

BT[®] VARIABLE-SPEED PUMPS

FEATURES/BENEFITS

All models

- ▶ PerfectPosition™ pump tubing ensures accurate loading and repeatable pressure and flow performance
- ▶ Tubing occlusion is optimum and automatic when door is closed and latched
- ▶ Safety interlock switch shuts off power when door is opened
- ▶ Controller and drive are IP56 rated for protection from dust and water spray

Variable-Speed Analog Pumps

- ▶ Flow rates: 0.71 to 42 LPM (0.19 to 11.1 GPM) with B/T tubing
- ▶ Controller and drive are connected by a 1.9 m (6 ft) cable for placement where convenient; detach controller from drive bracket for optional wall mounting
- ▶ Motor is reversible for pumping in either direction
- ▶ Simple single-turn potentiometer speed control

Air-Powered Pump

- ▶ Flow rates: 2.1 to 42 LPM (0.55 to 11.1 GPM) with B/T tubing
- ▶ Pump is ATEX Zone 2 rated: EEx II 3 G c IIC T6; NEC rated to Class 1, Division 2, Groups A, B, C, D, T6
- ▶ Use where electric power is unavailable, unsafe, or impractical

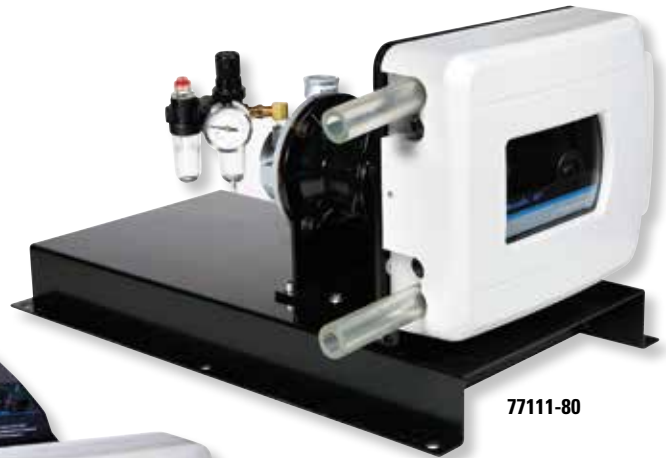
SETUP

All Models

1. Open door.
2. Load PerfectPosition tubing by aligning retention marks with pump head tubing retainers.
3. Close door ensuring that latch is fully engaged.

Variable-Speed Analog Pumps

4. Select Forward or Reverse and turn power switch on.
5. Adjust pump speed / flow rate with single-turn potentiometer.



77111-80



77111-60

SPEED CONTROL/CIRCUITRY

Variable-Speed Analog Pumps

- ▶ 1.9 m (6 ft) cable connects drive to detachable controller
- ▶ Single-turn potentiometer speed control
- ▶ Separate Forward/OFF/Reverse switch
- ▶ Speed not affected by variations in power line voltage (VAC) and frequency (Hz)
- ▶ 115 V meets UL61010-1, CSA C22.2 No. 61010-1; 230 V for CE mark: EN61010-1 (EU low voltage), EN61326 (EU EMC), and EN809 (EU machine directive)

Air-Powered Pump

- ▶ Air pressure filter/regulator inlet control
- ▶ Control speed with air inlet pressures from 4.1 bar (60 psi) to 6.9 bar (100 psi)
- ▶ For CE mark: EN809 (EU machine directive); EN13463-1 and EN13463-5 (EU ATEX Directive)



Air-Powered Pump

4. Connect compressed air line to 1/4" NPT connection on filter/regulator.
5. Turn on air source.
6. Adjust pump speed / flow rate with filter/regulator control knob.

PUMP HEAD SPECIFICATIONS

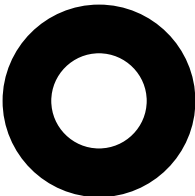
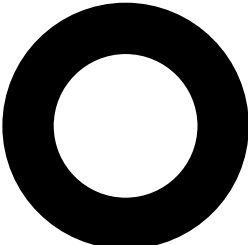
- ▶ Corrosion-resistant Nylatron® rollers
- ▶ Stainless steel/powder-coated carbon steel frame
- ▶ Powder-coated cast aluminum and polycarbonate door
- ▶ Accepts PerfectPosition tubing sizes B/T 87 and B/T 91

ORDERING INFORMATION

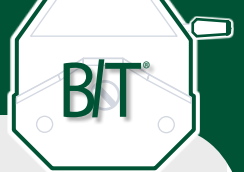
Catalog number	rpm	Power (50/60 Hz)
Variable-speed analog pump		
HL-77111-60	12 to 321	90 to 130 VAC
HL-77111-67		200 to 260 VAC
Air-powered pump		
HL-77111-80	35 to 321	Requires 30 cfm (0.85 m ³ /min) @ 4.1 bar (60 psi) minimum

B/T PUMP TUBING FLOW RATE INFORMATION

Order Masterflex B/T pump tubing separately on page 153.

