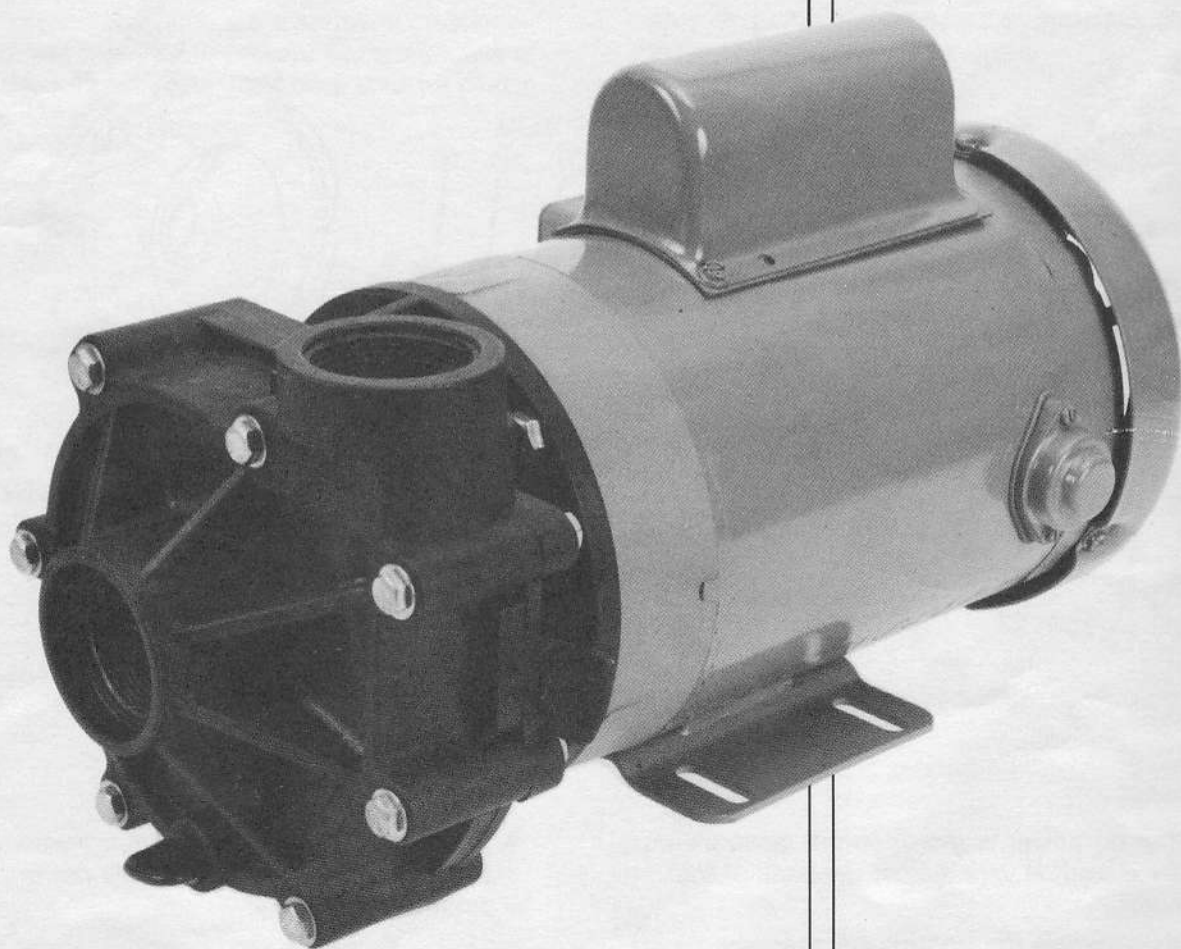


SHERWOOD

Installation and Service Manual

**Corrosion
Resistant
Centrifugal
Pumps**



For Continuous Medium
Pressure Circulation and
Transfer of Aggressive
Liquids

Pump End Assembly

1. Clean and inspect all pump parts (O-ring, seal seats, motor shaft, etc.).
2. Apply sealant in body bore hole and possibly around seal case according to sealant instructions.
3. Press carbon graphite seal into body while taking care not to damage carbon graphite face.
4. Place slinger (rubber washer) over motor shaft and mount body to motor.
5. Carefully grease boot or O-ring around ceramic piece and press into impeller. (If ceramic has O-ring, the marked side goes in.)
6. Sparingly lubricate carbon-graphite and ceramic sealing surfaces with a light-weight

machine oil. *Do not* use silicon lubricants or grease!

7. Thread impeller onto shaft and tighten! If required, remove motor end-cap and use a screwdriver on back of motor shaft to prevent shaft rotation while tightening. Replace motor end cap.
8. Electrically, connect the motor so that the impeller will rotate CCW when facing the pump with the motor toward the rear. Incorrect rotation will damage the pump and void the warranty!*
9. Seat O-ring, in volute slot and assemble volute to body.
10. Install drain plug in volute drain hole.

