



**Wilo SP Series
Submersible Sewage Pumps WCC**

WCC17-20.50

Installation and operating instructions

1. PREINSTALLATION CHECK

Inspect this pump before it is used. Occasionally, pumps can be damaged during shipping. If the pump or components are deformed, cracked, or there is an oil leak, Call us Toll Free at: 866-945-6872, or e-mail: info@wilo-usa.com Monday – Friday between 8 a.m. – 6 p.m., EST. ATTEMPTING TO USE A DAMAGED PUMP can result in personal injury or death!

2. DESCRIPTION

This GP submersible sewage pump is designed for pumping sewage, effluent, wastewater or flooded water with up to two-inch (2 inch) solids. The pump is built with overload thermal protections and auto reset. The pump is equipped with a 10' 3-prong grounding-type power cord and tethered float switch. This pump operates automatically. Ball bearings on motor shafts never need lubrication.



Do not pump flammable or explosive liquids such as oil, gasoline, kerosene, ethanol, etc. Do not use in the presence of flammable or explosive vapors. Using this pump with or near flammable liquids can cause explosion or fire, resulting in serious personal injury or death and/or property damage.

3. SPECIFICATIONS

- Power supply required.....115V, 60 HZ
- Water temperature range.....Max.131°F (55°C)
- Individual branch circuit required15 Amp minimum
- Discharge Connection.....2" FNPT
- Motor duty.....Continuous
- Power cord.....SJTW, 18AWG/3C, 10ft

NOTICE: This unit is not designed to be used to pump salt water or brine! Use with salt water or brine will void warranty.

4. CONSTRUCTION

- Motor housing.....Cast Iron
- Motor cap.....Cast Iron
- Volute.....Cast Iron
- Impeller.....Reinforced thermoplastic vortex

5. PERFORMANCE

Table 1

Model	HP	GPM of Water @ Total Feet of Head			Max. Head
		0	5ft.(1.5m)	10ft.(3m)	
WCC17-20.50	1/2	92	83	63	16ft.

6. GENERAL SAFETY INFORMATION

This pump is made of high-strength, corrosion-resistant materials. It will provide trouble-free service for a long time when properly installed, maintained, and used. However, inadequate electrical power to the pump, dirt, or debris may

cause the pump to fail. To minimize the potential for water damage due to pump failure, please read the section of this manual regarding common pump problems and remedies or call one of our pump experts at 866-945-6872.

The following are the general safety requirements. Failure to follow them could cause serious personal injury or death and/or property damage.

⚠ Warning

For your protection and safety, always follow these general rules with pumps:

- ✓ **Do not lift pump by power cord or switch cord.**
- ✓ **Always disconnect the pump from its power source before inspection.**
- ✓ **Do not stand in water when the pump is connected.**
- ✓ **Do not touch the pump housing while it is operating, as the pump may be HOT and can cause serious skin burns.**
- ✓ **Do not disassemble the motor housing. This pump has NO repairable internal parts, and disassembling may cause an oil leak or dangerous electrical wiring issues.**

Additional Safety Precautions

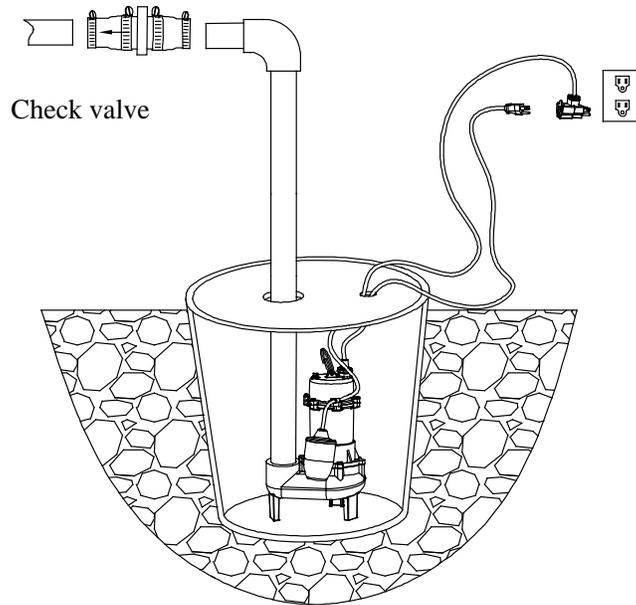
1. Know the pump applications, limitations, and potential hazards
2. Make certain the electrical power source is adequate for the requirements of the pump.
3. ALWAYS disconnect the power to the pump and drain all water from the system before servicing.
4. Secure the pump on a solid base to keep the pump vertical and above mud and sand during operation to maximize pumping efficiency and prevent clogging and premature pump failure.
5. Secure the discharge hose before starting the pump. Pump torque may cause an unsecured discharge hose to “whip”, possibly causing personal injury and/or property damage.
6. Check that all hose connections are tight to minimize leaks.
7. Connect the pump DIRECTLY to a grounded, GFCI outlet
8. Extension cords may not deliver sufficient voltage to the pump motor. Extension cords present a life threatening safety hazard if the insulation becomes damaged or the connection ends fall into water.
9. Make certain the electrical circuit to the pump is protected by a 15 Amp or larger fuse or circuit breaker.
10. Periodically inspect pump and system components, to be sure pump inlets are free of mud, sand, and debris.
DISCONNECT PUMP FROM THE POWER SUPPLY BEFORE INSPECTING.
11. Do not handle pump or pump motor with wet hands or when standing on wet or damp surface, or in water.
12. Wear safety glasses at all times when working with pumps.
13. Follow all electrical and safety codes, particularly the National Electrical Code (NEC) and in the workplace, the Occupational Safety and Health Act (OSHA).
14. This unit is designed only for use on 115 volts (single phase), 60 Hz, and is equipped with an approved 3-conductor cord and 3-prong grounded plug. DO NOT REMOVE THE GROUND PIN UNDER ANY CIRCUMSTANCES. The 3-prong plug must be directly inserted into a properly installed and grounded 3-prong, grounding-type receptacle. **Do not use pump with a 2-prong wall outlet.** Replace the 2-prong outlet with a properly grounded 3-prong receptacle (**a GFCI outlet**) installed in accordance with the National Electrical Code and local codes and ordinances. All wiring should be performed by a qualified electrician.
15. Protect the electrical cord from sharp objects, hot surfaces, oil, and chemicals. Avoid kinking the cord. **Do not use damaged or worn cords.**

