

Masterflex® B/T® MasterSense™

Biopharma Pump





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
touch-screen
interface**

**Easy
programming
functionality**

**Over-the-air
firmware
updates**

**Multiple
connectivity
and protocol
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

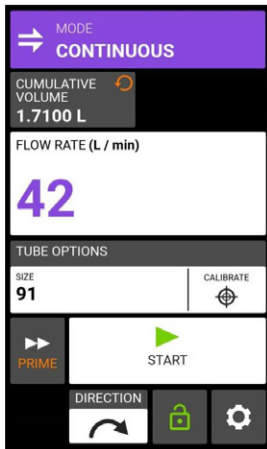


Easy & accurate

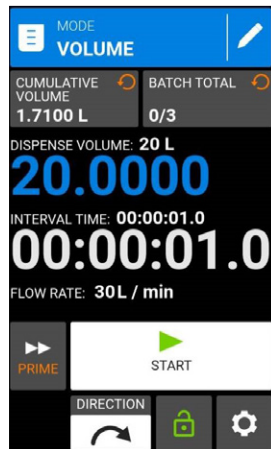
- Operational modes include continuous run, volume dispense, and time dispense
- Save and recall up to 50 commonly used protocols, each with a unique name
- Batch control and interval/off time in volume and time modes

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**



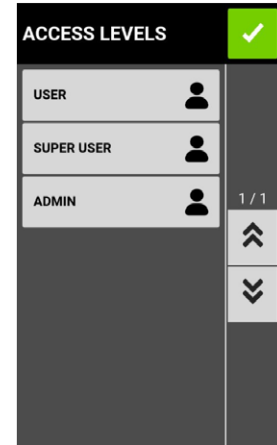
Continuous Run



Volume Dispense



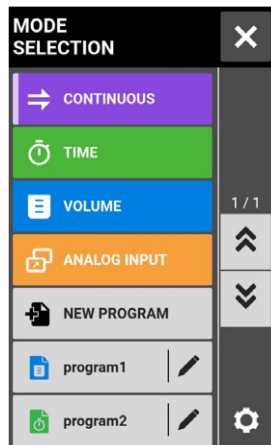
Over-The-Air Firmware Update



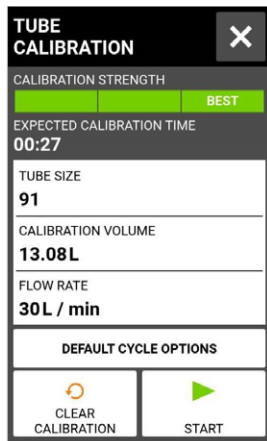
Three-Tier Access



Time Dispense



Saved Programs



Calibration



Connectivity options

Get your preferred way to work with multiple ways to operate the pump—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—Master flexLive, EtherNet/IP, Profibus, and analog remote
- MasterflexLive—our secure, cloud-enabled platform for remote monitoring of critical processes running 24/7 without the need for on-site personnel. Push notifications alert you to changes in operating conditions and error messages.

MasterflexLive is proprietary technology—patent pending.





