

CATALYST™ FH100, FH100X, FH100D, and FH100DX Pumps

Precision metering and dispensing, worry-free performance

Catalyst FH100 and FH100X peristaltic pumps are ideal general-purpose tubing pumps for high-repeatability, precision metering, and worry-free performance in life science, industrial, and process applications. Their broad flow range capabilities make them ideal for laboratory to pilot process scale-up requirements. These pumps offer a reliable alternative to lab piston metering pumps, gear pumps, and small circulating pumps used in life science labs.

They feature a digital display of speed (rpm) for accurate control and repeatability. These stackable, variable-speed pumps are also self-priming, able to operate dry, and contain no valves or seals—eliminating replacement needs.

Catalyst FH100D and FH100DX peristaltic pumps are specifically designed for critical metering and dispensing applications—you can pump, dispense, and fill—all with one unit. These pumps are simple to set up as dosing pumps or dispensing systems by volume, time, or copy mode with a timed interval. A clear multiline LCD displays all operational parameters. The pumps are also reversible, allowing for purging of transfer lines or emptying containers.

Catalyst FH100D and FH100DX systems provide important advantages for users, including single-channel flow from 0.5 to 4000 mL/min at a variable speed range of 4 to 400 rpm. The powerful motor provides greater than 0.25% speed control accuracy and repeatability, as well as remote control operation.



Easy maintenance

- Rapid tubing changes in less than 30 seconds—tubing occlusion is automatic when pump head is closed
- Robust motor and drive system provides low-maintenance, long-term operation
- Contamination-free pumping—the fluid contacts only the tubing material

Simple to use

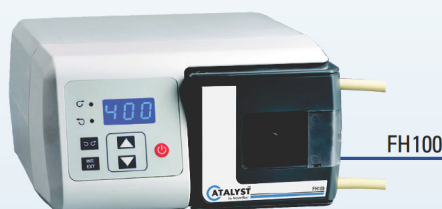
- Intuitive control keypad—easily increase or decrease flow
- Programmable in seven languages—provides easy setup in almost any global location (FH100D and 100DX models)
- Universal voltage and frequency capability allows operation worldwide—IEC320 socket and cord/plug set provided
- Reversible pump direction permits purging of tubing before or after use
- Quick-start guide included for fast start-up

Diverse performance range

- Utilize various tubing sizes to provide a broad flow range
- Ability to pump against pressure up to 4.1 bar (60 psig) providing longer filtration cycles
- Control capabilities include programmable dispensing by volume, time, or copy modes with a programmable delay between cycles for convenient, automated dispensing (FH100D and 100DX models)

Ergonomic design

- Interlock powers unit down when pump head is opened
- Remote control capability—ideal for automated process applications
- Accurate, reliable control of flow and dosing—digital display of RPM for repeatable control
- Optimize system accuracy by calibrating the pump system under application conditions—the calibration is stored in memory—one calibration value per tubing size (FH100D and 100DX models)



Specifications & Ordering Information



Catalyst model	FH100 (thin-wall tubing)	FH100X (thick-wall tubing)	FH100D (thin-wall tubing)	FH100DX (thick-wall tubing)
Catalog number	MK-77722-00	MK-77722-02	MK-77722-10	MK-77722-12
Performance				
Number of channels	1	1	1	1
Flow capacity (mL/min)	0.5 to 3000	14 to 4000	0.5 to 3000	14 to 4000
rpm	4 to 400		4 to 400	
Reversible	Yes		Yes	
External control – input	4 to 20 mA; 0 to 10 V; remote/local; direction (CW/CCW); start/stop		0 to 20 mA, 4 to 20 mA, or 0 to 10V (scalable); remote/local; direction (CW/CCW); start/stop; PRIME via contact closure	
External control – output	—		4 to 20 mA or 0 to 10 V	
Motor running logic	—		N.O. or N.C. (1 A @ 24 V)	
Tachometer output	—		5V, TTL pulse	
Pump open lockout or door sensor	Yes		Yes	
Electrical				
Voltage (50/60 Hz)	90 to 130 or 160 to 260 VAC; single phase, auto selected		90 to 130 or 160 to 260 VAC; single phase, auto selected	
Current	1.6 A @ 115 VAC; 1.9 A @ 230 VAC		1.6 A @ 115 VAC; 1.9 A @ 230 VAC	
Motor type	PMDC		PMDC	
Motor size	1/10 hp (75 watts)		1/10 hp (75 watts)	
Phase control	Phase controlled		Phase controlled	
Display	7-segment, 3-digit, blue LED; displays rpm		Multiline LCD, displays all operational parameters	
Speed regulation (accuracy)	±0.25%		±0.25% full-scale	
Speed resolution (repeatability)	1 rpm		0.1 rpm	
Physical				
Operating temperature	0 to 40°C (32 to 104°F)			
Storage temperature	–25 to 65°C (–13 to 149°F)			
Materials of construction	Housing: ABS; Pump head: GF Nylon, Delrin® acetal, stainless steel, cold-rolled steel, Buna N, polycarbonate			
IP rating	IP31			
Controller dimensions (L × W × H)	31.7 × 27.9 × 15.2 cm (12½" × 11" × 6")			
Shipping weight	7 kg (15 lb)			

MK-07528-80 Handheld remote controller for models FH100 and FH100X. DB9; for on/off control; route tubing through handle for filling applications

MK-07523-97 Handheld remote controller for models FH100D and FH100DX. DB25; for on/off control; route tubing through handle for dispensing applications

See pages 10–12 for tubing performance and selection.