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OPERATING MANUAL

MASTERFLEX® L/S®

COMPACT PUMP DRIVES

MODEL NOS.

77200-00
77200-10
77200-12

Cole-Parmer Instrument Co.
625 East Bunker Court
Vernon Hills, Illinois U.S.A. 60061-1844

800-MASTERFLEX (627-8373)
(847) 247-2929 (FAX)
www.masterflex.com
e-mail: techinfo@coleparmer.com

A-1299-0742
Edition 03

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SAFETY PRECAUTIONS

CAUTIONS: ***Use of Pump Heads other than those specified will result in unsatisfactory performance, damage to the drive unit and voiding of applicable warranties.***

The drive system can only be used with one Pump Head at a time. Use of this drive unit with multiple Pump Heads will result in unsatisfactory performance, damage to the drive unit and voiding of applicable warranties.

When mounting the Pump Head to the drive unit, the mounting screws should only be tightened fingertight. Excessive tightening of the mounting screws will result in binding and unsatisfactory performance.

WARNING: ***Be sure the Pump Drive is turned off before proceeding. Loose clothing could be caught in the drive.***

WARNING: PRODUCT USE LIMITATION

These products are not designed for, nor intended for use in patient-connected applications, including, but not limited to, medical and dental use and, accordingly, have not been submitted for FDA approval.

EU Declaration of Conformity

Name of Apparatus: MASTERFLEX® Compact L/S® Pump System

Model Numbers: 77200-00, -10, -12

Description of Apparatus: Variable Speed Peristaltic Pump Motor Drive. Used with pump head and tubing to pump fluids.
77200-00 (115V AC), -10 (230V AC), -12 (12V DC)

Barnant Company declares that the above models are in conformity to the following harmonized standards and directives:

Applicable Directives	Applicable Specifications	Manufacturer's Report Number
89/336/EEC 92/31/EEC 93/68/EEC	EN61326-1/A1: 1998	TR9420

Manufacturer:

Barnant Company Division
Cole-Parmer Instrument Company
28W092 Commercial Avenue
Barrington, IL 60010-2392
USA
Tel.: 847-381-7050

Manufacturer's Signature:

James W. Doll
Vice President, Engineering

23 August, 2000
Date

C-FLEX — Reg TM Consolidated Polymer Technologies, Inc.
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INTRODUCTION AND GENERAL DESCRIPTION

The MASTERFLEX® L/S® COMPACT Pump Drives are designed as an inexpensive variable speed drive which accepts MASTERFLEX® L/S® STANDARD, QUICK LOAD® and EASY-LOAD® Pump Heads. These 200 rpm drives accommodate one Pump Head and one tube at controlled speed as low as 30 rpm. All units operate from an External Power Supply. The 115V AC and 230V AC models are supplied with an External Power Supply which provides a DC output for connection to the Pump Drive.

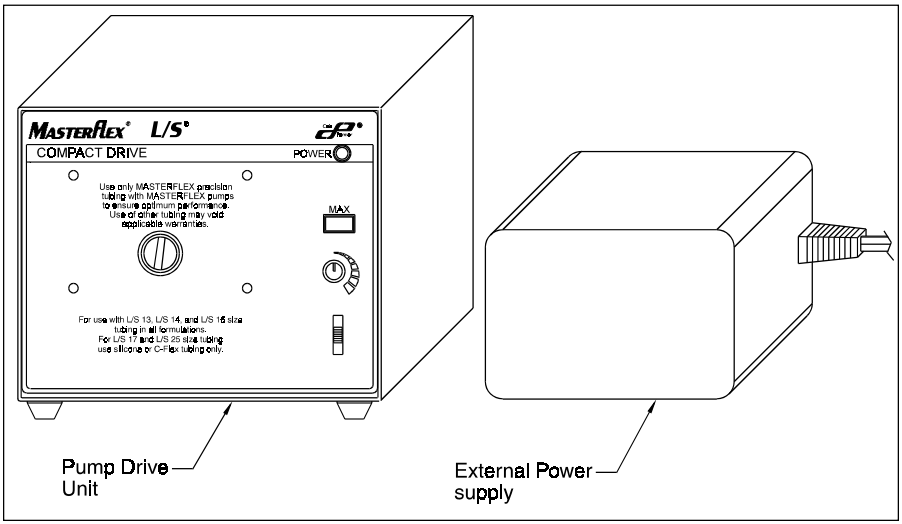


Figure1. MASTERFLEX® L/S® Compact Pump Drive

The single-turn adjustable Speed Control, Figure 2, provides variable flow operation. The green POWER On indicator lights whenever the pump is operating. The Power On/Direction Switch turns power on when either clockwise or counterclockwise pump rotor direction is selected. The MAX Button is used for priming and purging and operates the pump at maximum speed while depressed.

