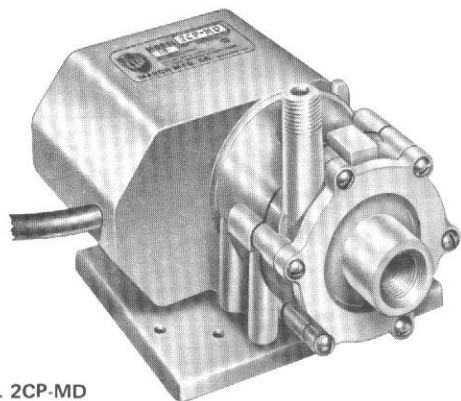


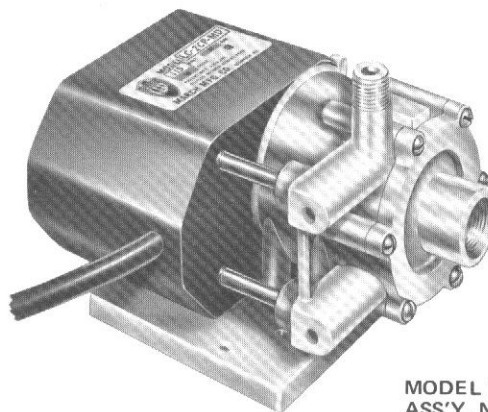
# MARCH

## INSTRUCTIONS & REPAIR PARTS

### FOR MODELS 2CP-MD AND LC-2CP-MD PUMPS



MODEL 2CP-MD  
ASS'Y. NO. 125-058-01



MODEL LC-2CP-MD  
ASS'Y. NO. 125-057-02

#### PUMP CONSTRUCTION AND SERVICING

March "Orbital" Magnetic Drive Pumps eliminate the conventional shaft seals found in most pumps. This means that there is no rotating seal to wear and allow the liquid being pumped to leak out. In addition to this unique "seal-less" design, the pump is hermetically encapsulated in epoxy. This epoxy encapsulation now allows the pumps to be run fully submerged in many liquids. The model LC-2CP-MD pump can be run totally submerged or can be run in open air for complete moisture protection. The model 2CP-MD must be run submerged only.

All these pumps can be serviced with the use of a screwdriver. The only moving parts in the pump other than the motor, is the Impeller-Magnet Assembly. This Impeller-Magnet Assembly rotates on a stationary spindle and up against a thrust washer. This is the only part that can wear out, and may need to be replaced. See the Repair Parts List for replacement parts if necessary.

The "P" in the model number indicates "porcelain" ceramic spindle and thrust washer to distinguish these pumps from the older models with stainless steel spindle and thrust washer.

#### ELECTRICAL CONNECTIONS AND RUNNING DRY

All models are standard in 115 volt, 60 cycle, 1 phase A.C. All cord sets are U.L. approved 18/3 wire SJT plastic cords. Standard cord length is 6 feet. Twelve-foot lengths or longer are available. The motor-thermal overload combination is U.L. Yellow Card Listed under File No. E39859. The motors are C.S.A. recognized under File No. 40072. The pumps are U.L. recognized under File No. E43564. U.L. recognition on pumps is for water only. For pumping liquids other than water, contact factory.

