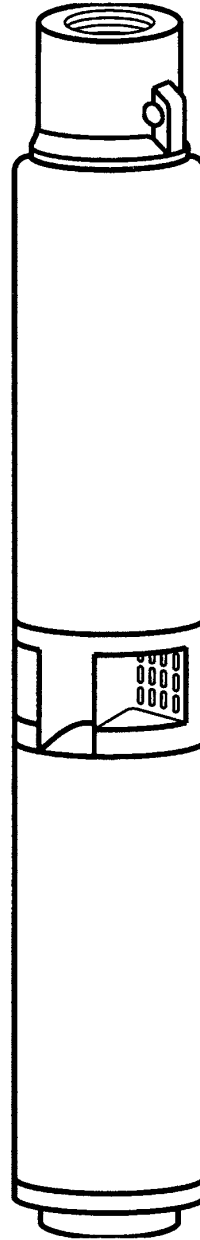




MYERS®



EFFLUENT SUBMERSIBLE PUMPS

INSTALLATION AND OPERATION MANUAL

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.

IMPORTANT SAFETY INSTRUCTIONS

WARNING! READ CAREFULLY BEFORE INSTALLATION.

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

Before installing or servicing your pump, **BE CERTAIN THE PUMP POWER SOURCE IS TURNED OFF AND DISCONNECTED.**

All installation and electrical wiring must adhere to state and local codes.

WARNING: EXERCISE CAUTION WHEN HANDLING, SERVICING, OR INSTALLING PUMP. BE AWARE OF ANY ELECTRICAL HAZARDS AND LOCATION OF LIVE ELECTRICAL POWER. AVOID CONTACT WITH ELECTRICAL POWER.

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.

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.**

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

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

Do not use an extension cord; splices must be made with an approved splice kit and should be checked for integrity before submerging in water. Above ground joints must be made in an approved junction box.

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.

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

Do not use this pump in or near a swimming pool, pond, lake or river.

Motors are equipped with automatic resetting thermal protectors. The motor may restart unexpectedly, causing the leads to energize or pump to turn.

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

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

Do not run this pump with the discharge completely closed. 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 system.

Pump is capable of building pressures in excess of 100 PSI. Always use a pressure relief valve.

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.

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

Do not pump water above 120° F.

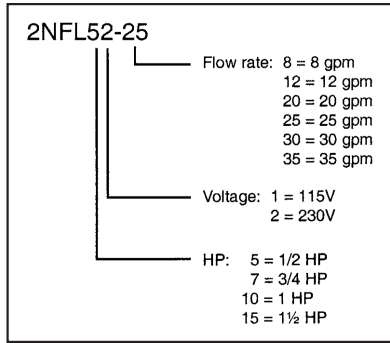
CALIFORNIA PROPOSITION 65 WARNING:

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

PUMP SELECTION AND INSPECTION

- 1. Select the right pump.** Gallons per minute desired plus pressure required determines which effluent submersible pump size and model is right for your system.
- 2. Inspect your new pump.** Check for free rotation of the shaft prior to installation by inserting a screwdriver in the slot in the end of the shaft. Check to see if the pump shaft turns freely; a slight drag is permissible.

3. Model number designation (on right).



ELECTRICAL PREPARATION

1. Motor voltage.

Myers effluent submersible pumps operate on either a 115 volt or a 230 volt, single phase current. The motor is NOT dual voltage. For minimum entrance box service rating, see chart.

HP	Volts	Wire	Min. Service
1/2	115	2W	200 amp
1/2	230	2W	60 amp
3/4	230	2W	100 amp
1	230	2W	100 amp
1-1/2	230	2W	200 amp

2. Cable size. Submersible pump cable is not just ordinary wire; the copper cable is well insulated to withstand many years of complete submersion in water. Selection of proper size cable is very important. Undersized cable results in too low a voltage supply to the motor and ultimate motor failure. Oversized cable will cost much more than proper sized cable. See chart of proper sized cable (in chart, the smaller the AWG number, the larger the cable wire size).

3. Length of cable. Maximum cable length specified for each horsepower size and minimum AWG cable wire size referred to in chart means the total distance from the submerged pump motor to the electrical motor control box as shown in this diagram.

4. Splicing power cables to pump. After making sure your power cables are the proper AWG size and specified length, splice them to the pump cables.

- a. Slip shrink tube over end of each power cable.
- b. Match pump cables to power cables and crimp connectors on each pair.
- c. Slide shrink tubes over center of crimped connectors and apply heat (from propane torch) from center to both ends of shrink tubes.
- d. Splice is complete when sealant flows from ends of shrink tubes. **NOTE:** Splice kits are not included with pumps.

5. Motor grounding instructions. WARNING: Reduced risk of electric shock during operation of this pump requires the provision of acceptable grounding:

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 including metal discharge pipes, and the like, by means of (1) an equipment grounding conductor at least the size of the cable conductors, (2) a clamp, a weld, or both if necessary, secured to the equipment grounding lead, the equipment grounding terminal, or the grounding conductor on the pump housing. The equipment grounding lead, if one is provided, is the conductor that has an outer surface of insulation that is green with or without one or more yellow stripes. **NOTE:** N.E.C. requires submersible pumps be grounded at installation.

Grounding your new submersible motor is accomplished by running a copper grounding wire from the green pigtail lead to the main electrical system ground.

The grounding wire to be used must be the same size as the power conductor wires. Insulated stranded or insulated solid copper wire may be used. Aluminum wire is NOT suitable for this application.

CAUTION: Do not put the ground wire into a bind.

Maximum Cable Length in Feet										
HP	Wire	Volts	Phase	Max. Amps	Maximum Cable Length Using AWG Cable Size					
					#14	#12	#10	#8	#6	#4
1/2	2	115	1	12.0	100	160	250	390	620	960
1/2	2	230	1	6.0	400	650	1020	1610	2510	3880
3/4	2	230	1	8.0	300	480	760	1200	1870	2890
1	2	230	1	9.8	250	400	630	990	1540	2380
1-1/2	2	230	1	13.1	190	310	480	770	1200	1870

CONDITION

PROBABLE CAUSE

SOLUTIONS

Pump won't run.

- Blown fuse, broken (or loose) electrical connections.
- Motor overload protection contacts open.
- Improper wiring connections.
- Low voltage.

- Check fuses, capacitor, relays and all electrical connections.
- Contacts will close automatically within short time.
- Check wiring diagram.
- Check voltage at control box.

Pump runs, but no water pumped.

- Check valve installed backward.
- Pump impeller plugged or intake strainer clogged.

- Reverse and reinstall.
- Pull pump and clean.

Reduced capacity.

- Strainer or impellers partially clogged or plugged.

- Pull pump and clean.

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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