

FREE
EXPERT
Technical Assistance
EVERY DAY

development



scale-up



production



fluid transfer | fluid path
filtration | testing & analysis
process monitoring | labware & supplies



020-8574-7556
Expert product assistance
Katie, Application Specialist

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Cole-Parmer: *delivering accurate, precise fluid handling for biopharmaceutical/pharmaceutical customers for more than 30 years*

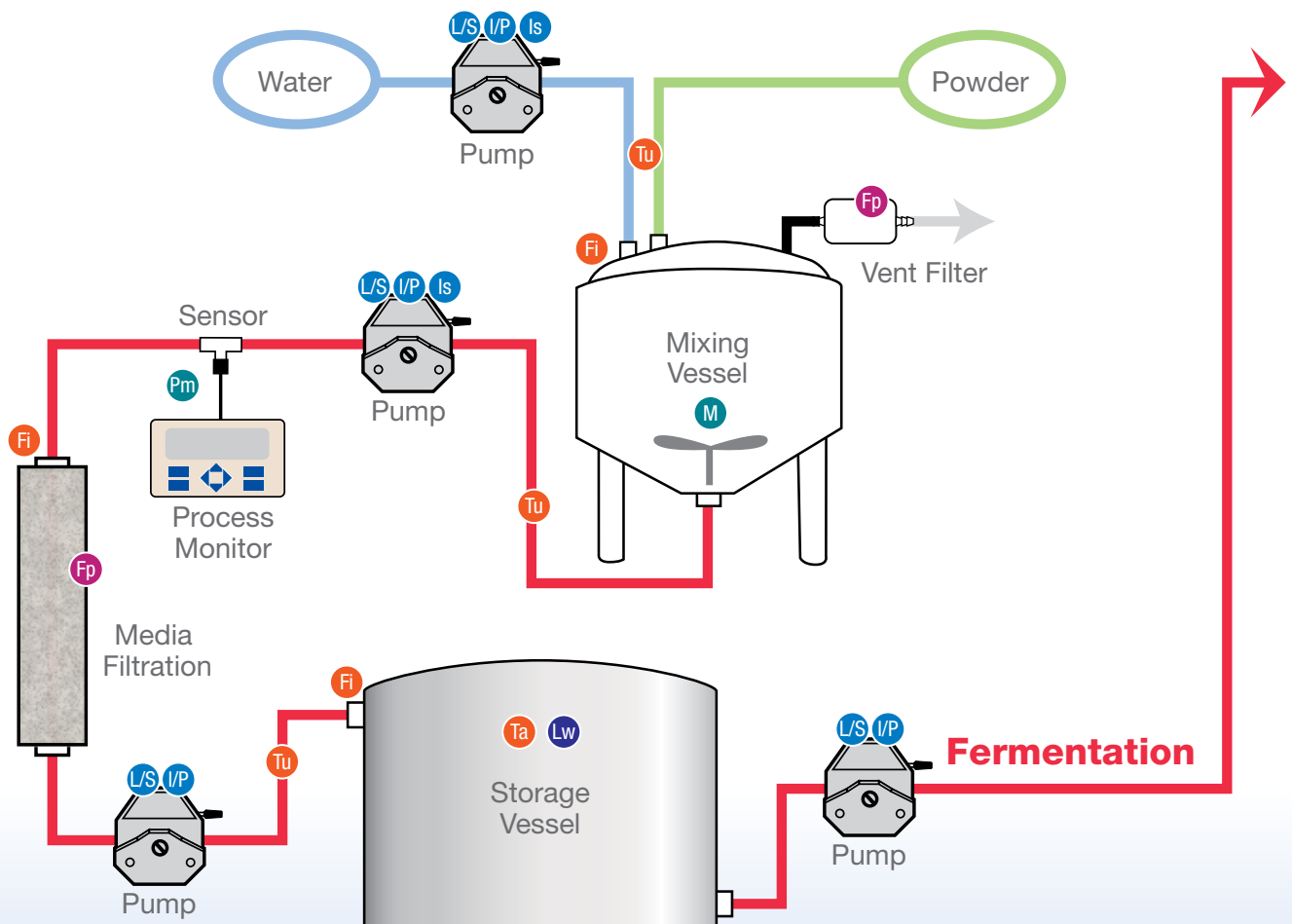
Within the last year, 100% of the largest biopharmaceutical companies and more than 90% of the biggest pharmaceutical companies have purchased Masterflex® pump system components from Cole-Parmer. And that's just the beginning! With more than 100,000 products to optimize your research, scale-up, or full production system needs, we've worked with multiple customers to guarantee results in their operations.

- **100% compliance rate** with customer quality audits
- **99.7% accuracy** on recommended products for customer needs
- **93% satisfaction** rating among biopharmaceutical customers when doing business with Cole-Parmer
- **Certificates of material compliance** available on more than 2,000 products. In addition, we offer product lot control, product documentation, animal-derived ingredient documentation, change control notifications, and more to keep you compliant with industry standards and your own validated processes

**We know your needs. We supply the products you need.
We look forward to helping you succeed.**

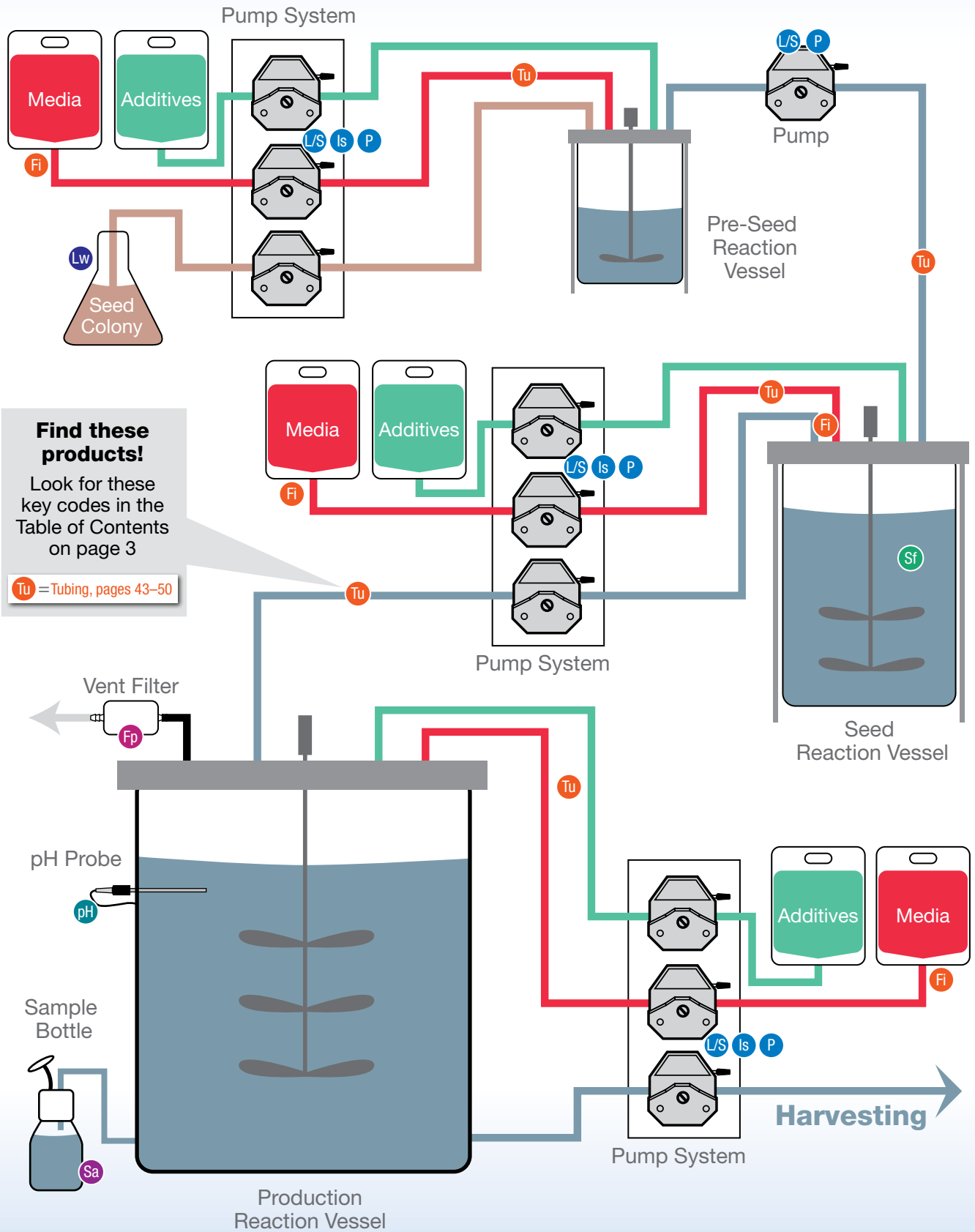
Media Preparation

A critical support process in bioprocessing, sometimes this process relies on prepackaged standardized media. Preparing custom media blends in-house from purchased ground powders requires filtration to sterilize it before use in cell cultures. Count on our products for optimal control and performance of your production system.



Fermentation

At the heart of your process, fermentation creates the proteins for your therapies. Careful monitoring and precise addition of media and other additives are essential for effective growth. Cole-Parmer has what you need for optimal output.



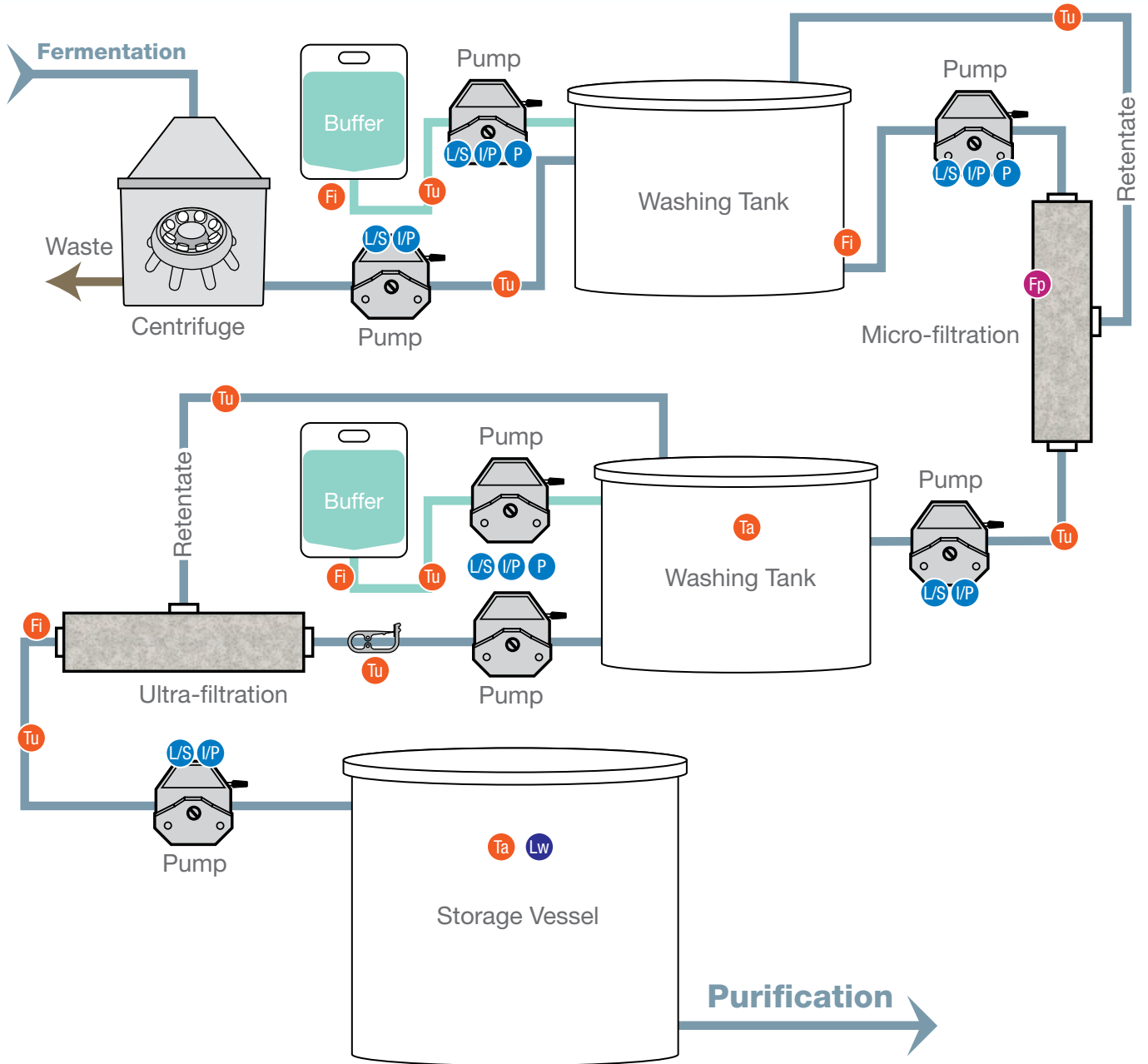
Find these products!

Look for these key codes in the Table of Contents on page 3

Tu = Tubing, pages 43-50

Harvesting

From washing to buffer injection to filtering, the steps in harvesting begin to separate the protein from the cells. Look to our pumps for fluid transfer capabilities as well as single-use lines between filters and vessels. Depending on your production scale, our filtration products may also provide critical performance in your process.



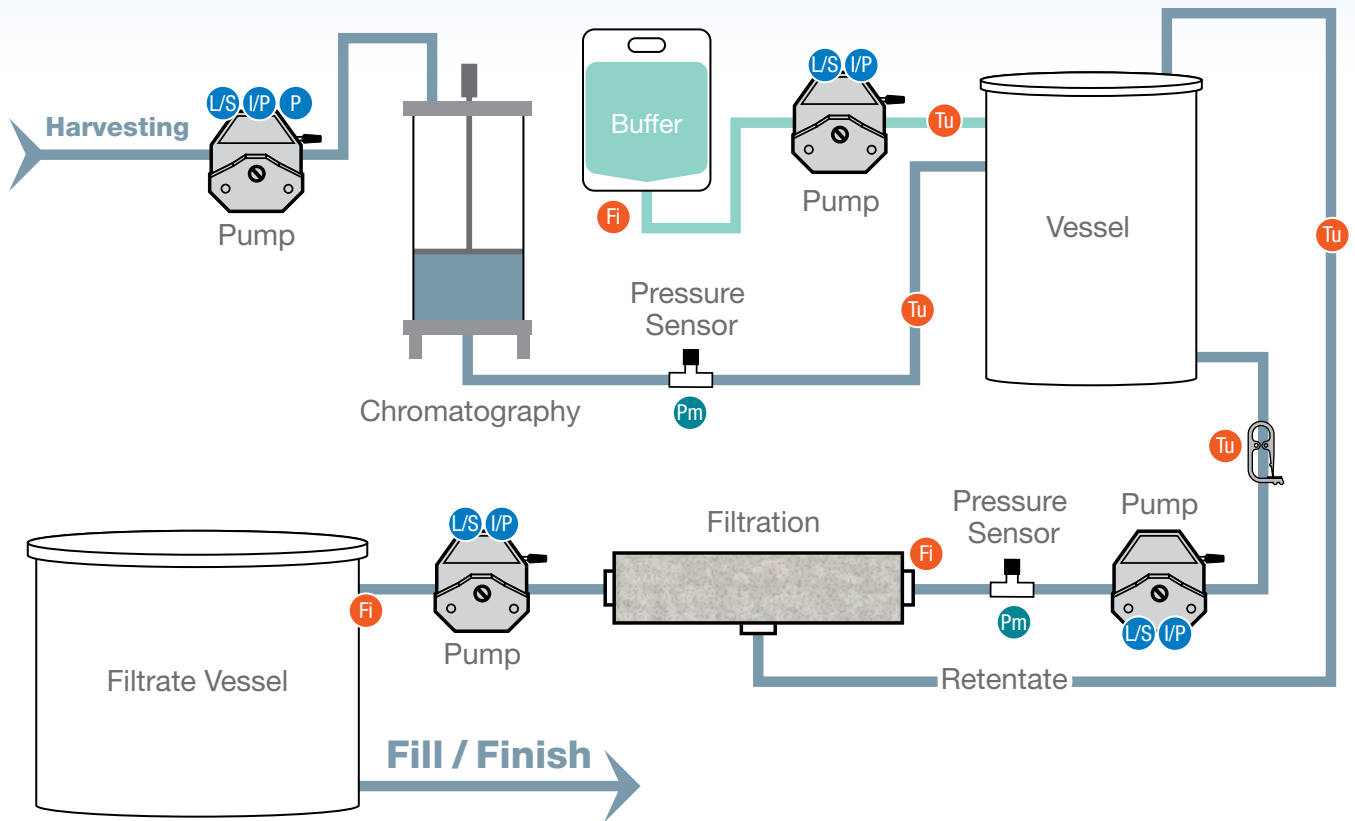
“Gone are the days when upstream scientists could modify their process and ignore the repercussions in manufacturing.”

—Cell Culture World, Congress 2016 Conference Overview

An integrated approach to research and production planning that utilizes products of like materials can ensure efficient and rapid scale-up, with no concerns of revalidation or other regulatory paperwork. You can rely on Cole-Parmer to meet these needs. We offer equipment and consumables that handle small volumes on the laboratory benchtop, to medium volumes during scale-up, to full production.

Purification

Separate your final product from all remaining contaminants and effluvia. Concentrate and refine the proteins to prepare them for final product fill/finish.



Other Processes

Whether for quality control, process monitoring, research and development, or worker and process environment protection, look to Cole-Parmer for your needs.

Can't find the exact item you need in this catalog? Visit ColeParmer.co.uk for more options!

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Fluid Transfer

Move fluid with confidence and precision

Pumps to meet your exact specifications from development to media preparation to final fill/finish

Masterflex® and Ismatec® pump systems and tubing for transfer, additions, filtration, and more . . . 5–29

Syringe pumps offer accurate microflow rates for better R&D results 30–31

Meet filtration pressure demands with gear or piston pumps 32–36

Get steady, pulseless flow with disposable single-use pump heads 33

Handle full-scale production volumes with centrifugal pumps or rotary lobe pumps 37

Use drum & hand pumps for quick, economical on-demand bulk dispensing of cleaning agents and more 38–39

Ensure better laboratory results with vacuum pumps 40–41

“Specialist was willing to listen to my specific requirement and after understanding our needs: worked diligently and professionally to spec the correct equipment to meet our needs.”



Product Selection | Troubleshooting | And More...

Not sure what to choose?

Our expert Application Specialists can help you find the right product for your application.

020-8574-7556

or Ch@t Live

Masterflex® L/S® Digital Miniflex® Pump Systems

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

MASTERFLEX®

NEW

APPLICATIONS

- ✓ Nutrient feed
- ✓ Buffer addition
- ✓ Media transfer
- ✓ Small-volume dispensing



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	—

ISO9001:2008 CERTIFIED SUPPLIER CE

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, 0.2 at 230 VAC	AU-07525-20	
2								AU-07525-40	

AU-07523-92 Foot switch, momentary start/stop; DB25 male; 1.8-m cable

AU-07523-95 Cable assembly, DB25 male connector and 7.9-m cable with stripped wire ends

AU-07523-97 Handheld remote controller, DB25 male, route tubing through handle for dispensing applications; 1.8-m cable

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

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

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

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

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

APPLICATIONS

- ✓ Media/nutrient addition
- ✓ Aqueous buffer delivery
- ✓ Scale-up transfer



MASTERFLEX® ISO9001:2008 CERTIFIED SUPPLIER ETL CE

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 (3 m)	Precision console drive 07528-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77916-10	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex® ULTRA L/S 24 tubing 06434-24 (3 m)			AU-77916-20	

Contact us for the full range of products and latest prices!

Cole-Parmer®

Fluid Transfer

Masterflex® L/S® Pumps

Masterflex® L/S® Precision Variable-Speed Modular Pumps

Ideal for limited spaces such as pump skids or hoods

- Flow rates: 0.06 to 3400 mL/min
- Easy up-front control of speed, direction, and start/stop
- Reversible motor—purge tubing before or after pumping; pump fluid in either direction
- Three-digit LED display shows motor rpm—confirm speed setting at a glance
- Remote control capabilities: speed, direction, and start/stop
- ±0.25% speed control for precise flow—ideal for metering applications

A. Modular Drives with Benchtop Controller

- Splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy finished steel, IP33 rated
- Remote control capabilities via a DB9 female connector on back of controller

B. Washdown Modular Drive with Wall-Mount Controller




- Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA 4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA 4X rated for washdown
- Remote control capabilities via connection on controller

APPLICATIONS

- ✓ Epoxy resin delivery
- ✓ Bulk container pump
- ✓ Coolant/recirculation pump
- ✓ FDA tablet coating
- ✓ Adhesive resin delivery
- ✓ Packaging process pump
- ✓ Fermentation additions

MASTERFLEX®



System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
A. Precision modular drives with benchtop controller							
	4.8 to 480 mL/min	Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 tubing 06434-16 (3 m)	Modular drive 07557-00 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77913-60	
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 (3 m)	Modular drive 07557-00 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77913-70	
B. Precision washdown modular drive with washdown wall-mount controller							
	17 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 (3 m)	Modular drive 07557-60 6 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77913-80	

Accessories

AU-07557-51 Extension cable, 2.7 m; extend distance between motor and controller

AU-07595-47 Cable assembly, for benchtop modular drives; DB9 male connector and 7.9 m cable with stripped wire terminal ends. Use for remote control

AU-77300-32 Cable assembly, for washdown modular drives; 18-pin round connector and 7.9 m cable with stripped wire terminal ends. Use for remote control

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

Wait!

There's More...

Our Masterflex pumps can be configured to your exact need. Choose the pump head, drive, and tubing you want!

Go to ColeParmer.co.uk

Masterflex® L/S® Variable-Speed Digital Pumps

Versatile, worry-free operation

- Brushless, maintenance-free motor provides $\pm 0.1\%$ speed control accuracy with 6000:1 turndown ratio
- Bright graphical LCD offers easy programming and four operating modes
- Ensure dispensing accuracy with antidrip function
- Get more accurate dispensing with preprogrammed calibration
- Change based on your needs—drives accept all L/S pump heads for more pumping versatility
- Programmable, reversible motor accepts up to four pump heads
- Choose how you want to dispense: volume, copy cycles, or time
- Hands-free dispensing via time interval dispense cycles
- Operate remotely via DB25 female connector

APPLICATIONS

- ✓ Acid/base pH control
- ✓ Media dispensing
- ✓ Automated fermentation

Four operating modes for more functionality: continuous run, time dispense, copy dispense, and volume dispense



MASTERFLEX®

Flow Rates in mL/min (flow rates in parentheses attained with High-Performance pump head—at ColeParmer.com)

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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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 (3 m)	Digital drive 07522-20 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77921-65	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 (3 m)				

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

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

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

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

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

Masterflex® Advantage

Masterflex vs Gear Pumps

Application

A pharmaceutical engineer needs to draw a constant volume of 800 mL/min of water with particulates. The engineer needs variable speed and is drawing the fluid through a particle sensor.

Masterflex Advantages

- Handles particulates
- Easy to change out tubing and clean pump
- Runs dry
- Maintains sterility of fluid (fluid only contacts the tubing)

Gear Pump Disadvantages

- Does not handle particulates
- Difficult to clean
- Can't run dry
- Does not provide sterility conditions (fluid contacts internal pump parts)

Masterflex Products Applied

- 77800-62 L/S Easy-Load® 3 pump head
- 06424-36 C-Flex® L/S 36 High-performance precision tubing
- 07522-20 L/S digital console drive
- 07596-20 Pulse dampener

Contact us for the full range of products and latest prices!

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sales@coleparmer.co.uk

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Cole-Parmer®

Masterflex® L/S® Digital Console Process Pumps

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

- IP66 and NEMA 4X rated. Sealed housing and sealed keypad are protected from dust, water, and chemicals in the washdown environment—simply hose down to clean.
- Programmable, reversible motor accepts up to two pump heads and offers remote functionality
- Flow rate: 0.006 to 3400 mL/min with L/S tubing
- 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 6000:1 turndown
- Dispense by: volume—in milliliters (0.001 to 99,999), liters, and gallons; copy—1 to 99,999 dispense cycles. Set time interval of on/off cycles; 1 sec to 99 hr, 59 min, 59 sec.
- Remote control capabilities via 31-pin circular waterproof connection



APPLICATIONS




- ✓ Pumping buffer solution
- ✓ Filling/emptying media bags
- ✓ Sterile filtration; sterile fluid transfer
- ✓ Filtration

What's included: 1.8-m line cord—features IEC 320/CEE 22 connector coupler; watertight cord connection. Please specify destination country when ordering; drive is shipped with country-specific plug/cord set.

MASTERFLEX®

ISO 9001:2008
CERTIFIED SUPPLIER



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 (3 m)	Digital console process drive with 316 SS housing 07575-30 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77975-25	
	0.28 to 1800 mL/min	High-Performance 77250-62	C-Flex ULTRA L/S 24 tubing 06434-24 (3 m)			AU-77975-35	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 (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	AU-77975-45	

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

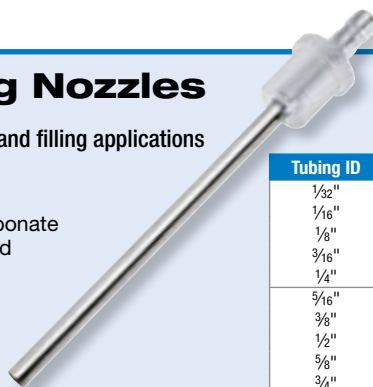
[AU-07575-80](#) Cable assembly, 31-pin round connector and 7.9-m cable with stripped wire ends for remote control

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

Overlook Filler/Dispensing Nozzles

- Maximize the speed, precision, and accuracy of dispensing and filling applications
- Dimensional tolerances of $\pm 0.05\%$ for assured repeatability

Nozzles feature a 316L stainless steel needle and a polycarbonate base with hose barb adapter. Materials meet FDA, USDA and USP Class VI requirements. Sterilize by ethylene oxide, autoclaving, or gamma irradiation.



Tubing ID	Catalog number	Price/ea
1/32"	AU-30619-06	
1/16"	AU-30619-01	
1/8"	AU-30619-07	
3/16"	AU-30619-02	
1/4"	AU-30619-08	
5/16"	AU-30619-03	
3/8"	AU-30619-09	
1/2"	AU-30619-04	
5/8"	AU-30619-10	
3/4"	AU-30619-05	

Masterflex® L/S® Digital Modular Dispensing Pumps

Three dispensing modes and precision low-maintenance motor

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Antidrip function ensures dispense accuracy
- Brushless, maintenance-free motor offers $\pm 0.1\%$ speed control
- Remote control capabilities: speed, direction, start/stop/prime, tach output

A. Modular Drive with Benchtop Controller

- Stackable, splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy finished steel, IP33 rated

B. Washdown Modular Drive with Wall-Mount Controller

- Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA4X rated for washdown

What's included: 1.8-m cable to connect drive and controller and 1.8-m line cord with IEC 320/CEE22 socket. Shipped with country-specific plug/cord set; please specify destination when ordering.



APPLICATIONS

- ✓ Process feed and transfer
- ✓ Dosing/metering additives
- ✓ Container filling



B
Model 77301-50 includes wall-mount controller

MASTERFLEX®

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 (3 m)	Digital modular drive 77301-40 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77923-80	
	0.28 to 1700 mL/min	Easy-Load II 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24 (3 m)	Digital washdown modular drive 77301-50 0.1 to 600 rpm	90 to 260 VAC, 50/60 Hz	AU-77923-90	

AU-07523-95 Cable assembly, for benchtop modular drive 77301-40; DB25 male connector and 7.9-m cable with stripped wire ends for remote control

AU-77301-82 Extension cable, 2.7 m extends distance between motor and controller

AU-07575-80 Remote control cable for washdown modular drive 77301-50; wire to controller/PLC; 8.3-m length

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

Masterflex® L/S® High-Pressure Pump

Handles continuous pressures up to 125 psi

- No more cleaning gears, valves, seals, or diaphragms
- Ideal for chemical injection, metering, and filtration
- Reversible motor for pumping in either direction
- Easy keypad control of pump speed and direction—view speed via LED display
- Smooth operation and long service life with soft start and back EMF for $\pm 0.25\%$ speed control
- Stackable housing is also splash- and fire-resistant

APPLICATIONS

- ✓ Chromatography
- ✓ Pressure filtration
- ✓ Sterile filtration

MASTERFLEX®

Flow range	What's included			Power	Catalog number	Price
	Pump head	Tubing	Drive			
0.9 to 240 mL/min	High-Performance 77250-62	PharMed® BPT L/S 16HP high-pressure tubing 95664-16, 2.4 m	Precision console drive 07528-30 1 to 100 rpm	90 to 260 VAC, 50/60 Hz	AU-77914-10	

Contact us for the full range of products and latest prices!

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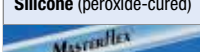



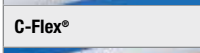










Masterflex® L/S® Precision Pump Tubing

Continuous lengths protect pump line from contamination

MASTERFLEX®

- Custom extruded to fit Masterflex pumps
- Engineered for long life in peristaltic pump applications
- All formulations below meet USP Class VI requirements
- Free certificate of compliance (on request)

Pump tubing formulation	Description	Tubing length	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")
 Silicone (platinum-cured)	<ul style="list-style-type: none"> - Smooth surface—low protein binding levels - Fungus-resistant, phthalate- and latex-free 	7.6 m (25 ft)/pk	AU-96410-13	AU-96410-14	AU-96410-16	AU-96410-25	AU-96410-17	AU-96410-18
 Silicone (peroxide-cured)	<ul style="list-style-type: none"> - Greater physical compression capability - Economical, longer tubing life 	7.6 m (25 ft)/pk	AU-96400-13	AU-96400-14	AU-96400-16	AU-96400-25	AU-96400-17	AU-96400-18
 BioPharm Plus Silicone (platinum-cured)	<ul style="list-style-type: none"> - Smooth surface minimizes particle entrapment - Longest life and low spallation - Enhanced pressure capabilities 	7.6 m (25 ft)/pk	AU-96440-13	AU-96440-14	AU-96440-16	AU-96440-25	AU-96440-17	AU-96440-18
 Puri-Flex™	<ul style="list-style-type: none"> - Heat sealable, weldable, and economical - Longer pump life, very low protein binding 	7.6 m (25 ft)/pk	AU-96419-13	AU-96419-14	AU-96419-16	AU-96419-25	AU-96419-17	AU-96419-18
 C-Flex®	<ul style="list-style-type: none"> - Biocompatibility of silicone - Chemical resistance similar to Tygon 	7.6 m (25 ft)/pk	AU-06424-13	AU-06424-14	AU-06424-16	AU-06424-25	AU-06424-17	AU-06424-18
 C-Flex® ULTRA	<ul style="list-style-type: none"> - Longest life of any C-Flex formulation - Lowest spallation and reduced residue 	7.6 m (25 ft)/pk	—	AU-06434-14	AU-06434-16	AU-06434-25	AU-06434-17	AU-06434-18
 PharMed® BPT	<ul style="list-style-type: none"> - Over 10,000 hours of tubing life - Resists ozone and UV radiation 	7.6 m (25 ft)/pk	AU-06508-13	AU-06508-14	AU-06508-16	AU-06508-25	AU-06508-17	AU-06508-18
 PharmaPure®	<ul style="list-style-type: none"> - Biocompatibility similar to PharMed BPT - Long life under continuous pressure 	7.6 m (25 ft)/pk	AU-06435-13	AU-06435-14	AU-06435-16	AU-06435-25	AU-06435-17	AU-06435-18
 Chem-Durance® Bio	<ul style="list-style-type: none"> - Excellent chemical resistance - Plasticizer-free inner liner 	15.2 m (50 ft)/pk	AU-06442-13	AU-06442-14	AU-06442-16	AU-06442-25	AU-06442-17	AU-06442-18
 Solve-Flex®	<ul style="list-style-type: none"> - Excellent chemical resistance to solvents - Low spallation fluoropolymer-lined tubing 	3.6 m (12 ft)/pk	—	—	AU-96446-16	—	AU-96446-17	—
 Tygon® E-LFL	<ul style="list-style-type: none"> - Longest life of all Tygon formulations - USP Class VI, EU Pharmacopoeia 3.2.9, FDA 21 	7.6 m (25 ft)/pk	AU-06440-13	AU-06440-14	AU-06440-16	AU-06440-25	AU-06440-17	AU-06440-18
 Tygon E-Lab (E3603)	<ul style="list-style-type: none"> - Ideal for general transfer applications - Clear for easy monitoring 	15.2 m (50 ft)/pk	AU-06509-13	AU-06509-14	AU-06509-16	AU-06509-25	AU-06509-17	AU-06509-18
 GORE® STA-PURE® Series PCS	<ul style="list-style-type: none"> - Long life—even under pressures up to 60 psi - Excellent flow stability 	30.5 cm (12")/pk	—	AU-96211-14	AU-96211-16	AU-96211-25	AU-96211-17	AU-96211-18
 GORE® STA-PURE® Series PFL	<ul style="list-style-type: none"> - Long life—even under pressures up to 60 psi - Excellent biocompatibility and flow stability 	30.5 cm (12")/pk	—	AU-96212-14	AU-96212-16	AU-96212-25	AU-96212-17	AU-96212-18

Masterflex® Tubing Test Kit

Our FREE Tubing Test Kit is a simple way to test your chemicals against different tubing formulations. Kit contains samples of 19 different pump tubing formulations, formulation descriptions, a selection guide, instructions on how to test your tubing, and complete ordering information. Call today! Request item 00101-10.

Call or go online to request your FREE test kit today!



Masterflex® L/S® High-Performance Precision Pump Tubing

Ensure performance with pressure, suction lift, and viscous fluid applications

- Custom extruded to fit Masterflex pumps
- All formulations below meet USP Class VI requirements
- Free certificate of compliance (on request)

Masterflex pump tubing is precision tested and extruded to optimize performance and accuracy.

All formulations below meet USP Class VI requirements, and some are RoHS-compliant as well as ADFC-compliant. Free certificate of compliance upon request.

For sample certifications or specific details about each formulation, visit ColeParmer.co.uk.



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")

Pump tubing formulation	Description	Tubing length				
Silicone (platinum-cured)	<ul style="list-style-type: none"> - Smooth surface—low protein binding levels - Fungus-resistant, phthalate- and latex-free 	7.6 m (25 ft)/pk	AU-96410-15	AU-96410-24	AU-96410-35	AU-96410-36
Silicone (peroxide-cured)	<ul style="list-style-type: none"> - Greater physical compression capability - Economical, longer tubing life 	7.6 m (25 ft)/pk	AU-96400-15	AU-96400-24	AU-96400-35	AU-96400-36
BioPharm Plus Silicone (platinum-cured)	<ul style="list-style-type: none"> - Smooth surface minimizes particle entrapment - Longest life and low spallation - Enhanced pressure capabilities 	7.6 m (25 ft)/pk	AU-96440-15	AU-96440-24	AU-96440-35	AU-96440-36
Puri-Flex™	<ul style="list-style-type: none"> - Heat sealable, weldable, and economical - Longer pump life, very low protein binding 	7.6 m (25 ft)/pk	AU-96419-15	AU-96419-24	AU-96419-35	AU-96419-36
C-Flex®	<ul style="list-style-type: none"> - Biocompatibility of silicone - Chemical resistance similar to Tygon 	7.6 m (25 ft)/pk	AU-06424-15	AU-06424-24	AU-06424-35	AU-06424-36
C-Flex® ULTRA	<ul style="list-style-type: none"> - Longest life of any C-Flex formulation - Lowest spallation and reduced residue 	7.6 m (25 ft)/pk	AU-06434-15	AU-06434-24	AU-06434-35	AU-06434-36
PharMed® BPT	<ul style="list-style-type: none"> - Over 10,000 hours of tubing life - Resists ozone and UV radiation 	7.6 m (25 ft)/pk	AU-06508-15	AU-06508-24	AU-06508-35	AU-06508-36
PharmaPure®	<ul style="list-style-type: none"> - Biocompatibility similar to PharMed BPT - Long life under continuous pressure 	7.6 m (25 ft)/pk	AU-06435-15	AU-06435-24	—	—
Chem-Durance® Bio	<ul style="list-style-type: none"> - Excellent chemical resistance - Plasticizer-free inner liner 	15.2 m (50 ft)/pk	AU-06442-15	AU-06442-24	AU-06442-35	AU-06442-36
Solve-Flex®	<ul style="list-style-type: none"> - Excellent chemical resistance to solvents - Low spallation fluoropolymer-lined tubing 	3.6 m (12 ft)/pk	—	AU-96446-24	—	—
Tygon® E-LFL	<ul style="list-style-type: none"> - Longest life of all Tygon formulations - USP Class VI, EU Pharmacopoeia 3.2.9, FDA 21 	7.6 m (25 ft)/pk	AU-06440-15	AU-06440-24	AU-06440-35	AU-06440-36
Tygon E-Lab (E3603)	<ul style="list-style-type: none"> - Ideal for general transfer applications - Clear for easy monitoring 	15.2 m (50 ft)/pk	AU-06509-15	AU-06509-24	AU-06509-35	AU-06509-36
GORE® STA-PURE® Series PCS	<ul style="list-style-type: none"> - Long life—even under pressures up to 60 psi - Excellent flow stability 	35.6 cm (14")/pk	AU-96211-15	AU-96211-24	AU-96211-35	—
GORE® STA-PURE® Series PFL	<ul style="list-style-type: none"> - Long life—even under pressures up to 60 psi - Excellent biocompatibility and flow stability 	35.6 cm (14")/pk	AU-96212-15	AU-96212-24	AU-96212-35	AU-96212-36

Fluid Transfer

Masterflex® L/S® Pumps



There's More at ColeParmer.co.uk

Browse 100,000+ products plus find **Technical Resources** to help you choose

Masterflex® L/S® Spooled Pump Tubing

Save money—buy in bulk

- Reduce scrap—cut only as much as you need
- Ensure that you always have enough tubing on hand

Spooled pump tubing provides continuous lengths of pump tubing on convenient, manageable spools that are easy to transport and require less storage space than the equivalent amount of individual tubing coils.

Nearly any Masterflex pump tubing formulation can be spooled. If the formulation you need is not listed below, call our Application Specialists for a quote or to place a special order.



Tubing size	Peroxide-cured silicone (96400-series)			Platinum-cured silicone (96410-series)			PharMed® BPT (06508-series)			BioPharm Silicone (96420-series) 121.9 m length		C-Flex® (06424-series) 121.9 m length	
	Length	Cat. no.	Price	Length	Cat. no.	Price	Length	Cat. no.	Price	Cat. no.	Price	Cat. no.	Price
L/S 13	76.2 m	AU-96407-13	—	152.4 m	AU-96403-13	—	—	—	—	—	—	AU-06427-13	—
L/S 14	76.2 m	AU-96407-14	—	152.4 m	AU-96403-14	—	152.4 m	AU-95687-14	—	AU-96423-14	—	AU-06427-14	—
L/S 16	76.2 m	AU-96407-16	—	152.4 m	AU-96403-16	—	152.4 m	AU-95687-16	—	AU-96423-16	—	AU-06427-16	—
L/S 25	76.2 m	AU-96407-25	—	152.4 m	AU-96403-25	—	—	—	—	AU-96423-25	—	AU-06427-25	—
L/S 17	76.2 m	AU-96407-17	—	152.4 m	AU-96403-17	—	152.4 m	AU-95687-17	—	AU-96423-17	—	AU-06427-17	—
L/S 18	61.0 m	AU-96407-18	—	121.9 m	AU-96403-18	—	121.9 m	AU-95687-18	—	AU-96423-18	—	AU-06427-18	—
L/S 15	76.2 m	AU-96407-15	—	121.9 m	AU-96403-15	—	121.9 m	AU-95687-15	—	AU-96423-15	—	AU-06427-15	—
L/S 24	61.0 m	AU-96407-24	—	91.4 m	AU-96403-24	—	91.4 m	AU-95687-24	—	AU-96423-24	—	AU-06427-24	—
L/S 35	—	—	—	91.4 m	AU-96403-35	—	91.4 m	AU-95687-35	—	—	—	AU-06427-35	—
L/S 36	—	—	—	30.5 m	AU-96403-36	—	30.5 m	AU-95687-36	—	—	—	AU-06427-36	—

Masterflex® L/S® Bulk-Packed Pump Tubing

Prevent contamination with individually bagged coils

- Keep tubing sealed until ready to use
- Reduce storage space requirements
- Save money and shipping fees by buying in bulk

Ideal for large-volume pump tubing users, bulk packs contain individually bagged, sealed 7.6-m coils of tubing, all from a single manufacturing lot. Because bulk packs use less packaging, they require less storage space for the same amount of tubing, and are the best choice for storerooms or other areas where space is at a premium.

Most Masterflex pump tubing formulations can be bulk-packed. If the formulation you need is not listed below, call our Application Specialists for a quote or to place a special order.



Pump tubing size	Number of 7.6-m bags per box	Platinum-cured silicone (96410-series)		C-Flex® (06424-series)	
		Catalog number	Price/bx	Catalog number	Price/bx
L/S 13	20	AU-96404-13	—	AU-06436-13	—
L/S 14	20	AU-96404-14	—	AU-06436-14	—
L/S 16	20	AU-96404-16	—	—	—
L/S 25	20	AU-96404-25	—	AU-06436-25	—
L/S 17	20	AU-96404-17	—	AU-06436-17	—
L/S 18	10	AU-96404-18	—	—	—
L/S 15	20	AU-96404-15	—	AU-06436-15	—
L/S 24	20	AU-96404-24	—	AU-06436-24	—
L/S 35	10	AU-96404-35	—	AU-06436-35	—
L/S 36	10	AU-96404-36	—	AU-06436-36	—

Masterflex® L/S® Sanitary Pump Tubing Assemblies

Get quicker connection of tubing

Features/Benefits

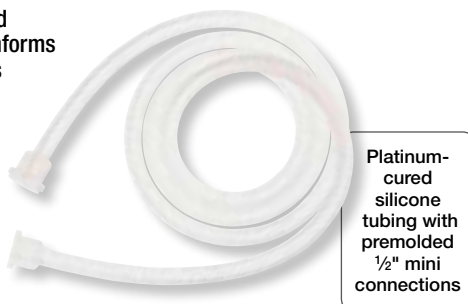
- Meets stringent demands of biotechnology and pharmaceutical industries
- Smooth, pre-molded tubing ends allow quick connection to an adapter or to another length of sanitary tubing
- Connectors help maintain cleanliness and purity of your fluids
- Sanitary tubing is less thermally conductive than metallic tubing systems and not subject to galvanic action, RFI, or EMI
- All L/S platinum-cured silicone and PharMed® BPT sanitary tubing conforms to USP Class VI and FDA standards
- FREE Certificate of resin or elastomer Compliance is available upon request

How to Connect Tubing

- Each length of tubing features pre-molded ends. Tubing with ½" mini-connections uses molded-in gasket at one end to ensure quality seal
- Pre-molded ends allow quick connection to an adapter or additional length of sanitary tubing. Order adapters below, right.
- Join ½" mini-connection to another ½" mini-connection, adapter, or to your system with a push/pull clamp

How to Order

1. Order your desired tubing formulation and length. Choose tubing size based on flow range.
2. Order polysulfone push/pull clamp (separately below).
3. Order silicone or Viton® gaskets as needed to connect to your system or to adapters
4. Select sanitary adapters as needed



MASTERFLEX®

Tubing size	Platinum-cured silicone (96410-series) 1.5-m length		Platinum-cured silicone (96410-series) 3-m length		PharMed BPT (06508-series) 1.5-m length		PharMed BPT (06508-series) 3-m length	
	Catalog number	Price	Catalog number	Price	Catalog number	Price	Catalog number	Price
L/S Precision sanitary pump tubing								
L/S 13	AU-96100-13		AU-96101-13		AU-96112-13		AU-96113-13	
L/S 14	AU-96100-14		AU-96101-14		AU-96112-14		AU-96113-14	
L/S 16	AU-96100-16		AU-96101-16		AU-96112-16		AU-96113-16	
L/S 25	AU-96100-25		AU-96101-25		AU-96112-25		AU-96113-25	
L/S 17	AU-96100-17		AU-96101-17		AU-96112-17		AU-96113-17	
L/S 18	AU-96100-18		AU-96101-18		AU-96112-18		AU-96113-18	
L/S High-Performance Precision sanitary pump tubing								
L/S 15	AU-96100-15		AU-96101-15		AU-96112-15		AU-96113-15	
L/S 24	AU-96100-24		AU-96101-24		AU-96112-24		AU-96113-24	
L/S 35	—	—	—	—	AU-96112-35		AU-96113-35	
L/S 36	—	—	—	—	AU-96112-36		AU-96113-36	

Accessories for Masterflex® L/S® Sanitary Pump Tubing



AU-31201-88 Push/pull clamp, polysulfone. For quick joining of two ½" mini connections

Gaskets. Order gaskets to join ½" mini connection without molded-in gasket to another ½" mini connection without molded-in gasket or to an adapter (sold separately at right).

AU-30548-00 Silicone gasket for use with sanitary silicone (platinum-cured) tubing. Pack of 10

AU-30548-20 Viton® gasket for use with sanitary PharMed® BPT tubing. Pack of 10

Adapters

Adapter connections	Polypropylene		PVDF	
	Cat. no.	Price	Cat. no.	Price
½" mini to ⅛" NPT(M)	AU-31200-00		AU-31201-00	
½" mini to ⅛" NPT(F)	AU-31200-10		—	—
½" mini to ¼" NPT(M)	AU-31200-01		AU-31201-01	
½" mini to ¼" NPT(F)	AU-31200-11		AU-31201-11	
½" mini to ¼" hose barb	AU-31805-25		AU-31808-25	
½" mini to ⅜" NPT(M)	AU-31200-02		AU-31201-02	
½" mini to ⅜" NPT(F)	AU-31200-12		AU-31201-12	
½" mini to ⅜" hose barb	AU-31805-26		AU-31808-26	
½" mini to ½" NPT(M)	AU-31200-03		AU-31201-03	
½" mini to ½" NPT(F)	AU-31200-13		AU-31201-13	
½" mini to ½" hose barb	AU-31805-27		—	—
½" mini to 1" maxi	AU-31200-30		—	—
½" mini to 1" ladish	AU-31805-05		AU-31201-40	
½" mini to female luer lock	AU-31200-50		AU-31201-50	

Contact us for the full range of products and latest prices!

Cole-Parmer®

Masterflex® I/P® Process Pumps

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
- Model 77411-00 offers remote control of speed, direction, and start/stop
- Accept up to two pump heads



What's included: 1.8-m line cord with IEC320/CEE 22 connector coupler. Please specify final destination country to receive the correct plug/cord set.



APPLICATIONS

- ✓ Media transfer
- ✓ Purification/filtration/media transfer
- ✓ Filling/emptying large carboys and bags
- ✓ Pumping antifoaming agents
- ✓ Pumping fermentation chemicals
- ✓ Production filtration



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 (3 m)	Brushless process drive 77410-10 33 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77963-10	
				Brushless process drive with remote I/O 77411-00 33 to 650 rpm			
	0.7 to 17 LPM	High-Performance 77600-62	Tygon® E-LFL I/P 88 tubing 06440-88 (1 m)	Brushless process drive 77410-10 33 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77963-20	
				Brushless process drive with remote I/O 77411-00 33 to 650 rpm			

Accessories

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

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



Media Preparation Pump

In the modern flexible production suite, minimizing setup time for any operation is critical to optimizing production output. The Masterflex I/P pump system 77963-10 meets your needs. Compared to other peristaltic pumps of similar flow range, the 77963-10 is lighter and therefore easier to carry or relocate. Simple pump controls make it easy to operate. Tubing changes are quick with the Easy-Load pump head design. Biocompatible C-Flex ULTRA offers low leachables/extractables and low spallation to guard the purity of your media. Finally, when media preparation is finished and cleanup begins, the IP55 rating offers efficient and quick washdown.

System 77963-10 includes:



Easy-Load
pump head
77602-10



C-Flex ULTRA
I/P 73 Tubing
06434-73



I/P Brushless
process drive
77410-10

Masterflex® I/P® Digital Console Process Pumps

Maintenance-free drives built for process applications

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Dispense by mL—volume in mL of each dispense, 0.001 to 9999 mL; Copy—1 to 9,999 dispense cycles; or SEC—time interval of on/off cycles (1 sec to 99 hr, 59 min, 59 sec per cycle)
- Antidrip, reversible motor
- Accepts up to two pump heads
- NEMA 4X and IP66-rated for easy washdown

Model 77420-10 features a 316 stainless steel housing with an anodized aluminum base. Ideal for pharmaceutical, dairy, biotech, and food and beverage applications.

Model 77420-20 features 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: 1.8-m line cord with IEC 320/CEE22 socket. These models are shipped with country-specific plug/cord set; please specify ultimate destination when ordering.



MASTERFLEX®



APPLICATIONS

- ✓ Automated process pump
- ✓ Dosing/metering additives
- ✓ Bulk media transfer and dispensing
- ✓ Large-volume buffer transfer
- ✓ Pilot scale fermentation

Fluid Transfer

Masterflex® I/P® Pumps



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 (3 m)	Digital process drive with stainless steel housing 77420-10 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77964-20	
	0.001 to 8.0 LPM	Easy-Load 77602-10	C-Flex ULTRA I/P 73 tubing 06434-73 (3 m)	Digital process drive with powder-coat steel housing 77420-20 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77964-30	

Pure-Fit® Tru Valve

Easy implementation in your system

- Reusable for multiple cycles and applications

The valve's butterfly design allows easy installation to existing lines; purity is maintained because the valve goes around the exterior of the tubing and never comes in contact with process fluid.

Simple threaded handle and calibrated scale ensure accurate control of flow and can also be written into validation protocols. The valve also features lockout positioning for use in steam-in-place (SIP) cycles. Withstands autoclaving or gamma irradiation. Accommodates any flexible tubing up to 17.8 mm (0.700") in outer diameter.



Fits Masterflex® tubing sizes	Material	Catalog number	Price
L/S® 13, 14, 15, 16, 17, 18, 24, 25, 35, 36; I/P® 26, 73	Glass-reinforced nylon	AU-20002-00	

Contact us for the full range of products and latest prices!

Cole-Parmer®

Masterflex® I/P® Variable-Speed Modular Digital Dispensing Pumps

Place motor and controller where convenient—ideal for limited or awkward spaces

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, and volume dispense
- Programmable dispense interval lets you set the delay between dispense cycles for convenient, automated dispensing by time or by volume
- Brushless motor gives you quiet, maintenance-free reliability
- Accept up to two pump heads

A. Modular Drive with Benchtop Controller

- Splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy finished steel, IP33 rated
- 1.8-m cable connects drive and controller; optional extension cable is available
- Remote control capabilities via a DB25 female connector on controller

B. Washdown Modular Drive with Wall-Mount Controller

- Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA 4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA 4X rated for washdown
- 1.8-m cable connects drive and controller; optional extension cable is available
- Remote control capabilities via 31-pin round connection on controller

APPLICATIONS

- ✓ Nutrient addition
- ✓ Buffer injection
- ✓ Fermentation transfer



B
Model 77970-50 includes wall-mount controller

MASTERFLEX®


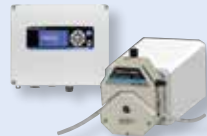
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CE

IP 66
07594-10

2

System	Flow range	What's included			Power	Catalog number	Price
		Pump head	Tubing	Drive			
	0.001 to 8 LPM	Easy-Load® 77602-10	C-Flex® ULTRA I/P 73 tubing 06434-73 (3 m)	Digital dispensing drive with benchtop controller 07594-00 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77970-40	
	0.001 to 8 LPM	Easy-Load 77602-10	C-Flex ULTRA I/P 73 tubing 06434-73 (3 m)	Digital dispensing drive with wall-mount controller 07594-10 0.1 to 650 rpm	90 to 260 VAC, 50/60 Hz	AU-77970-50	

[AU-77301-82](#) Extension cable, 2.7 m; extend distance between motor and controller

[AU-07523-95](#) Cable assembly for benchtop drive 07594-00; DB25 male connector and 7.9-m cable with stripped wire ends for remote control

[AU-07575-80](#) Cable assembly for washdown drive 07594-10; 31-pin round connector and 7.9-m cable with stripped wire ends for remote control

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

Dispensing Benefits of Peristaltic Pumps

- Fluid does not contact any part of the pump except the tubing
- Easy and fast product change—simply change tubing—no cross-contamination
- One continuous piece of tubing from inlet to outlet lets you minimize obstructions and interruptions in the fluid path
- Some tubing materials can be easily sterilized
- Gentle pumping action is ideal for shear-sensitive fluids containing proteins and other large molecules
- Wide range of flow rates provides flexibility in volume and time of dispense
- Simple and reliable calibration to ensure accuracy and repeatability
- Nonsiphoning; prevents backflow and enhances dispensing accuracy
- Multiple channel applications with either synchronous or independently controlled channels

Masterflex® I/P® Precision and High-Performance Precision Pump Tubing

Continuous lengths protect pump line from contamination

- Custom extruded to fit Masterflex pumps
- Engineered for long life in peristaltic pump applications
- All formulations below meet USP Class VI requirements
- Free certificate of compliance (on request)
- High-Performance precision tubing has a thicker wall—best for applications involving pressure, suction lift, or viscous fluids

Masterflex pump tubing is precision tested and extruded to optimize performance and accuracy. All formulations listed here meet USP Class VI requirements, and some also are RoHS-compliant as well as ADCF-compliant. All formulations are available with certificate of compliance upon request.



If you need sample certifications or want more specific details about each formulation, visit ColeParmer.com for more information.

Pump tubing cross sections	I/P Precision pump tubing			I/P High-performance precision pump tubing		
	I/P 26	I/P 73	I/P 82	I/P 70	I/P 88	I/P 89
Inside diameter (nominal)	6.4 mm (0.25")	9.5 mm (0.37")	12.7 mm (0.5")	9.5 mm (0.37")	12.7 mm (0.5")	15.88 mm (0.62")
Hose barb size (nominal)	6.4 mm (¼")	9.5 mm (⅜")	12.7 mm (½")	9.5 mm (⅜")	12.7 mm (½")	15.88 mm (⅝")

*Determined under the following conditions: 0 psi at inlet, 0.5 psi at outlet; water temperature at 22°C (72°F).

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

Pump tubing formulation	Tubing length	Precision pump tubing			High-performance precision pump tubing		
		I/P 26	I/P 73	I/P 82	I/P 70	I/P 88	I/P 89
Silicone (platinum cured)	7.6 m (25 ft) per pack	AU-96410-26	AU-96410-73	AU-96410-82	—	AU-96510-88 3-m pk	AU-96510-89 3-m pk
Silicone (peroxide cured)	7.6 m (25 ft) per pack	AU-96400-26	AU-96400-73	AU-96400-82	—	—	—
BioPharm silicone (platinum)	7.6 m (25 ft) per pack	AU-96420-26	AU-96420-73	AU-96420-82	AU-96421-70 3-m pk	AU-96421-88 3-m pk	AU-96421-89 3-m pk
BioPharm Plus silicone (platinum)	7.6 m (25 ft) per pack	AU-96440-26	AU-96440-73	AU-96440-82	AU-96441-70 3-m pk	AU-96441-88 3-m pk	AU-96441-89 3-m pk
Puri-Flex™	7.6 m (25 ft) per pack	AU-96419-26	AU-96419-73	AU-96419-82	AU-96419-70 3-m pk	AU-96419-88 3-m pk	AU-96419-89 3-m pk
C-Flex®	7.6 m (25 ft) per pack	AU-06424-26	AU-06424-73	AU-06424-82	AU-06424-70 3-m pk	AU-06424-88 3-m pk	AU-06424-89 3-m pk
C-Flex® ULTRA	7.6 m (25 ft) per pack	AU-06434-26	AU-06434-73	AU-06434-82	—	—	—
PharMed® BPT	7.6 m (25 ft) per pack	AU-06508-26	AU-06508-73	AU-06508-82	AU-06508-70	AU-06508-88	—
PharmaPure® ††	7.6 m (25 ft) per pack	AU-06435-26	AU-06435-73	AU-06435-82	—	—	—
Chem-Durance® Bio††	15.2 m (50 ft) per pack	AU-06442-26	AU-06442-73	AU-06442-82	AU-06442-70	AU-06442-88	AU-06442-89 7.6-m pk
GORE® STA-PURE® Series PCS	0.6 m (2 ft) per pack	AU-96211-26	AU-96211-73	AU-96211-82	—	AU-96211-88	—
GORE® STA-PURE® Series PFL	0.6 m (2 ft) per pack	AU-96212-26	AU-96212-73	AU-96212-82	—	—	—
Tygon® E-LFL	7.6 m (25 ft) per pack	AU-06440-26	AU-06440-73	AU-06440-82	AU-06440-70	AU-06440-88	AU-06440-89
Tygon E-Lab (E-3603)	15.2 m (50 ft) per pack	AU-06509-26	AU-06509-73	AU-06509-82	AU-06509-70	AU-06509-88	AU-06509-89

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

Masterflex® Tubing Sample/Test Kit

Our FREE Tubing Test Kit is a simple way to test your chemicals against different tubing formulations. Kit contains samples of 19 different pump tubing formulations, formulation descriptions, a selection guide, instructions on how to test your tubing, and complete ordering information. Call today! Request item 00101-10.

Call or go online to request your FREE test kit today!



Tech Info

Choosing Pump Tubing

- Consider key aspects of your application: flow rate, pressure, temperature, viscosity, duty and control requirements.
- If your application requires the generation of high pressure, a strong vacuum/suction lift, or involves viscous fluids, consider using High-Performance Precision tubing
- PharMed® BPT and Tygon® are the firmest formulations we offer; C-Flex® and silicone are the softest. Firm tubing has better pressure generation, stronger vacuum/suction lift, and lower gas permeability.
- Review the tubing compatibility charts at ColeParmer.co.uk/mflexchem
- Always test tubing before extended use

Note: Use High-Performance Precision tubing only with the High-Performance pump head.

Masterflex® I/P® Spooled Pump Tubing
Use only the required length

- Eliminate waste by cutting to the exact length needed for your application
- Continuous lengths of tubing are convenient and cost-effective
- Spools contain up to 121.9 m of continuous pump tubing, depending on size
- Save space and shipping costs by buying in bulk
- Good choice for applications requiring long, continuous runs of tubing, or which use odd-size lengths that generate scrap when using standard 7.6- or 15.2-m coils

MASTERFLEX®



Tubing size	Peroxide-cured silicone (96400-series)			Platinum-cured silicone (96410-series)			PharMed® BPT (06508-series)			BioPharm Silicone (96420-series and 96421-series*)			C-Flex® (06424-series)		
	Length (m)	Catalog number	Price	Length (m)	Catalog number	Price	Length (m)	Catalog number	Price	Length (m)	Catalog number	Price	Length (m)	Catalog number	Price
I/P 26	—	—	—	61.0	AU-96403-26	—	—	—	—	121.9	AU-96423-26	—	121.9	AU-06427-26	—
I/P 73	45.7	AU-96402-73	—	150	AU-96403-73	—	150	AU-95687-73	—	30.5	AU-96423-73	—	30.5	AU-06427-73	—
I/P 82	30.5	AU-96402-82	—	30.5	AU-96403-82	—	30.5	AU-95687-82	—	—	—	—	30.5	AU-06427-82	—
I/P 88	—	—	—	—	—	—	—	—	—	30.5	AU-96423-88*	—	—	—	—
I/P 89	—	—	—	—	—	—	—	—	—	30.5	AU-96423-89*	—	—	—	—

Masterflex® I/P® Bulk-Packed Pump Tubing
Individually bagged to prevent contamination

- Prevent contamination—tubing coils are individually bagged and sealed
- Use as many or as few as you need, and store the rest
- Save money by buying and shipping in bulk
- Bulk packs contain ten individually bagged, sealed 7.6-m coils of tubing, all from a single manufacturing lot



Bulk packs offer individually sealed bags of tubing at a lower price per pack than individual packs—so you save money!

MASTERFLEX®

Tubing size	Number of 7.6-m bags per box	Platinum-cured silicone (96410-series)		PharMed® BPT (06508-series)		C-Flex® (06424-series)	
		Catalog number	Price	Catalog number	Price	Catalog number	Price
I/P 26	10	AU-96404-26	—	—	—	AU-06436-26	—
I/P 73	10	AU-96404-73	—	—	—	AU-06436-73	—
I/P 82	10	AU-96404-82	—	AU-95691-82	—	AU-06436-82	—

Masterflex® I/P® Sanitary Pump Tubing Assemblies

Get quick and easy connections

Features/Benefits

- Ideal for biotech and pharmaceutical processing applications
- Pre-molded tubing ends with ½" mini-connection for bacteria-free fluid transfer
- Sanitary tubing is less thermally conductive than metallic tubing systems and not subject to galvanic action, RFI, or EMI

How to Connect Tubing

- Each length of tubing features pre-molded ends with ½" mini-connection. One end has molded-in gasket to ensure quality seal.
- Pre-molded ends allow quick connection to an adapter or to additional length of sanitary tubing
- Join ½" mini-connection to another ½" mini-connection, adapter, or to system with a push/pull clamp. Clamped connection withstands greater pressures than tubing.

How to Order

1. Order your desired tubing formulation and length. Choose tubing size based on flow range.
2. Order polysulfone push/pull clamp (separately below).
3. Order silicone or Viton® gaskets as needed to connect to your system or to adapters.
4. Select sanitary adapters as needed.



I/P PharMed® BPT sanitary tubing features pre-molded ends with ½" mini-connection.

MASTERFLEX®



Tubing size	Platinum-cured silicone (96410-series) 1.5-m length		Platinum-cured silicone (96410-series) 3-m length		PharMed® BPT (06508-series) 1.5-m length		PharMed® BPT (06508-series) 3-m length	
	Catalog number	Price	Catalog number	Price	Catalog number	Price	Catalog number	Price
I/P Precision sanitary pump tubing								
I/P 26	AU-96100-26		AU-96101-26		AU-96112-26		AU-96113-26	
I/P 73	AU-96100-73		AU-96101-73		AU-96112-73		AU-96113-73	
I/P 82	AU-96100-82		AU-96101-82		AU-96112-82		AU-96113-82	
I/P High-Performance Precision sanitary pump tubing								
I/P 70	—	—	—	—	AU-96112-70		AU-96113-70	
I/P 88	—	—	—	—	AU-96112-88		AU-96113-88	

Accessories for Masterflex® I/P® Sanitary Pump Tubing

AU-31201-88 Push/pull clamp, polysulfone. For quick joining of two ½" mini connections

Gaskets. Order gaskets to join ½" mini connection without molded-in gasket to another ½" mini connection without molded-in gasket or to an adapter (sold separately below).

