JABSCO®

Model: 17640-SERIES

CENTRIFUGAL PUMPS

FEATURES

Pump Material:	Glass Filled Epoxy
Impeller Design:	Semi-Open, 4½", 4", 3½" diameter
Shaft Seal:	Balanced Mechanical: Carbon on Ceramic, with Viton* Lip Seal
Suction Port:	1½" NPT Internal 2" ID Slip-on Hose External
Discharge Port:	1" NPT Internal 1¾" Slip-on Hose External
Maximum Fluid Temperature:	200°F. (93°C)
Motor:	1, ¾, or ½ HP NEMA "C" Face, 115/230 VAC. 1 phase, 3450 RPM, 60 Hz. Open drip-proof or TEFC, Class "B" insulation, Thermal Overload Protection, Three Prong Plug for 115 VAC Operation.
Weight:	20½ lb (9,35 kg)

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⚠ MOTOR WARNING

MOTOR CAN SPARK. EXPLOSION & DEATH CAN OCCUR.

DO NOT USE WHERE FLAMMABLE VAPORS ARE PRESENT.

STANDARD MODELS

Impeller Size	Motor HP	Model Number	
		Open Motor	TEFC Motor
4½"	1	17640-2000	17640-2001
4"	¾	17640-2006	17640-2007
3½"	½	17640-2012	17640-2013

APPLICATIONS

These close-coupled centrifugal motor pump units are designed especially for handling a variety of corrosive fluids. Their high quality and rugged construction make them suitable for a wide range of fluid circulation and transfer applications within their hydraulic limitations. No metal parts come into contact with the fluid being pumped. The glass-filled epoxy pump handles corrosive fluids, photo chemicals, plating solutions, liquid fertilizer, caustic solutions, brine solutions and many others. See the "Jabsco Chemical Resistance Table" or consult the factory for complete listing of chemical applications.

INDUSTRIAL – fluid transfer, circulation, filtration, drainage, and water supplies (non-sanitary).

OEM – cooling or heating circulation equipment, distilled water circulation, laboratory equipment, electroplating filters. water treatment facilities, dispensers, laundry equipment, car washes, etc.

INSTALLATION

LOCATION – Pumps with TEFC motors may be mounted in any position. Pumps with open drip-proof motors should be suitably mounted to prevent moisture from entering motor. Volute may be removed and rotated to any one of eight different port positions to simplify piping. If the pump is to be mounted above the liquid level, provisions must be made to assure that the suction line and pump cavity is flooded before starting pump.

THIS PUMP WILL NOT SELF PRIME! To prevent cavitation and obtain maximum service life, it is important that due consideration be given to the pump's NPSH characteristics. Factory application engineering assistance is available.

For inlet pressure over 20 PSI, consult the factory for assistance.

PLUMBING – All piping to the pump must be supported independently of the pump. **Use only plastic fittings in the suction and discharge ports. Metal fittings may damage threads in pump ports.**

Keep suction and discharge lines as free of elbows and bends as possible. To assure optimum performance, suction port line should be straight for a minimum length of 12" without elbows or reducers.

Suction line must be airtight to maintain prime. A flap type foot valve at the suction intake or a check valve in the discharge line may be installed to retain liquid in system during shutdown. An auxiliary prime line may be installed by drilling and tapping boss on volute face (see dimensional detail).

(Cont'd.)

INSTALLATION (Cont'd.)

FLUSH GLAND PLUMBING: Film leakage of fluid at the seal serves to lubricate the seal. Flush gland seal housing may be flushed to prevent accumulations of caustic or corrosive fluid crystals. Plumb wash and drain lines with 1/8" - 27 NPT plastic fittings, to both sides of the seal housing flush gland. **Flush pressure should not exceed 5 PSI.**

WIRING - Pump motors are factory wired with a 115 Vac three-prong plug. Consult the motor wiring connection diagram below for 230 Vac motor connection.

OPERATION – Pump must be primed before starting. Continuous dry operation will damage seal. Start flow thru flush gland on models so equipped before starting pump motor.

MOTOR CONNECTIONS

LOW VOLTAGE (115V)	HIGH VOLTAGE (230V)
L1 —● ● ●— V (9) L2 —●— Blk (2)	L1 —● ●— V (9) ●— Blk (2) L2 —●

PUMP PERFORMANCE CHARACTERISTICS

HORSEPOWER ADJUSTMENTS DUE TO CHANGES IN SPECIFIC GRAVITY

The performance 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.

