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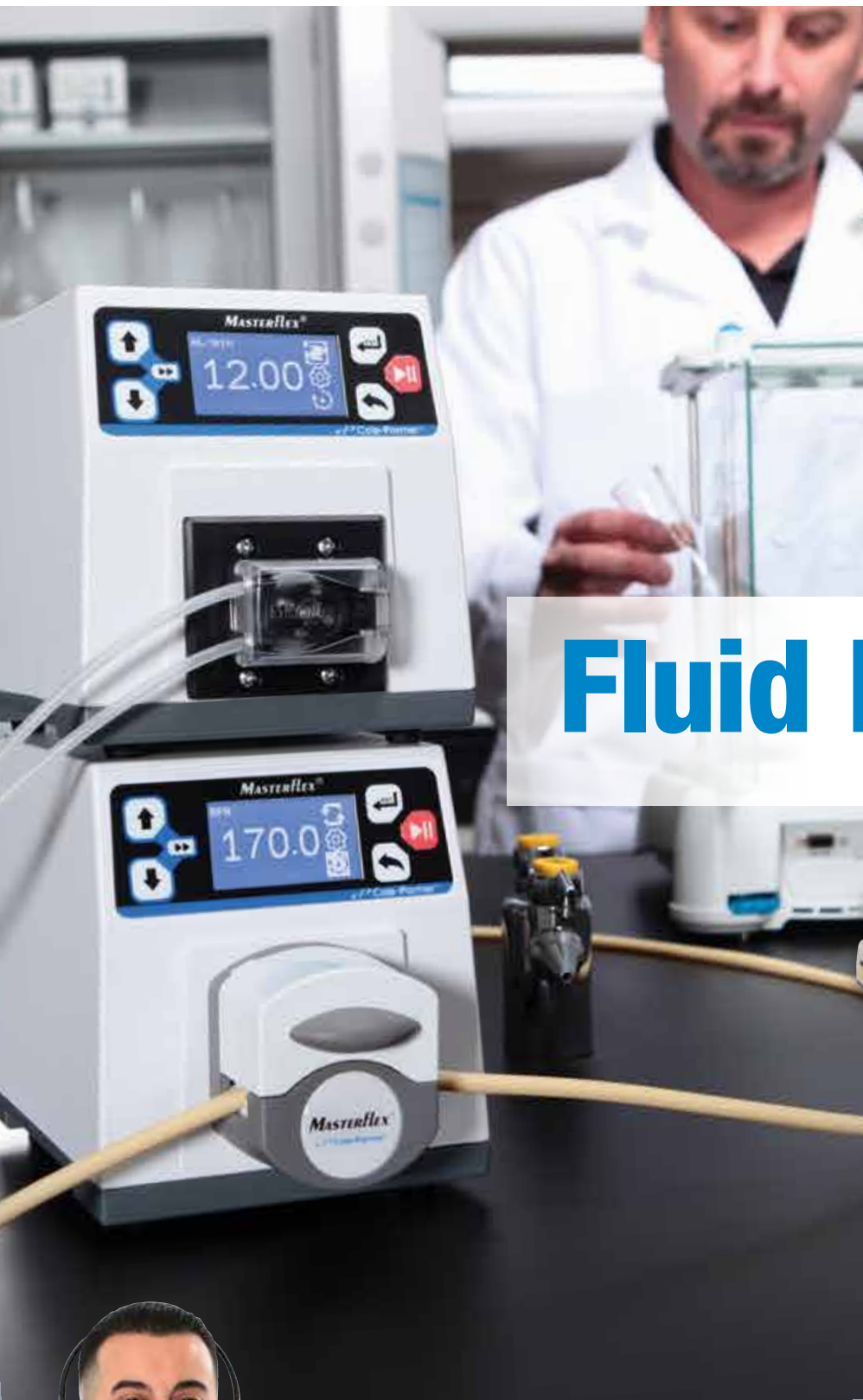
Fluid Handling

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C/L® Variable-Speed Compact Pumps

Pump in even the tightest spaces!

- Pump fluids in either direction—easily switchable reversing motor
- Easy tubing changes—open cover and release occlusion bed in one motion

A. C/L Single-Channel Pumps

- Stop/start remotely via contact closure
- MAX button quickly primes or purges tubing
- Pump from 0.002 to 43 mL/min

B. C/L Digital Microflex® Pump

- Icon-driven menu allows quick programming and setup
- Flow range of 0.00013 to 43 mL/min
- Copy dispense function for filling and dispensing applications
- Remote control of speed, direction, and start/stop/prime via 25-pin connector on back of drive
- Microflex pump head accepts continuous lengths of tubing for clean flow paths
- Tubing calibration ensures accuracy

NEW



A

FEATURES

- ✓ Flow range: 0.00013 to 43 mL/min
- ✓ Reversible pumping
- ✓ Remote control capabilities

Power supplies are:

ISO9001:2008
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rpm	Speed control (repeatability)	Number of channels	Number of rollers	Reversible motor	IP rating	Dimensions—¼ DIN (L x W x H)	Power		Catalog number	Price
							VAC, Hz	Amps		
A. C/L single-channel compact pumps										
1.7 to 10	±5%	1	4	Yes	IP22	7" x 3¾" x 3½" (17.8 x 9.5 x 8.9 cm)	90 to 260, 50/60	110 mA at 115 VAC	BA-77122-04	
							12 VDC†	—	BA-77122-06	
13 to 80			90 to 260, 50/60				175 mA at 115 VAC	BA-77122-14		
			3				12 VDC†	—	BA-77122-16	
50 to 300				90 to 260, 50/60	400 mA at 115 VAC	BA-77122-24		12 VDC†	—	BA-77122-26
B. C/L digital Microflex pump										
0.1 to 300	±0.1%	1	3	Yes	IP33	8½" x 5½" x 6¾" (20.5 x 14 x 15.7 cm)	90 to 260	0.34 at 115 VAC, 0.2 at 230 VAC	BA-77123-00	

†Power supply not included with 12 VDC models.

[BA-17050-01](#) NIST-traceable calibration with data for peristaltic pump drive

For A models:

[BA-77120-03](#) Brackets for panel mounting. Set of 2

[BA-77200-07](#) Replacement power supply, 100 to 240 VAC, for pump 77122-24

[BA-77120-11](#) Replacement power supply, 100 to 240 VAC, for pumps 77122-04, -14

For B model:

[BA-07523-92](#) Foot switch, momentary start/stop; DB25 male; 6-ft (1.8-m) cable

[BA-07523-95](#) Cable assembly, DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends

[BA-07523-97](#) Handheld remote controller, DB25 male, route tubing through handle for dispensing applications; 6-ft (1.8-m) cable

[BA-77123-80](#) Replacement single-channel Microflex pump head

[BA-07525-90](#) Replacement power supply, 90 to 260 VAC

Microbore Pump Tubing Ordering Information

Tube ID (mm)	Tygon® E-Lab	Silicone (platinum-cured)	Silicone (peroxide-cured)	PharMed® BPT	Tygon E-LFL (long flex life)	Viton®	Puri-Flex™	C-Flex®	Solvent/hydrocarbon
0.19	BA-06460-10	—	—	—	—	—	BA-96418-10	BA-95718-10	BA-95712-10
0.25	BA-06460-12	—	—	BA-95809-12	—	—	BA-96418-12	BA-95718-12	BA-95712-12
0.51	BA-06460-18	BA-95590-18	—	BA-95809-18	BA-06449-18	—	BA-96418-18	BA-95718-18	BA-95712-18
0.89	BA-06460-26	BA-95590-26	BA-07625-26	BA-95809-26	BA-06449-26	BA-97632-26	BA-96418-26	BA-95718-26	BA-95712-26
1.14	BA-06460-30	BA-95590-30	BA-07625-30	BA-95809-30	BA-06449-30	BA-97632-30	BA-96418-30	BA-95718-30	BA-95712-30
1.42	BA-06460-34	BA-95590-34	BA-07625-34	BA-95809-34	BA-06449-34	BA-97632-34	BA-96418-34	BA-95718-34	BA-95712-34
2.06	BA-06460-42	BA-95590-42	BA-07625-42	BA-95809-42	BA-06449-42	BA-97632-42	BA-96418-42	BA-95718-42	BA-95712-42
2.79	BA-06460-48	BA-95590-48	BA-07625-48	BA-95809-48	BA-06449-48	BA-97632-48	BA-96418-48	BA-95718-48	BA-95712-48
Length/pk	30.4 m (100 ft)	15.2 m (50 ft)	15.2 m (50 ft)	30.4 m (100 ft)	30.4 m (100 ft)	15.2 m (50 ft)	15.2 m (50 ft)	15.2 m (50 ft)	15.2 m (50 ft)
Price/pk									

Flow Rates in mL/min

rpm	Microbore pump tubing size (ID)								
	0.19 mm	0.25 mm	0.51 mm	0.89 mm	1.14 mm	1.42 mm	2.06 mm	2.79 mm	
1.7 to 10	0.002 to 0.013	0.004 to 0.022	0.015 to 0.087	0.041 to 0.25	0.064 to 0.39	0.09 to 0.57	0.18 to 1.05	0.28 to 1.65	
13 to 80	0.017 to 0.10	0.03 to 0.18	0.12 to 0.70	0.33 to 2.0	0.52 to 3.1	0.75 to 4.5	1.4 to 8.5	1.8 to 11.0	
50 to 300	0.06 to 0.39	0.11 to 0.66	0.43 to 2.6	1.2 to 7.5	1.9 to 11.4	2.8 to 17.1	5.3 to 32	7.2 to 43	
0.1 to 300	0.00013 to 0.39	0.0002 to 0.66	0.0009 to 2.6	0.003 to 7.5	0.004 to 11.4	0.006 to 17.1	0.011 to 32	0.014 to 43	

L/S® Standard Pump Heads

Ideal for accurate and repeatable fluid transfer applications

- Available with PC housing with CRS or SS rotor, or PPS housing with SS rotor
- PC housing allows you to see pump in operation; PPS housing and SS rotors have excellent chemical resistance



Pump tubing size	mL per rev	Flow rates in mL/min		Catalog number†‡		
		0.02 to 100 rpm	6 to 600 rpm	PC housing		PPS housing
				CRS rotor	SS rotor	SS rotor
A. Standard pump heads for precision pump tubing						
L/S 13	0.06	0.001 to 6	0.36 to 36	BA-07013-20	BA-07013-21	BA-07013-52
L/S 14	0.21	0.004 to 21	1.3 to 130	BA-07014-20	BA-07014-21	BA-07014-52
L/S 16	0.8	0.016 to 80	4.8 to 480	BA-07016-20	BA-07016-21	BA-07016-52
L/S 17	2.8	0.059 to 280	17 to 1700	BA-07017-20	BA-07017-21	BA-07017-52
L/S 18	3.8	0.077 to 380	23 to 2300	BA-07018-20	BA-07018-21	BA-07018-52
Price						
B. Standard pump heads for high-performance precision pump tubing						
L/S 15	1.7	0.033 to 170	10 to 1000	BA-07015-20	BA-07015-21	BA-07015-52
L/S 24	2.8	0.057 to 280	17 to 1700	BA-07024-20	BA-07024-21	BA-07024-52
L/S 35	3.8	0.077 to 380	23 to 2300	BA-07035-20	BA-07035-21	—
Price						
L/S 36	4.8	0.096 to 480	29 to 2900	BA-07036-30	BA-07036-31	—
Price						

†PC = polycarbonate PPS = polyphenylene sulfide
CRS = cold-rolled steel SS = stainless steel

‡Maximum system pressure = L/S 13, L/S 14, L/S 15, L/S 16, L/S 24: 40 psi (2.7 bar); L/S 17, L/S 36: 20 psi (1.4 bar); L/S 18: 15 psi (1.0 bar); L/S 35: 35 psi (2.4 bar)

FEATURES

- ✓ Best overall pump head performance
- ✓ Designed and optimized for one tubing size
- ✓ Stack up to four heads



Mounting Hardware

Stack up to four L/S Standard pump heads on one drive (see drive specifications for recommended number of heads). Hardware is stainless steel.

Heads to be mounted	Catalog number	Price/st
Hardware for Standard Heads L/S 13 to 35		
One	BA-07013-04	
Two	BA-07013-05	
Three	BA-07013-08	
Four	BA-07013-09	
Hardware for Standard Heads L/S 36		
One	BA-07036-01	
Two	BA-07036-02	

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



What's included: single-channel mounting hardware and a 15" (38-cm) length of silicone pump tubing. Pump head comes ready to mount to drive.



Pump tubing size accepted	mL per rev	Flow rates in mL/min		Max system pressure† psi (bar)	Fixed occlusion				Adjustable occlusion	
		1 to 100 rpm	6 to 600 rpm		CRS‡ rotor		SS‡ rotor		SS‡ rotor and open-head sensor	
					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)	BA-77200-50		BA-77200-60		BA-77200-30	BA-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)	BA-77200-52		BA-77200-62		BA-77200-32	BA-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)	BA-77202-50		BA-77202-60			
L/S 14	0.21	0.21 to 21	1.3 to 130	40 (2.7)						
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)						
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)						

†Actual performance varies depending on pump tubing formulation—values shown are for firm pump tubing. ‡CRS = cold-rolled steel SS = stainless steel

Mounting Hardware. Mount up to four L/S Easy-Load II pump heads on a single drive; see individual drive specifications for maximum number of heads to be mounted. Mounting hardware is stainless steel.

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

L/S® Easy-Load® 3 Pump Heads

No tools or hardware needed

- Mount and stack heads in seconds with twist-lock mounting feature
- CRS rotor is more economical while SS offers greater durability and chemical resistance
- Mount up to four pump heads without tools or hardware when using mounting plate
- Included mounting plate adapts Easy-Load 3 pump heads to L/S drives

FEATURES

- ✓ Same side tubing entry/exit for space-limited applications
- ✓ Automatic tubing retention
- ✓ Stack up to four heads

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Pump tubing sizes accepted	mL per rev	Flow rates in mL/min		Maximum system pressure† psi (bar)	Catalog number‡	
		1 to 100 rpm	6 to 600 rpm		CRS rotor	SS rotor
Easy-Load 3 pump heads for precision pump tubing						
L/S 13	0.06	0.06 to 6	0.36 to 36	40 (2.7)	BA-77800-50	BA-77800-60
L/S 14	0.22	0.22 to 22	1.3 to 130	40 (2.7)		
L/S 16	0.8	0.8 to 80	4.8 to 480	40 (2.7)		
L/S 25	1.7	1.7 to 170	10 to 1000	35 (2.4)		
L/S 17	2.8	2.8 to 280	17 to 1700	20 (1.4)		
L/S 18	3.8	3.8 to 380	23 to 2300	15 (1.0)		
Easy-Load 3 pump heads for high-performance precision pump tubing						
L/S 15	1.7	1.7 to 170	10 to 1000	30 (2.0)	BA-77800-52	BA-77800-62
L/S 24	2.8	2.8 to 280	17 to 1700	30 (2.0)		
L/S 35	3.8	3.8 to 380	23 to 2300	25 (1.7)		
L/S 36	4.8	4.8 to 480	29 to 2900	20 (1.4)		
Price						

†Actual performance varies depending on pump tubing formulation—values shown are for firm pump tubing.

‡CRS = cold-rolled steel SS = stainless steel

BA-77800-00 Replacement mounting kit, for mounting Easy-Load 3 pump head to Masterflex L/S pump drives. Includes mounting plate and four screws

L/S® High-Performance Pump Heads

Highest flow rate and pressure generation of any L/S pump head

- Offers better suction lift, viscous fluid transfer, and long tubing life—at pressures up to 150 psi (10.2 bar)
- Mount pump head upright or on its side—design allows tubing to enter/exit the same side of the pump head
- Rollers, bearings, rotor plates, and rotor shaft are made of stainless steel (SS); occlusion bed is made from polyphenylene sulfide (PPS) for excellent chemical resistance
- Accepts high-performance precision pump tubing sizes: L/S 15, L/S 24, L/S 35, L/S 36, and our high-pressure pump tubing: L/S 14HP, L/S 15HP, L/S 16HP and L/S 24HP
- Tubing enters/exits the same side of pump head for easy connection to tubing inlet and outlet
- ATEX Zone 2 approved model 77250-82; rated to EEx II 3 G c II C T6

FEATURES

- ✓ Load high-performance precision tubing easily
- ✓ Pressures up to 150 psi with L/S HP tubing
- ✓ Not stackable
- ✓ ATEX Zone 2 rated model available



What's included: mounting hardware and a 15" (38-cm) length of L/S 35 pump tubing.