AU-30548-00 Silicone gasket for use with sanitary silicone (platinum-cured) tubing. Pack of 10

AU-30548-20 Viton® gasket for use with sanitary PharMed® BPT tubing. Pack of 10



Push/pull clamp
Both tubing ends shown with ½" mini-connection

Adapters

Adapter connections	Polypropylene		PVDF	
	Catalog number	Price	Catalog number	Price
½" mini to ¼" NPT(M)	AU-31200-01		AU-31201-01	
½" mini to ¼" NPT(F)	AU-31200-11		AU-31201-11	
½" mini to ¼" hose barb	AU-31805-25		AU-31808-25	
½" mini to ⅜" NPT(M)	AU-31200-02		AU-31201-02	
½" mini to ⅜" NPT(F)	AU-31200-12		AU-31201-12	
½" mini to ⅜" hose barb	AU-31805-26		AU-31808-26	
½" mini to ½" NPT(M)	AU-31200-03		AU-31201-03	
½" mini to ½" NPT(F)	AU-31200-13		AU-31201-13	
½" mini to 1" ladish	AU-31805-05		AU-31201-40	
½" mini to female luer lock	AU-31200-50		AU-31201-50	



Adapters

Application Tip

How to Increase Tubing Life

- Run larger tubing sizes at slower speeds
- Reduce occlusion
- Use Masterflex High-Performance precision tubing
- Select longer life material (Norprene®, PharMed® BPT, Tygon® E-LFL, BioPharm Plus)
- Reduce pressure in system
- Stop pump periodically, move tubing 20 to 25 cm forward

Masterflex® B/T® Fixed- and Variable-Speed Pumps

Achieve the highest flow rates of any Masterflex pump—up to 42 LPM

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 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 1.8 m for convenient operation
- IP56-rated controller and motor protect against dust and water

What's included: a Rapid-Load® pump head, 1 m of Tygon® E-LFL B/T 91 pump tubing, and a 1.8-m power cord.

MASTERFLEX®



Fixed-speed pump
77111-67



APPLICATIONS

- ✓ Transfer shear-sensitive and viscous fluids
- ✓ Media transfer
- ✓ Production fermentation
- ✓ Media bag fill

Variable-speed
modular digital pump
77111-77

Flow Rates in LPM (GPM)

rpm	PerfectPosition® pump tubing	
	B/T 87	B/T 91
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)



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)	271	IP55	Direct-drive	27" x 15.8" x 15.1" (68.6 x 40 x 38.4 cm)	220 (50)	6.3	AU-77111-37	
Variable-speed, air powered	¾ hp (0.56 kW)	35 to 321	IP56	Direct-drive	27" x 15.8" x 15.1" (68.6 x 40 x 38.4 cm)	Requires 24 cfm (0.68 m³) 100 psi (6.9 bar) minimum		AU-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)	230 (50/60)	3.3	AU-77111-67	
Variable-speed digital (±0.3%)	¾ hp (0.56 kW)	12 to 321		Direct-drive	Controller: 9" x 11" x 4½" (22.9 x 27.9 x 11.4 cm) Drive: 27" x 15¾" x 15" (68.6 x 40.0 x 38.4 cm)	190 to 260 (50/60)	5.7	AU-77111-77	

[AU-77300-32](#) Remote cable, required for remote control operation of model 77111-77; 7.6 m

[AU-77111-90](#) Bracket for digital controller on model 77111-77

Masterflex® 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

Masterflex pump tubing is precision tested and extruded to optimize performance and accuracy. All formulations listed here meet USP Class VI requirements and some also are RoHS-compliant as well as ADCF-compliant. All formulations are available with certificate of compliance upon request.

If you need sample certifications or want more specific details about each formulation, visit ColeParmer.co.uk for more information.



MASTERFLEX®

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 	AU-96510-87	AU-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 	AU-96400-87	AU-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 	AU-96445-87	AU-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 	AU-96419-87	AU-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 	AU-06424-87	AU-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 	AU-06507-87	AU-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 	AU-06437-87	AU-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 	AU-06443-87	AU-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 	AU-06440-87	AU-06440-91
		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).

Liqui-Sense® Emergency Cut-Off System

Protect against costly loss of product

- Monitor pumps and fluid systems for leaks, fluid level, and flow—24 hours a day
- Shuts down process automatically—eliminating downtime, system damage, and fluid loss
- Customize to your specific application needs using dual input and output channels
- Visible and audible alarms alert you to an alarm condition

1. Liqui-Sense® Controller



Customize your monitoring system by using the Liqui-Sense® controller with up to two sensors and two pumps. The controller turns the process pump off and the backup pump on when triggered by an alarm condition. Connect the third relay (30 VDC, 1 A) to an external alarm. Manual reset prevents accidental restart.

What's included: a 1.8-m line cord with a IEC320/CEE22 socket; specify country when ordering to receive correct cord set.

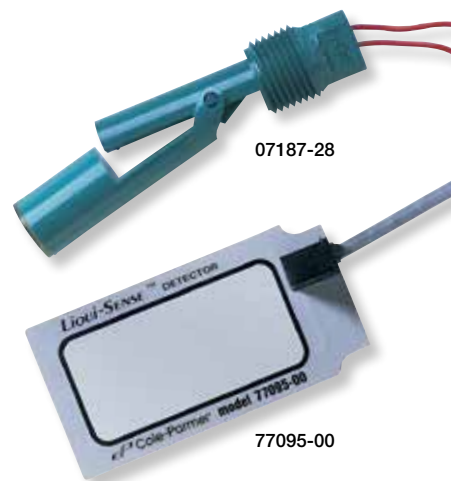


Power	Relay	Socket	Catalog number	Price
180 to 230 VAC, 50/60 Hz	6.3 A	IEC 320F	AU-77096-05	



REQUIRED System Components

- 1) Controller **77096-05**
- 2) Sensor(s)



2. Sensors

Float-Switch Liquid Level Detector for unattended level monitoring and empty-tank pump cut-off. Float switch has ½" NPT(M) threaded mount. Requires connecting cable 77095-02.

Liquid Detector Pad eliminates loss of costly fluid or damage from hazardous chemicals. Monitors pumps, seals, valves, and tubing for leaks. Less than 1 mL of fluid trips sensor. Includes 1-m connecting cable with RJ-12 connectors.

Description	Catalog number	Price
Polypropylene float switch	AU-07187-28	
Nylon float switch	AU-07187-30	
Liquid detector pad	AU-77095-00	

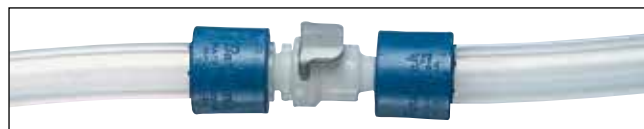
Accessories

- [AU-77095-02](#) Connecting cable, 1 m long
- [AU-77095-03](#) Optional extension cable, 3.0 m with RJ12 connections for all sensors
- [AU-77095-04](#) Optional extension cable, 4.5 m with RJ12 connections for all sensors

BarbLock™ Ultra-Secure Tubing Retainers

Get leak-free connection to barbed fittings

- Easy to install—ensures that tubing and fitting will not disengage
- Provides seven times the pull resistance of cable ties without crimps or distortion
- Compatible with single- or multi-tiered barbed fittings



BarbLock assemblies provide uniform 360° mechanical compression for a leak-free, durable seal, unlike cable ties or clamps. Fitting will not leak or blow off. Ideal for filtration, since retainer holds tight even with increasing back pressure as filter clogs.

Platinum-cured silicone tubing 96410-73 shown with BarbLock retainer 30604-04 and quick-disconnect fitting 06360-91.

BarbLock assemblies meet USP Class VI standards. Sterilize by irradiation, steam, or ethylene oxide (EtO) gas.

Tubing Retainers

Use with Masterflex® pump tubing size	Use with fitting type	Catalog number	Price
L/S® 16	Any barbed fitting	AU-30604-01	
L/S 17 and L/S 15		AU-30604-00	
L/S 24		AU-30604-02	
I/P® 73		AU-30604-04	
I/P 82 and I/P 70		AU-30604-06	
I/P 82 and I/P 70	Quick-disconnects only (see pages 53–54 or ColeParmer.com)	AU-30604-08	

Retainer Tools

BarbLock assembly tool for use with	Catalog number	Price
L/S 16 tubing	AU-30604-18	
L/S 15, L/S 17, and L/S 24 tubing	AU-30604-10	
I/P 73 tubing	AU-30604-12	
I/P 82 tubing	AU-30604-14	
Universal BarbLock removal tool	AU-30604-16	

Ismatec® Reglo Independent Channel Control (ICC) Pumps

Pump each channel at different speeds and directions!

- Flow range of 0.0001 to 43 mL/min (depending on model and tubing size selected)
- 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

FEATURES

- ✓ Small-volume dispensing
- ✓ Nutrient feed
- ✓ Buffer addition



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

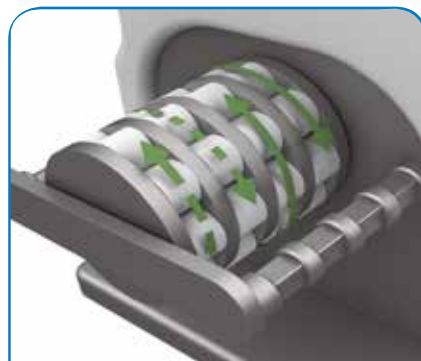
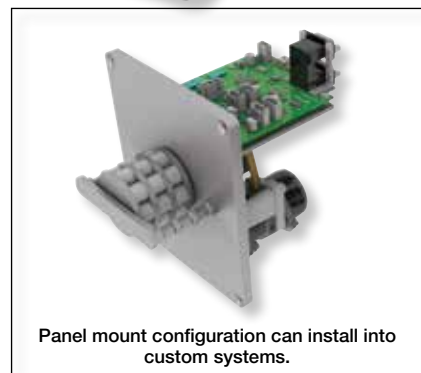
These two-, three- and four-channel peristaltic pumps let you individually control the flow and direction of each channel from the intuitive keypad or via your computer—expanding your benchtop pumping capabilities with a single compact unit! Pump delivers continuous pumping or precision dispensing up 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.



Flow Ranges (mL/min per channel)

Tubing ID (mm)	6 rollers	8 rollers	12 rollers
0.13	0.0002 to 0.14	0.0002 to 0.11	0.0001 to 0.093
0.51	0.0019 to 1.9	0.0017 to 1.7	0.0016 to 1.6
0.57	0.0024 to 2.4	0.0021 to 2.1	0.0019 to 1.9
0.64	0.0030 to 3.0	0.0026 to 2.6	0.0024 to 2.4
0.95	0.0064 to 6.4	0.0056 to 5.6	0.0050 to 5.0
1.02	0.0073 to 7.3	0.0063 to 6.3	0.0056 to 5.6
1.42	0.013 to 13	0.011 to 11	0.0094 to 9.4
1.75	0.019 to 19	0.016 to 16	0.013 to 13
1.85	0.021 to 21	0.017 to 17	0.014 to 14
2.54	0.033 to 33	0.027 to 27	0.019 to 19
2.79	0.036 to 36	0.031 to 31	0.021 to 21
3.17	0.043 to 43	0.035 to 35	0.024 to 24

Note: Use tubing ID from table above as a guide to determine appropriate catalog number suffix for 3-stop tubing sold on pages 26–27.



- ### Independent Channel Design
- ✓ Up to four independently controllable channels
 - ✓ Flexibility of bidirectional flow in each channel
 - ✓ Continuous pumping or precision dispensing
 - ✓ Enhanced accuracy through separate channel calibration

Specifications

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



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

Accessories

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

Ismatec® IPC Low-Flow High-Accuracy Pumps

Fewer tubing changes

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

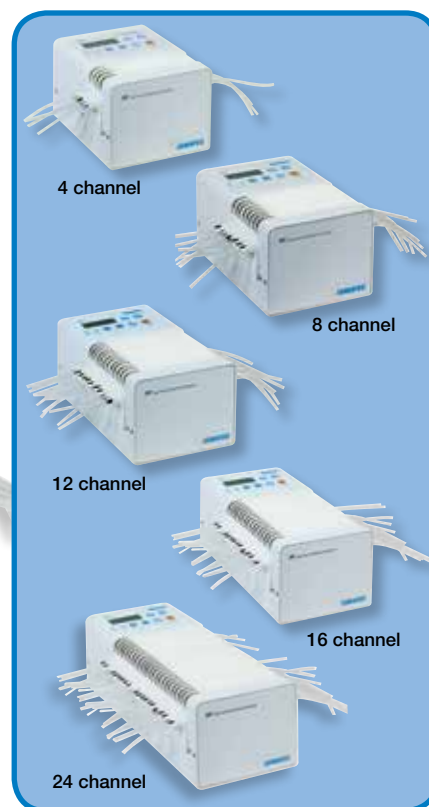
FEATURES

- ✓ Media/nutrient addition
- ✓ Small-volume dispensing
- ✓ Multichannel dispensing



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

ISMATEC®



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)



See pages 26-27

ISO 9001:2008
CERTIFIED SUPPLIER



Flow range per channel (mL/min)	Channels	Rollers	Speed (rpm)	Cassette style	Tubing	230 VAC, 50/60 Hz	
						Catalog number	Price
IPC-N models							
0.0004 to 11	4	8	0.11 to 11.25	Click'n'go	Two-stop	AU-78001-06	
	8					AU-78001-16	
	12					AU-78001-26	
	16					AU-78001-36	
0.0004 to 11	24	8	0.11 to 11.25	Pressure lever (adjustable occlusion)	Two-stop	AU-78001-46	
	8					AU-78000-17	
	16					AU-78000-37	
	24					AU-78000-47	
IPC models							
0.002 to 44	4	8	0.4 to 45	Click'n'go	Two-stop	AU-78001-08	
	8					AU-78001-18	
	12					AU-78001-28	
	16					AU-78001-38	
0.002 to 44	24	8	0.4 to 45	Pressure lever (adjustable occlusion)	Two-stop	AU-78001-48	
	4					AU-78000-09	
	8					AU-78000-19	
	12					AU-78000-29	
	16					AU-78000-39	
	24					AU-78000-49	

Order extra cartridges and adapters when fast tubing changes are crucial.

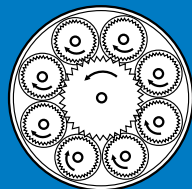
AU-78001-95 Replacement Click'n'go™ cartridge, POM-C

AU-78001-90 Repl. adjust. occlusion cartridge with pressure lever

AU-07618-71 Replacement adapters hold two-stop color-coded tubing in cartridge. Two adapters required per cartridge. Pack of 12

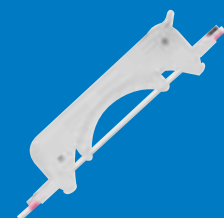
Planetary Drive System

With the planetary drive system, each roller is directly driven by the sun wheel. This mechanism prevents axial push-pull friction on the tubing—resulting in longer tubing life, lower pulsation, and high repeatability.



Pressure Level Cassettes

These cassettes feature a pressure lever that allows you to set a different tubing pressure for each channel. Depending on the application, tubing material, and diameter, you can adjust to optimal tubing pressure for your requirements.



Ismatec® 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
- Get balanced pulsation control at your desired flow rate with choice of channel and roller configuration
- No maintenance—rollers are self-lubricating
- Easy channel changes—Click’n’go™ minicartridges snap in place
- Maintain uniform channel-to-channel performance with Click’n’go cassette spring-tensioning design

FEATURES

- ✓ Nutrient feed
- ✓ Buffer addition
- ✓ Small-volume dispensing



A
Reglo Analogue pump 78016-32

A. Reglo Analogue 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 analogue input and output controls, as well as an RS-232 interface for control by a computer. Remote control capable.



B
Reglo Digital pump 78017-02 is fully programmable.

Specifications

Pressure

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



See pages 26-27

Flow range per channel (mL/min)	Channels	Rollers	Speed (rpm)	Cassette style	Tubing	230 VAC, 50/60 Hz	
						Catalog number	Price
A. Reglo Analogue pumps							
0.005 to 68	2	6	3.2 to 160	Click'n'go	Three-stop	AU-78016-02	
0.004 to 57		8				AU-78016-12	
0.003 to 38		12				AU-78017-27	
0.003 to 43	4	6	2.0 to 100	Click'n'go	Three-stop	AU-78017-32	
0.003 to 35		8				AU-78016-32	
0.002 to 24		12				AU-78017-37	
B. Reglo Digital programmable pumps with calibrating function							
0.003 to 68	2	6	3.2 to 160	Click'n'go	Three-stop	AU-78016-42	
0.002 to 57		8				AU-78017-02	
0.002 to 38		12				AU-78016-47	
0.002 to 43	4	6	2.0 to 100	Click'n'go	Three-stop	AU-78017-42	
0.002 to 35		8				AU-78017-12	
0.001 to 24		12				AU-78017-22	

Minicartridges

Optional minicartridge with adjustable occlusion lets you manually vary pressure on each channel.

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

[AU-78016-98](#) Replacement Click'n'go cassette, POM-C

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

Don't confuse your tubing—
color-coded stops for easy identification

STEP 1: Choose a tubing material & select the catalog number prefix.

Make sure to choose 2-stop or 3-stop tubing based on what your pump uses!

STEP 3: Complete your system with extension tubing.

Connect stopped and extension tubing with barbed fittings or splicing.

Material	Description	Suffixes for the available sizes	Tubes/ pk (length)	2-Stop Tubing		3-Stop Tubing		Extension Tubing		
				Cat. no. prefix	Price/ pk*	Cat. no. prefix	Price/ pk*	Cat. no. prefix	Length/ pk	Price/ pk*
Tygon® E-LFL	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, EU food, REACH, RoHS, ADF Longest life of all Tygon formulations Broad chemical resistance 	10, 12, 14, 18, 22, 24, 26, 28, 30, 31, 33, 34, 36, 37, 40, 42, 43, 47, 48	12 (40 cm)	AU-96449-XX		AU-96450-XX		AU-06449-XX	30.5 m	
Tygon® E-Food	<ul style="list-style-type: none"> Complies with FDA, EU Food, NSF, 2A, REACH, RoHS, ADF Smooth inner surface; nontoxic 	10, 12, 18, 26, 30, 34, 42, 48	12 (40 cm)	AU-96457-XX		AU-96458-XX		AU-06457-XX	30.5 m	
Tygon® E-Lab	<ul style="list-style-type: none"> Complies with USP Class VI, FDA, EU Food, NSF, REACH, RoHS, ADF Ideal for general transfer applications Nonaging/nonoxidizing, low gas permeability 	09, 10, 12, 14, 16, 18, 19, 22, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 38, 39, 40, 42, 44, 46, 48, 49	12 (40 cm)	AU-96460-XX		AU-96461-XX		AU-06460-XX	30.5 m	
Tygon® LMT-55	<ul style="list-style-type: none"> Complies with REACH, RoHS; meets requirements of the guidelines for the Biological Test for Plastics, Class VI - 70°C Ideal for general transfer applications Nonaging/nonoxidizing, low gas permeability 	09, 10, 12, 14, 16, 18, 19, 22, 24, 26, 27, 28, 29, 30, 31, 32, 34, 36, 38, 39, 40, 42, 44, 46, 48, 49	12 (40 cm)	AU-97618-XX		AU-97619-XX		AU-05502-XX	10 m	
Silicone (peroxide cured)	<ul style="list-style-type: none"> Complies with USP Class VI, EP, FDA, 3A, REACH, RoHS, ADF Greater physical compression capability Economical, long tubing life 	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (40 cm)	AU-07616-XX		AU-07624-XX		AU-07625-XX	15.2 m	
Silicone (platinum cured)	<ul style="list-style-type: none"> Complies with USP Class V, EP, FDA, REACH, RoHS, ADF Low protein binding, fungus-resistant, phthalate and latex free 	22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48	6 (40 cm)	AU-95602-XX		AU-95603-XX		AU-95612-XX	15.2 m	
Viton®	<ul style="list-style-type: none"> Complies with FDA, ADF Resists corrosives, solvents, and oils at elevated temperatures 	26, 30, 34, 38, 42, 46, 48	12 (30 cm)	AU-97628-XX		AU-97629-XX		AU-97632-XX	15.2 m	
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 (40 cm)	AU-95723-XX		AU-95714-XX		AU-95809-XX	30.5 m	
Autoclavable PharMed® BPT	<ul style="list-style-type: none"> Ideal for tissue and cell culture work 	12, 32, 48	6 (40 cm)	AU-95692-XX		AU-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 (40 cm)	AU-95606-XX		AU-95605-XX		AU-95712-XX	15.2 m	
MHLL	<ul style="list-style-type: none"> Suitable for acetone, MEK, and other highly aggressive chemicals Long life and outstanding fatigue resistance 	14, 24, 30, 36, 42, 48	6 (40 cm)	AU-96427-XX		AU-96425-XX		None (PharMed BPT recommended for extension tubing; see 95809-XX above)		

Ordering Tip

How to order 2- and 3-stop tubing

Step 1: Choose a tubing material and select the corresponding catalog number prefix from the table on page 26. Make sure to choose 2-stop or 3-stop tubing based on what your pump uses!

Step 2: Find your pump system and desired flow rate and select the catalog number suffix from the tables on page 27.

Step 3: Complete your system with extension tubing from page 26. You can connect stopped tubing and extension tubing with hose barb fittings or by splicing together.

STEP 2: Find your desired flow range[†] (mL/min) with indicated model and select the catalog number suffix.

Page 25												Catalog number suffix	Tubing ID (mm)	Color-coded stops
Analog models						Digital models								
78016-02	78016-12	78017-27	78017-32	78016-32	78017-37	78016-42	78017-02	78016-47	78017-42	78017-12	78017-22			
0.005-0.22	0.004-0.17	0.003-0.15	0.003-0.14	0.003-0.11	0.002-0.093	0.003-0.22	0.002-0.17	0.002-0.15	0.002-0.14	0.002-0.11	0.001-0.093	-09	0.13	O/BK
0.009-0.45	0.006-0.37	0.007-0.34	0.008-0.28	0.005-0.23	0.005-0.21	0.005-0.45	0.004-0.37	0.004-0.34	0.003-0.28	0.003-0.23	0.003-0.21	-10	0.19	O/R
0.015-0.76	0.013-0.65	0.012-0.61	0.01-0.48	0.009-0.41	0.008-0.33	0.008-0.76	0.007-0.65	0.007-0.61	0.005-0.48	0.005-0.41	0.004-0.38	-12	0.25	O/B
0.035-1.7	0.03-1.5	0.028-1.4	0.022-1.1	0.019-0.94	0.018-0.88	0.017-1.7	0.015-1.5	0.014-1.4	0.011-1.1	0.01-0.94	0.009-0.88	-14	0.38	O/G
0.046-2.3	0.4-2	0.036-1.9	0.028-1.4	0.025-1.3	0.024-1.2	0.023-2.3	0.02-2	0.019-1.9	0.014-1.4	0.013-1.3	0.012-1.2	-16	0.44	G/Y
0.061-3.1	0.054-2.7	0.05-2.5	0.038-1.9	0.034-1.7	0.031-1.6	0.031-3.1	0.027-2.7	0.025-2.5	0.019-1.9	0.017-1.7	0.016-1.6	-18	0.51	O/Y
0.076-3.8	0.067-3.3	0.062-3.1	0.048-2.4	0.042-2.1	0.039-1.9	0.038-3.8	0.033-3.3	0.031-3.1	0.024-2.4	0.021-2.1	0.019-1.9	-19	0.57	W/Y
0.096-4.8	0.084-4.2	0.077-3.9	0.06-3	0.052-2.6	0.048-2.4	0.048-4.8	0.042-4.2	0.039-3.9	0.03-3	0.026-2.6	0.024-2.4	-22	0.64	O/W
0.13-6.7	0.12-5.8	0.11-5.3	0.084-4.2	0.073-3.6	0.067-3.3	0.067-6.7	0.058-5.8	0.053-5.3	0.042-4.2	0.036-3.6	0.033-3.3	-24	0.76	BK/BK
0.18-9	0.16-7.9	0.14-7.1	0.11-5.7	0.098-4.9	0.088-4.4	0.09-9	0.079-7.9	0.071-7.1	0.057-5.7	0.049-4.9	0.044-4.4	-26	0.89	O/O
0.2-10	0.18-6.9	0.16-7.9	0.13-6.4	0.11-5.6	0.99-5	0.1-10	0.089-8.9	0.079-7.9	0.064-6.4	0.056-5.6	0.05-5	-27	0.95	W/BK
0.23-12	0.2-10	0.18-9	0.15-7.3	0.13-6.3	0.11-5.6	0.12-12	0.1-10	0.09-9	0.073-7.3	0.063-6.3	0.056-5.6	-28	1.02	W/W
0.27-13	0.23-11	0.2-10	0.17-8.3	0.14-7.2	0.13-6.3	0.13-13	0.11-11	0.1-10	0.083-8.3	0.072-7.2	0.063-6.3	-29	1.09	W/R
0.29-14	0.25-12	0.22-11	0.18-9	0.16-7.8	0.13-6.7	0.14-14	0.12-12	0.11-11	0.09-9	0.078-7.8	0.067-6.7	-30	1.14	R/R
0.33-15	0.28-14	0.24-12	0.2-10	0.16-8.8	0.15-7.5	0.16-16	0.14-14	0.12-12	0.1-10	0.088-8.8	0.075-7.5	-31	1.22	R/GR
0.37-16	0.31-16	0.26-13	0.23-11	0.2-10	0.17-8.3	0.18-18	0.16-16	0.13-13	0.11-11	0.1-10	0.083-8.3	-32	1.30	GR/GR
0.43-21	0.37-16	0.3-15	0.27-13	0.23-11	0.19-8.4	0.21-21	0.18-18	0.15-15	0.13-13	0.11-11	0.094-9.4	-34	1.42	Y/Y
0.48-24	0.41-20	0.33-17	0.3-15	0.26-13	0.21-10	0.24-24	0.2-20	0.17-17	0.15-15	0.13-13	0.1-10	-36	1.52	Y/B
0.56-28	0.47-23	0.37-19	0.35-17	0.29-15	0.23-12	0.28-28	0.23-23	0.19-19	0.17-17	0.15-15	0.12-12	-38	1.65	B/B
0.61-31	0.51-26	0.4-20	0.38-19	0.32-18	0.25-13	0.31-31	0.26-26	0.2-20	0.19-19	0.16-16	0.13-13	-39	1.75	B/G
0.67-34	0.56-28	0.43-21	0.42-21	0.35-17	0.27-13	0.34-34	0.28-28	0.21-21	0.21-21	0.17-17	0.13-13	-40	1.85	G/G
0.79-40	0.66-33	0.49-24	0.5-25	0.41-20	0.3-15	0.4-40	0.33-33	0.24-24	0.25-25	0.2-20	0.15-15	-42	2.06	P/P
0.92-46	0.76-35	0.55-27	0.58-29	0.48-24	0.34-17	0.46-46	0.38-38	0.27-27	0.29-29	0.24-24	0.17-17	-44	2.29	P/BK
1.1-53	0.88-44	0.62-31	0.68-33	0.55-27	0.39-19	0.53-53	0.44-44	0.31-31	0.33-33	0.27-27	0.19-19	-46	2.54	P/O
1.2-55	0.89-50	0.69-34	0.74-37	0.62-31	0.43-21	0.59-59	0.5-50	0.34-34	0.37-37	0.31-31	0.21-21	-48	2.79	P/W
1.4-65	1.1-57	0.75-36	0.65-43	0.71-35	0.47-24	0.68-68	0.57-57	0.38-38	0.43-43	0.35-35	0.24-24	-49	3.17	BK/W

Page 23	Page 24		Page 28		Catalog number suffix	Tubing ID (mm)	Color-coded stops
ICC 8-roller models	IPC-N models	IPC models	78022-42	78022-62			
0.002-0.11	0.00039-0.039	0.0015-0.15	0.005-0.49	0.003-0.32	-09	0.13	O/BK
0.003-0.23	0.00066-0.066	0.0026-0.26	0.01-0.98	0.007-0.75	-10	0.19	O/R
0.005-0.41	0.001-0.1	0.0041-0.41	0.017-1.7	0.013-1.3	-12	0.25	O/B
0.01-0.94	0.0022-0.22	0.0086-0.86	0.038-3.8	0.031-3.1	-14	0.38	O/G
0.013-1.3	0.0028-0.28	0.011-1.1	0.05-5	0.042-4.2	-16	0.44	G/Y
0.017-1.7	0.0038-0.38	0.015-1.5	0.067-6.7	0.055-5.5	-18	0.51	O/Y
0.021-2.1	0.0046-0.46	0.019-1.9	0.084-8.4	0.067-6.7	-19	0.57	W/Y
0.026-2.6	0.0058-0.58	0.023-2.3	0.1-10	0.084-8.4	-22	0.64	O/W
0.036-3.6	0.0081-0.81	0.032-3.2	0.15-15	0.12-12	-24	0.76	BK/BK
0.049-4.9	0.011-1.1	0.044-4.4	0.2-20	0.15-15	-26	0.89	O/O
0.056-5.6	0.012-1.2	0.049-4.9	0.22-22	0.18-18	-27	0.95	W/BK
0.063-6.3	0.014-1.4	0.057-5.7	0.26-26	0.2-20	-28	1.02	W/W
0.072-7.2	0.016-1.6	0.064-6.4	0.29-29	0.22-22	-29	1.09	W/R
0.078-7.8	0.017-1.7	0.07-7	0.32-32	0.24-24	-30	1.14	R/R
0.088-8.8	0.02-2	0.079-7.9	0.36-36	0.26-26	-31	1.22	R/GR
0.1-10	0.022-2.2	0.089-8.9	0.4-40	0.29-29	-32	1.30	GR/GR
0.11-11	0.026-2.6	0.11-11	0.47-47	0.33-33	-34	1.42	Y/Y
0.13-13	0.03-3	0.12-12	0.53-53	0.36-36	-36	1.52	Y/B
0.15-15	0.035-3.5	0.14-14	0.61-61	0.42-42	-38	1.65	B/B
0.16-16	0.039-3.9	0.15-15	0.67-67	0.44-44	-39	1.75	B/G
0.17-17	0.043-4.3	0.17-17	0.73-73	0.47-47	-40	1.85	G/G
0.2-20	0.052-5.2	0.21-21	0.87-87	0.53-53	-42	2.06	P/P
0.24-24	0.063-6.3	0.25-25	1-100	0.6-60	-44	2.29	P/BK
0.27-27	0.075-7.5	0.3-30	1.2-120	0.68-68	-46	2.54	P/O
0.31-31	0.089-8.9	0.35-35	1.3-130	0.75-75	-48	2.79	P/W
0.35-35	0.11-11	0.44-44	1.5-150	0.83-83	-49	3.17	BK/W

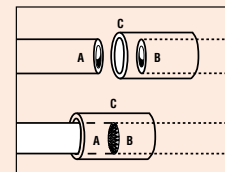
[†]Flow ranges (mL/min) are nominal. Actual flow depends on factors such as occlusion, fluid viscosity, temperature, and pressure.

Color-coded stop legend:

B = Blue	GR = Gray	R = Red
BK = Black	O = Orange	W = White
G = Green	P = Purple	Y = Yellow

Application Tip

To splice microbore tubing...



Step 1: Bring together one end of a length of color-coded tubing (A) and one end of a length of extension tubing (B). Both lengths of tubing should have the same ID and OD.

Step 2: Center a 1 to 2" piece of larger tubing (C) over the ends of the two pieces to be joined (A and B). The short tubing piece should be of similar material and with an ID approximately equal to the OD of the tubing to be joined.

Step 3: With the short piece (C) centered over the joint, apply solvent or sealant to the outside of tubing (B) and slide tubing (C) onto (B). Repeat the process for tubing (A) to join tubing permanently. If future tubing changes are necessary, then apply solvent or sealant only to tubing (B) and (C). Use a ketone-type solvent to splice Tygon® or Viton® tubing; an RTV adhesive for silicone tubing; and a tetrahydrofuran with PharMed® BPT tubing.

Ismatec® ecoline Pumps

Save space—pumps stack easily

- Durable stainless steel housing and four stabilizing feet for easier stacking
- Simple setup and operation—start, stop, and reverse flow with a single switch
- Models accommodate 1.6 or 2.4 mm wall tubing

Pumps A, B, C, and E are controllable remotely via an analogue input signal (0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, or 4 to 20 mA); start/stop drive or reverse direction via contact closure (eight-pin DIN). Input signals from your existing instruments actuate drive functions.

A–C. Single-Channel Pumps

- Minimize tubing wear and ensure automatic centering with convex roller

D. Masterflex® L/S® Easy-Load® Pump

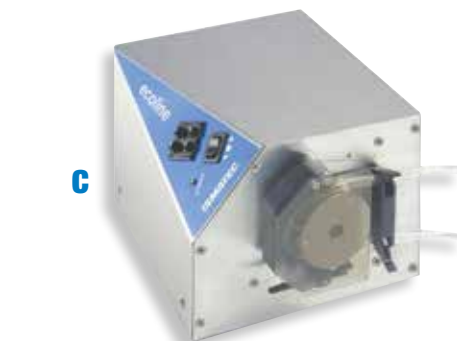
- Change tubing quickly with easily accessible head
- Polysulfone housing and stainless steel rotor

E. Minicartridge Pumps

- No adjustments needed—spring-loaded cassettes for optimal occlusion at all times
- Get consistent, low-pulse flow with 6 or 12 rollers

ISMATEC®

C



E

ISO9001:2008
CERTIFIED SUPPLIER



Key	Flow range per channel (mL/min)	Channels	Rollers	Speed	Tubing	230 VAC, 50 Hz		
						Catalog number	Price	
A	1.7 to 5400	1	2	3.5 to 350 rpm	1.6 mm wall thickness	AU-78022-12		
	13 to 4600				2.4 mm wall thickness	AU-78022-17		
B	1.6 to 5000		3		1.6 mm wall thickness	AU-78022-22		
	12 to 4200				2.4 mm wall thickness	AU-78022-27		
C	0.25 to 1300		3			1.6 mm wall thickness	AU-78022-32	
D	0.23 to 1600		1		3	3.5 to 350 rpm	Masterflex® (pg 10)	AU-78022-52
	0.24 to 1000	4		AU-78022-57				
E	0.01 to 130	8	6	3.5 to 350 rpm	Three-stop (pgs 26–27)	AU-78022-42		
	0.0075 to 75	4	12			AU-78022-62		

Accessories

- [AU-07624-64](#) Optional adjustable occlusion cassette with pressure lever, POM-C
- [AU-78016-98](#) Replacement Click'n'go™ cassette, POM-C
- [AU-07610-25](#) Foot switch, momentary contact
- [AU-17050-01](#) NIST-traceable calibration with data for peristaltic pump drive

Ismatec® Flowmaster™ Pump

Stainless steel construction—ideal for sanitary fluid transfer

- Easy cleaning—housing is IP65 rated for washdown
- Change tubing in just seconds!
- Easy to disassemble for cleaning
- Meets requirements of the biotech, food and beverage, and pharmaceutical industries

Single-channel pump head accommodates Masterflex® I/P® Precision tubing sizes 26, 73, and 82. Accepts a 0 to 5 VDC, 0 to 10 VDC, 1 to 20 mA, or 4 to 20 mA input signal for remote speed control. Features multiple overload protection and an extensive analog interface with status information for process control systems.

APPLICATIONS

- ✓ Bulk container pump
- ✓ FDA tablet coating
- ✓ Fermentation addition
- ✓ Cell culture
- ✓ Filtration



Stainless steel pump head detaches for easy cleaning.

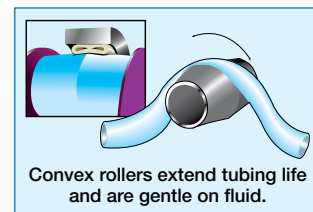
flowmaster®

ISO9001:2008
CERTIFIED SUPPLIER



Flow range	Rollers	Speed	Tubing	Power	Catalog number	Price
37 mL/min to 13 L/min	3	5 to 500 rpm	Masterflex I/P Precision (pgs 17–19)	230 VAC, 50/60 Hz	AU-78025-05	

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



Convex rollers extend tubing life and are gentle on fluid.

Ismatec® BVP and MCP Quick-Couple Pump Systems

Small footprint ideal for confined spaces

- Mount pump heads quickly with turn-and-lock mounting system
- Remote control and programming options add versatility
- Process washdown drives are IP65 rated
- Stainless steel housing is sealed for added durability

BVP Process Drive

- Prime, flush, or prevent overflow with Max/Slow toggle switch

Pump features analog input for remote control of speed, start/stop or flow direction and has a digital display for speed.

MCP Process Programmable Digital Drive

- Save time—recall and store up to four programs
- Preprogrammed with tubing sizes and heads for faster setup
- Use the RS-232 interface to automate your lab or operate independently via the keypad—RS-232 in for remote operation; RS-232 out for cascading pumps

Pump is programmable to dispense by volume, time, flow rate, batches with variable pause time, stored programs, roller back steps, or number of dispensing cycles. Digital display shows speed, flow rate, dispensing volume, dispensing time, and pause time.

APPLICATIONS

- ✓ Dispensing/filling
- ✓ Nutrient addition
- ✓ Media transfer



78003-12



ISMATEC®

Fluid Transfer

Ismatec® Pumps

Specifications

Duty cycle: continuous



Model	BVP Process washdown drive	MCP Process washdown drive
Catalog number	AU-78003-12	AU-78003-08
Programmable	No	Yes
Speed	1 to 240 rpm	1 to 240 rpm
Resolution	0.1 rpm	0.1 rpm
Flow range/channel	0.001 to 3700 mL/min	0.001 to 3700 mL/min
Flow rate settings	—	µL/min, mL/min, L/min
Remote control capabilities	Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 7.2 kHz Start/stop, rotation direction, autostart	RS-232 (1 in, 1 out), 1 analog Speed control: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA Speed output: 0 to 10 VDC or 0 to 7.2 kHz Start/stop, rotation direction, autostart
IP rating	IP65	IP65
Power	230 VAC, 50/60 Hz	230 VAC, 50/60 Hz
Price		

Ismatec® Washdown Pump Heads

Dismantle for easy cleaning—heads are ideal for hygienic applications. Convex rollers and concave tube-bed maintain the integrity of material being pumped. Coated aluminum with stainless steel rollers.

Flow range (mL/min)	Channels	Rollers	Tubing	Wall thickness	Max pressure	Catalog number	Price
0.49 to 3700	1	2	Pump (below)	1.6 mm	22 psi (1.5 bar)	AU-78002-11	
3.6 to 3100	1	2		2.4 mm	36 psi (2.5 bar)	AU-78002-13	
0.45 to 3400	1	3		1.6 mm	22 psi (1.5 bar)	AU-78002-16	
3.3 to 2900	1	3		2.4 mm	36 psi (2.5 bar)	AU-78002-14	



Pump Tubing

ID (mm)	OD (mm)	Wall (mm)	Tygon® E-Lab			Silicone (peroxide cured)			Silicone (platinum cured)			Norprene®			Viton®		
			Cat. no.	M/pk	Price/pk	Cat. no.	M/pk	Price/pk	Cat. no.	M/pk	Price/pk	Cat. no.	M/pk	Price/pk	Cat. no.	M/pk	Price/pk
0.8	4.0	1.6	AU-06509-13	15.2		AU-96400-13	7.6		AU-95802-01	7.6		AU-06404-13	15.2		AU-96412-13	7.6	
1.6	4.8	1.6	AU-06407-72	15.2		AU-96400-14	7.6		AU-96410-14	7.6		AU-06410-01	15.2		AU-96412-14	7.6	
3.2	6.4	1.6	AU-06407-76	15.2		AU-06411-67	7.6		AU-95802-05	7.6		AU-06410-02	15.2		—	—	—
4.8	8.0	1.6	AU-06407-78	15.2		AU-06411-03	7.6		AU-95802-09	7.6		AU-06410-04	15.2		AU-96412-25	7.6	
6.4	9.5	1.6	AU-06407-80	15.2		AU-06411-71	7.6		AU-95802-12	7.6		AU-06410-05	15.2		AU-96412-18	7.6	
6.4	11.1	2.4	AU-06509-24	15.2		AU-06411-72	7.6		AU-95802-13	7.6		AU-06410-06	15.2		AU-96412-24	7.6	
8.0	11.2	1.6	AU-06407-83	15.2		AU-06411-75	7.6		AU-95802-15	7.6		AU-06410-08	15.2		AU-06434-05	7.6	
9.5	12.7	1.6	AU-06407-86	15.2		AU-06411-12	7.6		AU-95802-18	7.6		AU-06410-10	15.2		AU-06434-06	7.6	
11.1	14.3	1.6	AU-06407-87	15.2		—	—	—	—	—	—	AU-06410-13	15.2		—	—	—
12.8	16.0	1.6	AU-06407-90	7.6		AU-06411-80	7.6		AU-95802-21	7.6		AU-06410-14	15.2		AU-06434-07	7.6	
16.0	22.4	3.2	—	—	—	AU-06411-58	7.6		AU-95802-25	7.6		AU-06410-17	15.2		AU-06434-08	7.6	

Contact us for the full range of products and latest prices!

Cole-Parmer®

Phone: 020-8574-7556

Fax: 020-8574-7543

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www.coleparmer.co.uk

Cole-Parmer® Syringe Pumps

Optimize low-flow, low-pressure applications

- Delivers accurate and precise amounts of fluid
- 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 (RS-232 cable not included).

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!

APPLICATIONS

- ✓ Drug infusion
- ✓ Nutritional infusion
- ✓ Microdialysis
- ✓ Perfusion



Specifications

Accuracy: ±<1%
Reproducibility: ±0.1%

Cole-Parmer®



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)	230, 50/60	AU-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)	230, 50/60	AU-74900-15	
Infusion/withdrawal	10					AU-74900-35	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	230, 50/60	AU-74900-25	
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)	230, 50/60	AU-74900-65	
Infusion	10					AU-74900-85	
Infusion/withdrawal	2	0.001 µL/hr to 147 mL/min	10 µL to 140 mL	40 lb (18.1 kg)	230, 50/60	AU-74901-05	
Infusion/withdrawal	10					AU-74901-15	

Cole-Parmer® High-Pressure Syringe Pumps

Ideal for low-flow, higher pressure applications where precision is critical

- Greater than 444 Newtons of linear force
- Higher pressure syringe clamps
- RS-232 connectivity for interface to a remote computer

APPLICATIONS

- ✓ Dispensing viscous fluids
- ✓ Continuous delivery of fluid
- ✓ Pilot plant reactor dosing



With more than double the linear force available on other syringe pumps, this pump is ideal for fluid delivery to reactors in chemical applications or for working with viscous fluids. The robust design of the syringe holder ensures the syringe is kept level during delivery of the fluid. It features two different types of clamping mechanisms to accommodate both smaller and larger syringes. The pumps will work with all types of syringes, however due to the higher force on the syringe we recommend the stainless steel syringes listed at right.

Both the standard and programmable pumps can operate in either an infusion or withdrawal mode. The programmable model can be set to a specific sequence of operations. The simple keypad interface allows for quick setup.



Specifications

Accuracy: ±<1% **Syringe sizes accepted:** 10 µL to 140 mL **Linear force:** >100 lb (>45 kg)
Reproducibility: ±0.1% **Output:** RS-232

Description	Flow rate per syringe	Power	Catalog number	Price
Standard syringe pump				
Infusion/withdrawal	0.001 µL/hr to 145.5 mL/min	230 VAC, 50/60 Hz	AU-74903-06	
Programmable syringe pump				
Infusion/withdrawal	0.001 µL/hr to 145.5 mL/min	230 VAC, 50/60 Hz	AU-74903-16	

Stainless Steel Syringes

Capacity	Catalog number	Price
Syringes with 1/16" Swagelock® tip		
2.5 mL	AU-74044-00	
8 mL	AU-74044-10	
20 mL	AU-74044-20	
50 mL	AU-74044-30	
100 mL	AU-74044-40	
200 mL	AU-74044-50	
Syringes with 1/8" Swagelock tip		
8 mL	AU-74044-12	
20 mL	AU-74044-22	
50 mL	AU-74044-32	
100 mL	AU-74044-42	
200 mL	AU-74044-52	
Syringes with 1/4" Swagelock tip		
20 mL	AU-74044-24	
50 mL	AU-74044-34	
100 mL	AU-74044-44	
200 mL	AU-74044-54	
Syringes with luer lock tip		
20 mL	AU-74044-26	
50 mL	AU-74044-36	
100 mL	AU-74044-46	
200 mL	AU-74044-56	

Cole-Parmer® Entry-Level Touch-Screen Syringe Pumps

Get more done simultaneously

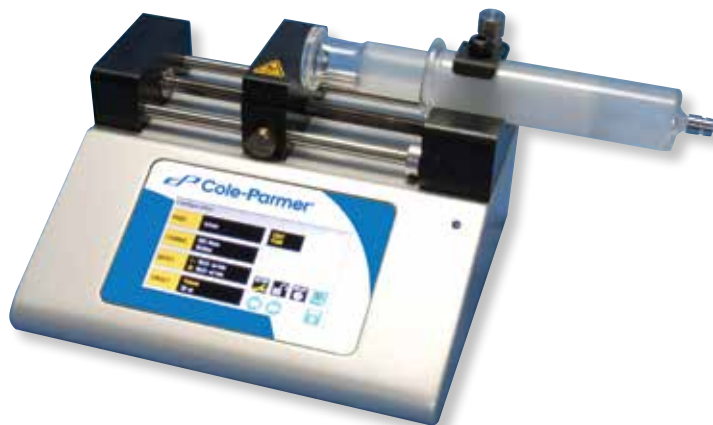
- Displays more information simultaneously
- Control flow rates from 0.58 pL/min to 88.28 mL/min via full-colour touch screen
- Daisy chain up to 99 pumps together with the built-in RS-485 connectivity
- Accept syringes from 0.5 µL to 60 mL

To meet the demands of a busy lab, these syringe pumps have been designed from the base up. The welded steel chassis provides a rigid platform ensuring less vibration is transferred to the syringes. The pump employs an advanced micro-stepping technique to offer a broad pulseless flow range with superior accuracy and repeatability. The proven one-touch quick-release syringe mechanism and large touch screen colour display allows users unparalleled ease of use.

Pump can be placed on its side to provide a smaller footprint with the display automatically rotating.

Specifications

Accuracy: ±0.5%	Output: RS-232, RS-485, USB, 15 pin D-sub connector
Reproducibility: ±0.05%	Power: 100 to 240 VAC, 50/60 Hz
Linear force: 75 lb (34 kg)	



Number of syringes	Syringe sizes accepted	Flow rate per syringe	Catalog number	Price
Infusion only pumps				
1	0.5 µL to 60 mL	1.28 pL/min to 88.28 mL/min	AU-74905-02	
2	0.5 µL to 10 mL		AU-74905-06	
Infusion/withdrawal programmable pumps				
1	0.5 µL to 60 mL	1.28 pL/min to 88.28 mL/min	AU-74905-04	
2	0.5 µL to 10 mL	1.28 pL/min to 88.28 mL/min	AU-74905-08	
2	0.5 µL to 10 mL	0.58 pL/min to 11.70 mL/min	AU-74905-12	
1	0.5 µL to 1000 µL	3.66 pL/min to 363 µL/min	AU-74905-34	

Cole-Parmer® Touch-Screen Syringe Pumps

Intuitive programming and control

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

APPLICATIONS

- ✓ Drug discovery
- ✓ Electrospinning
- ✓ Nanofluidics
- ✓ Flow cytometry

The large touch screen colour display allows users unparalleled ease of use. All operating parameters are visible on the run screen to ensure proper operation during experiments. Syringe size and flow rate are easily displayed, as well as the volume delivered and the elapsed time. Setup is easy using the icon-driven software and users can quickly create configurations and recall them.

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

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

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

Specifications

Accuracy: ±0.355%	Linear force: 75 lb (34 kg)
Reproducibility: ±0.05%	Output: RS-232, RS-485, USB, 15 pin D-sub connector
Syringe sizes accepted: 0.5 µL to 140 mL	Power: 100 to 240 VAC, 50/60 Hz



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

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

Description	Flow rate per syringe	Catalog number	Price
Infusion	5 pL/min to 220.97 mL/min	AU-74905-50	
Infusion/withdrawal		AU-74905-52	
Infusion/withdrawal programmable		AU-74905-54	
Push/pull		AU-74905-56	
Push/pull programmable		AU-74905-58	

Contact us for the full range of products and latest prices!

Cole-Parmer®

Cole-Parmer® Digital Gear Drive with Remote Control

Easier setup and operation

NEW

- Graphical LCD shows four operating modes: continuous run, timed dispense, copy dispense, volume dispense
- Get pulse-free flow in combination with Micropump® A-mount head
- Maximize bench space by stacking up to three drives
- Control speed, direction, and more remotely via DB25 female connector on drive



Analogue remote control options and simple programming make this drive ideal for automated process applications. Drive features set time interval between dispense cycles for hands-free dispensing. Batch count function counts down and displays batches completed. Cumulative volume function enables you to track total volume dispensed over multiple cycles.

What's included: 1.8-m line cord with IEC 320/CEE22 socket. These models are shipped with country specific plug/cord set; please specify ultimate destination when ordering.



Cole-Parmer®

Motor rpm	Motor hp	Motor type	Power VAC	Power Hz	Catalog number	Price
36 to 3600	1/10	PMDC	90 to 260	50/60	AU-75211-70	

[AU-07523-92](#) Foot switch for momentary start/stop; 1.8-m cable

[AU-07523-94](#) Male connector, DB25. Use to create your own cable

Micropump® A-Mount Gear Pump Heads

Achieve leak-free, pulseless flow

Magnetic drive and static seals keep fluids securely inside and potential contaminants out. Chemical resistant materials handle a wide range of materials (due to wetted parts). Pump heads are compact and easy to service. Modular design offers flexibility—configure to your specific needs.

Cavity-style pump heads are designed to handle higher inlet pressures. Models without internal bypass are reversible.

Suction shoe pump heads provide higher delivery pressures and temperatures, plus increased efficiency.



73004-00



73011-00

Specifications

Port size: 1/8" NPT(F)

Max viscosity: 0.2 to 1500 cp

Suction lift

Cavity style: 24" of H₂O (at 1750 rpm)
Suction shoe: 12" of H₂O (3450 rpm)

Duty cycle: continuous

Flow rates (mL/min) [†]			Max pressure bar (psi)		Wetted parts			Temperature range	Internal bypass	Max speed (rpm)	Catalog number	Price	Service kits	
mL/rev	at 50 rpm	at 5000 rpm	Diff	System	Body	Gears	Seals						Cat. no.	Price
Cavity-style pump heads reversible units without internal bypass														
0.32	16	1600	5.5 (80)	20.7 (300)	316 SS	PEEK	PTFE	-73 to 77°C	No	10,000	AU-73011-00	—	—	
			5.5 (80)			PEEK		-73 to 77°C	Yes		AU-73011-02	—	—	
			3.4 (50)			PTFE		-43 to 54°C	Yes		AU-07002-17	AU-07144-38	—	
0.64	32	3200	3.4 (50)	20.7 (300)	316 SS	PTFE	PTFE	-43 to 54°C	Yes	10,000	AU-07002-23	—	—	
			5.2 (75)			PPS		-43 to 77°C			AU-07001-80	AU-07001-89		
0.64	32	3200	5.5 (80)	20.7 (300)	316 SS	PEEK	PTFE	-73 to 77°C	No	10,000	AU-73011-08	AU-73011-84	—	
			5.5 (80)			PEEK		-43 to 77°C	Yes		AU-73011-10	AU-73011-84		
0.91	45.5	4550	5.5 (80)	20.7 (300)	316 SS	PEEK	PTFE	-43 to 77°C	No	10,000	AU-73011-16	—	—	
			5.5 (80)			PEEK		-43 to 77°C	Yes		AU-73011-18	—	—	
			3.4 (50)			PTFE		-43 to 54°C	Yes		AU-07001-40	AU-07001-41	—	
Suction shoe pump heads provide higher delivery pressures and superior priming performance														
0.017	0.85	85	1.4 (20)	20.7 (300)	316 SS	Graphite	PTFE	-46 to 120°C	No	8000	AU-07002-25	AU-07144-42	—	
0.042	2.10	210	2.8 (40)					-46 to 120°C	No	8000	AU-07002-26	—	—	
0.084	4.20	420	2.8 (40)					-46 to 120°C	No	8000	AU-07002-27	AU-07144-47	—	
0.092	4.60	460	5.2 (75)	20.7 (300)	316 SS	PEEK	PTFE	-46 to 120°C	No	8000	AU-73003-14	—	—	
			5.2 (75)			PPS		-46 to 120°C			AU-07002-14	AU-07144-34		
0.261	13.05	1305	8.6 (125)	20.7 (300)	316 SS	PEEK	Viton®	-46 to 120°C	Yes	10,000	AU-73004-00	—	—	
0.58	29.00	2900	8.6 (125)	20.7 (300)	316 SS	PEEK	Viton	-46 to 120°C	Yes	10,000	AU-73004-02	—	—	
			5.2 (75)			PPS		-46 to 120°C			AU-07003-02	AU-07003-12		
1.17	58.50	5850	4.1 (60)	20.7 (300)	316 SS	PEEK	Viton	-46 to 120°C	Yes	10,000	AU-73004-04	—	—	
			4.1 (60)			PPS		-46 to 120°C			AU-07003-04	AU-07003-14		

Note: Viscosity for all models is dependent on the parameters (flow rate, pressures, etc.) of the specific application. [†]Flow rates based on water at room temperature and no back pressure.

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

Get steady, pulseless flow with the convenience of 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. Expected pumping life is 18 hours at 50 rpm.



Specifications

mL/rev: 5.0	Max vacuum: -10 psi (-0.7 bar)
Flow range: 0.5 to 500 mL/min	Max viscosity: 70 cps
Accuracy: ±3% (<2.5 mL); ±1% (>2.5 mL)	Connections: female luer lock
Max pressure: 36 psi (2.5 bar)	Materials of construction: aluminum adapter; co-polyester pump head with FKM gaskets



NEW

Masterflex L/S dispensing drive 07522-30 (order separately below)



Starter kit 07539-20 includes one reusable mounting adapter and three pump heads.

Masterflex® L/S® Variable-Speed Dispensing Drive

Combine with the single-use pump head for pulseless versatile, worry-free operation. Brushless, maintenance-free motor provides ±0.1% speed control accuracy with 6000:1 turndown ratio. Features antidrip function—get even more accurate dispensing with preprogrammed calibration. Bright graphical LCD offers easy programming, four operating modes, and seven languages. Choose how you want to dispense: volume, copy cycles, or time. Operate remotely via DB25 female connector.

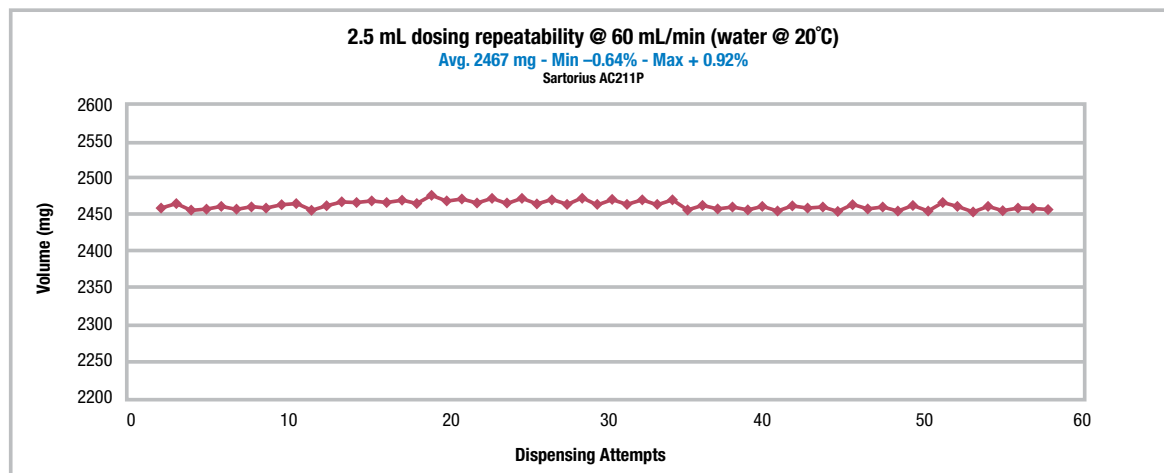
Find full specifications and more information on page 7.

[AU-07522-30](#) Masterflex L/S variable-speed drive

Description	Catalog number	Price
Starter kit (contains one reusable pump head mounting adapter and three single-use pump heads)	AU-07539-20	
Replacement single-use pump head. Pack of 1	AU-07539-30	
Replacement single-use pump head. Pack of 3	AU-07539-32	
Replacement single-use pump head. Pack of 6	AU-07539-34	

The Proof is in the Dispensing

In dispensing applications, the Cole-Parmer single-use pump head not only offers relatively pulseless flow but also remarkable repeatability. In performance tests measured by a Sartorius AC211P analytical balance, over multiple dispensing operations, the pump head delivered consistent volumes. Similar studies related to flow rates over time also show exceptional consistency at different flow rates.



Cole-Parmer® High-Precision, 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



APPLICATIONS

- ✓ General lab fluid transfer
- ✓ Precise chemical metering
- ✓ Dispensing
- ✓ Preparative and simulated moving bed chromatography
- ✓ UHP chromatography
- ✓ Analytical, flash, and small-scale preparations

Get high performance and high precision at an affordable price! This series of Cole-Parmer pumps precisely meter and dispense chemicals, making them perfect for both your analytical and small-scale applications. Requiring minimal bench space, these pumps will easily integrate into any laboratory or industrial environment.

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



74931-01



74931-20



74931-12



74931-45



74931-10



Description		Single-head pumps			High-flow dual-head pumps			High-performance isocratic pumps		Low-pulsation dual-head pump
Catalog number		AU-74931-00	AU-74931-01	AU-74931-20	AU-74931-10	AU-74931-11	AU-74931-12	AU-74931-25	AU-74931-45	AU-74931-30
Flow	Range (mL/min)	0 to 10			0 to 100	0 to 300		0 to 100	0 to 10	0 to 12
	Accuracy	±2% of set point			±3% of set point			±3% of set point	±2% of set point	±2% of set point
	Repeatability	±1%	±0.2%		±0.5%			±0.5%		±0.2%
Pressure	Range (psi)	0 to 2000		0 to 6000	0 to 4000		0 to 1000	0 to 4000	0 to 5000	0 to 6000
	Accuracy	—		±2% full-scale	±2% full-scale			—		±2% full-scale
Pulse dampener		No	Yes		Yes	No	No	Yes		Yes
Pump head material		PEEK	316 SS	316 SS	PEEK	316 SS	316 SS	316 SS	316 SS	316 SS
Wetted materials		Synthetic ruby, sapphire, UHMWPE, PTFE			Synthetic ruby, sapphire, UHMWPE, PTFE			Synthetic ruby, sapphire, UHMWPE, PTFE		Synthetic ruby, sapphire, UHMWPE, PTFE
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		RS-232, micro USB, voltage flow control, run/stop
Max temperature (fluid)		212°F (100°C)			212°F (100°C)			212°F (100°C)		212°F (100°C)
Duty cycle		Continuous			Continuous			Continuous		Continuous
Self-priming		No			No			No		No
Dimensions (W x H x D)		7.6 x 14 x 26.7 cm		17.8 x 16.5 x 40.6 cm	25.4 x 16 x 43.2 cm			17.8 x 16.5 x 40.6 cm		25.4 x 16 x 43.2 cm
Power (VAC, Hz)		100 to 240, 50/60			100 to 240, 50/60			100 to 240, 50/60		100 to 240, 50/60
Price										

Ismatec® High-Pressure Programmable Piston Pumps

No valves to clog or wear out

- Six dispensing modes—volume within a preset time, volume in steps, time, intermittent in time or volume, drip-free, or valve operation
- Control speed, start/stop flow, or change fluid direction manually or remotely

Up to four sets of operating parameters can be stored in the pump (for pumps with Series Q pump heads only). RS-232 interface allows for control of pump via a PC or for cascading up to eight pumps. Housing is IP65 rated for Series Q pumps and IP30 rated for Series R pumps.

Pumps include: a Series Q or Series R piston pump head with mounting hardware and a 6-ft (1.8-m) power cord with an IEC 320/CEE 22 European plug. These models are shipped with country specific plug/cord; please specify ultimate destination when ordering.

APPLICATIONS

- ✓ Blister pack filling
- ✓ Drug discovery chemical mixing
- ✓ Dissolution addition
- ✓ Precise dispensing



ISMATEC®



A
High-pressure piston pump 78021-12 with Series Q 316 SS pump head



B
High-pressure piston pump 78021-52 with Series R pump head

Series Q PVDF pump head included with high-pressure piston pump 78021-21

Specifications

Accuracy: ±0.1%
Suction lift: 4.6 m H₂O
Power: 230 VAC, 50/60 Hz
Viscosity: 500 cp

Remote control inputs: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, or 4 to 20 mA via DB15 female port; RS-232 via DB9 female port; start/stop and reverse direction via contact closure; footswitch via three-pin DIN port

Don't Forget...



Fittings
pages 49–60



Tubing
pages 43–48

Flow range (mL/min)	Piston dia	Max pressure psi (bar)	Max temp °F (°C)	Pump head materials of construction			Autoclavable pump head	Connections	Catalog number	Price	
				Piston	Cylinder body	Cylinder liner					
A. High-pressure piston pumps with Series Q pump head											
0.04 to 144	1/8"	100 (6.8)	140 (60)	316 SS	316 SS	Carbon	Yes	1/4" NPT (F) with 3/8" barb adapter 1/4" OD compression	AU-78021-01		
		60 (4.1)	140 (60)	316 SS	PVDF	Carbon	No		AU-78021-03		
0.13 to 576	1/4"	100 (6.8)	140 (60)	316 SS	316 SS	Carbon	Yes	1/4" NPT (F) with 3/8" barb adapter 1/4" OD compression	AU-78021-05		
		60 (4.1)	212 (100)	316 SS	PVDF	Carbon	No		AU-78021-07		
		100 (6.8)	212 (100)	Ceramic	PVDF	Ceramic	No		AU-78021-09		
0.13 to 576	1/4"	60 (4.1)	212 (100)	Ceramic	316 SS	Carbon	No	1/4" OD compression	AU-78021-11		
		100 (6.8)	350 (177)				Yes		1/4" NPT (F) with 3/8" barb adapter	AU-78021-13	
		100 (6.8)	350 (177)				Yes		1/4" NPT (F) with 3/8" barb adapter	AU-78021-15	
0.29 to 1300	3/8"	60 (4.1)	140 (60)	316 SS	PVDF	Carbon	No	1/4" OD compression	AU-78021-17		
		100 (6.8)	140 (60)	316 SS	316 SS	Carbon	Yes		1/4" NPT (F) with 3/8" barb adapter	AU-78021-19	
		60 (4.1)	212 (100)	Ceramic	PVDF	Ceramic	No		1/4" OD compression	AU-78021-21	
0.29 to 1300	3/8"	60 (4.1)	212 (100)	Ceramic	316 SS	Carbon	No	1/4" OD compression	AU-78021-23		
		100 (6.8)	350 (177)				Yes		1/4" NPT (F) with 3/8" barb adapter	AU-78021-25	
		100 (6.8)	350 (177)				Yes		1/4" NPT (F) with 3/8" barb adapter	AU-78021-27	
B. High-pressure piston pumps with Series Q pump head, meet 3A Sanitary Standard 02-08A1 for use with foods											
0.13 to 576	1/4"	100 (6.8)	350 (177)	Ceramic	316 SS	Ceramic	Yes	1/4" NPT (F) with 3/8" barb adapter	AU-78021-29		
0.29 to 1300	3/8"	100 (6.8)	350 (177)	Ceramic	316 SS	Ceramic	Yes	1/4" NPT (F) with 3/8" barb adapter	AU-78021-31		
B. High-pressure piston pump with Series R pump head											
0.8 to 360	1/4"	100 (6.8)	212 (100)	Ceramic	PVDF	Ceramic	No	1/4" OD compression	AU-78021-53		

Contact us for the full range of products and latest prices!

