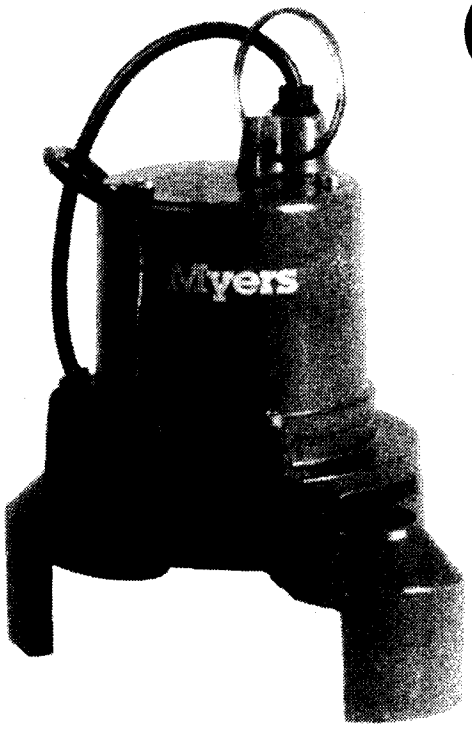
Myers®

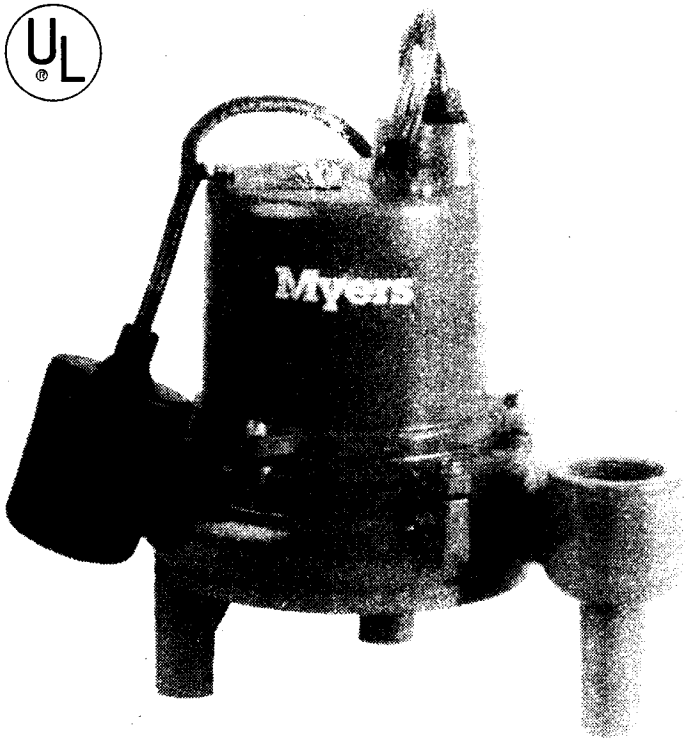
ME3H/ME3F SERIES Submersible Sump & Effluent Pumps

Installation and Service Manual

Automatic and manual models. Single phase power only – 115 or 230 volt.



