

INSTALLATION INSTRUCTIONS

POWER
Defender

VARIABLE SPEED BOOSTER PUMP



IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Waterway[™]

IMPORTANT SAFETY INFORMATION



WARNING:

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION.

This pool pump must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or damage to property. Always disconnect power to the pool pump at the circuit breaker before servicing the pump. Failure to do so could result in death or serious injury to serviceman, pool users or others due to electric shock.

CARE OF ELECTRIC MOTOR

PROTECT FROM HEAT

1. Shade the motor from the sun.
2. Any enclosure must be well ventilated to prevent overheating.
3. Provide ample cross ventilation.

PROTECT AGAINST DIRT

1. Protect from any foreign matter or splashing water.
2. Do not store (or spill) pool chemicals near the motor.
3. Avoid sweeping or stirring up dust near the motor while it is operating.
4. If a motor has been damaged by it voids the warranty.

PROTECT AGAINST MOISTURE

1. Protect from splashing pool water.
2. Protect from the weather.
3. Protect from lawn sprinklers.
4. If a motor has become wet – let it dry before operating.
Do not allow the pump to operate if it has been flooded.
5. If a motor has been damaged by water it voids the motor warranty.

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NOTE: If the pump is installed below the water level of the pool, close return and suction lines prior to servicing the pump. Make sure to re-open valves prior to operating.



NOTE: DO NOT wrap motor with plastic or other air tight materials. The motor may be covered during a storm, for winter storage, etc., but NEVER when operating or expecting operation.



WARNING: DO NOT open the pump if the pump has been operating without water. Pumps operated in these circumstances may experience a build up of vapor pressure and may contain scalding hot water. Opening the pump may cause serious personal injury.

BOOSTER PUMP

Installation Instructions

The Waterway Booster Pump supplies high pressure water to the pool cleaner to optimize cleaning efficiency. The pump is not self-priming and should only be used when the pool filtration pump is on. Running the booster pump without the filtration pump will damage the booster pump. Improper operation of the booster pump will void the warranty.

IMPORTANT SAFETY INFORMATION

When installing and using this electrical equipment basic safety precautions should be followed including the following:

This pool pump must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances.

Use solid copper bonding conductor, no smaller than No. 8 AWG (8.4 mm²), 6 AWG (13.3 mm²) in Canada, to connect the motor to all metal parts of the pool, spa or hot tub structure, all electrical equipment, and all metal conduit and metal piping within 5 ft (1.5 m) of the inside walls of the swimming pool, spa or hot tub.

Use this pump only with permanently installed pools, and hot tubs and spas if so marked. A permanently installed pool is constructed in or on the ground or in a building, and cannot be easily disassembled and reassembled.

 **WARNING:** To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

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INSTALLATION

Electrical

The starting current of the booster pump motor may exceed 15 amps. It is recommended that a 20 amp service breaker be used for the pump. The booster pump motor is factory wired for 240 volts, but can be wired for either 120 or 240 volts. To rewire to 120 volt, follow the instructions on the name plate located on the back of the motor or the sizing plate on the side of the motor.

A separate time clock (in addition to the filtration system time clock) is recommended to control the On/Off functions of the booster pump. A manual switch can also be used.

If a time clock is used, set it to turn the pump on half an hour after the pool filtration pump is turned on, and turn the pump off at least half an hour before the filtration pump shuts off. Periodically check the time clock settings to make sure they are properly synchronized.

