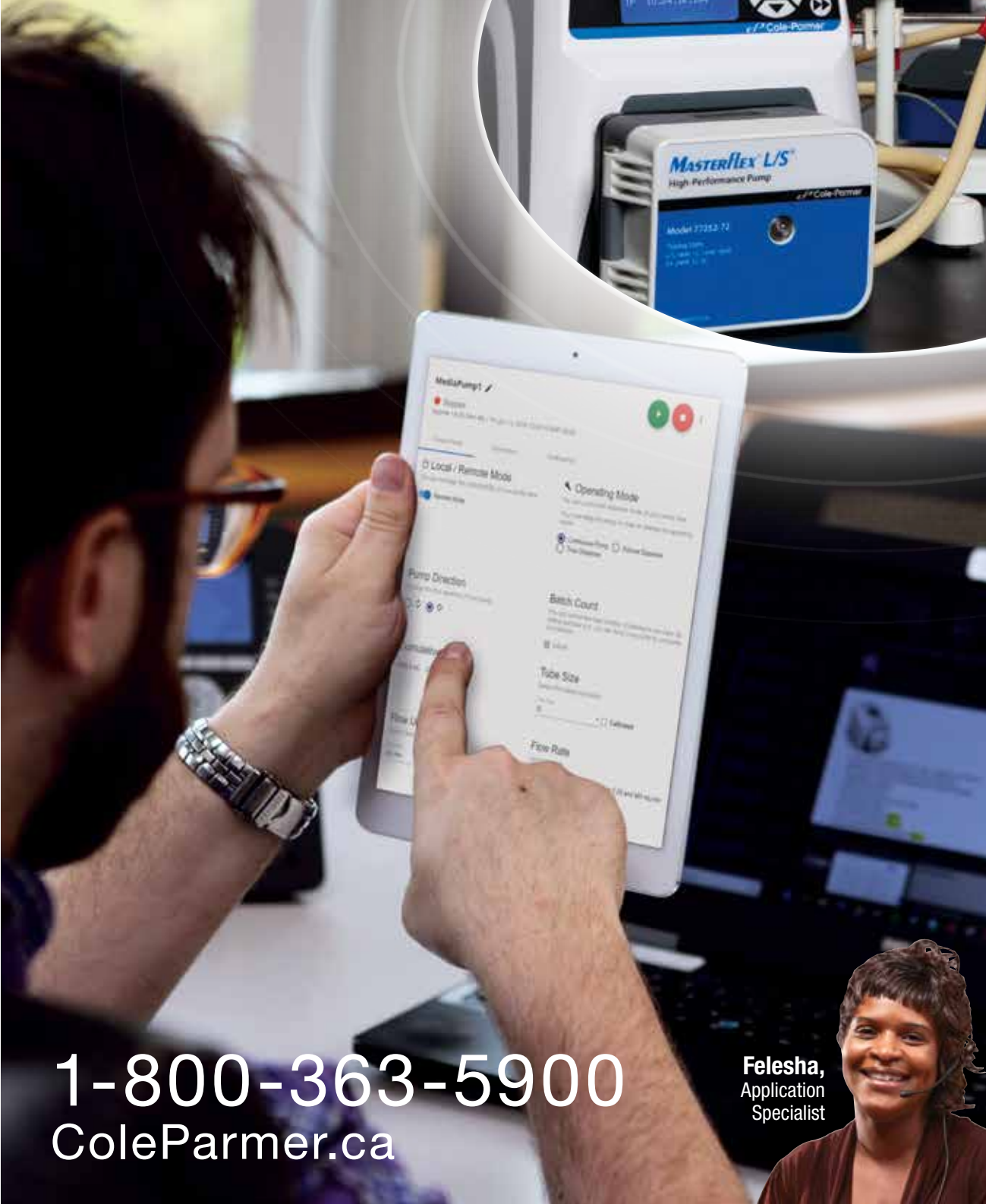




Monitor and control
your pumps **24/7** with
MASTERflexLIVE[®]



Fluid Handling
Sourcebook

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Application
Specialist



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At Cole-Parmer, you come first. We've been in the industry more than 60 years, so we understand your expectations and challenges. That's why you will only find industry-leading brands you can trust, backed by a team of application experts who will work with you to meet your requirements. Consider us part of your team. We are dedicated to being your one source for fluid handling, test & measurement, and biosciences equipment, plus supplies and consumables. Your 100% satisfaction is our number one goal.

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We've
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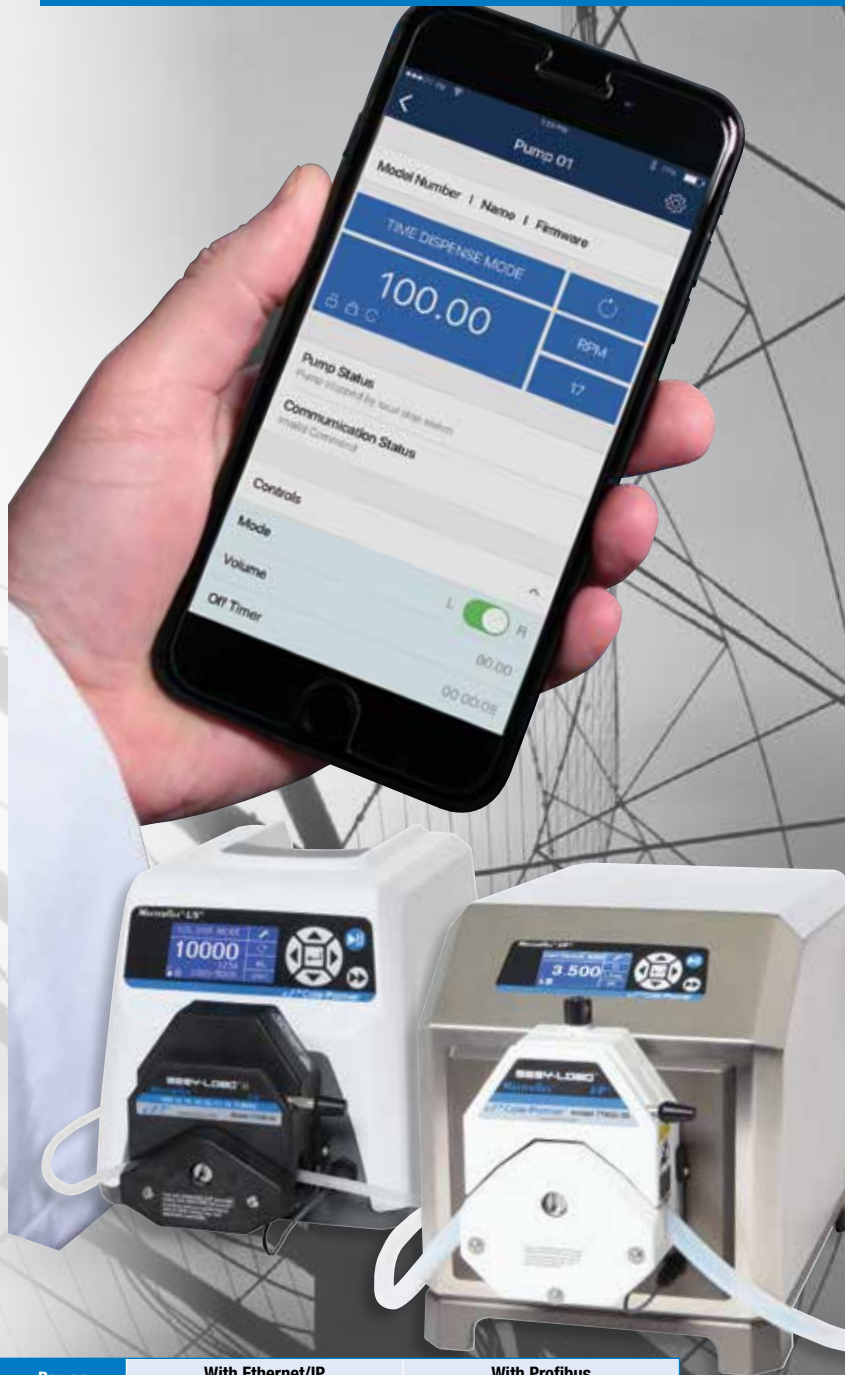
Look for items with a GIS icon and catalog numbers highlighted in **orange**. If any of these items are not in stock when you order, we will pay the shipping costs!*

*GIS items in this catalog are guaranteed in stock through 12/31/19 when you use the two-letter alpha code prefix with the product catalog number. Program valid only in the US and Canada. Cole-Parmer reserves the right to extend or remove GIS items at any time.

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®



⚠ WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which are known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	XH-07551-40		XH-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	XH-07575-50		XH-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	XH-07575-60		XH-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	XH-77420-30		XH-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	XH-77420-40		XH-77420-42	



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



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	4	1/10 hp (75 W)	IP33	90 to 260 VAC	XH-07551-60	
0.1 to 600	0.006 to 3400			2				XH-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	XH-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	XH-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	XH-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	XH-77420-60	

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Monitor and control your pumps via the cloud.

24/7 remote access from anywhere

Choose from standard or premium options to meet your pump remote control and monitoring needs.

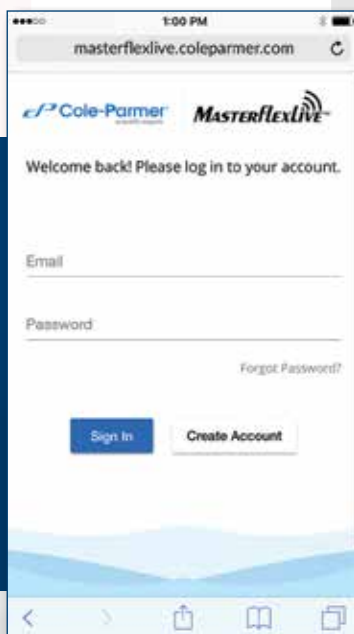
Standard (free) subscription: Get the latest cloud-based technology with secure pump connectivity for remote control and monitoring.

Premium* subscription: When enhanced security and data control is critical to your operation, select a premium subscription account for complete data access and management. Meets requirements for 21 CFR compliance.

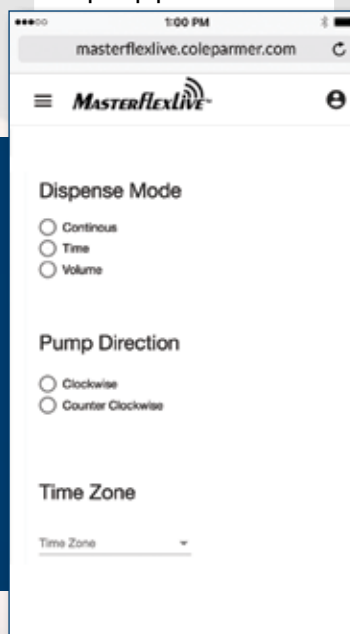
Features	Standard	Premium*
Monitor pump status	✓	✓
Receive alerts & notifications by text or email	✓	✓
Emergency start/stop	✓	✓
Adjust all parameters (start/stop, tubing size, flow rate, dispense volume)	✓	✓
Set up, save, and delete programs	✓	✓
Manage up to 2 user level settings for security	✓	✓
Data access, management, and enhanced security		✓
- Log and time stamp all operating parameters		✓
- Export record of all pump activity		✓
Meet 21 CFR Part 11 and EU Annex 11 compliance		✓

*Requires a monthly subscription.

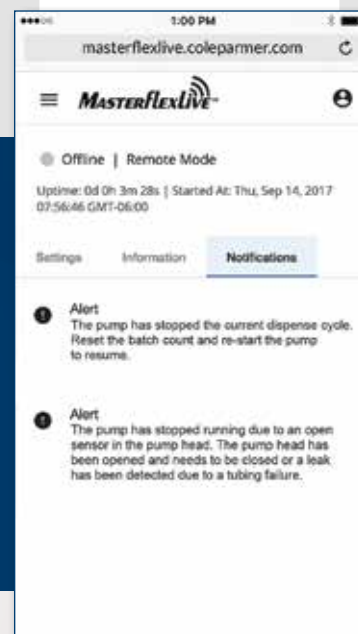
Create an account



Manage & control pump parameters



Get alerts & notifications



For more information, go to
ColeParmer.ca/MasterflexLive

L/S® Variable-Speed Console Drives Compact, cost-effective for general fluid transfer applications

- Simple operation with single-turn speed control
- Separate power switch enables you to maintain speed setting when turning drive on/off; front-panel LED indicates power on
- Reversible motor lets you easily prime/purge tubing and pump in either direction
- Remote control of start/stop via DB9 connector on back of drive

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 07555-00 and -05 are not recommended for use with the PTFE-tubing and PTFE-diaphragm pump heads.

What's included: 6-ft (1.8 m) line cord with IEC 320/CEE22 socket. Shipped with country-specific cord/plug set; please specify ultimate destination when ordering.

FEATURES

- ✓ Flow rates: 0.42 to 2900 mL/min
- ✓ Reversible motor accepts up to two pump heads
- ✓ Remote start/stop



Shown with L/S Easy-Load II pump head 77200-60

Flow Rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head—see page 13)

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.



rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H) (23 x 18.3 x 13.4 cm)	Power (50/60 Hz)		Catalog number	Price
						VAC	Amps		
20 to 600	±5%	1	½ hp (37 W)	IP22		90 to 130	1.5	XH-07555-00	
						180 to 260	0.8	XH-07555-05	
7 to 200		2				90 to 130	1.5	XH-07555-10	
						180 to 260	0.8	XH-07555-15	

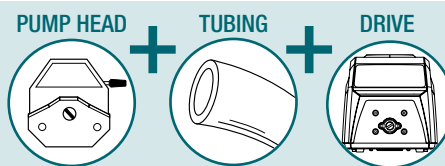
Accessories

[XH-77595-35](#) Foot switch, DB9 male, 6-ft (1.8 m) cable

[XH-17050-01](#) NIST-traceable calibration for peristaltic pump drive

[XH-07528-80](#) Handheld remote controller; for control of start/stop, route tubing through handle for dispensing into containers

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			
	16 to 480 mL/min	Easy-Load® II 77200-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Console drive 07555-00 20 to 600 rpm	115 VAC, 50/60 Hz	XH-77910-40	
				Console drive 07555-05 20 to 600 rpm	230 VAC, 50/60 Hz	XH-77910-45	
	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 07555-00 20 to 600 rpm	115 VAC, 50/60 Hz	XH-77910-50	
				Console drive 07555-05 20 to 600 rpm	230 VAC, 50/60 Hz	XH-77910-55	

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

L/S® Precision Console Process Drives

Stand up to process and washdown applications

- IP66 and NEMA 4X rated; sealed housing and sealed membrane keypad
- Three-digit LED display lets you confirm speed setting at a glance
- Open-head sensor stops drive motor when pump head is opened—pair with an open-head sensor equipped pump head
- Remote control capabilities via a watertight connector on back of drive

Accurate console drives have powerful motors, speed display, and $\pm 0.25\%$ 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.

FEATURES

- ✓ Flow rates: 0.06 to 3400 mL/min
- ✓ Variable speed from 1 to 600 rpm
- ✓ Stack up to four pump heads



Drive 07528-40 shown with L/S Easy-Load II pump head 77200-32



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	$\pm 0.25\%$	Yes	2	$\frac{1}{10}$ hp (75 W)	IP66/ NEMA 4X	12" x 9" x 9 $\frac{5}{16}$ " (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XH-07528-40	
1 to 100			4					XH-07528-45	
Precision process drives with powder-coat steel housing									
6 to 600	$\pm 0.25\%$	Yes	2	$\frac{1}{10}$ hp (75 W)	IP66/ NEMA 4X	12" x 9" x 9 $\frac{5}{16}$ " (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XH-07528-50	
1 to 100			4					XH-07528-55	

XH-77300-32 Cable assembly, for precision process drives; 18-pin round connector and 25-ft (7.9 m) cable with stripped wire ends

XH-17050-01 NIST-traceable calibration for peristaltic pump drive

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

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
- 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 (heads not included)



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	$\pm 0.25\%$ (1 rpm at 600 rpm; 0.1 rpm at 100 rpm)	2	$\frac{1}{10}$ 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	XH-07528-10	
3 to 300		2						XH-07528-20	
1 to 100		4						XH-07528-30	

XH-07595-45 Connector, DB9 male. Use for 4 to 20 mA remote control

XH-07595-47 Cable assembly, DB9 male connector and 25-ft (7.9-m) cable with stripped wire terminal ends. Use for remote control

XH-77595-35 Foot switch, DB9 male

XH-07528-80 Handheld remote controller; for remote control of start/stop, route tubing through handle for dispensing into containers

XH-17050-01 NIST-traceable calibration with data for peristaltic pump drive

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

L/S® Variable-Speed Digital Drives

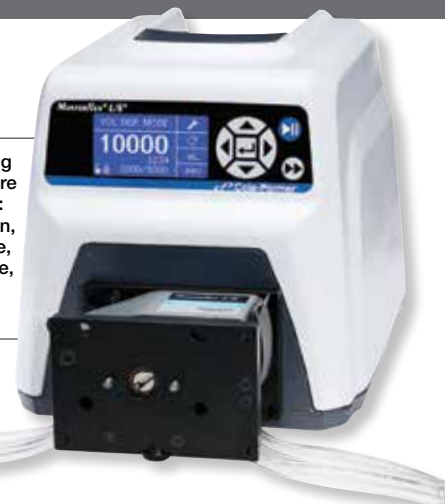
Versatile, worry-free operation

- Brushless, maintenance-free motor provides ±0.1% speed control accuracy with 6000:1 turndown ratio
- Bright graphical LCD offers easy programming and four operating modes
- 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 12–13)
- 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®

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
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	XH-07522-20	
		Yes						XH-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	XH-07522-30	
		Yes						XH-07522-38	

XH-07523-92 Foot switch, momentary start/stop; 6-ft (1.8-m) cable

XH-07523-94 DB25 male connector. Use to create your own cable

XH-07523-95 Cable assembly for remote control; DB25 male connector and 25 ft (7.9 m) cable with stripped wire ends

XH-07523-97 Handheld remote controller; route tubing through handle for dispensing into containers

XH-17050-01 NIST-traceable calibration with data for peristaltic pump drive

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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—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
- Dispense by: 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 12–13)

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®

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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 9/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XH-07575-30	
		Yes						XH-07575-38	
0.02 to 100		No	4					XH-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 9/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	XH-07575-40	
		Yes						XH-07575-48	
0.02 to 100		No	4					XH-07575-45	

XH-07575-84 Washdown foot switch, momentary start/stop; 6-ft (1.8-m) cable

XH-07575-80 Cable assembly for remote control; 31-pin round connector and 25-ft (7.9-m) cable with stripped wire ends

XH-17050-01 NIST-traceable calibration with data for peristaltic pump drive

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

Masterflex® Drives Powering Quattroflow™ Pumps

Move your delicate biological fluids

- 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



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—eliminating the cleaning validation, sterilization process. You can quickly turn around equipment from one batch to the next, maximizing production operations. 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.

