

## Masterflex® L/S® Variable-Speed

### Compact, cost-effective for general fluid transfer applications

- Simple operation with single-turn speed control
- Flow rate from 0.42 to 2900 mL/min with L/S pump tubing—flow rate depends on drive rpm, pump head, and tubing size
- Separate power switch enables you to maintain speed setting when turning drive on/off; front-panel LED indicates power on
- Reversible motor lets you easily prime/purge tubing and pump in either direction
- Remote control of start/stop via DB9 connector on back of drive
- Drives accept nine different pump head types: Standard, Easy-Load®, Easy-Load II, Easy-Load 3, Multichannel, High-Performance, Cartridge, PTFE tubing, and PTFE diaphragm

### Applications

- Heating/cooling liquid circulation
- Fluid metering and transfer
- Media dispensing and filling
- Drum and container sampling
- Low-pressure filtration
- Buffer circulation
- Pumping slurries and suspensions



Variable-speed console drive



Easy-Load  
pump head



Easy-Load II  
pump head

Masterflex.com





1-800-637-3739



Drive 07555-00 shown with  
Easy-Load II pump head 77200-62

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### Complete Pump Systems

System	Flow range		What's included	Power	Catalog number	
	16 to 480 mL/min	Easy-Load® pump head 07514-10	C-Flex® ULTRA L/S 16 tubing 06434-16, 3 m (10 ft)	Console drive 07555-00, 20 to 600 rpm	115 VAC, 50/60 Hz	<b>MK-77910-60</b>
				Console drive 07555-05, 20 to 600 rpm	230 VAC, 50/60 Hz	<b>MK-77910-65</b>
	56 to 1700 mL/min	Easy-Load pump head 07514-12	C-Flex ULTRA L/S 24 tubing 06434-24, 3 m (10 ft)	Console drive 07555-00, 20 to 600 rpm	115 VAC, 50/60 Hz	<b>MK-77910-70</b>
				Console drive 07555-05, 20 to 600 rpm	230 VAC, 50/60 Hz	<b>MK-77910-75</b>
	16 to 480 mL/min	Easy-Load II pump head 77200-60	C-Flex ULTRA L/S 16 tubing 06434-16, 3 m (10 ft)	Console drive 07555-00, 20 to 600 rpm	115 VAC, 50/60 Hz	<b>MK-77910-40</b>
				Console drive 07555-05, 20 to 600 rpm	230 VAC, 50/60 Hz	<b>MK-77910-45</b>
	56 to 1700 mL/min	Easy-Load II pump head 77200-62	C-Flex ULTRA L/S 24 tubing 06434-24, 3 m (10 ft)	Console drive 07555-00, 20 to 600 rpm	115 VAC, 50/60 Hz	<b>MK-77910-50</b>
				Console drive 07555-05, 20 to 600 rpm	230 VAC, 50/60 Hz	<b>MK-77910-55</b>

## L/S® PRECISION MODULAR PUMP SYSTEMS

### APPLICATIONS

- ▶ Sterile fluid transfer
- ▶ Carboy or small tank pumping
- ▶ Chemical recirculation
- ▶ Printing
- ▶ Laboratory research
- ▶ Filtration
- ▶ Polishing/lapping

### BENEFITS

- ▶ Modular format lets you place drive and controller up to 1.8 meters (6 feet) apart
- ▶ Easy tubing changes
- ▶ Three-digit LED shows motor speed (rpm) for easy repeatability
- ▶ Reversible motor lets you purge tubing before or after pumping
- ▶ Optional remote control of speed, start/stop, and direction

### FEATURES

- ▶ Controller and chemical-resistant drive connected by 1.8-m (6-ft) cable
- ▶ Soft-start, 1/10-hp continuous-duty drive
- ▶ ±0.25% speed control



77913-70



77913-60

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008  
CERTIFIED SUPPLIER



Catalog number	Flow range <sup>1</sup> (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<b>Precision modular pumps with benchtop controller</b>								
<a href="#">HL-77913-60</a>	4.8 to 480	L/S Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 06434-16; 3 m (10 ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	07577-00	6 to 600	IP33	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<a href="#">HL-77913-70</a>	17 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36				
<b>Precision modular pump with washdown wall-mount controller</b>								
<a href="#">HL-77913-80</a>	17 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	07577-60	6 to 600	IP66	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A

<sup>1</sup>Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

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## L/S® PRECISION ANALOG CONSOLE PUMP SYSTEMS

### APPLICATIONS

- ▶ General transfer and metering
- ▶ Circulating bath pump
- ▶ Remote-controlled metering pump
- ▶ Acid-base feed
- ▶ Low-pressure filtration
- ▶ Small tank transfer and filling

