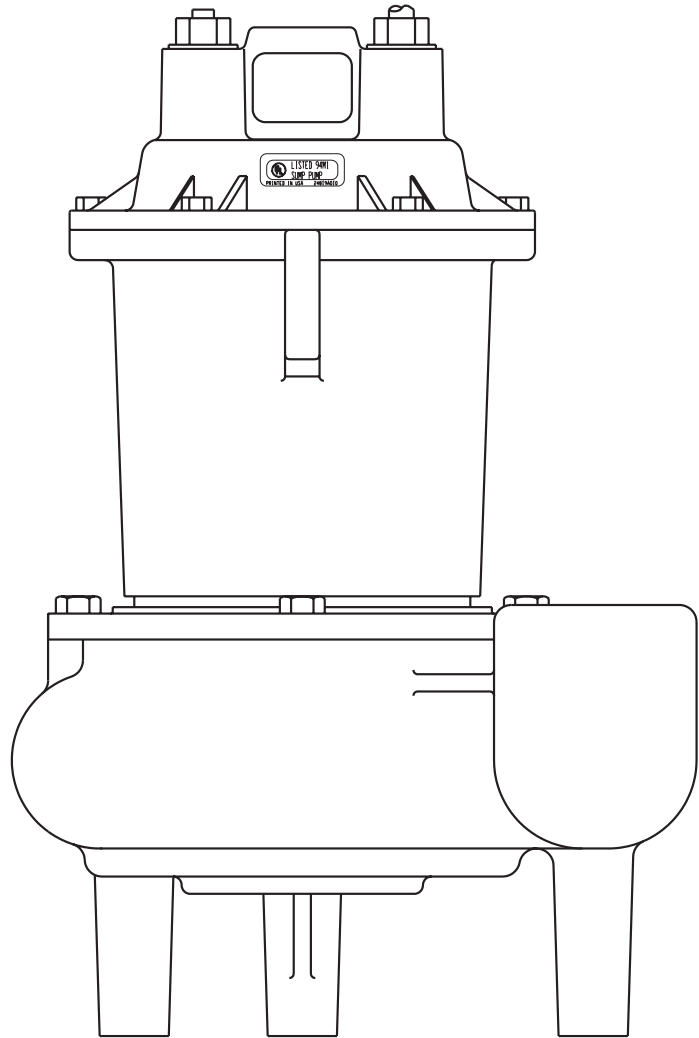




**MYERS®**



# MW50 SERIES SUBMERSIBLE SEWAGE PUMP

## INSTALLATION AND SERVICE MANUAL

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

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

## DESCRIPTION AND APPLICATION

**General:** The MW50 is available in 115 volt or 230 volt, single phase, 1/2 HP motors. All units are single seal only, available in automatic or manual with either 10' or 20' power cords. All power cords have either 115 volt or 230 volt grounded plugs.

These pumps are NOT for use in swimming pools or fountains.

**MW50:** The MW50 Series pumps are designed for use in residential sewage applications. These units are designed for handling raw sewage discharged for residential and light commercial developments.

Impellers are enclosed two-vane type to handle 2" spherical solids and are made of engineered thermoplastic or bronze. The discharge pipe size is 2" NPT for attachment to almost all sewage applications.

## AIR LOCKING

A sump 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 MW50 pumps have a 1/16" air vent hole in the impeller chamber to let out trapped air. If this hole becomes plugged, the 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.

## LEVEL CONTROLS

All pumps must use sealed level control switches for automatic operation. All automatic pumps have built-in level control float switches. The power cord has a GROUND PIN that plugs into a grounded receptacle. The grounded receptacle cannot be used in the wet sump or basin due to DANGER of current leakage.

Manual pumps can be made automatic with MLC or MFLC controls with a series plug. Plug the MLC or MFLC with cord series plug into a proper voltage GROUNDED RECEPTACLE. Then plug the pump cord plug into the back of the switch cord series plug. NOTE: The float control must be tethered a minimum 4" to pump or discharge pipe. Control must float free from pump and basin wall.

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 junction box for connecting power cord to pump cord.

The pump has a mercury-free, 115 or 230 volt mechanical piggyback float switch, available in 10' and 20' lengths. The switch is provided with a cable tie to be mounted to the discharge pipe and tethered a minimum of 4". Plug the switch cord plug into a proper voltage, properly grounded outlet. Plug the power cord into the back of the switch cord and tape the cords to the discharge pipe every 12".

