



Smart Pump Range

EFFICIENCY, POWER AND PERFORMANCE



Thinking efficiency? Start with smart systems.

It's time to 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 motors, variable speed drives and pumps – ensuring reliable performance, maximum savings and a rapid return on investment. You need the Xylem Smart motor series including the Goulds Water Technology e-HME and e-SVE.

Applications

- Residential
- Industrial
- Light commercial
- Agriculture
- OEM
- Water boosting
- HVAC
- Water transfer
- Water supply
- Water treatment



A complete system delivering market-leading efficiency and performance

The Smart Pump Range incorporates state-of-the-art technology to optimize performance, communicate with other building systems and help you achieve your goals. Choose pre-programmed packages for easy, cost-effective installation – and benefit from this system’s power, intelligence and performance.

Efficiency: best-in-class IE5 motor

“Ultra-premium” IE5 efficiency rating is the top efficiency level for motors designed to operate directly on-line. Each pump is equipped with a permanent magnet “ultra-premium” Xylem Smart Motor that meets IE5

specifications, providing efficiency well above a standard IE3 Nema Premium efficient synchronous motor.

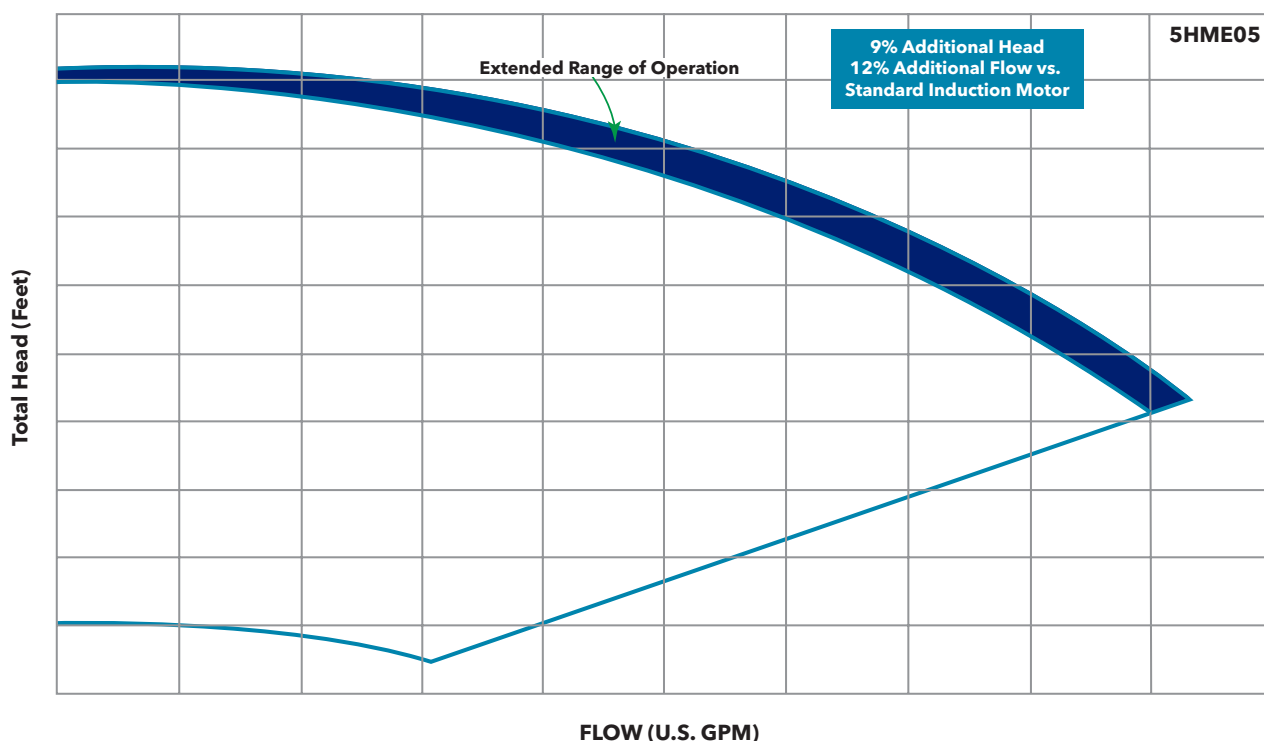
Intelligence: single or multipump systems

