TITAN

DURO PROFESSIONAL SERIES

Submersible Sump Pump

Models DSB180/DSB180V (1/4hp), DSB250/DSB250V (1/3hp), DSB370/DSB370V (1/2hp)

Operating & Installation Instructions

Introduction

This pump has been carefully packaged, inspected and tested to ensure safe operation and delivery. Before installing the pump, check to see if any damage has occurred to the pump from rough handling. Notify the dealer from whom you purchased the pump if any damage has occurred.

This pump has been designed to pump reasonably clean water. DO NOT PUMP chemicals, corrosive liquids, oils, sewage or effluents. It will void the warranty. Please read all instructions before installing the pump.

Safety Instructions

The following safety rules should be followed to avoid serious injury or property damage:
Always remove the plug from the electrical outlet before servicing this pump.

1. Check with your local electrical and plumbing codes to ensure you comply with the regulations. These codes have been designed with your safety in mind. Be sure to comply with them.
2. We recommend that a separate circuit be led from the home electrical distribution panel and properly protected with a fuse or a circuit breaker. We also recommend that a ground fault circuit be used. Consult a licensed electrician for all wiring.
3. Do not stand in water when connecting or disconnecting power cord from outlet.
4. This product should be connected to a three prong grounded outlet equipped with a ground fault circuit interrupter.
5. Do not pump flammable liquids with this pump as an explosion or fire could result.
6. Do not run this pump dry. Running your pump without water will damage the mechanical seal, reduce the life of the pump and void the warranty.
7. Do not touch metal motor housing for at least 30 minutes after pump has operated. A severe burn will result if pump is not allowed to cool. Do not lift the pump by the electrical cord.
8. This product does not require lubrication. A special oil has been put into the motor housing at the factory for lifetime lubrication of the bearings. Use of any other oil can cause damage and void the warranty.

Installation Instructions

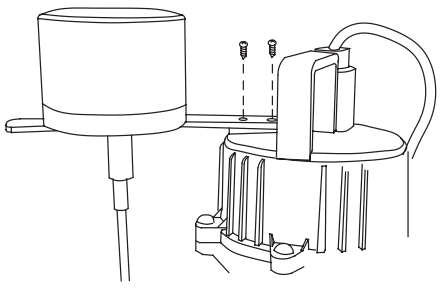
Sump Hole

The sump hole should be located at the lowest point in the basement (or bottom floor) below floor level. The sump hole should be plastic, concrete, fiberglass or structural foam. If concrete tile is used as the sump hole, several inches of cement should be poured in the bottom to provide a solid foundation and prevent erosion from the sump bottom. A gravel bottom is unsatisfactory for this pump. The larger the diameter of the sump hole, the less frequent the pump will have to operate. The pump float switch must have enough space to operate freely. A deeper sump provides added water capacity if the power goes out. The bottom of the sump should be level for proper pump operation.

Pump Float Assembly

Models DSB180, DSB250 and DSB370 are supplied with tether float assemblies which are attached to the pump.

Models DSB180V, DSB250V and DSB370V are supplied with vertical float assemblies. These vertical float assemblies must be attached to the pump. Refer to the following diagram for assembly.



Installation For Proper Pump Operation

The pump must be secured in a manner that prevents the pump from moving. If the pump is allowed to move, the float switch could be restricted by the sump wall, preventing the pump from turning on or off. The minimum diameter sump hole should be no less than 13" (330 mm) for a tethered float and 11" (279 mm) for a vertical float. The minimum depth should be no less than 15" (381 mm). The tether length should be no shorter than 3" (76 mm) for proper operation. DO NOT increase the tether length on the float switch to more than a 5" (127 mm) tether or pump will not turn OFF.

To allow the unit to deliver maximum capacity, the sump should be kept free of accumulated sediment. A 1¼" (32 mm) discharge pipe will give the best performance for this pump. The vertical distance from the pump to the highest point of discharge piping should not exceed 20 feet for best performance. Keep trash or other objects from interfering with the float.

