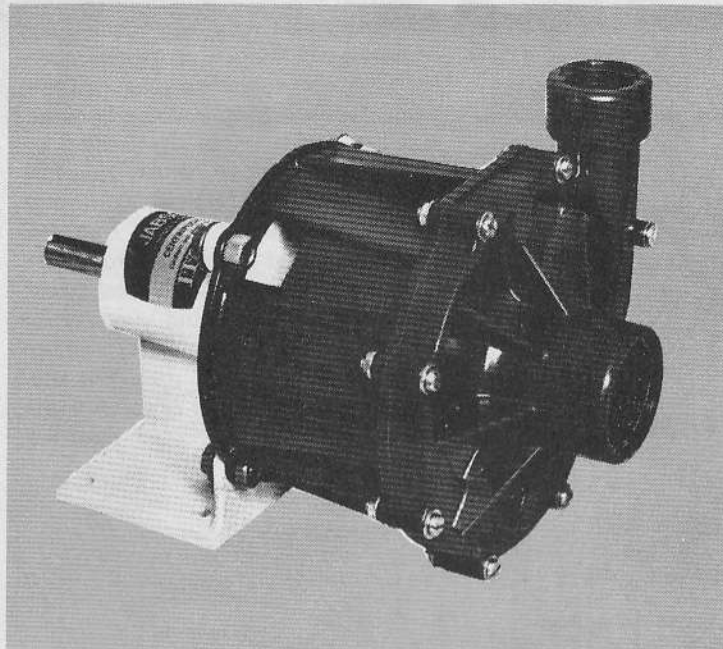


## PRODUCT DATA



### DESIGN FEATURES

#### Corrosion Resistant

- Pump Material:** Glass Filled Epoxy Plastic Suitable for Temperatures to 200°F. (93°C)
- Impeller Design:** Enclosed 4.35" Dia.  
4.0" Dia.  
3.5" Dia.

#### SEAL-LESS

- Magnetic Drive:** Impeller Magnets enclosed in a molded epoxy cup. No Contact with Liquid Being Pumped.
- Ports:** Suction 1½" NPT Internal  
Discharge 1" NPT Internal
- Maximum Fluid Temperature:** 200°F (93°C)
- Bearing Housing:** Cast Iron, Protective Enamel Painted
- Shaft:** Carbon Steel
- Bearings:** Ball Bearings
- Weight:** 14½ lbs. (6.6 kgs.)

MODEL 18500-SERIES PEDESTAL

Impeller Size	Model Number
4.35	18500-0000
4.00	18500-0001
3.50	18500-0002

### APPLICATIONS

The seal-less magnetic drive pedestal mounted, centrifugal pump may be direct coupled to, or belt driven by, an electric or air motor provided by the customer. Thus, a wide selection of electrical characteristics are available, and, as an added benefit drivers of suitable horsepower can be selected to handle a wide range of liquids whose specific gravity differs from water.

The seal-less magnetic drive centrifugal pumps are designed to handle corrosive liquids without concern for selection of exotic mechanical shaft seal materials or leakage of expensive or dangerous fluids between shaft and housing.

Highly corrosive chemicals or caustic solutions compatible with glass filled epoxy plastic may be transferred or circulated. All parts in contact with fluid are glass filled epoxy plastic or graphite filled teflon. Viton "O" ring gasket is used.

For a comprehensive list of chemicals and their compatibility with epoxy plastic, consult the Jabsco Chemical Resistance Table or the factory.

### INDUSTRIAL AND OEM

Transfer, circulation or filtration of photo chemicals, etching solutions, plating baths, laboratory systems, processing transfer and application of agricultural chemicals (not wettable powder solutions) fume scrubbing, circulation and precious metal recovery processes are typical applications.

### LOCATION AND PLUMBING

Pump should be mounted with shaft horizontal. Volute may be removed and rotated to any of eight different port positions to simplify piping. If pump is to be mounted above the liquid level, provision must be made to assure that the suction line and pump cavity is flooded before starting the pump.