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ATEX

Zone 2
77250-82



Pump tubing size	mL per rev	Flow rates in mL/min		Maximum system pressure psi (bar)	High-Performance pump head		ATEX-approved High-Performance pump head	
		0.02 to 100 rpm	6 to 600 rpm		Catalog number	Price	Catalog number	Price
L/S 14HP†	0.3	0.006 to 30	Not recommended	150 (10.2)	BA-77250-62		BA-77250-82	
L/S 16HP†	0.9	0.018 to 90	Not recommended	125 (8.5)				
L/S 15HP†	1.7	0.033 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	11 to 1100	40 (2.7)				
L/S 24	3.0	0.060 to 300	18 to 1800	40 (2.7)				
L/S 35	4.3	0.086 to 430	26 to 2600	35 (2.4)				
L/S 36	5.8	0.116 to 580	34 to 3400	20 (1.4)				

†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.

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)	MASTERFLEX	USP Class V, EP, FDA, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96410-13	BA-96410-14	BA-96410-16	BA-96410-25	BA-96410-17	BA-96410-18
Silicone (peroxide-cured)	MASTERFLEX	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96400-13	BA-96400-14	BA-96400-16	BA-96400-25	BA-96400-17	BA-96400-18
BioPharm Silicone (platinum-cured)	MASTERFLEX	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96420-13	BA-96420-14	BA-96420-16	BA-96420-25	BA-96420-17	BA-96420-18
BioPharm Plus Silicone (platinum-cured)	MASTERFLEX	USP Class VI, EP, FDA, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96440-13	BA-96440-14	BA-96440-16	BA-96440-25	BA-96440-17	BA-96440-18
Puri-Flex™	MASTERFLEX	USP Class VI, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96419-13	BA-96419-14	BA-96419-16	BA-96419-25	BA-96419-17	BA-96419-18
C-Flex®	MASTERFLEX	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-06424-13	BA-06424-14	BA-06424-16	BA-06424-25	BA-06424-17	BA-06424-18
C-Flex® ULTRA	MASTERFLEX	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	—	BA-06434-14	BA-06434-16	BA-06434-25	BA-06434-17	BA-06434-18
PharMed® BPT	MASTERFLEX	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	BA-06508-13	BA-06508-14	BA-06508-16	BA-06508-25	BA-06508-17	BA-06508-18
PharmaPure®†	MASTERFLEX	USP Class VI, EP, FDA, REACH, RoHS	7.6 m (25 ft)	BA-06435-13	BA-06435-14	BA-06435-16	BA-06435-25	BA-06435-17	BA-06435-18
GORE® STA-PURE® Series PCS [‡]	—	USP Class VI	35.6 cm (14")	—	BA-96211-14	BA-96211-16	BA-96211-25	BA-96211-17	BA-96211-18
GORE® STA-PURE® Series PFL [‡]	—	USP Class VI	35.6 cm (14")	—	BA-96212-14	BA-96212-16	BA-96212-25	BA-96212-17	BA-96212-18
Chem-Durance® Bio [‡]	MASTERFLEX	USP Class VI, FDA, REACH, RoHS	15.2 m (50 ft)	BA-06442-13	BA-06442-14	BA-06442-16	BA-06442-25	BA-06442-17	BA-06442-18
Solve-Flex®†	—	USP Class VI	3.6 m (12 ft)	—	—	—	—	BA-96446-17	—
Tygon® E-LFL	MASTERFLEX	USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-06440-13	BA-06440-14	BA-06440-16	BA-06440-25	BA-06440-17	BA-06440-18
Tygon E-Food (B-44-4X)	MASTERFLEX	FDA, EU Food, NSF, 3A, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06418-13	BA-06418-14	BA-06418-16	BA-06418-25	BA-06418-17	BA-06418-18
Tygon E-Lab (E-3603)	MASTERFLEX	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06509-13	BA-06509-14	BA-06509-16	BA-06509-25	BA-06509-17	BA-06509-18
Tygon Fuel & Lubricant (F-4040-A)	MASTERFLEX	REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06401-13	BA-06401-14	BA-06401-16	BA-06401-25	BA-06401-17	BA-06401-18
Tygon Chemical [‡] (2001)	MASTERFLEX	FDA 21 CFR 175.300, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06475-13	BA-06475-14	BA-06475-16	BA-06475-25	BA-06475-17	BA-06475-18
Norprene® (A-60 G)	MASTERFLEX	NSF, REACH, RoHS	15.2 m (50 ft)	BA-06404-13	BA-06404-14	BA-06404-16	BA-06404-25	BA-06404-17	BA-06404-18
Norprene Food (A 60 F)	MASTERFLEX	FDA, 3A, NSF, REACH, RoHS	15.2 m (50 ft)	BA-06402-13	BA-06402-14	BA-06402-16	BA-06402-25	BA-06402-17	BA-06402-18
Viton®	MASTERFLEX	FDA, ADFC	7.6 m (25 ft)	BA-96412-13	BA-96412-14	BA-96412-16	BA-96412-25	BA-96412-17	BA-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).

FEATURES

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

PharmaPure®

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

GORE® STA-PURE® Series PCS

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

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

Solve-Flex®

- Excellent chemical resistance, especially solvents
- Fluoropolymer lined with low spallation

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

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, ADFC	7.6 m (25 ft)	BA-96410-15	BA-96410-24	BA-96410-35	BA-96410-36
Silicone (peroxide-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96400-15	BA-96400-24	BA-96400-35	BA-96400-36
BioPharm Silicone (platinum-cured)	USP Class VI, EP, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96420-15	BA-96420-24	BA-96420-35	BA-96420-36
BioPharm Plus Silicone (platinum-cured)	USP Class VI, EP, FDA, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96440-15	BA-96440-24	BA-96440-35	BA-96440-36
Puri-Flex™	USP Class VI, FDA, 3A, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-96419-15	BA-96419-24	BA-96419-35	BA-96419-36
C-Flex®	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-06424-15	BA-06424-24	BA-06424-35	BA-06424-36
C-Flex® ULTRA	USP Class VI, EP, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-06434-15	BA-06434-24	BA-06434-35	BA-06434-36
PharMed® BPT	USP Class VI, EP, FDA, NSF, REACH, RoHS	7.6 m (25 ft)	BA-06508-15	BA-06508-24	BA-06508-35	BA-06508-36
PharmaPure®†	USP Class VI, EP, FDA, REACH, RoHS	7.6 m (25 ft)	BA-06435-15	BA-06435-24	—	—
GORE® STA-PURE® Series PCS†	USP Class VI	35.6 cm (14")	BA-96211-15	BA-96211-24	BA-96211-35	BA-96211-36
GORE® STA-PURE® Series PFL†	USP Class VI	35.6 cm (14")	BA-96212-15	BA-96212-24	BA-96212-35	BA-96212-36
Chem-Durance® Bio†	USP Class VI, FDA, REACH, RoHS	15.2 m (50 ft)	BA-06442-15	BA-06442-24	BA-06442-35	BA-06442-36
Solve-Flex®†	USP Class VI	3.6 m (12 ft)	—	BA-96446-24	—	—
Tygon® E-LFL	USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADFC	7.6 m (25 ft)	BA-06440-15	BA-06440-24	BA-06440-35	BA-06440-36
Tygon E-Food (B-44-4X)	FDA, EU Food, NSF, 3A, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06418-15	BA-06418-24	BA-06418-35	BA-06418-36
Tygon E-Lab (E-3603)	USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06509-15	BA-06509-24	BA-06509-35	BA-06509-36
Tygon Fuel & Lubricant (F-4040-A)	REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06401-15	BA-06401-24	BA-06401-35	BA-06401-36
Tygon Chemical† (2001)	FDA 21 CFR 175.300, REACH, RoHS, ADFC	15.2 m (50 ft)	BA-06475-15	BA-06475-24	—	—
Norprene® (A-60 G)	NSF, REACH, RoHS	15.2 m (50 ft)	BA-06404-15	BA-06404-24	BA-06404-35	BA-06404-36
Norprene Food (A 60 F)	FDA, 3A, NSF, REACH, RoHS	15.2 m (50 ft)	BA-06402-15	BA-06402-24	BA-06402-35	BA-06402-36
Viton®	FDA, ADFC	7.6 m (25 ft)	BA-96412-15	BA-96412-24	BA-96412-35	BA-96412-36

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

L/S® Digital Miniflex® Pumps

Small footprint, yet delivers accurate flow over a wide range

- Flow range of 0.004 to 315 mL/min (depending on model and tubing size selected)
- Tubing calibration function ensures accuracy
- Open-head sensor stops drive when pump head is opened
- Remote control via 25-pin connector on back of drive
- Automatic tubing retention makes tube loading quick and easy

Compact, stackable pump with durable ABS housing is easy to wipe down and keep clean. The Miniflex pump head features a wide occlusion angle that prevents fluid backflow up to the rated pressure of the tubing. Self-lubricating thermoplastic polyester rollers are low friction and long wearing for smooth operation and long life.

What's included: L/S Miniflex pump head, benchtop power supply, power cord.

Flow Rates in mL/min

rpm	Precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25
Single-channel pump 07525-20				
0.1 to 300	0.004 to 12	0.014 to 42	0.05 to 162	0.11 to 315
Dual-channel pump 07525-40				
0.1 to 300	0.004 to 12	0.014 to 42	0.05 to 162	—

Number of channels	rpm	Speed control (repeatability)	Reversible motor	IP rating	Dimensions (L x W x H) (23.9 x 14.0 x 15.7 cm)	Power (50/60 Hz)		Catalog number	Price
						VAC	Amps		
1	0.1 to 300	±0.1%	Yes	IP33		90 to 260	0.34 at 115 VAC,	BA-07525-20 BA-07525-40	
2						0.2 at 230 VAC			

BA-07523-92 Foot switch, momentary start/stop; DB25 male; 6-ft (1.8-m) cable

BA-07523-95 Cable assembly, DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends

BA-07523-97 Handheld remote controller, DB25 male, route tubing through handle for dispensing applications; 6-ft (1.8-m) cable

BA-77220-20 Replacement single-channel Miniflex pump head

BA-77220-30 Replacement dual-channel Miniflex pump head

BA-07525-90 Replacement power supply, 90 to 260 VAC

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

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Cole-Parmer® Single-Use Pump Head for Masterflex® L/S® Drives

Get steady, pulseless flow with the convenience of snap-in disposable heads

- Ideal cost-effective solution for single-use or single-campaign fluid transfer
- Disposable—eliminate cross-contamination and cleaning
- Steady, repeatable flow is ideal for dosing applications



Achieving steady pulseless fluid transfer couldn't be easier—simply mount the reusable adapter to your Masterflex L/S drive and snap in a clean disposable pump head. Standard luer connectors enable quick and secure connections to inlet and outlet tubing. Rotary, volumetric pistons produce pulseless flow up to 500 mL/min with high volume and flow rate accuracy. The consistent rate of flow over time from the dual pumping chambers minimizes the need for calibration.

Note: Maximum recommended speed is 100 rpm for optimal life and performance.

Kit includes: pump head mounting adapter and three single-use pump heads. Order replacement pump heads separately in single- or multi-packs.

Description	Single-use pump head kit
Catalog number	BA-07539-20
mL/rev	5.0
Flow range	0.5 to 500 mL/min
Flow accuracy	±3% (<2.5 mL); ±1% (>2.5 mL)
Max pressure	36 psi (2.5 bar)
Max vacuum	-10 psi (-0.7 bar)
Max viscosity	70 cps
Materials of construction	Aluminum adapter; co-polyester pump head with FKM gaskets
Connections	Female luer lock
Price	

NEW



07539-20

Shown with L/S 07522-30 standard digital drive (not included)

Accessories

BA-07539-30 Single-use disposable pump head. Pack of 1

BA-07539-32 Single-use disposable pump head. Pack of 3



BA-07539-34 Single-use disposable pump head. Pack of 6

L/S® Precision Variable-Speed Console Pumps

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
- Maximize processes in a minimal footprint by stacking splash-resistant, IP33-rated drives
- Two ways to control speed, direction, and start/stop—use either the membrane keypad or remote control capabilities
- Save space and increase productivity by stacking 2 or 4 pump heads on the same drive to create a multichannel pump system



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	4.8 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Precision console drive 07528-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77916-10	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			BA-77916-20	



Extend the flow ranges of the drives featured in these pump systems with additional options for pump heads and tubing. Go to ColeParmer.com/Masterflex

L/S® Variable-Speed Economy Console Pumps

Economical and versatile variable-speed drive with a wide flow range

- Separate single-turn speed control and on/off switch with green power indicator. Maintain speed setting while turning on/off
- The 1/20-hp unidirectional motor has soft start and back EMF for ±5% speed control. Smooth operation and long service life.



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	16 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Console drive 07554-90 20 to 600 rpm	115 VAC, 50/60 Hz	BA-77910-30	
				Console drive 07554-95 20 to 600 rpm	230 VAC, 50/60 Hz	BA-77910-35	
	56 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Console drive 07554-90 20 to 600 rpm	115 VAC, 50/60 Hz	BA-77910-20	
				Console drive 07554-95 20 to 600 rpm	230 VAC, 50/60 Hz	BA-77910-25	

L/S® Variable-Speed Digital Drives

Versatile, worry-free operation

- Brushless, maintenance-free motor provides ±0.1% speed control accuracy with 6000:1 turndown ratio
- Bright graphical LCD offers easy programming, four operating modes, and seven languages
- Get more accurate dispensing with preprogrammed calibration
- Drives accept all L/S pump heads for more pumping versatility
- Models equipped with open-head sensor stop drive motor when pump head is open
- 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



Flow Rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head—see page 5)

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			
0.1 to 600	0.006 to 36	0.021 to 130	0.08 to 480	0.17 to 1000	0.28 to 1700	0.38 to 2300	0.17 to 1000 (0.18 to 1100)	0.28 to 1700 (0.30 to 1800)	0.38 to 2300 (0.43 to 2600)	0.48 to 2900 (0.57 to 3400)
0.02 to 100	0.001 to 6	0.004 to 21	0.016 to 80	0.033 to 170	0.057 to 280	0.077 to 380	0.033 to 170 (0.036 to 183)	0.057 to 280 (0.057 to 300)	0.077 to 380 (0.086 to 433)	0.096 to 480 (0.113 to 566)

†The Standard pump head is not available for L/S® 25.

‡Multichannel head is not available for L/S 36. Multichannel and Cartridge heads are available for microbore tubing.

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rpm	Speed control (resolution)	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	BA-07522-20	
		Yes††						BA-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	BA-07522-30	
		Yes††						BA-07522-38	

††These drives accept pump heads with open-head interlock sensor (order on page 4); sensor stops motor when pump head is opened.

[BA-07523-92](#) Foot switch, momentary start/stop; 6-ft (1.8-m) cable

[BA-07523-94](#) DB25 male connector. Use to create your own cable

[BA-07523-95](#) Cable assembly, DB25 male connector and 25 ft (7.9 m) cable with stripped wire ends for remote control

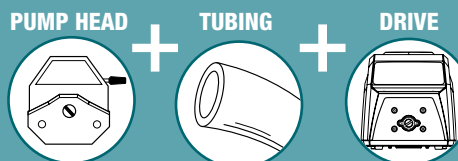
[BA-07523-97](#) Handheld remote controller; route tubing through handle for dispensing into containers

[BA-17050-01](#) NIST-traceable calibration with data for peristaltic pump drive

Wait! There's More...