### BENEFITS

- ▶ Simple keypad controls offer operational ease
- ▶ Powerful and cost-effective pump for precision transfer and metering applications
- ▶ Control pump speed remotely with 4 to 20 mA or 0 to 10 V signal
- ▶ Three-digit LED shows motor speed (rpm) for repeatability and monitoring performance
- ▶ Reversible motor—prime/purge and easily reverse direction of flow

### FEATURES

- ▶ PWM speed control for precision and efficiency;  $\pm 0.25\%$  speed control accuracy
- ▶ Stackable ABS housing is IP33 rated for wipedown
- ▶ Universal voltage, 90 to 260 VAC autoselect, 50/60 Hz
- ▶ Soft-start 1/10-hp continuous-duty drive



77916-20



77916-10

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008  
CERTIFIED SUPPLIER



Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77916-10</a>	4.8 to 480	L/S Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 06434-16; 3 m (10-ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	07528-10	6 to 600	IP33	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<a href="#">HL-77916-20</a>	17 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10-ft)	L/S 15, L/S 24, L/S 35, L/S 36				

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

[HL-77595-35](#) **Foot switch**, momentary start/stop; 1.8-m (6-ft) cable.

[HL-07595-45](#) **DB9 male connector**, use to create your own cable.

[HL-17050-01](#) **NIST-traceable calibration** for peristaltic pump drive.

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

[HL-07523-98](#) **Tilt bail**; use to securely elevate front of drive.

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# Masterflex® L/S® Digital Miniflex® Pump Systems

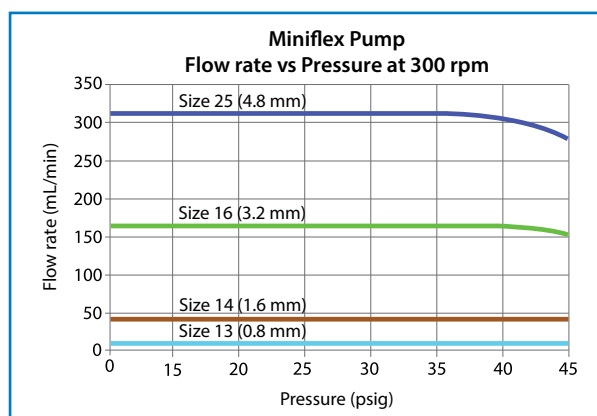
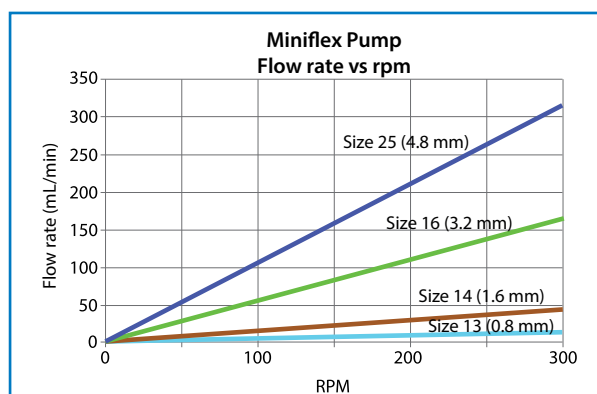


## A small-footprint pump with big performance!

- Intuitive icon-driven menu allows quick programming and setup
- Flow range of 0.004 to 315 mL/min (depending on model and tubing size selected)
- Integrated “open-head” sensor halts operation when pump head is opened
- Use the copy dispense mode for filling and dispensing applications
- Tubing calibration function ensures accuracy
- Control speed, direction, and start/stop/prime remotely via 25-pin connector on back of drive
- Pump head accepts continuous lengths of tubing for clean flow paths with no connections or fittings
- Tubing retention is automatic when pump head is closed—no need for manual adjustment—tube loading is quick and easy
- Single-channel model delivers highest flow rate; dual-channel model delivers synchronous flow from two separate channels
- Stackable to save even more space on your benchtop

### Flow Rates in mL/min

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



Open-head sensor stops the drive when pump head is open.



Intuitive, icon-driven interface—copy dispense progress screen shown.



The L/S digital Miniflex pump system (above right) requires less than half the bench space when compared to the L/S standard digital drive (above left).

**What's included:** L/S Miniflex pump head and universal voltage (90 to 260 VAC) benchtop power supply with IEC320/CEE22 socket. Pump is shipped with cord/plug assembly specific to country of destination.



