

# OPERATING MANUAL

## **MASTERflex® L/S®** **FIXED FLOW PUMP DRIVES**

### **Model Nos.**

<b>7543-01</b>	<b>7543-30</b>	<b>7544-12</b>
<b>7543-02</b>	<b>7543-60</b>	<b>7544-20</b>
<b>7543-06</b>	<b>7544-01</b>	<b>7544-30</b>
<b>7543-12</b>	<b>7544-02</b>	<b>7544-60</b>
<b>7543-20</b>	<b>7544-06</b>	



Note: Pump is shown with optional Pump Head.



### **Cole-Parmer Instrument Co.**

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# EU Declaration of Conformity

**Name of Apparatus:** MASTERFLEX® L/S® Fixed-Speed Drive

**Model Numbers:** 7544-01, -02, -06, -12, -20, -30, -60

**Description of Apparatus:** Peristaltic Pump Motor Drive. Used with Pump Head and Peristaltic Tubing to pump fluids.

7544-01 (1 rpm), -02 (2 rpm), -06 (6 rpm);

7544-12 (12 rpm), -20 (20 rpm);

7544-30 (30 rpm), -60 (60 rpm)

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
73/23/EEC 93/68/EEC	EN61010-1/A2: 1995	TR9530
89/336/EEC 92/31/EEC 93/68/EEC	EN61326-1/A1: 1998	TR9531

The last two digits of the year in which the current configuration of the above models was assessed per the Low Voltage Directive is: 00.

**Manufacturer:** Barnant Company Division  
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Tel.: 847-381-7050

**Manufacturer's Signature:**



James W. Doll  
Vice President, Engineering

16 August, 2000

Date

# TABLE OF CONTENTS

Title	Page
SAFETY PRECAUTIONS .....	3
INTRODUCTION AND GENERAL DESCRIPTION .....	4
SETUP AND OPERATION .....	4
MAINTENANCE .....	5
Cleaning .....	6
Replacement Parts .....	6
Gear/Motor Assembly Replacement Instructions .....	6
SPECIFICATIONS .....	6
WARRANTY .....	8
PRODUCT RETURN .....	8
TECHNICAL ASSISTANCE .....	8

## SAFETY PRECAUTIONS

**WARNINGS:** *Remove power from the drive before attempting any maintenance.*



*Remove power before any cleaning operation is started.*

**WARNINGS:** *Tubing breakage may result in fluid being sprayed from pump. Use appropriate measures to protect operator and equipment.*



*Turn drive off before removing or installing tubing. Fingers or loose clothing could be caught in the drive mechanism.*



### **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.

## INTRODUCTION AND GENERAL DESCRIPTION

The MASTERFLEX® L/S® fixed flow drives provide continuous fixed speed pumping of fluids while power is supplied.

Different models provide various speeds as summarized:

Model#	Description	Speed (rpm)	Pump Heads Accepted
7543-01	L/S Fixed Speed, 115V AC, 60 Hz	1	2
7543-02	L/S Fixed Speed, 115V AC, 60 Hz	2	2
7543-06	L/S Fixed Speed, 115V AC, 60 Hz	6	2
7543-12	L/S Fixed Speed, 115V AC, 60 Hz	12	2
7543-20	L/S Fixed Speed, 115V AC, 60 Hz	20	2
7543-30	L/S Fixed Speed, 115V AC, 60 Hz	30	2
7543-60	L/S Fixed Speed, 115V AC, 60 Hz	60	1
7544-01	L/S Fixed Speed, 230V AC, 50 Hz	1 x (5/6)*	2
7544-02	L/S Fixed Speed, 230V AC, 50 Hz	2 x (5/6)*	2
7544-06	L/S Fixed Speed, 230V AC, 50 Hz	6 x (5/6)*	2
7544-12	L/S Fixed Speed, 230V AC, 50 Hz	12 x (5/6)*	2
7544-20	L/S Fixed Speed, 230V AC, 50 Hz	20 x (5/6)*	2
7544-30	L/S Fixed Speed, 230V AC, 50 Hz	30 x (5/6)*	2
7544-60	L/S Fixed Speed, 230V AC, 50 Hz	60 x (5/6)*	1

\*Note: Reflects operation at 50 Hz.

