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Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



50 Hz

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INSTALLATION INSTRUCTIONS

910 Package System

SEWAGE	222
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PREINSTALLATION CHECKLIST - ALL INSTALLATIONS

- Inspect your pump.** Occasionally, products are damaged during shipment. If the unit is damaged, contact your dealer before using. **Do Not** remove the test plug in the cover.
- Carefully read the literature** provided to familiarize yourself with specific details regarding installation and use. These materials should be retained for future reference.



SEE BELOW FOR LIST OF WARNINGS

- To reduce the risk of electrical shock, a properly grounded receptacle or control box must be installed in accordance with the governing codes. Never remove ground pin from plug.
- Make certain that the receptacle is within the reach of the pump's power supply cord. **DO NOT USE AN EXTENSION CORD.** Extension cords that are too long or too light do not deliver sufficient voltage to the pump motor. But more important, they could present a safety hazard if the insulation were to become damaged.
- Make sure the pump's electrical supply circuit is equipped with fuses or circuit breakers of proper capacity. A separate branch circuit is recommended, sized according to the governing electrical codes for the current shown on the pump name plate.
- Testing for ground.** As a safety measure, each electrical outlet should be checked for ground using a circuit analyzer which will indicate if the power, neutral and ground wires are correctly connected to your outlet. If they are not, call a qualified licensed electrician.
- FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING.** If pump is wired direct, de-energize the circuit at the control box. **DO NOT, UNDER ANY CIRCUMSTANCES, REMOVE THE GROUND PIN.** Wear insulated protective shoes and do not stand in water. Pumps equipped with a grounded plug are designed to help protect against electrical shock. A properly grounded receptacle or control box must be installed in accordance with governing codes.
- Installation and servicing of the pump's electrical circuits and hardware should only be performed by a qualified licensed electrician.
- Installation and maintenance of this appliance is not intended for persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Risk of electrical shock.** Do not remove power supply cord and strain relief or connect conduit directly to the pump. If the supply cable is damaged, it must be replaced by an authorized Zoeller Representative.
- Pump may contain oil which becomes pressurized and hot when operating. Allow 2-1/2 hours after disconnecting before attempting service.
- Pump is not intended for potable water due to possible contamination by oil contained in the pump.
- Risk of electric shock.** These pumps have not been investigated for use in swimming pools and marine areas.



SEE BELOW FOR LIST OF WARNINGS

- This unit is not designed to handle any material larger than the pump's solids-passing ability.
 - 222 series sewage pumps are designed to pass 50 mm (2") spherical solids.
- Check to be sure your power source is capable of handling the voltage requirements of the motor, as indicated on the pump name plate.
- All plumbing (discharge and vent lines) must be installed to meet local codes. Unit must be vented. **DO NOT USE AN AUTOMATIC PLUMBING VENT DEVICE SIMILAR TO A "PROVENT".** Some states require this product to be installed by a licensed plumber.
- The installation of variable level float switches is the responsibility of the installing party, and care should be taken that the tethered float switch will not hang up on the pump apparatus or peculiarities and is secured so that the pump will shut off. It is recommended to use rigid piping and fittings and the pit be 45 cm (18") or larger in diameter.
- Vent hole. It is necessary that all submersible sump, effluent, and sewage pumps capable of handling various sizes of solid waste be of the bottom intake design to reduce clogging and seal failures. If a check valve is incorporated in the installation, a 5 mm (3/16") vent hole must be drilled in the discharge pipe below the check valve and pit cover to purge the unit of trapped air. Vent hole should be checked periodically for clogging. The vent hole on a High Head application may cause too much turbulence. You may not want to drill one. If you choose not to drill a vent hole, be sure the pump case and impeller is covered with liquid before connecting the pipe to the check valve. **NOTE: THE HOLE MUST BE BELOW THE BASIN COVER AND CLEANED PERIODICALLY.** Water stream will be visible when pump is operating.
- Pump should be checked frequently for debris and/or build up which may interfere with the float "on" or "off" position.
- Maximum operating temperature for standard model pumps must not exceed 54 °C (130 °F) for cast iron pumps, or 40 °C (104 °F) for pumps with plastic motor housings.
- Do not operate a pump in an application where the Total Dynamic Head is less than the minimum Total Dynamic Head listed on the Pump Performance Curves.
- For health reasons, do not unplug, turn off, or disable pump and use pump tank system as a way to fill up a sink or laundry tray, etc.
- CHECK VALVE MUST BE USED TO REDUCE UNNECESSARY CYCLING OF PUMP.**
- This system must be installed above the water table. Groundwater outside the basin will cause it to collapse.

