

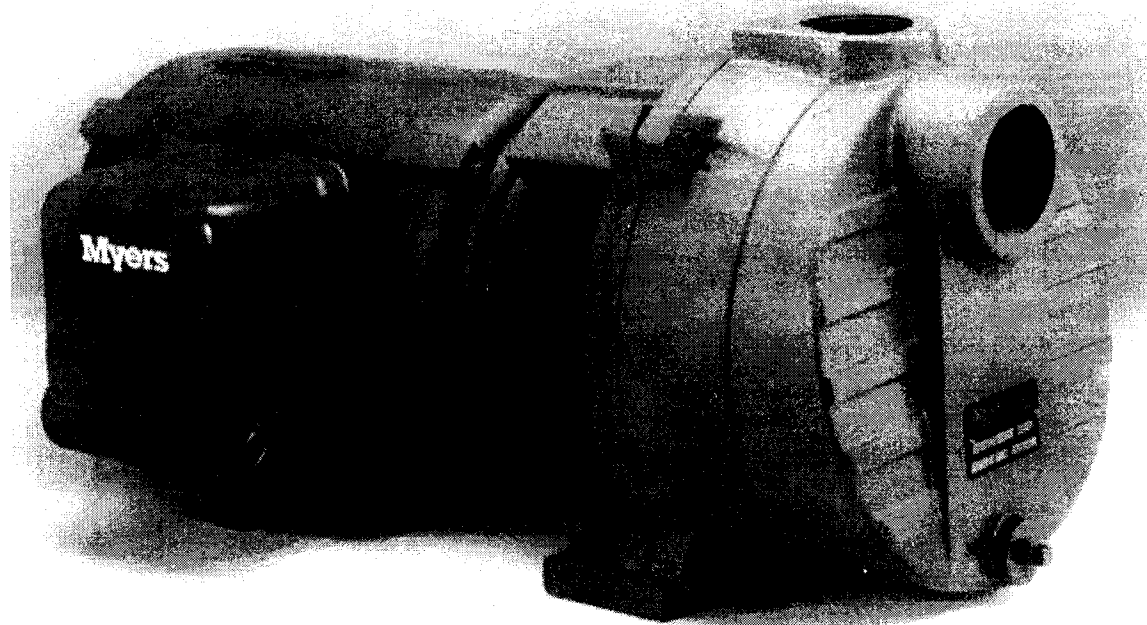
Myers®

5 HP Quick Prime

Safety Instructions

Operation and Maintenance Instructions

Warranty Information



WARNING! IMPORTANT SAFETY INSTRUCTIONS! READ CAREFULLY BEFORE INSTALLATION. This manual contains important information for the safe use of this product. Read this manual completely before using this product and refer to it often for continued safe product use. **DO NOT THROW AWAY OR LOSE THIS MANUAL.** Keep it in a safe place so that you may refer to it often.



FAILURE TO FOLLOW THESE INSTRUCTIONS AND COMPLY WITH ALL CODES MAY CAUSE SERIOUS BODILY INJURY, DEATH AND/OR PROPERTY DAMAGE

⚠1) Before installing or servicing your pump,

BE CERTAIN THE PUMP POWER SOURCE IS TURNED OFF AND DISCONNECTED.

⚠2) All installation and electrical wiring must adhere to state and local codes. Check with appropriate community agencies, or contact your local electrical and pump professionals for help.

⚠3) **CALL AN ELECTRICIAN WHEN IN DOUBT.** Pump must be connected to a separate electrical circuit directly from the entrance box. There must be an appropriately sized fuse or circuit breaker in this line. Tying into existing circuits may cause circuit overloading, blown fuses, tripped circuit breakers, or a burned up motor.

⚠4) Do not connect pump to a power supply until the pump is grounded. For maximum safety, a ground fault interrupter should be used. **CAUTION: FAILURE TO GROUND THIS UNIT PROPERLY MAY RESULT IN SEVERE ELECTRICAL SHOCK.**

⚠5) **WARNING:** Reduced risk of electric shock during operation of this pump requires the provision of acceptable grounding:

a) If the means of connection to the supply-connection box is other than grounded metal conduit, ground the pump back to the service by connecting a copper conductor, at least the size of the circuit conductors supplying the pump, to the grounding screw provided within the wiring compartment.

b) This pump is provided with a means for grounding. To reduce the risk of electric shock from contact with adjacent metal parts, bond supply box to the pump-motor-grounding means and to all metal parts accessible including metal discharge pipes, and the like, by means of a clamp, a weld, or both if necessary, secured to the equipment-grounding terminal.