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
						VAC	Amps	
1	0.1 to 300	±0.1%	Yes	IP33		90 to 260	0.34 at 115 VAC, 0.2 at 230 VAC	MK-07525-20
2								MK-07525-40

### Accessories

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

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

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

**MK-77220-20** Replacement single-channel Miniflex pump head

**MK-77220-30** Replacement dual-channel Miniflex pump head

**MK-07525-90** Replacement power supply, 90 to 260 VAC

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

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## L/S® STANDARD DIGITAL PUMP SYSTEMS

### APPLICATIONS

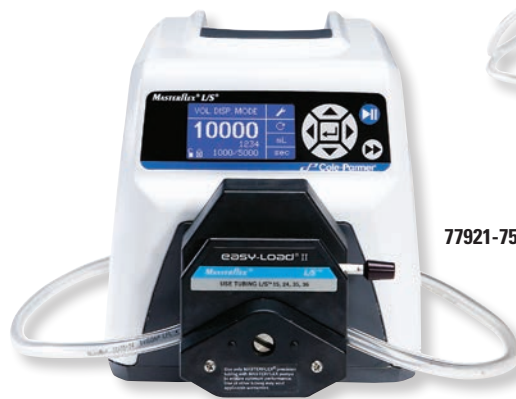
- Acid/base pH control
- Nutrient media dispensing
- Precision fragrance delivery
- Automated fermentation
- Surfactant delivery
- Accurate metering

### BENEFITS

- Brushless, maintenance-free motor reduces operating costs
- Reversible pumping
- Graphical LCD shows flow rate, rpm, dispense volume, dispense time, copy number, cumulative volume
- Remote control: Start/stop foot switch (order below); 0–20 mA, 4–20 mA, or 0–10 VDC speed control; Start/stop/reverse/prime (with DB25 male connector)
- Programmable flow rate and dispense interval for automated dispensing
- Can be calibrated for greater accuracy

### FEATURES

- 1/10-hp, continuous-duty drive
- ±0.1% drive speed control with tach feedback
- Splash-resistant stackable housing
- Membrane keypad with lockout



77921-75



77921-65

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008  
CERTIFIED SUPPLIER



2 year  
warranty

Catalog number	Flow range <sup>†</sup> (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77921-65</a>	0.08 to 480	L/S Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 06434-16; 3 m (10 ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	07522-20	0.1 to 600	IP33	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<a href="#">HL-77921-75</a>	0.28 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36				

<sup>†</sup>Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

[HL-07523-92](#) **Foot switch**, momentary start/start, 1.8-m (6-ft) cable.

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

[HL-07523-97](#) **Dispensing handle** for momentary start/stop.

[HL-17050-01](#) **NIST-traceable calibration** for peristaltic pump drive.

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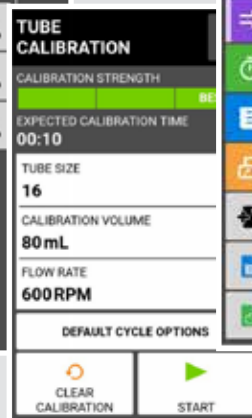
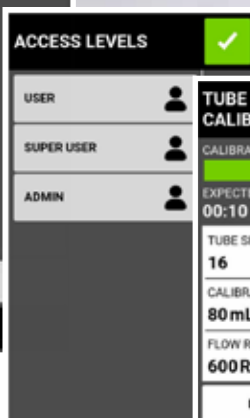
# MASTERFLEX®



## Masterflex® L/S® MasterSense™

### Reimagine fluid handling— operate, collaborate and connect with ease

- Intuitive touch-screen interface—quick and easy to program, even with gloves on
- Operational modes include continuous run, volume dispense, and time dispense
- Save and recall up to 50 commonly used protocols, each with a unique name
- Batch control and interval/off time in volume and time modes
- Antidrip and speed ramping available in volume mode—ensure accuracy and minimize sample loss
- Over-the-air firmware updates—allows you to take full advantage of future enhancements
- Secure three-tier access to pump functionality
- Graphical indicator lets you know when loaded tubing is optimally calibrated
- Get your preferred way to work with multiple ways to operate the drive—via touch screen, analog remote, or choose a connectivity option
- Choice of connectivity options—MasterflexLive®, EtherNet/IP™, or Profibus
- Versatile—compatible with all L/S pump head styles and pump tubing



1-800-637-3739

Masterflex.com

System with  
Easy-Load  
Pump Head



System with  
Easy-Load II  
Pump Head



#### Complete Systems

Flow range	What's included			Item number
	Pump head	Tubing	Drive	
0.08 to 480 mL/min	L/S Easy-Load pump head 07514-30 with open-head sensor	Puri-Flex™ pump tubing 96419-16, L/S 16, 10 ft (3 m)	L/S MasterSense drive 07526-10, 0.1 to 600 rpm, with EtherNet/IP and MasterflexLive	<b>MK-77920-40</b>
			L/S MasterSense drive 07526-12, 0.1 to 600 rpm, with Profibus and MasterflexLive	<b>MK-77920-50</b>
0.28 to 1700 mL/min	L/S Easy-Load II pump head 77200-32 with open-head sensor	Puri-Flex pump tubing 96419-24, L/S 24, 10 ft (3 m)	L/S MasterSense drive 07526-10, 0.1 to 600 rpm, with EtherNet/IP and MasterflexLive	<b>MK-77920-42</b>
			L/S MasterSense drive 07526-12, 0.1 to 600 rpm, with Profibus and MasterflexLive	<b>MK-77920-52</b>