ME3H
SUMP/EFFLUENT PUMP



ME3F
SUMP/EFFLUENT PUMP

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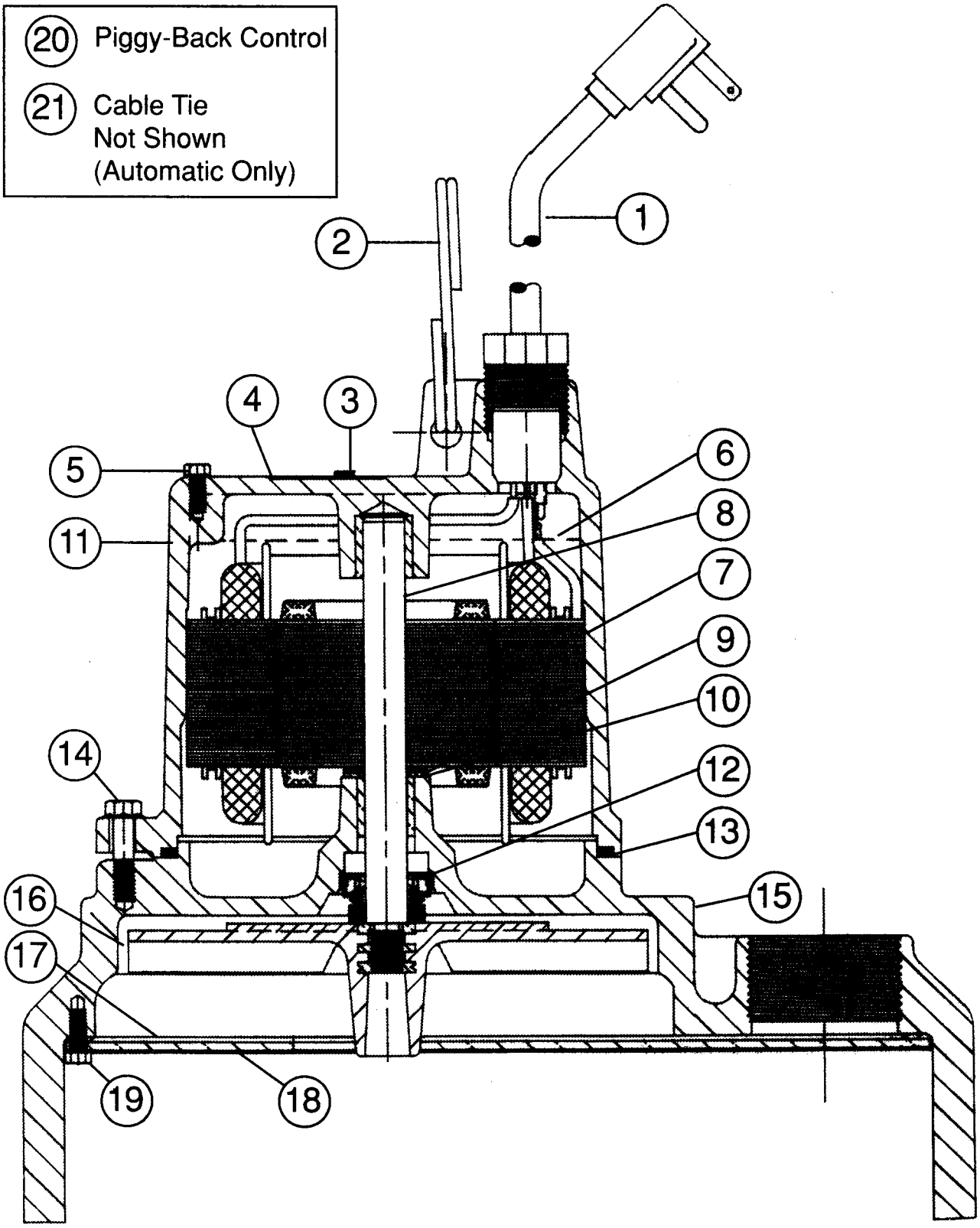
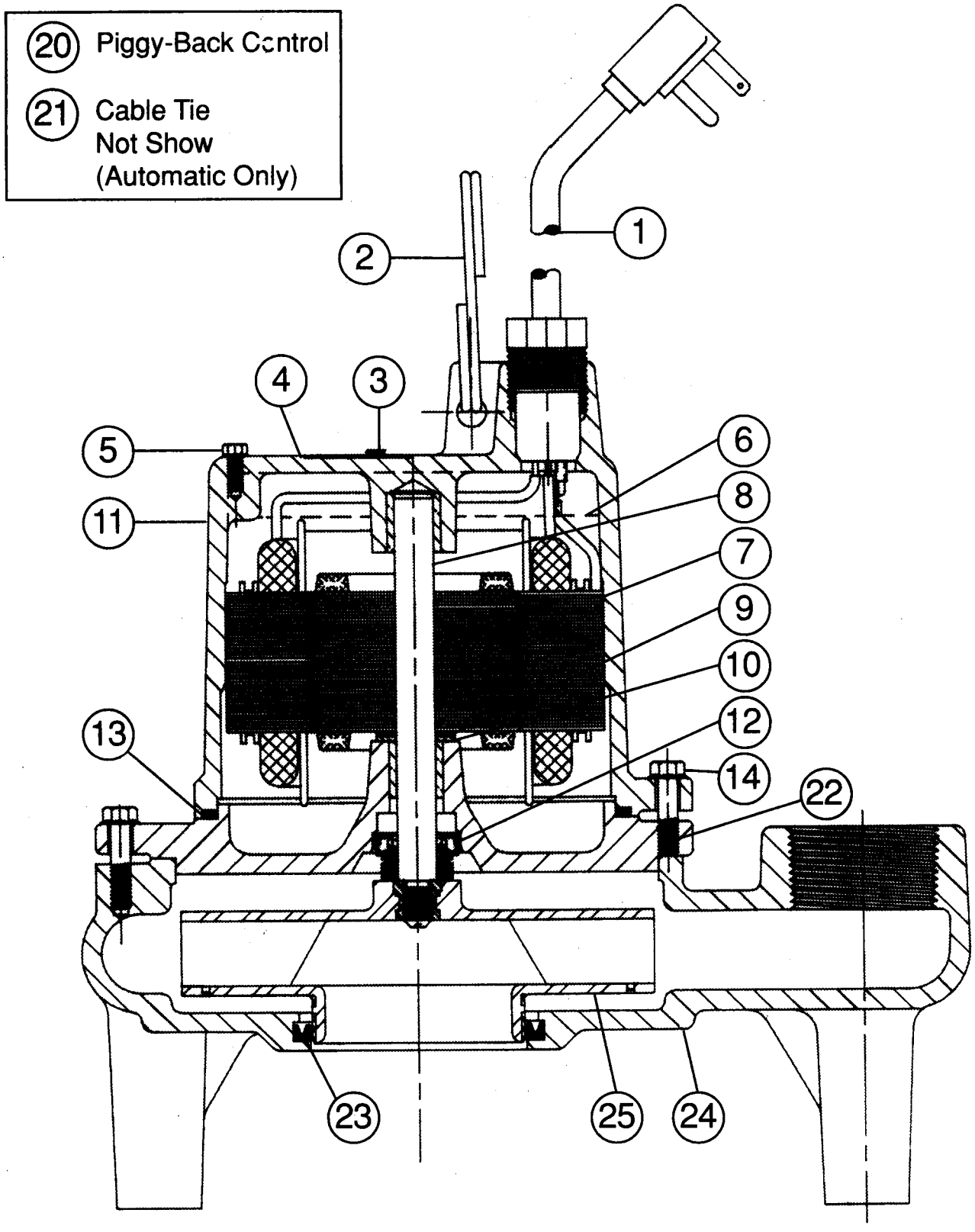
TYPICAL SECTION DRAWING FOR ME3H SERIES



TYPICAL SECTION DRAWING FOR ME3F SERIES



PARTS LIST

Ref. No.	Description	No. Req'd.	Part Numbers
2	Ring, Lift	1	26230A000
3	Plug, 1/4" NPT	1	05022A056
4	Plate, Name (Not Stamped)	1	23780A000
5	Tapping, Screw (Manual)	1	09822A032
5	Tapping, Screw (Automatic)	1	09822A006
6	Oil, Transformer (1 Qt. In Can)	1	11009A002
8	Rotor with Shaft	1	22821A000
9	Washer, Thrust, SST	1	05030A243
10	Washer, Thrust, Graphite	1	05030A244
11	Housing, Motor	1	23770D002
	Housing with Stator		
	115 V, SRM4P, ME3F, ME3H		23770D060K
	230 V, SRM4P, ME3F, ME3H		23770D061K
12	Seal, 1/2" Shaft	1	21607A001
13	Gasket, Rubber	1	05014A172
14	Screw, Cap, 1/4-20 x 7/8 Lg.		
	ME3H	3	18475A003
	ME3F	6	18475A003

Ref. No.	Description	No. Req'd.	Part Numbers
15	Case, Volute	1	26221D000
16	Impeller	1	26223C000
17	Gasket	1	26222C000
18	Plate, Suction	1	26225C000
19	Tapping, Screw	9	09822A006
20	Control, Level, 115V, 20', Piggy-Back	1	21813B131
20	Control, Level, 230V, 20', Piggy-Back	1	21813B133
21	Tie, Cable	1	17190A008
22	Plate, Seal	1	26227D000
23	Cup, HUVA	1	22835A007
24	Case, Volute	1	26226D000
25	Impeller	1	25301B000

CHART

Pump Catalog Number	Pump Engineer. Number	Pump Type	HP	V	Ph	① Cord, Electric	Cord Length	⑦ Stator Only	Winding Resistance in Ohms	Max. Amps	Locked Rotor Amps
ME3H-11	26228D000	Manual	1/3	115	1	21628B048	20'	21599B026	1.2	12.0	16.0
ME3H-21	26228D001	Manual	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2
ME3H-11P	26228D010	Automatic	1/3	115	1	21628B048	20'	21599B026	1.2	12.0	16.0
ME3H-21P	26228D011	Automatic	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2
ME3H-21L/P	26228D002	Manual	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2
ME3F-11	26229D000	Manual	1/3	115	1	21628B048	20'	21599B026	1.2	12.0	16.0
ME3F-21	26229D001	Manual	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2
ME3F-11P	26229D010	Automatic	1/3	115	1	21628B048	20'	21599B026	1.2	12.0	16.0
ME3F-21P	26229D011	Automatic	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2
ME3F-21L/P	26229D002	Manual	1/3	230	1	21628B049	20'	21599B027	4.3	6.0	8.2

NOTE: READ THESE INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL PUMP.