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.

⚠️ WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

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	XH-74000-35		XH-76000-00	
	Stainless steel, IP66 and NEMA 4X	XH-74000-37		XH-76000-00	
QF150S (multiple use)	ABS plastic, IP33	XH-74000-31		XH-76000-06	
	Stainless steel, IP66 and NEMA 4X	XH-74000-33		XH-76000-06	
QF1200SU (single use)	Stainless steel, IP66 and NEMA 4X	XH-74000-47		XH-76000-02	
QF1200S (multiple use)	Stainless steel, IP66 and NEMA 4X	XH-74000-43		XH-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) For fluid temp >104°F (40°C): 58 psi (4 bar)	58 psi (4 bar)	58 psi (4 bar)	87 psi (6 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 Without connector: 15 mL	1.2 mL 15 mL	9.6 mL 75 mL	9.6 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	⅛ hp (0.05 kW)	⅛ hp (0.05 kW)	⅜ 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		

L/S® 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

Silicone (peroxide-cured)

- Greater physical compression capability
- Economical, longer tubing life

BioPharm Silicone (platinum-cured)

- Low absorption; excellent biocompatibility
- Very low extractable; weather, ozone, corona, radiation resistant

BioPharm Plus Silicone (platinum-cured)

- Ultra-smooth—minimizes particle entrapment
- Very low extractable—ideal for lab, biotech, and pharmaceutical

Puri-Flex™

- Heat sealable, weldable, and economical
- Long pump life when compared to silicone or many other TPE tubings

C-Flex®

- Heat sealable, weldable, economical
- Better resistance to pH fluctuations

C-Flex® ULTRA

- Longest life of any C-Flex formulation
- Lowest spallation and reduced residue

PharMed® BPT

- >10,000 hours of tubing life; sealable, weldable
- Ideal for tissue and cell culture work

Tubing size	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18
Inner diameter	0.8 mm (0.03")	1.6 mm (0.06")	3.1 mm (0.12")	4.8 mm (0.19")	6.4 mm (0.25")	7.9 mm (0.31")
Hose barb size	1.6 mm (1/16")	1.6 mm (1/16")	3.2 mm (1/8")	4.8 mm (3/16")	6.4 mm (1/4")	9.5 mm (3/8")
Flow range (approximate)†	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

L/S Precision Pump Tubing

Formulation	Complies with	Qty/pk	●	●	○	○	○	○	○
Silicone (platinum-cured)	USP Class V, EP, FDA, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-96410-13	XH-96410-14	XH-96410-16	XH-96410-25	XH-96410-17	XH-96410-18	
Silicone (peroxide-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-96400-13	XH-96400-14	XH-96400-16	XH-96400-25	XH-96400-17	XH-96400-18	
BioPharm Silicone (platinum-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-96420-13	XH-96420-14	XH-96420-16	XH-96420-25	XH-96420-17	XH-96420-18	
BioPharm Plus Silicone (platinum-cured)	USP Class VI, EP, FDA, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-96440-13	XH-96440-14	XH-96440-16	XH-96440-25	XH-96440-17	XH-96440-18	
Puri-Flex™	USP Class VI, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-96419-13	XH-96419-14	XH-96419-16	XH-96419-25	XH-96419-17	XH-96419-18	
C-Flex®	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-06424-13	XH-06424-14	XH-06424-16	XH-06424-25	XH-06424-17	XH-06424-18	
C-Flex® ULTRA	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	—	XH-06434-14	XH-06434-16	XH-06434-25	XH-06434-17	XH-06434-18	
PharMed® BPT	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	XH-06508-13	XH-06508-14	XH-06508-16	XH-06508-25	XH-06508-17	XH-06508-18	
PharmaPure®	USP Class VI, EP, FDA, REACH, RoHS	7.6 m (25 ft)	XH-06435-13	XH-06435-14	XH-06435-16	XH-06435-25	XH-06435-17	XH-06435-18	
GORE® STA-PURE® Series PCS ²	USP Class VI	35.6 cm (14")	—	XH-96241-14	XH-96241-16	XH-96241-25	XH-96241-17	XH-96241-18	
GORE® STA-PURE® Series PFL ¹	USP Class VI	35.6 cm (14")	—	XH-96242-14	XH-96242-16	XH-96242-25	XH-96242-17	XH-96242-18	
Chem-Durance® Bio ¹	USP Class VI, FDA, REACH, RoHS	15.2 m (50 ft)	XH-06442-13	XH-06442-14	XH-06442-16	XH-06442-25	XH-06442-17	XH-06442-18	
Tygon® E-LFL	USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-06440-13	XH-06440-14	XH-06440-16	XH-06440-25	XH-06440-17	XH-06440-18	
Tygon E-Food (B-44-4X)	FDA, EU Food, NSF, 3A, REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06418-13	XH-06418-14	XH-06418-16	XH-06418-25	XH-06418-17	XH-06418-18	
Tygon E-Lab (E-3603)	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06509-13	XH-06509-14	XH-06509-16	XH-06509-25	XH-06509-17	XH-06509-18	
Tygon Fuel & Lubricant (F-4040-A)	REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06401-13	XH-06401-14	XH-06401-16	XH-06401-25	XH-06401-17	XH-06401-18	
Tygon Chemical ¹ (2001)	FDA 21 CFR 175.300, REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06475-13	XH-06475-14	XH-06475-16	XH-06475-25	XH-06475-17	XH-06475-18	
Norprene® (A-60 G)	NSF, REACH, RoHS	15.2 m (50 ft)	XH-06404-13	XH-06404-14	XH-06404-16	XH-06404-25	XH-06404-17	XH-06404-18	
Norprene Food (A 60 F)	FDA, 3A, NSF, REACH, RoHS	15.2 m (50 ft)	XH-06402-13	XH-06402-14	XH-06402-16	XH-06402-25	XH-06402-17	XH-06402-18	
Viton®	FDA, ADFC	7.6 m (25 ft)	XH-96412-13	XH-96412-14	XH-96412-16	XH-96412-25	XH-96412-17	XH-96412-18	

†Determined under the following conditions: Using a 1 to 600 rpm drive; 0 psi at inlet, 0.5 psi at outlet; water temperature at 22°C (72°F).

PharmaPure®

- Nontoxic and nonhemolytic biocompatible
- Long life even under pressure with VERY low spallation

GORE® STA-PURE® PCS

- Long life—even in pressures up to 100 psi
- Excellent flow stability

GORE® STA-PURE® PFL

- Long life—even in pressures up to 100 psi
- Excellent biocompatibility and flow stability

Chem-Durance® Bio

- Excellent chemical compatibility and biocompatibility
- Excellent life and durability under pressure

Tygon® E-LFL

- Longest life of all Tygon formulations
- Broad chemical resistance

Tygon E-Food (B-44-4X)

- Smooth inner surface unaffected by commercial sanitizers
- Nontoxic; will not affect taste or odor

Tygon E-Lab (E-3603)

- Ideal for general transfer use
- Nonaging, nonoxidizing, low gas permeability

Tygon Fuel & Lubricant (F-4040-A)

- Formulated to transport hydrocarbons, petroleum products, and distillates
- Low gas permeability

Tygon Chemical (2001)

- Excellent chemical resistance
- Plasticizer-free with low gas permeability

Norprene® (A-60 G)

- Up to 10,000 hours of tubing life
- Excellent choice for pressure/vacuum applications

Norprene Food (A 60 F)

- Ideal for high-temperature food applications
- Resists heat, ozone, acids, and alkalis

Viton®

- Perfect for applications where FDA and chemical compatibility is needed
- Resists corrosives, solvents, and oils at elevated temperatures



FEATURES

- ✓ Custom extruded to fit Masterflex pumps
- ✓ Engineered for long life in peristaltic pump applications

L/S High-Performance Precision Pump Tubing

Tubing size	L/S 15	L/S 24	L/S 35	L/S 36
Inner diameter	4.8 mm (0.19")	6.4 mm (0.25")	7.9 mm (0.31")	9.7 mm (0.38")
Hose barb size	4.8 mm (3/16")	6.4 mm (1/4")	9.5 mm (3/8")	9.5 mm (3/8")
Flow range (approximate)†	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)

Formulation	Complies with	Qty/pk				
Silicone (platinum-cured)	USP Class V, EP, FDA, REACH, RoHS, ADF	7.6 m (25 ft)	XH-96410-15	XH-96410-24	XH-96410-35	XH-96410-36
Silicone (peroxide-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF	7.6 m (25 ft)	XH-96400-15	XH-96400-24	XH-96400-35	XH-96400-36
BioPharm Silicone (platinum-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF	7.6 m (25 ft)	XH-96420-15	XH-96420-24	XH-96420-35	XH-96420-36
BioPharm Plus Silicone (platinum-cured)	USP Class VI, EP, FDA, REACH, RoHS, ADF	7.6 m (25 ft)	XH-96440-15	XH-96440-24	XH-96440-35	XH-96440-36
Puri-Flex™	USP Class VI, FDA, 3A, REACH, RoHS, ADF	7.6 m (25 ft)	XH-96419-15	XH-96419-24	XH-96419-35	XH-96419-36
C-Flex®	USP Class VI, EP, REACH, RoHS, ADF	7.6 m (25 ft)	XH-06424-15	XH-06424-24	XH-06424-35	XH-06424-36
C-Flex® ULTRA	USP Class VI, EP, REACH, RoHS, ADF	7.6 m (25 ft)	XH-06434-15	XH-06434-24	XH-06434-35	XH-06434-36
PharMed® BPT	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	XH-06508-15	XH-06508-24	XH-06508-35	XH-06508-36
PharmaPure®†	USP Class VI, EP, FDA, REACH, RoHS	7.6 m (25 ft)	XH-06435-15	XH-06435-24	—	—
GORE® STA-PURE® Series PCS‡	USP Class VI	35.6 cm (14")	XH-96241-15	XH-96241-24	XH-96241-35	XH-96241-36
GORE® STA-PURE® Series PFL‡	USP Class VI	35.6 cm (14")	XH-96242-15	XH-96242-24	XH-96242-35	XH-96242-36
Chem-Durance® Bio‡	USP Class VI, FDA, REACH, RoHS	15.2 m (50 ft)	XH-06442-15	XH-06442-24	XH-06442-35	XH-06442-36
Tygon® E-LFL	USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADF	7.6 m (25 ft)	XH-06440-15	XH-06440-24	XH-06440-35	XH-06440-36
Tygon E-Food (B-44-4X)	FDA, EU Food, NSF, 3A, REACH, RoHS, ADF	15.2 m (50 ft)	XH-06418-15	XH-06418-24	XH-06418-35	XH-06418-36
Tygon E-Lab (E-3603)	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADF	15.2 m (50 ft)	XH-06509-15	XH-06509-24	XH-06509-35	XH-06509-36
Tygon Fuel & Lubricant (F-4040-A)	REACH, RoHS, ADF	15.2 m (50 ft)	XH-06401-15	XH-06401-24	XH-06401-35	XH-06401-36
Tygon Chemical† (2001)	FDA 21 CFR 175.300, REACH, RoHS, ADF	15.2 m (50 ft)	XH-06475-15	XH-06475-24	—	—
Norprene® (A-60 G)	NSF, REACH, RoHS	15.2 m (50 ft)	XH-06404-15	XH-06404-24	XH-06404-35	XH-06404-36
Norprene Food (A 60 F)	FDA, 3A, NSF, REACH, RoHS	15.2 m (50 ft)	XH-06402-15	XH-06402-24	XH-06402-35	XH-06402-36
Viton®	FDA, ADF	7.6 m (25 ft)	XH-96412-15	XH-96412-24	XH-96412-35	XH-96412-36

†Not compatible with Easy-Load 3, Multi-Cartridge, or High-Performance pump heads.

L/S® Easy-Load® Pump Heads

Faster tubing changes and reduced maintenance

- **NEW design** and automatic tubing retention allow for multiple tubing sizes—change tubing without removing head from drive.
- Four rollers for reduced pulsation and smoother flow.
- Stainless steel (SS) rotor/roller for greater durability and chemical resistance.
- Models with integrated open-head sensor connect directly to sensor-equipped drives

What's included: single-channel mounting hardware.



NEW

MASTERFLEX®

Pump heads are compact for efficient use of space, and stackable for multichannel applications.

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which are known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov



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		Easy-Load pump head with open-head sensor	Easy-Load pump head
Easy-Load pump heads for Precision pump tubing						
L/S 13	0.06	0.001 to 6	0.006 to 36	40 (2.7)	XH-07514-30	XH-07514-10
L/S 14	0.21	0.004 to 21	0.02 to 130	40 (2.7)		
L/S 16	0.8	0.016 to 80	0.08 to 480	40 (2.7)		
L/S 25	1.7	0.034 to 170	0.17 to 1000	35 (2.4)		
L/S 17	2.8	0.056 to 280	0.28 to 1700	20 (1.4)		
L/S 18	3.8	0.076 to 380	0.38 to 2300	15 (1.0)		
Easy-Load pump heads for High-Performance Precision pump tubing						
L/S 15	1.7	0.034 to 170	0.17 to 1000	40 (2.7)	XH-07514-32	XH-07514-12
L/S 24	2.8	0.056 to 280	0.28 to 1700	40 (2.7)		
Price						

Mounting hardware

Stack up to four Easy-Load pump heads on one drive. Order mounting hardware based on number of heads to be mounted. Hardware is stainless steel.

Heads to be mounted	Catalog number	Price/set
One	XH-07514-04	
Two	XH-07013-05	
Three	XH-07013-08	
Four	XH-07013-09	

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)

FEATURES

- ✓ Load tubing easily
- ✓ Accepts several tubing sizes for a wide flow range
- ✓ Stack up to four heads
- ✓ Durable PPS housing



WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

MASTERFLEX®

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Pump tubing size	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	
					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)	XH-77200-50		XH-77200-60		XH-77200-30	XH-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)	XH-77200-52		XH-77200-62		XH-77200-32	XH-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)	XH-77202-50		XH-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 17	2.8	2.8 to 280	17 to 1700	20 (1.4)						
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

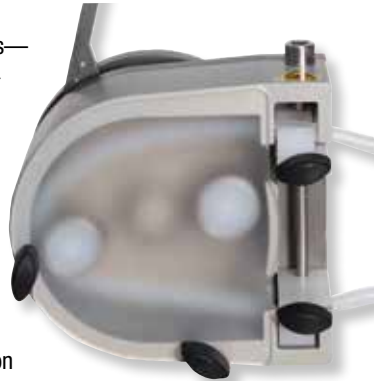
Mounting Hardware. Mount up to four L/S Easy-Load II pump heads on a single drive. Mounting hardware is stainless steel.

Heads to be mounted	One	Two	Three	Four
Catalog number	XH-77200-01	XH-77200-02	XH-77200-03	XH-77200-04
Price/st				

L/S® Cytoflow™ Pump Heads

Ensure maximum protection of live cells and shear-sensitive fluids

- 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



MASTERFLEX®

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.

⚠ WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

FEATURES

- ✓ High flow at low rpm
- ✓ Maintain the consistency of shear-sensitive fluids
- ✓ Ensure the survival and vitality of live cells



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)	XH-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)	XH-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)	XH-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)	XH-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)		

L/S® High-Performance Pump Heads

Improved ergonomics and faster tubing changes

- 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

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®



⚠ WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

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ATEX

Zone 2
77252-80, 82



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)	XH-77252-60	XH-77252-70	XH-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)	XH-77252-62	XH-77252-72	XH-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.

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 17)

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	¾ hp (280 W)	IP66	16 ¹¹ / ₁₆ " x 11 ¹ / ₈ " x 12 ⁷ / ₈ "	90 to 260 VAC, 50/60 Hz	XH-77420-10	
		Yes						XH-77420-18	
Digital process drive with powder-coat steel housing									
0.1 to 650	±0.1%	No	2	¾ hp (280 W)	IP66	16 ¹¹ / ₁₆ " x 11 ¹ / ₈ " x 12 ⁷ / ₈ "	90 to 260 VAC, 50/60 Hz	XH-77420-20	
		Yes						XH-77420-28	

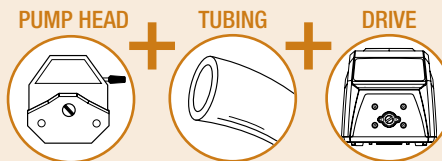
Accessories

[XH-07575-84](#) Washdown foot switch, momentary start/stop; 6-ft (1.8-m) cable

[XH-07575-80](#) Cable assembly, 31-pin round connector and 25-ft (7.9-m) cable with stripped wire ends for remote control

[XH-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	XH-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	XH-77964-30	

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which are known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

I/P® Cytoflow® Pump with MasterflexLive®

Cloud-enabled pump systems for secure, real-time monitoring and control of pump status and performance

NEW

- Cytoflow pump head offers the best option for pumping live cells and shear-sensitive fluids—validated by independent test data.
- MasterflexLive is a secure, cloud-enabled platform for control and monitoring of Masterflex 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.
- Operational data logging is compliant to 21 CFR Part 11 & EU Annex 11
- Flow range is 0.007 to 13.6 LPM (0.002 to 3.6 GPM).
- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense.
- Open-head sensor stops the drive when the pump head is opened.
- Housing is NEMA 4X (IP66) rated for washdown.
- Brushless, maintenance-free motor offers ±0.1% speed control accuracy.



FEATURES

- ✓ Operate pump using phone or tablet
- ✓ Maintain the consistency of shear-sensitive fluids
- ✓ Ensure the survival and vitality of live cells



What's included: stainless steel process drive, Cytoflow pump head, and 6-ft line cord with IEC 320/CEE22 socket. These models are shipped with country-specific plug/cord set; please specify destination when ordering.

