

I/P® BRUSHLESS PROCESS DRIVE

FEATURES/BENEFITS

- ▶ 1/3-hp brushless motors handle challenging applications with minimal maintenance
- ▶ Nonchip epoxy-coated, IP55-rated steel enclosure protects against moisture, chemicals, and dust
- ▶ 1% speed resolution
- ▶ Compact drives are light enough to carry with one hand, but powerful enough to drive two pump heads
- ▶ Easy-to-read LED display
- ▶ Convenient carrying handle allows for easy portability
- ▶ Low-maintenance drives have no motor brushes to replace
- ▶ Reversible motor—pump in either direction
- ▶ Control speed via a three-turn potentiometer for quick, easy adjustments
- ▶ CW/CCW and start/stop via sealed keypad
- ▶ Motor speed is displayed from 5 to 100% via a digital display

DRIVE/SPEED CONTROLS

- ▶ Protected power switch located on back of drive
- ▶ Lighted display indicates power is on
- ▶ Control the speed and direction of the flow via the following:
 - ◆ STOP/START
 - ◆ DIRECTION
 - ◆ SPEED

SETUP

1. Mount pump head(s) and load tubing.
2. Turn drive power on.
3. Select pump DIRection (clockwise or counter-clockwise).
4. Press STOP/START key to begin pumping.
5. Adjust speed to achieve desired flow rate.



I/P brushless process drive 77410-10 shown with I/P Easy-Load pump head 77601-10

SPEED CONTROL/CIRCUITRY

- ▶ Regulate motor speed from 5 to 100% via the analog button (clockwise rotation increases speed)
- ▶ Speed not affected by variations in line voltage (VAC) or frequency (Hz)
- ▶ Line filters reduce outside interference
- ▶ Meets UL 508C, CSA C22.2, No. 14, EN61010-1 and EN61326-1 (for CE)

PUMP HEADS ACCEPTED

- ▶ Accepts three different pump head types: Standard, Easy-Load®, and High-Performance

NOTES

This brushless process drive supplies enough torque to drive two pump heads using any tubing formulation.

ISO9001:2008
CERTIFIED SUPPLIER

cULus

CE

IP55

2 year warranty

ORDERING INFORMATION

Catalog number	rpm	Power (50/60 Hz)
HL-77410-10	33 to 650	90 to 260 VAC

ACCESSORIES

HL-17050-01 NIST-traceable calibration for peristaltic pump drive.

I/P PUMP TUBING

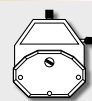
FLOW RATE INFORMATION

Order Masterflex I/P tubing separately on pages 126–130.

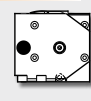
STANDARD
0.40 to 13 LPM
pages 120–121



EASY-LOAD®
0.20 to 13 LPM
pages 122–123



HIGH-PERFORMANCE
0.40 to 19 LPM
pages 124–125



Tubing cross sections	I/P Precision pump tubing			I/P High-performance Precision pump tubing†		
	I/P 26	I/P 73	I/P 82	I/P 70	I/P 88	I/P 89
Flow range @ 33 to 650 rpm	0.20 to 4.0 LPM (0.06 to 1.0 GPM)	0.40 to 8.0 LPM (0.11 to 2.1 GPM)	0.66 to 13 LPM (0.17 to 3.5 GPM)	0.40 to 8.0 LPM (0.11 to 2.1 GPM)	0.66 to 17 LPM (0.17 to 4.5 GPM)	0.86 to 19 LPM (0.23 to 5.0 GPM)

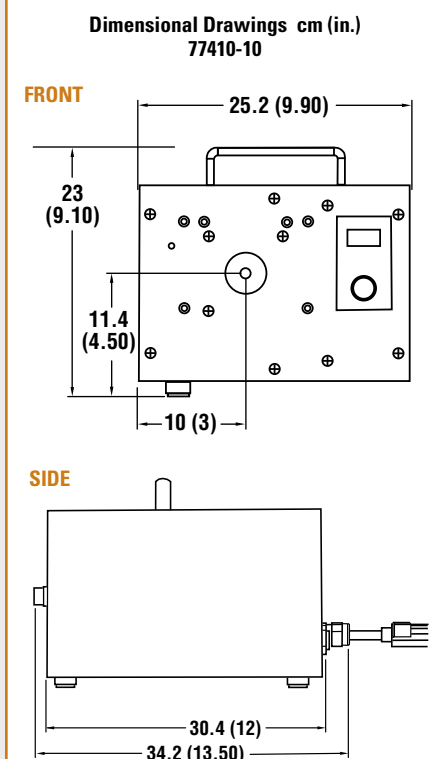
†Use High-performance precision tubing with High-Performance pump head only. Flow rates were determined using water at room temperature and with zero back pressure and suction lift.



SPECIFICATIONS for I/P Analog Brushless Process Drive

Catalog number		HL-77410-10	
Performance Specifications			
Flow capacity		0.2 to 19 LPM (0.06 to 5.0 GPM)	
rpm		33 to 650	
Number of heads accepted		2	
Maximum torque	Starting	678 N-cm (960 oz-in)	
	Running	382 N-cm (540 oz-in)	
Reversible		Yes	
External control	Input	Not applicable	
	Output	Not applicable	
Electrical Specifications			
Voltage/Frequency VAC (50/60 Hz)		90 to 130 and 220 to 260, dual-voltage autoselecting	
Current		4.5 A at 115 VAC; 2.6 A at 230 VAC	
Fuse rating		6.3 A / 250 V	
Motor type		Continuous-duty, brushless DC	
Motor size		0.25 kW (1/3 hp)	
Display		Three-digit, seven-segment LED	
Motor/speed control type		Three-turn potentiometer	
Speed regulation (repeatability)		±0.25%	
Soft start/Electronic brake		Yes/Yes	
Physical Specifications			
Housing materials		Painted steel	
IP rating†		IP55	
Agency listings		UL, cUL, CE	
Operating temperature		0 to 40°C (32 to 104°F)	
Storage temperature		−25 to 65°C (−13 to 149°F)	
Dimensions (L x W x H)		35 x 25 x 23 cm (14" x 10" x 9½")	
Shipping weight		10 kg (22 lb)	

[†]See page 194 for an explanation of IP ratings.



Stack up to two I/P Standard pump heads (below, left)
or two I/P Easy-Load pump heads (below, right)
with any I/P tubing formulation.



FOR THE LATEST...

Masterflex technical resources, see

- ColeParmer.com
- Masterflex.com

24-HOUR PROTECTION

The Liqui-Sense® emergency cut-off system protects you from pumping problems 24 hours a day. Detection of a leak or an unusual liquid level in a tank signals the Liqui-Sense controller to turn off your pump and turn on a backup. Please see pages 160–161 for a complete description.



I/P* PUMP HEADS 118–125

I/P* TUBING 126–130

I/P* PUMP SYSTEMS 146–151

ACCESSORIES 160–171

TECHNICAL DATA 172–206