

Masterflex® B/T® MasterSense™

Biopharma Pump



MASTERflex®



Reimagine an easier way to pump with the Masterflex® MasterSense™ B/T BioPharma Process pump. 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 pumps including high precision, repeatable flow control and reliable performance, you can have it all in a rugged, IP66-rated stainless steel enclosure—perfect for sanitary and washdown environments.

**IP66-rated 316
stainless steel
enclosure**

**Intuitive
touchscreen
interface**

**Easy
programming
functionality**

**Over-the-air
firmware
updates**

**Multiple
connectivity
and protocol
options**

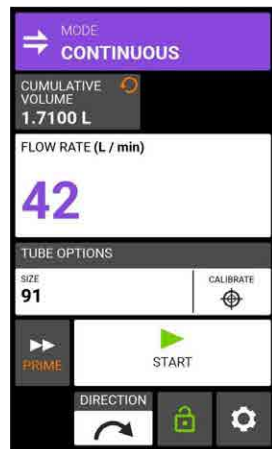
Intuitive touchscreen interface

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

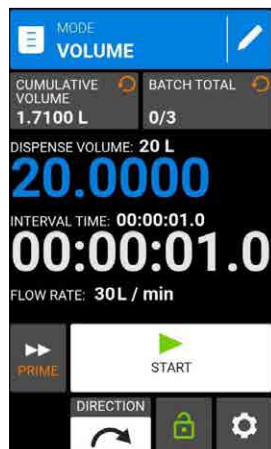


Easy & accurate

- 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



Continuous Run



Volume Dispense

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
- PIN-protected Feature Control lets you regulate access to specific pump control features and functionality
- Know when you hit your mark—graphical indicator lets you know when loaded tubing is optimally calibrated
- Easy pressure sensor integration—bring single point pressure values to the pump interface in real time. High/low set point alarms can be set to trigger either a warning and/or pump shut off