## MOTOR TYPE

The motors used are pressed into the cast iron housing and surrounded by dielectric oil for the greatest heat dissipation. A permanent split capacitor, 1/2 HP, 1625 RPM motor is used. The unit has Class A motor insulation, and is available in single phase, 115 or 230 volt with overload protection and uses a lower ball bearing - upper sleeve bearing. The pump has no starting switches and does 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.**

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).

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 such as a metal water pipe or GROUND STAKE DRIVEN AT LEAST 8 feet into the ground.

## CALIFORNIA PROPOSITION 65 WARNING:

**⚠ WARNING** This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## 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 gases 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.**

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 antibuoyancy. 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, 2" or larger. In order to ensure 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 (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 back flow 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.

### TO REPLACE AUTOMATIC CONTROL FLOAT

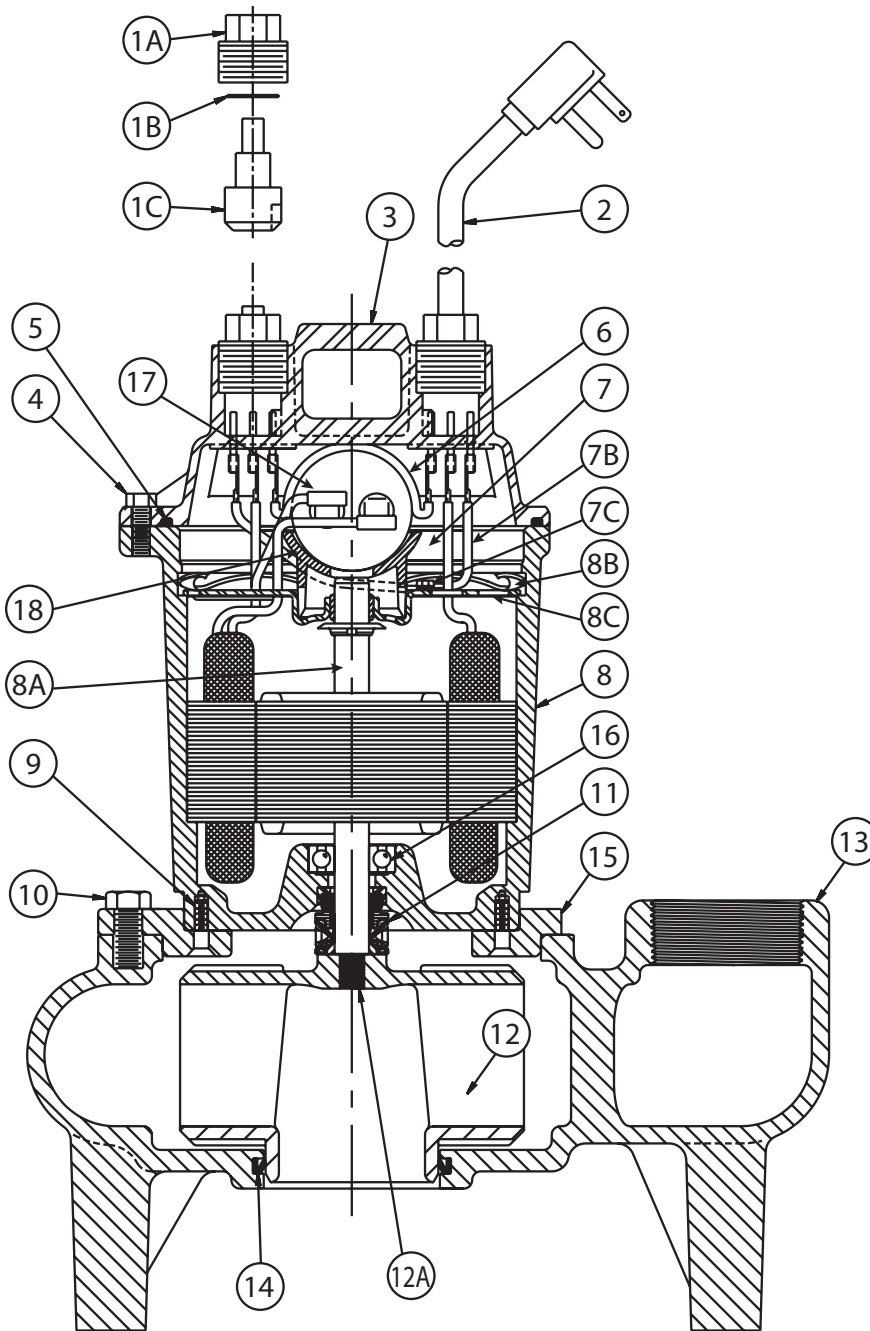
1. Use a wrench to loosen and remove thermoplastic nut from the cap socket. Use your fingers to pull and wiggle the cord end connector from the socket.
2. Align the half circle notch on the cord end connector with the half circle key in the socket. Press the connector into the socket all the way.
3. Slide the thermoplastic washer onto the top of the cord end connector.
4. Screw the thermoplastic nut into the socket. Tighten the nut snugly, but do not overtighten. The nut may be tightened a little more after the connector has set over a period of time.
5. Tether float approximately 3-5/8".