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

Flow rates in LPM



rpm	Precision pump tubing			
	I/P 26	I/P 73	I/P 82	I/P 84
1 to 500	0.007 to 3.9	0.014 to 8.0	0.022 to 10.0	0.023 to 13.6

rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H) (42.3 x 28.3 x 32.8 cm)	Power (50/60 Hz)		Catalog number	Price
						VAC	Amps		
0.1 to 500	±0.25%	1	¾ hp (280 W)	IP66	16¾" x 11½" x 12⅞"	90 to 260	4.5 at 115 VAC; 2.5 at 230 VAC	XH-77420-80	

[XH-77097-86](#) Leak detector kit, basin-mount leak detector; 31-pin round connector and extension cable

Custom-Engineered Pumps Designed for You

Product Development Process



Concept

Complete product specifications developed according to your needs



Design

Innovative solution created with our advanced systems



Engineering

Product prototype and fabrication for your approval



Testing

Tested under actual conditions; products comply with UL, ETL, and CE under ISO:9001 and ISO:13485 standards



Service

After sale support, quality assurance audits, and additional services

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

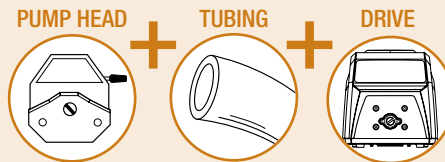


Motor speed (rpm)	Speed control (repeatability)	Pump heads accepted	Motor size	Dimensions	Power (50/60 Hz)		Catalog number	Price
					VAC	Amps		
Variable-speed brushless process drive								
33 to 650	±0.25% (2% of max rpm)	2	1/3 hp (0.25 kW)	14"L x 10"W x 9"H (35.6 x 25.4 x 22.9 cm)	90 to 260	4.5 at 115 VAC, 2.6 at 230 VAC	XH-77410-10	
Variable-speed brushless process drive with remote input/output								
33 to 650	±0.25% (2% of max rpm)	2	1/3 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	XH-77411-00	

[XH-07595-43](#) Washdown foot switch for model 77411-00

[XH-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	XH-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	XH-77963-20	

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov



Need Help Selecting?

Trust our **expert** Application Specialists to help you find the right product.

1-800-363-5900

info@coleparmer.ca

ColeParmer.ca

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



WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov



Pump tubing sizes accepted	mL per rev	Flow rates (LPM) at indicated rpm			Maximum system psi (bar)	Catalog number†				
		100	540	20 to 650		White PPS housing			Black PPS housing	ATEX-approved; PPS housing
						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)					
I/P 73	12.3	1.2	6.8	0.2 to 8		XH-77602-00	XH-77602-10	XH-77602-30	XH-77601-60	XH-77602-80
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

[XH-77601-96](#) Dual-channel mounting hardware for two pump heads, stainless steel

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



WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov



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)		
I/P 88	26.2	0.4 to 17	35 (2.4)	XH-77600-62	XH-77600-82
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

I/P® 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

Silicone (peroxide-cured)

- Greater physical compression capability
- Economical, longer tubing life

BioPharm Silicone (platinum-cured)

- Low absorption; excellent biocompatibility
- Very low extractable; weather, ozone, corona, radiation resistant

BioPharm Plus Silicone (platinum-cured)

- Ultra-smooth—minimizes particle entrapment
- Very low extractable—ideal for lab, biotech, and pharmaceutical

Puri-Flex™

- Heat sealable, weldable, and economical
- Long pump life when compared to silicone or many other TPE tubings

C-Flex®

- Heat sealable, weldable, economical
- Better resistance to pH fluctuations




C-Flex® ULTRA

- Longest life of any C-Flex formulation
- Lowest spallation and reduced residue



Tubing size	I/P 26	I/P 73	I/P 82
Inner diameter	6.4 mm (0.25")	9.5 mm (0.37")	12.7 mm (0.5")
Hose barb size	6.4 mm (¼")	9.5 mm (¾")	12.7 mm (½")
Flow range (approximate)†	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

I/P Precision Pump Tubing

Formulation	Complies with	Qty/pk			
Silicone (platinum cured)	USP Class V, EP, FDA, REACH, RoHS, AECF	7.6 m (25 ft)	XH-96410-26	XH-96410-73	XH-96410-82
Silicone (peroxide cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, AECF	7.6 m (25 ft)	XH-96400-26	XH-96400-73	XH-96400-82
BioPharm Silicone (platinum)	USP Class VI, EP, FDA, 3A, REACH, RoHS, AECF	7.6 m (25 ft)	XH-96420-26	XH-96420-73	XH-96420-82
BioPharm Plus Silicone (platinum)	USP Class VI, EP, FDA, REACH, RoHS, AECF	7.6 m (25 ft)	XH-96440-26	XH-96440-73	XH-96440-82
Puri-Flex™	USP Class VI, FDA, 3A, REACH, RoHS, AECF	7.6 m (25 ft)	XH-96419-26	XH-96419-73	XH-96419-82
C-Flex®	USP Class VI, EP, REACH, RoHS, AECF	7.6 m (25 ft)	XH-06424-26	XH-06424-73	XH-06424-82
C-Flex® ULTRA	USP Class VI, EP, REACH, RoHS, AECF	7.6 m (25 ft)	XH-06434-26	XH-06434-73	XH-06434-82
PharMed® BPT	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	XH-06508-26	XH-06508-73	XH-06508-82
PharmaPure® ‡	USP Class VI, EP, FDA, REACH, RoHS	7.6 m (25 ft)	XH-06435-26	XH-06435-73	XH-06435-82
GORE® STA-PURE® Series PCS	USP Class VI	0.6 m (2 ft)	XH-96241-26	XH-96241-73	XH-96241-82
GORE® STA-PURE® Series PFL	USP Class VI	0.6 m (2 ft)	XH-96242-26	XH-96242-73	XH-96242-82
Chem-Durance® Bio†	USP Class VI, FDA, REACH, RoHS	15.2 m (50 ft)	XH-06442-26	XH-06442-73	XH-06442-82
Tygon® E-LFL	USP Class VI, EP, FDA, EU Food, REACH, RoHS, AECF	7.6 m (25 ft)	XH-06440-26	XH-06440-73	XH-06440-82
Tygon E-Food (B-44-4X)	FDA, EU Food, NSF, 3A, REACH, RoHS, AECF	15.2 m (50 ft)	XH-06418-26	XH-06418-73	XH-06418-82
Tygon E-Lab (E-3603)	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, AECF	15.2 m (50 ft)	XH-06509-26	XH-06509-73	XH-06509-82
Tygon Fuel & Lubricant (F-4040-A)	REACH, RoHS, AECF	15.2 m (50 ft)	XH-06401-26	XH-06401-73	XH-06401-82
Tygon Chemical (2001)‡	FDA 21 CFR 175.300, REACH, RoHS, AECF	15.2 m (50 ft)	XH-06475-26	XH-06475-73	XH-06475-82
Norprene® (A 60 G)	NSF, REACH, RoHS	15.2 m (50 ft)	XH-06404-26	XH-06404-73	XH-06404-82
Norprene Food (A 60 F)	FDA, 3A, NSF, REACH, RoHS	15.2 m (50 ft)	XH-06402-26	XH-06402-73	XH-06402-82
Viton®	FDA, AECF	7.6 m (25 ft)	XH-96412-26	XH-96412-73	—

†Determined under these conditions: Using a 1 to 650 rpm drive; 0 psi at inlet, 0.5 psi at outlet; water temperature at 22°C (72°F).
‡Recommended for use with Easy-Load® pump heads only.

PharMed® BPT

- >10,000 hours of tubing life; sealable, weldable
- Ideal for tissue and cell culture work

PharmaPure®

- Nontoxic and nonhemolytic biocompatible
- Long life even under pressure with VERY low spallation

Gore® STA-PURE® Series PCS

- Consistent flow rate
- Long life—even in pressures up to 100 psi

Gore® STA-PURE® Series PFL

- Long life—even in pressures up to 100 psi
- Excellent biocompatibility and flow stability

Chem-Durance® Bio

- Excellent chemical compatibility and biocompatibility
- Excellent life and durability under pressure

Tygon® E-LFL

- Longest life of all Tygon formulations
- Broad chemical resistance

Tygon E-Food (B-44-4X)

- Smooth inner surface unaffected by commercial sanitizers
- Nontoxic; will not affect taste or odor

Tygon E-Lab (E-3603)

- Ideal for general transfer use
- Nonaging, nonoxidizing, low gas permeability

Tygon Fuel & Lubricant (F-4040-A)

- Formulated to transport hydrocarbons, petroleum products, and distillates
- Low gas permeability

Tygon Chemical (2001)

- Excellent chemical resistance
- Plasticizer-free with low gas permeability

Norprene® (A-60 G)

- Up to 10,000 hours of tubing life
- Excellent choice for pressure/vacuum applications

Norprene Food (A 60 F)

- Ideal for high-temperature food applications
- Resists heat, ozone, acids, and alkalis

Viton®




- Perfect for applications where FDA and chemical compatibility is needed
- Resists corrosives, solvents, and oils at elevated temperatures

FEATURES

- ✓ Custom extruded to fit Masterflex pumps
- ✓ Engineered for long life in peristaltic pump applications

I/P High-Performance Precision Pump Tubing

Tubing size	I/P 70	I/P 88	I/P 89
Inner diameter	9.5 mm (0.37")	12.7 mm (0.5")	15.88 mm (0.62")
Hose barb size	9.5 mm (3/8")	12.7 mm (1/2")	15.88 mm (5/8")
Flow range (approximate)†	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

Formulation	Complies with	Qty/pk			
Silicone (platinum cured)	USP Class V, EP, FDA, REACH, RoHS, ADFC	3 m (10 ft)	XH-96510-70	XH-96510-88	XH-96510-89
BioPharm Silicone (platinum)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	3 m (10 ft)	XH-96421-70	XH-96421-88	XH-96421-89
BioPharm Plus Silicone (platinum)	USP Class VI, EP, FDA, REACH, RoHS, ADFC	3 m (10 ft)	XH-96441-70	XH-96441-88	XH-96441-89
Puri-Flex™	USP Class VI, FDA, 3A, REACH, RoHS, ADFC	3 m (10 ft)	XH-96419-70	XH-96419-88	XH-96419-89
C-Flex®	USP Class VI, EP, REACH, RoHS, ADFC	3 m (10 ft)	XH-06424-70	XH-06424-88	XH-06424-89
PharMed® BPT	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	XH-06508-70	XH-06508-88	—
GORE® STA-PURE® Series PCS††	USP Class VI	0.6 m (2 ft)	—	XH-96241-88	XH-96241-89
GORE® STA-PURE® Series PFL††	USP Class VI	0.6 m (2 ft)	—	XH-96242-88	XH-96242-89
Chem-Durance® Bio	USP Class VI, FDA, REACH, RoHS	7.6 m (25 ft)	XH-06442-70 /15.2 m (50 ft)	XH-06442-88	XH-06442-89
Tygon E-LFL	USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADFC	7.6 m (25 ft)	XH-06440-70	XH-06440-88	XH-06440-89
Tygon E-Food (B-44-4X)	FDA, EU Food, NSF, 3A, REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06418-70	XH-06418-88	XH-06418-89
Tygon E-Lab (E-3603)	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADFC	15.2 m (50 ft)	XH-06509-70	XH-06509-88	XH-06509-89
Norprene® (A 60 G)	NSF, REACH, RoHS	7.6 m (25 ft)	XH-06404-70	XH-06404-88	XH-06404-89
Norprene Food (A 60 F)	FDA, 3A, NSF, REACH, RoHS	7.6 m (25 ft)	—	XH-06402-88	XH-06402-89

††Recommended for use with Standard and Easy-Load® pump heads only.

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 m³), 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

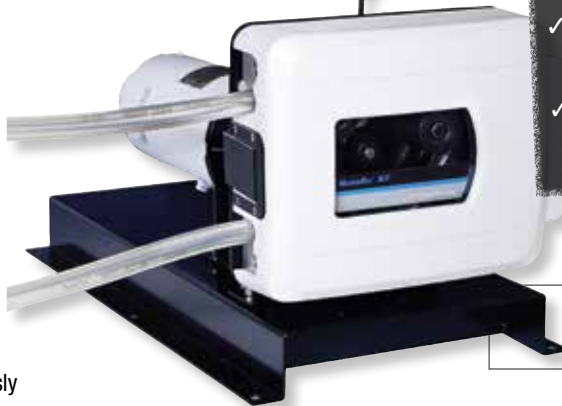
Variable-Speed Modular Digital Pump

- 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)

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov



77111-37, Zone 2 77111-30, Except
-67, -77, -80 77111-80 -37 77111-30, Except
77111-30, -37

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	XH-77111-30	
		271				220 (50)	6.3	XH-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		XH-77111-80	
Variable-speed (±5%)	½ hp (0.37 kW)	12 to 321	Controller: IP56	Direct-drive	27" x 15.8" x 17.4" (68.6 x 40 x 44.2 cm)	115 (50/60)	6.5	XH-77111-60	
						230 (50/60)	3.3	XH-77111-67	
Variable-speed digital (±0.3%)	¾ hp (0.56 kW)	12 to 321	Drive: IP56	Direct-drive	Controller: 9" x 11" x 4½" (22.9 x 27.9 x 11.4 cm) Drive: 27" x 15¼" x 15" (68.6 x 40.0 x 38.4 cm)	90 to 130 (50/60)	10.5	XH-77111-70	
						190 to 260 (50/60)	5.7	XH-77111-77	

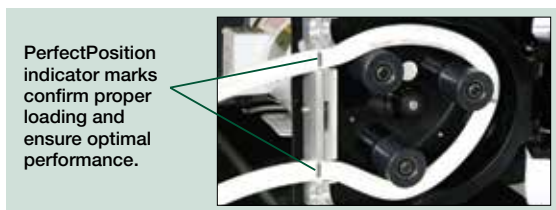
[XH-77300-32 Remote cable](#), required for remote control operation of models 77111-70 and -77; 25 ft (7.6 m)

[XH-77111-90 Bracket for digital controller](#) on models 77111-70 and -77





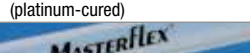




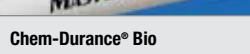




B/T® PerfectPosition® Pump Tubing

Position more easily—retention marks indicate exact placement

– Optimized for use in B/T pumps to provide the pumping life, flow, and repeatability that you expect



Tubing size	B/T 87	B/T 91
Inner diameter	12.7 mm (0.5")	19.0 mm (0.75")
Hose barb size	12.7 mm (½")	19.0 mm (¾")
Flow range (approximate)†	0.67 to 18.9 LPM (0.17 to 5.0 GPM)	1.4 to 42 LPM (0.4 to 11.1 GPM)

Pump tubing formulation	Description		
Silicone (platinum-cured) 	<ul style="list-style-type: none"> Complies with USP Class V, EP, FDA, REACH, RoHS, ADFC Low protein binding, fungus-resistant, phthalate and latex free Accommodates a wide temperature range 	XH-96510-87 3 m (10 ft)/pk	XH-96510-91 3 m (10 ft)/pk
Silicone (peroxide-cured) 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC Greater physical compression capability Economical, long life 	XH-96400-87 3 m (10 ft)/pk	XH-96400-91 3 m (10 ft)/pk
BioPharm Plus Silicone (platinum-cured) 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC Ultra-smooth inner surface minimizes particle entrapment Very low extractable—ideal for lab, biotech pharma applications 	XH-96445-87 3 m (10 ft)/pk	XH-96445-91 3 m (10 ft)/pk
Puri-Flex™ 	<ul style="list-style-type: none"> Complies with USP Class VI, FDA, REACH, RoHS, ADFC Heat sealable, weldable, and economical Long pump life compared to silicone or many TPE tubings 	XH-96419-87 3 m (10 ft)/pk	XH-96419-91 3 m (10 ft)/pk
C-Flex® 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, REACH, RoHS, ADFC Heat sealable, weldable, economical Better resistance to pH fluctuations 	XH-06424-87 3 m (10 ft)/pk	XH-06424-91 3 m (10 ft)/pk
PharMed® BPT 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, NSF-51, REACH, RoHS Over 10,000 hours of tubing life, sealable, weldable Ideal for tissue and cell culture work 	XH-06507-87 3 m (10 ft)/pk	XH-06507-91 3 m (10 ft)/pk
PharmaPure® 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, REACH, RoHS Nontoxic and nonhemolytic biocompatible Long life even under pressure with VERY low spallation 	XH-06437-87 3 m (10 ft)/pk	XH-06437-91 3 m (10 ft)/pk
Chem-Durance® Bio 	<ul style="list-style-type: none"> Complies with USP Class VI, FDA, REACH, RoHS Excellent chemical compatibility and biocompatibility Excellent pump life and durability under pressure 	XH-06443-87 3 m (10 ft)/pk	XH-06443-91 3 m (10 ft)/pk
Tygon® E-LFL 	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADFC Longest life of all Tygon formulations Broad chemical resistance 	XH-06440-87 3 m (10 ft)/pk	XH-06440-91 3 m (10 ft)/pk
Tygon® E-Food (B-44-4X) 	<ul style="list-style-type: none"> Complies with FDA, EU Food, NSF-51, 3A, REACH, RoHS, ADFC Smooth inner surface unaffected by commercial sanitizers Nontoxic, will not affect taste or odor 	XH-06418-87 3 m (10 ft)/pk	XH-06418-91 3 m (10 ft)/pk
Norprene® Food (A-60-F) 	<ul style="list-style-type: none"> Complies with FDA, 3A, NSF-51, REACH, RoHS Ideal for high-temperature food applications Resists heat, ozone, acids, and alkalies 	XH-06399-87 3 m (10 ft)/pk	XH-06399-91 3 m (10 ft)/pk
 Gore® STA-PURE® Series PCS 	<ul style="list-style-type: none"> Complies with USP Class VI Excellent flow stability—even under pressures up to 100 psi 	XH-96241-87 0.68 m (27")/pk	XH-96241-91 0.68 m (27")/pk

†Determined under the following conditions: Using a 11 to 321 rpm drive; 0 bar (0 psi) at inlet, 0.03 bar (0.5) psi at outlet; water temperature at 22°C (72°F).