Pump And Piping

The pump and piping should be positioned securely so that the float will not hang up on the side of the sump, the power cord or the discharge pipe. The discharge pipe should be 1¼" (32 mm). A union should be installed to facilitate installation and a check valve is recommended to prevent water from draining back into the sump and increasing pump operating frequency. The discharge pipe should be routed to the point of disposal with a minimum number of elbows to reduce losses.

A rigid discharge pipe is recommended to prevent the pump from moving. If a flexible discharge hose is used, the pump must be secured in a manner that prevents the pump from moving. If the pump is allowed to move, the float switch could be restricted by the sump wall, preventing the pump from turning on or off.

Pump Operation

The pump will start when the water has filled the sump to a depth that engages the automatic float switch. The pump will stop when the water depth disengages the automatic float switch. The pump will recycle thereafter as required. Allow pump to go through several cycles to assure satisfactory operation. If pump does not operate properly, see Trouble Shooting Checklist.

Refer to Figure 1 for recommended typical installation.

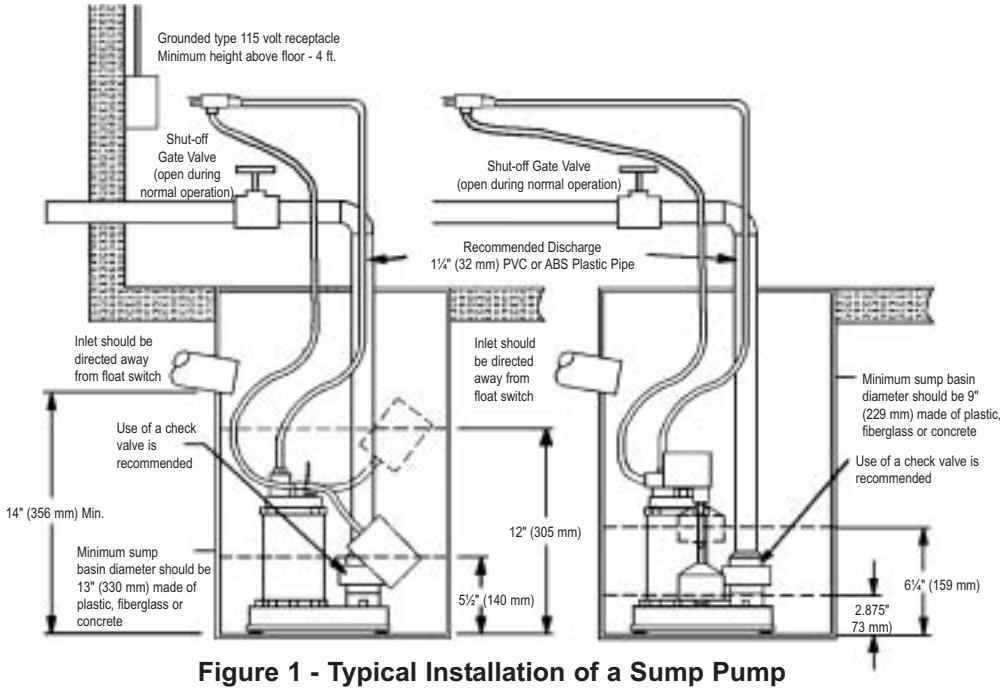


Figure 1 - Typical Installation of a Sump Pump

Electrical Information

WARNING: Risk of electrical shock - this pump is supplied with a grounding type attachment plug. To reduce the risk of electrical shock, be certain that it is connected only to a properly grounded type receptacle.

The pump operates on a 115 volt, 60 cycle AC, single phase and has three-prong electric plug. The third prong is used to ground the pump to prevent possible fatal shocks. The third prong must not be removed. The fuse or circuit breaker used should be a 15 amp time-delay type.

Automatic Thermal Overload Protection

The motor has a built-in automatic overload protector. It will cut off the power to the motor before the temperature rises enough to damage the motor windings. Should the overload stop the pump operation, it will reset automatically. Operation will resume when the motor cools enough to close the overload switch.