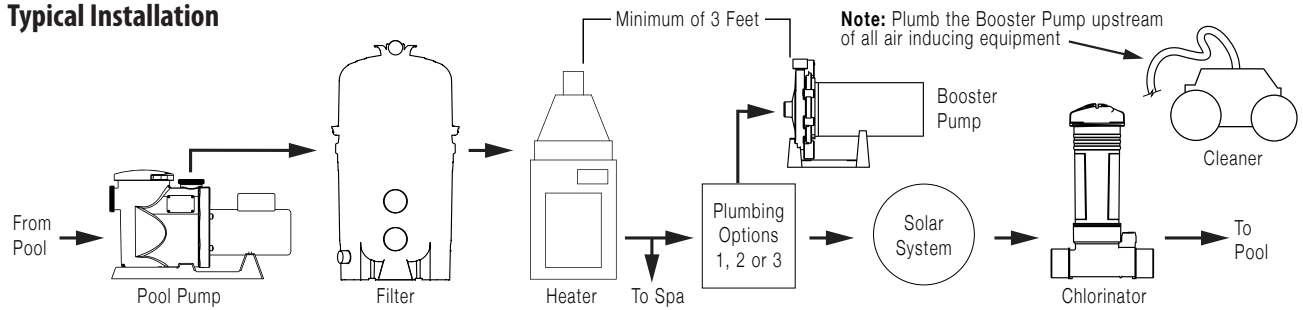
Plumbing

The Waterway Booster Pump requires a dedicated return line. Plumb the booster pump into the system so that it always receives flow from the filtration pump.

To ensure proper function of the pump and the cleaner, refer to the Typical Installation diagram and adhere to the following guidelines for specific equipment.

- Plumb the dedicated line upstream of all air inducing equipment.
- If a heater is installed on the system, tap the inlet for the booster pump into the return line downstream and at least three feet from the heater discharge. Do not tap the booster pump inlet into the three-foot section of heat sink pipe that comes directly out of the heater.
- Some solar heating systems utilize the entire water flow when the panels are being purged of air. If the pump is installed in a non-flow pipe during solar panel purges, install an automatic override to shut off the pump.
- Plumb the booster pump inlet higher, upstream and as far away as possible from the chlorinator.

Typical Installation



To ensure proper water flow:

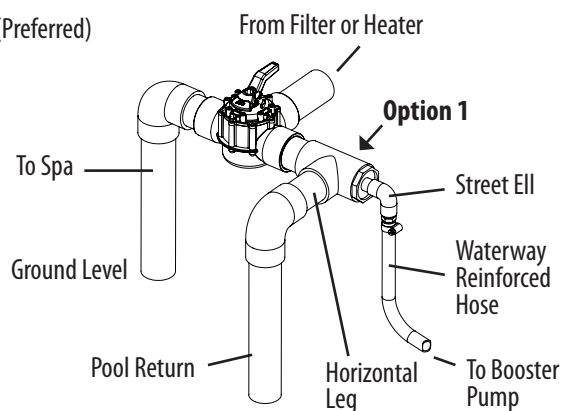
- Use rigid PVC pipe with a minimum diameter of 3/4" (1-1/2" is recommended) for the dedicated return line. Flexible PVC piping is not recommended as it can be damaged by expansion and movement caused by the surge of pump pressure.
- The booster pump inlet connection line should be at least 3/4" pipe. The supplied 3/4" barb fitting is designed to work with the Waterway supplied reinforced hose.
- Do not tap into the top of a horizontal line.

Installing the Pump

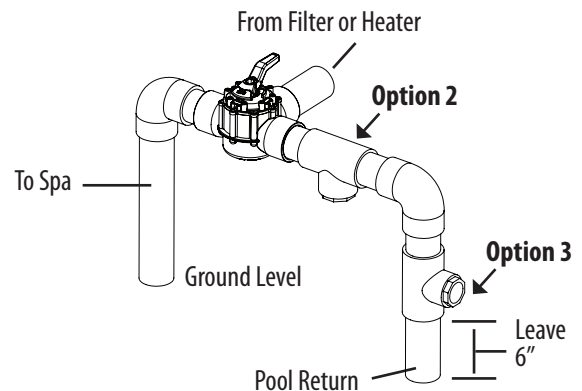
1. Mount the pump using two concrete expansion anchors to ensure stability.
2. Install supplied 3/4" barb fitting onto pump discharge and supply ports using Teflon® tape as sealant.
3. Measure and cut reinforced hose ensuring cut is clean, with no more than a 30° off straight edge.
4. Push the hose onto the hose barbed fitting until it is flush against the hose barb base. Secure the hose with supplied hose clamps.