The easy-to-set-up Xylem Smart Motor can operate single or multipump systems of up to three pumps, with no need for an external control panel or PLC. The drive matches performance to demand, reducing energy use. And, it allows smart pumps to communicate with building systems in real time (single pump only).

Performance: robust pump range

The Smart Pump Range includes a series of single phase pumps that provide enhanced hydraulic performance for residential, industrial, light commercial, agriculture and OEM applications. The smart pump can easily handle extreme environments, from -4°F/ 122°F (20°C / +50°C), without derating performance.

Typical Example of Increased Performance



The integrated Xylem Smart Motor dramatically extends the working area of a pump to maximize flexibility and enhance system design. When coupled with multistage pump technology like e-HME or e-SVE, the Smart Pump Range presents a compact footprint, making it suitable for tight-space installations.



Specifications

Voltage: single phase 208-230V to 2 HP, three phase 208-230/460V to 3 HP

Power: up to 3 HP (2.2 kW)

Multipump capability: up to 3 units

Power supply: 50/60 Hz

Comms: BACnet and Modbus standard for single pumps

Motor: IES2 package with IE5 motors

Enclosure rate: IP55 / NEMA 3R

Ambient temperature: -4°F/ 122°F (20°C / +50°C) full power

Added Smart Pump benefits

Discover the great trio of efficiency

The Smart Pump Range combines three essential elements to ensure outstanding reliability, optimal savings and the shortest payback times. It's not about individual components. It's about a great team of perfectly concerted elements:

- "Ultra-premium" IE5 motors for best-in-class efficiency
- Power drive system (drive and motor) in the highest efficiency class
- Hydraulic pump designed for exceptional Pump Efficiency Index (PEI) rating

Ease of use: plug-and-play simplicity

The Smart Motor (integrated variable speed drive) is easy to install and commission in new or retrofit applications. Easy BMS integration and standard BACnet and Modbus capabilities (single pump) ensure quick connectivity and seamless integration with your building management system.

What's more, the combined power drive system has achieved the highest system efficiency. It's designed to work as a complete, integrated solution – so you can meet energy and operating efficiency goals today and tomorrow.



Pump Protection: safety and monitoring

The Smart Motor comes with a wide range of monitoring, control and safety features right out of the box with no need to configure.

Controls, safety features and monitoring tools

Available control modes include:

- Control for constant pressure
- Control to match a system curve
- Control according to an external signal

In addition to these regulation functions, the Smart Motor also:

- Stops the pump at zero demand
- Stops the pump in case of water failure
- Allows protection against dry running
- Has failure and over-temperature sensors for both the inverter and motor, which protects the pump and motor from under or over-voltage

The Smart Motor offers a complete set of supervision and metering tools such as automatic test starts, auto smart cyclic change of lead and lag pump units, a memory for any inverter fault signals, and an operating-hours run counter. There's no need to configure the product; all the listed features are already included in the standard package.

Why are filters needed?

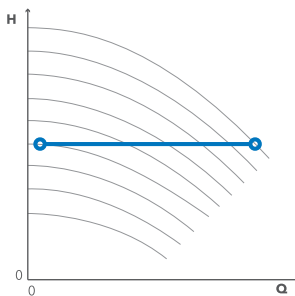
If your integrated variable speed drive is installed in a room with many electronic devices, and it has no THDi or EMC filters, computer monitors could start flickering uncontrollably. Filters eliminate such disturbances.