Cole-Parmer®

Phone: 020-8574-7556

Fax: 020-8574-7543

sales@coleparmer.co.uk

www.coleparmer.co.uk

Tabletop Piston Pump Filling Systems

Make repetitive dispensing easy

- Dispense from <1 to 130 mL
- Maintain high accuracy ($\pm 0.5\%$ or better) with high cycle rate
- Handle a wide range of viscosities
- Compact design, stainless steel construction
- Simple to set up, operate, clean and changeover

APPLICATIONS

- ✓ Bottle/vial filling
- ✓ Ointment dispensing
- ✓ Syringe filling

Great for free-flowing or semi-viscous fluids, they offer high accuracy and repeatable dispensing of media including ointments, vaccines, injectables, and biological reagents into a variety of containers including vials, bottles and bags.

The system is housed in a durable stainless steel housing and is easy to operate, clean and changeover. Operate the system via foot switch (included with the system) or continuous cycle mode. Ideal for use in small production runs and R&D departments.

Tabletop filler includes: foot switch and a 1.8-m cord with IEC 320 plug.

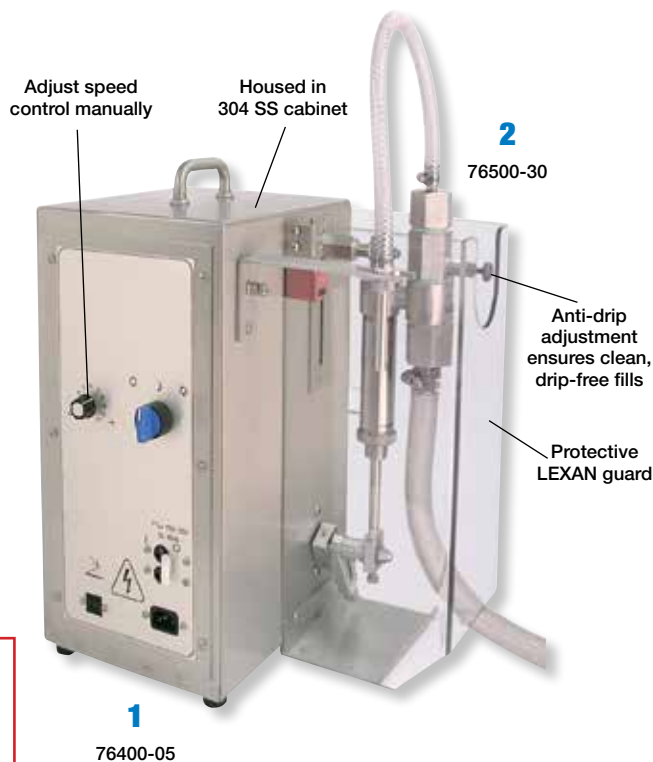
Pump includes: intake and discharge hoses, and stainless steel nozzle.

Service kit includes: spare O-rings and pump seals.



REQUIRED System Components

- 1) Tabletop filler
 - 2) Piston pump
- Optional**
- 3) Service kit



1. Tabletop Fillers

Description	No. of piston pumps accepted	Compatible piston pumps	Liquid viscosity	Fill sizes	Cycle rate†	Power	Catalog number	Price
Single-head piston pump tabletop filler	One	76500-00, -10, -20, -30, -60	Free-flowing††, semi-viscous‡‡	<1 to 130 mL	3 to 35 fills/minute	220 VAC	AU-76400-05	
Dual-head piston pump tabletop filler	Up to 2	76500-10, -20, -30, -60	Free-flowing††, semi-viscous‡‡	<1 to 130 mL	6 to 70 fills/minute	220 VAC	AU-76400-15	

†Actual dispense rates may vary depending on product, fill volume, and accuracy desired.

††Free-flowing = aqueous solutions, water-thin reagents.

‡‡Semi-viscous = thin oils, conditioner, shampoo, thin syrup, saturated solutions, agar, hand/body lotion.



Specifications for Piston Pumps and Service Kits

Accuracy: $\pm 0.5\%$ or better

Wetted materials: stainless steel, silicone, and PTFE

Piston type: stainless steel with O-ring

2. Piston pumps							3. Service kits		
Dispensing volume	Liquid viscosity	Intake and discharge valve type	Intake hose	Discharge hose	Nozzle	Catalog number	Price	Catalog number	Price
0.1 to 1.0 mL	Free-flowing††	SS ball check, passively actuated	3/16" ID braid reinforced PVC	1/8" ID braid reinforced PVC	1/16" SS	AU-76500-00		AU-76500-01	
0.3 to 3.0 mL	Free-flowing‡‡, semi-viscous‡‡	SS ball check, passively actuated	3/8" ID braid reinforced PVC	1/8" ID braid reinforced PVC	1/8" SS	AU-76500-10		AU-76500-11	
1.5 to 15 mL	Free-flowing††, semi-viscous‡‡	SS ball check, passively actuated	3/8" ID braid reinforced PVC	3/16" ID braid reinforced PVC	3/16" SS	AU-76500-20		AU-76500-21	
6.0 to 60 mL	Free-flowing††, semi-viscous‡‡	SS ball check, passively actuated	3/4" ID braid reinforced PVC	3/8" ID braid reinforced PVC	3/8" SS	AU-76500-30		AU-76500-31	
13.0 to 130 mL	Free-flowing††	SS ball check, passively actuated	3/8" ID braid reinforced PVC	3/8" ID braid reinforced PVC	3/8" SS	AU-76500-60		AU-76500-61	

††Free-flowing = aqueous solutions, water-thin reagents.

‡‡Semi-viscous = thin oils, conditioner, shampoo, thin syrup, saturated solutions, agar, hand/body lotion.

Pump Solutions

for Pharmaceuticals, Life Science and Biotechnology

Hygienic metering and transferring of media

Cole-Parmer offers a wide selection of pumping technologies and system solutions designed to be easily cleaned and drained. With over 60 years of supplying pharmaceutical manufacturing, biotech facilities and cosmetic production, we have the experience and knowledge to ensure your production delivers to the highest levels. Contact our Applications team to discuss your needs.

Sanitary Centrifugal Pumps

Eliminate piping changes with interchangeable design

- Options available for flow rates up to 450 LPM
- 316L stainless steel liquid end construction
- Washdown motors available in either white epoxy or stainless steel
- Heavy-duty pumps have a casing that is twice the thickness of the standard versions
- Heavy-duty pumps are designed for Steam-in-Place (SIP)



Models have Tri-Clamp® connections and motors are available in either single- or three-phase options. High-efficiency design and performance offers gentle product handling capability up to 1200 cp. Contact our Application Specialists for assistance in sizing the proper pump for your system.

Sanitary Washdown Rotary Lobe Pumps

Low-maintenance pumps conform to 3A Sanitary Standards

- Options available for flow rates up to 570 LPM and viscosity up to 10,000 cp
- No timing adjustments needed for biwing rotors
- High-pressure capability with heavy-duty shaft design



Pumps are approved to EHEDG (European Hygienic Equipment Design Group) and CIP/SIP standards. Remove pump casing for quick maintenance. Reduced noise and cavitation provide for a safe and comfortable working environment. Risk of particles being shed into fluid stream is reduced with noncontacting rotors. Mount pump heads either vertically or horizontally. Pumps include NEMA 4 washdown motors and NEMA 4 washdown variable-speed controllers. Variable-speed operation is digital and via a keypad mounted to the motor.

Other options available

Contact our Application Specialists to help you find the right product.

020-8574-7556 | sales@coleparmer.co.uk



Cole-Parmer® Custom Pump Systems

Custom designed and preassembled to meet your exact specifications!

Our prebuilt, pretested systems are designed to eliminate the hassle of finding, buying, and assembling all the pieces and parts needed. Instead of buying pumps, valves, calibration assemblies, filtration and strainer components, gauges, and controllers separately and then having to put these together on-site, we have created our “Plug and Play” skids. These skids only require you to connect the inlets and outlets and power.

Following our motto of providing solutions that you trust, we are continually expanding and improving our “standard” systems to provide a better starting point to meet your custom needs. For a well-thought-out design (with drawings) at a competitive price, please contact one of our Application Specialists today!



 Cole-Parmer®

Heavy-Duty Drum and Container Pumps

Configurable to your requirements

1. Electric and Air Motors

A. Electric Motor is ideal for difficult pumping situations. Splashproof, corrosion-resistant epoxy coating resists caustic fluids. Built-in overload protection switch has manual reset for safety.

B. Heavy-Duty Motor is best for applications requiring high output head. Features a built-in overload switch with manual reset to avoid the danger of automatic restarting.

C. Air-Operated Motor is ideal for hazardous-duty applications or where electricity is not available. Motor is fitted with a muffler and includes grounding post. Model 07070-70 also has a unique trigger valve handle—press switch for intermittent pumping; lock switch for continuous use.



REQUIRED System Components

- 1) Motor
- 2) Tube set

Maximum viscosity	Motor type	W	rpm	Power	Catalog number	Price
A. Electric motor[‡]						
800 cp	TEFC	460	9000	230 VAC, 50 Hz	AU-07070-33	
B. Heavy-duty motor[‡]						
800 cp	TEFC	700	9500	230 VAC, 60 Hz	AU-07076-25	
C. Air-operated motor[‡]						
1200 cp	Air	470	900	17 cfm at 85 psi	AU-07070-60	
				17 cfm at 85 psi with on/off control	AU-07070-70	

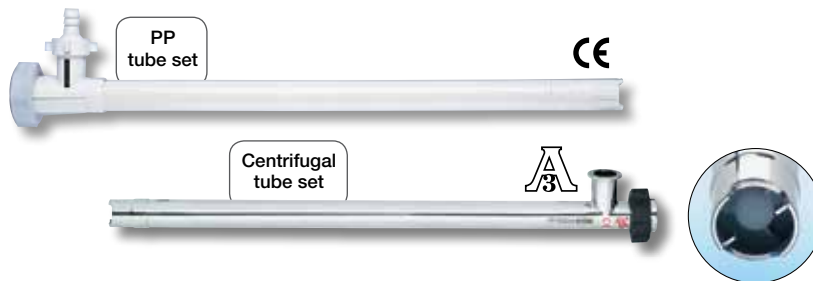
[‡]These motors can be used with standard and sanitary centrifugal tube sets.

2. Tube Sets

A. Standard Tube Sets feature a seal-less design for low maintenance and long life. All tube sets include a hose barb fitting made of the same material as the tube set. Fitting accepts either 3/4" or 1" ID tubing.

Polypropylene (PP) sets are an economical choice for pumping dilute acids and low-concentration caustics. **PVDF sets** are ideal for your high-purity applications. **Stainless steel (SS) sets** are for strong solvents such as trichloroethylene and most strong acids and alkalis.

B. Sanitary Centrifugal Tube Sets. Completely disassemble, clean, and re-assemble these stainless steel tube sets in 10 minutes or less! Ideal for low-viscosity liquids such as wines, flavorings, perfumes, and sauces. Sets handle viscosities up to 1200 cp. Order a 700 W motor.



Specifications

Tube material	Maximum temperature	Wetted materials	Tube OD	Port
PP	50°C	PP body; ETFE impeller; Viton®, PTFE, carbon, Hastelloy® C	41 mm	1 1/4" BSPP(M) or 3/4" hose barb
PVDF	100°C	PVDF body; ETFE impeller; Viton, PTFE, carbon, Hastelloy C	41 mm	1 1/4" BSPP(M) or 3/4" hose barb
Standard SS	120°C	SS body; ETFE impeller; Viton, PTFE, carbon	43 mm	1 1/4" BSPP(M) or 1" hose barb
Sanitary SS	120°C	316 stainless steel, ETFE impeller	50 mm	1 1/2" Tri-Clamp®

Tube length	A. Standard tube sets								B. Sanitary centrifugal tube sets					
	Max flow ^{‡‡}	Max head	Polypropylene (PP)		PVDF		Max flow ^{‡‡}	Max head	Stainless steel (SS)		Max flow ^{‡‡}	Max head	Stainless steel (SS)	
			Cat. no.	Price	Cat. no.	Price			Cat. no.	Price			Cat. no.	Price
0.7 m	132 LPM	12.2 m	AU-70600-00		AU-70601-00		166 LPM	11 m	AU-70602-00		189 LPM	22 psi (1.5 bar)	AU-70603-00	
1.0 m			AU-70600-02		AU-70601-02				AU-70602-02				AU-70603-02	
1.2 m			AU-70600-04		AU-70601-04				AU-70602-04				AU-70603-04	
1.5 m			AU-70600-06		AU-70601-06				AU-70602-06				—	—

^{‡‡}Flow rates using electric TEFC motor 07070-33. For more complete flow information, contact our Technical Specialists.

Wait!

There's More at [ColeParmer.co.uk](#)

Browse **100,000+** products plus find **Technical Resources** to help you choose

Complete Drum and Container Pumps

Reduce maintenance—no mechanical seals

- Pump tube and motor sold together for your convenience
- Electric or air options for use in ATEX Zone 1
- Pumps can be run dry

Drum and container pumps are engineered to safely transfer a variety of liquids from drums, tanks and small storage vessels. Order a pump kit from the Accessories below for added control.

A. ATEX Zone 1 Electric Motor

The ATEX Zone 1 electric motor has a variable-speed switch and a no-volt release to prevent any unintentional re-starting after a voltage discontinuity. The motor is rated to IP55 and is supplied with a 5 m power cord.

B. ATEX Zone 1 Air Motor

The ATEX Zone 1 air motor can provide speed control by adjusting either the air supply pressure or volume. The motor includes an exhaust silencer.



A
79268-62

B
79268-72



Pump 79268-62
with kit 79268-95

Specifications

Outlet: 1/4" BSPP(M)	Max temperature: 45°C
Duty cycle: continuous	Approval
Wetted parts: 316 stainless steel (SS), ETFE	Electric motor: II 2G Ex de IIC T6 Gb Air motor: II 2 G c IIC T6

Key	Motor	Max flow	Max head	Max viscosity	Tube			Wetted parts	Shipping weight	Catalog number	Price
					Type	Length	Outer dia. tube/foot valve				
A	Electric 240 VAC, 50 Hz	220 LPM	12 m	900 cp	316 SS	0.7 m	4 1/4 mm	316 SS, ETFE	7.3 kg	AU-79268-60	
						1.0 m			8.0 kg	AU-79268-62	
						1.2 m			8.4 kg	AU-79268-64	
B	Air	240 LPM	13 m	1200 cp	316 SS	0.7 m	4 1/4 mm	316 SS, ETFE	3.1 kg	AU-79268-70	
						1.0 m			3.8 kg	AU-79268-72	
						1.2 m			4.2 kg	AU-79268-74	

Accessories

Choose from these convenient kits to complete your pumping system. Both kits include a dispensing tap with all the relevant hose and connectors to fit to the pumps listed above.

AU-79268-94 Accessory pump kit for concentrated highly flammable liquids, use with all pumps above. Suitable for transferring high flammability liquids like acetone, butyl alcohol, ethyl alcohol, methyl alcohol, petrol, toluene, xylene, etc. Kit includes 2-m long electrically conductive chemical hose (19-mm ID) with swaged hose fittings in brass, quick-action hand nozzle tap (brass, nickel-plated), PP compression gland, and an earth ground wire

AU-79268-95 Accessory pump kit for universal applications, use with all pumps above. Suitable for transferring different liquids in the following industries: food, cosmetics, pharmaceutical, paint and varnishes. Kit includes 2-m long electrically conductive chemical hose (19-mm ID) complete with swaged hose fittings in stainless steel, quick-action nozzle tap (SS/PTFE/FEP), PP compression gland and earth ground wire

Wait! There's More...

Custom Ordering Solutions

On this page and on our web site www.coleparmer.co.uk/pumps, there are many pumps that fulfill a wide variety of applications. If your situation requires additional engineering time in either determining the capacity or materials of construction, we can help you. With a quick phone call to 0500-345-300, we will assist you in determining the best pump technology to meet your demands.

- Whether it is polypropylene, PVC, PVDF, stainless steel, or PTFE...
- Whether it is nanoliter to thousands of liters per minute flow ranges...
- Whether it needs to be submersible, high pressure, or low maintenance...
- Many different motor options available—from 230 VAC to Air to ATEX

Cole-Parmer has the pump to meet your unique system requirements!

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 1.8-m cord with a European (Schuko) plug.

Service kits include all components commonly required for refurbishment.



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											
0.67 (19)	100 Torr	6.89 bar (100 psig)	Aluminum (treated for corrosion resistance), SS, and PTFE	1/8	62 dB(A)	1/4"	230, 50	AU-79204-05		AU-79204-01	
0.99 (28)	70 Torr	3.45 bar (50 psig)		1/8			230, 50	AU-79204-15		AU-79204-11	
1.34 (38)	60 Torr	6.89 bar (100 psig)		1/4			230, 50	AU-79204-25		AU-79204-21	
Dual-head pumps											
1.8 (50)	5 Torr	—	Aluminum (treated for corrosion resistance), SS, and PTFE	1/3	58 dB(A)	3/8"	230, 50	AU-79204-35		AU-79204-31	
5.9 (168)	60 Torr	—					230, 50	AU-79204-75		AU-79204-51	

†Ultimate total vacuum

[AU-06414-20](#) Tygon® non-DEHP vacuum tubing, 1/4" ID x 5/8" OD. Pack of 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
- Head on pump 07061-05 is connected in parallel for higher capacity; head on 07061-13 is connected in series for greater vacuum
- Select pumps with or without gauges, regulators, and valves
- Free-air capacities up to 51 L/min

What's included: 1.8-m, three-wire cord. Model 07061-13 includes a filter/muffler.



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	1.0 (28.3)	24.0" Hg	4.14 bar (60 psi)	Aluminum, stainless steel, Nordel®, and Nomex®	1/8	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	220/240, 50	AU-07061-22	
Pumps with gauges, regulators, and adjustable relief valve										
Single	1.0 (28.3)	24.0" Hg	4.14 bar (60 psi)	Aluminum, stainless steel, Nordel, and Nomex	1/8	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	220/240, 50	AU-07061-42	
Dual/parallel	1.8 (51.0)	24.0" Hg	4.14 bar (60 psi)		1/4			220, 50	AU-07061-05	
Pump with vacuum gauge only										
Dual/series	0.85 (24.0)	28.0" Hg	—	Aluminum, stainless steel, Nordel, and Nomex	1/4	1/4" NPT(F), 3/8" hose barb on gauges	68 dB(A)	220, 50	AU-07061-13	

[AU-07061-32](#) Pressure regulator assembly for pump 07061-22

[AU-07061-30](#) Vacuum regulator assembly for pump 07061-22

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

[AU-07061-03](#) Service kit for dual-head pumps. Pumps 07061-05 and -13 also requires kit 07061-01

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

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

Diaphragm Vacuum Pumps

Minimize additional noise

- Quiet operation—all models are rated at or below 45 dB(A)
- Ideal for vacuum/pressure filtration, cryogenics, and distillation
- Pumps are designed for high reliability and provide a nearly maintenance-free service life

These oilless diaphragm pumps provide excellent free air-capacity resulting in better ultimate vacuum even with gas ballast. Drive mechanism powers the pumps with less noise and vibration.

Order a 79103-series pump for general-purpose applications; select a 79104-series pump with chemical-resistant wetted parts for highly corrosive applications. Choose a model with a gas ballast valve when working with condensable gases.



No. of stages	Free-air capacity L/min	Max vacuum without gas ballast	Max temperature	Wetted parts	Port size	Noise level	230 VAC, 50 Hz models	
							Catalog number	Price
A. General-purpose diaphragm pumps								
1	66	70 mbar (52 Torr)	40°C	Viton®, aluminum, polyamide, and PVC	10-mm hose barb	45 dB(A) or less	AU-79103-61	
1	121	70 mbar (52 Torr)	40°C				AU-79103-63	
2	36	7 mbar (5 Torr)	40°C				AU-79103-65	
2	38	4 mbar (2.5 Torr)	40°C				AU-79103-67	
3	63	1 mbar (0.75 Torr)	40°C				AU-79103-69	
2	36	0.5 mbar (0.4 Torr)	40°C				AU-79103-71	
B. Chemical-resistant diaphragm pumps (not shown)								
1	68	70 mbar (52 Torr)	40°C	PTFE, Kalrez, and ETFE resins	10-mm hose barb	45 dB(A) or less	AU-79104-61	
1	121	70 mbar (52 Torr)	40°C				AU-79104-63	
2	36	7 mbar (5 Torr)	40°C				AU-79104-65	
3	56	1.5 mbar (1 Torr)	40°C				AU-79104-67	

Self-Adjusting Vacuum System

Set it and walk away

- No need to continually monitor operation
- Reduce evaporation time by up to 30%
- Minimizes bumping and foaming by automatically regulating vacuum to changing conditions
- Complete system takes up less space with built-in solvent recovery system and controller
- Low maintenance—runs up to 15,000 hours before servicing
- Quiet operation for minimal interruptions

This diaphragm vacuum pump has a corrosion-resistant flow path and integrated gas ballast, with vacuum pressures down to 2 mbar (1.5 Torr). Incorporated controller features a graphic interface and allows for quick manual adjustments. No need to reprogram—save up to ten user-defined multistep programs. RS-232 port allows for computerized control of pump programs, settings, and process validation.

What's included: oil-free pump, digital vacuum controller with integral solvent recovery system, and power cord.

NEW



Number of stages	Free-air capacity L/min	Max vacuum with gas ballast	Wetted parts	Noise level	Port size	Power	Catalog number	Price
3	33	4 mbar (3 Torr)	PTFE, ETFE (carbon fiber reinforced), FFKM	42 dB	Inlet: 6- to 10-mm hose barb Outlet: 8- to 10-mm hose barb	230 VAC, 50/60 Hz	AU-79110-42	

Fluid Path

Protect your culture from seed to final fill

All the fluid path components you need that meet applicable regulatory requirements

Ensure purity with silicone tubing 43–45

Customize the fluid path to your needs
with weldable, sealable tubings 46

Mate lines virtually anywhere with all-plastic
quick disconnects. 53

Fermentation vessel connections are made
easy with sanitary adapters 56–57

Store and protect media with tanks and
single use liners 65



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or Ch@t Live

Silastic® Platinum-Cured Silicone Tubing

Resists bacteria and fungus growth



Characteristics: Platinum-cured silicone, nonpyrogenic, bacteria and fungus-resistant, extremely low extractables, and does not impart a taste or odor.

Certifications: Exceeds USP Class VI Plastics Test requirements, elastomer and tubing are manufactured under Bulk Pharmaceutical cGMPs in an FDA-registered, ISO-9002-certified facility.

Temperature range: -54 to 249°C

Sterilize: Autoclave or radiation.

Dimensions: in. (mm)			Catalog number	Price/ 15.2-m pk
ID	OD	Wall		
0.012 (0.3)	0.025 (0.6)	0.0065 (0.2)	AU-96115-00	
0.02 (0.5)	0.037 (0.9)	0.0085 (0.22)	AU-96115-02	
0.025 (0.6)	0.047 (1.2)	0.011 (0.3)	AU-96115-04	
0.03 (0.8)	0.065 (1.7)	0.0175 (0.4)	AU-96115-06	
0.04 (1)	0.085 (2.2)	0.0225 (0.6)	AU-96115-08	
0.058 (1.5)	0.077 (2.0)	0.0095 (0.2)	AU-96115-10	
0.062 (1.6)	0.095 (2.4)	0.0165 (0.4)	AU-96115-12	
0.062 (1.6)	0.125 (3.2)	0.0315 (0.8)	AU-96115-14	
0.078 (2)	0.125 (3.2)	0.0235 (0.6)	AU-96115-16	
0.104 (2.6)	0.192 (4.9)	0.044 (1.1)	AU-96115-18	
0.132 (3.4)	0.183 (4.6)	0.0255 (0.6)	AU-96115-20	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	AU-96115-22	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	AU-96115-24	
3/16 (4.8)	3/8 (9.5)	3/32 (2.4)	AU-96115-26	
1/4 (6.4)	3/8 (9.5)	1/16 (1.6)	AU-96115-28	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	AU-96115-30	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	AU-96115-32	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	AU-96115-34	
3/8 (9.5)	1/2 (12.8)	1/16 (1.6)	AU-96115-36	
3/8 (9.5)	9/16 (14.3)	3/32 (2.4)	AU-96115-38	
3/8 (9.5)	5/8 (15.9)	1/8 (3.2)	AU-96115-40	
1/2 (12.8)	11/16 (17.5)	3/32 (2.4)	AU-96115-42	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	AU-96115-44	
5/8 (15.9)	7/8 (22.2)	1/8 (3.2)	AU-96115-46	

Cole-Parmer® Peroxide-Cured Reinforced Silicone Tubing

Low compression formulation keeps its shape and cleanliness



Characteristics: Excellent heat resistance, low compression set, odorless, nontoxic, low tackiness, translucent.

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

Temperature range: -51 to 204°C

Sterilize: Autoclave or gamma irradiation.

Cole-Parmer®

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/pk
ID	OD	Wall			
1/16 (1.8)	5/16 (8.0)	1/8 (3.2)	175 (12.1)	AU-95623-00	7.6 m
1/8 (3.2)	3/8 (9.6)	1/8 (3.2)	175 (12.1)	AU-95623-01	7.6 m
1/4 (6.4)	9/16 (14.4)	5/32 (4.0)	155 (10.7)	AU-95623-03	7.6 m
5/16 (8.0)	19/32 (15.1)	9/64 (3.6)	145 (10.0)	AU-95623-04	7.6 m
3/8 (9.6)	11/16 (17.6)	5/32 (4.0)	138 (9.5)	AU-95623-05	7.6 m
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	125 (8.6)	AU-95623-06	7.6 m
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	57 (3.9)	AU-95623-08	7.6 m
7/8 (22.2)	1 1/4 (31.8)	3/16 (4.8)	119 (8.2)	AU-95623-09	7.6 m
1 (25.4)	1 3/8 (35.0)	3/16 (4.8)	113 (7.8)	AU-95623-10	3 m

Cole-Parmer® Silicone Tubing

No need to worry about the heat—
use for applications up to 238°C

Peroxide Silicone



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: -51 to 238°C

Sterilize: Autoclave or gamma irradiation.

Platinum Silicone



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: -50 to 230°C

Sterilize: Autoclave or gamma irradiation.

Cole-Parmer®

Dimensions: in. (mm)			Max psi at 21°C	Peroxide silicone		Platinum silicone	
ID	OD	Wall		Catalog number	Price/ 7.6-m pk	Catalog number	Price/ 7.6-m pk
1/50 (0.5)	1/12 (2.1)	1/32 (0.8)	30	AU-06411-59		AU-95802-00	
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	30	AU-06411-60		AU-95802-01	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	15	AU-06411-62		AU-95802-02	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	15	AU-06411-63		AU-95802-03	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	10	AU-06411-64		AU-95802-04	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	20	AU-06411-67		AU-95802-05	
1/8 (3.2)	3/8 (9.6)	1/8 (3.2)	25	AU-06411-68		AU-95802-06	
5/32 (4.0)	5/32 (4.0)	1/32 (0.8)	10	AU-06411-65		AU-95802-07	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	9	AU-06411-66		AU-95802-08	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13	AU-06411-03		AU-95802-09	
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	22	AU-06411-69		AU-95802-10	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	9	AU-06411-70		AU-95802-11	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10	AU-06411-71		AU-95802-12	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	17	AU-06411-72		AU-95802-13	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	17	AU-06411-74		AU-95802-14	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	10	AU-06411-75		AU-95802-15	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	16	AU-06411-76		AU-95802-16	
5/16 (8.0)	9/16 (14.4)	1/8 (3.2)	20	AU-06411-77		AU-95802-17	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	10	AU-06411-12		AU-95802-18	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	12	AU-06411-78		AU-95802-19	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	15	AU-06411-79		AU-95802-20	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	9	AU-06411-80		AU-95802-21	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	10	AU-06411-19		AU-95802-22	
1/2 (12.8)	3/4 (19.2)	1/8 (3.2)	12	AU-06411-55		AU-95802-23	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	10	AU-06411-82		AU-95802-24	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	12	AU-06411-58		AU-95802-25	
3/4 (19.2)	1 (25.4)	1/8 (3.2)	9	AU-06411-83		AU-95802-26	

DON'T RISK IT!

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



Dow Corning® Pharma-50 Tubing

No organic additives and low extractables



Characteristics: 50 durometer, translucent platinum-cured silicone tubing with a very low extractable profile. Pharma tubing remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer exceeds test guidelines for USP Class VI Plastics and the tubing itself meets or exceeds FDA (21 CFR 177.2600), 3A Sanitary Standards and European Pharmacopoeia (EP) requirements. Produced under Bulk Pharmaceutical (BP) and current GMP principles.

Temperature range: -51 to 232°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	21 (1.4)	AU-96105-00	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	16 (1.1)	AU-96105-02	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	12 (0.8)	AU-96105-03	
1/4 (6.4)	7/16 (11.1)	3/32 (2.4)	17 (1.2)	AU-96105-04	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	17 (1.2)	AU-96105-05	
5/16 (8.0)	1/2 (14.0)	1/8 (3.0)	16 (1.1)	AU-96105-06	
3/8 (9.6)	9/16 (14.3)	3/32 (2.4)	13 (0.9)	AU-96105-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	14 (1.0)	AU-96105-09	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	10 (0.7)	AU-96105-11	
5/8 (16.0)	7/8 (22.2)	1/8 (3.2)	9 (0.6)	AU-96105-12	

Dow Corning® Pharma-65 Tubing

Resilient for extended service life



Characteristics: 65 durometer, platinum-cured silicone tubing with a very low extractable profile; it contains no phthalates, plasticizers, latex, or other organic additives. Remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI requirements. Meets 3A Sanitary Standards and European Pharmacopoeia (EP) requirements. Tubing is manufactured according to Bulk Pharmaceutical (BP) and current GMP.

Temperature range: -51 to 232°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	19 (1.3)	AU-96107-00	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13 (0.9)	AU-96107-01	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	15 (1.0)	AU-96107-02	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	20 (1.4)	AU-96107-04	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	19 (1.3)	AU-96107-05	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	12 (0.8)	AU-96107-06	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	11 (0.8)	AU-96107-07	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	13 (0.9)	AU-96107-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	13 (0.9)	AU-96107-09	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	12 (0.8)	AU-96107-10	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	11 (0.8)	AU-96107-11	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	8 (0.6)	AU-96107-12	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	7 (0.5)	AU-96107-13	

Cole-Parmer® Platinum-Cured Reinforced Silicone Tubing

Won't crack under pressure— withstands pressures to 21.5 bar



Formulation: Tygon® 3370 I. B., silicone, platinum cured.

Characteristics: Excellent heat resistance, low compression set, odorless, and nontoxic, translucent.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and USP Class V extractables; exceeds Class VI implant; exceeds 3A Sanitary Standards; produced to Bulk Pharmaceutical cGMPs (FDA 21 CFR 210, 211). Tubing is manufactured according to GMP.

Temperature range: -51 to 160°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.



Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Qty/pk	Catalog number	Price/pk
ID	OD	Wall				
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	312 (21.5)	15.2 m	AU-95703-00	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	248 (17.1)	15.2 m	AU-95703-01	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	180 (12.4)	15.2 m	AU-95703-02	
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	168 (11.6)	15.2 m	AU-95703-03	
5/8 (16.0)	15/16 (24.0)	5/32 (4.0)	144 (9.9)	15.2 m	AU-95703-04	
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	144 (9.9)	15.2 m	AU-95703-05	
1 1/4 (31.8)	1 5/8 (41.4)	3/16 (4.8)	96 (6.6)	7.6 m	AU-95703-07	

Dow Corning® Pharma-80 Tubing

Economical alternative to reinforced tubing



Characteristics: 80 durometer, semi-transparent platinum-cured silicone tubing with a very low extractable profile; it contains no phthalates, plasticizers, latex or other organic additives. Pharma tubing is hydrophobic, and remains flexible and resilient for long service life. Dow Corning maintains complete traceability from silica to silicone tubing.

Certifications: Elastomer exceeds test guidelines for USP Class VI Plastics; tubing itself meets or exceeds FDA (21 CFR 177.2600), 3A Sanitary Standards, and European Pharmacopoeia (EP) requirements. Pharma tubing is produced under Bulk Pharmaceutical (BP) current GMP principals.

Temperature range: -51 to 232°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	249 (17.2)	AU-96109-00	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	249 (17.2)	AU-96109-01	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	260 (17.9)	AU-96109-02	
1/4 (6.4)	7/16 (11.2)	1/16 (1.6)	249 (17.2)	AU-96109-03	
1/4 (6.4)	1/2 (12.8)	3/32 (2.4)	249 (17.2)	AU-96109-04	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	260 (17.9)	AU-96109-05	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	241 (16.6)	AU-96109-07	
3/8 (9.6)	5/8 (16.0)	3/32 (2.4)	249 (17.2)	AU-96109-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	231 (15.9)	AU-96109-09	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	210 (14.5)	AU-96109-10	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	200 (13.8)	AU-96109-11	

Tygon® BioPharm Silicone Tubing

Reduce particle entrapment with ultra-smooth inner surface



Formulation: Tygon® 3350 silicone, platinum cured.

Characteristics: Ultra-smooth inner surface reduces particle entrapment and minimizes bacterial growth. Good for mild to medium concentration bases, salts, and alcohols; is odorless, tasteless, and nontoxic. Transparent.

Certifications: Elastomer is FDA-compliant (21 CFR 177.2600) and meets USP Class VI requirements and EP 3.2.9 requirements. Tubing is manufactured according to GMP.

Temperature range: -80 to 200°C

Sterilize: Ethylene oxide, gamma irradiation, or autoclave for 30 min, 1.0 bar.

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	16 (1.1)	AU-95702-00	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	10 (0.7)	AU-95702-01	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	15 (1.0)	AU-95702-02	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	7 (0.5)	AU-95702-03	
3/32 (2.4)	7/32 (5.6)	1/16 (1.6)	12 (0.8)	AU-95702-04	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	7 (0.5)	AU-95702-05	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	9 (0.6)	AU-95702-06	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	5 (0.3)	AU-95702-08	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	7 (0.5)	AU-95702-09	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	9 (0.6)	AU-95702-10	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	5 (0.3)	AU-95702-13	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	7 (0.5)	AU-95702-14	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	5 (0.3)	AU-95702-16	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	6 (0.4)	AU-95702-17	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	4 (0.3)	AU-95702-18	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	5 (0.3)	AU-95702-19	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	7 (0.5)	AU-95702-20	

Platinum-Cured Silicone Tubing Spools

Cut tubing to your needs



Reduce unpacking time, save money on shipping, and ensure that you always have enough tubing on hand with bulk tubing.

Dimensions in. (mm)		Length per spool	Catalog number	Price
ID	OD			
1/32 (0.8)	3/32 (2.4)	500 ft (152 m)	AU-98906-00	
1/16 (1.6)	1/8 (3.2)		AU-98906-02	
1/8 (3.2)	1/4 (6.4)	300 ft (91 m)	AU-98906-04	
3/16 (4.8)	5/16 (8.0)		AU-98906-06	
1/4 (6.4)	3/8 (9.6)		AU-98906-08	
3/8 (9.6)	5/8 (16.0)		AU-98906-10	
5/8 (16.0)	7/8 (22.4)		AU-98906-12	

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.

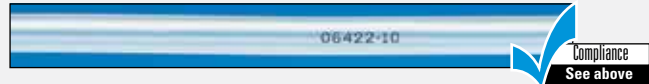


Fluid Path

Tubing

C-Flex® Tubing

Meets the demands of various industries



– Available in three formulations—standard, clear, and animal-derived component-free (ADCF)

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: -45 to 135°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

Dimensions in. (mm)			C-Flex			C-Flex Clear			C-Flex ADCF		
ID	OD	Wall	Catalog number	Max psi at 70°F (bar at 21°C)	Price/ 7.6-m pk	Catalog number	Max psi at 70°F (bar at 21°C)	Price/ 7.6-m pk	Catalog number	Max psi at 70°F (bar at 21°C)	Price/ 15.2-m pk
1/50 (0.5)	1/12 (2.1)	1/32 (0.8)	AU-06424-59	30 (2.1)		AU-06422-00	50 (3.4)		—	—	—
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	AU-06424-60	31 (2.1)		AU-06422-01	51 (3.5)		—	—	—
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	AU-06424-62	15 (1.0)		AU-06422-02	25 (1.7)		—	—	—
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	AU-06424-63	14 (1.0)		AU-06422-03	23 (1.6)		—	—	—
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	AU-06424-64	10 (0.7)		AU-06422-04	17 (1.2)		—	—	—
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	AU-06424-67	21 (1.4)		AU-06422-05	35 (2.4)		AU-06432-50	35 (2.4)	—
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	AU-06424-65	10 (0.7)		AU-06422-06	17 (1.2)		—	—	—
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	AU-06424-66	9 (0.6)		AU-06422-07	15 (1.0)		—	—	—
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	AU-06424-03	13 (0.9)		AU-06422-08	22 (1.5)		AU-06432-51	22 (1.5)	—
3/16 (4.8)	7/16 (11.2)	1/8 (3.2)	AU-06424-69	22 (1.5)		AU-06422-09	36 (2.5)		—	—	—
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	AU-06424-71	12 (0.8)		AU-06422-10	20 (1.4)		AU-06432-53	20 (1.4)	—
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	AU-06424-72	17 (1.2)		AU-06422-11	28 (1.9)		AU-06432-54	28 (1.9)	—
1/4 (6.4)	1/2 (12.7)	1/8 (3.2)	AU-06424-74	17 (1.2)		AU-06422-12	28 (1.9)		AU-06432-55	28 (1.9)	—
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	AU-06424-75	10 (0.7)		AU-06422-13	17 (1.2)		—	—	—
5/16 (8.0)	1/2 (12.7)	3/32 (2.4)	AU-06424-76	16 (1.1)		AU-06422-14	27 (1.9)		AU-06432-56	27 (1.9)	—
3/8 (9.6)	1/2 (12.7)	1/16 (1.6)	AU-06424-12	10 (0.7)		AU-06422-15	17 (1.2)		AU-06432-57	17 (1.2)	—
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	AU-06424-79	14 (1.0)		AU-06422-16	23 (1.6)		AU-06432-59	23 (1.6)	—
1/2 (12.7)	1 1/16 (17.6)	3/32 (2.4)	AU-06424-19	10 (0.7)		AU-06422-17	17 (1.2)		AU-06432-60	17 (1.2)	—
1/2 (12.7)	3/4 (19.1)	1/8 (3.2)	AU-06424-81	10 (0.7)		AU-06422-18	17 (1.2)		AU-06432-61	17 (1.2)	—

PharMed® BPT Tubing

Protect your 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 requirements. Meets EP requirements. Tubing is manufactured according to GMP.

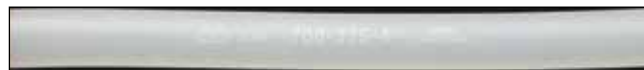
Temperature range: -51 to 135°C

Sterilize: Autoclave, ethylene oxide, or gamma irradiation.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 7.6-m pk
ID	OD	Wall			
1/50 (0.5)	9/64 (3.7)	1/16 (1.6)	50 (3.4)	AU-96880-00	
1/32 (0.8)	5/32 (4.0)	1/16 (1.6)	40 (2.8)	AU-96880-02	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	34 (2.3)	AU-96880-04	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	19 (1.3)	AU-96880-06	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	13 (0.9)	AU-96880-08	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	10 (0.7)	AU-96880-10	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	19 (1.3)	AU-96880-12	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	8 (0.6)	AU-96880-14	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	13 (0.9)	AU-96880-16	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	11 (0.8)	AU-96880-18	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	8 (0.6)	AU-96880-20	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	7 (0.5)	AU-96880-22	

C-Flex® ULTRA Tubing

Excellent resistance to concentrated acids and alkalis



Characteristics: Animal-derived component-free (ADCF). Sealable and weldable. Noncytotoxic and nonpyrogenic.

Certifications: Meets USP24/NF19, Class VI standards.

Temperature range: -50 to 50°C

Sterilize: Autoclave.

ANIMAL DERIVED
INGREDIENT FREE

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.18)	1/4 (6.35)	1/16 (1.59)	19 (1.3)	AU-06432-40	
3/16 (4.76)	3/8 (9.52)	3/32 (2.38)	24 (1.7)	AU-06432-42	
1/4 (6.35)	3/8 (9.52)	1/16 (1.59)	14 (1.0)	AU-06432-43	
1/4 (6.35)	1/2 (12.7)	1/8 (3.18)	25 (1.7)	AU-06432-45	
5/16 (7.94)	1/2 (12.7)	3/32 (2.38)	17 (1.2)	AU-06432-46	
3/8 (9.52)	1/2 (12.7)	1/16 (1.59)	10 (0.7)	AU-06432-47	
3/8 (9.52)	5/8 (15.88)	1/8 (3.18)	20 (1.4)	AU-06432-48	
1/2 (12.7)	3/4 (19.05)	1/8 (3.18)	14 (1.0)	AU-06432-49	

Cole-Parmer® Flexible PVC Tubing

Stop oxidation and bacteria problems



Characteristics: Extremely flexible. Resistant to oxidation, chemicals and bacteria. Transparent.

Certifications: FDA-compliant (21 CFR 175.300) and meets USP Class VI requirements; meets 3A sanitary standards.

Temperature range: -41 to 74°C

Sterilize: Ethylene oxide or gamma irradiation.



Dimensions: in. (mm)			Max psi at 68°F (bar at 20°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	68 (4.7)	AU-96605-01	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	55 (3.8)	AU-96605-02	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	55 (3.8)	AU-96605-03	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	70 (4.8)	AU-96605-05	
3/16 (4.8)	7/16 (11.2)	1/16 (1.6)	50 (3.4)	AU-96605-06	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	40 (2.8)	AU-96605-08	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	65 (4.5)	AU-96605-10	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	30 (2.1)	AU-96605-11	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	45 (3.1)	AU-96605-13	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	40 (2.8)	AU-96605-15	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	35 (2.4)	AU-96605-16	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	28 (1.9)	AU-96605-19	
1 1/4 (31.8)	1 3/4 (44.5)	1/4 (6.4)	45 (3.1)	AU-96605-25	

Fluid Path

Tubing

Flexelene™ SFX Soft Flexible Polyethylene Tubing

No need to worry about extractables



Characteristics: Good chemical resistance. Ultra-low extractables. Heat-sealable. Translucent.

Certifications: Meets USP Class VI requirements.

Temperature range: -40 to 37°C

Sterilize: Ethylene oxide or gamma irradiation.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 30.4-m pk
ID	OD	Wall			
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	210 (14.5)	AU-96180-01	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	210 (14.5)	AU-96180-02	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	225 (15.5)	AU-96180-03	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	160 (11.0)	AU-96180-04	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	110 (7.6)	AU-96180-05	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	80 (5.5)	AU-96180-06	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	80 (5.5)	AU-96180-07	



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Viton® Tubing

Worry-free acid transfer



Applications: Acid and solvent transfer; high-temperature work.

Characteristics: Opaque black.

Certifications: Tubing is manufactured according to GMP.

Temperature range: -13 to 204°C

Sterilize: Not recommended.



Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 7.6-m pk
ID	OD	Wall			
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	23 (1.6)	AU-06434-01	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	21 (1.4)	AU-06434-02	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	19 (1.3)	AU-06434-03	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	17 (1.2)	AU-06434-04	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	20 (1.4)	AU-06434-05	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	18 (1.2)	AU-06434-06	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	16 (1.1)	AU-06434-07	
5/8 (16.0)	7/8 (22.4)	1/8 (3.2)	17 (1.8)	AU-06434-08	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	15 (1.0)	AU-06434-09	

Viton® FDA-Compliant Tubing

Comply with FDA regulations



Applications: Food or laboratory applications where FDA compliance is required, acid and solvent transfer, high temperature work.

Characteristics: Good chemical resistance, opaque white.

Certifications: FDA-compliant (21 CFR 177.2600).

Temperature range: -32 to 204°C

Sterilize: Circulating hot air oven at 249°C for 16 hours.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 7.6-m pk
ID	OD	Wall			
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	15 (1.0)	AU-06435-01	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)		AU-06435-02	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)		AU-06435-03	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	15 (1.0)	AU-06435-04	
5/16 (8.0)	7/16 (11.1)	1/16 (1.6)		AU-06435-05	
3/8 (9.5)	1/2 (12.8)	1/16 (1.6)		AU-06435-06	
1/2 (12.8)	5/8 (15.9)	1/16 (1.6)	15 (1.0)	AU-06435-07	
5/8 (15.9)	7/8 (22.2)	1/8 (3.2)		AU-06435-08	
3/4 (19.1)	1 (25.4)	1/8 (3.2)		AU-06435-09	

Cole-Parmer® PTFE Tubing

Won't crack under heat or pressure



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

Characteristics: Chemically inert, nontoxic, and virtually nonporous. Excellent crack- and stress-resistance. Low coefficient of friction. Translucent.

Certifications: Resin is FDA-compliant (21 CFR 177.1550).

Temperature range: -240 to 260°C

Sterilize: Autoclave, ethylene oxide, or dry heat.



Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 7.6-m pk
ID	OD	Wall			
1/32 (0.8)	1/16 (1.6)	1/64 (0.4)	370 (25.5)	AU-06407-41	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	370 (25.5)	AU-06605-27	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	294 (20.3)	AU-06605-28	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	240 (16.5)	AU-06605-29	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	375 (25.9)	AU-06605-30	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	274 (18.9)	AU-06605-31	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	175 (12.1)	AU-06605-32	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	294 (20.3)	AU-06605-33	
1/4 (6.4)	5/16 (8.0)	1/32 (0.8)	137 (9.4)	AU-06605-34	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	240 (16.5)	AU-06605-35	
19/64 (7.5)	3/8 (9.6)	1/25 (1.0)	143 (9.9)	AU-06605-36	
5/16 (8.0)	3/8 (9.6)	1/32 (0.8)	113 (7.8)	AU-06605-37	
3/8 (9.6)	7/16 (11.2)	1/32 (0.8)	96 (6.6)	AU-06605-39	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	175 (12.1)	AU-06605-40	
2/8 (10.2)	1/2 (12.8)	1/20 (1.4)	137 (9.4)	AU-06605-41	
7/16 (11.2)	1/2 (12.8)	1/32 (0.8)	83 (5.7)	AU-06605-42	
1/2 (12.8)	9/16 (14.3)	1/32 (0.8)	73 (5.0)	AU-06605-44	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	137 (9.4)	AU-06605-45	
9/16 (14.3)	5/8 (16.0)	1/32 (0.8)	66 (4.6)	AU-06605-46	
5/8 (16.0)	11/16 (17.5)	1/32 (0.8)	59 (4.1)	AU-06605-48	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	113 (7.8)	AU-06605-49	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	96 (6.6)	AU-06605-51	

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Fluid Path

Tubing

Cole-Parmer® PTFE Microbore Tubing

Minimize friction, maximize chemical resistance

Use this translucent tubing in extreme temperatures and in harsh chemical environments. It's chemically inert, has low permeability, and has the lowest friction coefficient of any tubing. Temperature range is -240 to 260°C; melts at 327°C. Tensile strength is 172 to 275 bar. PTFE tubing resin is UL-recognized and complies with FDA (21 CFR 177.1550) and USP Class VI requirements.



Dimensions			Fits needle gauge	Catalog number	Price/ 30.4 m
ID	OD	Wall			
Ultramicrobore PTFE tubing (finer than a human hair)					
0.002"	0.014"	0.006"	44	AU-06417-70	
0.004"	0.016"	0.006"	38	AU-06417-72	
0.006"	0.016"	0.005"	34	AU-06417-74	
0.008"	0.016"	0.004"	33	AU-06417-76	
Microbore PTFE tubing					
0.012"	0.030"	0.009"	30	AU-06417-11	
0.022"	0.042"	0.010"	24	AU-06417-21	
0.032"	0.056"	0.012"	21	AU-06417-31	
0.042"	0.066"	0.012"	18	AU-06417-41	
0.052"	0.076"	0.012"	16	AU-06417-51	

AU-06417-60 Microbore tubing assortment pack. One 30.4-m roll each of 06417-11, -21, -31, -41, and -51 (152.4-m total)

Thermo Scientific™ Nalgene™ 489 Linear LDPE Tubing

More flexible than other polyethylene formulations



Applications: General lab, industry, or food processing applications.
Characteristics: Broad chemical resistance. Nontoxic, odorless, and tasteless. Translucent.
Certifications: FDA-compliant (21 CFR 177.1520).
Temperature range: -73 to 80°C
Sterilize: Ethylene oxide.

Dimensions: in. (mm)			Working psi at 70°F (bar at 21°C)	Catalog number	Price/pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	358 (24.7)	AU-95912-01	30.4 m
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	214 (14.8)	AU-95912-03	30.4 m
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	152 (10.5)	AU-95912-04	30.4 m
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	118 (8.1)	AU-95912-05	30.4 m
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	96 (6.6)	AU-95912-06	30.4 m
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	120 (8.3)	AU-95912-08	15.2 m

Fluid Path

Tubing

Cole-Parmer® Polyimide Tubing



Applications: Use as an electrical and thermal insulator, for fluid and gas delivery, or as a tough sheath for glass fibers.
Characteristics: Excellent chemical, heat, radiation, and abrasion resistance; high dielectric strength. Clear amber.
Certifications: Resin meets USP Class VI requirements and NEMA standards.
Temperature range: -250 to 480°C
Sterilize: Autoclave, ethylene oxide, or gamma irradiation.



Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/1.5-m pk
ID	OD	Wall			
0.0049 (0.124)	0.0064 (0.163)	0.00075 (0.019)	700 (48.3)	AU-95820-00	
0.0078 (0.198)	0.0093 (0.236)	0.00075 (0.019)	700 (48.3)	AU-95820-01	
0.0120 (0.305)	0.0140 (0.356)	0.0010 (0.025)	700 (48.3)	AU-95820-02	
0.0135 (0.343)	0.0155 (0.394)	0.0010 (0.025)	700 (48.3)	AU-95820-03	
0.0195 (0.495)	0.0215 (0.546)	0.0010 (0.025)	500 (34.5)	AU-95820-04	
0.0250 (0.635)	0.0270 (0.686)	0.0010 (0.025)	400 (27.6)	AU-95820-05	
0.0320 (0.813)	0.0340 (0.864)	0.0010 (0.025)	300 (20.7)	AU-95820-06	
0.0340 (0.864)	0.0380 (0.965)	0.0020 (0.051)	550 (37.9)	AU-95820-07	
0.0360 (0.914)	0.0400 (1.016)	0.0020 (0.051)	550 (37.9)	AU-95820-08	
0.0395 (1.003)	0.0435 (1.105)	0.0020 (0.051)	500 (34.5)	AU-95820-09	
0.0445 (1.130)	0.0485 (1.232)	0.0020 (0.051)	450 (31.0)	AU-95820-10	
0.0500 (1.270)	0.0540 (1.372)	0.0020 (0.051)	400 (27.6)	AU-95820-11	
0.0575 (1.461)	0.0615 (1.562)	0.0020 (0.051)	350 (24.1)	AU-95820-12	
0.0710 (1.803)	0.0750 (1.905)	0.0020 (0.051)	275 (19.0)	AU-95820-13	



Custom Cut Tubing

For details, call 020-8574-7556.

Bev-A-Line® IV Tubing

Nontoxic and nonhemolytic



Applications: Safe for food, beverage, drug, lab, and general use—yet much more affordable than PTFE tubing. Safe for most alcohols; avoid use with strong solvents.
Resin characteristics: Polyethylene liner with ethyl vinyl acetate shell. No plasticizers. Heat-bondable. Translucent.
Certifications: Resin is FDA-compliant (liner: 21 CFR 177.1520; shell 21 CFR 177.1350). Meets USP Class VI, USDA, and National Formulary requirements.
Temperature range: -51 to 71°C
Sterilize: Ethylene oxide or dry heat.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/15.2-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	72 (5.0)	AU-06490-12	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	61 (4.2)	AU-06490-15	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	50 (3.4)	AU-06490-17	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	33 (2.3)	AU-06490-19	
1/2 (12.8)	3/4 (19.2)	1/4 (6.4)	50 (3.4)	AU-06490-20	
3/4 (19.2)	1 (25.4)	1/8 (3.2)	39 (2.7)	AU-06490-39	
1 (25.4)	1 1/4 (31.8)	1/4 (6.4)	28 (1.9)	AU-06490-40	

Bev-A-Line® V Tubing

Needs no connectors—heat-bondable



Applications: Safe for food, beverage, drug, lab, and general use—can withstand higher temperatures than Bev-A-Line® IV tubing. Safe for most alcohols; avoid strong solvents.
Characteristics: Polyethylene liner cross-linked to ethyl vinyl acetate shell. No plasticizers. Nontoxic and nonhemolytic. Translucent.
Certifications: Resin is FDA-compliant (liner: 21 CFR 177.1520; shell 21 CFR 177.1350). Meets USP Class VI, USDA, and National Formulary requirements.
Temperature range: -51 to 93°C
Sterilize: Autoclave, ethylene oxide, or dry heat.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/15.2-m pk
ID	OD	Wall			
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	91 (6.3)	AU-06491-10	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	70 (4.8)	AU-06491-12	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	67 (4.6)	AU-06491-14	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	67 (4.6)	AU-06491-15	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	61 (4.2)	AU-06491-16	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	44 (3.0)	AU-06491-17	
3/4 (19.2)	1 (25.4)	1/8 (3.2)	39 (2.7)	AU-06491-39	

Bev-A-Line® XX Tubing

Particulate will not adhere to liner



Applications: High-purity applications and air sampling, gaseous fuels. Ideal for particulate matter and applications requiring UV resistance.
Characteristics: Hytrel® polyester liner and UV-resistant PVC. Tubing is coextruded for improved flexibility. Shell is opaque black.
Certifications: Liner resin is NSF-approved for potable water.
Temperature range: -29 to 71°C
Sterilize: Autoclave or ethylene oxide.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/pk
ID	OD	Wall			
1 1/64 (4.2)	1/4 (6.4)	3/64 (1.2)	130 (9.0)	AU-06491-50	152.4 m
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	100 (6.9)	AU-06491-54	152.4 m
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	75 (5.2)	AU-06491-56	76.2 m

Chemfluor® FEP Tubing

Effectively transfer abrasive fluids



Characteristics: Good chemical resistance at a low cost, temperature-resistant, and low coefficient of friction, semi-flexible. Transparent.

Certifications: FDA-compliant (21 CFR 177.1550). Meets USP Class VI.

Temperature range: -270 to 205°C

Sterilize: Autoclave, ethylene oxide, or dry heat.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/16 (1.6)	3/8 (3.2)	1/32 (0.8)	213 (14.7)	AU-96001-02	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	283 (19.5)	AU-96001-04	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	170 (11.7)	AU-96001-06	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	142 (9.8)	AU-96001-08	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	213 (14.7)	AU-96001-10	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	159 (11.0)	AU-96001-12	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	106 (7.3)	AU-96001-14	
3/16 (4.8)	5/16 (7.9)	1/16 (1.6)	170 (11.7)	AU-96001-16	
1/4 (6.4)	5/16 (7.9)	1/32 (0.8)	85 (5.9)	AU-96001-18	
1/4 (6.4)	3/8 (9.5)	1/16 (1.6)	142 (9.8)	AU-96001-20	
5/16 (7.9)	3/8 (9.5)	1/32 (0.8)	71 (4.9)	AU-96001-22	
5/16 (7.9)	7/16 (11.1)	1/16 (1.6)	121 (8.3)	AU-96001-24	
3/8 (9.5)	7/16 (11.1)	1/32 (0.8)	61 (4.2)	AU-96001-26	
3/8 (9.5)	1/2 (12.7)	1/16 (1.6)	106 (7.3)	AU-96001-28	
7/16 (11.1)	1/2 (12.7)	1/32 (0.8)	53 (3.7)	AU-96001-30	
7/16 (11.1)	9/16 (14.3)	1/16 (1.6)	94 (6.5)	AU-96001-32	
1/2 (12.7)	9/16 (14.3)	1/32 (0.8)	47 (3.2)	AU-96001-34	
1/2 (12.7)	5/8 (15.9)	1/16 (1.6)	85 (5.9)	AU-96001-36	
5/8 (15.9)	11/16 (17.5)	1/32 (0.8)	39 (2.7)	AU-96001-42	
5/8 (15.9)	3/4 (19.0)	1/16 (1.6)	71 (4.9)	AU-96001-44	
11/16 (17.5)	13/16 (20.6)	1/16 (1.6)	65 (4.5)	AU-96001-48	
3/4 (19.0)	7/8 (22.2)	1/16 (1.6)	61 (4.2)	AU-96001-52	
7/8 (22.2)	1 (25.4)	1/16 (1.6)	53 (3.7)	AU-96001-56	
1 (25.4)	1 1/8 (28.6)	1/16 (1.6)	47 (3.2)	AU-96001-60	

Chemfluor® PFA Tubing

Tough yet flexible



Characteristics: Excellent temperature range, chemically inert, tough, flexible, low friction coefficient, ozone-, UV-, stress- and crack-resistant. Translucent.

Certifications: FDA-compliant (21 CFR 177-1550). Meets USP Class VI.

Temperature range: -195 to 260°C

Sterilize: Autoclave, ethylene oxide, or dry heat.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	150 (10.3)	AU-96005-08	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	225 (15.5)	AU-96005-10	
5/32 (4.0)	1/4 (6.4)	3/64 (1.2)	169 (11.7)	AU-96005-12	
3/16 (4.8)	5/16 (7.9)	1/16 (1.6)	180 (12.4)	AU-96005-16	
1/4 (6.4)	5/16 (7.9)	1/32 (0.8)	90 (6.2)	AU-96005-18	
1/4 (6.4)	3/8 (9.5)	1/16 (1.6)	150 (10.3)	AU-96005-20	
3/8 (9.5)	7/16 (11.1)	1/32 (0.8)	64 (4.4)	AU-96005-26	
3/8 (9.5)	1/2 (12.7)	1/16 (1.6)	113 (7.8)	AU-96005-28	
7/16 (11.1)	1/2 (12.7)	1/32 (0.8)	56 (3.9)	AU-96005-30	
1/2 (12.7)	5/8 (15.9)	1/16 (1.6)	90 (6.2)	AU-96005-36	
5/8 (15.9)	3/4 (19.0)	1/16 (1.6)	75 (5.2)	AU-96005-44	
3/4 (19.0)	7/8 (22.2)	1/16 (1.6)	64 (4.4)	AU-96005-52	

Tygon® Non-DEHP Lab Tubing

Pliable formulation for sharp
radius bending



Formulation: Tygon E-3603

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

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

Temperature range: -46 to 74°C

Sterilize: Autoclave or ethylene oxide.

Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	69 (4.8)	AU-06407-70	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	36 (2.5)	AU-06407-71	
1/16 (1.6)	3/16 (4.8)	1/16 (1.6)	69 (4.8)	AU-06407-72	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	25 (1.7)	AU-06407-73	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	20 (1.4)	AU-06407-75	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	36 (2.5)	AU-06407-76	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	17 (1.2)	AU-06407-77	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	25 (1.7)	AU-06407-78	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	36 (2.5)	AU-06407-79	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	20 (1.4)	AU-06407-80	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	28 (1.9)	AU-06407-81	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	35 (2.5)	AU-06407-82	
5/16 (8.0)	7/16 (11.2)	1/16 (1.6)	17 (1.2)	AU-06407-83	
5/16 (8.0)	1/2 (12.8)	3/32 (2.4)	23 (1.6)	AU-06407-84	
3/8 (9.6)	9/16 (14.4)	1/8 (3.2)	30 (2.1)	AU-06407-85	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	14 (1.0)	AU-06407-86	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	20 (1.4)	AU-06407-87	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	25 (1.7)	AU-06407-88	
7/16 (11.2)	9/16 (14.4)	1/16 (1.6)	13 (0.9)	AU-06407-89	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	12 (0.8)	AU-06407-90	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	15 (1.0)	AU-06407-91	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	20 (1.4)	AU-06407-92	
1/2 (12.8)	13/16 (20.8)	5/32 (4.0)	24 (1.7)	AU-06407-93	
5/8 (16.0)	13/16 (20.8)	3/32 (2.4)	13 (0.9)	AU-06407-94	
5/8 (16.0)	7/8 (22.2)	1/8 (3.2)	17 (1.2)	AU-06407-95	
3/4 (19.1)	1 (25.4)	1/8 (3.2)	14 (1.0)	AU-06407-96	
3/4 (19.1)	1 1/8 (28.6)	3/16 (4.8)	20 (1.4)	AU-06407-97	
1 (25.4)	1 1/4 (31.8)	1/8 (3.2)	12 (0.8)	AU-06407-98	
1 (25.4)	1 1/2 (38.1)	1/4 (6.4)	20 (1.4)	AU-06407-99	

Tygon® Non-DEHP Tubing

Drains completely



Formulation: Tygon ND-100-65

Characteristics: Non-DEHP, phthalate free. Non-wetted surface permits complete drainage. Bondable, weldable. Clear.

Certifications: USP Class VI, REACH, ISO 10993

Temperature range: -42 to 74°C

Sterilize: Autoclave, ethylene oxide, or irradiation.