Over-The-Air Firmware Update



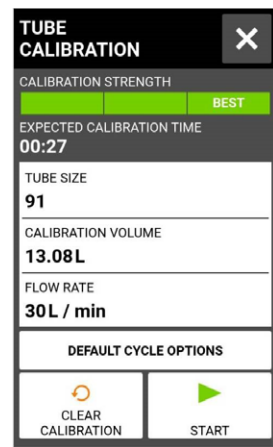
PIN-protected Feature Control



Time Dispense



Saved Programs



Calibration

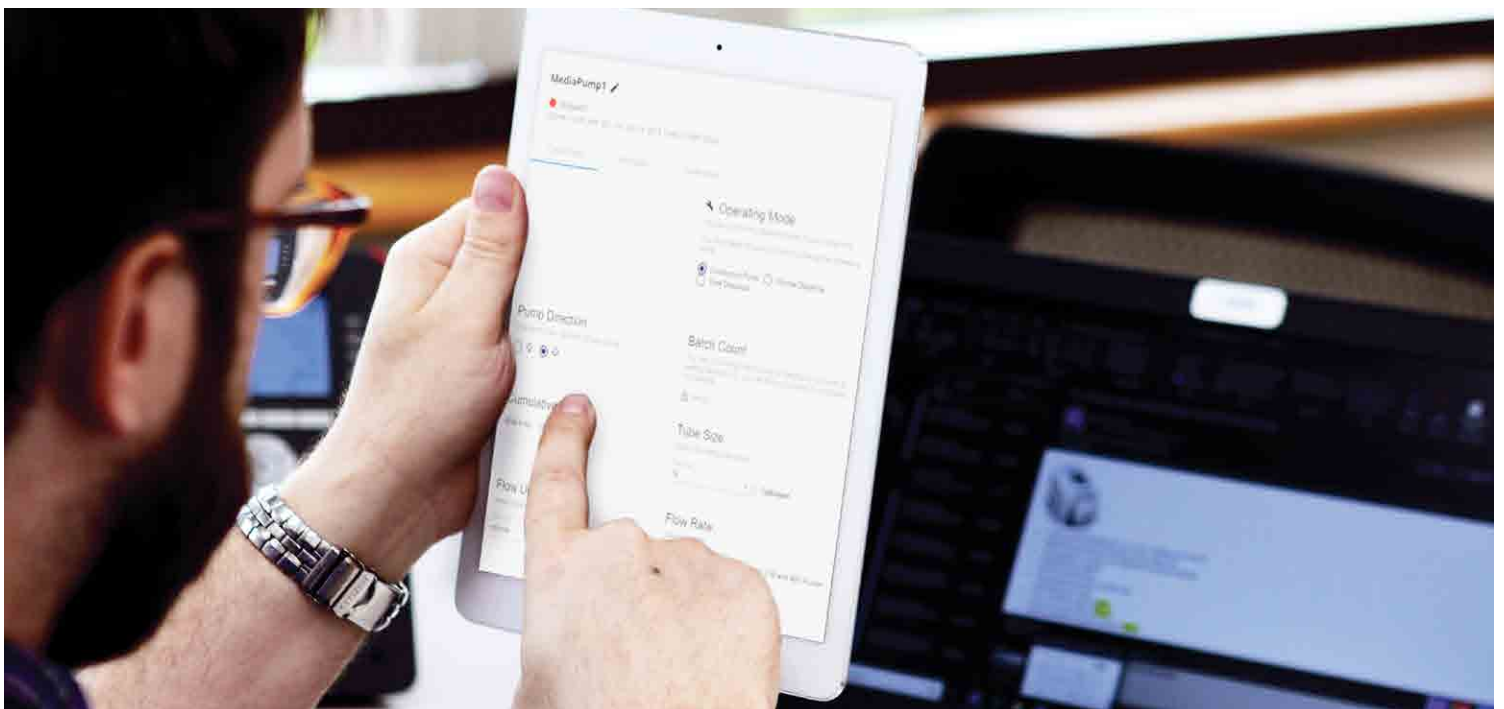


Connectivity options

Get your preferred way to work with multiple ways to operate the pump—via touchscreen, 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 EtherNet/IP, Profinet and Profibus capability.

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

MasterflexLive is proprietary technology—patent pending.





Powerful performance

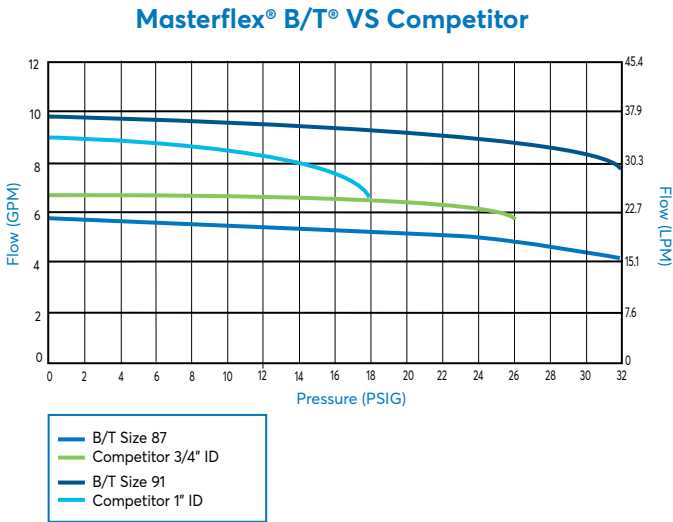
- Flow range from 0.65 to 42 LPM (0.17 to 11.1 GPM) for integration into high-flow bioprocess applications
- Enable cloud connectivity via Wi-Fi or standard Ethernet (RJ45) jack on rear of drive
- Open-head sensor technology stops the drive motor when pump head is opened
- Low-shear peristaltic pumping action ensures the integrity and viability of bioprocess fluids and suspensions
- Bidirectional flow and self-priming capabilities allow for smooth, seamless operation

Optimal tubing life

- Rapid-Load® pump head occlusion mechanism slides occlusion bed out of the way for easy tube loading and repeatable performance
- No need for extra fittings (potential sources of contamination)—use a single tube length from source to delivery point
- Tubing sizes ensure fully rated performance under higher pressure applications

INDUSTRY-LEADING PERFORMANCE

Get flow rate consistency across full pressure range



PerfectPosition® Pump Tubing Specifications

Tubing cross sections	PerfectPosition pump tubing	
	B/T 87	B/T 91

Masterflex PerfectPosition® Pump Tubing

Pump tubing formulations		PerfectPosition pump tubing size	
		B/T 87	B/T 91
Puri-Flex®	3.0 m (10 ft) per pack	MFLX96419-87	MFLX96419-91
Silicone (platinum-cured)	3.0 m (10 ft) per pack	–	–
C-Flex®	3.0 m (10 ft) per pack	MFLX06424-87	MFLX06424-91
PharMed® BPT	3.0 m (10 ft) per pack	MFLX06507-87	MFLX06507-91
PharmaPure®	3.0 m (10 ft) per pack	–	MFLX06437-91
Chem-Durance® Bio	3.0 m (10 ft) per pack	MFLX06443-87	MFLX06443-91
Tygon® E-LFL	3.0 m (10 ft) per pack	MFLX06440-87	MFLX06440-91



Versatility—tubing for every application

Optimize your demanding peristaltic pump applications when you use our PerfectPosition® pump tubing—specifically designed and manufactured for the Masterflex B/T pump. 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 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

PHARMED® BPT

- Resistant to ozone and UV radiation
- Noncytotoxic and nonhemolytic; ideal for tissue and cell culture work
- USP Class VI, EP, FDA, REACH, RoHS

PHARMAPURE®

- Biocompatible; nontoxic and nonhemolytic
- Very low spallation and low extractables
- USP Class VI, EP, FDA, REACH, RoHS

CHEM-DURANCE® BIO

- Excellent chemical resistance and biocompatibility
- Excellent life and durability under pressure work
- USP Class VI, REACH, RoHS, ADCF