**THIS PUMP WILL NOT SELF PRIME. DO NOT RUN DRY.**

All piping to the pump must be supported independently of the pump. **CAUTION: Extreme care must be exercised if metal port fittings are used to prevent cracking port. Plastic port fittings are recommended. Use teflon**

tape to seal threads. Keep suction and discharge lines as free of elbows and bends as possible. Line to suction port should be straight for a minimum length of 12", without elbows or reducers, to assure optimum performance. Suction line must be airtight to maintain prime. A flap type foot valve at the suction intake may be installed to retain liquid in the system during shutdown. An auxiliary priming line may be installed by drilling and tapping the upper boss on the volute face. The lower boss may be tapped and plugged as a drain hole if desired.

**NOTE:** For inlet pressures exceeding 20 psi (1,4 Kg/CM<sup>2</sup>) consult the factory for assistance.

**MOTOR SELECTION** — Refer to performance curves and notes on specific gravity or viscosity to calculate proper horsepower requirement for drive motor. The ball bearing equipped pedestal mounted magnetic drive centrifugal pump permits direct coupling or belt drive to a motor of your choice, either electric or air driven. A motor with electrical characteristics of your choice may be obtained from local source and mounted on a simple channel base to drive the pump in a manner most suited for your requirements.

**BELT DRIVE** — Proper belt tension will insure optimum pump performance, belt and bearing life. Under normal belt tension, the belt can be deflected 1/2 inch midway between the pulley center lines.

**DIRECT DRIVE** — A flexible coupling is recommended. Be sure there is clearance between the motor shaft and pump shaft, when installing coupling. Mount and align pump and motor shaft before tightening coupling set screws.

**MAXIMUM OPERATING SPEEDS** — Do not operate at speeds above 3850 RPM without consulting factory. Ball bearing life will be reduced if operated at higher speeds.

**HORSEPOWER REQUIRED** — Depends on pump speed and specific gravity of fluid. Refer to performance curves and notes on specific gravity and viscosity to calculate proper horsepower requirement for application. DO NOT EXCEED 3.0 HP. Magnetic drive will uncouple at about 3-1/2 horsepower.

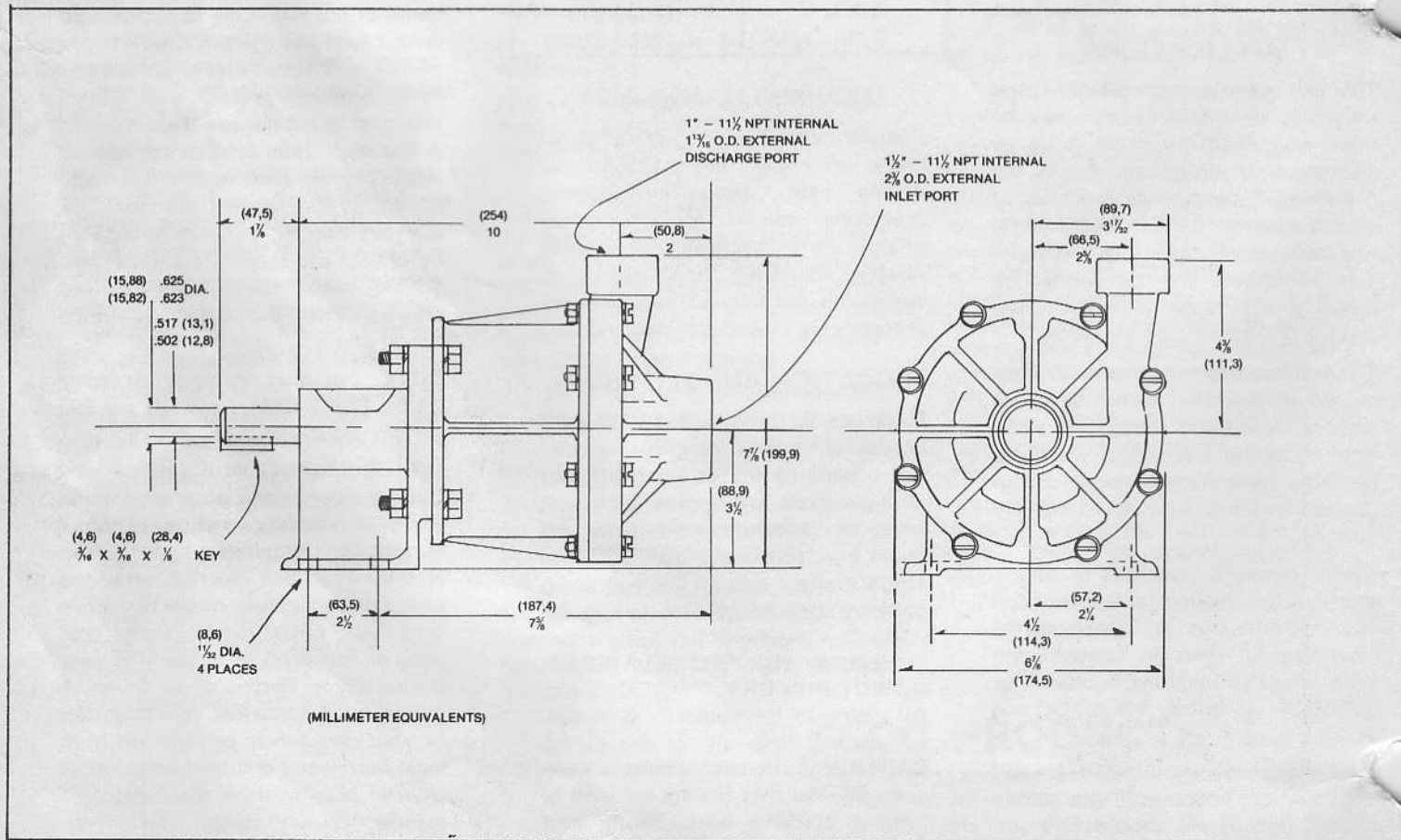
**OPERATION** — Pump must be primed to begin pumping operation. Do not operate pump dry for extended periods. Dry running or starved suction will reduce the service life of the sleeve and thrust bearings.