REFER TO WARRANTY ON PAGE 2.

LIMITED WARRANTY

Manufacturer warrants, to the purchaser and subsequent owner during the warranty period, every new product to be free from defects in material and workmanship under normal use and service, when properly used and maintained, for a period of two years from date of purchase by the end user, that inspections determine to be defective. Proof of purchase is required. Inspections determine to be defective in material or workmanship, will be repaired, replaced or remanufactured at Manufacturer's option, provided however, that by so doing we will not be obligated to replace an entire assembly, the entire mechanism or the complete unit. Fill and flush mechanism are guaranteed as per OEM warranty only and vitreous china are guaranteed only for a factory defect. No allowance will be made for shipping charges, damages, labor or other charges that may occur due to product failure, repair or replacement.

This warranty does not apply to and there shall be no warranty for any material or product that has been disassembled without prior approval of Manufacturer, subjected to misuse, misapplication, neglect, alteration, accident or uncontrolled act of nature; that has not been installed, operated or maintained in accordance with Manufacturer's installation instructions; that has been exposed to outside substances including but not limited to the following: sand, gravel, cement, mud, tar, hydrocarbons, hydrocarbon derivatives (oil, gasoline,

solvents, etc.), or other abrasive or corrosive substances, wash towels or any other abusive entity, etc. in all pumping applications. The warranty set out in the paragraph above is in lieu of all other warranties expressed or implied; and we do not authorize any representative or other person to assume for us any other liability in connection with our products. Contact authorized distributors to obtain any needed repair or replacement of part(s) or additional information pertaining to our warranty.

MANUFACTURER EXPRESSLY DISCLAIMS LIABILITY FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES OR BREACH OF EXPRESSED OR IMPLIED WARRANTY; AND ANY IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE AND OF MERCHANTABILITY SHALL BE LIMITED TO THE DURATION OF THE EXPRESSED WARRANTY.

Some jurisdictions do not allow limitations on the duration of an implied warranty, so the above limitation may not apply to you. Some jurisdictions 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 jurisdiction to jurisdiction.

In those instances where damages are incurred as a result of an alleged pump failure, the Homeowner must retain possession of the pump for investigation purposes.

EASY DO'S & DON'T'S FOR INSTALLING UNIT

1. **DO** read all installation material with the unit.
2. **DO** inspect unit for any visible damage caused by shipping. Contact dealer if unit appears to be damaged.
3. **DO** remove all debris from the basin. Be sure that the pump will have a hard, level surface beneath it. **DO NOT** install on sand, gravel or dirt.
4. **DO** be sure that the area is large enough to allow proper clearance for the level control switch(es) to operate properly.
5. **DO Always Disconnect Pump From Power Source Before Handling.** **DO** always connect to a separately protected and properly grounded circuit. **DO NOT** ever cut, splice, or damage power cord (only splice in a watertight junction box). **DO NOT** carry or lift pump by its power cord. **DO NOT** use an extension cord.
6. **DO** install a check valve and a union in the discharge line. **DO NOT** use a discharge pipe smaller than the pump discharge.
7. **DO NOT** utilize this unit for pumping gasoline or other hazardous liquids.
8. **DO** test pump immediately after installation to be sure the system is working properly.
9. **DO** review all applicable governing codes and verify that the installation conforms to each of them.
10. **DO** consult manufacturer for clarifications or questions.
11. **DO** inspect and test system for proper operations at least every 3 months.