DESCRIPTION AND APPLICATION

ME3H & ME3F

Myers ME3H and ME3F Series Pumps are single seal units, available in automatic or manual, and are designed for use in effluent dosing, Septic Tank Effluent Pumping (S.T.E.P.) or normal sump and general dewatering applications where higher pressure is required. When used in Effluent dosing or S.T.E.P. applications, the pump must be installed in a separate tank or compartment at the discharge side of the septic tank. **NEVER INSTALL PUMP IN MAIN TANK WHERE SLUDGE COLLECTS. DO NOT USE PUMPS FOR RAW SEWAGE.**

General

The ME3H and ME3F pumps use a 1/3 HP shaded pole, 1550 RPM motor, and are available in 115 volt and 230 volt, single phase. Both the manual and automatic models come standard with a 20 ft. power cord. All automatic models come with a mechanical (mercury free) piggy-back float switch. The ME3H and ME3F pumps are designed to handle 3/4 inch spherical solids. The ME3H uses an engineered thermoplastic vortex impeller design to efficiently produce high pressures with low flows. The ME3F uses an engineered thermoplastic two vane non-clog impeller design to produce high pressures with medium flows. All pumps have a 1-1/2" discharge tapping.

WARNING! THESE PUMPS ARE NOT APPROVED FOR, AND SHOULD NOT BE USED IN SWIMMING POOLS OR FOUNTAINS.

AIR LOCKING

A pump is said to be air locked if water traps air in the pump and it cannot get out, thus preventing the pump from operating.

The ME3H/ME3F Sump Pumps have a 1/16" air vent hole in the impeller chamber to let out trapped air. If this hole becomes plugged, pump may air lock. As a secondary precaution a 1/8" hole should be drilled in the discharge pipe below the check valve. The check valve should be 12 to 18 inches above pump discharge. Do not put check valve directly into pump discharge opening.

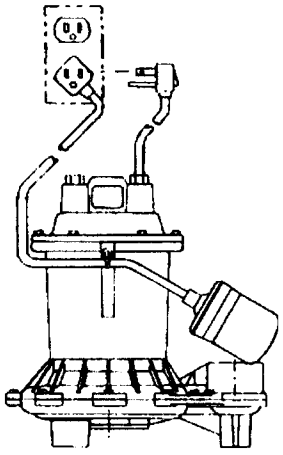
PACKAGING

Each pump is packaged separately in a carton marked with a catalog number and Myers engineering number. The pumps are carefully packaged to prevent damage in shipping. However, occasionally damage may result due to rough handling. Carefully go over the pump and check for damage that could cause the pump to fail.

LEVEL CONTROLS

The automatic model ME3H and ME3F Series Pumps have a 20 ft. mechanical (mercury free), piggy-back float switch. The 115 or 230 volt piggy-back switch is tethered directly to the pump. The switch can optionally be mounted to the discharge pipe using a minimum 4" tether length. The switch must float free from pump and basin wall. Plug the switch cord plug into a properly grounded, rated voltage receptacle. Plug the power cord into the back of the switch cord and tape the cords to the discharge pipe every 12". The power receptacle must be located outside the wet sump or basin due to the DANGER of current leakage.

On all duplex units or simplex installations with additional options like high water alarm, the power cord plug must be cut off and wired into a control panel or into a sealed junction box if used in wet sump or basin. The AWS-1 control also acts as a sealed juction box for connecting power cord to pump cord.



DESIGN OF PRESSURE SEWER SYSTEMS

MYERS has available complete computer SOFTWARE for designing PRESSURE SEWER SYSTEMS. This gives pipe sizes to use and gives exact flow from any pump or group of pumps in the system when operating simultaneously.

This design DISK for IBM® or COMPATIBLE computers is available to engineers on request.

MOTOR TYPE

The motors used in the ME3H and ME3F Series Pumps are pressed into the cast iron housings and surrounded by dielectric oil for superior heat dissipation. Both models use a 1/3 HP shaded pole, 1550 RPM motor. Both units have class A motor insulation, are available in single phase 115 and 230 volt with overload protection, and use a double sleeve bearing design. These pumps have no starting switches and do not require a control panel for simplex installation.

SAFETY WARNINGS

WARNING: Risk of electric shock. Pumps are supplied with a grounding conductor and grounding-type attachment plug on the power cord. To reduce the risk of electric shock, be certain that it is connected only to a properly grounded, grounding-type receptacle. DO NOT cut off ground pin or use an adapter fitting. DO NOT use an extension cord with this pump. Entire plug may be cut off if a control panel is used.

All pumps have a GROUND WIRE that is connected to the motor. This wire goes to the receptacle or control panel which must be connected to a good outside GROUND.

When wiring this pump follow all local electrical and safety codes and ordinances as well as the most recent National Electric Code (NEC-ANSI/NFPA 70).

UL AND CSA APPROVAL

All pumps have UL and CSA approval. Myers is a SSPMA certified pump member.

INSTALLATION

WARNING: Basin or tank must be vented in accordance with local plumbing codes. These pumps are not designed for and CANNOT be installed in locations classified as hazardous in accordance with the National Electric Code ANSI/NFPA 70

CAUTION: Never enter pump chamber after sewage or effluent has been in basin. Sewage water can give off methane, hydrogen sulfide and other gasses which are highly poisonous.

For this reason, Myers recommends installing effluent pumps with a quick removal system. The quick removal system may be a union or Cam-lok® coupling if the pipe or discharge hose is within reach from the surface, or a rail system type quick disconnect on deeper installations. See installation drawings for suggested installation.

