

## I/P® PRECISION MODULAR DRIVES



**Modular drive with benchtop controller 07591-20**

**NEW**



**Modular drive 07591-30 with wall-mount controller shown with Easy-Load® pump head 77601-10**

### FEATURES/BENEFITS

- ▶ Flow rates: 0.036 to 19 LPM (0.009 to 5 GPM) with I/P tubing
- ▶ Modular format lets you separate drive and controller for convenient placement; a 1.8-m (6-ft) control cable is included. Extend that distance with optional 2.7-m (9-ft) extension cable
- ▶ Three-digit LED shows motor speed (rpm)—confirm speed setting at a glance
- ▶ PWM speed control for precise, efficient control; ±0.25% speed control accuracy
- ▶ Reversible motor—easily reverse direction of flow to purge or prime tubing
- ▶ Universal voltage, 90 to 260 VAC autoselect, 50/60 Hz
- ▶ Compatible with all I/P pump heads

### DRIVE CONTROLS

- ▶ Protected power switch located on controller
- ▶ Lighted display indicates power is on
- ▶ LED indicator shows motor/pumping direction
- ▶ Simple programming and operation of the following via sealed membrane keypad:
  - ◆ Flow direction
  - ◆ Motor speed (rpm)
  - ◆ Control mode (remote/internal)
  - ◆ Start/stop

### SETUP

1. Mount pump head(s) and load tubing.
2. Connect drive cable to controller.
3. Turn drive power on.
4. Select manual (internal) or remote (external) control.
5. Select motor direction.
6. Set drive speed (rpm) through keypad.
7. Press START key to begin pumping.

### SPEED CONTROL/CIRCUITRY

- ▶ Regulate motor through keypad, 4 to 20 mA, or 0 to 10 V signal
- ▶ Soft start for starts without power surges
- ▶ Speed not affected by variations in power line voltage (VAC) or frequency (Hz)
- ▶ Line filters reduce outside interference
- ▶ Meets UL 61010-1, CAN/CSA C22.2, No. 61010-1; For CE mark: EN61010-1 (EU low voltage) and EN61326-1 (EU EMC)

### SELECTION CRITERIA

1. Motor rpm / flow rate.
  2. Benchtop or washdown, wall-mount controller.
- Order pump heads and tubing separately.**

### REMOTE CONTROL

#### Benchtop Modular Drive

- ▶ Remote control via 9-pin (DB9) female connection on back of controller
- ▶ Speed control input: 4 to 20 mA and 0 to 10 V
- ▶ START/STOP, CW/CCW via contact closure
- ▶ Handheld remote, cable, and foot switch options; order separately under "Accessories"

#### Modular Drive with Washdown, Wall-Mount Controller

- ▶ Remote control via 18-pin weather-resistant circular connection on bottom of controller
- ▶ Speed control input: 4 to 20 mA and 0 to 10 V
- ▶ START/STOP, CW/CCW via contact closure
- ▶ Remote cable and foot switch options; order separately under "Accessories"

ISO9001:2008  
CERTIFIED SUPPLIER

UL US

CE

2 year warranty

07591-30

### ORDERING INFORMATION

Catalog number	rpm	Power (50/60 Hz)
<b>Benchtop precision modular drive</b>		
HL-07591-20	6 to 650	90 to 260 VAC
<b>Precision modular drive with washdown controller</b>		
HL-07591-30	6 to 650	90 to 260 VAC

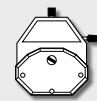
### I/P PUMP TUBING FLOW RATE INFORMATION

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

**STANDARD**  
0.06 to 13 LPM  
pages 120–121



**EASY-LOAD®**  
0.04 to 13 LPM  
pages 122–123



**HIGH-PERFORMANCE**  
0.08 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 @ 6 to 650 rpm	0.04 to 4.0 LPM (0.01 to 1.0 GPM)	0.06 to 8.0 LPM (0.02 to 2.1 GPM)	0.12 to 13 LPM (0.03 to 3.5 GPM)	0.08 to 8.0 LPM (0.02 to 2.1 GPM)	0.12 to 17 LPM (0.03 to 4.5 GPM)	0.16 to 19 LPM (0.04 to 5.0 GPM)

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



## ACCESSORIES

### For Benchtop Model 07591-20

**HL-07557-51 Extension cable**, 2.7 m (9 ft), to extend distance between motor and controller.

**HL-07595-47 Cable assembly**, DB9 male connector and 7.9-m (25-ft) cable with stripped wire terminal ends. Use for remote control.

