum (treated for corrosion resistance), SS, and PTFE	1/3	58 dB(A)	3/8"	115, 60	XJ-79204-30		XJ-79204-31	
1.8 (50)	(5 Torr)						230,50	XJ-79204-35			
7.1 (201)	27.6" Hg	—		1/3		3/8"	115, 60	XJ-79204-70		—	—
5.9 (168)	(60 Torr)						230,50	XJ-79204-75			

†Ultimate total vacuum

XJ-06414-20 **Tygon® non-DEHP vacuum tubing,** 1/4" ID x 5/8" OD. Pack of 10 ft (3.0 m)

High-Capacity Vacuum/Pressure Pumps

Won't get overloaded

– Shaded-pole fan-cooled motor has thermal overload switch to protect your pump system
– Heads on pumps 07061-60 and -05 are connected in parallel for higher capacity; heads on 07061-11 and -13 are connected in series for greater vacuum
– Select pumps with or without gauges, regulators, and valves
– Free-air capacities up to 2.2 cfm (62.3 L/min)

What's included: 6-ft (1.8-m), three-wire cord (US standard plug on 115 VAC models). Models 07061-11 and -13 include a filter/muffler.


07061-40

ISO9001:2008 CERTIFIED SUPPLIER

RUNS DRY

Pump head configuration	Free-air capacity cfm (L/min)	Max vacuum	Max pressure	Wetted parts	Motor hp	Port size	Noise rating	Power (VAC, Hz)	Catalog number	Price
Pump without gauges or regulators (order regulators separately below; order gauges with 1/4" NPT(M) connections online)										
Single	1.1 (31.2)	25.5" Hg	60 psi (4.14 bar)	Aluminum, stainless steel, Nordel®, and Nomex®	1/8	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	115, 60	XJ-07061-21	
	1.0 (28.3)	24.0" Hg						220/240, 50	XJ-07061-22	
Pumps with gauges, regulators, and adjustable relief valve										
Single	1.1 (31.2)	25.5" Hg	60 psi (4.14 bar)	Aluminum, stainless steel, Nordel, and Nomex	1/8	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	115, 60	XJ-07061-40	
	1.0 (28.3)	24.0" Hg						220/240, 50	XJ-07061-42	
Dual/parallel	2.2 (62.3)	25.5" Hg	60 psi (4.14 bar)		1/4			115, 60	XJ-07061-60	
	1.8 (51.0)	24.0" Hg						220, 50	XJ-07061-05	
Pump with vacuum gauge only										
Dual/series	1.15 (32.5)	29.0" Hg	—	Aluminum, stainless steel, Nordel, and Nomex	1/4	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	115, 60	XJ-07061-11	
	0.85 (24.0)	28.0" Hg						220, 50	XJ-07061-13	

XJ-07061-32 **Pressure regulator assembly** for pumps 07061-21 and -22

XJ-07061-30 **Vacuum regulator assembly** for pumps 07061-21 and -22

XJ-07061-01 **Service kit** for all pumps

XJ-07061-03 **Service kit** for dual-head pumps. Pumps 07061-60, -05, -11, and -13 also require kit 07061-01 above

XJ-07061-06 **Diaphragm** for all models, neoprene/nylon

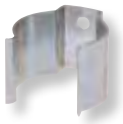
XJ-07061-04 **Replacement diaphragm** for all models, Nordel/Nomex

Cole-Parmer® Two- and Three-Way Direct Lift Solenoid Valves

Ideal with high-purity or corrosive fluids—made of inert PTFE

– Minimize trapped liquids with minimal dead volume
– Mount almost anywhere—lightweight and compact

Models with a 1⁄16" orifice have mounting holes at the bottom only and models with a 5⁄32" orifice have mounting holes at the top and bottom. Optional mounting clip 01540-50 can be used to mount valves with a 1⁄16" orifice in any position.


Mounting clip
01540-50


Mounting flange
01540-55



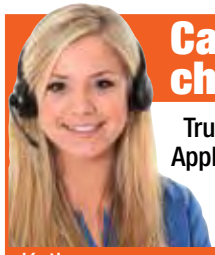
CE

Specifications

Vacuum rating: 26" Hg **Maximum fluid temperature:** 158°F (70°C) **Lead wire length:** 15" (38 cm)

Ports NPT(F)	Orifice	Max psi	Response time	Watts	12 VDC		24 VDC	
					Catalog number	Price	Catalog number	Price
Two-way solenoid valves; normally closed								
1/4–28	1/16"	30	20 ms	4.0	XJ-01540-01		XJ-01540-02	
1/4–28	1/16"	60	25 ms	8.0	XJ-01540-03		XJ-01540-04	
1/8	5/32"	18	30 ms	8.0	XJ-01540-07		XJ-01540-08	
Two-way solenoid valves; normally open								
1/4–28	1/16"	30	20 ms	4.0	XJ-01540-09		XJ-01540-10	
Three-way solenoid valves								
1/4–28	1/16"	30	20 ms	4.0	XJ-01540-11		XJ-01540-12	
1/4–28	1/16"	60	25 ms	8.0	XJ-01540-13		XJ-01540-14	
1/8	5/32"	18	30 ms	8.0	XJ-01540-17		XJ-01540-18	

XJ-01540-50 **Mounting clip** for two- and three-way valves
XJ-01540-55 **Mounting flange** for two- and three-way valves


Can't choose?
Trust our **expert** Application Specialists to help you find the right product.
Katie, 5 years of experience
Call: 1-800-323-4340
E-mail: sales@coleparmer.com

Miniature Check Valves

Install in any position—use with liquids and gases


A


B


C

Breaking pressure is 0.18 psi, closing pressure is 0.014 psi. Maximum temperature (at maximum psi) is 250°F (121°C) for "A" and "C"; 200°F (93°C) for "B."

