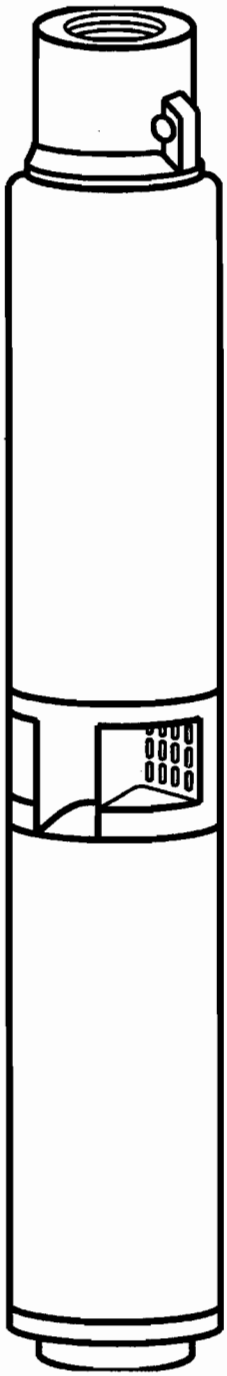
Effluent Submersible Pumps Installation and Operation Guide

Myers®

Pentair Pump Group



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WARNING! IMPORTANT SAFETY INSTRUCTIONS! READ CAREFULLY BEFORE INSTALLATION

FAILURE TO FOLLOW THESE INSTRUCTIONS AND COMPLY WITH ALL CODES MAY CAUSE SERIOUS BODILY INJURY 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. **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.**

⚠ **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 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.

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 includingmetal discharge pipes, and the like, by means of: (1) an equipment-grounding conductor at least the size of the cable conductors, or the equivalent. (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 insulatin that is green with or without one or more yellow stripes.

⚠ **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 and should be checked for integrity before submerging in water, 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)** Do not use this pump in or near a swimming pool, pond, lake or river.

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

⚠ **13)** 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 pump. If in doubt on the proper procedure check with a qualified electrician.

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

⚠ **15)**Do not run this pump with the dis-charge 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.

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

⚠ **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.

NOTE: For domestic use only. Never operate pump with the motor end exposed to air.

Read this guide completely before installation

Myers recommends an experienced serviceman to install new systems.

Please read this entire Guide before installing your Myers submersible pump.

CAUTION: Do not run unit dry. Unit can be severely damaged if run dry.

Pump Selection and Inspection

1. Select the right pump

Gallons per minute desired + pressure required determines which Effluent Submersible Pump size and model is right for your system.

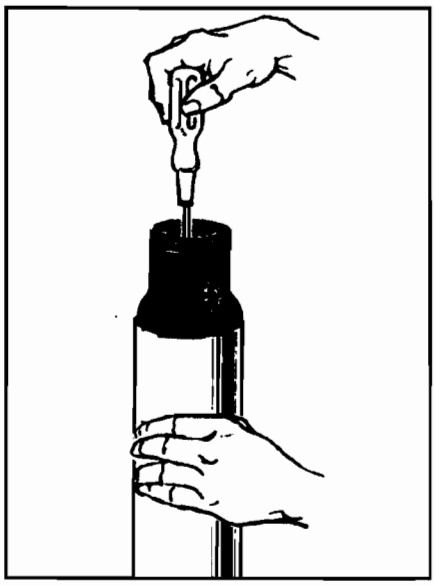
2. Inspect your new pump

After purchase, check the pump and other contents of the shipping container for possible damage. DO NOT lift the Myers Effluent Submersible Pump by its attached electric motor cables.

The entire pump was thoroughly tested at the factory. However, to make sure there is no hidden damage caused during shipment, we suggest checking for free rotation of the shaft prior to installation:

a) Insert 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.

b) Again: do NOT run unit out of water.