Tubing cross sections	B/T PerfectPosition™ tubing		Pump tubing size	PerfectPosition™ pump tubing	
				B/T 87	B/T 91
					Flow range [†] @ 12 to 321 rpm
		Flow range [†] @ 35 to 321 rpm	2.1 to 18.9 LPM (0.55 to 5.0 GPM)	4.0 to 42 LPM (1.06 to 11.1 GPM)	

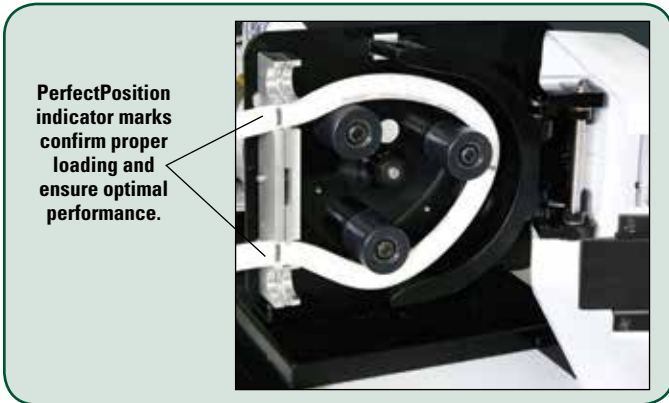
[†]Determined under the following conditions: 0 psi at inlet, 0.5 psi at outlet; water temperature at 22°C (72°F).



SPECIFICATIONS for B/T* Variable-Speed Pumps

Catalog number		HL-77111-60	HL-77111-67	HL-77111-80
Performance specifications				
Flow capacity		0.71 to 42 LPM (0.19 to 11.1 GPM)	2.1 to 42 LPM (0.55 to 11.1 GPM)	
rpm		12 to 321	35 to 321	
Number of heads accepted		1 (supplied with drive)		
Maximum running torque		104 kg-cm (1440 oz-in)	208 kg-cm (2200 oz-in)	
Reversible		Yes	No	
Electrical specifications				
Voltage VAC (50/60 Hz)		90 to 130	200 to 260	—
Current		6.5 A	3.3 A	—
Fuse rating		8 A	4 A	—
Motor type		Continuous duty, TENV, permanent-magnet DC		Requires 30 cfm (0.85 m ³ /min) @ 4.1 bar (60 psi) minimum
Motor size		370 W (½ hp)	746 W (1 hp)	
Motor/speed control type		1-turn potentiometer		
Speed regulation		±5%		
Soft start/electronic brake		Yes / Yes		
Physical specifications				
Housing materials	Controller	ABS plastic		
	Drive	Painted steel		
Pump head materials	Powder-coated carbon steel and cast aluminum, stainless steel, polycarbonate, with Nylatron® rollers			
IP rating†	Controller	IP56		
	Drive	IP56		
Agency listings	ETL, cETL, CE			CE
Operating temperature	0 to 40°C (32 to 104°F)			0 to 40°C (32 to 104°F)
Storage temperature	-20 to 60°C (-4 to 140°F)			-10 to 65°C (-14 to 149°F)
Noise level	<75 dBA @ 1 m (39")			<88 dBA @ 1 m (39")
Dimensions (L x W x H)	Controller	18.4 x 14.0 x 9.1 cm (7.3" x 5.5" x 3.6")	24.0 x 16.0 x 9.1 cm (9.5" x 6.3" x 3.6")	—
	Drive	68.6 x 40 x 42.4 cm (27.0" x 15.8" x 16.7")	68.6 x 40 x 44.2 cm (27.0" x 15.8" x 17.4")	68.6 x 40 x 38.4 cm (27.0" x 15.8" x 15.1")
Shipping weight	40.4 kg (89 lb)			28.5 kg (63 lb)

†See page 194 for explanation of IP ratings.



Rubbermaid® FLAT-SHELF SERVICE CART

Perfect for transporting your B/T® pump around the process area. Flat-shelf design lets you easily move the pump on and off the cart and allows clearance for tubing. Transport up to 181 kg (400 lb). Comes with 12.7 cm (5") rubber casters (two swivel), seamless shelves and supports, radius corners, and molded handle.

HL-09348-40 Plastic service cart, 112 cm L x 64.8 cm W x 85 cm H (44"L x 25½"W x 33½"H)

5 year warranty