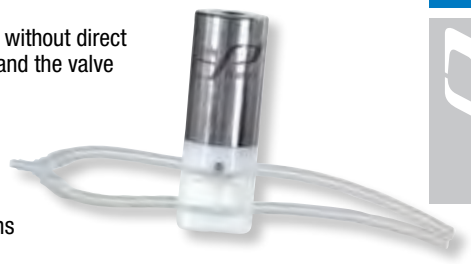
Note: Valves require 1 psi back pressure for a tight seal.

Tubing ID	C_V	Working pressure	Catalog number	Price
A. Nylon body and fluorosilicone diaphragm				
1/8"	0.12	3 to 5 psi (0.2 to 0.3 bar)	XJ-98553-00	
3/16"	0.13		XJ-98553-01	
1/4"	0.13		XJ-98553-02	
B. PP body and Viton® diaphragm				
1/8"	0.11	3 to 5 psi (0.2 to 0.3 bar)	XJ-98553-10	
3/16"	0.12		XJ-98553-11	
1/4"	0.12		XJ-98553-12	
5/16"	0.13		XJ-98553-13	
C. PVDF body and Viton diaphragm				
3/16"	0.12	3 to 5 psi (0.2 to 0.3 bar)	XJ-98553-21	
1/4"	0.12		XJ-98553-22	
3/8"	0.12		XJ-98553-34	

Cole-Parmer® Solenoid-Operated 2- and 3-Way Pinch Valves

No contamination of valve

– Control flow in your tubing without direct contact between the fluid and the valve
– Fast response time
– Low-power consumption and high-cycle life
– Excellent for sanitary and pharmaceutical applications



What's included: 15" 26-gauge PTFE-coated lead wires. Two-way valves include a 12" length of silicone tubing; three-way valves include two 6" (15.2 cm) lengths of tubing with a "Y" connector.

CE

Tubing size (ID x OD)	Max pressure	Watts	12 VDC		24 VDC	
			Cat. no.	Price	Cat. no.	Price
Two-way pinch valves; normally closed						
1/32" x 3/32"	15 psi (1bar)	2.6	XJ-98302-00		XJ-98302-10	
1/16" x 1/8"	15 psi (1bar)	2.6	XJ-98302-02		XJ-98302-12	
1/8" x 1/4"	20 psi (1.4 bar)	4.0	XJ-98302-06		XJ-98302-16	
Two-way pinch valves; normally open						
1/32" x 3/32"	15 psi (1bar)	2.6	XJ-98302-20		XJ-98302-30	
1/16" x 1/8"	15 psi (1bar)	2.6	XJ-98302-22		XJ-98302-32	
1/8" x 1/4"	20 psi (1.4 bar)	4.0	XJ-98302-26		XJ-98302-36	
Three-way pinch valves; one normally open, one normally closed						
1/32" x 3/32"	15 psi (1bar)	2.6	XJ-98302-40		XJ-98302-48	
1/16" x 1/8"	15 psi (1bar)	2.6	XJ-98302-42		XJ-98302-50	
1/8" x 1/4"	20 psi (1.4 bar)	4.0	XJ-98302-46		XJ-98302-54	

XJ-01540-50 **Mounting clip** for 2- and 3-way valves
XJ-01540-55 **Mounting flange** for 2- and 3-way valves

Cole-Parmer® Barbed Check Valves

Prevent backflow to protect your sensitive equipment

NEW

- Corrosion- and chemical-resistant PVDF and Viton® construction
- Install in any position

Miniature hose barb check valves fit securely onto flexible tubing lines to prevent backflow. Autoclavable.



Cole-Parmer®

Specifications

Operating temperature: –40 to 259°F (–40 to 126°C)
Operating pressure: 0 to 50 psi

Tubing ID	Catalog number	Price/pk of 6
1/8"	XJ-98766-49	
3/16"	XJ-98766-50	
1/4"	XJ-98766-51	
3/8"	XJ-98766-52	

Cole-Parmer® Solenoid Two-Way Pinch Valves

Specifically designed for Masterflex® pump tubing

- Use with tubing that has durometer rating of 50 or less such as C-Flex® or silicone—7.25 psi max
- Excellent for clean processes—fluid stays contained within tubing
- Use for on/off flow control applications



98306-02



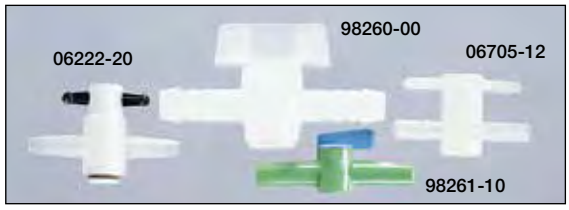
98306-16

Cole-Parmer®

Tube size	Response time	Watts	12 VDC valves		24 VDC valves	
			Catalog number	Price	Catalog number	Price
Normally closed						
L/S® 14	30 to 50 msec	10	XJ-98306-00		XJ-98306-02	
L/S 16			XJ-98306-08		XJ-98306-10	
L/S 25			XJ-98306-16		XJ-98306-18	
L/S 17			XJ-98306-24		XJ-98306-26	
Normally open						
L/S 14	30 to 50 msec	10	XJ-98306-04		XJ-98306-06	
L/S 16			XJ-98306-12		XJ-98306-14	
L/S 25			XJ-98306-20		XJ-98306-22	
L/S 17			XJ-98306-28		XJ-98306-30	

Two- and Three-Way Stopcocks with Hose Barb Connections

Easily adjust flow



PP stopcocks have plugs made of PTFE and are autoclavable. Maximum temperature is 275°F (135°C); maximum pressure is 2 psi. **LDPE stopcocks** are rated for 167°F (75°C); maximum pressure is 7 psi. **HDPE stopcocks** are rated for 203°F (95°C); maximum pressure is 7 psi. **PVDF stopcocks** are rated for 464°F (240°C); maximum pressure is 5 psi.

