xylem



e-SV™ Series

Stainless steel vertical multistage pumps

Designed for efficiency. Built for performance.



GOULDS WATER TECHNOLOGY
xylem

Where efficiency meets performance



The e-SV Series fabricated vertical multistage pump is an energy saving, non-priming pump coupled to a standard premium-efficient motor. It's built to withstand a variety of mechanically aggressive and high temperature liquids, and is designed to extend uptime and help reduce lifecycle costs in a wide range of demanding applications.

The e-SV Series range of pumps features 11 models, and each can be specially configured for a wide range of environments. What's more, when an e-SV is paired with a hydrovar® X, HYDROVAR®, or AQUAVAR® IPC variable speed drive, it provides energy saving increases up to 70% vs. fixed speed, while reducing installation time.

Also available in pre-programmed, pre-assembled packages, the e-SVE Smart Pump, e-SVX Smart Pump (featuring hydrovar X), and the Packaged HYDROVAR (featuring the legacy HYDROVAR) are complete systems, delivering market-leading efficiency and performance right out of the box.

- Agriculture
- Commercial building services
- Data centers
- Energy and power generation
- General and OEM manufacturing
- Industrial
- Municipal drinking water
- Water circulation and cooling

Extra efficient

The e-SV's hydraulics, combined with a high-efficiency motor (EISA compliant) deliver maximum efficiency.

Energy saving

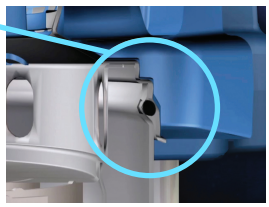
Pumps are among the largest users of industrial energy. Do your part to reduce CO_2 emissions and your impact on the environment, and improve your bottom line by taking advantage of the e-SV's lower energy requirement. Use an e-SV pump along with a variable speed drive such as the Smart Motor, hydrovar X, HYDROVAR, or AQUAVAR IPC, and save even more energy and money.

Easy to maintain

The e-SV's design allows removal of the mechanical seal without having to remove the motor, reducing repair time by up to 50%. A standard mechanical seal, wearing components, service tools and standard NEMA motors enable faster and easier maintenance and servicing.

Economical to maintain

Features an o-ring design for easy disassembly, reducing repair time by up to 50%.



Broad range of solutions delivering **market-leading** efficiency and performance



