



e-MP Multistage Pumps

Performance plus efficiency in a versatile ring section pump
for high pressure applications



Xylem e-MP pumps bring the pressure

Safe. Strong. Cost-effective. Xylem e-MP multistage pumps get the job done in nearly any high-pressure application - with lower lifecycle costs, lower energy usage, long-term dependability and the versatility to handle a wide range of applications. Available in horizontal or vertical configurations and with robust material options and smart design features, e-MP pumps can handle moving a variety of fluids across a wide range of applications including pressure boosting, boiler feed, filtration, fluid transport, dewatering and more. Assembled in the USA, e-MP multistage pumps are proof Xylem puts industrial-strength thinking to work for the manufacturing, power generation, oil & gas, mining, commercial building, agricultural, water utilities and leisure industries.

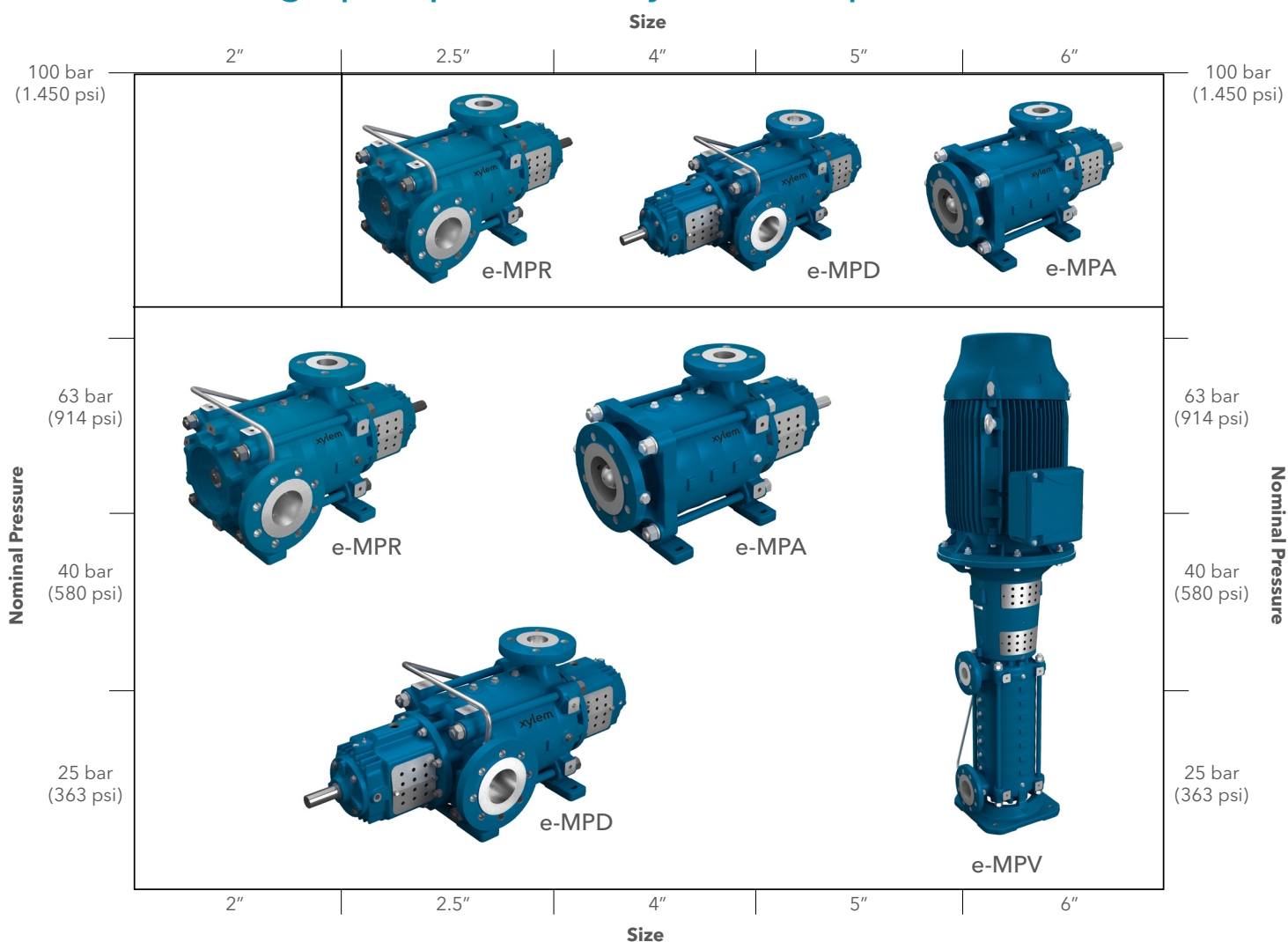
Expert support

Since the proper selection and configuration of your pump is critical to long-term efficiency and dependability, give us a call. Our engineers will ensure your pump is optimized for your application.

Quick selection

