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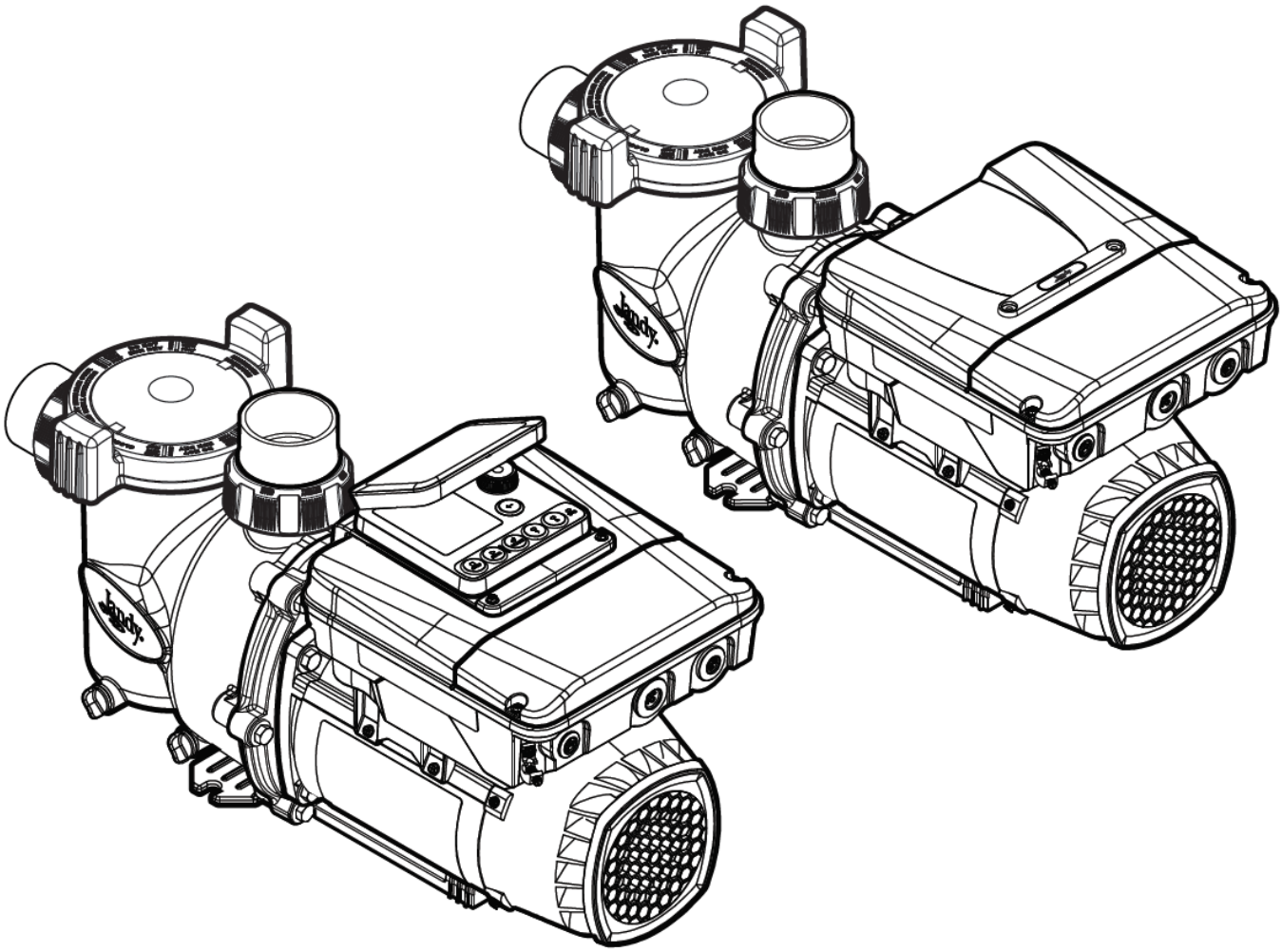
Jandy VSFHP185DV2A(S) Variable Speed Pumps



Essential installation and startup instructions are included in this manual.
Additional operation and troubleshooting information is available online by scanning the QR code with your phone or visiting jandy.com

WARNING

FOR YOUR SAFETY – This product must be installed and serviced by a contractor who is licensed and qualified in pool equipment by the jurisdiction in which the product will be installed where such state or local requirements exist. The maintainer must be a professional with sufficient experience in pool equipment installation and maintenance so that all of the instructions in this manual can be followed exactly. Before installing this product, read and follow all warning notices and instructions that accompany this product. Failure to follow warning notices and instructions may result in property damage, personal injury, or death. Improper installation and/or operation may void the warranty.

Improper installation and/or operation can create unwanted electrical hazard which may

cause serious injury, property damage, or death.

ATTENTION INSTALLER – This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

EQUIPMENT INFORMATION RECORD

Date Of Installation_____

_____

Installer Information_____

____

Initial Pressure Gauge Reading (with Clean Filter)_____

Pump Model_____

Horsepower_____

Notes_____

____

Important Safety Instructions

All electrical work must be performed by a licensed electrician and conform to all national, state, and local codes. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

WARNING

RISK OF SUCTION ENTRAPMENT HAZARD, WHICH, IF NOT AVOIDED, CAN RES ULT IN SERIOUS INJURY OR DEATH. Do not block pump suction, as this can cause severe injury or death. Do not use this pump for wading pools, shallow pools, or spas containing bottom drains, unless the pump is connected to at least two (2) functioning suction outlets, and/or in accordance with the latest version of ANSI®/PHTA®/ICC-7 t he standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Sp as, Hot Tubs, and Catch Basins. Suction outlet (drain) assemblies and their covers mu st be certified to the latest published edition of ANSI®/ASME® A112.19.8, or its succe ssor standard, ANSI/APSP-16.

To reduce the risk of injury, do not permit children to use this product.

To reduce the risk of property damage or injury, do not attempt to change the backwa sh (multiport, slide, or full flow) valve position with the pump running.

Jandy pumps are powered by a high voltage electric motor and must be installed by a licensed or certified electrician or a qualified swimming pool service technician.

Due to the potential risk of fire, electric shock, or injuries to persons, Jandy pumps mu st be installed in accordance with the National Electrical Code® (NEC®), all local elect rical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies o f the NEC may be ordered from the National Fire Protection Association, 1 Batterymar ch Park, Quincy, MA 02169, or from your local government inspection agency.

RISK OF ELECTRIC SHOCK, FIRE, PERSONAL INJURY, OR DEATH. (For all perm anently installed units intended for use on 15 or 20 ampere, 120 through 240 volt, sin gle phase branch circuits). Connect only to a branch circuit that is protected by a grou nd-fault circuit- interrupter protection for personnel (GFCI). Contact a qualified electrici an if you cannot verify that the circuit is protected by a GFCI. A GFCI should be provid ed by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI i nterrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of electrical shock. Do not use the device.
Disconnect the device and have the problem corrected by a qualified service represen tative before using.

Incorrectly installed equipment may fail, causing severe injury or property damage.

- Do not connect the system to an unregulated city water system or other external so urce of pressurized water producing pressures greater than 35 PSI.

- Trapped air in system can cause the filter lid to be blown off, which can result in de ath, serious personal injury, or property damage. Be sure all air is out of the system b efore operating.

To minimize the risk of severe injury or death, the filter and/or pump should not be subjected to the piping system pressurization test.

Local codes may require the pool piping system to be subjected to a pressure test. These requirements are generally not intended to apply to the pool equipment such as filters or pumps.

Zodiac® pool equipment is pressure tested at the factory.

However, if the WARNING cannot be followed and pressure testing of the piping system must include the filter and/or pump, BE SURE TO COMPLY WITH THE FOLLOWING SAFETY INSTRUCTIONS:

- Check all clamps, bolts, lids, lock rings and system accessories to ensure they are properly installed and secured before testing.
- **RELEASE ALL AIR** in the system before testing.
- Water pressure for test must NOT EXCEED 35 PSI.
- Water temperature for test must NOT EXCEED 100°F (38°C).
- Limit test to 24 hours. After test, visually check system to be sure it is ready for operation.

NOTICE: These parameters apply to Zodiac equipment only. For non-Zodiac equipment, consult equipment manufacturer.

Chemical spills and fumes can weaken pool/spa equipment. Corrosion can cause filters and other equipment to fail, resulting in severe injury or property damage. Do not store pool chemicals near your equipment.

CAUTION

Do not start pump dry! Running the pump dry for any length of time will cause severe damage and may void the warranty.

This pump is for use with permanently installed pools and may also be used with hot t ubs and spas, if so marked. Do not use with storable pools. A permanently installed p ool is constructed in or on the ground or in a building such that it cannot be readily dis assembled for storage. A storable pool is constructed so that it may be readily disasse mbled for storage and reassembled to its original integrity.

Do not install within an outer enclosure or beneath the skirt of a hot tub. The pump requires adequate ventilation to maintain air temperature at less than the maximum a mbient temperature rating listed on the motor rating plate.

In order to avoid premature failure or damage to the pump motor, protect the pump fro m direct water exposure from sprinklers, water runoff from rooftops and drainage, etc. Failure to comply may cause pump failure, and may void the warranty.

Pool Pump Suction Entrapment Prevention Guidelines

WARNING

SUCTION HAZARD. Can cause serious injury or death. Do not use this pump for wading pools, shallow pools or spas containing bottom drains, unless the pump is connected to at least two (2) functioning suction outl ets and/or in accordance with the latest version of ANSI®/PHTA®/ ICC-7 the standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins.

Pump suction is hazardous and can trap and drown or disembowel bathers. Do not use or operate swimming pools, spas, or hot tubs if a suction outlet cover is missing, broken, or loose. The following guidelines provide information for pump inst allation that minimizes risk of injury to users of pools, spas, and hot tubs:

Entrapment Protection – The pump suction system must provide protection against t he hazards of suction entrapment.

Suction Outlet Covers – All suction outlets must have correctly installed, screw-faste ned covers in place. All suction outlet (drain) covers must be properly maintained. The

y must be replaced if cracked, broken, or missing. Drain covers must be listed/certified to the latest published edition of ANSI®/ASME® A112.19.8 or its succe ssor standard, ANSI/APSP-16. The pool must be shut down and bathers must be rest ricted from entering the pool until any cracked, broken, or missing drain covers are re placed.

Number of Suction Outlets Per Pump – Provide at least two (2) hydraulically-balanc ed suction outlets, with covers, as suction outlets for each circulating pump suction lin e. The centers of the suction outlets (suction outlets) on any one (1) suction line must be at least three

(3) feet apart, center to center. See *Figure 4*.

The system ***must*** be built to include at least two (2) suction outlets (drains) connected to the pump whenever the pump is running. However, if two (2) suction outlets run into a single suction line, the single suction line may be equipped with a valve that will shut off both suction outlets from the pump. The system shall be constructed such that it sh all not allow for separate or independent shutoff or isolation of each drain. See *Figure 4*.

Additional pumps can be connected to a single suction line as long as the requirement s above are met.

Unblockable SOFA – If acceptable by local code and Authority Having Jurisdiction (A HJ), a single unblockable SOFA may be used. For an unblockable SOFA to qualify as an unblockable drain under the Virginia Graham Baker Act (VGBA), the Suction Outlet Fitting Assembly (SOFA) shall be certified as unblockable, and be designated by the manufacturer as unblockable, and the manufacturer's instructions must state the SOF A is authorized for use as an unblockable suction outlet in accordance with ANSI/APS P/ICC-16. Certified unblockable SOFA's must be installed in accordance with the man ufacturer's instructions, the latest edition of ANSI/PHTA/ICC-7, and applicable local co de.

Water Velocity – The maximum water velocity through the suction outlet assembly an d its cover for any suction outlet must not exceed the suction outlet assembly and its c over's maximum design flow rate. The suction outlet (drain) assembly and its cover m ust comply with the latest version of ANSI®/ASME® A112.19.8, the standard for *Sucti*

on Fittings For Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs, or its succ essor standard, ANSI/ASME APSP-16.

Testing and Certification – Suction outlet covers must have been tested by a nationa lly recognized testing laboratory and found to comply with the latest published edition of ANSI/ASME A112.19.8 or its successor standard, ANSI/APSP-16, the standard for *Suction Fittings For Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs*.

Fittings – Fittings restrict flow; for best efficiency use fewest possible fittings (but at le ast two (2) suction outlets, or certified unblockable SOFA).

Avoid fittings that could cause an air trap.

Pool cleaner suction fittings must conform to applicable International Association of Pl umbing and Mechanical Officials (IAPMO) standards.

General Description

Introduction

Jandy Variable-Speed Pumps can be run from 600 RPM to 3450 RPM. This allows you to select the most appropriate speed for your application. Pumps in this manual are compatible with all Jandy controllers and Jandy automation systems. The pump is driven by a variable speed ECM (Electronically Commutated Motor) directly attached to the pump impeller.

The motor spins the impeller which forces water to flow through the pump. As the speed of the motor is varied, the flow through the pump is also varied.

The adjustable flow rate allows for optimization of flow during the varying pump cycle requirements.
As a result, the energy efficiency of the pump is maximized resulting in cost savings to the pool owner while also helping to save the environment.

This manual contains information for the proper installation, operation, and maintenance of pumps listed in this manual. Procedures in this manual must be followed exactly. To

obtain additional copies of this manual, visit Jandy.com.

Product Dimensions

NOTE: When installing a pump, leave a minimum of two (2) feet (30 cm) of clearance above the pump for removal of the strainer basket, working in the wiring compartment, and for opening a closing the lid on the pump controller.

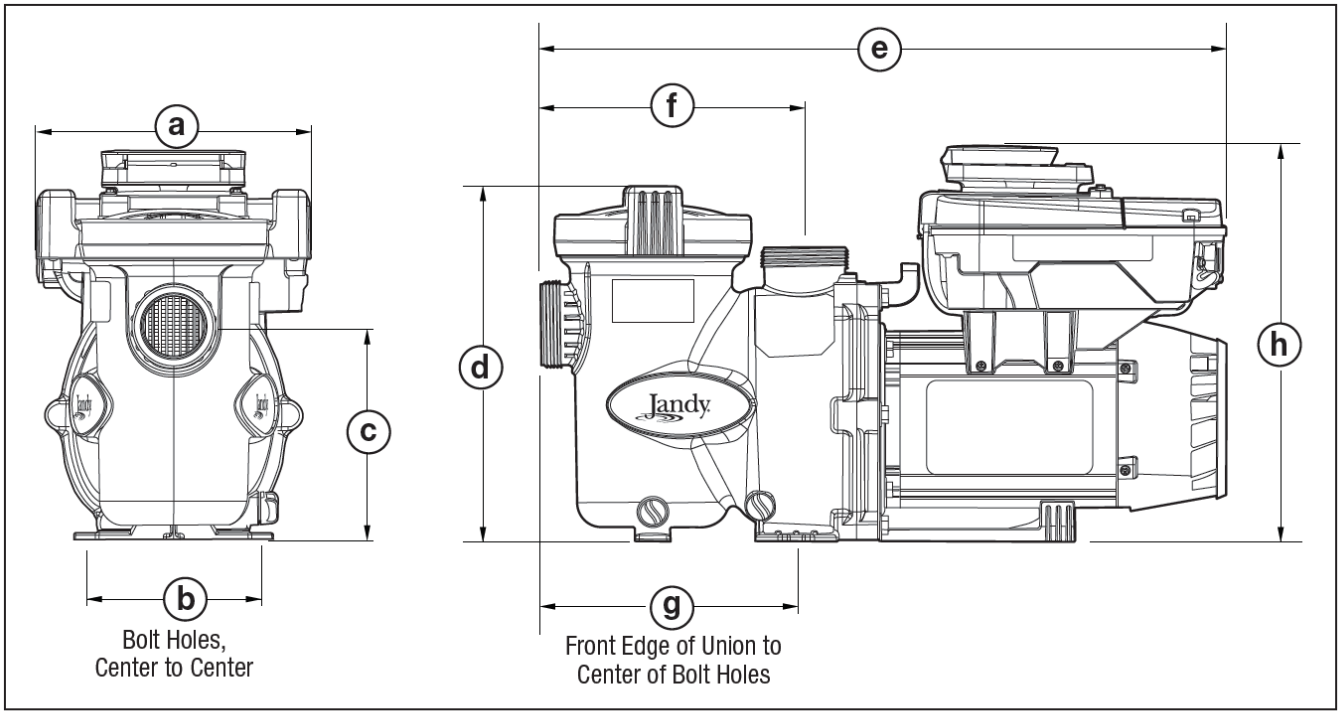


Figure 1. Variable-Speed Pump Dimensions

Model No.	Dimensions							
	a	b	c	d	e	f	g	h
VSFHP185DV2A(S)	10″	6 1/2″	7 3/4″	12 3/4″	24 1/2″	9 1/2″	9 1/8″	14″
VSFHP270DV2A(S)	10″	6 1/2″	7 3/4″	12 3/4″	24 1/2″	9 1/2″	9 1/8″	14″
VSFHP3802A(S)	10″	6 1/2″	7 3/4″	12 3/4″	24 1/2″	9 1/2″	9 1/8″	14″

VSPHP270DV2A(S)	9 1/8″	9″	8 7/8″	14 1/8″	27 5/8″	11 7/8″	9 3/8″	15″
VSSHP220DV2A(S)	11 5/8″	9″	10 3/8″	15 1/4″	30 1/8″	14″	11 5/8″	15″
VSSHP270DV2A(S)	11 5/8″	9″	10 3/8″	15 1/4″	30 1/8″	14″	11 5/8″	15″
VSSHP3802A(S)	11 5/8″	9″	10 3/8″	15 1/4″	30 1/8″	14″	11 5/8″	15″

Product Specifications

Model No.	**THP**	**WEF**	**Voltage**	**Max Watts**	**Max Amps**	**Union Size**	**Weight**
VSFHP185DV2A(S)	1.85	8.5	208-230 VAC 115 VAC	1,700W 1,800W	8.5-8.0 16.0	2″ unions and 2″ internal threads	44 lb [20 kg]
VSFHP270DV2A(S)	2.70	7.3 8.7	208-230 VAC 115 VAC	2,550W 1,840W	11.5-10.5 16.0	2″ unions and 2″ internal threads	44 lb [20 k]