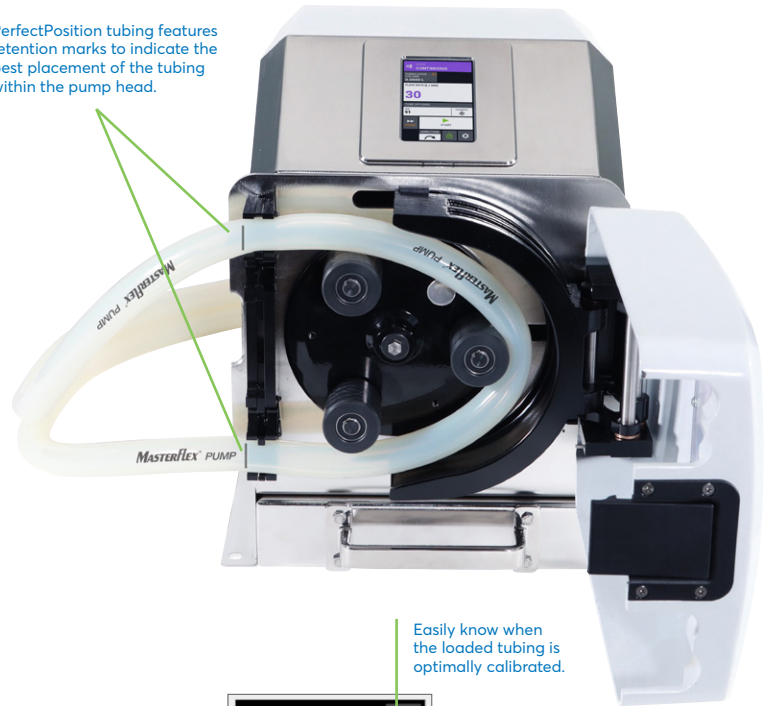
Powerful performance

- 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

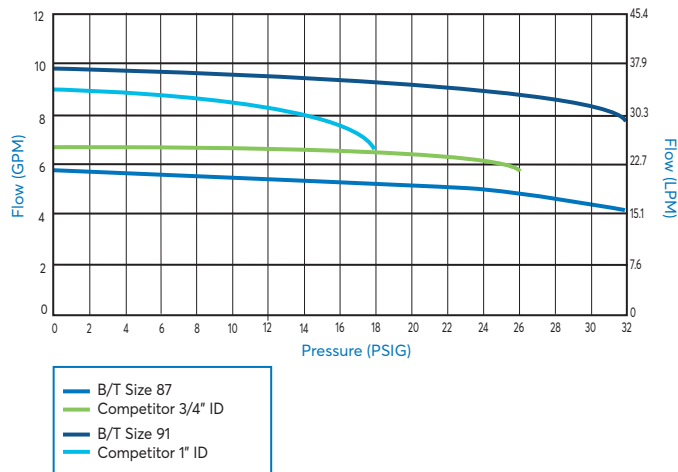
PerfectPosition tubing features retention marks to indicate the best placement of the tubing within the pump head.



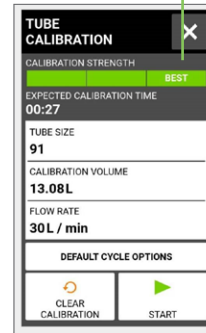
INDUSTRY-LEADING PERFORMANCE

Get flow rate consistency across full pressure range

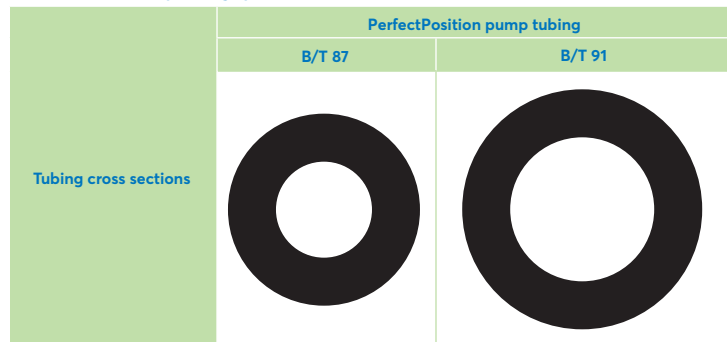
Masterflex® B/T® VS Competitor



Easily know when the loaded tubing is optimally calibrated.