See pages 4–5 for L/S pump heads and pages 6–7 for L/S tubing.

Choose a Complete System
One catalog number includes all 3!



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.08 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 10 ft (3 m)	Digital drive 07522-20 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77921-65	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			BA-77921-75	

L/S® Precision Console Process Drives

Stand up to process and washdown applications—simply hose down to clean

NEW

- IP66 and NEMA 4X rated; sealed housing and sealed membrane keypad
- Available with either a 316 SS or a powder-coat steel housing
- Four-digit LED display shows motor rpm—confirm speed setting at a glance
- Easy up-front control of speed, direction, and start/stop
- Models equipped with open-head sensor stop drive motor when pump head is open
- Pump fluid in either direction with reversible motor—perfect for purging tubing
- Remote control capabilities via a watertight connector on back of drive

FEATURES

- ✓ Flow rates: 0.06 to 3400 mL/min
- ✓ Variable speed from 1 to 600 rpm
- ✓ IP66 and NEMA 4X rated
- ✓ Stack up to four pump heads for increased flow rates
- ✓ Remote control



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.

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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
Precision process drives with 316 stainless steel housing									
6 to 600	$\pm 0.25\%$	Yes††	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	BA-07528-40	
1 to 100			4					BA-07528-45	
Precision process drives with powder-coat steel housing									
6 to 600	$\pm 0.25\%$	Yes††	2	1/10 hp (75 W)	IP66	12" x 9" x 9 5/16" (30.5 x 22.9 x 23.6 cm)	90 to 260 VAC, 50/60 Hz	BA-07528-50	
1 to 100			4					BA-07528-55	

††These drives accept pump heads with open-head interlock sensor (order on page 4); sensor stops motor when pump head is opened.

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

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

+
+

Choose a Complete System

One catalog number includes all 3!

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	4.8 to 480 mL/min	Easy-Load® II (open-head sensor) 77200-30	C-Flex® ULTRA L/S 16 tubing 06434-16, 10 ft (3 m)	Drive with 316 SS housing 07528-40 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77916-40	
	17 to 1700 mL/min	Easy-Load II (open-head sensor) 77200-32	C-Flex ULTRA L/S 24 tubing 06434-24, 10 ft (3 m)			BA-77916-42	
	4.8 to 480 mL/min	Easy-Load II (open-head sensor) 77200-30	C-Flex ULTRA L/S 16 tubing 06434-16, 10 ft (3 m)	Drive with powder-coat steel housing 07528-50 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77916-50	
	17 to 1700 mL/min	Easy-Load II (open-head sensor) 77200-32	C-Flex ULTRA L/S 24 tubing 06434-24, 10 ft (3 m)			BA-77916-52	

L/S® Digital Console Process Drives

Transfer, dispense, and meter in lab, process and washdown environments

- IP66 and NEMA 4X rated. Sealed housing and sealed keypad are protected from dust, water, and chemicals in the wash-down environment—simply hose down to clean.
- Flow rate: 0.001 to 3400 mL/min with L/S tubing depending on drive rpm and tubing size
- Graphical LCD shows six different parameters: motor rpm, flow rate, dispense volume, cumulative volume, dispense interval time, and copy number.
- Brushless, maintenance-free motor with $\pm 0.1\%$ speed control accuracy and a 6000 to 1 turndown ratio
- Dispense by: volume—volume, copy, or time with programmable delay interval.
- Remote control capabilities via 31-pin circular waterproof connection
- Models equipped with open-head sensor stop drive motor when pump head is open

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 07575-30 shown with L/S High-Performance pump head 77250-62

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.



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	$\pm 0.1\%$	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	BA-07575-30	
0.02 to 100		Yes†	4					BA-07575-38	
Digital process drive with powder-coat steel housing									
0.1 to 600	$\pm 0.1\%$	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	BA-07575-40	
0.02 to 100		Yes†	4					BA-07575-48	
		No						BA-07575-45	

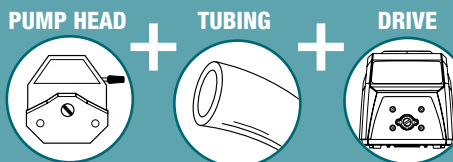
†These drives accept pump heads with open-head interlock sensor (order on page 4); sensor stops motor when pump head is opened.

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

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

[BA-17050-01](#) NIST-traceable calibration with data for peristaltic pump drive

Choose a Complete System
One catalog number includes all 3!



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.28 to 1700 mL/min	Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital console process drive with 316 SS housing 07575-30 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77975-25	
	0.28 to 1800 mL/min	High-Performance 77250-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)			BA-77975-35	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 10 ft (3 m)	Digital console process drive with powder-coat steel housing 07575-40 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	BA-77975-45	

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 0.6 to 13 LPM
- PPS housing with CRS or SS rotor available. CRS rotors have sealed bearings; SS rotors have PTFE-sealed bearings
- Models with open-head interlock sensor stop 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



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ATEX
Zone 2
77602-80



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		BA-77602-00	BA-77602-10	BA-77602-30	BA-77601-60	BA-77602-80
I/P 82	20.0	2.0	11.0	0.4 to 13	20 (1.4)					
Price										

†PPSF = polysulfone PPS = polyphenylene sulfide CRS = cold-rolled steel SS = stainless steel

[BA-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



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ATEX
Zone 2
77600-82



FEATURES

- ✓ Easy to load tubing
- ✓ Adjustable tubing retention
- ✓ “C”-shaped design—tubing enters/exits the same side
- ✓ ATEX Zone 2 rated model available

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)	BA-77600-62	BA-77600-82
I/P 89	29.2	0.52 to 19	20 (1.4)		
Price					

†SS = stainless steel

Wait!











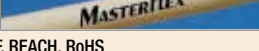

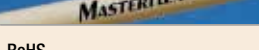

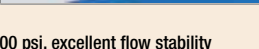
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Technical Resources to help you choose

I/P® Precision Pump Tubing

Engineered for long life in peristaltic pumps



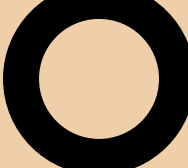
- Custom extruded to fit Masterflex pumps, ensuring optimal performance
- Lot-to-lot consistency for superior accuracy and repeatability

		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 (⅜")	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
Pump tubing formulation	Compatible pump head				
Silicone (platinum-cured)		✓ Standard ✓ Easy-Load®	7.6 m (25 ft)/pk BA-96410-26	7.6 m (25 ft)/pk BA-96410-73	7.6 m (25 ft)/pk BA-96410-82
<ul style="list-style-type: none"> - Complies with USP Class V, EP, FDA, REACH, RoHS, ADCF - Fungus-resistant; phthalate- and latex-free - Accommodates a wide temperature range 					
Silicone (peroxide-cured)		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-96400-26	7.6 m (25 ft)/pk BA-96400-73	7.6 m (25 ft)/pk BA-96400-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF - Greater physical compression capability - Economical, longer tubing life 					
BioPharm Silicone (platinum-cured)		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-96420-26	7.6 m (25 ft)/pk BA-96420-73	7.6 m (25 ft)/pk BA-96420-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF - Lower absorption; excellent biocompatibility - Very low extractables and weather, ozone, corona, radiation resistant 					
BioPharm Plus Silicone (platinum-cured)		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-96440-26	7.6 m (25 ft)/pk BA-96440-73	7.6 m (25 ft)/pk BA-96440-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF - Ultra-smooth—minimizes particle entrapment - Very low extractables—ideal for lab, biotech pharma applications 					
Puri-Flex™		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-96419-26	7.6 m (25 ft)/pk BA-96419-73	7.6 m (25 ft)/pk BA-96419-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, REACH, RoHS, ADCF - Heat sealable, weldable, and economical - Long pump life when compared to silicone or many other TPE tubings 					
C-Flex®		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-06424-26	7.6 m (25 ft)/pk BA-06424-73	7.6 m (25 ft)/pk BA-06424-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, REACH, RoHS, ADCF - Heat sealable, weldable, economical - Better resistance to pH fluctuations 					
C-Flex® ULTRA		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-06434-26	7.6 m (25 ft)/pk BA-06434-73	7.6 m (25 ft)/pk BA-06434-82
<ul style="list-style-type: none"> - Complies with USP Class VI, EP, REACH, RoHS, ADCF - Longest life of any C-Flex formulation - Lowest spallation and reduced residue 					
PharMed® BPT		✓ Standard ✓ Easy-Load	7.6 m (25 ft)/pk BA-06508-26	7.6 m (25 ft)/pk BA-06508-73	7.6 m (25 ft)/pk BA-06508-82
<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 					
PharmaPure®		✓ Easy-Load	7.6 m (25 ft)/pk BA-06435-26	7.6 m (25 ft)/pk BA-06435-73	7.6 m (25 ft)/pk BA-06435-82
<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 					
Chem-Durance® Bio		✓ Easy-Load	15.2 m (50 ft)/pk BA-06442-26	15.2 m (50 ft)/pk BA-06442-73	15.2 m (50 ft)/pk BA-06442-82
<ul style="list-style-type: none"> - Complies with USP Class VI, FDA, REACH, RoHS - Excellent chemical compatibility and biocompatibility 					
GORE® STA-PURE® Series PCS		✓ Standard ✓ Easy-Load	0.6 m (2 ft)/pk BA-96211-26	0.6 m (2 ft)/pk BA-96211-73	0.6 m (2 ft)/pk BA-96211-82
<ul style="list-style-type: none"> - Complies with USP Class VI - Long life—even under pressures up to 100 psi, excellent flow stability 					
GORE® STA-PURE® Series PFL		✓ Standard ✓ Easy-Load	0.6 m (2 ft)/pk BA-96212-26	0.6 m (2 ft)/pk BA-96212-73	0.6 m (2 ft)/pk BA-96212-82
<ul style="list-style-type: none"> - Complies with USP Class VI - Long life—even under pressures up to 100 psi, excellent flow stability 					

I/P® High-Performance Precision Pump Tubing

Thicker wall compared to our Precision pump tubing

- Best choice for applications involving pressure, suction lift, viscous fluids, or long tubing life

		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
Pump tubing formulation		Compatible pump head			
Silicone (platinum-cured)		✓ High-Performance	3 m (10 ft)/pk BA-96510-70	3 m (10 ft)/pk BA-96510-88	3 m (10 ft)/pk BA-96510-89
<ul style="list-style-type: none"> – Complies with USP Class V, EP, FDA, REACH, RoHS, ADF – Fungus-resistant; phthalate- and latex-free 					
BioPharm Silicone (platinum-cured)		✓ High-Performance	3 m (10 ft)/pk BA-96421-70	3 m (10 ft)/pk BA-96421-88	3 m (10 ft)/pk BA-96421-89
<ul style="list-style-type: none"> – Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF – Lower absorption; excellent biocompatibility 					
BioPharm Plus Silicone (platinum-cured)		✓ High-Performance	3 m (10 ft)/pk BA-96441-70	3 m (10 ft)/pk BA-96441-88	3 m (10 ft)/pk BA-96441-89
<ul style="list-style-type: none"> – Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF – Ultra-smooth—minimizes particle entrapment 					
Puri-Flex™		✓ High-Performance	3 m (10 ft)/pk BA-96419-70	3 m (10 ft)/pk BA-96419-88	3 m (10 ft)/pk BA-96419-89
<ul style="list-style-type: none"> – Complies with USP Class VI, FDA, REACH, RoHS, ADF – Heat sealable, weldable, and economical; long pump life vs silicone 					
C-Flex®		✓ High-Performance	3 m (10 ft)/pk BA-06424-70	3 m (10 ft)/pk BA-06424-88	3 m (10 ft)/pk BA-06424-89
<ul style="list-style-type: none"> – Complies with USP Class VI, EP, REACH, RoHS, ADF – Heat sealable, weldable, economical; better resistance to pH fluctuations 					
PharMed® BPT		✓ High-Performance	7.6 m (25 ft)/pk BA-06508-70	7.6 m (25 ft)/pk BA-06508-88	— —
<ul style="list-style-type: none"> – Complies with USP Class VI, EP, FDA, NSF, REACH, RoHS – >10,000 hours of tubing life, sealable, weldable 					
Chem-Durance® Bio		✓ High-Performance	15.2 m (50 ft)/pk BA-06442-70	7.6 m (25 ft)/pk BA-06442-88	7.6 m (25 ft)/pk BA-06442-89
<ul style="list-style-type: none"> – Complies with USP Class VI, FDA, REACH, RoHS – Excellent biocompatibility, chemical compatibility, pump life, durability 					
Tygon® E-LFL		✓ High-Performance	7.6 m (25 ft)/pk BA-06440-70	7.6 m (25 ft)/pk BA-06440-88	7.6 m (25 ft)/pk BA-06440-89
<ul style="list-style-type: none"> – Complies with USP Class VI, EP, FDA, EU Food, REACH, RoHS, ADF – Longest life of all Tygon formulations 					
Tygon® E-Food (B-44-4X)		✓ High-Performance	15.2 m (50 ft)/pk BA-06418-70	15.2 m (50 ft)/pk BA-06418-88	15.2 m (50 ft)/pk BA-06418-89
<ul style="list-style-type: none"> – Complies with FDA, EU Food, NSF, 3A, REACH, RoHS, ADF – Smooth inner surface unaffected by commercial sanitizers 					
Tygon® E-Lab (E-3603)		✓ High-Performance	15.2 m (50 ft)/pk BA-06509-70	15.2 m (50 ft)/pk BA-06509-88	15.2 m (50 ft)/pk BA-06509-89
<ul style="list-style-type: none"> – Complies with USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADF – General transfer applications; nonaging, nonoxidizing, low gas permeability 					
Norprene® (A-60 G)		✓ High-Performance	7.6 m (25 ft)/pk BA-06404-70	7.6 m (25 ft)/pk BA-06404-88	7.6 m (25 ft)/pk BA-06404-89
<ul style="list-style-type: none"> – Complies with NSF, REACH, RoHS – Up to 10,000 hours of tubing life; best for pressure/vacuum applications 					
Norprene Food (A-60 F)		✓ High-Performance	— —	7.6 m (25 ft)/pk BA-06402-88	7.6 m (25 ft)/pk BA-06402-89
<ul style="list-style-type: none"> – Complies with FDA, 3A, NSF, REACH, RoHS – For high-temperature food applications; resists heat, ozone, acids, and alkalis 					
GORE® STA-PURE® Series PCS		✓ Standard ✓ Easy-Load®	— —	0.6 m (2 ft)/pk BA-96211-88	0.6 m (2 ft)/pk BA-96211-89
<ul style="list-style-type: none"> – Complies with USP Class VI – Long life—even under pressures up to 100 psi, excellent flow stability 					
GORE® STA-PURE® Series PFL		✓ Standard ✓ Easy-Load	— —	0.6 m (2 ft)/pk BA-96212-88	0.6 m (2 ft)/pk BA-96212-89
<ul style="list-style-type: none"> – Complies with USP Class VI – Long life—even under pressures up to 100 psi, excellent flow stability 					

[†]Determined under the following conditions: Using a 1 to 650 rpm drive; 0 psi at inlet, 0.5 psi at outlet; water temperature at 22°C (72°F).

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



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

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

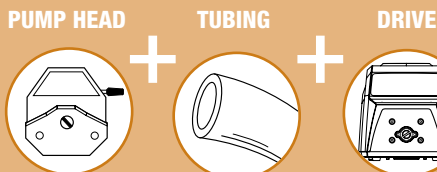
[BA-77300-32](#) Remote cable kit. Required for model 77411-00 to operate the remote inputs and outputs



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

Choose a 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	BA-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	BA-77963-20	

Application Solution



Challenge: A research institute needed to produce neutrons for scientific research by striking a liquid mercury target with a stream of protons. To set up neutron production, the research team had to pump mercury from a reservoir into a smaller receptacle quickly and efficiently. Likewise, the researchers required a pumping technology that would not allow the transfer equipment to become contaminated. Due to the hazardous nature of mercury, the pumping operation had to be carried out under a fume hood at a distance from the operator.

