avantor™

Masterflex®
L/S® MasterSense™

BioPharma Pump

Masterflex®
part of avantor™

Reimagine an easier way to pump with MasterSense drives. Intuitive programming and forward-looking features enable you to work smarter and pump easier than ever before. And, with the same great features as all Masterflex peristaltic pump drives including high precision, repeatable flow control, and reliable performance, you can have it all in one small footprint—even more bench space.

- Versatile system components
- Intuitive touch-screen interface
- Easy programming functionality
- Innovative forward-looking features
- Multiple connectivity options

Intuitive touch-screen interface

- Quick and easy to set up and program
- 5" capacitive TFT/RGB touch screen with a clear, wide viewing angle
- Adjust parameters with a simple touch— even with gloves on

Easy & accurate

- 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

Innovative features

- **Over-the-air firmware updates**—allows you to take full advantage of future enhancements. Rest assured you will always have the latest technology on your MasterSense drive.
- **Three-tier access to pump functionality**—use this option to protect your process by controlling who can operate the pump and at what level. Offers two-factor security with user name and password required.
- Know when you hit your mark—graphical indicator lets you know when loaded tubing is **optimally calibrated**

Continuous Run

Volume Dispense
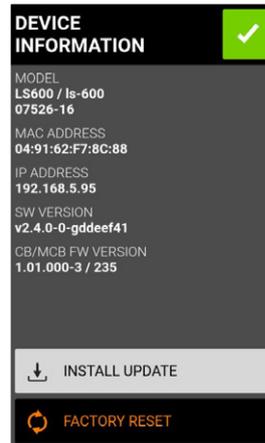
Over-The-Air Firmware Update
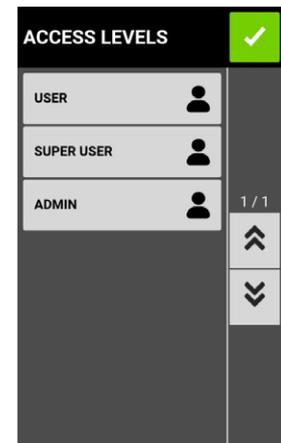
Three-Tier Access

Time Dispense

Saved Programs
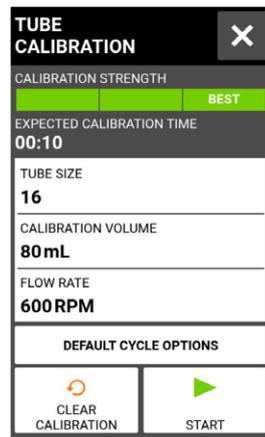
Calibration

Connectivity options

Get your preferred way to work with multiple ways to operate the drive—via touch screen, analog remote, or choose a connectivity option. When you need remote pump monitoring, our cloud-based MasterflexLive® technology would be the ideal choice. For a digital protocol to suit your automation needs, we offer both EtherNet/IP™ and Profibus capability.

- Capable of several connectivity and control options—MasterflexLive®, EtherNet/IP™, or Profibus
- MasterflexLive—our secure, cloud-enabled platform for remote monitoring of critical processes running 24/7 without the need for onsite personnel. Push notifications alert you to changes in operating conditions and error messages.