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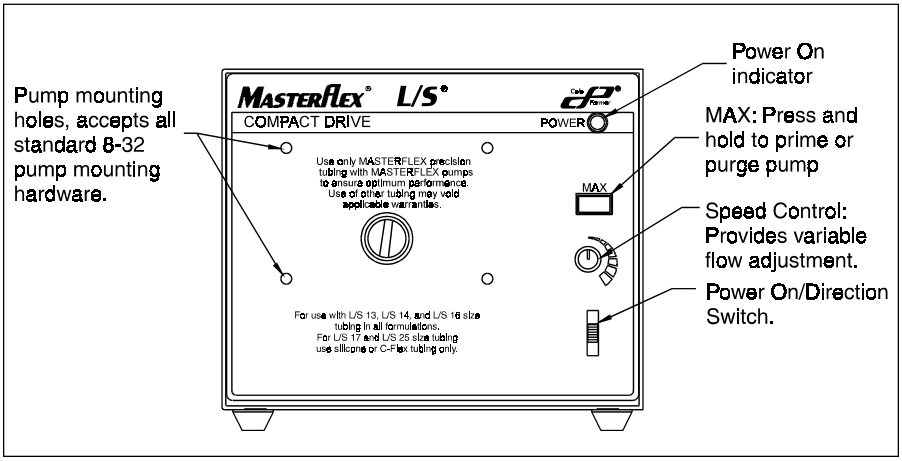


Figure 2. Pump Drive — Front Panel

The rear panel, Figure 3, contains a DC power input jack for connection of primary power and a 4-terminal barrier strip for connection of remote start/stop and for a DC backup supply.

Remote Start/Stop: Terminals 3 and 4 on the rear panel terminal strip, (Figure 3) are used for remote start/stop operation. Pump direction and speed are not remotely controllable. In non-remote operation, these terminals are connected together by a shorting bar. For remote control by switch closure, remove the shorting bar and connect the two terminals of an isolated remote control switch or relay to terminals 3 and 4. A closure of the remote switch contacts will turn the pump system on. Opening the contact will turn the pump system off.

WARNING: ***Be sure the Pump Drive is turned off before proceeding. Loose clothing could be caught in the drive.***

Pump Heads Accepted: Only the MASTERFLEX® L/S® STANDARD, QUICK LOAD and EASY-LOAD are acceptable for use with this pump drive. Only one Pump Head at a time can be used with this drive unit.

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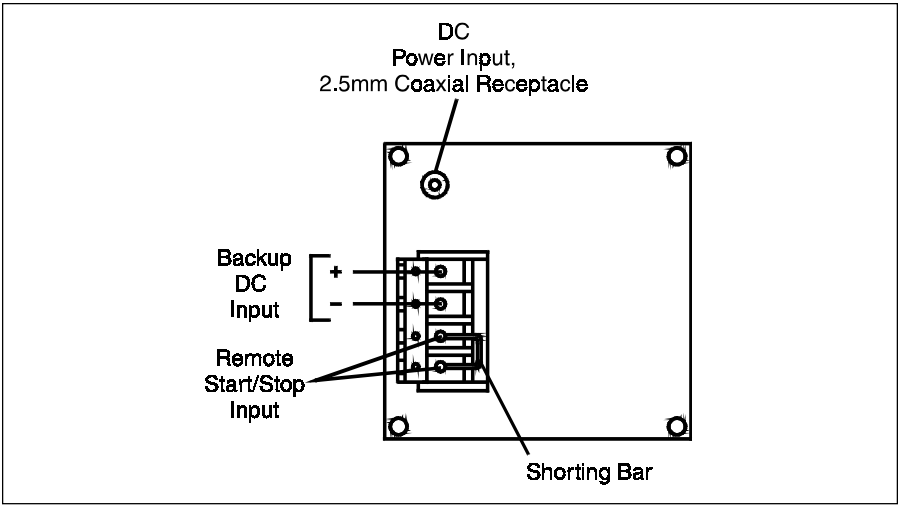


