

## WARRANTY

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

The Manufacturer warrants this product to be free from significant deviations from published specifications. If repair or adjustment is necessary within the warranty period, the problem will be corrected at no charge if it is not due to misuse or abuse on your part, as determined by the Manufacturer. Repair costs outside the warranty period, or those resulting from product misuse or abuse, may be invoiced to you.

The warranty period for this product is noted on the Warranty Card.

## 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 Instrument Co.

625 East Bunker Court  
Vernon Hills, Illinois U.S.A. 60061-1844  
1-800-MASTERFLEX (627-8373) (U.S. and Canada only)  
11 (847) 549-7600 (outside U.S.)  
(847) 549-7600 (Local)  
FAX (847) 247-2929 (U.S. and Canada only)  
11 (847) 549-1700 (Fax outside U.S.)  
www.masterflex.com  
e-mail: techinfo@coleparmer.com



### Barnant Company

28W092 Commercial Ave.  
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(847) 381-7053 (Local Fax)  
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## OPERATING MANUAL

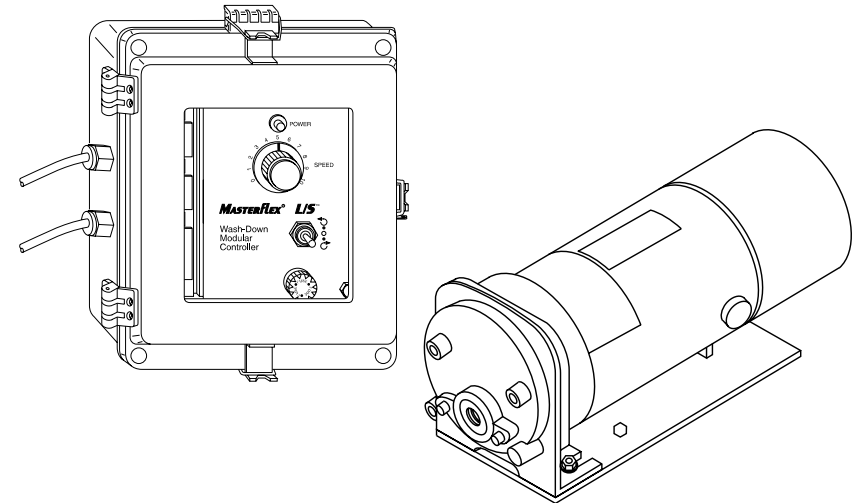
# MASTERFLEX® L/S®

## WASH-DOWN MODULAR PUMP DRIVES

Model Nos.

**7552-70**

**7552-75**



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## SAFETY PRECAUTIONS

**DANGER:** High voltages exist in the Drive/Controller.



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



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



### **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.

## SETUP AND DRIVE OPERATION

### INTRODUCTION AND GENERAL DESCRIPTION

This controller and drive system when coupled with a MASTERFLEX® L/S® compatible pump head provide variable-flow fluid transfer. The motor and controller can be mounted in separate locations for better protection or control. The NEMA rated motor and controller withstand wet or hostile environments. Operate the pump drive manually or remotely via a 4-20 mA input signal.

### VARIETY OF PUMP HEADS ACCEPTED

Mount up to 2 MASTERFLEX® L/S® pump heads and all MASTERFLEX® L/S®-compatible pump heads. See individual pump heads for flow rates.

### SETUP AND DRIVE OPERATION

1. Unpack the drive, save packing material until proper product operation has been verified.
2. Mount pump head and load tubing (see pump head manual).
3. Connect the drive motor cable to the cable from the controller.
4. Connect the AC power input line cord to the AC receptacle.
5. Selecting motor direction turns pump on. The LED indicator turns RED.
6. Adjust flow rate with speed control potentiometer.