e-MP multistage pumps come in so many sizes, models and materials you can perfectly configure them to your system requirements. And selecting the right model and accessories is simple with our Intellitronic X selection tool. Just select the vertical or horizontal orientation, configure the casings, hydraulics and seals based on your application. We'll assemble your pump and get it on its way.

e-MP multistage pump models by nominal pressure and size



Highly efficient and versatile

BENEFITS

1 Improved design

Versatile mechanical configuration and a redesigned first stage suction impeller make it easy to integrate into high-pressure applications, with the high-suction capabilities needed for rigorous hot water or condensate demands.

2 Safe operation

Protect your people and reduce downtime with built-in safeguards, such as a large self-cleaning seal chamber for solids handling and a variety of variable frequency drive options.

3 Energy savings

High-efficiency hydraulics optimized by computational fluid dynamics calculations reduce lifecycle costs and energy usage.

4 Optimized MTBRs

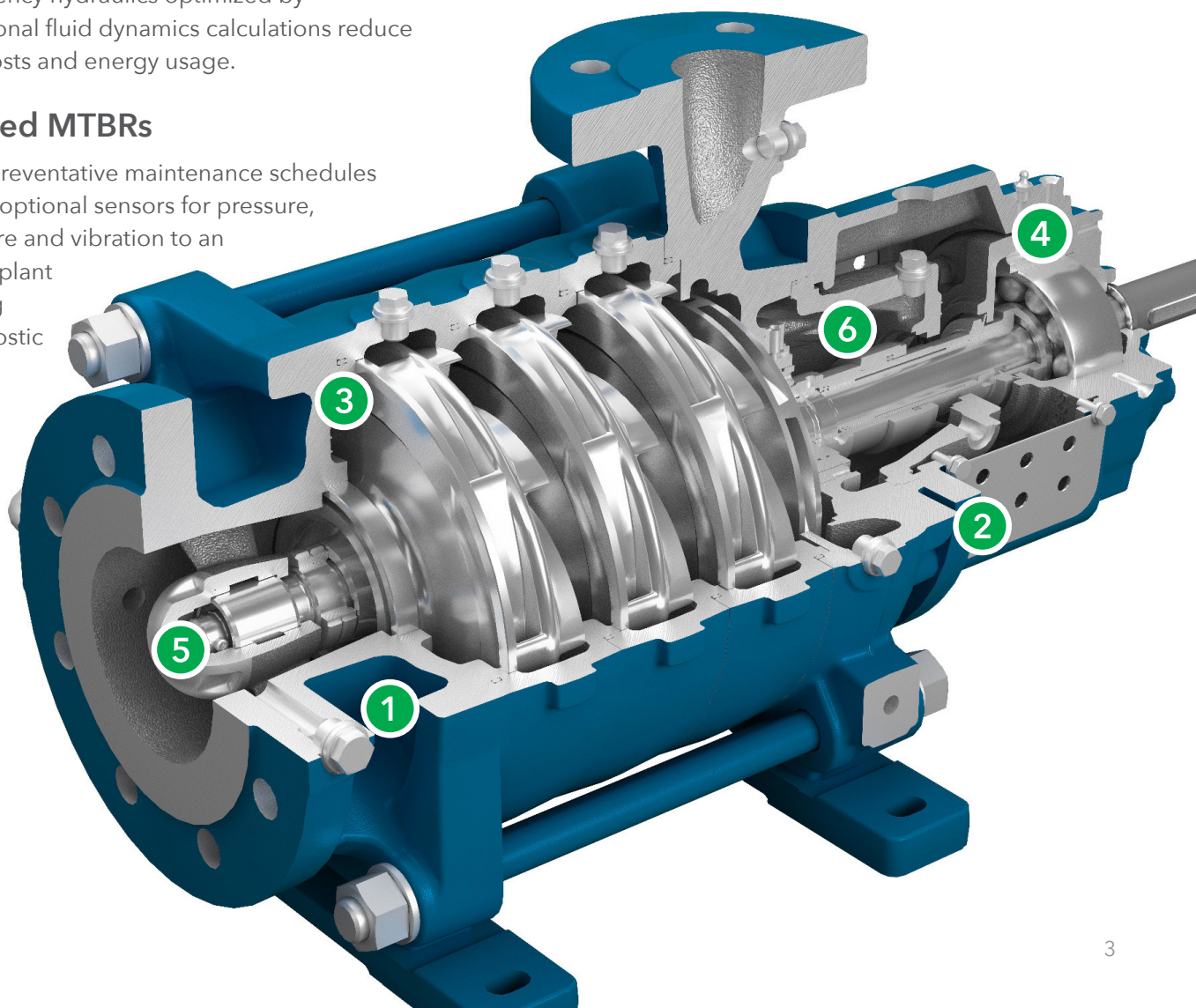
Establish preventative maintenance schedules by pairing optional sensors for pressure, temperature and vibration to an intelligent plant monitoring and diagnostic system.