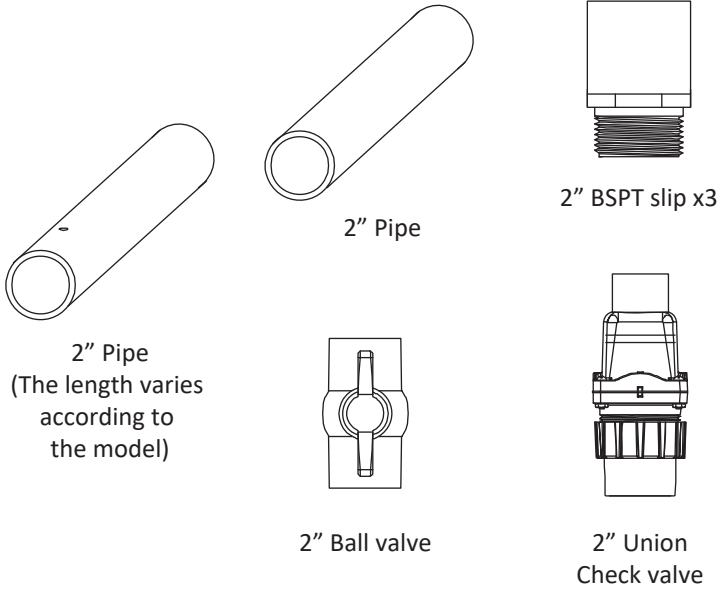
SERVICE CHECKLIST

CONDITION	COMMON CAUSES
A. Pump will not start or run.	Check fuse, low voltage, overload open, open or incorrect wiring, open switch, impeller or seal bound mechanically, motor or wiring shorted. Float assembly held down. Switch, damaged or out of adjustment.
B. Motor overheats and trips overload or blows fuse.	Incorrect voltage, negative head (discharge open lower than normal) impeller or seal bound mechanically, motor shorted.
C. Pump starts and stops too often.	Float switch tether length too short, check valve stuck open, or none installed in long distance line, overload open, bidding, sump pit too small.
D. Pump will not shut off.	Debris under float assembly, float bound by basin sides or other, switch, damaged or out of adjustment.
E. Pump operates but delivers little or no water.	Check inlet, strainer housing, discharge pipe, and vent holes for obstructions. Discharge head exceeds pump capacity. Low or incorrect voltage. Incoming water containing air or causing air to enter pumping chamber. Incorrect motor rotation. (3 phase pumps only)
F. Drop in head and/or capacity after a period of use.	Increased pipe friction, clogged line or check valve. Abrasive material and adverse chemicals could possibly deteriorate impeller and pump housing. Check line. Remove base and inspect.
G. If tank or fittings leak.	Carefully tighten pipe joints (use pipe dope) and screws. Check gasket location, tighten lid evenly. Do not over tighten fittings or screws.

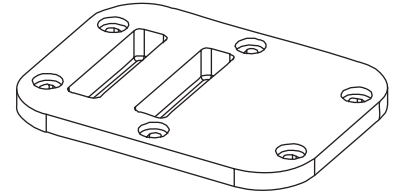
If the above checklist does not reveal the problem, consult the factory. Do not attempt to service or otherwise disassemble pump. Service must be performed by an authorized Zoeller Company representative.

ACCESSORIES DESCRIPTION (Basin 550x400x450 mm)