Solution: The researchers opted to use the Masterflex I/P brushless drive 77411-00 with the Easy-Load pump head 77602-10 (page 13) for its efficient and rapid pumping capabilities. The customer opted to use Tygon E-LFL tubing (page 14); as the only part of the pump system coming into contact with the mercury, it was easy to replace when contaminated, while preserving the integrity of the rest of the system. The I/P process drive also offers remote input/output, making it ideal to position in the fume hood while allowing the researcher to operate the pump from a safe distance away.

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 with open-head interlock sensor stop drive motor when pump head is open (when used with sensor-equipped pump head)

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



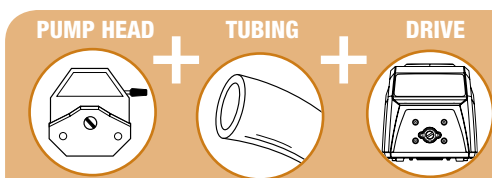
rpm	Speed control (resolution)	Open-head sensor	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power	Catalog number	Price
Digital process drive with 316 stainless steel housing									
0.1 to 650	±0.1%	No	2	¾ hp (280 W)	IP66	16 ¹ / ₁₆ " x 11 ¹ / ₈ " x 12 ⁷ / ₈ "	90 to 260 VAC (50/60 Hz)	BA-77420-10	
		Yes†						BA-77420-18	
Digital process drive with powder-coat steel housing									
0.1 to 650	±0.1%	No	2	¾ hp (280 W)	IP66	16 ¹ / ₁₆ " x 11 ¹ / ₈ " x 12 ⁷ / ₈ "	90 to 260 VAC (50/60 Hz)	BA-77420-20	
		Yes†						BA-77420-28	

†These drives accept pump heads with open-head interlock sensor (order on page 13); sensor stops motor when pump head is opened.

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

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

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



Choose a 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	BA-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	BA-77964-30	

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)



77111-30, -37 77111-37, -67, -77, -80 Zone 2 77111-30, -37 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	BA-77111-30	
		271				220 (50)	6.3		
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		BA-77111-80	
Variable-speed (±5%)	½ hp (0.37 kW)	12 to 321	Controller: IP56 Drive: IP56	Direct-drive	27" x 15.8" x 17.4" (68.6 x 40 x 44.2 cm)	115 (50/60)	6.5	BA-77111-60	
						230 (50/60)	3.3	BA-77111-67	
Variable-speed digital (±0.3%)	¾ hp (0.56 kW)	12 to 321	Controller: IP56 Drive: IP56	Direct-drive	Controller: 9" x 11" x 4½" (22.9 x 27.9 x 11.4 cm) Drive: 27" x 15¾" x 15" (68.6 x 40.0 x 38.4 cm)	90 to 130 (50/60)	10.5	BA-77111-70	
						190 to 260 (50/60)	5.7	BA-77111-77	

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

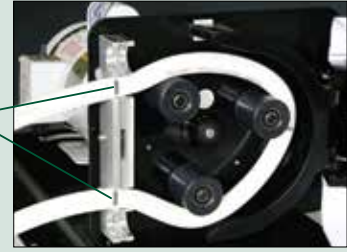
BA-77111-90 Bracket for digital controller on models 77111-70 and -77

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

PerfectPosition indicator marks confirm proper loading and ensure optimal performance.



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 (1/2")	19.0 mm (3/4")
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	B/T 87	B/T 91
Silicone (platinum-cured)	<ul style="list-style-type: none"> – Complies with USP Class V, EP, FDA, REACH, RoHS, ADCF – Low protein binding, fungus-resistant, phthalate and latex free – Accommodates a wide temperature range 	BA-96510-87	BA-96510-91
		3 m (10 ft)/pk	3 m (10 ft)/pk
Silicone (peroxide-cured)	<ul style="list-style-type: none"> – Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADCF – Greater physical compression capability – Economical, long life 	BA-96400-87	BA-96400-91
		3 m (10 ft)/pk	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, ADCF – Ultra-smooth inner surface minimizes particle entrapment – Very low extractable—ideal for lab, biotech pharma applications 	BA-96445-87	BA-96445-91
		3 m (10 ft)/pk	3 m (10 ft)/pk
Puri-Flex™	<ul style="list-style-type: none"> – Complies with USP Class VI, FDA, REACH, RoHS, ADCF – Heat sealable, weldable, and economical – Long pump life compared to silicone or many TPE tubings 	BA-96419-87	BA-96419-91
		3 m (10 ft)/pk	3 m (10 ft)/pk
C-Flex®	<ul style="list-style-type: none"> – Complies with USP Class VI, EP, REACH, RoHS, ADCF – Heat sealable, weldable, economical – Better resistance to pH fluctuations 	BA-06424-87	BA-06424-91
		3 m (10 ft)/pk	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 	BA-06507-87	BA-06507-91
		3 m (10 ft)/pk	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 	BA-06437-87	BA-06437-91
		3 m (10 ft)/pk	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 	BA-06443-87	BA-06443-91
		3 m (10 ft)/pk	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, ADCF – Longest life of all Tygon formulations – Broad chemical resistance 	BA-06440-87	BA-06440-91
		3 m (10 ft)/pk	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, ADCF – Smooth inner surface unaffected by commercial sanitizers – Nontoxic, will not affect taste or odor 	BA-06418-87	BA-06418-91
		3 m (10 ft)/pk	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 alkalis 	BA-06399-87	BA-06399-91
		3 m (10 ft)/pk	3 m (10 ft)/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).

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
- **New!** Additional options in channel and roller configurations allow balanced pulsation control at desired flow rate
- USB interface for quick computer connections using redesigned graphical user-interface

These two-, three- and four-channel peristaltic pumps let you individually control the flow and direction of each channel from the intuitive keypad or via your computer—expanding your benchtop pumping capabilities with a single compact unit! Pump delivers continuous pumping or precision dispensing up to 43 mL/min with the capability of bidirectional flow in each channel. Plus, independent channel calibration minimizes tube-to-tube differences, resulting in high calibration accuracy.

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



ISO 9001:2008
CERTIFIED SUPPLIER

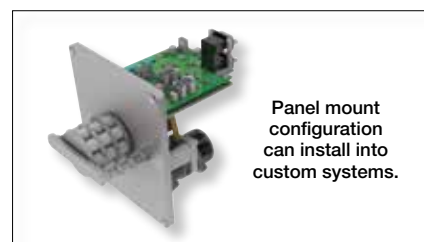


See page 22.

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	BA-78001-58	
	8			BA-78001-60	
	12			BA-78001-62	
3	6	Three-stop	100 to 240, 50/60	BA-78001-68	
	8			BA-78001-70	
	12			BA-78001-72	
4	6	Three-stop	100 to 240, 50/60	BA-78001-78	
	8			BA-78001-80	
	12			BA-78001-82	
Panel-mount pumps					
2	8	Three-stop	100 to 240, 50/60	BA-78001-43	
3	8			BA-78001-45	
4	8			BA-78001-47	
4	12			BA-78001-49	



Panel mount configuration can install into custom systems.

Minicartridges

- BA-78016-98 Replacement Click'n'go™ tubing cassette, POM-C
- BA-78016-96 Click'n'go™ tubing cassette, PVDF

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.



ISO 9001:2008
CERTIFIED SUPPLIER



See page 22.

B
Reglo Digital pump 78017-00 is fully programmable.

Flow range per channel (mL/min)	Channels	Rollers	Speed (rpm)	Tubing	115 VAC, 50/60 Hz		230 VAC, 50/60 Hz	
					Cat. no.	Price	Cat. no.	Price
A. Reglo Analog pumps								
0.005 to 68	2	6	3.2 to 160	Three-stop	BA-78016-00		BA-78016-02	
0.004 to 57		8			BA-78016-10		BA-78016-12	
0.003 to 38		12			BA-78017-25		BA-78017-27	
0.003 to 43	4	6	2.0 to 100	Three-stop	BA-78017-30		BA-78017-32	
0.003 to 35		8			BA-78016-30		BA-78016-32	
0.002 to 24		12			BA-78017-35		BA-78017-37	
B. Reglo Digital programmable pumps with calibrating function								
0.003 to 68	2	6	3.2 to 160	Three-stop	BA-78016-40		BA-78016-42	
0.002 to 57		8			BA-78017-00		BA-78017-02	
0.002 to 38		12			BA-78016-45		BA-78016-47	
0.002 to 43	4	6	2.0 to 100	Three-stop	BA-78017-40		BA-78017-42	
0.002 to 35		8			BA-78017-10		BA-78017-12	
0.001 to 24		12			BA-78017-20		BA-78017-22	

Minicartridges

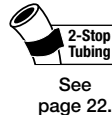
Optional adjustable-occlusion minicartridge to manually vary pressure on each channel.

- BA-07624-64 Optional adjustable occlusion cassette with pressure lever, POM-C
- BA-07624-96 Replacement Click'n'go™ tubing cassette, PVDF

IPC Low-Flow High-Accuracy Pumps

Fewer tubing changes

- Planetary drive for less pulsation and longer tubing life
- Smooth rotation and accurate liquid flow provided by eight SS rotors
- Easy repeatability with four-digit LED
- Simple to use—automatic occlusion cartridges provide reproducible results
- Five modes for pumping or dispensing including flow rate, time, batches, drip-free, and volume
- Control via keypad, computer, or remote control
- IP and IP-N pumps available online



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

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)

Flow range per channel (mL/min)	Channels	Rollers	Speed (rpm)	Cassette style	Tubing	115 VAC, 50/60 Hz		230 VAC, 50/60 Hz	
						Cat. no.	Price	Cat. no.	Price
IPC-N models									
0.0004 to 11	4	8	0.11 to 11.25	Click'n'go	Two-stop	BA-78001-00		BA-78001-06	
	8					BA-78001-10		BA-78001-16	
	12					BA-78001-20		BA-78001-26	
	16					BA-78001-30		BA-78001-36	
	24					BA-78001-40		BA-78001-46	
0.0004 to 11	8	8	0.11 to 11.25	Pressure lever (adjustable occlusion)	Two-stop	BA-78000-11		BA-78000-17	
	16					BA-78000-31		BA-78000-37	
	24					BA-78000-41		BA-78000-47	
IPC models									
0.002 to 44	4	8	0.4 to 45	Click'n'go	Two-stop	BA-78001-02		BA-78001-08	
	8					BA-78001-12		BA-78001-18	
	12					BA-78001-22		BA-78001-28	
	16					BA-78001-32		BA-78001-38	
	24					BA-78001-42		BA-78001-48	
0.002 to 44	4	8	0.4 to 45	Pressure lever (adjustable occlusion)	Two-stop	BA-78000-03		BA-78000-09	
	8					BA-78000-13		BA-78000-19	
	12					BA-78000-23		BA-78000-29	
	16					BA-78000-33		BA-78000-39	
	24					BA-78000-43		BA-78000-49	

Order extra cartridges and adapters for fast tubing changes.

- [BA-78001-95](#) Replacement Click'n'go™ cartridge, POM-C
- [BA-78001-90](#) Repl. adjust. occlusion cartridge with pressure lever

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

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	230 VAC, 50/60 Hz		
2.1 to 230 mL/min	1	4	3.2 to 160 rpm	Pump			BA-78018-00	
							BA-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, ADFC 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")	BA-96449-XX		BA-96450-XX		BA-06449-XX	100 ft	
Tygon® E-Food	<ul style="list-style-type: none"> Complies with FDA, EU Food, NSF, 2A, REACH, RoHS, ADFC Smooth inner surface; nontoxic 	10, 12, 18, 26, 30, 34, 42, 48	12 (16")	BA-96457-XX		BA-96458-XX		BA-06457-XX	100 ft	
Tygon® E-Lab	<ul style="list-style-type: none"> Complies with USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADFC Ideal for general transfer applications Nonaging/nonoxidizing, low gas permeability 	10, 12, 14, 16, 18, 19, 22, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 38, 39, 40, 42, 46, 48	12 (16")	BA-96460-XX		BA-96461-XX		BA-06460-XX	100 ft	
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 tubing life 	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (16")	BA-07616-XX		BA-07624-XX		BA-07625-XX	50 ft	
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 	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (16")	BA-95602-XX		BA-95603-XX		BA-95612-XX	50 ft	
Viton®	<ul style="list-style-type: none"> Complies with FDA, ADFC Resists corrosives, solvents, and oils at elevated temperatures 	26, 30, 34, 38, 42, 46, 48	12 (12")	BA-97628-XX		BA-97629-XX		BA-97632-XX	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 	10, 12, 14, 18, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	12 (16")	BA-95723-XX		BA-95714-XX		BA-95809-XX	100 ft	
Autoclavable PharMed® BPT	<ul style="list-style-type: none"> Ideal for tissue and cell culture work 	12, 32, 48	6 (16")	BA-95692-XX		BA-95693-XX				
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")	BA-95606-XX		BA-95605-XX		BA-95712-XX	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 	24, 30, 36, 42, 48	6 (16")	BA-96327-XX		BA-96328-XX		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
-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
-22	0.64	Orange/White
-24	0.76	Black/Black
-26	0.89	Orange/Orange
-28	1.02	White/White
-30	1.14	Red/Red
-32	1.3	Gray/Gray
-34	1.42	Yellow/Yellow
-36	1.52	Yellow/Blue
-38	1.65	Blue/Blue
-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

Teky's Tips

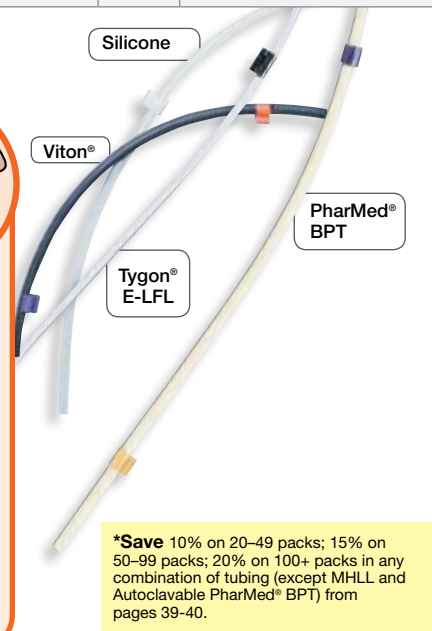


How to order 2- and 3-stop tubing

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.



***Save** 10% on 20–49 packs; 15% on 50–99 packs; 20% on 100+ packs in any combination of tubing (except MHLL and Autoclavable PharMed® BPT) from pages 39–40.



Cole-Parmer® Console Drive

Optimize performance of long-term applications

- 100:1 speed-control range controls flow over a wide range
- Separate on-off switch maintains speed (flow) setting when drive is powered down
- Maximum continuous-duty flow rates possible with Micropump® A-mount pump heads
- Gradual, one-second acceleration for smooth flow rate changes

Simple variable speed control provides flow control for many fluid handling applications from filtration to chemical injection.

What's included: a 6-ft (1.8-m) modular line power cord; the 115 VAC model has a US standard plug and the 230 VAC model has an IEC 320/CEE 22 connector (specify country to obtain correct plug).



Cole-Parmer®



Specifications

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

Motor			Power		Catalog number	Price
rpm	hp	Type	VAC	Hz		
50 to 5000	0.07	PMDC	115	50/60	BA-75211-10	
			230	50/60	BA-75211-15	

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 US standard plugs.