e-SV Series Pumps



e-SVX Smart Pumps



e-SVE Smart Pumps

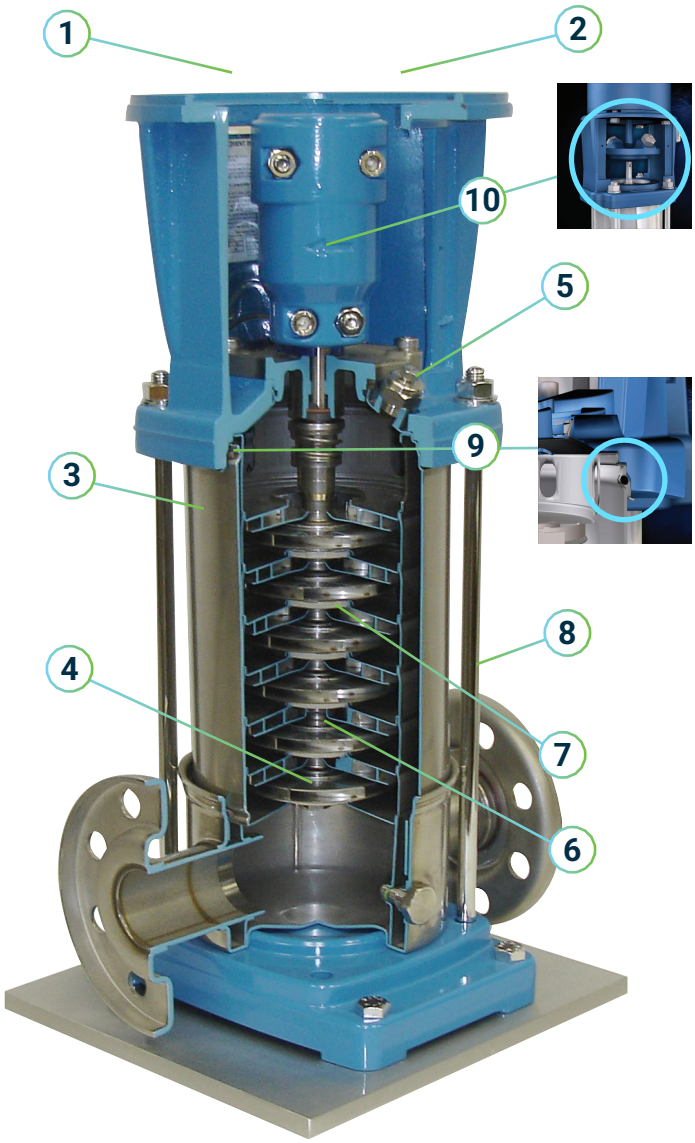


Packaged HYDROVAR

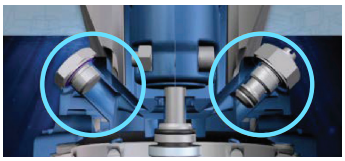
Built to perform

1. **Motor (not shown)** – Standard e-SV high efficiency motors range from 0.5 HP to 75HP.
   The e-SVE features the Xylem Smart Motor, and the e-SVX features the Xylem hydrovar X, both "ultra premium" (IE5) motors. All motors are aligned with 2016 DOE requirements.
2. **Motor enclosure (not shown)** – The enclosures available They are compatible with a wide variety of industrial and commercial building applications.
3. **Casing** – The stainless steel casing provides durability and long life. Single and double wall options are available. They are compatible with high pressure applications such as pressure boosting.
4. **Wear ring** – The floating, self-aligning, glass filled, high temperature polymer diffuser wear ring withstands corrosive, aggressive and high temperature liquids. It protects against abrasion and debris for reliable, long lasting performance.
5. **Plugs** – Top fill plugs with air vents allow for easy installation and removal of trapped air in the seal housing. These are available on all models.
6. **Bearings** – The tungsten carbide bushing improves longevity, reliability and the ability to withstand heavy duty applications such as boiler feeding.
7. **Impeller** – The balanced impeller design reduces axial thrust for long standard motor bearing life.
8. **Tie rods** – The liquid end is held in place by tie rods, for increased stability.
9. **O-ring** – The seat design provides easy access and disassembly.
10. **Mechanical seal** – The seal is easy to replace without removing the motor. Robust seal options are available in a wide range of types and materials, to resist corrosion and minimize downtime in industrial and commercial building applications.

Some parts (1&2)
are aligned with motor which is not in cut-away



5 Top fill plugs with air vents available for all models



6 Tungsten carbide bush bearing to improve life and ability to withstand heavy duty aplications, like boiler feeding



7 Balanced impeller design reduces axial thrust for longer stand motor bearing life



e-SV Series Pumps

The e-SV pump, the product at the heart of the e-SV Series, is one of the highest efficiency multistage pumps on the market today. This fabricated vertical multistage pump is also easy to install and economical to maintain. When it comes to efficiency, the e-SV delivers.

Benefits

- The expanded hydraulic coverage of an e-SV pump combined with a premium-efficient motor delivers maximum performance.
- The extended e-SV portfolio allows you to select a pump aligned with your application's optimum duty point.
- A variable speed drive such as the Smart Motor, HYDROVAR, hydrovar X, or AQUAVAR IPC increases an e-SV's energy savings up to 70% vs. fixed speed while reducing installation time.
- Standard models offer low NPSH, with even lower NPSH models available.
- e-SV pumps are available in horizontal and vertical configurations.
- You can choose the flange orientation or type to meet your piping needs.
- The mechanical seal can be replaced quickly and easily, reducing repair time by up to 50%.
- The pump can be easily repaired right in the piping.
- The o-ring seat is designed to allow easy outer sleeve disassembly.
- The standard mechanical seal, wearing components, service tools and NEMA motors enable faster, easier maintenance and servicing.
- To simplify maintenance, a repair stack assembly is available for quick and efficient installation and repair.