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## REMOTE OPERATING PROCEDURE

**WARNING:** Turn off AC power before connecting the external remote control cable.

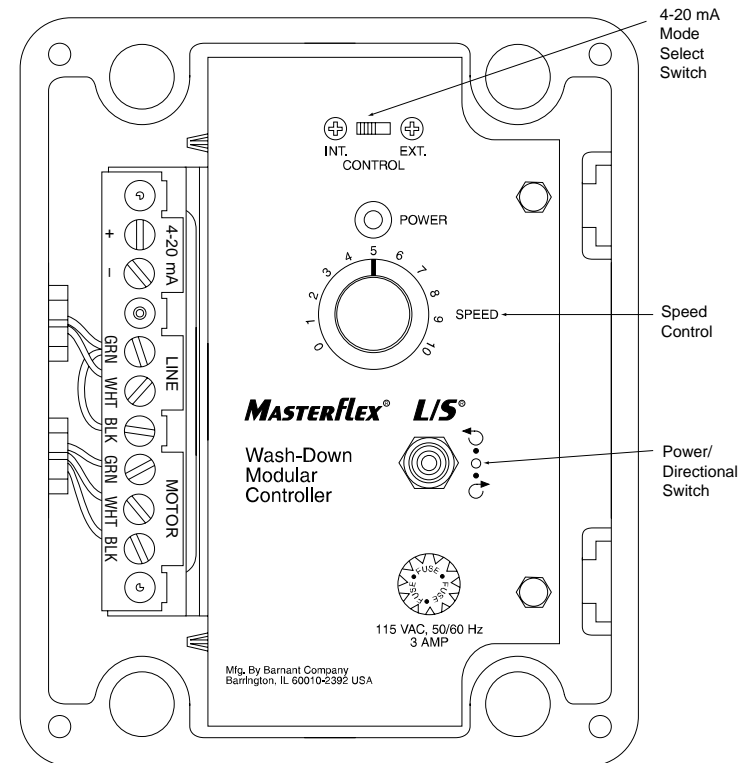


1. Connect the remote speed control to the terminal strip on the side of the controller.
2. Set the front panel CONTROL switch to the EXTERNAL position.

**NOTE:** When the CONTROL switch is in the EXTERNAL position, motor speed can only be controlled from the external source. The front panel speed control is inoperative.

3. Set the front panel DIRECTIONAL switch for the desired direction of rotation.
4. Set the speed control on the remote control to a setting that will provide the desired flow rate and lock the control.
5. 4-20 mA loop control:
  - <4 mA (stop pump)
  - 4 mA (minimum speed)
  - 20 mA (maximum speed)
  - ± 3% linearity control
  - 1.8 VDC (nom.) input voltage drop
  - > 250 V isolation potential

**NOTE:** The speed control can be adjusted at any time, either before starting the drive or while the drive is running.



## MAINTENANCE

### CLEANING

Keep the drive enclosure clean with mild detergents. Never immerse nor use excessive fluid.

### GEAR REPLACEMENT

A plastic intermediate gear protects the drive system from torque overloads. To replace gear (see Figure 2):

1. Place the FWD-OFF-REV switch in the OFF position.
2. Disconnect the AC line cord from the AC receptacle.
3. Disconnect the motor cable from the controller.
4. Remove housing.
5. Remove front mounting plate.
6. Replace gear/shaft assembly or gear only. See REPLACEMENT PARTS.
7. Reassemble in reverse order.

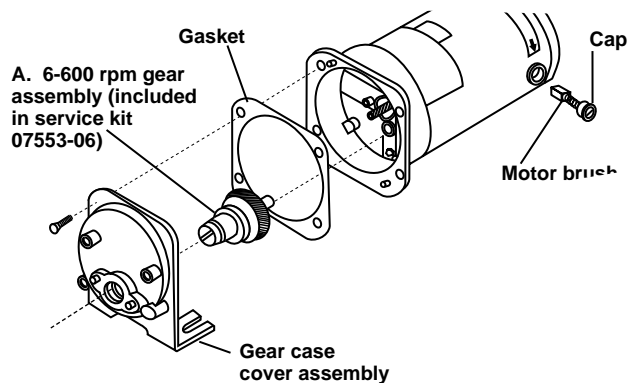


Fig. 2 Gear/Brush Replacement

### 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 motor cable from the controller.
4. Remove the 2 rubber caps (see Figure 2), then 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 in long from base to point.