⚠6) The voltage and phase of the power supply must match the voltage and phase of the pump.

⚠7) Do not use an extension cord; splices must be made with an approved splice kit. Above ground joints must be made in an approved junction box.

⚠8) Do not work on this pump or switch while the power is on.

⚠9) Never operate a pump with a frayed or brittle power cord, and always protect it from sharp objects, hot surfaces, oil and chemicals. Avoid kinking the cord.

⚠10) Never service a motor or power cord with wet hands or while standing in or near water or damp ground.

⚠11) The three phase units must be wired by a qualified electrician, using an approved starter box and switching device.

⚠12) Do not submerge or install directly in water.

⚠13) Single and three phase motors need to be protected by proper thermal and amperage protection. (Check local codes.)

⚠14) Check for nicks in the wire and pump insulation by using an ohm meter and checking resistance to ground before installing the pump and after installing the pump. If in doubt on the proper procedure check with a qualified electrician.

⚠15) Do not pump gasoline, chemicals, corrosives, or flammable liquids; they could ignite, explode, or damage the pump, causing injury and voiding the warranty.



⚠16) Do not run this pump with the discharge completely closed, as this will create superheated water, which could damage the seal, and shorten the life of the motor. This superheated water could also cause severe burns. Always use a pressure relief valve, set below the rating of the tank or system.

⚠17) The following may cause severe damage to the pump and void warranty. (It could also result in personal injury)

- Running the pump dry.
- Failure to protect the pump from below freezing temperatures.
- Running the pump with the discharge completely closed.
- Pumping chemicals or corrosive liquids.

⚠18) Never work on the pump or system without relieving the internal pressure.

⚠19) Do not pump water above 120° Fahrenheit.

⚠20) Never exceed the pressure rating of any system component.

GENERAL INSTRUCTIONS

The pump is designed to operate at total suction lifts not exceeding 25 feet. (See curve page).

Warranty void if overload protection is not furnished in control box. Motor warranty only applies to installations with current overload protection. Outdoor installations require outdoor rated control box enclosure.

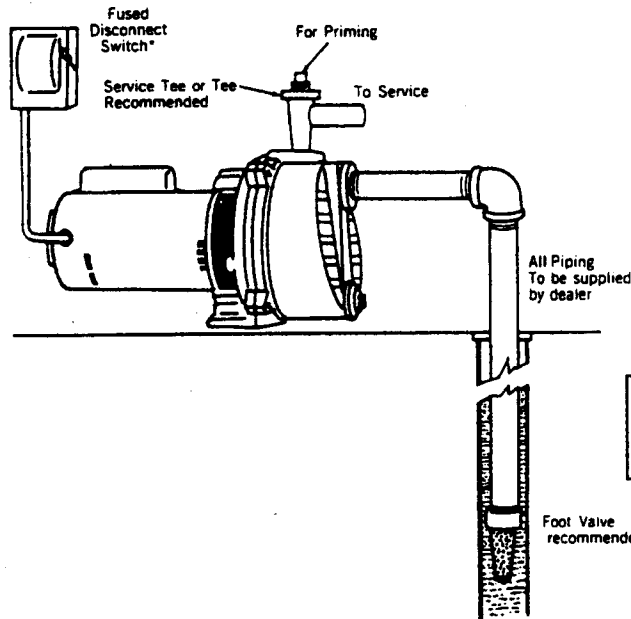
Shipping Damage

The pump carries a one-year warranty against defects in materials and workmanship. This

warranty, however, does not apply to parts damaged in transit. Check the shipment carefully and report damage or shortages to the transportation company or your supplier immediately.

Location

The pump should be located in an easily accessible place as close to the liquid source as possible. It should be installed in a clean, dry, and well ventilated place allowing room to inspect and service the unit. If located in a pit, the pit should be protected against flooding.



*(Consult Local Codes For Electrical Requirements) Install with fused disconnect switch and thermal overload protection. (Ambient compensated)

Suction Piping

Do not exceed 25' total suction lift. If excessive total suction lifts are encountered, do one or more of the following to correct this condition:

1. Install pump closer to liquid source.
2. Increase pump suction pipe size.
3. Simplify suction piping by elimination of valves and fittings where possible.
4. Decrease pump capacity. Pump capacity is directly affected by installation piping.

The pump case is tapped for a 2½" pipe.

Discharge Piping

The pump case is tapped for 2" pipe. Larger or smaller pipe may be used depending upon the installation.