VSFHP3802A(S)	3.80	6.0	208-230 VAC	3250W	16.0	2″ unions and 2″ internal threads	57 lb [26 kg]
VSPHP270DV2A(S)	2.70	7.3 8.4	208-230 VAC 115 VAC	2,250W 1,840W	11.5-10.5 16.0	2″ x 2 1/2″	64 lb [29 kg]
VSSHP220DV2A(S)	2.20	8.5 8.8	208-230 VAC 115 VAC	2,190W 1,660W	11.5-10.5 16.0	2″ x 2 1/2″	66 lb [25 kg]
VSSHP270DV2A(S)	2.70	7.5 9.3	208-230 VAC 115 VAC	2,370W 1,675W	11.5-10.5 16.0	2″ x 2 1/2″	66 lb [25 kg]
VSSHP3802A(S)	3.80	6.5	208-230 VAC	3120W	16.0	2.5″ x 3″	70 lb [32 kg]

Product Contents

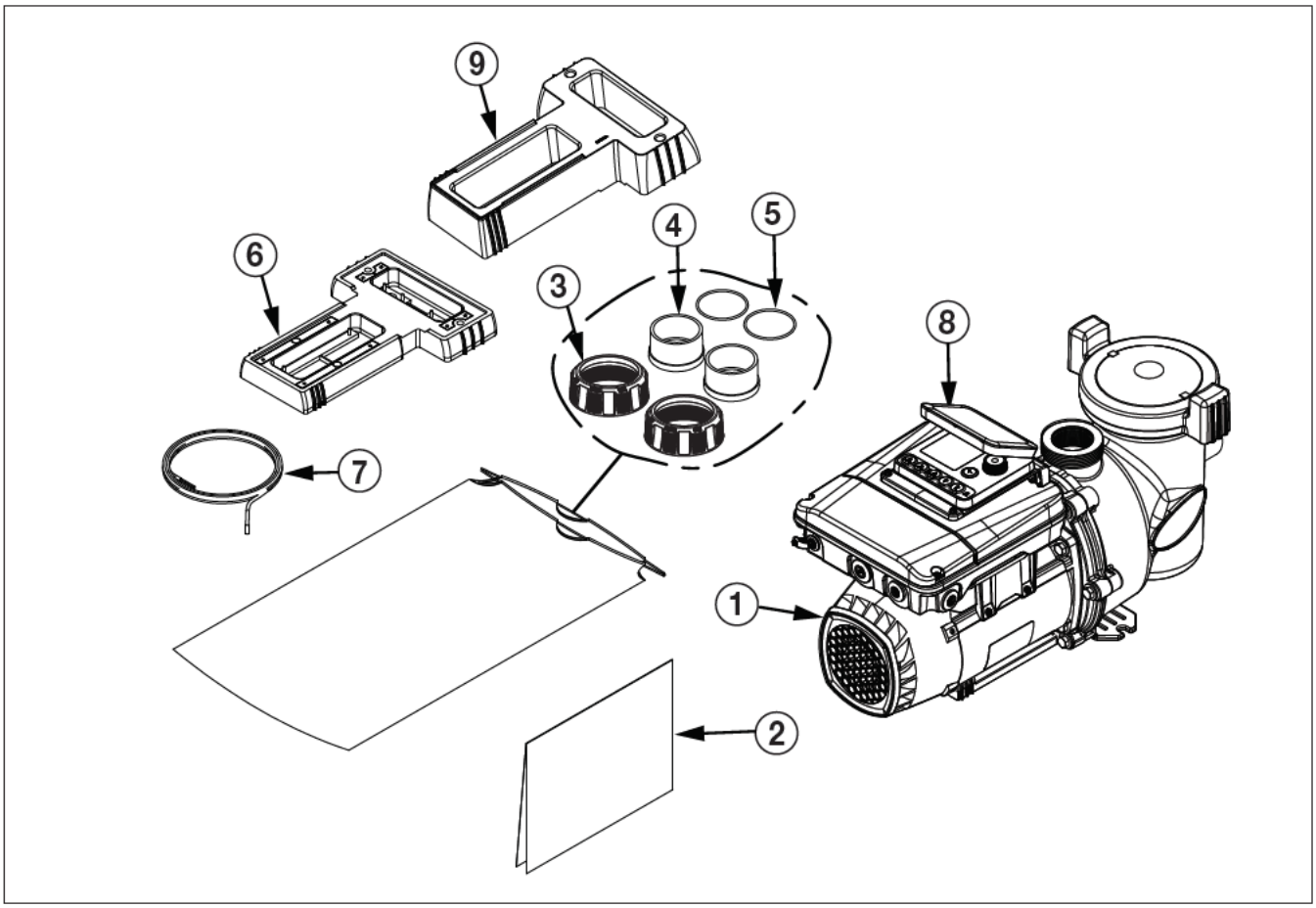


Figure 2. Variable-Speed Pump Carton Contents

Item	Description
1	Variable Speed Pump
2	Installation and Operation Manual
3	Union Nut (2)
4	Tailpiece (2)
5	O-Ring (2)
6	Small Adjustable Base w/Spacers, VSFHP Models
7	Cable – 20′, 22GA, 4-conductor

Item	Description
8	SpeedSet Controller (Models ending in S only)

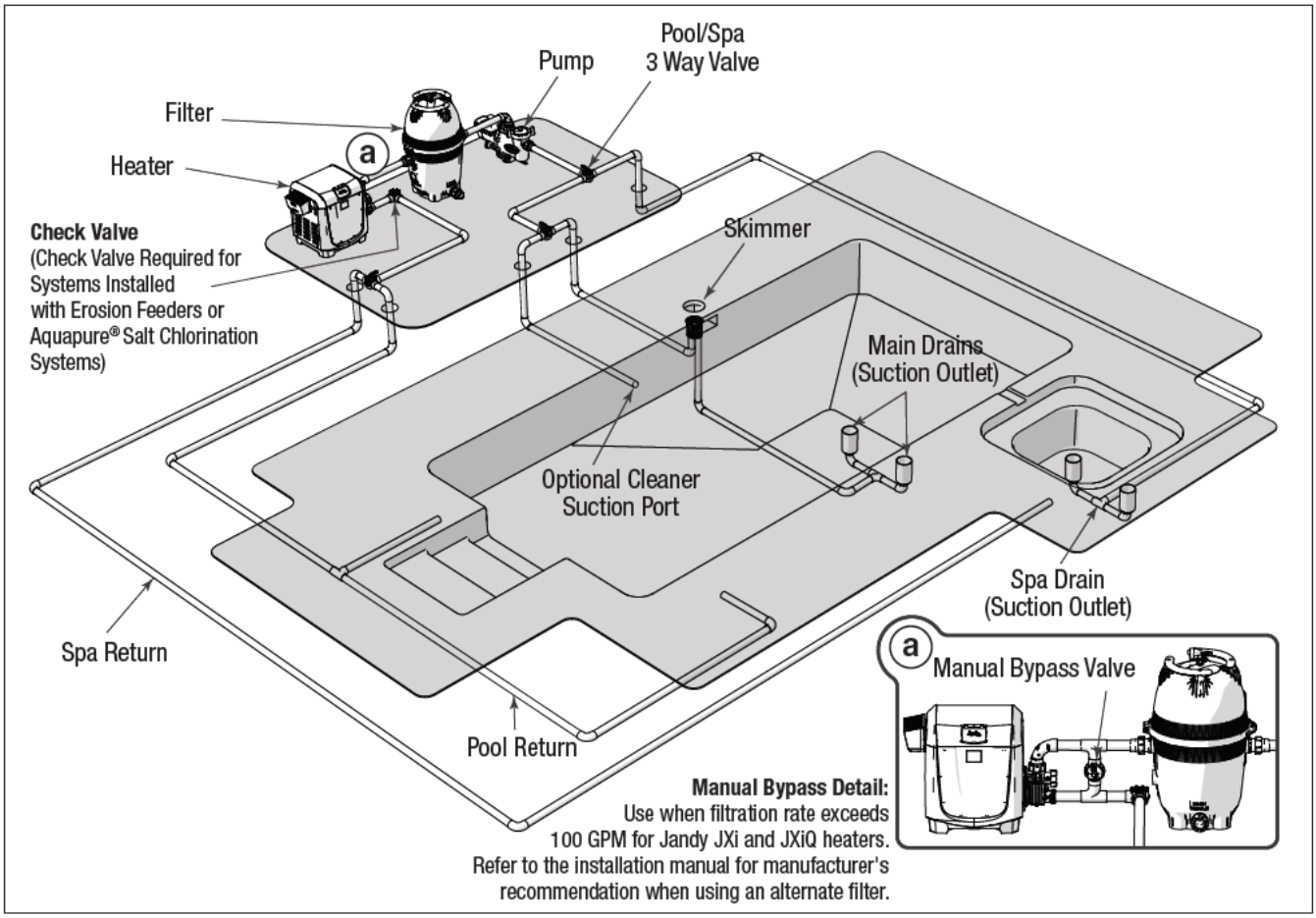


Figure 3. Typical Piping Installation

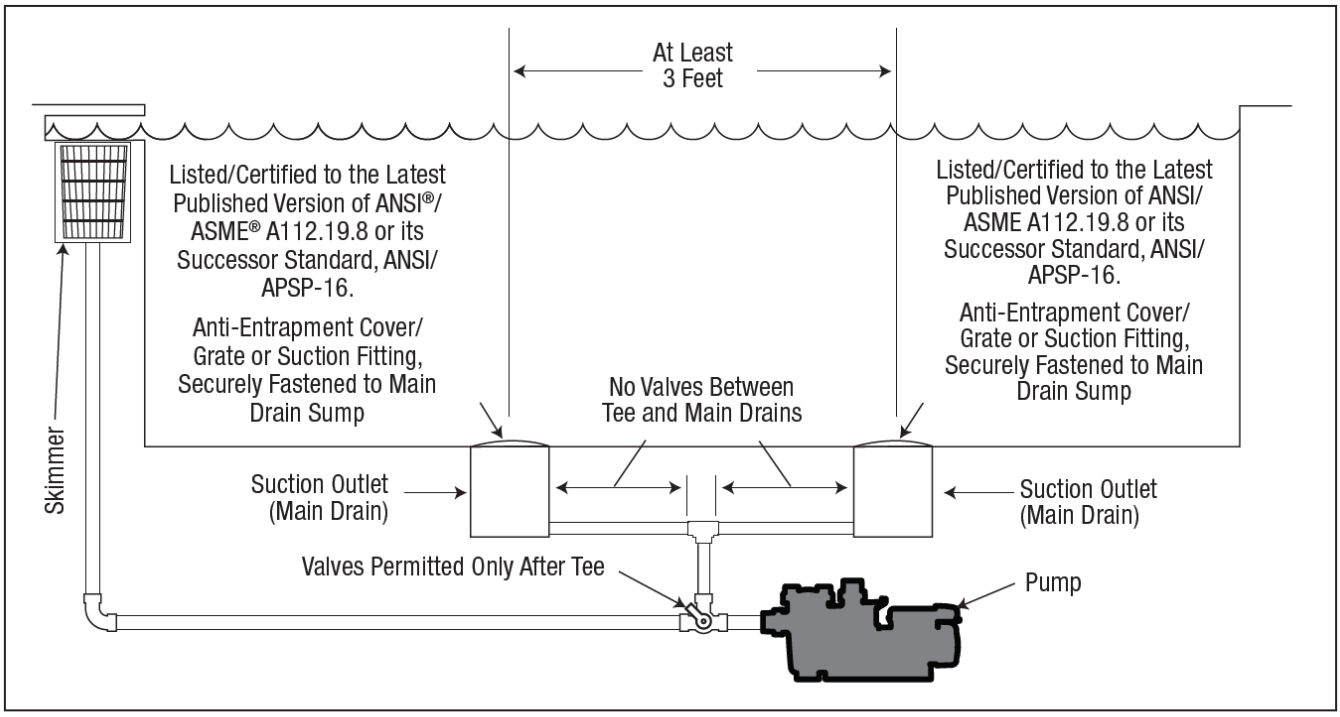


Figure 4. Number of Suction Outlets Per Pump

***Unblockable SOFA –** If acceptable by local code and Authority Having Jurisdiction

(AHJ), a single unblockable SOFA may be used. For an unblockable SOFA to qualify as an unblockable drain under the Virginia Graham Baker Act (VGBA), the Suction Outlet Fitting Assembly (SOFA) shall be certifi ed as unblockable, and be designated by the manufacturer as unblockable, and the manufacturer's instructions must state the SOFA is authorized for use as an unblockable suction outlet in accordance with ANSI/APSP/ICC-16. Certifi ed unblockable SOFA's must be installed in accordance with the manufacturer's instructions, the latest edition of ANSI/PHTA/ICC-7, and applicable local code.

Installation Information

Zero Clearance TEFC Motor

The Jandy pumps in this manual feature a Zero Clearance Totally Enclosed Fan Cooled (TEFC) motor. Unlike most TEFC motors which draw in cool air from the back of the fan shroud and require 2″-3″ of clearance, the Jandy Zero Clearance TEFC motor pulls in air from the top, bottom and sides of the fan shroud. The Zero Clearance TEFC motor makes it possible to install the pump with minimal clearance between the back of the fan shroud and potential obstructions such as a fence or foundation. Clearance must still be provided on the sides of the motor and fan shroud to allow for adequate air-flow and maintenance of the pump.

Plumbing

Preparation Information

1. Check the pump carton for any damage. If any damage is found, contact the shipper or distributor where the pump was purchased.
2. Inspect the contents of the carton and verify that all parts are included.

Pump Location

Zodiac Pool Systems LLC recommends installing the pump within one foot (30 cm) above water level. The pump should not be elevated more than 5 feet (152 cm). If the pump is located below water level, isolation valves must be installed on both the suction and return lines to prevent back flow of pool water during any routine or required servicing.

WARNING
A check valve can interfere with the proper operation of certain Suction Vacuum Rele ase System (SVRS) products. To avoid possible entrapment hazard, serious injury, or death, make sure to review the operation/ owners manual of your particular SVRS pro duct before installing the check valve.
To Reduce the Risk of Fire, install pool equipment in an area where debris will not c ollect on or around the equipment. Keep surrounding area clear of all debris such as p aper, leaves, pine needles and other combustible materials.
CAUTION
In order to avoid premature failure or damage to the pump motor, protect the pump fro m direct water exposure from sprinklers, water runoff from rooftops and drainage, etc. Failure to comply may cause pump failure, and may void the warranty.

NOTE: When the pool equipment is located below the pool surface a leak can result in large scale water loss or flooding. Zodiac Pool Systems LLC cannot be responsible for such water loss or flooding or damage caused by either occurrence.

1. Install the pump such that any disconnecting means and/or junction boxes for power connection are within sight of the pump and at least five feet horizontally from the edge of the pool and/or spa. Choose a location that will minimize pipe turns.
   NOTE: In Canada, the minimum distance maintained from the edge of the pool and/or spa as noted above must be 3 meters (10 feet), as required by the Canadian Electrical Code (CEC, CSA C22.1).
2. Place the pump on a solid foundation that will not vibrate. To further reduce the possibility of vibration noise, bolt the pump to the foundation.
3. Assure that the foundation has adequate drainage to prevent the pump motor from getting wet. The pump needs to be protected from the rain and sun.
4. Make sure the pump has the proper ventilation to prevent the motor from overheating.
5. Allow plenty of space for any maintenances by leaving a clear area around the pump.
6. Provide adequate lighting if the equipment is in a potentially dark area.