Flow pattern 2



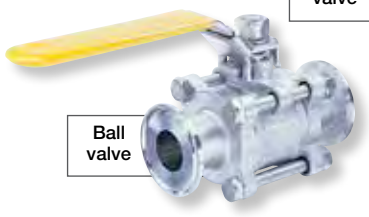
Tube ID	Orifice	Material	Catalog number	Price
Two-way stopcocks				
1/4" to 5/16"	2 mm	PP	XJ-06222-20	
1/4" to 5/16"	4 mm		XJ-06222-40	
3/8"	1/4"	LDPE	XJ-98260-00	
1/2"	3/8"		XJ-98260-10	
10 mm	6.8 mm	HDPE	XJ-98261-10	
14 mm	10.7 mm		XJ-98261-20	
16 mm	12.7 mm		XJ-98261-30	
Three-way stopcocks; follow flow pattern 2				
1/4" to 5/16"	2 mm	PP	XJ-06225-20	
1/4" to 5/16"	4 mm		XJ-06225-40	
6 mm	4 mm	PVDF	XJ-06705-10	
8 mm	6 mm		XJ-06705-12	
10 mm	8 mm		XJ-06705-14	

316 SS Sanitary Ball and Butterfly Valves

Install in any position

- Compatible with Tri-Clamp® fittings
- Meet USDA requirements
- Wetted parts: 316 stainless steel with a sanitary finish, PTFE seals (ball valves), silicone seals (butterfly valves)





Clamp size	Cv	Max pressure	Max temperature	Catalog number	Price
Ball valves					
3/4	40	1000 psi at 70°F (21°C)	400°F (204°C)	XJ-30530-00	
1"	70			XJ-30530-01	
1 1/2"	120			XJ-30530-02	
2"	340			XJ-30530-03	
Butterfly valves					
1"	—	145 psi at 68°F (20°C)	200°F (93°C)	XJ-30531-01	
1 1/2"	—			XJ-30531-02	
3"	—			XJ-30531-05	
4"	—			XJ-30531-07	

General-Purpose Plastic Vials

One vial, a multitude of uses







A. Sample Vials with Snap Caps are shatterproof low-density polyethylene with secure, friction-fit caps. Use for all general applications.

Capacity	Qty/pk	Catalog number	Price/pk
5 mL	12	XJ-06087-05	
12 mL		XJ-06087-15	
18 mL		XJ-06087-25	
28 mL	12	XJ-06087-35	
50 mL		XJ-06087-45	
75 mL		XJ-06087-55	

B. Miniature Vials with Hinged Caps open and close with a flick of your thumb. One-piece vial and airtight cap are made of low-density polyethylene.

Capacity	Qty/pk	Catalog number	Price/pk
0.3 mL	1000	XJ-06094-10	
1.7 mL		XJ-06094-20	
2.1 mL		XJ-06094-30	
8.4 mL	1000	XJ-06094-50	
16.9 mL	500	XJ-06094-60	
29.6 mL	500	XJ-06094-70	
42.3 mL	500	XJ-06094-80	

C. Snap-Cap Sample Vials are clear polystyrene with polyethylene caps. These durable, lightweight vials withstand normal centrifugation.

Capacity	Qty/bx	Catalog number	Price/bx
11.1 mL	144	XJ-06102-10	
18.5 mL		XJ-06102-15	
25.9 mL		XJ-06102-20	
37.0 mL	144	XJ-06102-25	
55.5 mL		XJ-06102-35	
74.0 mL		XJ-06102-40	
111.0 mL	72	XJ-06102-50	

Class A Sample Glass Vials

No more ion leaching

Screw-thread sample vials are manufactured from either clear 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass. Vials maintain pH level and eliminate ion leaching. Choose from a urea cap with PTFE foam-backed liner or an open-top, unlined polypropylene cap with PTFE/silicone septa. Vials, caps, and septa are shrink-wrapped separately.



Capacity	Qty/pk	Clear vials		Amber vials	
		Catalog number	Price/pk	Catalog number	Price/pk
Vials with urea cap/PTFE foam-backed liner					
2 mL	100	XJ-08922-21		XJ-08922-31	
4 mL	100	XJ-08922-22		XJ-08922-32	
8 mL	200	XJ-08922-23		XJ-08922-33	
12 mL	200	XJ-08922-24		XJ-08922-34	
16 mL	200	XJ-08922-26		XJ-08922-36	
20 mL	100	XJ-08922-27		—	—
22 mL	200	XJ-08922-28		—	—
40 mL	100	XJ-08922-29		XJ-08922-39	
Vials with open-top, unlined polypropylene cap and PTFE/silicone septa					
2 mL	100	XJ-08922-41		XJ-08922-51	
4 mL	100	XJ-08922-42		XJ-08922-52	
8 mL	200	XJ-08922-43		XJ-08922-53	
12 mL	200	XJ-08922-44		XJ-08922-54	
16 mL	200	XJ-08922-46		XJ-08922-56	
22 mL	200	XJ-08922-48		—	—
40 mL	100	XJ-08922-49		XJ-08922-59	