Maintenance Instructions

THIS PRODUCT HAS BEEN DESIGNED AS A DEWATERING PUMP FOR FLOOD PROTECTION IN A RESIDENTIAL HOME. THE APPLICATION OF THIS PRODUCT IS FOR PERMANENT INSTALLATION. DO NOT USE THIS PUMP TO PUMP LIQUIDS (WATER) IN EXCESS OF 100°F. ALTERATIONS OF THE POWER CORD VOIDS THE WARRANTY.

Servicing And Cleaning

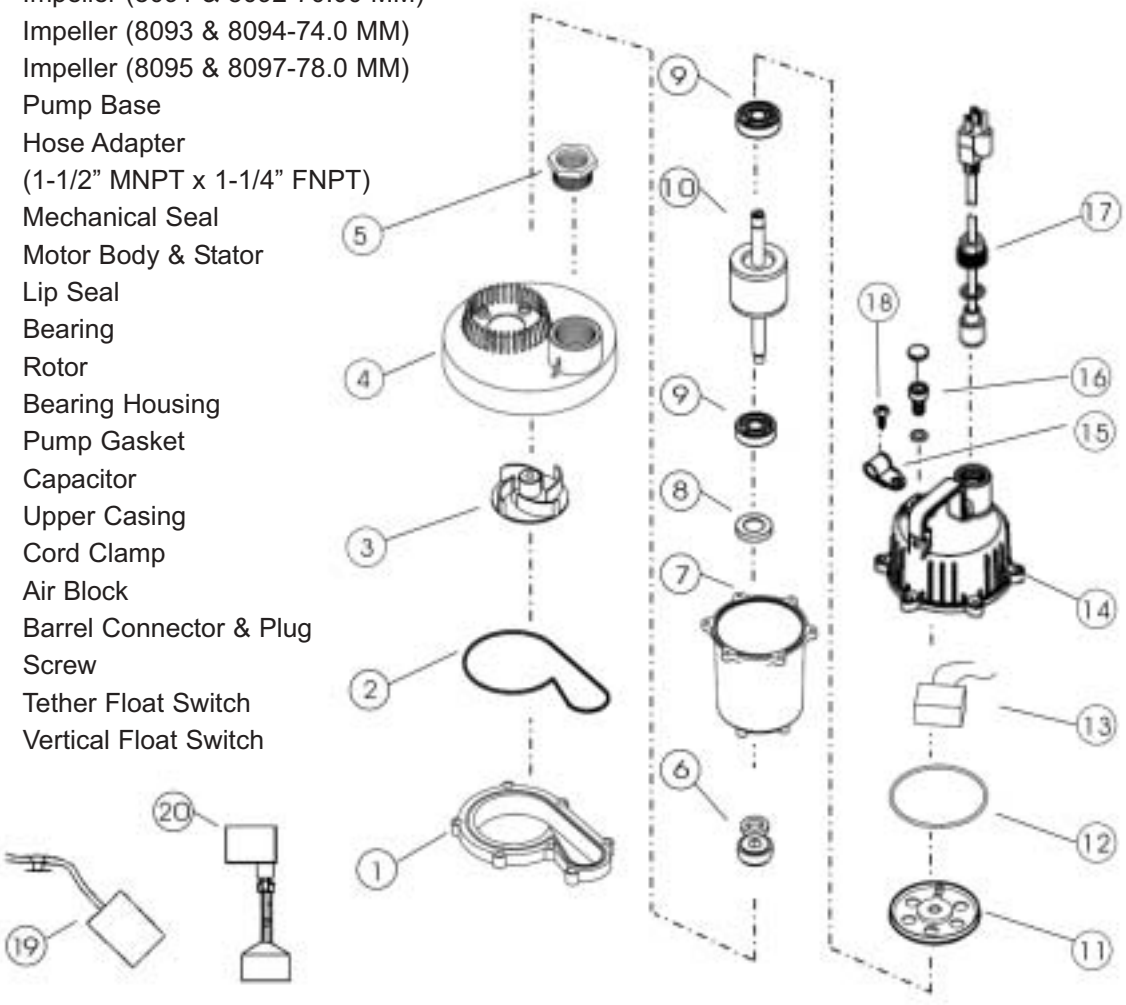
Refer to Trouble Shooting Checklist if pump does not operate properly.