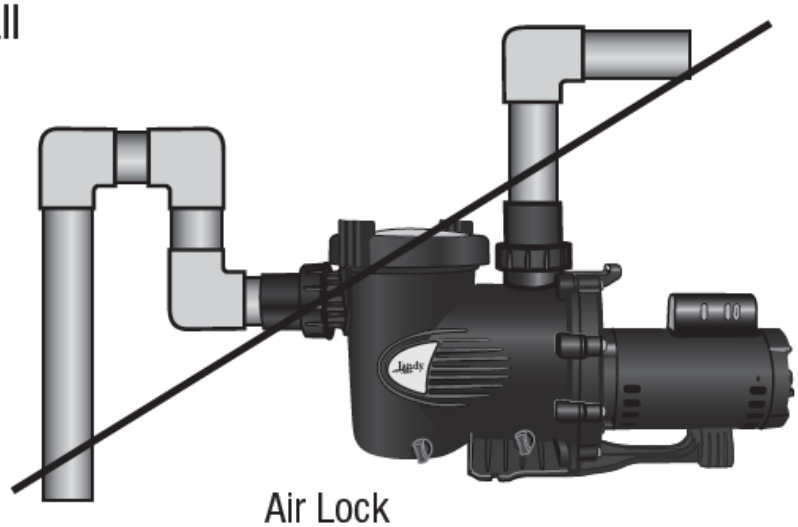
Pipe Size	Maximum Flow Suction (6 feet per second)	Maximum Flow Discharge (8 feet per second)
1½” (38 mm)	37 GPM (140 LPM)	50 GPM (189 LPM)
2″ (51 mm)	62 GPM (235 LPM)	85 GPM (322 LPM)
2½” (64 mm)	88 GPM (333 LPM)	120 GPM (454 LPM)
3″ (76 mm)	136 GPM (515 LPM)	184 GPM (697 LPM)
4″ (102 mm)	234 GPM (886 LPM)	313 GPM (1185 LPM)

Table 1. Pipe Sizing Chart for Schedule 40 PVC

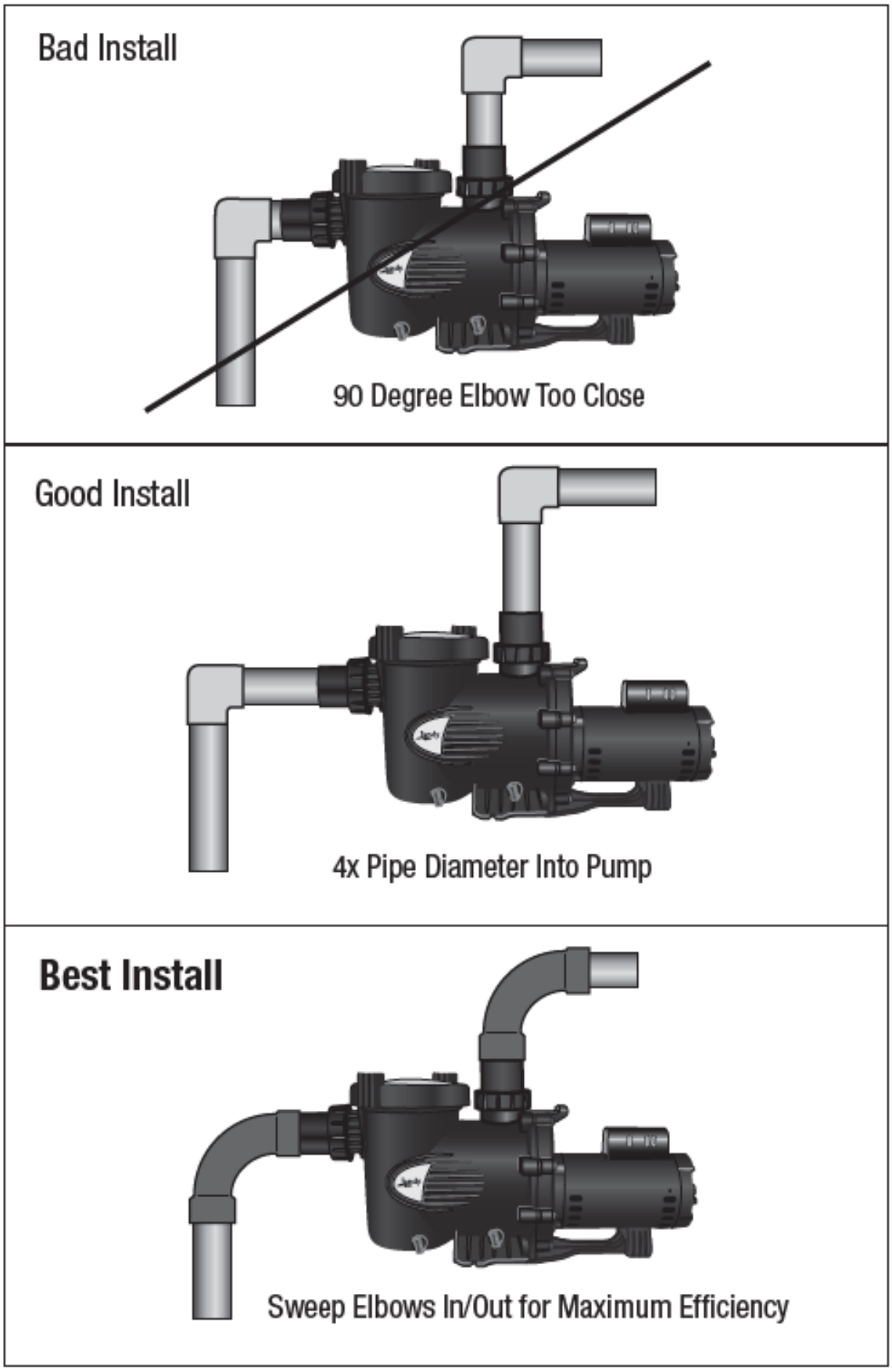
Installation Recommendations

1. To help prevent difficulty in priming, install the suction pipe without high points (above inlet of pump – inverted “U”s, commonly referred to in plumbing as an airlock) that can trap air. For installations of equipment up to 100 feet (30 m) from the water, refer to Table 1, the pipe sizing chart. For installations of equipment more than 100 feet (30 m) from the water, the recommended pipe size must be increased to the next size.

Bad Install



Air Lock



2. The unions on both the suction and discharge ports simplify installation and service while eliminating the possibility of leaks at threaded adapters.
3. The pump must be connected to at least two hydraulically-balanced main drains for each pool pump suction line. Each drain (suction outlet) assembly must be provided with covers and must be listed or certified to the latest published edition of

ANSI®/ASME® A112.19.8, or its successor standard, ANSI/APSP-16. The suction fittings of the main drains must be at least three feet (1 m) apart or at different planes. The suction fittings can be a drain and skimmer, two drains, two skimmers, or a skimmer with an equalizer line installed. Check the local codes for proper installation.

NOTE: To prevent entrapment, the system must be built so it cannot operate with the pump drawing water from only one main drain. At least two main drains must be connected to the pump when it is in operation. However, if two main drains run into a single suction line, the single suction line may be equipped with a valve that will shut off both main drains from the pump.

Unblockable SOFA – If acceptable by local code and the Authority Having Jurisdiction (AHJ), a single unblockable SOFA may be used. For an unblockable SOFA to qualify as an unblockable drain under the Virginia Graham Baker Act (VGBA), the Suction Outlet Fitting Assembly (SOFA) shall be certified as unblockable, and be designated by the manufacturer as unblockable, and the manufacturer's instructions must state the SOFA is authorized for use as an unblockable suction outlet in accordance with ANSI/APSP/ICC-16. Certified unblockable SOFA's must be installed in accordance with the manufacturer's instructions, the latest edition of ANSI/PHTA/ICC-7, and applicable local code.

4. The piping must be well supported and not forced together where it will experience constant stress.
5. Always use properly sized valves.
6. Use the fewest possible fittings and limit the use of 90 degree elbows. Each additional fitting or length of pipe increases resistance to flow which makes the pump work harder.

   NOTE: If more than ten suction fittings are needed, the pipe size must be increased.
7. Every new installation must be pressure tested according to local codes.

Adjustable Bases VSFHP Models

To replace an existing pump with different dimensions, use the adjustable bases to correctly align the suction and discharge ports with existing plumbing. The VS FloPro base and spacers increase the total height of the pump and the height of the suction side port of the pump. See Figure 5 and Table 2.

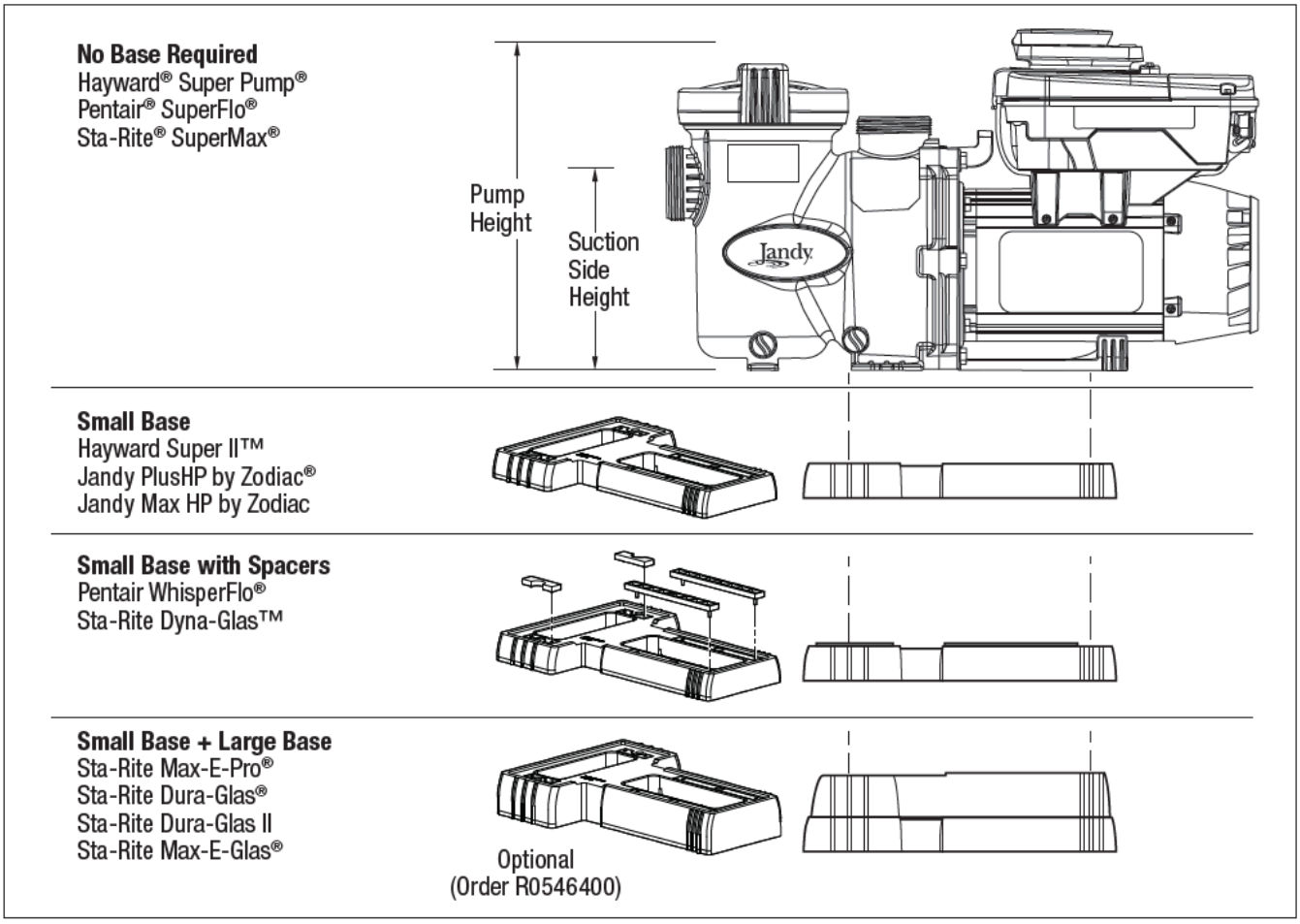


Figure 5. Base Configurations (VS FloPro Models Only)

MINIMUM WIRE SIZE AND MINIMUM OVERCURRENT PROTECTION*								
Distance from Sub-Panel			0-50 feet (15 m)		50-100 feet (15-30 m)		100-200 feet (30-60 m)	
Pump Model	**Inverse – Time Circuit Breaker or Branch Fuse AMPs** **Class: CC, G, H, J, K, RK, or T**		**Voltage**		**Voltage**		**Voltage**	
	208-230 VAC	**115 VAC**	**208-230 VAC**	**115 VAC**	**208-230 VAC**	**115 VAC**	**208-230 VAC**	**115 VAC**

VSFHP3802A(S) VSSHP3802A(S)	20A	NA	12 AWG	NA	10 AWG	NA	10 AWG	NA
VSFHP185DV2A(S) VSFHP270DV2A(S) VSPHP270DV2A(S) VSSHP220DV2A(S) VSSHP270DV2A(S)	15A	20A	14 AWG (2.1mm2)	12 AWG (3.3mm2)	12 AWG (3.3mm2)	10 AWG (5.3mm2)	10 AWG (5.3mm2)	10 AWG (5.3mm2)
*Assumes three (3) copper conductors in a buried conduit and 3% maximum voltage loss in branch circuit. All National Electrical Code® (NEC®) and local codes must be followed. Table shows minimum wire size and branch fuse recommendations for a typical installation per NEC.								

1. Using a hand cutter tool, cut the plastic bars connecting the top and bottom sets of spacers, as shown in Figure 6.
2. Push the two top spacers and two bottom spacers out of the base.
3. Align the pins in the four spacers with the holes in the base. Snap the spacers into place (Figure 7).

Base Configuration	**Suction Side Height**	**Basket Lid Height**	**SpeedSet Controller Height**
1. Pump without Base	7 3/4″	12 3/4″	14 1/8″
2. Pump with Base	8 7/8″	13 7/8″	15 1/4″

3. Pump with Base and Spacers	9 1/8″	14 1/8″	15 1/2″
4. Pump with Small + Large Base	10 3/4″	15 3/4″	17 1/8″

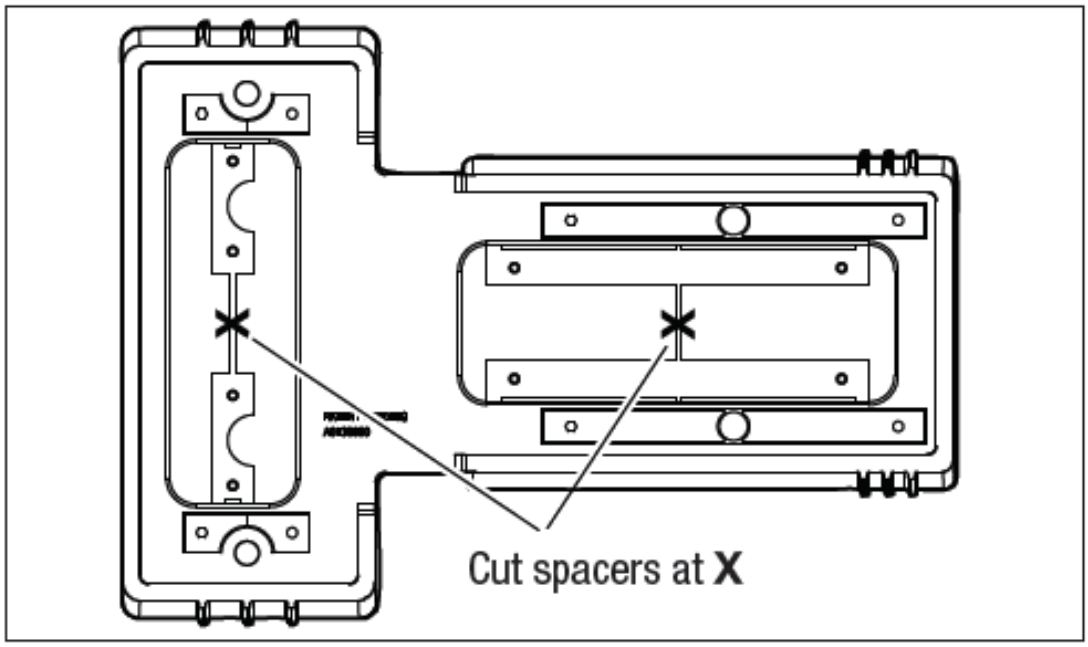


Figure 6. Cut Sets of Spacers Out of Base

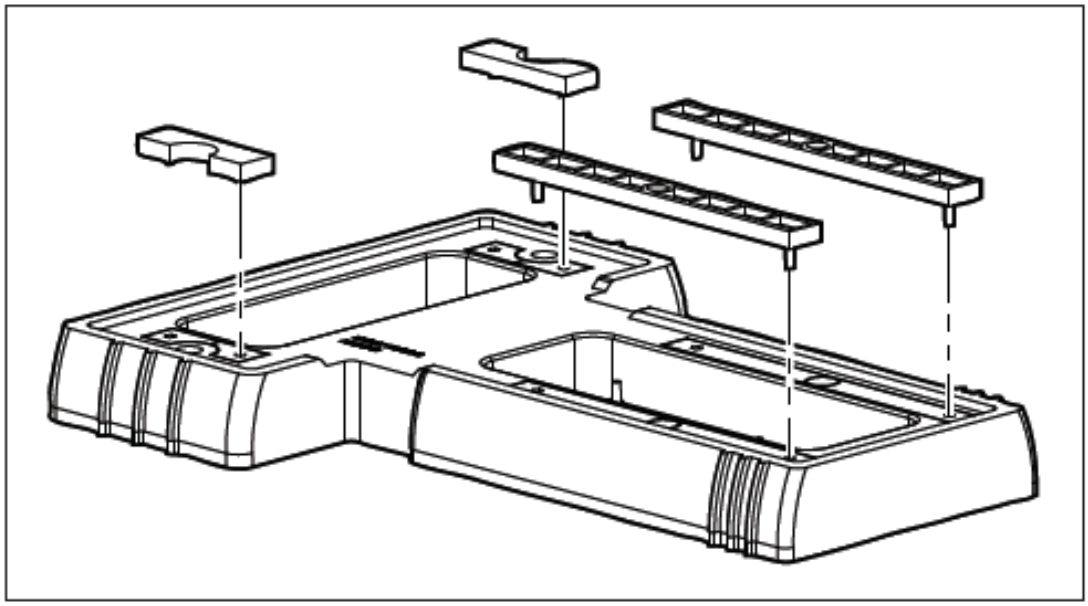


Figure 7. Snap Spacers Into Place

Electrical Installation

Voltage Checks

The correct voltage, as specified on the pump data plate, is necessary for proper performance and long motor life. Incorrect voltage will decrease the pump’s ability to perform and could cause overheating, reduce the motor life, and result in higher electric

bills.

It is the responsibility of the electrical installer to provide data plate operating voltage to the pump by ensuring proper circuit sizes and wire sizes for this specific application. The National Electrical Code® (NEC®, NFPA-70®) requires all pool pump circuits be protected with a Ground Fault Interrupter (GFCI). Therefore, it is also the responsibility of the electrical installer to ensure that the pump circuit is in compliance with this and all other applicable requirements of the National Electrical Code (NEC) and any other applicable installation codes.

All variable-speed pumps, regardless of brand, make or model, are prone to create nuisance trips on GFCI breakers. Siemens® QFP or QF series GFCI breakers are highly recommended to minimize or eliminate these occurrences and offer 5 milliamp personal protection while meeting 2008 to current NEC standards for pool pumps.

CAUTION
Failure to provide data plate voltage (+/- 10%) during operation will cause the motor to overheat and may void the warranty.

Bonding and Grounding

In addition to being properly grounded as described in Section 3.3.3, Electrical Wiring, and in accordance with the requirements of the National Electrical Code (NEC), or in Canada the Canadian Electrical Code (CEC), the pump motor must be bonded to all metal parts of the swimming pool, spa or hot tub structure and to all electrical components and equipment associated with the pool/spa water circulation system. The bonding must be accomplished by using a solid copper conductor, No. 8 AWG or larger. In Canada No. 6 AWG or larger must be used. Bond the motor using the external bonding lug provided on the motor frame. See Figure 9.