The dosing tank or pumping chamber must be constructed of corrosion resistant materials and must be capable of withstanding all anticipated internal and external loads. It also must not allow infiltration or exfiltration. The tank must have provisions for anti-buoyancy. Access holes or covers must be adequate size and be accessible from the surface to allow for installation and maintenance of the system. Access covers must be lockable or heavy enough to prevent easy access by unauthorized personnel. The pumping chamber holding capacity should be selected to allow for emergency conditions.

The discharge pipe must be the same size as the pump discharge, 1-1/2" or larger. In order to insure sufficient fluid velocity to prevent any residual solids from collecting in the discharge pipe, it is recommended that a minimum flow of 2' per second be maintained. (12 GPM through 1-1/2" pipe, 21 GPM through 2" pipe and 46 GPM through 3" pipe). It is recommended that PVC or equal pipe is used for corrosion resistance. A full flow (ball or gate) shut off valve must be installed to prevent back flow of effluent if the pump must be removed for service. A check valve must be installed on pressure sewer systems and on other systems where conditions allow to prevent backflow and to reduce wear on the pump system.

A high water alarm must be installed on a separate circuit from the pump circuit. The alarm should have the ability to be tested for proper operation.

POINTS TO CHECK IF PUMP DOES NOT RUN OR DOES NOT RUN PROPERLY

(1) Pump does not run or start when water is up in tank.

(a) Check for blown fuse or tripped circuit breaker.

(b) Check for defective level switch.

(c) Where control panel is used be sure H-O-A switch is in the AUTO position. If it does not run, turn switch to the HAND position and if the pump runs then the trouble is in the automatic electrical system. Have ELECTRICIAN make electrical checks.

(d) Check for burned out motor. Occasionally lightning can damage a motor even with lightning protection.

(e) Where plug-in cords are used be sure contact blades are clean and making good contact. DO NOT USE PLUG-IN CORDS INSIDE A SUMP OR WET WELL.

(f) Level control ball or weight may be stuck on side of basin. Be sure it floats freely.

(2) Pump runs but does not deliver flow.

(a) Check for air lock. Start and stop pump several times, if this does not help it may be necessary to loosen a union in the discharge line to relieve air lock.

(b) Check valve may be installed backwards. Check flow arrow on valve body. Check shut-off valve. It may be closed.

(c) Check vertical elevation. It may be higher than pump can develop. (See pump curve).

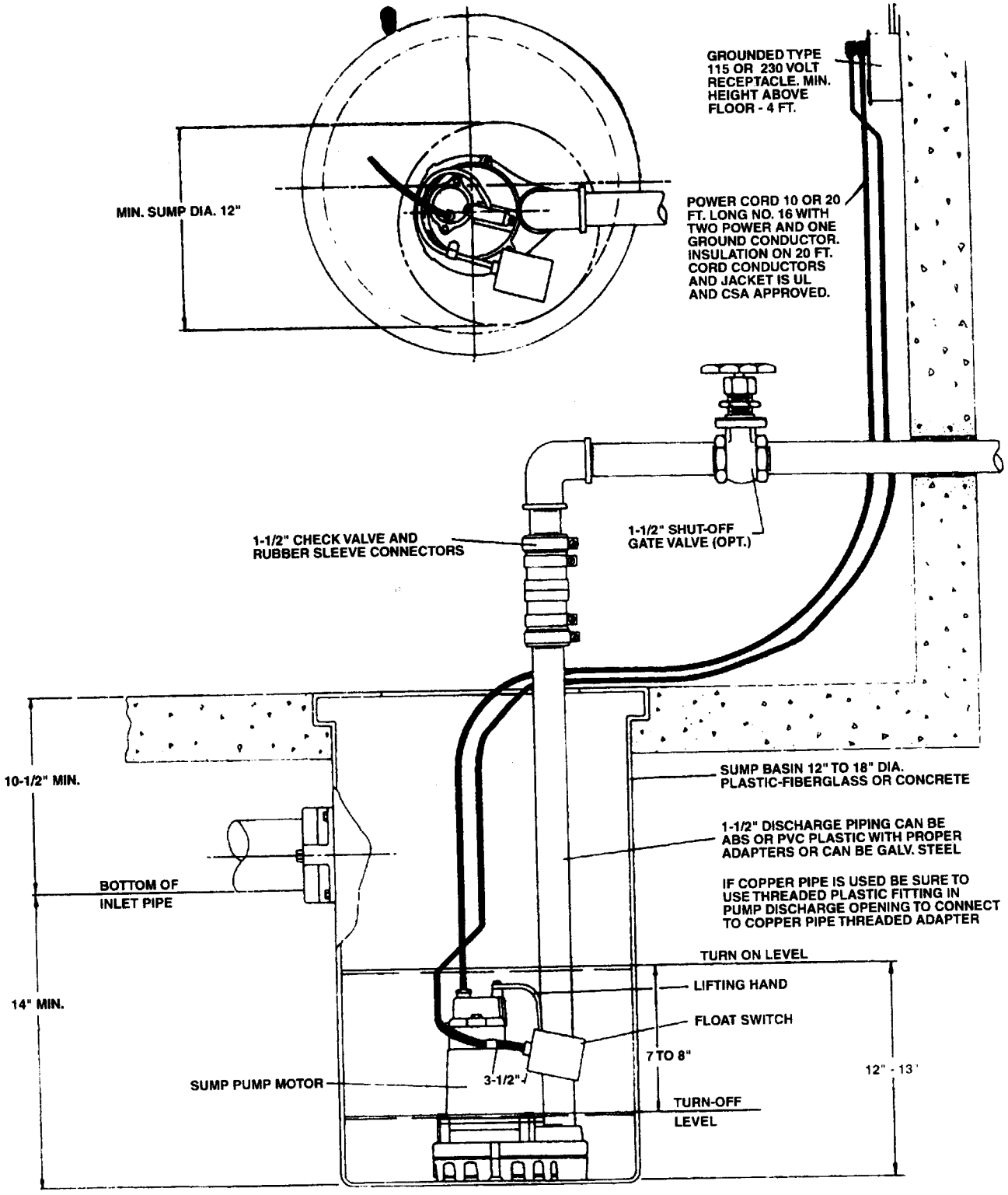
(d) Pump inlet may be plugged. Remove pump to check.