MasterflexLive is proprietary technology—patent pending.
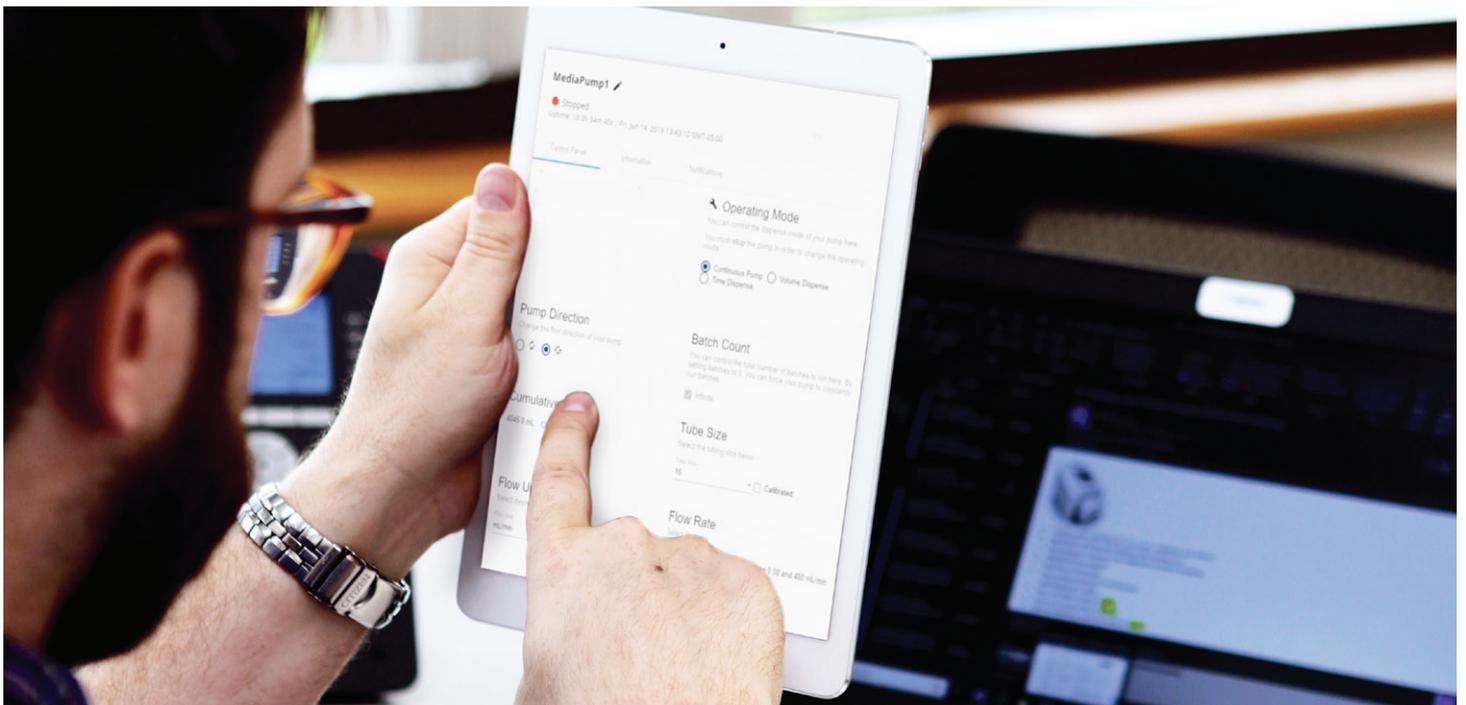
Powerful performance

- Broad flow range, from 0.001 to 3400 mL/min, for use on the process floor and in the lab

- Internet connection via Wi-Fi or standard Ethernet (RJ45) jack on rear of drive

- Open-head sensor technology stops the drive motor when pump head is opened or connect it to a remote leak detector to indicate ruptured filters, failed gaskets, or leaky tube connections

- Brushless, maintenance-free motor provides ±0.1% speed control accuracy with 6000:1 turndown ratio

- Bidirectional flow and self-priming capabilities allow for smooth, seamless operation

Versatility— a pump head for every application

Build the pump system for your specific needs with ten styles of Masterflex L/S pump heads available. All are compatible with the MasterSense drive.

Pump Head Selection

High-Performance

Easy-Load®

Easy-Load® 3

Easy-Load® II

Cytoflow®

Standard

Multichannel

Multichannel Cartridge

PTFE-Tubing

PTFE-Diaphragm

Versatility—tubing for every application

Optimize your demanding peristaltic pump applications when you use Masterflex pump tubing—specifically designed and manufactured for Masterflex peristaltic pumps. Select Precision tubing or the thicker-walled High-Performance Precision tubing which improves pressure generation, suction lift, ability to pump viscous fluids, and tubing life. See all available tubing formulations at Masterflex.com/tubing.

PURI-FLEX™

- Heat sealable, weldable, and a great alternative to leading TPE's
- Longer pump life and lower spallation when compared to silicone or many other TPE tubings
- USP Class VI, FDA, 3A, REACH, RoHS, ADCF

PLATINUM-CURED SILICONE

- Low protein binding, fungus resistant, phthalate and latex-free
- Accommodates a wide temperature range
- USP Class V, EP, FDA, REACH, RoHS, ADCF

TYGON® E-FOOD (B-44-4X)

- Smooth inner surface unaffected by commercial sanitizers
- Nontoxic; will not affect taste or odor
- FDA, EU Food, NSF, 3A, REACH, RoHS, ADCF

VITON®

- Perfect for applications where FDA and chemical compatibility is needed
- Resists corrosives, solvents, and oils at elevated temperatures
- FDA, ADCF