5. Screw brushes into brush holder on each side of motor and replace rubber caps.
6. Connect motor to controller.
7. Connect AC line cord to AC receptacle.

### FUSE REPLACEMENT

1. 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 front panel and replace if defective.
4. Reconnect AC line cord.

## REPLACEMENT PARTS

**DANGER:** High voltages exist in the Drive/Controller.



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Description	Model no.	
	7552-70	7552-75
Brushes (2/set)	<b>07520-04</b>	<b>07520-04</b>
Brush Cap holder	<b>07520-03</b>	<b>07520-03</b>
Fuses	<b>77500-06</b>	<b>77500-12</b>
High speed gear	<b>07553-09</b>	<b>07553-09</b>
Gear Service kit	<b>07553-06</b>	<b>07553-06</b>
Motor only	<b>07552-02</b>	<b>07552-04</b>
Controller only	<b>07552-71</b>	<b>07552-76</b>
Rubber Caps & Brushes Kit	<b>07553-03</b>	<b>07553-03</b>

## TROUBLESHOOTING

### Troubleshooting

SYMPTOM	CAUSE	REMEDY
Motor does not rotate, when switched to FWD or REV. POWER indicator does not glow.	Defective line cord or fuse.	<ol style="list-style-type: none"> <li>1. Check that unit is plugged into a live line.</li> <li>2. Check line cord for continuity and replace if defective.</li> <li>3. Check fuse and replace if defective.</li> </ol>
Motor does not rotate, when switched to FWD or REV. Power indicator glows. Speed control setting is greater than 0.	Defective Motor or Controller.	<ol style="list-style-type: none"> <li>1. Place the FWD-OFF-REV switch in the OFF position.</li> <li>2. Test motor and controller.                             <ol style="list-style-type: none"> <li>a). Check the drive motor cable connection to the controller.</li> <li>b). Replace motor, with similar unit. Reconnect the drive motor to the controller. Retest.</li> <li>c). Replace controller with similar unit. Reconnect the drive motor to the controller. Retest.</li> </ol> </li> </ol>

## SPECIFICATIONS

<b>Operating Temperature:</b>	0° to 40°C
<b>Storage Temperature:</b>	-45° to 65°C
<b>Chemical Resistance:</b>	Exposed material is paint, plastic, aluminum, and vinyl
<b>Line Voltage Limits:</b>	100–130 V, 50-60 Hz
7552-70	190–260 V, 50-60 Hz
7552-75	
<b>Speed Range:</b>	6 to 600 rpm
<b>Typical Power:</b>	
Motor:	0.075 kW (0.1 hp)
Controller:	6 watts, max. dissipation
<b>Fuses:</b>	
115V Units:	3 A
230V Units:	1.5 A
<b>Torque:</b>	13 kg-cm (180 oz-in)
<b>Speed Regulation:</b>	±5% Line Regulation ±10% Load Regulation ±10% Warm-Up Drift
<b>Controller Enclosure Rating:</b>	IP56
<b>Motor Enclosure Rating:</b>	IP56
<b>Humidity: (non-condensing)</b>	0% to 90%
<b>Display:</b>	RED Indicator
<b>Dimensions: (L x W x H)</b>	
Motor:	280mm x 102mm x 127mm (11 in x 4 in x 5 in)
Controller:	229mm x 203mm x 152mm (9 in x 8 in x 6 in)
<b>Weight:</b>	
Motor:	4.1 kg (9 pounds)
Controller:	2.3 kg (5 pounds)