5 Reduced wear

Elastically-supported plain bearings made from tungsten carbide resist extreme vibrations and shocks. A balancing drum reduces axial thrust of bearings and loads on mechanical seal for more efficient operation.

6 Easy maintenance

Drive side bearing, mechanical seal and balancing drum sub-assembly are all easily accessible without removing pump from the piping system, and use common parts across the range to simplify spare parts management.



Built to perform

FEATURES

A Suction impeller

The first stage suction impeller that is engineered with a wider inlet diameter reducing of the velocity of the liquid for reduced friction and increased suction capability (or low NPSH, as required).

B U-turn channels

The salient rounded edges of the U-turn channels in each stage casing ensure a balanced velocity allocation of the liquid being pumped, reducing losses and increasing hydraulic efficiency from one stage to the next.

C Balancing system

The balancing system consists of the balancing bushing, installed in the discharge casing, and the balancing drum, assembled on the shaft. The system uses the force of the liquid being pumped to reduce load on mechanical seal and wear on the bearings. The complete system can be disassembled for maintenance without removing pump from its piping.

D Seal housing

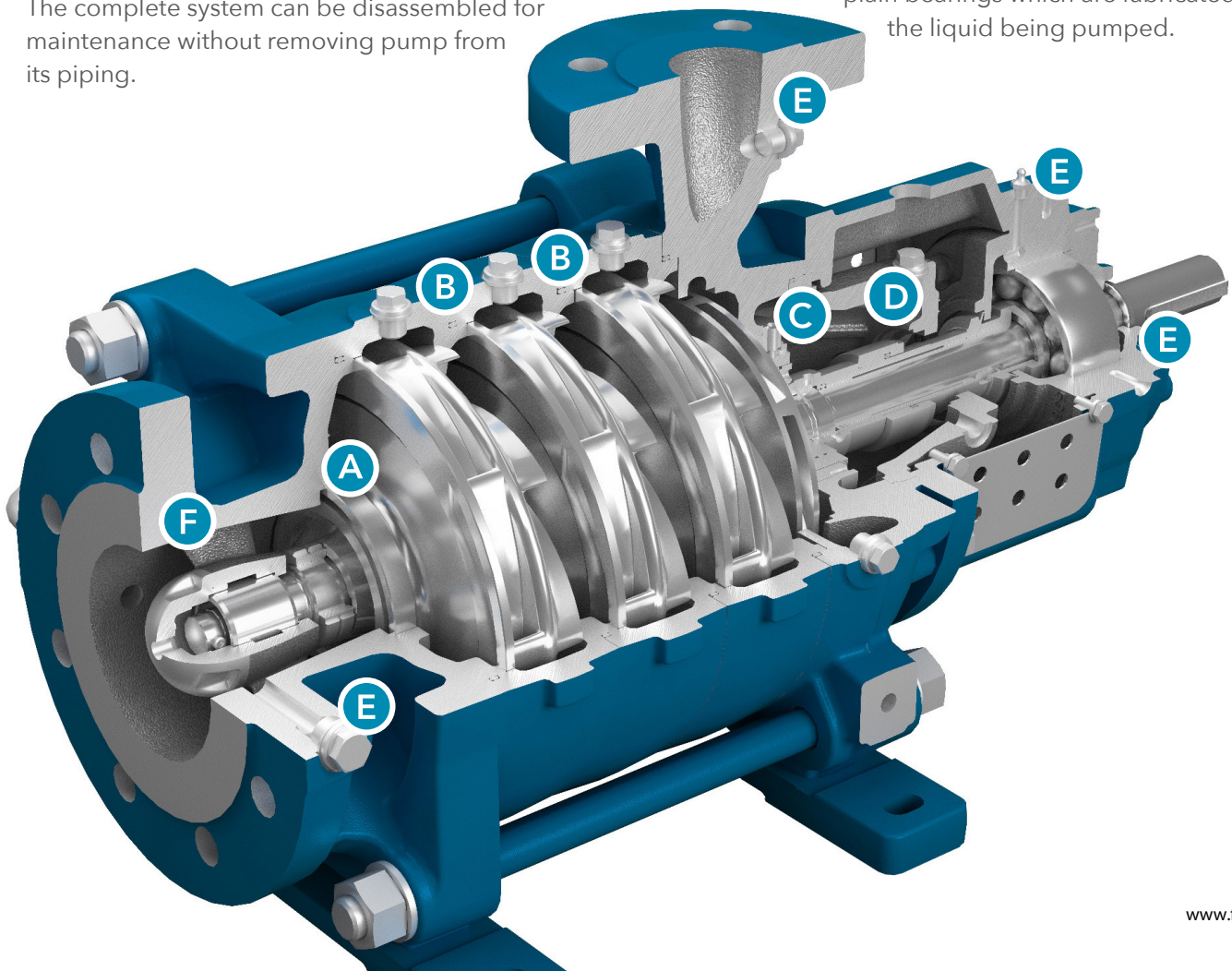
Large, self-cleaning seal housing transports particles outwards along the conical-shaped chamber to the relief piping, then back from sealing chamber to suction side to ensure seal longevity.

E Sensor interfaces



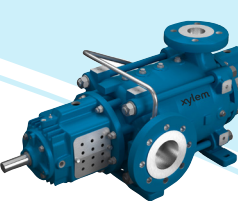

Two standard pressure sensors, one at suction and one at discharge nozzle, measure inlet and outlet pressure, while optional sensors, one for horizontal, one for vertical, at the bearing frame can measure vibrations and bearing temperature. The sensors can be connected to any intelligent plant monitoring and diagnostic system to monitor the pump's performance.

F Plain bearing

e-MPA, e-MPR and e-MPV pumps have suction side plain bearings which are lubricated by the liquid being pumped.