National Electrical Code® (NEC®) requires bonding of the Pool Water. Where none of the bonded pool equipment, structures, or parts are in direct connection with the pool water; the pool water shall be in direct contact with an approved corrosion-resistant conductive surface that exposes not less than 5800 mm^2 (9 in^2) of the surface area to the pool water at all times. The conductive surface shall be located where it is not

exposed to physical damage or dislodgement during usual pool activities, and it shall be bonded in accordance with the bonding requirements of NEC Article 680. Refer to locally enforced codes for any additional bonding requirements.

WARNING
Always disconnect the power source before working on a motor or its connected load.
Make sure that the control switch, time clock, or control system is installed in an acces sible location, so that in the event of an equipment failure or a loose plumbing fitting, t he equipment can be turned off. This location must not be in the same area as the po ol pump, filter, and other equipment.
CAUTION
The pump must be permanently connected to a dedicated electrical circuit. No other e quipment, lights, appliances, or outlets may be connected to the pump circuit.

Electrical Wiring

The Jandy pump models covered in this installation and operation manual provide separate compartments for high voltage and low voltage wiring.

The low voltage compartment provides 2 openings:

- RS-485 quick connect port (see Figure 8)

  NOTE: If the RS-485 Quick Connect Port is not used, a 3/8″ liquid-tight cord-grip must be used to provide strain relief and water tight seal. Use Jandy r-kit part number R0501100 or an equivalent alternative.
- 3/8″ conduit port (threaded)

  The high voltage compartment provides 3 conduit port openings (see Figure 9):
- 1/2″ (threaded)
- 1/2″ (threadless)
- 3/4″ (threadless)

Conduit fittings (not included) are required. Conduit must be liquid-tight after installation.

1. Ground the pump using the green ground screw provided on the high-voltage terminal block. Do NOT ground or daisy chain the ground wire to the secondary green ground screw or daisy chain to on the wiring compartment chassis (see Figures 8 and 12). Also do not ground to a gas supply line.
2. Wire size must be adequate to minimize voltage drop during the startup and operation of the pump.
3. Insulate all connections carefully to prevent grounding or short-circuits. Sharp edges on terminals require extra protection. For safety, and to prevent entry of contaminants, reinstall all conduit and terminal box covers. Do not force connections into the conduit box.

NOTE: When power alone is supplied to this pump, it will not operate. It requires a digital command sent to it by either a variable speed controller (SpeedSet, JEP-R, or iQPUMP01), an automation system, or use of the dry contacts (See Figure 8 and Figure 9 for RS485 wiring illustrations for a local controller or automations system. See Figure 12 and Figure 13 for dry contact wiring illustrations).

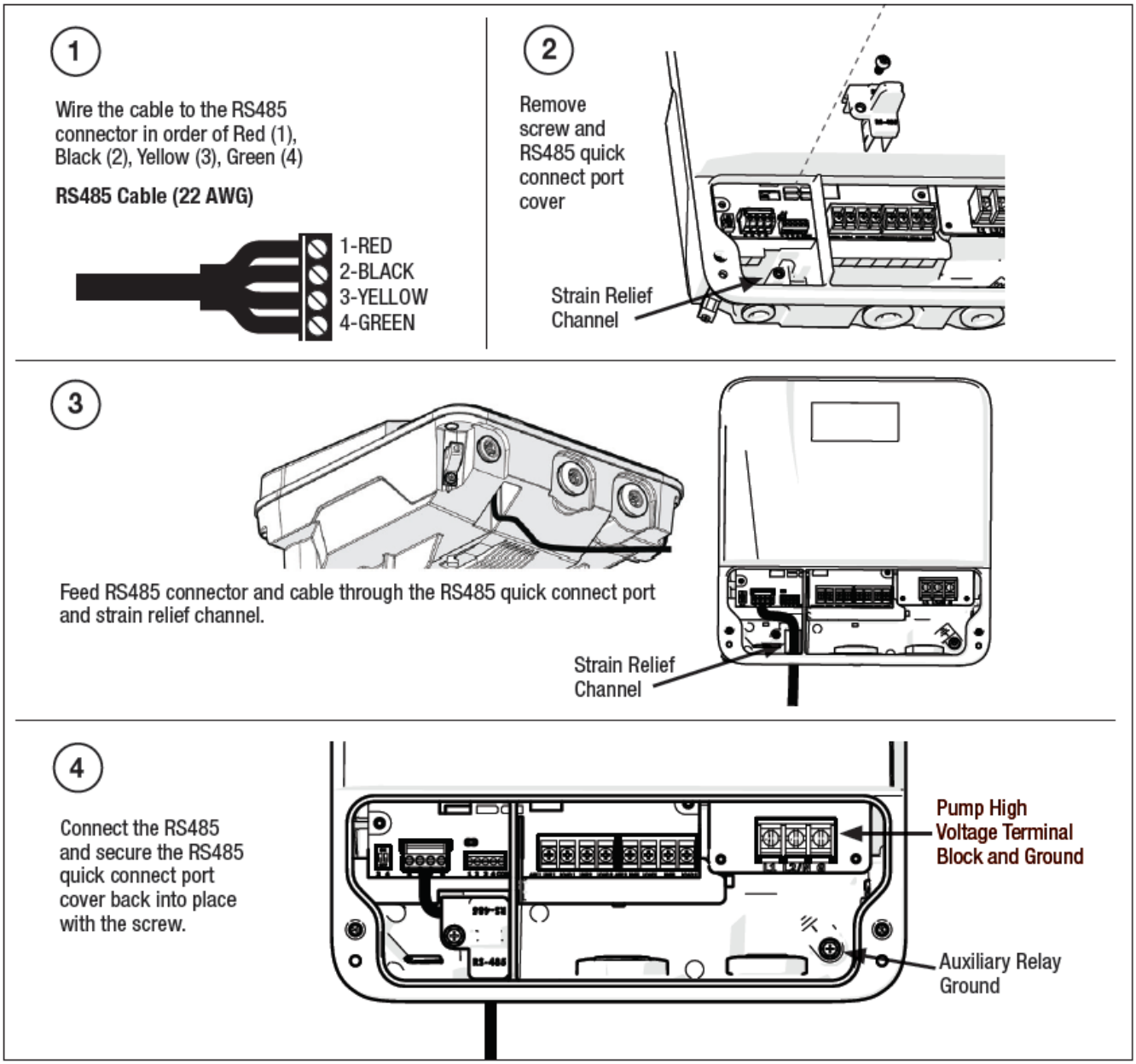


Figure 8. RS-485 Quick Connect Port with Wiring

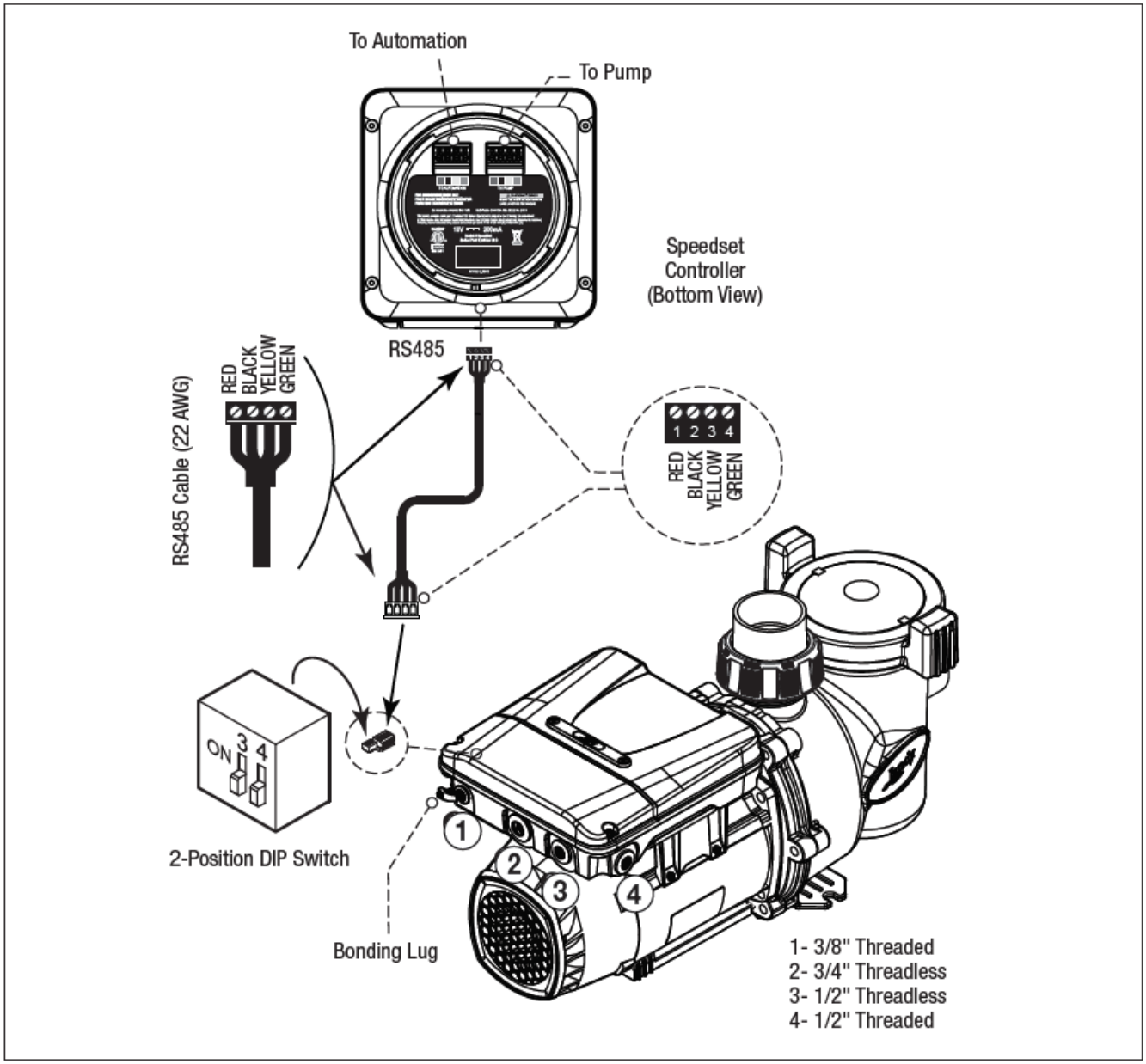


Figure 9. Wiring to a Controller

Pump Controller / Automation System Setup

Pumps in this manual are compatible with the following local Jandy controllers and automation systems:

- SpeedSet Controller (local)
- iQPUMP01 (local)
- JEP-R (local)
- All Jandy Automation Systems

Each motor is equipped with an auto-sensing power circuit which automatically determines if 10v of power should be supplied to the RS485 wiring in order to power a local controller interface, or to suppress the 10v power supply when connected to a

Jandy Automation system when the motor is first turned on.
This auto sensing power circuit eliminates the need for DIP Switches 1-2 that are present on other Jandy Pumps.

DIP Switch Settings

DIP Switch Settings with Local Controller

Please refer to the following table for required settings for DIP switches 3-4 when the pump is connected to a local controller.

Controller	**Switch 3**	**Switch 4**
JEP-R	OFF	OFF
iQPUMP01	OFF	OFF
SpeedSet	DIP Switch 3-4 settings are only important when connected to a Jandy automation system using SpeedSet automation pass-through wiring connection on the bottom of the controller. If applicable, please see following sections.	

Table 3. Local Controller DIP Switch Settings

DIP Switch Settings with Automation

DIP Switch 3-4 setting rules are not common across all Jandy automation systems. Please reference the following sections to understand the required settings.
For Jandy AquaLink® RS Automation System users, a 2022 mid-year update changes the method in which pumps in this manual interact with Jandy AquaLink RS systems. Refer to the RS manual for more information.

Pre-2022 AquaLink RS Firmware Rev_V and Earlier

AquaLink RS systems using firmware Rev V and earlier, manufactured prior to mid-year 2022, support up to 4 variable-speed pumps. Each pump is assigned an address of 1 through 4 using DIP Switches 3-4 on the pump. Use the table below for pump address

assignment settings.

These settings are used when connected to the RS485 connection on the pump or when connected to the pump using a SpeedSet controller's automation pass-through wiring connection on the bottom of the controller.

Address	Switch 3	Switch 4
Pump 1	OFF	OFF
Pump 2	ON	OFF
Pump 3	OFF	ON
Pump 4	ON	ON

Table 4. Pump Address DIP Switch Settings

2022 AquaLink RS Firmware Rev_W and Later

AquaLink RS systems using Rev W and later, manufactured after mid-year 2022, support up to 16 variable-speed pumps that utilize a pre-assigned SERIAL ADDRESS. DIP Switches 3-4 are not utilized. Pumps in this manual are all assigned a unique SERIAL ADDRESS at the factory. The SERIAL ADDRESS label can be found on the pump motor in the location shown below.

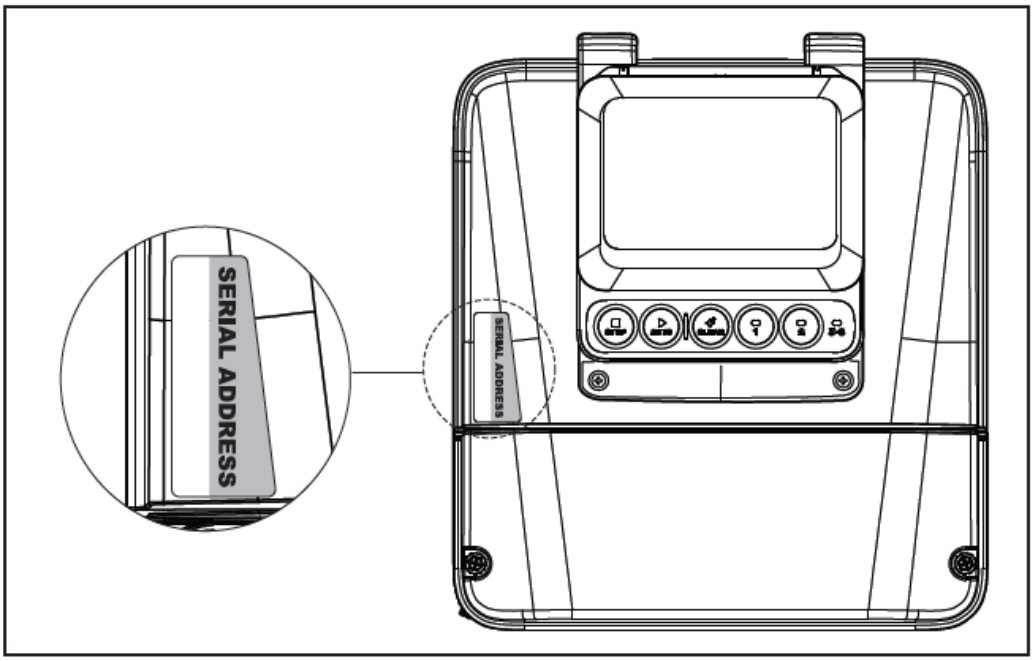


Figure 10. Serial Address Label Location

When setting up pumps using this method, the pump address of each pump will initially appear in the unassigned pump address section of the iAquaLink App or other automation setup device. Utilize the App or other device to complete pump setup.

AquaLink TCX

AquaLink TCX supports a single variable-speed pump. DIP Switches 3-4 must always be set in the OFF position when the pump is connected to a TCX Automation System. This is true even when connected to a TCX system using the automation pass-through wiring on a Jandy SpeedSet controller.

All Other Jandy Automation Systems

All other Jandy automation systems support up to 4 variable-speed pumps utilizing DIP Switches 3-4 in the same manner as defined in Section 3.5.3, Pre-2022 AquaLink RS Firmware Rev_V and Earlier.

Auxiliary Relay Operation

Pumps models in this manual are equipped with a terminal bar that provides user access to two built-in Auxiliary Relays. The normally-open relays are activated under certain operating conditions and are intended to be used to control external devices that require system water flow for proper functioning, such as booster pumps, salt water chlorinators, etc.

See Figures 8, 12 and 13 for compartment details and location of the auxiliary relays

and wiring illustrations.

Auxiliary Load Connection Requirements

WARNING ELECTRICAL SHOCK HAZARD
Due to the potential risk of fire, electric shock, or injuries to persons, Jandy® Pumps and any auxiliary loads must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Protection Association, 1 Batterymarch Park, Quincy, MA 02169, or from your local government inspection agency. In Canada, Jandy Pumps must be installed in accordance with the Canadian Electrical Code (CEC). • The Auxiliary Load relay contacts are rated at 230V/115V, 11A RMS. Please ensure the requirements of the equipment to be connected to the Auxiliary Load do not exceed this rating.

Auxiliary Relay Operation

Auxiliary Relay contact activation is speed dependent. Auxiliary Relay 1 has an activation speed of 1725 RPM and Auxiliary Relay 2 has an activation speed of 2250 RPM.

The Jandy SpeedSet controller provides the ability to reprogram the Auxiliary Relay open/close speeds for customization. Open/close speed settings that are changed using this feature are permanent even if the SpeedSet controller is disconnected.

Please refer to the “Settings” section in the Jandy SpeedSet controller I/O manual for additional details.

Contact Closure

From a stopped condition, there is a three-minute delay before the Auxiliary Relay contact is closed when the motor speed reaches and maintains the activation speed. Once the three minute run time criteria has been reached, when going from an RPM

below the activation speed to an RPM above the activation speed, there is a 5-second delay before the Auxiliary Relay contact is closed.

Contact Opening

When going from an RPM above the activation speed to an RPM below the activation speed, the relay opening is always immediate.

Dry Contact Operation

External relays or switches can be used with the dry contacts if a Jandy controller is not connected to the RS-485 line. By creating a circuit that runs between the dry contact, the external switch/relay, and the common on the dry contact, when the circuit is closed the pump will turn on, prime at 2750 RPM for 3 minutes, and go to the pre-determined speed of the dry contact indefinitely until the circuit is opened by the external relay.

If no inputs are jumped to common, the RPM is zero. When any Jandy controller is connected through RS-485, all dry contact commands will be ignored. Refer to Figure 12 and Figure 13 for dry contact wiring. Refer to Table 5 for dry contact speed settings.

Dry Contact Speed Settings

Dry contact speed settings were adjusted with motor serial numbers beginning with the letter B.