Voltage Data

Single phase motors as received will be wired for 230V operation.

All three phase motors are 207/230/460V units. Insure that the motor connections are correct for the voltage available. (Instructions will be found

on motor.)

The voltage available at the motor must be within $\pm 10\%$ of the rated voltage. For offset installations be sure that adequate wire size is used for the size motor involved.

Motor Grounding Instructions

WARNING: Reduced risk of electric shock during operation of this pump requires the provision of acceptable grounding. **Caution: Failure to ground this unit properly may result in severe electrical shock.** If the means of connection to the supply-connection box is other than grounded metal conduit, ground the pump back to the service by connecting a copper conductor, at least the size of the circuit conductors supplying the pump, to the grounding screw provided within the wiring compartment. **NOTE:** National Electric Code requires pumps be grounded at installation.

Motor Protection

Motors do not have built-in thermal protection. It is highly recommended that a properly sized magnetic starter be used with all single and three phase motors.

All motors (single and three phase) should be equipped with a correctly fused disconnect switch to provide amp overload protection. Consult local or national electric codes for proper fuse protection based on motor data chart below.

Phase	Volts	Code Letter	Service Factor Amps	Locked Rotor Amps
1	230	J	29.9	174
3	208	K	13.4	174
3	230	K	15.1	174
3	460	K	7.6	87

CABLE SELECTION

5 HP Motor Rating		Copper Wire Size							
Voltage	Phase	14	12	10	8	6	4	2	0
230	1	---	---	---	150	250	400	625	1000
207	3	---	---	160	250	400	640	1020	1630
230	3	---	130	210	340	540	850	1360	2160
460	3	330	530	850	1350	2150	3422	5440	8650

This table is based on copper wire. If aluminum wire is used it must be two sizes larger. Example: When the table calls for #12 copper wire you would use #10 aluminum wire.

Do not start single phase pump more than 10 times each hour. Use a three phase motor for start/stop cycles more rapid than 10 per hour.

Rotation Data

The pump must run in the direction of the arrow on the pump bracket. Single and three phase motors can run in either direction. At the time of installation, momentarily close the entrance switch to determine rotation; if rotation is not correct, interchange any two of the three motor leads which will reverse the rotation.

Initial Priming

Do Not Run Pump Dry

The pump must be filled with water for the initial start. Failure to do so will result in damage to the mechanical shaft seal.

The unit is designed to automatically re-prime after the initial prime when a check or foot valve is installed in the suction line.

Fill the pump with liquid for the initial start through the discharge opening in the top of the

case. This can be done either before the discharge piping is installed or it is recommended to install a tee above the pump and use the top of the tee for priming. Note: Completely fill the pump case. If no check or foot valve is used in the suction line, pour in approximately two gallons of water. Install the discharge piping or pipe plug, if a tee is used. It is suggested that a good grade of pipe thread compound be used to eliminate the possibility of air or water leaks in the piping. The unit can now be started.

Check or Foot Valve

It is recommended that either a check or foot valve be used in the suction line on permanent installations. This will result in quicker water delivery upon starting, therefore eliminating potential priming problems.

If the pump is to be used in conjunction with a pressure tank then a check or foot valve must be used.

Flushing

The unit can be back flushed periodically to remove any sand or debris that may have been pulled into the pump from the liquid source. It is not necessary to remove any piping if a tee is installed above the pump.

To back flush the unit, remove the plug in the tee (or the discharge piping if a tee is not used) and the ¼" pipe plug from the lower front face of the case. Pour water into the top opening until the liquid coming from the lower front opening is clean. It is possible to scrape out any debris from the bottom of the case by reaching a wire or narrow scraper in the lower tapping in the pump case. Reinstall all pipe plugs or piping. Before returning the pump to service, it will be necessary to re-prime the pump -- see Initial Priming.

Draining Pump

To drain the pump, remove the plug from the discharge tee and the ¼" pipe plug from the lower front face of the case. If the unit is to be inoperative for an extended period of time it is suggested that the unit be drained. The suction line should also be drained to prevent freezing.