3. Model Number Designation

2N52-25

- Flow rate: 8 = 8 gpm, 12 = 12 gpm, 20 = 20 gpm, 25 = 25 gpm, 30 = 30 gpm, 35 = 35 gpm
- Voltage: 1 = 115V, 2 = 230V
- HP: 5 = 1/2 HP, 7 = 3/4 HP, 10 = 1 HP, 15 = 1½ HP
- Model Designation
- Number Wires: 2 = 2 wire & ground

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 below

Franklin 4 Inch Motor Minimum Service Requirements

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. **Under**-sized cable results in too low a voltage supply to the motor and ultimate motor failure. **Over**-sized 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).

For Canadian installations: a) type RWU, TWU, SGOW or SWOW power supply cables recommended. b) The motor case shall be bonded to the main A-C ground.

NOTE: Ground wire size should be equal to connector 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.

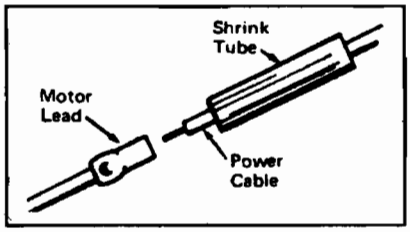
Myers warranty is void if under-sized AWG cable is used or if cable lengths longer than specified for each cable wire size are used.

Maximum Cable Length in Feet

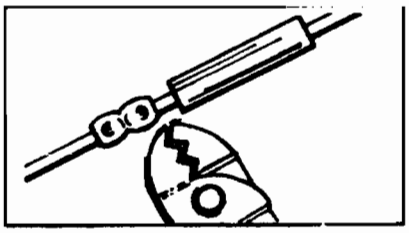
HP	Wire	Volts	Phase	Max. Amps	Maximum Cable Length Using AWG Cable Size					
					#14	#12	#10	#8	#6	#4
1/2	2	115	1	12.0	100	160	250	390	620	960
1/2	2	230	1	6.0	400	650	1020	1610	2510	3880
3/4	2	230	1	8.0	300	480	760	1200	1870	2890
1	2	230	1	9.8	250	400	630	990	1540	2380
1-1/2	2	230	1	13.1	190	310	480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

4. Splicing power cables to pump

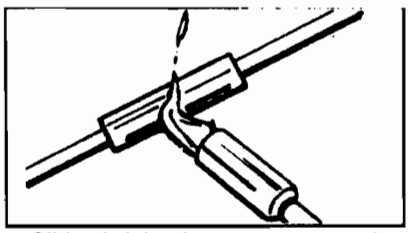
After making sure your power cables are the proper AWG size and specified length, splice them to the pump cables (see illustrations):



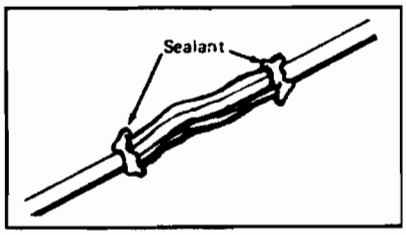
a. Slip shrink tube over end of each power cable.



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 reuires 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 outrer 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.

WARNING: Failure to ground this unit properly may result in severe electrical shock.

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

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.

Motor Electrical Test Data

No. Wires	HP	V	Ph	Ohms Resistance Black to Black
2	½	115	1	1.0 - 1.3
2	½	230	1	4.2 - 5.2
2	¾	230	1	3.0 - 3.6
2	1	230	1	2.2 - 2.7
2	1½	230	1	1.5 - 1.9

Trouble-Shooting

The vast majority of service calls on these systems are caused by problems which are electrical in nature.

Never operate the pump for long periods of time with the discharge valve closed. This could cause over-heating resulting in damage to the pump and its motor. A properly-sized relief valve should be installed before the tank to prevent the pump from operating with the discharge valve closed.

Familiarize yourself with potential problems and trouble-shooting solutions.

PROBLEM	PROBABLE CAUSE	SOLUTION
Pump won't run	Blown fuse, broken (or loose) electrical connections	Check fuses, capacitor, relays and all electrical connections.
	Motor overload protection contacts open.	Contacts will close automatically within short time.
	Improper wiring connections.	Check wiring diagram
	Low voltage.	Check voltage at control box.
Pump runs, but no water pumped	Check valve installed backwards.	Reverse and re-install.
	Pump impeller plugged or intake strainer clogged.	Pull pump and clean.
Reduced capacity	Strainer or impellers partially clogged or plugged.	Pull pump and clean
Any or all the above	All known causes are checked but system won't work properly	Call your Myers dealer or your serviceman.