PerfectPosition® Pump Tubing Specifications



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	MFLA96419-87	MFLA96419-91
Silicone (platinum-cured)	3.0 m (10 ft) per pack	-	-
BioPharma Plus silicone (platinum-cured)	3.0 m (10 ft) per pack	MFLA96445-87	MFLA96445-91
C-Flex®	3.0 m (10 ft) per pack	MFLA06424-87	MFLA06424-91
PharMed® BPT	3.0 m (10 ft) per pack	MFLA06507-87	MFLA06507-91
PharmaPure®	3.0 m (10 ft) per pack	-	MFLA06437-91
Chem-Durance® Bio	3.0 m (10 ft) per pack	MFLA06443-87	MFLA06443-91
Tygon® E-LFL	3.0 m (10 ft) per pack	MFLA06440-87	MFLA06440-91



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 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

BIOPHARMA PLUS SILICONE

- Longest tubing life of any silicone pump tubing
- Enhanced pressure capability; low spallation and gas permeability
- USP Class VI, FDA, 3A, REACH, RoHS

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	BioPharma Plus silicone (platinum-cured)	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)	3.0 m (10 ft)
	Item number	Item number	Item number	Item number	Item number	Item number
B/T 87	MFLA96419-87	-	MFLA96445-87	MFLA06507-87	MFLA06443-87	MFLA06443-87
B/T 91	MFLA96419-91	-	MFLA96445-91	MFLA06507-91	MFLA06437-91	MFLA06443-91



Technical specs & ordering information

Ordering Info

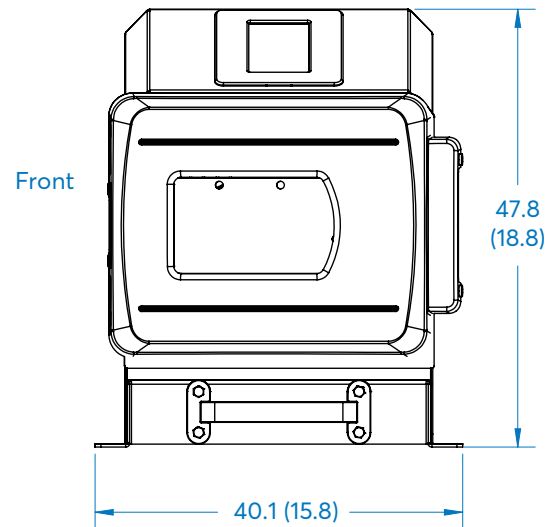
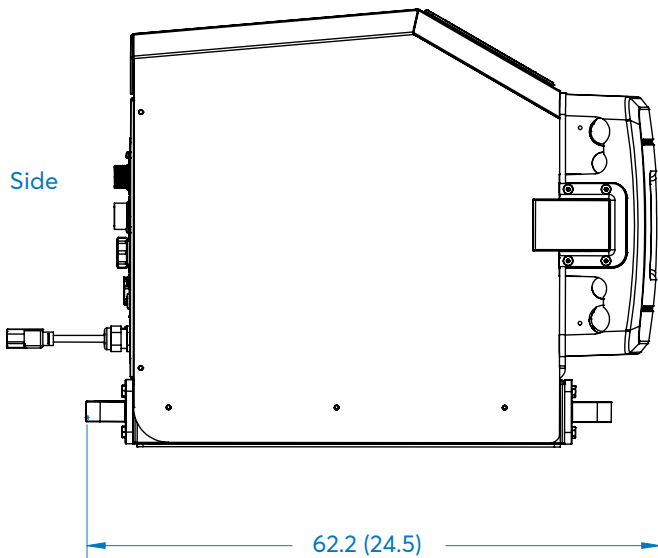
Flow range, LPM (GPM)		Drive rpm	Speed control (resolution)	Open-head sensor	Pump head	Connectivity	Item number
B/T 87	B/T 91						
0.65 to 18.9 (0.17 to 5)	1.3 to 42 (0.3 to 11.1)	11 to 321	±0.1%	Yes	B/T Rapid-Load® (integrated)	EtherNet/IP, Profibus, and MasterflexLive	MFLA77112-10

MFLA07575-80 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 15½" x 18½")
Shipping weight	54.5 kg (120 lb)
Power	90 to 260 VAC, 50/60 Hz

Dimensional Drawings cm (in.)



MASTERFLEX[®]

part of avantor

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.