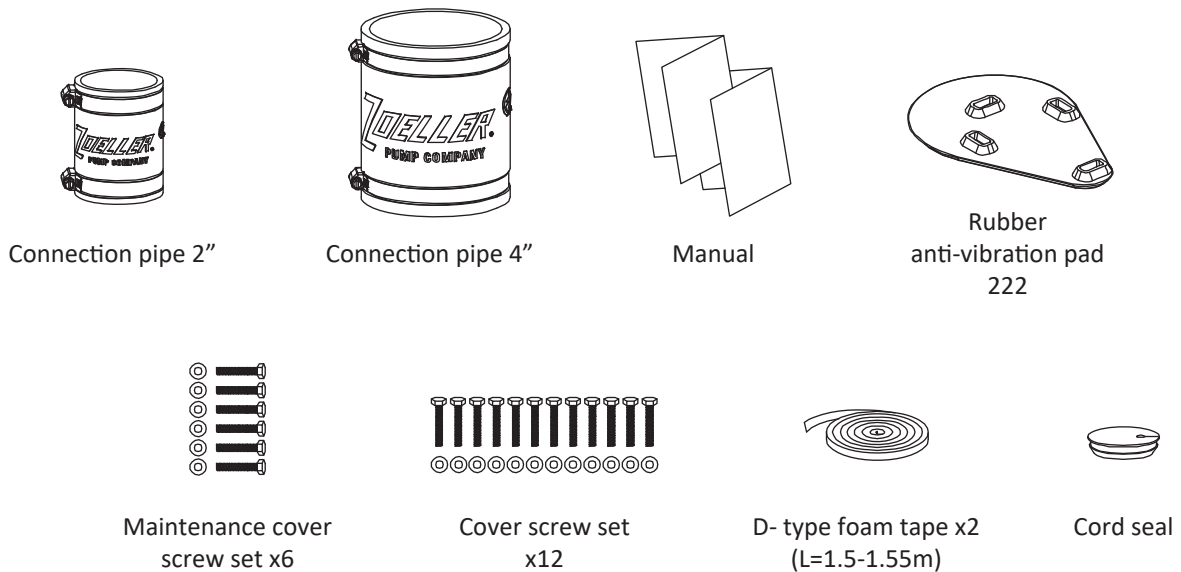
Accessories for water outlet/vent



Repair Cover



External accessories



⚠ WARNING

ELECTRICAL SHOCK HAZARD

Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠ WARNING

EXPLOSION OR FIRE HAZARD

Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

RECOMMENDED INSTALLATION FOR ALL APPLICATIONS

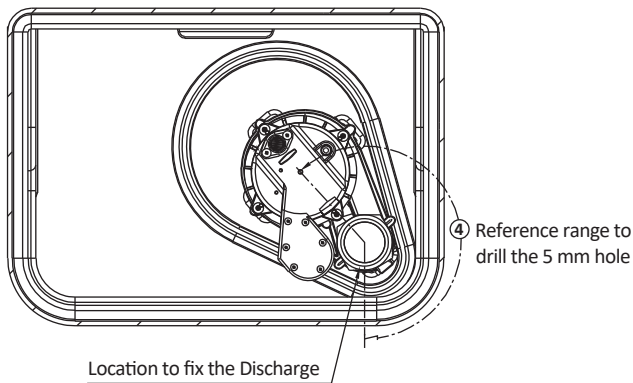
(Basin 550x400x450 mm)

- ① Electrical wiring and protection must be in accordance with governing electrical code and any other applicable local electrical requirements.
- ② Install proper Zoeller unichek (combination union and check valve), preferably just above the basin to allow easy removal of the pump for cleaning or repair.
- ③ All installations require a basin cover to prevent debris from falling into the basin and to prevent accidental injury.
- ④ When a Unichek is installed, drill a 5 mm dia. hole in the discharge pipe even with the top of the pump. To avoid the water stream impact on the float operation, the hole location should avoid facing the float. To reduce the noise from water stream hitting basin, drill the hole below "off" point is recommended.

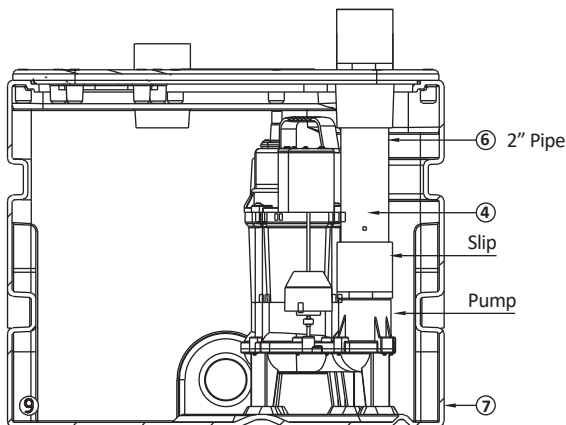
NOTE: THE HOLE MUST ALSO BE BELOW THE BASIN COVER AND CLEANED PERIODICALLY. (High Head unit see #3 under "Caution" on front page). Water stream will be visible from this hole during pump run periods.