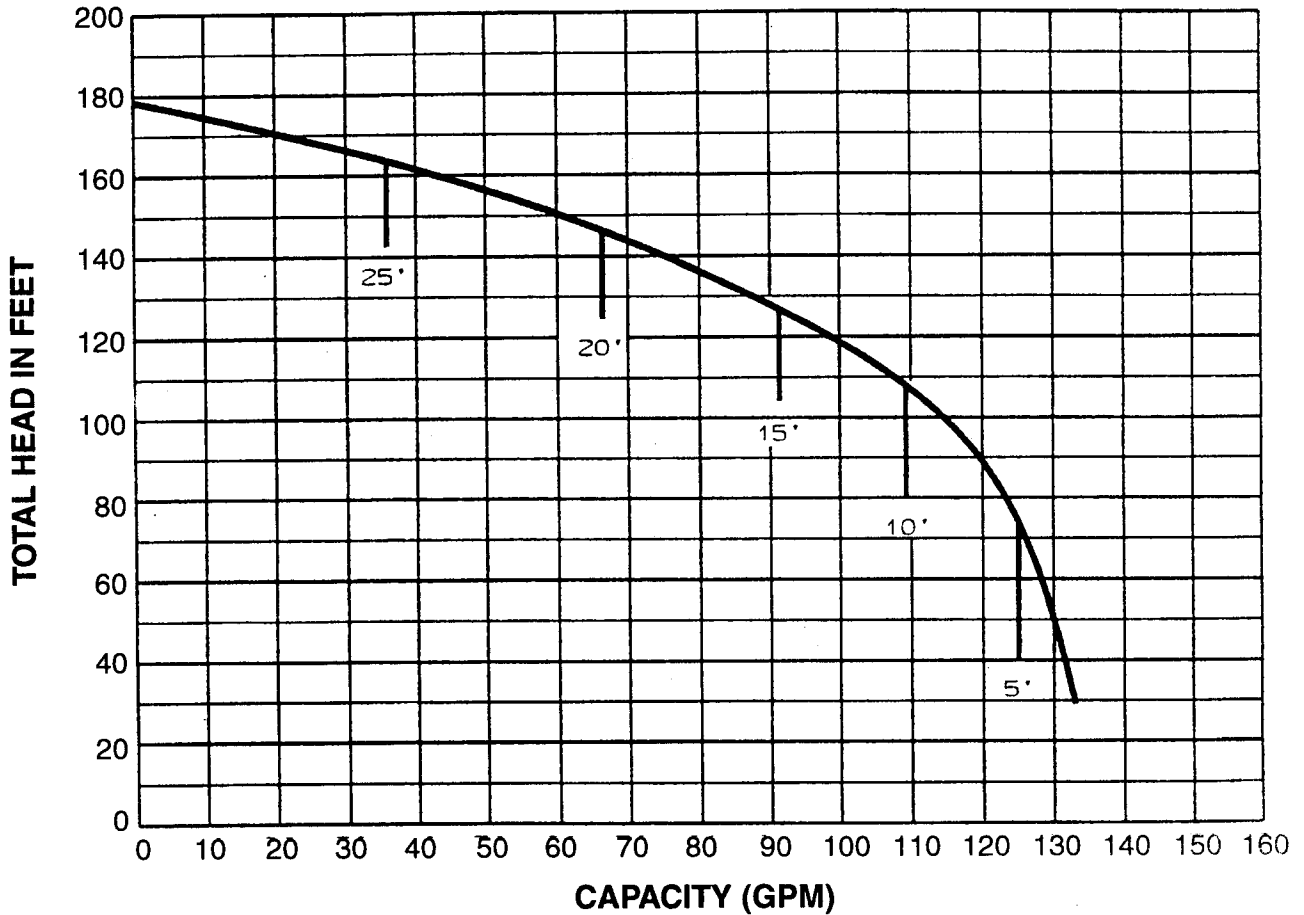
Remove the fuses from the entrance switch to insure that the unit is not inadvertently started while drained to prevent damage to the shaft seal if the unit is run dry.