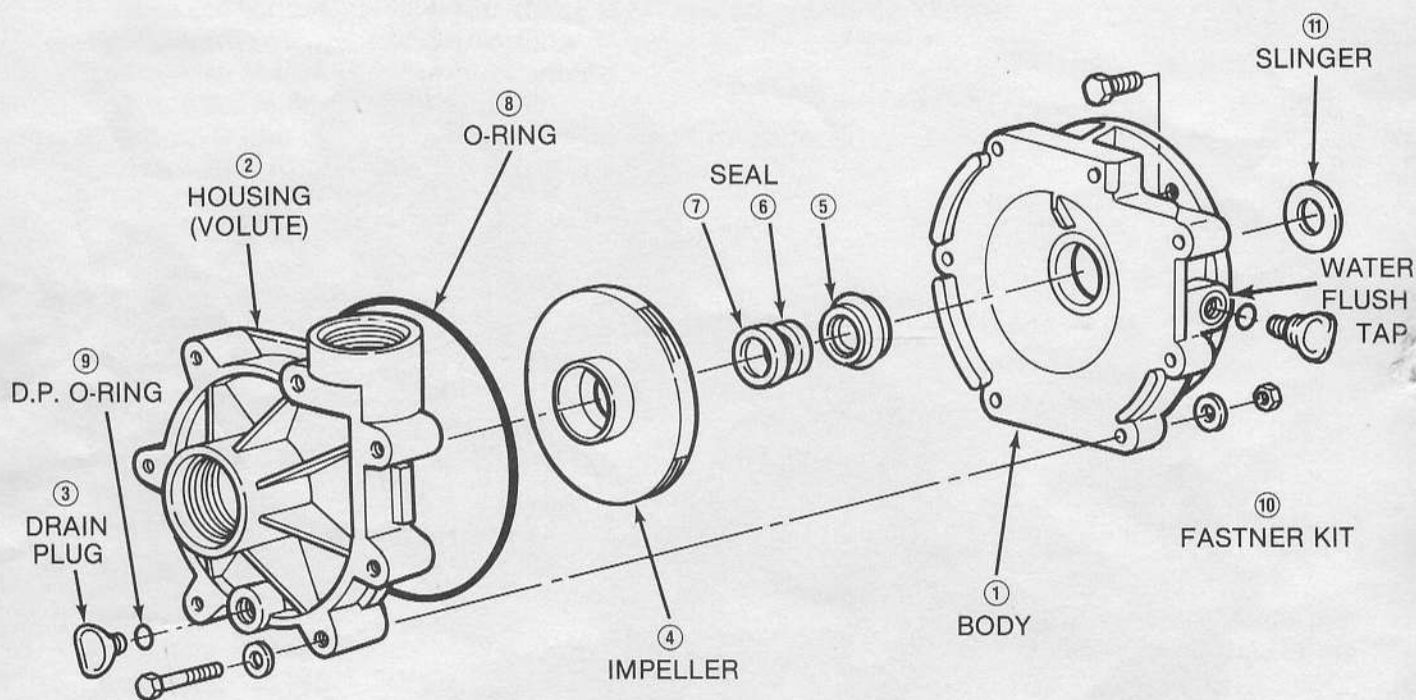


FIGURE 1

Disassembly

1. Shut off power to motor before disconnecting any electrical wiring from the back of the motor.
2. Disassemble the body-motor assembly from the volute. (The volute may be left in-line if you wish.)
3. Remove cap covering shaft at back of motor and with a large screwdriver, prevent shaft rotation while unscrewing impeller.
4. Remove ceramic piece from impeller.
5. Detach body from motor.

6. Remove carbon-graphite seal from body by pressing out from the back. Do not dig out from the front!

**For 30 power, electrically check rotation of impeller with volute disassembled from bracket. If pump end is assembled and rotation is incorrect, serious damage to pump end assembly will occur and invalidate the warranty! If rotation is incorrect, simply exchange any two leads.*

Installation

1. Locate pump as near the source to be pumped as possible. A flooded suction situation is preferred. The pump is *not* self-priming, therefore, if the fluid level is below the pump, a foot valve must be installed and the pump primed prior to start-up. (Figure 2)
2. Mount motor base to a secure, immobile foundation.
3. Use only plastic fittings on both the intake and discharge ports. Seal pipe connections with teflon tape. These fittings should be self-supported and in neutral alignment with each port. (i.e. Fittings must *not* be forced into alignment which may cause premature line failure or damage to the pump volute.)
4. Never choke the intake. Keep both input and discharge lines as free of elbows and valves as possible. Always use pipe of adequate diameter. This will reduce friction losses and maximize output.
5. The pump is *non self-priming!* It must *not be run dry!* We recommend a flooded suction. If this is not possible, use a foot valve and prime the pump. (Figure 2)