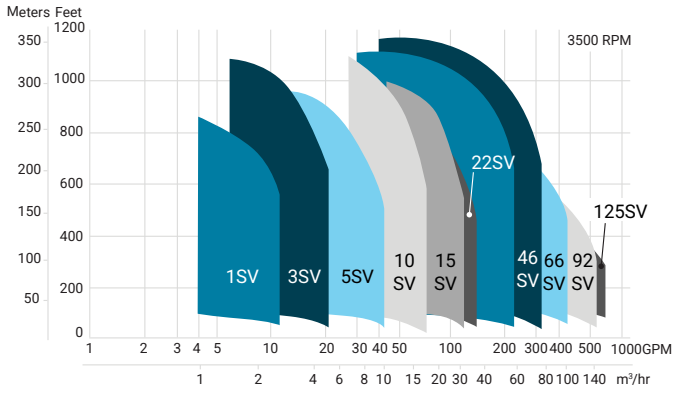


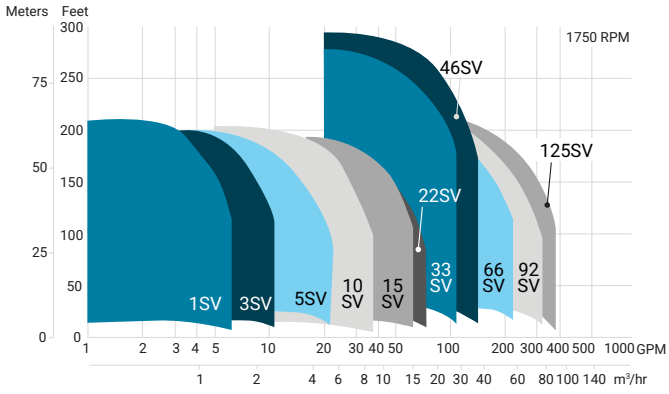
e-SV specifications

- **Delivery:** up to 725 GPM
- **Head:** up to 1200 feet
- **Maximum operating pressure:**
  - 1-22SV with oval flanges: 230 psi (16 bar)
  - 1-22SV with round flanges or Victaulic: 360 or 575 psi (25 or 40 bar)
  - 33 & 46SV: 360 or 580 psi (25 or 40 bar)
  - 66 & 92SV: 360 or 580 psi (25 or 40 bar)
  - 125SV: 360 or 580 psi (25 or 40 bar)
- **Temperature of pumped liquid:** -20° F to 250° F (-30° C to 120° C) standard version
- **Direction of rotation:** clockwise looking at the pump from the top down (marked with an arrow on the adapter and on the coupling).