- ⑤ Use full-size discharge pipe.
- ⑥ Basin must be in accordance with applicable codes and specifications.
- ⑦ Basin must be clean and free of debris after installation.
- ⑧ Gate Valve or Ball Valve to be supplied by installer and installed according to any and all codes.
- ⑨ Gas tight seals required to contain gases and odors.
- ⑩ Vent gases and odors to the atmosphere through vent pipe.

STEP 1

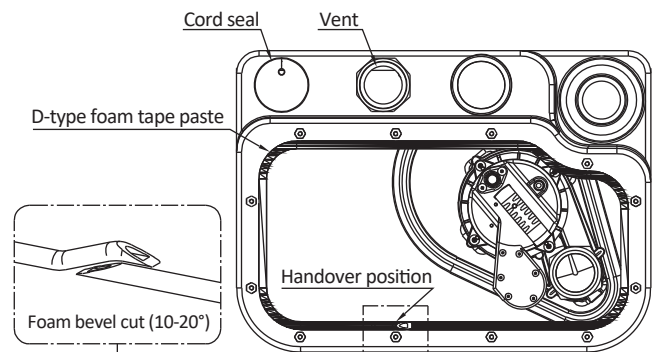
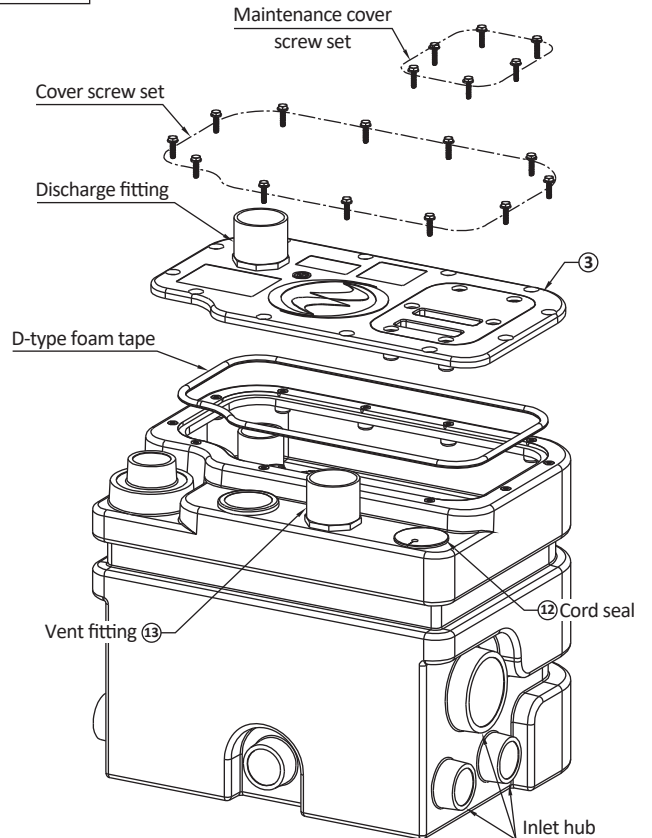


Apply glue on every piping connection.