CAUTION: ALWAYS UNPLUG POWER CORDS OR TURN OFF ALL MAIN AND BRANCH CIRCUIT BREAKERS BEFORE DOING ANY WORK ON THE PUMP. If control panel is remote from pump, disconnect lead wires to motor so that no one can turn the circuit breaker back on.

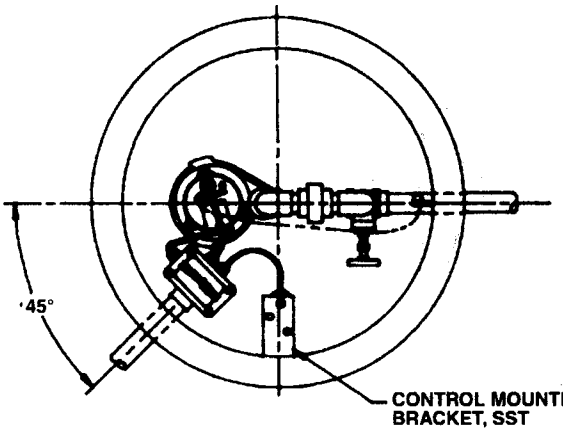
BEFORE DISMANTLING PUMP FOR REPLACEMENT OF PARTS

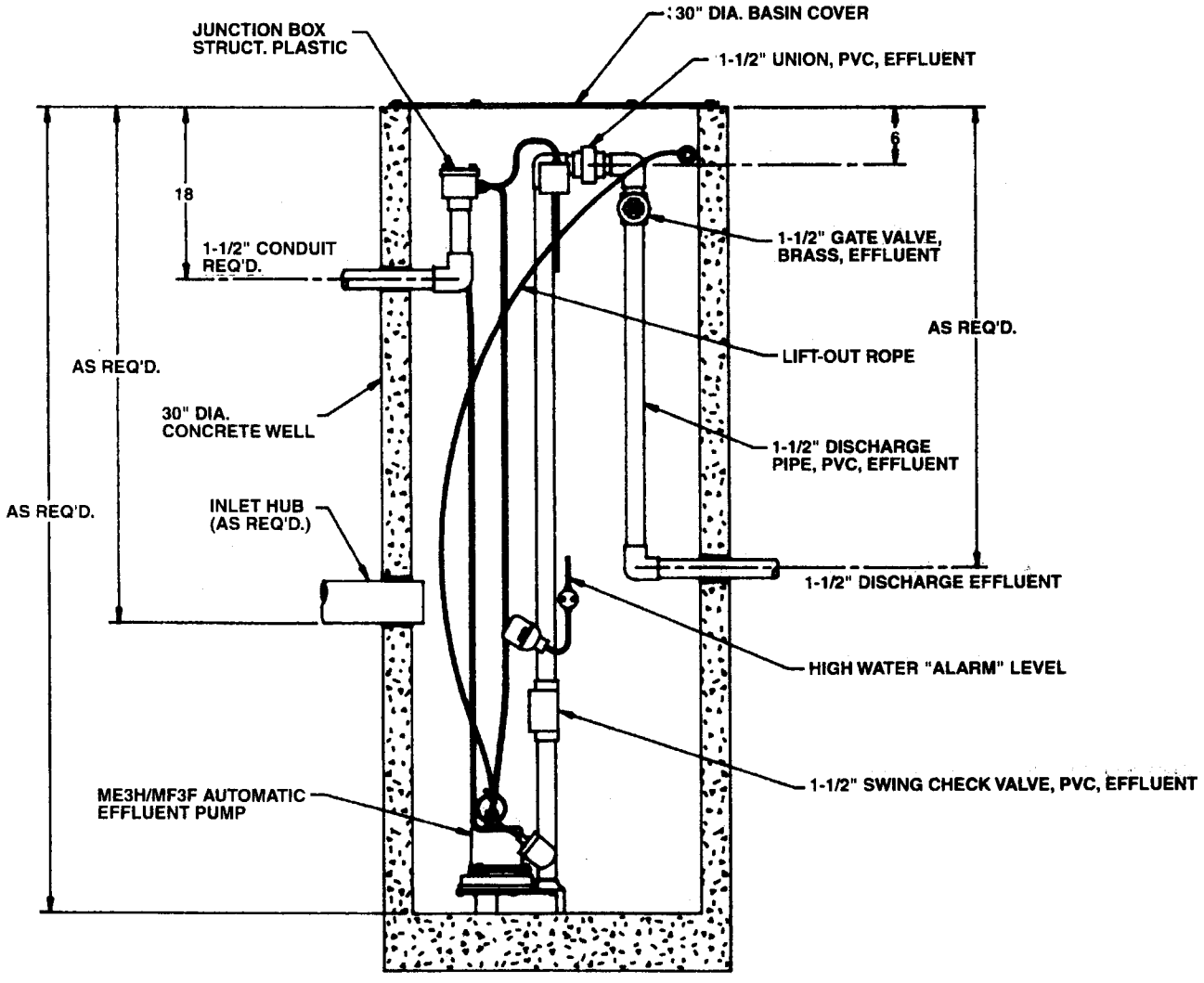
Clean pump thoroughly. Knock off all scale and deposits. Submerge complete unit in Clorox solution for one hour before taking apart.