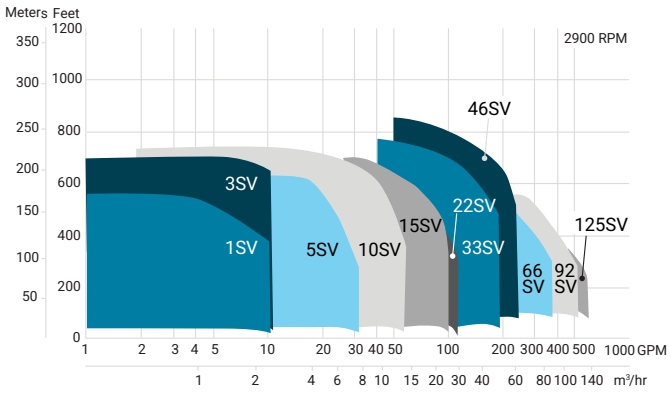
Performance curves

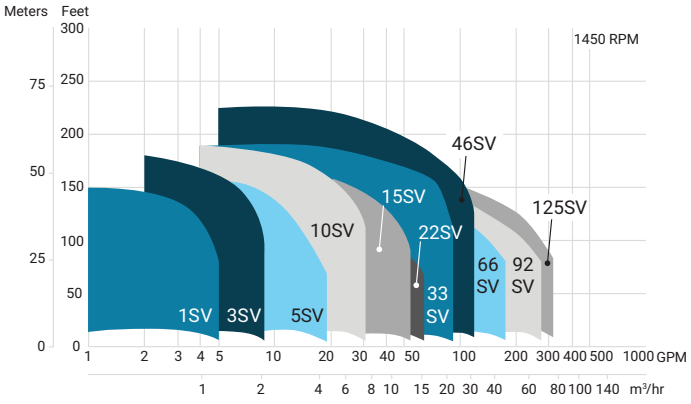
e-SV Series 60 Hz performance curves





e-SV Series 50 Hz performance curves





e-SVX Smart Pumps

e-SVX Smart Pumps feature the right combination of ultra-premium efficient motors with integrated variable speed drives and pumps to ensure great performance and a rapid return on investment in nearly any application. The result is intelligence, performance, connectivity, and simplicity in one comprehensive package, from one reliable source - Goulds Water Technology.

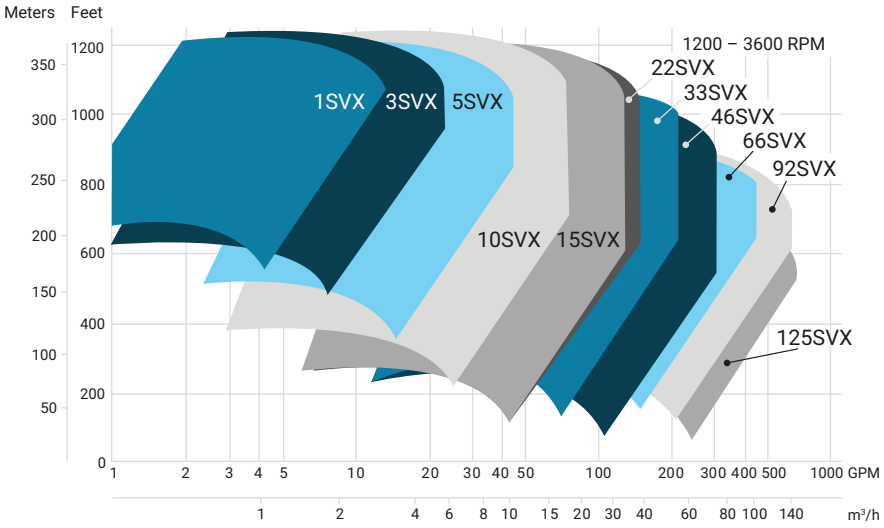


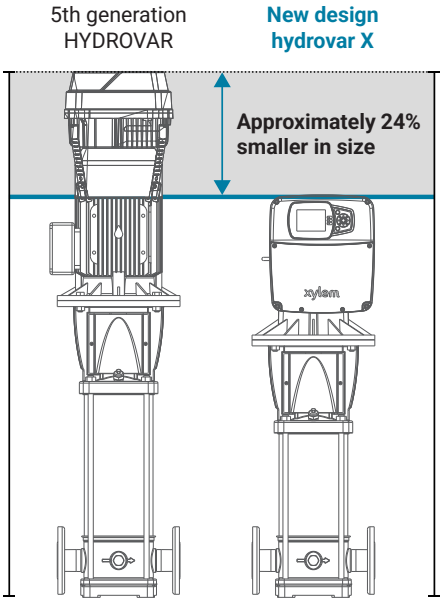
- **Simple:** Built-in application software makes the drive one of the easiest to commission, program and operate, enabling virtually any configuration of pumps.
- **Sustainable:** No rare earth materials are used to minimize product availability challenges and address environmental concerns while offering smart technology and superior performance.
- **Intelligent performance:** Advanced system controls (up to 8 pumps) are customizable for a wide range of applications. The IE5 “ultra-premium” hydrovar X smart motor provides one of the broadest efficiency ranges in the industry.
- **Ease of installation and maintenance:** Integrated pump and hydrovar X motor design eliminates the need for additional wiring, labor and associated costs.
- **Built-in protections:** Integrated functions provide protection for the pump and motor while optimizing performance.
- **Easy service:** VFD and/or motor can be easily replaced individually, minimizing downtime and expensive repair.
- **Compact design:** hydrovar X motors offer higher performance with a reduced footprint when compared to the legacy Packaged HYDROVAR solution. Increased performance reduces electricity consumption and lowers life cycle costs.