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	BA-78008-10	

BA-07617-90 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	BA-07002-25	
4.60	460	316 SS	PEEK	BA-73003-14	
			PPS	BA-07002-14	
13.05	1305	316 SS	PEEK	BA-73004-00	
29.00	2900	316 SS	PEEK	BA-73004-02	
			PPS	BA-07003-02	
58.50	5850	316 SS	PEEK	BA-73004-04	
			PPS	BA-07003-04	

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



Programmable digital drive 78008-10 with Micropump pump head 07002-14 (pump head not included)

Cole-Parmer® Syringe Pumps

Ideal for low-flow, low-pressure applications

- Backlit alphanumeric LCD guides you through setup and operating procedures
- Don't lose your settings—nonvolatile memory retains settings even after pump is turned off

A. Single-Syringe Infusion Pump automatically selects display units based on syringe used, obtaining precise flow rates down to 0.2 µL/hr. A wide dynamic range (6000:1) provides excellent flexibility.

B. Multi-Syringe Pumps achieve flow rates down to 0.001 µL/hr. Easy programming via keypad—infusion/withdrawal pumps sequence operations. Control from a computer with RS-232 interface.†

C. Multi-Step Multi-Syringe Pumps allow flow rates to vary from a slow trickle to a steady stream down to 0.001 µL/hr. Program up to 8 commands and repeat up to 10 times. Pumps allow you to program flow rate hold, pause, and change of direction; each program can be run up to 12 hours. Pumps can also sequence operations. Operate your pump from a computer—great for daisy-chaining pumps!

Pump continuously and automatically delivers exact quantities of liquid.



Specifications

Accuracy: ±<1%
Reproducibility: ±0.1%

Description	Number of syringes accepted	Flow rate per syringe	Syringe size accepted	Linear force	Power (VAC, Hz)	Catalog number	Price
A. Single-syringe pump							
Infusion	1	0.2 µL/hr to 500 mL/hr	10 µL to 60 mL	20 lb (9.1 kg)	115, 50/60 230, 50/60	BA-74900-00 BA-74900-05	
B. Multi-syringe pumps							
Infusion	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74900-10	
	10				230, 50/60	BA-74900-15	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74900-30	
	10				230, 50/60	BA-74900-35	
C. Multi-step multi-syringe pumps							
Infusion	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74900-60	
	10				230, 50/60	BA-74900-65	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74900-80	
	10				230, 50/60	BA-74900-85	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74901-00	
	10				230, 50/60	BA-74901-05	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	115, 50/60	BA-74901-10	
	10				230, 50/60	BA-74901-15	

†Order RS-232 cables separately online or call our Application Specialists.

Cole-Parmer® High-Pressure Piston Pumps

Precision pumping for your HPLC application

- Digital stepper motor ensures accuracy at low flow rates
- Self-flush feature washes piston with every stroke
- Interactive keypad controls make programming at the pump easy
- Pressure and leak sensors (except single-head pumps) alert you to malfunctions
- Remotely control pump with a PC via RS-232 and micro USB

Single-Head Pumps precisely meter and dispense chemicals, perfect for small-scale laboratory fluid transfers and HPLC applications. Small footprint saves bench and fume hood space. **High-Flow Dual-Head Pumps** are ideally suited to preparative and simulated moving bed chromatography applications and other high throughput processes. **High-Performance Isocratic Pumps** are best suited to semi-prep and other small-scale HPLC separations, and general metering and dispensing applications. **Low-Pulsation Dual-Head Pump** provides virtually pulse-free operation with a low dead-volume pulse dampener, automatic pressure compensation, and advanced linear cam technology.



NEW

Specifications

Wetted parts: synthetic ruby, sapphire, UHMWPE, PTFE
Maximum temperature (fluid): 212°F (100°C)

Duty cycle: continuous
Self-priming: no
Power: 100 to 240 VAC, 50/60 Hz



Description	Single-head pumps		High-flow dual-head pumps				High-performance isocratic pumps		Low-pulsation dual-head pump	
	Catalog number	BA-74931-00	BA-74931-01	BA-74931-10	BA-74931-11	BA-74931-12	BA-74931-20	BA-74931-45	BA-74931-25	BA-74931-30
Pump head	PEEK	316 SS	PEEK	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS
Flow	Range (mL/min)	0.01 to 10.00		0.1 to 100.0		0.1 to 300.0		0.01 to 10.00		0.01 to 12.00
Flow	Accuracy	±2% at 10 mL/min		±2% of set point		±2% at midpoint of flow		±2% at 0.2 mL/min	±2% at 0.2 mL/min	
	Repeatability	±1%		±0.5%		±0.5%		±0.2%	±0.2%	
Pressure range (psi)	0 to 2000		0 to 4000		0 to 5000		0 to 6000		0 to 6000	
Pulse dampener	No		Yes	No	Yes	No	Yes		Yes	
Output	RS-232, micro USB		RS-232, micro USB, voltage flow control, run/stop				RS-232, micro USB, voltage flow control, run/stop		RS-232, micro USB, voltage flow control, run/stop	
Price										



Standard-Duty Dry Vacuum Piston Pumps

Great for filtering, aspirating, degassing, and desiccating

- Oil free for life science applications
- Water trap prevents liquid from being drawn into the pump
- Muffler provides quiet operation

Use the convenient gauge and control knob to adjust vacuum level. Single-head models also provide pressure. Avoid using pump with organic, acidic, or basic vapors.

What's included: gauge, control knob, water trap, carrying handle, suction cup feet, on/off switch, two 1/4" barbed fittings, and a 6-ft (1.8-m) cord (115 VAC models come with a standard US plug; 230 VAC models come with a European (Schuko) plug).

Service kits include all components commonly required for refurbishment.



79204-70

79204-00



230 VAC models only

RUNS DRY

Free-air capacity cfm (L/min)	Ultimate [†] vacuum	Maximum pressure	Wetted parts	Motor hp	Noise rating	Port size (tube ID)	Power (VAC, Hz)	Catalog number	Price	Service kits	
										Catalog number	Price
Single-head pumps											
0.76 (22)	26.0" Hg (100 Torr)	100 psig (6.89 bar)	Aluminum (treated for corrosion resistance), SS, and PTFE	1/8	62 dB(A)	1/4"	115, 60	BA-79204-00		BA-79204-01	
0.67 (19)							230, 50	BA-79204-05			
1.20 (34)	27.2" Hg (70 Torr)	50 psig (3.45 bar)		1/8		1/4"	115, 60	BA-79204-10		BA-79204-11	
0.99 (28)							230, 50	BA-79204-15			
1.60 (45)	27.6" Hg (60 Torr)	100 psig (6.89 bar)		1/4		1/4"	115, 60	BA-79204-20		BA-79204-21	
1.34 (38)							230, 50	BA-79204-25			
Dual-head pumps											
2.1 (60)	29.8" Hg (5 Torr)	—	Aluminum (treated for corrosion resistance), SS, and PTFE	1/3	58 dB(A)	3/8"	115, 60	BA-79204-30		BA-79204-31	
1.8 (50)							230, 50	BA-79204-35			
7.1 (201)	27.6" Hg (60 Torr)	—		1/3		3/8"	115, 60	BA-79204-70		BA-79204-51	
5.9 (168)							230, 50	BA-79204-75			

[†]Ultimate total vacuum

[BA-06414-20](#) Tygon® non-DEHP vacuum tubing, 1/4" ID x 5/8" OD. Pack of 10 ft (3.0 m)

High-Capacity Vacuum/Pressure Pumps

Won't get overloaded

- Shaded-pole fan-cooled motor has thermal overload switch to protect your pump system
- Heads on pumps 07061-60 and -05 are connected in parallel for higher capacity; heads on 07061-11 and -13 are connected in series for greater vacuum
- Select pumps with or without gauges, regulators, and valves
- Free-air capacities up to 2.2 cfm (62.3 L/min)

What's included: 6-ft (1.8-m), three-wire cord (US standard plug on 115 VAC models). Models 07061-11 and -13 include a filter/muffler.



07061-40

ISO9001:2008
CERTIFIED SUPPLIER



RUNS DRY

Pump head configuration	Free-air capacity cfm (L/min)	Max vacuum	Max pressure	Wetted parts	Motor hp	Port size	Noise rating	Power (VAC, Hz)	Catalog number	Price
Pump without gauges or regulators (order regulators separately below; order gauges with 1/4" NPT(M) connections online)										
Single	1.1 (31.2)	25.5" Hg	60 psi (4.14 bar)	Aluminum, stainless steel, Nordel®, and Nomex®	1/8	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	115, 60	BA-07061-21	
	1.0 (28.3)	24.0" Hg						220/240, 50	BA-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	BA-07061-40	
	1.0 (28.3)	24.0" Hg						220/240, 50	BA-07061-42	
Dual/parallel	2.2 (62.3)	25.5" Hg	60 psi (4.14 bar)		1/4			115, 60	BA-07061-60	
	1.8 (51.0)	24.0" Hg						220, 50	BA-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	BA-07061-11	
	0.85 (24.0)	28.0" Hg						220, 50	BA-07061-13	

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

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

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

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

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

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

Cole-Parmer® Silicone Tubing

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

Peroxide Silicone



Applications: Pharmaceutical, biotechnology, food and
beverage, aerospace, and general lab applications.

Characteristics: Peroxide-cured, excellent heat resistance, low
compression set, odorless, nontoxic, translucent.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets
USP Class VI requirements. Tubing is manufactured according to GMP.

Temperature range: -60 to 460°F (-51 to 238°C)

Sterilize: Autoclave or gamma irradiation.

Platinum Silicone



Applications: Pharmaceutical, biotechnology, aerospace,
food and beverage, and general lab applications.

Characteristics: Platinum-cured, excellent heat resistance, low
compression set, odorless, nontoxic, translucent.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets
USP Class VI. Tubing is manufactured according to GMP.

Temperature range: -58 to 446°F (-50 to 230°C)

Sterilize: Autoclave or gamma irradiation.

Buy More...Save More!

20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs



Table with dimensions in inches and millimeters, max psi at 70°F, and catalog numbers for peroxide and platinum silicone tubing. Columns include ID, OD, Wall, Max psi, Catalog number, and Price/25-ft pk.

Benchtop Tubing Cutter

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

- BA-06438-10 Benchtop cutter
BA-06438-11 Replacement blade



Tygon® Non-DEHP Lab Tubing

Pliable formulation for sharp
radius bending



Formulation: Tygon E-3603

Applications: General lab, food & beverage, biopharm, analytical instruments.

Characteristics: Non-DEHP, phthalate free. Long-life, chemical resistant,
nonoxidizing; able to bend to sharp radius curves and
easily works with fittings. Transparent.

Certifications: FDA-compliant (21 CFR 175.300);
meets USP Class VI and NSF 51 requirements.

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

Sterilize: Autoclave or ethylene oxide.

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20% off on 20+
15% off on 10 to 19
10% off on 4 to 9 packs

Detailed table listing Tygon tubing specifications, including dimensions, max psi, and catalog numbers for various sizes and wall thicknesses.

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.



DON'T RISK IT!

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





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.

Buy More...Save More! 20% off on 20+ 15% off on 10 to 19 10% off on 4 to 9 packs

Table with 6 columns: Dimensions in. (mm) (ID, OD, Wall), Max psi at 70°F (bar at 21°C), Catalog number, Price/25-ft pk. Lists various tubing sizes and their properties.

Microbore PharMed BPT Tubing

Table with 6 columns: Dimensions in. (mm) (ID, OD, Wall), Fits needle gauge, Catalog number, Price/100-ft pk. Lists microbore tubing specifications.

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.



Buy More...Save More!

20% off on 20+ 15% off on 10 to 19 10% off on 4 to 9 packs

Large table with 7 columns: Dimensions in. (mm) (ID, OD, Wall), Max psi at 70°F (bar at 21°C), Catalog number, Ft/pk, Price/pk. Lists a wide range of vinyl tubing sizes.

Find even more online! Go to ColeParmer.com to see full product details.

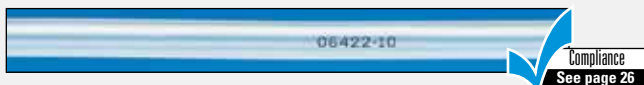
C-Flex® Tubing

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.

Buy More...Save More!

20% off on 20+ 15% off on 10 to 19 10% off on 4 to 9 packs

Large table with 13 columns: Dimensions in. (mm) (ID, OD, Wall), C-Flex (Catalog number, Max psi at 70°F, Price/25-ft pk), C-Flex Clear (Catalog number, Max psi at 70°F, Price/25-ft pk), C-Flex ADCF (Catalog number, Max psi at 70°F, Price/50-ft pk).

Cole-Parmer® Premium Luer Fittings

Premium luer fittings for critical applications

- Manufactured from 100% virgin raw materials in a Class 100,000 environment
- Full material traceability on all items

These luer fittings are ideal for a variety of applications, including syringes or small tubing. Manufactured in compliance with ISO 594-1 standards, these fittings are inspected to be free from contaminants, and are fully traceable. All parts meet tight dimensional tolerances for increased reliability and process purity. Choose from a range of sizes, 1/16" to 1/4", with a variety of connection options. **Pack of 25.**

Search
For our complete line of luer fittings, go to...
ColeParmer.com/Luer



Buy More...Save More!
 20% off on 100+
 15% off on 50 to 99
 10% off on 10 to 49 packs

FREE certificate of compliance
for these fittings

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	BA-45508-00		BA-45501-00		BA-45502-00	
	Female luer x 3/32" hose barb	BA-45508-02		BA-45501-02		BA-45502-02	
	Female luer x 1/8" hose barb	BA-30800-08		BA-45501-04		BA-45502-04	
	Female luer x 5/32" hose barb	BA-45508-06		BA-45501-06		BA-45502-06	
	Female luer x 3/16" hose barb	BA-45508-08		BA-45501-08		BA-45502-08	
	Female luer x 1/4" hose barb	BA-30800-06		BA-45501-20		BA-45502-20	
Female luer x hose barb adapters (smooth bore)							
B	Female luer x 1/16" hose barb (smooth bore)	BA-45508-50		BA-45501-50		BA-45502-50	
	Female luer x 3/32" hose barb (smooth bore)	BA-45508-52		BA-45501-52		BA-45502-52	
	Female luer x 1/8" hose barb (smooth bore)	BA-45508-54		BA-45501-54		BA-45502-54	
Female luer x thread adapters							
C	Female luer x 10-32 special tapered thread	BA-45508-70		BA-45501-70		BA-45502-70	
	Female luer x 10-32 UNF thread	BA-45508-60		BA-45501-60		BA-45502-60	
	Female luer x 1/4-28 UNF thread	BA-45508-66		BA-45501-66		BA-45502-66	
	Female luer x 1/4-28 UNF bottom sealing thread	BA-45508-76		—		BA-45505-76	
	Female luer x 1/8-27 NPT thread	BA-30800-00		—		BA-45505-78	
D	Female luer x 1/8-27 NPT thread elbow	BA-45518-80		—		BA-45505-80	
Female luer bulkhead x hose barb adapters							
E	Female luer x 1/4-28 UNF thread to 1/16" hose barb	BA-45508-30		BA-45501-30		BA-45502-30	
	Female luer x 1/4-28 UNF thread to 3/32" hose barb	BA-45508-32		BA-45501-32		BA-45502-32	
	Female luer x 1/4-28 UNF thread to 1/8" hose barb	BA-45508-34		BA-45501-34		BA-45502-34	
Female adapters							
F	Female luer x female luer	BA-45508-22		BA-45501-22		BA-45502-22	
G	Female tee	BA-45508-56		BA-45501-56		BA-45502-56	
H	Female elbow	BA-45508-26		BA-45501-26		BA-45502-26	
I	Female luer x cap	BA-30800-12		BA-45501-28		BA-45502-28	
J	Female luer x cap with tether loop	BA-45508-64		BA-45501-64		BA-45502-64	
Male x female adapters							
K	Male luer x female luer coupler	BA-45508-82		BA-45501-82		BA-45502-82	
L	Male luer x female luer coupler with lock ring	BA-45508-80		BA-45501-80		BA-45502-80	
M	Male luer x female luer elbow	BA-45508-84		BA-45501-84		BA-45502-84	
N	Male x female x female tee	BA-45508-85		BA-45501-85		BA-45502-85	
O	Male x male x female tee	BA-45508-75		BA-45501-75		BA-45502-75	
Male luer lock x hose barb adapters							
P	Male luer lock x 1/16" hose barb	BA-45518-00		BA-45504-00		BA-45505-00	
	Male luer lock x 3/32" hose barb	BA-45518-02		BA-45504-02		BA-45505-02	
	Male luer lock x 1/8" hose barb	BA-30800-24		BA-45504-04		BA-45505-04	
	Male luer lock x 5/32" hose barb	BA-45518-06		BA-45504-06		BA-45505-06	
	Male luer lock x 3/16" hose barb	BA-45518-08		BA-45504-08		BA-45505-08	
	Male luer lock x 1/4" hose barb	BA-30800-22		BA-45504-19		BA-45505-19	
Male luer x hose barb adapters (for use with separate rotating lock ring "R")							
Q	Male luer x 1/16" hose barb	BA-45518-40		BA-45504-40		BA-45505-40	
	Male luer x 3/32" hose barb	BA-45518-42		BA-45504-42		BA-45505-42	
	Male luer x 1/8" hose barb	BA-45518-44		BA-45504-44		BA-45505-44	
	Male luer x 5/32" hose barb	BA-45518-46		BA-45504-46		BA-45505-46	
	Male luer x 3/16" hose barb	BA-45518-48		BA-45504-48		BA-45505-48	
	Male luer x 1/4" hose barb	BA-45518-50		BA-45504-50		BA-45505-50	
R	Snap luer lock ring	BA-45518-74		BA-45504-74		BA-45505-74	
Male slip luer x hose barb adapters (no lock ring)							
S	Male luer x 1/16" hose barb	BA-45518-22		BA-45504-22		BA-45505-22	
	Male luer x 3/32" hose barb	BA-45518-24		BA-45504-24		BA-45505-24	
	Male luer x 1/8" hose barb	BA-45518-26		BA-45504-26		BA-45505-26	
	Male luer x 5/32" hose barb	BA-45518-28		BA-45504-28		BA-45505-28	
	Male luer x 3/16" hose barb	BA-45518-52		BA-45504-52		BA-45505-52	
	Male luer x 1/4" hose barb	BA-45518-54		BA-45504-54		BA-45505-54	