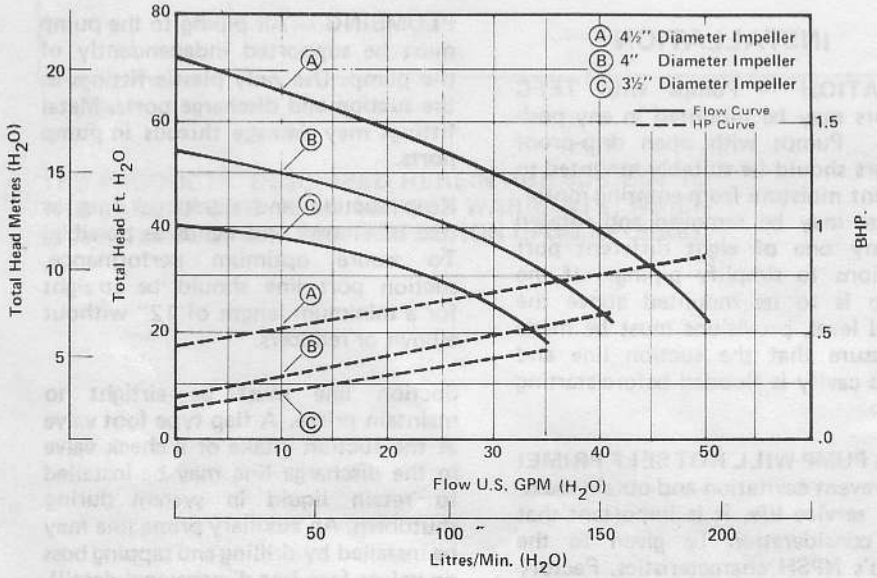
The specific gravity of a liquid other than water must be known to determine the required motor horsepower. The relationship between this power requirement and specific gravity is linear and may be expressed by the following formula:

BHP* x Specific Gravity = Required HP**

* Horsepower read directly from curves below.

** Consult the factory for assistance when the required horsepower to pump the liquid in question exceeds the rated horsepower of the Motor Pump Unit (see table on front page).

HEAD FLOW CURVES



GAUGE CORRECTIONS DUE TO CHANGES IN SPECIFIC GRAVITY

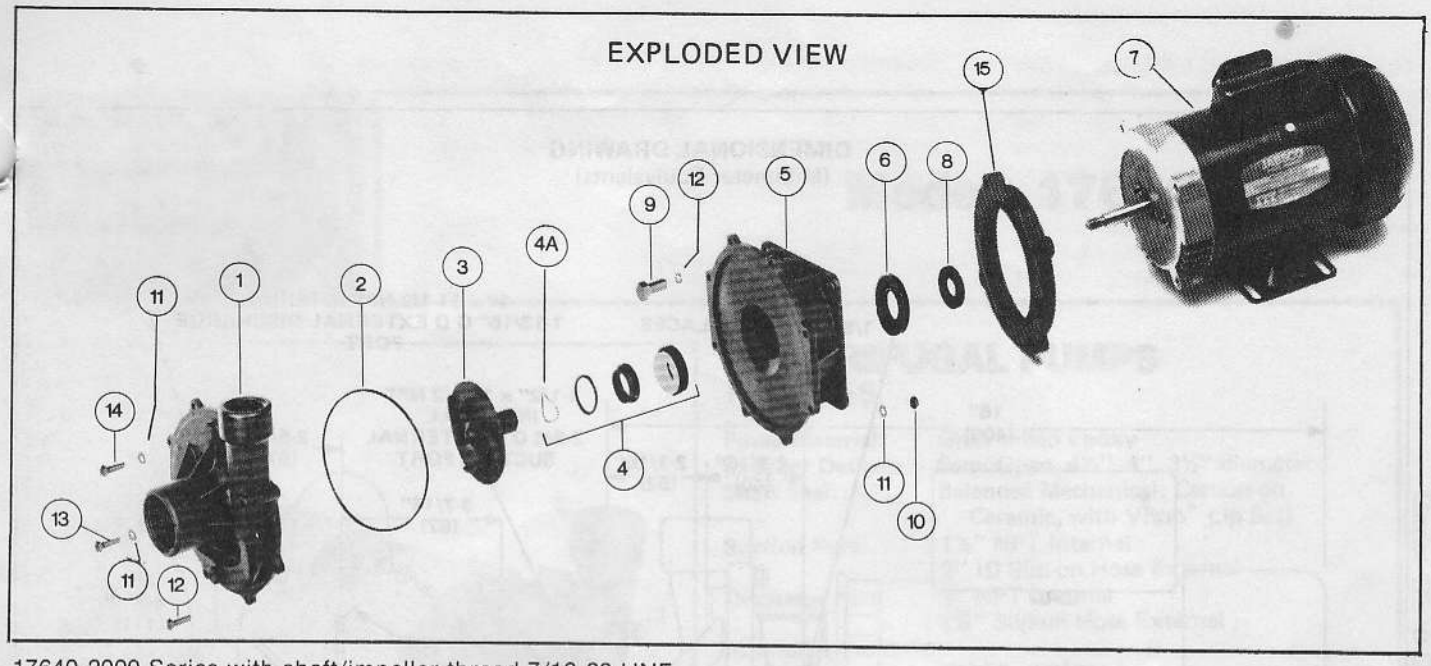
Normally gauges are graduated in PSI. With changes in specific gravity, the gauge readings will change. If the discharge pressure is known for a liquid other than water, it must be converted to feet of water before the "water curves" can be used to determine the flow. Use this formula for conversion:

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

*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 460 SSU or 100 Centipoise. Consult the factory for assistance when more viscous fluids must be handled.



17640-2000 Series with shaft/impeller thread 7/16-20 UNF
Replaces 17640-1000 Series with shaft/impeller thread 7/16-14 UNC

PARTS LIST

KEY	PART NUMBER	DESCRIPTION	QTY.
1	17826-0000	Volute Body	1
2	18732-0000	O-Ring	1
3	18702-2000	Impeller, 4-1/2" Dia.	1
3	18703-2000	Impeller, 4" Dia.	
3	18704-2000	Impeller, 3-1/2" Dia	
4	18247-1000	Seal Assembly	1
4A	98021-0280	Seal Spring	
5	18705-0000	Seal Housing	1
6	18734-0000	Lip Seal	1
7	93004-2619	Motor, 1 HP Open 115/230/1/60	1
	93004-2618	Motor, 1 HP TEFC 115/230/1/60	
	18753-0021	Motor, 3/4 HP Open 115/230/1/60	
	93004-2616	Motor, 3/4 HP TEFC 115/230/1/60	
	18753-0020	Motor, 1/2 HP Open 115/230/1/60	
	93004-2617	Motor, 1/2 HP TEFC 115/230/1/60	
8	3180-0000	Slinger	1
9	91091-0092	Hex Bolt, 3/8" - 16 x 1-1/2"	4
10	91085-0261	Hex Nut, #10-32	8
11	91602-0121	Flat Washer, #10	16
12	91602-0260	Flat Washer, 3/8"	4
13	91045-0367	Machine Screw, #10-32 x 1-1/4"	7
14	91045-0368	Machine Screw, #10-32 x 2"	1
15	18326-0000	Adaptor	1

DISASSEMBLY

CAUTION: Pumps which have handled corrosive or toxic fluids should be drained and completely flushed prior to servicing. Failure to do so may cause injury.

1. Remove (8) machine screws, nuts. and washers securing volute body to seal housing. Remove O-ring from groove of volute body.

2. Dislodge shaft cap at rear of motor. Insert screwdriver in slot in shaft to prevent shaft from turning, while turning impeller in a counter-clockwise direction to remove. Reinstall shaft cap at rear of motor.

3. Remove carbon seal, O-ring and wave spring from recess around impeller boss. Remove ceramic seal seat and boot from seal housing with a hooked wire. Be careful not to damage seal housing.

4. Remove (4) bolts, securing seal housing to adaptor and motor. Separate seal housing from adaptor. Press the lip seal out of the seal housing towards the motor.

NOTE: Replacement of seal assembly and volute O-ring is recommended when servicing pump.

ASSEMBLY

1. Position slinger on motor shaft, 3/16" from motor boss.

2. Press lip seal into rear seal bore, flush with housing, with lip facing in. Pack with water pump grease if not flushing.

3. Lubricate front seal bore with abrasive free soap solution and install Viton boot and ceramic seal seat. Seal seat should be installed with grooved side inserted into Viton boot and polished seal face exposed. Ceramic seat face should be wiped free of oil or soap solution.