Suction Screen

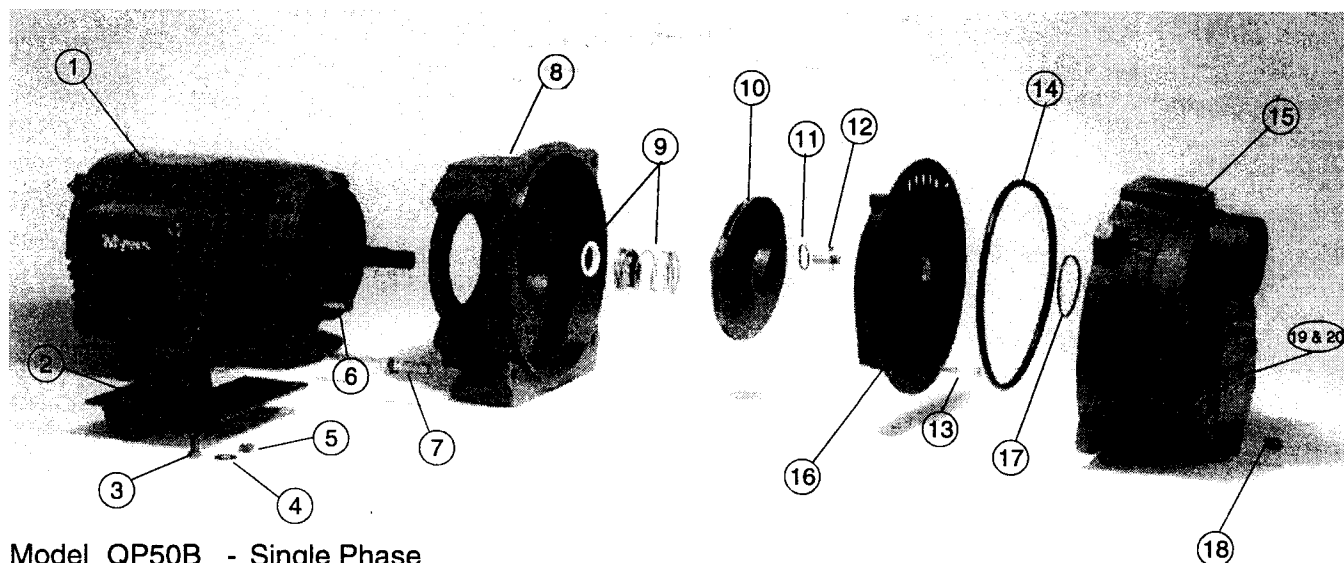
The liquid being pumped should be screened properly to prevent debris from being taken into the system.

5 HP QP SERIES Pump Performance

Total Suction in Feet	Discharge Pressure (GPM)					Max. Pressure (psi)	Pipe Size	
	10 psi	20 psi	30 psi	40 psi	50 psi		Suct.	Disch.
0	134	130	126	120	104	77	2½	2
5	125	123	113	107	98	75		
10	110	108	107	103	88	72		
15	91	90	88	84	80	70		
20	67	65	63	62	40	63		