1. Please refer to the motor rating plate label to find the motor serial number (Figure 11).
2. Refer to Table 5 to determine the dry contact speeds for the motor.

Dry Contact Speeds Are Based On Motor Serial Numbers		
Dry Contact	**Serial # Begins with “A”**	**Serial # Begins with “B” or Later**
1	3000 RPM	3450 RPM
2	1400 RPM	1375 RPM

3	2200 RPM	2600 RPM
4	1725 RPM	1750 RPM

Figure 11. Motor Rating Plate Label

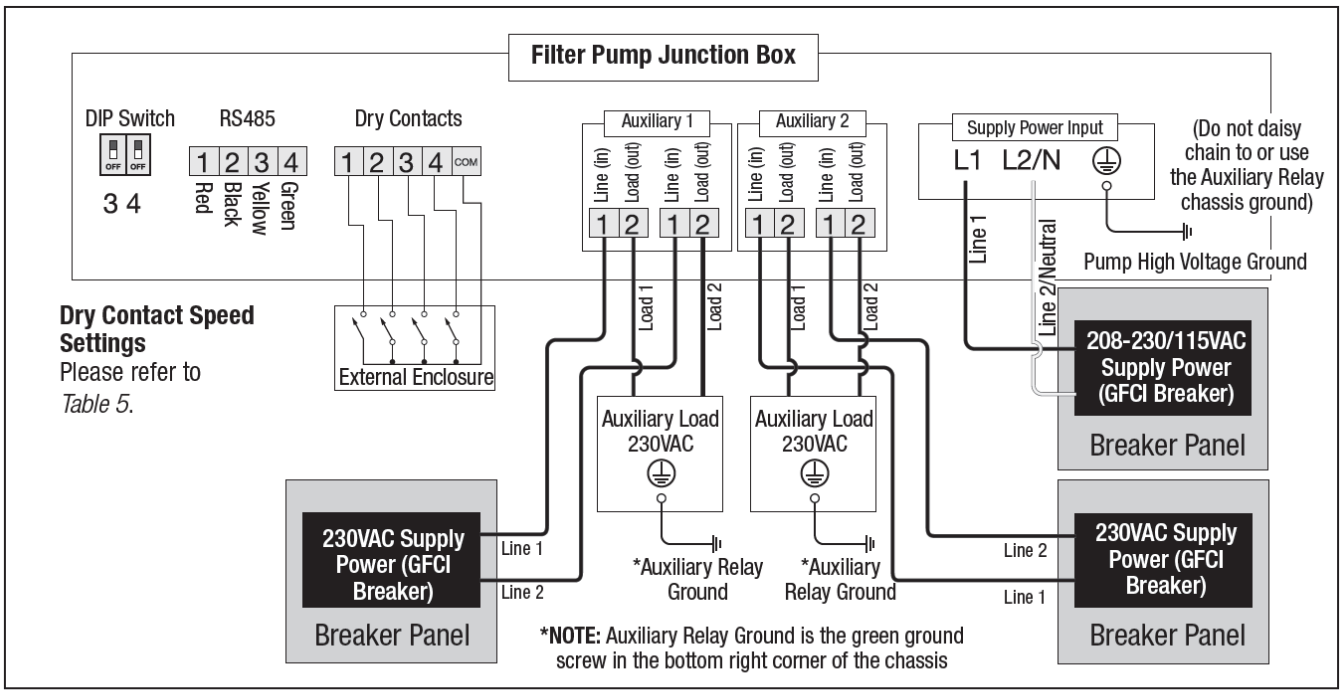


Figure 12. 208-230V Auxiliary Relay Wiring Diagram*

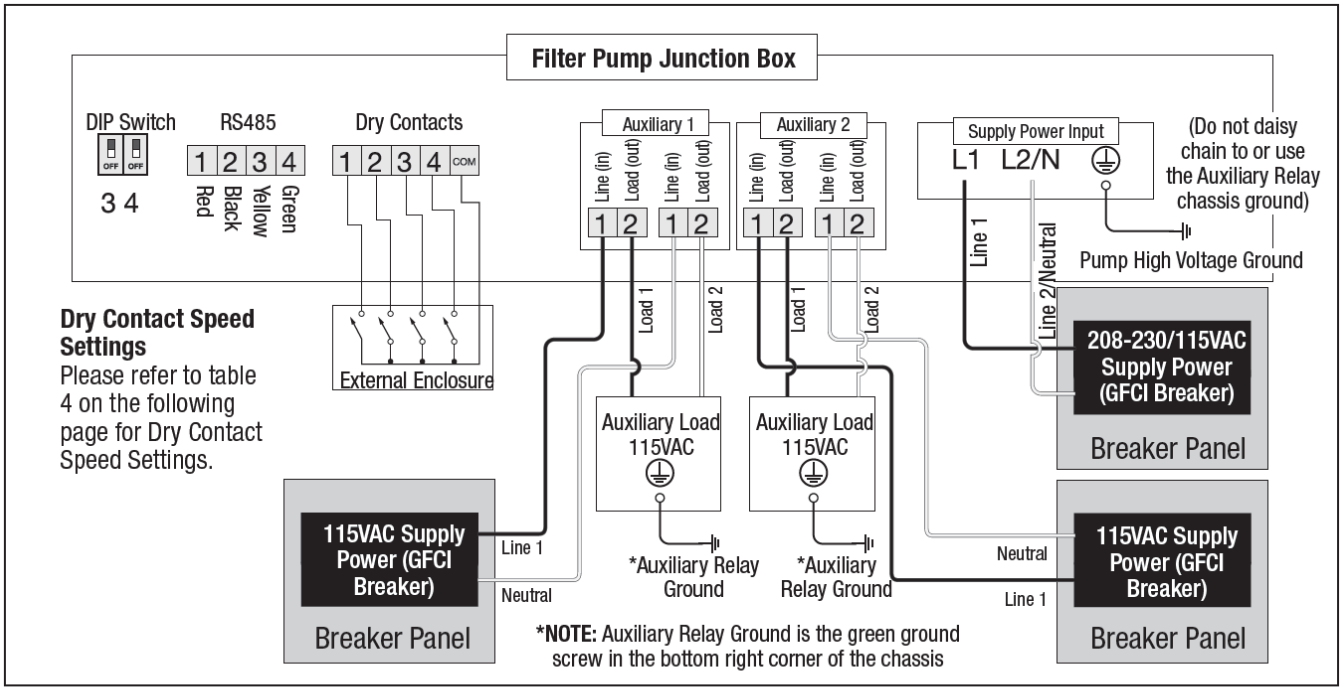


Figure 13. 115V Auxiliary Relay Wiring Diagram*

*** WARNING ELECTRICAL SHOCK HAZARD**

Due to the potential risk of fire, electric shock, or injuries to persons, Jandy® Pumps and any auxiliary loads must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Protection Association, 1 Batterymarch Park, Quincy, MA 02169, or from your local government inspection agency.

In Canada, Jandy Pumps must be installed in accordance with the Canadian Electrical Code (CEC).

* The Auxiliary Load relay contacts are rated at 230V/115V, 11A RMS. Please ensure the requirements of the equipment to be connected to the Auxiliary Load do not exceed this rating.

** 115VAC power supply for main pump power is supported on DV2A models only.

Conduct Pressure Test

IMPORTANT

All VSSHP models come with an additional disposable O-ring for pressure testing. Thi s is the blue pressure test O-ring (See Figure 14 and Figure 15). If you opened the pu mp lid before conducting the pressure test, the blue O-ring may fall out. If the blue O-r ing falls out, it must be reinstalled on the lid before beginning the pressure test *Sectio n 4.2.1, Replace Blue O-ring Before Pressure Testing, if necessary.*

WARNING

When pressure testing a system with water, air is often trapped in the system during t he filling process. This air will compress when the system is pressurized. Should the s ystem fail, this trapped air can propel debris at a high speed and cause injury. Every e ffort to remove trapped air must be taken, including opening the valve on the filter and loosening the pump basket lid while filling the pump.

Trapped air in the system can cause the filter lid to be blown off, which can result in d eath, serious injury, or property damage. Be sure all air is properly purged out of the s ystem before operating. DO NOT USE COMPRESSED AIR TO PRESSURE TEST OR CHECK FOR LEAKS.

ELECTRICAL SHOCK HAZARD

Do not pressure test above 35 PSI. Pressure testing must be done by a trained pool p rofessional. Circulation equipment that is not tested properly might fail, which could re sult in severe injury or property damage.

When pressure testing the system with water, it is very important to make sure that th e pump basket lid is completely secure.

1. Before pressurizing the system, ensure the lock ring “locked” indicators align with the suction and pressure side ports on the pump.
2. Fill the system with water to eliminate trapped air.
3. Pressurize the system with water to no more than 35 PSI.
4. Close the valve to seal the water in the system.
5. Observe the system for any leaks or pressure decay.

6. If there are lid leaks, repeat this procedure.

   For Zodiac Technical Support, call 1.800.822.7933.

CAUTION
Do not open the pump lid before pressure testing as the blue pressure test O-ring ma y fall out. If this happens, you will need to place it back on the lid.

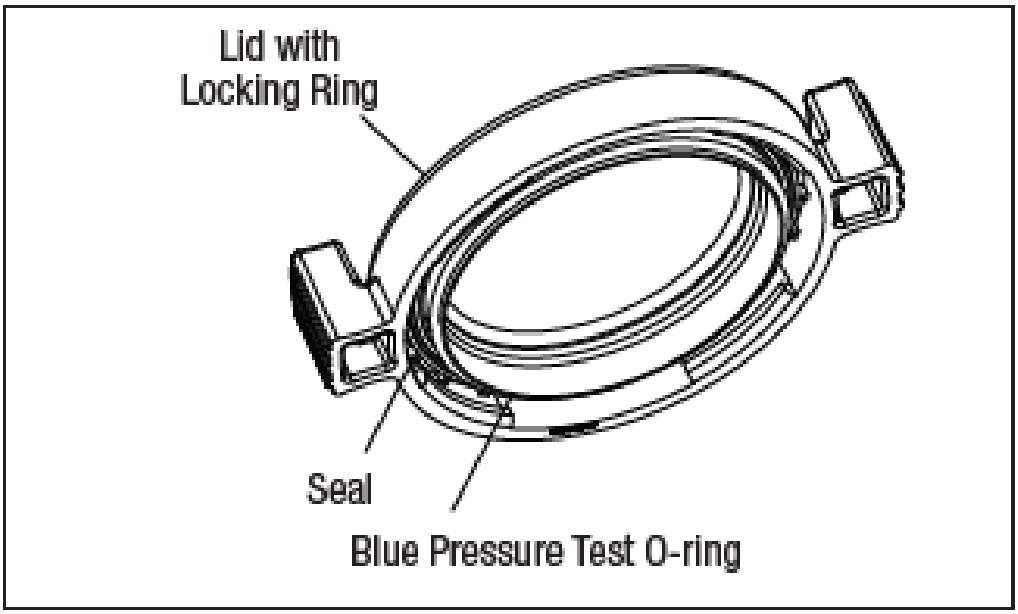
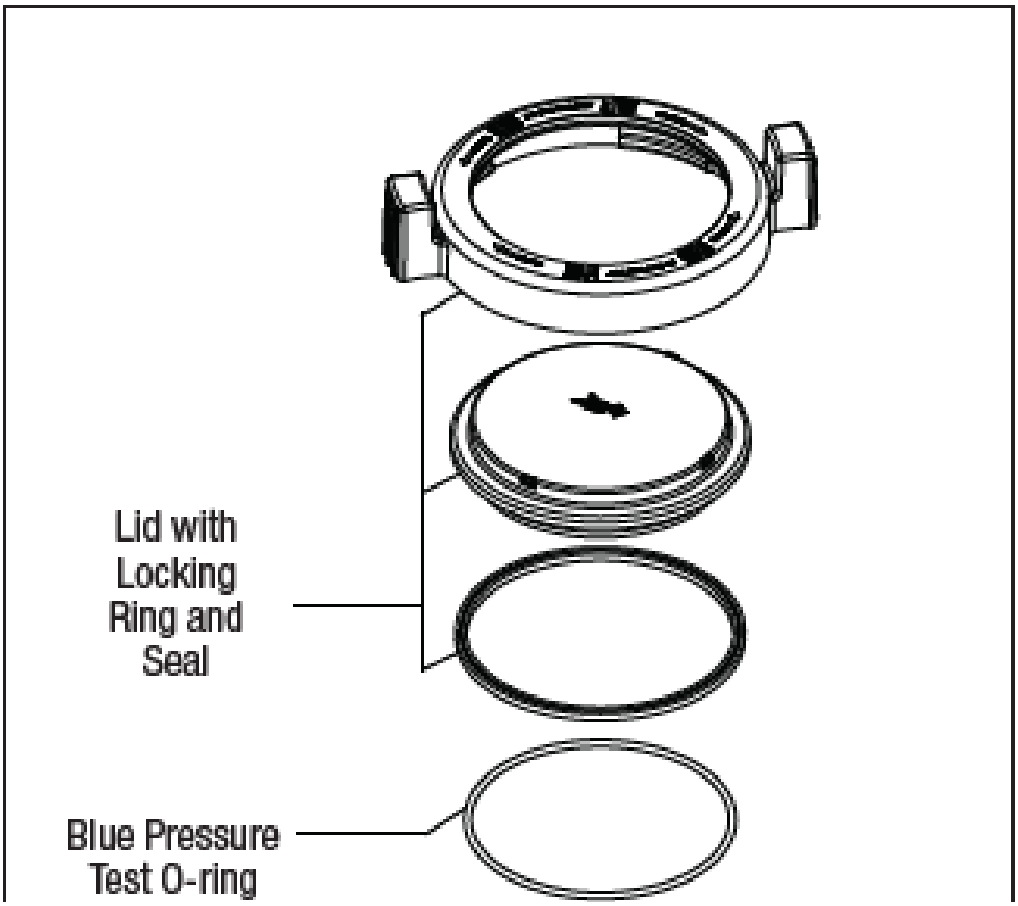


Figure 14. Blue Pressure Test O-ring



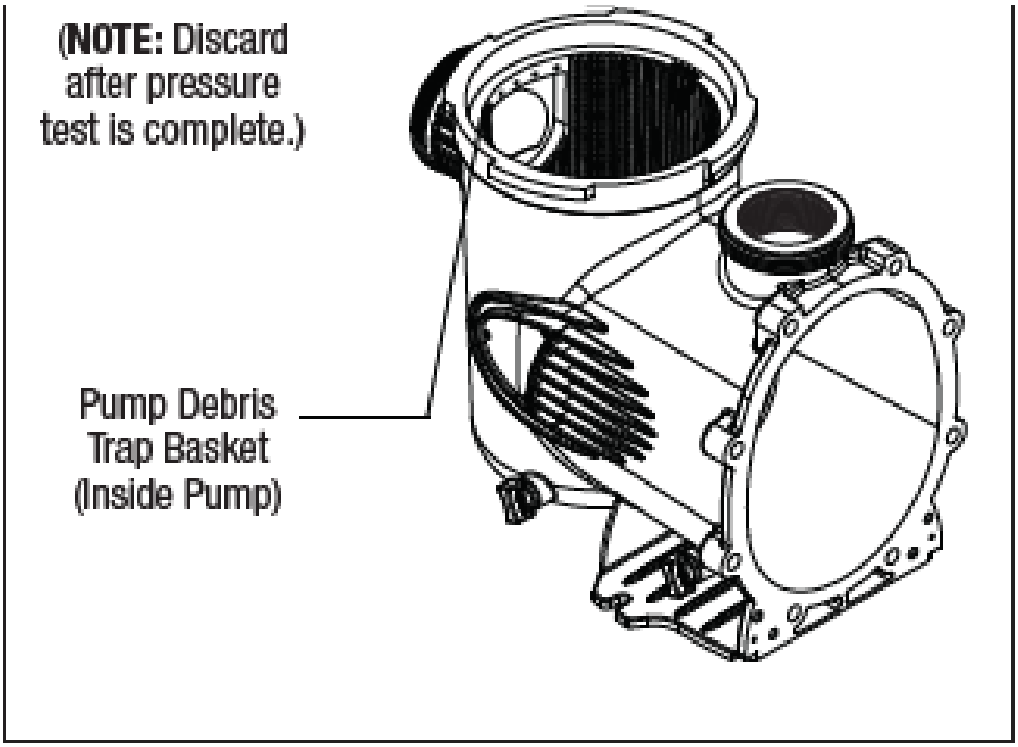


Figure 15. Exploded View with Blue Pressure Test O-ring (VSSHP Pump Models Only)

Replace Blue O-ring Before Pressure Testing, if necessary

1. Make sure that the pump is turned off.
2. Make sure that the switch to the circuit breaker that powers the pump motor is turned off.

WARNING: ELECTRICAL SHOCK HAZARD
Due to the potential risk of fire, electric shock, or injuries to persons, Jandy® Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local electrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copies of the NEC may be ordered from the National Protection Association, 1 Batterymarch Park, Quincy, MA, 02169, or from your local government inspection agency. In Canada, Jandy Pumps must be installed in accordance with the Canadian Electrical Code (CEC).

ELECTRICAL SHOCK HAZARD

Turn off the pump and the main breaker in the pump electrical circuit before starting the procedure. Failure to comply may cause a shock hazard, resulting in severe per sonal injury or death.

3. Make sure all necessary isolation valves are closed to prevent pool water from reaching the pump.
4. Following the markings on the locking ring, turn the ring counter-clockwise to remove the lid.
5. Carefully remove the lid with locking ring.