Dimensions: in. (mm)			Max psi at 73°F (bar at 23°C)	Catalog number	Price/ 15.2-m pk
ID	OD	Wall			
1/32 (0.8)	3/32 (2.4)	1/32 (0.8)	100 (6.9)	AU-95666-00	
1/16 (1.6)	1/8 (3.2)	1/32 (0.8)	55 (3.8)	AU-95666-01	
3/32 (2.4)	5/32 (4.0)	1/32 (0.8)	40 (2.8)	AU-95666-03	
3/32 (2.4)	7/32 (5.6)	1/16 (1.6)	70 (4.8)	AU-95666-04	
1/8 (3.2)	3/16 (4.8)	1/32 (0.8)	30 (2.1)	AU-95666-05	
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	55 (3.8)	AU-95666-06	
5/32 (4.0)	7/32 (5.6)	1/32 (0.8)	25 (1.7)	AU-95666-07	
5/32 (4.0)	9/32 (7.1)	1/16 (1.6)	45 (3.2)	AU-95666-08	
3/16 (4.8)	1/4 (6.4)	1/32 (0.8)	20 (1.4)	AU-95666-09	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	40 (2.8)	AU-95666-10	
3/16 (4.8)	3/8 (9.6)	3/32 (2.4)	55 (3.8)	AU-95666-11	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	30 (2.1)	AU-95666-14	
1/4 (6.4)	7/16 (11.2)	3/32 (2.4)	45 (3.2)	AU-95666-15	
1/4 (6.4)	1/2 (12.8)	1/8 (3.2)	55 (3.8)	AU-95666-16	
3/8 (9.6)	9/16 (14.4)	3/32 (2.4)	30 (2.1)	AU-95666-21	
3/8 (9.6)	5/8 (16.0)	1/8 (3.2)	40 (2.8)	AU-95666-22	
1/2 (12.8)	11/16 (17.6)	3/32 (2.4)	25 (1.7)	AU-95666-27	
1/2 (12.8)	3/4 (19.1)	1/8 (3.2)	30 (2.1)	AU-95666-28	

Cole-Parmer® Kynar® PVDF Tubing

Fluoropolymer tubing at less cost



Characteristics: Polyvinylidene fluoride (PVDF) material is kink resistant; has excellent chemical resistance, and is odorless and nontoxic. Translucent.

Certifications: Resin is FDA-compliant (21 CFR 177.2600); meets USP Class VI requirements.

Temperature range: -40 to 127°C

Sterilize: Autoclave and gamma irradiation.



Dimensions: in. (mm)			Max psi at 70°F (bar at 21°C)	Catalog number	Price/ 7.6-m pk
ID	OD	Wall			
1/8 (3.2)	1/4 (6.4)	1/16 (1.6)	350 (24.1)	AU-95100-00	
11/64 (4.2)	1/4 (6.4)	3/64 (1.2)	180 (12.4)	AU-95100-02	
3/16 (4.8)	5/16 (8.0)	1/16 (1.6)	290 (20.0)	AU-95100-04	
1/4 (6.4)	3/8 (9.6)	1/16 (1.6)	240 (16.5)	AU-95100-06	
3/8 (9.6)	1/2 (12.8)	1/16 (1.6)	180 (12.4)	AU-95100-10	
1/2 (12.8)	5/8 (16.0)	1/16 (1.6)	145 (10.0)	AU-95100-12	
5/8 (16.0)	3/4 (19.2)	1/16 (1.6)	120 (8.3)	AU-95100-14	
3/4 (19.2)	7/8 (22.2)	1/16 (1.6)	100 (6.9)	AU-95100-16	

Heavy-Duty Tubing Closure

Handle higher working pressures

- Quick installation with positive swing-away locking screw
- Smooth contours allow for easy cleaning



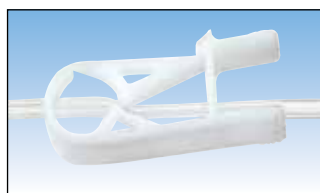
Use this clamp with tubing or hose—it meets the working pressure of either item. High-strength polysulfone closure provides excellent durability, can be continually reused, and resists most chemicals. Simply align the hose within the clamp; mating surfaces on the clamp indicate complete closure. Typical applications include sterile filling, media bag connections, pumping, liquid control, and high-purity fluid transfers. FDA-compliant polysulfone material can be sterilized by autoclave or gamma irradiation.

Wall thickness range		Catalog number	Price/ea
Unreinforced	Reinforced		
2.3 to 4.8 mm	2.3 to 4.6 mm	AU-20001-00	

Tubing Pinch Clamps

Open or close with a push of the latch

- Thumb latch allows for easy opening or closing from any angle
- Reduce strain on tubing line due to opening or closing



Tubing pinch clamps provide quick and easy on/off flow control of fluids in flexible tubing.

Max tubing OD	Catalog number	Price/pk of 25
0.118" (3.0 mm)	AU-95785-00	
0.125" (3.6 mm)	AU-95785-02	
0.197" (5.0 mm)	AU-95785-04	
0.250" (6.3 mm)	AU-95785-06	

Handheld Tubing Cutter

Steel blade coated with PTFE resin produces clean, straight cuts through tubing up to 1 1/4" (31.8 mm) OD (cuts polyethylene tubing up to 1 1/2" (38.1 mm) OD). Order carrying pouch and replacement blade separately below.



Description	Catalog number	Price
Handheld tubing cutter	AU-06438-90	
Tubing cutter pouch	AU-06438-81	
Replacement blade	AU-06438-92	

Benchtop Tubing Cutter

Steel blade makes right-angle cuts in plastic tubing 1/16" (1.6 mm) to 5/8" (15.9 mm) OD.



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

Plastic Clamp Ties



Perfect for flexible fuel line, water line, and vacuum line applications. Special curved clamp tie head ensures a tight seal. Ties measure 20.3 cm L x 0.45 cm W; maximum diameter of 4.4 cm. Black resin resists UV degradation.

Description	Catalog number	Qty/pk	Price/pk
Clamp ties, white	AU-95615-00	100	
Clamp ties, black	AU-95615-10	100	

Screw Clamp

Clamp is made of Delrin® acetal. Control flow in flexible tubing up to 1/2" (13 mm) OD. Install without disconnecting tubing. Autoclavable.



Description	Catalog number	Qty/pk	Price/pk
Screw clamp	AU-06833-10	3	

Ratchet Tubing Clamps

Durable Celcon® plastic clamp is autoclavable; won't rust, corrode, or distort. Mini-clamp is suitable for up to 1/8" OD (3.2 mm) tubing. Standard clamp accepts flexible tubing to 1/2" (13 mm) OD.



Description	Catalog number	Qty/pk	Price/pk
Mini tubing clamp	AU-06833-01	25	
Tubing clamp	AU-06833-00	25	

Barbed Fittings

No tools needed for assembly

Barbed fittings are designed for quick and easy assembly without tools. Combine these simple, economical fittings with our flexible tubing for use in your low-pressure applications (generally less than 2 bar [28 psij]).



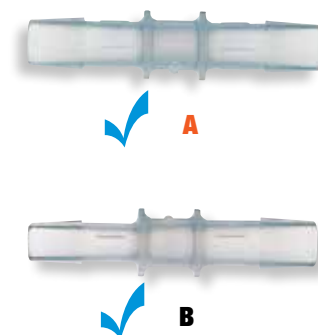
Specifications

PVDF. Excellent chemical resistance.
Temp range: -62 to 129°C.
Sterilize by ethylene oxide or autoclave.

Polypropylene (PP). Very good chemical resistance.
Temp range: -13 to 66°C.
Sterilize by ethylene oxide or gamma irradiation.

Tubing ID	Material	Catalog number	Qty/pk	Price/pk
A. Straight connectors				
1/16"	PP	AU-40622-49	10	
1/16"	PVDF	AU-30703-00	10	
3/32"	PP	AU-40622-46	10	
3/32"	PVDF	AU-30703-01	10	
1/8"	PP	AU-41518-05	10	
1/8"	PVDF	AU-30703-02	10	
5/32"	PP	AU-40622-52	10	
5/32"	PVDF	AU-30703-03	10	
3/16"	PP	AU-40622-57	10	
3/16"	PVDF	AU-30703-04	10	
1/4"	PP	AU-40610-00	10	
1/4"	PVDF	AU-30703-05	10	
5/16"	PP	AU-40610-01	10	
5/16"	PVDF	AU-30703-06	10	
3/8"	PP	AU-40610-02	10	
3/8"	PVDF	AU-30703-07	10	
1/2"	PP	AU-40610-03	10	
1/2"	PVDF	AU-30703-08	10	
5/8"	PP	AU-40610-04	10	
5/8"	PVDF	AU-30703-09	10	
3/4"	PP	AU-40610-05	5	
3/4"	PVDF	AU-30703-10	5	
1"	PP	AU-40610-06	5	
1"	PVDF	AU-30703-11	5	

Tubing ID	Material	Catalog number	Qty/pk	Price/pk
B. Reducing connectors				
3/32" x 1/16"	PP	AU-40621-95	25	
3/32" x 1/16"	PVDF	AU-30703-40	10	
1/8" x 1/16"	PP	AU-40622-23	25	
1/8" x 1/16"	PVDF	AU-30703-41	10	
1/8" x 3/32"	PP	AU-40622-21	25	
1/8" x 3/32"	PVDF	AU-30703-42	10	
3/16" x 1/16"	PVDF	AU-30703-46	10	
3/16" x 3/32"	PVDF	AU-30703-47	10	
3/16" x 1/8"	PP	AU-41518-34	10	
3/16" x 1/8"	PVDF	AU-30703-48	10	
3/16" x 5/32"	PVDF	AU-30703-49	10	
1/4" x 1/8"	PP	AU-41518-36	10	
1/4" x 1/8"	PVDF	AU-30703-50	10	
1/4" x 5/32"	PP	AU-40622-26	10	
1/4" x 5/32"	PVDF	AU-30703-51	10	
1/4" x 3/16"	PP	AU-40622-32	10	
1/4" x 3/16"	PVDF	AU-30703-52	10	
5/16" x 1/4"	PP	AU-40610-07	10	
5/16" x 1/4"	PVDF	AU-30703-53	10	
3/8" x 1/4"	PP	AU-40610-08	10	
3/8" x 1/4"	PVDF	AU-30703-54	10	
3/8" x 5/16"	PP	AU-40610-09	10	
3/8" x 5/16"	PVDF	AU-30703-55	10	
5/32" x 1/16"	PVDF	AU-30703-43	10	
5/32" x 3/32"	PVDF	AU-30703-44	10	
5/32" x 1/8"	PP	AU-40622-19	10	
5/32" x 1/8"	PVDF	AU-30703-45	10	
1/2" x 1/4"	PP	AU-40610-10	10	
1/2" x 1/4"	PVDF	AU-30703-56	10	
1/2" x 5/16"	PP	AU-40610-11	10	
1/2" x 5/16"	PVDF	AU-30703-57	10	
1/2" x 3/8"	PP	AU-40610-12	10	
1/2" x 3/8"	PVDF	AU-30703-58	10	
5/8" x 1/4"	PP	AU-40610-13	10	
5/8" x 1/4"	PVDF	AU-30703-59	10	
5/8" x 5/16"	PP	AU-40610-14	10	
5/8" x 5/16"	PVDF	AU-30703-60	10	
5/8" x 3/8"	PP	AU-40610-15	10	
5/8" x 3/8"	PVDF	AU-30622-01	10	
5/8" x 1/2"	PP	AU-40610-16	10	
5/8" x 1/2"	PVDF	AU-30703-62	10	
3/4" x 3/8"	PP	AU-40610-17	5	
3/4" x 3/8"	PVDF	AU-30703-63	5	
3/4" x 1/2"	PP	AU-40610-18	5	
3/4" x 1/2"	PVDF	AU-30703-64	5	
3/4" x 5/8"	PP	AU-40610-19	5	
3/4" x 5/8"	PVDF	AU-30703-65	5	
1" x 1/2"	PP	AU-40610-20	5	
1" x 1/2"	PVDF	AU-30703-66	5	
1" x 5/8"	PP	AU-40610-21	5	
1" x 5/8"	PVDF	AU-30703-67	5	
1" x 3/4"	PP	AU-40610-22	5	
1" x 3/4"	PVDF	AU-30703-68	5	



Application Tip

Single barb fittings seal better than multi-barb fittings because they allow the tubing to relax around the barb.

Fluid Path

Fittings

Free Certificate of Compliance

Cole-Parmer will provide a certificate of resin or elastomer compliance FREE at your request with each order of fittings 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.



See next page for more...

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Barbed Fittings (continued)

Barbed fittings are designed for quick and easy assembly without tools. Combine these simple, economical fittings with our flexible tubing for use in your low-pressure applications (generally less than 2.1 bar [30 psi]).



Specifications

PVDF. Excellent chemical resistance.

Temp range: -62 to 129°C.

Sterilize by ethylene oxide or autoclave.

Polypropylene (PP). Very good chemical resistance.

Temp range: -13 to 66°C.

Sterilize by ethylene oxide or gamma irradiation.



C



D



E



F



G

Fluid Path

Fittings

Tubing ID	Material	Catalog number	Qty/ pk	Price/ pk
C. Elbow connectors				
1/16"	PVDF	AU-30703-20	10	
3/32"	PP	AU-40622-64	10	
3/32"	PVDF	AU-30703-21	10	
1/8"	PP	AU-40623-19	10	
1/8"	PVDF	AU-30703-22	10	
3/16"	PP	AU-40622-75	10	
3/16"	PVDF	AU-30622-73	10	
1/4"	PP	AU-40610-23	10	
1/4"	PVDF	AU-30703-25	10	
3/8"	PP	AU-40610-24	10	
3/8"	PVDF	AU-30703-27	10	
1/2"	PP	AU-40610-25	10	
1/2"	PVDF	AU-30703-28	10	
5/8"	PP	AU-40610-26	10	
5/8"	PVDF	AU-30703-29	10	
3/4"	PP	AU-40610-27	5	
3/4"	PVDF	AU-30703-30	5	
1"	PP	AU-40610-28	5	
1"	PVDF	AU-30703-31	5	
D. T connectors				
1/16"	PP	AU-40624-30	10	
1/16"	PVDF	AU-30703-70	10	
3/32"	PP	AU-40623-57	10	
3/32"	PVDF	AU-30703-71	10	
1/8"	PP	AU-40623-66	25	
1/8"	PVDF	AU-30703-72	10	
3/16"	PP	AU-40623-70	25	
3/16"	PVDF	AU-30624-31	10	
1/4"	PP	AU-40610-30	10	
1/4"	PVDF	AU-30703-75	10	
5/16"	PP	AU-40623-76	10	
5/16"	PVDF	AU-30623-74	10	
3/8"	PP	AU-40610-31	10	
3/8"	PVDF	AU-30703-77	10	
1/2"	PP	AU-40610-32	10	
1/2"	PVDF	AU-30703-78	10	
5/8"	PP	AU-40610-33	10	
5/8"	PVDF	AU-30703-79	10	
3/4"	PP	AU-40610-34	5	
3/4"	PVDF	AU-30703-80	5	
1"	PP	AU-40610-35	5	
1"	PVDF	AU-30703-81	5	

Tubing ID	Material	Catalog number	Qty/ pk	Price/ pk
E. Reducing T connectors (straight x branch)				
3/4" x 3/8"	PVDF	AU-30703-96	10	
5/8" x 3/8"	PVDF	AU-30703-95	10	
F. Y connectors				
1/16"	PP	AU-40726-41	10	
1/16"	PVDF	AU-30703-90	10	
3/32"	PP	AU-40726-42	10	
3/32"	PVDF	AU-30703-91	10	
1/8"	PP	AU-40726-43	10	
1/8"	PVDF	AU-30703-92	10	
3/16"	PP	AU-40726-44	10	
3/16"	PVDF	AU-30726-64	10	
1/4"	PP	AU-40726-45	10	
1/4"	PVDF	AU-30726-65	10	
3/8"	PP	AU-40726-46	10	
3/8"	PVDF	AU-30703-93	10	
1/2"	PP	AU-40726-47	10	
1/2"	PVDF	AU-30703-94	10	
5/8"	PP	AU-30726-48	10	
5/8"	PVDF	AU-30726-68	10	
G. Press-in plugs				
1/16"	PVDF	AU-31220-21	10	
3/32"	PVDF	AU-31220-22	10	
1/8"	PVDF	AU-31220-23	10	
5/32"	PVDF	AU-31220-24	10	
3/16"	PVDF	AU-31220-25	10	
1/4"	PVDF	AU-31220-26	10	



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CPC™ Plastic Quick-Disconnect Fittings

Fittings connect in a snap

- Acetal fittings are ideal for use with corrosive fluids
- Polycarbonate and polysulfone materials meet USP Class VI requirements

Simply press the thumb latch to disconnect coupling halves. Polycarbonate and polysulfone materials meet USP Class VI requirements and pass all physicochemical, cytotoxicity, leachables, and extractables tests. Order complete couplings or separate bodies and inserts from the tables below.

Note: Standard bodies and inserts fit together; won't work with large bodies and inserts and vice versa.



Specifications

Body material	Acetal	Polycarbonate (PC)	Polysulfone (PSF)
Temperature range	-40 to 82°C	-40 to 121°C	-40 to 148°C
Max pressure	8.3 bar	8.6 bar†	8.3 bar
Max vacuum	28" Hg	25" Hg	25" Hg
Sterilization	Autoclave or EtO	Autoclave, EtO, or gamma irradiation	Autoclave, EtO, or gamma irradiation

†Max pressure for 1/2" polycarbonate fittings is 4.2 bar.



Complete Couplings

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

Standard Bodies and Caps

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

Standard Inserts and Plugs

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

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

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

CPC™ High-Flow Quick-Disconnect Couplings

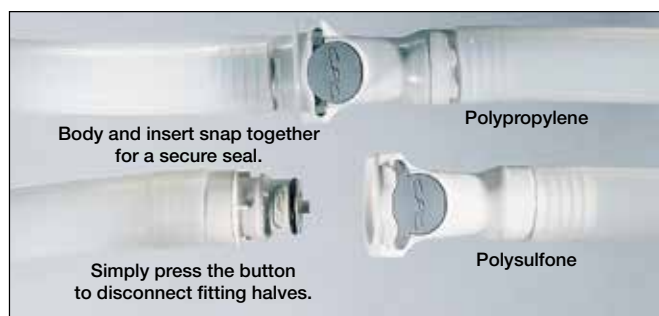
No more leaks—valved couplings automatically shut off flow

A complete quick-disconnect fitting consists of a body and an insert (order fitting halves separately). Plug insert into coupling body to connect—fitting halves lock into place immediately. To disconnect, simply press the button on the coupling body.

Valved models have a spring-operated 316 SS valve that seals the flow path when fitting halves are disengaged. All fitting bodies have 316 SS latch springs and EPDM seals.

Specifications

	Polypropylene	Polysulfone
Body material	Polypropylene	Polysulfone
Temperature range	0 to 71°C	-40 to 137°C
Max pressure	4.2 bar	8.6 bar
Max vacuum	27.5" Hg	27.5" Hg
Sterilization	EtO or gamma	Autoclave, EtO, or gamma



Fluid Path

Fittings

Quick-Disconnect Bodies (Female Coupling Halves)

A. Threaded Adapter Bodies

Flow size	NPT(M)	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-00		AU-31307-00	
3/8"	1/2"	AU-31303-01		AU-31307-01	
3/8"	3/4"	AU-31303-02		AU-31307-02	
Straight-through fittings					
3/8"	3/8"	AU-31303-05		AU-31307-05	
3/8"	1/2"	AU-31303-06		AU-31307-06	
3/8"	3/4"	AU-31303-07		AU-31307-07	

B. Hose Barb Bodies

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-10		AU-31307-10	
3/8"	1/2"	AU-31303-11		AU-31307-11	
3/8"	5/8"	AU-31303-12		AU-31307-12	
3/8"	3/4"	AU-31303-13		AU-31307-13	
Straight-through fittings					
3/8"	3/8"	AU-31303-15		AU-31307-15	
3/8"	1/2"	AU-31303-16		AU-31307-16	
3/8"	5/8"	AU-31303-17		AU-31307-17	
3/8"	3/4"	AU-31303-18		AU-31307-18	

C. Bulkhead Panel Mount Hose Barb Bodies

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-20		AU-31307-20	
3/8"	1/2"	AU-31303-21		AU-31307-21	
3/8"	5/8"	AU-31303-22		AU-31307-22	
3/8"	3/4"	AU-31303-23		AU-31307-23	
Straight-through fittings					
3/8"	3/8"	AU-31303-25		AU-31307-25	
3/8"	1/2"	AU-31303-26		AU-31307-26	
3/8"	5/8"	AU-31303-27		AU-31307-27	
3/8"	3/4"	AU-31303-28		AU-31307-28	

Quick-Disconnect Inserts (Male Coupling Halves)

D. Male Threaded Inserts

Flow size	NPT(M)	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-35		AU-31307-35	
3/8"	1/2"	AU-31303-36		AU-31307-36	
3/8"	3/4"	AU-31303-37		AU-31307-37	
Straight-through fittings					
3/8"	3/8"	AU-31303-30		AU-31307-30	
3/8"	1/2"	AU-31303-31		AU-31307-31	
3/8"	3/4"	AU-31303-32		AU-31307-32	

E. Hose Barb Inserts

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-45		AU-31307-45	
3/8"	1/2"	AU-31303-46		AU-31307-46	
3/8"	5/8"	AU-31303-47		AU-31307-47	
3/8"	3/4"	AU-31303-48		AU-31307-48	
Straight-through fittings					
3/8"	3/8"	AU-31303-40		AU-31307-40	
3/8"	1/2"	AU-31303-41		AU-31307-41	
3/8"	5/8"	AU-31303-42		AU-31307-42	
3/8"	3/4"	AU-31303-43		AU-31307-43	

F. Elbow Hose Barb Inserts

Flow size	Tube ID	Polypropylene		Polysulfone	
		Catalog number	Price/pk of 1	Catalog number	Price/pk of 1
Valved fittings					
3/8"	3/8"	AU-31303-55		AU-31307-55	
3/8"	1/2"	AU-31303-56		AU-31307-56	
Straight-through fittings					
3/8"	3/8"	AU-31303-50		AU-31307-50	
3/8"	1/2"	AU-31303-51		AU-31307-51	

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CPC™ AseptiQuik™ Connectors

Make easy, secure sterile connections

- Quick, three-step connection process reduces risk of operator error
- Large housing size allows easy installation



Manufactured from sturdy polycarbonate, these connectors come clean. Use connectors with filters, tubing, and process containers to create systems for upstream or downstream processes.

Simply fit the connector half in your tubing line. Push the male and female connectors together; an audible snap confirms a tight connection. Align and snap membrane connectors together; pull from connector. Twist blue lock ring clockwise to hear another audible click. Alignment of the ring rib with the body's arrow indicator confirms final, secure connection.

Specifications

Type	Standard	High Temperature
Body material	Polycarbonate	
Seal material	Platinum-cured silicone	
Temp range	4 to 40°C	
Max pressure	4.4 bar (60 psi)	
Sterilization	Gamma irradiation	Autoclave or gamma irradiation

AseptiQuik-Standard

Bodies (female coupling halves)

Size	Description	Cat. no.	Price/ea
3/8" ID	Hose barb	AU-20002-90	
	Hose barb high temperature	AU-20002-91	
1/2" ID	Hose barb	AU-20002-86†	
	Hose barb high temperature	AU-20002-87	

Inserts (male coupling halves)

Size	Description	Cat. no.	Price/ea
3/8" ID	Hose barb	AU-20002-94	
	Hose barb high temperature	AU-20002-95	
1/2" ID	Hose barb	AU-20002-88†	
	Hose barb high temperature	AU-20002-89	

†Sold in a pack of 5.

AseptiQuik S-low flow, genderless

Size	Description	Cat. no.	Price/ea
1/8" ID	Hose barb	AU-20002-92	
1/4" ID	high temperature	AU-20002-93	
3/4" Mini Tri-Clamp®	Sanitary high temperature	AU-20002-96	

AseptiQuik X-high flow

Bodies (female coupling halves)

Size	Description	Cat. no.	Price/ea
3/4" ID	Hose barb	AU-30003-21	
	Hose barb high temperature	AU-30003-22	
1" ID	Hose barb	AU-30003-23	
	Hose barb high temperature	AU-30003-24	
1 1/2" ID	Sanitary	AU-30003-25	
Tri-Clamp	Sanitary high temperature	AU-30003-26	

Inserts (male coupling halves)

Size	Description	Cat. no.	Price/ea
3/4" ID	Hose barb	AU-30003-31	
	Hose barb high temperature	AU-30003-32	
1" ID	Hose barb	AU-30003-33	
	Hose barb high temperature	AU-30003-34	
1 1/2" ID	Sanitary	AU-30003-35	
Tri-Clamp	Sanitary high temperature	AU-30003-36	

CPC™ Polysulfone Quick-Disconnect Couplings

Protect against lost media

- USP Class VI compliant
- Automatic shutoff valves
- BSE/TSE-free material in bodies and seals

For a complete quick-disconnect fitting, order both a body and insert separately. An audible click confirms a secure, leak-free connection. The automatic shutoff valve closes off the flow path at disconnection, protecting valuable media while eliminating the need for pinch clamps. Thumb latch enables easy one-handed operation.



Specifications

Body material	Polysulfone
O-ring material	Silicone, platinum-cured
Valve spring	316 stainless steel
Temperature range	-40 to 138°C
Pressure range	Vacuum to 125 psi (8.62 bar)
Sterilization	Autoclave or gamma irradiation

A. Hose Barb Bodies

Tubing ID	Catalog number	Price
1/4"	AU-31313-01	
3/8"	AU-31313-02	
1/2"	AU-31313-03	

B. Hose Barb Inserts

Tubing ID	Catalog number	Price
1/4"	AU-31313-21	
3/8"	AU-31313-22	
1/2"	AU-31313-23	

CPC™ Steam-in-Place Connectors

Ensure a sterile connection

- One disposable connector for steam sterilization and microbial process
- Reduce downtime and cleaning expenses

Innovative product design allows for a one-step process for sterilization and media transfer while eliminating dead spots, reducing the number of connections, and eliminating the need for a laminar flow hood. Terminations on these connectors are set to industry standards for bioreactors and are available in popular sizes of flexible tubing. All wetted surfaces meet requirements for USP Class VI physicochemical tests. All units are made of animal-free polysulfone resin



31604-10

Original Steam-Thru Connectors feature a three-port design that allows steam to pass directly through the power ports to “steam on” to stainless equipment. Once the SIP cycle is completed, remove the tear-away sleeve to actuate the valve and create a sterile flow path. Once actuated, the connection cannot be reversed because valve actuation punctures the internal membrane to allow flow of media. When the process is complete, the connector may be safely disposed.

Steam-Thru II Connectors offer the additional benefit of both “steam on” and “steam off” functionality. The valve can return to the steam position to allow a second steam cycle after media transfer.



Specifications

Pressure rating

Steam position: 2.1 bar (30 psi)
Flow position: vacuum to 1.4 bar (20 psi)

Temperature rating

Steam position: 130°C for up to 60 min
Flow position: 4 to 40°C

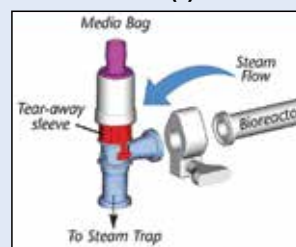
Materials

Body: polysulfone body
Sleeve: PE (31604-10 thru -16) or PC (31604-18 thru -24)
Membrane: silicone membrane

Tech info

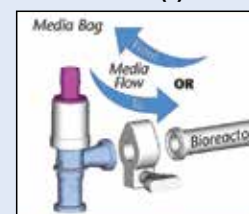
Types of Processes

Steam Process (1)



Steam flows from the bioreactor through the connector to sterilize the connection. With the tear-away sleeve in place, the transfer of fluid to or from the bioreactor is prevented.

Flow Process (2)



When the tear-away sleeve is removed and the connector is actuated, the connection to the steam trap is disabled and the media flow bath to or from the bioreactor is accessible.

Steam inlet	Connections		Sterilization methods†	Catalog number	Price
	Bioreactor	Hose barb			
Steam-Thru connectors (single cycle)					
3/4" Tri-Clamp®	3/4" Tri-Clamp	1/2"	SIP, G	AU-31604-10 AU-31604-12	
		3/8"			
3/4" Tri-Clamp	1 1/2" Tri-Clamp	1/2"	SIP, G	AU-31604-14 AU-31604-16	
		3/8"			
3/4" Tri-Clamp	3/4" Tri-Clamp	1/2"	SIP, G, A	AU-31604-18 AU-31604-20	
		3/8"			
3/4" Tri-Clamp	1 1/2" Tri-Clamp	1/2"	SIP, G, A	AU-31604-22 AU-31604-24	
		3/8"			
Steam-Thru II (two cycle)					
3/4" Tri-Clamp	3/4" Tri-Clamp	1/2"	SIP, G	AU-31604-36 AU-31604-38	
		1 1/2" Tri-Clamp			

†SIP = steam-in-place process up to 130°C for 60 minutes;
G = gamma radiation up to 50 kGy for one cycle;
A = autoclave at 128°C for 30 minutes up to two cycles.

CPC™ Quick-Disconnect Sanitary Couplings

Attach directly to your sanitary hardware assemblies!

- USP Class IV materials
- Fully sterilizable

These couplings allow you to integrate disposables with your existing stainless steel processing equipment. Both couplings and inserts are available with standard sanitary terminations to attach to your system with a sanitary gasket and tri-clover clamps. All models feature USP Class VI platinum-cured silicone gaskets.



31604-26

31604-28

31604-34

31311-71

Bodies (Female Coupling Halves)

Size	Compatible	Material	Catalog number	Price
3/4" sanitary	Large	PSF	AU-31604-26	
1" sanitary	Standard		AU-31604-28	

Inserts (Male Coupling Halves)

Size	Compatible	Material	Catalog number	Price
1/4" tubing ID	Standard	PSF	AU-31311-71	
3/8" tubing ID			AU-31311-72	
1/2" tubing ID	Large	316 SS	AU-31311-73	
3/4" sanitary	Standard		AU-31604-30	
1" sanitary	Large		AU-31604-32	
1 1/2" sanitary			AU-31604-34	

Specifications

Body material	Polysulfone (PSF)	316 stainless steel
O-ring material	USP Class VI platinum-cured silicone	
Temperature range	-40 to 149°C	
Max pressure	4.1 bar (60 psi)	
Sterilization	Autoclave, gamma irradiation, ETO, or ebeam	Autoclave or gamma irradiation

Cole-Parmer® Polypropylene (PP) and PVDF Sanitary Clamp Fittings

Maintain sanitary conditions in your processes

- Meet USP Class VI standards
- All fittings are compatible with Tri-Clamp® fittings
- Excellent chemical resistance; low leachable characteristics

Note: Though both materials may be autoclaved, PVDF tolerates high temperatures better than PP does and will perform more consistently after repeated autoclaving.

Clamp size	PP		PVDF	
	Cat. no.	Price	Cat. no.	Price
A. Eccentric reducers				
1½" x ¾" mini	AU-31805-01		AU-31808-01	
B. Concentric reducers				
1" ladish x ¾" mini	AU-31805-05		AU-31808-05	
1½" x ¾" mini	AU-31805-10		AU-31808-10	
1½" x 1" ladish	AU-31805-11		AU-31808-11	
2" x 1" ladish	AU-31805-14		AU-31808-14	
2" x 1½"	AU-31805-14		AU-31808-14	
C. Barbed adapters, clamp x tubing ID				
¾" mini x ½"	AU-31805-24		AU-31808-24	
¾" mini x ¼"	AU-31805-25		AU-31808-25	
¾" mini x ⅜"	AU-31805-26		AU-31808-26	
¾" mini x ½"	AU-31805-27		AU-31808-27	
¾" mini x ⅝"	AU-31805-28		AU-31808-28	
¾" mini x ¾"	AU-31805-29		AU-31808-29	
1" ladish x ½"	AU-31805-30		AU-31808-30	
1" ladish x ¼"	AU-31805-31		AU-31808-31	
1" ladish x ⅜"	AU-31805-32		AU-31808-32	
1" ladish x ½"	AU-31805-33		AU-31808-33	
1" ladish x ¾"	AU-31805-34		AU-31808-34	
1" ladish x 1"	AU-31805-35		AU-31808-35	
1½" x 1"	AU-31805-41		AU-31808-41	
2" x 1"	AU-31805-47		AU-31808-47	
D. Pipe thread adapters, clamp x NPT(M)				
1" ladish x ½"	AU-31805-56		AU-31808-56	
1" ladish x ¼"	AU-31805-57		AU-31808-57	
1" ladish x ⅜"	AU-31805-58		AU-31808-58	
1" ladish x ½"	AU-31805-59		AU-31808-59	
1" ladish x ¾"	AU-31805-60		AU-31808-60	
1" ladish x 1"	AU-31805-61		AU-31808-61	
1" ladish x 1¼"	AU-31805-62		AU-31808-62	
1" ladish x 1½"	AU-31805-63		AU-31808-63	
1½" x ¾"	AU-31805-68		AU-31808-68	
1½" x 1"	AU-31805-69		AU-31808-69	
1½" x 1¼"	AU-31805-70		AU-31808-70	
1½" x 1½"	AU-31805-71		AU-31808-71	
2" x 1"	AU-31805-77		AU-31808-77	
2" x 1¼"	AU-31805-78		AU-31808-78	
2" x 1½"	AU-31805-79		AU-31808-79	
2" x 2"	AU-31805-80		AU-31808-80	
E. Pipe thread adapters, clamp x NPT(F)				
1" ladish x ¾"	AU-31806-04		AU-31809-04	
1" ladish x 1"	AU-31806-05		AU-31809-05	
1½" x 1½"	AU-31806-15		AU-31809-15	
F. 90° elbows				
¾" mini	AU-31806-41		AU-31809-41	
1" ladish	AU-31806-42		AU-31809-42	
1½"	AU-31806-43		AU-31809-43	
2"	AU-31806-44		AU-31809-44	
G. 45° elbows				
¾" mini	AU-31806-51		AU-31809-51	
1" ladish	AU-31806-52		AU-31809-52	
1½"	AU-31806-53		AU-31809-53	
2"	AU-31806-54		AU-31809-54	
H. Standard tees				
¾" mini	AU-31806-61		AU-31809-61	
1" ladish	AU-31806-62		AU-31809-62	
1½"	AU-31806-63		AU-31809-63	
2"	AU-31806-64		AU-31809-64	
I. Clamps				
¾" mini	—	—	AU-31811-00	
1" and 1½"	—	—	AU-31811-01	
2"	—	—	AU-31811-02	
2½"	—	—	AU-31811-03	



Cole-Parmer®

Specifications

Clamp size	Inner dimension (based on SS tube ID)
¾" mini	9/16"
1" maxi	7/8"
1" ladish†	7/8"
1½"	1 1/8"
2"	1 7/8"
2½"	2 3/8"
3"	2 7/8"

†Choose 1" ladish fittings for a direct match with 1" stainless steel sanitary connections.

Chemical resistance
PP: very good PVDF: excellent

Temperature range
PP: -9 to 82°C
PVDF: -40 to 138°C

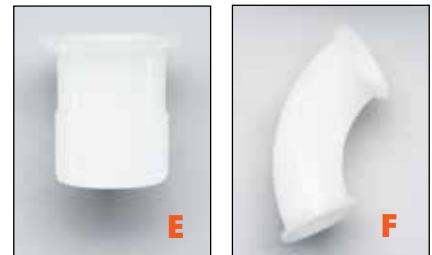
Max pressure
In ambient conditions, using plastic true union style clamp
PP: 125 psi PVDF: 150 psi

Sterilization: EtO or autoclave



J. Nylon Clamps

Clamp size	Catalog number	Price
½" to ¾"	AU-30508-21	
1" to 1½"	AU-30508-23	
2"	AU-30508-25	
3"	AU-30508-27	
4"	AU-30508-29	



Gaskets (not shown)

Gasket size	Catalog number	Price
Platinum-cured silicone		
¾" mini	AU-30548-00	
1" ladish	AU-30548-02	
1½"	AU-30548-04	
2"	AU-30548-06	
2½"	AU-30548-08	
Viton®		
¾" mini	AU-30548-20	
1" ladish	AU-30548-22	
1½"	AU-30548-24	
2"	AU-30548-26	
2½"	AU-30548-28	
Buna N		
¾" mini	AU-30548-40	
1" ladish	AU-30548-42	
1½"	AU-30548-44	
2"	AU-30548-46	
2½"	AU-30548-48	
EPDM		
¾" mini	AU-30548-60	
1" ladish	AU-30548-62	
1½"	AU-30548-64	
2"	AU-30548-66	
2½"	AU-30548-68	
PTFE		
¾" mini	AU-30548-80	
1" ladish	AU-30548-82	
1½"	AU-30548-84	
2"	AU-30548-86	
2½"	AU-30548-88	



Wait! There's More...

For sanitary gaskets, see page 59.

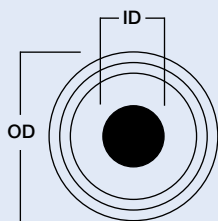
Fluid Path

Fittings



Tech info

Sanitary Tri-Clamp® Fitting Sizing



Tri-Clamp nominal size	Fitting ID	Fitting OD
1/4"	4.7 mm	25.0 mm
3/8"	5.8 mm	
1/2"	9.5 mm	
3/4"	15.9 mm	
1"	22.1 mm	50.4 mm
1 1/2"	34.5 mm	
2"	47.5 mm	
2 1/2"	60.2 mm	
3"	72.9 mm	

Cole-Parmer® 316L Stainless Steel Sanitary Clamp Couplings

Meet FDA requirements and 3A Sanitary Standards

– All couplings are compatible with standard 304L fittings clamps

316L stainless steel couplings are ideal for the pharmaceutical industry; they offer great chemical compatibility for use with corrosive acids and bases.



Clamp size	Catalog number	Price
A. Concentric reducers		
1" x 3/4"	AU-30700-50	
1 1/2" x 1"	AU-30700-51	
2" x 1"	AU-30700-52	
2" x 1 1/2"	AU-30700-53	
B. Eccentric reducers		
1" x 3/4"	AU-30700-54	
1 1/2" x 1"	AU-30700-55	
2" x 1"	AU-30700-56	
2" x 1 1/2"	AU-30700-57	
C. Barbed adapters		
3/4" x 1/8"	AU-30700-58	
3/4" x 1/4"	AU-30700-59	
3/4" x 3/8"	AU-30700-60	
3/4" x 1/2"	AU-30700-61	
3/4" x 3/4"	AU-30700-62	
1" x 1"	AU-30700-63	
1 1/2" x 1 1/2"	AU-30700-64	
2" x 2"	AU-30700-65	
D. Threaded adapters, clamp x NPT(M)		
3/4" x 1/8"	AU-30700-66	
3/4" x 1/4"	AU-30700-67	
3/4" x 3/8"	AU-30700-68	
3/4" x 1/2"	AU-30700-69	
3/4" x 3/4"	AU-30700-70	
1" x 3/4"	AU-30700-71	
1" x 1"	AU-30700-72	
1" x 1 1/2"	AU-30700-74	
1" x 2"	AU-30700-75	
1 1/2" x 3/4"	AU-30700-76	
1 1/2" x 1"	AU-30700-77	
1 1/2" x 1 1/4"	AU-30700-78	
1 1/2" x 1 1/2"	AU-30700-79	
E. 90° elbows		
3/4"	AU-30700-80	
1"	AU-30700-81	
1 1/2"	AU-30700-82	
2"	AU-30700-83	
F. 45° elbows		
3/4"	AU-30700-84	
1"	AU-30700-85	
1 1/2"	AU-30700-86	
2"	AU-30700-87	
G. Tees		
3/4"	AU-30700-88	
1"	AU-30700-89	
1 1/2"	AU-30700-90	
2"	AU-30700-91	
H. Crosses		
1"	AU-30700-92	
1 1/2"	AU-30700-93	
2"	AU-30700-94	
I. Clamps (304L SS)		
1/2" to 3/4"	AU-30800-74	
1" to 1 1/2"	AU-30800-75	
2"	AU-30800-76	
2 1/2"	AU-30800-77	
3"	AU-30800-78	
4"	AU-30800-80	

Fluid Path

Fittings

Cole-Parmer® Gaskets for Tri-Clamp® Sanitary Fittings

Ensure a tight seal

- Meet FDA CFR Title 21 CFR 177.2600, 3A, and cGMP criteria
- Gaskets are free of animal-derived ingredients and meet USP Class VI, EP 3.1.9, and cytotoxicity criteria

Platinum-Cured Silicone is ideal for most pharmaceutical, food, and beverage processing applications. Odorless and tasteless to ensure media purity. Usable from –50 to 230°C. SIP compatible.

EPDM offers good chemical resistance. An economical choice for water, acetone, or ketone applications. Usable from –54 to 100°C.

FKM offers excellent chemical resistance, especially to many acids and alkalis. Best choice for many pharmaceutical, chemical, automotive, or fuel applications. Usable from –32 to 204°C. Sterilization is not recommended.

PTFE offers excellent chemical compatibility. Highly resistant to stress cracking and corrosion. Usable from –268 to 288°C.



Cole-Parmer®



ANIMAL DERIVED
INGREDIENT FREE

Size	Platinum-cured silicone		EPDM		FKM		PTFE	
	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10	Catalog number	Price/pk of 10
3/4"	AU-30548-00		AU-30548-60		AU-30548-20		AU-30548-80	
1"	AU-30548-02		AU-30548-62		AU-30548-22		AU-30548-82	
1 1/2"	AU-30548-04		AU-30548-64		AU-30548-24		AU-30548-84	
2"	AU-30548-06		AU-30548-66		AU-30548-26		AU-30548-86	
2 1/2"	AU-30548-08		AU-30548-68		AU-30548-28		AU-30548-88	

Plastic Luer Stopcocks and Manifolds

Regulate flow without any leaking



Polycarbonate Stopcocks

HDPE handles rotate 360° on one-way stopcocks, 180° on three-way stopcocks, and 360° on four-way stopcocks.

Type	Description	Pack of 10		Pack of 100	
		Catalog number	Price	Catalog number	Price
Standard stopcocks					
1-way	Male lock	AU-30600-00		AU-30600-05	
1-way	Male luer	AU-30600-01		AU-30600-06	
3-way	Male lock	AU-30600-02[†]		AU-30600-07	
4-way	Male luer	AU-30600-03		AU-30600-08	
4-way	Male lock	AU-30600-04		AU-30600-09	
Large-bore stopcocks					
3-way	Male lock	AU-30600-23		AU-30600-25	
4-way	Male lock	AU-30600-12		AU-30600-17	

[†]Locking ring does not rotate.

PVDF Stopcocks

PVDF body with polypropylene insert.

Type	Description	Catalog number	Price
2-way	Female luer lock	AU-31200-70	
3-way	Female luer lock	AU-31200-80	



31200-70

High-Pressure Polycarbonate Stopcocks

Pressure rating up to 72.4 bar (1050 psi).

Type	Description	Catalog number	Price/pk of 10
2-way	Male luer lock x female luer	AU-30526-32	
3-way	Female luer (2) x male luer lock	AU-30526-34	

Polycarbonate Manifolds

Manifolds have polyurethane stems, HDPE handles, and female ports.



Ports	Rotation	Individual manifolds		Pack of 10	
		Catalog number	Price	Catalog number	Price
2	180°	AU-06464-81		AU-30600-44	
3	360°	AU-06464-83		AU-30600-41	
4	180°	AU-06464-85		AU-30600-42	
5	360°	AU-06464-87		AU-30600-43	

Cole-Parmer® Premium Luer Fittings

Ensure your process integrity with full material traceability

– Manufactured from 100% virgin raw materials to ISO Class 8 standard

These luer fittings are ideal for a variety of critical 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. **Sold in pack of 25.**



Key	Description	Polypropylene		Polycarbonate		Nylon		PVDF	
		Catalog number	Price/ pk	Catalog number	Price/ pk	Catalog number	Price/ pk	Catalog number	Price/ pk
Female luer x standard hose barb adapters									
A	Female luer x 1/16" hose barb	AU-45508-00		AU-45501-00		AU-45502-00		AU-45512-00	
	Female luer x 3/32" hose barb	AU-45508-02		AU-45501-02		AU-45502-02		AU-45512-02	
	Female luer x 1/8" hose barb	AU-30800-08		AU-45501-04		AU-45502-04		AU-45512-04	
	Female luer x 3/32" hose barb	AU-45508-06		AU-45501-06		AU-45502-06		AU-45512-06	
	Female luer x 3/16" hose barb	AU-45508-08		AU-45501-08		AU-45502-08		AU-45512-08	
	Female luer x 1/4" hose barb	AU-30800-06		AU-45501-20		AU-45502-20		—	—
Female luer x hose barb adapters (smooth bore)									
B	Female luer x 1/16" hose barb	AU-45508-50		AU-45501-50		AU-45502-50		—	—
	Female luer x 3/32" hose barb	AU-45508-52		AU-45501-52		AU-45502-52		—	—
	Female luer x 1/8" hose barb	AU-45508-54		AU-45501-54		AU-45502-54		—	—
Female luer x hose barb adapters (wide bore)									
C	Female luer x 1/16" hose barb	AU-45508-01		AU-45501-01		AU-45502-01		—	—
	Female luer x 3/32" hose barb	AU-45508-03		AU-45501-03		AU-45502-03		—	—
	Female luer x 1/8" hose barb	AU-30800-02		AU-45501-05		AU-45502-05		—	—
Female luer x hose barb adapters (low-profile barb)									
D	Female luer x 1/16" hose barb	AU-45508-12		AU-45501-12		AU-45502-12		—	—
	Female luer x 3/32" hose barb	AU-45508-14		—	—	AU-45502-14		AU-45512-14	
	Female luer x 1/8" hose barb	AU-45508-16		AU-45501-16		AU-45502-16		AU-45512-16	
	Female luer x 0.17" hose barb	AU-45508-18		—	—	AU-45502-18		AU-45512-18	
Female luer x thread adapters									
E	Female luer x 10-32 special tapered thread	AU-45508-70		AU-45501-70		AU-45502-70		—	—
	Female luer x 10-32 UNF thread	AU-45508-60		AU-45501-60		AU-45502-60		—	—
	Female luer x 1/4-28 UNF thread	AU-45508-66		AU-45501-66		AU-45502-66		AU-45512-66	
	Female luer x 1/4-28 UNF bottom sealing thread	AU-45508-76		—	—	AU-45505-76		AU-45513-76	
	Female luer x 1/8-27 NPT thread	AU-30800-00		—	—	AU-45505-78		AU-45513-78	
F	Female luer x 1/8-27 NPT thread elbow	AU-45518-80		—	—	AU-45505-80		AU-45513-80	
Female luer bulkhead x hose barb adapters									
G	Female luer x 1/4-28 UNF thread to 1/16" hose barb	AU-45508-30		AU-45501-30		AU-45502-30		AU-45512-30	
	Female luer x 1/4-28 UNF thread to 3/32" hose barb	AU-45508-32		AU-45501-32		AU-45502-32		AU-45512-32	
	Female luer x 1/4-28 UNF thread to 1/8" hose barb	AU-45508-34		AU-45501-34		AU-45502-34		AU-45512-34	
Female adapters									
H	Female luer x female luer	AU-45508-22		AU-45501-22		AU-45502-22		AU-45512-22	
I	Female tee	AU-45508-56		AU-45501-56		AU-45502-56		—	—
J	Female elbow	AU-45508-26		AU-45501-26		AU-45502-26		AU-45512-26	
K	Female luer x cap	AU-30800-12		AU-45501-28		AU-45502-28		AU-45512-28	
L	Female luer x cap with tether loop	AU-45508-64		AU-45501-64		AU-45502-64		AU-45512-64	
Male x female adapters									
M	Male luer x female luer coupler	AU-45508-82		AU-45501-82		AU-45502-82		AU-45512-82	
N	Male luer with lock ring x female luer coupler	AU-45508-80		AU-45501-80		AU-45502-80		—	—
O	Male luer x female luer elbow	AU-45508-84		AU-45501-84		AU-45502-84		—	—
P	Male x female x female tee	AU-45508-85		AU-45501-85		AU-45502-85		—	—
Q	Male x male x female tee	AU-45508-75		AU-45501-75		AU-45502-75		—	—

Fluid Path

Fittings



Specifications

Polypropylene (PP). Manufactured of animal-free natural polypropylene. Meets USP Class VI specifications. Very good chemical resistance. Max temperature 87°C. Sterilize by ethylene oxide and gamma irradiation (not recommended for autoclaving).

Polycarbonate (PC). Good chemical resistance. Max temperature 133°C. Sterilize by ethylene oxide and gamma irradiation (not recommended for autoclaving).

Nylon. Good chemical resistance. Max temperature 235°C. Sterilize by autoclave, ethylene oxide, or gamma irradiation.

PVDF. Excellent chemical resistance. Animal-derived ingredient-free. Max temperature 117°C. Sterilize by autoclave, ethylene oxide, or gamma irradiation.

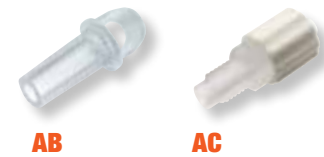
Key	Description	Polypropylene		Polycarbonate		Nylon		PVDF	
		Catalog number	Price/pk	Catalog number	Price/pk	Catalog number	Price/pk	Catalog number	Price/pk
Male luer lock x standard hose barb adapters									
R	Male luer lock x 1/16" hose barb	AU-45518-00		AU-45504-00		AU-45505-00		AU-45513-00	
	Male luer lock x 3/32" hose barb	AU-45518-02		AU-45504-02		AU-45505-02		AU-45513-02	
	Male luer lock x 1/8" hose barb	AU-30800-24		AU-45504-04		AU-45505-04		AU-45513-04	
	Male luer lock x 5/32" hose barb	AU-45518-06		AU-45504-06		AU-45505-06		AU-45513-06	
	Male luer lock x 3/16" hose barb	AU-45518-08		AU-45504-08		AU-45505-08		AU-45513-08	
	Male luer lock x 1/4" hose barb	AU-30800-22		AU-45504-19		AU-45505-19		—	—
Male luer lock x hose barb adapters (wide bore)									
S	Male luer x 1/16" hose barb (wide bore)	AU-30800-16		—		AU-45505-31		—	
	Male luer x 3/32" hose barb (wide bore)	—		—		AU-45505-32		—	
	Male luer x 1/8" hose barb (wide bore)	AU-30800-18		—		AU-45505-33		—	
Male luer lock x hose barb adapters (low-profile barb)									
T	Male luer x 1/16" hose barb	AU-45518-07		AU-45504-07		AU-45505-07		—	
	Male luer x 3/32" hose barb	AU-30800-28		—		AU-45505-09		AU-45513-09	
	Male luer x 1/8" hose barb	AU-45518-11		AU-45504-11		AU-45505-11		AU-45513-11	
	Male luer x 0.17" hose barb	AU-45518-13		AU-45504-13		AU-45505-13		—	
Male luer x hose barb adapters (for use with separate rotating lock ring "W")									
U	Male luer x 1/16" hose barb	AU-45518-40		AU-45504-40		AU-45505-40		—	
	Male luer x 3/32" hose barb	AU-45518-42		AU-45504-42		AU-45505-42		—	
	Male luer x 1/8" hose barb	AU-45518-44		AU-45504-44		AU-45505-44		—	
	Male luer x 5/32" hose barb	AU-45518-46		AU-45504-46		AU-45505-46		—	
	Male luer x 3/16" hose barb	AU-45518-48		AU-45504-48		AU-45505-48		—	
	Male luer x 1/4" hose barb	AU-45518-50		AU-45504-50		AU-45505-50		—	
Male luer x hose barb adapters (wide-bore), (for use with separate rotating lock ring "W")									
V	Male luer x 1/16" hose barb	AU-45518-41		AU-45504-41		AU-45505-41		—	
	Male luer x 3/32" hose barb	AU-45518-43		—		—		—	
	Male luer x 1/8" hose barb	AU-45518-45		AU-45504-45		AU-45505-45		—	
W	Snap luer lock ring	AU-45518-74		AU-45504-74		AU-45505-74		—	
Male slip luer x hose barb adapters (no lock ring)									
X	Male luer x 1/16" hose barb	AU-45518-22		AU-45504-22		AU-45505-22		AU-45513-22	
	Male luer x 3/32" hose barb	AU-45518-24		AU-45504-24		AU-45505-24		AU-45513-24	
	Male luer x 1/8" hose barb	AU-45518-26		AU-45504-26		AU-45505-26		AU-45513-26	
	Male luer x 5/32" hose barb	AU-45518-28		AU-45504-28		AU-45505-28		AU-45513-28	
	Male luer x 3/16" hose barb	AU-45518-52		AU-45504-52		AU-45505-52		—	
	Male luer x 1/4" hose barb	AU-45518-54		AU-45504-54		AU-45505-54		—	
Male adapters									
Y	Male luer x male luer	AU-30800-14		AU-45504-72		AU-45505-72		AU-45513-72	
Z	Male luer lock plug	AU-30800-30		AU-45504-56		AU-45505-56		AU-45513-56	
AA	Male luer plug	AU-45518-58		AU-45504-58		AU-45505-58		—	
AB	Male luer plug with tether loop	AU-45518-70		AU-45504-70		AU-45505-70		—	
AC	Male luer with lock ring and 5/16" hex to 1/4-28 UNF	AU-45518-81		—		—		AU-45513-81	
Male luer with integral lock ring x thread adapters									
AD	Male luer x 1/4-28 UNF thread	AU-45518-82		AU-45504-82		AU-45505-82		AU-45513-82	
AE	Male luer x 10-32 special tapered thread	AU-45518-84		AU-45504-84		AU-45505-84		—	
AF	Male luer x 7/16" hex x 1/8-27 NPT thread	AU-45518-86		—		AU-45505-86		AU-45513-86	
AG	Male luer x 3/16" hex x 1/4-18 NPT thread	AU-45518-88		—		AU-45505-88		—	

Accessories

[AU-45509-00](#) Panel-mount lock ring, black nylon. Pack of 25

[AU-45509-02](#) Panel-mount ring, black nylon. Pack of 25

[AU-45509-04](#) Panel-mount lock nut; 1/4-28 UNF, black nylon. Pack of 25

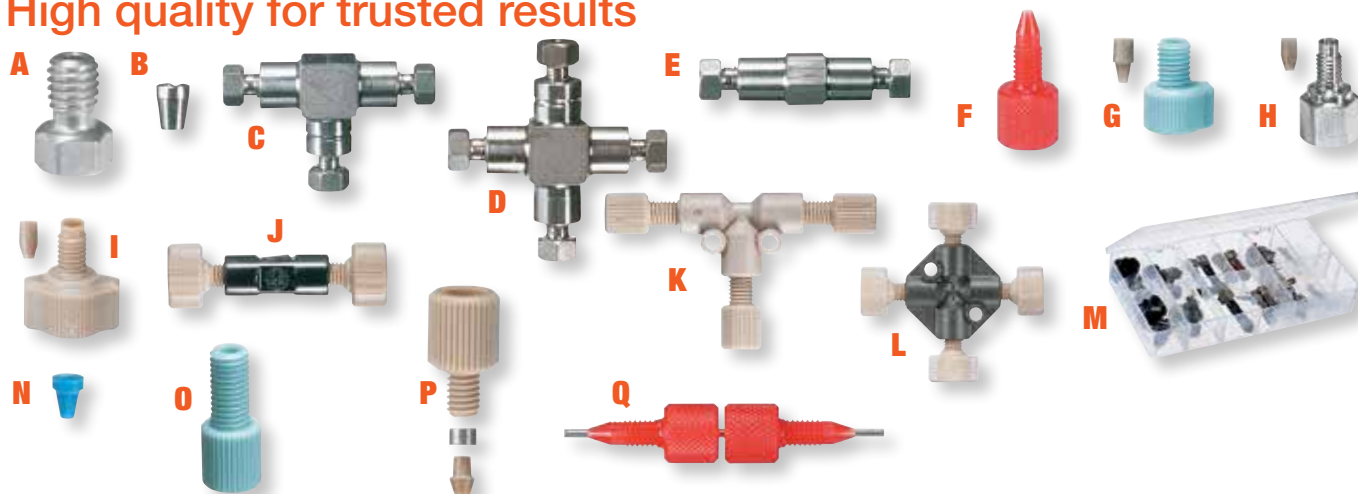


Fluid Path

Fittings

Chromatography Fittings

High quality for trusted results



A-E. Stainless Steel Fittings include nuts and ferrules. They are equivalent to Parker and Swagelok®. Tees and crosses connect two or more columns from the injector (0.020" bore), and join multiple solvent lines before the injector (0.040" bore). Tees and crosses take 1/16" OD tubing. Tee includes three ferrules and nuts each. Cross includes four ferrules and nuts each. Zero dead-volume (ZDV) unions connect tubing without any dead volume.

F. Standard Fingertight® I High-Pressure Fittings are in one piece, and are finger tightened to withstand 276 bar/4000 psi. Use with 1/16" OD plastic or SS tubing.

G-H. Standard Fingertight II High-Pressure Fittings hold up to 414 bar/6000 psi. Wrench tighten the SS nut/PEEK⁺ ferrule type to hold up to 689 bar/10,000 psi. Use with 1/16" OD plastic or SS tubing.

I. PEEK⁺ Fingertight III Fittings withstand bursting pressures of any 1/16" OD tubing or to 414 bar/6000 psi. Replacement ferrules available below right.

J-L. PEEK⁺ High-Pressure Unions, Tees, and Crosses hold up to 345 bar/5000 psi and include Fingertight III fittings. Fittings work with any 1/16" OD tubing.

J-L. PEEK⁺ Low-Pressure Unions, Tees, and Crosses hold up to 69 bar/1000 psi (1/16" tubing), or to 34 bar/500 psi (1/8" tubing). PEEK flangeless fittings included. Models 02008-00, -10, and -20 take 1/16" OD tubing; models 02008-04, -14, and -24 take 1/8" OD tubing.

M. PEEK⁺ Fitting Kit contains twenty ferrules, six Fingertight III nuts with ferrules, two metric adapters, two 10-32 female to 1/4-28 female adapters, two unions with 0.020" bore, one union with 0.050" bore, tees with 0.020" bore and 0.050" bore each, and crosses with 0.020" and 0.050" bore each.

N-O. Flangeless Fittings are easy to assemble; slide the ferrule over the tubing and finger tighten the nut. No need to flange your PTFE tubing. Models 01939-30, -32 take 1/16" OD tubing and are rated at 69 bar/1000 psi; models 01939-32, -42 take 1/8" OD tubing and are rated at 34 bar/500 psi. Feature 1/4-28 threads.

P. LiteTouch® Ferrule Systems feature unique double-coned ferrule and SS compression ring. Won't twist tubing while disconnecting. Compression ring remains attached to tubing for quick reconnection. Rated for 345 bar/5000 psi (01939-36) or 483 bar/7000 psi (01939-34 and -44). Order tool 01939-39 (at right) to remove compression ring. Order SS nuts ("A") or PEEK nuts ("P") in table.

Q. Column Couplers allow zero dead-volume connections between column and column, column and detector, or column and guard column. Include a 5-cm length of 0.007" ID tubing.

†Maximum operating temperature is 150°C.

Key	Description	Qty	Cat. no.	Price
Stainless steel fittings				
A	1/16", male nut	Pk of 10	AU-01939-80	
B	1/16", ferrule	Pk of 10	AU-01939-90	
C	0.020" (0.50 mm) bore, tee	1	AU-01939-50	
	0.040" (1.00 mm) bore, tee	1	AU-01939-52	
D	0.020" (0.50 mm) bore, cross	1	AU-01939-60	
	0.040" (1.00 mm) bore, cross	1	AU-01939-62	
E	0.020" (0.50 mm) bore, ZDV union, joins 1/16" tubing	1	AU-01939-70	
	0.010" (0.25 mm) bore, ZDV union, joins 0.005" (0.125 mm) or 0.007" (0.175 mm) tubing	1	AU-01939-72	
Standard Fingertight® I high-pressure fittings				
F	10-32, CTFE nut/CTFE ferrule	Pk of 10	AU-01939-20	
Standard Fingertight II high-pressure fittings				
G	10-32, acetal male nut/PEEK ferrule	Pk of 10	AU-01939-00	
	1/4-28, acetal male nut/PEEK ferrule	Pk of 10	AU-01939-02	
H	1/4-28, SS male nut/PEEK ⁺ ferrule	Pk of 10	AU-01939-12	
PEEK⁺ Fingertight III fittings				
I	10-32, nut/ferrule	1	AU-02007-00	
	1/4-28, nut/ferrule	1	AU-02007-02	
PEEK⁺ high-pressure unions, tees, and crosses				
J	0.020" (0.50 mm) bore, union	1	AU-02008-02	
	0.050" (1.25 mm) bore, union	1	AU-02008-06	
K	0.020" (0.50 mm) bore, tee	1	AU-02008-12	
	0.020" (0.50 mm) bore, cross	1	AU-02008-22	
L	0.050" (1.25 mm) bore, cross	1	AU-02008-26	
M	PEEK fitting kit	1	AU-02008-50	
PEEK⁺ low-pressure unions, tees, crosses and fitting kit				
J	0.020" (0.50 mm) bore, union	1	AU-02008-00	
	0.050" (1.25 mm) bore, union	1	AU-02008-04	
K	0.020" (0.50 mm) bore, tee	1	AU-02008-10	
	0.050" (1.25 mm) bore, tee	1	AU-02008-14	
L	0.020" (0.50 mm) bore, cross	1	AU-02008-20	
	0.050" (1.25 mm) bore, cross	1	AU-02008-24	
M	PEEK fitting kit	1	AU-02008-52	
Flangeless fittings				
N	1/16", ETFE ferrule	Pk of 10	AU-01939-30	
	1/8", ETFE ferrule	Pk of 10	AU-01939-32	
O	1/16", ETFE male nut	Pk of 10	AU-01939-40	
	1/8", ETFE male nut	Pk of 10	AU-01939-42	
LiteTouch® ferrule systems				
P	1/16", PEEK ferrule system	Pk of 10	AU-01939-34	
	1/8", PEEK ferrule system	Pk of 10	AU-01939-36	
	1/16", PEEK nut	Pk of 10	AU-01939-44	
	1/8", PEEK nut	Pk of 10	AU-01939-46	
Column couplers				
Q	Two CTFE fittings, built-in nuts and ferrules	1	AU-01939-95	
	Two sets of acetal nuts/ketone ferrules	1	AU-01939-96	

Accessories

[AU-02007-50](#) Replacement ferrule for "I" fitting 02007-00

[AU-02007-52](#) Replacement ferrule for "I" fitting 02007-02

[AU-01939-39](#) Removal tool for "P" ferrule systems

Cole-Parmer® Two- and Three-Way Direct Lift Solenoid Valves

Ideal with high-purity or corrosive fluids—made of inert PTFE

- Minimize trapped liquids with minimal dead volume
- Mount almost anywhere—lightweight and compact

Models with a 1.6 mm orifice have mounting holes at the bottom only and models with a 2.4 mm or 4.0 mm orifice have mounting holes at the top and bottom. Optional mounting clip 01540-50 can be used to mount valves with a 1.6 mm orifice in any position.