Snap-Seal™ Sample Containers

Won't spill or leak

- Cap remains securely locked
- Reduce chance of contamination with hinged-cap design
- Autoclavable polypropylene



Capacity	Catalog number	Qty/pk	Price/pk
13 mL	XJ-62261-00	500	
45 mL	XJ-62261-10	400	
120 mL	XJ-62261-20	200	
240 mL	XJ-62261-30	100	
300 mL	XJ-62261-40	100	

WHEATON® Scintillation Glass Vials

Stand up to most chemicals

- Sample and store up to 20 mL
- Measure 2⅜"H x 1⅛" OD (61 mm H x 28 mm OD) with cap



Cap material	Cap liner	Cap size	Caps	Catalog number	Qty/cs	Price/cs
Urea	Metal foil	22	On	XJ-08918-01	500	
Urea	Polyseal® cone			XJ-08918-02		
Urea	Polyethylene disc			XJ-08918-03		
Urea	Polyethylene disc	24	On	XJ-08918-05	500	
Polypropylene	Metal foil	22		XJ-08918-06		

WHEATON® Specimen Glass Vials

Keep moisture out of samples

Clear soda-lime glass is chemically durable. The LDPE snap-on caps form an airtight seal—perfect for moisture sensitive materials. Finger tab on cap allows easy removal. Vials are on pull-out trays; two trays per case.



Capacity	Cap size	Catalog number	Qty/cs	Price/cs
8 mL	22 mm	XJ-08921-01	144	
12 mL	22 mm	XJ-08921-02		
16 mL	30 mm	XJ-08921-03		
30 mL	34 mm	XJ-08921-05	72	
60 mL	45 mm	XJ-08921-06		
120 mL	45 mm	XJ-08921-07		

Cole-Parmer® Rotational Viscometers

Include 316 stainless steel spindles for most applications!

– Select from 10 language options

– Ensure accurate readings by calibrating your viscometer to a known standard

Determine the dynamic viscosity of samples in applications such as food (sauces, juices, and syrups), adhesives, petroleum products, biofuels, paints, pharmaceuticals, chemicals, and more! Over/under range alarm sounds when your sample is too high/low for the spindle selected. All models feature 10 language options (English, French, German, Italian, Japanese, Spanish, Portuguese, Dutch, Polish, and Catalan), push-button control with easy-to-use menu system, motor self-test, user calibration to a known standard, and universal power supply.

Basic Viscometers are an economical choice for fast, accurate viscosity readings. Feature a 4-line display that shows selected speed, selected spindle, viscosity, and % of full scale.

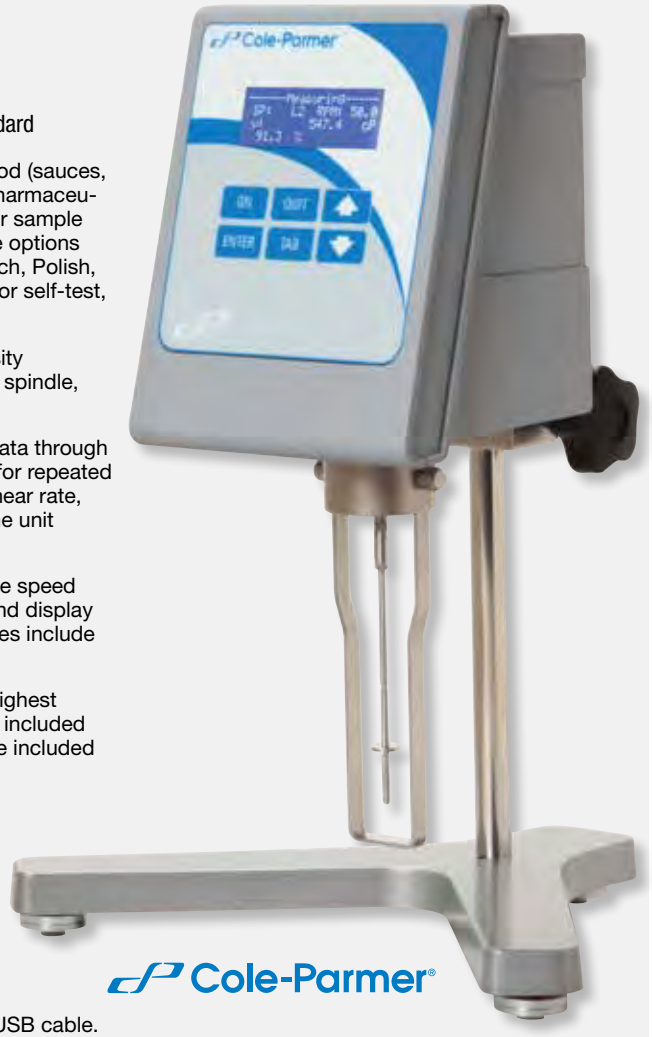
Basic Viscometers with USB Output include software to download data through the USB output to your PC for analysis. Store up to 10 user programs for repeated tests. Display selected speed, selected spindle, viscosity, % torque, shear rate, and shear stress on the 5-line display. Enter the sample density, and the unit calculates and displays kinematic viscosity (cSt) as well.

Advanced Viscometers with Temperature Probe have three times the speed selections and double the speed range of the basic models. Monitor and display temperature with the included RTD temperature probe. Program features include time to torque, time to stop, ramp, and multistep.

Programmable Viscometers feature 2600 speed selections and the highest speed range, up to 250 rpm. Monitor and display temperature with the included RTD temperature probe. Control the viscometer through a PC using the included software; also includes curves, graphs, and database references.

Optional low viscosity adapters allow measurement down to 1 cp when used with low range viscometers and 3.2 cp when used with medium range viscometers. Model 98965-54 includes a water jacket for attachments to an external circulating bath (not included).