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 to a display or control device choosing from a range of output options
- 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



Clamp-on sensor design makes setup easy—simply place the tubing in the sensor channel and close the lid.

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.



MASTERFLEX®

What's included: flow sensor, cable, and calibration certificate.



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 pump tubing						
13	0.57	36	0.48	30	XH-33501-13	
14	2.06	130	0.48	30	XH-33501-14	
16	7.61	480	0.48	30	XH-33501-16	
25	15.85	1000	0.48	30	XH-33501-25	
17	26.95	1700	0.48	30	XH-33501-17	
18	36.46	2300	0.48	30	XH-33501-18	
Engineered for L/S High-Performance Precision pump tubing						
15	14.4	1100	0.48	30	XH-33501-15	
24	28.53	1800	0.48	30	XH-33501-24	
35	41.21	2600	0.48	30	XH-33501-35	
36	53.89	3400	0.48	30	XH-33501-36	
Engineered for I/P Precision pump tubing						
26	63.4	4000	0.48	30	XH-33501-26	
73	126.8	8000	0.48	30	XH-33501-73	

[†]Higher flow rates can be measured, the stated maximum flow rate is that of the tubing.

[XH-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

- 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 where 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.

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.



REQUIRED System Components

- 1) Starter kit
- 2) Flow sensor

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



Fluid temperature	Power	Catalog number	Price
50 to 140°F (10 to 60°C)	24 VDC ±10%	XH-24500-07	

2. Single-Use Flow Sensors

±1% accuracy at flow range	Connection size	Sterile	Catalog number	Price
35 to 800 mL/min	¾" Tri-Clamp	No	XH-24500-08	
		Yes	XH-24500-09	
1.7 to 8 L/min	¾" Tri-Clamp	No	XH-24500-10	
		Yes	XH-24500-11	
0.08 to 8 L/min	¾" Tri-Clamp	No	XH-24500-12	
		Yes	XH-24500-13	
4.7 to 20 L/min	½" Tri-Clamp	No	XH-24500-14	
		Yes	XH-24500-15	
18.8 to 80 L/min	1" Tri-Clamp	No	XH-24500-16	
		Yes	XH-24500-17	

Wait!

There's More at ColeParmer.ca

Find all the product specs you need!



Masterflex® Single-Use Flow Sensor Systems

Customize to your application

- Modular interchangeable flow sensor systems with single-use design
- Accurate $\pm 1\%$ of reading measurement at low flow
- Low operating cost disposable flow tubes for optimal contamination-free production
- Also suitable for long-term measurement
- Flow tubes and turbine sensors are produced and tested under cleanroom conditions

The Masterflex single-use flow sensor system is comprised of four components: flow sensor, flow tubes, bar code scanner, and output.



1. Flow Tube Sensors

Choose from four sensor housing options; all allow for quick and easy flow tube replacement:

- Clip mount sensor is lightweight and has a flexible connection for use in a wide range of systems. Available in both PVDF and PFA for highly corrosive applications.
- Tubeholder sensor secures the flow tube with a screw-down closure and has a flat base, ideal for surface or bench work. Available in both PVDF and PFA for highly corrosive applications.
- Click mount sensor has a small footprint; secures flow tube in housing making it ideal for tight hard-to-reach locations. Available in PFA only.
- Clamp mount sensor has a small footprint and secures the flow tube in the housing with provided screw cap, while also having a flat base. Available in both PVDF and PFA for highly corrosive applications.



Clip mount

Specifications

Accuracy: $\pm 1\%$ of reading
Repeatability: $< 0.15\%$
Fluid temperature: -20 to 80°C
Viscosity: 0.8 to 10 cSt

Liquid type: conductive or nonconductive fluids with no lenticular impurities
Output: 5 to 24 V square wave
Power: 5 to 24 VDC



Holder type	Wetted parts	Flow range (L/min)	Tube connection	Max psi	Catalog number	Price
Clip	PFA/ruby	0.06 to 2	7 mm hose barb	290	XH-24507-30	
		0.5 to 20	12 mm hose barb	217.6	XH-24507-31	
		1.5 to 40	1/2" BSP	145	XH-24507-01	
Clip	PVDF/ruby	0.03 to 2	7 mm hose barb	362.6	XH-24507-32	
		0.5 to 20	12 mm hose barb	290	XH-24507-33	
Tubeholder	PVDF/ruby	0.03 to 2	7 mm hose barb	362.6	XH-24507-02	
		0.5 to 20	12 mm hose barb	290	XH-24507-03	
Tubeholder	PVDF/sapphire	3.0 to 200	32 mm hose barb	145	XH-24507-04	
Click	PFA/ruby	0.06 to 2	7 mm hose barb	290	XH-24507-05	
		0.5 to 20	12 mm hose barb	217.6	XH-24507-06	
Clamp	PFA/ruby	0.06 to 2	7 mm hose barb	290	XH-24507-07	
		0.5 to 20	12 mm hose barb	217.6	XH-24507-08	
	PVDF/ruby	0.03 to 2	7 mm hose barb	362.6	XH-24507-09	
Clamp	PVDF/ruby	0.5 to 20	12 mm hose barb	290	XH-24507-10	



REQUIRED System Components

- 1) Flow tube sensor
- 2) Flow tube

Optional Components

- 3) Bar code scanner
- 4) Output

NEW

2. Flow Tubes

Each flow tube has an attached label that indicates the lot number, serial number, K-factor, and 2-D bar code with all the calibration data. All come precalibrated to one point and can be calibrated to 5 points (preorder). Calibration certificates are available below.



Compatible with holder type	Wetted parts	Flow range (LPM)	Tube connection	Catalog number	Price/pk of 10
Clip	PFA/ruby	0.06 to 2	7 mm hose barb	XH-24507-34	
		0.5 to 20	12 mm hose barb	XH-24507-35	
		1.5 to 40	1/2" BSP	XH-24507-13	
Tubeholder, click, or clamp	PVDF/ruby	0.03 to 2	7 mm hose barb	XH-24507-36	
		0.5 to 20	12 mm hose barb	XH-24507-37	
Tubeholder or clamp	PFA/ruby	0.06 to 2	7 mm hose barb	XH-24507-11	
		0.5 to 20	12 mm hose barb	XH-24507-12	
Tubeholder or clamp	PVDF/ruby	0.03 to 2	7 mm hose barb	XH-24507-14	
		0.5 to 20	12 mm hose barb	XH-24507-15	
Tubeholder or clamp	PVDF/sapphire	5 to 120	32 mm hose barb	XH-24507-16	

XH-24507-27 Calibration certificate, single point, K-factor at 50% of flow range

XH-24507-28 Calibration certificate, K-factor at 5 points of flow range. Must be ordered at same time as flow tube

3. Bar Code Scanner

Bar code scanner lets you quickly read the bar code, making the calibration process unnecessary when exchanging a flow tube. Eliminate long downtimes and extra calibration while ensuring an accurate measurement with the bar code scanner.



Description	Output	Dimensions (W x H x D)	Power	Catalog number	Price
K-factor bar code scanner	5 to 24 V square wave	2.2" x 4.1" x 2.4" (5.6 x 10.5 x 6 cm)	5 to 24 VDC	XH-24507-18	

4. Outputs



Description	Maximum input frequency	Output	Power	Catalog number	Price
Digital-to-analog signal converter	5 kHz	0-10 V, 4-20 mA, 0-24 mA, 600 Hz, 1000 Hz, 6000 Hz, or 10,000 Hz	16 to 24 VDC	XH-24507-17	
Flow display, desktop enclosure	10 kHz	Display with totalizer function	Internal lithium battery	XH-24507-25	
Flow display, panel mount				XH-24507-26	

PendoTECH Pressure Monitoring and Transmitting System

Monitor process pressure accurately

- Ideal for applications such as tangential flow filtration, cross flow filtration, depth filtration, bioreactor monitoring, and chromatography



Applications

- ✓ TFF
- ✓ Bioreactor monitoring
- ✓ Depth filtration

Adapter tee 19406-34 assembled to luer sensor 19406-32

1. PressureMAT™ Monitor

- Data output capability to a PC or control system
- User-configurable min/max alarm set points

The PressureMAT combines a pressure monitor, data logger, alarm, and transmitter in one simple control box. Designed for use with single-use, in-line pressure sensors. Each channel takes pressure readings once per second. Process pressure is displayed on the easy-to-read LCD. System is easily calibrated to zero through a single button. The PressureMAT may also transmit output via a 4 to 20 mA signal or can provide RS-232 data transfer for use in common PC applications, such as the PressureMAT Data Acquisition Software or Excel®, through WinWedge or Hyper Terminal software.



Number of process sensor inputs	Number of outputs	Accuracy	Power	Catalog number	Price
2 pressure	2 relay, 2 analog, or 4 relay	±0.1% full-scale	12 to 24 VDC	XH-19406-03	
4 pressure	4 analog			XH-19406-07	
3 pressure; 1 flow	4 analog			XH-19406-11	

[XH-19406-82](#) RS-232 to USB serial adapter cable, 6 ft (1.8 m)

[XH-19406-87](#) Masterflex® interface cable for L/S pump

[XH-19406-95](#) PressureMAT stand



REQUIRED System Components

- 1) PressureMAT™ monitor
- 2) Single-use pressure sensor(s)

2. Single-Use Pressure Sensors

- Economical alternative to stainless steel sensors currently in the market
- Sensors priced for single-use systems but may be reused

Sensors measure static and dynamic process pressure and are perfect components for disposable systems requiring sterilization but also minimal downtime. Sensors feature an integral flow sensor with no dead legs and no fluid path obstructions. All pressure sensors are manufactured in a FDA-registered, ISO 13485-certified facility; in an ISO Class 8 cleanroom. Sensors are made from USP Class VI-compliant polycarbonate or caustic-resistant polysulfone. Both materials are gamma stable. Sensors are 100% tested for accuracy and leaks during the manufacturing process. Connect sensor to PressureMAT monitor with 3.6-m reusable cable. Sensors are designed for use up to a maximum pressure of 5.3 bar.

Process-Scale Sensors connect directly to the tubing line and are available up to 1" hose barb (see [ColeParmer.ca](#)).

Small-Scale Sensors are available with luer connections and may connect directly to the fluid line with luer adapters or indirectly by using a 1/4" or 3/8" barbed adapter tee. Both connection setups have been tested for accuracy.

Material	Connection	Catalog number	Price/ea
Process-scale sensors			
Polycarbonate, non-sterile	1/4" tubing ID	XH-19406-21	
	3/8" tubing ID	XH-19406-23	
	1/2" tubing ID	XH-19406-28	
	3/4" tubing ID	XH-19406-29	
Polysulfone, non-sterile	1/4" tubing ID	XH-19406-27	
	3/8" tubing ID	XH-19406-25	
	1/2" tubing ID	XH-19406-22	
3/4" tubing ID	XH-19406-24		
Small-scale sensors			
Polycarbonate, sterile	Female luer	XH-19406-32	
Polysulfone, non-sterile	Female luer	XH-19406-20	

Note: The single-use sensors will work with third-party pressure monitors. Please contact Cole-Parmer for more information about adapting the sensors to existing monitors.

[XH-19406-34](#) Adapter tee, 1/4" barb x 1/4" barb x male luer, polycarbonate; for 19406-22, -32

[XH-19406-36](#) Adapter tee, 3/8" barb x 3/8" barb x male luer, polycarbonate; for 19406-22, -32

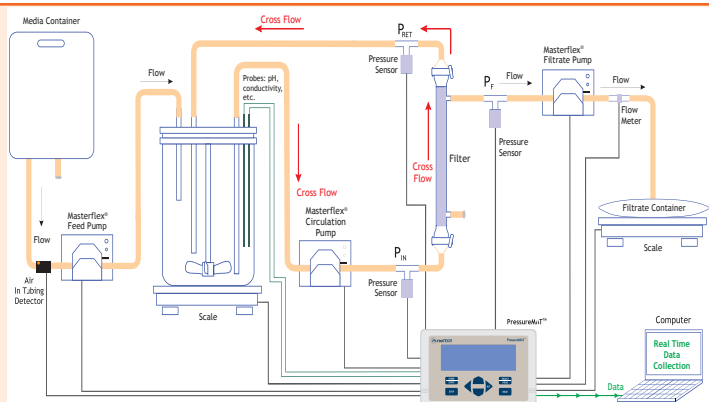
[XH-19406-35](#) Adapter tee, 1/2" barb x 1/2" barb x male luer, polycarbonate; for 19406-22, -32

[XH-19406-80](#) Sensor cable with wire leads for third-party monitors, 12 ft (3.6 m)

Where can I use PendoTECH products?

A better question is where can't you use PendoTECH pressure monitors! The single-use design for sensors make them an easy addition both upstream and downstream:

- Line pressure before and after a chromatography column
- Back pressure monitoring in filtration feed lines
- Inlet pressure for a circulation pump during filtration
- Line pressure monitoring to a filtrate vessel
- Vent line gas pressure from a bioreactor
- Centrifugation output
- Perfusion



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 graphical user-interface

These multi-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.

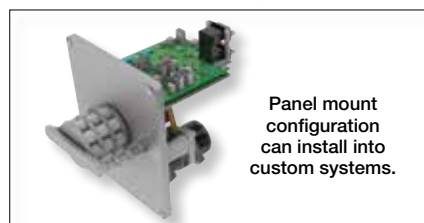
Deliver or dispense at multiple flow rates—all from a single space-saving pump.



Specifications

Speed: 0.1 to 100 rpm **Accuracy:** ±1% **Pressure:** up to 14.5 psi (1.0 bar)

Channels	Rollers	Tubing	Power (VAC, Hz)	Catalog number	Price
Benchtop pumps					
2	6	Three-stop	100 to 240, 50/60	XH-78001-58	
	8			XH-78001-60	
	12			XH-78001-62	
3	6	Three-stop	100 to 240, 50/60	XH-78001-68	
	8			XH-78001-70	
	12			XH-78001-72	
4	6	Three-stop	100 to 240, 50/60	XH-78001-78	
	8			XH-78001-80	
	12			XH-78001-82	
Panel-mount pumps					
2	8	Three-stop	100 to 240, 50/60	XH-78001-43	
3	8			XH-78001-45	
4	8			XH-78001-47	
4	12			XH-78001-49	



Panel mount configuration can install into custom systems.

Minicartridges

- [XH-78016-98](#) Replacement Click'n'go™ tubing cassette, POM-C
- [XH-78016-96](#) Click'n'go™ tubing cassette, PVDF

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.



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	XH-78016-00		XH-78016-02		0.003 to 68	XH-78016-42	
	8			0.004 to 57	XH-78016-10		XH-78016-12		0.002 to 57	XH-78017-02	
	12			0.003 to 38	XH-78017-25		XH-78017-27		0.002 to 38	XH-78016-47	
4	6	2.0 to 100	Three-stop	0.003 to 43	XH-78017-30		XH-78017-32		0.002 to 43	XH-78017-42	
	8			0.003 to 35	XH-78016-30		XH-78016-32		0.002 to 35	XH-78017-12	
	12			0.002 to 24	XH-78017-35		XH-78017-37		0.001 to 24	XH-78017-22	

Minicartridges

Optional adjustable-occlusion minicartridge to manually vary pressure on each channel.

[XH-07624-64](#) Optional adjustable occlusion cassette with pressure lever, POM-C

[XH-07624-96](#) Replacement Click'n'go cassette, PVDF

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



Specifications

Accuracy: better than $\pm 1\%$

Pressure

Click'n'go cassettes: up to 14.5 psi (1 bar)
Pressure lever cassettes: up to 22 psi (1.5 bar)



Choose from 4, 8, 12, 16 and 24 channel configurations for application flexibility.

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	XH-78001-00		XH-78001-06	
	8					XH-78001-10		XH-78001-16	
	12					XH-78001-20		XH-78001-26	
	16					XH-78001-30		XH-78001-36	
	24					XH-78001-40		XH-78001-46	
0.0004 to 11	8	8	0.11 to 11.25	Pressure lever (adjustable occlusion)	Two-stop	XH-78000-11		XH-78000-17	
	16					XH-78000-31		XH-78000-37	
	24					XH-78000-41		XH-78000-47	
IPC models									
0.002 to 44	4	8	0.4 to 45	Click'n'go	Two-stop	XH-78001-02		XH-78001-08	
	8					XH-78001-12		XH-78001-18	
	12					XH-78001-22		XH-78001-28	
	16					XH-78001-32		XH-78001-38	
	24					XH-78001-42		XH-78001-48	
0.002 to 44	4	8	0.4 to 45	Pressure lever (adjustable occlusion)	Two-stop	XH-78000-03		XH-78000-09	
	8					XH-78000-13		XH-78000-19	
	12					XH-78000-23		XH-78000-29	
	16					XH-78000-33		XH-78000-39	
	24					XH-78000-43		XH-78000-49	

Order extra cartridges and adapters for fast tubing changes.

[XH-78001-95](#) Replacement Click'n'go™ cartridge, POM-C

[XH-78001-90](#) Repl. adjust. occlusion cartridge with pressure lever

[XH-07618-71](#) Replacement adapters hold two-stop color-coded tubing in cartridge. Two adapters required per cartridge. Pack of 12

Ismatec® Reglo Quick™ Pump

Reduce downtime with easy tubing changeovers

- Wide opening angle makes tube bed easily accessible for quick tubing changes
- Four-roller head achieves flow rates up to 230 mL/min
- Compact design frees valuable space on your benchtop
- Input/output control adds versatility



Head allows alternate placement of tubing.