Specifications

Vacuum rating: 26" Hg
Maximum fluid temperature: 70°C

Lead wire length: 38 cm

Cole-Parmer®



Ports NPT(F)	Orifice (mm)	Max pressure	Response time	Watts	12 VDC		24 VDC	
					Catalog number	Price	Catalog number	Price
Two-way solenoid valves; normally closed								
1/4-28	1.6	2.1 bar (30 psi)	20 ms	4.0	AU-01540-01		AU-01540-02	
1/4-28	1.6	4.1 bar (60 psi)	25 ms	8.0	AU-01540-03		AU-01540-04	
1/4-28	2.4	1.4 bar (20 psi)	20 ms	5.1	AU-01540-05		AU-01540-06	
1/8	4.0	1.2 bar (18 psi)	30 ms	8.0	AU-01540-07		AU-01540-08	
Two-way solenoid valves; normally open								
1/4-28	1.6	2.1 bar (30 psi)	20 ms	4.0	AU-01540-09		AU-01540-10	
Three-way solenoid valves								
1/4-28	1.6	2.1 bar (30 psi)	20 ms	4.0	AU-01540-11		AU-01540-12	
1/4-28	1.6	4.1 bar (60 psi)	25 ms	8.0	AU-01540-13		AU-01540-14	
1/8	4.0	1.2 bar (18 psi)	30 ms	8.0	AU-01540-17		AU-01540-18	

[AU-01540-50](#) Mounting clip for two- and three-way valves

[AU-01540-55](#) Mounting flange for two- and three-way valves



Mounting clip 01540-50

Mounting flange 01540-55

Fluid Path

Valves

Cole-Parmer® Solenoid-Operated Two- and Three-Way Pinch Valves

No contamination of valve

- Control flow in your tubing without direct contact between the fluid and the valve
- Fast response time
- Low-power consumption and high-cycle life
- Excellent for sanitary and pharmaceutical applications

What's included: 38 cm L 26-gauge PTFE-coated lead wires. Two-way valves include a 30 cm length of silicone tubing; three-way valves include two 15.2 cm lengths of tubing with a "Y" connector. See pages 43-50 for additional tubing.



Tubing size (ID x OD)	Max pressure	Watts	12 VDC		24 VDC	
			Cat. no.	Price	Cat. no.	Price
Two-way pinch valves; normally closed						
0.8 x 2.4 mm	1 bar (15 psi)	2.6	AU-98302-00		AU-98302-10	
1.6 x 3.2 mm	1 bar (15 psi)	2.6	AU-98302-02		AU-98302-12	
3.2 x 6.4 mm	1.4 bar (20 psi)	4.0	AU-98302-06		AU-98302-16	
Two-way pinch valves; normally open						
0.8 x 2.4 mm	1 bar (15 psi)	2.6	AU-98302-20		AU-98302-30	
1.6 x 3.2 mm	1 bar (15 psi)	2.6	AU-98302-22		AU-98302-32	
3.2 x 6.4 mm	1.4 bar (20 psi)	4.0	AU-98302-26		AU-98302-36	
Three-way pinch valves; one normally open, one normally closed						
0.8 x 2.4 mm	1 bar (15 psi)	2.6	AU-98302-40		AU-98302-48	
1.6 x 3.2 mm	1 bar (15 psi)	2.6	AU-98302-42		AU-98302-50	
3.2 x 6.4 mm	1.4 bar (20 psi)	4.0	AU-98302-46		AU-98302-54	



Mounting clip

Mounting flange

Cole-Parmer®

Accessories

[AU-01540-50](#) Mounting clip for two- and three-way valves

[AU-01540-55](#) Mounting flange for two- and three-way valves

Sanitary Plastic Ball Valves

Precision machined and tested to ensure leak-free connections

- Tri-Clamp® connections are easy to plumb into sanitary fluid paths
- Smooth flow path minimizes turbulence and pressure loss
- FDA 21 CFR 177.1520 compliant; NSF listed
- Valve design permits full flow and pressure in either direction



These industry standard valves feature PTFE bearings and seats to virtually eliminate friction and minimize wear. Fully concentric polished ball further ensures leak-free performance.

Clamp size	Cv	Max working pressure at 21°C	Maximum temperature	Catalog number	Price
Polypropylene valve body and EPDM seals					
3/4" mini	20	9.5 bar (140 psi)	82°C	AU-30532-01	
1" maxi	40			AU-30532-03	
1" Ladish	40			AU-30532-05	
1 1/2"	100	8.6 bar (120 psi)		AU-30532-07	
2"	120			AU-30532-09	
PVDF valve body and EPDM seals					
3/4" mini	20	16.3 bar (240 psi)	138°C	AU-30532-11	
1" maxi	40			AU-30532-13	
1" Ladish	40			AU-30532-15	
1 1/2"	100			AU-30532-17	
2"	120			AU-30532-19	

High-Purity Plastic Diaphragm Valves

Eliminate leaks

- Fully drainable mechanical valves are easy to maintain
- Models with PVDF body offer additional chemical resistance
- Handle maximum viscosity of 400 cSt



98520-00

Specifications

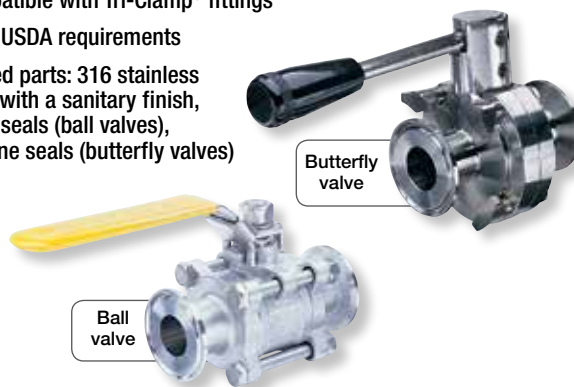
Wetted parts: polypropylene or PVDF body, EPDM diaphragm

Connections	Cv	Working pressure	Temperature range	Catalog number	Price
High-purity polypropylene valves					
3/4"	4.0	4.1 to 8.6 bar (60 to 125 psi)	-20 to 79°C	AU-98520-00	
1"	12.3			AU-98520-01	
1 1/2"	21.0			AU-98520-02	
2"	29.2			AU-98520-03	
High-purity PVDF valves					
3/4"	4.0	4.1 to 8.6 bar (60 to 125 psi)	-20 to 99°C	AU-98520-10	
1"	12.3			AU-98520-11	
1 1/2"	21.0			AU-98520-12	

316 SS Sanitary Ball and Butterfly Valves

Install in any position

- Compatible with Tri-Clamp® fittings
- Meet USDA requirements
- Wetted parts: 316 stainless steel with a sanitary finish, PTFE seals (ball valves), silicone seals (butterfly valves)



Clamp size	Cv	Max pressure	Max temperature	Catalog number	Price
Ball valves					
3/4"	40	68.9 bar at 21°C	204°C	AU-30530-00	
1"	70			AU-30530-01	
1 1/2"	120			AU-30530-02	
2"	340			AU-30530-03	
Butterfly valves					
1"	—	9.9 bar at 20°C	93°C	AU-30531-01	
1 1/2"	—			AU-30531-02	
3"	—			AU-30531-05	
4"	—			AU-30531-07	

Burkert Type 3233 316L Stainless Steel Diaphragm Valves

Protect your process

- Zero dead volume
- Autoclavable
- Can mount to be self-draining

These compact, manually operated diaphragm valves consist of a flow-optimized stainless steel body, diaphragm, and a manual actuator. The diaphragm is both a switch element and a sealing element and can be easily replaced.



Specifications

Body material: forged 316L SS, ASME BPE specification
Internal finish: 0.6 µL in Ra

External finish: 0.4 µL in Ra (as forged)

Actuator/bonnet: PPS/316L SS
Diaphragm material: PTFE/EPDM

Tri-Clamp® connection	Cv	Maximum pressure	Temperature range	Catalog number	Price
1/4"	1.2	9.9 bar (145 psi)	-14 to 130°C	AU-98516-56	
3/8"	1.2			AU-98516-58	
1/2"	1.2			AU-98516-60	
1/2"	6.9	10.3 bar (150 psi)		AU-98516-62	
3/4"	13.9			AU-98516-64	
1"	18.5			AU-98516-66	
1 1/2"	33.5			AU-98516-68	
2"	62.4	6.9 bar (101 psi)	AU-98516-70		

Cylindrical Tanks with Cover, HDPE and PP

Sturdy design complies with FDA 21 CFR 177.1520

- Contain drips with stepped-flange design
- Get easier sampling of liquids—tanks over 30 gallons are designed for near-total drainage
- No separate part number for lid—all tanks include lid of same wall thickness
- Rated for use with 1.8 specific gravity media
- High-density polyethylene (HDPE) tanks have good chemical resistance and max temperature of 65°C
- Polypropylene (PP) tanks offer good stress-crack and chemical resistance; maximum service temperature is 104°C



APPLICATIONS

- ✓ Media/nutrient storage
- ✓ Biobag support

ISO 9001:2008
CERTIFIED SUPPLIER

Gallons (liters)	Dimension (H x OD) [†]	Graduation gal. (liters)	Shpg wt lb (kg)	HDPE tanks			PP tanks		
				Cat. no.	Wall	Price	Cat. no.	Wall	Price
5 (19)	15" x 11"	0.5 (2)	6 (3)	AU-06317-50	3/16"	—	AU-06317-53	3/16"	—
7.5 (28)	18" x 12"	0.5 (N/A)	8 (4)	AU-06317-55	3/16"	—	AU-06317-58	3/16"	—
10 (38)	20" x 13"	1 (N/A)	9 (4)	AU-06317-60	3/16"	—	AU-06317-63	3/16"	—
15 (57)	27" x 13"	1 (4)	12 (5)	AU-06317-65	3/16"	—	AU-06317-68	3/16"	—
30 (114)	30" x 18"	2.5 (10)	18 (8)	AU-06317-70	3/16"	—	AU-06317-73	3/16"	—
55 (208)	36" x 22"	2.5 (10)	31 (14) [‡]	AU-06317-75	1/4"	—	AU-06317-78	1/4"	—
80 (303)	48" x 24"	5 (20)	42 (19) [‡]	AU-06317-80	1/4"	—	AU-06317-83	1/4"	—
100 (379)	44" x 28"	5 (20)	49 (22) [‡]	AU-06317-10	1/4"	—	AU-06317-13	1/4"	—
150 (568)	49" x 31"	10 (40)	77 (35) [‡]	AU-06317-20	1/4"	—	AU-06317-23	1/4"	—
200 (757)	51" x 36"	25 (100)	136 (62) [‡]	AU-06317-31	1/4"	—	AU-06317-34	1/4"	—
275 (1041)	49" x 42"	25 (100)	193 (88) [‡]	AU-06317-41	1/4"	—	—	—	—
360 (1363)	49" x 48"	25 (100)	206 (93) [‡]	AU-06317-85	1/4"	—	AU-06317-88	1/4"	—
500 (1893)	62" x 53"	25 (100)	600 (272) [‡]	AU-06318-86	5/16"	—	—	—	—

[†]Measured at bottom of tank. Add 2" for approximate OD at top of tank.

[‡]Ship by motor freight only.

Conical-Bottom Tank Systems, LPE

No need to order separate items

Complete tank systems include tank, carbon steel stand with agitator mounting, LDPE cover, and bulkhead fitting—indicate fitting placement at time of order.

Linear polyethylene tanks have conical bottoms for complete drainage of fluids and are impact and chemical resistant. Tanks can withstand continuous operating temperature of 65°C. Translucent sides let you observe liquid levels.



Gallons (liters)	Dimensions [†] (H x dia)	Outlet NPT(F)	Catalog number	Price
Tank systems				
15 (57)	22 5/8" x 18 1/2"	1"	AU-06925-00	
30 (114)	33 3/4" x 21 7/8"	1"	AU-06925-05	
55 (208)	37" x 26"	1"	AU-06925-10	
100 (379)	40 7/8" x 34 3/4"	1 1/2"	AU-06925-15	
200 (757)	66 7/8" x 35"	1 1/2"	AU-06925-20	
250 (946)	54 1/8" x 47 3/8"	1 1/2"	AU-06925-25	
Replacement tanks				
15 (57)	22 5/8" x 18 1/2"	1"	AU-06925-02	
30 (114)	33 3/4" x 21 7/8"	1"	AU-06925-07	
55 (208)	37" x 26"	1"	AU-06925-12	
100 (379)	40 7/8" x 34 3/4"	1 1/2"	AU-06925-17[‡]	
200 (757)	66 7/8" x 35"	1 1/2"	AU-06925-22[‡]	
250 (946)	54 1/8" x 47 3/8"	1 1/2"	AU-06925-27[‡]	

[†]Values are approximate; for overall height add 15" to the height for the stand.

[‡]Must ship via motor freight.

Sterile Single-Use Tank Liners, LLDPE

No more washing, cleaning, or revalidation

- Ready for immediate use
- Save money and time—no need for expensive equipment
- Manufactured with LLDPE, liners are pyrogen-free



Gallons (liters)	Dimensions	Catalog number	Qty/pk	Price/pk
13.2 (50)	27"H x 13" OD	AU-06310-01	40	
34.4 (130)	30"H x 18" OD	AU-06310-02	20	
52.8 (200)	36"H x 22" OD	AU-06310-04	20	
79.3 (300)	48"H x 24" OD	AU-06310-06	20	
106 (401)	44"H x 28" OD	AU-06310-08	20	
148 (560)	49"H x 31" OD	AU-06310-10	10	
198 (750)	51"H x 36" OD	AU-06310-12	10	
264 (1000)	49"H x 42" OD	AU-06310-14	10	
343 (1298)	49"H x 48" OD	AU-06310-16	10	

Wait!

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Filtration & Purification

Protect and purify for better yields

From vents to in-line prefiltration to final clarification

Filters & membranes	67–69
Pressure filtration	70
Syringe filters	71
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Capsule filters.	72–74
Sanitary strainers	74
Liquid filter systems	75

Filters listed in this section reference absolute pore size; use the cross-reference chart below to determine whether this meets your needs:

Types and Units	Particles
Ultrafiltration Dalton (MW)	Trypsin (24,000) Serum albumin (67,000) Gamma globulin (169,000) Viruses (600,000 to 30,000) Endotoxins (500,000 to 12,000)
Microfiltration Microns (µm)	Mycoplasma (0.08 to 0.4) Proteins (0.0005 to 0.5) Fungi (0.7 to 3) Yeasts (0.6 to 4) Bacteria (0.3 to 12)
Macrofiltration 50 µm or greater, visible to the human eye	Spores Pollen Human hair Sands



Product Selection | Troubleshooting | And More...

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or Ch@t Live

Advantec® Glass and Quartz Fiber Filters

Ideal for analytical or gravimetric studies

Borosilicate Glass Fiber Filters create a biologically inert filter matrix that is resistant to both chemicals and pH extremes. Use as prefilters to extend membrane life, for water/air pollution analysis, or liquid clarification. Filters without binder withstand up to 500°C; filters with binder withstand up to 120°C. Grades GC90, GS25, and DP70 with binder offer higher wet strength and lower fiber release.

Quartz Fiber Filters have very low trace metal content and can withstand temperatures up to 1000°C. Use to sample acidic gases at high temperatures or for air pollution analysis.



Specifications

Grade	Characteristics/applications
Borosilicate glass fiber filters	
GA55	General purpose; air pollution monitoring
GB140	Low adsorption; slower filtration speed for industrial waste analysis
GC50	Membrane prefilter (<0.45 µm), for industrial and wastewater analysis and scintillation counting
GD120	Membrane prefilter (<1.2 µm), high wet strength and high loading capacity
GF75	Highest retention; filtering very fine protein precipitates and clarifying chemically aggressive solutions
GA100	General purpose; filtering cells and precipitated proteins; air pollution monitoring
GA200	Thick filter; filtering viscous fluids such as liquid sugars and gels
GB100R	Low trace metal content; sampling high and low volume aerosols for airborne dust and metal contaminants
GC90	High wet strength
GS25	Membrane prefilter (<0.65 µm), high wet strength
DP70	High wet strength and very high loading capacity; dust and fine particulate sampling
Quartz fiber filters	
QR200	Low adsorption; high-temperature filtration and monitoring airborne particulates
QR100	Superior chemical resistance, will not absorb acidic gases



Filter 06646-35 shown with stainless steel filtration holder 29900-05 (holder sold separately on page 70)

Grade	Retention	Thickness	Water flow rate†	Binder	25-mm dia	47-mm dia	90-mm dia	125-mm dia	142-mm dia	293-mm dia
					Cat. no. / Price	Cat. no. / Price	Cat. no. / Price	Cat. no. / Price	Cat. no. / Price	Cat. no. / Price
Borosilicate glass fiber filters										
GA55	0.6 µm	0.21 mm	23	None	AU-06657-00 box of 100	AU-06646-02 box of 100	AU-06646-04 box of 100	AU-06646-05 box of 100	AU-06657-07 box of 100	—
GB140	0.4 µm	0.56 mm	58	None	AU-06646-84 box of 100	AU-06646-12 box of 100	AU-06646-14 box of 100	AU-06646-15 box of 100	AU-06657-17 box of 100	AU-06657-18 box of 50
GC50	0.5 µm	0.19 mm	28	None	AU-06647-95 box of 100	AU-06646-22 box of 100	AU-06646-24 box of 100	AU-06646-25 box of 100	AU-06657-27 box of 100	AU-06657-28 box of 50
GD120	0.9 µm	0.51 mm	14	None	AU-06657-30 box of 50	AU-06646-32 box of 50	AU-06646-34 box of 50	AU-06646-35 box of 50	AU-06657-37 box of 50	AU-06656-13 box of 50
GF75	0.3 µm	0.35 mm	84	None	AU-06656-24 box of 100	AU-06646-42 box of 100	AU-06646-44 box of 100	AU-06646-45 box of 100	AU-06656-23 box of 100	AU-06656-25 box of 50
GA100	1.0 µm	0.44 mm	11	None	AU-06657-50 box of 100	AU-06646-54 box of 100	AU-06657-54 box of 100	AU-06657-56 box of 100	AU-06657-57 box of 100	AU-06657-58 box of 50
GA200	0.8 µm	0.74 mm	15	None	AU-06646-63 box of 50	AU-06657-62 box of 50	AU-06657-64 box of 50	AU-06657-66 box of 50	AU-06657-67 box of 50	AU-06657-68 box of 50
GB100R	0.6 µm	0.40 mm	15	None	AU-06657-70 box of 100	AU-06646-75 box of 100	AU-06646-83 box of 100	AU-06657-76 box of 100	AU-06657-77 box of 100	AU-06657-78 box of 50
GC90	0.5 µm	0.30 mm	20	Organic	AU-06657-80 box of 100	AU-06657-82 box of 100	AU-06656-12 box of 100	AU-06657-86 box of 100	AU-06657-87 box of 100	AU-06656-05 box of 50
GS25	0.6 µm	0.21 mm	15	Organic	AU-06657-90 box of 100	AU-06657-92 box of 100	AU-06657-94 box of 100	AU-06657-96 box of 100	AU-06657-97 box of 100	AU-06656-33 box of 50
DP70	0.6 µm	0.52 mm	20	Organic	AU-06658-00 box of 50	AU-06646-53 box of 50	AU-06658-04 box of 50	AU-06658-06 box of 50	AU-06658-07 box of 50	AU-06658-08 box of 50
Quartz fiber filters										
QR200	—	1.0 mm	—	Inorganic	AU-06658-10 box of 100	AU-06658-12 box of 50	AU-06658-14 box of 50	AU-06658-16 box of 50	—	—
QR100	—	0.38 mm	—	None	AU-06658-20 box of 100	AU-06649-52 box of 100	AU-06658-24 box of 100	AU-06658-26 box of 100	—	—

†Time (in seconds) required to filter one liter of deionized water at 20°C through 9.6 cm² using a 300 mm Hg vacuum.

Advantec® Qualitative Filter Papers

Easily clarify solutions with pH up to 12

- Low ash alpha cotton cellulose—ash content of 0.1%
- Fits your range—use in pH of 0 to 12 and temperatures to 120°C
- Packs of 100

Specifications

Grade	Nominal rating (µm)	Thickness (mm)	Weight (g/m ²)	Flow time† (sec)	Absorption speed‡ (cm)	Wet strength†† (cm H ₂ O)
No. 1	Coarse (6)	0.2	90	45	9.0	15
No. 2	Medium (5)	0.26	125	80	8.0	18
No. 231	Medium	0.18	95	130	7.5	—
No. 232	Medium / medium-fine	0.18	90	250	5.0	—
No. 235	Very fine	0.17	95	1200	4.0	—
No. 131	Medium-fine (3)	0.25	140	240	6.0	20
No. 101	Coarse / gelatinous	0.21	80	50	8.0	15



Grade	Applications	55 mm	70 mm	90 mm	110 mm	125 mm	150 mm	185 mm
No. 1	Coarse retention; retains large crystalline particles and gelatinous precipitates. Fast flow rate, smooth surface, normal hardness	AU-81048-04	AU-81048-06	AU-81048-08	AU-81048-10	AU-81048-12	AU-81048-14	AU-81048-16
No. 2	Medium retention; retains medium crystalline precipitates, fast flow rate, smooth surface, normal hardness	AU-81048-34	AU-81048-36	AU-81048-38	AU-81048-40	AU-81048-42	AU-81048-46	AU-81048-48
No. 231	Medium retention; retains crystalline precipitates, moderate flow rate, smooth surface, normal hardness	AU-81048-64	AU-81048-66	AU-81048-68	AU-81048-70	AU-81048-72	AU-81048-74	AU-81048-80
No. 232	Retains medium to medium-fine particulates, slow flow rate, smooth, normal hardness	AU-81048-84	AU-81048-86	AU-81048-88	AU-81048-90	AU-81048-92	AU-81048-94	AU-81049-90
No. 235	Highest retention efficiency, retains very fine particulates, very slow flow rate, smooth	—	AU-81050-22	AU-81050-24	AU-81050-26	AU-81050-28	AU-81050-30	AU-81050-32
No. 131	High retention efficiency for medium-fine crystalline precipitates like barium sulfate, slow flow rate, smooth surface, normal hardness	AU-81050-04	AU-81050-10	AU-81050-12	AU-81050-14	AU-81050-16	AU-81050-18	AU-81050-20
No. 101	Coarse retention; seed germination, retains large particles	AU-81050-36	AU-81050-38	AU-81050-40	AU-81050-42	AU-81050-50	AU-81050-52	AU-81050-54

Advantec® Quantitative Filter Papers

Get accurate results—virtually ashless and ultrapure

- Get pure results—quality alpha cotton cellulose papers are double acid washed and neutralized for 0.01% ash content
- Packs of 100

Specifications

Grade	Nominal rating (µm)	Thickness (mm)	Weight (g/m ²)	Flow time† (sec)	Absorption speed‡ (cm)	Wet strength†† (cm H ₂ O)
No. 3	Medium (5)	0.23	113	130	7.5	20
No. 4A	Very fine (1)	0.12	96	915	4.0	90
No. 5A	Coarse / gelatinous (7)	0.22	97	60	9.5	15
No. 5B	Medium (4)	0.21	108	195	7.0	20
No. 5C	Fine (1)	0.22	118	570	6.0	25
No. 6	Medium-fine (3)	0.2	103	300	6.0	15
No. 7	Medium (4)	0.18	87	200	7.0	12



Grade	Applications	55 mm	70 mm	90 mm	110 mm	125 mm	150 mm	185 mm
No. 3 Ashless	Medium retention (5 to 10 µm), fast flow rate analysis of soils, fertilizers, cement, and minerals	AU-81050-56	AU-81050-58	AU-81050-60	AU-81050-62	AU-81050-64	AU-81050-66	AU-81050-68
No. 4A Hardened ashless	High wet strength, suitable for use under high pressure, high chemical and pH resistance, retains fine crystalline precipitates (<5 µm), slow flow	AU-81051-90	AU-81051-92	AU-81051-94	AU-81051-96	AU-81051-98	AU-81052-00	AU-81052-02
No. 5A Ashless	Fast flow rate, retains coarse particulates and gelatinous precipitates (>10 µm); filter hydroxides and metallic aerosols, environmental monitoring, silica in steel	AU-81050-80	AU-81050-82	AU-81050-86	AU-81050-88	AU-81050-90	AU-81050-92	AU-81051-10
No. 5B Ashless	Retains medium particles (5 to 10 µm) such as CaCO ₃ , PbSO ₄ , CaCO ₃ , MnCO ₃ , ZnCO ₃ , ZnS, AgCl	AU-81051-12	AU-81051-14	AU-81051-16	AU-81051-18	AU-81051-20	AU-81051-22	AU-81051-24
No. 5C Ashless	Collect fine precipitates (<5 µm) such as SrSO ₄ , BaSO ₄ , HgCrO ₄ , and colloidal dispersions; gravimetric analysis	AU-81051-42	AU-81051-44	AU-81051-46	AU-81051-48	AU-81051-50	AU-81051-52	AU-81051-54
No. 6 Ashless	Retains medium-fine particulates (2 to 10 µm), trace and precious metals	AU-81051-56	AU-81051-58	AU-81051-60	AU-81051-62	AU-81051-70	AU-81051-72	AU-81051-74
No. 7 Ashless	Highest purity for retaining medium particles (5 to 10 µm), precise gravimetric analysis	AU-81051-76	AU-81051-78	AU-81051-80	AU-81051-82	AU-81051-84	AU-81051-86	AU-81051-88

†Flow time is the time in seconds required to filter 100 mL of distilled water at 20°C under pressure supplied by a 10-cm water column through a 10 cm² section of filter paper.

‡Absorption speed is the distance in cm that water will travel in an upright strip of filter paper in ten minutes at 20°C.

††Wet strength is the height in cm of a water column that will rupture a 10 cm² section of filter paper.

Advantec® Mixed Cellulose Filter Membranes

Presterilized membranes in convenient single-, multi- or continuous-feed packs

Ideal for microbiological analysis of water, wastewater, pharmaceuticals, or beverages. Offered with or without grid lines; grid lines facilitate counting colonies on the membrane surface. Grid squares measure 3.1 mm and represent 1/100 of the area of a 47-mm membrane. Black membranes maximize contrast between colonies and the filter; green membrane enables viewing of black, white, and colorless colonies on a single filter. Presterilized by ETO, these 47-mm diameter filters are available in envelopes of 10, individually packaged or individually wrapped continuous feed. Order membranes with absorbent pad for use with broth media.



Pack of 10



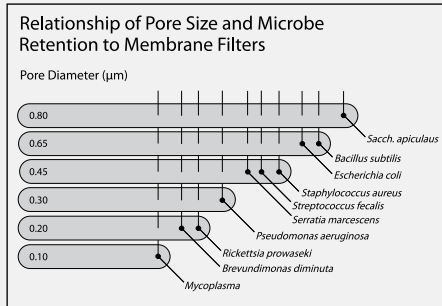
Individually packaged



Individually packaged, continuous feed

Pore size	Surface	Absorbent pad	Catalog number	Qty/pk	Price/pk
White membranes, packaged 10 per envelope					
0.45 µm	Gridded	Included	AU-06644-08	100	
		Not included	AU-06644-10	200	
0.65 µm	Gridded	Included	AU-06644-06	100	
White membranes, individually packaged					
0.20 µm	Plain	Not included	AU-06644-21	100	
0.20 µm	Gridded	Included	AU-06644-19	100	
		Not included	AU-06644-23	100	
0.45 µm	Plain	Not included	AU-06644-27	100	
		Included	AU-06644-28[†]	100	
0.45 µm	Gridded	Included	AU-06644-16	100	
			AU-06644-25	1000	
			AU-06644-14	100	
0.45 µm	Gridded	Not included	AU-06644-29[†]	100	
			AU-06644-33	200	
			AU-06644-31	1000	
0.65 µm	Plain	Not included	AU-06644-38	100	
0.65 µm	Gridded	Included	AU-06644-43	100	
		Not included	AU-06644-12	100	
0.80 µm	Plain	Not included	AU-06644-47	100	
0.80 µm	Gridded	Included	AU-06644-45	100	
		Not included	AU-06644-49	100	
		Not included	AU-06644-52	1000	
Black membranes, individually packaged					
0.45 µm	Gridded	Included	AU-06644-37	100	
		Not included	AU-06644-39	100	
		Not included	AU-06644-44	1000	
0.80 µm	Gridded	Included	AU-06644-51	100	
		Not included	AU-06644-53	100	
Green membranes, individually packaged					
0.45 µm	Gridded	Not included	AU-06644-54	100	
White membranes, individually packaged—continuous feed					
0.45 µm	Gridded	Not included	AU-16644-14	100	
0.08 µm			AU-16644-45	100	
Black membranes, individually packaged—continuous feed					
0.45 µm	Gridded	Not included	AU-16644-39	100	
0.08 µm			AU-16644-53	100	

[†]With hydrophobic edge



Millipore® Ultrafiltration Disc Membranes

Ideal for stirred cells and micropartition system

These high-recovery hydrophilic membranes are made of regenerated cellulose. The tight microstructure ensures the highest possible retention with the lowest possible adsorption of protein, DNA, or other macromolecules. Use when concentrating or desalting extremely dilute solutions or whenever your sample is hydrophobic.



NMWL [†]	25 mm		44.5 mm		63.5 mm		76 mm		150 mm	
	Cat. no.	Price/10 pk	Cat. no.	Price/10 pk	Cat. no.	Price/10 pk	Cat. no.	Price/10 pk	Cat. no.	Price/5 pk
1000	AU-29949-00		AU-29949-02		AU-29949-04		AU-29949-06		AU-29949-08	
3000	AU-29949-10		AU-29949-12		AU-29949-14		AU-29949-38		—	—
10,000	AU-29949-16		AU-29949-18		AU-29949-20		AU-29949-22		AU-29949-40	
30,000	AU-29949-24		AU-29949-26		AU-29949-28		AU-29949-30		AU-29949-32	
100,000	AU-29949-34		AU-29949-36		—	—	—	—	—	—

[†]Nominal molecular weight limit.

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Advantec® Pressure Filtration Holders

Stainless steel type 304 or 316 minimizes resistance and maximizes flow rate

Sanitary pressure filtration holders maximize flow rates by applying positive pressure to the fluid over a broad membrane surface. Holders are autoclavable with one filter membrane that is sealed with removable wing nuts. All holders vent to release pressure.

Holders have PTFE gaskets, silicone O-rings, and PTFE-coated photoetched stainless steel support screens to prevent nitrocellulose membranes from sticking. Holders process samples from an in-line system or pressure vessel.

Sanitary inlet and outlet connections can be completely disassembled for thorough cleaning. Filter from 20 to 100 liters with model 29900-00 pressure holder. Top plate has knobs for easy positioning over membrane.



Sanitary holders feature connections that completely disassemble for easy cleaning.

Holder material	Filter dia	Prefilter dia	Filtration area	Max pressure psi (bar)	Included adapter size (mm ID)	Dimensions (H x dia)	Catalog number	Price
316 SS	90 mm	75 mm	45.0 cm ²	100 (7)	1½" sanitary to 11	14" x 5¼" (35.6 x 13.3 cm)	AU-29900-00	
304 SS	142 mm	124 mm	113.0 cm ²	100 (7)	1½" sanitary to 11	16¾" x 7¼" (42.5 x 18.4 cm)	AU-29900-06	
316 SS							AU-29900-05	
304 SS	293 mm	257 mm	530.0 cm ²	100 (7)	1½" sanitary to 11	16" x 14" (40.6 x 35.6 cm)	AU-29900-08	
316 SS							AU-29900-10	

Pressure Vessels

Use these electropolished stainless steel pressure vessels to propel filtration fluids through pressure holders by applying external pressure from compressed gases. Increasing pressure increases the efficiency of the EPR (ethylene propylene rubber) O-ring seal.

Vessels feature 14.9 x 12.3 cm wide-mouth opening for easy cleaning, SS dip tube, and molded neoprene rubber base for stability. Intake for the dip tube, located at the deepest point in the vessel, minimizes fluid loss to 6.0 mL. Sterilize vessels at 121°C for 30 minutes. Make connections to four ¼" NPT(F) ports. Pressure vessels are ASME certified.



29902-02

Material	304 SS	316 SS	304 SS	316 SS	304 SS	316 SS	304 SS	316 SS
Catalog number	AU-29902-00	AU-29902-90	AU-29902-02	AU-29902-92	AU-29902-04	AU-29902-94	AU-29902-96	AU-29902-98
Capacity	3.78 L		11.3 L		18.9 L		30.2 L	
Height	8½" (21.6 cm)		15½" (39.4 cm)		22½" (57.2 cm)		21⅛" (53.5 cm)	
Inside diameter	9" (22.9 cm)		9" (22.9 cm)		9" (22.9 cm)		12" (30.5 cm)	
Max temperature	149°C		149°C		149°C		149°C	
Max pressure	125 psi (8.5 bar)		125 psi (8.5 bar)		125 psi (8.5 bar)		110 psi (7.5 bar)	
Price								



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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 9001 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

- Save time—borosilicate glass fiber prefilter and cellulose filter in one
- Prefilter extends life of final filter by removing particulates from sample
- Reduces retention volume and sample loss



Membrane Type	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	AU-02915-90	
		0.45 µm				AU-02915-92	
		0.80 µm				AU-02915-94	
Sterile filter							
Cellulose acetate	26 mm	0.20 µm	Acrylic	0.23 mL	50	AU-02915-40	

Cellulose Acetate Filters

- Low protein binding—ideal for biological solutions
- Use for sterilization and clarification of aqueous solutions



Pore size	Membrane dia	Housing	Color	Qty/bx	Catalog number	Price/bx
Nonsterile filters						
0.22 µm	26 mm	Acrylic	Blue	100	AU-02915-60	
0.45 µm			Clear		AU-02915-58	
0.80 µm			Green		AU-02915-62	
Sterile filters						
0.22 µm	26 mm	Acrylic	Blue	50	AU-02915-12	
0.45 µm			Clear		AU-02915-00	
0.80 µm			Green		AU-02915-10	

Nylon Filters

- Low levels of extractables with no wetting agents
- Hydrophilic nylon for good chemical resistance—ideal for aqueous and most organics



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



Teky's Tips



Choose the Right Filter!

Membrane type	Applications
Glass prefilter	One-step prefiltration and filtration. Choose the final membrane to meet your application needs. High particle loading capacity.
Cellulose acetate	Sterilization and clarification of aqueous solutions. Low protein binding.
Nylon	Filtration of organic and aqueous solutions. Low extractables.
PTFE	Sterilization of gases and alcohols; cleaning acids, alkalies, and organic solvents; venting purposes. For aggressive chemicals.
Nitrocellulose	High protein retention; microbiological analysis, waste water treatment; sterilization of aqueous solutions.

Specifications

Membrane dia	Housing type	Sample volume	Retention volume [†]	Pressure limit at 25°C	Max temp	Effective filtration area
15 mm	PP	≤5 mL	10 µL	87 psi	127°C	1.7 cm ²
25 mm	PP	≤100 mL	0.1 mL	87 psi	127°C	4.8 cm ²
26 mm	Acrylic	≤100 mL	0.1 mL	87 psi	50°C	5.3 cm ²
50 mm	PP	≤2 L	0.5 mL	60 psi	134°C	20 cm ²

[†]Varies for glass prefilters; see glass prefilter table below.

PTFE Filters

- Ideal for aggressive chemicals—organic solvents, concentrated acids and bases, propellants and more
- Use for gas/air filtration
- 50-mm membranes have stepped hose barb connectors for 6.4 mm to 12.8 mm ID tubing



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

Nitrocellulose Filters

- Good for macromolecules—highest protein retention
- Get fast flow rates with aqueous solutions
- Ideal for microbiological analysis, waste water treatment, and sterilization of aqueous solutions



Pore size	Membrane dia	Housing	Color	Qty/bx	Cat. no.	Price/bx
Nonsterile filter						
0.20 µm	26 mm	Acrylic	Blue	100	AU-02915-56	
Sterile filters						
0.20 µm	26 mm	Acrylic	Blue	50	AU-02915-52	
0.45 µm					AU-02915-53	



Minntech® Hollow Fiber Filter Capsules

Achieve high flow rates with low pressure drop

- Steam sterilize capsules in-line or autoclave off-line
- Polysulfone membrane offers low protein binding

These hollow fiber filters offer superior performance in a compact size. Filters have up to six times more surface area compared to other pleated membrane filters, providing greater capacity and longer filter life. The unique membrane structure helps remove bacteria, high-level endotoxins, spores, and pyrogens†—ideal for a variety of water purification applications. Maximum differential pressure is 30 psi (2 bar). Capsules have a polycarbonate case and end caps and polyurethane end seals. Capsules are provided nonsterile. Go to ColeParmer.co.uk for hollow-fiber cartridge filters in 10" and 20" single-open-end format.

Pore size (absolute)	Effective filtration area	Connections	Catalog number	Qty/cs	Price/cs
Medium flow: 0.5 to 2.5 LPM					
0.05 µm	1858 cm ²	3/8" hose barb	AU-29880-06	6	
		1/4" NPT(M)	AU-29880-12		
0.1 µm	1858 cm ²	3/8" hose barb	AU-29880-14	6	
		1/4" NPT(M)	AU-29880-08		
0.2 µm	1858 cm ²	3/8" hose barb	AU-29880-10	6	
		1/4" NPT(M)	AU-29880-22		
High flow: 1 to 5.7 LPM					
0.05 µm	5575 cm ²	1/4" NPT(M)	AU-29880-28	6	
		3/8" NPT(M)	AU-29880-30		
0.1 µm	5575 cm ²	1/4" NPT(M)	AU-29880-32	6	
		3/8" NPT(M)	AU-29880-34		
0.2 µm	5575 cm ²	1/4" NPT(M)	AU-29880-36	6	
		3/8" NPT(M)	AU-29880-38		

†Only 0.05 and 0.1 µm pore size membrane filters remove pyrogens.

Sterilized Sampling Bottle Assemblies

Safely transfer, sample, and store biopharmaceutical products and reagents

- Secure, single-piece cap/tubing assembly eliminates contamination and product loss due to loose connections
- Eliminate labor and validation costs associated with assembly and cleaning—pre-sterilized by gamma irradiation

Cap assembly includes a seamless liner with premolded C-Flex® fill and vent tubes to create an unobstructed fluid path. The 45.7-cm fill tube is plugged at the terminal end to maintain assembly sterility until use. Vent tube includes a 0.2-micron Pall® Acrodisc PTFE vent filter to prevent infiltration by contaminants. Vent filter is hydrophobic to guard against loss of costly product or media during filling or emptying. The one-piece liner eliminates the risk of bacterial entrapment and contamination and forms an elastomeric seal between cap and bottle rim.

C-Flex tubing is manufactured according to cGMP and meets USP Class VI and USDA requirements. Tubing can withstand temperatures from –73 to 135°C. Offers exceptional tensile and tear strength, extremely low extractables, and excellent biocompatibility. The smooth inner surface reduces absorption and protein binding.

What's included: clear PETG bottle, 38-mm cap, C-Flex tube/liner assembly with 1/8" ID x 1/4" OD tubing, and 0.2-micron vent filter.



Bottle volume	Catalog number	Price
125 mL	AU-95644-00	
250 mL	AU-95644-02	
500 mL	AU-95644-04	
1000 mL	AU-95644-06	
2000 mL	AU-95644-08	



Advantec® Disposable Capsule Filters

Remove more contaminants

- Capsules are sterilizable by autoclave or ethylene oxide (EtO); model 29702-05 is presterilized
- Maximum operating pressure is 3.9 bar (57 psi); maximum operating temperature is 60°C
- Capsules are vented at both ends for bleeding trapped air and for draining



Polypropylene Depth-Media Capsules offer high dirt-holding capacity with superior retention. PP fibers are thermally welded to prevent slough-off and to minimize changes in pore size.

PTFE Membrane Capsules are hydrophobic and chemical resistant.

PES Membrane Capsules are designed for biocompatibility.

Polypropylene Depth-Media Capsule Filters

Particle retention		Effective filtration area	Connections	Catalog number	Price/ea
Particle size	(%)				
1.0 µm	>99	500 cm ²	3/8" hose barb	AU-29702-11	
1.0 µm	>99	1000 cm ²	3/8" hose barb	AU-29702-13	
2 to 5 µm	>94	500 cm ²	3/8" hose barb	AU-29702-12	
2 to 5 µm	>94	1000 cm ²	3/8" hose barb	AU-29702-14	
5 to 10 µm	98	600 cm ²	3/8" hose barb	AU-29702-15	
5 to 10 µm	98	1200 cm ²	3/8" hose barb	AU-29702-16	

PTFE and PES Membrane Capsule Filters

Pore size	Effective filtration area	Connections	Catalog number	Price/ea
PTFE (hydrophobic) membrane				
0.1 µm	1150 cm ²	3/8" hose barb	AU-29702-23	
0.2 µm	570 cm ²	3/8" hose barb	AU-29702-21	
0.2 µm	1150 cm ²	3/8" hose barb	AU-29702-24	
0.5 µm	1150 cm ²	3/8" hose barb	AU-29702-25	
1.0 µm	570 cm ²	3/8" hose barb	AU-29702-22	
1.0 µm	1150 cm ²	3/8" hose barb	AU-29702-26	
PES membrane				
0.2 µm	450 cm ²	1/4" NPT(M)	AU-29702-01	
0.2 µm	900 cm ²	1/4" NPT(M)	AU-29702-03	
0.2 µm	900 cm ²	3/8" hose barb	AU-29702-05[†]	
0.45 µm	450 cm ²	1/4" NPT(M)	AU-29702-02	
0.45 µm	900 cm ²	1/4" NPT(M)	AU-29702-04	

[†]Presterilized

Thermo Scientific™ Nalgene™ Reusable Bottletop Filter Holders

Maximize your throughput

- Usable with glass media bottles with 33- or 45-mm neck size
- Nominal filter area is 13.3 cm² with sterilization support plate
- Autoclavable and noncytotoxic



Media bottle not included

Polysulfone bottletop filters feature a vacuum port, molded-in graduations, and silicone O-ring. Use with 47-mm diameter membranes. For a sterile venting plug, put cotton in the polypropylene tubing adapter. Filters accept 1/4" to 5/16" (6- to 8-mm) ID vacuum tubing.

Description	Upper chamber capacity	Catalog number	Price
33-mm neck bottletop filters	500 mL	AU-30408-10	
	250 mL	AU-30408-02	
45-mm neck bottletop filters	500 mL	AU-30408-12	

Advantec® All-Glass Filtration Assemblies

Preserve purity of sample

- Ideal for high-purity and aggressive chemical applications

Standard 25- and 47-mm holders mount on filtration flask using a ground glass joint. Outlet of support base drip tube is positioned below the side arm connection to prevent sample aspiration into vacuum line.

What's included: funnel, support base, receiving flask, and clamp.



Membrane size	Support	Filtration area	Funnel size	Flask size	Catalog number	Price
25 mm	Glass frit	2.1 cm ²	15 mL	250 mL	AU-06645-19	
	Stainless steel				AU-06645-39	
47 mm	Glass frit	9.6 cm ²	300 mL	1000 mL	AU-06645-49	
	Stainless steel				AU-06645-65	
					PTFE	AU-06645-41

[AU-06645-51](#) Replacement receiver flask, 1000 mL

CultureGard Hollow Fiber Filter

Reduce the risk of contamination

Naturally hydrophilic cellulose hollow fiber membrane exhibits low extractables and high biocompatibility. Use two filters in series to form a sterile barrier when feeding media to the bioreactor. Easily change the first filter if it becomes plugged while the second continues to maintain culture sterility.

Fiber filter is made of polysulfone housing and end caps, and features polypropylene autovent to prevent air locking—operate filter in any position. Includes 1/8" hose adapters and clamps. Nonsterile and autoclavable.

Specifications

Maximum temperature: 45°C

Housing/end caps: polysulfone

Maximum pressure: 2 bar

Pore size	Connections (inlet/outlet)	Catalog number	Qty/bx	Price/bx
0.2 µm	Female luer lock/male luer lock	AU-29510-50	12	

APPLICATIONS

- ✓ Perfusion
- ✓ Bioreactor feed



Sanitary Strainers

Protect products and expensive process equipment from coarse or fine particulates

- 316 stainless steel wetted surfaces are polished to a smooth, blemish-free finish
- Mesh overscreens are hemmed smooth with no stray wire ends
- Mesh overscreens are available in a variety of mesh sizes to meet your specific application
- Standard clamp sizes allow easy installation or retrofit

Sanitary strainers are ideal for particulate removal or prefiltration. Housings are available in in-line and side-inlet configurations. Side-inlet design lets you clean housing and change screens without disconnecting the strainer from your process line.

What's included: strainer assemblies include housing, perforated core, internal cap and spring, assembly clamp, and gasket. Order wire mesh overscreens and replacement perforated cores separately.



In-line strainer
29590-02

Side-inlet strainer
29590-54

Connection size (Tri-Clamp®)	Core perforations	Length	Catalog number	Price	Replacement cores	
					Catalog number	Price
In-line strainer assemblies						
1"	1/8"	15 3/4" (40.0 cm)	AU-29590-00		AU-29590-20	
1.5"			AU-29590-02			
2"			AU-29590-04			
1"	1/4"	15 3/4" (40.0 cm)	AU-29590-10		AU-29590-22	
1.5"			AU-29590-12			
2"			AU-29590-14			
Side-inlet strainer assemblies						
1"	1/8"	15 3/4" (40.0 cm)	AU-29590-50		AU-29590-70	
1.5"			AU-29590-52			
2"			AU-29590-54			
1"	1/4"	15 3/4" (40.0 cm)	AU-29590-60		AU-29590-72	
1.5"			AU-29590-62			
2"			AU-29590-64			



Perforated core
29590-22



Mesh overscreen
29590-31

Mesh Overscreens, 10 7/8" (27.6 cm) L x 3" (7.6 cm) dia

Mesh size	Wire diameter (inches)	Opening size inches (microns)	Open area	Catalog number	Price
20 x 20	0.016	0.0340 (864)	46.20%	AU-29590-31	
30 x 30	0.013	0.0203 (516)	37.10%	AU-29590-32	
40 x 40	0.010	0.0150 (381)	36.00%	AU-29590-33	
60 x 60	0.0075	0.0092 (234)	30.50%	AU-29590-35	
80 x 80	0.0055	0.0070 (178)	31.40%	AU-29590-36	
100 x 100	0.0045	0.0055 (140)	30.30%	AU-29590-37	
150 x 150	0.0026	0.0041 (104)	37.40%	AU-29590-39	

Parker® Process Liquid Filter Systems

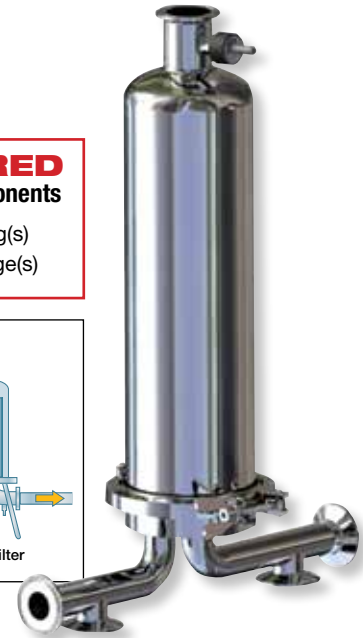
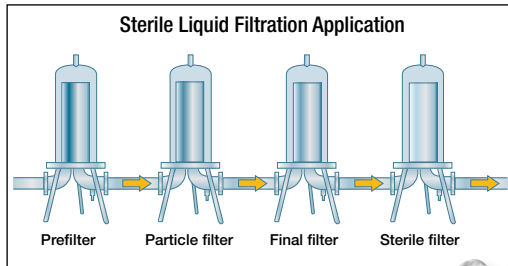
Designed for sanitary liquid applications

- High-quality crevice-free construction
- 316L SS for steam-in-place and clean-in-place capability
- Sanitary Tri-Clamp® process, vent/gauge, and drain connections
- Suited for use with filter cartridges ranging from coarse clarification to sterilizing grade membranes
- Designed in accordance with PED and PER regulations



REQUIRED System Components

- 1) Filter housing(s)
- 2) Filter cartridge(s)



1. Filter Housings

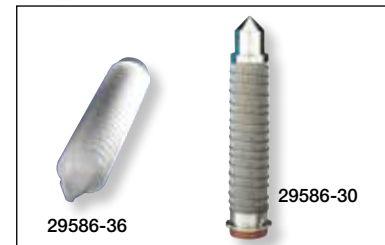
Process sterile liquids with this modular filter system. Add and remove filter housings in series based upon desired effluent quality and particulate loading (see diagram). Housings feature 316L stainless steel Tri-Clamp connections, vent, and condensate drain valve. Housings are designed in accordance with the European Council Pressure Equipment Directive (PED). All housings are polished to a 0.4 µm Ra internal finish and feature electropolished internal surfaces.

2. Filter Cartridges

Prefilter Cartridges accommodate high flow rates and temperatures as high as 149°C. Pleated surface maximizes the filtration area. The 304 stainless steel construction provides a long service life.

Particle Filter Cartridges. This filter media has been developed for a wide variety of general process applications from fluid clarification to general prefiltration. Its random-fiber polypropylene depth media provides consistent particle retention. Thermally bonded from 100% virgin polypropylene—ensuring clean filtrates, and excellent chemical and thermal compatibility.

Final and Sterile Filter Cartridges. The biologically inert and low protein-binding nature maximizes product yields with these filters. The polyethersulfone (PES) membrane allows for high flow rates, resulting in rapid processing times and lower change-out frequencies. Nonpyrogenic.



1. Filter housings							2. Filter cartridges			
Finish	Filter length	Flow rate	Connections	Dimensions (H x W†)	Catalog number	Price	Type	Pore size	Catalog number	Price
Pharmaceutical	10" (25.4 cm)	6 GPM (22.7 LPM)	1" Tri-Clamp	18.6" x 13" (47.2 x 33 cm)	AU-29586-24		Prefilter	10 µm	AU-29586-30	
							Particle	5 µm	AU-29586-34	
							Final	0.45 µm	AU-29586-36	
							Sterile	0.2 µm	AU-29586-38	
Pharmaceutical	20" (50.8 cm)	12 GPM (45.4 LPM)	1" Tri-Clamp	28.4" x 13" (72.2 x 33 cm)	AU-29586-26		Prefilter	10 µm	AU-29586-40	
							Particle	5 µm	AU-29586-44	
							Final	0.45 µm	AU-29586-46	
							Sterile	0.2 µm	AU-29586-48	

†Maximum width at inlet/outlet ports

Gaskets for Sanitary Fittings

Ensure a tight seal

- Meet FDA CFR Title 21 CFR 177.2600, USDA, 3A, and cGMP criteria
- Free of animal-derived ingredients and meet USP Class IV, EP 3.1.9, and cytotoxicity criteria

Platinum-Cured Silicone is ideal for most pharmaceutical, food, and beverage processing applications. Odorless and tasteless to ensure media purity. Usable from -50 to 230°C. May undergo SIP.

PTFE offers excellent chemical compatibility. Highly resistant to stress cracking and corrosion. Usable from -268 to 288°C.

Tuf-Flex® gasket grafts a PTFE envelope to an elastomer core; will not creep or cold flow over time and therefore maintains the integrity of its seal in your process line. Designed to meet the stringent requirements of biopharmaceutical, ultra-pure water, WFI (water for injection), and CIP/SIP applications. Usable from -29 to 204°C.



Size	Platinum-cured silicone			PTFE			Tuf-Flex®		
	Cat. no.	Qty/pk	Price/pk	Cat. no.	Qty/pk	Price/pk	Cat. no.	Qty/pk	Price/pk
1"	AU-30548-02	10		AU-30548-82	10		AU-30547-54	1	
1½"	AU-30548-04			AU-30548-84			AU-30547-56		
2"	AU-30548-06			AU-30548-86			AU-30547-58		



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Phone: 020-8574-7556 Fax: 020-8574-7543 sales@coleparmer.co.uk www.coleparmer.co.uk

Cole-Parmer®

Filtration & Purification

Filtration

Process Monitoring

Accurate measurements and control lead to better yields

Whether in single-use or hard-piped production systems, monitoring process conditions such as pressure, flow, or temperature will optimize output

Pressure monitoring systems	77
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Product Selection | Troubleshooting | And More...

Not sure what to choose?

Our expert Application Specialists can help you find the right product for your application.

020-8574-7556

— or Ch@t Live —

PendoTECH Pressure Monitoring and Transmitting System

Monitor process pressure accurately

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



1



2

Applications

- ✓ TFF
- ✓ Bioreactor monitoring
- ✓ Depth filtration

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

1. PressureMAT™ Monitor

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

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



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

- [AU-19406-70](#) PressureMAT data acquisition software
- [AU-19406-82](#) RS-232 to USB serial adapter cable, 1.8 m
- [AU-19406-87](#) Masterflex® interface cable for L/S pump
- [AU-19406-95](#) PressureMAT stand



REQUIRED System Components

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

2. Single-Use Pressure Sensors

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

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

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

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

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

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

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

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

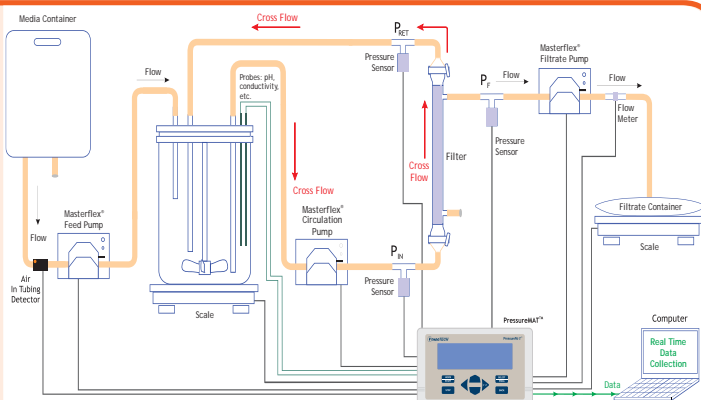
[AU-19406-35](#) Adapter tee, 1/2" barb x 1/2" barb x male luer, polycarbonate; for 19406-22, -32

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

Where can I use PendoTECH products?

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

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



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
Units of measure: psi, " H₂O, ft H₂O, mPa, mbar, kPa, kg/cm², bar, " Hg, mm Hg
Operating temp: 10 to 60°C
Wetted materials: 316 stainless steel
Power: two C batteries

Display: 5-digit LCD, 0.88"H
Process connection: 1½" sanitary Tri-Clamp®
Zero adjustment range: manual adjustment using menu
Casing: 300 stainless steel
Lens: polyester
Dial size: 3½" (89 mm)

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

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

Ashcroft® 3½" (89 mm) Sanitary Gauges

No stop pin to mask false zero reading

- Meet USDA and FDA requirements and 3A Sanitary Standard 74-00
- Glycerin filled gauges use USP grade glycerin (99.5% pure)



Specifications

Accuracy:
 ±1.5% from 100 to 400 psi;
 2% from 0 to 100 psi
 (ANSI/ASME Grade 1A)
Operating temp: –45 to 132°C

Wetted materials: 316L SS
Lens: polycarbonate
Process connection: 1½" Tri Clamp®
Casing: 300-series SS
Dial size: 3½" (89 mm)

Range	Catalog number	Price
Dry-case gauges		
0 to 30 psi	AU-68806-10	
0 to 60 psi	AU-68806-11	
0 to 100 psi	AU-68806-12	
Glycerin-filled gauges		
0 to 30 psi	AU-68802-10	
0 to 60 psi	AU-68802-11	
0 to 100 psi	AU-68802-12	

[AU-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
Operating temp: 10 to 125°C

Wetted materials: 316L SS
Lens: polycarbonate

Process connection: ¾" Tri-Clamp®
Casing: 304 SS
Dial size: 2½" (64 mm)

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

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

Application Tip

Are you protecting your process line?

For hard-piped production lines, pressure gauges help monitor flow conditions to prevent costly equipment damage or process inefficiencies. They are a very easy way to improve process efficiency and increase your relative yields.

Pressure gauges protect your pump which drives the entire system. If the line flow is too low at the inlet, the pump may starve, leading to cavitation and potential damage. If back pressure at the outlet builds due to line blockage, the pump may again be damaged and cause injury to employees. A simple yet cost-effective method of protecting your sanitary pump is installing pressure gauges in the line before and after the pump.

Pressure gauges also alert you to clogged filters. Pressure gauges measure line back pressure in filtration and growing back pressure may indicate the need for a new filter.

But have you ever consider protecting your gauge? To maintain gauge accuracy and guard against buildup of film in the process line that may hinder proper readings, use an isolator gasket. An isolator gasket provides a full membrane made from the same material as the sanitary seal.

To protect the gauge's sensitive pressure-sensing membrane during transport after disassembly or for maintenance, use a protector cap. The protector cap is removed during operation but features a silicone loop to stay with the gauge when it is placed back in service.

[AU-30565-02](#) Gauge guard isolator gasket, platinum-cured silicone, ¾" clamp size

[AU-30565-06](#) Gauge guard isolator gasket, platinum-cured silicone, 1½" clamp size

[AU-30565-12](#) Gauge guard protector cap, silicone with stainless steel mesh, ¾" clamp size

[AU-30565-14](#) Gauge guard protector cap, silicone with stainless steel mesh, 1½" clamp size

Note: For other materials and sizes, please visit ColeParmer.co.uk.

Cole-Parmer® Acrylic Variable-Area Flowmeters for Bench or Panel Mount

Don't sacrifice durability for precision

- Easily and precisely control flow of your application via manual valve
- Durable acrylic bodies with integral metering tubes for accurate readings
- Stand up to even aggressive plant environments
- Versatile—easy panel installation or move from bench to bench with optional tripod base 32462-50



Specifications

Accuracy:
50-mm models: ±5% FS
100-mm models: ±3% FS
127-mm models: ±2% FS

Media type: liquids or gases

Max pressure: 100 psi (6.9 bar)

Max operating temp: 150°F (65°C)

Connections:
50-mm and 100-mm models: 1/8" NPT(F)[†]
127-mm models: 1" NPT(F)

Materials of construction

Part	50 mm	100 mm	127 mm
Body	Acrylic		
Fittings	Brass		PVC
O-rings	Buna N		
Float	Black glass (BG), Aluminum (AL)	316 Stainless steel (SS)	



Flowmeters with Valves; Metric-Unit Scales

Float [‡]	For liquid applications			For air applications		
	Flow range (mL/min)	Catalog number	Price	Flow range (LPM)	Catalog number	Price
Flowmeters with 50-mm scale						
BG	5 to 50	AU-32460-30	—	0.04 to 0.5	AU-32460-40	—
SS	10 to 100	AU-32460-32	—	0.1 to 1	AU-32460-42	—
SS	20 to 240	AU-32460-34	—	0.4 to 5	AU-32460-44	—
SS	—	—	—	1 to 10	AU-32460-46	—
AL	—	—	—	2 to 25	AU-32460-48	—
SS	—	—	—	4 to 50	AU-32460-50	—
SS	—	—	—	10 to 100	AU-32460-52	—
Flowmeters with 100-mm scale						
SS	4 to 50	AU-32461-30	—	0.4 to 5	AU-32461-50	—
SS	10 to 120	AU-32461-32	—	1 to 10	AU-32461-52	—
BG	25 to 225	AU-32461-34	—	2 to 20	AU-32461-54	—
SS	40 to 400	AU-32461-36	—	3 to 30	AU-32461-56	—
SS	40 to 660	AU-32461-38	—	4 to 50	AU-32461-58	—
SS	100 to 1500	AU-32461-40	—	10 to 100	AU-32461-60	—
SS	200 to 3000	AU-32461-42	—	14 to 140	AU-32461-62[†]	—
SS	0.8 to 9 LPM	AU-32461-44[†]	—	30 to 280	AU-32461-64[†]	—
SS	1.5 to 20 LPM	AU-32461-46[†]	—	—	—	—
Flowmeters with 127-mm scale						
SS	4 to 36 LPM	AU-32466-54	—	100 to 700	AU-32466-66	—
SS	—	—	—	400 to 3400	AU-32466-70	—

Flowmeters without Valves; Metric-Unit Scales

Float [‡]	For liquid applications			For air applications		
	Flow range (mL/min)	Catalog number	Price	Flow range (LPM)	Catalog number	Price
Flowmeters with 50-mm scale						
BG	5 to 50	AU-32457-30	—	0.04 to 0.5	AU-32457-40	—
BG	10 to 100	AU-32457-32	—	0.1 to 1	AU-32457-42	—
SS	20 to 240	AU-32457-34	—	0.4 to 5	AU-32457-44	—
SS	—	—	—	1 to 10	AU-32457-46	—
Flowmeters with 100-mm scale						
BG	4 to 50	AU-32458-30	—	0.4 to 5	AU-32458-50	—
SS	10 to 120	AU-32458-32	—	1 to 10	AU-32458-52	—
BG	25 to 225	AU-32458-34	—	2 to 20	AU-32458-54	—
SS	40 to 400	AU-32458-36	—	3 to 30	AU-32458-56	—
SS	40 to 660	AU-32458-38	—	4 to 50	AU-32458-58	—
SS	100 to 1500	AU-32458-40	—	10 to 100	AU-32458-60	—
SS	200 to 3000	AU-32458-42	—	14 to 140	AU-32458-62[†]	—
SS	0.8 to 9 LPM	AU-32458-44[†]	—	30 to 280	AU-32458-64[†]	—
SS	1.5 to 20 LPM	AU-32458-46[†]	—	80 to 560	AU-32458-65[†]	—
Flowmeters with 127-mm scale						
SS	1 to 15 LPM	AU-32462-20	—	100 to 700	AU-32462-30	—
SS	4 to 36 LPM	AU-32462-22	—	100 to 1400	AU-32462-32	—
SS	5 to 75 LPM	AU-32462-24	—	400 to 3000	AU-32462-34	—

[†]These models have dual scale: GPM/GPH, scfm/scfh, LPM/LPH; they also have 1/4" NPT(F) connections and use optional tripod base 32462-60.
[‡]Float material key: BG = black glass, SS = stainless steel, AL = aluminum.

Need Help Selecting?

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

Kim, 12 years of experience

Call: 020-8574-7556 E-mail: sales@coleparmer.co.uk Chat live: ColeParmer.co.uk

Tripod Bases

Durable acrylic base with three leveling screws and spirit level.