What's included: 316 stainless steel spindles (four spindles for the low range and six for the other ranges), spindle protector, stand, carrying case, and universal power supply. Models 98965-43 through -48 also include data logging software; USB cable. Models 98965-49 through -51 also include control software, data logging software, and USB cable.



CE

Viscosity range	Rotational speed range	Number of selectable speeds	Output	Catalog number	Price
Basic viscometers					
20 to 2,000,000 cp (low) 100 to 13,000,000 cp (medium) 200 to 106,000,000 cp (high)	0.3 to 100 rpm	18	None	XJ-98965-40 XJ-98965-41 XJ-98965-42	
Basic viscometers with data logging software and USB cable					
20 to 2,000,000 cp (low) 100 to 13,000,000 cp (medium) 200 to 106,000,000 cp (high)	0.3 to 100 rpm	18	USB	XJ-98965-43 XJ-98965-44 XJ-98965-45	
Advanced viscometers with temperature probe, data logging software, and USB cable					
20 to 6,000,000 cp (low) 100 to 40,000,000 cp (medium) 200 to 106,000,000 cp (high)	0.01 to 200 rpm	54	USB	XJ-98965-46 XJ-98965-47 XJ-98965-48	
Programmable viscometers with temperature probe, control software, data logging software, and USB cable					
20 to 6,000,000 cp (low) 100 to 40,000,000 cp (medium) 200 to 106,000,000 cp (high)	0.01 to 250 rpm	2600	USB	XJ-98965-49 XJ-98965-50 XJ-98965-51	

Specifications

Accuracy: ±1% full-scale

Resolution
<10,000 cp: 0.1 cp
≥10,000 cp: 1 cp

Reproducibility: ±0.2%

Temperature probe (indicated models):
100 Ω Pt RTD; 32 to 212°F (0 to 100°C)

Power: 100 to 240 VAC, 50/60 Hz

Accessories

XJ-98965-54 **Low-viscosity adapter** with water jacket
XJ-98965-55 **Low-viscosity adapter**
XJ-17107-01 **NIST-traceable calibration** with data for viscometers

Viscosity Cups

Get precise measurements affordably



- Stainless steel cup and handle
- Orifice is machined to ensure the length of the orifice and a symmetrical efflux stream
- Cups conform to ASTM 816, D1084, and D4212
- ±3% production tolerance

To take a measurement, simply scoop the test liquid into the cup; the liquid will stream out of the opening on the bottom. Measure the time until the first break in the flow of liquid. A conversion table supplied with each cup will tell you viscosity in centistokes from the elapsed time.

Model	Cup number	Range	Catalog number	Price
EZ1	1	10 to 36 cSt	XJ-08700-00	
EZ2	2	19 to 156 cSt	XJ-08700-10	
EZ3	3	64 to 596 cSt	XJ-08700-20	
EZ4	4	79 to 784 cSt	XJ-08700-30	
EZ5	5	161 to 1401 cSt	XJ-08700-40	

Thermo Scientific™ HAAKE™ Portable Viscometers

No clumsy cords—battery powered for quick tests anywhere



- No more difficult setup—simple, one-button operation for quicker testing
- Get more accurate readings with digital display

Lightweight, digital, rotational viscometers can be operated handheld or on optional stand for your convenience. Use for quick viscosity tests for process optimization, machine adjustment, or to ensure your product is within specification. Possible handling errors as well as service information are shown on the display.

What's included: Three rotors, carrying case, and four AA batteries. Model VT01 includes two 150-mL sample cups; model VT02 includes one 150-mL sample cup.

CE

Model number	VT01	VT02
Catalog number	XJ-08705-01	XJ-08705-02
Range	1.5 to 330 cP	30 to 400,000 cP
Temperature	Up to 302°F (150°C)	
Rotor speed	62.5 rpm	
Reproducibility	±1% full scale	
Accuracy	±5% full scale	
Power	Four AA batteries	
Price		

Accessories

XJ-04546-00 **Stand,** 29"H x ⅝" dia
XJ-09376-01 **Replacement batteries,** AA. Pack of 4

Consistometer

Verify consistency, viscosity, and flow rate of viscous material

- Meets military specification R-81294B for paint manufacturing

Use this consistometer to determine the consistency of viscous materials by measuring the distance that the material flows under its own weight in a given time interval. Ideal for predetermining product formulas to standardize production lots.



Consistometer requires only 75 mL of sample for measurement. Engraved graduations in 0.5-cm divisions ensure accurate results; spring-loaded gate prevents premature sample flow. Leveling screws and built-in spirit level help achieve repeatable results. Stainless steel construction prevents corrosion.

Sample size	Graduations	Dimensions (L x W x H)	Catalog number	Price
75 mL	0.5 cm	35.6 x 8.9 x 14.0 cm	XJ-59950-00	



Need Help Selecting?

Trust our **expert** Application Specialists to help you find the right product.

Kim, 12 years of experience

Call: **1-800-323-4340**
E-mail: **sales@coleparmer.com**
Chat live: **ColeParmer.com**

Cole-Parmer® Ion-X-Changer Filter Cartridges

Customize to your exact needs

- Design your system with any combination of up to four different cartridges
- Purify water up to 15 MΩ-cm
- Know when to change cartridges—resins go from purple to brown when replacement is needed†
- Use mounting brackets for installation



Mounting Bracket Kit comes with two mounting brackets, faucet diverter assembly with 4 ft (1.2 m) of ¼" OD white vinyl tubing, and 12 ft (3.6 m) of ¼" OD polyethylene connection/dispensing tubing. Use one bracket for single cartridge installation or two for tandem cartridge installation.