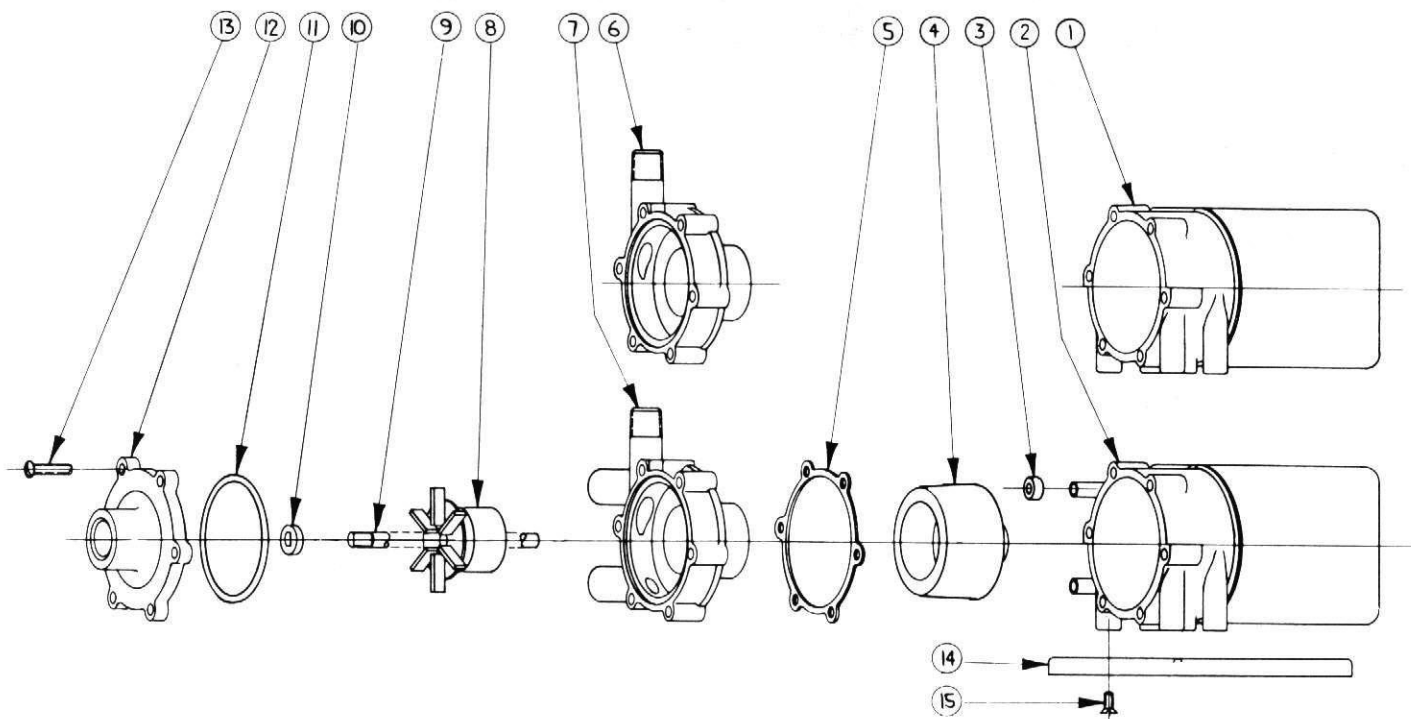
We rely on the liquid being pumped to lubricate the Impeller-Magnet Assembly spinning on the stationary spindle. If the pump is run dry for longer than 60 seconds the plastic may "freeze" onto the spindle.

#### PUMP MATERIALS

All Screws are type 18-8 stainless steel.  
All "O" Ring Gaskets are Viton and Neoprene Rubber.  
Impeller Spindle is Ceramic.  
Motor Bracket is Glass Filled Polypropylene.  
Pump Housing, and Cover and Impeller are Glass Filled Polypropylene.  
Thrust Washer is Ceramic  
The LC model has type 316 stainless steel tubes embedded into the epoxy to remove heat from the motor.  
For other materials available contact the factory.

#### RATINGS AND SPECIFICATIONS

MODEL NO.	CONNECTORS		H.P.	ELECTRICAL		G.P.H. AT LISTED HEAD						MAX. HEAD	P.S.I. GAGE	DIMENSIONS			PACK WT.
	Inlet	Outlet		Watts	Amps	1 Ft.	3 Ft.	5 Ft.	6 Ft.	12 Ft.	18 Ft.			Ht.	Wd.	Lg.	
2CP-MD LC-2CP-MD	3/8 FPT	1/4 MPT	1/35	60	1.1	300	260	210	195	45	0	13 Ft.	5.7	4	4 1/4	6	5 Lbs.



#### MODELS 2CP-MD AND LC-2CP-MD REPAIR PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY. REQ'D.
1	125-059-01	Epoxy Motor, Bracket and Card Ass'y.	1
2	125-059-02	L.C. Epoxy Motor, Bracket and Cord Ass'y.	1
3	125-007-10	Cooling Tube Seals Neoprene Rubber	2
4	125-083-01	Drive Magnet Assembly	1
5*	125-071-10	Flat Bracket Gasket, Neoprene Rubber	1
5A*	125-121-10	O'Ring Bracket Seal, Viton® A Rubber	1
6	125-058-10	Pump Housing	1
7	125-057-01	L.C. Pump Housing and Plug Assembly	1
8	125-055-01	Impeller and Magnet Assembly	1
9	125-051-10	Impeller Shaft, Ceramic	1
10	130-028-10	Ceramic Thrust Washer	1
11	125-065-10	Cover "O" Ring, Viton Rubber	1
12	125-056-10	Cover	1
13	115-062-10	Screws, Self-Trapping	6
14	125-060-10	Mounting Base	1
14a	125-113-01	Marine Mounting Base w/Grommets	1
15	410-078-10	Base Screws	4

PRICES SUBJECT TO CHANGE WITHOUT NOTICE

\*If your pump has the flat bracket gasket, then use 5 for replacement parts.  
If your pump has the O'Ring bracket seal, then use 5A for replacement parts.

#### LIMITED WARRANTY

March Pumps are warranted to the original user against defects in workmanship and materials under normal use for a period of 12 months when used on room temperature water. See complete March limited warranty statement on card F4109 which is packed with this pump.

