



Pump Drive 07559-00 with Pump Head 07516-00

OPERATING MANUAL:

L/S® VARIABLE-SPEED MODULAR DRIVES

Model Nos.

07559-00

07559-05

07559-10

07559-15

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SAFETY PRECAUTIONS



DANGER: High voltages exist and are accessible in the Drive/Controller.



WARNINGS: Disconnect the AC power input line cord before connecting the drive motor cable.

No user serviceable parts are inside of this controller. Refer servicing to your dealer.



CAUTIONS: Do not block the rear panel of the pump drive. The power cord must always be easy to disconnect.

Replace the power cord only with one of the same type and rating. The minimum power ratings are stated on the rear panel.

Explanation of Symbols



CAUTION: Risk of Danger. Consult Operator's manual for nature of hazard and corrective actions.



CAUTION: Risk of crushing. Keep fingers away from rotor while pump is in operation. Stop pump before loading or unloading tubing.



CAUTION: Hot Surface. Do not touch.



CAUTION: Risk of electric shock. Consult Operator's manual for nature of hazard and corrective actions.

WARNING: Product Use Limitation



This product is not designed for, nor intended for use in patient connected applications; including, but not limited to, medical and dental use, and accordingly has not been submitted for FDA approval.

This product is not designed for, nor intended for use in hazardous duty areas as defined by ATEX or the NEC (National Electrical Code); including, but not limited to use with flammable liquids. Consult the factory for products suitable for these types of applications

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Section 1 Introduction

The Drive controls the speed of MASTERFLEX® L/S® Pump Heads to provide flow rates from 0.006 to 3400 mL/min.

Mount up to 2 (600 rpm) or 4 (100 rpm) MASTERFLEX L/S Pump Heads and all MASTERFLEX-compatible Pump Heads.

Section 2 Setup and Drive Operation

Before Starting Drive

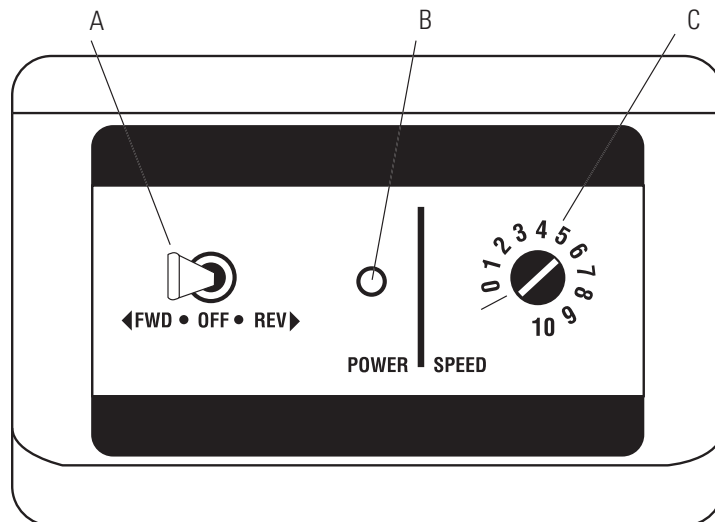
- The drive should be mounted on a flat horizontal surface, and no more than two (2) Pump Heads should be added for 600 rpm drives or four (4) Pump Heads for 100 rpm drives.
- The ambient air temperature should not exceed 104° F (40° C) and adequate air flow should be provided for.



CAUTION: Do not block the rear panel of the pump drive. The power cord must always be easy to disconnect.

Mounting the Pump Head

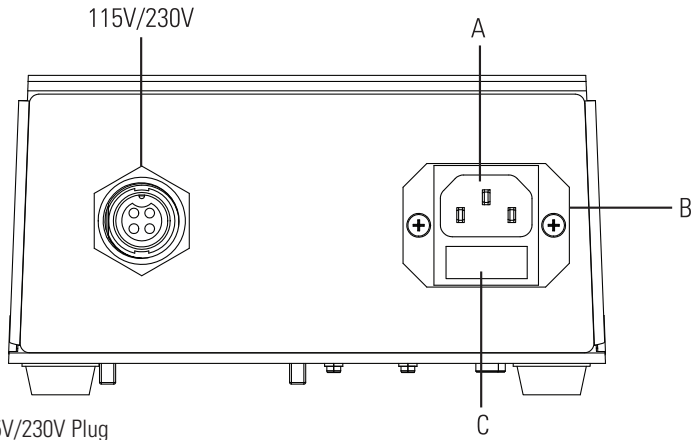
1. Mount pump head and load tubing. (See pump head manual.)
2. Connect the drive motor cable to the receptacle on the rear side of the controller.
3. Connect the AC power input line cord to the AC receptacle.
4. Selecting motor direction turns pump on.
5. Adjust flow rate with speed control potentiometer.