### TROUBLE CHECK LIST

CONDITION	PROBABLE CAUSE
Pump does not run or start when water is up in tank.	<ol style="list-style-type: none"> <li>1. Check for blown fuse or tripped circuit breaker.</li> <li>2. Check for defective level switch.</li> <li>3. 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.</li> <li>4. Check for burned-out motor. Occasionally lightning can damage a motor even with lightning protection.</li> <li>5. 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.</li> <li>6. Level control ball or weight may be stuck on side of basin. Be sure it floats freely.</li> </ol>
Pump runs but does not deliver flow.	<ol style="list-style-type: none"> <li>1. 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.</li> <li>2. Check valve may be installed backward. Check flow arrow on valve body. Check shut-off valve. It may be closed.</li> <li>3. Check vertical elevation. It may be higher than pump can develop.</li> <li>4. Pump inlet may be plugged. Remove pump to check.</li> </ol>

**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.**

## TYPICAL SECTION DRAWING FOR MW50 SERIES

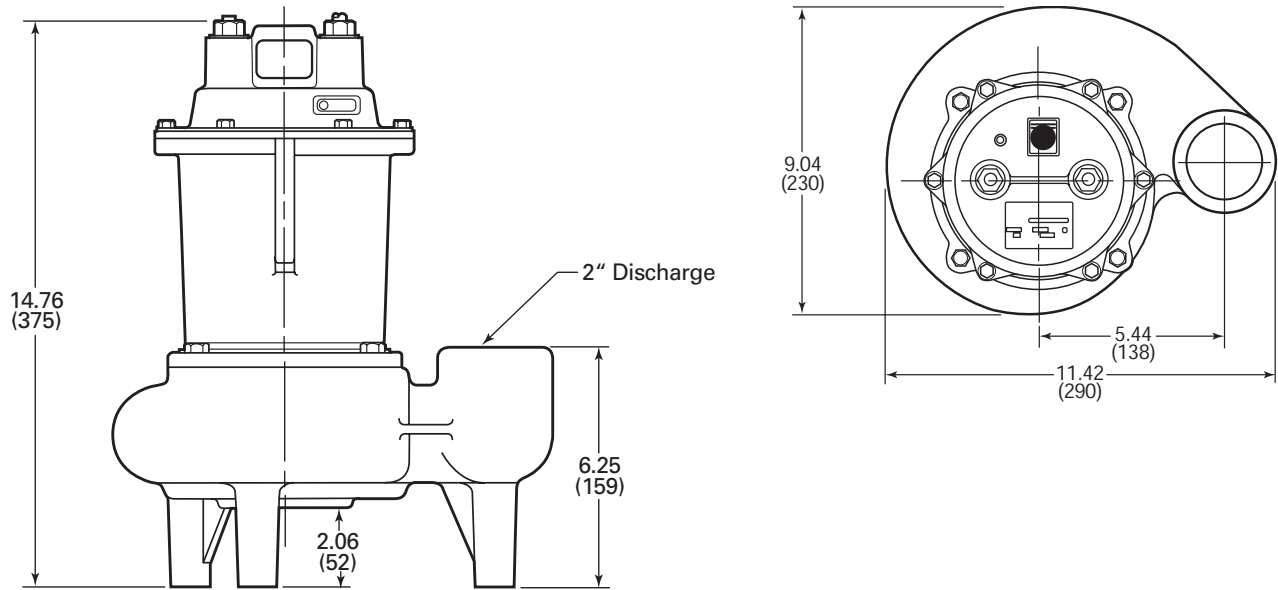


19 PIGGYBACK CONTROL  
NOT SHOWN (AUTOMATIC ONLY)