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## L/S® FOUR-CHANNEL DIGITAL DISPENSING PUMP SYSTEM

### APPLICATIONS

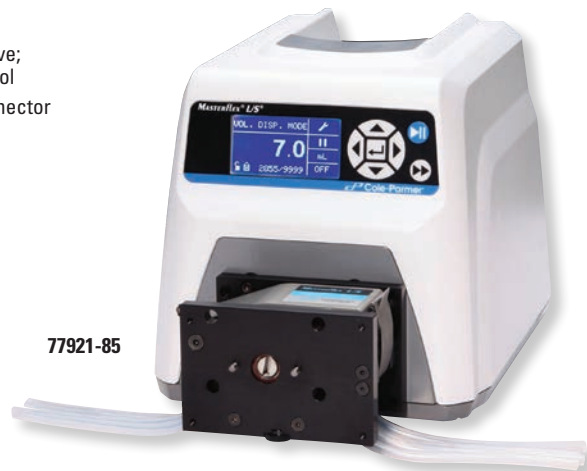
- ▶ Precision dispensing
- ▶ Synchronous multichannel filling
- ▶ Metering fluids into multiple containers or outlets
- ▶ Filtration

### BENEFITS

- ▶ Digital dispensing drive features maintenance-free brushless motor
- ▶ Program dispensing parameters—including volume, copy, time, and delay interval—for automated dispensing
- ▶ Four-channel, six-roller pump head offers low pulsation and synchronous flow between channels for high accuracy and consistent fills
- ▶ BioPharm Plus platinum silicone tubing delivers exceptional flow stability over time making it ideal for dispensing applications

### FEATURES

- ▶ 1/10-hp continuous-duty brushless drive; tach feedback for ±0.1% speed control
- ▶ Remote control via DB25 female connector on drive
- ▶ Membrane keypad with lockout



77921-85

### SPECIFICATIONS & ORDERING INFORMATION

Catalog number	Flow range <sup>†</sup> (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77921-85</a>	0.047 to 280	L/S Four-channel 07535-04	BioPharm Plus silicone tube set, L/S 16 96116-16; pk of 8	L/S two-stop tube sets: L/S 13, 14, 16	07522-20	0.1 to 600	IP33	90 to 130 VAC, 2.2 A; 190 to 260 VAC, 1.1 A

<sup>†</sup>Flow range per channel with included tubing; extend the flow range of this system with additional sizes of tubing; order L/S two-stop tube sets on page 55.

[HL-07523-92](#) Foot switch, momentary start/start, 1.8-m (6-ft) cable.

[HL-07523-94](#) DB25 Connector. Use to create your own cable.

[HL-07523-97](#) Dispensing handle for momentary start/stop.

ISO 9001:2008  
CERTIFIED SUPPLIER



CE 2 year warranty

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DISCONTINUED - NEW MODELS AVAILABLE

## L/S® COMPUTER-COMPATIBLE PUMP SYSTEMS

### APPLICATIONS

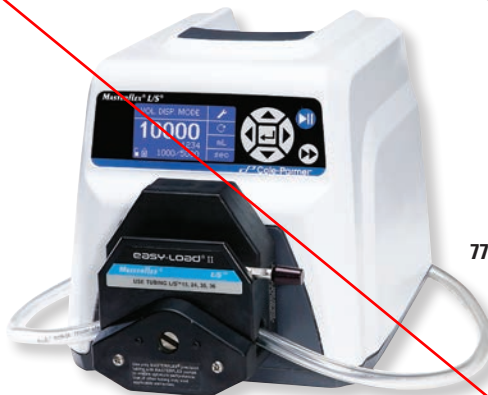
- ▶ Programmable dispensing
- ▶ Automated process
- ▶ Dosing/metering additives
- ▶ Dispensing by weight/weight ratio
- ▶ Repetitive filling
- ▶ Media dispensing in cell culture and fermentation
- ▶ Gradient pump

### BENEFITS

- ▶ Stand-alone digital dispenser or control through PC
- ▶ Graphical LCD shows flow rate, rpm, dispense volume, dispense time, copy number, and cumulative volume
- ▶ Programmable dispense interval for automated dispensing
- ▶ Dispense by volume or time
- ▶ Analog remote control of speed, start/stop, and direction
- ▶ Programmed calibration ensures accuracy
- ▶ Stackable, splash-resistant housing wipes down for easy cleaning

### FEATURES

- ▶ 1/10-hp, continuous-duty brushless drive
- ▶ ±0.1% PWM speed control accuracy with tach output
- ▶ Remote control capability via DB25 connector on back of drive
- ▶ Membrane keypad with lockout



77924-50



77924-60

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008  
CERTIFIED SUPPLIER



2 year  
warranty

Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77924-50</a>	0.08 to 480	L/S Easy-Load® 3 77800-60	C-Flex® ULTRA L/S 16 06434-16; 3 m (10 ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	07551-00	0.1 to 600	IP33	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<a href="#">HL-77924-60</a>	0.28 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36				

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

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

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

[HL-07523-97](#) Dispensing handle for momentary start/stop.