If pumping ceases during normal operation and the motor continues to run, disconnect power to the motor. Let

pump motor come to a complete stop, then resume operation. This allows the magnetic drive to "re-couple".

Recurring uncoupling indicates excessive horsepower requirements, hydraulic hammer or friction contact between impeller and volute housing. Inspect pump for particulate build-up between impeller and housing, or scuffing of impeller shroud face, which indicates teflon thrust bearing is worn and requires replacement. Check track on impeller shroud for wear groove. If badly worn, replace impeller and thrust bearing. Change in liquid viscosity or specific gravity may affect power requirement. Restrict flow thru discharge line until pump operates without uncoupling or motor overload kick out.

### DIMENSIONAL DRAWING





### HORSEPOWER ADJUSTMENTS DUE TO CHANGES IN SPECIFIC GRAVITY

The specific curves on this data sheet are based on water at 68°F. The Head Curves may be read directly when the fluid in question has approximately the same viscosity as water. Note, however, that the horsepower requirement curve must be compensated according to the following instructions.

The specific gravity of a liquid other than water must be known to determine the required motor horsepower. The relationship between this power requirement and specific gravity is linear and may be expressed by the following formula:

$$\text{Water HP}^* \times \text{Specific Gravity} = \text{Required HP}^{**}$$

\* For horsepower requirements, read adjacent curves.

\*\* Consult the factory for assistance when the required horsepower to pump the liquid in question exceeds 3.0 HP rating on the curve for the appropriate size.

### GAUGE CORRECTIONS DUE TO CHANGES IN SPECIFIC GRAVITY

Normally gauges are graduated in PSI. With changes in specific gravity, the gauge readings will change. If the discharge pressure is known for a liquid other than water, it must be converted to feet of water before the "water curves" can be used to determine the flow. Use this formula for conversion:

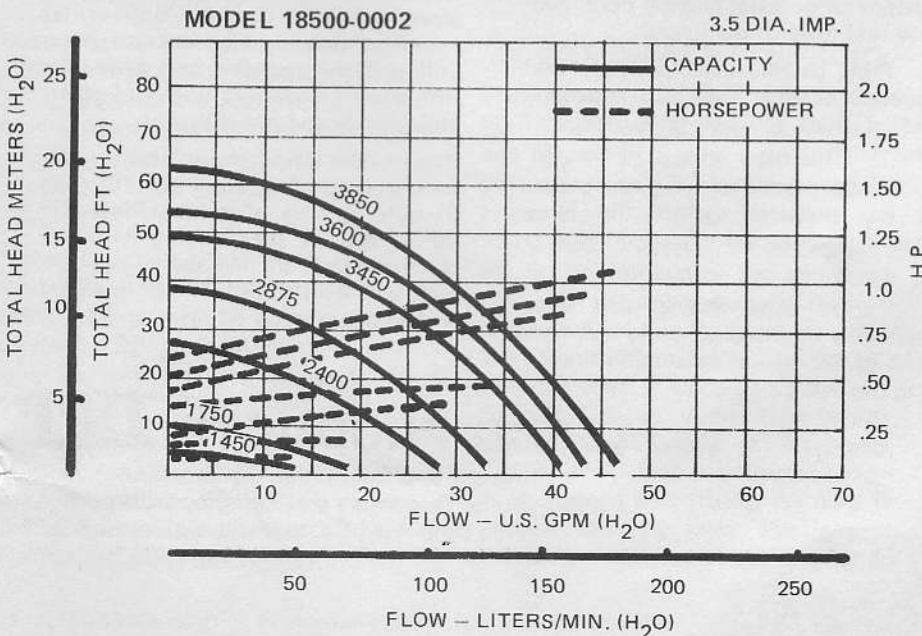
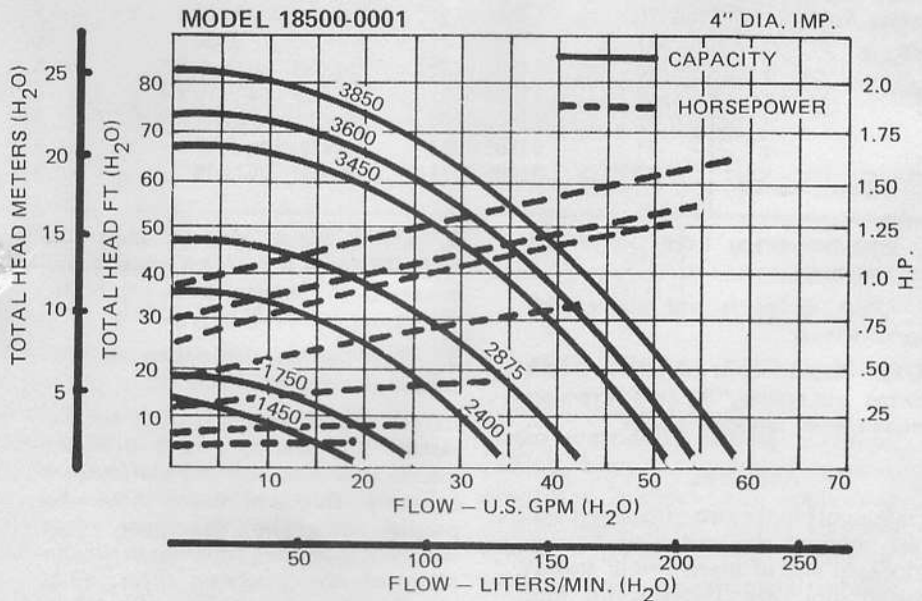
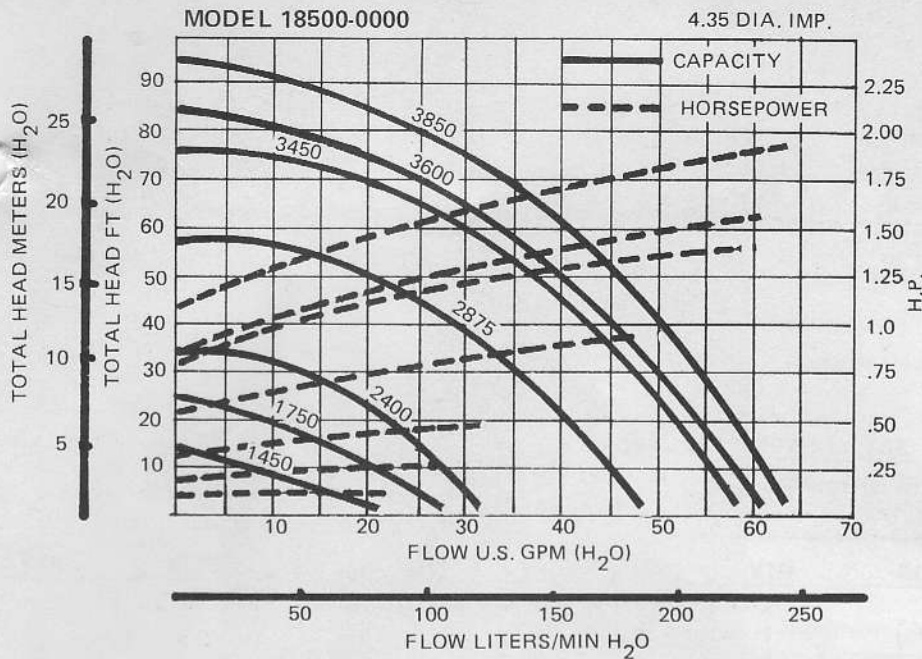
$$\frac{\text{*PSI} \times 2.31}{\text{Specific Gravity}} = \text{Feet of Water}$$