Recommended Configurations

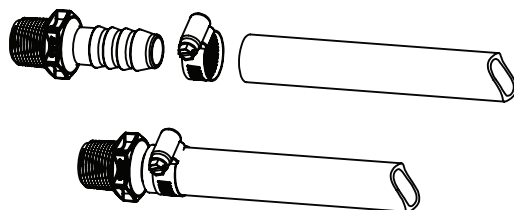
A. (Preferred)



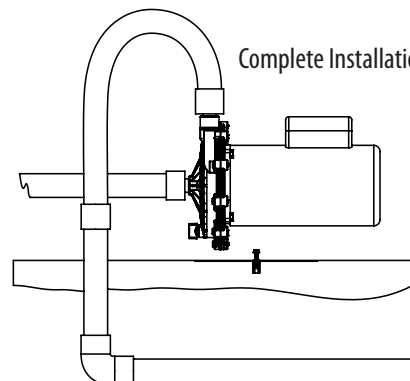
B.



Barb Fitting, Hose Clamp and Hose - Assembly



Complete Installation



Checking Water Flow

After the system is plumbed, verify water flow to the booster pump by turning on the filtration pump and disconnecting the inlet supply line at the pump. Water should flow from the line.

If there is no flow:

- Verify that the installation is correct.
- Install a ball valve on the return line after the booster pump inlet.
- Use smaller eyeball fittings in the pool return lines or plug a return line. Once flow is established, the pump is ready for operation.