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

### COMPLETE SYSTEM INCLUDES:

PUMP HEAD

+ TUBING

+ DRIVE



## L/S® MULTICHANNEL PUMP SYSTEMS

### APPLICATIONS

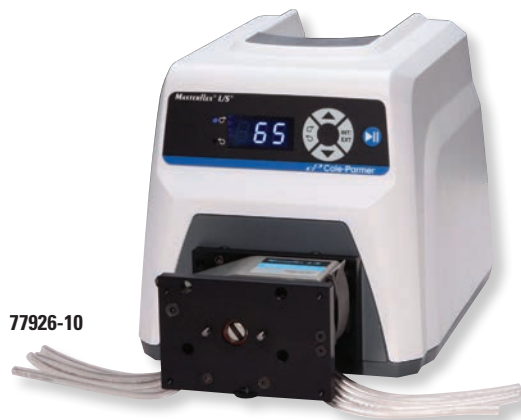
- ▶ Precision dispensing into multiple containers
- ▶ Transfer or meter fluids through multiple lines
- ▶ Rapid automated filling

### BENEFITS

- ▶ Control of multiple channels with a single drive reduces operating cost per channel
- ▶ Powerful metering and transfer pump with accurate speed control
- ▶ Synchronous flow from all four channels ensures accuracy when dispensing into multiple containers
- ▶ Reversible motor for purge before/after pumping; pump in either direction
- ▶ Simple keypad controls; bright, three-digit display of rpm for repeatability
- ▶ Remote control of speed and start/stop
- ▶ Accepts L/S two-stop tube sets for optimal tension with no adjustment
- ▶ Stackable ABS plastic housing wipes down for easy cleaning

### FEATURES

- ▶ Four-channel pump head
- ▶ 1/10-hp, continuous-duty drive with remote capability
- ▶ ±0.25% speed control accuracy



77926-10



77927-10

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008 CERTIFIED SUPPLIER ETL US CE 2 year warranty

Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77926-10</a>	0.47 to 47	L/S four channel 07535-04	Tygon® E-LFL tube set, L/S 16 06447-16; pk of 8	L/S two-stop tube sets: L/S 13, L/S 14, L/S 16	07528-30	1 to 100	IP33	90 to 260 VAC
<a href="#">HL-77927-10</a>	2.8 to 280	L/S four channel 07536-04	Tygon E-LFL tube set, L/S 24 06447-24; pk of 4	L/S two-stop tube sets: L/S 15, L/S 24, L/S 35	07528-30	1 to 100	IP33	90 to 260 VAC

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order two-stop tube sets below and L/S extension tubing on pages 68–73.

[HL-77595-35](#) Foot switch, DB9 male. Use for start/stop operation.

[HL-07595-45](#) Connector, DB9 male. Use for 4–20 mA remote control.

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

### COMPLETE SYSTEM INCLUDES:

**PUMP HEAD + TUBING + DRIVE**

### ADDITIONAL L/S TWO-STOP PRECISION PUMP TUBE SETS

Pump tubing		L/S Precision pump tubing			L/S High-performance precision pump tubing		
		L/S 13	L/S 14	L/S 16	L/S 15	L/S 24	L/S 35
Flow rate per channel (mL/min)	@ 1 to 100 rpm	0.045 to 4.5	0.16 to 16	0.47 to 47	1.6 to 160	2.8 to 280	3.8 to 380
	@ 6 to 600 rpm	0.27 to 27	0.96 to 96	2.8 to 280	10 to 1000	17 to 1700	23 to 2300
Tygon® E-LFL		<a href="#">HL-06447-13</a>	<a href="#">HL-06447-14</a>	<a href="#">HL-06447-16</a>	<a href="#">HL-06447-15</a>	<a href="#">HL-06447-24</a>	<a href="#">HL-06447-35</a>
Silicone (platinum-cured)		<a href="#">HL-06421-13</a>	<a href="#">HL-06421-14</a>	<a href="#">HL-06421-16</a>	<a href="#">HL-06421-15</a>	<a href="#">HL-06421-24</a>	<a href="#">HL-06421-35</a>
BioPharm Plus silicone (platinum-cured)		<a href="#">HL-96116-13</a>	<a href="#">HL-96116-14</a>	<a href="#">HL-96116-16</a>	<a href="#">HL-96116-15</a>	<a href="#">HL-96116-24</a>	<a href="#">HL-96116-35</a>
PharMed® BPT		<a href="#">HL-96114-13</a>	<a href="#">HL-96114-14</a>	<a href="#">HL-96114-16</a>	<a href="#">HL-96114-15</a>	<a href="#">HL-96114-24</a>	<a href="#">HL-96114-35</a>
Chem-Durance® Bio		<a href="#">HL-96117-13</a>	<a href="#">HL-96117-14</a>	<a href="#">HL-96117-16</a>	<a href="#">HL-96117-15</a>	<a href="#">HL-96117-24</a>	<a href="#">HL-96117-35</a>
Viton®		<a href="#">HL-96428-13</a>	<a href="#">HL-96428-14</a>	<a href="#">HL-96428-16</a>	<a href="#">HL-96428-15</a>	<a href="#">HL-96428-24</a>	<a href="#">HL-96428-35</a>
Qty/pk		8	8	8	4	4	4