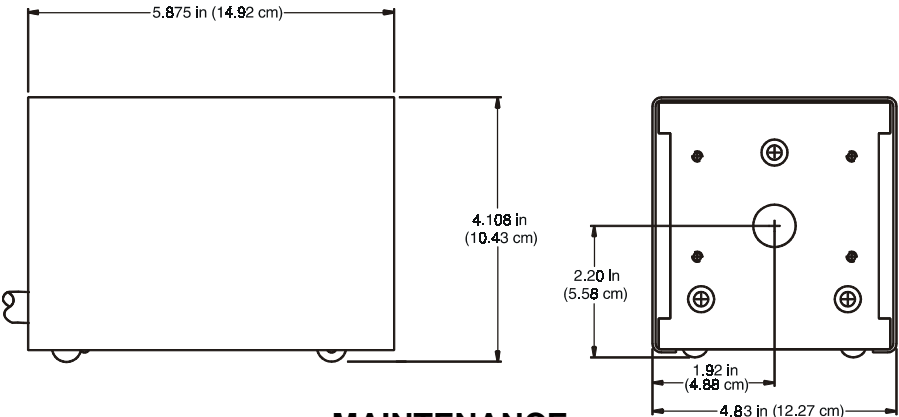
## SETUP AND OPERATION

**Use only MASTERFLEX precision tubing with MASTERFLEX pumps to ensure optimum performance.**

**Use of other tubing may void applicable warranties.**

Unpack the drive and retain all packing material until proper product operation has been verified. Select the pump head and tubing according to the flow desired, while considering chemical compatibility and tubing life. Pump installation instructions are included with the pump head. Connect the line cord to a grounded three-wire AC receptacle to activate the pump drive.

The following sketch shows the dimensional outline of the drive:

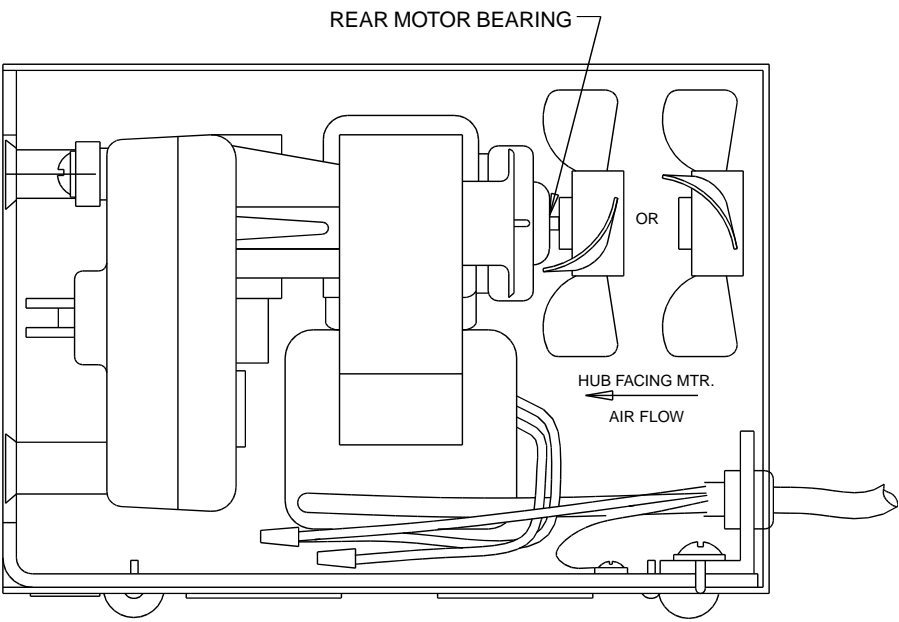


MAINTENANCE

**WARNING:** Remove power from the drive before attempting any maintenance.



The rear motor bearing should be given two drops of #20 non-detergent oil every three months. **Do not over oil.** Clean off any accumulated dust or dirt. The drive gear/motor assembly can be replaced if necessary. Exact “life” will depend on the number of heads and the speed used.