Pump Tubing Flow Range Information

Tubing ID in. (mm)	Wall thickness in. (mm)	Flow rate (mL/min)	
		Min	Max
1/8 (3.2)	1/16 (1.6)	2.1	103
3/16 (4.8)	1/16 (1.6)	4.6	230



Flow range per channel	Channels	Rollers	Speed	Tubing	Power	Catalog number	Price
					115 VAC, 50/60 Hz		
2.1 to 230 mL/min	1	4	3.2 to 160 rpm	Pump	115 VAC, 50/60 Hz	XH-78018-00	
					230 VAC, 50/60 Hz	XH-78018-02	

2- and 3-Stop Color-Coded Tubing for Ismatec® Pumps

Don't confuse your tubing—color-coded 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	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, EU food, REACH, RoHS, ADF 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")	XH-96449-10		XH-96450-10		XH-06449-10	100 ft	
Tygon® E-Food	<ul style="list-style-type: none"> Complies with FDA, EU Food, NSF, 2A, REACH, RoHS, ADF Smooth inner surface; nontoxic 	10, 12, 18, 26, 30, 34, 42, 48	12 (16")	XH-96457-10		XH-96458-12		XH-06457-10	100 ft	
Tygon® E-Lab	<ul style="list-style-type: none"> Complies with USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADF 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, 46, 48, 49	12 (16")	XH-96460-10		XH-96461-10		XH-06460-10	100 ft	
Silicone (peroxide cured)	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF Greater physical compression capability Economical, long tubing life 	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (16")	XH-07616-22		XH-07624-22		XH-07625-22	50 ft	
Silicone (platinum cured)	<ul style="list-style-type: none"> Complies with USP Class V, EP, FDA, REACH, RoHS, ADF 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")	XH-95602-22		XH-95603-22		XH-95612-22	50 ft	
Viton®	<ul style="list-style-type: none"> Complies with FDA, ADF Resists corrosives, solvents, and oils at elevated temperatures 	18, 22, 24, 26, 30, 34, 38, 42, 46, 48	12 (12")	XH-97628-22		XH-97629-22		XH-97632-22	50 ft	
PharMed® BPT	<ul style="list-style-type: none"> 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")	XH-95723-22		XH-95714-22		XH-95809-22	100 ft	
PVC Solvent/ hydrocarbon	<ul style="list-style-type: none"> 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")	XH-95606-22		XH-95605-22		XH-95712-22	50 ft	
Chem-Durance® Bio	<ul style="list-style-type: none"> 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")	XH-96327-24		XH-96328-24		None (PharMed BPT recommended for extension tubing; see 95809-XX above)		

STEP 2:

Select the catalog number suffix.

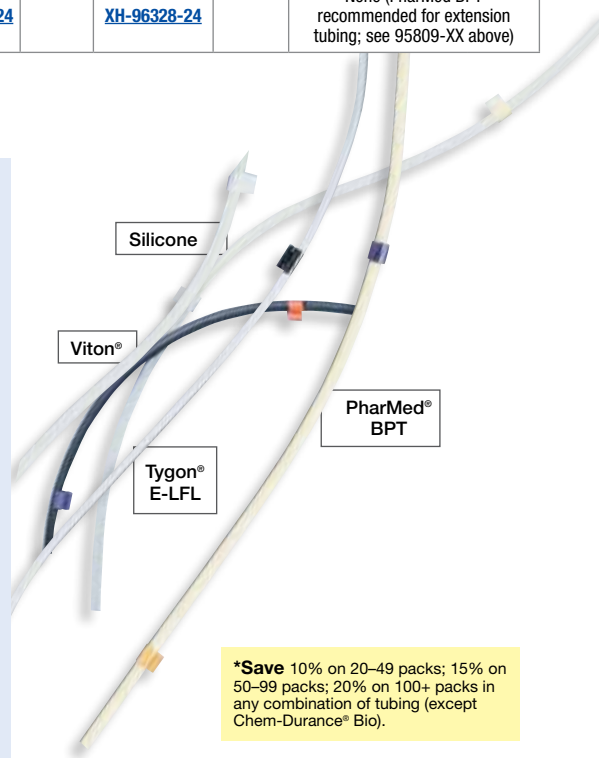
Catalog number suffix	ID (mm)	Color-coded stops
-09	0.13	Orange/Black
-10	0.19	Orange/Red
-12	0.25	Orange/Blue
-14	0.38	Orange/Green
-16	0.44	Green/Yellow
-18	0.51	Orange/Yellow
-19	0.57	White/Yellow
-22	0.64	Orange/White
-24	0.76	Black/Black
-26	0.89	Orange/Orange
-27	0.95	White/Black
-28	1.02	White/White
-29	1.09	White/Red
-30	1.14	Red/Red
-31	1.22	Red/Gray
-32	1.3	Gray/Gray
-34	1.42	Yellow/Yellow
-36	1.52	Yellow/Blue
-38	1.65	Blue/Blue
-39	1.75	Blue/Green
-40	1.85	Green/Green
-42	2.06	Purple/Purple
-44	2.29	Purple/Black
-46	2.54	Purple/Orange
-48	2.79	Purple/White
-49	3.17	Black/White

How to order 2- and 3-stop tubing

Step 1: Choose a tubing material and select the corresponding catalog number prefix from the table above. Make sure to choose 2-stop or 3-stop tubing based on what your pump uses!

Step 2: Select the catalog number suffix based on the ID size. To find flow rates for each size with your pump system, go to ColeParmer.com and search for your pump system.

Step 3: Complete your system with extension tubing above. You can connect stopped tubing and extension tubing with hose barb fittings or by splicing together.



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

Compact, cost-effective drive offers simple variable-speed 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).



Specifications

Duty cycle: continuous	Remote control (output): none
Remote control (input): none	Max system temperature: 104°F (40°C)

rpm	Motor		Power		Catalog number	Price
	hp	Type	VAC	Hz		
50 to 5000	0.07	PMDC	115	50/60	XH-75211-12	
			230	50/60	XH-75211-17	

WARNING: This product can expose you to chemicals including BPA, lead, and phthalates, which is known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

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.



Specifications

Duty cycle: continuous from 50 to 5000 rpm	Remote control (output): RS-232 (DB9M) for cascading of up to 8 pumps
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	Max temperature: 104°F (40°C)

Motor rpm	Power		Catalog number	Price
	VAC	Hz		
50 to 5000	90 to 264	47 to 63	XH-78008-15	

XH-70738-94 Replacement adapter plate: for mounting Micropump A-mount pump heads (except models 07003-02, 07003-04, 73004-00, 73004-02, 73004-04)

Micropump® A-Mount Gear Pump Heads

- Achieve leak-free, pulseless flow
- Magnetic drive and static seals keep fluids securely inside and potential contaminants out



Flow rates (mL/min)†		Wetted parts		Catalog number	Price
at 50 rpm	at 5000 rpm	Body	Gears		
0.85	85	316 SS	Graphite	XH-07002-25	
4.60	460	316 SS	PEEK	XH-73003-14	
			PPS	XH-07002-14	
13.05	1305	316 SS	PEEK	XH-73004-00	
29.00	2900	316 SS	PEEK	XH-73004-02	
			PPS	XH-07003-02	
58.50	5850	316 SS	PEEK	XH-73004-04	
			PPS	XH-07003-04	

†Flow rates based on water at room temperature and no back pressure.



Programmable digital drive 78008-15 with Micropump pump head 07002-14 (pump head not included)



Cole-Parmer® Touch-Screen Syringe Pumps

Intuitive programming and control

- Control flow rates from 5 pL/min to 220 mL/min via touch-screen display
- Save space by positioning pump on side—display rotates automatically
- Daisy chain up to 99 pumps with built-in RS-485 connectivity
- Accepts any type of syringe

Model 74905-50 is an infuse only syringe pump. It accommodates up to two syringes. Flow rates are defined by the user and operation is based on a selectable target volume or time values to control the total infusion volume.

Model 74905-52 is an infuse/withdraw syringe pump. The pump accommodates up to two syringes. The unit will operate in the following modes: infuse only, withdraw only, infuse then withdraw, withdraw then infuse, and continuous. One program can be stored.

Model 74905-54 is a programmable version of the 74905-52 pump. It is programmed to accept up to 800 user-defined steps—up to 40 programs with 20 steps each can be stored in memory.

Model 74905-56 is a push/pull syringe pump. The pump accommodates up to two syringes for infusion and two syringes for withdrawal. This pump is designed to support infusion and withdrawal simultaneously at the user-defined flow rates. The unit operates in the following modes: infuse only, withdraw only, infuse then withdraw, withdraw then infuse, and continuous.

Model 74905-58 is a programmable version of the 74905-56 pump. It is programmed to accept up to 800 user-defined steps—up to 40 programs with 20 steps each can be stored into memory.



Specifications

Accuracy: ±0.355%	Syringe sizes accepted: 0.5 µL to 140 mL
Reproducibility: ±0.05%	Output: RS-232, RS-485, USB, 15 pin D-sub connector
Linear force: 75 lb (34 kg)	

Description	Flow rate per syringe	Power (VAC, Hz)	Catalog number	Price
Infusion	5 pL/min to 220.97 mL/min	100 to 240, 50/60	XH-74905-50	
Infusion/withdrawal			XH-74905-52	
Infusion/withdrawal programmable			XH-74905-54	
Push/pull			XH-74905-56	
Push/pull programmable			XH-74905-58	

Temperature-Controlled Pump Head

Maintain fluid temperatures easily

- Operating temperature up to 350°F (177°C)
- Wetted materials of ceramic, PTFE, and 316 SS

Suitable for applications to maintain process fluid temperatures or pump viscous solutions (such as waxes, pastes, or cosmetics). Run wash fluids, gases, or steam through gland ports to provide a barrier between process fluids and the seal area (atmosphere). Using this barrier maintains temperatures and pressures required of slurries, particulates, crystal formers and anaerobics. Control and monitor the temperature of the pump head with a temperature controller, two standard ¼" x 1" cartridge heaters and one thermocouple (order separately below).

1. Pump Head

Flow range (mL/min)	Piston diameter	Maximum pressure psig (bar)	Connections		Catalog number	Price
			Fluid ports	Gland ports		
0 to 576	¼"	100 (6.9)	¼" NPT(F)	⅛" NPT(F)	XH-07107-00	
0 to 1296	⅜"	50 (3.45)			XH-07107-05	

2. Masterflex® L/S® Drives†

Motor specifications				Configuration		Max psi for given piston dia		Dimensions (L x W x H)	Catalog number	Price
rpm	hp	Rating	Voltage	Hz	Amps	Console	Modular			
20 to 600	1/20	IP22	90 to 130 VAC	50/60	1.5	•	—	9" x 7" x 7"	XH-07555-00	
			180 to 260 VAC		0.8	—	XH-07555-05			
6 to 600	1/10	Controller: IP53 Drive: IP56	90 to 130 VAC	50/60	1.5	—	•	Controller: 4 ¹⁵ / ₁₆ " x 7 ¹ / ₁₆ " x 4 ¹ / ₁₆ " Drive: 7 ¹ / ₈ " x 3 ¹³ / ₁₆ " x 4 ⁵ / ₈ "	XH-07557-00	
			180 to 260 VAC		0.5	—	•		XH-07528-30	
6 to 600	1/10	IP31	90 to 260 VAC	50/60	1.8	•	—	11 ¹ / ₂ " x 7" x 7"		

†Masterflex L/S drives require the Masterflex adapter kit, 07104-48, order below.

XH-07104-48 Masterflex® adapter kit. Required to mount pump head to Masterflex L/S drive

Temperature Monitoring Options

Monitor the temperature of pump head with one thermocouple probe and temperature controller.

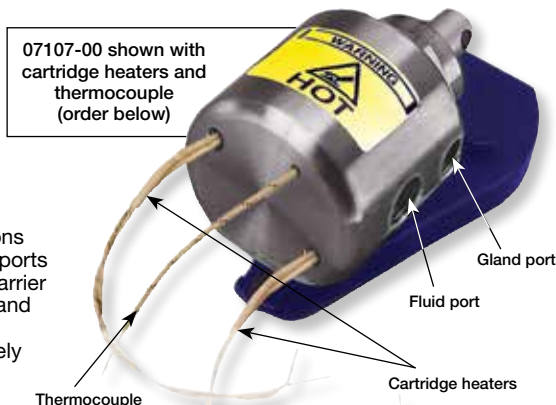
XH-08466-81 FEP-insulated thermocouple probe with FEP-coated junction, type J with 10-ft (3.0-m) L cable

XH-89550-00 Universal input controller, 90 to 264 V

Temperature Control Options

To control temperature, order a thermocouple probe and controller (at left) plus two cartridge heaters.

XH-03123-00 Cartridge heater; 120 VAC, 70 W, ¼" dia x 1½"L



07107-00 shown with cartridge heaters and thermocouple (order below)



REQUIRED System Components

- 1) Pump head
- 2) Drive

WARNING: This product can expose you to chemicals including BPA, lead, and Phthalates, which are known to the State of California to cause cancer and reproductive harm. For more information, visit www.P65Warnings.ca.gov

Almatec® Air-Operated Double-Diaphragm Pumps Maintenance- and lubrication-free air control

E Series Pumps are designed for liquid and slurry transfer in chemical process applications and are available in both PE and PTFE models as well as conductive PTFE (ATEX) versions. **Futur Series Pumps** are designed for more aggressive fluids with versions machined from solid blocks of PTFE (cleaned, assembled, and tested in a cleanroom line). Use the Futur H models for your higher temperature applications up to 390°F (200°C). Numerous pump configurations are available; please call our Application Specialists for assistance.



75980-02

Model	Max flow GPM (L/min)	Max temp °F (°C)	Max air pressure psi (bar)	Max suction lift ft (m)		Max particle size	Connections	Wetted parts	Catalog number	Price
				Dry	Wet					
E08	4 (15)	212 (100)	100 (7)	3.3 (1)	29.5 (9)	3/32"	1/4" NPT(F)	PTFE housing, diaphragm, and valve balls	XH-75980-00	
								Conductive PTFE housing, diaphragm, and valve balls	XH-75980-02	
E10	6 (23)	212 (100)	100 (7)	6.6 (2)	29.5 (9)	1/8"	3/8" NPT(F)	PTFE housing, diaphragm, and valve balls	XH-75980-04	
								Conductive PTFE housing; PTFE diaphragm and valve balls	XH-75980-06	
E15	15 (55)	158 (70)	100 (7)	9.8 (3)	31.2 (9.5)	3/32"	1/2" NPT(F)	PE housing; EPDM diaphragm and valve balls	XH-75980-08	
								PE housing; PTFE diaphragm and valve balls	XH-75980-10	
Futur10T	2.6 (10)	266 (130)	87 (6)	3.3 (1)	26 (8)	—	3/8" NPT(F)	PTFE-TFM center housing; PE side housing, diaphragm, and valve balls	XH-76980-00	
Futur20T	5.3 (20)			8.2 (2.5)	29.5 (9)				1/2" NPT(F)	XH-76980-02
Futur10H	2.6 (10)	390 (200)	87 (6)	3.3 (1)	26 (8)	—	3/8" NPT(F)	PTFE center housing; conductive PTFE side housing, diaphragm, and valve balls	XH-76980-06	
Futur20H	5.3 (20)			8.2 (2.5)	29.5 (9)				1/2" NPT(F)	XH-76980-08

Abaque™ Peristaltic Hose Pumps Built for your toughest projects

- Produce flow rates to 339 GPM and pressures as high as 217 psi (15 bar)
- Eliminate leaks and product contamination with sealless design
- Handle even your most abrasive, aggressive, viscous, and solid-laden fluids
- Use in demanding applications such as water and wastewater, mining, energy, ceramic, and chemical process

Rugged, low-maintenance Abaque pumps have none of the seats, valves, or mechanical seals that create problems on other pumps—the hose is the only component that needs to be replaced. Order a ready-to-use system below or customize a pump to suit your needs. If your application is moving a more viscous fluid or needs to lift product greater than 29 ft, a vacuum assist kit option is highly recommended.

What's included: flat pack (liquid end), gear box, motor, and natural rubber hose.



Configure an Abaque pump with numerous options:

- Vacuum assist kit for highly viscous fluids
- Nonmetallic hose inserts: PPH, PVDF
- Leak detector
- Hose materials: natural rubber, Buna N, EPDM, CSM
- Pulsation dampener

Specifications

Fluid temperature: 32 to 158°F (0 to 70°C) for natural rubber hose	Run dry: yes
Suction lift: up to 29 ft (8.8m)	Construction: ductile iron and steel
Duty cycle: continuous	Power: 208–230/460 VAC, 60 Hz

Max flow rate, continuous		Discharge pressure		Max viscosity		Max solid particulate		Max soft particulate		Motor		Catalog number	Price
GPM	L/min	psi	bar	cSt	SSU	in.	mm	in.	mm	hp	rpm		
0.25	0.95	109	7.5	13,000	60,000	0.06	1.5	0.1	2.5	0.33	37	XH-75810-01	
0.44	1.67	109	7.5	13,000	60,000	0.06	1.5	0.1	2.5	0.5	66	XH-75810-02	
0.81	3.07	116	8	30,000	139,000	0.12	3	0.2	5	0.5	37	XH-75810-03	
1.35	5.11	116	8	30,000	139,000	0.12	3	0.2	5	0.5	37	XH-75810-05	
1.61	6.09	116	8	30,000	139,000	0.12	3	0.2	5	1	66	XH-75810-04	
2.42	9.16	116	8	30,000	139,000	0.12	3	0.2	5	1	66	XH-75810-06	
2.79	10.56	217	15	22,000	102,000	0.14	3.7	0.23	6	1	38	XH-75810-07	
4.99	18.89	217	15	22,000	102,000	0.14	3.7	0.23	6	1.5	68	XH-75810-08	
5.88	22.26	217	15	28,000	165,000	0.22	5.7	0.37	9.5	1.5	26	XH-75810-09	
8.4	31.79	217	15	25,000	115,000	0.23	6	0.39	10	2	24	XH-75810-12	
9.73	36.83	217	15	28,000	165,000	0.22	5.7	0.37	9.5	2	43	XH-75810-14	
10.81	40.92	217	15	28,000	165,000	0.22	5.7	0.37	9.5	2	47	XH-75810-11	
19.47	73.69	217	15	28,000	165,000	0.22	5.7	0.37	9.5	3	86	XH-75810-15	
19.6	74.19	217	15	25,000	115,000	0.23	6	0.39	10	3	56	XH-75810-13	
25.43	96.25	217	15	40,000	185,000	0.35	9	0.63	16	10	34	XH-75810-16	
37.4	141.56	217	15	40,000	185,000	0.35	9	0.63	16	10	42	XH-75810-18	
38.14	144.36	217	15	40,000	185,000	0.35	9	0.63	16	10	51	XH-75810-17	
50.74	192.05	217	15	40,000	185,000	0.35	9	0.63	16	10	57	XH-75810-19	



KNF® LABOPORT® Filtration Pumps

Great for vacuum filtration, blotting, and solid phase extraction

- Lightweight but rugged design minimizes downtime for repairs
- No wetted metal parts in the pump head for corrosion protection
- Corrosion-resistant materials meet your demanding applications

An exclusive multiport valve design tolerates occasional liquids drawn into the vacuum system. All wetted materials are made of chemical-resistant resins including Ryton® PPS, PTFE, and Kalrez®. Order a pump (78164-60, -62, or -64) with a high-quality, smoothly dampened brass vacuum/pressure gauge and a bleeder valve to have precise control of the vacuum system.