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## L/S® CARTRIDGE PUMP SYSTEMS

### APPLICATIONS

- Multiple-channel low-flow transfer and perfusion
- Synchronous multichannel dispensing
- Low-pressure chromatography
- Feeding automated dispensers

### BENEFITS

- Cartridges accept multiple tubing sizes for wide flow range
- Cartridges snap in and out for tubing changes; change tubing in one channel without disturbing others
- Finely adjust occlusion to increase accuracy
- Use only one cartridge, or load to capacity
- Digital dispensing drive features maintenance-free brushless motor
- Program dispensing parameters, including delay interval, for automated dispensing
- Four-channel, eight-roller pump offers lowest pulsation for better accuracy

### FEATURES

- 1/10-hp continuous-duty brushless drive
- Tach feedback for ±0.1% drive speed control
- Remote control via DB25 female connector on drive
- IP33 rated, stackable ABS housing
- Membrane keypad with lockout



77919-20



77919-30

### SPECIFICATIONS & ORDERING INFORMATION

ISO 9001:2008  
CERTIFIED SUPPLIER



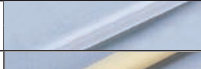
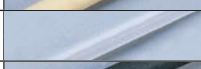

2 year  
warranty

Catalog number	Flow range <sup>†</sup> (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<b>L/S eight-channel four-roller cartridge pump system</b>								
<a href="#">HL-77919-20</a>	0.0034 to 18	L/S Cartridge head 07519-06 with eight small cartridges 07519-80	Tygon® E-LFL microbore tube set, 1.42-mm ID 06447-34; pk of 12	Microbore tube sets; L/S 13, L/S 14	07523-90	0.02 to 100	IP33	90 to 130 VAC, 2.2 A; 190 to 260 VAC, 1.1 A
<b>L/S reduced-pulsation four-channel eight-roller cartridge pump system</b>								
<a href="#">HL-77919-30</a>	0.0024 to 12	L/S Cartridge head 07519-20 with four small cartridges 07519-85	Tygon E-LFL microbore tube set, 1.42-mm ID 06447-34; pk of 12	Microbore tube sets; L/S 13, L/S 14	07523-90	0.02 to 100	IP33	90 to 130 VAC, 2.2 A; 190 to 260 VAC, 1.1 A

<sup>†</sup>Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order microbore two-stop tube sets below and L/S tubing on pages 68-73.

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

### ADDITIONAL MICROBORE TWO-STOP PUMP TUBE SETS

Pump tubing		0.89 mm ID	1.42 mm ID	2.06 mm ID	2.79 mm ID
Flow rate per channel (mL/min)	Cartridge head 07519-06	0.0015 to 7.4	0.0034 to 18	0.0074 to 37	0.0126 to 63
	Cartridge head 07519-20	0.0010 to 5.2	0.0024 to 12	0.0044 to 22	0.0068 to 34
Platinum-cured silicone		<a href="#">HL-06421-26</a> pk of 6	<a href="#">HL-06421-34</a> pk of 6	<a href="#">HL-06421-42</a> pk of 6	<a href="#">HL-06421-48</a> pk of 6
	Santoprene®	<a href="#">HL-06431-26</a> pk of 12	<a href="#">HL-06431-34</a> pk of 12	<a href="#">HL-06431-42</a> pk of 12	<a href="#">HL-06431-48</a> pk of 12
Tygon® E-LFL		<a href="#">HL-06447-26</a> pk of 12	<a href="#">HL-06447-34</a> pk of 12	<a href="#">HL-06447-42</a> pk of 12	<a href="#">HL-06447-48</a> pk of 12
Viton®		<a href="#">HL-96428-26</a> pk of 12	<a href="#">HL-96428-34</a> pk of 12	<a href="#">HL-96428-42</a> pk of 12	<a href="#">HL-96428-48</a> pk of 12

### ADDITIONAL CARTRIDGES

[HL-07519-80](#) Additional small cartridge for pump system 77919-20.

[HL-07519-85](#) Additional small cartridge for pump system 77919-30.