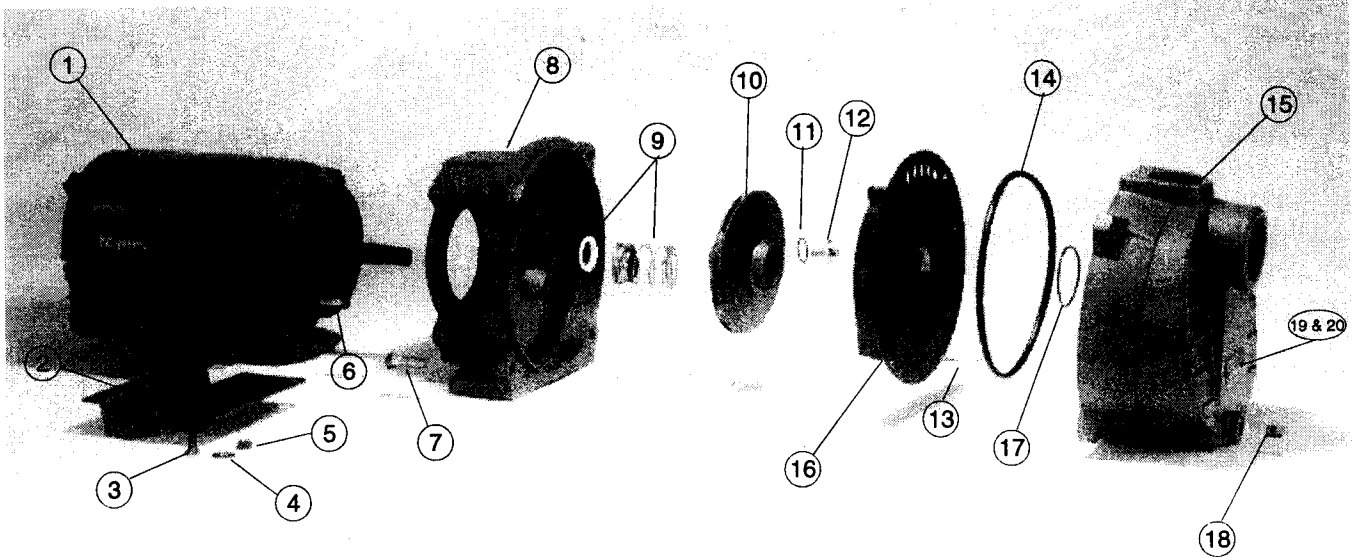


5 HP QP SERIES Centrifugal Pump Parts List



Model QP50B - Single Phase
QP50B3 - Three Phase

Ref. No.	Part No.	Description
1	26579A000	Motor, 5 HP, 230V, 1 Phase - QP50B
1	26579A001	Motor, 5 HP, 230V, 3 Phase - QP50B3
2	26589B000	Bracket, Motor Support
3	19101A007	Cap, Screw 3/8-16 x 3/4 (4) required
4	05030A004	3/8 Flat Washer (4) required
5	19109A017	3/8 Hex Nut (4) required
6	19101A019	Cap, Screw 3/8-16 x 1-1/4 (4) required
7	19103A045	Cap, Screw 1/2-13 x 1-3/4 (4) required
8	26545E000	Bracket, Pump
9	21181A016	Seal
10	26546C000	Impeller, Brass
11	05876A225	O-ring
12	26583A000	Impeller Screw
13	19099A022	1/4-20 x 1.75 Cap Screw (3) required
14	05876A138	O-ring
15	26544D000	Case
16	26547D000	Diffuser
17	05876A059	O-ring
18	05022A009	Plug, 1/4" NPT
19	05160A004	Screw, Drive (2) required
20	26273A041	Nameplate, 1 phase
20	26273A042	Nameplate, 3 phase



The complete disassembly and reassembly instructions have been itemized for simplicity sake.

At the discretion of the mechanic servicing the unit, only those steps required to reinstate the unit to original performance need be done.

The "exploded" view above indicates all items referred to in these instructions.

Should repair parts need to be ordered, please furnish:

1. The part name (as indicated on the accompanying drawing).
2. The quantity required and the item part number.
3. The unit catalog and serial numbers as shown on the pump nameplate.
4. The motor horsepower and phase as indicated on the motor nameplate.

PUMP DISASSEMBLY INSTRUCTIONS

It is not necessary to remove the suction and discharge piping as the pump case (15) is designed so that no wear would occur which would necessitate replacing this part.

1. Drain the pump of its liquid charge. (See Draining Pump Instructions.)
2. Open the power supply switch contacts and remove fuses.
3. Disconnect the electrical wiring from the motor (1).
4. Remove the four cap screws (7) which secure the pump bracket (8) to the pump case (15).
5. The motor and bracket assembly can now be removed from the pump case by pulling horizontally away from the case. It may be necessary to use two screwdrivers -- opposite each other - in the provided openings between the bracket and case bosses; pry the components apart. The motor and bracket assembly can now be taken to a more convenient location for disassembly if desired.
6. Remove the o-ring (17) from the case inner neck.

7. Remove the three cap screws (13) that hold the diffuser in place and lift off diffuser (16).
8. Holding the motor shaft with pliers, through one of the bracket windows, remove impeller screw (12) turning CCW with flat screwdriver.
9. Pull impeller straight off of motor shaft, being careful to catch the shaft key.
10. The mechanical shaft seal components (9) can now be removed from the impeller and bracket respectively.
11. Remove the four cap screws (6) which secure the bracket to the motor; remove the bracket.
12. Remove the o-ring (14) from the bracket neck.

The pump is now completely dismantled into its component parts. Inspect pump parts and, if required, replace.

A new shaft seal should always be used when rebuilding a pump. All pump parts should be cleaned thoroughly before being reassembled.