78164-64



78164-40



Head configuration	Free-air capacity cfm (L/min)	Max vacuum " Hg (Torr)	Max pressure psi (bar)	Wetted materials	Motor hp	Port size	Power (VAC)	Catalog number	Price
Single head	0.4 (11.5)	24.4 (218)	30 (2.07)	Ryton PPS, PTFE, Kalrez	1/10	1/4" hose barb	115	XH-78164-40	
	0.4 (11.5)	22.9 (180)	30 (2.07)	Ryton PPS, EDPM				XH-78164-42	
	0.45 (13)	27.0 (75)	30 (2.07)	Ryton PPS, PTFE, Viton®				XH-78164-44	
Dual head/series	0.6 (16)	29.4 (15)	7.4 (0.51)	Ryton PPS, PTFE, Kalrez	1/8	1/4" hose barb	115	XH-78164-46	
Dual head/parallel	1.1 (30)	25.3 (120)	7.4 (0.51)	Ryton PPS, PTFE, Kalrez				XH-78164-48	
Single head	0.19 (5.5)	25.3 (120)	35 (2.41)	Ryton PPS, PTFE, Kalrez	1/12	1/4" hose barb	115	XH-78164-60†	
	0.45 (13)	27.0 (75)	30 (2.07)	Ryton PPS, PTFE, Viton	1/10	1/4" hose barb	115	XH-78164-62‡	
Dual head/series	0.6 (16)	29.4 (15)	7.4 (0.51)	Ryton PPS, PTFE, Kalrez	1/12	1/4" hose barb	115	XH-78164-64‡	

†Pump includes 6-mm hose barb

‡Pump comes with vacuum gauge and regulator.

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



WARNING: This product can expose you to chemicals including nickel, which is known to the State of California to cause cancer. For more information, visit www.P65Warnings.ca.gov

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	XH-07061-21	
	1.0 (28.3)	24.0" Hg	60 psi (4.14 bar)					220/240, 50	XH-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	XH-07061-40	
	1.0 (28.3)	24.0" Hg	60 psi (4.14 bar)					220/240, 50	XH-07061-42	
Dual/parallel	2.2 (62.3)	25.5" Hg	60 psi (4.14 bar)	Aluminum, stainless steel, Nordel, and Nomex	1/4	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	115, 60	XH-07061-60	
	1.8 (51.0)	24.0" Hg	60 psi (4.14 bar)					220, 50	XH-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	XH-07061-11	
	0.85 (24.0)	28.0" Hg	—					220, 50	XH-07061-13	

[XH-07061-32](#) Pressure regulator assembly for pumps 07061-21 and -22

[XH-07061-30](#) Vacuum regulator assembly for pumps 07061-21 and -22

[XH-07061-01](#) Service kit for all pumps

[XH-07061-03](#) Service kit for dual-head pumps. Pumps 07061-60, -05, -11, and -13 also require kit 07061-01 above

[XH-07061-06](#) Diaphragm for all models, neoprene/nylon

[XH-07061-04](#) Replacement diaphragm for all models, Nordel/Nomex

Tygon® Non-DEHP Lab Tubing

Pliable for sharp radius bending



Formulation: Tygon E-3603

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 requirements.

Temperature range: -51 to 165°F (-46 to 74°C)

Sterilize: Autoclave or 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 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)	XH-06407-70	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	36 (2.5)	XH-06407-71	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	69 (4.8)	XH-06407-72	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	25 (1.7)	XH-06407-73	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	20 (1.4)	XH-06407-75	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	36 (2.5)	XH-06407-76	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	17 (1.2)	XH-06407-77	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	25 (1.7)	XH-06407-78	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	36 (2.5)	XH-06407-79	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	20 (1.4)	XH-06407-80	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	28 (1.9)	XH-06407-81	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	35 (2.5)	XH-06407-82	
3/16 (8.0)	7/16 (11.2)	1/16 (1.6)	17 (1.2)	XH-06407-83	
3/16 (8.0)	1/2 (12.8)	3/32 (2.4)	23 (1.6)	XH-06407-84	
5/16 (8.0)	9/16 (14.4)	1/8 (3.2)	30 (2.1)	XH-06407-85	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	14 (1.0)	XH-06407-86	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	20 (1.4)	XH-06407-87	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	25 (1.7)	XH-06407-88	
7/16 (11.2)	9/16 (14.4)	1/16 (1.6)	13 (0.9)	XH-06407-89	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	12 (1.8)	XH-06407-90	
1/2 (12.8)	11/16 (1.6)	3/32 (2.4)	15 (1.0)	XH-06407-91	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	20 (1.4)	XH-06407-92	
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	24 (1.7)	XH-06407-93	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	13 (0.9)	XH-06407-94	
5/8 (16.0)	7/16 (11.2)	1/8 (3.2)	17 (1.2)	XH-06407-95	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	14 (1.0)	XH-06407-96	
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	20 (1.4)	XH-06407-97	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	12 (0.8)	XH-06407-98	
1 (25.4)	1 1/2 (66.8)	1/4 (6.4)	20 (1.4)	XH-06407-99	

DON'T RISK IT!

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



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.



Cole-Parmer® Peroxide-Cured Silicone Tubing

No need to worry about the heat—use for applications up to 460°F



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.

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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 (21°C)	Catalog number	Price/ 25-ft pk
ID	OD	Wall			
1/50 (0.5)	1/12 (2.1)	1/32 (0.8)	30	XH-06411-59	
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	30	XH-06411-60	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	15	XH-06411-62	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	15	XH-06411-63	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	10	XH-06411-64	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	20	XH-06411-67	
1/8 (3.2)	3/8 (9.6)	1/8 (3.2)	25	XH-06411-68	
5/32 (4.0)	5/32 (4.0)	1/32 (0.8)	10	XH-06411-65	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	9	XH-06411-66	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13	XH-06411-03	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	22	XH-06411-69	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	9	XH-06411-70	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10	XH-06411-71	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	17	XH-06411-72	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	17	XH-06411-74	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	10	XH-06411-75	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	16	XH-06411-76	
5/16 (8.0)	9/16 (14.4)	1/8 (3.2)	20	XH-06411-77	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	10	XH-06411-12	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	12	XH-06411-78	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	15	XH-06411-79	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	9	XH-06411-80	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	10	XH-06411-19	
1/2 (12.8)	3/4 (19.2)	1/8 (3.2)	12	XH-06411-55	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	10	XH-06411-82	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	12	XH-06411-58	
3/4 (19.2)	1 (25.4)	1/8 (3.2)	9	XH-06411-83	

Benchtop Tubing Cutter

Steel blade makes right-angle cuts in plastic tubing 1/16" to 5/8" OD.



Description	Catalog number	Price
Benchtop cutter	XH-06438-10	
Replacement blade	XH-06438-11	



Cole-Parmer® Vinyl Tubing

Ideal for general-purpose applications



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.



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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	Ft/pk	Price/pk
ID	OD	Wall				
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	40 (2.8)	XH-06405-01	50	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	59 (4.0)	XH-06405-02	50	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	51 (3.5)	XH-06405-03	50	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	46 (3.2)	XH-06405-04	100	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	51 (3.5)	XH-06405-06	50	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	55 (3.8)	XH-06405-07	100	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	64 (4.4)	XH-06405-08	50	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	46 (3.2)	XH-06405-09	50	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	55 (3.8)	XH-06405-10	100	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	41 (2.8)	XH-06405-12	50	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	46 (3.2)	XH-06405-15	100	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	55 (3.8)	XH-06405-16	100	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	28 (1.9)	XH-06405-18	50	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	36 (2.5)	XH-06405-19	100	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	41 (2.8)	XH-06405-20	50	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	32 (2.2)	XH-06405-25	100	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	36 (2.5)	XH-06405-27	50	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	32 (2.2)	XH-06405-31	50	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	23 (1.6)	XH-06405-36	50	
1 1/4 (31.8)	1 3/4 (44.5)	1/4 (6.4)	41 (2.8)	XH-06405-46	50	

PharMed® BPT Tubing

Protect your light-sensitive samples



Applications: Cell and tissue culture work and pharmaceutical uses. Also good for light-sensitive samples.

Characteristics: Nontoxic; nonhemolytic; extremely low permeability; resists acids, alkalis, 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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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			
1/50 (0.5)	9/64 (3.7)	1/16 (1.6)	50 (3.4)	XH-96880-00	
1/32 (0.8)	5/32 (4.0)	1/16 (1.6)	40 (2.8)	XH-96880-02	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	34 (2.3)	XH-96880-04	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	19 (1.3)	XH-96880-06	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13 (0.9)	XH-96880-08	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10 (0.7)	XH-96880-10	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	19 (1.3)	XH-96880-12	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	8 (0.6)	XH-96880-14	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	13 (0.9)	XH-96880-16	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	11 (0.8)	XH-96880-18	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	8 (0.6)	XH-96880-20	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	7 (0.5)	XH-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	XH-95809-12	
0.020 (0.51)	0.096 (2.44)	0.038 (0.97)	24	XH-95809-18	
0.035 (0.89)	0.111 (2.82)	0.038 (0.97)	20	XH-95809-26	
0.045 (1.14)	0.121 (3.07)	0.038 (0.97)	18	XH-95809-30	
0.051 (1.30)	0.127 (3.23)	0.038 (0.97)	18	XH-95809-32	
0.056 (1.42)	0.132 (3.35)	0.038 (0.97)	17	XH-95809-34	
0.060 (1.52)	0.136 (3.45)	0.038 (0.97)	16	XH-95809-36	
0.073 (1.85)	0.149 (3.78)	0.038 (0.97)	15	XH-95809-40	

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.



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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20% off on 20+ 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)	1/2 (2.1)	1/32 (0.8)	XH-06424-59	30		XH-06422-00	50		—	—	—
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	XH-06424-60	31		XH-06422-01	51		—	—	—
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	XH-06424-62	15		XH-06422-02	25		—	—	—
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	XH-06424-63	14		XH-06422-03	23		—	—	—
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	XH-06424-64	10		XH-06422-04	17		—	—	—
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	XH-06424-67	21		XH-06422-05	35		XH-06432-50	35	
3/32 (4.0)	7/32 (5.6)	1/32 (0.8)	XH-06424-65	10		XH-06422-06	17		—	—	—
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	XH-06424-66	9		XH-06422-07	15		—	—	—
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	XH-06424-03	13		XH-06422-08	22		XH-06432-51	22	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	XH-06424-69	22		XH-06422-09	36		—	—	—
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	XH-06424-71	12		XH-06422-10	20		XH-06432-53	20	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	XH-06424-72	17		XH-06422-11	28		XH-06432-54	28	
1/4 (6.4)	1/2 (12.7)	1/8 (3.2)	XH-06424-74	17		XH-06422-12	28		XH-06432-55	28	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	XH-06424-75	10		XH-06422-13	17		—	—	—
5/16 (8.0)	1/2 (12.7)	3/32 (2.4)	XH-06424-76	16		XH-06422-14	27		XH-06432-56	27	
3/8 (9.6)	1/2 (12.7)	1/16 (1.6)	XH-06424-12	10		XH-06422-15	17		XH-06432-57	17	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	XH-06424-79	14		XH-06422-16	23		XH-06432-59	23	
1/2 (12.7)	1 1/16 (17.6)	3/32 (2.4)	XH-06424-19	10		XH-06422-17	17		XH-06432-60	17	
1/2 (12.7)	3/4 (19.1)	1/8 (3.2)	XH-06424-81	10		XH-06422-18	17		XH-06432-61	17	

Cole-Parmer® FEP Tubing

Does not deteriorate with age



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: With autoclave, ethylene oxide, or dry heat.

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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)	500 (34.5)	XH-06406-60	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	444 (30.6)	XH-06406-62	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	353 (24.3)	XH-06406-63	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	289 (19.9)	XH-06406-64	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	450 (31.0)	XH-06450-05	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	329 (22.7)	XH-06450-04	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	209 (14.4)	XH-06406-66	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	353 (24.3)	XH-06450-06	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	150 (10.3)	XH-06406-72	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	288 (19.9)	XH-06450-07	
19/64 (7.5)	3/8 (9.6)	5/128 (1.0)	172 (11.9)	XH-06450-02	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	140 (9.7)	XH-06406-74	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	243 (16.8)	XH-06450-08	
3/8 (9.6)	7/16 (11.2)	1/32 (0.8)	110 (7.6)	XH-06406-12	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	210 (14.5)	XH-06450-09	
7/16 (11.1)	1/2 (12.8)	1/32 (0.8)	102 (7.0)	XH-06406-76	
7/16 (11.1)	9/16 (14.3)	1/16 (1.6)	185 (12.8)	XH-06450-14	
1/2 (12.8)	9/16 (14.3)	1/32 (0.8)	88 (6.1)	XH-06406-18	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	165 (11.4)	XH-06450-15	
5/8 (16.0)	11/16 (17.5)	1/32 (0.8)	71 (4.9)	XH-06450-00	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	135 (9.3)	XH-06450-17	
11/16 (17.5)	3/4 (19.1)	1/32 (0.8)	65 (4.5)	XH-06450-01	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	115 (7.9)	XH-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.

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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 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)	XH-95713-50	
1/8 (3.2)	1/4 (6.4)	1/16 (1.5)	85 (5.9)	XH-95713-00	
3/16 (4.8)	9/16 (8.0)	1/16 (1.5)	75 (5.2)	XH-95713-10	
1/4 (6.4)	3/8 (9.6)	1/16 (1.5)	55 (3.8)	XH-95713-20	
3/8 (9.6)	9/16 (14.4)	3/32 (2.3)	50 (3.4)	XH-95713-30	
1/2 (12.8)	3/4 (19.1)	1/8 (3.1)	45 (3.1)	XH-95713-41	
3/4 (19.0)	1 (25.4)	1/8 (3.1)	30 (2.1)	XH-95713-60	

Cole-Parmer® PTFE Microbore Tubing

Minimize friction, maximize chemical resistance

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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 10% off on 4 to 9 packs



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	XH-06417-70	
0.004"	0.016"	0.006"	38	XH-06417-72	
0.006"	0.016"	0.005"	34	XH-06417-74	
0.008"	0.016"	0.004"	33	XH-06417-76	
Microbore PTFE tubing					
0.012"	0.030"	0.009"	30	XH-06417-11	
0.022"	0.042"	0.010"	24	XH-06417-21	
0.032"	0.056"	0.012"	21	XH-06417-31	
0.042"	0.066"	0.012"	18	XH-06417-41	
0.052"	0.076"	0.012"	16	XH-06417-51	

XH-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® PTFE Tubing

Won't crack under heat or pressure



Applications: Demanding lab, chemical, electrical, mechanical, pharmaceutical, and automotive applications. Good for high-purity work. PTFE tubing withstands 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.

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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)	XH-06407-41	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	370 (25.5)	XH-06605-27	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	294 (20.3)	XH-06605-48	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	240 (16.5)	XH-06605-29	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	375 (25.9)	XH-06605-30	
3/32 (4.0)	1/4 (6.4)	3/64 (1.2)	274 (18.9)	XH-06605-31	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	175 (12.1)	XH-06605-32	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	294 (20.3)	XH-06605-33	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	137 (9.4)	XH-06605-34	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	240 (16.5)	XH-06605-35	
19/64 (7.5)	3/8 (9.6)	1/25 (1.0)	143 (9.9)	XH-06605-36	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	113 (7.8)	XH-06605-37	
3/8 (9.6)	7/16 (11.2)	1/32 (0.8)	96 (6.6)	XH-06605-39	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	175 (12.1)	XH-06605-40	
3/8 (10.2)	1/2 (12.8)	1/20 (1.4)	137 (9.4)	XH-06605-41	
7/16 (11.2)	1/2 (12.8)	1/32 (0.8)	83 (5.7)	XH-06605-42	
1/2 (12.8)	9/16 (14.3)	1/32 (0.8)	73 (5.0)	XH-06605-44	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	137 (9.4)	XH-06605-45	
9/16 (14.3)	5/8 (16.0)	1/32 (0.8)	66 (4.6)	XH-06605-46	
5/8 (16.0)	11/16 (17.5)	1/32 (0.8)	59 (4.1)	XH-06605-48	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	113 (7.8)	XH-06605-49	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	96 (6.6)	XH-06605-51	

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.



[XH-06438-90](#) Handheld tubing cutter

[XH-06438-81](#) Carrying pouch

[XH-06438-92](#) 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"	XH-06403-11	
11/16"	1 1/4"	XH-06403-12	
13/16"	1 3/4"	XH-06403-13	
1 1/16"	2"	XH-06403-14	
1 5/16"	2 1/4"	XH-06403-15	
2"	2 3/4"	XH-06403-16	
2 3/4"	3 1/2"	XH-06403-21	
3 1/2"	4 3/8"	XH-06403-22	
4 3/8"	5 1/8"	XH-06403-23	
5 1/8"	5 7/8"	XH-06403-24	
5 1/2"	6 1/4"	XH-06403-25	

*Discounts: Save 10% on 5-24 pks, 15% on 25-99 pks, and 20% on 100+ pks.

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.