07519-80

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## L/S® DIGITAL MODULAR PUMP SYSTEM

### APPLICATIONS

- ▶ Epoxy resin delivery
- ▶ Culture media dispensing
- ▶ Coffee-additive dispensing
- ▶ FDA tablet coating

### BENEFITS

- ▶ Separate drive/controller for placement flexibility
- ▶ Brushless motor for continuous-duty maintenance-free operation
- ▶ Remote I/O for control flexibility; tach output lets you monitor pump operation
- ▶ Easy tubing changes saves operator time
- ▶ Reverse pumping to prime or purge tubing
- ▶ Programmable time delay interval for repetitive filling

### FEATURES

- ▶ 1/10-hp, continuous-duty drive
- ▶ ±0.1% drive speed accuracy
- ▶ Controller/drive connected by a 1.8-m (6-ft) cable



77923-80

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008 CERTIFIED SUPPLIER ETL CE 2 year warranty

Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power
<a href="#">HL-77923-80</a>	0.28 to 1700	L/S Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	77301-40	0.1 to 600	IP33	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

[HL-07523-97](#) **Handheld remote controller**; control start/stop, direction, and prime; route tubing through handle for dispensing and filling applications; 1.8-m (6-ft) cable.

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

[HL-77301-82](#) **Extension cable**, 2.7 m (9 ft) for benchtop modular drive 77301-40; extend distance between motor and controller.

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

## L/S® DIGITAL MODULAR PUMP SYSTEM WITH WALL-MOUNT CONTROLLER

### APPLICATIONS

- ▶ Adhesive resin delivery
- ▶ Salad dressing dispensing
- ▶ Food-additive dispensing
- ▶ Packaging process pump

### BENEFITS

- ▶ Washdown IP66 (NEMA 4X)-rated components for easy cleanup in process applications
- ▶ Remote I/O for control flexibility; tach output lets you monitor pump operation
- ▶ Brushless motor for continuous-duty maintenance-free operation
- ▶ Easy tubing changes
- ▶ Repetitive dispensing with programmable delay for efficient repeat filling operations

### FEATURES

- ▶ 1/10-hp, continuous-duty drive
- ▶ ±0.1% drive speed accuracy
- ▶ IP66-rated controller/drive connected by a 1.8-m (6-ft) water-tight cable



77923-90

### SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008 CERTIFIED SUPPLIER ETL CE IP66 2 year warranty

Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power
<a href="#">HL-77923-90</a>	0.28 to 1700	L/S Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	77301-50	0.1 to 600	IP66	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

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

[HL-07575-80](#) **Remote control cable**; wire to controller/PLC; 8.3-m (25-ft) length.

[HL-77301-82](#) **Extension cable**, 2.7 m (9 ft) for washdown modular drive 77301-50; extend distance between motor and controller.

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

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## L/S® DIGITAL PROCESS PUMP SYSTEMS

### APPLICATIONS

- Pharma, food, and dairy processing
- Metering flavorings and colorants
- Pumping buffer solutions
- Filling/emptying media bags
- Sterile filtration; sterile fluid transfer
- Spray coating
- Pumping slurries and purees

### BENEFITS

- Digital dispenser is ideal for filling applications requiring varying flow rates and volumes
- Sealed, 316 stainless steel housing is NEMA 4X and IP66 rated for easy washdown in sanitary process environments; use model 77975-40 with powder-coat steel housing in applications where stainless steel is not a requirement
- Graphical LCD shows flow rate, rpm, dispense volume, dispense time, and copy number
- Cumulative volume function totalizes volume pumped or transferred over time
- Select to display metric or English units
- Programmable dispense interval for automated dispensing
- Analog remote control of speed, start/stop, and direction; tach output for monitoring pump operation
- Programmed calibration ensures accuracy
- Keypad lockout feature prevents inadvertent changes to programmed settings

### FEATURES

- 1/10-hp, continuous-duty brushless drive
- ±0.1% PWM speed control accuracy with tach output
- Remote control capability via fluid-resistant I/O connector on back of drive



77975-30

07575-84



77975-20



77975-40

### SPECIFICATIONS & ORDERING INFORMATION

ISO 9001:2008  
CERTIFIED SUPPLIER



2 year  
warranty

Catalog number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power
<b>Digital process pumps with 316 stainless steel housing</b>								
<a href="#">HL-77975-20</a>	0.28 to 1700	L/S Easy-Load® II 77200-62	C-Flex® ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	07575-10	0.1 to 600	IP66	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<a href="#">HL-77975-30</a>	0.28 to 1800	L/S High-Performance 77250-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	07575-10	0.1 to 600	IP66	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A
<b>Digital process pump with powder-coat steel housing</b>								
<a href="#">HL-77975-40</a>	0.28 to 1700	L/S Easy-Load II 77200-62	C-Flex ULTRA L/S 24 06434-24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	07575-20	0.1 to 600	IP66	90 to 130 VAC, 2.2 A; and 190 to 260 VAC, 1.1 A

†Flow range with included tubing; extend the flow range of these systems with additional sizes of tubing; order on pages 68–73.