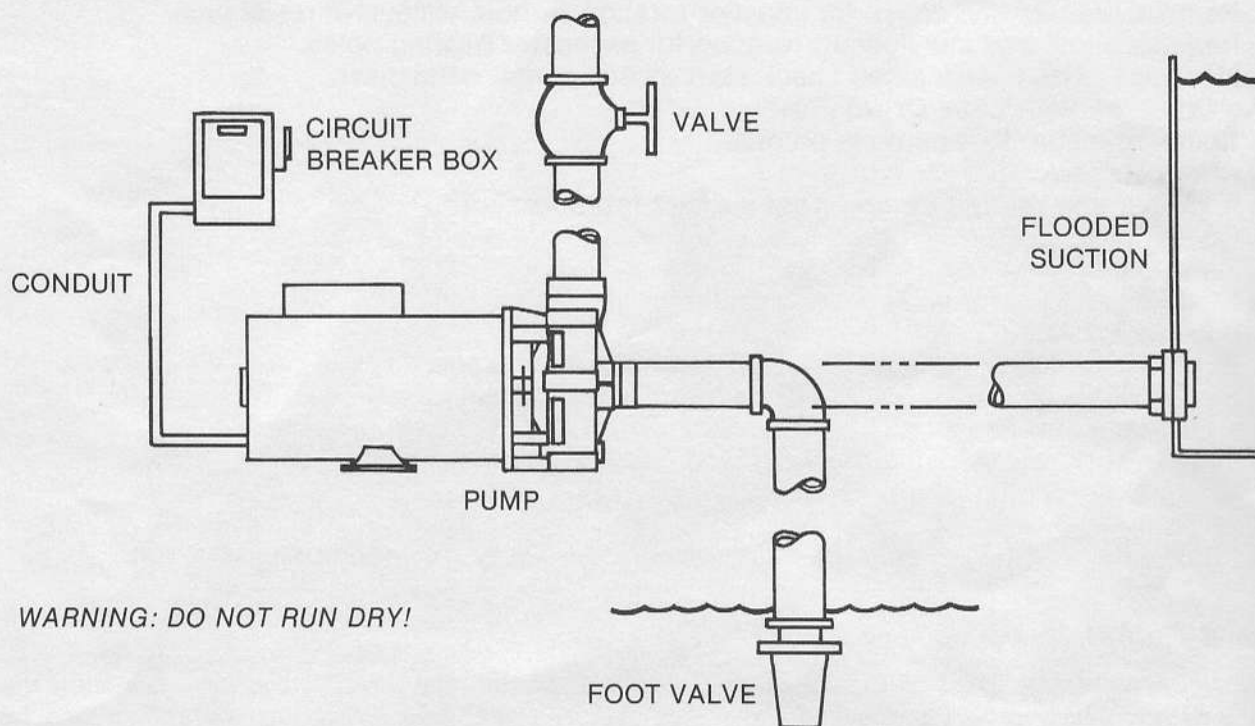


FIGURE 2

Electrical Hook-Up

All electrical wiring should meet state and local ordinances. Improper wiring may not only be a safety hazard but may permanently damage the motor and/or pump!

1. Check that supply voltages match the motor's requirements.
2. Check motor wiring and connect, according to instructions on motor, to match supply voltage. Be sure of proper rotation! (Refer to pump end, assembly instruction #8.)*
Improper rotation will severely damage pump and void warranty!
3. Power cord should be protected by conduit or by cable and be of proper gauge. It should be no longer than necessary.
4. Power should be drawn directly from a box with circuit breaker protection or with a fused disconnect switch.
5. Always switch off power before repairing or servicing pump and/or motor.
6. Check for proper rotation of three phase motors.

CRP REPLACEMENT PARTS LIST

Ref. No.	Description	Material		
		Noryl	Polypropylene	Polypropylene
1.	Body	13258	13475	
2.	Housing	13257	13474	
3.	Drain Plug	13261	18355	
