L/S® Precision Variable-Speed Drives
TECHNICAL DATA SHEET

GENERAL DESCRIPTION

The Masterflex® L/S® Precision Variable-Speed drive offers a powerful and efficient brushless motor and accurate, repeatable speed control with a 3-digit LED display indicating motor speed in rpm. These L/S® precision variable-speed console drives offer precise ±0.25% speed control for accurate flow regulation. The large LED display and LED indicators confirm motor rpm and motor direction at a glance. This drive provides flow rates from 0.06 to 3400 mL/min, is compatible with all L/S® pump heads and has the capacity to mount from two to four L/S® heads on a single drive.

MARKETS & APPLICATIONS

Ideal for fluid transfer, filtration, dispensing and metering applications in process, manufacturing, and laboratory environments including industrial, chemical, water treatment, food & beverage, dairy, manufacturing, pharmaceutical, and biotech.

FEATURES & BENEFITS

- Flow rate 0.06 to 3400 mL/min—flow rate depends on drive rpm, pump head, and tubing size
- 3- digit LED display shows motor rpm — confirm speed setting at a glance
- Membrane keypad for easy up-front control of speed, direction, and start/stop
- Brushless, maintenance-free reversible motor—purge tubing before or after pumping; pump fluid in either direction
- Open-head sensor (OHS) capability – drive motor shuts down when pump head is opened (when OHS equipped pump head is mounted)
- LED indicators confirm motor direction
- Powerful motor lets you stack 2 or 4 pump heads for increased flow rates and for multichannel applications
- Stackable, splash-resistant ABS plastic housing; IP33 rated
- Remote control capabilities via a DB9 female connector on back of drive
    - Speed control input: 4 to 20 mA or 0 to 10 VDC
    - Pump direction (CW/CCW) via open collector or contact closure
    - Start/stop via open collector or contact closure

imLab
EQUIPEMENTS SCIENTIFIQUES
POUR LABORATOIRE & INDUSTRIE
Contact web
www.imlab.eu
info@imlab.eu
Téléphone
+33(0)3 20 55 19 11
+32(0)16 73 55 72

OPERATION MODES

The drive operates by controlling the pump speed via rpm though the UP (increase) and DOWN (decrease) arrow keys. Clockwise/Counterclockwise flow direction is set with FLOW DIRECTION key and active direction is indicated on LED display. INTERNAL/EXTERNAL key changes the drive operation mode between local (internal) control and external (remote) control.

DIMENSIONS / DRAWINGS

TUBING AND FLOW RATE INFORMATION

Flow rates[t] are dependent on the pump-head/drive model, tubing size and specific application/conditions.

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 range @ 6 to 600 rpm	0.36 to 36	1.3 to 130	4.8 to 480	10 to 1000	17 to 1700	23 to 2300	10 to 1000 (11 to 1100)	17 to 1700 (18 to 1800)	23 to 2300 (26 to 2600)	29 to 2900 (34 to 3400)
Flow range @ 3 to 300 rpm	0.18 to 18	0.65 to 65	2.4 to 240	5 to 500	8.5 to 850	11.5 to 1150	5 to 500 (5.5 to 550)	8.5 to 850 (9 to 900)	11.5 to 1150 (13 to 1300)	14.5 to 1450 (17 to 1700)
Flow range @ 1 to 100 rpm	0.06 to 6	0.21 to 21	0.8 to 80	1.7 to 170	2.8 to 280	3.8 to 380	1.7 to 170 (1.8 to 180)	2.8 to 280 (3.0 to 300)	3.8 to 380 (4.3 to 430)	4.8 to 480 (5.8 to 580)

Note: Tubing dimensions are not to scale. Flowrates in parenthesis can be obtained with the L/S High Performance pump heads.
[t]Flow rates determined under the following conditions: 0 psi at inlet, 0.5 psi at outlet using water at 22ºC (72ºF)

COMPATIBLE PUMP HEADS

L/S® Standard, L/S® Easy-Load®, L/S® Easy-Load® II, L/S® Easy-Load® 3, L/S® High Performance, L/S® Multichannel Cartridge, L/S ® Multichannel, L/S® PTFE-Tubing Pump-head, L/S® PTFE-Diaphragm and L/S® Cytoflow® pump head.