Inside diameter				Catalog number	Qty/pk	Price/pk**
Decimal inches		Millimeters				
Min	Max	Min	Max			
0.228	0.256	5.8	6.5	XH-06832-01	100	
0.269	0.291	6.8	7.4	XH-95614-00	100	
0.307	0.342	7.8	8.7	XH-06832-03	100	
0.351	0.394	8.9	10.0	XH-06832-02	100	
0.387	0.440	9.8	11.2	XH-95614-01	100	
0.404	0.452	10.3	11.5	XH-06832-04	100	
0.449	0.511	11.4	13.0	XH-06832-06	100	
0.513	0.586	13.0	14.9	XH-06832-08	100	
0.569	0.650	14.5	16.5	XH-06832-10	100	
0.616	0.707	15.7	18.0	XH-06832-12	100	
0.702	0.801	17.8	20.4	XH-06832-14	100	
0.759	0.848	19.3	21.5	XH-06832-16	100	
0.779	0.899	19.8	22.8	XH-06832-18	100	
0.859	0.989	21.8	25.1	XH-06832-20	100	
0.928	1.072	23.6	27.2	XH-06832-22	100	
0.985	1.135	25.0	28.8	XH-06832-24	100	
1.123	1.296	28.5	32.9	XH-06832-28	50	
1.218	1.405	30.9	35.7	XH-06832-32	50	

**Discounts: Save 10% on 4-19 pks, 15% on 20-79 pks, and 20% on 80+ pks.

[XH-06832-99](#) White acetal copolymer hose-clamp kit includes 170 assorted clamps from 0.228" to 1.405" ID.

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See page 9

Masterflex® Ultrasonic Flow Sensors



See page 22

PendoTECH Single-Use Temperature and Pressure Sensors



See page 24

Cole-Parmer® Pulseless Disposable Pump Head



See online

Masterflex® Straight and Reducing Connectors



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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.**



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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	XH-45508-00		XH-45501-00		XH-45502-00	
	Female luer x 3/32" hose barb	XH-45508-02		XH-45501-02		XH-45502-02	
	Female luer x 1/8" hose barb	XH-30800-08		XH-45501-04		XH-45502-04	
	Female luer x 3/32" hose barb	XH-45508-06		XH-45501-06		XH-45502-06	
	Female luer x 3/16" hose barb	XH-45508-08		XH-45501-08		XH-45502-08	
	Female luer x 1/4" hose barb	XH-30800-06		XH-45501-20		XH-45502-20	
Female luer x hose barb adapters (smooth bore)							
B	Female luer x 1/16" hose barb (smooth bore)	XH-45508-50		XH-45501-50		XH-45502-50	
	Female luer x 3/32" hose barb (smooth bore)	XH-45508-52		XH-45501-52		XH-45502-52	
	Female luer x 1/8" hose barb (smooth bore)	XH-45508-54		XH-45501-54		XH-45502-54	
Female luer x thread adapters							
C	Female luer x 10-32 special tapered thread	XH-45508-70		XH-45501-70		XH-45502-70	
	Female luer x 10-32 UNF thread	XH-45508-60		XH-45501-60		XH-45502-60	
	Female luer x 1/4-28 UNF thread	XH-45508-66		XH-45501-66		XH-45502-66	
	Female luer x 1/4-28 UNF bottom sealing thread	XH-45508-76		—	—	XH-45505-76	
	Female luer x 1/8-27 NPT thread	XH-30800-00		—	—	XH-45505-78	
D	Female luer x 1/8-27 NPT thread elbow	XH-45518-80		—	—	XH-45505-80	
Female luer bulkhead x hose barb adapters							
E	Female luer x 1/4-28 UNF thread to 1/16" hose barb	XH-45508-30		XH-45501-30		XH-45502-30	
	Female luer x 1/4-28 UNF thread to 3/32" hose barb	XH-45508-32		XH-45501-32		XH-45502-32	
	Female luer x 1/4-28 UNF thread to 1/8" hose barb	XH-45508-34		XH-45501-34		XH-45502-34	
Female adapters							
F	Female luer x female luer	XH-45508-22		XH-45501-22		XH-45502-22	
G	Female tee	XH-45508-56		XH-45501-56		XH-45502-56	
H	Female elbow	XH-45508-26		XH-45501-26		XH-45502-26	
I	Female luer x cap	XH-30800-12		XH-45501-28		XH-45502-28	
J	Female luer x cap with tether loop	XH-45508-64		XH-45501-64		XH-45502-64	
Male x female adapters							
K	Male luer x female luer coupler	XH-45508-82		XH-45501-82		XH-45502-82	
L	Male luer x female luer coupler with lock ring	XH-45508-80		XH-45501-80		XH-45502-80	
M	Male luer x female luer elbow	XH-45508-84		XH-45501-84		XH-45502-84	
N	Male x female x female tee	XH-45508-85		XH-45501-85		XH-45502-85	
O	Male x male x female tee	XH-45508-75		XH-45501-75		XH-45502-75	
Male luer lock x hose barb adapters							
P	Male luer lock x 1/16" hose barb	XH-45518-00		XH-45504-00		XH-45505-00	
	Male luer lock x 3/32" hose barb	XH-45518-02		XH-45504-02		XH-45505-02	
	Male luer lock x 1/8" hose barb	XH-30800-24		XH-45504-04		XH-45505-04	
	Male luer lock x 3/32" hose barb	XH-45518-06		XH-45504-06		XH-45505-06	
	Male luer lock x 3/16" hose barb	XH-45518-08		XH-45504-08		XH-45505-08	
	Male luer lock x 1/4" hose barb	XH-30800-22		XH-45504-19		XH-45505-19	
Male luer x hose barb adapters (for use with separate rotating lock ring "R")							
Q	Male luer x 1/16" hose barb	XH-45518-40		XH-45504-40		XH-45505-40	
	Male luer x 3/32" hose barb	XH-45518-42		XH-45504-42		XH-45505-42	
	Male luer x 1/8" hose barb	XH-45518-44		XH-45504-44		XH-45505-44	
	Male luer x 3/32" hose barb	XH-45518-46		XH-45504-46		XH-45505-46	
	Male luer x 3/16" hose barb	XH-45518-48		XH-45504-48		XH-45505-48	
	Male luer x 1/4" hose barb	XH-45518-50		XH-45504-50		XH-45505-50	
R	Snap luer lock ring	XH-45518-74		XH-45504-74		XH-45505-74	
Male slip luer x hose barb adapters (no lock ring)							
S	Male luer x 1/16" hose barb	XH-45518-22		XH-45504-22		XH-45505-22	
	Male luer x 3/32" hose barb	XH-45518-24		XH-45504-24		XH-45505-24	
	Male luer x 1/8" hose barb	XH-45518-26		XH-45504-26		XH-45505-26	
	Male luer x 3/32" hose barb	XH-45518-28		XH-45504-28		XH-45505-28	
	Male luer x 3/16" hose barb	XH-45518-52		XH-45504-52		XH-45505-52	
	Male luer x 1/4" hose barb	XH-45518-54		XH-45504-54		XH-45505-54	



Cole-Parmer® Barbed Fittings

No tools needed for assembly

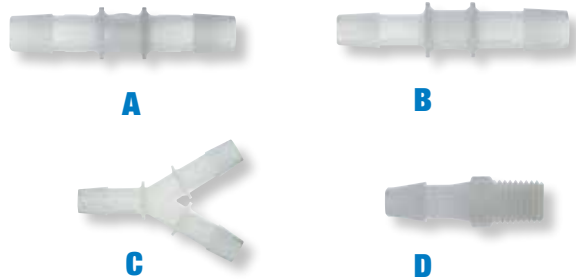
Combine these fittings with our flexible tubing for use in your low-pressure applications (less than 30 psi).

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.



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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"	XH-40622-47	10		XH-40622-48	10		XH-50622-49	10		XH-40703-00	10	
3/32"	XH-40622-44	10		XH-40622-45	10		XH-50622-46	10		XH-40703-01	10	
1/8"	XH-40622-53	10		XH-40622-54	10		XH-51518-05	10		XH-40703-02	10	
3/16"	XH-30622-55	10		XH-30622-56	10		XH-40622-57	10		XH-30703-04	10	
1/4"	XH-30621-85	10		XH-30621-86	10		XH-40610-00	10		XH-30703-05	10	
3/8"	XH-30621-89	10		XH-30621-90	10		XH-40610-02	10		XH-30703-07	10	
1/2"	XH-30621-92	10		XH-30621-93	10		XH-40610-03	10		XH-30703-08	10	
5/8"	XH-30621-79	10		XH-30621-80	10		XH-40610-04	10		XH-30703-09	10	
3/4"	XH-30621-81	10		XH-30621-82	10		XH-40610-05	5		XH-30703-10	5	
1"	XH-30621-83	10		XH-30621-84	10		XH-40610-06	5		XH-30703-11	5	
B. Reducing connectors												
1/8" x 1/16"	XH-41518-29	10		XH-40622-22	25		XH-50622-23	25		XH-40703-41	10	
1/4" x 1/8"	XH-30622-27	10		XH-30622-28	10		XH-41518-36	10		XH-30703-50	10	
1/4" x 3/16"	XH-30622-29	10		XH-30622-30	10		XH-40622-32	10		XH-30703-52	10	
3/8" x 1/4"	XH-30622-35	10		XH-30703-99	10		XH-40610-08	10		XH-30703-54	10	
1/2" x 1/4"	XH-30622-38	10		XH-30622-39	10		XH-40610-10	10		XH-30703-56	10	
1/2" x 3/8"	XH-30622-42	10		XH-30622-43	10		XH-40610-12	10		XH-30703-58	10	
5/8" x 1/4"	XH-30621-96	10		XH-30621-97	10		XH-40610-13	10		XH-30703-59	10	
5/8" x 1/2"	XH-30622-03	10		XH-30622-04	10		XH-40610-16	10		XH-30703-62	10	
3/4" x 1/2"	XH-30622-09	5		XH-30622-10	5		XH-40610-18	5		XH-30703-64	5	
1" x 1/2"	XH-30622-15	5		XH-30622-16	5		XH-40610-20	5		XH-30703-66	5	
1" x 3/4"	XH-30622-13	5		XH-30622-14	5		XH-40610-22	5		XH-30703-68	5	
C. Y connectors												
1/16"	XH-30726-01	10		XH-30726-21	10		XH-40726-41	10		XH-30703-90	10	
3/32"	XH-30726-02	10		XH-30726-22	10		XH-40726-42	10		XH-30703-91	10	
1/8"	XH-30726-03	10		XH-30726-23	10		XH-40726-43	10		XH-30703-92	10	
3/16"	XH-30726-04	10		XH-30726-24	10		XH-40726-44	10		XH-30726-64	10	
1/4"	XH-30726-05	10		XH-30726-25	10		XH-40726-45	10		XH-30726-65	10	
3/8"	XH-30726-06	10		XH-30726-26	10		XH-40726-46	10		XH-30703-93	10	
1/2"	XH-30726-07	10		XH-30726-27	10		XH-40726-47	10		XH-30703-94	10	
5/8"	XH-30726-08	10		XH-30726-28	10		XH-40726-48	10		XH-30726-68	10	
D. NPT male threaded adapters, NPT(M) x tubing ID												
1/8" x 1/8"	XH-30621-26	10		XH-30621-27	10		XH-40621-28	25		XH-30704-07	10	
1/8" x 1/4"	XH-30621-31	10		XH-30621-32	10		XH-40610-36	10		XH-30704-09	10	
1/4" x 1/8"	XH-30621-42	10		XH-30621-44	10		XH-40621-45	10		XH-30621-43	10	
1/4" x 1/4"	XH-30621-46	10		XH-30621-47	10		XH-40610-38	10		XH-30704-11	10	
3/8" x 1/4"	XH-30621-56	10		XH-30621-57	10		XH-40610-41	10		XH-30704-14	10	
3/8" x 3/8"	XH-30621-62	10		XH-30621-63	10		XH-40610-42	10		XH-30704-15	10	
1/2" x 1/4"	XH-30621-73	10		XH-30621-74	10		XH-40610-44	10		XH-30704-17	10	
1/2" x 3/8"	XH-30621-75	10		XH-30621-76	10		XH-40610-45	10		XH-30704-18	10	
1/2" x 1/2"	XH-30621-77	10		XH-30621-78	10		XH-40610-46	10		XH-30704-19	10	
3/4" x 1/2"	XH-30621-20	10		XH-30621-21	10		XH-40610-50	5		XH-30704-23	5	
3/4" x 3/4"	XH-30621-12	10		XH-30621-13	10		XH-40610-51	5		XH-30704-24	5	
1" x 1"	XH-31517-18	10		XH-30401-34	10		XH-40610-53	5		XH-30704-26	5	



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™ 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.



Buy More...Save More!
 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 1/2" polycarbonate fittings is 60 psi.

Fluid Handling

Fittings



Complete Couplings

Key	Size	Material	Length	Catalog number	Qty/pk	Price/pk
A	1/4" tubing ID	Acetal	—	XH-06360-90	10	
		PC	—	XH-31305-00	10	
	3/8" tubing ID	Acetal	—	XH-06360-91	10	
		PC	—	XH-31305-05	10	
		PSF	—	XH-31306-05	10	

Standard Bodies and Caps

Key	Size	Material	Length	Catalog number	Qty/pk	Price/pk
Barbed bodies						
B	1/4" tubing ID	Acetal	1.31" (33.3 mm)	XH-06360-94	10	
		PC		XH-31311-11	5	
		PSF		XH-31311-21	5	
	3/8" tubing ID	Acetal	1.31" (33.3 mm)	XH-06360-95	10	
PC		XH-31311-12		5		
PSF		XH-31311-22		5		
Hose barb coupling bodies with lock						
C	1/4" tubing ID	PC	1.31" (33.3 mm)	XH-31311-16	5	
		PSF		XH-31311-26	5	
	3/8" tubing ID	PC	1.31" (33.3 mm)	XH-31311-17	5	
		PSF		XH-31311-27	5	
BSP straight-through bodies						
D	1/4" BSP	Acetal	1.31" (33.3 mm)	XH-06360-01	10	
	3/8" BSP			XH-06360-02	10	
NPT(M) bodies						
E	1/4" NPT	Acetal	1.31" (33.3 mm)	XH-06360-00	10	
	3/8" NPT			XH-06360-96	10	
Compression coupling bodies						
F	1/4" OD	Acetal	1.31" (33.3 mm)	XH-06360-06	10	
	3/8" OD			XH-06360-08	10	
Sealing caps						
G	1/4"	PC	1.31" (33.3 mm)	XH-31311-64	5	
	1/4"	PSF		XH-31311-74	5	
Sealing caps with lock						
H	1/4"	PC	1.31" (33.3 mm)	XH-31311-67	5	
	1/4"	PSF		XH-31311-77	5	

Standard Inserts and Plugs

Key	Size	Material	Length	Catalog number	Qty/pk	Price/pk
Barbed inserts						
I	1/4" tubing ID	Acetal	1.28" (32.5 mm)	XH-06360-92	10	
		PC		XH-31311-61	5	
		PSF		XH-31311-71	5	
	3/8" tubing ID	Acetal	1.28" (32.5 mm)	XH-06360-93	10	
		PC		XH-31311-62	5	
		PSF		XH-31311-72	5	
BSP straight-through inserts						
J	1/4" BSP	Acetal	1.28" (32.5 mm)	XH-06360-27	10	
	3/8" BSP			XH-06360-97	10	
NPT(M) inserts						
K	1/4" NPT	Acetal	1.28" (32.5 mm)	XH-06360-16	10	
	3/8" NPT			XH-06360-18	10	
Compression coupling inserts						
L	1/4" OD	Acetal	1.28" (32.5 mm)	XH-06360-21	10	
	3/8" OD			XH-06360-24	10	
Sealing caps						
M	1/4" OD	Acetal	1.28" (32.5 mm)	XH-06360-31	10	
	3/8" OD			XH-06360-34	10	
Plugs with lock						
N	1/4"	PC	1.20" (30.5 mm)	XH-31311-68	5	
	1/4"	PSF		XH-31311-78	5	

Large Bodies and Inserts (use these bodies and inserts together)

Key	Size	Material	Length	Catalog number	Qty/pk	Price/pk
Barbed bodies						
O	1/2" tubing ID	PC	1.96" (49.8 mm)	XH-31311-13	5	
		PSF		XH-31311-23	5	
Hose barb coupling bodies with lock						
P	3/8" tubing ID	PC	1.96" (49.8 mm)	XH-31311-18	5	
		PSF		XH-31311-28	5	
Barbed inserts						
Q	1/2" tubing ID	PC	1.90" (48.3 mm)	XH-31311-63	5	
		PSF	1.40" (35.6 mm)	XH-31311-73	5	



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



PTFE Filters

Pore size	Membrane dia	Housing	Color	Qty/bx	Cat. no.	Price/bx
Nonsterile filters						
0.20 µm	15 mm	PP	Natural	100	XH-29550-08	
0.45 µm						
0.20 µm	25 mm	PP	Natural	100	XH-02915-20	
0.45 µm						
0.20 µm	50 mm	PP	Natural	20	XH-02915-28	
0.45 µm						
Sterile filters						
0.20 µm	25 mm	PP	Natural	50	XH-02915-06	
0.50 µm						

Glass Prefilters with Final Filter

Membrane		Pore size	Housing	Retention volume	Qty/bx	Catalog number	Price/bx	
Type	Dia							
Nonsterile filters								
Cellulose acetate	26 mm	0.20 µm	Acrylic	0.23 mL	100	XH-02915-90		
		0.45 µm						XH-02915-92
		0.80 µm						XH-02915-94
Sterile filter								
Cellulose acetate	26 mm	0.20 µm	Acrylic	0.23 mL	50	XH-02915-40		

Nylon Filters

Pore size	Membrane dia	Housing	Color	Qty/bx	Catalog number	Price/bx
Nonsterile filters						
0.22 µm	25 mm	PP	Natural	100	XH-02915-16	
0.45 µm						
Sterile filters						
0.20 µm	25 mm	PP	Red	50	XH-02915-04	
0.45 µm			Natural			

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/cm ²)		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 ₂ O†	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	XH-06639-25		XH-06639-28		XH-06639-31		XH-06639-34		XH-06639-41		XH-36230-81	
0.20	54.5	0.018	2.4	XH-06639-01		XH-06639-05		XH-06639-13		XH-06639-35		XH-06639-17		XH-36230-82	
0.45	35.0	0.045	3.7	XH-06639-02		XH-06639-06		XH-06639-14		XH-06639-36		XH-06639-18		XH-36230-83	
0.80	16.4	0.165	15.0	XH-06645-30		XH-06645-32		XH-06645-34		XH-06645-36		XH-06645-38		XH-36230-84	
1.00	13.9	0.220	20.4	XH-06639-47		XH-06639-49		XH-06639-51		XH-06639-55		XH-06639-53		XH-36230-85	
3.00	10.2	0.300	28.3	XH-06639-26		XH-06639-29		XH-06639-32		XH-06639-39		XH-06639-42		XH-36230-86	
5.00	8.5	0.400	40.9	XH-06639-27		XH-06639-30		XH-06639-33		XH-06639-40		XH-06639-43		XH-36230-87	

†Using water prefiltered to 0.1 µm at 10 psi.