- A. Forward-Off-Reverse Switch
- B. Power On Indicator
- C. Speed Control

Figure 2-1. Front View of the Controller

Mounting the Pump Head (continued)



- A. 115V/230V Plug
- B. IEC 320 Power Entry Module
- C. Replaceable fuse

Figure 2-2. Rear View of the Controller

Section 3 Maintenance

Motor Brush Check/ Replacement

NOTE: Brushes should be checked every 6 months or 2000 operating hours.

1. Place the FWD-OFF-REV switch in the OFF position.
2. Disconnect the AC line cord from the AC receptacle.
3. Disconnect the drive motor cable from the receptacle on the rear of the controller.
4. Carefully unscrew each brush holder on opposite sides of the motor. Withdraw the brush, and examine it for wear.

NOTE: Replace both brushes, if either brush is less than 0.300" long from base to point.

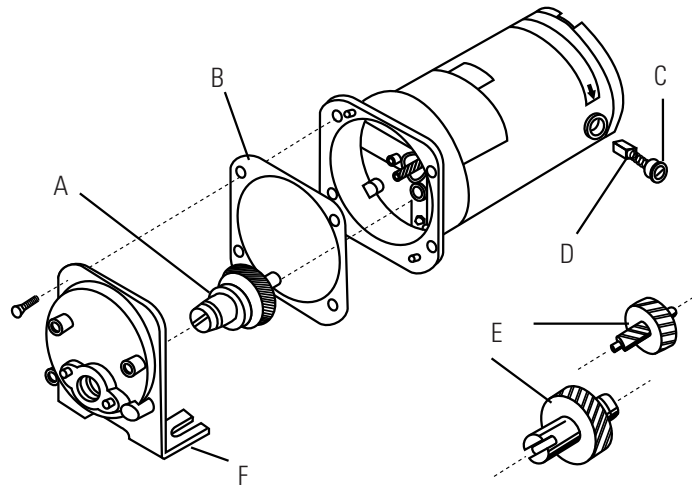
5. Screw brushes into brush holder on each side of motor.
6. Connect motor to rear panel connector on controller.
7. Connect AC line cord to AC receptacle.

Fuse Replacement

NOTE: 115V units have an internal fuse. Unit must be returned for servicing.

1. On 230V units, place the FWD-OFF-REV switch in the OFF position.
2. Disconnect the AC line cord from the rear of the unit.
3. Remove and check the fuse located on the rear panel below the AC power connector and replace if defective.
4. Reconnect AC line cord.

Gear Replacement



- A.** 6-600 rpm gear assembly (included in service kit 07553-06)
- B.** Gasket
- C.** Cap
- D.** Motor Brush
- E.** 1-100 rpm gear set (included in service kit 07553-08)
- F.** Gear Case cover assembly

Figure 3-1. Gear Replacement

Replacement Parts

Model No.	07559-00	07559-05	07559-10	07559-15
Brushes (2/set)	07520-04	07520-04	07520-04	07520-04
Brush Cap Holder	07520-03	07520-03	07520-03	07520-03
Fuses	—	77500-11	—	77500-11
High speed gear	07553-09	07553-09	—	—
Gear Service kit	07553-06	07553-06	07553-08	07553-08
Motor only	07559-02	07559-07	07559-12	07559-17
Controller only	07559-04	07559-09	07559-04	07559-09

Table 3-1. Replacement Parts

Cleaning

Keep the drive enclosure clean with mild detergents. Do not immerse or use excessive fluid when cleaning.