For your reference

Fill in the following information and keep this Installation & Operation Guide among your important papers. Information about your Myers Submersible Pump will be found on the owner's information-plate. Whenever necessary to contact your dealer or installer, give him this information.

Motor Model No. _____ Pump Model No. _____

HP _____ Phase _____ Volts _____ Cycles _____

Amps: L1 _____ L2 _____ Date of Installation _____

Well depth _____ ft. Pump depth _____ ft.

Name of dealer installer from whom pump was bought _____

_____ Date of purchase _____

Myers®
Pentair Pump Group

F. E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969
419/289-1144, FAX: 419/289-6658, www.femyers.com

Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

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 you 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** are NOT COVERED BY THIS WARRANTY.

WARRANTY PERIOD

Submersible and Jet Pumps: 12 months from the date of installation or 18 months from the date of manufacture, whichever occurs first.

Galvanized Tanks: 12 months from date of installation or 18 months from date of manufacture, whichever occurs first.

Diaphragm Tanks: 5 years from date of installation.

LABOR, 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) to unit 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** 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. In the absence of other suitable proof of this installation date, the effective date of this warranty will be based upon the date of manufacture plus one year. Direct All Notices To: Warranty and Product Service Department, F.E. Myers, 1101 Myers Parkway, Ashland, Ohio 44805-1969.

DETERMINATION OF UNIT DATE OF MANUFACTURE: Examples are: *Submersible* – 7-29-84, Month - Day - Year on motor nameplate and pump nameplate; *Sump, Centrifugal & Ejecto Pumps* – 8-84, Month - Year stamped on pump nameplate: ***MYERS*** *Diaphragm Tanks* – A85188581, 1st letter month A=85 – tanks are postdated by 3 months on label; *Galvanized* – 3-0921, Year - Month - Day 1983-9-21 stamped on edge of head.

Myers®

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Printed in U.S.A.

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ATTENTION!
IMPORTANT INFORMATION FOR INSTALLERS OF THIS EQUIPMENT!

THIS EQUIPMENT IS INTENDED FOR INSTALLATION BY TECHNICALLY QUALIFIED PERSONNEL. FAILURE TO INSTALL IT IN COMPLIANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES, AND WITH FRANKLIN ELECTRIC RECOMMENDATIONS, MAY RESULT IN ELECTRICAL SHOCK OR FIRE HAZARD, UNSATISFACTORY PERFORMANCE, AND EQUIPMENT FAILURE. FRANKLIN INSTALLATION INFORMATION IS AVAILABLE FROM PUMP MANUFACTURERS AND DISTRIBUTORS, AND DIRECTLY FROM FRANKLIN ELECTRIC. CALL FRANKLIN TOLL FREE 800-348-2420 FOR INFORMATION. RETAIN THIS INFORMATION SHEET WITH THE EQUIPMENT FOR FUTURE REFERENCE.

WARNING!

SERIOUS OR FATAL ELECTRICAL SHOCK MAY RESULT FROM FAILURE TO CONNECT THE MOTOR, CONTROL ENCLOSURES, METAL PLUMBING, AND ALL OTHER METAL NEAR THE MOTOR OR CABLE, TO THE POWER SUPPLY GROUND TERMINAL USING WIRE NO SMALLER THAN MOTOR CABLE WIRES. TO REDUCE RISK OF ELECTRICAL SHOCK, DISCONNECT POWER BEFORE WORKING ON OR AROUND THE WATER SYSTEM. DO NOT USE MOTOR IN SWIMMING AREAS.

ATTENTION!
IMFORMATIONS IMPORTANTES POUR L'INSTALLATEUR DE CET EQUIPMENT!