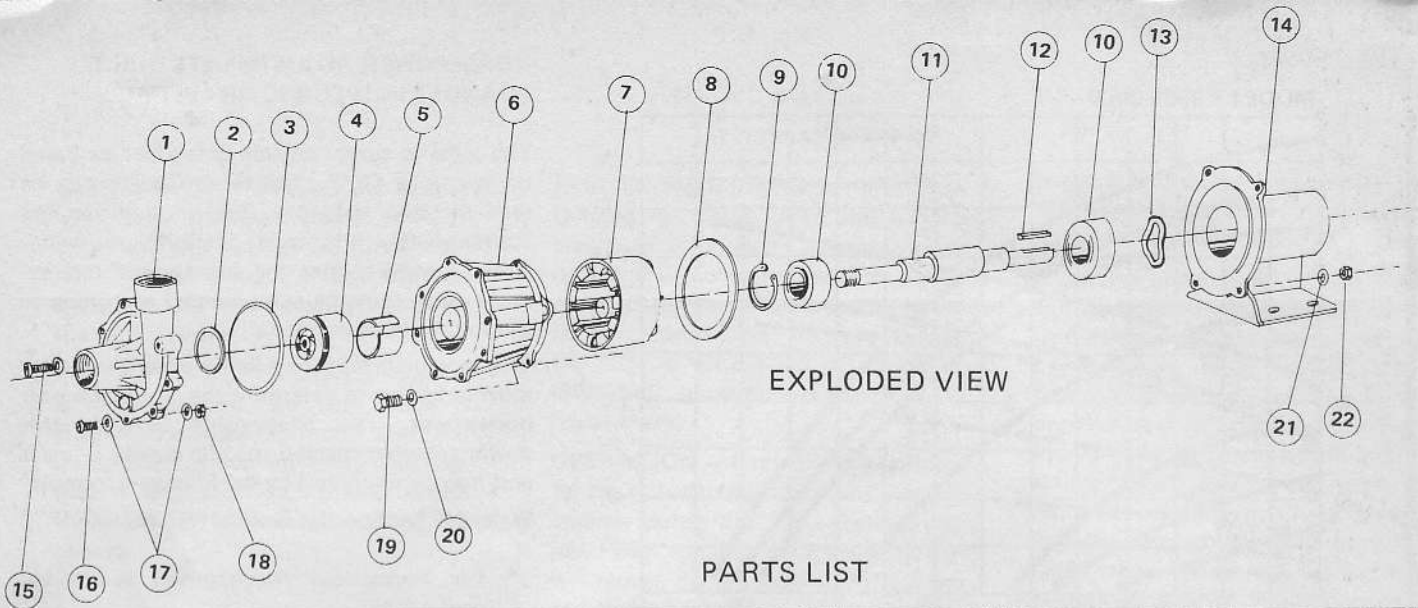
\*Pressure measured at pump discharge port in PSI.

The converted head figure may now be applied to the "water curves" in order to determine the flow. Remember, however, the curves indicate total head which means the sum of both inlet and discharge pressure.

**VISCOSITY:** Pump performance is directly affected when handling viscous liquids. A distinct increase in liquid HP, a reduction in head, and some reduction in capacity will occur with moderate and high viscosity fluids. When accurate information is required, performance tests under actual conditions should be conducted. It is recommended that fluid viscosity be limited to a maximum of 1000 SSU or 240 Centipose. Consult the factory for assistance when more viscous fluids must be handled.