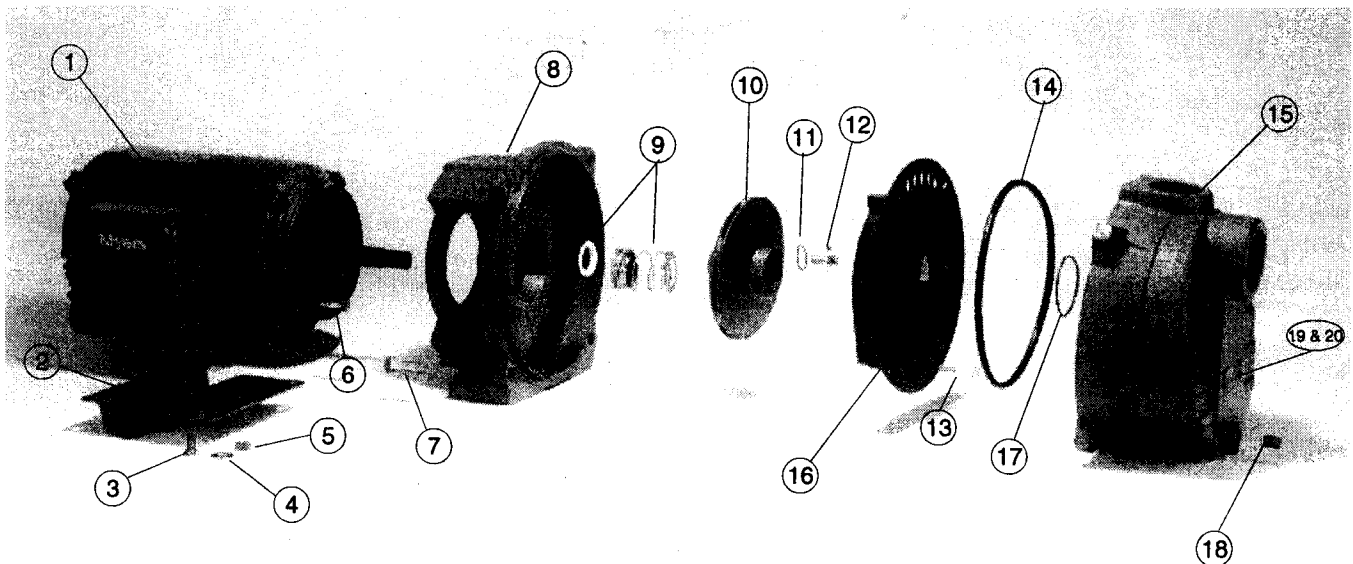
PUMP ASSEMBLY INSTRUCTIONS

1. With motor in vertical position (shaft extension end up) place bracket onto motor face register.
2. Secure bracket to motor with four cap screws (6). Insure that the motor, when in operating position, has the shell air slots in the down position.
3. Place stationary shaft seal component (9) over pump shaft extension and seat into provided bracket bore. (Use finger pressure to press this seal component firmly and squarely until it bottoms.) Follow with the rotating seal component onto the motor shaft. Be sure the lapped sealing surface is toward the seal seat. The use of a light oil (SAE 10) on the rubber elements will facilitate assembly.

It should be emphasized that extreme cleanliness and care are required for proper seal assembly. Should the seal faces be damaged during assembly (cracked, scratched or chipped) the seal will surely leak during operation. Make sure 3/16 square key does not slide back away from impeller.

4. Slide the impeller (10) onto the pump shaft extension until the impeller back hub butts the shaft shoulder. Screw in impeller cap screw (12) with o-ring (11).

5. Place the diffuser (16) over the impeller with the diffuser volute face against the bracket, be sure the word "top" on the diffuser is in the proper position. Equally space three .005 shims between the impeller hub and the diffuser I.D. (This will center the diffuser in relation to the impeller.) Assemble the three 1/4" cap screws (13) and tighten alternately, so the diffuser is not pulled to one side. Snug up screws securely - do not overtighten. Remove the three shims and as the impeller is revolved it should turn freely.
6. Place gasket (14) over the bracket register diameter and position against the provided face.
7. Place gasket (17) over the inner neck in the pump case and place against the provided shoulder.
8. The assembly can now be reassembled to the pump case.
9. Using four cap screws (7) secure bracket to case.
10. The motor wiring can now be connected and the unit reprimed. (See Priming Instructions.)
11. Install the previously removed fuses from the entrance switch and close the switch; the unit is now in operation again.