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

[HL-07575-80](#) Remote cable, 8.3 m (25 ft) for remote capabilities.

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



### FILLER/DISPENSING NOZZLES

- Maximize the speed, precision, and accuracy of dispensing and filling applications
- Minimize splashing and dripping when dispensing into narrow- or wide-mouth containers

These nozzles combine the ease of plastic components with the accuracy and reliability of stainless steel tubes. Tight dimensional tolerances help to ensure precision in your dispensing applications. Nozzles feature a 316L stainless steel tube and a polycarbonate base with hose barb adapter. Materials comply with FDA, USDA and USP Class VI requirements. All filler nozzles are sterilizable by ethylene oxide, autoclaving, or gamma irradiation.

Catalog number	Tubing ID
<a href="#">HL-30619-06</a>	1/32"
<a href="#">HL-30619-01</a>	1/16"
<a href="#">HL-30619-07</a>	1/8"
<a href="#">HL-30619-02</a>	3/16"
<a href="#">HL-30619-08</a>	1/4"
<a href="#">HL-30619-03</a>	5/16"
<a href="#">HL-30619-09</a>	3/8"
<a href="#">HL-30619-04</a>	1/2"
<a href="#">HL-30619-10</a>	5/8"
<a href="#">HL-30619-05</a>	3/4"

30619-02



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## L/S® PTFE-TUBING PUMP SYSTEM

### APPLICATIONS

- ▶ Transfer of aggressive chemicals
- ▶ Filtration
- ▶ High-purity pumping
- ▶ Chemical injection

### BENEFITS

- ▶ Excellent chemical compatibility for metering aggressive chemicals
- ▶ Higher pressures up to 6.9 bar (100 psi), low pulsation
- ▶ Inert PTFE tubing maintains fluid purity
- ▶ Adjustable occlusion
- ▶ Low maintenance

### FEATURES

- ▶ 1/10-hp, 3 to 300 rpm continuous-duty drive
- ▶ 2.4-m (8-ft) suction lift; 6.9 bar (100 psi) pressure capability



77912-10

### ADDITIONAL TUBING

- [HL-77390-60](#) PTFE tubing set, 6-mm OD, 4-mm ID. Set of two 38-cm (15") lengths
- [HL-06605-54](#) PTFE extension tubing, 6-mm OD. One 7.6-m (25-ft) length
- [HL-31321-64](#) Straight connector; 6 mm, 9.2 bar (135 psi) max

## SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008 CERTIFIED SUPPLIER ETL US CE 2 year warranty

Catalog number	Flow range (mL/min)	Pump head included	Tubing included†	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77912-10</a>	0.75 to 65	L/S PTFE-tubing 77390-00	6-mm OD PTFE tubing set 77390-60	—	07528-20	3 to 300‡	IP33	90 to 260 VAC

†Also includes two 1/4" pipe adapters. ‡Recommended drive speed operating range for included pump head.

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

### COMPLETE SYSTEM INCLUDES:

PUMP HEAD

+

TUBING

+

DRIVE

## L/S® PTFE-DIAPHRAGM PUMP SYSTEM

### APPLICATIONS

- ▶ Chemical feed and metering
- ▶ Chemical injection
- ▶ High-purity fluid transfer
- ▶ Pumping aggressive chemicals
- ▶ High-pressure pumping

### BENEFITS

- ▶ Continuous pressure up to 3.4 bar (50 psi); 5.2 bar (75 psi) intermittent
- ▶ Excellent chemical compatibility
- ▶ High metering accuracy
- ▶ Self-priming
- ▶ PTFE fluid path maintains fluid purity

### FEATURES

- ▶ 1/10-hp, 6 to 600 rpm continuous-duty drive
- ▶ ±0.25% speed control accuracy
- ▶ ABS plastic housing
- ▶ DB9 female connection on back for remote control



77915-10

## SPECIFICATIONS & ORDERING INFORMATION

ISO9001:2008 CERTIFIED SUPPLIER ETL US CE 2 year warranty

Catalog number	Flow range (mL/min)	Pump head included	Tubing included†	Tubing sizes accepted	Drive included	Drive speed range (rpm)	Drive IP rating	Power (50/60 Hz)
<a href="#">HL-77915-10</a>	80 to 800	L/S PTFE diaphragm 07090-42	1/4" ID x 3/8" OD PTFE tubing 06605-15; 3.6 m (12 ft)	—	07528-10	40 to 400‡	IP33	90 to 260 VAC

†Also includes pipe adapters and check valve. ‡Recommended drive speed operating range for included pump head.

[HL-07090-43](#) Service kit includes diaphragm, check valves, installation tool and instructions.

[HL-07090-45](#) Check valve.

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