For reference only

STEP 2

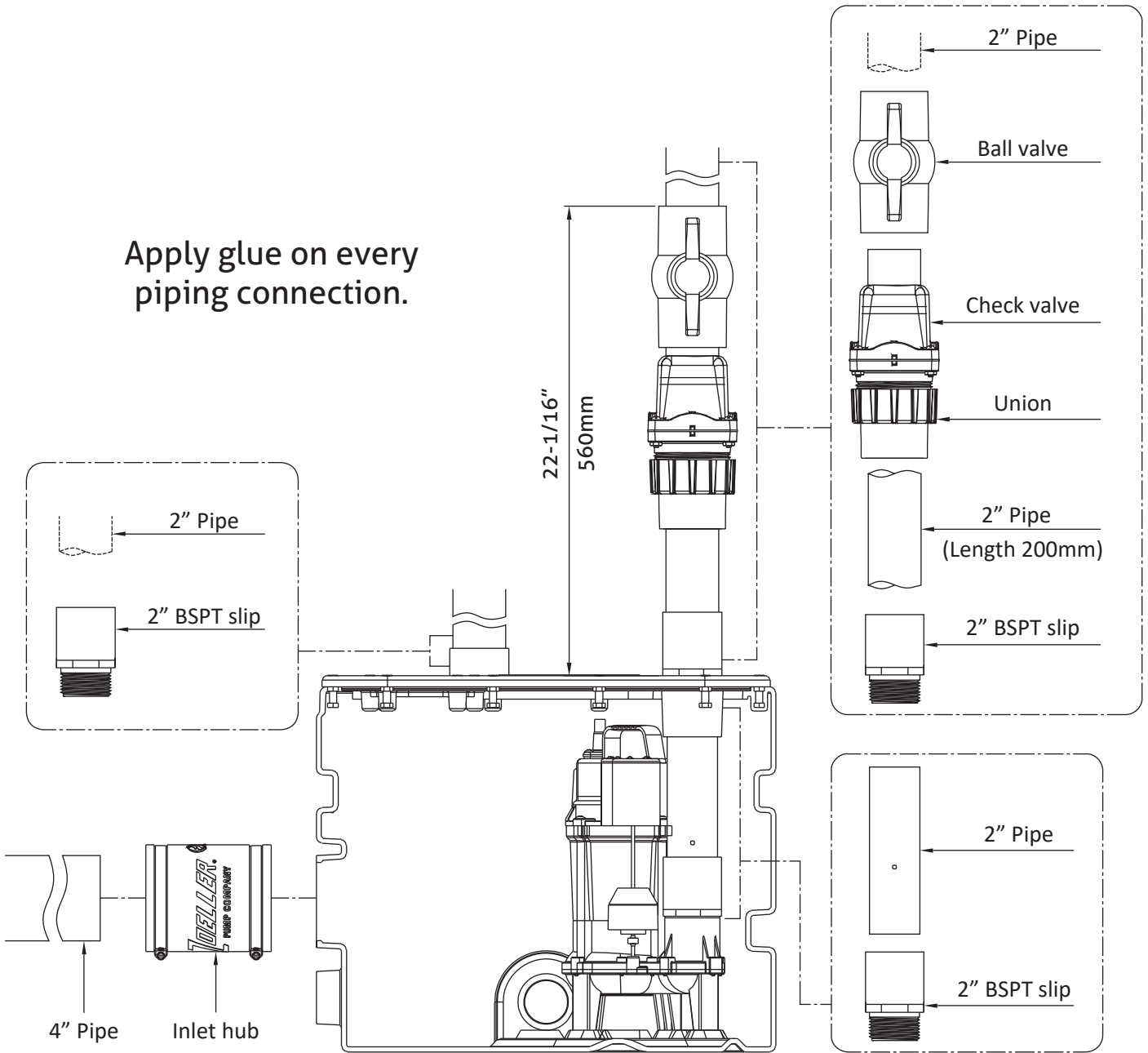


RECOMMENDED INSTALLATION FOR ALL APPLICATIONS

(Basin 550x400x450 mm)