TYPICAL SUMP INSTALLATION ME3H/ME3F

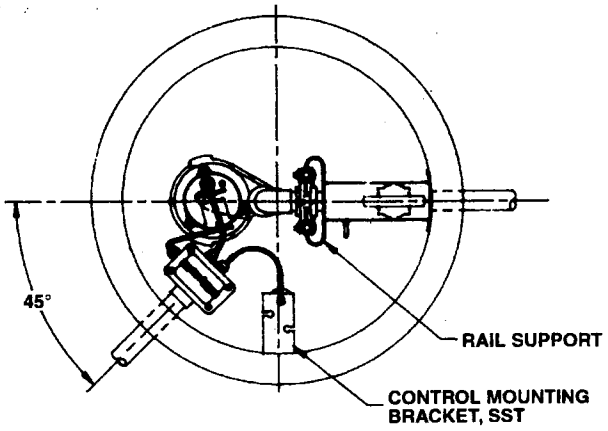


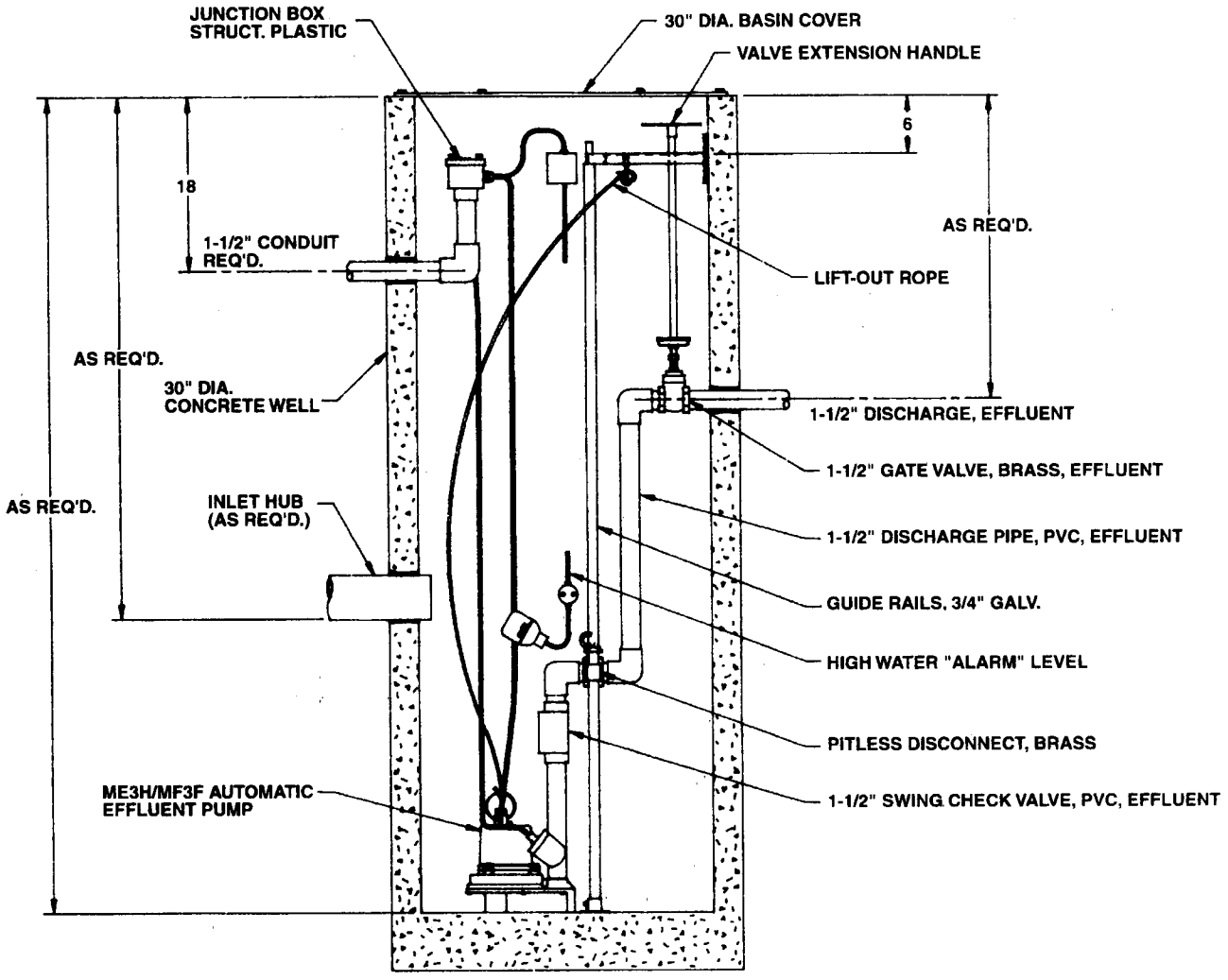
30" DIAMETER SIMPLEX ME3H/ME3F EFFLUENT UNION SYSTEM





30" DIAMETER SIMPLEX ME3H/ME3F EFFLUENT





CAUTION: FOR ANY WORK ON PUMP OR SWITCH, ALWAYS UNPLUG POWER CORD. DO NOT JUST TURN OFF CIRCUIT BREAKER OR UNSCREW FUSE.

TO REPLACE AUTOMATIC FLOAT

(1) Unplug the pump power cord from the back of the piggy-back float plug.

(2) Unplug the piggy-back float plug from the power receptacle.

(3) Remove the pump from the sump if access to the tether point is inaccessible.

(4) Disconnect the switch from its tether point and remove from the discharge piping.

(5) Re-tether the new cord to the pump or discharge piping.

(6) Cable tie or tape the power and switch cords to the discharge piping.

(7) Plug the switch into the power receptacle.

(8) Plug the power cord into the switch plug.

(9) Fill basin and test switch operation.

ALL PUMP REPAIRS SHOULD BE DONE AT AN AUTHORIZED MYERS SERVICE CENTER.

ME3H SHAFT SEAL REPLACEMENT

(1) Remove the oil fill plug located on the top of the motor housing and drain the oil in the housing. Properly dispose of the used oil. Do not reuse old oil since it may contain water from seal failure.

(2) Lay the pump on its side. Remove the nine screws holding the suction plate onto the bottom of the volute case. Carefully remove the suction plate and gasket.

(3) Insert a slotted screwdriver through the center of the impeller hub into the slot in the shaft. With a rubber mallet, carefully tap the impeller in a counter rotating direction while holding the shaft with the screwdriver.

(4) Remove the rotating portion (ceramic) of the seal with fingers. Pry on the stationary portion (carbon) with a pair of slotted screwdrivers to remove from volute casing. Discard the old seal assembly parts. NEVER USE OLD SEAL PARTS, REBUILD PUMP WITH ONLY NEW SEAL ASSEMBLY.

(5) Thoroughly clean the shaft and volute casing with a clean cloth. If the drained oil showed signs of water, then the motor should be air dried for several days to remove any remaining moisture.

(6) Carefully remove the new seal assembly from the package. Add a film of new oil to the rubber O.D. on the stationary portion (carbon), and insert into the seal cavity on the volute casing. Using a pushing tool (a piece of PVC pipe works well), push on the rubber portion of the stationary seal until it is evenly seated into the seal cavity. With a clean cloth, carefully wipe the seal face.

(7) Remove the rotating portion (ceramic) from the package and carefully wipe with a clean cloth. Add a film of new oil onto the motor shaft. Slide the rotating portion over the shaft with the rubber surface of the seal facing away from the stationary seal face. Center the seal on the shaft.

(8) Place the impeller onto the shaft. Screw the impeller clockwise onto the shaft using a screwdriver to hold the shaft from turning and tighten impeller. Check to see that the impeller spins freely after tightening.