4.	Impeller	Enclosed	Enclosed	Open
	#1	13252	18348	—
	#2	13253	18349	13476
	#3	13254	18350	13477
	#4	13255	18351	13478
	#5	13256	18352	13799
	#6	13343	18353	13800

		Buna N	Viton	Polypro	Silicon Carbide
5.	Seal	12314	13310	14526	14097
6.	Seal Seat	10389	13260	14527	14091
7.	Seat Washer	14062	14062	14062	14062
	Seal Assembly (5, 6 & 7)	15031	15030	15032	15046
8.	O-ring Gasket	13264	13259	13259	13259
9.	Drain Plug O-Ring	13313	13312	13312	13312
10.	Fastener Kit	13437	13437	13437	13437
11.	Slinger	14990	14990	14990	14990

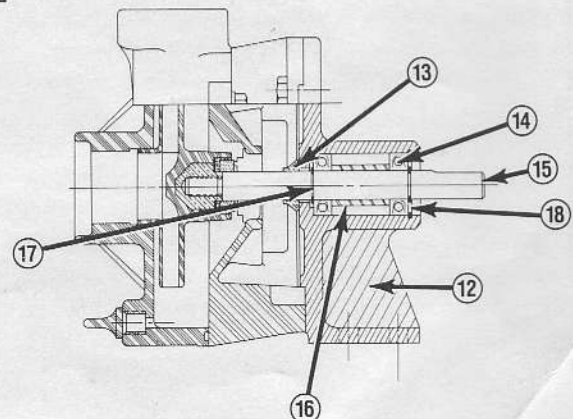
PEDESTAL MODELS (Same Parts For All Pump Models)

12.	Ball Bearing Housing	15057
13.	Slinger	14990
14.	Ball Bearing (2)	04257
15.	Shaft	15839
16.	Spacer	15838
17.	Internal Rtg. Ring	04259
18.	External Rtg. Ring	12582

For J Frame Motor Mounted Units

Body = Add (- 1) Suffix to Part Number
J Bracket Base = 13432

Pedestal Assembly



Water Flushed Seals

Water flushed seals are recommended for abrasive solutions, high temperature service, or when pumps may be run dry or against dead head conditions.