Harmonic filters

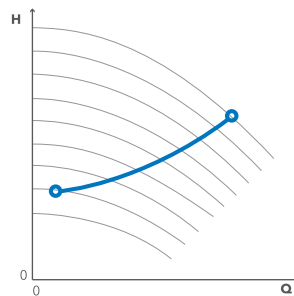
Harmonics are produced by any device that uses a rectifier-based power supply, which draws current in non-sinusoidal curves: radio, TV, computer, washing machine, microwave oven, etc. Harmonics can reduce pump reliability, affect performance quality and increase operating costs. Each Smart Pump comes with a built-in total harmonic distortion current-active filter (THDi). This cuts interference to the minimum, less than 5%.

Electromagnetic filters

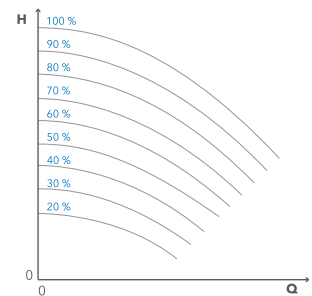
The embedded electromagnetic compatibility filter (EMC) in each Smart Motor minimizes the transfer of electromagnetic noise between the drive and power supply mains.



Control for constant pressure



Control to match a system curve in multistage pumps such as the e-SVE or e-HME



Control according to an external signal

Boost your water supply application

Smart Motor series

Smart Motors are not only intelligent, they're smooth. They operate steadily in partial loads, which prevents the water hammer that's normally associated with full speed pumps. What's more, their accurate speed control during operation and their smooth start-up reduce mechanical stress and wear.

Available up to 3 HP (2.2 kW), Smart Motors are easy to commission, set up and operate using the simple start-up menu. Parameters and alarms appear on an easy-to-read display designed to provide complete control of system operation. They're easy to program too, with just three keypad touches.

Each Smart Motor features an "ultra-premium" IE5 motor for best-in-class efficiency and enhanced hydraulic performance. The range has an NEMA 3R (IP55) enclosure rating, and includes BACnet and Modbus capability for seamless building management system integration in all stand-alone configurations. The drive is suitable for installations from -4°F/ 122°F (20°C / +50°C) without power derating.

Applications

- Industrial
- Residential
- Light commercial
- Agriculture
- OEM
- Air conditioning/HVAC
- Water boosting
- Water supply



e-HME

Horizontal multistage pumps



e-SVE

Vertical multistage stainless steel pumps

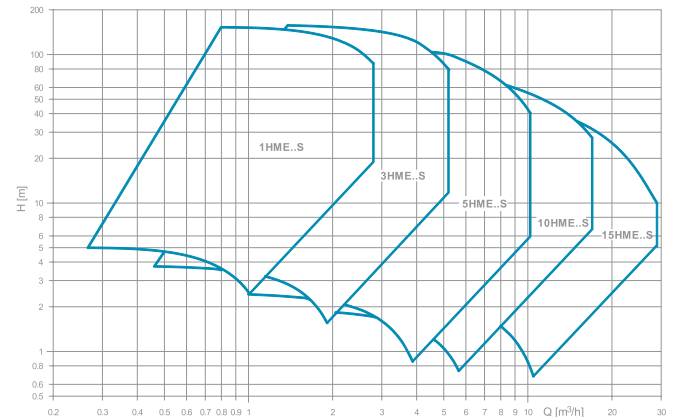


e-HME: Ensuring a reliable water supply

The e-HME smart pump range combines state-of-the-art hydraulics with best-in-class efficiency for the lowest possible operating costs. Five ranges offer flexibility for a wide list of applications, including residential and commercial pressure boosting, industrial and HVAC, and irrigation.