(9) Replace the gasket and suction plate onto the bottom of the volute casing. Insert and tighten the nine retaining screws.

(10) Replace oil in the motor housing using only Myers submersible transformer oil. The level should be 3/4" below the top of the motor housing. Check with dip stick to assure that the pump is properly filled.

(11) Plug pump into grounded receptacle to test operation. Pump must run quiet and free of vibration.

ME3F SHAFT SEAL REPLACEMENT

(1) Remove the oil fill plug located on the top of the motor housing and drain the oil in the housing. Properly dispose of the used oil. Do not reuse old oil since it may contain water from seal failure.

(2) Remove the four cap screws holding the volute case onto the seal plate. Lift the motor assembly up and out of the volute case.

(3) Lay the motor assembly on its side. Insert a slotted screwdriver into the slot in the center of the shaft. With a rubber mallet, carefully tap the impeller in a counter rotating direction while holding the shaft with the screwdriver.

(4) Remove the rotating portion (ceramic) of the seal with fingers. Pry on the stationary portion (carbon) with a pair of slotted screwdrivers to remove from volute casing. Discard the old seal assembly parts. NEVER USE OLD SEAL PARTS, REBUILD PUMP WITH ONLY NEW SEAL ASSEMBLY.

(5) Thoroughly clean the shaft and volute casing with a clean cloth. If the drained oil showed signs of water, then the motor should be air dried for several days to remove any remaining moisture.

(6) Carefully remove the new seal assembly from the package. Add a film of new oil to the rubber O.D. on the stationary portion (carbon), and insert into the seal cavity on the volute casing. Using a pushing tool (a piece of PVC pipe works well), push on the rubber portion of the stationary seal until it is evenly seated into the seal cavity. With a clean cloth, carefully wipe the seal face.

(7) Remove the rotating portion (ceramic) from the package and carefully wipe with a clean cloth. Add a film of new oil onto the motor shaft. Slide the rotating portion over the shaft with the rubber surface of the seal facing away from the stationary seal face. Center the seal on the shaft.

(8) Place the impeller onto the shaft. Screw the impeller clockwise onto the shaft using a screwdriver to hold the shaft from turning and tighten impeller. Check to see that the impeller spins freely after tightening.

(9) Check the HUVA cup seal in the volute case inlet. If worn, replace.

(10) Place the pump motor assembly upright and set it into the volute case. Make sure that the HUVA cup is aligned properly with the impeller wearing ring. Replace the four cap screws and tighten. Check that the impeller turns freely.

(11) Replace oil in the motor housing using only Myers submersible transformer oil. The level should be 3/4" below the top of the motor housing. Check with dip stick to assure that the pump is properly filled.

(12) Plug pump into grounded receptacle to test operation. Pump must run quiet and free of vibration.

POWER CORD REPLACEMENT

(1) Loosen the plastic compression nut that retains the power cord. Slide nut out of the motor housing.

(2) Pull the power cord from the motor housing by hand. The cord may need to be wiggled back and forth several times to loosen from the housing. Pull the power cord out until the connecting wires are fully exposed. Disconnect the motor power and ground leads with a pair of pliers.

(3) Reconnect the motor power leads and ground to the new power cord. The ground terminal on the power cord has a male connector, and the power terminals on the new power cord are female.

(4) Carefully push the connected wires into the motor housing until the molded body of the power cord seats. Make sure that the wires stay away from the rotor and shaft. Slide the nut into place and hand tighten. Tighten the nut with 13/16" wrench until snug, but do not over tighten.

(5) Plug pump into grounded receptacle to test operation. Pump must run quiet, free of vibration, without tripping out breaker.

MOTOR REPLACEMENT

(1) Disconnect the power cord and drain the oil as noted in the previous sections. If the oil shows signs of water or other contamination, it may be necessary to replace the seal assembly as noted in a previous section.

(2) Loosen and remove the three cap screws retaining the motor housing. Lift the motor housing off of the pump assembly.

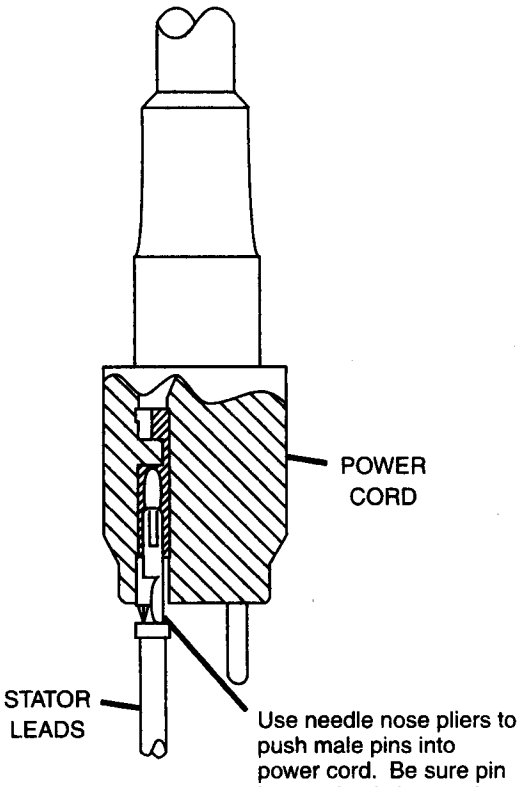
(3) Remove the O-ring from the remaining pump assembly. Clean surface area and place new O-ring into position. Be careful not to cut O-ring when installing.

(4) Position new motor housing (with new stator), onto the pump assembly. Align the screw bosses, and insert the three cap screws. Evenly tighten the cap screws.