e-SVX Smart Pump specifications

- **Flow rate:** up to 640 GPM (145 m³/h)
- **Head:** up to 1200 ft (366 m)
- **Temperature of pumped liquid:** -20ºF to 250ºF (-30º C to 121º C)
- **Maximum operating pressure**: 580 psi (40 bar)
- **Environment temperature:** -4º F to 122º F (-20º C to 50º C)

e-SVX Smart Pump family curves





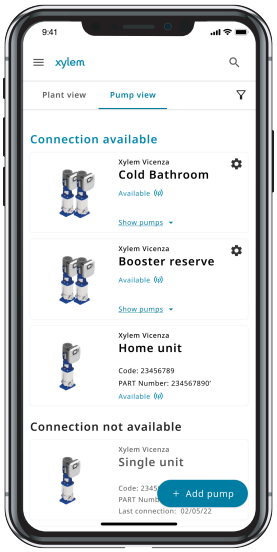
Unleash the power of hydrovar X

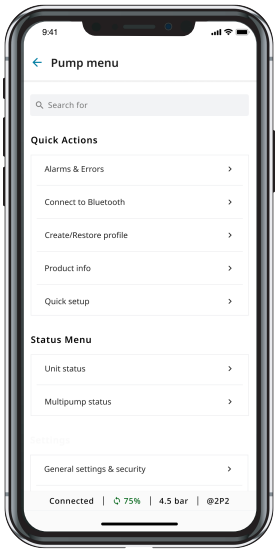


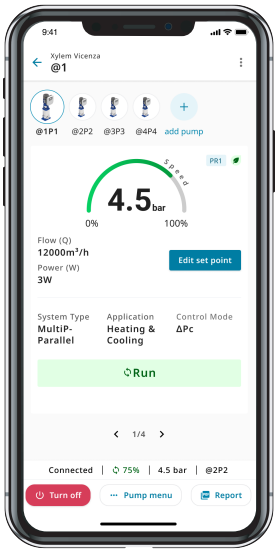
Don't hold back your imagination

With the graphical color display, you can quickly set-up and navigate the menu of your unit: check all the parameters and choose the perfect unit configuration to fit your installation. No time to do it? Genie will start up and run the unit for you!

Check your systems from wherever







Download the mobile app

hydrovar X and Avensor, better together

hydrovar X can communicate with Avensor, Xylem's IoT platform, for a complete overview of all connected assets, anytime, anywhere. Avensor collects historical data to analyze trends and generate alerts preventing failures and equipment downtime.

Learn more about e-SVX Smart Pumps

hydrovar X Smart Motor specifications

- **Display:** Graphic color
- **Control modes:** Actuator, Constant Pressure. Proportional Pressure, Proportional Quadratic Pressure, Constant Flow, Constant Temperature, Constant Level
- **Multi-pump:** up to 8 pumps
- **Enclosure:** IP55/NEMA4
- **Working temperature:** -4°/+122° F (-20°/+50° C)
- **Communication protocols:** MODBUS® RTU, BACnet MS/TP
- **Features:** IE5 synchronous motor
- **Mobile app:** Bluetooth®

e-SVE Smart Pumps



Think beyond single components

For top efficiency in residential, light commercial, industrial, agricultural and OEM water supply and HVAC applications, you need the right combination of 1) motors; 2) variable speed drives; and, 3) hydraulic pumps—ensuring reliable performance, maximum savings and a rapid return on investment. The pre-programmed e-SVE Smart Pumps combine those three essential components in an easy to install package!