Where conditions cause the pumped liquid to form crystals or if the pump remains idle for a period of time without adequate flushing, a water flush seal system is advised.

The water flush will provide decontamination of chemicals on elastomers and seal and seat faces, while providing lubrication required for start up. Two (2) methods of water flush can be used:

1. Direct Plumbing to City Water.

This provides the best possible approach to flushing the seal and seat faces. Caution must be taken to conform to local city ordinances that may require backflow preventers. These are a series of check valves required to prevent contamination of city water should there be a shut off of the

water supply. Also be aware of the addition of water into the chemicals pumped where some imbalance may be created altering the chemical's formulation and aggressiveness.

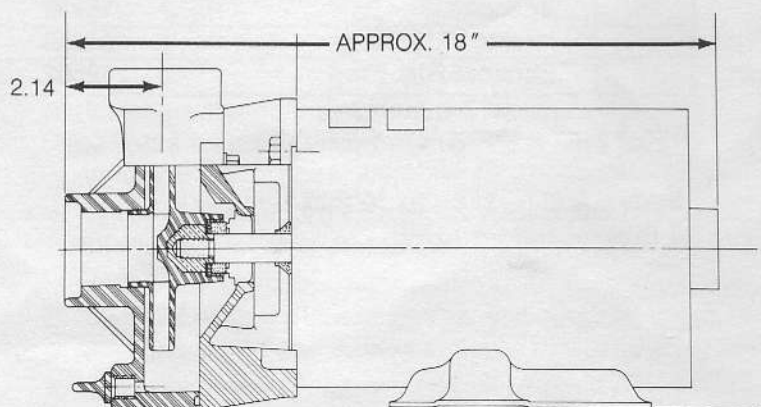
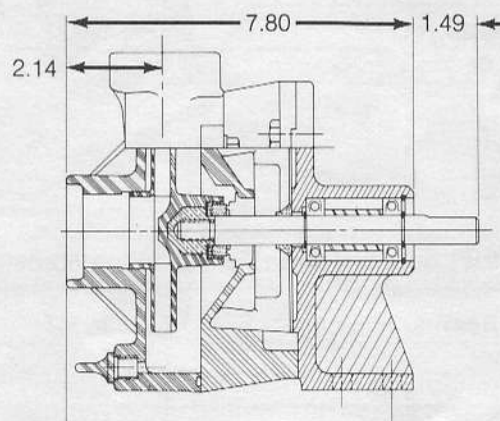
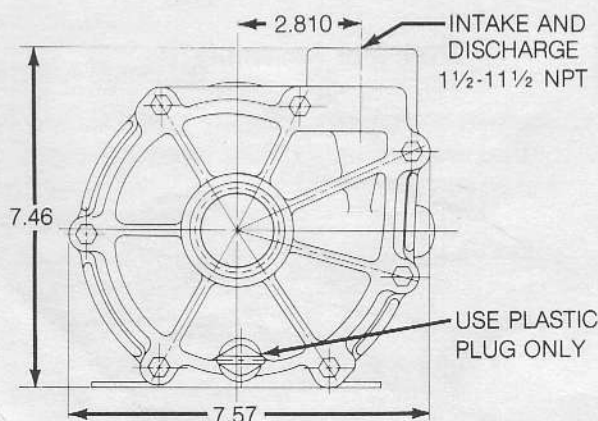
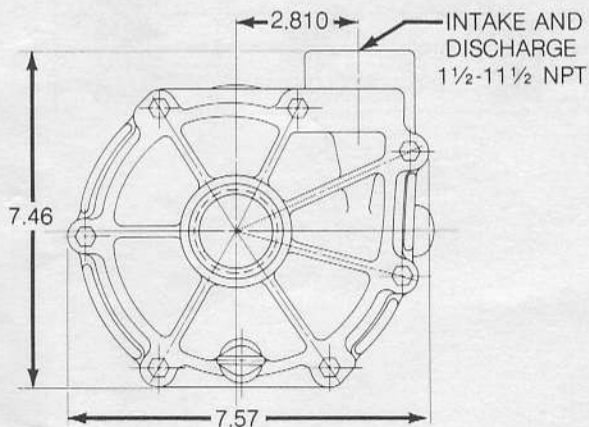
2. Recirculation of Solution Pumped.