**HL-77595-35 Foot switch**, DB9 male with 1.8-m (6-ft) cable.

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

### For Washdown Model 07591-30

**HL-07557-51 Extension cable**, 2.7 m (9 ft), to extend distance between motor and controller.

**HL-77300-32 Cable assembly**, 18-pin round connector and 7.9-m (25-ft) cable with stripped wire terminal ends. Use for remote control.

**HL-07595-43 Washdown foot switch**, 18-pin round with 1.8-m (6-ft) cable.

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

## SPECIFICATIONS for I/P Precision Modular Drives

Catalog number		HL-07591-20	HL-07591-30
<b>Performance Specifications</b>			
Flow capacity <sup>†</sup>		0.036 to 19 LPM (0.009 to 5 GPM)	
rpm		6 to 650	
Number of heads accepted		2	
Maximum torque	Starting	635 N-cm (900 oz-in)	
	Running	212 N-cm (300 oz-in)	
Reversible		Yes	
External control – Input		4 to 20 mA, 0 to 10 V; START/STOP, CW/CCW via contact closure	
External control – Output		Not applicable	
<b>Electrical Specifications</b>			
Voltage/Frequency VAC (Hz)		90 to 260 (50/60)	
Current		4.4 A at 115 V; 2.2 A at 230 V	
Fuse rating		6.3 A / 250 V	
Motor type		Continuous-duty, TENV <sup>‡</sup> , permanent magnet DC	
Motor size		149 W (1/2 hp)	
Display		Three-digit LED	
Motor/speed control type		PWM	
Speed regulation		±0.25%	
Soft start/Electronic brake		Yes/No	
<b>Physical Specifications</b>			
Housing materials	Drive	Painted steel and aluminum	Painted steel and aluminum
	Controller	ABS plastic housing, coated aluminum chassis	Painted aluminum
IP rating <sup>††</sup>		IP33	IP66 (NEMA 4X)
Agency listings		ETL, cETL, 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)	Drive	35.3 x 13.9 x 15.6 cm (13 7/8" x 5 1/2" x 6 1/8")	36.2 x 17.8 x 16.5 cm (14 1/4" x 7" x 6 1/2")
	Controller	26.3 x 21.1 x 14.0 cm (10 3/8" x 8 3/8" x 5 1/2")	28.5 x 27.9 x 11.9 cm (10 1/2" x 11" x 4 3/4")
Shipping weight		9.9 kg (21.8 lb)	18.0 kg (39.7 lb)

<sup>†</sup>Depending on drive rpm and tubing size.

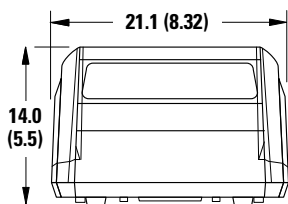
<sup>‡</sup>Totally enclosed, nonventilating.

<sup>††</sup>See page 194 for an explanation of IP ratings.

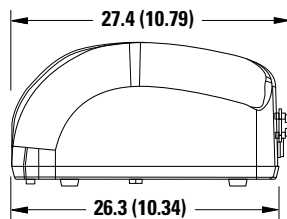
## Dimensional Drawings cm (in.)

### 07591-20 Controller

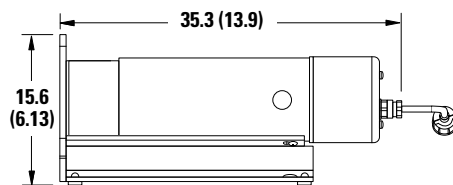
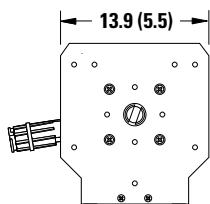
#### FRONT



#### SIDE

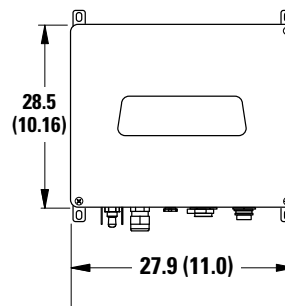


### 07591-20 Drive

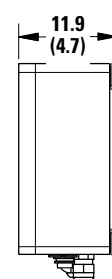


### 07591-30 Controller

#### FRONT



#### SIDE



### 07591-30 Drive