Benefits

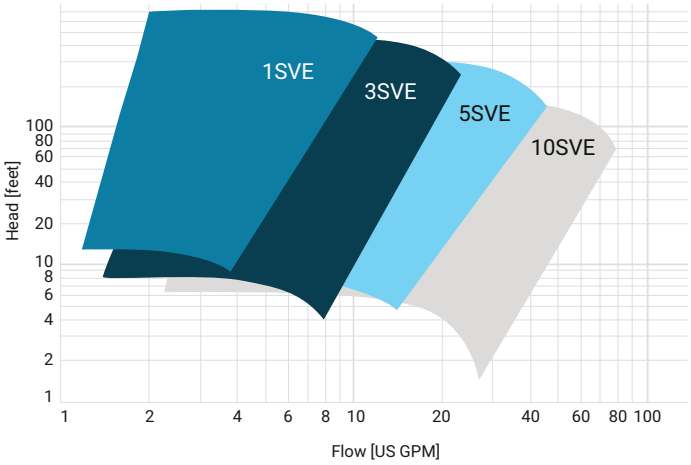
- Features the Xylem Smart Motor, an "ultra-premium" IE5 permanent, magnet motor, providing efficiency well above a standard IE3 an asynchronous motor.
- Includes a wide range of monitoring, control and safety features right out of the box with no need to configure.
- Can operate single or multipump systems of up to three pumps, with no need for an external control panel or PLC.
- Exceeds hydraulic performance of fixed speed versions in a more compact design.
- Six e-SVE pump ranges are available with multiple construction designs offering flexibility for a wide list of applications, including residential and light commercial, OEM applications and HVAC.
- A variety of connections (threaded, round, clam and oval flanges, Victaulic) configured vertically; ports can be on the same side to save space.
- Designed for fast, easy maintenance with a balanced mechanical seal, an o-ring seat design and a replaceable diffuser wear ring.
- Reduced impeller axial thrust for longer standard motor bearing life.
- Certified to the NSF/ANSI 61 Drinking Water System Components Standard.
- Options include high-temperature seals, low NPSH design, high pressure design, and passivated and electropolished versions.

DRINKING WATER
NSF/ANSI 61 & 372

e-SVE specifications

- **Delivery:** Up to 85 GPM (19m³/h) max
- **Head:** Up to 710 feet (215m)
- **Liquid temperature:** Up to 250° F (120° C)
- **Maximum operating pressure:**
  - SV1-10 with oval flanges: 230 psi (16 bar)
  - SV1-10 with round flanges or Victaulic: 360 or 575 psi (25 or 40 bar)
- **Power range:** 0.5-3 HP (0.37 – 2.2 kW)

e-SVE Smart Pump performance curves



Packaged e-SV HYDROVAR Series



Reduce energy usage and cost

The Packaged HYDROVAR Series is a variable-speed water booster system that integrates an e-SV Series vertical multistage pump with a fused disconnect. It features the HYDROVAR controller—our proven intelligent pump control solution—which continuously adjusts pump performance to meet system demand. These fully assembled, factory-programmed, and tested systems simplify selection and ordering while delivering industry-leading efficiency across a wide performance range. The Packaged HYDROVAR Series is ideal for commercial and municipal applications requiring constant pressure, precise flow control, or differential pressure regulation.

Features

- Pre-sized and selected drive.
- Installed, programmed and tested in the factory.
- UL package listing.
- Quick installation as single unit, just bring power.
- Kits offer pre-wired drive and fused disconnect to retrofit pumps in the field.

Main components

- One multistage vertical pump, Goulds Water Technology e-SV Series.
- HYDROVAR pump mounted variable speed drive, NEMA 1 enclosure.
- Pressure transducer for constant pressure control, connected to the HYDROVAR drive.
- NEMA 4X fused disconnect panel with corrosion resistant durable plastic; external on/off switch with lockout/tagout. Panel is bracket mounted directly to pump. Includes fast acting fuses.

Applications

- Water network supply in condominiums, offices, hotels, shopping centers, factories, water treatment, process control.
- Water supply to agricultural water networks (e.g. irrigation).
- Variable flow/demand applications requiring constant pressure control.

