

## L/S® EASY-LOAD® 3 PUMP HEADS

### FEATURES/BENEFITS

- ▶ Deliver flow rates from 0.06 to 2900 mL/min
- ▶ Automatic tubing retention speeds tube loading and fluid changeover
- ▶ Same side tubing entry/exit for easy integration into space-limited applications
- ▶ Long occlusion surface prevents fluid backflow
- ▶ Included mounting plate adapts head to L/S drives
- ▶ Mount and operate head in any of four positions
- ▶ Locking tab secures head during operation in either direction of rotation
- ▶ Twist-lock mounting feature lets you mount and stack heads in seconds without tools or hardware
- ▶ Stackable for multiple-channel pumping and increased flow capacity
- ▶ Pump heads accept several tubing sizes

### SELECTION CRITERIA

1. Flow rate/tube size desired.
2. Materials of construction (rotor).
3. Compatibility with drives.

Silicone tubing (43 cm or 17") and mounting plate/adaptor supplied.

See specifications for more information.

**Order tubing and drives separately.**

### COMPATIBILITY WITH DRIVES

- ▶ Mount on all drives accepting Masterflex L/S pump heads

### NOTES

Use only Masterflex pump tubing with Masterflex pumps to ensure optimal performance. Use of other tubing may void applicable warranties.

### PUMP HOUSING SPECIFICATIONS

#### Polypropylene (PP)

- ▶ General-purpose applications
- ▶ Good protection from corrosive liquids/vapors
- ▶ Select from CRS/Buna N or 400-series SS/PTFE shielded ball bearing

#### ROLLER/ROTOR SPECIFICATIONS

#### Plated Cold-Rolled Steel (CRS)

- ▶ General-purpose applications
- ▶ Humidity: 0 to 90%
- ▶ Ball-bearing construction
- ▶ Continuous duty up to 600 rpm
- ▶ Precision and high-performance precision tubing versions

#### 300-Series Stainless Steel (SS)

- ▶ Corrosive fluids
- ▶ Humidity: 0 to 90%
- ▶ PTFE shielded ball-bearing construction (highest life expectancy)
- ▶ Continuous duty up to 600 rpm
- ▶ Precision and high-performance precision tubing versions

### MULTICHANNEL CAPABILITIES

- ▶ Mount up to four Easy-Load 3 pump heads on a single drive without tools or hardware



Easy-Load 3 pump head 77800-60

### ORDERING INFORMATION

Pump tubing size	PP housing	
	CRS rotor	SS rotor
<b>For Precision tubing</b>		
L/S 13	HL-77800-50	HL-77800-60
L/S 14		
L/S 16		
L/S 25		
L/S 17		
L/S 18		
<b>For High-performance precision tubing</b>		
L/S 15	HL-77800-52	HL-77800-62
L/S 24		
L/S 35		
L/S 36		

PP = polypropylene CRS = cold-rolled steel  
SS = stainless steel



Tubing retainers automatically stretch and grip tubing when head is closed.

### L/S PUMP TUBING FLOW RATE INFORMATION

Order Masterflex L/S pump tubing separately on pages 68–73.

Tubing cross sections	L/S Precision pump tubing						L/S High-performance Precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
Flow rate—mL/rev	0.06	0.21	0.8	1.7	2.8	3.8	1.7	2.8	3.8	4.8
mL/min @ 600 rpm	36	130	480	1000	1700	2300	1000	1700	2300	2900
Max pressure†	2.7 bar (40 psi)			2.4 bar (35 psi)	1.4 bar (20 psi)	1.0 bar (15 psi)	2.0 bar (30 psi)		1.7 bar (25 psi)	1.4 bar (20 psi)
Max vacuum†	660 mm Hg (26" Hg)				510 mm Hg (20" Hg)		660 mm Hg (26" Hg)			
Suction lift	8.8 m H <sub>2</sub> O (29 ft H <sub>2</sub> O)				6.7 m H <sub>2</sub> O (22 ft H <sub>2</sub> O)		8.8 m H <sub>2</sub> O (29 ft H <sub>2</sub> O)			