### PARTS LIST MW50

Ref. No.	Description	No. Req'd.	Part Numbers
1A	Plug, nut (manual only)	1	24448A000
1B	Washer (manual only)	1	05030A213
1C	Plug, connector (manual only)	1	24449A000
2	Cord, electric	1	see chart
3	Cap, motor (stamped)	1	24431C061
4	Screw, machine, hex head, 1/4 x 7/8	6	18475A003
5	Ring, "O", 5-1/2 x 5-1/4 x 1/8	1	05876A146
6	Wire, jumper	1	09859A800
7	Oil, transformer	.2 gal.	24709110000
7B	Wire, ground	2	09859A801
7C	Screw, tapping SST #10 x 3/8	1	09822A032
8	Housing, with rotor and stator	1	27313C001
8A	Rotor and shaft	1	26166B000
8B	Washer, spring wave 5.125 O.D. x 4.659 I.D.	1	19331A011
8C	Plate, bearing	1	24661B000
9	Screw, machine, flat head	4	07597A030
10	Screw, cap, 5/16-18 x 3/4	4	19100A004
11	Seal, type 6; 1/2 shaft	1	21607A015
12	Impeller, thermoplastic	1	26053B000
12A	Sealant, Loctite® grade 2	1	14550A001
13	Case, volute	1	26054D000
14	Cup, U HUVA	1	22835A009
15	Plate, adapter	1	26052C000
16	Bearing, ball 1/2 open face	1	000650241
17	Capacitor	1	26446A000
18	Cradle, capacitor	1	26298B000
19	Control, 115 volt, 20'	1	21813B131
19	Control, 230 volt, 20'	1	21813B133

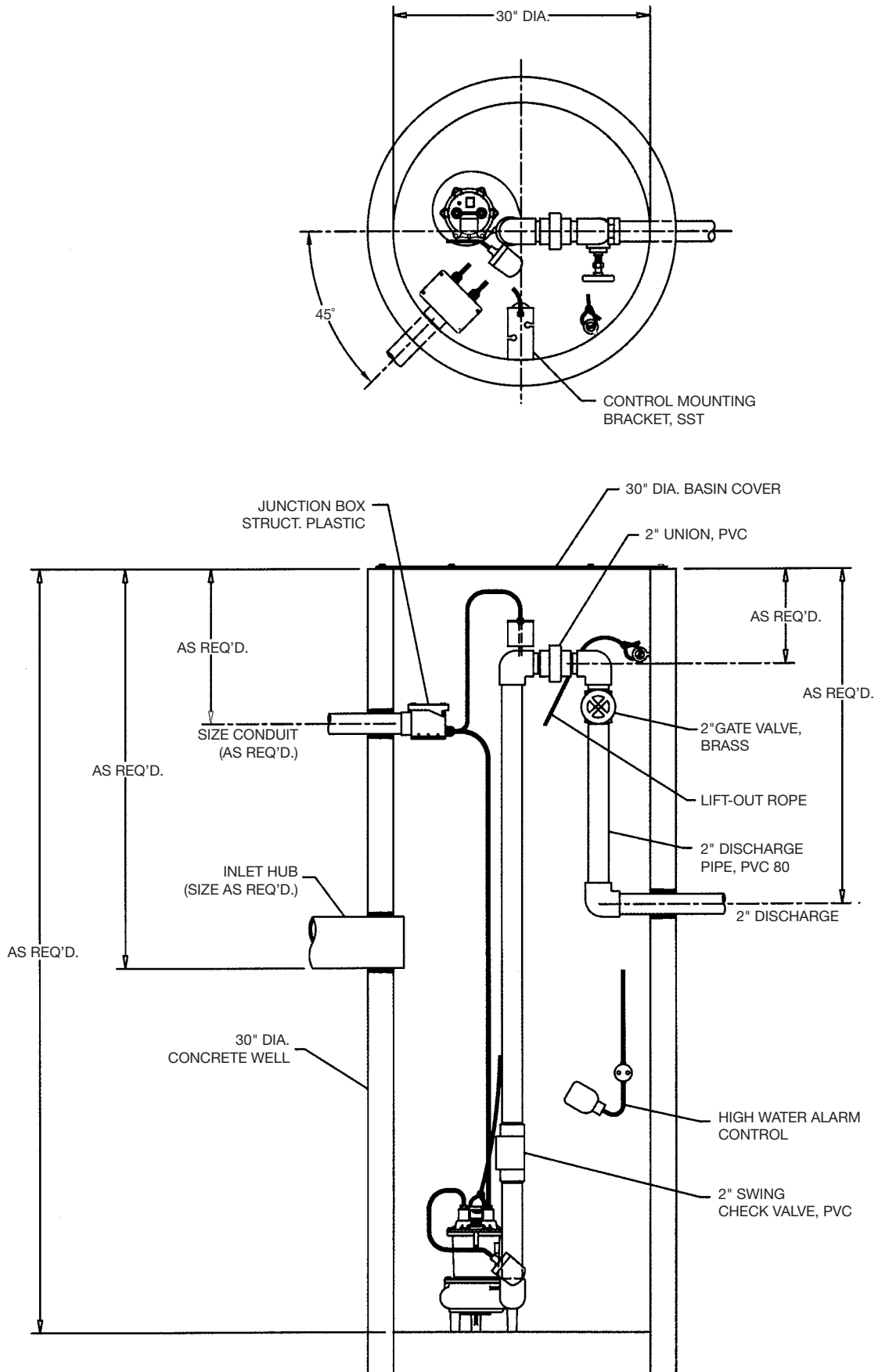
## DIMENSIONS (Dimensions in mm)