VISCOSITY SSU	100	250	500	750	1000
FLOW REDUCTION %	3	8	14	19	23
HEAD REDUCTION FT. %	2	5	11	14	18
H.P. INCREASE %	10	20	30	50	65





EXPLODED VIEW

PARTS LIST

KEY	PART NUMBER	DESCRIPTION	QTY	KEY	PART NUMBER	DESCRIPTION	QTY
1	18238-0000	Volute	1	11	17666-0000	Shaft	
2	18241-0000	Teflon Thrust Bearing	1	12	91402-0100	Key	1
3	92000-1180	"O" Ring (Viton)	1	13	98036-0290	Spring	1
4	18243-0000	4.35" Impeller/Driven Mag. Assy.	1	14	17649-0000	Pedestal/Bearing Housing	1
	18243-0001	4" Impeller/Driven Mag. Assy.		15	91045-0368	Machine Screw, 10-32 x 2"	1
	18243-0002	3 1/2" Impeller/Driven Mag. Assy.		16	91045-0367	Machine Screw, 10-32 x 1 1/4"	7
5	18249-0000	Teflon Sleeve Bearing	1	17	91602-0121	Flat Washer, 10-32	16
6	18236-0000	Housing	1	18	91085-0261	Hex Nut, 10-32	8
7	18246-0000	Drive Magnet Cup	1	19	91094-0191	Hex Bolt 3/8" - 16 x 1	4
8	18240-0000	Spacer Ring	1	20	91602-0260	Flat Washer, 3/8"	4
9	91701-4400	Retaining Ring	1	21	91605-0091	Lock Washer, 3/8"	4
10	92600-0500	Bearing	2	22	91085-0071	Hex Nut, 3/8" - 16	4

DISASSEMBLY

**CAUTION:** Pumps which have handled corrosive, caustic or toxic fluids, should be drained and completely flushed prior to servicing.

1. Remove (8) screws washers and nuts securing volute to housing. Remove "O" ring from outer groove in volute. Remove teflon thrust bearing from inner groove in volute.
2. Remove impeller/driven magnet assembly from housing with a firm, straight-away pull. Remove teflon sleeve bearing from bore of assembly.
3. Remove (4) bolts, (8) washers, and (4) nuts securing housing to pedestal. Remove housing and spacer ring.
4. Prevent pump shaft from turning, and turn drive magnet cup in a counterclockwise direction to remove.
5. Remove bearing retaining ring with snap ring pliers.
6. Press on keyway end of shaft to remove shaft/bearing assembly from pedestal.
7. Press bearings from shaft.

8. Remove spring from bottom of pedestal bore.
9. Clean all parts and inspect for excessive wear.

**NOTE:** Replacement of teflon thrust bearing and volute "O" ring is recommended when servicing pump.

ASSEMBLY

1. Support inner race of bearings and press inboard and outboard bearing onto each end of shaft, firmly against bearing shoulders. Insert spring into bottom of pedestal bearing bore, concave side towards pump end.
2. Press bearing/shaft assembly into pedestal bearing bore with threaded end of shaft towards large flange of pedestal.
3. Install retaining ring in groove in the pedestal against the inner bearing outer race.
4. Thread drive magnet cup onto shaft in a clockwise direction. A firm twist of the drive magnet cup will lock it to the shaft.

5. Install spacer ring in place on pedestal flange face. Align housing and secure it to pedestal with (4) bolts, (8) washer and (4) nuts.

6. Place teflon sleeve bearing into bore in drive end of impeller.

**NOTE:** Sleeve bearing is taper cut. To install, roll bearing into a cylinder, insert into bore of impeller/magnet assembly. Edges of sleeve should be parallel; otherwise, the inner edges will overlap causing jamming or uncoupling of the magnetic drive. Slide impeller/magnet assembly, with teflon sleeve in bore of assembly, onto center spindle of housing. Magnetic attraction will pull the impeller into place. Do not allow impeller to snap into place. Hold firmly and insert slowly.

7. Install teflon thrust bearing in inner groove of volute. Place "O" ring in outer groove of volute. Place the volute against the housing with the discharge port in the desired position and secure with (8) screws, washers and nuts.

**JABSCO PRODUCTS** **ITT**

Marine and Recreation Components Division  
International Telephone and Telegraph Corporation  
1485 Dale Way, Costa Mesa, California 92626  
Telephone: (714) 545-8251