Packaged HYDROVAR specifications

- **Flow rate:** up to 725 GPM
- **Head:** up to 1,080' TDH
- **Input supply:**
  - 1Ø Input 208/230 volt 2 and 3 HP
  - 3Ø Input 208/230 volt 2 and 3 HP
  - 3Ø Input 460 volt 2 - 5 HP
  - (208 – 240V ± 10%, 15 – 70 Hz)
  - (380 – 460V ± 10%, 15 – 70 Hz)
- **Output voltage:**
  - 3Ø, 230V 2 – 3 HP
  - 3Ø, 460V 2 – 5 HP
- **Input frequency:** 50 or 60 Hz
- **External control voltage:** 0-5 VDC; 0-10 VDC; 0-20 mA
- **Protection class:**
  - Panel: NEMA 4X
  - Drive: NEMA1 up to 30 HP
- **Maximum HP:** 5 HP
- **Soft motor start**
- **Vertical design pump:** e-SV Series (motor insulation class, F, TEFC enclosure)
- **Maximum operating pressure:** 360 PSI
- **Maximum temperature of pumped liquid:** 250° F

Make your e-SV even more efficient

There are significant opportunities to reduce a pumping system's energy consumption, including smart hydraulic system design, efficient operating practices, and retrofitting for variable speed performance. To build and operate an efficient water system, you need both the right products and experts who know the application.

HYDROVAR and AQUAVAR IPC controllers were designed by Xylem's engineers with these things in mind. They incorporate built-in pump protection controls and monitoring, to help you optimize your pump operations. What's more, when combined with efficient e-SV Series Pumps they increase your energy savings up to 70% vs. fixed speed while reducing installation time.

AQUAVAR IPC variable speed controller



Features

- The Start-Up Genie makes start-up and programming easy.
- A wide range of standard and permanent magnet motors provide power up to 600 hp.
- AQUAVAR can control up to four pumps, with no need for a programmable logic controller.
- It can be commissioned and monitored remotely, and includes USB connectivity and software.
- The two-wire multi-pump connection makes installation quick and easy.
- Hand on, off, and auto-on buttons are available for easy pump operation at the keypad. No need to toggle between local and remote operation.
- It includes system redundancy with multi-master control, in case of drive failure.
- BACnet and MODBUS are standard, for seamless BMS integration.

AQUAVAR IPC specifications

- **Indoor enclosures:** IP20 open, Type 1, Type 12
- **Outdoor enclosures:** Type 3R, Type 4X
- **Input supply:** 1.5 – 600 HP (frame A – D) wall or base mounted
- **Ambient temperature:** 14º F – 113º F (-10º C - 45º C); Higher temperatures can be achieved by derating the output amperage of the drive 10% for up to 122º F (50º C).
- **Communication:** MODBUS RTU, Metasys N2, FLN, and BACnet standard. Others available with option cards
- **Relative humidity:** Lower than 95% without condensation
- **Altitudes:** At altitudes from 0 to 1000 meters (0 to 3300 feet). Nameplate rated current is available. Derate for altitudes above 1000 (3300 feet) with a maximum operating altitude of 3000 meters (9900 feet). Consult factory for applications above 3000 meters (9900 feet).
- **Electrical - input power:**
  - 1-phase 200 V to 240 V ±10%
  - 3-phase 380 V to 480 V ±10%
  - 3-phase 200 V to 240 V ±10%
  - 3-phase 525 V to 600 V ±10%
  - Frequency 50 or 60 Hz, ±2Hz
- **Electrical - output power:** 3-phase from 0 to V supply

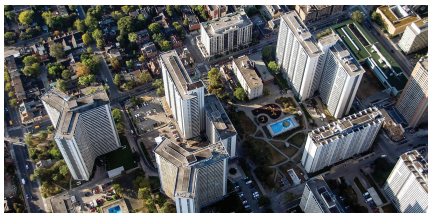
Applications

e-SV multistage pumps have a history of performance handling water and liquids such as glycol, oils/solvents, and more in the in the industrial, municipal, commercial building services and agricultural markets. Some of the many applications include:



General industrial

- Pressure booster systems/ boosting applications
- Commercial washers
- Water transport
- Potable water
- Washing and cleaning systems
- Large vehicle washing systems
- Process cooling and heating
- Machine tool cooling
- Electronics cooling
- Wash-down/clean-in-place
- Industrial fluid transfer and transport
- Heat transfer fluids
- Firefighting system jockey pumps
- Sprinkler systems
- Auxiliary applications



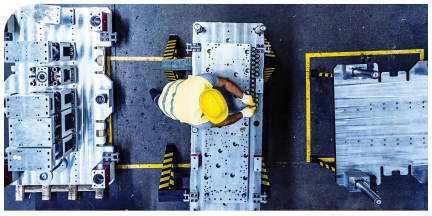
Commercial building services

- Water transport
- Water networks
- Pressure booster systems (plants, buildings/hotels, residential complexes)
- Booster packages
- Potable water
- Firefighting system jockey pumps
- Heating, ventilation and air conditioning:
  - Cooling towers and systems
  - Temperature control systems
  - Refrigerators
  - Induction heating
  - Heat exchangers
  - Boilers
  - Water recirculation and heating



Water utilities

- Ultra-filtration systems
- Filtration
- Reverse osmosis systems
- Purification
- Water softeners and de-mineralization
- Distillation systems
- Booster systems
- Water transport/ treatment systems
- Cooling and heating systems



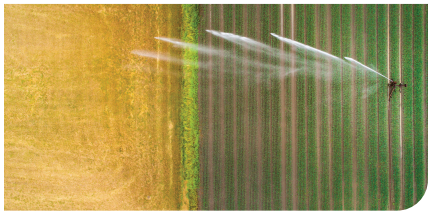
OEM industrial

- Water boosting
- Boiler feed
- Data centers
- Reverse osmosis



Power generation

- Boiler feed
- Boiler feed booster
- Cooling and heating systems
- Auxiliary system



Agriculture

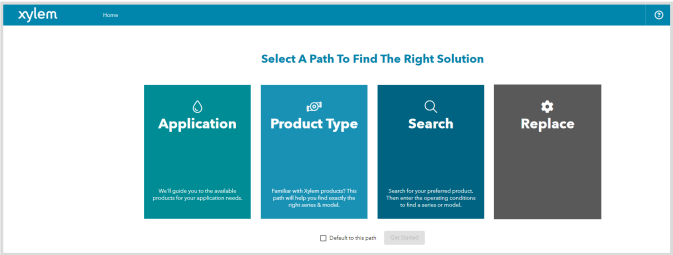
- Water transport
- Humidifiers
- Sprinkler/Irrigation (farm/golf/ greenhouse/water fountains)

Expert support

The proper selection and configuration of your pump is critical to long-term efficiency and dependability. So give us a call. Our experienced customer service technical support team will ensure that your pump is optimized for your application, and designed to deliver the long-lasting, reliable service that you expect.

Online selection tool

Simplify the selection process with Solver, our user-friendly online selection tool. Easily configure your pump based on your application. We'll assemble it and send it on its way. Get started at **solver.xylem.com**.



Xylem Solver is pump solution software with multiple search options and helpful project management facilities.Xylem Solver allows any user to search by application, or product type without having detailed knowledge of Xylem products. It also has the ability to search via series or models across our whole portfolio. Solver platform has the ability to guide the user to the right product for their particular needs.

The search can be made by:

- Application
- Product type
- Duty point

Xylem Solver gives a detailed output:

- List with search results
- Performance curves (flow, head, power, efficiency, NPSH)
- Motor data
- Dimensional drawings
- Technical documentation

The best way to work with Xylem Solver is to create a personal account. This makes it possible to:

- Set own standard units
- Create and save projects
- Share projects with other Xylem Solver users

Every registered user has a proper space, where all projects are saved.

For more information about Xylem Solver please contact our sales network or email solver@xylem.com.

Learn more about the e-SV product line

Xylem product cybersecurity:
Xylem values your system security and the availability of your critical services.For more information on Xylem cybersecurity practices or to contact the cybersecurity team please visit xylem.com/security.

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