

BRONZE ENGINE CLAMP MOUNT RUBBER IMPELLER PUMP

ENGINE MOUNTED UNIT DESIGNED SPECIFICALLY FOR PERKINS MARINE ENGINE

PIPE SIZE 1"



FEATURES

- Bronze Construction - Corrosion Resistance
- Clamp on Mounting
- Teflon(R)* Barrier Seals Protecting Ball Bearings
- Mechanical Carbon Ring, Ceramic Face Main Pump Seal
- Two Sealed Ball Bearings Spaced for Maximum Load Ability
- Large Vent & Drain Openings Separate Seal & Bearing Areas
- Shaft Slinger for Additional Bearing Protection
- Neoprene Impeller
- Keyed Impeller Standard, Spline Driven Impeller Optional (403M-02)
- High Chrome Nickel Stainless Steel Shaft
- Vertical "Up" Ports
- Stainless Steel Step Shaft
- Buna N O-ring Seal Between Body and Cover Eliminates Gasket Problems
- Impeller & Cam Easily Replaced

ROTATION

Direction of shaft rotation determines inlet and outlet ports (see line drawing on back)

MOUNTING

Pump will operate satisfactorily when mounted in any position. **DO NOT RUN DRY.** Rubber impeller pumps generate high rubbing friction unless lubricated by liquid pumped. Lack of liquid will cause impeller to burn up.

PERFORMANCE

Capacity Water at 60°F

Pump	RPM	Feet Hd.	0	20	40	60	80
			PSI	0	8.7	17.3	26
403M	800	GPM	12.0	11.0	9.7	7.5	2.0
		HP	1/3	1/3	1/2	1/2	3/4
	1750	GPM	25.0	24.0	22.2	19.1	15.0
		HP	3/4	3/4	3/4	1	1
	2500	GPM	32.5	30.5	27.0	24.0	17.5
		HP	1	1 1/2	1 1/2	2	2
3000	GPM	36.0	34.5	31.0	27.5	21.0	
	HP	1 1/2	1 1/2	1 1/2	2	2	

DRIVE

1/2" diameter shaft projection suitable for either direct drive with flexible coupling or pulley drive. Make sure both flexible coupling halves are properly aligned. When using pulley, do not over-tighten belt.

LIQUIDS AND TEMPERATURE

While intended for engine coolant, liquids compatible with neoprene can be pumped including fresh and salt water solutions and mild chemicals. Do not pump severe solvents or acids. When possible, flush pump with fresh water after each usage.

Extremes of cold and heat will affect impeller life. Limits of 40° to 140° F should be observed. Do not allow liquid in pump to freeze. Drain pump by loosening cover screws. Use methyl alcohol based anti-freeze compounds such as Zerex, Shell Zone, Pyro Permanent, Permagard, Dowgard.

SUCTION LIFT

Suction lift of 15 feet is possible when impeller is wet. Suction lines must be air tight in order for pump to self prime. A foot valve at beginning of suction line is recommended.

IMPELLER REPLACEMENT

The impeller must be replaced if it is worn out or has been damaged by debris or by running the pump dry. Symptoms of a defective impeller are low pumping pressure and low flow causing overheating of the boat engine. Poor pump performance can also be caused by slippage of V-belts, so belts should be checked for tightness.

To replace the impeller remove screws and cover. Pull out the impeller with nose pliers or two screwdrivers. Be careful not to dent the pumping chamber with these tools. When inserting new impeller, line up key slot in impeller with the key in the shaft. Use oil on shaft and avoid forcing the impeller onto the shaft.