Description	Catalog number	Price
For one flowmeter with 50-mm scale	AU-32462-50	—
For one flowmeter with 100-mm scale	AU-32462-55	—
For one flowmeter with 1/4" connections	AU-32462-60	—

Stainless Steel Turbine Flowmeters

Durable construction holds up in rigorous industrial applications

- Suitable for gas or liquids
- Choice of BSP or flange end fittings
- Large LCD shows both flow rate and totalised flow
- Select displays with optional output signals and batch functions



REQUIRED System Components

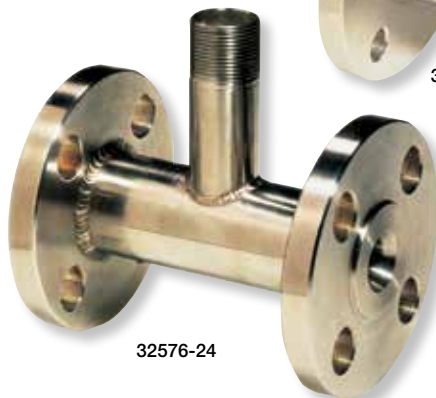
- 1) Turbine body
- 2) Display

These stainless steel turbine meters suitable for totalising and flow rate measuring of gases and liquids. The flowmeter body contains a turbine blade that rotates as the fluid flows down the line. An external magnetic pickup coil detects the passage of each blade and sends signals to the display. For use in ATEX Zone 1 use turbine bodies with intrinsically-safe pickups and select a display with the relevant hazardous area rating.

32569-70



32576-24



32576-70 with 32576-24



Process Monitoring

Flowmeters

1. Turbine Bodies



Specifications

for Turbine Bodies for Liquids

Max pressure: 250 bar

Max pressure drop: 250 mbar

Temperature: -20 to 120°C

Wetted parts: 316 stainless steel body, internal supports and rotor

Specifications

for Turbine Bodies for Gases

Max pressure: 250 bar

Max pressure drop: 12.5 mbar

Temperature: -20 to 120°C

Wetted parts: 316 stainless steel body, internal supports and rotor

BSP stainless steel turbine bodies for liquids

Flow range	Accuracy	Connections	Body length	With standard pickups		With intrinsically safe pickups	
				Catalog number	Price	Catalog number	Price
2 to 20 LPM	±0.5% FS	½" BSPP(M)	70 mm	AU-32569-70		AU-32575-10	
5 to 50 LPM	±0.5% FS	¾" BSPP(M)	70 mm	AU-32569-71		AU-32575-15	
14 to 140 LPM	±0.5% FS	¾" BSPP(M)	76 mm	AU-32569-72		AU-32575-20	
27 to 270 LPM	±0.5% FS	1" BSPP(M)	76 mm	AU-32569-73		AU-32575-25	
55 to 550 LPM	0.5% FS	1½" BSPP(M)	114 mm	AU-32569-74		AU-32575-30	
114 to 1140 LPM	±0.5% FS	2" BSPP(M)	133 mm	AU-32569-75		AU-32575-35	

BSP stainless steel turbine bodies for gases

Flow range	Accuracy	Connections	Body length	With standard pickups		With intrinsically safe pickups	
				Catalog number	Price	Catalog number	Price
0.5 to 7 m³/hr	±3% FS	½" BSPP(M)	70 mm	AU-32569-80		AU-32575-60	
1 to 14 m³/hr	±3% FS	¾" BSPP(M)	70 mm	AU-32569-81		AU-32575-65	
2.5 to 35 m³/hr	±2% FS	¾" BSPP(M)	76 mm	AU-32569-82		AU-32575-70	
5 to 70 m³/hr	±1% FS	1" BSPP(M)	76 mm	AU-32569-83		AU-32575-75	
10 to 140 m³/hr	±1% FS	1½" BSPP(M)	114 mm	AU-32569-84		AU-32575-80	
18 to 252 m³/hr	±1% FS	2" BSPP(M)	133 mm	AU-32569-85		AU-32575-85	



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Katie, 5 years of experience

Specifications

for Flanged Turbine Bodies for Liquids

Max pressure: flange rule
Temperature: -20 to 120°C
Wetted parts: 316 stainless steel body, internal supports and rotor

Flanged stainless steel turbine bodies for liquids						
Flow range	Accuracy	Connections	Body length	Max pressure drop	Catalog number	Price
1 to 10 LPM	±0.5% FS	0.75" ANSI 150# flange	127 mm	250 mbar	AU-32575-90	
2 to 20 LPM	±0.5% FS	0.75" ANSI 150# flange	127 mm	250 mbar	AU-32575-91	
5 to 50 LPM	±0.5% FS	1" ANSI 150# flange	127 mm	250 mbar	AU-32575-92	
14 to 140 LPM	±0.5% FS	1" ANSI 150# flange	140 mm	250 mbar	AU-32575-93	
27 to 270 LPM	±0.5% FS	1" ANSI 150# flange	152 mm	250 mbar	AU-32575-94	
55 to 550 LPM	±0.5% FS	1.5" ANSI 150# flange	165 mm	250 mbar	AU-32575-95	
114 to 1140 LPM	±0.5% FS	2" ANSI 150# flange	165 mm	250 mbar	AU-32575-96	
227 to 2270 LPM	±0.5% FS	3" ANSI 150# flange	165 mm	250 mbar	AU-32575-97	
454 to 4540 LPM	±0.5% FS	4" ANSI 150# flange	210 mm	250 mbar	AU-32575-98	
908 to 9080 LPM	±0.5% FS	6" ANSI 150# flange	240 mm	250 mbar	AU-32575-99	

Specifications

for Flanged Turbine Bodies for Gases

Max pressure: flange rule
Temperature: -20 to 120°C
Wetted parts: 316 stainless steel body, internal supports and rotor

Flanged stainless steel turbine bodies for gases						
Flow range	Accuracy	Connections	Body length	Max pressure drop	Catalog number	Price
0.3 to 4 m ³ /hr	±3% FS	0.75" ANSI 150# flange	127 mm	12.5 mbar	AU-32576-20	
0.5 to 7 m ³ /hr	±3% FS	0.75" ANSI 150# flange	127 mm	12.5 mbar	AU-32576-22	
1 to 14 m ³ /hr	±3% FS	1" ANSI 150# flange	127 mm	12.5 mbar	AU-32576-24	
2.5 to 35 m ³ /hr	±2% FS	1" ANSI 150# flange	140 mm	12.5 mbar	AU-32576-26	
5 to 70 m ³ /hr	±1% FS	1" ANSI 150# flange	152 mm	12.5 mbar	AU-32576-28	
10 to 140 m ³ /hr	±1% FS	1.5" ANSI 150# flange	165 mm	12.5 mbar	AU-32576-30	
18 to 252 m ³ /hr	±1% FS	2" ANSI 150# flange	165 mm	12.5 mbar	AU-32576-32	
35 to 490 m ³ /hr	±1% FS	3" ANSI 150# flange	165 mm	12.5 mbar	AU-32576-34	
70 to 980 m ³ /hr	±1% FS	4" ANSI 150# flange	210 mm	12.5 mbar	AU-32576-36	
140 to 1960 m ³ /hr	±1% FS	6" ANSI 150# flange	240 mm	12.5 mbar	AU-32576-38	

2. Displays

- Displays flow rate and total
- Large LCD; 40 x 90 mm with seven 17-mm and eleven 8-mm digits
- Selectable units
TOTAL: L, m³, kg, lb, gal., US gal., bbl (barrels), or no unit
FLOWRATE: L, m³, gal., kg, lb, bbl (barrels), or no unit
TIME UNITS: /second, /minute, /hour, or /day
- Two totals (one resettable and an accumulated total that is not resettable)
- Data protection—All settings are backed up on an EEPROM and the accumulated total is backed up every minute
- Password protection
- Optional output signals and batch functions

Customize system with the display unit you need

These factory-configured displays are head mounted on to the turbine itself, or can be mounted remotely when used in conjunction with the remote cable 32576-99. The large digital display shows a seven-digit total and a five-digit flow. The setup is easily configurable via the three touch buttons on the display. The unit is powered via a lithium battery with an average life of six years.



32576-70

Specifications for Displays

Display: 40 x 90 mm with seven 17-mm and eleven 8-mm digits
Casing: ABS, IP65 rated
Dimensions:
130 mm L x 114 mm H x 71 mm D (panel cutout 115 mm L x 96 mm H)
Power: lithium battery
Input frequency: 0.01 Hz to 10 KHz
Linearisation: 15 point
Operating temperature: -20 to 80°C
Input signal: coil/sine wave (minimum 10 mV peak to peak)

Display for turbine bodies							
ATEX zone	Display			Functions		Catalog number	Price
	Flow rate	Accumulated total	Batch controller	4-20 mA o/p in relation to flow rate	Pulse o/p in relation to accumulated total		
—	•	•	—	—	—	AU-32576-70	
Zone 1 (II 2G EEx ia IIB T4)	•	•	—	—	—	AU-32576-73[†]	
—	•	•	—	•	•	AU-32576-80	
Zone 1 (II 2G EEx ia IIB T4)	•	•	—	•	•	AU-32576-83[†]	
—	•	•	•	—	•	AU-32576-90	
Zone 1 (II 2G EEx ia IIB T4)	•	•	•	—	•	AU-32576-93[†]	

[†]To use in an ATEX zone 1 environment, you must use turbine bodies with intrinsically safe pickups.

AU-32576-99 Cable, for remote display mounting, 1 m

Cole-Parmer® Flowmeters and Proportional Controllers for Gases

Measure 130 standard gases—user selectable from display

- Accuracy of ±0.8% of reading +0.2% full-scale; repeatability of ±0.2%
- 100 to 1 turndown with ranges of 1 SCCM full-scale up to 1000 SLPM
- Models with 4 to 20 mA output or totalizer are available

These meters measure flow via pressure drop across a laminar flow element (LFE). Because the flow element makes the flow stream laminar, placement in the process does not require straight pipe runs upstream or downstream of the meter, greatly simplifying installation. As compared to thermal mass technologies, the LFE design provides an ultrafast response within 10 milliseconds and offers "instant on" with no warm-up time.

An integrated keypad around the display is all that is required to program the unit for service. The 0 to 5 VDC output allows transmission of the flow value to a remote display, recorder, or controller regulating a valve or pump.

Flow controllers feature an integrated PID to direct the unit's response to process changes. Flow set point is established with keypad, the optional set point control module, a 0 to 5 V signal, or an RS-232 input signal. Order set point control modules separately from the table. For portable flow metering applications, order the battery pack listed below table.

What's included: 120/230 VAC power adapter with communications cable 32929-89 and NIST-traceable calibration report supplied by the manufacturer.



Flow controller
32907-51



Mass flowmeter 32908-59
shown with optional
battery pack 32929-50



Meters and controllers feature a dynamic display that simultaneously shows flow rate, line pressure, fluid temperature, and (for controllers) the set point. For the units shown, both power and input/output signals are transmitted through a single multi-pin connector.



Specifications

Max particulate size:

Up to 1 LPM: 20 µm
>1 LPM to 1000 LPM: 50 µm

Accuracy: ±0.8% of reading, +0.2% full-scale

Repeatability: ±0.2%

Response time:

Flowmeters: 10 msec
Flow controllers: 50 msec

Operating temperature: -10 to 50°C

Max pressure: 145 psig (9.9 bar)

Pressure drop: 0.8 to 3.2 psig (flowmeter)

Output signal: 0 to 5 VDC, RS-232

Input signal: 0 to 5 VDC and RS-232

Wetted materials:

Flowmeters: 302 and 303 SS, Viton®, silicone RTV, and glass-reinforced nylon, aluminum

Flow controllers: 302, 303; Viton, silicone RTV, glass-reinforced nylon, aluminum, brass, 410 SS, silicon, glass

Power:

Flowmeters: 7 to 30 VDC at 30 mA

Flow controllers

Models ≤10 LPM: 12 to 30 VDC at 250 mA
Models ≤50 LPM: 24 to 30 VDC at 750 mA

Display type: four-digit, seven-line LCD; ¼"H flow display

Connections:

≤ 10 mL/min: 10-32 UNF
50 mL/min to 10 LPM: ⅛" NPT(F)
50 to 100 LPM: ¼" NPT(F)
100 and 250 LPM: ½" NPT(F)
500 and 1000 LPM: ¾" NPT(F)

Flow range	Mass flowmeters		Mass flow controllers		Set point modules [†]	
	Catalog number	Price	Catalog number	Price	Catalog number	Price
0.01 to 1 mL/min	AU-32908-51		AU-32907-51		AU-32907-83	
0.05 to 5 mL/min	AU-32908-53		AU-32907-53		AU-32907-85	
0.1 to 10 mL/min	AU-32908-55		AU-32907-55		AU-32907-87	
0.5 to 50 mL/min	AU-32908-57		AU-32907-57		AU-32907-89	
1 to 100 mL/min	AU-32908-59		AU-32907-59		AU-32907-91	
2 to 200 mL/min	AU-32908-61		AU-32907-61		AU-32907-93	
5 to 500 mL/min	AU-32908-63		AU-32907-63		AU-32907-97	
0.01 to 1 LPM	AU-32908-67		AU-32907-67		AU-32907-83	
0.05 to 5 LPM	AU-32908-69		AU-32907-69		AU-32907-85	
0.1 to 10 LPM	AU-32908-71		AU-32907-71		AU-32907-87	
0.5 to 50 LPM	AU-32908-73		AU-32907-73		AU-32907-89	
1 to 100 LPM	AU-32908-75		AU-32907-75		AU-32907-91	
2.5 to 250 LPM	AU-32908-77		AU-32907-77		AU-32907-95	
5 to 500 LPM	AU-32908-79		AU-32907-79		AU-32907-97	
10 to 1000 LPM	AU-32908-81		AU-32907-81		AU-32907-99	

[†]May be ordered as an option.

[AU-17080-10](#) NIST-traceable recalibration

[AU-32929-50](#) Battery pack, for portable operation of mass or volumetric flowmeter only

[AU-32929-89](#) Replacement communication cable, 8-DIN to stripped ends

Cole-Parmer® Digital Reversing Mixer

Time your cycles for more efficient mixing

- Won't lose speed—brushless, 100 Ncm torque motor maintains speed
- Minimize aeration and vortexing—reversing feature alters mixing pattern for better mixing
- No more moving mixer head to change impeller depth—through-shaft housing for easier positioning
- No more motor burn out—overload protection if torque exceeds ratings
- See what you're mixing—integrated sample light illuminates sample area

Mix samples up to 20,000 cps or up to 25 liters easily and effectively. Repeat mixing conditions accurately with LED display, with control to ± 1 rpm or 3% of reading. Set timer from 1 to 2000 minutes, with audible alert when complete.

Mixer includes: mixer head, adjustable chuck (accepts rod up to $\frac{3}{8}$ " [9.5 mm] dia), chuck key, mounting support rod, external power supply, and grounded power cord with plug assembly.

Complete system adds: propeller/shaft, support stand, and clamp.



Description	Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz)	Catalog number	Price
Mixer only	40 to 2010	70	100	100 to 230, 50/60	AU-50004-00	
Complete system					AU-50004-10	

[AU-17050-03](#) NIST-traceable calibration for mixers



Complete system 50004-10 includes mixer, support stand, clamp, and mixer propeller.

IKA® RW 20 Digital Dual-Range Mixer

No separate components to purchase—complete system is ready to go!

- No downtime—maintenance-free motor for continuous duty
- Fulfill all your lab mixing needs—two speed ranges for a variety of applications
- No need to move mixer head to reposition propeller—through-shaft design for easy movement
- No difficult controls—easy-to-use knob and LED display for accurate setting

Use this versatile, affordable mixer for liquid volumes up to 18.9 liters and viscosities up to 10,000 cps (approximately the viscosity of honey). Select speed from 60 to 2000 rpm in two ranges for a variety of applications.

What's included: chuck (accepts up to $\frac{3}{8}$ " [10 mm] dia shafts), $6\frac{1}{4}$ " L x $\frac{1}{2}$ " dia (159 mm L x 10 mm dia) mounting rod, four-blade propeller mixer stand, and clamp.

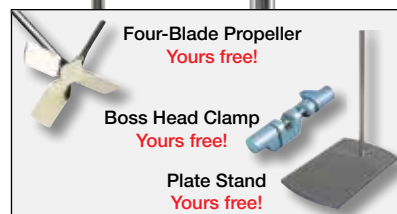


Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz)	Catalog number	Price
60 to 500/240 to 2000	70	150	230, 50/60	AU-50705-10	

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



Complete system includes propeller, clamp, and stand



Four-Blade Propeller
Yours free!

Boss Head Clamp
Yours free!

Plate Stand
Yours free!

Real-Torque Digital™ Brushless Mixers

Get precise speeds with user-friendly keypad

- Won't let speed change even as viscosity changes
- Maintenance-free, nonventilated motor for continuous use
- Set torque reading at zero via torque tare function
- Easily alter shaft length with through-shaft design

These mixers feature overload protection that automatically shuts off the mixer if maximum torque is exceeded—an LED light signals overload conditions.

What's included: calibration certificate, stainless steel chuck and key (accepts up to 3/8" [9.5 mm] dia shafts), chuck guard, 5" L x 1/2" dia (127 mm L x 13 mm dia) mounting rod, and 1.8-m cord with three-prong plug.



Speed range (torque)		Motor	Power (50/60 Hz)	Catalog number	Price
Low speed	High speed				
12 to 360 rpm (568 Ncm)	360 to 1800 rpm (114 Ncm)	150 W	230 VAC	AU-50800-05	
20 to 600 rpm (341 Ncm)	600 to 3000 rpm (68 Ncm)	150 W	230 VAC	AU-50800-15	
40 to 1200 rpm (170 Ncm)	1200 to 6000 rpm (34 Ncm)	150 W	230 VAC	AU-50800-25	



Chuck guard for added protection

Process Monitoring
Mixers

IKA® EUROSTAR Digital Mixers

Mix viscous samples up to 30,000 cps

- Speed won't change even as viscosity changes
- Won't overheat—thermal overload shut-off for safety
- Maintenance-free design for continuous duty

EUROSTAR 20 Digital Mixer handles volumes up to 15 liters and viscosities up to 10,000 cps.

EUROSTAR 40 Digital Mixer will mix volumes up to 25 liters and viscosities up to 30,000 cps.

What's included: chuck (accepts up to 3/8" [10 mm] dia shaft) and 6 1/4" L x 1/2" dia (159 mm x 13 mm) mounting rod.



Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz)	Catalog number	Price
Eurostar 20 digital mixer					
30 to 2000	70	20	230, 50/60	AU-50702-35	
Eurostar 40 digital mixer					
30 to 2000	118	40	230, 50/60	AU-50702-45	

IKA® EUROSTAR Digital Constant-Speed Mixers

Speed won't change even as viscosity does

- Automatic adjustment to desired speed with unique continuous speed comparison
- No need to move mixer head to remove samples—through-shaft design for impeller adjustments
- Worry-free operation—maintenance-free motor with overload protection
- Handle even large samples—up to 100 liters

EUROSTAR 60 Digital Mixer (50704-25) handles volumes up to 40 liters and viscosities up to 50,000 cps.

EUROSTAR 100 Digital Mixer (50704-35) will mix volumes up to 100 liters and viscosities up to 70,000 cps.

What's included: chuck (accepts up to 3/8" [10 mm] dia shaft) and 6 1/4" L x 1/2" dia (159 mm x 13 mm) mounting rod.



Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz)	Catalog number	Price
Eurostar 60 digital mixer					
30 to 2000	176	60	230, 50/60	AU-50704-25	
Eurostar 100 digital mixer					
30 to 1300	186	100	230, 50/60	AU-50704-35	

IKA® EUROSTAR Control Mixers with Wireless Remote

Control and monitor mixer wirelessly

- Measure viscosity changes with torque trend function
- Monitor fluid temperature with integrated temperature sensor
- Automatic adjustment to desired speed for maintaining consistent mixing

EUROSTAR 60 Control Mixer (50705-35) handles volumes up to 40 liters and viscosities up to 50,000 cps.

EUROSTAR 100 Control Mixer (50705-45) will mix volumes up to 100 liters and viscosities up to 70,000 cps.

EUROSTAR 200 Control Dual-Range Mixer (50705-55) will mix up to 100 liters and viscosities up to 100,000 cps. Two selectable speed ranges give you the option of high viscosity or high-speed mixing.

EUROSTAR 200 Control P4 Dual-Range/High-Torque Mixer (50705-65) will mix up to 100 liters and viscosities up to 150,000 cps. A high-torque rating and two selectable speed ranges give you the option of high viscosity or high-speed mixing.

What's included: stainless steel Pt RTD temperature probe; chuck (accepts up to 3/8" [10 mm] dia shaft); 6 1/4" L x 1/2" dia (159 mm x 13 mm) mounting rod; and a 6 1/2-ft (2-m) three-wire power cord with plug.



Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz)	Catalog number	Price
Eurostar 60 control mixer					
30 to 2000	168	60	230, 50/60	AU-50705-35	
Eurostar 100 control mixer					
30 to 1300	174	100	230, 50/60	AU-50705-45	
Eurostar 200 control dual-range mixer					
6 to 400/30 to 2000	130	200	230, 50/60	AU-50705-55	
Eurostar 200 control P4 dual-range/high-torque mixer					
4 to 108/16 to 530	134	660	230, 50/60	AU-50705-65	

[AU-50705-80](#) Replacement temperature probe, stainless steel

[AU-50705-82](#) Temperature probe, glass-coated stainless steel for acid and alkaline fluids



FEATURES

- ✓ Ultra-clear, high-contrast TFT LCD controller screen displays all process parameters
- ✓ RS-232 and USB interfaces for easy documentation of processes and firmware updates

Detachable wireless controller—lets you monitor and control all functions remotely



IKA® RW 47 Digital Pilot-Process Mixer

Mix large, viscous batches with ease

- Two speed ranges for intensive mixing up to 100,000 cps
- Stir volumes up to 200 liters
- Precisely set parameters with clear LED display
- Eliminate the chance of overheating and maintain safe operation with thermal overload protection

What's included: chuck (accepts up to 5/8" [16 mm] dia shaft).

Note: cable and plug are not included; unit to be wired on-site according to local ordinances.

Complete system adds: four-blade propeller 50702-90 and telescopic mixer stand 50702-95.



Description	Speed (rpm)	Watts	Max torque (Ncm)	Power (VAC, Hz, phase)	Catalog number	Price
Mixer only	57 to 275/275 to 1300	513	3000	230, 50, 3	AU-50702-80	
Complete system					AU-50702-85	

Accessories

(included in complete system)

Four-Blade Propeller Assembly. Standard stirring element for drawing the material to be mixed from the top to the bottom. Local shearing forces. Generates axial flow in the vessel. Use at medium to high speeds.



Telescopic Mixer Stand features a pneumatic spring for effortless raising and lowering of the mixer.



Description	Cat. no.	Price
Four-blade propeller	AU-50702-90	
Telescopic mixer stand	AU-50702-95	

Accessories for Laboratory Mixers

A. Shafts. All $\frac{3}{8}$ " (10 mm) dia shafts are machined on one end to accept a $\frac{1}{16}$ " (8 mm) bore dia propeller.

Key	Shaft dimensions, dia x L, in. (mm)	Catalog number	Price
A	$\frac{5}{16}$ x 12 (8 x 305)	AU-04552-20	
	$\frac{5}{16}$ x 18 (8 x 457)	AU-04552-30	
	$\frac{3}{8}$ x 12 (10 x 305)	AU-04552-25	
	$\frac{3}{8}$ x 18 (10 x 457)	AU-04552-35	
	$\frac{3}{8}$ x 24 (10 x 610)	AU-04552-00	
	$\frac{3}{8}$ x 30 (10 x 762)	AU-04552-05	

B. Turbine Propellers are for airless mixing in deep containers.

C. Marine-Style Propellers are for general-purpose mixing. Use alone or mount several on a single shaft for thorough agitation.

D. Folding Propeller is for use in narrow-mouth vessels. Folded diameter is $1\frac{1}{16}$ " (18 mm).

Key	Description	Bore dia in. (mm)	Overall dia in. (mm)	Catalog number	Price
B	Turbine style	$\frac{3}{8}$ (9.5)	2 (51)	AU-04552-15	
		$\frac{5}{16}$ (8)	2 (51)	AU-04552-10	
C	Marine style	$\frac{5}{16}$ (8)	1 (25)	AU-04552-40	
		$\frac{5}{16}$ (8)	1½ (38)	AU-04552-45	
		$\frac{5}{16}$ (8)	2 (51)	AU-04552-50	
		$\frac{3}{8}$ (9.5)	2 (51)	AU-04552-55	
		$\frac{5}{16}$ (8)	3 (76)	AU-04552-60	
D	Folding style	$\frac{5}{16}$ (8)	2 (51) open	AU-04543-00	

E-G. Clamps ensure a sturdy connection between mixer and stands.

Key	Catalog number	Price
E	AU-08041-22	
F	AU-04340-50	
G	AU-04560-24	

H. Stand. Corrosion resistant, electropolished cast steel base; 303 SS support rod. Both legs accept an extra support rod.

I. Mixer Stand has a cast-iron base and a stainless steel rod.

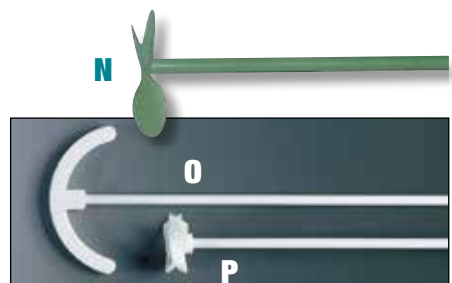
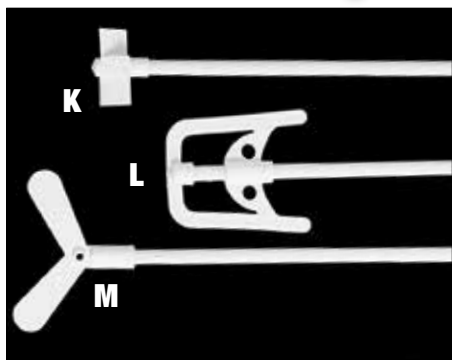
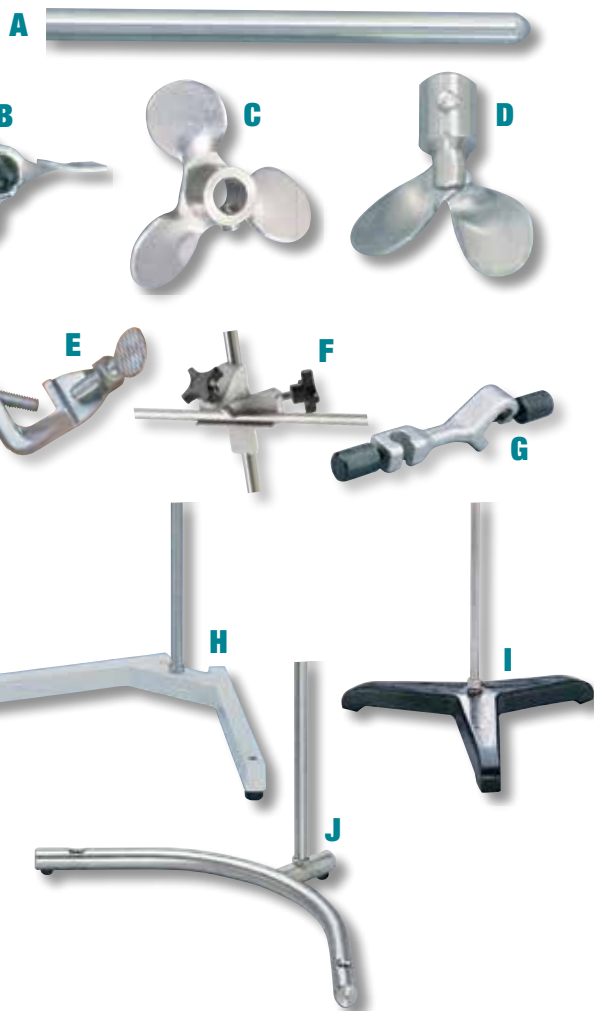
J. 316 SS Mixer Stand accepts extra screw-in support rods in both legs.

Key	Dimensions H x dia, in. (mm)	Stand		Extra support rod	
		Cat. no.	Price	Cat. no.	Price
H	29 x $\frac{5}{8}$ (737 x 16)	AU-04552-80		AU-04552-85	
I	24 x $\frac{5}{8}$ (610 x 16)	AU-04546-00		—	—
J	29 x $\frac{5}{8}$ (737 x 16)	AU-04344-00		AU-04344-10	

K-P. Plastic Mixing Paddle Assemblies

Use these plastic paddle assemblies for mixing most acids and corrosive solutions. Plastic-coated steel assemblies provide better chemical resistance than stainless steel alone.

Material	Shaft, dia x L, in. (mm)	Max paddle dia, in. (mm)	Catalog number	Price
K. Fixed, dual-blade paddle assembly —for mixing medium-viscosity liquids				
Polypropylene	$\frac{5}{16}$ x $13\frac{3}{16}$ (8 x 350)	1½ (41)	AU-06367-10	
L. A-shaped, blade paddle assembly —for mixing highly viscous liquids				
Polypropylene	$\frac{5}{16}$ x $13\frac{3}{16}$ (8 x 350)	2½ (67)	AU-06367-20	
M. Swing-out, dual-blade paddle assembly —for use in narrow-necked vessels				
Polypropylene	$\frac{5}{16}$ x $13\frac{3}{16}$ (8 x 350)	2½ (60)	AU-06367-40	
	$\frac{5}{16}$ x $13\frac{3}{16}$ (8 x 350)	4 (102)	AU-06367-60	
N. Three-blade paddle assembly —for general-purpose mixing				
PTFE	$\frac{5}{16}$ x 12 (8 x 305)	2 (51)	AU-04449-06	
PTFE	$\frac{5}{16}$ x 18 (8 x 457)	2 (51)	AU-04449-10	
O. Anchor-style paddle assembly —for mixing medium- to high-viscosity liquids				
PTFE	$\frac{3}{8}$ x 22 (10 x 559)	4 (102)	AU-06367-70	
P. Four-blade paddle assembly —for mixing low- to medium-viscosity liquids				
PTFE	$\frac{3}{8}$ x 22½ (10 x 562)	2½ (60)	AU-06367-80	



IKA® Mixer Accessories

Get the most out of your IKA mixer!

A-H. Propellers and Stirrers

A. Four-Blade Propellers draw the material to be mixed from the top to the bottom. Create local shearing forces and axial flow in the vessel. Use at medium to high speeds.

B-C. Three-Blade Propellers draw material to be mixed from the top and the bottom while creating minimum shearing forces. Use at medium to high speed.

D. Turbine Propellers are used for drawing the material to be mixed from above while generating axial flow within the vessel. Minimum danger of injury when contact is made with the vessel. Create minimal shearing forces. Use at medium to high speeds.

E. Dissolver Propellers are for drawing the material to be mixed from the top and the bottom while creating high turbulence and high shearing forces for particle reduction. Use at medium to high speeds.

F. Folding Propellers are two-bladed, and the blades open with increasing speed, perfect for stirring in round vessels with narrow necks. Medium to high speeds are required.

G. Paddle Stirrers create tangential flow, minimum turbulence, good heat exchange, and gentle treatment of product. Use at low to medium speeds.

H. Anchor Stirrers create tangential flow, high shearing rate at edges, minimum deposits on the vessel wall, making them great for polymer reactions and even distribution of high mineral contents in liquids. Ideal for medium to highly viscous fluids. Use at low speeds.



I-K. Stands

I. Mixer Plate Stand comes with slip-resistant foil and a support rod with diameter of 5/8" (16 mm).

Key	Height, in. (mm)	Catalog number	Price
I	22 (560)	AU-50703-90	
	31½ (800)	AU-50703-91	
	39½ (1000)	AU-50703-92	

J-K. Mixer H-Stands. Particularly stable stand with "H"-shaped base prevents the stand from tipping backwards. Model K is spring loaded to allow for height adjustment from 24½" to 39½" (620 mm to 1010 mm).

Key	Height, in. (mm)	Catalog number	Price
J	39½ (1010)	AU-50703-93	
K	24½ to 39½ (620 to 1010)	AU-50703-94	

AU-50703-70 Mixer strap clamp, fits vessels from 1½" to 11¾" (40 to 300 mm)

AU-50703-71 Mixer strap clamp with Boss head clamps, fits vessels from 1½" to 11¾" (40 to 300 mm)

AU-50703-96 Boss head clamp, clamping range ¼" to 5/8" (6 to 16 mm)

AU-50703-97 Boss head clamp, fits stands 1" to 1½" (25 to 36 mm) dia and accommodates mounting rods 3/16" to 3/4" (5 to 21 mm) dia

AU-50703-98 Boss head clamp, fits stands 1¼" (34 mm) dia and accessory rods 2½" (16 mm) dia

L. Mixer Flexible Coupling

Required for stirring tasks utilizing glass stirring rods, compensating for any structural variances. Clamping range is ¼" to 3/8" (6 to 10 mm).

Key	Description	Catalog number	Price
L	Mixer flexible coupling	AU-50703-75	

Key	Material	Shaft, dia x L, in. (mm)	Paddle dia, in. (mm)	Catalog number	Price
A	316 SS	1½ x 13¾ (8 x 350)	2 (50)	AU-50703-25	
	316 SS	1½ x 21¼ (8 x 540)	4 (102)	AU-50703-26	
B	316 SS	1½ x 13¾ (8 x 350)	1¾ (45)	AU-50703-30	
	316 SS	1½ x 13¾ (8 x 350)	2½ (56)	AU-50703-31	
	316 SS	1½ x 21½ (10 x 550)	5½ (140)	AU-50703-32	
C	PTFE-coated SS	1½ x 13¾ (8 x 350)	3 (75)	AU-50703-34	
	316 SS	1½ x 13¾ (8 x 350)	1½ (31)	AU-50703-35	
D	316 SS	1½ x 13¾ (8 x 350)	2 (50)	AU-50703-36	
	316 SS	1½ x 15¾ (10 x 400)	2¾ (70)	AU-50703-37	
	316 SS	1½ x 13¾ (8 x 350)	3½ (83)	AU-50703-40	
E	316 SS	1½ x 13¾ (10 x 350)	4 (102)	AU-50703-41	
	316 SS	1½ x 13¾ (8 x 350)	2½ (68)	AU-50703-42	
	316 SS	1½ x 13¾ (8 x 350)	19/32 to 2½ (15 to 61)	AU-50703-45	
F	316 SS	1½ x 13¾ (8 x 350)	1 to 4 (24 to 100)	AU-50703-46	
	316 SS	1½ x 21½ (8 x 550)	2¾ (70)	AU-50703-51	
G	316 SS	1½ x 21½ (10 x 550)	5/8 (150)	AU-50703-52	
	316 SS	1½ x 13¾ (8 x 350)	1¾ (45)	AU-50703-55	
H	316 SS	1½ x 13¾ (8 x 350)	3½ (90)	AU-50703-56	
	316 SS	1½ x 21½ (10 x 550)	5/8 (150)	AU-50703-58	

Search

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InterCyclone Cyclonic Action Mixing System

Blade-free impeller safely mixes high-viscosity fluids

NEW

- Effectively mixes high-viscosity fluids and fluids with large differences in specific gravity
- Durable stainless steel construction resists corrosion
- Use with traditional mixer motors and handheld drills
- Open bottom design is more gentle, while the small-diameter bottom creates a fastest turnover

Anaerobic Impeller has a solid top plate, so fluid suction is only from the bottom. The result is a quiet, gentle swirl at the liquid-air interface, preventing gas dispersion. In addition to anaerobic microbiological applications, this mixer is suitable where low-foam and low-bubble conditions are preferred.

Aerobic Impeller is ideal for general mixing and aerobic microbiology applications. The radial flow pattern created by suction ports in the top and bottom plates result in high turnover and will disperse air into the mixture. With a hollow shaft (order separately), you can increase the oxygenation of the fluid.

Shafts are compatible with adjustable chucks found on mixer motors and handheld drills. For motors with fixed-diameter chucks and collets, a connector is required (50706-87 or -88).



50706-05



50706-00



50706-04



50706-06

Mixer Impellers

Type	Bottom description	Dimensions (L x dia)	Sample volume (L)	Catalog number	Price
Anaerobic	Open	2½" x ⅝" (64 x 15 mm)	<0.5	AU-50706-00	
		2⅞" x 1" (62 x 25 mm)	0.5 to 10	AU-50706-01	
		3½" x 2" (88 x 50 mm)	10 to 30	AU-50706-03	
		4¾" x 4" (120 x 101 mm)	30 to 60	AU-50706-07	
	Small diameter	4½" x 2" (113 x 50 mm)	10 to 30	AU-50706-04	
		5¾" x 4" (145 x 101 mm)	30 to 60	AU-50706-08	
Aerobic	Open	2⅞" x 1" (62 x 25 mm)	0.5 to 10	AU-50706-02	
		3½" x 2" (88 x 50 mm)	10 to 30	AU-50706-05	
		4¾" x 4" (120 x 101 mm)	30 to 60	AU-50706-09	
		4½" x 2" (113 x 50 mm)	10 to 30	AU-50706-06	
	Small diameter	5¾" x 4" (145 x 101 mm)	30 to 60	AU-50706-10	

Mixer Shafts

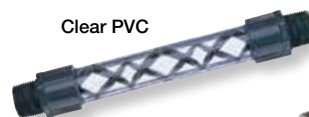
Core	Thread type	Dimensions (L x dia)	Catalog number	Price
Solid	Male	12" x ⅝" (300 x 10 mm)	AU-50706-80	
		24" x ⅝" (600 x 10 mm)	AU-50706-82	
Hollow	Male	12" x ⅝" (300 x 10 mm)	AU-50706-81	
		24" x ⅝" (600 x 10 mm)	AU-50706-83	
	Female	7⅞" x ⅝" (200 x 10 mm)	AU-50706-84	

[AU-50706-87 Connector](#), 6 mm dia motor shaft x 10 mm mixer shaft
[AU-50706-88 Connector](#), ⅜" dia motor shaft x 10 mm mixer shaft

Koflo® In-Line Static Mixers

Mix fluids as you pump them through a pipe line

- These economical, long-lasting, in-line mixers are more convenient than most motorized mixers
- In-line mixers prevent overmixing and undermixing, and resist fouling in your pipes or tubes
- Virtually maintenance free and need no spare parts



Clear PVC



316 stainless steel (cut-away view)

Pipe Mixers

Install these pipe mixers directly into your process line to achieve a 100% mixed output—mixing elements are welded inside the pipe. All mixers have threaded ends. Clear PVC mixers are ideal for a visual check of your mixing processes.

NPT(M)	Pipe ID, in. (mm)	No. of elements	Mixer length, in. (mm)	Catalog number	Price
Clear PVC schedule 40 pipe mixers					
⅜"	0.473 (12)	6	6½ (165)	AU-04669-85	
		12	11 (279)	AU-04669-87	
½"	0.602 (15.3)	6	7 (178)	AU-04669-89	
		12	12 (305)	AU-04669-91	
¾"	0.804 (20.4)	6	9 (229)	AU-04669-92	
		12	15 (381)	AU-04669-93	
1"	1.029 (26.1)	6	11 (279)	AU-04669-94	
		12	18 (457)	AU-04669-95	
1½"	1.590 (40.4)	6	15 (381)	AU-04669-96	
		12	28 (711)	AU-04669-97	
2"	2.047 (52)	6	19 (483)	AU-04669-98	
		12	35 (889)	AU-04669-99	
316 stainless steel schedule 40 pipe mixers					
¼"	0.364 (9.2)	6	3 (76.2)	AU-04669-05	
		12	6 (152)	AU-04669-07	
⅜"	0.493 (12.5)	6	4 (101)	AU-04669-09	
		12	8 (203)	AU-04669-11	
½"	0.62 (15.7)	6	5 (127)	AU-04669-12	
		12	10 (254)	AU-04669-18	
¾"	0.82 (20.8)	6	7 (178)	AU-04669-14	
		12	13 (330)	AU-04669-20	
1"	1.05 (26.7)	6	9 (229)	AU-04669-16	
		12	17 (439)	AU-04669-22	
1½"	1.61 (40.9)	6	13 (330)	AU-04669-23	
		12	26 (660)	AU-04669-24	
2"	2.067 (52.5)	6	17 (432)	AU-04669-25	
		12	33 (838)	AU-04669-26	

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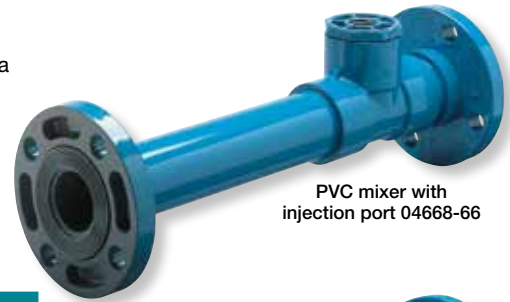
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PVC Mixers

PVC Mixers with Injection Port are designed for blending light-viscosity chemicals into a water stream. Each mixer is constructed of schedule 80 PVC and has four fixed mixing elements. Connections are 150 lb raised face flanged ends. **Note:** these mixers are designed for high flow rates. They use four elements instead of six to minimize pressure loss.

PVC In-Line Mixers without Injection Port are designed for blending light-viscosity treatment chemicals into a water stream. Each mixer is constructed of schedule 80 PVC and has four fixed, solid PVC mixing elements. Maximum working pressure is 10.3 bar (150 psi). Connections are 150 lb raised face flanged ends.

Line size, in. (mm)	Injection port NPT(F)	Mixer length, in. (mm)	Flow range (L/min)	Pressure loss (psi)	Catalog number	Price
PVC mixers with injection port						
1 (25)	1/2"	12 (305)	19 to 57	0.75 to 6.7	AU-04668-60	
1 1/2 (38)	1/2"	16 (406)	57 to 132	1.1 to 6.2	AU-04668-62	
2 (51)	3/4"	19 (483)	95 to 227	1.1 to 6.2	AU-04668-64	
2 1/2 (64)	3/4"	22 (559)	132 to 379	0.8 to 6.4	AU-04668-66	
3 (76)	3/4"	27 (686)	227 to 568	0.9 to 5.7	AU-04668-68	
4 (102)	3/4"	32 (813)	341 to 946	0.7 to 5.3	AU-04668-70	
6 (152)	1"	41 (1041)	662 to 1893	0.6 to 4.8	AU-04668-72	
PVC mixers without injection port						
1 (25)	—	7 (178)	19 to 57	0.75 to 6.7	AU-04668-61	
1 1/2 (38)	—	10 (254)	57 to 132	1.1 to 6.2	AU-04668-63	
2 (51)	—	12 (305)	95 to 227	1.1 to 6.2	AU-04668-65	
2 1/2 (64)	—	14 (356)	132 to 379	0.8 to 6.4	AU-04668-67	
3 (76)	—	18 (457)	227 to 568	0.9 to 5.7	AU-04668-69	
4 (102)	—	23 (584)	341 to 946	0.7 to 5.3	AU-04668-71	
6 (152)	—	33 (836)	662 to 1893	0.6 to 4.8	AU-04668-73	



PVC mixer with injection port 04668-66



PVC mixer without injection port 04668-63

Tube Mixers

These mixers consist of a series of fixed right- and left-hand elements. Tube and mixing elements are made of 316 stainless steel—ideal for mixing high-viscosity fluids such as epoxies. Mixers have plain end and accept standard tube fittings.

Tube OD, in. (mm)	No. of elements	Tube ID, in. (mm)	Mixer length, in. (mm)	Viscosity (cps)	Catalog number	Price
3/16 (5)	17	0.13 (3.3)	4 7/8 (124)	0 to 200	AU-04669-50	
	21		6 (152)	0 to 200	AU-04669-52	
	27		7 1/2 (190)	200 to 750	AU-04669-54	
1/4 (6)	21	0.19 (4.8)	7 (178)	0 to 200	AU-04669-56	
	27		9 1/4 (235)	200 to 750	AU-04669-58	
	34		11 1/2 (292)	750 and up	AU-04669-60	
3/8 (10)	21	0.32 (8.1)	11 (279)	0 to 200	AU-04669-62	
	27		14 (356)	200 to 750	AU-04669-64	
	32		17 (438)	750 and up	AU-04669-66	
1/2 (13)	15	0.43 (10.9)	11 1/8 (302)	0 to 200	AU-04669-68	
	21		16 3/8 (416)	0 to 200	AU-04669-70	
	32		24 3/4 (629)	750 and up	AU-04669-72	



Cut-away view

Tube mixer

Sanitary Mixers

These mixers are made of 316 stainless steel for low- or high-viscosity food processing. All internal surfaces are ground and polished to a sanitary (#4) finish and have removable elements for cleaning and visual inspection.

Blade Design Mixers are best for low viscosity (<1500 cps) fluids. The faster the fluid moves, the faster (and more thorough) the mixing. Great for mixing products into water or water-like fluids.

Helical Design Mixers are best for high-viscosity (>1500 cps) fluids, and when fluids are moving more slowly through the mixer. Excellent for combining products into fluids such as yogurt, mayonnaise, and ice cream.



Removable mixing element for thorough cleaning.

Tri-Clamp® size, in. (mm)	Number of elements	Pipe ID, in. (mm)	Helical design			Blade design		
			Catalog number	Length, in. (mm)	Price	Catalog number	Length, in. (mm)	Price
1/2 (13)	6	0.37	AU-04668-75	5 1/2 (140)		AU-04668-28	4 (102)	
	12	(9.4)	AU-04668-76	10 1/2 (267)		AU-04668-30	8 (203)	
3/4 (19)	6	0.62	AU-04668-77	7 (178)		AU-04668-32	6 1/2 (165)	
	12	(15.7)	AU-04668-78	13 (330)		AU-04668-34	11 (279)	
1 (25)	6	0.87	AU-04668-79	9 (229)		AU-04668-36	7 (178)	
	12	(22.1)	AU-04668-80	18 (457)		AU-04668-38	14 (356)	
1 1/2 (38)	6	1.37	AU-04668-81	14 (356)		AU-04668-40	12 (305)	
	12	(34.8)	AU-04668-82	27 (686)		AU-04668-42	24 (610)	
2 (51)	6	1.87	AU-04668-83	18 (457)		AU-04668-44	15 (381)	
	12	(47.5)	AU-04668-84	36 (914)		AU-04668-46	30 (762)	

Accessories

[AU-30800-74](#) Sanitary clamp for 1/2" (13 mm) or 3/4" (19 mm) sizes

[AU-30800-75](#) Sanitary clamp for 1" (25 mm) or 1 1/2" (38 mm) sizes

[AU-30800-76](#) Sanitary clamp for 2" (51 mm) size

Compact USB Data Loggers

Download directly to PC via built-in USB

- Programmable alarms alert to problems
- Easily manipulate and analyze data with included software
- Easy setup: plug into USB port, choose sampling rate and alarm settings, set start time, remove and place for data logging

A. Temperature

- Store up to 32,000 readings
- Temperature ranges from –40 to 175°C
- Model 23039-66 features stainless steel enclosure for hostile environments



B. Temperature with External Sensor

- Store more than 32,000 readings
- Models 23039-60 and -64 include a type K thermocouple for readings from 0 to 400°C
- Model 23039-80 includes a thermistor for more accurate measurements



C. Temperature/Humidity

- Get temperature readings from –35 to 80°C and 0 to 100% RH
- Store more than 16,000 readings
- Also calculates dew point



D. Real-Time Temperature/Humidity

- Real-time readings of ambient temperature, humidity, and calculated dew point on PC monitor
- Must remain connected to USB
- Alerts via text or email if parameters fall outside limits



E. Process

- Store over 32,000 data points
- Easily connect to external sensors via screw terminal



What's included: configuration software and battery.

Portable Viewer

- View data on color touchscreen display
- Internal memory stores data for up to 500 loggers
- Get more control—reprogram and start data loggers remotely



[AU-18000-13](#) Portable viewer

[AU-18000-14](#) Protective sleeve for portable viewer



No. of channels	Range	Resolution	Accuracy	Readings	Display	Battery life (typical)	Catalog number	Price
A. Temperature data loggers								
1	–10 to 50°C	1°C	±1°C	4080	No	1 month	AU-23039-51	
1	–35 to 80°C	0.5°C	±1°C	32,510	No	1 year	AU-23039-50	
1	–40 to 125°C	0.1°C	±0.2°C	32,510	Yes		AU-23039-53	
1					No	3 years	AU-23039-66	
B. Temperature data loggers, include external sensor (thermocouple models include a type K thermocouple)								
1	Type K: –200 to 1350°C Type J: –200 to 1190°C Type T: –200 to 390°C	0.5°C	±1°C	32,510	No	6 months	AU-23039-60	
1	Thermistor: –40 to 125°C	0.5°C	±1°C	32,510	Yes		AU-23039-64	
1					Yes	6 months	AU-23039-80	
C. Temperature/humidity data loggers								
2	–35 to 80°C 0 to 100% RH	0.5°C 0.5% RH	±0.5°C ±3.0% RH	16,382 16,379	No Yes	1 year	AU-23039-52	
2	–35 to 80°C 0 to 100% RH	0.5°C 0.5% RH	±0.3°C ±2.0% RH	16,382 16,379	No Yes		1 year	AU-23039-67 AU-23039-65
D. Real-time temperature/humidity data logger								
2	–20 to 70°C 0 to 100% RH	0.1°C 1% RH	±1.5°C ±4.5% RH	7 days worth†	No	—	AU-23039-59	
E. Process data loggers								
1	0 to 30 VDC	50 mV	±1% of reading	32,510	No	1 year	AU-23039-54	
1	4 to 20 mA	0.05 mV	±1% of reading	32,510	No	1 year	AU-23039-56	

†Data file is overwritten at the beginning of each new logging session. Software provides the option to save the data permanently to the hard drive.

Eutech Instruments pH 500 1/4-DIN pH/ORP Transmitter

No tools required for setup

- Displays pH or ORP plus temperature with 4 to 20 mA output
- Scaleable pH or ORP output with automatic temperature compensation (ATC)
- Accommodates solution ground for use in electrically noisy environments

Features input to output isolation plus it accepts electrodes with a solution ground to operate in symmetrical mode, ensuring proper operation in electrically noisy environments. Display allows local monitoring of measurement and temperature and output signal to a centralized control, data logging, or recording system. Order the BNC-to-stripped-wire adapter for proper connections.



Save time, save money!

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

Precalibrated by **INNOCAL**
INNOVATIVE CALIBRATION SOLUTIONS



Description	Transmitter	Precalibrated transmitter
Catalog number	AU-56717-20	AU-56717-27
Range	pH	0.00 to 14.00
	mV	-1000 to 1000
	Temperature	-10 to 110°C
Resolution	pH	0.01 pH
	mV	1 mV
	Temperature	0.1°C
Accuracy	pH	±0.01 pH
	mV	±2 mV
	Temperature	±0.5°C
Temperature compensation	Automatic or manual, 100 Ω Pt RTD, 2- or 3-wire system	
Calibration	pH	Offset ±1 pH
	mV	Offset ±50 mV
	Temperature	None
Slope	Slope 80 to 120%	
Output	4 to 20 mA	
Power	12 to 24 VDC	
Price		

Accessories

[AU-27018-02](#) Ryton® PPS body pH electrode with 100 Ω Pt RTD, solution ground, and 3-m cable

[AU-27018-40](#) Ryton® PPS body, platinum wire ORP electrode with solution ground, and 3-m cable

[AU-56105-60](#) BNC-to-stripped-wire adapter; connects pH electrodes with BNC connectors to meters with terminal strips

Eutech Instruments pH 800 1/4-DIN pH/ORP Controller

Reduce false alarms due to fluctuations

- Minimize false alarms with programmable delay, up to 2000 seconds
- Memory retains calibration and configuration even during power failure
- Eliminate effects of temperature with manual or automatic temperature compensation



The pH 800 offers a large dual line display to facilitate programming and displays pH or ORP and temperature. Relay hold feature maintains relay and current output status during configuration or calibration. Programmable hysteresis bands prevent relay chatter when value fluctuates around set points. Controller provides a 4 to 20 mA output signal. Removable terminal strips simplify power, temperature input, and relay installation.



Description	Controller	
Catalog number	AU-56705-05	
Range	pH	-2.00 to 16.00
	mV	±1000
	Temperature	-9.9 to 125.0°C
Resolution	pH	0.01
	mV	1
	Temperature	0.1°C
Accuracy	pH	±0.01
	mV	±1
	Temperature	±0.5°C
Temperature compensation	Manual or automatic, 100 Ω or 1000 Ω Pt RTD, 2- or 3-wire system	
Control type	On/off (limit)	
Number of set points	Two (high, low)	
Dead band	0.1 to 1.0 pH units; 10 to 100 mV	
Output	Control	Two SPDT relays (110 VAC, 6 A, 500 W)
	Current	4 to 20 mA, 600 Ω max load
Programmable relay delay	0 to 2000 sec	
Power	220 VAC, 48 to 62 Hz	
Price		

Accessories

[AU-50001-00](#) Power cord; US standard plug, 1.8-m, 120 VAC for use with model 56705-00

[AU-56705-27](#) pH 800 with NIST-traceable calibration report, 220 VAC

Cole-Parmer® Autoclavable Fermentation pH Electrodes

Get precise readings affordably



- No more clogging—glass body with annular ceramic junction
- Use when you need it—operates from -5 to 130°C

Order detachable cables separately below to autoclave glass-bodied electrode and vessel as a single unit—simply detach cable and place a protective cap over the cable connector before sterilizing.



1. Electrode or
2. Mini electrode
3. Detachable cable

1. Double-Junction Glass Electrodes

These electrodes are designed for insertion in Radiometer® mountings or Ingold® nonpressurized assemblies 761-351, 761-31, 761-361, and 761CH-31 (12 mm dia). Sealed, gel-filled, reference electrodes require no refilling, and offer long-term stability and extended service life.

Probe immersion length	Catalog number	Price
Refillable electrodes		
120 mm	AU-05661-25	
150 mm	AU-05661-02	
180 mm	AU-29041-00	
210 mm	AU-05661-04	
250 mm	AU-29041-02	
320 mm	AU-29041-04	
420 mm	AU-29041-06	
Sealed electrodes		
150 mm	AU-05993-95	
180 mm	AU-29041-50	
210 mm	AU-05993-96	
250 mm	AU-29041-52	
320 mm	AU-29041-54	
420 mm	AU-29041-56	

AU-05661-68 Reference filling solution for inner cell of refillable electrodes. High-temperature 3 M KCl gel saturated with AgCl; 125 mL

AU-05661-70 Reference filling solution for outer cell of refillable electrodes. High-temperature 3 M KCl gel; 125 mL

AU-05661-03 Spare protective cap for cable connector

AU-05983-21 DIN connector to female BNC plug

2. Mini Glass Electrodes

Ideal for narrow or crowded culture flasks and fermentors (6 mm dia). Double-junction reference offers stability and extended service life. Sealed, autoclavable.

Probe immersion length	Catalog number	Price
150 mm	AU-05662-15	
180 mm	AU-29044-50	
210 mm	AU-05662-16	

3. Detachable Cables

Plug type	Length	Catalog number	Price
BNC	5 ft (1.5 m)	AU-05661-08	
	10 ft (3 m)	AU-05661-09	
Stripped ends†	5 ft (1.5 m)	AU-29073-00	
	10 ft (3 m)	AU-29073-02	

†Stripped end cables are not for temperature compensated use.

Detachable Cable Adapter

allows you to use a Cole-Parmer detachable-cable type electrode with your Ingold series-K9 cable.

AU-29040-00 Detachable-cable adapter



- 1 Refillable electrode 05661-02
- 2 Mini electrode 05662-15
- 1 Sealed electrode 05993-95



Process Monitoring

pH Laboratory Electrodes

Flow-Through pH Cells

Ideal for fermentation applications

- Accurate to ±0.1 pH units
- Choose 316 stainless steel cell for long-lasting durability

1. Flow-Through Cells

Key	Material	Volume	Tubing connection ID	Catalog number	Price
A	Glass	6000 µL	7 mm	AU-05662-40	
B	316 SS	6000 µL	6 mm	AU-05662-42	
C	Glass	800 µL	3 mm	AU-05662-48	

2. Electrodes for Flow-Through Cells

For flow cell	Combination electrode type	Junction	Auto-clavable	Catalog number	Price
A	Sealed, Ag/AgCl	Double	Yes	AU-05662-44	
	Refillable, Ag/AgCl	Double	Yes	AU-05662-45	
B	Sealed, Ag/AgCl	Double	Yes	AU-05662-80	
	Sealed, Ag/AgCl	Double	Yes	AU-05662-51	
C	Sealed, Ag/AgCl	Double	Yes	AU-05662-52	
	Refillable, Ag/AgCl	Double	Yes	AU-05662-55	

3. Detachable Cables

Plug type	Length	Catalog number	Price
BNC	3 ft (0.9 m)	AU-05662-55	
	10 ft (3 m)	AU-05662-56	

- 1 Flow-through cell 05662-40
- 2 Electrode 05662-44

REQUIRED System Components

1. Flow-through cell
2. Electrode
3. Detachable cable

Fluid Testing & Analysis

Ensure quality throughout the process

Make sure your validated process executes according to parameters!

Pipettes & Pipettors94
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Product Selection | Troubleshooting | And More...

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— or Ch@t Live —

Not sure what to choose?
Our expert Application Specialists can help you find the right product for your application.

Disposable Transfer Pipettes

Easily draw and deliver solutions

- Deliver repeatable, uniform drops
- Eliminate cross-contamination with these low-cost, disposable LDPE pipettes



Key	Description	Graduations		Bulb draw	Total capacity	Drops per mL	Length in. (mm)	Qty/pk	Catalog number	Price/pk
		Increments	Maximum							
A	Small bulb, graduated	0.1 mL	0.3 mL	0.8 mL	1.5 mL	21	4 ⁵ / ₈ (117)	500	AU-06226-37	
B	Small bulb, graduated	0.25 mL	1 mL	2.2 mL	3.9 mL	25	5 ¹ / ₂ (140)	500	AU-06226-41	
C	Large capacity, thin stem	—	—	3.3 mL	4.6 mL	25	6 ¹ / ₈ (156)	500	AU-06226-65	
D	Large capacity, fine tip	—	—	3.5 mL	5.8 mL	50	6 ¹ / ₄ (159)	500	AU-06226-67	
E	Large capacity, graduated	0.25 mL	1 mL	3.4 mL	5.8 mL	25	6 ¹ / ₈ (156)	500	AU-06226-61	
F	Large capacity, extra-long stem	—	—	2.3 mL	6.0 mL	25	9 (229)	400	AU-06226-69	
G	Large capacity, graduated	0.5 mL	3.0 mL	3.2 mL	7.5 mL	20	6 ¹ / ₈ (156)	500	AU-06226-63	
H	Jumbo bulb, long stem	—	—	8.0 mL	15.0 mL	19	6 ¹ / ₈ (156)	250	AU-06226-51	

Cole-Parmer® Single-Channel Pipettors

Don't sacrifice performance for price

- Ergonomic, lightweight design with soft plunger movement minimizes hand fatigue

Pipettors feature streamlined, low-pressure tip ejector for easy access to narrow containers. They facilitate last drop dispensing and reverse pipetting technique with two-stage plunger operation for blow-out. Easy to calibrate and disassemble for routine servicing or autoclaving.

Adjustable-volume pipettors feature quick, easy click-stop, digital volume settings. Individually calibrated in accordance with DIN 12650 Standards and supplied with a computer-generated calibration document supplied by the manufacturer and calibration tool.



Specifications

- Tip ejector:** tip ejector with blow-out step
- Autoclavable:** autoclavable tip cone and lower section assembly

Volume	Increments	Accuracy	Reproducibility	Catalog number	Price
Fixed-volume pipettors					
100 µL	—	±0.3%	±0.2%	AU-21600-00	
200 µL				AU-21600-02	
500 µL				AU-21600-04	
1000 µL				AU-21600-06	
5000 µL				AU-21600-08	
Adjustable-volume pipettors					
0.1 to 10 µL	0.1 µL	±2.5%	1.33%	AU-21600-10	
5 to 50 µL	1.0 µL	±1.3%	0.7%	AU-21600-12	
20 to 100 µL	1.0 µL	±1.1%	0.4%	AU-21600-14	
40 to 200 µL	1.0 µL	±0.9%	0.3%	AU-21600-16	
200 to 1000 µL	10.0 µL	±0.8%	0.2%	AU-21600-18	
1 to 5 mL	100.0 µL	±0.6%	0.2%	AU-21600-20	

Tips, Polypropylene

Volume (µL)	Qty/pk	Catalog number	Price/pk
0.2 to 10	Bag of 1000	AU-25711-06	
0 to 200	Bag of 1000	AU-25711-12	
	10 racks of 96	AU-25711-14	
50 to 1000	Bag of 1000	AU-18889-08	
1000 to 5000	Bag of 1000	AU-25711-70	
	Bag of 500	AU-25711-71	
	Bag of 250	AU-25711-72	

Cole-Parmer® Single-Channel Electronic Pipettors

Save time on routine tasks

- Program up to six presets with function, volume, speed, and number of dispenses
- Nine pipetting functions cover common and specialized pipetting applications
- Adjust brightness and background on large color display to suit any lighting condition

NEW



What's included: rechargeable battery, USB power cord, and two AC adapters (US and Euro).



Specifications

- Tip ejector:** yes, soft touch
- Autoclavable:** tip cone

Volume (µL)	Increments	Accuracy†	Reproducibility†	Catalog number	Price
0.2 to 10	0.01 µL	±1.0%	≤0.4%	AU-24500-01	
5 to 100	0.1 µL	±0.6%	≤0.2%	AU-24500-02	
20 to 300	0.5 µL	±0.5%	≤0.2%	AU-24500-03	
50 to 1200	1 µL	±0.4%	≤0.2%	AU-24500-04	
500 to 5000	5 µL	±0.5%	≤0.2%	AU-24500-05	
1000 to 10,000	10 µL	±0.4%	≤0.2%	AU-24500-06	

†Accuracy and reproducibility at full-scale volume.