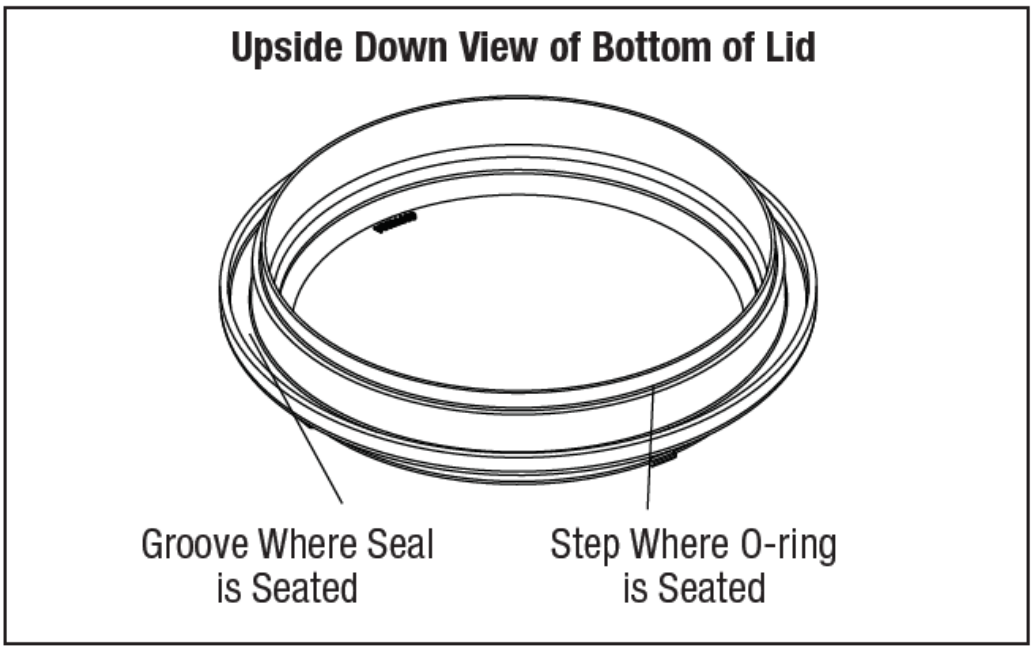


Figure 16. Placement of Blue Pressure Test O-ring

Replace Blue O-ring

1. Turn the lid with locking ring upside down.
2. Place the blue O-ring on the step located ¼” from the bottom of the lid. See Figure 16.
3. Make sure that the O-ring is properly seated.
4. Install the lid onto the pump body.
5. Follow the markings on the locking ring, turn the lid clockwise until the PORT arrow markings are aligned with the inlet and outlet ports of the pump. Do NOT tighten past this point.

Operation

Startup

CAUTION
Never run the pump without water. Running the pump “dry” for any length of time can cause severe damage to both the pump and motor and may void the warranty.

If this is a new pool installation, make sure all piping is clear of construction debris and has been properly pressure tested. The filter should be checked for proper installation, verifying that all connections and clamps are secure according to the manufacturer’s recommendations.

WARNING
To avoid risk of property damage, personal injury or death, verify that all power is turn ed off before starting these steps.

Pump Below Water Level

1. Ensure the pump lid is secure by verifying the “locked” indicators are aligned with the pump’s ports. Hand tighten only, do not use tools. Make sure valves are open and the pump unions are tight.
2. Open any isolation valves that may be in place between the pump and the pool’s main drain(s) and skimmer(s).
3. Open the air relief valve on the filter. This will allow air to begin to escape the system and fill the pump with water for priming.
4. Restore power to the pump and start the pump.
5. When water starts to come out of the air relief valve on the filter, close the air relief valve.
6. Inspect system for any leaks.

Pump Above Water Level

1. Open the air relief valve on the filter.
2. Remove the pump lid and fill the basket with water.
3. Prior to replacing the lid, check for debris around the lid O-ring seat. Debris around the lid O-ring seat may cause an air leak and will make it difficult for the pump to prime.
4. Tighten the lid by verifying the “locked” indicators on the lid are aligned with the pump’s ports. Hand tighten only, do not use tools. Make sure all valves are open and the pump unions are tight.
5. Restore power to the pump and start the pump.
6. Once the pump has primed and water comes out of the air relief valve on the filter, close the air relief valve and inspect the system for any leaks.

NOTE: All pumps in this manual are NSF-certified as being able to prime at heights up to 10 ft above the pool water level, at sea level. However, to achieve better self-priming, install the pump as close as possible to the water level of the pool.

See Section 3.2.3, Installation Recommendations for proper elevation and pipe size. The default priming speed is 2750 RPM. The pump will take approximately 15 minutes to prime at this priming speed when the pump is located 10 feet above the pool water. If priming speed is adjusted to 3450 RPM, the pump should prime within 6 minutes at 10 feet above the water level.

If the pump does not prime and all the instructions to this point have been followed, check for a suction leak. If there is no leak, repeat Steps 1 through 5.
For technical assistance, call Zodiac Technical Support at 1.800.822.7933.

Service & Maintenance

CAUTION To avoid damage to the plastics, do not use lubricant or sealant on the O-ring. Only soapy water should be used to install and lubricate the O-ring.

Clean Pump Basket

Debris that accumulates in the pump filter basket will begin to block the flow of water. The pump filter basket needs to be inspected and cleaned on a weekly basis. Environmental factors may require more frequent inspection.

1. Inspect the pump filter basket for debris by looking through the clear pump lid. This can be done with or without the pump running. If debris has accumulated, proceed to step 2.
2. Turn off the power to the pump. If the pump is located below the water level, close the isolation valves on the suction and discharge sides of the pump to prevent backflow of water.
3. Turn the locking ring counter-clockwise to remove the lid.
4. Lift the basket out of the pump.
5. Thoroughly clean the basket. If necessary, use a garden hose, spray the basket from the outside to help clear the holes. Remove any remaining debris.
6. Replace the basket in the pump by aligning the opening with the suction pipe. If aligned properly, the basket will drop easily into place. Do not force it into place.
7. Remove the lid seal and remove debris around the lid seal seat, as this can allow air to leak into the system. Clean the lid seal and place it on the lid.
8. Replace the lid and locking ring. Hand-tighten the lid to make an air-tight seal. Do not use any tools to tighten the lid: hand-tighten only.
9. Verify that all valves have been returned to the proper position for normal operation.
10. Open the pressure release valve on the filter, and make sure it is clean and ready for operation.
11. Turn on the power to the pump. Once all the air has been evacuated from the filter, close the pressure release valve.

Removing the Pump Lid

1. Make sure that the pump is turned OFF.
2. Make sure that the switch to the circuit breaker to the motor is turned OFF.
3. Make sure all necessary isolation valves are closed to prevent water from reaching the pump.
4. Following the markings on the locking ring, turn the ring counter-clockwise to remove the lid.
5. Carefully remove the lid with locking ring.

WARNING

ELECTRICAL SHOCK HAZARD

Turn off all switches and the main breaker in the variable-speed pump electrical circuit before starting the procedure. Failure to comply may cause a shock hazard resulting i n severe personal injury or death.

ELECTRICAL SHOCK HAZARD

Due to the potential risk of fire, electric shock, or injuries to persons, Jandy® Pumps must be installed in accordance with the National Electrical Code® (NEC®), all local el ectrical and safety codes, and the Occupational Safety and Health Act (OSHA). Copie s of the NEC may be ordered from the National Protection Association, 1 Batterymarc h Park, Quincy, MA, 02169, or from your local government inspection agency.

In Canada, Jandy Pumps must be installed in accordance with the Canadian Electrical Code (CEC).

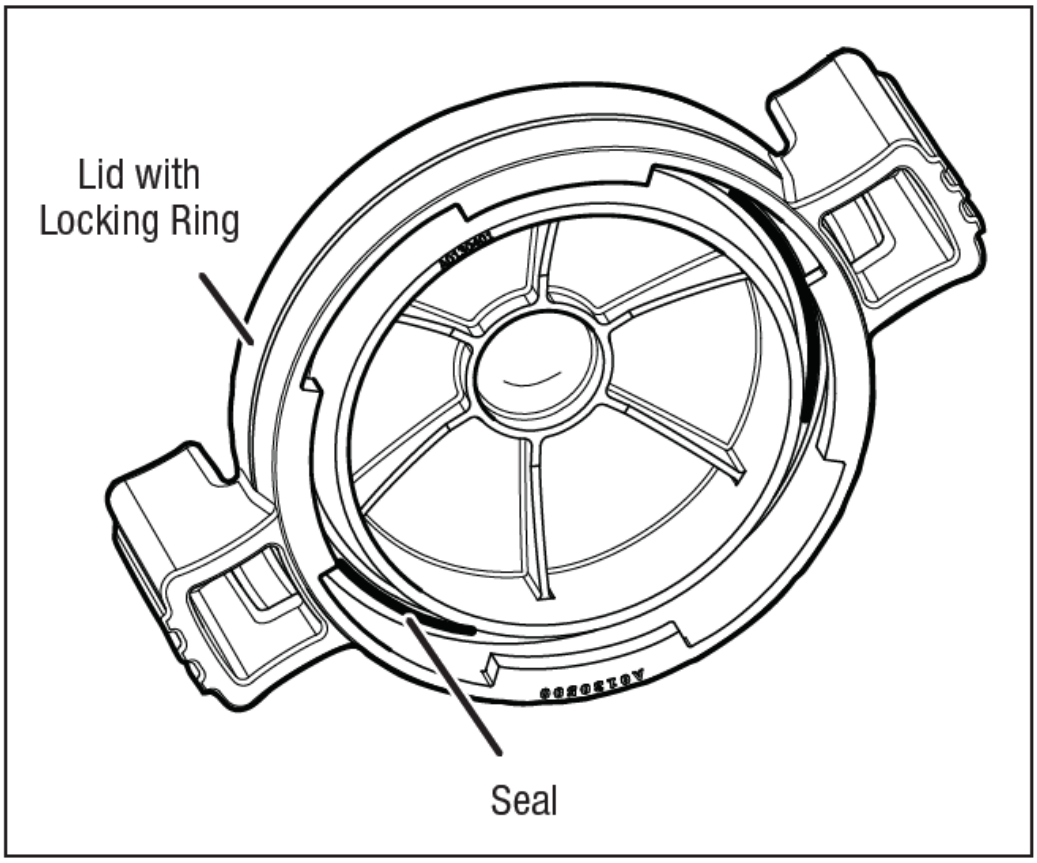


Figure 17. O-ring in Lid Assembly

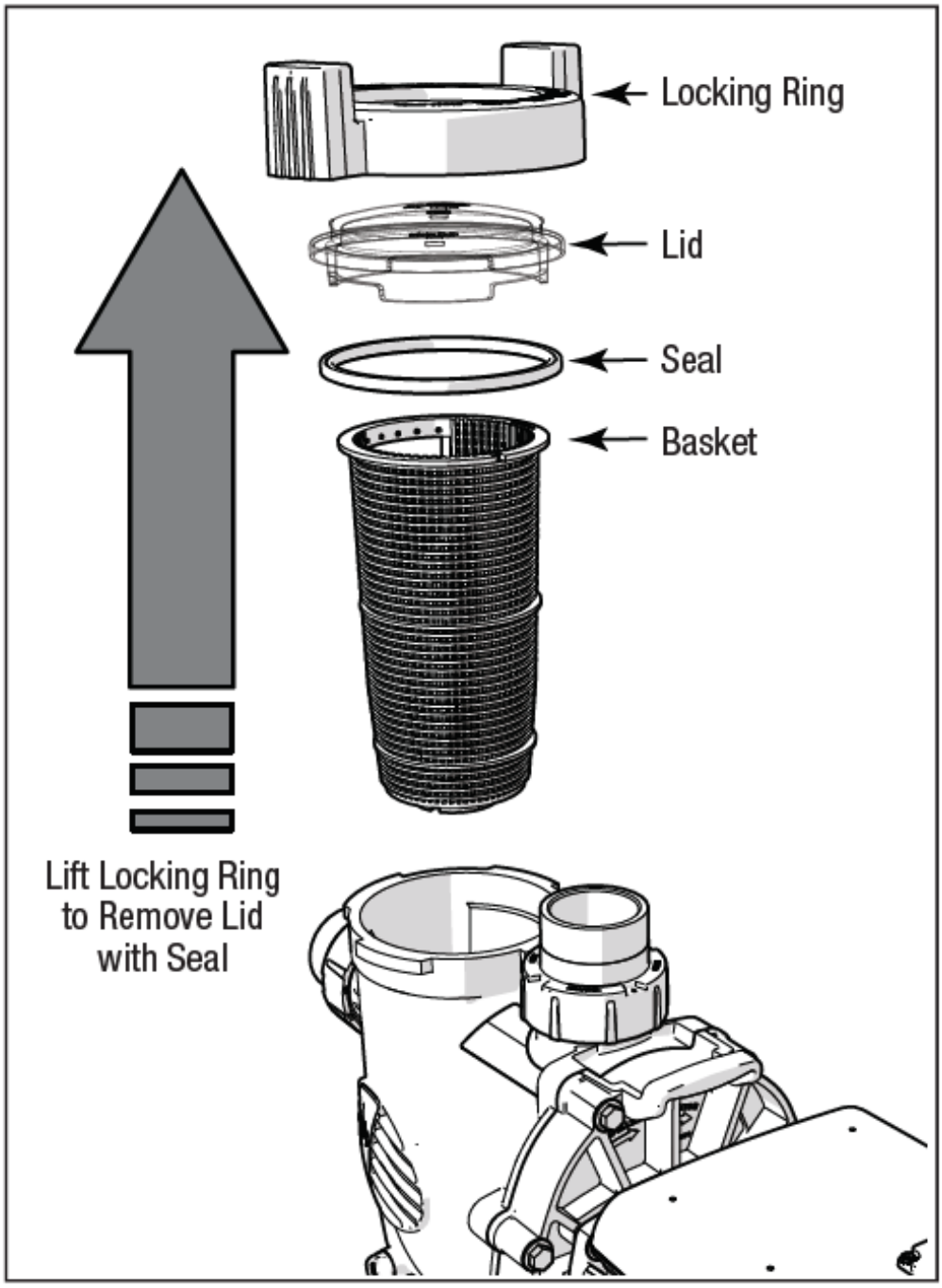


Figure 18. Remove Pump Lid

ePump and VS PlusHP Lid Seal Orientation

The lid seal used on ePump and VS PlusHP pumps must be installed in the following orientation if the seal is removed or replaced for service due to leaks or for cleaning.

1. Remove the seal from the lid. See Figure 18.
2. Wipe the seal clean of any debris, then clean the O- Ring groove in the lid.
3. Insert the seal into the lid groove with the two (2) ribs facing inwards into the lid grove and the one (1) rib facing outwards toward the pump. See Figure 19 for a cross-section visual.

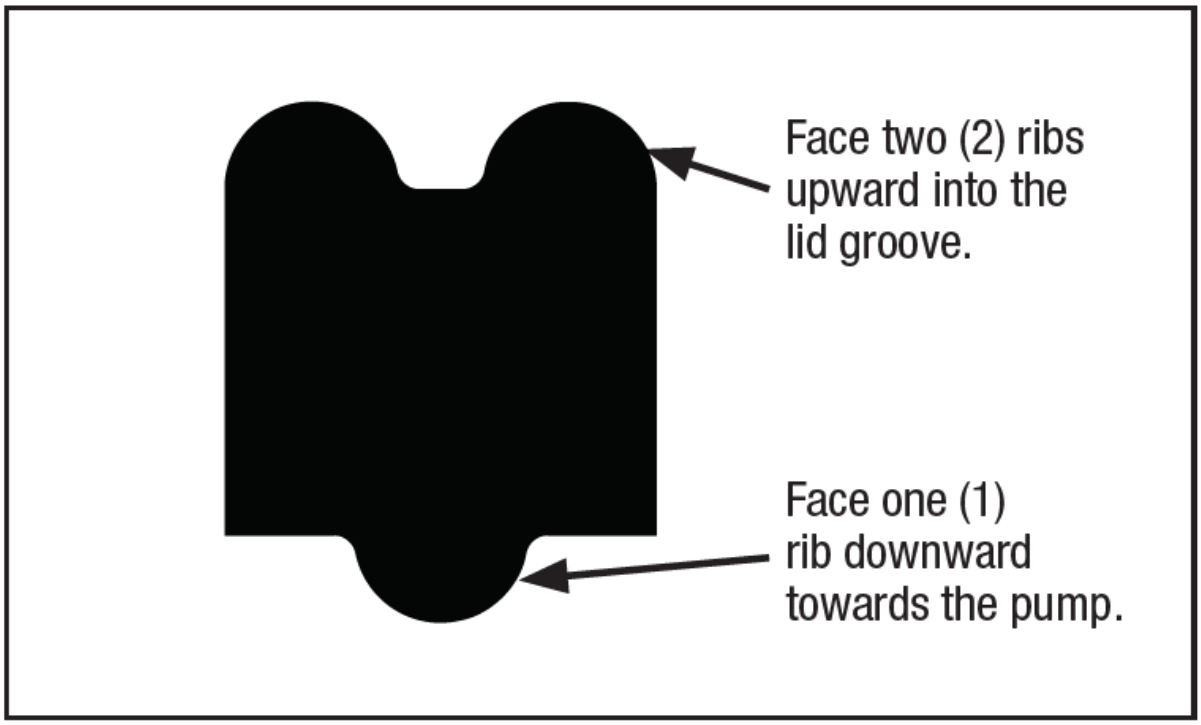


Figure 19. Cross Section of Lid Seal

Winterizing the Pump

CAUTION
The pump **must** be protected when freezing temperatures are expected. Allowing the pump to freeze will cause severe damage and may void the warranty.
Do not use antifreeze solutions in the pool, spa, or hot tub systems. Antifreeze is highly toxic and may damage the circulation system. The only exception to this is Prop ylene Glycol. For more information, see your local pool/spa supply store or contact a q ualified swimming pool service company.

1. Drain all water from the pump, system equipment, and piping.
2. Remove the two (2) drain plugs. Store the drain plugs in a safe location and reinstall them when the cold weather season is over. Ensure the drain plugs and o-rings are not misplaced.
3. Keep the motor covered and dry. Do not cover the pump with plastic, because this will create condensation that may damage the pump.

   NOTE Zodiac Pool Systems LLC recommends having a qualified service technician or electrician properly disconnect the electrical wiring at the switch or junction box. Once

the power is removed, loosen the two (2) unions and store the pump indoors. For safety, and to prevent entry of contaminants, reinstall all conduit and terminal box covers.