Figure 3. Pump Drive — Rear Panel

CAUTIONS: ***Use of Pump Heads other than those specified will result in unsatisfactory performance, damage to the drive unit and voiding of applicable warranties.***

The drive system can only be used with one Pump Head at a time. Use of this drive unit with multiple Pump Heads will result in unsatisfactory performance, damage to the drive unit and voiding of applicable warranties.

When mounting the Pump Head to the drive unit, the mounting screws should only be tightened fingertight. Excessive tightening of the mounting screws will result in binding and unsatisfactory performance.

Tubing Accepted: The Pump Heads accepted for use with drive can be used with MASTERFLEX precision tubing sizes L/S® 13, L/S® 14 and L/S® 16 in all formulations. For L/S® 17 and L/S® 25 size tubing, use silicone or C-FLEX® formulations only.

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

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SETUP AND DRIVE OPERATION

1. Unpack the drive: save packaging material until proper product operation has been verified.
2. Select and mount Pump Head and load tubing (see Pump Head manual).
3. For 77200-00 and 77200-10 plug in External Power supply and connect to the back of the drive. (See Figure #3.)
4. For 77200-12 supply 11.0 to 15V DC to terminal strip positions 1 and 2. (See Figure #3.)
5. The drive system can be set to operate in either a clockwise or a counter-clockwise direction. The same control used to select direction also turns power on or off. To operate in a clockwise direction place direction control switch in the “up” position. The POWER indicator should light and the fluid will flow from right to left. To operate in a counterclockwise direction, place direction switch in the “down” position. The POWER indicator should light and the fluid will flow from left to right. To turn pump off, place switch in the “center” position.
6. The pump speed is controlled by the variable speed control. Turning the control clockwise increases the speed. Tubing life is decreased with increased operating speed. Speed can be controlled up to a 6:1 range.

MAINTENANCE

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

Motor/ Brush Replacement: The motor used in this inexpensive drive is not serviceable or repairable and has brushes which cannot be replaced. The motor is rated for a continuous duty life of 3000 operating hours minimum. Operation at other than continuous duty cycles will result in longer motor life. If motor failure for whatever reason occurs, the motor must be replaced.

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SPECIFICATIONS

Output:	
Operating Speed:	35 to 200 rpm
Number of Pump Heads:	1
Torque Load:	20 oz-in, maximum
Direction of Rotation:	Clockwise and Counterclockwise
Input:	
Operating Voltage/Frequency:	
Model 77200-00	115V AC nominal 50/60 Hz (90-130V AC) @ 120mA AC
Model 77200-10	230V AC nominal 50/60 Hz (190-260V AC) @ 60mA AC
Model 77200-12	13.5V DC nominal (11.0-15.0V DC) @ 2.4A DC
Installation Category:	
Models 77200-00 and -10	Category II per IEC664 (Local Level Appliances, Portable equipment, etc.)
Model 77200-12	Category I per IEC664 (Signal Level)
Remote Start/Stop:	Contact closure connection at terminal strips 3 and 4
Construction:	
Dimensions (L × W × H):	5.750 in × 5.14 in × 4.14 in (14.6 cm × 13.0 cm × 10.5 cm)
Weight:	1.88 pounds (0.85 kg)
Material:	Painted Steel
Enclosure Rating:	IP22 per IEC529
Environment:	
Operating Temperature:	32°F to 104°F (0° to 40°C)
Storage Temperature:	-49°F to 149°F (-45°C to 65°C)
Humidity (non-condensing):	10% to 90%
Altitude:	6600 Ft. (2000m)
Pollution Degree:	Pollution Degree 2 per IEC664 (Indoor use — Lab, Office)
Compliance (For CE Mark):	EN61326-1/A1: 1998 (EU EMC Directive) 115V AC Power Supply AC/DC Converter is UL listed and CSA approved. Regulatory agency specifications not applicable to the balance of the unit due to low voltage.

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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.

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