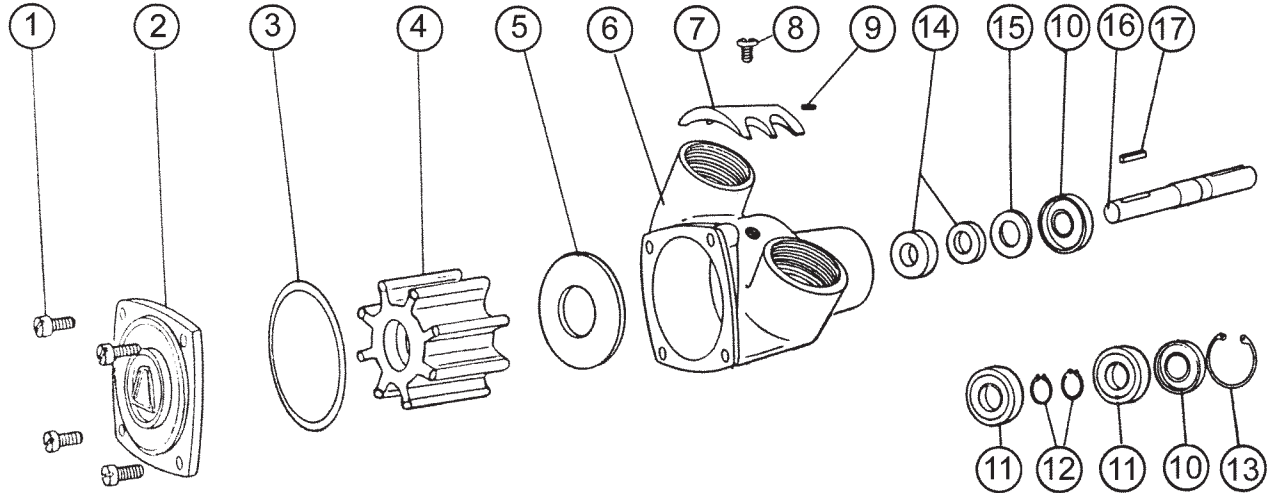
The impeller should also be removed for storage periods to prevent the blades from taking a permanent set.

(continued on back)

*Teflon(R) is a registered trademark of DuPont. Teflon(R) or equivalent PTFE will be used.

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EXPLODED VIEW AND PARTS LIST

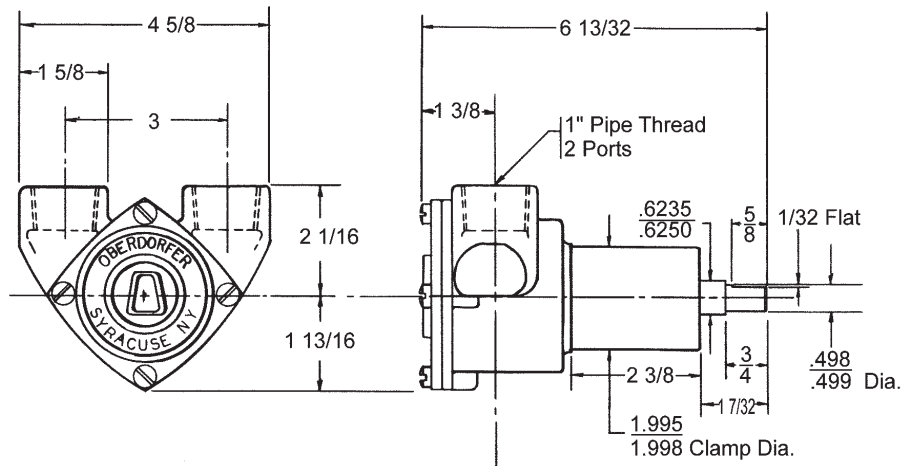
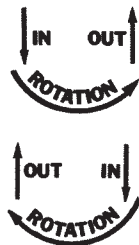


Pump No.	1	2	3 ¹	4 ¹	5	6	7	8	9	10	11	12	13	14 ¹	15	16	17	Repair Kit ¹
	Screw	Cover	O-Ring	Impeller	Wear Plate	Body	Cam	Screw	Pin	Seal Bearing	Ball Bearing	Snap Ring	Snap Ring	Seal Assy.	Washer Seal	Shaft	Key Intern.	
	4 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	2 Reqd	2 Reqd	2 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	1 Reqd	
403M	5504	6924	8230	6603	6635	6928	6606	7300-62	6685	6609	5928	5926	5925	32230	6631	6925	5475	10955
403M-02	5504	6924	8230	7441	6635	6928	6606	7300-62	6685	6609	5928	5926	5925	32230	6631	7170	5475	12189

¹ Repair Kit contains items 3, 4 & 14.

DIMENSIONS

Rotation Diagram
Looking at Cover



SEAL REPLACEMENT (continued from front)

If water drips from the weep hole or from the area where the shaft exits the pump, the seal is defective and must be replaced. Prolonged running of the pump with a leaky seal can destroy the ball bearings resulting in catastrophic pump failure and engine shut-down.

For seal replacement, the pump must be removed from the engine and disassembled in order to gain access to the seal area.

Where mechanical seals are used, both components (stationary and rotating member) must be replaced at the same time. Lip seals must be pushed out of their press-fitted position and new seals pressed into place, using a sealant on the outside of the lip seal housing.

Refer to exploded view drawings for seal location and part numbers for ordering purposes.