**MARCH MANUFACTURING, INC.**

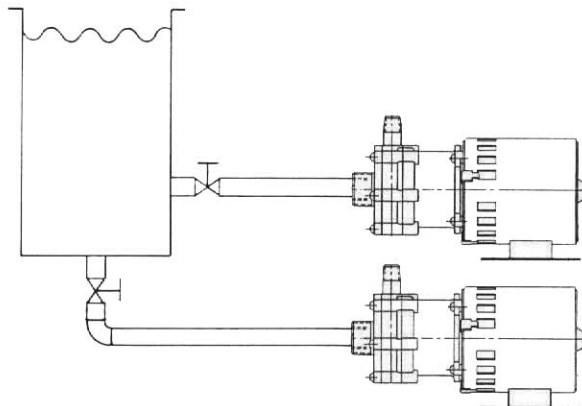
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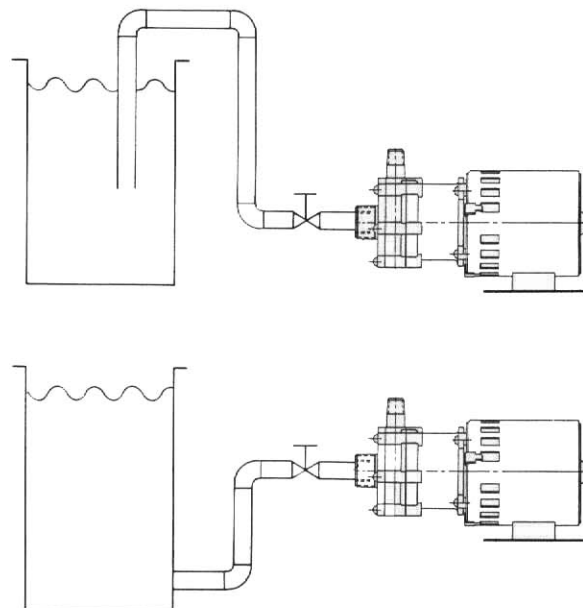
## GENERAL INSTALLATION INSTRUCTIONS

1. The Pump should be mounted horizontally on a foundation and secured by Anchor Bolts.
2. Install the pump as near to the suction source and as low as possible. Suction must be flooded. When using an elbow, valve, etc., the suction must have straight piping in length at least five (5) times the diameter of the pipe.
3. Suction piping should not be smaller than the pump suction size and preferably one size larger than pump suction. Liquid supply vessel should not have a pipe size smaller than the pump suction and then increased to pump suction size.
4. Piping and valving should be independently supported. Do not allow the pump to support the weight of the piping.
5. All suction piping should be direct and short as possible with as little bending as possible. Excessive bending and pump suction length will lead to flow distortion and pump cavitation.
6. Available NPSH should exceed 120% of pump required NPSH. Contact a March Distributor for pump requirements.
7. Suction velocity should not exceed 6.5 feet per second. Viscous and hot liquids will have an effect on velocity.
8. If reducers or increasers are necessary, caution is to be used as to proper installation so as not to trap air.
9. Use a vacuum gauge in the suction line and it should be as close as possible to the pump suction. This is for monitoring the performance of the pump while in operation.
10. Ball valves may be installed on the suction side to allow maintenance and service. NEVER use the valve to limit flow into the pump.
11. Negative suction or suction lift is not recommended and should not be used. See illustration below:

**CORRECT**



**INCORRECT**



12. Suction Pressure:

Systems utilizing high suction pressure where a pump is used to boost system pressure is of concern. Be sure that the pressures do not exceed that of pump design, otherwise severe damage and possible operator injury could result.

## **DISCHARGE**

1. All discharge piping size should be determined by flow velocity which should not exceed 15 feet per second.
2. A Throttling Valve should be installed for flow and pressure control. Caution—Location of check valves on long discharge piping, high static discharge of 50 feet or more and two or more pumps used on the same common piping.
3. Install Discharge Pressure Gauge to monitor performance during operation.
4. Connect electrical power to the motor in accordance with motor manufacturers nameplate instruction.

## **OPERATION**

1. Check pump for proper rotation by allowing fluid into the pump and turning power to motor on and off in a quick manner. If motor is not rotating in proper rotation, the leads should be changed to conform to motor manufacturer's nameplate. Improper rotation reduces capacity.

### **—CAUTION—**

2. Do not run pump without liquid. Be sure liquid is in the pump. If pump is run dry, excessive heat will occur damaging internal parts and could result in operator injury.
3. Open suction valve completely.
4. Open discharge valve slightly (crack).
5. Observe all connection for leaks. If leaks occur, close all valves and repair all leaks before further operation.
6. Start motor.
7. Open discharge valve gradually until desired flow and pressure is attained.

### **—CAUTION—**

IF DISCHARGE VALVE ON START UP IS WIDE OPEN, DECOUPLING COULD OCCUR OR  
MOTOR OVERLOAD IS POSSIBLE.

8. Operating the pump for excessive periods of time at shut off (discharge valve fully closed) or at near shut off conditions could cause the liquid to rise in temperature which could cause failure of internal parts and failure of pump.
9. Flow rates should be controlled by the discharge valve only, never by the suction valve.
10. Electrical operation is also critical. High or low voltage could have an affect on pump performance. Caution—Do not operate the motor at varied voltages, without contacting a March Distributor first.



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