Cole-Parmer®

Specifications

Pressure drop per cartridge: 5 psi (0.3 bar)
Maximum working temperature: 75°F (23.9°C)
Cartridge dimensions (L x dia): 18¾" x 3¼" (17.6 x 8.3 cm)

Cartridge type	Application	Max flow rate	Inlet pressure		Max inlet water temp	Capacity grains as $CaCO_3$	Catalog number	Price
			Max	Min				
Adsorber	Pretreatment: removes most organic compounds, free chlorine, and chloramines	7.2 GPH (27.3 L/hr)	100 psi (6.9 bar)	5 psi (0.3 bar)	100°F (37.8°C)	—	XJ-01506-15	
Metex	Removes most metallic ions, ammonia, other cations; recovers precious metals					3200	XJ-01506-45	
Universal	Produces water equivalent to single-distilled water					1600	XJ-01506-25	
Research	Produces water ionically equivalent to triple-distilled water					1000	XJ-01506-35	

†Except for Adsorber cartridge 01506-15, which needs to be replaced when approximately 1500 gallons (5600 liters) of water have flowed through the cartridge.

XJ-01506-60 **Mounting bracket kit**

Monobed Deionizers

Remove harmful ions in your system

- Visually monitor water quality

Deionizer with Large-Capacity Housing incorporates an ultrapure mixed bed ion exchange resin which contains a 1:1 chemical equivalent of cation and anion resins with a maximum capacity of 1400 grains as $CaCO_3$.

A built-in monitor turns red if the resistivity falls below 0.2 MΩ-cm. Order the resin refill to replace the exhausted resin quickly during a momentary shutdown of the system. For a faster, more convenient resin replacement, use the ultrapure resin cartridge below (capacity when used with cartridge is 1050 grains as $CaCO_3$). The resin for both the refill and cartridge is an FDA-grade ultra-clean resin designed for ultrapure water systems.

What's included: mounting bracket and two polypropylene elbows (¾" NPT(M) x ⅜" hose barb) that accept ⅜" ID tubing.



Deionizer 01503-00

Deionizer with Clear Housing lets you see when the resin is exhausted. The deionizer is loaded with a mixed bed resin (1:1 equivalent) with a maximum capacity of 700 grains as $CaCO_3$. The resin is specially treated to yield a gradual color change from dark blue to amber to indicate the level of exhaustion (spending). Change the resin when all but 1" (2.5 cm) of resin is amber. Replace exhausted resin quickly during a momentary shutdown of the water system. Order resin separately below (deionizer requires up to two resin refills).

What's included: mounting bracket and two polypropylene elbows (¾" NPT(M) x ⅜" hose barb) that accepts ⅜" ID tubing.



Deionizer 01503-20 shown with resin 01503-30

Max resistivity	Max flow rate	Min/max inlet pressure	Inlet water temperature	Inlet connections	Dimensions (H x Dia)	Capacity grains $CaCO_3$	Power (VAC)	Catalog number	Price
Large-capacity monobed deionizers									
18 MΩ-cm	60 GPH (227 L/hr)	125 psi (8.6 bar)	100°F (38°C)	¾" NPT(F)	23¼" x 7" (59 x 17.8 cm)	1050	110	XJ-01503-00	
							220	XJ-01503-05	
Monobed deionizer with clear housings									
15 MΩ-cm	15 GPH (57 L/hr)	125 psi (8.6 bar)	90°F (32°C)	¾" NPT(F)	12⅝" x 5¼" (32.1 x 13.3 cm)	700	—	XJ-01503-20	

XJ-01503-10 **Resin refill,** ultrapure mixed bed, for models 01503-00 and -05

XJ-01503-12 **Ultrapure resin cartridge,** for models 01503-00 and -05

XJ-01503-30 **Resin** refill, mixed bed, for model 01503-20, with color indicator

Masterflex® E/S® Portable Sampling Pumps

E/S Portable Sampling Drive

- Flow rate: 4.2 to 1100 mL/min; depends on tubing size
- Sample depths down to 26 ft (7.9 m)†. Simple to use in wells, sewers, or lakes. Reversible flow and prime/purge function
- Variable-speed portable sampling drive operates on internal battery, your 12 V car battery, or from an AC outlet



Portable sampling drive shown with Easy-Load® pump head (sold separately below).

Accepts three pump head types: Standard, Easy-Load®, and PTFE-tubing (pump heads sold separately).

E/S Composite Sampler

- Program to meet EPA requirements—sample size and time, delayed start, remote contact closure, momentary and maintained sampling
- Flow rate is 435 to 1650 mL/min depending on tubing size, lift height
- Includes Masterflex Easy-Load pump head, 9-liter HDPE carboy, 12 VDC rechargeable battery, 115/230 VAC power converter and 25 ft (7.6 m) of L/S® 24 peroxide-cured silicone tubing
- Rechargeable battery for field applications



Composite sampler

MASTERFLEX®

ISO 9001:2008 CERTIFIED SUPPLIER

Power supplies are: cULus CE

rpm	Nominal voltage	IP rating	Dimensions (L x W x H)	Power‡ VAC (50/60 Hz)	Catalog number	Price
E/S portable sampling drive						
70 to 400	12 VDC or AC line	IP54	11" x 10" x 16" (28 x 25.4 x 40.6 cm)	12 VDC on 115	XJ-07571-00	
				12 VDC on 230	XJ-07571-05	
E/S composite sampler						
600	12 VDC or AC line	IP56	11" x 13½" x 17½" (28 x 34 x 44 cm)	12 VDC on 115/230	XJ-07580-00	

†Maximum sampling depth can be achieved with L/S® 15 or L/S® 24 Standard pump head
‡Drives run from 12 VDC internal rechargeable batteries, external 12 VDC source (order automotive adapter separately below), or from VAC line source.