Masterflex size	Puri-Flex™ 25 ft (7.6 m)	Platinum-cured silicone 25 ft (7.6 m)	Tygon® E-Food (B-44-4X) 50 ft (16.2 m)	Viton® 25 ft (7.6 m)
	Item number	Item number	Item number	Item number
Precision pump tubing				
L/S 13	MFLA96419-13	MFLA96410-13	MFLA06418-13	MFLA96412-13
L/S 14	MFLA96419-14	MFLA96410-14	MFLA06418-14	MFLA96412-14
L/S 16	MFLA96419-16	MFLA96410-16	MFLA06418-16	MFLA96412-16
L/S 25	MFLA96419-25	MFLA96410-25	MFLA06418-25	MFLA96412-25
L/S 17	MFLA96419-17	MFLA96410-17	MFLA06418-17	MFLA96412-17
L/S 18	MFLA96419-18	MFLA96410-18	MFLA06418-18	MFLA96412-18
High-Performance Precision pump tubing				
L/S 15	MFLA96419-15	MFLA96410-15	MFLA06418-15	MFLA96412-15
L/S 24	MFLA96419-24	MFLA96410-24	MFLA06418-24	MFLA96412-24
L/S 35	MFLA96419-35	MFLA96410-35	MFLA06418-35	MFLA96412-35
L/S 36	MFLA96419-36	MFLA96410-36	MFLA06418-36	MFLA96412-36

System with
Easy-Load II
Pump Head

System with
Easy-Load
Pump Head

Technical specs & ordering information

Flow rates in mL/min (flow rates in parentheses can be obtained only with the L/S High-Performance pump head)

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
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 (0.58 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 180)	0.057 to 280 (0.060 to 300)	0.077 to 380 (0.086 to 430)	0.096 to 480 (0.113 to 580)

Specifications

Speed control accuracy (resolution)	±0.1% (0.1 rpm at 600 rpm; 0.01 rpm at 100 rpm)
Display	5" capacitive TFT/RGB touch screen with in-plane switching (wide viewing angle); 800 x 480 pixels
External control - input	0 to 20 mA, 20 to 0 mA, 4 to 20 mA, 20 to 4 mA; 0 to 10 V, 10 to 0 V, 0 to 5 V, 5 to 0 V; Start/stop, Direction (CW/CCW), Prime via contact closure
External control - output	0 to 20 mA, 20 to 0 mA, 4 to 20 mA, 20 to 4 mA; 0 to 10 V, 10 to 0 V, 0 to 5 V, 5 to 0 V; Tach output (open collector), Motor running, Open head, Local/Remote, General alarm
Motor	BLDC with encoder; continuous duty; reversible; 1/10 hp (75 W)
Open-head sensor	Yes; extension cable included
Housing materials	ABS plastic housing, painted aluminum chassis, painted aluminum bezel
Enclosure rating	IP33
Agency approvals	UL, cUL, CE
Warranty	2 years
Dimensions (L x W x H)	10¼" x 7⅝" x 8½" (26 x 19.4 x 21.6 cm)
Shipping weight	11 lb (5 kg)
Power	90 to 260 VAC, 50/60 Hz

MasterSense Drive Ordering Information

rpm	Flow range	Pumps heads accepted	With EtherNet/IP and MasterflexLive	With Profibus and MasterflexLive
			Item number	Item number
0.1 to 600	0.006 to 3400 mL/min	2	MFLA07526-10	MFLA-07526-12
0.02 to 100	0.001 to 580 mL/min	4	MFLA07526-20	MFLA-07526-22

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

MK-07523-94 DB25 male connector. Use to create your own cable

MK-07523-95 Cable assembly for remote control; DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends

MK-07523-97 Handheld remote controller; route tubing through handle for dispensing into containers

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

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	MFLA-77920-40
			L/S MasterSense drive 07526-12, 0.1 to 600 rpm, with Profibus and MasterflexLive	MFLA-77920-50
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	MFLA77920-42
			L/S MasterSense drive 07526-12, 0.1 to 600 rpm, with Profibus and MasterflexLive	MFLA-77920-52

![Masterflex® part of avantor™ logo]

Masterflex, part of Avantor, is a leading, global fluidics manufacturer of proprietary products— with certifications to help you stay compliant—for your complete fluidic path. Along with our wide range of products, from pumps and tubing to flowmeters and single-use components, we are your consultant to help you optimize your full fluidics workflow from research to process. And, when one of our standard offerings won't fit your application, we can help you succeed with a custom-engineered OEM pump solution to meet your exact needs and budget.

Our products are known for their accuracy, durability, and ease-of-use. They can be seen in facilities around the world particularly in the pharmaceutical, biopharmaceutical, food & beverage, and chemicals industries. Avantor single-use products can also be used in any bioprocess and R&D industries where fluidics is required.
Contact our team today.