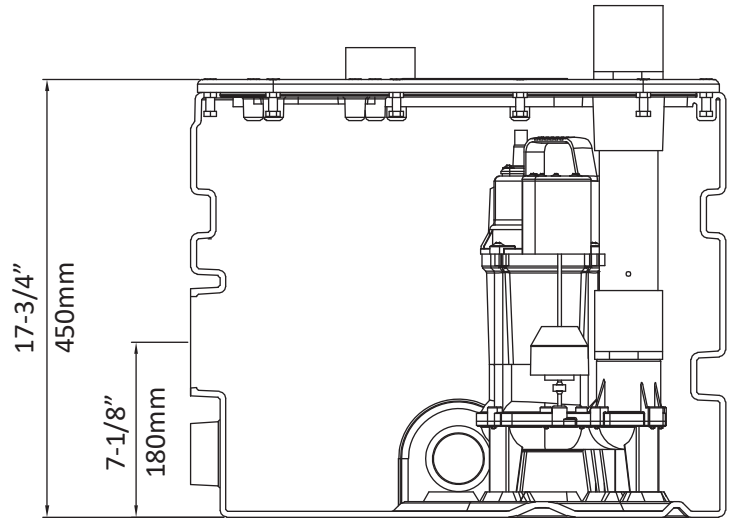
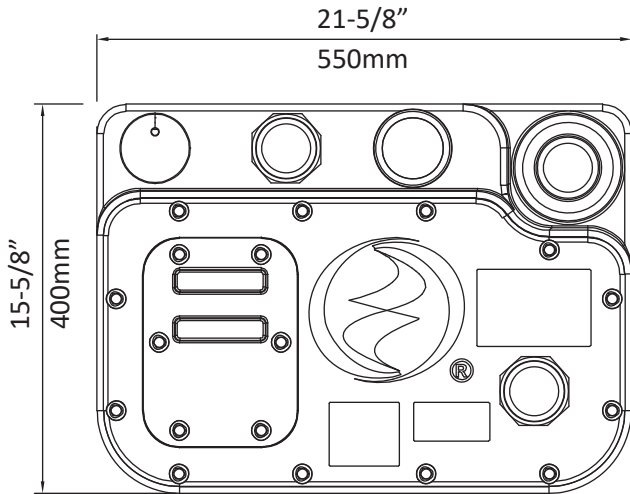
STEP 3

Apply glue on every piping connection.



DIMENSIONAL DATA

Basin
550x400x450mm



WARNING

PUMP WIRING INSTRUCTIONS

FOR YOUR PROTECTION, ALWAYS DISCONNECT PUMP FROM ITS POWER SOURCE BEFORE HANDLING. For single phase pumps supplied with a grounded plug, **DO NOT, UNDER ANY CIRCUMSTANCES, REMOVE THE GROUND PIN.** The plug **must** be inserted into a mating grounded receptacle. If the installation does not have such a receptacle, it must be changed to the proper type, wired and grounded in accordance with all applicable local codes and ordinances.

All three phase pumps require motor starting devices with motor overload protection. Three phase pumps must be installed in accordance with all applicable local codes and ordinances. Pumps are not to be installed in locations classified as hazardous.

Risk of electrical shock. Do not remove power supply cord and strain relief or connect conduit directly to the pump. Installation and checking of electrical circuits and hardware should be performed by a qualified licensed electrician.

NOTE: for CE-rated pumps only.

DECLARATION OF CONFORMITY

We, Zoeller, declare under our sole responsibility that the models 49/53/55/57/59/72/76/86/88/98/137/139/140/4140/145/4145/152/153/161/162/163/165/185/189/222/264/266/267/268/270/4270/271/4271/282/4290/4291/292/293/294/371/372/373 to which this declaration relates, are in conformity with the Council Directives on the approximation of the laws of the EC Member States relating to:

- Machinery Directive (2006/42/EC)
Standards used: EN 809: 1998 + A1: 2009
- Electromagnetic Compatibility (2014/30/EU)
Standards used: EN 55014-1: 2006 / A1: 2009 / A2: 2011, EN61000-3-2:2014, EN61000-3-3:2013, EN 55014-2: 1997 / A2: 2008, IEC 61000-4-2:2008, IEC 61000-4-3:2006+A1:2007+A2:2010, IEC 61000-4-4:2012, IEC 61000-4-5:2014, IEC 61000-4-6:2013, IEC 61000-4-11:2004
- Electrical equipment designed for use within certain voltage limits (2014/35/EU)
Standards used: EN60335-1: 2012+A11:2014 and EN60335-2-41: 2003+A1:2004+A2:2010



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