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



Glass Prefilters with Final Filter

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

PTFE Filters

Pore size	Membrane dia	Housing	Color	Qty/bx	Cat. no.	Price/bx
Nonsterile filters						
0.20 µm	15 mm	PP	Natural	100	BA-29550-08	
0.45 µm					BA-29550-10	
0.20 µm	25 mm	PP	Natural	100	BA-02915-20	
0.45 µm					BA-02915-22	
0.20 µm	50 mm	PP	Natural	20	BA-02915-28	
0.45 µm					BA-02915-30	
Sterile filters						
0.20 µm	25 mm	PP	Natural	50	BA-02915-08	
0.50 µm					BA-02915-06	



Nylon Filters

Pore size	Membrane dia	Housing	Color	Qty/ bx	Catalog number	Price/bx
Nonsterile filters						
0.22 µm	25 mm	PP	Natural	100	BA-02915-16	
0.45 µm					BA-02915-14	
Sterile filters						
0.20 µm	25 mm	PP	Red	50	BA-02915-04	
0.45 µm			Natural		BA-02915-02	



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). Can be used for many laboratory applications including 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	BA-06639-25		BA-06639-28		BA-06639-31		BA-06639-34		BA-06639-41		BA-36230-81	
0.20	54.5	0.018	2.4	BA-06639-01		BA-06639-05		BA-06639-13		BA-06639-35		BA-06639-17		BA-36230-82	
0.45	35.0	0.045	3.7	BA-06639-02		BA-06639-06		BA-06639-14		BA-06639-36		BA-06639-18		BA-36230-83	
0.80	16.4	0.165	15.0	BA-06645-30		BA-06645-32		BA-06645-34		BA-06645-36		BA-06645-38		BA-36230-84	
1.00	13.9	0.220	20.4	BA-06639-47		BA-06639-49		BA-06639-51		BA-06639-55		BA-06639-53		BA-36230-85	
3.00	10.2	0.300	28.3	BA-06639-26		BA-06639-29		BA-06639-32		BA-06639-39		BA-06639-42		BA-36230-86	
5.00	8.5	0.400	40.9	BA-06639-27		BA-06639-30		BA-06639-33		BA-06639-40		BA-06639-43		BA-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



06623-32

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

BA-02930-95 Support screen, 25 mm. Pack of 8

BA-06645-90 Support screen, 47 mm. Pack of 4



Cole-Parmer® Heavy-Duty Flowmeters/Totalizers

Eliminate the need for expensive wiring with battery power

– Two totalizers allow for process or period-specific volume monitoring

These heavy-duty in-line flowmeters/totalizers display flow rate and accumulated flow in gallons or liters. The compact, yet robust design makes them ideal for use in manufacturing, pilot-plant, or quality control areas.

All flowmeters measure linearly across a range and record a cumulative volume plus a resettable volume. Meters are factory-calibrated using water but can store two application-specific K-factors determined in process. To conserve power, the six-digit display automatically turns on with flow and then turns off four minutes after flow ceases. The internal parts are simple to replace for easy maintenance—contact our Application Specialists for details.

Meters operate on two lithium batteries (included). Remote installation of the flowmeter body is possible using the optional remote installation kit 05609-93 (order separately below). Calibration container and replacement battery kits can be ordered below.



Flowmeter 05609-17 with sanitary connection



Flowmeter 05609-21 with NPT(F) connection

Specifications

Repeatability: ±0.1% of reading

Maximum pressure:

- Aluminum: 300 psig (21 bar);
- NPT SS: 1500 psig (105 bar);
- Sanitary SS: 450 psig (31 bar);
- ANSI SS: 285 psig (19 bar)

Operating temp: 14 to 140°F (–10 to 60°C)

Wetted materials: 316 SS or aluminum housing, PVDF rotor and supports, tungsten carbide shaft, 316 SS retainers, and ceramic bearings

Maximum particulate size:

- Models with ≤50 GPM (190 LPM) max flow rate: 125 µm
- Models with >50 GPM (190 LPM) max flow rate: 500 µm

Display: 6-digit LCD, ½"H (with floating decimal)

Input power: two 3 V lithium batteries (included)

Battery life: 9000 hours nominal

Approvals: EEx II 3 G IIC T4



Flow range	Connections	Body material	Accuracy	Catalog number	Price
1 to 10 GPM (3.8 to 37.9 LPM)	½" NPT(F)	Aluminum	±2% of rdg	BA-05609-01	
	½" NPT(F)	316 SS		BA-05609-03	
	¾" Sanitary†	316 SS		BA-05609-05	
2 to 20 GPM (7.6 to 75.7 LPM)	¾" NPT(F)	Aluminum	±2.0% of rdg	BA-05609-07	
	¾" NPT(F)	316 SS		BA-05609-09	
	1" Sanitary†	316 SS		BA-05609-11	
5 to 50 GPM (18.9 to 190 LPM)	1" NPT(F)	Aluminum	±1.5% of rdg	BA-05609-13	
	1" NPT(F)	316 SS		BA-05609-15	
	1½" Sanitary†	316 SS		BA-05609-17	
10 to 100 GPM (38 to 380 LPM)	1" ANSI‡	316 SS	±1% of rdg	BA-05609-19	
	1½" NPT(F)	Aluminum		BA-05609-21	
	1½" NPT(F)	316 SS		BA-05609-23	
20 to 200 GPM (6 to 760 LPM)	2" Sanitary†	316 SS	±1% of rdg	BA-05609-25	
	1½" ANSI‡	316 SS		BA-05609-27	
	2" NPT(F)	Aluminum		BA-05609-29	
	2" NPT(F)	316 SS	±1% of rdg	BA-05609-31	
	2½" Sanitary†	316 SS		BA-05609-33	
	2" ANSI‡	316 SS		BA-05609-35	

†Sanitary flange †150# ANSI flange

Accessories

[BA-05610-70](#) Calibration container; HDPE, 5-gal. (19 L) capacity

[BA-05610-96](#) Replacement battery kit

[BA-05609-93](#) Remote installation kit. Mount display up to 100 feet (30 m) from sensor—ideal for measuring flow in hot pipes (up to 250°F/121°C) or in inaccessible areas. Kit includes a sensor cover with 10-ft (3-m) cable, remote display housing, and installation hardware

[BA-05609-91](#) Output module, pulse output. Module provides a digital open collector output for interfacing with compatible instrumentation

[BA-05609-92](#) Output module, 4 to 20 mA or 5 to 20 volts. Module provides an output for interfacing with compatible instrumentation

[BA-17080-12](#) NIST-traceable calibration



Order your Product with
NIST-Traceable Calibration

866-466-6225 InnoCalSolutions.com

INNOCAL®
INNOVATIVE CALIBRATION SOLUTIONS

Oakton® Waterproof EcoTestr™ CTS Pocket Meter

NEW

Better results—easier and faster

- Conductivity, TDS, and salinity now 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

ISO9001:2008 CERTIFIED SUPPLIER CE IP 67

Description		EcoTestr (CTS) Con/TDS/Salinity
Catalog number		BA-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®

Oakton® Waterproof CON 150 Meter

NEW

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

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



OAKTON®

ISO9001:2008 CERTIFIED SUPPLIER CE IP 67

Oakton® Dual-Range Waterproof TDSTestr® 11 and ECTestr® 11 Meters

Get longer life with replaceable sensor

- Don't worry about losing your meter—floats if dropped in water and included lanyard keeps it close
- Get more out of your meter—dual range measurements for a wider application range
- Easy calibration—up to one point per range
- Stands up to whatever you throw at it—Valox® housing and stainless steel electrodes for good chemical compatibility

OAKTON®

ISO9001:2008 CERTIFIED SUPPLIER CE IP 67

Description		TDSTestr 11 Dual Range	ECTestr 11 Dual Range
Catalog number		BA-35662-10	BA-35662-30
Range	Conductivity	0 to 2000 ppm; 0 to 10.0 ppt	0 to 2000 µS; 0 to 20.00 mS
	Temperature	32 to 122°F (0 to 50°C)	32 to 122°F (0 to 50°C)
Resolution	Conductivity	10 ppm; 0.10 ppt	10 µS; 0.10 mS
	Temperature	0.1°F (0.1°C)	0.1°F (0.1°C)
Accuracy	Conductivity	±1% full scale	±1% full scale
	Temperature	±0.9°F (±0.5°C)	±0.9°F (±0.5°C)
Temperature compensation	Automatic, 0 to 50°C; 2% per °C		
Calibration	One or two points		
Power	Four 1.5 V batteries (included), approx. 150 hours use		
Price			



Description		CON 150 meter with probe	CON 150 meter kit
Catalog number		BA-35607-32	BA-35607-90
Precalibrated catalog number		BA-35607-34	BA-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			

Accessories

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



Oakton® Waterproof EcoTestr™ pH2+ Pocket Meter

Better results—easier and faster

NEW

- Large dual-line display shows pH and temperature readings simultaneously
- 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
- Convenient—attach a lanyard to prevent losing or dropping in the field



Oakton® Waterproof pHTestr® 10, 20, and 30 Pocket Meters

Save money—replace electrode instead of meter

- IP67-rated housing floats in water and won't roll off table
- Resistant to most chemicals with Valox® sensor housing
- Automatic buffer recognition for calibration up to three points
- Don't let temperature interfere—automatic temperature compensation minimizes impact



pHTestr 10

pHTestr 10 offers the most economical option.

pHTestr 20 features ±0.01 pH accuracy—suitable for most ASTM and EPA test procedures.

pHTestr 30 includes all of the features of the pHTestr 20 along with dual pH and 0.1-resolution temperature display. Temperature display units in selectable °F or °C.

What's included: protective plastic storage case, lanyard, and batteries.

Description		EcoTestr pH2+
Catalog number		BA-35423-01
Range	pH	0.0 to 14.0 pH
	Temperature	32.0 to 122.0°F (0.0 to 50.0°C)
Resolution	pH	0.1 pH
	Temperature	0.1°F (0.1°C)
Accuracy	pH	±0.1 pH
	Temperature	±0.9°F (0.5°C) + 1 LSD
Temperature compensation		Automatic
Calibration		Up to 3 points
Buffer recognition		USA, NIST
Power		Four 1.5 V miniature alkaline batteries (included)
Price		



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Description	pHTestr 10	pHTestr 20	pHTestr 30 with temperature readout
Catalog number	BA-35634-10	BA-35634-20	BA-35634-30
Range	-1.0 to 15.0 pH	-1.00 to 15.00 pH	-1.00 to 15.00 pH
Resolution	0.1 pH	0.01 pH	0.01 pH
Accuracy	±0.1 pH	±0.01 pH	±0.01 pH
Temperature compensation	Automatic, 32 to 122°F (0 to 50°C)		
Calibration	Up to three pH points		
Buffer recognition	4.0, 7.0, 10.0 USA 4.0, 6.9, 9.2 NIST	4.01, 7.00, 10.01 USA 4.01, 6.86, 9.18 NIST	
Power	Four 1.5 V button cell batteries (included)		
Price			

[BA-35624-38](#) Replacement pH sensor

[BA-09377-16](#) Replacement batteries, 1.5 V button cell. Pack of 6

[BA-17101-45](#) NIST-traceable calibration for pH pocket meters (non-BNC)

Wait!

There's More at
ColeParmer.com

- ✓ Search **100,000+** products
- ✓ Find full **product details**

And much more!

Oakton® pH Buffer Solutions

Keep your readings accurate with these quality buffers

– Standardized against NIST-traceable pH references for meters with 0.01 resolution



pH	500-mL bottles				1-L bottles		4-L bottles			
	Catalog number	Price/ea	Catalog number	Price/cs of 12	Catalog number	Price/ea	Catalog number	Price/ea	Catalog number	Price/cs of 4
1.68	BA-00654-01									
4.01	BA-00654-00		BA-05942-21		BA-05942-22		BA-05942-24		BA-05942-25	
6.86	BA-00654-03									
7.00	BA-00654-04		BA-05942-41		BA-05942-42		BA-05942-44		BA-05942-45	
9.18	BA-00654-07									
10.00	BA-00654-08		BA-05942-61		BA-05942-62		BA-05942-64		BA-05942-65	
12.45	BA-00654-12									

Save by ordering larger sizes or by the case!



Oakton® pH 5+ and pH 6+ Meters

Get high accuracy at low prices

- Autobuffer recognition for up to five-point calibration provides ± 0.01 pH accuracy
- Take this compact unit anywhere
- Get pH and temperature readings at the push of a button
- Improve your accuracy with automatic temperature compensation (ATC) from 0 to 100°C
- Protect your unit with protective rubber boot that doubles as a stand
- Choose the pH 6+ meter to also read mV



Meter includes: ATC probe, protective rubber boot, and batteries.

Meter with probe adds: pH electrode 59001-65

Meter kit adds: “All-in-one” pH electrode, pH buffer solutions, sample bottles, rinse bottle, and carrying case.

Save time, save money!

Choose Precalibrated

Includes a data-rich, ISO 17025-compliant certificate!