Section 4 Troubleshooting

Troubleshooting Chart

Symptom	Cause	Remedy
Motor does not rotate, when switched to FWD or REV. POWER indicator does not glow.	Defective line cord or fuse.	1. Check that unit is plugged into a live line.
		2. On 115V and 230V unit, check line cord for continuity and replace if defective.
		3. On 230V units only, check fuse and replace if defective.
		4. On 115V units, return for servicing.
Motor does not rotate, when switched to FWD or REV. Power indicator glows. Speed control setting is greater than 0.	Defective Motor or Controller.	1. Place the FWD-OFF-REV switch in the OFF position.
		2. Test motor and controller: <ol style="list-style-type: none"> a) Check the drive motor cable connector on the rear of the controller and insert the connector fully into the controller receptacle. b) Replace motor, with similar unit. Reconnect the drive motor cable connector on the rear of the controller. Retest. c) Replace controller with similar unit. Reconnect the drive motor cable to connector on the rear of the controller. Retest.

Section 5 Specifications

Operating Temperature:	0 to 40°C
Storage Temperature:	-45° to 65°C
Chemical Resistance:	Exposed material is paint, plastic, aluminum, and vinyl
Pollution Degree:	Pollution degree 2 (indoor use—lab, office, sheltered locations)
Noise Level:	70db or below
Line Voltage Limits:	90–130V or 190–260V, 50-60 Hz
Typical Power:	
Motor:	0.075 kW (0.1 hp)
Controller:	6 watts, max. dissipation
Max Current:	
115V Units:	Controller: 2.2 amps, shorted output conditions
230V Units:	Controller: 1.2 amps, shorted output conditions
Torque:	
600 rpm Units:	13 kg-cm (180 oz-in)
100 rpm Units:	26 kg-cm (360 oz-in)
Speed Regulation:	±1% Line Regulation ±2% Load Regulation ±10% Warm-Up Drift
Controller Enclosure Rating:	IP33
Motor Enclosure Rating:	IP33
Humidity (non-condensing):	0% to 90%
Display:	Green LED

Section 5
Specifications

Dimensions:	(L × W × H)
Motor:	203 mm × 102 mm × 127 mm (8 × 4 × 5)
Controller:	178 mm × 127 mm × 88.9 mm (7 × 5 × 3 ^{11/42})
Weight:	
Motor:	3.6 kg (8 pounds)
Controller:	0.64 kg (1.4 pounds)

Section 6 Warranty, Product Return and Technical Assistance

Warranty

Use only MASTERFLEX precision tubing with MASTERFLEX pumps to ensure optimum performance. Use of other tubing may void applicable warranties.

This product is warranted against defects in material or workmanship, and at the option of the manufacturer or distributor, any defective product will be repaired or replaced at no charge, or the purchase price will be refunded to the purchaser, provided that: (a) the warranty claim is made in writing within the period of time specified on the warranty card, (b) proof of purchase by bill of sale or receipted invoice is submitted concurrently with the claim and shows that the product is within the applicable warranty period, and (c) the purchaser complies with procedures for returns set forth in the general terms and conditions contained in the manufacturer's or distributor's most recent catalog.

This warranty shall not apply to: (a) defects or damage resulting from: (i) misuse of the product, (ii) use of the product in other than its normal and customary manner, (iii) accident or neglect, (iv) improper testing, operation, maintenance, service, repair, installation, or storage, (v) unauthorized alteration or modification, or (b) post-expiration dated materials.

THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE PURCHASER, AND THE MANUFACTURER AND DISTRIBUTOR DISCLAIM ALL OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NO EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE MANUFACTURER OR DISTRIBUTOR IS AUTHORIZED TO BIND THE MANUFACTURER OR DISTRIBUTOR TO ANY OTHER WARRANTY. IN NO EVENT SHALL THE MANUFACTURER OR DISTRIBUTOR BE LIABLE FOR INCIDENTAL, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES.

The warranty period for this product is two (2) years from date of purchase.

Section 6

Warranty, Product Return and
Technical Assistance

Product Return

To limit charges and delays, contact the seller or Manufacturer for authorization and shipping instructions before returning the product, either within or outside of the warranty period. When returning the product, please state the reason for the return. For your protection, pack the product carefully and insure it against possible damage or loss. Any damages resulting from improper packaging are your responsibility.

Technical Assistance

If you have any questions about the use of this product, contact the Manufacturer or authorized seller.

 **Cole-Parmer®**

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