This system takes a bleed off the pump discharge and recirculates the solution in the seal chamber. Although not nearly as effective as the direct water flush, it will provide cooling to the seal and seat faces under operation. This system is not effective where crystallization occurs or for pumps in idle conditions.

By ordering pump model with optional "w" suffix Sherwood supplies the tapped and plugged water flush seal port for direct city water plumbing.

For internal recirculation to seal drill our recess plug on pump body located at 3 o'clock and leave water flush port plugged.

Dimensions



Maintenance

Lubrication:

- Motor - Lubricated as per instructions on motor.
- Rotary Seal - Requires no lubrication *after* assembly.

Pump must be drained before servicing or if stored below freezing temperatures. Periodic replacement of seals may be required due to normal carbon wear.

Trouble Shooting Aid

Motor Will Not Rotate

1. Check for proper electrical connections to motor.
2. Check main power box for blown fuse, etc.
3. Check thermal overload on motor.

Motor Hums Or Will Not Rotate At Correct Speed

1. Check for proper electrical connections to motor and proper cord size and length.
2. Check for foreign material inside pump.
3. Remove bracket and check for impeller rotation without excessive resistance.
4. Remove pump and check shaft rotation for excessive bearing noise.
5. Have authorized serviceman check start switch and/or condenser.

Pump Operates With Little Or No Flow

1. Check to insure that pump is primed.
2. Check for leaking seal.
3. Improper line voltage to motor or incorrect rotation.
4. Check for clogged inlet port and/or impeller.
5. Defective check or foot valve.
6. Check inlet lines for leakage, either fluid or air.

Pump Loses Prime

1. Defective check or foot valve.
2. Seal leaking.
3. Inlet line air leakage.
4. Fluid supply low.

Motor Or Pump Overheats

1. Check for proper line voltage and phase, also proper motor wiring.
2. Binding motor shaft or pump parts.
3. Inadequate ventilation.
4. Fluid being pumped should not exceed 194°F (90°C) for extended periods of time.

General Safety Information

1. When wiring motor, follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).
2. Always disconnect power source before performing any work on or near the motor or its connected load. If the power disconnect point is out-of-sight, lock it in the open position and tag it to prevent unexpected application of power. Failure to do so could result in electrical shock!
3. Be careful when touching the exterior of an operating motor—it may be hot enough to be painful or cause injury. With modern motors this condition is normal if operated at rated load and voltage—modern motors are built to operate at higher temperatures.
4. Do not insert any object into motor.
5. Pump rotates in one direction only—counterclockwise from pump inlet end.
6. Protect the power cable from coming in contact with sharp objects.
7. Do not kink power cable and never allow the cable to come in contact with oil, grease, hot surfaces, or chemicals.
8. Make certain that the power source conforms to the requirements of your equipment.
9. Do not handle the pump with wet hands or when standing in water as electrical shock could occur. Disconnected main power before handling unit for ANY REASON!
10. Unit should run counterclockwise as viewed facing shaft end. Clockwise rotation can result in damage to the pump motor, property damage and/or personal injury.



SHERWOOD

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