550X Series Aquajet Variable Speed Delivery/Demand Pumps

The basic "VSP" pump is controlled by a built-in pressure sensing transducer and associated solid state control circuitry. When a faucet or valve is opened down stream of the pump, line pressure drops thus starting the pump automatically. During operation the control circuit regulates the speed of the motor so the flow matches the demand at a preset operation pressure. The pump label indicates the operating pressure under the heading Pressure Regulated at XX PSI. The operating pressure is preset in the control circuit at the factory and is not field adjustable. The pump also incorporates check valves to keep the line pressurized and an internal relief valve to prevent over-pressure. The relief pressure is also preset at the factory, and although a hex head set screw used to control the relief pressure is accessible on the pump head, it is not recommended that this screw is tampered with. Changing the factory preset relief pressure may prevent the pump from shutting off. The control circuit is housed inside the mounting base. There are no user serviceable parts inside the mounting base. Opening the access cover is not recommended and creates a shock hazard.

Read the additional OPERATIONAL AND INSTALLATION GUIDELINES on the other side carefully before starting to install the pump. Consult the factory if there is any question.

1. Determine the optimum location for your pump before proceeding. To minimize risk for air entrapment the pump may preferably be mounted vertically, pumphead up. The mounting bracket has 4 rubber grommets for vibration dampening. Use #10 screws and washers, be sure not to over-compress the grommets.
2. The 550X pump is designed to use customized O-ring fittings. Aquatec offers plastic barb fittings in straight and elbow configuration for 3/8", 1/2", and 5/8" ID tubing. Be sure to select a tubing size that prevents excessive pressure drops before and after the pump. For runs up to 50 feet and flows less than 2 GPM, use 3/8". Use 1/2" tubing for flows up to 3.5 GPM, and 5/8" tubing for greater flows. For longer runs, go up one tubing size. If the pump is to be connected to rigid plumbing such as copper, PVC, or PEX, Aquatec strongly recommends using a piece of flex hose as a pulsation dampener between the pump and the rest of the plumbing. Aquatec offers a convenient pre-assembled pulsation dampener (part number 25-174) that terminates with a 1/2 NPT thread making transitions to rigid plumbing easy. Be sure that there is no stress on the fittings. Once installed, lock each fitting in place with the slide.
3. Check the pump label to verify the voltage rating. Prepare to connect the pump to appropriate power source. For pumps with power cords, use with grounded outlets only. Do not do a "permanent installation" using an extension cord. Never remove the ground pin from the power plug. For pumps with individual power leads, connect the black lead wire to the "hot" side, the white lead wire to "neutral" and the green wire to "ground". If the pump is hardwired, be sure to include a switch so the pump can be manually turned on and off.
4. The Aquajet variable speed pump is now ready for operation. Open the inlet valve and open the discharge or dispensing valve. Power up the pump and allow water to flow for a few seconds. If the pump runs erratically, leave the valve open, disconnect the pump from power and reconnect it facilitating the air purging.
5. Once the air is purged the pump will start building pressure, eventually reaching the regulated pressure. Close the valve and the pump should shut off. Check for fitting leaks.

   NOTE: Further adjustments should not be necessary although it may take several days of operation before all the air has been purged and the system is fully stabilized.

6. Cycling. In response to the characteristics of the system in which the pump is installed (the flexibility and length of tubing etc.) the pump may cycle a few times after shut-off. This is normal. When cycling the pump should do so at a very low speed.

SERVICING

Every Year - Check System against operating standards.

Every 5 Years - Replace diaphragm and check against operating standards.

Operational and Installation Guidelines
550X Series Aquajet Variable Speed Delivery/Demand Pumps

Please read these Operational and Installation Guidelines before installing the "VSP" Delivery/Demand Pump. If additional help is needed, please consult the factory.

CAUTIONS:

1. The pump is equipped with a pressure sensing transducer, which controls the maximum operating pressure. In addition, never subject the pump to pressures above 125 PSI (8.5 bars).
2. Never operate the pump in a harsh environment or hazardous atmosphere, since motor brush may cause electrical arcing.
3. Pumphead materials are designed for use with water only. Do not use with petroleum products.
4. As long as there is inlet water pressure, the pump will not stop forward flow of water even if the motor is turned off. Be sure the system has positive means of shutting off water supply.
5. Always consider electrical shock hazard when working with and handling electrical equipment. If uncertain consult an electrician. Electrical wiring should only be done by a qualified electrician per local and state electrical codes.

MOUNTING:

A. The pump should be mounted in a dry place and away from any source of heat. If an enclosure is used, special instructions for cooling the motor may be necessary. Consult the factory.
B. Do not subject the pump to extreme high or low (freezing) temperatures while in operation. (Operating ambient temperature range is 32°F to 115°F).
C. The pump may be mounted horizontally with the outlet port on the right when viewed from the pump end or with the pump above the mount; or vertically with the pump above or below the motor. The best mounting method is vertical, with the pumphead facing up.

PLUMBING:

A. We recommend use of flexible tubing with proper pressure rating.
B. Pump will prime only if all pressure is relieved from outlet port.
C. It is recommended that pure water be pumped or an in-line sediment filter (150 micron or 100 mesh) be installed at the inlet side to keep foreign debris out of the system. Please consult your Aquatec catalog for in-line filter.
D. Avoid any sharp bends, which may crimp tubing and restrict flow. Use 90° elbow fittings if necessary. Aquatec provides pumps with different kinds of fittings. Please consult the factory for your needs.
E. The pump should always be mounted prior to any components which could introduce particles to the water; thus, preventing them from entering the pump chambers and possibly causing clogging.

ELECTRICAL:

The pump label will indicate if the pump can operate continuously or is restricted to intermittent duty. For intermittent duty pumps, make sure that off periods are sufficient and allows the pump to cool down. The pump control circuit incorporates a non-replaceable fuse for safety purposes. The circuit supplying power to the pump should be fused separately based upon the Amp rating shown on the pump label. The pump motor also incorporates an auto-rest thermal protector. If the pump duty cycle exceeds the maximum recommended, the thermal protector may activate temporarily stopping the pump motor.