CET EQUIPEMENT DOIT ETRE INSTALLE PAR UN TECHNICIEN QUALIFIE. SI L'INSTALLATION N'EST PAS CONFORME AUX LOIS NATIONALES OU LOCALES AINSI QU'AUX RECOMMANDATIONS DE FRANKLIN ELECTRIC, UN CHOC ELECTRIQUE, LE FEU, UNE PERFORMANCE NON ACCEPTABLE, VOIRE MEME LE NON-FONCTIONNEMENT PEUVENT SURVENIR. UN GUIDE D'INSTALLATION DE FRANKLIN ELECTRIC EST DISPONIBLE CHEZ LES MANUFACTURIERS DE POMPES, LES DISTRIBUTEURS, OU DIRECTEMENT CHEZ FRANKLIN. POUR DE PLUS AMPLES RENSEIGNEMENTS, APPELEZ SANS FRAIS LE 1-800-348-2420. CONSERVEZ CETTE FEUILLE D'INFORMATION AVEC L'EQUIPEMENT POUR CONSULTATION FUTURE.

AVERTISSEMENT!

UN CHOC ELECTRIQUE SERIEUX OU MEME MORTEL EST POSSIBLE, SI L'ON NEGLIGE DE CONNECTER LE MOTEUR, LA PLOMBERIE METALLIQUE, BOITES DE CONTROLE ET TOUT METAL PROCHE DU MOTEUR A UN CABLE ALLANT VERS UNE ALIMENTATION D'ENERGIE AVEC BORNE DE MISE A LA TERRE UTILISANT AU MOINS LE MEME CALIBRE QUE LES FILS DU MOTEUR. POUR REDUIRE LE RISQUE DE CHOC ELECTRIQUE. COUPER LE COURANT AVANT DE TRAVAILLER PRES OU SUR LE SYSTEM D'EAU. NE PAS UTILISER CE MOTEUR DANS UNE ZONE DE BAIGNADE.

ATENCION!
INFORMACION PARA EL INSTALADOR DE ESTE EQUIPO!

PARA LA INSTALACION DE ESTE EQUIPO, SE REQUIERE DE PERSONAL. TECNICO CALIFICADO. EL NO CUMPLIR CON LAS NORMAS ELECTRICAS NACIONALES Y LOCALES, ASI COMO CON LAS RECOMENDACIONES DE FRANKLIN ELECTRIC DURANTE SU INSTALACION, PUEDE OCASIONAR: UN CHOQUE ELECTRICO, PELIGRO DE UN INCENDIO, OPERACION DEFECTUOSA E INCLUSO LA DESCOMPOSTURA DEL EQUIPO. LOS MANUALES DE INSTALACION Y PUESTA EN MARCHA DE LOS EQUIPOS, ESTAN DISPONIBLES CON LOS DISTRIBUIDORES, FABRICANTES DE BOMBAS O DIRECTAMENTE CON FRANKLIN ELECTRIC. PUEDE LLAMAR GRATUITAMENTE PARA MAYOR INFORMACION AL TELEFONO 800-348-2420. GUARDAR ESTA INFORMACION JUNTO AL EQUIPO PARA FUTURAS CONSULTAS.

ADVERTENCIA!

PUEDE OCURRIR UN CHOQUE ELECTRICO, SERIO O FATAL DEBIDO A UNA ERRONEA CONECCION DEL; MOTOR, DE LOS TABLEROS ELECTRICOS, DE LA TUBERIA, DE CUALQUIER OTRA PARTE METALICA QUE ESTA CERCA DEL MOTOR POR NO UTILIZAR UN CABLE PARA TIERRA DE CALIBRE IGUAL O MAYOR AL DE LA ALIMENTACION. PARA REDUCIER EL RIESGO DE CHOQUE ELECTRICO. DESCONECTAR LA ALIMENTACION ELECTRICA ANTES DE INICIAR A TRABAJAR EN EL SISTEMA HIDRAULICO. NO UTILIZAR ESTE MOTOR EN ALBERCAS O AREAS EN DONDE SE PRACTIQUE NATACION.

Franklin Electric
Bluffton, Indiana 46714

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