7. INSTALLATION

Warning

Always use the handle to lift the pump. Never use the power cord to lift the pump. To avoid skin burns, unplug the pump and allow time for it to cool after periods of extended use.

1. Install the pump on a solid, level foundation, or in a sump pit constructed of tile, concrete, steel, or plastic. The recommended minimum diameter of the sump pit is 18" (46cm) diameter and the minimum recommended depth is 30" (76cm). Check local codes for approved materials.
NOTICE: Pump should not be installed on clay, earth, or sand surfaces.
2. Secure the pump on a level, solid base. Do not suspend the pump by the discharge pipe, hose, or power cord.
3. Install 2" discharge pipe into the 2" NPT discharge port. Use rigid plastic pipe and wrap threads with Teflon tape, **NOT pipe joint compound**. Screw pipe into pump hand tight plus 1-1/2 turns.
4. To reduce motor noise and vibrations, a short length of rubber hose can be connected into discharge line near pump using suitable clamps.
5. Install a check valve in the horizontal pipe to prevent flow backwards through the pump when it shuts off. Make certain the flow indicating arrow points away from the pump. This check valve will keep the water from either running back into the basin or into the area being pumped out when the pump is not running. Check valve should be a free flow valve that will easily pass solids.
NOTICE: For best performance of check valve when handling solids, do not install it with discharge angled more than 45° above the horizontal. Do not install check valve in a vertical position as solids may settle in valve and prevent opening on startup.
6. Drill a 1/8" hole in discharge pipe about 1"-2" (2.5 - 5.1cm) above pump discharge connection (but below check valve) to prevent air-locking the pump.
7. A tethered piggyback switch is mounted on the pump. The length of the tether (distance of cord from float to clamp) should not be set around 3.5 inches and should not be used in a basin smaller than 14 inches in diameter. If using a differential other than the factory setting, be sure when the pump shuts off at least 4" of fluid is left in the basin so the impeller remains submerged. Insert the float switch piggy-back plug into a properly grounded outlet and the pump plug into the piggyback plug.
8. After the installation of the necessary plumbing, check valve, and rubber hose, follow the glue manufacturer's instructions for safety precautions and curing time. The pump is ready for operation. Pump is designed for 115 V., 60Hz, operation and requires a minimum 15 amp individual branch circuit.
9. Check the pump by filling the sump pit with water and observe the pump's operation through one complete cycle. Make sure the pump cannot move in the sump and float switch moves freely up and down.



Picture 1

8. OPERATION

Warning

Do not handle this pump or plug in or unplug this pump with wet hands or while standing in water, unless you are certain all power has been turned off to the pump. Remember, the pump should be connected only to a properly grounded, GFCI outlet.

1. Make certain the pump is submerged in water. Running the pump dry can damage the shaft seal.
2. Insert the float switch piggy-back plug into a properly 115V GFCI grounded power outlet and the pump plug into the piggyback plug. The pump will start operating when the float switch moves up over the pump top. The water will be pumped out. When the water lowers to certain level, the float switch will turn off the pump.
3. The motor is equipped with an automatically resetting thermal overload protector. If the motor gets too hot, the overload protector will shut off the pump before it is damaged. When the motor has cooled sufficiently, the overload protector will reset, and the motor will restart.