- Features the Xylem Smart Motor an “ultra-premium” IE5 permanent, magnet motor, providing efficiency well above a standard IE3 Nema premium efficient synchronous 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
- Thick stainless steel casing, high-quality bearings, and stainless steel inner components minimize noise and guarantee long service life
- Certified for drinking water use (certified to the NSF/ANSI 61 Drinking Water System Components Standard)
- Options include AISI 304 or 316 pump body and inner components, electropolished and passivated, and mechanical seal or O-rings

Performance Curve



Specifications

Delivery: Up to 130 GPM (30 m³/h)

Head: Up to 540 feet (165 m)

Liquid temperature: Up to 250°F (120°C)

Maximum operating pressure:

- Compact pump: designs to 145 PSI

- Sleeve pump: designs to 230 PSI

Power range: 0.5-3 HP (0.37 - 2.2 kW)



Smart Pumps for pressure boosting

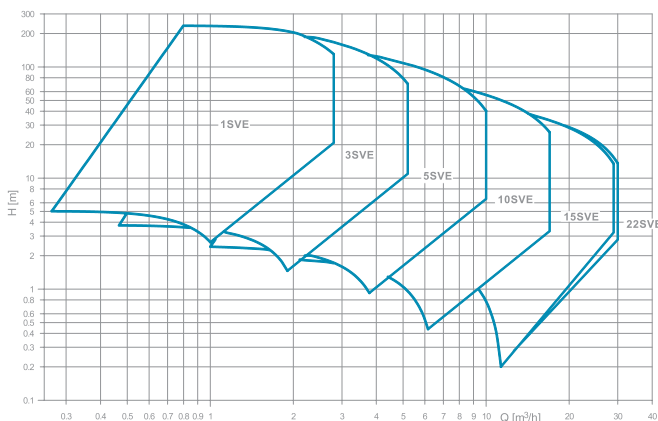
e-SVE: Stainless steel vertical multistage pumps

Smart high-efficiency hydraulics yield the lowest possible operating costs for a variety of applications, including residential and light commercial, OEM applications and HVAC. The e-SVE offers six ranges with multiple construction designs. Special versions are also available.

- Features the Xylem Smart Motor an “ultra-premium” IE5 permanent magnet motor, providing efficiency well above a standard IE3 Nema premium efficient synchronous 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
- 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



Performance Curve



Specifications

Delivery: Up to 85 GPM (30m³/h)

Head: Up to 710 feet (215 m)

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)

Added benefits

Plug and pump single pump booster

The Smart Motor is easy to commission and operate, thanks to friendly HMI with a preset package. It's also suitable for harsh environments with an NEMA 3R (IP55) enclosure. Analog input 0-10V is available for external control. The system is designed to work in extreme conditions up to 105°F (40°C) without derating.

Reliability

Get multipump control without an external control panel. Smart Motors are equipped with one pressure transducer per pump through 4-20 mA signal. Operation is still possible, even when one or more pumps or sensors are unavailable.

Individual pump control

Each individual pump has the capability to take control. That means that the system will continue to operate as a booster system even if one or more of the pumps or sensors is unavailable. Compared to systems with only one control unit, boosters with the smart motor are an extremely reliable source of pressure.

One sensor – one pump

The series includes one sensor per pump as standard, providing full redundancy and avoiding a unique failure point.

Safe operation

Each frequency drive comes with contacts for fault diagnostics and dry-run protection connections as standard. Each Smart Motor frequency converter features an automatic switch for thermal magnetic protection. The system incorporates cyclical exchange of pumps, temperature sensors in motors and drives, and error logs.





Xylem |'zīləm|

- 1) The tissue in plants that brings water upward from the roots;
- 2) a leading global water technology company.

We're a global team unified in a common purpose: creating advanced technology solutions to the world's water challenges. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. Our products and services move, treat, analyze, monitor and return water to the environment, in public utility, industrial, residential and commercial building services settings. Xylem also provides a leading portfolio of smart metering, network technologies and advanced analytics solutions for water, electric and gas utilities. In more than 150 countries, we have strong, long-standing relationships with customers who know us for our powerful combination of leading product brands and applications expertise with a strong focus on developing comprehensive, sustainable solutions.

For more information on how Xylem can help you, go to www.xylem.com



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