Precalibrated by **INNOCAL**
INNOVATIVE CALIBRATION SOLUTIONS

OAKTON



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CERTIFIED SUPPLIER



Meter only

Specifications

Mode	pH	mV (pH 6+ only)	Temperature
Range	0.00 to 14.00 pH	± 1000 mV or rel mV	0 to 100.0°C
Resolution	0.01 pH	1 mV	0.1°C
Accuracy	± 0.01 pH	± 2 mV	$\pm 0.5^\circ\text{C}$
Calibration	Up to five points: pH 1.68, 4.01, 7.00, 10.00, 12.45 (USA); pH 1.68, 4.01, 6.86, 9.18, 12.45 (NIST) pH 4.10, 6.97 (Pb)	± 20 mV	Offset 0.1°C increments

Temp compensation: automatic with ATC probe, 0 to 100°C

Power: four AAA batteries (included)

Model	Description	Meter		Precalibrated	
		Cat. no.	Price	Cat. no.	Price
pH 5+	Meter only	BA-35613-50		BA-35613-51	
pH 6+	Meter only	BA-35613-20		BA-35613-41	
pH 5+	Meter with probe	BA-35613-52		BA-35613-53	
pH 6+	Meter with probe	BA-35613-22		BA-35613-42	
pH 5+	Meter kit	BA-35613-54		BA-35613-55	
pH 6+	Meter kit	BA-35613-24		BA-35613-44	

Accessories

BA-59001-65 Replacement pH electrode; single-junction, gel-filled. Epoxy body, BNC connector

BA-35811-71 “All-in-one” combination pH probe with built-in ATC; single-junction sealed, epoxy body, BNC connector

BA-35811-72 “All-in-one” combination pH probe with built-in ATC; double-junction sealed, epoxy body, BNC connector

BA-35613-05 Replacement ATC probe, stainless steel

BA-09376-00 Replacement batteries, AAA. Pack of 12

Oakton® Waterproof pH 150 Meter

Get more for your money!

NEW

- 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.

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Meter only

Description	Meter only	Meter with probe	Meter kit
Model	pH 150		
Catalog number	BA-35614-32	BA-35614-30	BA-35614-90
Precalibrated cat. no.	BA-35614-34	BA-35614-33	BA-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 $\pm 0.5\%$ of reading; whichever is greater	
	Temperature	$\pm 0.9^\circ\text{F}$ ($\pm 0.5^\circ\text{C}$)	
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 power adapter (optional)		
Price			
Precalibrated price			

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

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

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

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

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

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

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



Cole-Parmer® Symmetry® PT Toploading Balances

Large weighing surface allows placement of a variety of samples

NEW



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

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



Specifications

Calibration: Internal or external with calibration mass
Weighing units: g, ct, oz, dwt, mg, grains, oz, ozt, dwt, custom
Power: 115/220 VAC power adapter and built-in rechargeable battery pack (battery function not available on models 10001-06, -07, -13)

Capacity	Readability	Repeatability	Linearity	Pan size	Cat. no.	Price
Internal calibration						
210 g	0.001 g	±0.002 g	±0.002 g	5 1/8" x 5 1/8" (13.0 x 13.0 cm)	BA-10001-10	
410 g	0.001 g	±0.002 g	±0.002 g		BA-10001-11	
2200 g	0.01 g	±0.02 g	±0.02 g	7 1/2" x 6 1/4" (19.0 x 16.0 cm)	BA-10001-12	
4200 g	0.01 g	±0.02 g	±0.02 g		BA-10001-13	
External calibration						
210 g	0.001 g	±0.002 g	±0.002 g	5 1/8" x 5 1/8" (13.0 x 13.0 cm)	BA-10001-02	
410 g	0.001 g	±0.002 g	±0.002 g		BA-10001-03	
2200 g	0.01 g	±0.02 g	±0.02 g	7 1/2" x 6 1/4" (19.0 x 16.0 cm)	BA-10001-04	
4200 g	0.01 g	±0.02 g	±0.02 g		BA-10001-05	
5000 g	0.1 g	±0.2 g	±0.4 g		BA-10001-06	
15000 g	0.1 g	±0.2 g	±0.4 g		BA-10001-07	

Accessories

- [BA-11120-78](#) Compact thermal printer
- [BA-10000-47](#) Kensington™ type security lock and cable
- [BA-17101-52](#) NIST-traceable calibration with data for balances

Cole-Parmer® Symmetry® PA Analytical Balances

Discover Symmetry—affordable, advanced, accurate

NEW



Symmetry®

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

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



Specifications

Calibration: Internal or external with calibration mass
Weighing units: g, ct, oz, dwt, mg, grains, oz, ozt, dwt, custom
Power: 115/220 VAC power adapter

Capacity	Readability	Repeat-ability	Linearity	Pan size	Catalog number	Price
Internal calibration						
120 g	0.0001 g	±0.0002 g	±0.0002 g	3 1/2" dia (9.0 cm)	BA-10001-08	
220 g	0.0001 g	±0.0002 g	±0.0002 g		BA-10001-09	
External calibration						
120 g	0.0001 g	±0.0002 g	±0.0002 g	3 1/2" dia (9.0 cm)	BA-10001-00	
220 g	0.0001 g	±0.0002 g	±0.0002 g		BA-10001-01	

Accessories

- [BA-11120-78](#) Compact thermal printer
- [BA-10000-47](#) Kensington™ type security lock and cable
- [BA-17101-52](#) NIST-traceable calibration with data for balances

Bath Fluids

Get more out of your bath!

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



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

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

Cole-Parmer® StableTemp® Digital Utility Water Baths

Get digital accuracy at an analog price

NEW

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

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



StableTemp

ISO9001:2008 CERTIFIED SUPPLIER CE

Specifications

Temperature range: 5°C above ambient to 100°C
Temperature uniformity: ±0.2°C

Temperature stability: ±0.1°C
Wetted materials: 304 SS
High-temperature cutoff: yes

Bath capacity	Opening (L x W)	Working depth	120 VAC, 60 Hz		240 VAC, 50 Hz	
			Cat. no.	Price	Cat. no.	Price
2 L	3 7/8" x 4 1/16"	5 1/2"	BA-14576-00		BA-14576-02	
5 L	5" x 10 13/16"	5 1/2"	BA-14576-04		BA-14576-06	
10 L	10 9/16" x 11 1/8"	5 1/2"	BA-14576-08		BA-14576-10	
20 L	9 1/2" x 17 1/2"	5"	BA-14576-12		BA-14576-14	
28 L	9 1/2" x 17 1/2"	7"	BA-14576-16		BA-14576-18	

Cole-Parmer® Polystat® Cooling/Heating Circulating Baths

Get excellent cooling across range of temperatures

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

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

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



Specifications

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

polystat® ISO9001:2008 CERTIFIED SUPPLIER CE

Bath capacity	Temperature range	Stability	Cooling capacity at 20°C	Pump type	Max pump pressure psi (mbar)	Max pump flow (L/min)	Working area (W x L x D)	Power (VAC, Hz)	Catalog number	Price
Standard digital controller baths										
6.5 L	-20 to 100°C	±0.05°C	250 W	Force	4.4 (310)	17	5 9/16" x 4 13/16" x 5 7/8" (13.5 x 12.2 x 15 cm)	115, 60 230, 50	BA-12122-02 BA-12122-04	
8.6 L	-28 to 100°C	±0.05°C	500 W	Force	4.4 (310)	17	6 13/16" x 7 9/16" x 5 7/8" (17.3 x 18.3 x 15 cm)	115, 60 230, 50	BA-12122-32 BA-12122-34	
8.6 L	-28 to 150°C	±0.05°C	500 W	Force	4.4 (310)	17	6 13/16" x 7 9/16" x 5 7/8" (17.3 x 18.3 x 15 cm)	115, 60 230, 50	BA-12122-36 BA-12122-38	
Advanced digital controller baths										
6.5 L	-20 to 100°C	±0.025°C	250 W	Force/suction	11.7 (750)	21	5 9/16" x 4 13/16" x 5 7/8" (13.5 x 12.2 x 15 cm)	115, 60 230, 50	BA-12122-12 BA-12122-14	
6.5 L	-20 to 100°C	±0.025°C	250 W	Force/suction	11.7 (750)	21	5 9/16" x 4 13/16" x 5 7/8" (13.5 x 12.2 x 15 cm)	115, 60 230, 50	BA-12122-26 BA-12122-28	
8.6 L	-28 to 200°C	±0.025°C	500 W	Force/suction	11.7 (750)	21	6 13/16" x 7 9/16" x 5 7/8" (17.3 x 18.3 x 15 cm)	115, 60 230, 50	BA-12122-42 BA-12122-44	
8.6 L	-35 to 200°C	±0.025°C	800 W	Force/suction	11.7 (750)	21	6 13/16" x 7 9/16" x 5 7/8" (17.3 x 18.3 x 15 cm)	115, 60† 230, 50†	BA-12122-56 BA-12122-58	

†Requires 20 amp current.

Stir-Pak® Heavy-Duty Mixer Systems

Easily customize to your needs

1. Speed Controller

- Simple controls—speed adjustment knob and separate “forward/off/reverse” switch
- Reduce gear failure with torque limiting protection

2. Mixer Heads

- Don't limit your mixing angle—adjustable tilt from 0 to 30° for proper propeller placement
- Maintenance-free, rugged motor
- For more viscous or larger samples, choose a high-torque, low-speed mixer head with keyless chuck
- For lower viscosity samples, use a high-speed low-torque mixer head with through shaft for easy shaft positioning



REQUIRED System Components

- 1) Speed controller
 - 2) Mixer head
- or choose complete system



Stir-Pak high-speed, low-torque mixer system 50007-32



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

1. Speed controller			2. Mixer heads					Complete systems			
Power (VAC, Hz)	Catalog number	Price	Description	Speed (rpm)	hp	Max torque (in-oz)	Power (VAC, Hz)	Catalog number	Price	Catalog number	Price
115, 50/60	BA-50007-00		High torque, low speed; with keyless chuck	2 to 180	1/5	340	115, 50/60	BA-50007-10		BA-50007-12	
230, 50/60	BA-50007-05			9 to 900	1/5	70	230, 50/60	BA-50007-15		BA-50007-17	
115, 50/60	BA-50007-00			High speed, low torque; with adjustable through-shaft collet	23 to 2300	1/10	45	115, 50/60	BA-50007-20		BA-50007-22
230, 50/60	BA-50007-05		60 to 6000		1/10	17	230, 50/60	BA-50007-25		BA-50007-27	
115, 50/60	BA-50007-00		115, 50/60		BA-50007-30		BA-50007-32				
230, 50/60	BA-50007-05		230, 50/60		BA-50007-35		BA-50007-37				
115, 50/60	BA-50007-00		115, 50/60		BA-50007-40		BA-50007-42				
230, 50/60	BA-50007-05		230, 50/60	BA-50007-45		BA-50007-47					

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				
BA-50008-00		High torque, low speed; with keyless chuck	3 to 180	1/5	340	510	BA-50008-10		BA-50008-12	
			20 to 900	1/5	70	105	BA-50008-20		BA-50008-22	
		High speed, low torque; with adjustable through-shaft collet	60 to 2300	1/10	45	65	BA-50008-30		BA-50008-32	
			150 to 6000	1/10	17	25	BA-50008-40		BA-50008-42	

Cole-Parmer® Low-Pressure Mechanical Gauges

Perfect for accurately measuring pressures below 10 psi

- Manufactured with a chrome-plated case, use these gauges to measure low pressure in filter systems, cleanrooms, or fluidic systems



Specifications

Accuracy: ±1½% full scale	Wetted materials: brass
Dial size: 2½" (64 mm)	Lens: polycarbonate
Operating temp: 0 to 150°F (0 to 66°C)	Process connection: ¼" NPT(M)
	Casing: black steel

Range	Catalog number	Price
0 to 10" H ₂ O	BA-68357-00	
0 to 15" H ₂ O	BA-68357-02	
0 to 30" H ₂ O	BA-68357-04	
0 to 60" H ₂ O	BA-68357-06	
0 to 100" H ₂ O	BA-68357-08	
0 to 3 psi	BA-68357-14	
0 to 5 psi	BA-68357-16	
0 to 10 psi	BA-68357-18	

[BA-17040-10](#) NIST-traceable calibration with data

WIKA® 3A Sanitary Gauges

Get better readings

- Glycerin fill reduces fluctuations
- Manufactured for clean-in-place (CIP) applications
- All-welded gauge assembly contains an external flush diaphragm
- Assembly meets the criteria set forth by 3A standards



Specifications

Accuracy: ±3-2-3% of span	Wetted materials: 316L SS	Process connection: ¾" Tri-Clamp®
Operating temp: 50 to 257°F (10 to 125°C)	Lens: polycarbonate	Casing: 304 SS
		Dial size: 2½" (64 mm)

Range	Resolution	Catalog number	Price
30 psi	0.5 psi	BA-68056-72	
60 psi	1 psi	BA-68056-74	
100 psi	2 psi	BA-68056-76	
160 psi	2 psi	BA-68056-78	

[BA-17040-10](#) NIST-traceable calibration with data

Find even more online!
Go to [ColeParmer.com](#) to see full product details.

Ashcroft® Digital Pressure Gauges

Simple to program

- Easy-to-read, 5-digit display with backlight and 20-segment bar graph
- Stainless steel sensor; IP67-rated case
- Features tare, min/max memory, and nine engineering plus one custom engineering units



Specifications

Accuracy: ±0.5% full-scale	Wetted materials: 17-4 ph and 316L stainless steel
Dial size: 2½" (64 mm)	Lens: polycarbonate
Operating temp: –4 to 140°F (–20 to 60°C)	Process connection: ¼" NPT(M)
Units of measure: psi, Hg, cm Hg, mm Hg, kPa, mPa, bar, kg/cm ² , ft H ₂ O, and user-defined unit	Power: two AA batteries (included)

Range	Resolution	Catalog number	Price
0 to 30" Hg	0.01" Hg	BA-68334-01	
30" Hg to 30 psi	0.01" Hg	BA-68334-03	
30" Hg to 100 psi	0.01" Hg	BA-68334-07	
0 to 15 psi	0.001 psi	BA-68334-09	
0 to 30 psi	0.001 psi	BA-68334-11	
0 to 60 psi	0.001 psi	BA-68334-13	
0 to 100 psi	0.01 psi	BA-68334-15	
0 to 200 psi	0.01 psi	BA-68334-17	
0 to 300 psi	0.01 psi	BA-68334-19	
0 to 500 psi	0.01 psi	BA-68334-21	
0 to 1000 psi	0.1 psi	BA-68334-25	
0 to 5000 psi	0.1 psi	BA-68334-27	
0 to 10,000 psi	1 psi	BA-68334-31	

[BA-09376-01](#) Batteries, AA. Pk of 4

[BA-17040-12](#) NIST-traceable calibration with data

Ashcroft® Digital Sanitary Pressure Gauges

Get more flexibility

- Offer 3A rating with the functionality of a digital gauge
- Get readings how you need them—ten engineering units
- Unlimited deadband throughout its range



Specifications

Accuracy: ±0.25% full-scale	Display: 5-digit LCD, 0.88"H
Dial size: 3½" (89 mm)	Process connection: 1½" sanitary Tri-Clamp®
Operating temp: 14 to 140°F (10 to 60°C)	Wetted materials: 316 stainless steel
Units of measure: psi, " H ₂ O, ft H ₂ O, mPa, mbar, kPa, kg/cm ² , bar, " Hg, mm Hg	Casing: 300 stainless steel
	Lens: polyester
	Power: two C batteries

Range	Resolution	Catalog number	Price
30 to 0" Hg	0.0001" Hg	BA-68901-50	
0 to 30 psi	0.0001 psi	BA-68901-51	
0 to 60 psi	0.005 psi	BA-68901-52	
0 to 100 psi	0.005 psi	BA-68901-53	
0 to 200 psi	0.01 psi	BA-68901-54	

[BA-17040-12](#) NIST-traceable calibration with data



Cole-Parmer® Stirrers and Stirring Hot Plates

Get to work faster—reach max temperature in two minutes

- Stir bar doesn't dance—unique U-shaped magnet holds stir bar tightly
- Front-panel controls are positioned to prevent you from touching the hot plate
- Choose corrosion-resistant ceramic or more uniform aluminum top
- Stepless speed control provides smooth stirring action to 1500 rpm

A large, permanent drive magnet, ensures positive coupling of drive to stir bar. Permanently lubricated, brushless drive motor provides long, trouble-free operation.