4. When the system is reopened for operation, have a qualified technician or electrician make sure all piping, valves, wiring and equipment
   are in accordance with the manufacturer's recommendations. Pay close attention to the filter and electrical connections.
5. The pump must be primed prior to starting. Refer to Section 5.1, Startup.

Troubleshooting and Repair

Zodiac Pool Systems LLC strongly recommends that you call a qualified service technician to perform any repairs on the filter/pump system. To locate a qualified technician, check your local yellow pages or visit ZodiacPoolSystems.com or ZodiacPoolSystems.ca and click on "Find a Dealer."

Symptom	**Possible Cause/Solution**
Motor won't start or the controller does not detect the motor	No power to the motor. Have a certified professional check the voltage on the main power terminal with the breaker on. The voltage must be within 10% of the motor rating plate voltage.
	The motor experienced an error. Power cycle the motor. If the motor has experienced an error, a fault code may appear on the controller. In order to clear the error, turn off the main breaker connected to the motor. **Wait at least 5 minutes** before returning power to the motor. The voltage in the capacitors must be completely drained for a proper power cycle.
	Improper low voltage wiring. The RS-485 connection must be secure with no broken wires. Inspect the low voltage wiring for signs of corrosion. If necessary cut the wires off and strip new leads. Make sure there are not any broken pieces of wire inside the RS-485 connector.

	Broken low voltage wiring. The wire may have breaks somewhere between the motor and the controller. With all power off, take a mul timeter and set it to Ohms/Continuity. Check continuity of each of th e low voltage lines from the motor side to the controller side. Repla ce the RS-485 wires completely if necessary.
	Improper low voltage wiring. Check the wiring of the RS-485 conne ctor. Wire colors for pins 1-4 should be Red, Black, Yellow, Green.
	Test the drive with the RS-485 jumper method. Using small section s of 22 AWG wire, jump pins 1 to 3 and 2 to 4. These wires can be made by cutting off a section of the RS-485 wires. Re-install the co nnector and attach the access cover. Apply power to the motor. The motor should spin at 2600 RPM indefinitely. If the motor works, there is a problem with the RS-485 line or with the controller. Conta ct Zodiac Technical Support at 1.800.822.7933.
	DIP switches in the wrong configuration. The variable speed drive h as two DIP switches; 3 and 4. These must both be in the OFF posit ion for Pump 01. This is the configuration for all controllers that are not automation and the first pump for automation. If more than one variable speed pump is being controlled with an automation system , they must be in the proper configuration. Refer to the DIP switch s ection of the manual to configure the other motors..
	Check the schedule. The motor will only turn on during programme d times set in the controller. Verify that the motor is scheduled to tur n on at that time.
	If the motor still has problems starting or continues to show faults, contact Zodiac Technical Support at 1.800.822.7933.

Motor does not start or starts b ut shuts off soo n after	Debris may be stuck between the impeller and the diffuser. This will prevent the drive shaft from spinning and will cause the motor to ex perience an error. Have a certified professional check to see if the drive shaft is seized with all power off. A quick test can be inserting a 5/16″ Allen wrench through the back of the fan housing and into t he drive shaft. Manually spin the drive shaft to check if it is seized. If large amounts of debris are found, check your strainer basket for breaks. Replace the strainer basket if necessary.
	If the motor still has problems starting, contact Zodiac Technical Su pport at 1.800.822.7933.
The motor gets hot and shuts of f periodically	Make sure that there is adequate room around the motor to circulat e air and keep the motor cool. Have a qualified electrician check for loose connections and check the voltage at the motor while it is in operation. If the main voltage is outside of 10% of the motor rating plate, the motor may be experiencing excessive loads. Contact you r local power surface provider.
No power to controller	This is exclusive to any controller that is not an automation system. The motor has the ability to power controllers through the RS-485 li ne. Have a certified electrician test the voltage on the RS-485 line while there is power to the motor. There should be between 8 and 12 Volts DC between pins 1 and 4. If the voltage is below or non ex istent, contact Zodiac Technical Support at 800.822.7933.
	Improper low voltage wiring. Check the wiring of the RS-485 conne ctor. Wire colors for pins 1-4 should be Red, Black, Yellow, Green.
Auxiliary relays not working	Make sure that the motor is spinning at least 1725 RPM for equipm ent wired to Aux 1 and 2250 RPM for equipment wired to Aux 2. W hen first turning on the pump, there is a 3 minute delay before any contacts close. Allow 5 seconds before contacts close when minim um contact speed is reached.

	The problem may be with the equipment wired to the relay. See the owners manual for the equipment to make sure the auxiliary equip ment has not failed.
	If the relays are still not engaging, contact Zodiac Technical Suppor t at 1.800.822.7933.

No Communicat ion with Automa tion	The Jandy automation has lost communication with the pump. Rem ove power from the automation system and the pump. Wait five (5) minutes and return power to the automation system FiRST, wait on e (1) minute, then return power to the pump.
Dry Contacts no t working	Test the drive with the RS-485 jumper method. Using small section s of 22 AWG wire, jump pins 1 to 3 and 2 to 4. These wires can be made by cutting off a section of the RS-485 wires. Re-install the co nnector and attach the access cover. Apply power to the motor. The motor should spin at 2600 RPM indefinitely. If the motor works, there is a problem with the dry contacts or the dry contact lines. Co ntact Zodiac Technical Support at 1.800.822.7933.
	Broken low voltage wiring. The wire may have breaks somewhere between the motor and the external switches. With all power off, ta ke a multimeter and set it to Ohms/Continuity. Check continuity of e ach of the low voltage lines from the motor side to the controller sid e. Replace the dry contact wires completely if necessary.

Service Technician Maintenance

CAUTION

This pump must be serviced by a professional service technician qualified in pool/spa installation. The following procedures must be followed exactly. Improper installation a nd/or operation can create dangerous electrical hazards, which can cause high voltag es to run through the electrical system. This can cause property damage, serious pers onal injury, and/or death. Improper installation and/or operation may void the warranty.
WARNING
Before servicing the pump, switch off the circuit breakers at the power source. Severe personal injury or death may occur if the pump starts while your hand is inside the pu mp.

Blocked Impeller

1. Turn off the pump. Switch off the circuit breaker to the pump motor.
2. Remove the lid and basket.
3. Look inside the pump and remove any debris.
4. Replace the basket and lid.
5. Switch on the circuit breaker to the pump motor.
6. Turn on the pump, and see if the problem is solved.
7. If the impeller is still blocked with debris and it is not possible to remove the debris using Steps 2 through 4, the pump will need to be disassembled in order to access the inlet and outlet of the impeller.

Product Specifications and Technical Data

Exploded view for general reference only. Specific models may differ. Please refer to contact information above to obtain spare parts information for specific pump models. For a complete list of replacement parts, please visit www.Jandy.com or contact Zodiac Technical Support at 1.800.822.7933 or email productsupport@fluidra.com In Canada, please call 1.888.647.4004 or email customer.service@fluidra.com

Exploded Views

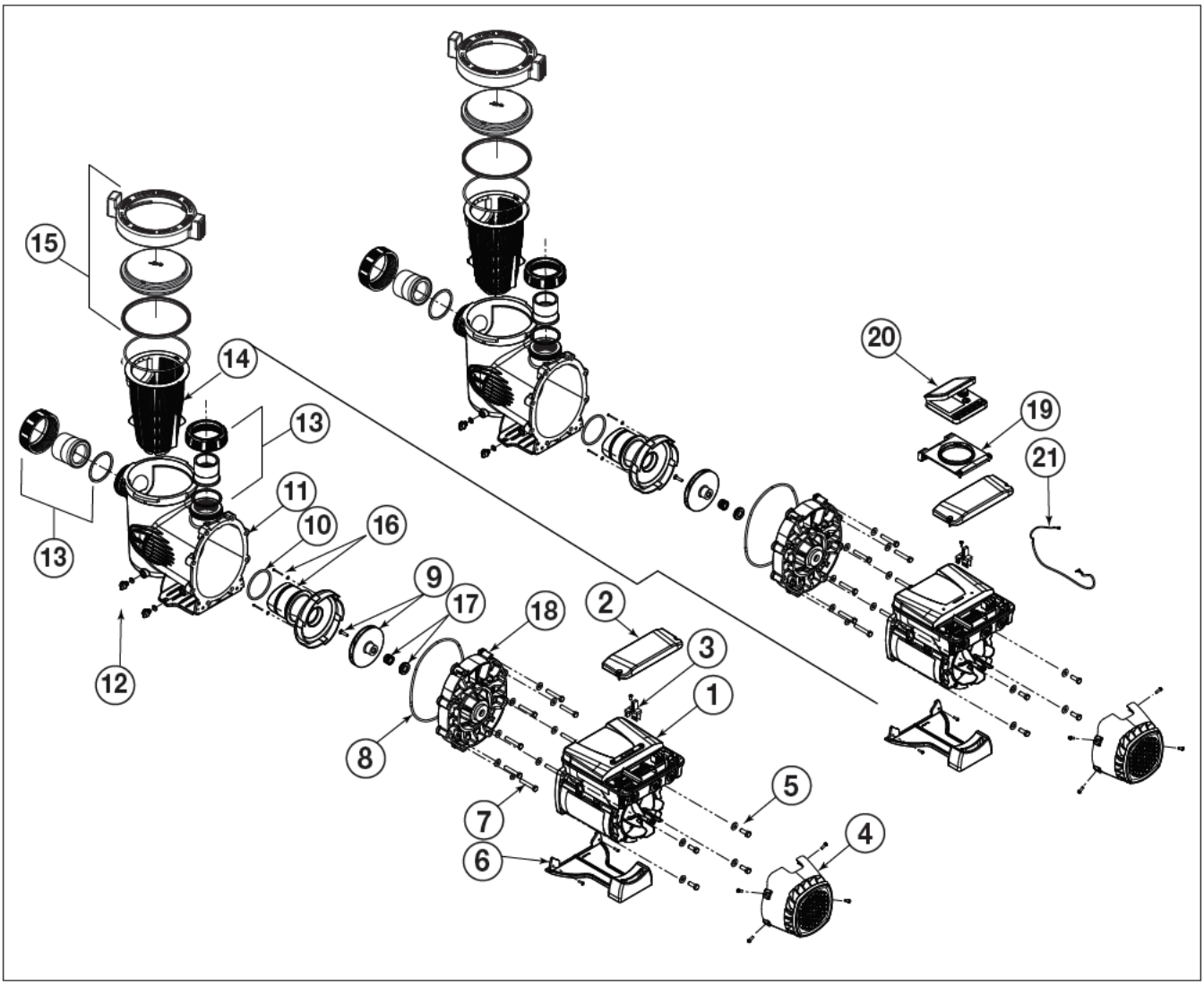


Figure 20. Jandy Variable Speed Pump Exploded View (Specific models may differ slightly from illustration)

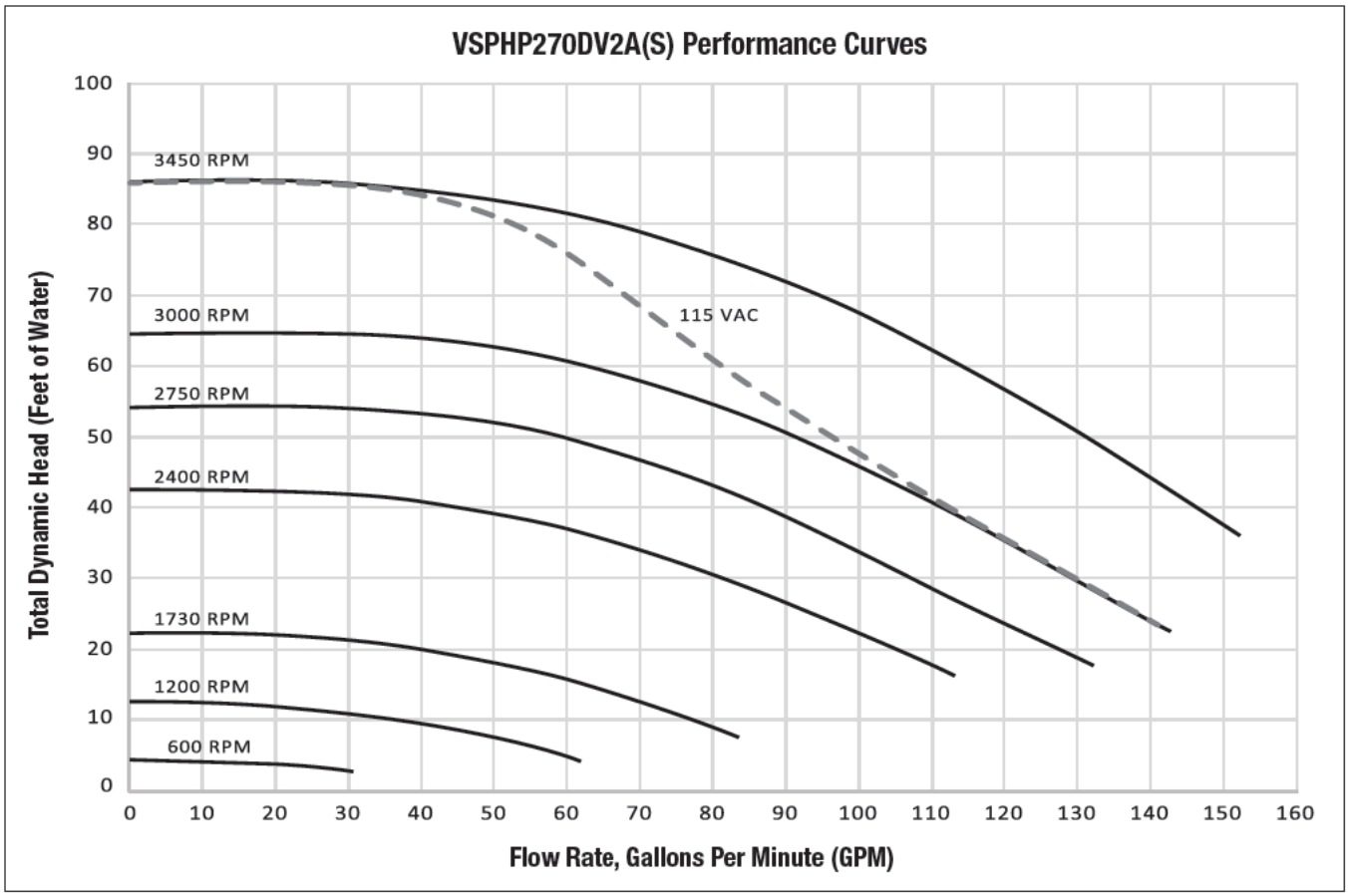
Item	Description
1	Motor, Drive
2	Access Cover
3	Access Cover O-Ring
4	Fan Cover
5	Motor Mounting Bolts/Washers
6	Motor Mounting Foot
7	Backplate Mounting Bolts/Washers
8	Backplate O-Ring

9	Impeller and Mounting Screw
10	Diffuser O-Ring
11	Pump Body

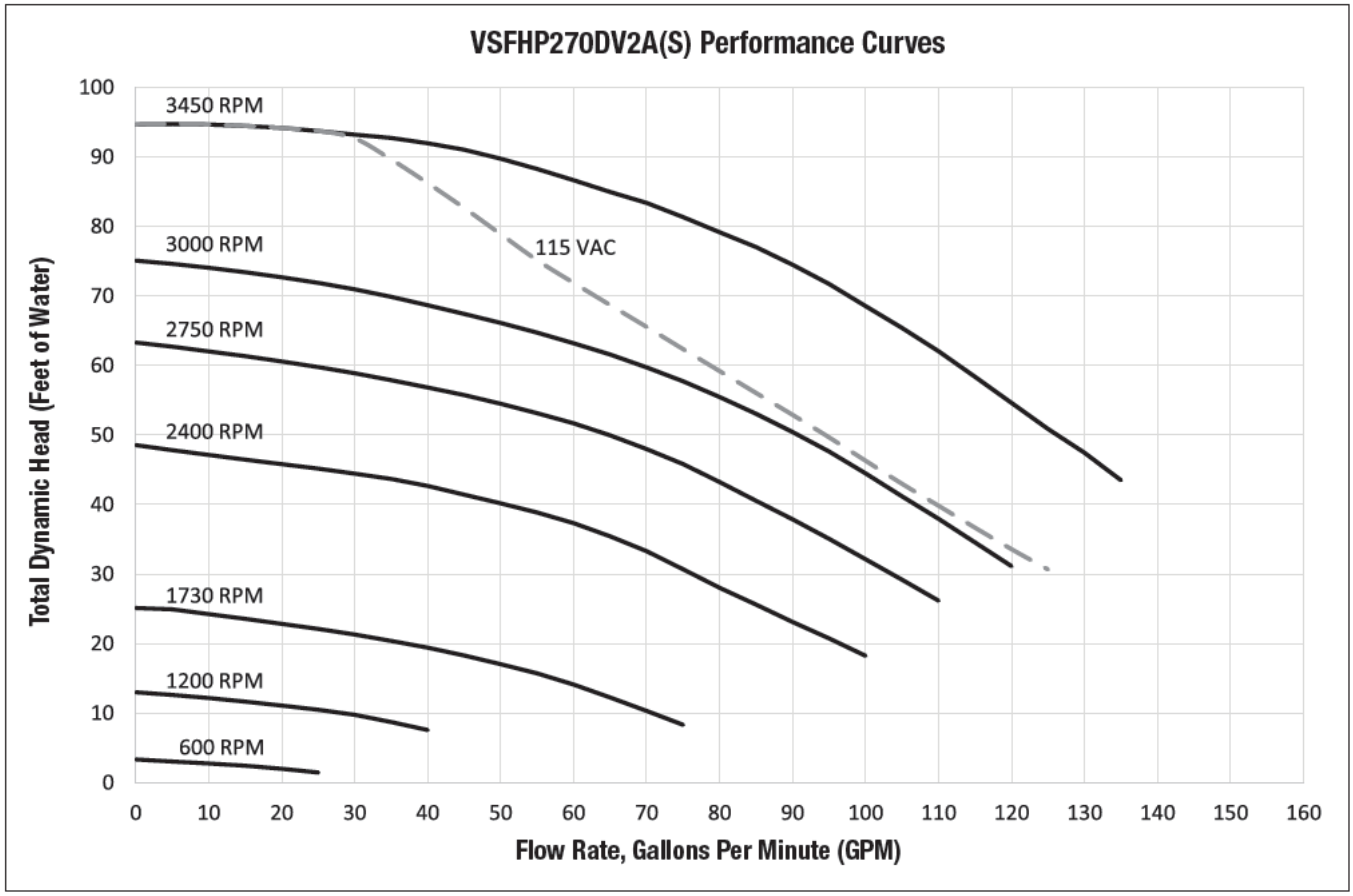
Item	Description
12	Drain Plugs with O-Ring
13	Tail Piece, O-Ring and Union Nut
14	Pump Debris Filter Basket
15	Lid Assembly
16	Diffuser and Mounting Screws
17	Mechanical Seal
18	Backplate
19	SpeedSet Controller Hinge Mount
20	SpeedSet VS Pump Controller
21	RS485 Wiring for SpeedSet Controller