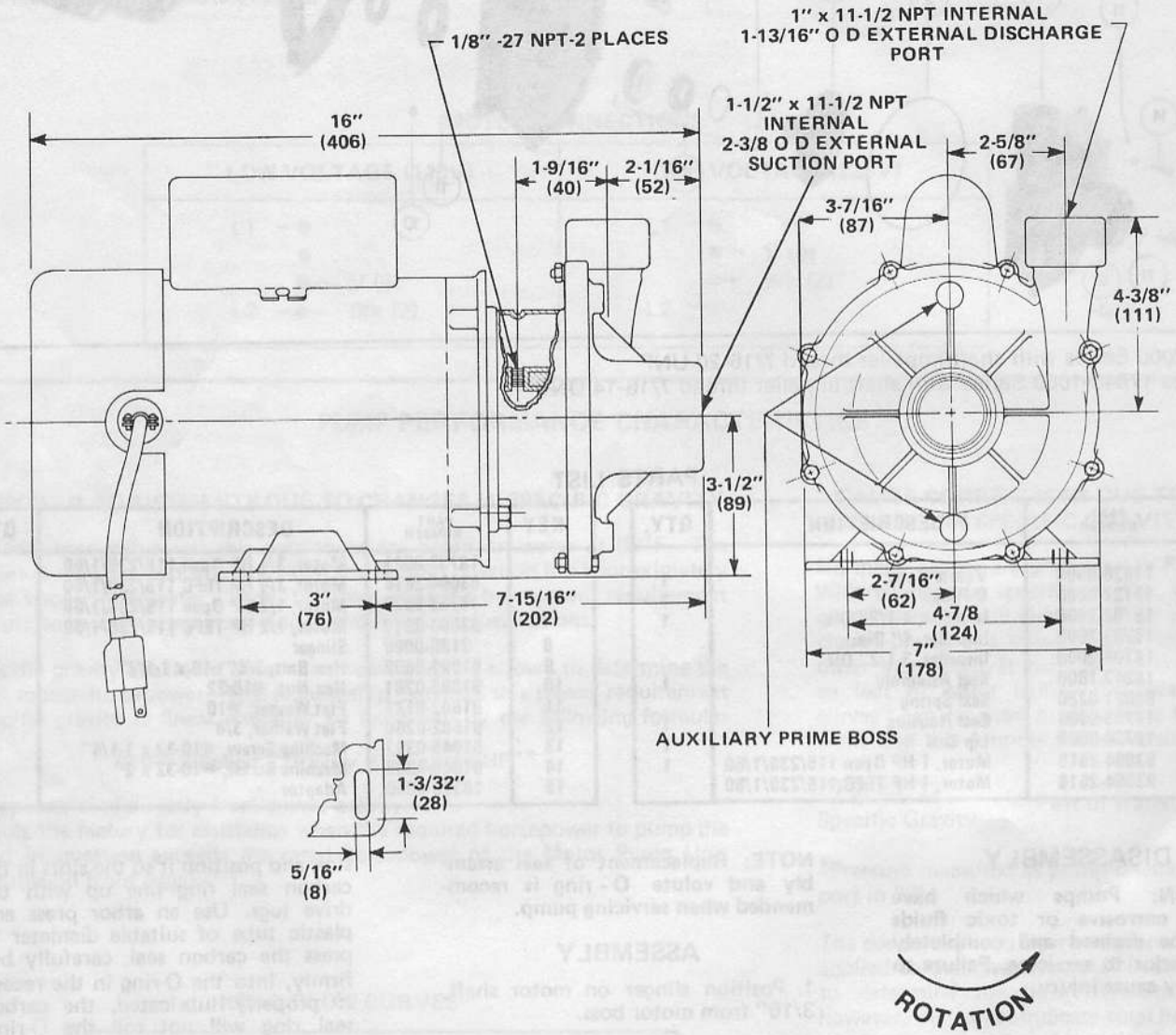
4. Slide the seal wave spring over the impeller sleeve extension, down into the counterbore and over the four drive lugs. Lubricate the O-ring with water pump grease or vaseline and install it in the recess. Grease the end of the carbon ring opposite the polished seal face, install the carbon ring over the impeller sleeve extension and position it so the slots in the carbon seal ring line up with the drive lugs. Use an arbor press and plastic tube of suitable diameter to press the carbon seal, carefully but firmly, into the O-ring in the recess. If properly lubricated, the carbon seal ring will not roll the O-ring. Wipe the carbon seal face free of grease.

5. Align seal housing mounting holes with adaptor holes, register the seal housing on the adaptor and this assembly to the motor and secure with (4) hex bolts and washers.

6. Lubricate the impeller extension and insert it carefully through seal seat and bore of the seal housing until shaft contact is made. Rotate impeller in a clockwise direction to thread impeller onto shaft. A final firm twist of impeller will engage seal faces and lock impeller to shaft.

7. Install O-ring in volute body groove. Align holes in body with holes in seal housing and secure with (8) machine screws, with washers under head of machine screws and hex nuts.

DIMENSIONAL DRAWING
(Millimeter Equivalents)



THE PRODUCTS DESCRIBED HEREIN ARE SUBJECT TO THE JABSCO ONE YEAR LIMITED WARRANTY, WHICH IS AVAILABLE FOR YOUR INSPECTION UPON REQUEST.

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