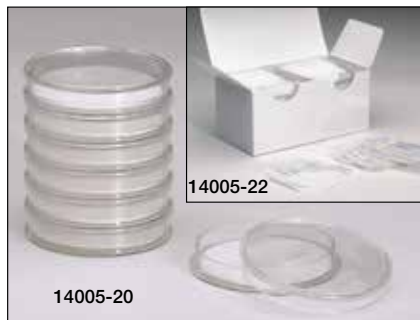
Tips, Polypropylene

Volume (µL)	Pack description	Catalog number	Price
0.1 to 10	Bag of 1000	AU-25711-49	
	10 racks of 96	AU-25711-51	
	10 racks of 96, sterile	AU-25711-53	
	10 racks of 96, sterile, filtered	AU-25711-55	
	10 racks of 96, sterile, filtered	AU-25711-57	
1 to 200	Bag of 1000	AU-25711-57	
	10 racks of 96	AU-25711-59	
	10 racks of 96, sterile	AU-25711-61	
1000 to 5000	10 racks of 96, sterile, filtered	AU-25711-65	
	Bag of 500	AU-25711-71	
	Bag of 500	AU-25711-73	
	Bag of 1000	AU-25711-66	
1000 to 10,000	10 racks of 96	AU-25711-67	
	10 racks of 96, sterile	AU-25711-68	
	10 racks of 96, sterile, filtered	AU-25711-69	
	10 racks of 96, sterile, filtered	AU-25711-69	

Advantec® Disposable 50-mm Sterile Petri Dishes, PS

No need to pre-sterilize

- Sterilized dishes are ready to use
- Use only what you need—come in convenient packs of 20
- Polystyrene dishes come with or without 47-mm absorbent cellulose pad that hold 1.8 to 2.0 mL of liquid media
- Ridges for easy stacking



STERILE

Description	Dia x H (mm)	Qty/cs	Catalog number	Price/cs
Petri dish with pad	50 x 11	100	AU-14005-20	
		500	AU-14005-28	
Petri dish without pad	50 x 11	100	AU-14005-24	
		500	AU-14005-26	

[AU-14005-22](#) Presterilized absorbent pads. Box of 100 individual packages

Thermo Scientific™ Nunc™ Lab-Tek™ Sterile Petri Dishes, PS

Get better cultures

- Sterilized by gamma irradiation



STERILE

Dia x H (mm)	Vented	Stacking ring	Qty/cs	Catalog number	Price/cs
100 x 15	Yes	No	320	AU-14007-01	
60 x 20	Yes	Yes	400	AU-14007-03	
100 x 25	No	Yes	300	AU-14007-04	
140 x 20	Yes	No	80	AU-14007-05	
150 x 25	No	No	72	AU-14007-14	
100 x 15	Yes	No	500	AU-14007-10¹	

¹Model 14007-10 is square in shape

Wait!

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ColeParmer.co.uk

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 - ✓ Find full product details
- And much more!

Sterile Petri Dishes, PS

Stacks won't tip over—convenient stacking ridges for better stability

- Use what you need—packaged in bags of 20 dishes
- Save time—already sterilized by gamma irradiation



STERILE

Dia x H (mm)	Qty/pk	Catalog number	Price/pk
60 x 15	500	AU-06139-01	
100 x 15	500	AU-06139-00	
150 x 20	100	AU-06139-02	

Thermo Scientific™ Nalgene™ Sterile Media Bottles, PETG

No pre-washing needed

- Radiation-sterilized and nonpyrogenic—no need to wash, depyrogenate, or autoclave
- PETG bottle with HDPE closures for long term storage and sterility



STERILE

Capacity mL (oz)	Closure size	Qty/cs	Catalog number	Price/cs
30 (1)	20 mm	96	AU-06254-00	
60 (2)	24 mm	96	AU-06254-10	
125 (4)	38-430 mm	48	AU-06254-20	
250 (8)	38-430 mm	48	AU-06254-30	
500 (16)	38-430 mm	24	AU-06254-40	
1000 (32)	38-430 mm	24	AU-06254-50	
2000 (128)	53B mm	12	AU-06254-60	

Oxford® Bacti-Cinerator® IV

No more cross-contamination

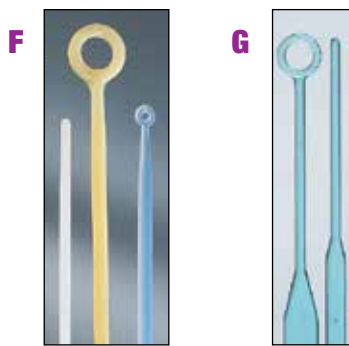
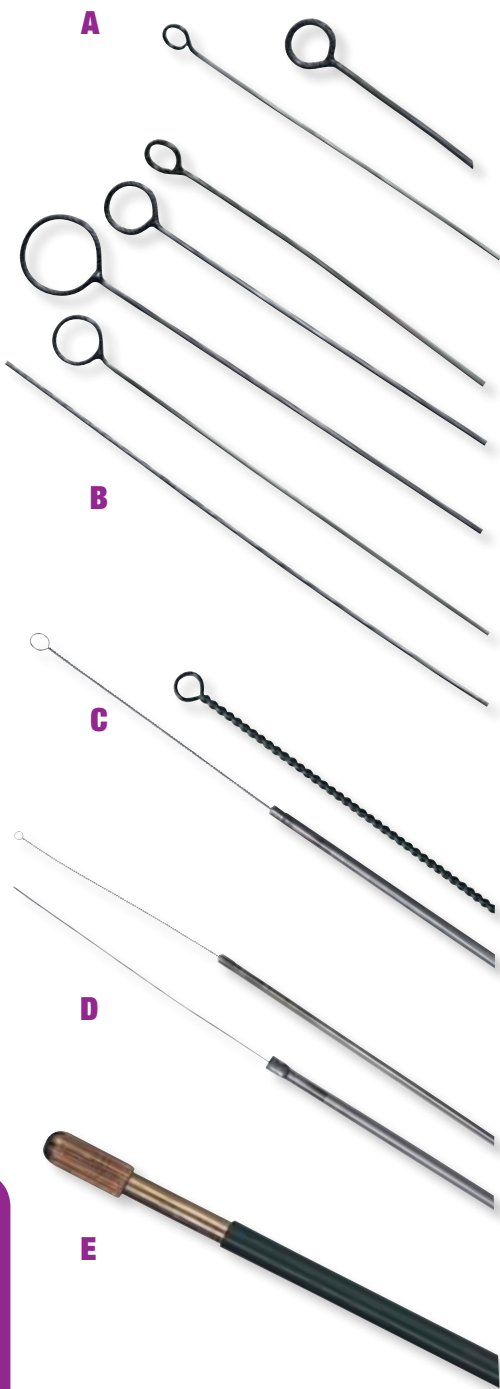
- Safely and conveniently sterilize platinum loops and needles
- Don't waste time—sterilize in just 5 to 7 seconds
- Infrared heat has optimum sterilizing temperature of 815°C



UL CE

Description	Power (VAC,Hz)	Catalog number	Price
Bacti-Cinerator IV	220, 50/60	AU-01850-24	

[AU-01850-28](#) Replacement heater element



Inoculation Loops and Needles

A. Platinum Calibrated Loops

The 1-µL loops are made of B&S platinum wire with 15% iridium. The 10-µL loops are calibrated to American Public Health Association (APHA) standards and made of B&S platinum wire with 5% rhodium. Order insulated loop and needle holder separately below.

Contained volume	Inside dia	B&S gauge	Length	Catalog number	Price/ea
1 µL	1.45 mm	26	70 mm	AU-01850-00	
10 µL	4 mm	19	25 mm	AU-01850-02	

B. Platinum Loops and Needles

Use for transferring bacterial cultures. These loops and needles are made of B&S platinum wire with 15% iridium added for rigidity, permitting a thinner wire for delicate work. Loops are fused to form a "perfect circle" with an inside tolerance of ±0.02 mm to ensure accurate delivery. Order insulated loop and needle holder separately below.

Description	Inside dia	B&S gauge	Length	Catalog number	Price/ea
Loop	2 mm	24	45 mm	AU-01850-04	
	3 mm			AU-01850-06	
	5 mm			AU-01850-08	
	3 mm			AU-01850-10	
Needle	3 mm	26	70 mm	AU-01850-12	
	—			AU-01850-14	

C. Inoculating Loops

These loops are manufactured to very close tolerance levels and can be used for semi-quantitative counting of bacteria. Calibrated loops meet APHA standards. Made of 26-gauge wire. Order insulated loop and needle holder for individual loop separately below ("E").

Description	Loop length	Contained volume	Catalog number	Price
Calibrated inoculating loops				
No handle	3"	1 µL	AU-14203-31	ea
15.2 cm insulated handle	1 3/4"	1 µL	AU-14203-25	ea
		10 µL	AU-14203-26	ea
Inoculating loops				
No handle	2 mm	—	AU-14203-27	pk of 12
	3 mm	—	AU-14203-28	pk of 12
	4 mm	—	AU-14203-29	pk of 12
	5 mm	—	AU-14203-30	pk of 12

D. Inoculating Loops and Needles with Handles

Ideal for use in semi-quantitative procedures, these loops and needles are 7.0 cm L with 15.2 cm or 20.3 cm handle. The 24 gauge is the most durable; the 25 gauge is for general use; and 26 gauge is designed for rapid cooling. Choose from insulated or noninsulated aluminum handles.

Description	Inside dia.	Handle length and type	B&S wire gauge	Qty/pk	Catalog number	Price/pk
Loop	2 mm	20.3 cm, insulated	26	6	AU-14203-24	
	3 mm	20.3 cm, insulated	26	6	AU-14203-23	
	3 mm	15.2 cm, noninsulated	24	12	AU-14203-20	
	3 mm	20.3 cm, noninsulated	25	12	AU-14203-22	
	4 mm	20.3 cm, noninsulated	24	12	AU-14203-21	
Needle	—	15.2 cm, noninsulated	24	12	AU-14203-32	
	—	20.3 cm, insulated	24	6	AU-14203-33	

E. Insulated Brass Loop and Needle Holder

Holder is constructed of durable, heat-resistant brass with insulating sleeve. Works with all gauges of Oxford and Nichrome V loops and needles.

AU-14203-34 Insulated brass holder. Measures 20.3 cm L

F. Inoculating Needle and Loop

Prevent the risk of cross-contamination with these sterile, disposable needles and loops. Color coded for easy identification. **Box of 960** (32 per bag, 30 bags per box).



Description	Color	Dimensions	Catalog number	Price/bx
Needle	White	229-mm L	AU-06231-11	
1 µL loop	Blue	229-mm L x 1 mm ID loop	AU-06231-21	
10 µL loop	Yellow	229-mm L x 4 mm ID loop	AU-06231-31	

G. Combination Inoculating Needle/Loop

Flexible polystyrene inoculating device has needle on one end, loop on the other. Color coded for easy identification. **Case of 1000** (20 per bag, 50 bags per case).



Description	Capacity	Color	Dimensions	Catalog number	Price/cs
Needle/loop	10 µL	Blue	197-mm L x 4 mm ID loop	AU-14200-00	
Needle/loop	1 µL	Clear	197-mm L x 1 mm ID loop	AU-14200-01	

Sterilized Sampling Bottle Assemblies

Safely transfer, sample, and store biopharmaceutical products and reagents

- Ideal for cell count, sterility testing, metabolic testing, and more
- Secure, single-piece cap/tubing assembly eliminates contamination and product loss due to loose connections
- Presterilized by gamma irradiation—eliminates labor and validation costs associated with assembly and cleaning

Cap assembly includes a seamless liner with premolded C-Flex® fill and vent tubes to create an unobstructed fluid path. The 18" (45.7 cm) fill tube is plugged at the terminal end to maintain assembly sterility until use. Vent tube includes a 0.2-micron Pall® Acrodisc PTFE vent filter to prevent infiltration by contaminants. Vent filter is hydrophobic to guard against loss of costly product or media during filling or emptying. The one-piece liner eliminates the risk of bacterial entrapment and contamination and forms an elastomeric seal between cap and bottle rim.

C-Flex tubing is manufactured according to cGMP and meets USP Class VI and USDA requirements. Tubing can withstand temperatures from -73 to 135°C. Offers exceptional tensile and tear strength, extremely low extractables, and excellent biocompatibility. The smooth inner surface reduces absorption and protein binding.

What's included: Thermo Scientific™ Nalgene™ clear PETG bottle, 38-mm cap, C-Flex tube/liner assembly with 1/8" ID x 1/4" OD tubing, and 0.2-micron vent filter.

Applications

- ✓ Fermentation
- ✓ Purification
- ✓ Final filling



STERILE

Bottle volume	Catalog number	Price
125 mL	AU-95644-00	
250 mL	AU-95644-02	
500 mL	AU-95644-04	
1000 mL	AU-95644-06	
2000 mL	AU-95644-08	

Cole-Parmer® StableTemp® Economical Digital Utility Water Baths

Get digital accuracy at an analog price

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

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

Specifications

Temperature range: 5°C above ambient to 100°C

Temperature uniformity: ±0.2°C

Temperature stability: ±0.1°C

Wetted materials: 304 stainless steel

High-temperature cutoff: yes

Power: 240 VAC, 50 Hz

NEW

Hinged polycarbonate lid allows condensation to flow back



StableTemp

ISO9001:2008
CERTIFIED SUPPLIER



Bath capacity	Bath opening (L x W)	Working depth	Catalog number	Price
2 L	3 7/8" x 4 5/16" (9.9 x 10.9 cm)	5 1/2" (14 cm)	AU-14576-02	
5 L	5" x 10 13/16" (12.7 x 27.4 cm)	5 1/2" (14 cm)	AU-14576-06	
10 L	10 5/8" x 11 1/8" (26.9 x 29.5 cm)	5 1/2" (14 cm)	AU-14576-10	
20 L	9 1/2" x 17 1/2" (24.2 x 44.5 cm)	5" (12.7 cm)	AU-14576-14	
28 L	9 1/2" x 17 1/2" (24.2 x 44.5 cm)	7" (17.8 cm)	AU-14576-18	

PolyScience® Heating Circulating Baths

Easily view extra-large backlit digital display from across a room

- Eliminate set point overshoot and ensure constant temperature with advanced PID algorithms
- Don't get burned—chemical-resistant top plate remains cool even at high temperatures
- View at almost any angle—waterproof control panel swivels 180°
- Don't fumble with another lid—unique LidDock® system stores the lid in open position
- Control external open- and closed-loop applications with optional force/suction pumps

Basic and Standard Digital Controllers are manufactured with the EasyView™ LCD measuring 3¼" (8.25 cm) for the Basic controller and 3¾" (8.25 cm) for the Standard. The Basic controller reaches a maximum temperature of 135°C and has a single-speed pump. The Standard Digital controller reaches up to 170°C and has a two-speed pump.

Performance Digital Controller utilizes SmartTouch™ color touch-screen display and controls. These SmartTouch models are the ultimate in icon-driven, user friendly operation! Simply touch the screen to scroll through the menus, functions, and options—even when wearing gloves. This touch-screen digital display allows easy monitoring of both the set value and actual value. Touch and scroll operation with visual prompts make setup and operational changes simple and straightforward. View screen text in 11 languages. Data trending is visibly tracked on the display.

Performance Programmable Controller includes all the Performance Digital Controller features and adds unlimited time/temperature programmability.

What's included: bath cover and lid, power cord, drain valve, fittings, plumbing tape, clamps, and drain tubing. Performance Programmable models also include a memory stick.



12119-05



12119-21

ISO9001:2008
CERTIFIED SUPPLIER

ETL

CE

UL

Specifications

Temperature control: PID **Heater wattage:** 2000 W **Wetted materials:** stainless steel, polymers **Low-level cutoff:** yes
Temperature sensor: Pt RTD **Max pump flow:** 20 L/min

Bath capacity	Temperature range	Stability	Pump type	Max pump psi (mbar)	Max flow (L/min)		Dimensions		Power (VAC, Hz)	Catalog number	Price
					Pressure	Suction	Working area (L x W x D)	Overall (L x W x H)			
Basic digital controller baths											
7 L	Ambient +10 to 135°C	±0.07°C	Force	1.5 (100)	10.6	—	6¾" x 5½" x 5" (15.7 x 14.2 x 12.7 cm)	19½" x 8⅞" x 17¾" (49.9 x 22.1 x 43.7 cm)	240, 50	AU-12119-01	
Standard digital controller baths											
15 L	Ambient +10 to 170°C	±0.04°C	Force	2.9 (200)	10.2	—	8¾" x 10⅞" x 5½" (21.2 x 27.6 x 14 cm)	22¾" x 14½" x 16⅞" (56.9 x 36.8 x 42.2 cm)	240, 50	AU-12119-07	
20 L	Ambient +10 to 170°C	±0.04°C	Force	2.9 (200)	10.2	—	9⅞" x 12⅞" x 5½" (25 x 31.6 x 14 cm)	24" x 16½" x 16⅞" (61 x 41.9 x 42.2 cm)	240, 50	AU-12119-13	
28 L	Ambient +10 to 170°C	±0.04°C	Force	2.9 (200)	10.2	—	12¾" x 14⅞" x 5½" (31.4 x 35.9 x 14 cm)	26½" x 18" x 16⅞" (67.2 x 45.7 x 42.2 cm)	240, 50	AU-12119-19	
Performance digital controller baths											
7 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	6¾" x 5½" x 5" (15.7 x 14.2 x 12.7 cm)	19½" x 8⅞" x 17¾" (49.9 x 22.1 x 43.7 cm)	240, 50	AU-12119-03	
15 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	8¾" x 10⅞" x 5½" (21.2 x 27.6 x 14 cm)	22¾" x 14½" x 16⅞" (56.9 x 36.8 x 42.2 cm)	240, 50	AU-12119-09	
20 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	9⅞" x 12⅞" x 5½" (25 x 31.6 x 14 cm)	24" x 16½" x 16⅞" (61 x 41.9 x 42.2 cm)	240, 50	AU-12119-15	
28 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	12¾" x 14⅞" x 5½" (31.4 x 35.9 x 14 cm)	26½" x 18" x 16⅞" (67.2 x 45.7 x 42.2 cm)	240, 50	AU-12119-21	
Performance programmable controller baths											
7 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	6¾" x 5½" x 5" (15.7 x 14.3 x 12.7 cm)	19½" x 8⅞" x 17¾" (49.9 x 22.1 x 43.7 cm)	240, 50	AU-12119-05	
15 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	8¾" x 10⅞" x 5½" (21.2 x 27.6 x 14 cm)	22¾" x 14½" x 16⅞" (56.9 x 36.8 x 42.2 cm)	240, 50	AU-12119-11	
20 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	9⅞" x 12⅞" x 5½" (25 x 31.6 x 14 cm)	24" x 16½" x 16⅞" (61 x 41.9 x 42.2 cm)	240, 50	AU-12119-17	
28 L	Ambient +10 to 200°C	±0.005°C	Force/suction	3.6 (250)	16.7	12.2	12¾" x 14⅞" x 5½" (31.4 x 35.9 x 14 cm)	26½" x 18" x 16⅞" (67.3 x 45.7 x 42.2 cm)	240, 50	AU-12119-23	

PolyScience® Cooling/Heating Circulating Baths

Rotate display 180° with just a click

- Advanced PID algorithms increase heat/cool responsiveness to ensure constant temperature
- LidDock™ system stores the lid in open position for easy sample placement

The innovative WhisperCool™ environmental technology optimizes compressor and evaporator performance, reducing overall energy consumption and prolonging compressor life. Extra-large backlit digital display can be easily seen from across a room. Waterproof control panel swivels 180°, allowing viewing at almost any angle (except Basic controller).

Basic Controller reaches a maximum temperature of 135°C and has a single-speed pump.

Standard Digital Controller reaches up to 170°C and has a two-speed pump.

Performance Digital Controller utilizes SmartTouch™ color touch-screen display and controls for user friendly, icon-driven operation. Remote temperature sensing and control allow precision management of external baths and devices. Data trending is visibly tracked on the display. Force/suction pumps for external open- and closed-loop applications.

Performance Programmable Controller includes all the Performance digital controller features and adds on unlimited time/temperature programmability.

What's included: bath cover and lid, power cord, drain valve, fittings, plumbing tape, clamps, and drain tubing. Performance programmable models also include communication cables and memory stick.



Specifications

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

Bath capacity	Temperature range	Cooling capacity at 20°C	Stability	Pump type	Max pump pressure psi (mbar)	Max flow (L/min)	Working area (L x W x D)	Power (VAC, Hz)	Catalog number	Price
Basic controller baths										
7 L (SS)†	-20 to 135°C	200 W	±0.07°C	Force	1.5 (100)	10.6	6 ³ / ₁₆ " x 5 ⁵ / ₈ " x 5" (15.7 x 14.2 x 12.7 cm)	240, 50	AU-12210-01	
7 L (LP)‡	-20 to 135°C	200 W	±0.07°C	Force	1.5 (100)	10.6	6 ³ / ₁₆ " x 5 ⁵ / ₈ " x 5" (15.7 x 14.2 x 12.7 cm)	240, 50	AU-12210-07	
Standard digital controller baths										
15 L	-30 to 170°C	915 W	±0.04°C	Force	2.9 (200)	10.2	8 ³ / ₈ " x 10 ⁷ / ₈ " x 5 ¹ / ₂ " (21.2 x 27.6 x 14 cm)	240, 50	AU-12210-19	
28 L	-30 to 170°C	915 W	±0.04°C	Force	2.9 (200)	10.2	12 ³ / ₈ " x 14 ¹ / ₈ " x 5 ¹ / ₂ " (31.4 x 35.9 x 14 cm)	240, 50	AU-12210-37	
Performance digital controller baths										
7 L (SS)†	-20 to 200°C	200 W	±0.005°C	Force/suction	3.6 (250)	16.7	6 ³ / ₁₆ " x 5 ⁵ / ₈ " x 5" (15.7 x 14.2 x 12.7 cm)	240, 50	AU-12210-03	
7 L (SS)†	-40 to 200°C	505 W	±0.005°C	Force/suction	3.6 (250)	16.7	6 ³ / ₁₆ " x 5 ⁵ / ₈ " x 5" (15.7 x 14.2 x 12.7 cm)	240, 50	AU-12210-15	
15 L	-30 to 200°C	915 W	±0.005°C	Force/suction	3.6 (250)	16.7	8 ³ / ₈ " x 10 ⁷ / ₈ " x 5 ¹ / ₂ " (21.2 x 27.6 x 14 cm)	240, 50	AU-12210-21	
15 L	-40 to 200°C	1000 W	±0.005°C	Force/suction	3.6 (250)	16.7	8 ³ / ₈ " x 10 ⁷ / ₈ " x 5 ¹ / ₂ " (21.2 x 27.6 x 14 cm)	240, 50	AU-12210-27	
28 L	-30 to 200°C	915 W	±0.005°C	Force/suction	3.6 (250)	16.7	12 ³ / ₈ " x 14 ¹ / ₈ " x 5 ¹ / ₂ " (31.4 x 35.9 x 14 cm)	240, 50	AU-12210-39	
Performance programmable digital controller baths										
7 L (SS)†	-20 to 200°C	200 W	±0.005°C	Force/suction	3.6 (250)	16.7	6 ³ / ₁₆ " x 5 ⁵ / ₈ " x 5" (15.7 x 14.2 x 12.7 cm)	240, 50	AU-12210-05	
15 L	-40 to 200°C	1000 W	±0.005°C	Force/suction	3.6 (250)	16.7	8 ³ / ₈ " x 10 ⁷ / ₈ " x 5 ¹ / ₂ " (21.2 x 27.6 x 14 cm)	240, 50	AU-12210-29	
28 L	-30 to 200°C	915 W	±0.005°C	Force/suction	3.6 (250)	16.7	12 ³ / ₈ " x 14 ¹ / ₈ " x 5 ¹ / ₂ " (31.4 x 35.9 x 14 cm)	240, 50	AU-12210-41	

†(SS) Space-saving ‡(LP) Low-profile

Cole-Parmer® Stirrers, Hot Plates, and Stirring Hot Plates

Reduce clutter in your workspace with space-saving design

NEW

- Heat one large vessel or several small ones—easily accommodate four 250-mL beakers
- Be safe—flashing light warns when top plate is hot (above 50°C), even when unplugged
- Unique housing allows legs of a support stand to slide underneath
- Conveniently store unit on its side—minimize storage space needed
- Choose ceramic top for better chemical resistance and higher temperatures



04801-54

Analogue Stirrers feature powerful magnets and motor to support speeds up to 2000 rpm and large-volume mixing up to 15 L.



Advanced Analogue Hot Plates and Stirring Hot Plates feature an innovative LED temperature indicator scale, which lights up in colored increments as the top plate heats up, and shows you when the plate has reached its temperature set point. Use with the optional digital temperature controller to accurately regulate sample temperature.

Advanced Digital Stirring Hot Plates feature an LED display of surface temperature, ensuring high repeatability and accuracy. Compatible with the optional digital temperature controller for precise sample temperatures.

Optional Digital Temperature Controller can be used in two different modes: as a precise temperature controller from 20 to 200°C or as a digital thermometer from -4 to 325°C. With digital setting and display of temperature, the temperature controller is accurate to ±0.5°C.



04801-65



04801-64



Top plate		Temperature range	Stirring		Power		Catalog number	Price
Dimensions	Material		Speed range	Max capacity†	VAC	Hz		
Analogue stirrers								
15 x 15 cm	Ceramic	—	100 to 2000 rpm	15 L	230	50	AU-04801-52	
	Stainless steel	—			230	50	AU-04801-56	
Advanced analogue hot plates								
15 x 15 cm	Ceramic	Ambient to 450°C	—	—	230	50	AU-04801-22	
	Coated aluminum	Ambient to 325°C			230	50	AU-04801-26	
Advanced analogue stirring hot plates								
15 x 15 cm	Ceramic	Ambient to 450°C	100 to 2000 rpm	15 L	230	50	AU-04801-62	
	Coated aluminum	Ambient to 325°C			230	50	AU-04801-67	
Advanced digital stirring hot plates								
15 x 15 cm	Ceramic	Ambient to 450°C	100 to 2000 rpm	15 L	230	50	AU-04801-66	
	Coated aluminum	Ambient to 325°C			230	50	AU-04801-70	

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

Accessories

[AU-04801-80](#) Digital temperature controller for advanced models

Stirrers & Hot Plates

Fluid Testing & Analysis

Cole-Parmer® Jiffy-Jack® Lab Jacks

Safely position sample or equipment

- Easily position equipment or sample with a twist of the knob
- Rugged construction stands up to heavy loads



Top plate dimensions	Open height	Closed height	Max support static load	Cat. no.	Price
Aluminum lab jacks					
10.2 x 10.2 cm	12.7 cm	6.4 cm	30 kg	AU-08057-10	
15.2 x 15.2 cm	24.8 cm	7.6 cm	60 kg	AU-08057-20	
20.3 x 20.3 cm	33.0 cm	8.9 cm	80 kg	AU-08057-30	
25.4 x 25.4 cm	33.0 cm	8.9 cm	90 kg	AU-08057-40	
Stainless steel heavy-duty lab jacks					
10.2 x 10.2 cm	12.7 cm	6.4 cm	13.6 kg	AU-08057-14	
15.2 x 15.2 cm	24.8 cm	7.6 cm	15.8 kg	AU-08057-16	
20.3 x 20.3 cm	33.0 cm	8.9 cm	25.0 kg	AU-08057-18	
25.4 x 25.4 cm	33.0 cm	8.9 cm	36.3 kg	AU-08057-22	



08057-20

IKA® Large-Capacity Digital Stirrers

Digital control for carboys and bottles

- Effectively stir up to 150 liters

Powerful magnetic stirrers feature a flat, sturdy stainless steel casing—ideal for your reaction vessels. Digital LED display allows for exact control. Unit features a timer for up to 56 minutes or set for continuous run.

Applications

- ✓ Seed culture flasks
- ✓ Carboy/vessel mixing



Top plate		Speed range	Max stirring capacity	Power		Catalog number	Price
Dimensions	Material			VAC	Hz		
33.0 x 33.0 cm	Stainless steel	0 to 1000 rpm	50 L	230	50/60	AU-04671-81	
48.3 x 48.3 cm	Stainless steel	0 to 600 rpm	150 L	230	50/60	AU-04671-83	

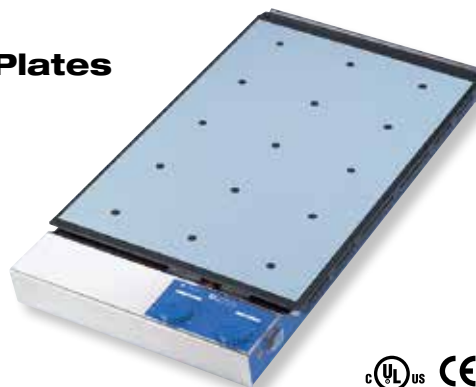
[AU-04627-00](#) Large-volume stir bar, measures 10.8 cm L x 2.7 cm dia

IKA® Multiposition Stirrers and Stirring Hot Plates

Wear-free for consistent and silent operation

- Stir consistently in all positions
- Adjust speed in 10-rpm increments—speed remains constant
- Stirring hot plates feature synchronous heating and stirring, and homogeneous temperature distribution

What's included: RO models include a removable transparent antislip cover, 1.7-m cord and adapters to work with US, EU, Canada, Australia and UK outlets. RT models include a 1.7-m cord and plug.



Stirring positions	Volume per position	Top plate		Temperature range	Speed range	Power		Catalog number	Price
		Dimensions (W x D)	Material			VAC	Hz		
RO multiposition stirrers									
5	400 mL	12 x 47 cm	Stainless steel	—	0 to 1200 rpm	100 to 240	50/60	AU-04671-91	
10		19 x 47 cm						AU-04671-92	
15		28 x 47 cm						AU-04671-93	
RT multiposition stirring hot plates									
5	400 mL	12 x 45 cm	Silicone	Room temperature to 120°C	0 to 1100 rpm	230	50/60	AU-04671-59	
10		18 x 45 cm						AU-04671-63	
15		27 x 45 cm						AU-04671-67	

[AU-17050-04](#) NIST-traceable calibration with data for stirrers

[AU-17002-27](#) NIST-traceable calibration with data for stirrer, heat

Lab Companion® Multiposition Stirrers

Independently set and control each position

- Ergonomic, lightweight, and low profile to conserve bench space
- Multifunctional with four operating modes and a timer

These multiposition stirrers have four user-friendly operating modes that allow the selection of specific rows and columns, individual stirring of each position, or simultaneous stirring of all positions. The advanced microprocessor PID controls accurately control stirring speed. Top plates are stainless steel for excellent chemical resistance. Gradual start-up, built in thermal shutdown, and current limit protection device provide user safety.



No. of stirring positions	Volume per position	Top plate		Speed range	Power		Catalog number	Price
		Dimensions (W x D)	Material		VAC	Hz		
5	1.25 L	12.4 x 48.5 cm	Stainless steel	30 to 2000 rpm	100-240	50/60	AU-51460-00	
10	2.5 L	24.6 x 48.5 cm			100-240	50/60	AU-51460-02	
15	3.75 L	36.7 x 48.5 cm			100-240	50/60	AU-51460-04	

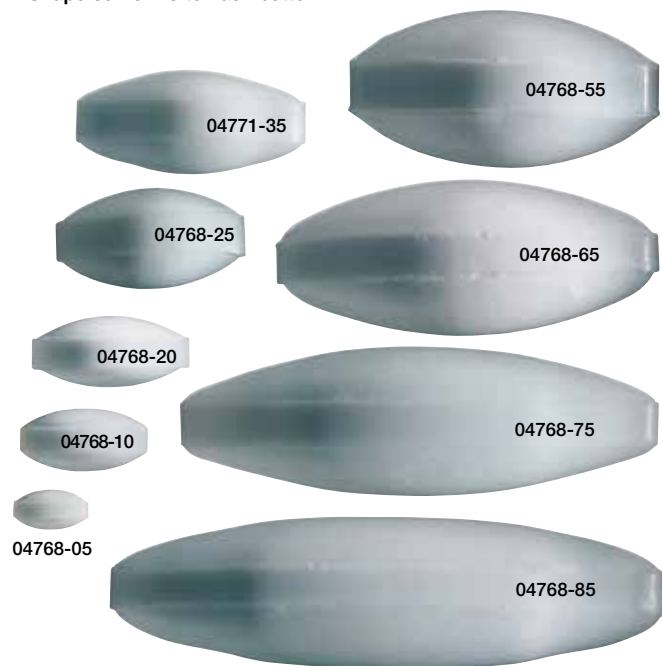
[AU-17050-04](#) NIST-traceable calibration with data for stirrers

Find even more online!
Go to ColeParmer.co.uk for our full selection of stirrers, hot plates, and accessories.

Egg-Shaped Stir Bars

Ensure complete mixing

- Egg-shaped stir bars have oval magnets—ideal for use in round-bottom flasks
- Shape conforms to flask bottom

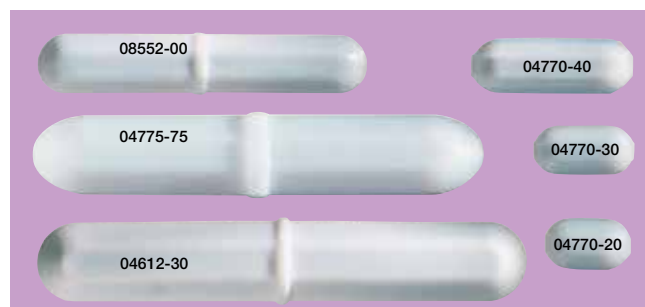


Length	Diameter	For flask sizes	Catalog number	Price
3/8" (9.5 mm)	3/16" (4.8 mm)	10 to 20 mL	AU-04768-05	
5/8" (15.9 mm)	1/4" (6.4 mm)	50 to 100 mL	AU-04768-10	
13/16" (20.6 mm)	3/8" (9.5 mm)	100 to 200 mL	AU-04768-20	
1" (25.4 mm)	1/2" (12.7 mm)	100 to 200 mL	AU-04768-25	
1 1/4" (31.8 mm)	5/8" (15.9 mm)	300 to 500 mL	AU-04771-35	
1 5/8" (41.3 mm)	3/4" (19.1 mm)	500 to 1000 mL	AU-04768-55	
2" (50.8 mm)	3/4" (19.1 mm)	2000 to 5000 mL	AU-04768-65	
2 1/2" (63.5 mm)	3/4" (19.1 mm)	2000 to 5000 mL	AU-04768-75	
3" (76.2 mm)	3/4" (19.1 mm)	5000 to 10000 mL	AU-04768-85	

Cole-Parmer® Mono-Mold® Stir Bars

Resist spin out at high speeds

- Super-strong alnico V magnets remain coupled to drive magnets even at high speeds
- Chemically inert, low-friction, leakproof PTFE coating provides smooth spinning and maximum energy transfer



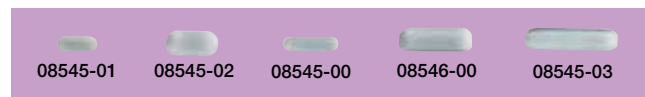
Size		With spinning ring		Without spinning ring	
Length	Diameter†	Cat. no.	Price	Cat. no.	Price
7/16" (11.1 mm)	3/16" (4.8 mm)	—	—	AU-04775-10	
1/2" (12.7 mm)	5/16" (7.9 mm)	AU-08548-00		AU-04770-20	
5/8" (15.9 mm)	5/16" (7.9 mm)	AU-08549-00		AU-04770-30	
1" (25.4 mm)	3/8" (9.5 mm)	AU-08550-00		AU-04770-40	
1 1/2" (38.1 mm)	3/8" (9.5 mm)	AU-08551-00		AU-04770-50	
2" (50.8 mm)	3/8" (9.5 mm)	AU-08552-00		AU-04770-60	
2 1/2" (63.5 mm)	3/8" (9.5 mm)	AU-04775-75		—	
2 1/2" (63.5 mm)	1/2" (12.7 mm)	—	—	AU-04770-70	
3" (76.2 mm)	1/2" (12.7 mm)	AU-04612-30		AU-04612-40	

†Diameter given does not include the diameter of the spinning ring.

Cole-Parmer® Micro Stir Bars

Mix in small-diameter vessels

- Strong alnico V magnets with one-piece coating of PTFE



Length x diameter	Catalog number	Qt/pk	Price/pk
5 x 2 mm	AU-08545-01		
6.35 x 3 mm	AU-08545-02	1	
7 x 2 mm	AU-08545-00		
10 x 3 mm	AU-08546-00	1	
12.7 x 3 mm	AU-08545-03		

Cole-Parmer® Slim-Line® Stir Bars

Get complete mixing

- Slimmer profile and larger length to diameter ratio
- Available with or without spinning rings



Size		With spinning ring		Without spinning ring	
Length	Diameter†	Cat. no.	Price	Cat. no.	Price
1" (25.4 mm)	5/16"	AU-04775-45		AU-04775-40	
1 1/2" (38.1 mm)	(7.9 mm)	AU-04775-55		AU-04775-50	
2" (50.8 mm)		AU-04775-65		AU-04775-60	

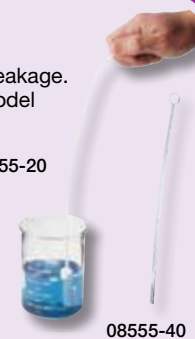
†Diameter given does not include the diameter of the spinning ring.

Stir Bar Retrievers

Retrieve stir bars without messy spills or breakage. Alnico V magnet is completely enclosed. Model 08555-20 features a flexible shaft of PTFE for odd-shaped, and narrow-mouth containers.

08555-20

- [AU-08555-20](#) Stir bar retriever, flexible shaft; PTFE, 14 3/4" L (37.5 cm)
- [AU-08555-40](#) Stir bar retriever, polyethylene, 17" L (43.2 cm)



08555-40

Vortex-Genie Shakers

Maximize high-speed touch mixing

– Won't "walk" across your benchtop

Vortex-Genie® 1 Shaker has a single high-speed mixing action that eliminates operator error for highly reproducible results. Includes pop-off cup; 7.6-cm platform sold separately below.

Vortex-Genie® 2 Shaker allows you to control speed intensity by varying pressure to the head. The variable speed shaking allows you to adjust the level of mixing from gentle shaking to vigorous vortexing. Easy-to-change platforms allow you to adapt your shaker to a variety of applications. Shaker comes with a pop-off cup for single tube shaking and a standard 7.6-cm platform for multiple tube or flask shaking. Order optional platform starter kits below to customize the shaker for your application.

Vortex-Genie® 2T Shaker features both touch and hands-free operation. Shake samples from 1 to 60 seconds in touch mode, 1 to 60 minutes in hands-free mode, or continuously in the automatic untimed mode. The 2T shaker accepts all standard Genie attachments and accessories making it an economical addition to your laboratory. Includes pop-off cup and 7.6-cm platform.

Digital Vortex-Genie® 2 Shaker features both touch and hands-free operation with increased timer range. Shake samples from 1 to 99 seconds in touch mode, 1 to 99 minutes in hands-free mode, or continuously in the automatic untimed mode. Digital display provides accuracy, reproducibility, and repeatability. Accepts all standard Genie attachments and accessories and includes pop-off cup and 7.6-cm platform.

Vortex-Genie® Pulse Shaker offers true pulsing action, providing more collisions and random motion. Ideal for applications requiring more aggressive action than standard vortexing. Fully programmable—the variable run/stop time provides quick pulsing or interval mixing to keep samples in suspension, or use in continuous mode for vortexing. Featuring digital control and display of speed and time, this shaker will deliver reproducible and accurate mixing. Accepts all standard Genie attachments and accessories and includes pop-off cup and 7.6-cm platform.

What's included: power cord with plug.



Speed range	Timer range		Platform dimensions	Power			Catalog number	Price
	Touch mode	Hands-free mode		VAC	Hz	Amps		
Vortex-Genie 1 shaker								
600 to 2700 rpm	—	—	1 1/8" dia pop-off cup	230	50/60	0.5	AU-04724-15	
Vortex-Genie 2 shaker								
600 to 2700 rpm	—	—	1 1/8" dia pop-off cup, 3" dia platform	230	50/60	0.5	AU-04724-05	
Vortex-Genie 2T shaker								
600 to 2700 rpm	1 to 60 seconds	1 to 60 minutes	1 1/8" dia pop-off cup, 3" dia platform	230	50/60	0.5	AU-04724-25	
Digital Vortex-Genie 2 shaker								
500 to 3000 rpm	1 to 99 seconds	1 to 99 minutes	1 1/8" dia pop-off cup, 3" dia platform	230	50/60	0.5	AU-04724-45	
Vortex-Genie Pulse shaker								
500 to 3000 rpm	0.1 sec to 99 minutes	1 to 99 minutes	1 1/8" dia pop-off cup, 3" dia platform	230	50/60	0.5	AU-04724-39	

[AU-04724-61](#) Platform with cover, 7.6-cm dia

[AU-04724-60](#) Replacement cup for single tube shaking

[AU-04724-70](#) Thermoplastic rubber cover protects standard 7.6-cm platform

[AU-04724-54](#) Small ampule shaker attachment

[AU-04724-55](#) Large ampule shaker attachment

[AU-04724-57](#) TurboMix™ shaker attachment

[AU-04724-63](#) Microtube holder for 12 x 2-mL tubes

[AU-04724-64](#) Vertical tube holder. Holds 3 x 50-mL tubes

[AU-04724-65](#) Vertical tube holder. Holds 6 x 15-mL tubes

[AU-04724-89](#) Vertical tube holder. Holds 6 x 50-mL, 6 x 15-mL, and 12 microtubes

[AU-04724-66](#) Vertical microtube holder. Holds 9 microtubes

[AU-04724-67](#) Molded bottom closure and screw kit

[AU-04724-83](#) Platform, 15.2 cm

[AU-04724-84](#) Recessed platform

[AU-04724-85](#) Tube insert†, foam; 9–16 mm. Set of 2

[AU-04724-86](#) Tube insert†, foam; 14–29 mm. Set of 2

[AU-04724-87](#) Tube insert†, foam; 29–37 mm. Set of 2

[AU-04724-88](#) Blank insert†, foam. Set of 2

†Requires recessed platform 04724-84 (sold separately above).



Beaker/Tube Platform Starter Kit includes one recessed platform for beakers up to 250 mL, two elastic bands, and one tube insert assortment set (Set includes one foam insert each for 9 to 16 mm, 14 to 29 mm, and 29 to 37 mm tubes; and one blank insert).

[AU-04724-80](#) Beaker/tube platform starter kit

[AU-04724-82](#) Replacement elastic bands†. Set of 2

[AU-04724-81](#) Replacement tube insert assortment†. Set of 4

†Requires recessed platform 04724-84 (sold separately at left).

Microtube/Microwell Plate Platform Starter Kit contains one 15.2 cm platform, one 15.2 cm foam insert for 60 microcentrifuge tubes, and one 15.2 cm foam insert for a single microwell plate.

[AU-04724-50](#) Microtube/microwell plate platform starter kit

[AU-04724-51](#) Replacement micro tube inserts† hold up to 60 microtubes. Pack of 2

[AU-04724-53](#) Double-tier microwell plate insert

†Requires platform 04724-83 (sold separately at left).

Cole-Parmer® Microplate Shakers

Mix micro-volumes effectively

- Digital display ensures reproducible results
- Platform with lip and nonskid mat holds plates securely
- Set built-in timer for up to 9999 minutes or use continuous mode

NEW



This shaker operates with a small orbit at high speed. Program a saved time and speed profile for routine tasks with the user-friendly interface. Optional tube adapter racks hold microcentrifuge tubes.

Cole-Parmer®

Specifications

Speed range: 250 to 1250 rpm
Orbit size: 1/16" (1.5 mm)



Number of plates	Max load	Platform dimensions	Power		Catalog number	Price
			VAC	Hz		
4	1 kg	22 x 22 cm	230	50	AU-51900-55	
8	2 kg	30.6 x 30.6 cm	230	50	AU-51900-53	

[AU-51900-97](#) Tube holder rack, 50 x 1.5 mL

[AU-51900-98](#) Tube holder rack, 50 x 0.5 mL

[AU-51900-99](#) Tube holder rack, 50 x 0.2 mL

Cole-Parmer® Reciprocating Shaker

Securely mix a variety of vessels

- Microprocessor-controlled speed maintains consistent shaking
- Prevent sample loss with soft-start function

NEW



Shaker features adjustable speed with fixed stroke length, mixing gently to vigorously. Built-in digital timer and continuous operation mode adapt to any mixing protocol. The cradle-type platform with four adjustable rubber bars holds a variety of bottle and flask sizes for maximum flexibility.

Cole-Parmer®

Specifications

Speed range: 25 to 250 rpm
Stroke length: 3/4" (20 mm)
Max load: 10 kg



Max load	Platform dimensions	Power		Catalog number	Price
		VAC	Hz		
10 kg	33.5 x 33.5 cm	230	50	AU-51700-10	

Cole-Parmer® Rocking Shakers

Mix live cultures without agitation

- See-saw rocking action produces a rolling wave in your samples, ideal for washing
- Firmly grip flat-bottom flasks and plates on nonslip mat
- Get repeatable results with digital speed display and built-in timer
- Triple your capacity with optional magnetic tier—no tools needed

NEW



Cole-Parmer®

Specifications

Speed range: 5 to 70 rpm **Angle of tilt:** 7°



Max load	Platform dimensions	Power		Catalog number	Price
		VAC	Hz		
Small shaker					
3 kg	23.5 x 23.5 cm	230	50	AU-51700-22	
Large shaker					
10 kg	35.5 x 35.5 cm	230	50	AU-51700-24	

[AU-51700-93](#) Magnetic tier system for small shaker; two platforms, 12.5 cm high per tier

[AU-51700-94](#) Magnetic tier system for large shaker; two platforms, 12.5 cm high per tier

Cole-Parmer® 3-D Shakers

Gentle gyratory motion for low-foaming agitation

NEW

- Adjust the angle of tilt to optimize mixing
- Platform lip and nonslip mat hold flat-sided vessels secure
- Built-in timer and digital speed display ensure repeatable results
- Triple the capacity with optional tier system



Cole-Parmer®

Specifications

Speed range: 5 to 70 rpm **Angle of tilt:** 3° to 12°



Max load	Platform dimensions	Power		Catalog number	Price
		VAC	Hz		
Small shaker					
3 kg	23.5 x 23.5 cm	230	50	AU-51700-18	
Large shaker					
10 kg	35.5 x 35.5 cm	230	50	AU-51700-20	

[AU-51700-93](#) Magnetic tier system for small shaker; two platforms, 12.5 cm high per tier

[AU-51700-94](#) Magnetic tier system for large shaker; two platforms, 12.5 cm high per tier

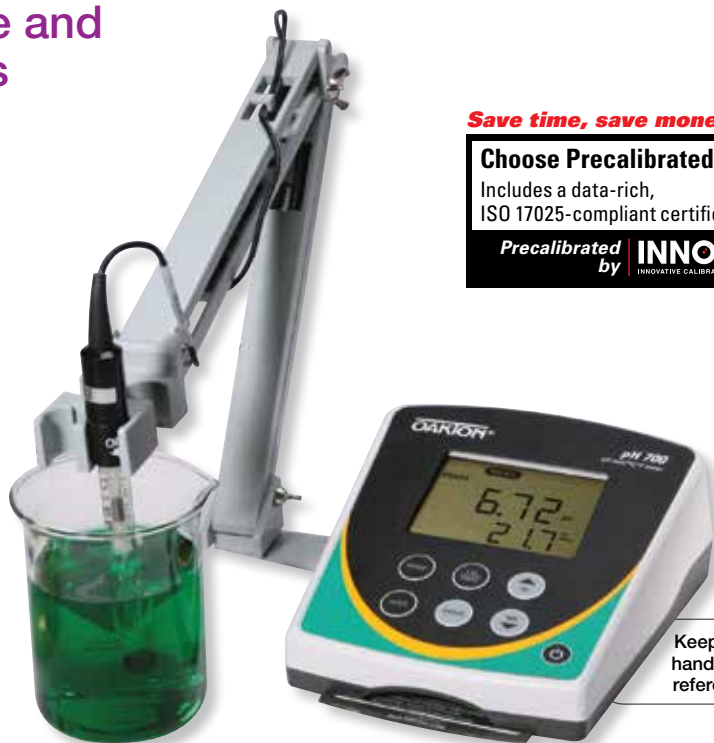
Oakton® Benchtop pH 700 and Ion 700 Meters

No more lost data—store and recall up to 100 data sets

- Takes up less bench space—40% smaller than comparable models
- Super-large dual-line display is easy to read
- Simple calibrations with 5-point automatic pH buffer recognition for USA and NIST buffers
- More accurate measurements with up to 5-point calibration for ion concentration on Ion 700 model
- Versatile—use with any pH, ORP, or ISE electrodes with BNC connector

pH 700 meter measures pH, mV, relative mV, and temperature. Ion 700 meter adds ion concentration measurement and reads directly in ppm for easy use. Automatic temperature compensation (ATC) maintains reading accuracy even with fluctuating temperatures.

Meters feature Auto-Hold, selectable °F or °C measurement, and easy recall of electrode slope or offset.



Save time, save money!

Choose Precalibrated

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

Precalibrated by **INNOCAL**
INNOVATIVE CALIBRATION SOLUTIONS

Keep procedures handy with quick-reference pull out

OAKTON®

ISO9001:2008
CERTIFIED SUPPLIER

CE

Meter only

Specifications

Model		pH 700	Ion 700
Range	pH	-2.00 to 16.00	-2.00 to 16.00
	mV/rel mV	±2000	±2000
	ISE	—	0.01 to 2000 ppm
	Temperature	32 to 100°F (0.0 to 100.0°C)	32 to 100°F (0.0 to 100.0°C)
Resolution	pH	0.01 pH	0.01 pH
	mV/rel mV	0.1 within ±199.9 mV, 1 beyond ±199.9 mV	0.1 within ±199.9 mV, 1 beyond ±199.9 mV
	ISE	—	0.01 to 2000 ppm
	Temperature	0.1°F or °C	0.1°F or °C
Accuracy	pH	±0.01 pH	±0.01 pH
	mV/rel mV	±0.2 within ±199.9 mV, ±2 beyond 199.9 mV	±0.2 within ±199.9 mV, ±2 beyond 199.9 mV
	ISE	—	±0.5% of reading (monovalent); ±1% of reading (divalent)
	Temperature	±0.9°F (±0.5°C)	±0.9°F (±0.5°C)
Calibration	pH	Up to 5 points with autobuffer recognition	Up to 5 points with autobuffer recognition
	mV	Up to ±150 mV offset adjustment	Up to ±150 mV offset adjustment
	ISE	—	From 2 to 5 consecutive points (0.1, 1.0, 10.0, 100.0, 1000 ppm)
	Temperature compensation	Automatic or manual from 32 to 100°F (0 to 100°C)	Automatic or manual from 32 to 100°F (0 to 100°C)
Buffer recognition		USA or NIST buffer sets	USA or NIST buffer sets
Data logging		100 data sets	100 data sets
Power		100/240 VAC, 50/60 Hz	100/240 VAC, 50/60 Hz

Model	Description	Meter		Precalibrated meter	
		Catalog number	Price	Catalog number	Price
pH 700	Meter only	AU-35419-00		AU-35419-01	
pH 700	Meter with "all-in-one" pH/ATC electrode	AU-35419-03		AU-35419-05	
Ion 700		AU-35419-23		AU-35419-27	
pH 700	Meter with double-junction pH electrode, ATC probe, and removable electrode holder	AU-35419-10		AU-35419-11	
Ion 700		AU-35419-20		AU-35419-24	
pH 700	Meter with removable electrode holder	AU-35419-12		AU-35419-15	
Ion 700		AU-35419-22		AU-35419-26	

[AU-59001-65](#) Combination pH electrode; single junction, gel-filled, epoxy body

[AU-59001-70](#) Combination pH electrode; double junction, gel-filled, epoxy body

[AU-35811-71](#) "All-in-one" combination pH electrode; single junction, gel-filled, epoxy body

[AU-35805-04](#) Replacement combination pH electrode; double junction, refillable, glass body

[AU-35613-13](#) Replacement ATC probe, SS

[AU-35420-54](#) Replacement electrode arm

[AU-17106-20](#) NIST-traceable calibration with data for pH/ion meter

Hach® 2100 AN Laboratory Turbidimeters

Get accurate, stable readings

- Smart self-diagnostics alert you to problems including using the wrong calibration standard
- Model 99512-15 meets ISO 7027 turbidity measurement standards and uses a monochromatic light-emitting diode (LED) as a light source

These benchtop turbidity meters offer the most versatile and advanced instruments available for nephelometric measurement. Push-button calibration and operation eliminates manual adjustments or zeroing. The optical system provides accurate results over a wide range of samples and turbidity, simplifying routine laboratory work.

What's included: six sample cells; 30 mL each of <0.1, 20, 200, 1000, and 4000 NTU StablCal® stabilized formazin primary standards; silicone oil and oiling cloth; dust cover; and power cord. The deluxe meter also includes a built-in printer and a 7500 NTU StablCal® stabilized formazin vial.



Deluxe model 99512-15 with built-in printer

Applications

- ✓ Infusion quality control
- ✓ Final product stability in storage
- ✓ Cell harvest

Standard Meter

- Wide measuring range using three selectable readout modes—0 to 4000 nephelometric turbidity units, 0 to 26,800 NEPH (Nephelos), and 0 to 980 EBC (European Brewing Convention)
- Optional ratioing switches instrument from multidetector ratio mode to nonratio
- Signal averaging minimizes noise and display fluctuations
- Air purge system connection purges the optical compartment with dry air and minimizes condensation on the sample cell

Deluxe Meters include all the features of the standard model plus:

- A wider measuring range—0 to 10,000 NTU, and 0 to 2450 EBC
- Four measurement modes—NTU, absorbance, percentage transmittance, and platinum
- Programmable signal averaging
- Built-in printer and recorder output

ISO9001:2008
CERTIFIED SUPPLIER



Description		Standard turbidimeter	Deluxe turbidimeters
Catalog number		AU-99512-07	AU-99512-15
Measurement modes		NTU, EBC, or Nephelo	FNU, FAU, NTU, EBC, ABS, %T, two user-defined units
NTU mode	Ratio on	0 to 0.999, 0 to 9.99, 0 to 99.9, 0 to 4000	0 to 0.999, 0 to 9.99, 0 to 99.9, 0 to 10,000
	Ratio off	0 to 40.0	0 to 1000
Nephelo mode	Ratio on	0 to 9.99, 0 to 99.9, 0 to 26,800	—
	Ratio off	0 to 268	—
EBC mode	Ratio on	0 to 0.999, 0 to 9.99, 0 to 99.9, 0 to 980	0 to 0.999, 0 to 9.99, 0 to 99.9, 0 to 2450
	Ratio off	0 to 9.8	0 to 9.8
Light source		Tungsten lamp	LED
Photodetector		Silicon photodiode	Silicon photodiode
Accuracy†	Turbidity	±2% of reading plus 0.01 NTU from 0 to 1000 NTU, ±5% of reading from 1000 to 4000 NTU	±2% of reading plus 0.01 NTU from 0 to 1000 NTU, ±5% of reading from 1000 to 4000 NTU, ±10% of reading from 4000 to 10,000 NTU
Sample volume		30 mL required	30 mL required
Sample cell size		Seven, 25 mm dia x 95 mm H	Seven, 25 mm dia x 95 mm H
Printer		—	Built-in graphics capable 28 column
Output		RS-232 serial interface (bidirectional)	RS-232 serial interface (bidirectional)
Recorder output		0 to 1 V programmable limits	0 to 1 V programmable limits
Power		230 VAC	230 VAC
Price			

†Reference conditions: 23°C ±2°C; 50% RH ±10 RH noncondensing; 115/230 VAC, ±17%, 50/60 Hz.

Accessories

- [AU-99512-50](#) Calibration sets for 99512-07
- [AU-99512-52](#) Calibration sets for 99512-15
- [AU-99512-66](#) Filter modules
- [AU-99512-68](#) Degassing kit
- [AU-99512-70](#) Sample cells. Pack of 6
- [AU-99512-72](#) Sample cell oiling cloth
- [AU-99512-75](#) Replacement silicone oil; 15 mL
- [AU-99512-78](#) Sample cell adapter, 19 mm

Wait!

There's More at
ColeParmer.co.uk

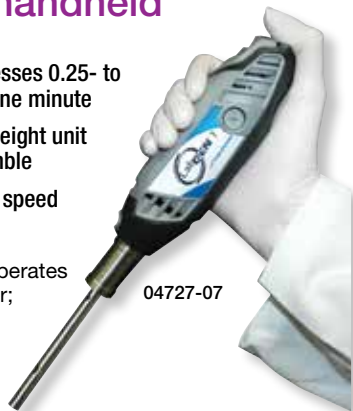
Find all the
product specs
you need!

Cole-Parmer® LabGEN® 7 Homogenizers

Don't be tied to a stand—unit can be mounted or handheld

- No more wasted time—processes 0.25- to 30-mL samples in less than one minute
- No more hand stress—lightweight unit is easy to clean and disassemble
- Powerful, yet quiet—variable speed from 5000 to 35,000 rpm

The LabGEN 7 homogenizer operates with a powerful 125-watt motor; ideal for most tissue samples. The portable LabGEN 7b is powered by a rechargeable battery for freedom of movement and to process soft tissues.



What's included: 7-mm generator probe and tool kit.

LabGEN®



Description	Probe included (L x dia)	Power	Catalog number	Price
LabGEN 7	3 1/8" x 7/64" (85 x 7 mm)	220 VAC	AU-04727-07	
Portable LabGEN 7b	3 1/8" x 7/64" (85 x 7 mm)	220 VAC	AU-04727-09	

[AU-04727-16](#) Homogenizer stand

[AU-04727-17](#) Spare rechargeable battery for LabGEN 7b

Tissue Tearor™ Homogenizer

Handle volumes from 0.5 to 50 mL

This variable-speed homogenizer rapidly homogenizes, disperses, and emulsifies small-volume samples in aqueous media. Homogenizer features a switch that lets you adjust speed from 4500 to 30,000 rpm.

Liquid media is drawn into and repeatedly cycled through the stator. The high-speed rotor rapidly disperses and disintegrates material suspended in the media. All wetted materials are 316 stainless steel (SS). **Note:** Not intended for use with flammable solvents or in the absence of liquid media.

What's included: stand, 8.3 cm long x 7.0 mm diameter SS probe, and 1.5-m cord.



Power	Catalog number	Price
220/240 VAC, 50 Hz, 0.6 A	AU-04750-55	

Replacement Probes

Diameter (cm)	Sample volume range (mL)	Length (cm)	Catalog number	Price
4.5	0.2 to 5.0	4.8	AU-04750-90	
7	0.5 to 50	10.9	AU-04750-91	

IKA® T25 ULTRA-TURRAX® Digital High-Speed Homogenizer

Choose from five generators with 1 to 2000 mL sample volumes

- Systems can be used with tough solids or large-volume samples
- Generators are made of 316 stainless steel and PTFE, providing excellent chemical compatibility

This system is ideal for batch homogenizing of cell tissues, emulsifying suspended solids, and air pollution filter extraction. The key component is the rotor-stator generator. (Order rotor-stator generators separately below.) Shielded in a 316 stainless steel shaft, the rotor acts as a centrifugal pump to recirculate the liquid and suspended solids through the generator, where shear, impact, collision, and cavitation provide rapid homogenization.

What's included: 3-m power cord with a European plug. **Kit adds:** pack of 10 disposable generators, stand (50703-91), boss head clamp, and strap clamp.



REQUIRED System Components

- 1) Homogenizer
- 2) Rotor-stator generator
- 3) Stand and clamps

1. Homogenizer



Description	Homogenizer only	Homogenizer kit
Catalog number	AU-04739-22	AU-04739-32
Speed range	500 to 25,000 rpm	
Batch volume range	1 to 2000 mL	
Noise rating	73 dB	
Speed adjustment	Stepless	
Wattage	800 input, 500 output	
Power	220 VAC, 50/60 Hz	220 VAC, 50/60 Hz
Price		

2. Rotor-Stator Generators

Specifications

Solution compatibility: Aqueous and organic

Wetted materials: PTFE, 316 SS
Max temperature: 150°C

Sample volume range	Ultimate fineness	Dimensions (L x OD)	Catalog number	Price
1 to 50 mL	10 µm	108 x 8 mm	AU-04720-11	
1 to 100 mL	10 µm	105 x 10 mm	AU-04720-10	
10 to 1500 mL	10 µm	194 x 18 mm	AU-04720-12	
50 to 2000 mL	10 µm	194 x 25 mm	AU-04719-52	
100 to 2000 mL	5 µm	194 x 25 mm	AU-04719-53	

3. Stands and Clamps

- [AU-50703-90](#) Plate stand, 560 mm high
- [AU-50703-91](#) Plate stand, 800 mm high
- [AU-50703-92](#) Plate stand, 1000 mm high
- [AU-50703-96](#) Boss head clamp
- [AU-50703-70](#) Strap clamp

Jenway Genova Plus and Genova Nano UV/Vis Spectrophotometers

Versatile—get life science specific analysis as well as standard functions

- Meet the requirements of any busy laboratory—ideal for DNA, RNA, and protein measurements, but function as standard spectrophotometers
- Detects DNA concentrations as low as 2 ng/μL
- Save your methods and results to USB memory stick
- Icon-driven software with large graphical display and intuitive navigation

Genova Plus Spectrophotometer (model 83070-00) offers enhanced optics dedicated to life science analysis, allowing the measurement of DNA concentrations and purity ratios using wavelengths recorded at 260, 280 and 230 nm, with an optional correction at 320 nm. Or use as a standard spectrophotometer with measurement modes for photometrics, concentration, multi-wavelength, spectrum scanning, quantitation, and kinetics.

This life science spectrophotometer is preprogrammed with methods for protein analysis in addition to nucleic acid concentrations. The OD measurement mode lets you measure optical density at 600 nm for cell harvesting. The purity scan across the entire wavelength range from 198 to 1000 nm displays any distorted peaks, easily identifying impurities.

Optional accessories let you choose the best way to measure your samples. The TrayCell accessory (83070-29) enables you to measure sample volumes as low as 0.7 μL and is ideal for RNA, DNA, and protein measurements requiring 1:10 or 1:50 dilutions.

Genova Nano Spectrophotometer (model 83070-02) offers the same features as the Genova Plus but adds a preinstalled pedestal platform which allows you to measure sample volumes as low as 0.5 μL—conserving your precious samples. Measuring small sample volumes eliminates the need to perform dilutions or use cuvettes, saving you time and money.

The versatile Genova Nano measures sample volumes with a high degree of accuracy and reproducibility in less than 6.5 seconds. Its stainless steel read head with an embedded quartz lens uses the natural surface tension of the droplet to form the bond between the read head surfaces for optimal results. When your reading is complete, simply wipe the sample with a microfiber cloth to remove all trace of the sample. The ease of cleaning allows faster changeover between samples, increasing sample throughput.

What's included: Model 83070-00 includes a 10 x 10 mm cuvette holder, micro-cuvette holder, 4 GB USB memory stick, 100 disposable micro-cuvettes, and universal power supply. Model 83070-02 includes a micro-volume accessory, 10 x 10 mm cuvette holder, micro-cuvette holder, 4 GB USB memory stick, and universal power supply.