TROUBLESHOOTING

PROBLEM	CHECKING PROCEDURE	
No water delivered	1. Pump not properly primed. (See Priming Instructions.)	5. Wrong motor rotation. (See Motor Rotation.)
	2. Discharge system head too great; in this case, a pressure gauge at the pump discharge will show shut off pressure. (See Rating Table.)	6. Shaft seal leaking under priming conditions.
	3. Suction lift too great; check with vacuum gauge. (See Suction Piping.) Check or foot valve, if used, may be completely plugged or suction piping may be completely plugged.	7. Motor not up to speed; check for incorrect voltage. (See Motor Voltage.)
	4. Air leak in suction piping.	8. Plugged impeller.
Not enough water or pressure	1. Air leak in suction piping.	7. Insufficient submergence of suction pipe. (Suction pipe inlet should be at least 3 feet below the liquid surface at all times.)
	2. Motor not up to speed; check for incorrect voltage or low voltage. (See Motor Voltage.)	
	3. Discharge system head too great.	8. Pump too small for installation involved. (Check Rating Table.)
	4. Impeller, suction pipe, check or foot valve partially plugged.	9. Suction piping too small causing excessive total suction lift.
	5. Wrong motor rotation. (See Motor Rotation.)	10. Air or gas entrained in liquid.
	6. Suction lift too great. (See Suction Piping.)	11. Worn impeller or diffuser.
Pump loses prime after starting	1. Air leak in suction piping.	3. Insufficient submergence of suction pipe; check pumping water level. (The suction pipe inlet should be at least 3 feet below the liquid surface at all times.)
	2. Total suction lift too great. (See Suction Piping.)	
Motor overheats	1. Check rotating element to insure that it turns freely.	3. Poor ventilation. (See Location.)
	2. Low voltage at the motor. (See Motor Voltage and Motor Wiring.) Check electrical connections to insure tight contact.	
Pump vibrates or is noisy	1. Insufficient pump foundation.	3. Bent shaft or worn motor bearings.
	2. Excessive total suction lift.	4. Impeller partially clogged.

Myers®

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MYERS LIMITED WARRANTY WATER SYSTEMS

During the time periods and subject to the conditions hereinafter set forth, **F. E. Myers** will repair or replace to the original user or consumer any portion of your new **MYERS product which proves defective due to defective materials or workmanship of MYERS**. Contact your nearest Authorized **MYERS Dealer** for warranty service. At all times **MYERS** shall have and possess the sole right and option to determine whether to repair or replace defective equipment, parts, or components. Damage due to lightning or conditions beyond the control of **MYERS** is NOT COVERED BY THIS WARRANTY.

WARRANTY PERIOD

Pumps & Galvanized Tanks: 12 months from date of purchase or 18 months from date of manufacture.

Diaphragm Tanks: 5 years from date of purchase.

Labor, etc. Costs: **MYERS** shall IN NO EVENT be responsible or liable for the cost of field labor or other charges incurred by any customer in removing and/or reaffixing any **MYERS** product, part or component thereof.

THIS WARRANTY WILL NOT APPLY: (a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with printed instructions provided; (b) to failures resulting from abuse, accident or negligence; (c) to normal maintenance services and the parts used in connection with such service; (d) to units which are not installed in accordance with applicable local codes, ordinances and good trade practices; or (e) unit is used for purposes other than for what it was designed and manufactured, and (f) if three phase submersible motors are installed on a single phase power supply using a phase converter or if three phase power is supplied by only two transformers, making an open Delta system.

RETURN OR REPLACED COMPONENTS: Any item to be replaced under this Warranty must be returned to **MYERS** in Ashland, Ohio, or such other place as **MYERS** may designate, freight prepaid.

PRODUCT IMPROVEMENTS: **MYERS** reserves the right to change or improve its products or any portions thereof without being obligated to provide such a change or improvement for units sold and/or shipped prior to such a change or improvement.

WARRANTY EXCLUSIONS: **MYERS** SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AFTER THE TERMINATION OF THE WARRANTY PERIOD SET FORTH HEREIN.

Some states do not permit some or all of the above warranty limitations and, therefore, such limitations may not apply to you. No warranties or representations at any time made by any representatives of Myers shall vary or expand the provision hereof.

LIABILITY LIMITATION: IN NO EVENT SHALL **MYERS** BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY **MYERS** PRODUCT OR PARTS THEREOF. PERSONAL INJURY AND/OR PROPERTY DAMAGE MAY RESULT FROM IMPROPER INSTALLATION. **MYERS** DISCLAIMS ALL LIABILITY, INCLUDING LIABILITY UNDER THIS WARRANTY, FOR IMPROPER INSTALLATION -- **MYERS** RECOMMENDS FOLLOWING THE INSTRUCTIONS IN THE INSTALLATION MANUAL. WHEN IN DOUBT, CONSULT A PROFESSIONAL.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

In the absence of suitable proof of this purchase date, the effective date of this warranty will be based upon the date of manufacture.

DETERMINATION OF UNIT DATE OF MANUFACTURE: Examples are; *Submersible* -- 7-29-95, Month - Day - Year on Motor nameplate and pump nameplate; *Sump, Centrifugal & Ejecto Pumps* -- 8-95, Month - Year stamped on pump nameplate; **MYERS Diaphragm Tanks** -- A95188581, 1st letter month A = 85 -- tanks are postdated by 3 months on label; *Galvanized* -- 3-0921 Year - Month - Day 1995-9-21 stamped on edge of head.

Myers

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