XJ-07516-12 **Easy-Load pump head,** for use with L/S sizes 15 and 24 tubing
XJ-07015-20 **Standard pump head,** for use with L/S size 15
XJ-07024-20 **Standard pump head,** for use with L/S size 24
XJ-07571-50 **Automotive power adapter,** 25-ft (7.6 m) cable
XJ-07580-50 **Carrying strap,** optional
XJ-77390-00 **PTFE tubing pump head,** optional
XJ-77390-50 **PTFE tubing set.** 2-mm ID, 4-mm OD. Set of 2
XJ-77390-60 **PTFE tubing set.** 4-mm ID, 6-mm OD. Set of 2

Masterflex High-Performance Precision Pump Tubing

Tubing type	Tubing	Qty/pk	Catalog number	Price/pk
Silicone (peroxide-cured)	L/S 15	25 ft (7.6 m)	XJ-96400-15	
	L/S 24		XJ-96400-24	
Tygon® E-Lab	L/S 15	50 ft (15.2 m)	XJ-06509-15	
	L/S 24		XJ-06509-24	
Tygon E-LFL	L/S 15	25 ft (7.6 m)	XJ-06440-15	
	L/S 24		XJ-06440-24	

Sludge Judge® Sludge Samplers

No more straining

- Add middle sections to take samples from any distance
- Order a complete system or customize to your needs
- Just dip and sample—ball valve opens when lowered into sample
- Know sample volume with easy-read 1-ft increment markings



Basic Sludge Judge and Sludge Judge Ultra versions have ¾" (1.9 cm) diameter pipe sections and hold approximately 3 oz (89 mL) of fluid per foot. Sludge Judge II version has 1¼" (3.2 cm) diameter pipe sections doubling the overall capacity of the sampler. Sludge Judge Ultra additionally features an ultraviolet stabilizer which reduces material degradation from UV light.

Description	Length	Catalog number	Price
Sludge Judge sampler, ¾" (1.9 cm) diameter			
Sludge Judge; top, middle, bottom sections	3 x 5 ft (1.5 m)	XJ-05465-70	
Replacement bottom section with valve	5 ft (1.5 m)	XJ-05465-72	
Replacement middle section/extension section	5 ft (1.5 m)	XJ-05465-74	
Replacement top section with nylon rope	5 ft (1.5 m)	XJ-05465-76	
Sludge Judge II sampler, 1¼" (3.2 cm) diameter			
Sludge Judge II; top, middle, bottom sections	3 x 5 ft (1.5 m)	XJ-05465-30	
Replacement bottom section with valve	5 ft (1.5 m)	XJ-05465-31	
Replacement middle section/extension section	5 ft (1.5 m)	XJ-05465-32	
Replacement top section with nylon rope	5 ft (1.5 m)	XJ-05465-33	
Sludge Judge Ultra sampler, ¾" (1.9 cm) diameter, UV resistant			
Sludge Judge Ultra; top, middle, bottom sections	3 x 5 ft (1.5 m)	XJ-05465-40	
Replacement bottom section with valve	5 ft (1.5 m)	XJ-05465-41	
Replacement middle section/extension section	5 ft (1.5 m)	XJ-05465-42	
Replacement top section with nylon rope	5 ft (1.5 m)	XJ-05465-43	

XJ-05465-77 **Canvas carrying case**
XJ-05465-78 **Cleaning brush**

Scienceware® Dippers with Replaceable Cup

Easily pour from either side

- Long handles for easy sampling



Screw-on cups let you easily take multiple samples.

Lightweight, yet sturdy, dippers feature a polypropylene (PP) cup that screws onto the handle. High-density polyethylene (HDPE) handles are ribbed for a sure grip; end has hook for hanging.



Buy More...Save More!
20% off on 120+ **15%** off on 30 to 119 **10%** off on 6 to 29 packs or cases

Capacity mL (oz)	Dipper dia	Handle length	Qty/pk	Catalog number	Price/pk
Dippers with replaceable cup					
500 (16)	3⅞" (9.8 cm)	36" (0.9 m)	1	XJ-06282-00	
		72" (1.8 m)		XJ-06282-05	
Extra/replacement screw-on PP cup					
500 (16)	3⅞" (9.8 cm)	—	1	XJ-06282-50	

Cole-Parmer® Dye Tracers

Know your water flow

- Won't harm the environment—nontoxic and biodegradable
- Easy-to-use color in rapidly diffusing dye identifies dispersion patterns, flow rates, seepage, and more
- Noncarcinogenic fluorescent red dye is ideal for yellowed or heavily algaed water
- For silt-filled water, use fluorescent yellow/green dye
- Use a UV lamp to easily view results where visual detection is difficult with red, yellow/green, or orange dyes
- Brighten murky ponds with blue dye
- Minimum detectable concentration is 1 ppm



Description	Size	Max gallons of water to obtain 1 ppm	Fluorescent red dye		Fluorescent yellow/green dye		Blue dye		Fluorescent orange dye	
			Catalog number	Price	Catalog number	Price	Catalog number	Price	Catalog number	Price
Quick-dissolving tablets	200 tablets	60 (red, ylw/grn) 35 (orange) 20 (blue) all per tablet	XJ-00295-16		XJ-00295-17		XJ-00295-18		XJ-00295-19	
Concentrate	Pint	3,125 (red) 12,500 (ylw/grn, blue) 4,000 (orange)	XJ-00298-16		XJ-00298-17		XJ-00298-18		XJ-00298-19	
Concentrate	Gallon	25,000 (red) 100,000 (ylw/grn, blue) 32,000 (orange)	XJ-00298-06		XJ-00298-07		XJ-00298-08		XJ-00298-09	
Powder	Pound	60,400 (red, orange) 120,000 (ylw/grn, blue)	XJ-00298-26		XJ-00298-27		XJ-00298-28		XJ-00298-29	

***Discount:** Save 10% when you buy eight 200-tablet bottles.

Hach® Water Quality Test Strips

Results in less than a minute!

