High-Flow Peristaltic Pump 0.169-1880 mL/min, 0.1-400 rpm Filling Pump with Thick-Wall Tubing Head

Model **MSPP-Z400SWISS,MSPH-Z1880SWISS** | Brand **Master Science**





The Master Science High-Flow Peristaltic Pump is the larger-volume version in this drive family. Its pump head takes thick-wall tubing with a 2.4 mm wall, which lifts the top flow to 1880 mL/min while the low end still reaches 0.169 mL/min.

KEY HIGHLIGHTS

- More volume per minute
- Same dosing accuracy
- Robust wetted path
- Ready for process control

AT A GLANCE

0.169-1880 mL/min FLOW RANGE	**0.1-400 rpm** SPEED
0.1 rpm (≤100 rpm), 1 rpm (>100 rpm) SPEED RESOLUTION	

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Overview

That range makes the Master Science High-Flow Peristaltic Pump a good choice for filling bottles, transferring media between vessels or feeding a process line. The same stepper drive, 3.5 inch LCD and three dispensing modes are used, with one-key filling repeatable to ±0.5%. The body is PPS, the rollers are 304 stainless steel and the gaskets are PTFE.

Specifications for the Master Science High-Flow Peristaltic Pump (drive with high-flow pump head):

For lower flows down to 0.0063 mL/min, see our dispensing peristaltic pump 0.0063-1460 mL/min, the fine-dose partner to the Master Science High-Flow Peristaltic Pump.

Moving larger volumes accurately is hard with gravity or small pumps. The Master Science High-Flow Peristaltic Pump helps with:

Key Benefits

More volume per minute
Thick-wall tubing lets the Master Science High-Flow Peristaltic Pump move up to 1880 mL/min.

Same dosing accuracy
One-key filling still repeats within ±0.5%.

Robust wetted path
Tube-only contact, with stainless rollers and PTFE gaskets in the head.

Ready for process control
Analog, TTL and serial inputs connect the Master Science High-Flow Peristaltic Pump to sensors and controllers.

Technical Specifications

GENERAL

Brand	Master Science
Model Number	MSPP-Z400SWISS,MSPH-Z1880SWISS
SKU	MSPP-Z400SWISS,MSPH-Z1880SWISS
Brand	Master Science
Model	MSPP-Z400SWISS (drive), MSPH-Z1880SWISS (pump head)
SKU	MSPP-Z400SWISS, MSPH-Z1880SWISS
Speed	0.1-400 rpm
Speed resolution	0.1 rpm (≤100 rpm), 1 rpm (>100 rpm)
Flow range	**0.169-1880 mL/min**
Dispensing volume	400 µL-9999 L
Filling volume resolution	0.001-0.01 mL (depends on tubing)
Dispensing time	0.1-999.9 s
Intervals	0.1-999.9 s
Times	0-9999 (0 = infinite loop)
Repeat error	±0.5%
Retention error	1% within 68 h at 100 rpm (special filling tube)
Suck-back angle	0-720°
Tubing sizes	15#, 24#, 35#, 36#
Tubing wall	2.4 mm
Rollers	4, 304 stainless steel
Gaskets	PTFE
Shell material	PPS
Operation	Membrane keypad and digital control knob
External speed control	4-20 mA and 0-10K standard; 0-5 V, 0-10 V optional
External start/stop and direction	TTL 5 V standard; TTL 12 V, 24 V optional
Communication	RS232, RS485
Protection level	IP31
Working environment	0-40°C, RH <80%
Display	3.5 inch LCD
Power	≤45 W; AC 220 V ±10%, 50/60 Hz standard

DIMENSIONS & WEIGHT	
Weight	6.8 kg (gross 8 kg packed)
Package dimensions (W×D×H)	390 × 340 × 280 mm

TRANSFER PROBLEMS THE MASTER SCIENCE HIGH-FLOW PERISTALTIC PUMP SOLVES	
Slow bulk transfer	Up to 1880 mL/min clears large volumes quickly.
Overfilled or underfilled containers	Volume mode and calibrated flow give repeatable fills.
Product contamination	Only the tube contacts the liquid, and tubes swap in minutes.
Hard-to-integrate pumps	Serial and analog control make line integration simple.

Applications

Typical uses for the Master Science High-Flow Peristaltic Pump: Bottle and container filling Transferring culture media and buffers in bulk Chemical feed and dosing lines Food and beverage liquid transfer Pilot plant and environmental engineering work

Flow and dosing

- 0.169-1880 mL/min with 15#, 24#, 35#, 36# tubing
- Timed, copy and volume dispensing
- Suck-back adjustable to 720°

Drive electronics

- Stepper motor with high torque and load-independent speed
- Double CPU control, power-off memory
- Conformal-coated board, wide voltage design

Build and connectivity

- PPS body, 304 stainless steel rollers, PTFE gaskets
- Foot switch and sensor inputs; RS232/RS485
- Carry handle; accepts multiple pump heads

Standard Accessories Included

- Peristaltic pump drive with 3.5 inch LCD
- High-flow pump head (4 stainless steel rollers)

Optional Accessories

- External control at 0-5 V or 0-10 V
- TTL 12 V or 24 V control input
- DC 5 V TTL output
- Foot switch and sensors (capacitive, liquid level, photoelectric)