Figure 1 is a schematic diagram of disassembly of the base from the pump housing for cleaning purposes. The following steps are for service and cleaning of the pump:

1. Make sure the power cord is disconnected before any servicing is performed.
2. Remove the screws from the bottom pump base plate, as shown in Figure 2. Clean all trash and debris away from the inlet pump volute.
3. Check to see if the impeller spins freely inside the volute.
4. When re-assembling be sure not to overtighten screws.

Figure 2 - Disassembly for Cleaning

	Item #	Description
1	302718	Pump Volute
2	302719	O Ring
3	302720	Impeller (8091 & 8092-70.00 MM)
	302721	Impeller (8093 & 8094-74.0 MM)
	302722	Impeller (8095 & 8097-78.0 MM)
4	302723	Pump Base
5	302724	Hose Adapter (1-1/2” MNPT x 1-1/4” FNPT)
6	302725	Mechanical Seal
7	—	Motor Body & Stator
8	302726	Lip Seal
9	—	Bearing
10	—	Rotor
11	—	Bearing Housing
12	—	Pump Gasket
13	—	Capacitor
14	—	Upper Casing
15	—	Cord Clamp
16	—	Air Block
17	—	Barrel Connector & Plug
18	—	Screw
19	302727	Tether Float Switch
20	—	Vertical Float Switch



Trouble Shooting Checklist

1. Pump does not run or hums

- Tripped breaker, blown or loose fuse or other interruption of power
- Water level too low for float switch to operate
- Float may be stuck - it should operate freely in basin
- Float tether is too short - minimum tether length is 3" (76 mm)
- Power cord not making contact at pump - tighten locking nut on pump
- Power cord not making contact in wall receptacle
- Thermal protector switch opened - allow pump to cool
- Return for service

2. Pump runs or hums but does not pump or delivers insufficient capacity

- Pump not properly sized for application
- Incorrect voltage
- Check valve stuck or installed backwards
- Discharge restricted
- Shut-off valve closed
- Impeller jammed or inlet screen plugged with trash or debris
- Pump may be air locked - start and stop pump several times
- Return for service

3. Pump will not turn off

- Float switch stuck in the up position - make sure it is free in basin
- Tether length too long - maximum float tether is 5" (127 mm)
- Excessive inflow or pump not properly sized for application
- Return for service

4. Fuse blows or circuit breaker trips when pump starts

- Fuse size or circuit breaker may be too small - need 15 amps
- Impeller jammed or rubbing on trash and debris
- Return for service

5. Pump cycles too frequent

- Check valve not installed or leaking
- Float tether is too short - minimum tether length is 3" (76 mm)
- Return for service

GUARANTEE

This pump is guaranteed to do the work for which it is intended when properly installed and operated. It is warranted to be free of defects in material and workmanship for a period of two years from date of manufacture. The only exception shall be when proof of purchase or installation is provided and then the warranty period shall be from the date thereof.

How To Claim Warranty

The dealer from whom you purchased your unit has a thorough knowledge of its operation and maintenance. If trouble develops, please consult the dealer.

If a unit or part should prove defective within 24 months, return it to your dealer, transportation charges prepaid. The repair will be made or a replacement unit or part will be supplied free of charge. The serial number of the unit, or unit from which the defective part is taken, must be supplied.

This warranty does not obligate the manufacturer to bear the cost of field labor or transportation in connection with the replacement or repair of defective parts or units, nor shall it apply to any product upon which repairs or alterations have been made, unless authorized by the manufacturer.

The manufacturer shall in no event be liable for consequential damages or contingent liabilities arising out of the failure of any product, its power unit or its accessories to operate properly. No express, implied or statutory warranty other than herein set forth is made authorized to be made by the manufacturer.

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