

# Thermo Scientific Masterflex® P/S

## Variable-Speed Brushless Digital Pumps



### Standard Brushless Digital Pump

- Wide flow ranges; durable, powerful motors; and easy-to-read digital displays
- Maintenance-free reversible motor—quiet operation and no brushes to replace
- Precise PWM speed control maximizes accuracy and efficiency
- Dual voltage: 115 VAC and 230 VAC
- Four-digit LED display shows four different parameters: flow rate, dispense volume, copy, and motor rpm
- Reversible flow, remote control, and tachometer feedback
- Keypad lock feature prevents accidents or tampering
- Field calibration function allows more accurate flow when installed in system
- 1.8-m (6-ft) line cord features IEC 320/CEE22 socket



### Washdown Brushless Digital Pump with Wall-Mount Controller

- Designed for accurate metering and low maintenance operations
- Feature a IP56-rated wall-mount controller and full-featured remote control capabilities
- Maintenance-free brushless motor operates quietly
- Precise PWM speed control maximizes accuracy and efficiency
- Dual voltage: 115 VAC and 230 VAC
- IP56 controller/motor—washdown rated
- 7.6-m (25-ft) cable connects motor and controller
- Field calibration function allows more accurate flow when installed in system
- Reversible—purge before or after pumping
- Keypad lock feature prevents accidents or tampering
- Remote control capabilities via weather-resistant connection on controller (use remote cable 77300-32)
- Four-digit LED display shows four different parameters: flow rate, dispense volume, copy, and motor rpm
- 1.8-m (6-ft) line cord features IEC 320/CEE22 socket



## Flow Ranges, mL/min (GPH)\*

| Motor rpm  | Masterflex® P/S precision tubing sizes (thin wall) |                             |                            |                            |                              |                           | Masterflex® P/S precision tubing sizes (thick wall) |                              |                             |                             |
|------------|--|-----------------------------|----------------------------|----------------------------|------------------------------|---------------------------|---|------------------------------|-----------------------------|-----------------------------|
|            | P/S 13   | P/S 14                      | P/S 16                     | P/S 25                     | P/S 17                       | P/S 18                    | P/S 15  | P/S 24                       | P/S 35                      | P/S 36                      |
| 10 to 600  | 0.6 to 36<br>(0 to 0.54)                           | 2.1 to 130<br>(0.03 to 1.8) | 8 to 480<br>(0.12 to 7.6)  | 17 to 1000<br>(0.24 to 16) | 28 to 1700<br>(0.42 to 26.4) | 38 to 2300<br>(0.6 to 36) | 17 to 1000<br>(0.24 to 1.6)                         | 28 to 1700<br>(0.42 to 26.4) | 38 to 2300<br>(0.6 to 36.4) | 48 to 2900<br>(0.72 to 46)  |
| 1.6 to 100 | 0.1 to 6<br>(0 to 0.06)                            | 0.4 to 21<br>(0 to 0.33)    | 1.4 to 80<br>(0.01 to 1.3) | 3 to 170<br>(0.04 to 2.5)  | 5 to 280<br>(0.06 to 4.3)    | 6 to 380<br>(0.06 to 6)   | 3 to 160<br>(0.04 to 2.4)                           | 4.5 to 280<br>(0.06 to 4.3)  | 6.5 to 380<br>(0.10 to 6)   | 9.5 to 560<br>(0.15 to 8.8) |

**Note:** Flow ranges were determined using water at room temperature with zero back pressure and zero suction lift.

\*Up to 3400 mL/min (54 GPH) with High-Performance pump head.

## Specifications & Ordering Information

| Catalog number                   | Benchtop digital pump   |                           |                               |                          |                           |                               | Washdown digital pump                   |                           |                               |
|----------------------------------|---|---------------------------|-------------------------------|--------------------------|---------------------------|-------------------------------|---|---------------------------|-------------------------------|
|                                  | 975-2000  | 975-2100                  | 975-2500                      | 975-2600                 | 975-2700                  | 975-2800                      | 975-3000                                | 975-3100                  | 975-3500                      |
| Included pump head               | Easy-Load II (thin wall)  | Easy-Load II (thick wall) | High-Performance (thick wall) | Easy-Load II (thin wall) | Easy-Load II (thick wall) | High-Performance (thick wall) | Easy-Load II (thin wall)                | Easy-Load II (thick wall) | High-Performance (thick wall) |
| Number of heads accepted         | 2   | 2                         | 1                             | 4                        | 4                         | 1                             | 2                                       | 2                         | 1                             |
| rpm                              | 10 to 600   | 10 to 600                 | 10 to 600                     | 1.6 to 100               | 1.6 to 100                | 1.6 to 100                    | 10 to 600                               | 10 to 600                 | 10 to 600                     |
| External control—input           | 0 to 20 mA, 4 to 20 mA, 0 to 10V; START/STOP, DIR. (CW/CC), PRIME via contact closure |                           |                               |                          |                           |                               |   |                           |                               |
| External control—output          | 0 to 20 mA, 4 to 20 mA, 0 to 10 V, or TTL pulse                                       |                           |                               |                          |                           |                               |   |                           |                               |
| Voltage (50/60 Hz)               | 115/230 VAC (auto selected)   |                           |                               |                          |                           |                               |   |                           |                               |
| Motor type                       | Brushless continuous duty, TENV*, DC, permanent lubricated bearings                   |                           |                               |                          |                           |                               |   |                           |                               |
| Digital display (if applicable)  | 4-digit, 7-segment LED  |                           |                               |                          |                           |                               |   |                           |                               |
| Motor/speed control type         | PWM (Pulse Width Modulated)   |                           |                               |                          |                           |                               |   |                           |                               |
| Speed regulation (repeatability) | ±0.25%; ±1 rpm  |                           |                               | ±0.1 rpm                 |                           |                               | ±0.25%; ±1 rpm                          |                           |                               |
| Operating temperature            | 0 to 40°C (32 to 104°F)   |                           |                               |                          |                           |                               |   |                           |                               |
| Storage temperature              | -25 to 65°C (-13 to 149°F)  |                           |                               |                          |                           |                               |   |                           |                               |
| IP rating                        | IP23  |                           |                               |                          |                           |                               | IP56                                    |                           |                               |
| Agency approvals                 | UL, cUL, CE   |                           |                               |                          |                           |                               |   |                           |                               |
| Dimensions (L x W x H)           | 29.2 x 20.3 x 18.4 cm (11½" x 8" x 7¼")   |                           |                               |                          |                           |                               | 22.9 x 29.8 x 11.4 cm (9" x 11¾" x 4½") |                           |                               |
| Shipping weight                  | 17 lb<br>(7.7 kg)   |                           | 22 lb<br>(10 kg)              |                          | 17 lb<br>(7.7 kg)         |                               | 22 lb<br>(10 kg)                        | 18.5 lb<br>(8.4 kg)       | 24 lb<br>(11 kg)              |

\*Totally enclosed, non-ventilating.