## CHART

Pump Catalog Number	Pump Engineering Numbers	Pump Type	Cord, Electric	Cord Length	Stator Only
MW50-11	26088D001	Manual	21628B044	20'	26165B000
MW50-21	26088D003	Manual	21628B043	20'	26165B001
MW50-11P	26088D901	Automatic	21628B044	20'	26165B000
MW50-21P	26088D903	Automatic	21628B043	20'	26165B001

### 30" DIAMETER SIMPLEX MW50



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## STANDARD LIMITED WARRANTY

Pentair Myers® warrants its products against defects in material and workmanship for a period of 12 months from the date of shipment from Pentair Myers or 18 months from the manufacturing date, whichever occurs first – provided that such products are used in compliance with the requirements of the Pentair Myers catalog and technical manuals for use in pumping raw sewage, municipal wastewater or similar, abrasive-free, noncorrosive liquids.

During the warranty period and subject to the conditions set forth, Pentair Myers, at its discretion, will repair or replace to the original user, the parts that prove defective in materials and workmanship. Pentair 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 prior sold and/or shipped units.

Start-up reports and electrical schematics may be required to support warranty claims. Submit at the time of start-up through the Pentair Myers website: <http://forms.pentairliterature.com/startupform/startupform.asp?type=m>. Warranty is effective only if Pentair Myers authorized control panels are used. All seal fail and heat sensing devices must be hooked up, functional and monitored or this warranty will be void. Pentair Myers will cover only the lower seal and labor thereof for all dual seal pumps. Under no circumstance will Pentair Myers be responsible for the cost of field labor, travel expenses, rented equipment, removal/reinstallation costs or freight expenses to and from the factory or an authorized Pentair Myers service facility.

This limited warranty will not apply: (a) to defects or malfunctions resulting from failure to properly install, operate or maintain the unit in accordance with the printed instructions provided; (b) to failures resulting from abuse, accident or negligence; (c) to normal maintenance services and parts used in connection with such service; (d) to units that are not installed in accordance with applicable local codes, ordinances and good trade practices; (e) if the unit is moved from its original installation location; (f) if unit is used for purposes other than for what it is designed and manufactured; (g) to any unit that has been repaired or altered by anyone other than Pentair Myers or an authorized Pentair Myers service provider; (h) to any unit that has been repaired using non factory specified/OEM parts.

Warranty Exclusions: PENTAIR MYERS MAKES NO EXPRESS OR IMPLIED WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. PENTAIR MYERS SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE.

Liability Limitation: IN NO EVENT SHALL PENTAIR MYERS BE LIABLE OR RESPONSIBLE FOR CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES RESULTING FROM OR RELATED IN ANY MANNER TO ANY PENTAIR MYERS PRODUCT OR PARTS THEREOF. PERSONAL INJURY AND/OR PROPERTY DAMAGE MAY RESULT FROM IMPROPER INSTALLATION. PENTAIR MYERS DISCLAIMS ALL LIABILITY, INCLUDING LIABILITY UNDER THIS WARRANTY, FOR IMPROPER INSTALLATION. PENTAIR MYERS RECOMMENDS INSTALLATION BY PROFESSIONALS.

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



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