Performance Curves

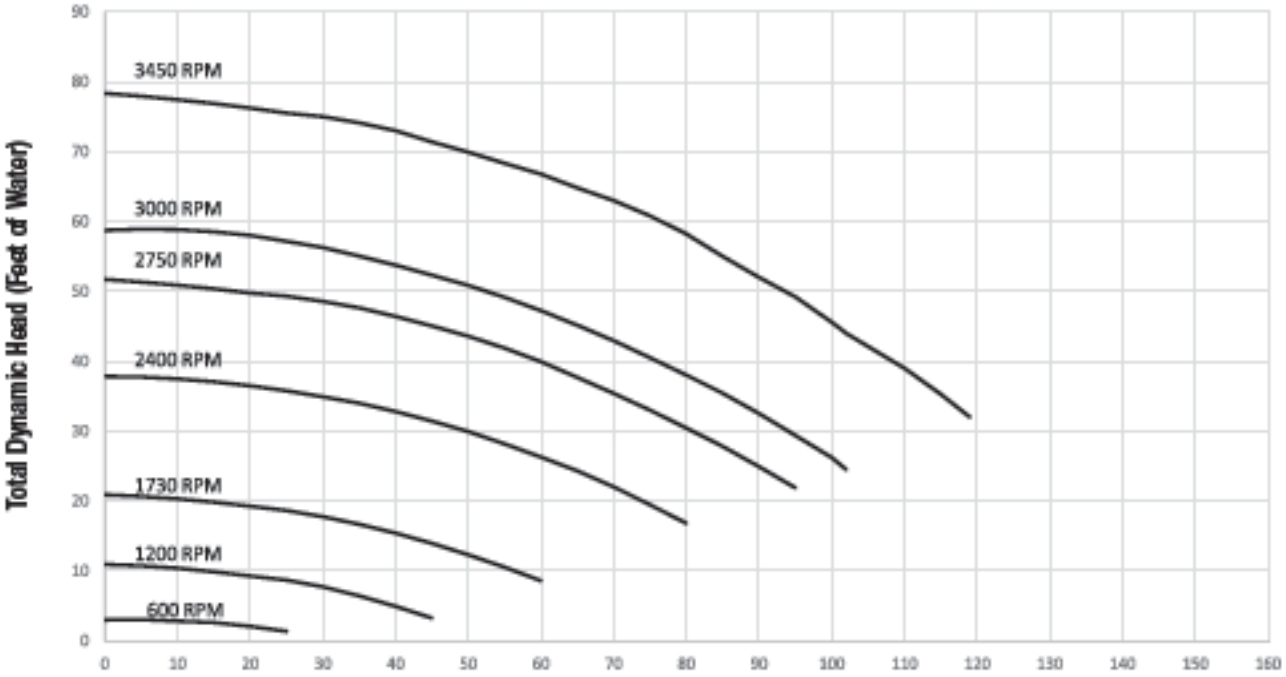
VSPHP270DV2A(S) Performance Curves



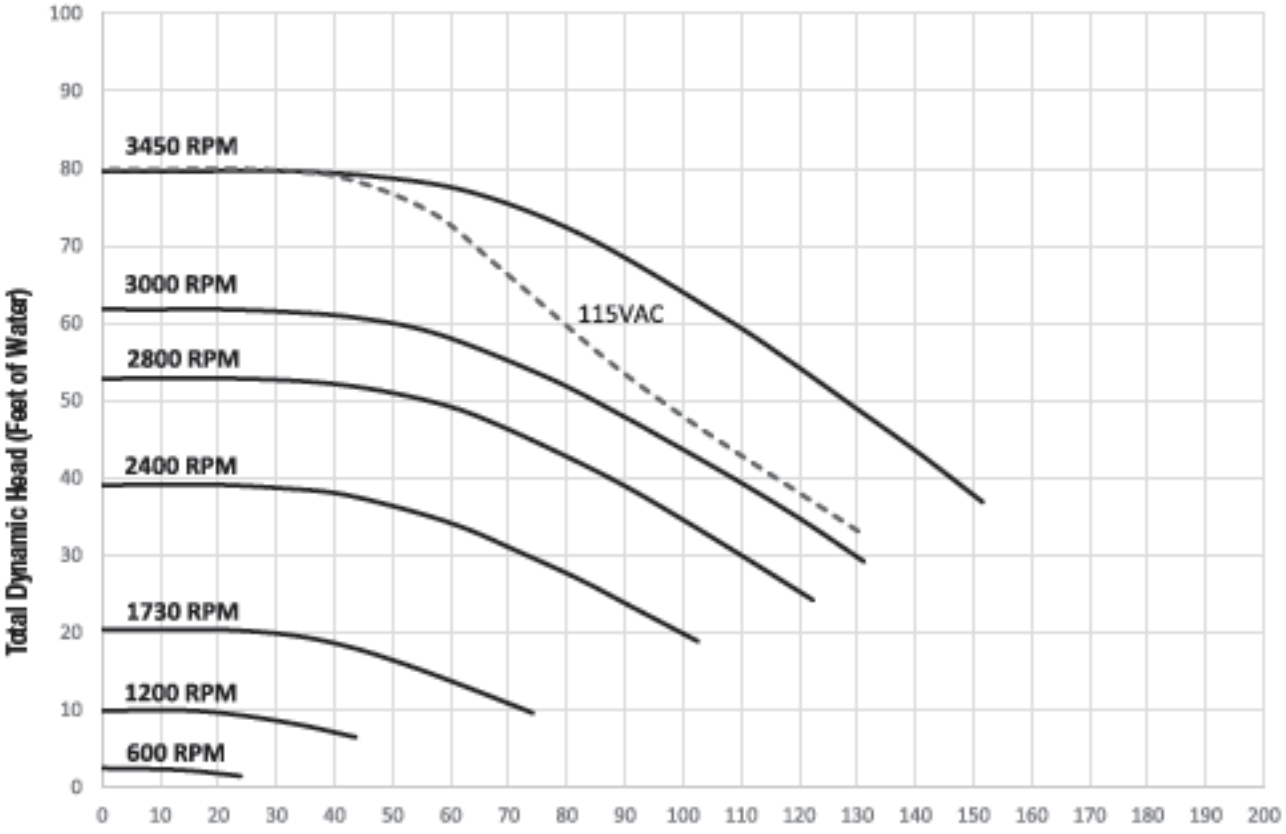
VSFHP270DV2A(S) Performance Curves



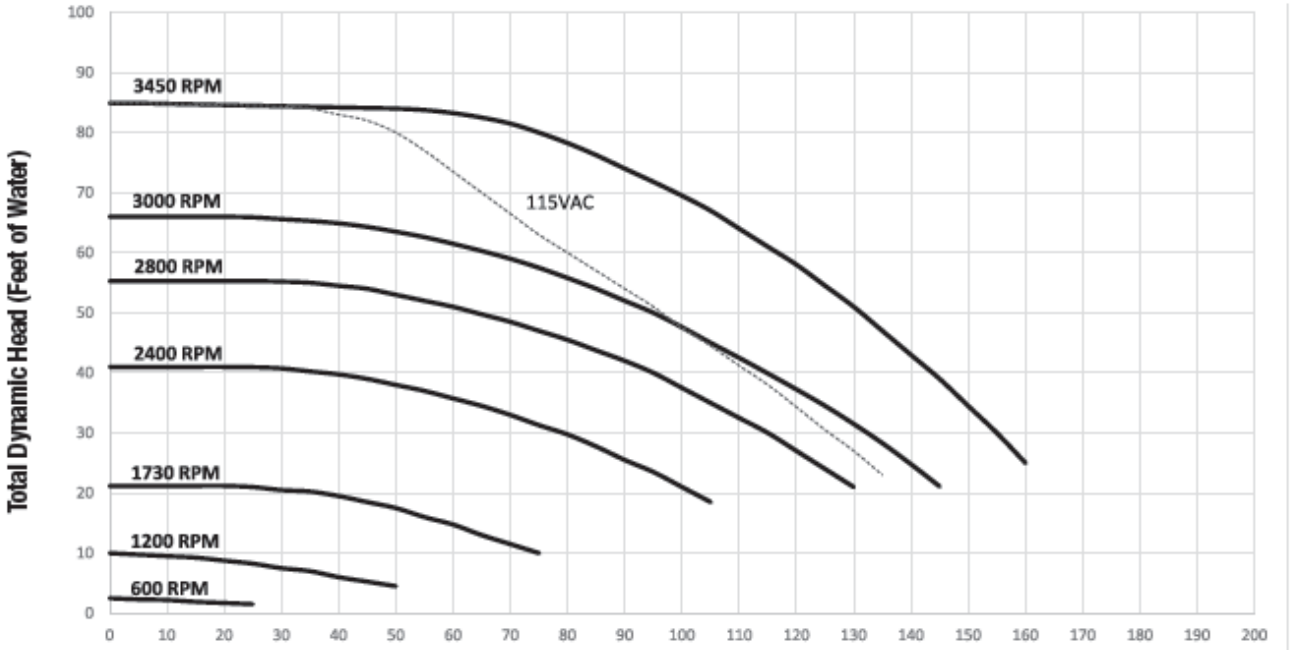
VSFHP185DV2A(S) Performance Curves



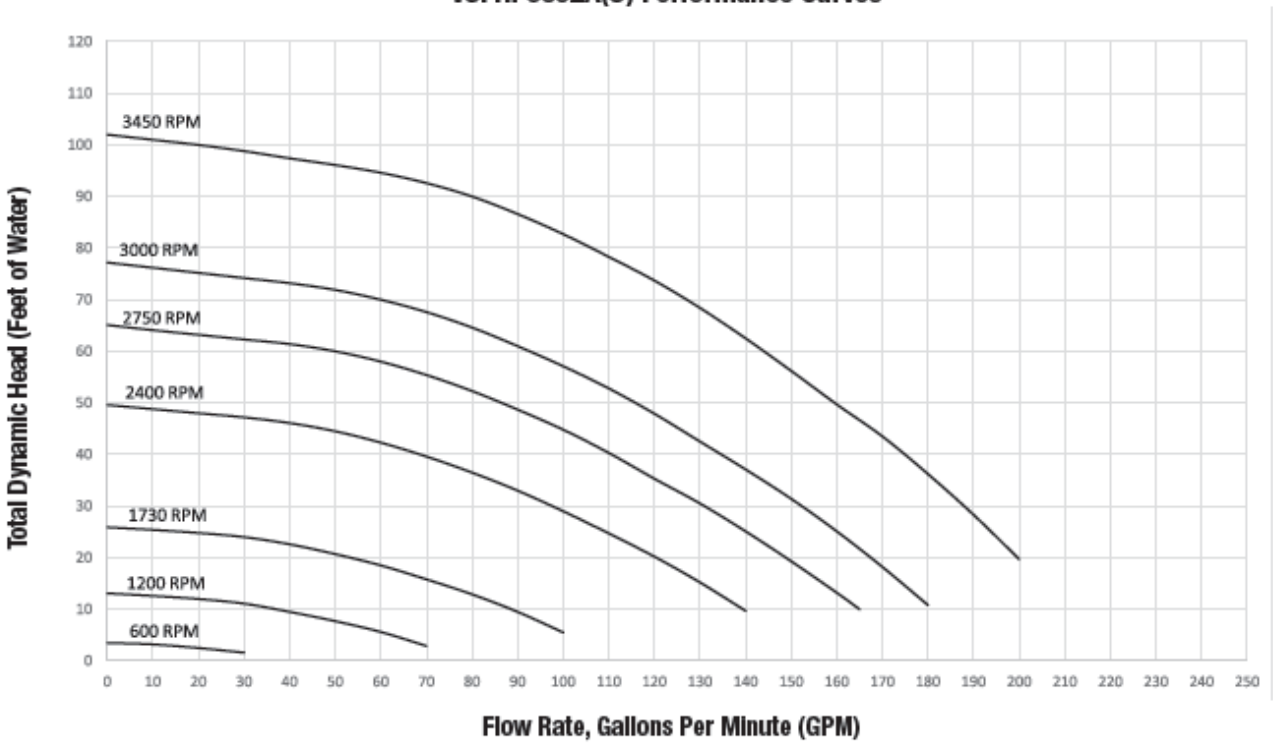
VSSHP220DV2A(S) Performance Curves

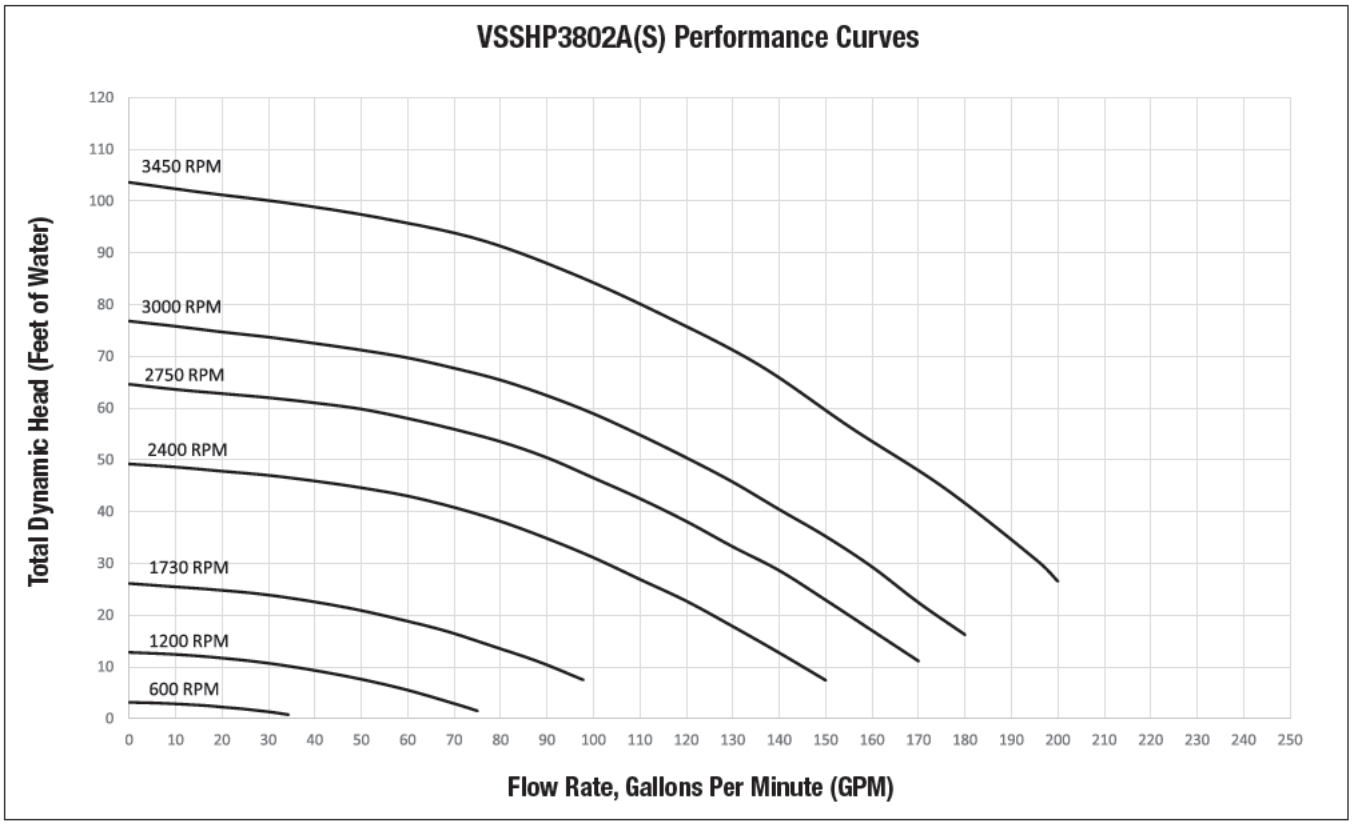


VSSHP270DV2A(S) Performance Curves



VSFHP3802A(S) Performance Curves





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2882 Whiptail Loop # 100, Carlsbad, CA 92010, USA | 1.800.822.7933 2-3365 Mainway, Burlington, ON L7M 1A6, Canada | 1.800.822.7933

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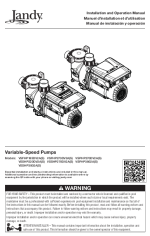
Documents / Resources

	Jandy VSFHP185DV2A(S) Variable Speed Pumps [pdf] Instruction Manual VSFHP185DV2A S, VSFHP270DV2A S, VSPHP270DV2A S, VSSHP220 DV2A S, VSSHP270DV2A S, VSFHP3802A S, VSSHP3802A S, VSFHP1 85DV2A S Variable Speed Pumps, VSFHP185DV2A S, Variable Speed P umps, Speed Pumps

References

- User Manual

Jandy

Jandy, Speed Pumps, Variable Speed Pumps, VSFHP185DV2A S, VSFHP185DV2A S Variable Speed Pumps, VSFHP270DV2A S, VSFHP3802A S, VSPHP270DV2A S, VSSHP220DV2A S, VSSHP270DV2A S, VSSHP3802A S

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