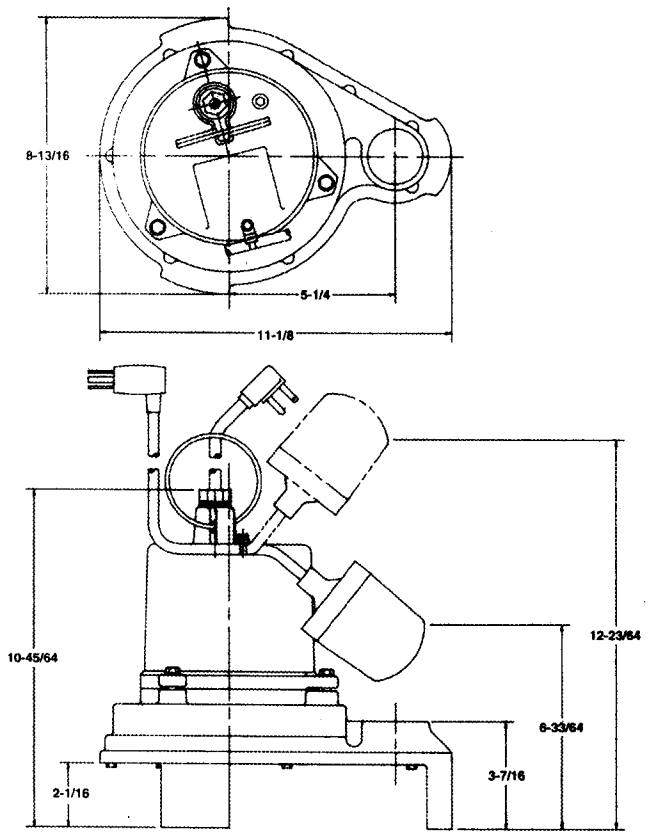
(5) Reinstall the power cord as noted in the previous section.

(6) Replace oil in the motor housing using only Myers submersible transformer oil. The level should be 3/4" below the top of the motor housing. Check with dip stick to assure that the pump is properly filled.

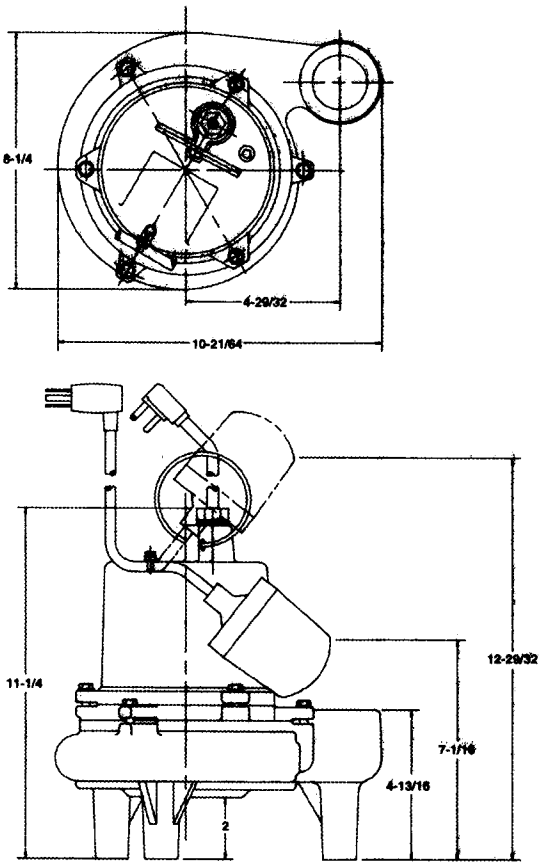
(7) Plug pump into grounded receptacle to test operation. Pump must run quiet, free of vibration, without tripping out breaker.



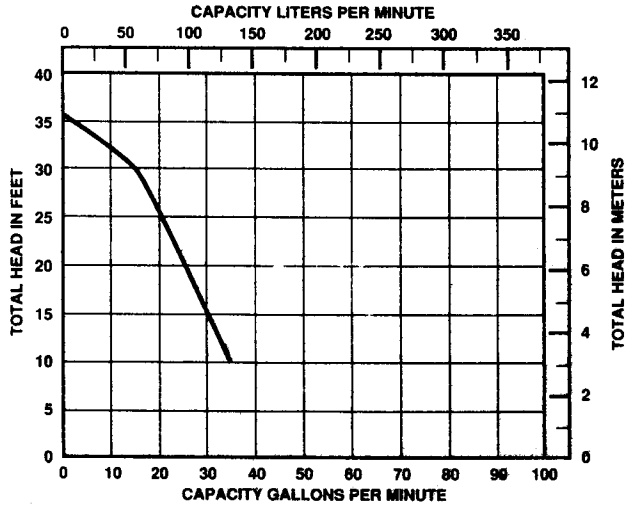
ME3H DIMENSIONAL DRAWING



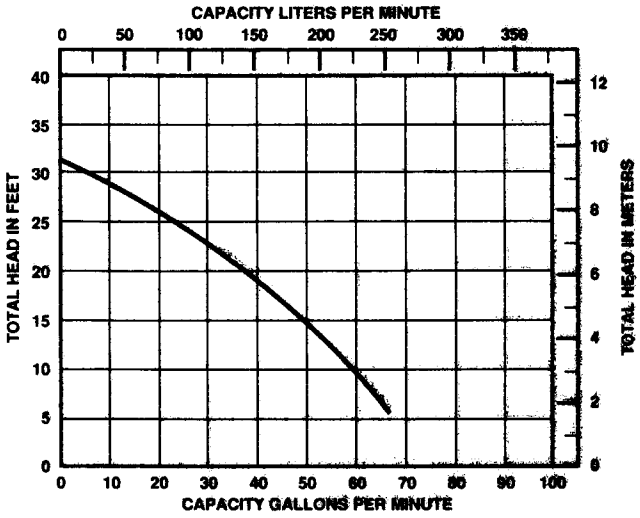
ME3F DIMENSIONAL DRAWING



ME3H PERFORMANCE



ME3F PERFORMANCE



MYERS
LIMITED WARRANTY

F.E. MYERS warrants that its products are free from defects in material and workmanship for a period of 12 months from the date of installation or 18 months from the date of manufacture, whichever occurs first.

During the warranty period, and subject to the conditions hereinafter set forth, F.E. MYERS will repair or replace to the original user or consumer parts which prove defective due to defective materials or workmanship of MYERS. This remedy is exclusive and is the only remedy available to any person with respect to such MYERS product. Contact your nearest authorized MYERS distributor or MYERS 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.

Start-up reports and electrical system schematics may be required to support warranty claims. This warranty is effective only if MYERS supplied or authorized control panels are used.

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 codes, ordinances and good trade practices; or (e) if the unit is moved from its original installation locations, and (f) unit is used for purposes other than for what it was designed and manufactured.

RETURN OR REPLACED COMPONENTS: any item to be replaced under this Warranty must be returned to MYERS at Ashland, Ohio, or such 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 change or improvement.

WARRANTY EXCLUSIONS: as to any specific MYERS product, after the expiration of the time period of the warranty applicable thereto as set forth above. THERE WILL BE NO WARRANTIES, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. No warranties or representations at any time made by any representative of MYERS shall vary or expand the provisions 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.

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.

Direct all notices, etc. to: Warranty Service Department, F.E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805.

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