PerfectPosition pump tubing size	Puri-Flex®	Platinum-cured silicone	PharMed® BPT	PharmaPure®	Chem-Durance® Bio
	3.0 m (10 ft)	3.0 m (10 ft)	3.0 m (10 ft)	3.0 m (10 ft)	3.0 m (10 ft)
	Item number	Item number	Item number	Item number	Item number
B/T 87	MFLX96419-87	–	MFLX06507-87	MFLX06443-87	MFLX06443-87
B/T 91	MFLX96419-91	–	MFLX06507-91	MFLX06437-91	MFLX06443-91



Technical specs & ordering information

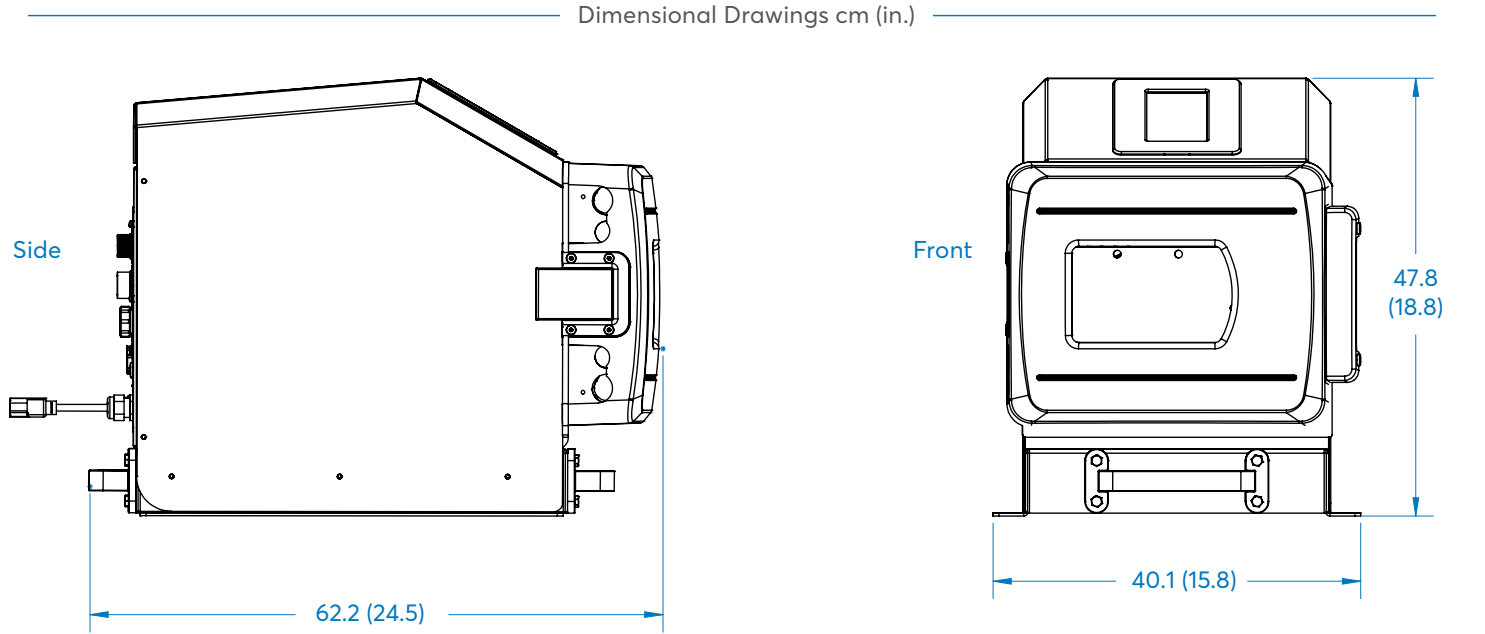
Ordering Info

Flow range, LPM (GPM)		Drive rpm	Speed control (resolution)	Open-head sensor	Pump head	Connectivity	Item number
B/T 87	B/T 91						
0.65 to 18.9 (0.17 to 5)	1.3 to 42 (0.3 to 11.1)	11 to 321	±0.1%	Yes	B/T Rapid-Load® (integrated)	EtherNet/IP, Profinet, Profibus, and MasterflexLive	MFLX77112-10

MFLX07575-80 Cable assembly for remote control; 7.6 m (25 ft) cable with stripped wire ends

Specifications

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	Continuous duty, TENV, BLDC; microprocessor-based PWM; reversible; 370 W (0.5 hp)
Maximum torque	1130 N-cm (1600 oz-in) starting; 1017 N-cm (1440 oz-in) running
Housing materials	316 stainless steel housing, stainless steel chassis, stainless steel bezel
Pump head materials	Powder-coat carbon steel and cast aluminum, stainless steel, polycarbonate, Nylatron® rollers
Enclosure rating	IP66
Agency listings	UL, cUL, CE, DLS
Dimensions (L x W x H)	62.2 x 40.1 x 47.8 cm (24½" x 15⅓⁄₁₆" x 18⅓⁄₁₆")
Shipping weight	54.5 kg (120 lb)
Power	90 to 260 VAC, 50/60 Hz



MASTERFLEX®

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.