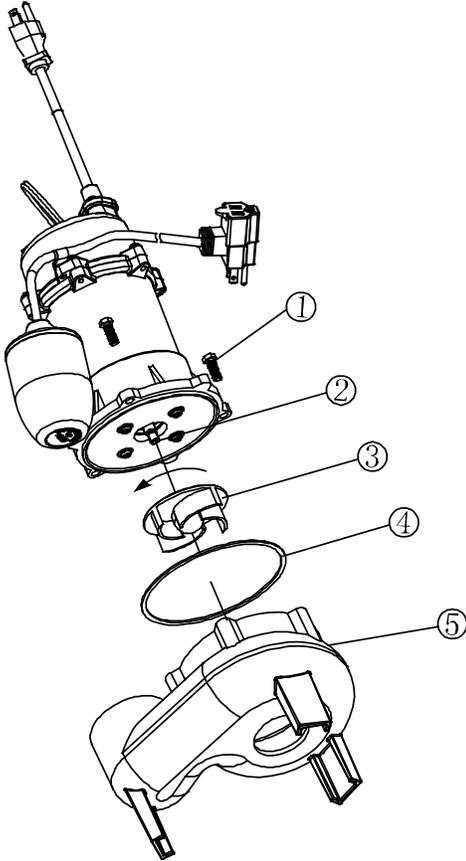
NOTICE: If the overload protector stops the pump repeatedly, disconnect the power from the pump and check to find the problem. Low voltage, a long extension cord, clogged impeller, or water that is too hot can cause motor overheating.

9. MAINTENANCE

- Periodically unplug the pump, making certain your hands are dry, and you are not standing in water. When the power is disconnected, inspect the pump inlets and remove all debris, then plug pump back into the grounded (GFCI) outlet.
- To clear a pump clogged with debris, first, **UNPLUG PUMP** from electrical power. Then referring to **Picture 2** below, unscrew the stainless screws #1, then the volute #5, and the seal gasket #4. Use a flathead screwdriver to hold the shaft #2 then turn the impeller #3 counter-clockwise to release the impeller. Remove debris from around the shaft and on and under the impeller. Then reassemble the impeller, gasket, volute, See **Picture 2**.

10. TROUBLESHOOTING

Do not disassemble the motor housing. This pump has NO repairable internal parts, and disassembling may cause an oil leak or dangerous electrical wiring conditions.



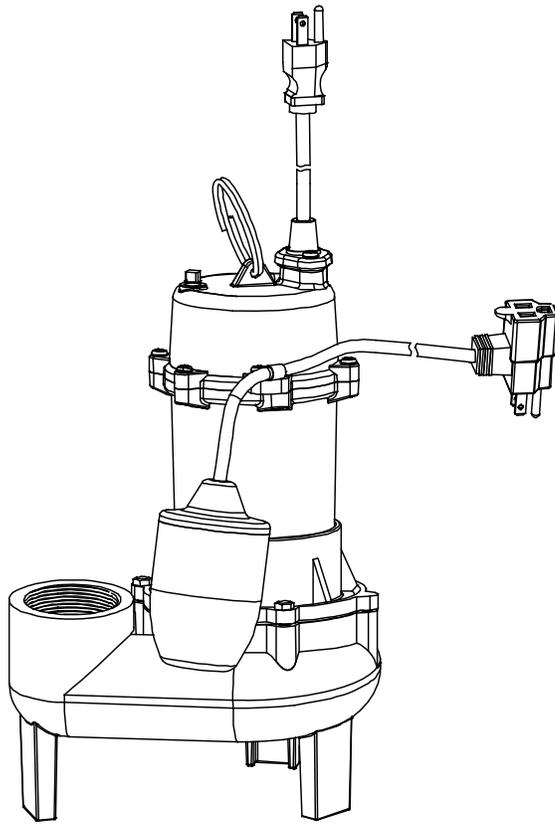
No.	Description	Qty
1	Screw	3
2	Shaft	1
3	Impeller	1
4	Gasket	1
5	Pump body	1

Picture 2

Table 2: Troubleshooting Common Pump Problems

Problem	Possible Cause	Corrective Action
Pump does not start or run	<ol style="list-style-type: none"> 1. Blown fuse 2. Tripped breaker 3. Plug disconnected 4. Corroded plug 5. Thermal overload 6. Clogged impeller 7. Motor failed 8. Float failed 9. Water level too low 10. Tangled switch 	<ol style="list-style-type: none"> 1. Replace fuse 2. Reset breaker 3. Secure plug 4. Clean plug prongs 5. Unplug for 30 minutes, then plug in 6. Remove clog 7. Replace pump 8. Replace switch 9. Pump will not turn on unless water level is over the pump cover and the float switch turns upside down 10. Reposition the pump and make sure switch moves freely

<p>Pump operates but pumps little or no water</p>	<ol style="list-style-type: none"> 1. Debris caught in impeller or pipe 2. Check valve stuck or installed backward 3. Anti-airlock hole blocked 4. Debris caught in impeller or discharge 5. Impeller broken 	<ol style="list-style-type: none"> 1. Clean out debris 2. Inspect check valve and make sure it's properly installed 3. Remove the blockage 4. Remove debris 5. Replace impeller
<p>Pump starts and stops too often</p>	<ol style="list-style-type: none"> 1. Backflow of water from piping, check valve leaking 2. Float switch failed 	<ol style="list-style-type: none"> 1. Replace check valve 2. Replace switch
<p>Pump will not shut off</p>	<ol style="list-style-type: none"> 1. Defective float switch 2. Float obstructed 	<ol style="list-style-type: none"> 1. Replace switch 2. Remove obstruction



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