SPECIFICATIONS

Model Number		MFLX07527-10	MFLX07527-20	MFLX07527-30
Performance specifications				
Flow capacity		0.36 to 3400 mL/min	0.18 to 1700 mL/min	0.06 to 580 ml/min
rpm		6 to 600	3 to 300	1 to 100
Number of heads accepted		2	2	4
Maximum torque	Starting	381 N-cm (540 oz-in)	381 N-cm (540 oz-in)	762 N-cm (1080 oz-in)
	Running	127 N-cm (180 oz-in)	127 N-cm (180 oz-in)	254 N-cm (360 oz-in)
Reversible		Yes		
External control -- Input		Speed control via 4 to 20 mA, 0 to 10 V; START/STOP, CW/CCW, PRIME via contact closure		
Electrical specifications				
Voltage VAC (50/60 Hz)		90 to 260		
Current		2.2 A at 115 V; 1.1 A at 230 V		
Fuse rating		3.15 A / 250 V		
Motor type		Continuous-duty, brushless DC		
Motor size		75 W (1/10 hp)		
Display		Single-line, 3-digit, LED (rpm)		
Motor/speed control type		PWM with microprocessor		
Speed regulation		±0.25%		
Soft start/electronic brake		Yes/Yes		
Physical specifications				
Housing materials		Stackable ABS plastic housing and coated aluminum base		
IP rating		IP33		
Agency listings		UL, cUL, CE, RoHS 2		
Operating temperature		0° to 40°C (32° to 104°F)		
Storage temperature		-25° to 65°C (-13° to 149°F)		
Dimensions (L x W x H)		27.4 x 21.1 x 21.6 cm (10.8" x 8.3" x 8.5")		
Shipping weight		6.9 kg (15.2 lb.)		

ORDERING INFORMATION

L/S Precision Variable-Speed Drive

Model Number	rpm	Power (50/60 Hz)
MFLX07527-10	6 to 600	90 to 260 VAC
MFLX07527-20	3 to 300	90 to 260 VAC
MFLX07527-30	1 to 100	90 to 260 VAC

Drive Accessories:

Model Number	Description
MFLX77595-35	**Footswitch,** momentary start/stop; 6-ft (1.8-m) cable with DB9 connector
MFLX07595-45	**DB9 male connector**; for creating your own cable
MFLX07595-47	**Cable assembly,** DB9 male connector and 25-ft (7.9-m) cable with stripped wire ends for remote control
MFLX07528-80	**Handheld remote controller;** 6-ft (1.8-m) cable with DB9 connector

COMPLETE PUMP SYSTEMS

MFLX77917-00
MFLX77917-10

MFLX77917-20
MFLX77917-30

MFLX77912-20

MFLX77914-30

MFLX77926-20

Order components for complete system or choose from our preassembled complete systems below.

Model Number	Flow range† (mL/min)	Pump head included	Tubing included	Tubing sizes accepted	Drive included	Power
Masterflex® L/S® Precision Pump Systems with Easy-Load® II Pump Head						
MFLX77917-00	4.8 to 480	L/S® Easy-Load® II MFLX77200-60	L/S 16; 3 m (10 ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	MFLX07527-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz
MFLX77917-10	17 to 1700	L/S® Easy-Load® II MFLX77200-62	L/S 24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	MFLX07527-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz
Masterflex® L/S® Precision Pump Systems with Easy-Load® II Pump Head with Open-Head Sensor						
MFLX77917-20	4.8 to 480	L/S® Easy-Load® II Open-Head Sensor MFLX77200-30	L/S 16; 3 m (10 ft)	L/S 13, L/S 14, L/S 16, L/S 25, L/S 17, L/S 18	MFLX07527-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz
MFLX77917-30	17 to 1700	L/S® Easy-Load® II Open-Head Sensor MFLX77200-32	L/S 24; 3 m (10 ft)	L/S 15, L/S 24, L/S 35, L/S 36	MFLX07527-10 6 to 600 rpm	90 to 260 VAC, 50/60 Hz
Masterflex® L/S® Precision PTFE Tubing Pump System						
MFLX77912-20	0.75 to 65	L/S® PTFE Tubing Pump Head MFLX77390-00	6-mm OD PTFE Tubing Set MFLX77390-60	4-mm and 6-mm OD PTFE Tubing Sets	MFLX07527-20 3 to 300 rpm	90 to 260 VAC, 50/60 Hz
Masterflex® L/S® Precision High-Pressure Tubing Pump System						
MFLX77914-30	0.9 to 90	L/S® High-Performance Pump Head MFLX77252-72	L/S 16HP 2.4 m (8 ft)	L/S 16HP, L/S 15HP	MFLX07527-30 1 to 100 rpm	90 to 260 VAC, 50/60 Hz
Masterflex® L/S® Precision Multichannel Pump System						
MFLX77926-20	0.47 to 47 per channel	L/S® Multichannel, 4-channel, 6-roller MFLX07535-04	2-stop, L/S 16 Tube Set Pack of 8	2-stop L/S 13, L/S 14, L/S 16	MFLX07527-30 1 to 100 rpm	90 to 260 VAC, 50/60 Hz

†**Note:** flow range shown is with included L/S tubing; extend the flow range of these systems with the accepted tubing sizes listed above.