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

Type of holder	Diameter	Catalog number	Qty/pk	Price/pk
Syringe	25 mm	XH-06623-32	6	
In-line	47 mm	XH-06623-22	1	

[XH-02930-95](#) Support screen, 25 mm. Pack of 8

[XH-06645-90](#) Support screen, 47 mm. Pack of 4

Oakton® Waterproof EcoTestr™ CTS Pocket Meter

Better results—easier and faster

“Easy to use.”



- 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



Model	EcoTestr (CTS) Con/TDS/Salinity	
Catalog number	XH-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® CTSTestr™ 50 Pocket Testers

Get benchtop accuracy in the field

- 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



Model	CTSTestr 50P (pin-style sensor)	CTSTestr 50C (cup-style sensor)
Catalog number	XH-35634-55	XH-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 CON 150 Meter

Get more for your money

- Best value for an IP67-rated waterproof meter—ideal for any environment
- 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
- Use as a benchtop meter as well—built-in stand and wall-mount option
- Versatile power supply—battery or AC



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



Meter only

Model	CON 150 meter with probe	CON 150 meter kit
Catalog number	XH-35607-32	XH-35607-90
Precalibrated cat. no.	XH-35607-34	XH-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		

XH-35608-55 Conductivity cell, K = 0.1

XH-35608-50 Replacement conductivity cell, K = 1.0

XH-35608-51 Conductivity cell, K = 10

XH-35614-51 Hard carrying case

XH-35420-72 Optional power adapter, 110/220 VAC

XH-17090-30 NIST-traceable calibration with data for conductivity meter

You're Out? We're Not!

Thousands of **highlighted** items



Oakton® Waterproof EcoTestr™ pH2+ Pocket Tester

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



Model	EcoTestr pH2+	
Catalog number	XH-35423-01	
Range	pH	0.0 to 14.0 pH
	Temperature	32.0 to 122.0°F (0.0 to 50.0°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 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® pHTestr® 50 Pocket Tester

Bring lab performance to 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, calibrate quickly: easy-to-navigate interface
- Don't let temperature interfere—automatic temperature compensation minimizes impact
- Leakproof, stabilizing cap—use to calibrate, stand upright, and store sensor
- Waterproof, IP67-rated housing resists most chemicals



Model	pHTestr 50	
Catalog number	XH-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		



Description	Meter only	Meter with probe	Meter kit
Model	pH 150		
Catalog number	XH-35614-32	XH-35614-30	XH-35614-90
Precalibrated cat. no.	XH-35614-34	XH-35614-33	XH-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			

XH-35808-71 Replacement "All-in-One" combination pH electrode with built-in ATC; single-junction, epoxy body, BNC connector

XH-35618-05 ATC probe. Use with any standard pH electrode for temperature compensation

XH-35614-50 Replacement Grip-Clip, holder attaches probe to side of container for hands-free measurement

XH-35614-51 Hard carrying case, for 150/450 meters

XH-35420-72 Optional power adapter, 110/220 VAC

XH-09376-01 Replacement batteries, AA. Pack of 4

XH-17106-20 NIST-traceable calibration with data for pH meter

Electrochemistry

pH/ion

Cole-Parmer® Digital Batch Mixer

Tackle volumes up to 55 gallons (200 L)

- 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 5/8" (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 5/8" dia shafts), chuck key, shaft guard, installed screen protector, memory stick, mounting bolts, and power cord.



Speed range (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price
50 to 1500	1/2	4248	120, 60	XH-50009-00	



Accessories

- [XH-50019-94](#) Stainless steel plate mount
- [XH-50019-95](#) Replacement screen protector kit
- [XH-50019-96](#) Stainless steel multiposition C-clamp set
- [XH-50019-97](#) Replacement stainless steel chuck with key, 16-mm shaft diameter
- [XH-50019-98](#) Replacement chuck shaft guard
- [XH-50019-99](#) Repl. stainless steel chuck key

ServoDyne™ Electronic Mixers

Get more precise mixing

- Monitor and control speed, torque, and batch time through digital controller or a computer interface

1. Controller

Provide precise control of mixing speed within ±0.2% despite changes in viscosity, temperature, or line voltage. Monitor torque, set torque limits, or measure and control differential torque with mixer head in use and sets the appropriate rpm and torque limits for that motor. Operates on 115 VAC, 50/60 Hz.

High-Torque, Low-Speed Models have a keyless chuck that accepts mixing shafts up to 3/8" (10 mm) in diameter.

High-Speed, Low-Torque Models have an adjustable, through-shaft precision hand-tightened collet that accepts 3/8" (10 mm) dia mixing shafts. Through-shaft design allows positioning the mixing propeller at any depth without moving the mixer head.

Complete systems include: speed controller, mixer head, shaft, propeller, clamp and stand.

2. Mixer Heads

- Maintenance-free—permanent-magnet DC motor with permanently lubricated ball-bearing construction
- Rotate mixer head from 0° to 30° for proper positioning of shaft and propeller
- Optical shaft encoder relays the exact motor rotation speed data to the electronic mixer controller



1. Controller		2. Mixer heads					Complete systems			
Catalog number	Price	Description	Speed (rpm)	hp	Max torque (in-oz)		Catalog number	Price	Catalog number	Price
					Continuous	Intermittent				
XH-50008-00		High torque, low speed; with keyless chuck	3 to 180	1/15	340	510	XH-50008-10		XH-50008-12	
			20 to 900	1/15	70	105	XH-50008-20		XH-50008-22	
		High speed, low torque; with adjustable through-shaft collet	60 to 2300	1/10	45	65	XH-50008-30		XH-50008-32	
			150 to 6000	1/10	17	25	XH-50008-40		XH-50008-42	

Stuart® 8500 Microcentrifuge

Be safe with dual locking lid

NEW

- Quickly change rotors with quick-release adapter—no tools required
- Built-in recessed rotor bowl contains spills for easy cleanup
- Small footprint—the perfect unit for your personal workspace
- Spin samples rapidly or use in applications where greater g-force is required
- Includes two rotors: fixed-angle, 8 x 1.5- to 2.0-mL tubes; 32 x 0.2-mL strip tubes



stuart

Speed range	Max RCF x g	Power (VAC, Hz)	Catalog number	Price
8500 rpm	3884	100 to 240, 50/60	XH-17414-70	

Cole-Parmer® elements™ Ultra-Thin Magnetic Stirrer

NEW

Ultra-slim design saves valuable space



- Use simple touch-and-slide bar to set stirring speed and timer
- LCD displays real-time parameters
- Reverse stirring mode allows for thorough mixing
- Set built-in timer for up to 9 hours or continuous operation

Ultra-thin stirrer utilizes advanced magnetic coil technology providing lighter, quieter, and wear-free operation without any moving parts. The unique design makes the stirrer thinner and lighter to be easily stored when not in use.

elements™
Cole-Parmer



Top plate	Speed range	Max stirring capacity	Power (VAC, Hz)	Catalog number	Price
Polyester, 4" (10.2 cm) dia	20 to 1500 rpm	1 L	100 to 240, 50/60	XH-84003-71	

Cole-Parmer® elements™ Modular Magnetic Stirrer

NEW

Fully customizable—create any configuration you need

- Attach up to 10 stir plate modules to a single controller
- Use simple touch-and-slide bar to set stirring speed and timer
- Control module features speed display, reverse stirring mode, and timer
- Each stirring module has a corrosion-resistant glass top plate



Simply attach or remove a stir plate module via direct USB connection or with the included cables. Each stir plate edge lights up to allow for accurate positioning of the vessel. Built-in timer can be set for up to 9 hours or continuous operation.

Kit includes: control module, four stir plate modules, USB cords, power cord and AC adapter.

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Top plate (stir module)	Speed range	Max capacity per position	Power (VAC, Hz)	Catalog number	Price
Glass, 3.6" (9.2 cm) dia	100 to 1500 rpm	1 L	100 to 240, 50/60	XH-84003-80	

[XH-84003-81](#) **Controller module only;** accepts up to 10 stir plate modules

[XH-84003-82](#) **Additional stir plate module;** requires a controller module to operate

Stuart® Digital Round-Top Hot Plate, Stirrer, and Stirring Hot Plate

Innovative fingertip control even while wearing gloves



- Get precise digital control of heating and stirring
- Advanced brushless motor provides quiet, worry-free operation
- Sealed casing keeps spills away from interior electronics
- Set a safety temperature limit to ensure liquid won't be damaged
- Hot top warning light protects you from accidental burns
- LCD shows both set and real-time parameters which are lockable to prevent changes
- Reverse stirring mode switches the stirring direction for thorough mixing

NEW



Top plate		Max temperature	Speed range	Max stirring capacity	Power			Catalog number	Price
Dimensions	Material				VAC	Hz	Watts		
Hot plate									
5 5/8" (13.5 cm) dia	Ceramic-coated aluminum	644°F (340°C)	—	—	115	50/60	600	XH-04661-23	
Stirrer									
5 5/8" (13.5 cm) dia	Ceramic-coated aluminum	—	100 to 1800 rpm	20 L	115	50/60	—	XH-04661-29	
Stirring hot plate									
5 5/8" (13.5 cm) dia	Ceramic-coated aluminum	644°F (340°C)	100 to 1800 rpm	20 L	115	50/60	600	XH-04661-45	

Stuart® Hot Plates and Stirring Hot Plates

Excellent performance for everyday use

- Spill-resistant front control panel
- Hot surface warning light
- Durable chip-resistant aluminum top plate offers excellent heat transmission, rapid heating, and even temperature distribution
- Ceramic top plate is chemical resistant and easy to clean, plus the white surface ensures good visibility of color changes

Digital Interface Models feature a digital temperature setting. Stirring speed is displayed by a "hockey stick" LED array.

Premium Interface Models simultaneously display target settings and actual temperature and stirring speed of sample. Individual profiles can be created and saved, allowing for fast setup of complicated experimental procedures. Include PTFE-coated temperature probe.



Digital interface with constant digital temperature display

NEW



Digital color options



Premium color options



Premium interface with TFT display for temperature and stirring

Top plate		Heating	Stirring		Body color	Power (VAC, Hz)	Digital interface		Premium interface	
Dimensions	Material	Max temp	Speed range	Max capacity			Catalog number	Price	Catalog number	Price
Hot plates										
6" x 6" (15 x 15 cm)	Aluminum	617°F (325°C)	—	—	Blue	120, 50/60	XH-04806-24	—	XH-04806-48	—
		Ceramic			842°F (450°C)		Black		XH-04806-28	
					Pink		XH-04806-30		XH-04806-62	
					Black		XH-04806-34			
Stirring hot plates										
6" x 6" (15 x 15 cm)	Aluminum	617°F (325°C)	50 to 1400 rpm (digital); 50 to 2000 rpm (premium)	15 L	Blue	120, 50/60	XH-04806-36	—	XH-04806-64	—
		Ceramic	842°F (450°C)		50 to 1250 rpm (digital); 50 to 2000 rpm (premium)		Black		XH-04806-40	
					Pink		XH-04806-42		XH-04806-78	
					Black		XH-04806-46		XH-04806-80	
					Pink				XH-04806-84	
									XH-04806-94	

Finally, a stirring hot plate as unique as you!

Go to ColeParmer.ca/buildmystirrer and design yours today.



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	XH-06020-01	100	
100 (3.5)	10	XH-06020-03		
250 (8)	20	XH-06020-05		
400 (13)	40	XH-06020-07	100	
800 (26)	50	XH-06020-09		
1000 (32)	50	XH-06020-11		
Five of each above	—	XH-06010-07	30	

Cole-Parmer® elements™ Graduated Beakers, PP

Molded-in graduations

- 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)



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

PYREX® Brand 1000 Griffin Low-Form Beakers, Glass

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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 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 (½)	—	—	XH-34502-01	12	
20 (¾)	5 to 15	5	XH-34502-02		
30 (1)	5 to 25	10	XH-34502-03		
50 (1¾)	10 to 40	10	XH-34502-04		
100 (3)	20 to 80	10	XH-34502-05	12	
150 (5)	20 to 140	10	XH-34502-06		
250 (8)	25 to 200	25	XH-34502-07		
400 (13)	25 to 325	25	XH-34502-08		
600 (20)	50 to 500	50	XH-34502-09	6	
800 (27)	50 to 750	50	XH-34502-10	6	
1000 (32)	50 to 1000	50	XH-34502-11	6	
2000 (64)	200 to 2000	100	XH-34502-13	4	
3000 (96)	250 to 2500	125	XH-34502-14	1	
4000 (128)	500 to 3500	250	XH-34502-15	1	
10 (½)	—	—	XH-34502-21	48	
20 (¾)	5 to 15	5	XH-34502-22		
30 (1)	5 to 25	10	XH-34502-23		
50 (1¾)	10 to 40	10	XH-34502-24		
100 (3)	20 to 80	10	XH-34502-25	48	
150 (5)	20 to 140	10	XH-34502-26		
250 (8)	25 to 200	25	XH-34502-27		
400 (13)	25 to 325	25	XH-34502-28		
600 (20)	50 to 500	50	XH-34502-29	36	
800 (27)	50 to 750	50	XH-34502-30	24	
1000 (32)	50 to 1000	50	XH-34502-31	24	
2000 (64)	200 to 2000	100	XH-34502-33	8	
3000 (96)	250 to 2500	125	XH-34502-34	6	
4000 (128)	500 to 3500	250	XH-34502-35	6	
Starter set contains one each of 50 mL, 100 mL, 250 mL, 600 mL, 1000 mL			XH-34502-90	5	

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

Suitable for all lab procedures

- 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.



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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 (½)	—	10	XH-34502-20	12	
20 (¾)	5 to 20	5	XH-34502-36		
25 (¾)	5 to 25	5	XH-34502-37		
30 (1)	10 to 30	5	XH-34502-38		
50 (1¾)	10 to 50	10	XH-34502-39		
100 (3)	20 to 100	10	XH-34502-40	12	
150 (5)	25 to 150	12.5	XH-34502-41		
200 (6)	50 to 200	25	XH-34502-42		
250 (8)	50 to 250	25	XH-34502-43		
300 (10)	50 to 300	25	XH-34502-44	8	
400 (13)	100 to 400	50	XH-34502-45		
500 (16)	100 to 500	50	XH-34502-46		
600 (20)	100 to 600	50	XH-34502-47		
800 (27)	200 to 800	100	XH-34502-48	6	
1000 (32)	200 to 1000	100	XH-34502-49		
1500 (51)	300 to 1500	100	XH-34502-50	2	
2000 (64)	400 to 2000	200	XH-34502-51		
3000 (96)	500 to 2500	250	XH-34502-52	1	
4000 (128)	500 to 3500	250	XH-34502-53		
5000 (160)	500 to 4500	500	XH-34502-54		

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



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

Accessories

- [XH-06258-30](#) Replacement cap, PP, 83B. Pack of 2
- [XH-63000-16](#) Replacement cap, PP, 100 mm. Pack of 12
- [XH-63000-18](#) Replacement cap, PP, 38-430. Pack of 12
- [XH-06070-22](#) Replacement spigot, PP

Wait!

There's More at
ColeParmer.ca

Find all the
product specs
you need!

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®

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Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
Heavy-duty carboys with shoulder handle				
5 (1¼)	45 mm	XH-62507-00	1	
10 (2½)	90 mm	XH-62507-10	1	
20 (5¼)	90 mm	XH-62507-20	1	
Heavy-duty carboys with shoulder handle and spigot				
5 (1¼)	45 mm	XH-62507-05	1	
10 (2½)	90 mm	XH-62507-15	1	
20 (5¼)	90 mm	XH-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 5/8" ID tubing
- Leakproof polypropylene (PP) cap
- Autoclavable



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

Jenway® 74- and 76-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.

NEW! Split-Beam Model

Split beam optics offset any signal fluctuations for increased stability over prolonged use, making it ideal for time course and kinetic measurements.

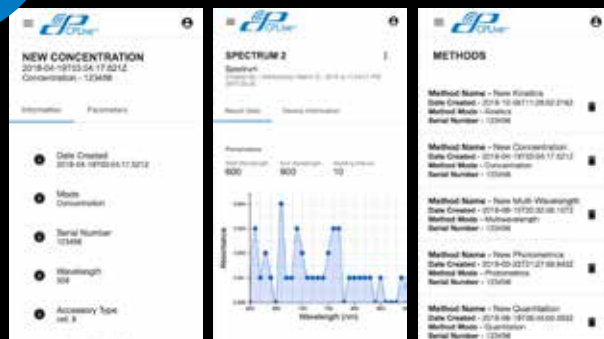


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Keep your data secure and easily accessible with CPLive connectivity—results are automatically uploaded and stored in the cloud.

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.ca/CPLive



Description	7410 Visible, single beam	7415 UV/visible, single beam	7415 Nano UV/visible, single beam	7615 UV/visible, split beam	
Catalog number	XH-83056-21	XH-83056-22	XH-83056-23	XH-83056-26	XH-83056-36
Min sample size	3 mL	3 mL	0.5 µL (at 0.2 mm), 1.0 µL (at 0.5 mm)	3 mL	
Bandwidth	5 nm		5 nm	1.5 nm	
Wavelength range	320 to 1000 nm		198 to 1000 nm	198 to 1000 nm	
Wavelength accuracy	±2 nm		±2 nm	±2 nm	
Wavelength reproducibility	±0.5 nm		±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	Xenon		Xenon	
Housing color	White	White		White	Black
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



Introducing **NEW** & **innovative** products from **Masterflex®** and **Ismatec®**

Masterflex® Ismatec® Reglo 2.0

NEW Icon driven touch-screen interface with MasterflexLive and wireless connectivity for our most intuitive pump yet



**Coming
Soon!**



MASTERFLEXLIVE®

Masterflex® I/P® Cytoflow® Pump with MasterflexLive®

Best option for pumping live cells and shear-sensitive fluids—validated by independent test data



See page
15

Masterflex® Single-Use Flow Sensor Systems

Modular system comprised of four components so you can customize to your application needs



See page 23