- Reduce risk by using as a pre-test validation tool
- No chemical handling or cleanup
- Vial label with color key for easy readings in lab or field



Testing parameter	Testing range	Qty	Catalog number	Price
5-in-1: Free and total chlorine; total hardness; total alkalinity; pH	0 to 10 ppm; 0 to 25 gpg; 0 to 240 ppm; 6.2 to 8.4 pH	50	XJ-05546-02	
Alkalinity	0 to 240 ppm	50	XJ-05546-04	
Ammonia (nitrogen)	0 to 6 ppm	25	XJ-05546-06	
Arsenic (low level)	0 to 500 ppb	100	XJ-05546-08	
Arsenic (dual range)	0 to 500 ppb; 0 to 4000 ppb	100	XJ-05546-12	
Chloride (low level)	30 to 600 ppm	40	XJ-05546-16	
Chloride	300 to 6000 ppm	40	XJ-05546-18	
Free and total chlorine	0 to 10 ppm	250†	XJ-05546-20	
Free and total chlorine	1 to 10 ppm	50	XJ-05546-22	
Free chlorine	0 to 600 ppm	100	XJ-05546-24	
Free and total copper	0 to 3 ppm	25	XJ-05546-26	
Total hardness, as $CaCO_3$	0 to 425 ppm	250†	XJ-05546-28	
Total hardness, as $CaCO_3$	1 to 425 ppm	50	XJ-05546-30	
Total dissolved iron	0 to 5 ppm	25	XJ-05546-32	
Nitrate and nitrite	0 to 50 ppm; 0 to 3 ppm	25	XJ-05546-36	
pH (midrange)	4 to 9 pH	50	XJ-05546-40	
pH (full range)	0 to 14 pH	100	XJ-05546-42	
Phosphorous, o-phosphate	0 to 50 ppm	50	XJ-05546-44	

†Individually wrapped test strips.

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- Simply dip and read against included color chart—get results in minutes



Testing parameter	Graduations	Catalog number	Qty/pk	Price/pk
Ammonium†	0, 10, 30, 60, 100, 200, 400 ppm	XJ-99572-01	50	
Chloride	0, 500, 1000, 1500, 2000, 3000 ppm	XJ-99572-03	100	
Copper	10 to 300 ppm	XJ-99572-14	100	
Cyanide†	0, 1, 3, 10, 30 ppm	XJ-99572-04	100	
Lead†	0, 20, 40, 100, 200, 500 ppm	XJ-99572-06	100	
Nickel	0, 10, 25, 100, 250, 500 ppm	XJ-99572-07	100	
Nitrate	10 to 500 ppm	XJ-99572-13	100	
pH	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 pH	XJ-99572-08	6 pks of 100	
Total hardness	0, 50, 70, 125, 250, 370 ppm	XJ-99572-10	100	
Total hardness	90, 180, 270, 360, 450 ppm	XJ-99572-11	100	

†Kit includes reagent(s) to facilitate test.

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Description	Volume/Mass	Catalog number	Price
Sodium Hydroxide, 1.0 Normal	1 L	XJ-88400-89	
Water, ACS Reagent Grade, ASTM Type I	4 L	XJ-88401-21	
Isopropanol, 70% (v/v) Aqueous Solution	1 gal.	XJ-88400-48	
Acetone, ACS Grade, Poly Bottle	4 L	XJ-88406-15	
Sulfuric Acid Solution, 1.00 Normal	1 L	XJ-88401-09	
Reagent Alcohol, ACS Reagent Grade, Anhydrous, Absolute	1 gal.	XJ-88400-66	
Hydrochloric Acid, 1.00 Normal	1 L	XJ-88400-40	
Iodine (Iodine-Iodide), 0.100 Normal (N/10)	32 oz	XJ-88400-47	
Silver Nitrate, 0.100 Normal (N/10)	1 L	XJ-88400-70	
Acetic Acid, Glacial, ACS Grade	2.5 L	XJ-88401-62	
Sodium Chloride, ACS Grade	500 g	XJ-88404-60	

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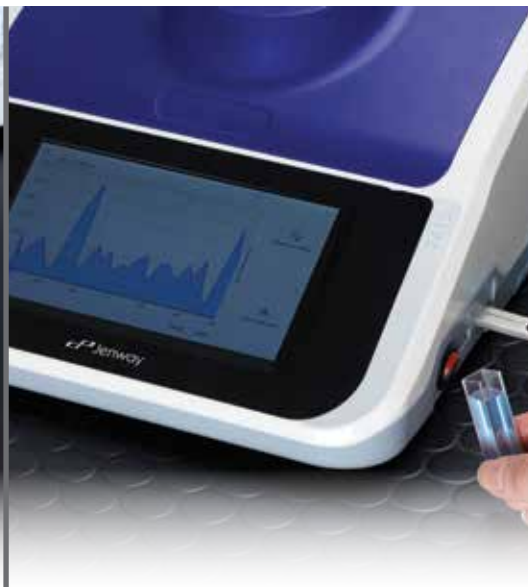
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