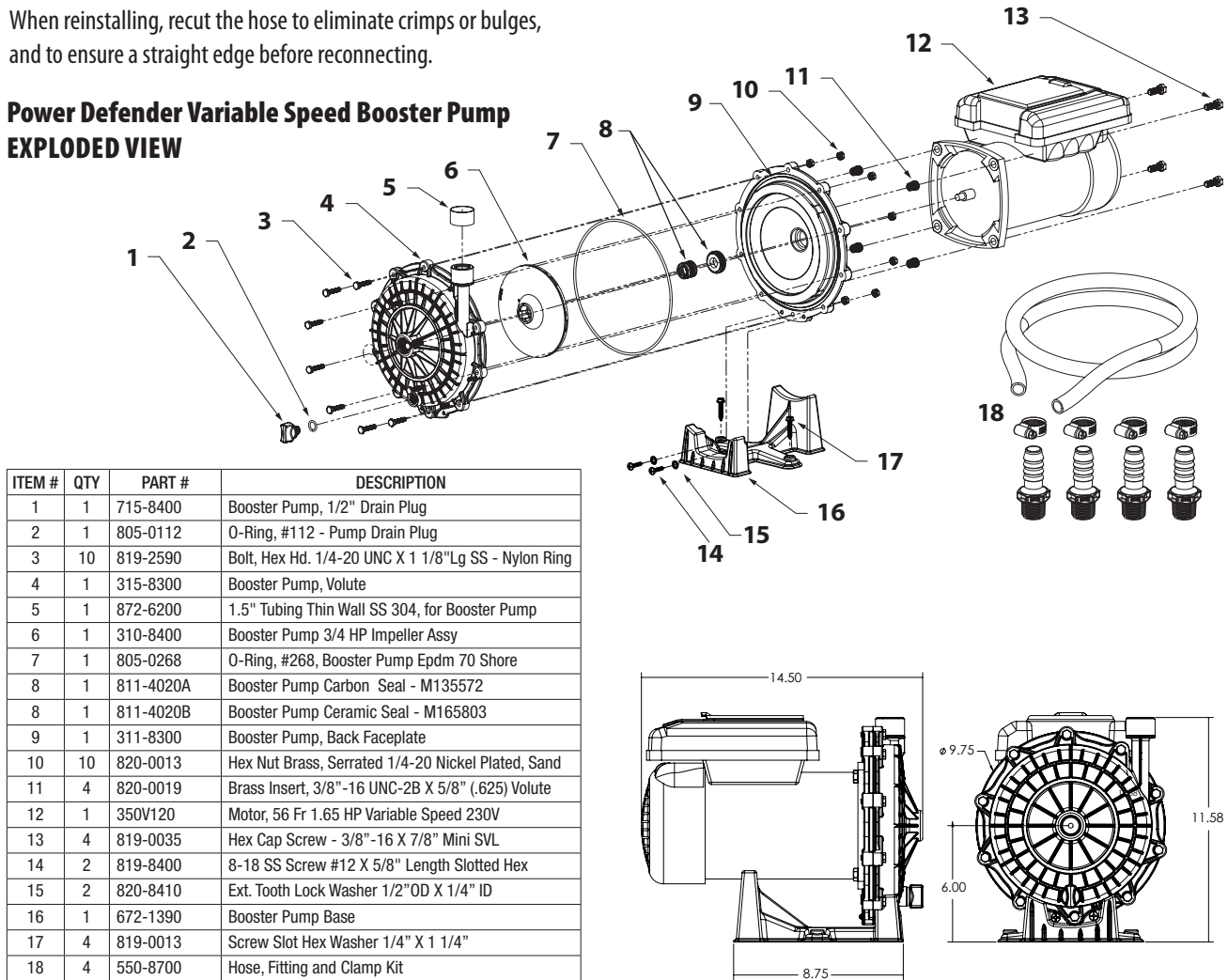
Winterizing

If installed in an area prone to freezing temperatures, the pump should be winterized to prevent freeze damage.

- Pull out drain plug and drain all water from pump.
- Disconnect plumbing hose at pump inlet and outlet ports.

When reinstalling, recut the hose to eliminate crimps or bulges, and to ensure a straight edge before reconnecting.

Power Defender Variable Speed Booster Pump EXPLODED VIEW



ITEM #	QTY	PART #	DESCRIPTION
1	1	715-8400	Booster Pump, 1/2" Drain Plug
2	1	805-0112	O-Ring, #112 - Pump Drain Plug
3	10	819-2590	Bolt, Hex Hd. 1/4-20 UNC X 1 1/8"Lg SS - Nylon Ring
4	1	315-8300	Booster Pump, Volute
5	1	872-6200	1.5" Tubing Thin Wall SS 304, for Booster Pump
6	1	310-8400	Booster Pump 3/4 HP Impeller Assy
7	1	805-0268	O-Ring, #268, Booster Pump Epdm 70 Shore
8	1	811-4020A	Booster Pump Carbon Seal - M135572
8	1	811-4020B	Booster Pump Ceramic Seal - M165803
9	1	311-8300	Booster Pump, Back Faceplate
10	10	820-0013	Hex Nut Brass, Serrated 1/4-20 Nickel Plated, Sand
11	4	820-0019	Brass Insert, 3/8"-16 UNC-2B X 5/8" (.625) Volute
12	1	350V120	Motor, 56 Fr 1.65 HP Variable Speed 230V
13	4	819-0035	Hex Cap Screw - 3/8"-16 X 7/8" Mini SVL
14	2	819-8400	8-18 SS Screw #12 X 5/8" Length Slotted Hex
15	2	820-8410	Ext. Tooth Lock Washer 1/2"OD X 1/4" ID
16	1	672-1390	Booster Pump Base
17	4	819-0013	Screw Slot Hex Washer 1/4" X 1 1/4"
18	4	550-8700	Hose, Fitting and Clamp Kit

WARRANTY

For product registration visit: www.waterwayplastics.com.
For Warranty questions or claims please contact point of purchase.



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