Spectrophotometer
83070-02



Accessories

AU-83070-29 TrayCell accessory for Genova Plus (83070-00), for microvolume samples from 0.7 μL to 5 μL

AU-83070-31 Automatic eight-cell cuvette holder for multiple sample measurements. Accepts 10 x 10 mm pathlength cuvettes

AU-83070-33 Sipper pump, requires flow-through cuvette

AU-83070-35 Peltier temperature controller, 20 to 50°C

AU-83070-37 Combined sipper pump/Peltier temperature control

AU-83070-39 Printer for instant results. Fits into top of spectrophotometer to save space

AU-83070-41 Replacement cuvette holder, 10 x 10 mm pathlength

AU-83070-43 Test tube and cuvette holder, 13/16/24-mm diameter x 100 mm height; compatible with 10-mm square cuvettes

AU-83070-45 Test tube and cuvette holder, 13-mm dia; compatible with 10-mm square cuvettes

AU-83070-47 Cuvette holder, 10 x 100 mm pathlength

AU-83070-49 Replacement micro-cuvette holder, for small sample volumes down to 50 μL

AU-83070-51 Water-heated cuvette holder, 10 x 10 mm pathlength (requires heated circulating bath for operating temperatures from 5 to 50°C)

JENWAY

Specifications

Measurement time: <6.5 seconds

Sample pedestal material of construction (model 83070-02): stainless steel and quartz



Description	Genova Plus	Genova Nano
Catalog number	AU-83070-00	AU-83070-02
Sample mode(s)	Cuvette	Cuvette and pedestal
Minimum sample size	0.7 μL†	0.5 μL at 2.0 mm, 1.0 μL at 0.5 mm
Maximum sample size	5 mL	5.0 μL
Bandwidth	5 nm (spectral)	
Path length	10 mm	0.2 or 0.5 mm (auto-ranging)
Wavelength	Transmittance	0 to 199.9%
	Range	198 to 1000 nm
	Resolution	±2 nm
	Accuracy	1 nm
Source lamp	Press-to-read Xenon lamp	
Detector	Photo-diode detector	
Detection limit	—	2.0 ng/μL (dsDNA) at 0.2 mm pathlength
Measurement	Range	-0.300 to 2.500 A (10-mm pathlength equivalent = -15.0 to 125.0 A)
	Precision	—
	Accuracy	±1% T, ±0.01 A at 1.000 A
Maximum concentration	—	6000 ng/μL (dsDNA)
DNA measurement modes	dsDNA, ssDNA, RNA, oligonucleotides, 260/280, 260/230, variable ratio	
Protein measurement modes	BCA, Bradford, Lowry, Biuret, Direct UV	
Memory	Up to 312 methods (including preprogrammed methods)	
Input/Output	USB, analog, RS-232, and optional integral printer	
Power (VAC, Hz)	90 to 260, 50 to 60	
Price		

†The 0.7 μL sample volume requires TrayCell accessory 83070-29 sold separately at right.

Disposable Cuvettes

No more washing cuvettes

Use these economical, single-use cuvettes to obtain consistent spectrophotometric data. Available in standard, semi-micro, and fluorometry configurations. Use polystyrene cuvettes for visible spectral analysis; polymethacrylate cuvettes are preferred for UV range testing.

Specifications

Polystyrene:

% Transmission: maximum from 340 to 800 nm

Methacrylate:

% Transmission: maximum from 285 to 750 nm



Methacrylate material provides a higher % transmission over a wider spectral range.

Wavelength (nm)	% Transmission	
	Polystyrene	Methacrylate
800	88	90
700	88	90
600	85	90
500	85	90
400	85	90
380	85	90
360	80	89
350	80	88
340	75	86
320	65	85
300	35	82
280	—	55

Type	Capacity (mL)	Path-length (mm)	Number of clear sides	Dimensions W x H x D (mm)	Polystyrene		Methacrylate	
					Catalog number	Price/pk of 500	Catalog number	Price/pk of 500
Standard	4.5	10	2	12.5 x 45 x 12.5	AU-06343-10		AU-06343-15	
Semi-micro	1.5	10	2	12.5 x 45 x 12.5	AU-06343-20		AU-06343-70	
Fluorometry	4.5	10	4	12.5 x 45 x 12.5	AU-06343-60		AU-06343-80	

[AU-06343-31](#) Cuvette caps, LDPE. Case of 1000

[AU-06343-35](#) Cuvette stirring spatulas, PS. Case of 1000

Paired Glass and Quartz Cuvettes

Get less variability with matched pairs

Matched to give the same value for the same solution within 1% tolerance



Specifications

Glass (visible):

% Transmission: guaranteed 82% at 320 nm
Tolerance: within 1%

Quartz (UV):

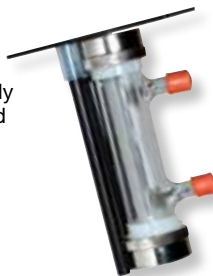
% Transmission: guaranteed 80% at 200 nm
Tolerance: within 1%

Capacity (mL)	Path-length (mm)	No. of clear sides	Dimensions W x H x D (mm)	Top of PTFE	Glass (visible)		Quartz (UV)	
					Catalog number	Price/pk of 2	Catalog number	Price/pk of 2
Standard-sized cuvettes								
3.5	10	2	12.5 x 45 x 12.5 12.5 x 49 x 12.5	Cover Stopper	AU-83200-20		AU-83200-02	
					AU-83200-70		AU-83200-72	
Microcuvettes with frosted thick wall								
1.4 0.7	10	2	12.5 x 45 x 12.5	Cover	AU-83200-30		AU-83200-32	
					AU-83200-40		AU-83200-42	
Self-masking microcuvettes								
1.4 0.7	10	2	12.5 x 45 x 12.5	Cover	—	—	AU-83200-52	
					—	—	AU-83200-62	
Fluorimeter cuvettes								
3.5	10	4	12.5 x 45 x 12.5 12.5 x 49 x 12.5	Cover Stopper	AU-83200-10		AU-83200-12	
					AU-83200-80		AU-83200-82	

Gas Cells

Easy assembly

Features Pyrex® body with two stems fitted with replaceable rubber septa, and Viton® O-rings. Requires two NaCl windows; order separately below table.



Description	Pathlength	Cat. no.	Price
Gas cell	10 cm	AU-83004-00	

[AU-83001-56](#) NaCl window, 25 x 4 mm. Order two

[AU-83004-50](#) Replacement Pyrex body

Cell Holder Kit

Quick sample placement

Simply place sample between two NaCl windows separated by spacers, install in retainer and place in mount. Requires two NaCl windows; order separately below table.

What's included: removable cell mount, 12 assorted PTFE spacers, and slide plate retainer.

Description	Catalog number	Price
Cell holder kit	AU-83001-00	

[AU-83001-56](#) NaCl window, 25 x 4 mm. Order two

KBr Bolt Press

Make 7-mm pellets effortlessly

This 316 press has a stainless steel barrel and two hardened 316 stainless steel bolts. Remove bolts and mount press directly onto spectrophotometer for analysis.

What's included: barrel, bolts, and slide holder.

Description	Catalog number	Price
KBr bolt press	AU-83002-00	
KBr bolt press, evacuable	AU-83001-10	

[AU-83002-52](#) Bench wrench kit; includes bench wrench, combination wrench, and mounting screws

Cole-Parmer® Rotational Viscometers

Include 316 stainless steel spindles for better resistance

- Select from 10 language options
- Ensure accurate readings by calibrating your viscometer to a known standard

Determine the dynamic viscosity of samples. Over/under range alarm sounds when your sample is too high/low for the spindle selected. All models feature push-button control with easy-to-use menu system, motor self-test, user calibration to a known standard, and universal power supply.

Basic Viscometers are an economical choice for fast, accurate viscosity readings. Feature a 4-line display that shows selected speed, selected spindle, viscosity, and % of full scale.

Basic Viscometers with USB Output include software to download data through the USB output to your PC for analysis. Store up to 10 user programs for repeated tests. Display selected speed, selected spindle, viscosity, % torque, shear rate, and shear stress on the 5-line display. Enter the sample density, and the unit calculates and displays kinematic viscosity (cSt) as well.

Advanced Viscometers with Temperature Probe have three times the speed selections and double the speed range of the basic models. Monitor and display temperature with the included RTD temperature probe. Program features include time to torque, time to stop, ramp, and multistep.

Programmable Viscometers feature 2600 speed selections and the highest speed range, up to 250 rpm. Monitor and display temperature with the included RTD temperature probe. Control the viscometer through a PC using the included software; also includes curves, graphs, and database references.

Optional low viscosity adapters allow measurement down to 1 cp when used with low range viscometers and 3.2 cp when used with medium range viscometers. Model 98965-54 includes a water jacket for attachments to an external circulating bath (not included; go to ColeParmer.co.uk for our full selection).

What's included: 316 stainless steel spindles (four spindles for the low range and six for the other ranges), spindle protector, stand, carrying case, and universal power supply. Models 98965-43 through -48 also include data logging software; USB cable. Models 98965-49 through -51 also include control software, data logging software, and USB cable.



Applications

- ✓ Viscosity for antibodies
- ✓ Formulation



Viscosity range	Rotational speed range	Number of selectable speeds	Output	Catalog number	Price
Basic viscometers					
20 to 2,000,000 cp (low)	0.3 to 100 rpm	18	None	AU-98965-40	
100 to 13,000,000 cp (medium)				AU-98965-41	
200 to 106,000,000 cp (high)				AU-98965-42	
Basic viscometers with data logging software and USB cable					
20 to 2,000,000 cp (low)	0.3 to 100 rpm	18	USB	AU-98965-43	
100 to 13,000,000 cp (medium)				AU-98965-44	
200 to 106,000,000 cp (high)				AU-98965-45	
Advanced viscometers with temperature probe, data logging software, and USB cable					
20 to 6,000,000 cp (low)	0.01 to 200 rpm	54	USB	AU-98965-46	
100 to 40,000,000 cp (medium)				AU-98965-47	
200 to 106,000,000 cp (high)				AU-98965-48	
Programmable viscometers with temperature probe, control software, data logging software, and USB cable					
20 to 6,000,000 cp (low)	0.01 to 250 rpm	2600	USB	AU-98965-49	
100 to 40,000,000 cp (medium)				AU-98965-50	
200 to 106,000,000 cp (high)				AU-98965-51	

Specifications

Accuracy: ±1% full-scale

Resolution

<10,000 cp: 0.1 cp
≥10,000 cp: 1 cp

Reproducibility: ±0.2%

Temperature probe (indicated models):

100 Ω Pt RTD; 0 to 100°C

Power: 100 to 240 VAC, 50/60 Hz

Search

For our full selection of viscometer accessories, go to...

ColeParmer.co.uk

[AU-98965-54](#) Low-viscosity adapter with water jacket

[AU-98965-55](#) Low-viscosity adapter

[AU-17107-01](#) NIST-traceable calibration with data for viscometers

Cole-Parmer® Symmetry® PA Analytical Balances

Discover Symmetry—affordable, advanced, accurate



NEW

Symmetry®

- USB and RS-232 interfaces offer connection to a computer or printer for GLP/GMP-compliant output
- 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
- Fast stabilization and response time—digital filters compensate for vibration, drafts or temperature changes
- Selectable multi-language display and output

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	3½" dia	AU-10001-08	
220 g	0.0001 g	±0.0002 g	±0.0002 g	(9.0 cm)	AU-10001-09	
External calibration						
120 g	0.0001 g	±0.0002 g	±0.0002 g	3½" dia	AU-10001-00	
220 g	0.0001 g	±0.0002 g	±0.0002 g	(9.0 cm)	AU-10001-01	

Cole-Parmer® Symmetry® PT Toploading Balances

Large weighing surface allows placement of a variety of samples



NEW

Symmetry®

- 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
- Fast stabilization and response time—digital filters compensate for vibration, drafts or temperature changes

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	5½" x 5½" (13.0 x 13.0 cm)	AU-10001-10	
410 g	0.001 g	±0.002 g	±0.002 g		AU-10001-11	
2200 g	0.01 g	±0.02 g	±0.02 g	7½" x 6¼" (19.0 x 16.0 cm)	AU-10001-12	
4200 g	0.01 g	±0.02 g	±0.02 g		AU-10001-13	
External calibration						
210 g	0.001 g	±0.002 g	±0.002 g	5½" x 5½" (13.0 x 13.0 cm)	AU-10001-02	
410 g	0.001 g	±0.002 g	±0.002 g		AU-10001-03	
2200 g	0.01 g	±0.02 g	±0.02 g		AU-10001-04	
4200 g	0.01 g	±0.02 g	±0.02 g	7½" x 6¼" (19.0 x 16.0 cm)	AU-10001-05	
5000 g	0.1 g	±0.2 g	±0.4 g		AU-10001-06	
15000 g	0.1 g	±0.2 g	±0.4 g		AU-10001-07	

Application Tip

Does your balance conform?

Accurate weighing is critical to accurate measurement of production results. Balances play an integral role in quality control throughout most processes. According to standards outlined in USP 29 General Chapter 41,

"Repeatability is satisfactory if two times the standard deviation of the weighed value, divided by the desired smallest net weight, does not exceed 0.10%."

Critical to keeping your balance in compliance with these standards is regular calibration. InnoCal, an accredited metrology lab, offers NIST-traceable calibrations for balances, as well as other equipment and instrumentation. For more information, contact us or visit [InnoCalSolutions.com](#).

OHAUS® Adventurer® AX Toploading Balances

Perform advanced functions and weigh wide capacity and ranges

- Advanced weighing functions include: part counting, percent, dynamic, density, check weighing, totalization, and formulation modes
- GLP/GMP compliance via real-time clock and recording of sample, project name, and balance ID
- Two USB ports provide connectivity with both a PC and a portable external device at the same time
- Cloning feature saves settings to USB flash drive for transfer to other Adventurer balances
- Color touch screen offers easy and fast operation with or without gloves
- Illuminated level indicator for easy adjustment in any lighting condition



What's included: full housing in-use cover, removable stainless steel pan, and power cord.



Specifications

Calibration: internal or external mass

Weighing units: g, mg, ct, oz, lb, mom, N, dwt, gn, oz t, m, tl, t, tical, baht, custom (NTEP models: ct, g, kg, ct, oz, lb, dwt, gn, oz t)

Power: 100 to 240 VAC, 50/60 Hz

OHAUS® Adventurer™ AX Analytical Balances

Get the perfect balance of modern connectivity and advanced applications

- GLP/GMP compliance via real-time clock and recording of sample, project names, and balance ID
- Two USB ports (one on the front and one on the back) provide connectivity with both a PC and a portable external device at the same time
- Cloning feature saves settings to USB flash drive for transfer to other Adventurer balances
- Color touch screen offers easy and fast operation with or without gloves
- Illuminated level indicator located on the front panel makes adjustment easy in any lighting condition
- Advanced weighing functions include: part counting, percent, dynamic, density, check weighing, totalization, and formulation modes
- Extra-wide draft shield doors provide access for larger vessels



What's included: full housing in-use cover, removable stainless steel pan, and power cord.



Specifications

Calibration: internal or external mass

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

Power: 100 to 240 VAC, 50/60 Hz

Capacity	Read-ability	Repeat-ability	Linearity	Pan size	Catalog number	Price
Balances with AutoCal™ automatic internal calibration						
220 g	0.001 g	±0.001 g	±0.002 g	5 1/16" (13 cm)	AU-11019-06	
420 g					AU-11019-09	
520 g					AU-11019-13	
620 g					AU-11019-16	
1520 g	0.01 g	±0.01 g	±0.02 g	7" x 7 3/4" (17.5 x 19.5 cm)	AU-11019-19	
2200 g					AU-11019-22	
4200 g					AU-11019-25	
5200 g					AU-11019-28	
4200 g	0.1 g	±0.1 g	±0.2 g		AU-11019-29	
8200 g					AU-11019-31	
Balances with external calibration						
220 g	0.001 g	±0.001 g	±0.002 g	5 1/16" (13 cm)	AU-11019-07	
420 g					AU-11019-10	
520 g					AU-11019-14	
620 g					AU-11019-17	
1520 g	0.01 g	±0.01 g	±0.02 g	7" x 7 3/4" (17.5 x 19.5 cm)	AU-11019-20	
2200 g					AU-11019-23	
4200 g					AU-11019-26	
4200 g					AU-11019-30	
8200 g	0.1 g	±0.1 g	±0.2 g		AU-11019-32	

[AU-11610-68](#) Impact printer

[AU-11610-65](#) Auxiliary display

[AU-11800-15](#) Density determination kit

[AU-11800-18](#) Cable, USB (type A to B)

[AU-11608-96](#) Security device (Laptop Lock)

[AU-11800-26](#) RS-232 cable, 25 pin

[AU-11800-27](#) RS-232 cable, 9 pin

[AU-17101-52](#) NIST-traceable calibration with data for balances

Capacity	Read-ability	Repeat-ability	Linearity	Pan size (dia.)	Catalog number	Price
Balances with internal calibration						
120 g	0.0001 g	±0.0001 g	±0.0002 g	3 1/2" (8.9 cm)	AU-11019-00	
220 g					AU-11019-03	
220 g					AU-11019-02	
320 g					AU-11019-05	
Balances with external calibration						
120 g	0.0001 g	±0.0001 g	±0.0002 g	3 1/2" (8.9 cm)	AU-11019-01	
220 g					AU-11019-04	

Accessories

[AU-11610-68](#) Impact printer

[AU-11610-65](#) Auxiliary display

[AU-11800-15](#) Density determination kit

[AU-11800-18](#) Cable, USB (type A to B)

[AU-11608-96](#) Security device (Laptop Lock)

[AU-11800-26](#) RS-232 cable, 25 pin

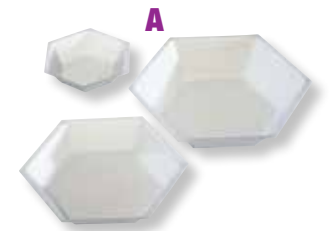
[AU-11800-27](#) RS-232 cable, 9 pin

[AU-17101-52](#) NIST-traceable calibration with data for balances

Weighing Dishes

A. Hexagonal Weigh Dishes are designed to flex for easy dispensing or pouring liquids or solids. Made of translucent white, anti-static, polystyrene that is resistant to most dilute acids, aqueous solutions, and alcohol bases.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price
Small	20 mL	1 3/4" dia x 3/8"D (4.4 x 1.0 cm)	AU-01018-10	500	
Medium	50 mL	3" dia x 3/4"D (7.6 x 1.9 cm)	AU-01018-12		
Large	200 mL	4 3/4" dia x 7/8"D (12.1 x 2.2 cm)	AU-01018-14		
Extra-large	350 mL	5 1/2" dia x 1 1/4"D (14.0 x 3.2 cm)	AU-01018-16		



B. Square Polystyrene Weighing Dishes have a flat bottom with contoured sides and are designed to flex for easy pouring. Made of rubberized anti-static, polystyrene that can withstand temperatures up to 82°C and are resistant to most dilute acids, aqueous solutions, and alcohol bases. Available in translucent white or high contrasts blue that is ideal for use with white powders for increased sample visibility.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price	Catalog number	Qty/pk	Price
Small, white	20 mL	1 5/8" x 5/16" (4.1 x 0.8 cm)	AU-01017-04	100		AU-01017-05	500	
Small, blue			AU-01017-06	100		AU-01017-07		
Small, white	50 mL	3 1/2" x 1/4" (8.9 x 2.5 cm)	—	—	—	AU-01017-13		
Medium, white			AU-01017-14	100		AU-01017-15		
Medium, blue	100 mL	3 1/2" x 1" (8.9 x 2.5 cm)	AU-01017-16	100		AU-01017-17		
Large, white			AU-01017-24	100		AU-01017-25		
Large, blue	330 mL	5 1/2" x 7/8" (14.0 x 2.2 cm)	AU-01017-26	100		AU-01017-27		



C. "Canoe" Polystyrene Weighing Dishes with Pour Spout, designed specifically for pouring and dispensing without the need to flex the dish. Made of anti-static, polystyrene that can withstand temperatures up to 93°C and are 20% thicker than standard weighing dishes.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price
Small	20 mL	1 5/8" x 1 1/4" x 5/16" (4.1 x 3.2 x 0.8 cm)	AU-01018-02	250	
Medium	140 mL	5 1/4" x 3 1/2" x 1" (13.3 x 8.9 x 2.5 cm)	AU-01018-04		
Large	270 mL	7 3/4" x 4 3/4" x 1" (19.7 x 12.1 x 2.5 cm)	AU-01018-06		



D. Vessel Polystyrene Weighing Dishes with Pour-Spout, designed specifically for pouring and dispensing. Made of translucent white, anti-static, polystyrene that is resistant to most dilute acids, aqueous solutions, and alcohol bases.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price
Small	20 mL	2 5/8"L x 1 1/2"W x 1/2"D (5.4 x 3.81 x 1.27 cm)	AU-01018-07	500	
Medium	120 mL	5 1/4"L x 3 3/4"W x 1"D (13.3 x 8.25 x 2.5 cm)	AU-01018-08		
Large	240 mL	7"L x 4 1/4"W x 1"D (17.7 x 10.8 x 2.5 cm)	AU-01018-09		



E. Glassine Weighing Papers keep balance pans clean. Moisture-resistant, nonabsorbent papers have a smooth glassine surface to ensure complete sample transfer.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price
Small	—	3" x 3" (7.6 x 7.6 cm)	AU-01338-00	500	
Medium	—	4" x 4" (10.2 x 10.2 cm)	AU-01338-02		
Large	—	6" x 6" (15.2 x 15.2 cm)	AU-01338-04		



F. Round Crimped-Walled Aluminum Weighing Dishes with Tabs for a wide variety of applications including weighing, moisture testing, wastewater analysis, chemical and pharmaceutical. Each dish features a crimped angled wall and flat bottom with a large finger-tab to accommodate sample numbers. Oil-free and non-coated.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price	Catalog number	Qty/pk	Price
Small	8 mL	1 1/8" dia x 3/8" D (2.9 x 1.0 cm)	—	—	—	AU-01018-26	500	
Medium	20 mL	1 3/4" dia. x 1/2"D (4.3 x 1.3 cm)	AU-01018-51	100		AU-01017-51	1000	
Large	60 mL	2 1/4" dia. x 3/8"D (5.7 x 1.6 cm)	AU-01018-50	100		AU-01017-50	1000	
Extra-Large	80 mL	2 3/4" dia. x 5/8"D (7.0 x 1.6 cm)	AU-01018-52	100		AU-01017-52	1000	



G. Round Smooth-Walled Aluminum Weighing Dishes. Smooth-sided, flat bottom, multipurpose "utility" dish. Ideal for storage, dispensing, general purpose testing and weighing. Oil-free and non-coated.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price	Catalog number	Qty/pk	Price
Large	80 mL	2 7/8" dia. x 3/4"D (7.3 x 1.7 cm)	AU-01018-28	100		AU-01018-29	1000	
Extra-large	150 mL	4" dia. x 3/4"D (10.3 x 1.9 cm)	AU-01018-32	100		AU-01018-31	1000	



H. Round Aluminum Weighing/Drying Liners. Designed for moisture determination balances. No coating, oil free. Slightly tapered for stacking.

Description	Capacity	Dimensions	Catalog number	Qty/pk	Price	Catalog number	Qty/pk	Price
Universal	1.2 gr	2 1/2" dia. x 1/4"D (7.0 x 0.6 cm)	AU-01018-19	50		AU-01018-20	500	
Sartorius style	2.5 gr	4" dia. x 3/16"D (10.2 x 0.8 cm)	AU-01018-23	50		AU-01018-24	500	
Ohaus style*	3.3 gr	5" dia. x 3/16"D (12.7 x 0.5 cm)	AU-01018-21	100		AU-01018-22	1000	



Cleanroom

Protect against foreign contaminants

Personal protective equipment (PPE) and cleaning supplies and cleaning validation products

What are the cleanroom class standards? A cleanroom class is determined by the number of particles present per unit volume. A class is met if the measured concentration is within the limits of a specified particle size. Use this chart to confirm any specifications presented in this section:

ISO standard	Class name		Particle count limit*
	SI	English	
ISO 3	M 1.5	Class 1	1
ISO 4	M 2.5	Class 10	10
ISO 5	M 3.5	Class 100	100
ISO 6	M 4.5	Class 1000	1000
ISO 7	M 5.5	Class 10,000	10,000
ISO 8	M 6.5	Class 100,000	100,000

*Particles 0.5 microns or larger in a cubic foot of air.

- Personal protective equipment . . . 115–116
- Cleaning supplies 116–118
- Cleaning validation 117, 119



Product Selection | Troubleshooting | And More...

Not sure what to choose?
Our expert Application Specialists can help you find the right product for your application.

020-8574-7556
— or Ch@t Live —

DuPont™ Tyvek® Shoe Cover

Protect against punctures and tears

- Elastic opening at the ankle allows quick and easy removal



Description	Size	Qty/cs	Catalog number	Price/cs
Tyvek shoe covers	Universal	100 pairs	AU-86225-50	

Microflex® Cleanroom Gloves

Eliminate contamination

- Low residues including particulates
- Textured surface for better gripping
- Latex-free to eliminate adverse reactions
- Ambidextrous



Compliance:
ISO Class 4 or 5



Polypropylene (PP) Shoe Covers

Contain particulates from shoe soles

- 100% spunbond PP
- Available in regular or skid-free



Regular soles
86227-82

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

Size	Length	Thickness	Qty/bg	Catalog number	Price per bag
Latex ISO Class 4 cleanroom gloves					
Small	12" (30 cm)	6.3 mil	100	AU-86313-35	
Medium				AU-86313-36	
Large				AU-86313-37	
X-large				AU-86313-38	
Nitrile ISO Class 4 cleanroom gloves					
Small	12" (30 cm)	5.2 mil	100	AU-86313-45	
Medium				AU-86313-46	
Large				AU-86313-47	
X-large				AU-86313-48	
Latex ISO Class 5 cleanroom gloves					
Small	12" (30 cm)	6.3 mil	100	AU-86313-15	
Medium				AU-86313-16	
Large				AU-86313-17	
X-large				AU-86313-18	
Nitrile ISO Class 5 cleanroom gloves					
Small	12" (30 cm)	5.2 mil	100	AU-86313-25	
Medium				AU-86313-26	
Large				AU-86313-27	
X-large				AU-86313-28	

DuPont™ Tyvek® Boot Cover

Easy to put on

- Elastic opening makes cover easy to put on and take off



Description	Size	Qty/cs	Catalog number	Price/cs
Tyvek boot covers	Universal	50 pairs	AU-86225-10	

DuPont™ Tyvek® Cleanroom Boot Covers

Extend protection against contaminants

Tyvek® Boot Covers have PVC soles. Length is 15" (38.1 cm).

Compliance: ISO Class 4 (garment is not CE certified as chemical protective clothing).

Size	Qty/cs	Catalog number	Price/cs
Medium	100 pairs	AU-33684-23	
Large		AU-33684-25	



33684-23

Pro/Clean® Boot Covers have PVC soles. Elastic top and ankle make them easy to put on.

Compliance: ISO Class 5 (garment is not CE certified as chemical protective clothing).

Size	Qty/cs	Catalog number	Price/cs
Medium	50 pairs	AU-33684-35	
Large		AU-33684-36	
X-large		AU-33684-37	



33684-36

KimTech Pure® G3 Sterile Critical Nitrile Gloves

Protect sensitive samples

- Individually packed in pairs, gloves are sterilized for safety
- Lightly textured for better gripping
- Get better mobility with hand specific design
- Powder-free



Compliance: Sterilized by gamma irradiation to meet ISO 11137 standards.

Size	Length	Thickness	Qty/bg	Catalog number	Price per bag
Small	12" (30 cm)	5 mil	20 pairs	AU-86486-00	
Medium				AU-86486-01	
Large				AU-86486-02	
X-large				AU-86486-03	

MicroGuard CE™ Cleanroom Coveralls

Protect workers in comfort

- Constructed of a soft, nonwoven polypropylene combined with a microporous film
- Enhanced breathability with a soft interior

Bound seams and tunnelized elastic ensure extremely low linting. Clean processed and individually packaged.

Compliance: ISO Class 5 (garment is not CE certified as chemical protective clothing)

Description	Qty/cs	Medium	Large	X-Large	XX-Large
Coveralls with elastic wrists and ankles	25	AU-33683-11 /cs	AU-33683-12 /cs	AU-33683-13 /cs	AU-33683-14 /cs
Coveralls with elastic wrists, hood, and boots	25	AU-33683-21 /cs	AU-33683-22 /cs	AU-33683-23 /cs	AU-33683-24 /cs



GammaGuard® Sterile Cleanroom Coveralls

Protect against contamination

- Sterility assurance of 10⁻⁶
- Low linting
- Strong tear resistance

Special fold design protects against potential contamination during gowning. Coveralls feature bound seams, and elastic wrists and ankles. Manufactured in an ISO-certified facility, clean processed, and individually packaged under cleanroom conditions. Recyclable.

Compliance: ISO Class 4 (garment is not CE certified as chemical protective clothing)



Description	Size	Qty/cs	Catalog number	Price/cs
Coveralls with elastic wrists and ankles	Medium	25	AU-33684-31	
	Large		AU-33684-32	
	X-Large		AU-33684-33	
	XX-Large		AU-33684-34	



Wearwell® PermaTack Tacky Mats

Prevent debris and bacteria from entering sterile areas

- Reusable and economical—replace your multilayer adhesive mats
- Permanently tacky surface removes particles off shoes and wheels; contaminants remain trapped until mat is cleaned
- Removes 98 to 100% of particles if each foot touches the mat three times
- Regenerate the tack by simply cleaning the mat and allowing it to dry
- Adhesive backing allows easy installation and prevents mat movement
- Surface is static dissipative; RTT = 1 x 10⁸ to 1 x 10¹⁰ ohms

Size (W x L)	Color	Thickness	Catalog number	Price
27" x 48" (69 x 122 cm)	Blue	1/8" (0.32 cm)	AU-84580-20	
27" x 72" (69 x 183 cm)			AU-84580-21	
36" x 54" (91 x 137 cm)			AU-84580-22	
27" x 10 ft (69 cm x 3 m)	Blue	1/8" (0.32 cm)	AU-84580-23	
54" x 10 ft (137 cm x 3 m)			AU-84580-24	



TEXWIPE® Cleanroom Swabs
















Meet your validation requirements

– Ideal for cleaning small surface areas and for cleaning validation

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

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

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

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

Kimberly-Clark® Critical Task Wipes

Low-lint, absorbent, soft, and nonabrasive

- Won't scratch delicate surfaces
- Single- and two-ply delicate task wipes are made of a finely textured tissue
- Solvent-resistant Kimtech CL4 wipes are made of a single-ply, nonwoven fabric specially bonded to eliminate surface fibers and trap particles

Description	Compliance	Wipe size	Qty/bx	Box/cs	Cat. no.	Price/cs
Delicate task wipes						
Kimwipes® EX-L, 1 ply	—	11.2 x 21.3 cm	280	60	AU-33670-04	
		37.3 x 42.2 cm	140	15	AU-33670-06	
Kaydry® EX-L, 2 ply	—	37.3 x 42.2 cm	90	15	AU-33670-10	
Cleanroom wipes						
Kimtech CL4 cleanroom	ISO Class 4	30 x 30 cm	100	5	AU-33670-20	



Alconox® Cleaning Products

Biodegradable, concentrated, and free of interfering residue

– Optimize performance and environmental safety

Use these superior cleaners on glass, metal, plastic, rubber, and other hard materials in your critical cleaning processes. All Alconox cleaners rinse completely with no interfering residue. Alconox and Liqui-Nox® cleaners are biodegradable.



Cleaner	Type	Use	Dilution	pH	Pkg	Catalog number	Qty	Price	Catalog number	Qty/cs	Price/cs
Alconox®	Concentrated, anionic, free rinsing. Mild and completely soluble in hard or soft water	Manual or ultrasonic	1:100	9.5	4-lb box	AU-17775-05	1		AU-17775-00	9	
					25-lb box	AU-17775-50	1				
					50-lb box	AU-17775-60	1				
Liqui-Nox®	Concentrated, anionic, free rinsing. Mild and completely soluble in hard or soft water	Manual or ultrasonic	1:100	8.5	1 quart	AU-17778-05	1		AU-17778-00	12	
					1 gallon	AU-17778-40	1		AU-17775-40	4	
Alcojet®	Low-subsiding, nonionic, corrosion-inhibited formula, free rinsing	Manual or ultrasonic, machine washing	1:200	12	4-lb box	AU-17776-05	1		AU-17776-00	9	
					25-lb box	AU-17776-50	1				
Alcotabs®	No interfering residue, effervescent slow-release tablets	Siphon washer-rinsers	—	6.5	100 tablets	AU-17778-10	1		AU-17778-15	6	
Citrajel®	Low-foaming, phosphate-free, concentrated, ideal for acid rinsing and washing	Manual or ultrasonic, machine washing	2:100	2.5	1 gallon	AU-17778-20	1		AU-17778-25	4	
Citranox®	Phosphate-free, concentrated cleaner and metal brightener. Free rinsing, ideal for trace metal analysis	Manual or ultrasonic machine washing	2:100	2.5	1 gallon	AU-17775-15	1		AU-17775-20	4	

TEXWIPE® Low-Particulate Cleanroom Wipes

More durable, absorbent, and softer than paper wipes

AlphaWipe® Wipes are made of 100% continuous filament double-knit polyester—use in integrated circuit fabrication facilities, and to clean optical and photomask surfaces.

Alpha 10® Wipes have polyester sealed edges.

TechniCloth® Wipes have great solvent compatibility. Use for wiping up aqueous spills and cleaning precision laboratory components.

TechniCloth II® Wipes feature ultralow particulate treatment, resulting in lower particle generation. Made of nonwoven cellulose and polyester blend.

TexWipe® 200 Wipes are excellent for cleaning and polishing metallic and nonmetallic magnetic media disk surfaces. Made of double-sided twill pattern cotton.

BetaWipe® Wipe has high sorption and is resistant to strong acids. Soft surface texture makes it ideal for cleaning sensitive surfaces.

Vectra® Alpha® Nu Wipe features low particle counts and excellent absorbency.

ThermaSeal® 60 Wipe is hot-cut polyester with thermally sealed edges for fiber control.

VersaWipe® Wipes are constructed of a fiber blend of 55% cellulose and 45% polyester, which combines excellent wet and dry strength with high absorbency. Autoclavable.



Description	Compliance	Wipe size	Qty/bg	Catalog number	Price/bg
AlphaWipe	ISO Class 5	9" x 9" (23 x 23 cm)	150	AU-33677-00	
		9" x 9" (23 x 23 cm)	150 [‡]	AU-33677-01	
		12" x 12" (31 x 31 cm)	75	AU-33677-23	
Alpha 10	ISO Class 3	12" x 12" (31 x 31 cm)	100	AU-33677-18	
		9" x 9" (23 x 23 cm)	150	AU-33677-03	
TechniCloth	ISO Class 6	12" x 12" (31 x 31 cm)	150	AU-33677-02	
		18" x 18" (46 x 46 cm)	75	AU-33677-14	
TechniCloth II	ISO Class 6	4" x 4" (10 x 10 cm)	1200	AU-33677-04	
		9" x 9" (23 x 23 cm)	300	AU-33677-06	
BetaWipe	ISO Class 7	9" x 9" (23 x 23 cm)	100	AU-33677-22	
Vectra Alpha Nu	ISO Class 1	9" x 9" (23 x 23 cm)	150	AU-33677-05	
ThermaSeal 60	ISO Class 3	9" x 9" (23 x 23 cm)	150	AU-33677-08	
VersaWipe	ISO Class 7	9" x 9" (23 x 23 cm)	300	AU-33677-21	

[‡]Bulk pack.

MAS-100™ Eco Air Sampler

Easily and reliably detect hazardous airborne microorganisms

- Deliver high-accuracy microbial air monitoring in cleanrooms
- Programmable sampling delay up to 60 minutes eliminates remote control devices
- Audible alarm indicates the interruption of a sampling cycle
- Set the sampling volume in 1-L increments or use the convenient preset volumes
- Intelligent charger ensures long battery life—approximately 10 years
- Comply with ISO 14698 part 1 and 2 guidelines



This quality, portable air sampler is easy to handle and delivers highly accurate, reproducible results. Based on the widely accepted Andersen principle, sampler collection apertures correspond to Andersen Level 5 for excellent recovery of viable particles as small as 1 µm. During sample collection, airflow is constantly regulated at 100 L/min for precise counts.

Calibration is made easy with the battery-operated DA-100™ NT digital anemometer (sold separately) and a calibration “reminder” feature. Both the sampler and lid cover are made of anodized aluminum; the lid and dust cover are autoclavable.

Unit uses standard 100-mm petri dishes, providing a low operating cost. Handle doubles as a stand to allow different sampling angles. Software is easily accessed and controlled using single-touch “yes” or “no” responses.

What's included: perforated lid, dust cover, hard carrying case, battery, and universal AC charger.

ISO9001:2008
CERTIFIED SUPPLIER

CE
Air sampler only

Description	MAS-100 Eco air sampler
Catalog number	AU-39152-80
Nominal airflow	100 L/min +2.5%
Preset sampling volumes	50, 100, 250, 500, 1000 L
User-definable sampling volumes	0 to 2000 L
Display	Alphanumeric LCD, 32 characters
Perforated lid	400 holes
Sampling head (dia)	10 cm
Overall dimensions (H x dia)	25 x 11 cm
Price	

Accessories

[AU-39152-90](#) Digital vane anemometer (DA-100 NT), 9 V battery operation. Use to calibrate MAS-100 Eco

[AU-39182-84](#) Aluminum perforated lid

[AU-39182-86](#) Replacement dust cover

[AU-39182-94](#) Replacement battery pack

[AU-39182-88](#) Tripod adapter for MAS-100 Eco

SAS Super 100 Digital Microbial Air Samplers

Collect and quantify microbes in air

- Choose from eight preset sample volumes (10, 20, 30, 50, 100, 200, 500, or 1000 liters) or program up to eight custom sample volumes
- Detachable metal cover with specially designed intake holes creates laminar air flow; flow rate is 100 L/min



Sampler with stainless steel head 33687-02

Set parameters and view readings on the easy-to-read digital display; unit retains previous sample volume. Sample 45,000 liters of air per battery charge. Microbes are driven onto the surface of petri plate for incubation and analysis.

Air sampler with stainless steel head is ideal for cleanroom, pharmaceutical, and electronics applications; meets material requirements for cleanrooms.

Air sampler with aluminum head is ideal for food testing and processing applications.

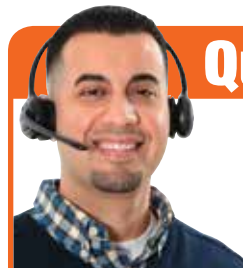
What's included: a rechargeable NiMH battery pack, battery charger, carrying case, and NIST-traceable certificate of calibration.

CE

Head material	Dimensions (W x H x D)	Power	Catalog number	Price
Stainless steel	31.4 x 10.4 x 10.7 cm	110 to 220 VAC	AU-33687-02	
Aluminum			AU-33687-12	

[AU-33687-52](#) Petri head adapter for 100 x 15 mm petri plates

[AU-33687-50](#) Tripod; with adapter for quick release of air sampler



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Essentials for process start-up,
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— or Ch@t Live —

Thermo Scientific™ Nalgene™ Carboys, PC

Maintain visibility of your solution

- Know your fluid levels using 1-gallon and 5-liter increments
- Transport easily with leakproof, polypropylene cap
- Easily dispense with spigot models
- Autoclavable



Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
Carboys				
10 (2½)	83B	AU-06063-60	1	
20 (5)	83B	AU-06063-62		
Carboys with spigot				
10 (2½)	83B	AU-06063-80	1	
20 (5)	83B	AU-06063-82		

[AU-06070-22](#) Replacement spigot, PP

[AU-06258-30](#) Replacement caps; PP, 83B. Pack of 2

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

Sturdy, octagonal design for added rigidity

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



 Cole-Parmer®

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

Bio-Simplex™ Carboys, PP

Don't compromise sterility—completely autoclavable

- Eliminate contaminations—select C-Flex® or Sani-Tech® high-purity closures
- No more difficult transporting—handles on top and bottom make carrying easy
- No more leaks—EZ Top® closure provides leakproof top connections
- Chemical resistant polypropylene (PP) is BPA-free and can be heated to 135°C

NEW



Liters (gallons)	Cap size	Spigot	Catalog number	Price/pk
10 (2.6)	83 mm	No	AU-62500-01	
		Yes	AU-62500-03	
20 (5.3)	120 mm	No	AU-62500-05	
		Yes	AU-62500-07	
40 (10.5)	120 mm	No	AU-62500-09	
		Yes	AU-62500-11	

High-Purity EZ Top® Container Closures

Fits carboy size	Material	No. of ports	Catalog number	Price
10 L (2.6 gal.)	C-Flex	2	AU-62500-47	
	Sani-Tech	3	AU-62500-53	
20 L (5.3 gal.)	C-Flex	2	AU-62500-49	
	Sani-Tech	3	AU-62500-55	
40 L (10.5 gal.)	C-Flex	2	AU-62500-51	
	Sani-Tech	3	AU-62500-57	

[AU-62500-41](#) Replacement EZ Top closed top cap, 83 mm. 2/pk

[AU-62500-43](#) Replacement EZ Top closed top cap, 120 mm. 2/pk

[AU-62500-45](#) Replacement spigot, fits all sizes. 2/pk

Thermo Scientific™ Nalgene™ FDA-Compliant Carboys, PP

Get a better grip with two-handle construction

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



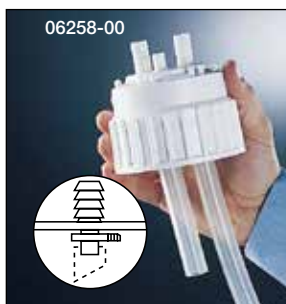
Liters (gallons)	Cap size	Catalog number	Qty/pk	Price/pk
FDA-compliant carboys, USP Class VI				
10 (2½)	83B	AU-06063-12	1	
20 (5)	83B	AU-06063-22		
50 (13)	83B	AU-06063-32		
FDA-compliant carboys with spigot, USP Class VI				
10 (2½)	83B	AU-06064-50	1	
20 (5)	83B	AU-06064-60		
50 (13)	83B	AU-06064-70		

Thermo Scientific™ Nalgene™ Filling/Venting Caps, PP

Easy aseptic liquid transfer

Filling/Venting Caps allow aseptic liquid transfer. Include 15 cm and 76 cm lengths of platinum-cured silicone tubing. Autoclavable.

Fitting Kits include two PP fittings, two acetal nuts, two silicone gaskets, thermoplastic elastomer (TPE) port cap, instructions, and template. Autoclavable.



Tubing ID	Ports	Cap size	Catalog number	Qty/pk	Price/pk
Filling/venting caps					
1/2"	2 tubing, 1 venting	83B	AU-06258-00	1	
1/4"		53B	AU-06258-10	1	
1/4"		83B	AU-06258-20	1	
Barbed bulkhead fitting kits					
1/4"	—	—	AU-06259-10	2	
1/2"	—	—	AU-06259-00	2	

Thermo Scientific™ Nalgene™ Heavy-Duty Bottles, PP

Withstand repeated full vacuum applications

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



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

Sample Bottles, HDPE

Store samples without breaking your budget

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



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

[AU-06049-30](#) Mailing tubes for bottle 06049-01. Carton of 240

Graduated Sample Containers, PP

Graduated for easier sampling

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



STERILE

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

Cole-Parmer® Low-Form Beakers with Handles, PP

Get a grip! Molded handles for easy pouring

- Graduations in milliliters and liters
- Withstand temperatures to 135°C
- Autoclavable

Cole-Parmer®



Capacity, mL (oz)	Catalog number	Qty/pk	Price/pk
500 (1/2)	AU-61000-22	4	
1000 (1)	AU-61000-30	1	
2000 (2)	AU-61000-42	2	
3000 (3)	AU-61000-52	2	
5000 (5)	AU-61000-62	1	

Cole-Parmer® Tri-Corner Beakers, PP

Easy pouring from three sides

- Ideal for stirrers—flat bottom keeps stir bars centered
- Accurate to ±5%; molded graduations
- Autoclavable; withstand temperatures to 121°C

Cole-Parmer®



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

PYREX® Brand 1395 Media Bottles

Permanent white graduations won't wear off

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

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



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

[AU-34514-50](#) Polypropylene cap, orange, GL45. Cs of 20

[AU-34514-53](#) Polypropylene cap, green, GL45. Cs of 20

[AU-34514-54](#) Polypropylene cap, gray membrane, GL45. Cs of 10

[AU-34514-55](#) Polypropylene cap, red high-temp. GL45. Cs of 10

[AU-34514-60](#) Pouring ring, clear, low temperature. Cs of 50

[AU-34514-65](#) Pouring ring, red, high temperature. Cs of 50

PYREX® Brand 51395 Media Bottles

Safely store light-sensitive materials

- Store and transport light-sensitive solutions in the range of 3000 to 5000 Å
- Will not drip while pouring
- Don't overfill with beaded fill line
- Autoclavable bottle and PP lid



Capacity mL (oz)	Graduation range (mL)	Graduation interval (mL)	Thread size	Neck ID	Catalog number	Qty/ cs	Price/ cs
100 (3)	40 to 80	20			AU-34574-21		
250 (8)	50 to 200	50			AU-34574-22		
500 (16)	100 to 400	100	GL45	29 mm	AU-34574-23	4	
1000 (32)	100 to 900	100			AU-34574-24		

Qorpak® Precleaned Glass Sample Bottles

Save time—no need to prewash bottles

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



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

†Graduated in mL and oz.

BD™ Disposable Syringes

Luer-Lok™ tips allow for easy connection of syringe filters

Use these latex-free, disposable polycarbonate syringes for sample withdrawal or small-volume injections. Available in either Luer-Lok or slip-tip versions. Autoclavable.



Capacity	Graduations	Type	Qty	Catalog number	Price
Nonsterilized syringes					
1 mL	1/100 mL	Slip tip	100/pk	AU-07944-00	
3 mL	1/10 mL	Luer-Lok	100/pk	AU-07944-02	
		Slip tip		AU-07944-04	
5 mL	1/5 mL	Luer-Lok	100/pk	AU-07944-06	
		Slip tip		AU-07944-08	
10 mL	1/5 mL	Luer-Lok	50/pk	AU-07944-12	
		Slip tip		AU-07944-14	
20 mL	1 mL, 3/4 oz in 1/8 oz	Luer-Lok	25/pk	AU-07944-16	
		Slip tip		AU-07944-18	
30 mL	1 mL, 1 oz in 1/8 oz	Luer-Lok	25/pk	AU-07944-24	
		Slip tip		AU-07944-22	
60 mL	1 mL, 2 oz in 1/4 oz	Luer-Lok	25/pk	AU-07944-28	
		Slip tip		AU-07944-30	
Nonsterilized syringes, bulk pack					
1 mL	1/100 mL	Slip tip	3000/cs	AU-07945-00	
3 mL	1/10 mL	Luer-Lok	1600/cs	AU-07945-02	
		Slip tip		AU-07945-04	
5 mL	1/5 mL	Luer-Lok	1400/cs	AU-07945-06	
		Slip tip		AU-07945-08	
10 mL	1/5 mL	Luer-Lok	850/cs	AU-07945-12	
		Slip tip		AU-07945-14	
20 mL	1 mL, 3/4 oz in 1/8 oz	Luer-Lok	325/cs	AU-07945-16	
		Slip tip		AU-07945-18	
30 mL	1 mL, 1 oz in 1/8 oz	Luer-Lok	225/cs	AU-07945-24	
		Slip tip		AU-07945-22	
60 mL	1 mL, 2 oz in 1/4 oz	Luer-Lok	125/cs	AU-07945-28	
		Slip tip		AU-07945-30	

Warning—These products are not approved or intended for, and should not be used for, medical, clinical, surgical or other patient oriented applications.



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Class A Sample Glass Vials

No more ion leaching

Screw-thread sample vials are manufactured from either clear 33 expansion borosilicate clear glass (Type 1, Class A) or 51A amber glass. Vials maintain pH level and eliminate ion leaching.

Choose from a urea cap with PTFE foam-backed liner or an open-top, unlined polypropylene cap with PTFE/silicone septa. Vials, caps, and septa are shrink-wrapped separately.



Vial	Capacity	Catalog number	Qty/pk	Price/pk
Vials with urea cap/PTFE foam-backed liner				
Clear	2 mL	AU-08922-21	100	
	4 mL	AU-08922-22	100	
	8 mL	AU-08922-23	200	
	12 mL	AU-08922-24	200	
Clear	16 mL	AU-08922-26	200	
	20 mL	AU-08922-27	100	
	22 mL	AU-08922-28	200	
	40 mL	AU-08922-29	100	
Amber	2 mL	AU-08922-31	100	
	4 mL	AU-08922-32	100	
	8 mL	AU-08922-33	200	
Amber	12 mL	AU-08922-34	200	
	16 mL	AU-08922-36	200	
	40 mL	AU-08922-39	100	
Vials with open-top, unlined polypropylene cap and PTFE/silicone septa				
Clear	2 mL	AU-08922-41	100	
	4 mL	AU-08922-42	100	
	8 mL	AU-08922-43	200	
	12 mL	AU-08922-44	200	
Clear	16 mL	AU-08922-46	200	
	22 mL	AU-08922-48	200	
	40 mL	AU-08922-49	100	
	2 mL	AU-08922-51	100	
Amber	4 mL	AU-08922-52	100	
	8 mL	AU-08922-53	200	
Amber	12 mL	AU-08922-54	200	
	16 mL	AU-08922-56	200	
	40 mL	AU-08922-59	100	

WHEATON® Scintillation Vials, Glass

Stand up to most chemicals

- Sample and store up to 20 mL
- Measure 2 3/8" H x 1 1/8" OD (61 mm H x 28 mm OD) with cap



Cap material	Cap liner	Cap size	Caps	Catalog number	Qty/ cs	Price/ cs
Urea	Metal foil			AU-08918-01		
Urea	Polyseal™ cone	22	On	AU-08918-02	500	
Urea	Polyethylene disc			AU-08918-03		
Urea	Polyethylene disc	24	On	AU-08918-05	500	
Polypropylene	Metal foil	22		AU-08918-06		

Cole-Parmer® Serialized Class A Graduated Glass Cylinders

Feel more confident about your aliquots—meet ISO 9000 requirements

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

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



34300-27 calibrated "To Contain"

34300-15 calibrated "To Deliver"

Capacity (mL)	Graduations (mL)	Tolerance (mL)	With report of traceability			With reports of calibration and traceability		
			Catalog number	Qty/pk	Price/pk	Catalog number	Qty/pk	Price/pk
Cylinders calibrated "To Contain"								
10	0.1	±0.10	AU-34300-17	1		—	1	—
25	0.2	±0.17	AU-34300-19			AU-34300-20		
50	1	±0.25	AU-34300-21			AU-34300-22		
100	1	±0.40	AU-34300-23			AU-34300-24		
250	2	±0.80	AU-34300-25	1		AU-34300-26	1	AU-34300-28
500	5	±1.30	AU-34300-27			AU-34300-30		
1000	10	±3.0	AU-34300-29			AU-34300-32		
2000	20	±5.0	AU-34300-31					
Cylinders calibrated "To Deliver"								
10	0.1	±0.10	AU-34300-01	1		—	1	—
25	0.2	±0.17	AU-34300-03			AU-34300-04		
50	1	±0.25	AU-34300-05			AU-34300-06		
100	1	±0.40	AU-34300-07			AU-34300-08		
250	2	±0.80	AU-34300-09	1		AU-34300-10	1	AU-34300-12
500	5	±1.3	AU-34300-11			AU-34300-14		
1000	10	±3.0	AU-34300-15			AU-34300-16		
2000	20	±5.0	AU-34300-13			AU-34300-14		

Labware & Supplies

Boxes and Lids, HDPE Not your typical box

- Multipurpose box and system configure to your needs
- Add colander for easy straining of contents
- Optional lid doubles as tray



Box 06017-16 shown with optional colander 06017-50 and optional lid 06017-22

Capacity L (gal.)	Outside dimensions (L x W x H)		Catalog number	Qty/pk	Price/pk		
	in.	cm					
Boxes							
8 (2)	18 x 12 x 3½	45.7 x 30.5 x 8.9	AU-06017-10	1			
13 (3½)	18 x 12 x 6	45.7 x 30.5 x 15.2	AU-06017-12				
19 (5)	18 x 12 x 9	45.7 x 30.5 x 22.9	AU-06017-14				
26.5 (7)	18 x 26 x 3½	45.7 x 66 x 8.9	AU-06017-15				
32 (8½)	18 x 26 x 6	45.7 x 66 x 15.2	AU-06017-16				
47 (12½)	18 x 26 x 9	45.7 x 66 x 22.9	AU-06017-18				
92 (24½)	18 x 26 x 12	45.7 x 66 x 30.5	AU-06017-19				
81 (21½)	18 x 26 x 15	45.7 x 66 x 38.1	AU-06017-20				
Lids							
For 06017-10, -12, -14			AU-06017-21			1	
For 06017-15 through -20			AU-06017-22				
Colander							
For 06017-16, -18, -19, -20			AU-06017-50	1			

Thermo Scientific™ Nalgene™ Autoclaving Trays, PP

Transfer autoclaved items easily

- Strong, rolled edges for easier carrying
- Tapered design for easy nesting
- Autoclavable



Capacity (L)	Outside dimensions (L x W x H)	Catalog number	Qty/pk	Price/pk
1	10¼" x 6¼" x 2½" (26 x 15.9 x 6.4 cm)	AU-06010-20	3	
2	10¼" x 6¼" x 4½" (26 x 15.9 x 10.5 cm)	AU-06010-21		
3	12¾" x 10¼" x 2¾" (32.4 x 26 x 7 cm)	AU-06010-22	3	
5	12¾" x 10½" x 4¼" (32.4 x 25.7 x 10.8 cm)	AU-06010-23		

Wait!

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Find all the product specs you need!



WHIRL-PAK® Sterile Sampling Bags, LDPE

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

- Quick and easy sealing—flip bag around wire/tape and bend to seal
- No more poking—puncture-proof tabs keep wire intact even after extensive use

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

Caution: Do not put bag in boiling water.



STERILE

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



Standup bags stay upright



Water scoop holds bag open for easy filling



Rack

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

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

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

Clear Bags, LDPE

Stand up to your needs with strong bottom seal

- Seal with bag ties



Size (W x L)		Thickness (mil)	Catalog number	Qty/pk	Price/pk
in.	cm				
3 x 5	7.6 x 12.7	2	AU-06505-02	1000	
3 x 8	7.6 x 20.3		AU-06505-04		
4 x 5	10.2 x 12.7		AU-06505-06		
5 x 7	12.7 x 17.8	2.5	AU-06505-08	500	
6 x 9	15.2 x 22.9		AU-06505-10		
6 x 18	15.2 x 45.7	3	AU-06505-12	500	
8 x 10	20.3 x 25.4		AU-06505-14		
10 x 12	25.4 x 30.5		AU-06505-16		
12 x 18	30.5 x 45.7	2	AU-06505-18	500	
18 x 24	45.7 x 61		AU-06505-20		
18 x 30	45.7 x 76.2		AU-06506-22		

AU-06831-15 Plastic tie twists, 4"L (10.2 cm). Pack of 1000

Autoclavable Solid-Design Cable Ties, PP

Keep items bundled during autoclaving

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



Length	Bundle dia	Tensile strength	Color	Catalog number	Price/pk of 1000
4" (10.2 cm)	3/4" (1.9 cm)	11 lb	Natural	AU-06830-85	
8" (20.3 cm)	1 1/4" (4.4 cm)	25 lb	Black	AU-06830-95	

Solid-Design Cable Ties, Nylon

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

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



Length	Bundle dia	Color	Catalog number	Qty/pk	Price/pk
Miniature, 18-lb tensile strength					
4" (10.2 cm)	7/8" (2.2 cm)	White	AU-06830-52	1000	
Intermediate, 40-lb tensile strength					
5 1/2" (14.0 cm)	1 1/4" (3.2 cm)	White	AU-06830-54	1000	
8" (20.3 cm)	2 1/8" (5.4 cm)	White	AU-06830-30	1000	
Standard, 50-lb tensile strength					
7 1/2" (19.1 cm)	1 3/4" (4.4 cm)	White	AU-06830-56	1000	

Aluminum Tensioning Tool

Cuts ties automatically

Adjust tension from light to very tight using a knob at the base of this tool; the tension knob features a lock to ensure repeatable tension, tie after tie. No twisting needed—tool cuts tie automatically when preset tension is reached. Shock-resistant tool absorbs all impact.



Description	Catalog number	Price
Aluminum tensioning tool	AU-06830-00	

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

General-Purpose Tweezers and Forceps, SS and Plastic

Get a more precise grip

Stainless Steel (SS) Tweezers, smooth spade tips.

Length	Catalog number	Qty/pk	Price/pk
110 mm	AU-07288-07	12	



SS Forceps, straight serrated tips.

Length	Catalog number	Qty/pk	Price/pk
150 mm	AU-07288-12	1	
300 mm	AU-07288-14	1	



SS Straight: Thick, Flat Strong Tips, serrated tips and grips. Style OOD.

Length	Catalog number	Qty/pk	Price/pk
120 mm	AU-07287-03	1	



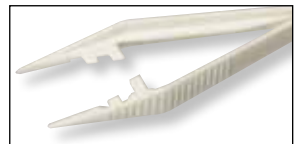
Reinforced Nylon Forceps feature corrugated handles, serrated blades, and rounded tips. **Autoclavable.**

Length	Catalog number	Qty/pk	Price/pk
Nonsterile			
123 mm	AU-06443-15	100	
Sterile (individually wrapped)			
123 mm	AU-06443-26	100	



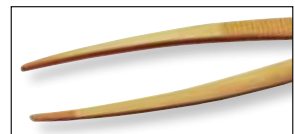
Nylon Forceps have corrugated handles and serrated blades. **Autoclavable.**

Length	Catalog number	Qty/pk	Price/pk
Nonsterile			
111 mm	AU-06443-25	100	
Sterile (individually wrapped)			
111 mm	AU-06443-27	70	



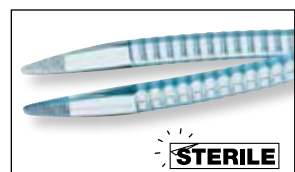
PA (Polyamide) Tweezers, rounded tips.

Length	Catalog number	Qty/pk	Price/pk
178 mm	AU-06446-20	1	



Polystyrene Disposable Forceps, corrugated handles and rounded serrated tips. Individually wrapped.

Length	Catalog number	Qty/pk	Price/pk
123 mm	AU-06443-20	100	



Scienceware® Autoclavable Scoops, PP

Eliminate contamination risks

- Autoclavable at 121°C to maintain sample integrity
- Rigid, strong design stands up to your needs



Capacity mL (oz)	Scoop (L x W)		Catalog number	Qty/pk	Price/pk
	in.	cm			
22 (3/4)	2 3/8 x 1 1/8	6.0 x 2.9	AU-06275-15	12	
60 (2)	3 x 1 1/2	7.6 x 3.8	AU-06275-16	12	
75 (2 1/2)	3 1/2 x 1 1/2	8.9 x 3.8	AU-06275-17	12	
100 (3 1/2)	3 5/8 x 1 7/8	9.2 x 4.8	AU-06275-18	12	
200 (6 3/4)	5 x 2	12.7 x 5.1	AU-06275-19	12	
1100 (37)	8 x 4 3/4	20.3 x 12.1	AU-06275-20	6	

Scienceware® Sterile Sampling Scoops, PS

No need to presterilize

- Come sterilized in individual polyethylene bags
- Ideal for single use



Capacity mL (oz)	Scoop (L x W)		Handle length		Catalog number	Qty/cs	Price/cs
	in.	cm	in.	cm			
60 (2)	3 x 1	7.6 x 2.5	4	10.2	AU-06260-10	100	
120 (4)	3 1/2 x 1	8.9 x 2.5			AU-06260-20		



Scienceware® Sterileware® Sense-able™ Detectable Scoops, PS

Prevent product recalls

- Made of metal and X-ray equipment detectable material
- FDA-grade resin is detectable in small fragments
- Individually gamma sterilized and packaged



Capacity mL (oz)	Scoop (L x W x H)	Catalog number	Qty/bx	Price/bx
60 (2)	3" x 1 1/2" x 1" (7.6 x 3.8 x 2.5 cm)	AU-06263-65	100	
125 (4)	3 1/2" x 1 3/4" x 1 1/4" (8.9 x 4.4 x 3.2 cm)	AU-06263-70	100	
250 (8)	5" x 2" x 2" (12.7 x 5.1 x 5.1 cm)	AU-06263-75	100	

Corning® Single-Use Sterile Spatulas, PS

Save time—no more sterilizing

- Individually sterilized and packaged—gamma irradiated with no EtO residues
- Nontoxic and chemical resistant
- Meet USP Class VI requirements



Description	Overall length		Qty/cs	Catalog number	Price/cs
	in.	cm			
A. Tapered blade/spoon	9 11/16	24.6	100	AU-06265-00	
B. Small spoon/spoon	9 11/16	24.6	100	AU-06265-02	
C. Round end/spoon	9 11/16	24.6	100	AU-06265-04	
D. V-scoop/spoon	9 11/16	24.6	100	AU-06265-06	
E. Flat-end/spoon	9 11/16	24.6	100	AU-06265-08	

Scienceware® Sterile Sampling Spoons, PS

Stop washing spoons

- Individually sterilized and bagged in a polyethylene bag
- Ideal for single use



Capacity	Handle length	Catalog number	Qty/cs	Price/cs
1/4 tsp (1.2 mL)	6 1/8" (15.5 cm)	AU-06263-10	200	
1/2 tsp (2.5 mL)	5 7/8" (14.9 cm)	AU-06263-20	200	
1 tsp (4.9 mL)	5 1/2" (14.0 cm)	AU-06263-30	200	
1 tbsp (14.8 mL)	5 1/4" (13.3 cm)	AU-06263-40	200	

Scienceware® Sterile Sampling Spatula, PS

Get more volume per scoop

- Designed to hold twice the volume of standard spatulas
- Break up caked material easily with sturdy edge
- Individually sterilized and bagged



Overall length	Catalog number	Qty/cs	Price/cs
9" (22.9 cm)	AU-06262-00	100	

Look inside find products you need from **Laboratory** to **Fill/Finish**

Save time—no cleaning or revalidation

- Tanks allow near-total drainage
- Designed to contain drips
- Liners are LLDPE and pyrogen-free



Tanks with Sterile Single-Use Liners

See page 65

Secure connections that protect your media

- No need for separate pinch clamps
- Easy one-handed operation
- Leak-free connection confirmed with audible click



CPC™ Polysulfone Quick-Disconnect Couplings

See page 55

Accurate flow in a small footprint

- Icon-driven menu allows quick, intuitive programming and setup
- Remote control plus copy dispense function
- Keep clean flow paths with continuous tubing



Masterflex® L/S® Digital Miniflex® Pump Systems

See page 5