## Cleaning

**WARNING:** Remove power before any cleaning operation is started.



Keep the drive enclosure clean by using a mild detergent solution. Never immerse or use excessive fluid when cleaning the drive.

## Replacement Parts

Drive Model #	Gear/Motor Assembly
7543-01	D - 1562 - 1
7543-02	D - 1562 - 2
7543-06	D - 1562 - 3
7543-12	D - 1562 - 4
7543-20	D - 1562 - 5
7543-30	D - 1562 - 6
7543-60	D - 1562 - 7
7544-01	D - 1562 - 8
7544-02	D - 1562 - 9
7544-06	D - 1562 - 10
7544-12	D - 1562 - 11
7544-20	D - 1562 - 12
7544-30	D - 1562 - 13
7544-60	D - 1562 - 14

## Gear/Motor Assembly Replacement Instructions

Disconnect power from the drive. Remove pump assembly if attached. Remove cover. Disconnect power and ground wires from power cord to motor. Remove gear/motor assembly from mounting plate. Install new gear/motor assembly to mounting plate. Connect power and ground wires from cord to motor. Be sure ground wire is attached to chassis. Reinstall cover. Apply power to test unit. Attach pump to drive.

## SPECIFICATIONS

Output:

Model#	Speed (rpm)	Torque (in-oz) (kg-cm)		Pump Heads	Current (Amps)
7543-01	1	224	16	2	.5
7543-02	2	224	16	2	.5
7543-06	6	224	16	2	.6
7543-12	12	224	16	2	.6
7543-20	20	208	15	2	1.2
7543-30	30	224	16	2	1.2
7543-60	60	112	8	1	1.2

Model#	Speed (rpm)	Torque (in-oz) (kg-cm)		Pump Heads	Current (Amps)
7544-01	1 x (5/6)*	224	16	2	.25
7544-02	2 x (5/6)*	224	16	2	.25
7544-06	6 x (5/6)*	224	16	2	.3
7544-12	12 x (5/6)*	224	16	2	.3
7544-20	20 x (5/6)*	208	15	2	.6
7544-30	30 x (5/6)*	224	16	2	.6
7544-60	60 x (5/6)*	112	8	1	.6

**\*Note:** Speed for the 7544 series drives is 5/6 that of the 7543 series due to operation at 50 Hz.

#### Input:

Operating Voltage/Frequency:

7543 Series 115V AC  $\pm$  10%, 60 Hz

7544 Series 230V AC  $\pm$  10%, 50 Hz

Installation Category: Installation category II per IEC 664 (local level—appliances, portable equipment, etc.)

#### Environment:

Operating Temperature: 0°C to 40°C

Storage Temperature: -45°C to 65°C

Humidity: 10% to 90% non-condensing

Altitude: Less than 2000 meters

Pollution Degree: Pollution degree 2 per IEC 664 (indoor usage—lab, office)

#### Construction:

Dimensions (L x W x H): 15.1 cm x 10.2 cm x 11.1 cm  
(6 in x 4 in x 4.4 in)

Weight: 2.3 kgs (5.1 lbs)

Color: Gray and black

Material: Painted steel housing

Enclosure Rating: IP21 per IEC 529

Compliance: 230V (For CE Mark):  
EN61010-1/A2: 1995  
(EU Low Voltage Directive) and  
EN61326-1/A1: 1998 (EU EMC Directive)

## 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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