230 VAC models

Volume per position	Top plate		Heating		Speed range	115 VAC, 60 Hz		230 VAC, 50 Hz	
	Dimensions	Material	Temp range	Max load		Cat. no.	Price	Cat. no.	Price
Stirrers									
2.5 L	6" x 6" (15.2 x 15.2 cm)	Aluminum	—	15 lb (6.8 kg)	100 to 1500 rpm	BA-04802-01		BA-04802-03	
10 L	12" x 12" (30.5 x 30.5 cm)	Aluminum	—	25 lb (11.4 kg)	100 to 1500 rpm	BA-04802-11		BA-04802-13	
Stirring hot plates									
2.5 L	6" x 6" (15.2 x 15.2 cm)	Aluminum	120 to 700°F (49 to 371°C)	15 lb (6.8 kg)	100 to 1500 rpm	BA-04803-01		BA-04803-03	
2.5 L	6" x 6" (15.2 x 15.2 cm)	Ceramic	120 to 842°F (49 to 450°C)	15 lb (6.8 kg)	100 to 1500 rpm	BA-04803-05		BA-04803-07	
10 L	12" x 12" (30.5 x 30.5 cm)	Aluminum	120 to 700°F (49 to 371°C)	25 lb (11.4 kg)	100 to 1500 rpm	BA-04803-11		BA-04803-13	
10 L	12" x 12" (30.5 x 30.5 cm)	Ceramic	120 to 752°F (49 to 400°C)	25 lb (11.4 kg)	100 to 1500 rpm	BA-04803-15		BA-04803-17	

Cole-Parmer® StableTemp™ Stirrers and Stirring Hot Plates

Precision control ensures accurate, repeatable results

- Stay safe—hot surface warning until plate cools below 50°C
- Don't worry about spills—raised display diverts liquids away from critical components

Advanced Stirrer and Stirring Hot Plate

- Greater accuracy and repeatability for advanced applications
- Set ramp/dwell programs and save settings for quick repeat
- Always know your status—view actual and set values simultaneously
- Protect you and your sample with overtemperature protection



StableTemp

Stirrer

Advanced stirring hot plate



Top plate		Heating		Stirring		Power		Catalog number	Price
Dimensions	Material	Temperature range	Max load	Speed range	Max capacity	VAC	Hz		
Stirrers									
4¼" x 4¼" (10.8 x 10.8 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	1 L	100 to 120 230	50/60 50/60	BA-03406-01 BA-03406-06	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120 230	50/60 50/60	BA-03406-11 BA-03406-16	
10¼" x 10¼" (26 x 26 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	6 L	100 to 120 230	50/60 50/60	BA-03406-31 BA-03406-36	
Stirring hot plates									
4¼" x 4¼" (10.8 x 10.8 cm)	Ceramic	86 to 1004°F (30 to 540°C)	25 lb (11.4 kg)	50 to 1500 rpm	1 L	100 to 120 230	50/60 50/60	BA-03407-01 BA-03407-06	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	86 to 1004°F (30 to 540°C)	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120 230	50/60 50/60	BA-03407-11 BA-03407-16	
10¼" x 10¼" (26 x 26 cm)	Ceramic	86 to 752°F (30 to 400°C)	25 lb (11.4 kg)	50 to 1500 rpm	6 L	100 to 120 230	50/60 50/60	BA-03407-31 BA-03407-36	
Advanced stirrer and stirring hot plate									
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	—	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120 230	50/60 50/60	BA-03406-41 BA-03406-46	
7¼" x 7¼" (18.4 x 18.4 cm)	Ceramic	86 to 842°F (30 to 450°C)	25 lb (11.4 kg)	50 to 1500 rpm	4 L	100 to 120 230	50/60 50/60	BA-03407-41 BA-03407-46	

¹Based on water contained in a 20-L glass flat-bottom flask.

Equipment & Instrumentation

Stirrers & Hot Plates

Digi-Sense® General-Purpose Digital Pocket Thermometers

Don't risk accuracy—precalibrated



- 304 stainless steel penetration stem
- All include a protective case with pocket clip and battery



A. Pen-Style Pocket Thermometer offers fast response and laboratory accuracy. Features include probe guard, Min/Max/Hold, °F/°C switchable ranges and auto power-off to conserve battery life. Includes a NIST-traceable calibration report with data supplied by InnoCal.

B. Large Head Pocket Thermometer offers fast response and laboratory accuracy. The head of the thermometer is square allowing the unit not to roll when placed on a flat surface. Features include probe guard, °F/°C switchable ranges and auto power-off to conserve battery life. Includes a NIST-traceable calibration report with data supplied by InnoCal.

C. Waterproof Thermometer features a dishwasher-safe sealed case. Features °F/°C switchable ranges, a Min/Max button, and display updates every second. Use ON/OFF button to conserve battery life.

D. Key-Chain “Mini” Thermometer is pocket sized and perfect for carrying around anywhere. Clip onto a lab coat, jacket zipper, belt loop, backpack, or key ring. Features °F/°C switchable ranges and display updates every second. Use ON/OFF button to conserve battery life.

E. Long-Stem Thermometer has an 8" or 11½" long stem, °F/°C switchable ranges, and display updates every second. Use ON/OFF button to conserve battery life.

F. Rotating-Display Thermometer can be angled up to 180° for easy reading. Extra-long 8" stem is ideal for measuring reagents, water baths, air, liquids, and any semisolid. Features °F/°C selection. Use ON/OFF button to conserve battery life.

G. T-Handle Thermometer is designed for penetrating semisolids and features °F/°C switchable ranges. Display updates every second. Use ON/OFF button to conserve battery life or auto shutoff at one hour.

H. Pen-Style Thermometer has °F/°C switchable ranges and display updates every second. Data Hold button to freeze readings. Use ON/OFF button to conserve battery life.

I. NIST-Traceable Pen-Style Thermometer has a unique, flat-profile design. Probe guard snaps into handle to extend the overall length to 10¾" making it ideal for hard-to-reach locations. Features °F/°C switchable ranges, Hold button, display that updates every second, and an ON/OFF button to conserve battery life.



Key letter	Range	Resolution	Accuracy†	Probe size	Catalog number	Price
A	–40 to 482°F (–40 to 250°C)	0.1°F (0.1°C)	1.5% ± 2° full scale	4.6" L x 0.16" dia	BA-20250-33	
B	–40 to 482°F (–40 to 250°C)	0.1°F (0.1°C)	1.5% ± 2° full scale	5" L x 0.16" dia	BA-20250-32	
C	14 to 392°F (–10 to 200°C)	0.1° up to 199.9°; 1° above 200°	±1.8°F (±1.0°C)	5" L x 0.14" dia	BA-90003-00‡	
D	–58 to 302°F (–50 to 150°C)	0.1°F (0.1°C)	±1.8°F (1.0°C)	10" L x 0.14" dia	BA-90205-05	
E	–58 to 302°F (–50 to 150°C)	0.1° from –19 to 199.9°; 1° outside this range	±1.8°F (±1°C)	8" L x 0.14" dia	BA-90205-15	
	–58 to 302°F (–50 to 150°C)	0.1° from –19 to 199.9°; 1° outside this range	±0.5°F (±0.2°C)	8" L x 0.14" dia	BA-90205-01	
	–58 to 572°F (–50 to 300°C)	0.1° from –19 to 199.9°; 1° outside this range	±1.8°F (±1°C)	11.5" L x 0.14" dia	BA-94460-40	
	–58 to 302°F (–50 to 150°C)	0.1° from –19 to 199.9°; 1° outside this range	±0.5°F (±0.2°C)	11.5" L x 0.14" dia	BA-90205-02	
F	–58 to 536°F (–50 to 280°C)	0.1° from –20 to 200°F; 1° outside this range	±1.8°F (1.0°C)	8" L x 0.14" dia	BA-90205-25	
G	–58 to 302°F (–50 to 150°C)	0.1° from –19 to 199.9°; 1° outside this range	±1.8°F (±1.0°C)	5.3" L x 0.14" dia	BA-90051-00	
H	–58 to 572°F (–50 to 300°C)	0.1° from –19 to 199.9°; 1° outside this range	±2°F (±1.5°C)	2.5" L x 0.16" dia	BA-90001-02	
I	–58 to 572°F (–50 to 300°C)	0.1° from –20 to 200°F; 1° outside this range	±3°F (1.5°C)	3.5" L x 0.14" dia	BA-90205-15	

†Basic accuracy shown, full accuracy available online. ‡Model 90003-00 does not come precalibrated.

[BA-17003-00](#) NIST-traceable recalibration with data for pocket thermometers



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

Use just about anywhere—portable or mountable design

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

NEW



20250-41



20250-43

Temperature Data Logger (20250-41) records up to 32,000 temperature data points from its internal temperature sensor. **Temperature/RH Data Loggers (20250-42, -43)** record 16,000 temperature and 16,000 RH data points from its internal sensors. The 20250-43 features a hiBA-contrast LCD that shows measured temperature in °F or °C as set by the user. **Temperature Type K Data Logger (20250-44)** records remote high temperatures as measured by a 38" (97 cm) thermocouple probe.

What's included: software, mounting clip and hardware, protective plastic cover, and battery. Model 20250-44 also includes a type K thermocouple.



Description	Temperature	Temperature/RH	Temperature/RH with LCD	Temperature, type K
Catalog number	BA-20250-41	BA-20250-42	BA-20250-43	BA-20250-44
Range	-40 to 158°F (-40 to 70°C)	-40 to 158°F (-40 to 70°C), 0 to 100% RH (noncondensing)		-328 to 2498°F (-200 to 1370°C)
Resolution	0.1°F (0.1°C)	0.1°F (0.1°C)		0.1°F (0.1°C)
Accuracy	±2°F (±1°C)	±2°F (±1°C); ±3% RH		±2°F (±1°C)
Memory	32,000 data points	32,000 data points (16,000 per channel)		32,000 data points
Reading rate		1 reading every 2 seconds to 1 reading every 24 hours; user selectable		
Power		3.6 V lithium battery, user replaceable; 1-year battery life typical		
Price				

[BA-17002-20](#) NIST-traceable calibration with data for temperature data logger

[BA-17030-20](#) NIST-traceable calibration with data for temperature/RH data logger

Digi-Sense® Precalibrated Infrared Thermometers

Save money and prevent breakdowns—easily locate hot and cold spots

- Reliable measurements—guaranteed! Precalibrated to NIST-traceable standards
- Get easy readings from a distance—just aim, pull trigger and read!
- Continuous scanning via trigger lock



General-Purpose Infrared Thermometers feature Min/Max and Hold functions, °F/°C selectable units, single targeting laser, and large backlit LCD for easy reading. Models 20250-05 and -06 also offer adjustable emissivity and temperature alarm with indicator.

Professional Infrared Thermometers provide high distance-to-sight ratio and enhanced temperature range in a heavy-duty housing. Get a more precise measurement area with dual targeting lasers and external type K thermocouple (one included). Min/Max/Avg and Hold, temperature differential, high/low alarms, adjustable emissivity, data logging, and more!



Protective lens cover with magnetic lock

20250-08



20250-05



Description	General-purpose infrared thermometers			Professional infrared thermometers	
	BA-20250-04	BA-20250-05	BA-20250-06	BA-20250-07	BA-20250-08
Range (IR)	-4 to 630°F (-20 to 332°C)	-31 to 1000°F (-35 to 537°C)	-31 to 1472°F (-35 to 800°C)	-58 to 3002°F (-50 to 1650°C)	-58 to 3362°F (-50 to 1850°C)
Resolution	0.1°F/C	0.1°F/C below 1000°, 1°F/C		0.1°F/C below 1000°, 1°F/C above 1000°	
Response time	Less than 1 sec	Less than 300 ms		Less than 150 ms	
Distance-to-sight ratio	10:1	12:1	20:1	30:1	50:1
Emissivity	0.95 fixed	0.10 to 1.0 adjustable		0.10 to 1.0 adjustable	
Laser sighting		Single Class II laser		Dual Class II laser	
Temperature alarm	No	Yes		Yes	
USB interface		No		Yes (cable and software included)	
Data logging		No		Yes, 100 internal readings	
Power		One 9 V battery		One 9 V battery	
Price					

Equipment & Instrumentation

Temperature

Disposable Griffin Low-Form Beakers, PP

Molded-in graduations won't wear off

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



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

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

DON'T RISK IT!

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



PYREX® Brand 1003 Heavy-Duty Griffin Beakers

Get the best strength even under harsh conditions

- Measure initial quantity and how much is used—double metric scale on 250- to 4000-mL sizes
- Know your solution—extra-large marking spot for easier identification
- Reference: ASTM E-960



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

Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Catalog number	Qty	Price
150 (5)	20 to 140	20	BA-34512-06	12/pk	
150 (5)	20 to 140	20	BA-34512-26	48/cs	
250 (8)	25 to 200	25	BA-34512-07	12/pk	
250 (8)	25 to 200	25	BA-34512-27	48/cs	
400 (13)	25 to 325	25	BA-34512-08	12/pk	
400 (13)	25 to 325	25	BA-34512-28	48/cs	
600 (20)	50 to 500	50	BA-34512-09	6/pk	
600 (20)	50 to 500	50	BA-34512-29	36/cs	
1000 (32)	50 to 1000	50	BA-34512-11	6/pk	
1000 (32)	50 to 1000	50	BA-34512-31	24/cs	
2000 (64)	200 to 1800	200	BA-34512-13	4/pk	
2000 (64)	200 to 1800	200	BA-34512-33	8/pk	
4000 (128)	500 to 3500	250	BA-34512-15	1/pk	
4000 (128)	500 to 3500	250	BA-34512-35	4/pk	

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



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

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

PYREX® Brand 1000 Griffin Low-Form Beakers

Stand up to thermal shock

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



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

Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Catalog number	Qty/pk	Price/pk
10 (1/8)	—	—	BA-34502-01		
20 (2/8)	5 to 15	5	BA-34502-02	12	
30 (1)	5 to 25	10	BA-34502-03		
50 (1 3/4)	10 to 40	10	BA-34502-04		
100 (3)	20 to 80	10	BA-34502-05		
150 (5)	20 to 140	10	BA-34502-06	12	
250 (8)	25 to 200	25	BA-34502-07		
400 (13)	25 to 325	25	BA-34502-08		
600 (20)	50 to 500	50	BA-34502-09	6	
800 (27)	50 to 750	50	BA-34502-10	6	
1000 (32)	50 to 1000	50	BA-34502-11	6	
1500 (51)	200 to 1400	100	BA-34502-12	4	
2000 (64)	200 to 2000	100	BA-34502-13	4	
3000 (96)	250 to 2500	125	BA-34502-14	1	
4000 (128)	500 to 3500	250	BA-34502-15	1	
10 (1/8)	—	—	BA-34502-21		
20 (2/8)	5 to 15	5	BA-34502-22	48	
30 (1)	5 to 25	10	BA-34502-23		
50 (1 3/4)	10 to 40	10	BA-34502-24		
100 (3)	20 to 80	10	BA-34502-25		
150 (5)	20 to 140	10	BA-34502-26	48	
250 (8)	25 to 200	25	BA-34502-27		
400 (13)	25 to 325	25	BA-34502-28		
600 (20)	50 to 500	50	BA-34502-29	36	
800 (27)	50 to 750	50	BA-34502-30	24	
1000 (32)	50 to 1000	50	BA-34502-31	24	
1500 (51)	200 to 1400	100	BA-34502-32	16	
2000 (64)	200 to 2000	100	BA-34502-33	8	
3000 (96)	250 to 2500	125	BA-34502-34	6	
4000 (128)	500 to 3500	250	BA-34502-35	6	
Starter set contains one each of 50 mL, 100 mL, 250 mL, 600 mL, 1000 mL			BA-34502-90	5	



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



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

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



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

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

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



Carboy with tubulation (tubing not included)

Wide-mouth style carboy



Leakproof

Carboy with spigot

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

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

Accessories

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



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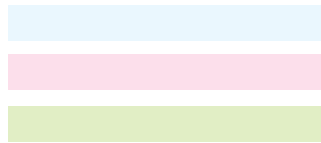


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