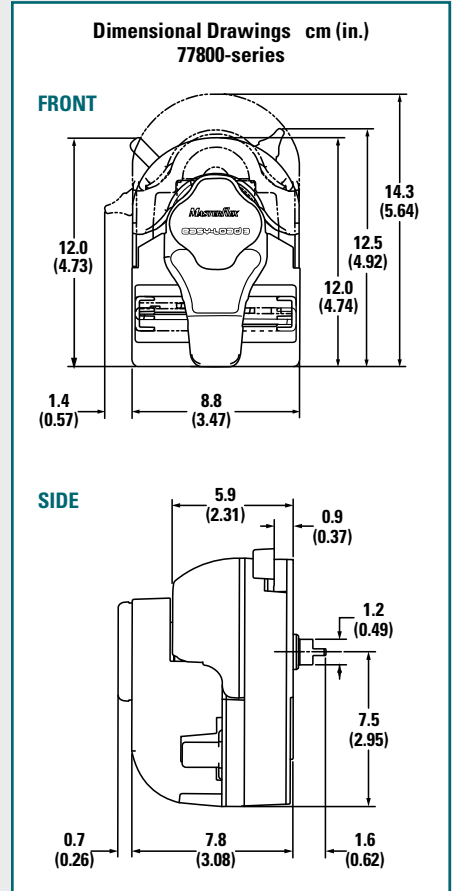
†Actual performance varies depending upon tubing materials—see pages 20–24 and 172–192 for more information.



## SPECIFICATIONS for L/S Easy-Load 3 Pump Heads

Catalog number	HL-77800-50 HL-77800-52	HL-77800-60 HL-77800-62
<b>Performance Specifications</b>		
Flow capacity	0.001 to 2900 mL/min (0.19 to 45.8 GPH) <sup>†</sup>	
Max rpm	600	
Number of rollers	3	
<b>Torque Specifications [a single head pumping water at 0 psi, 21.1°C (70°F)]<sup>‡</sup></b>		
Norprene®, PharMed® BPT	Starting torque	9.4 kg-cm (130 oz-in)
	Running torque	2.2 kg-cm (30 oz-in)
Tygon®, Viton®	Starting torque	15.8 kg-cm (220 oz-in)
	Running torque	3.6 kg-cm (50 oz-in)
C-FLEX®, Silicone	Starting torque	4.7 kg-cm (65 oz-in)
	Running torque	2.9 kg-cm (40 oz-in)
<b>Physical Specifications</b>		
Housing material	Polypropylene	
Rotor material	Cold-rolled steel	Stainless steel
Operating temperature	0 to 40°C (32 to 104°F)	
Shipping weight	0.9 kg (1.9 lb)	

<sup>†</sup>Depending on pump head and tubing selected. <sup>‡</sup>Maximum torque depends on tubing size.



### Mounting Your Pump Head



Attach mounting plate to your L/S drive.



Twist and lock Easy-Load 3 pump head onto mounting plate.

### Stacking Your Pump Head



For multiple-channel applications, simply remove the front cover and . . .



Stack pump heads up to the limits of your drive.

### HOW TO LOAD YOUR PUMP HEAD



1. With head on drive, rotate activator lever counter-clockwise to open occlusion bed and tubing retainers.



2. Place tubing over rollers and through retainers.



3. Rotate activator lever clockwise to close occlusion bed and retainers.

### FREE TUBING TEST KIT!

#### Can't find your chemical in the tables?

Request your FREE tubing kit to test compatibility of your chemicals against different tubing formulations. Request item HL-00101-10.

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



L/S TUBING .....	68-73
L/S DRIVES .....	74-107
L/S PUMP SYSTEMS .....	108-117

ACCESSORIES ..... 160-171

TECHNICAL DATA ..... 172-206