Range overview/specifications

	e-MPA	e-MPR	e-MPD	e-MPV
Special feature(s)	 <ul style="list-style-type: none"> • highest suction capability (the lowest NPSH) • axial inlet flow • reduced wear due to fewer parts • small horizontal footprint 	 <ul style="list-style-type: none"> • higher suction nozzle flexibility • reduced wear due to fewer parts • small horizontal footprint 	 <ul style="list-style-type: none"> • higher possible inlet pressure (up to 580 psi) • double bearings • higher suction nozzle flexibility • optional drive on the suction side • horizontal footprint 	 <ul style="list-style-type: none"> • compact vertical footprint • four nozzle positions (90°, 180°, 270°, 360°)
Size	2" to 6"	2" to 6"	2" to 6"	2" to 6"
Configuration	Horizontal	Horizontal	Horizontal	Vertical
Power: 2-pole 4-pole	10 hp - 1,700 hp / 7.5 kW - 1,250 kW 3 hp - 220 hp / 2.2 kW - 160 kW	10 hp - 1,700 hp / 7.5 kW - 1,250 kW 3 hp - 220 hp / 2.2 kW - 160 kW	10 hp - 1,700hp / 7.5 kW - 1,250 kW 3 hp - 220 hp / 2.2 kW - 160 kW	10 hp - 480 hp / 7.5 kW - 355 kW 3 hp - 220 hp / 2.2 kW - 160 kW
Heads	up to 3,100 ft / 950 m	up to 3,100 ft / 950 m	up to 3,100 ft / 950 m	up to 2,000 ft / 630 m
Flows	up to 2,600 gpm / 600 m³/h	up to 2,600 gpm / 600 m³/h	up to 2,600 gpm / 600 m³/h	up to 2,600 gpm / 600 m³/h
Temperature of pumped liquid	14°F (optional -13°F) to 284°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C)	14°F (optional -13°F) to 284°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C)	14°F (optional -13°F) to 284°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C)	14°F (optional -13°F) to 284°F or -10°C (optional -25°C) to 140°C
Inlet pressure	up to 145 psi / 10 bar	up to 145 psi / 10 bar	up to 580 psi / 40 bar	up to 145 psi / 10 bar
Shaft sealing	Standard mechanical seal, cartridge seal, soft packing	Standard mechanical seal, cartridge seal, soft packing	Standard mechanical seal, cartridge seal, soft packing	Standard mechanical seal, cartridge seal, soft packing
Bearings:				
Suction side	plain bearing	plain bearing	radial ball bearing	plain bearing
Discharge side	double angular ball bearing	double angular ball bearing	double angular ball bearing	double angular ball bearing
Flange:				
Suction side	axial	90° rotatable (left, top, right)	90° rotatable (left, top, right)	90° rotatable
Discharge side	radial, 90° rotatable (left, top, right)	radial, 90° rotatable (left, top, right)	radial, 90° rotatable (left, top, right)	radial, 90° rotatable

Options and Accessories

Description	Options Available
Sizes	2" to 6"
Configurations	horizontal or vertical
Horizontal power range	2-pole: 10 hp - 1,700 hp / 7.5 kW - 1,250 kW 4-pole: 3 hp - 220 hp / 2.2 kW - 160 kW
Vertical power range	2-pole: 10 hp - 480 hp / 7.5 kW - 355 kW 4-pole: 3 hp - 220 hp / 2.2 kW - 160 kW
Temperature of pumped liquid	14°F (optional -13°F) to 284°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C) (horizontal)
Pump casings	cast iron, ductile iron, steel, stainless steel (AISI 316), duplex stainless steel, super duplex stainless steel
Impeller	cast iron, bronze, stainless steel (AISI 316), duplex stainless steel, super duplex stainless steel
Elastomers	EPDM, FPM
Shaft sealing	cartridge, standard mechanical (seal packing optional)
Controllers	Aquavar® IPC, Hydrovar®
Optional accessories	frames, couplings, coupling guards, monitoring & control interfaces, repair parts
Available upon request	fly wheel, high voltage motors

Applications

Xylem's multistage pump ranges have been satisfying the needs of customers for over a century. Today, they operate successfully across the world in a variety of markets and applications.



General industrial

(steel/metal, sugar, timber, tire, rubber, pulp and paper, auto, food and beverage)

- cooling and heating circuits
- furnace/pan/lance/milling cooling
- polymer processing
- sprinkler systems
- washing and cleaning systems
- large vehicle washing systems
- filter systems
- water transport/treatment systems
- washdown/clean-in-place
- booster systems/boosting applications
- auxiliary applications in chemical industry



Power generation

(fossil fuel, renewable, biomass, and geothermal)

- boiler feed
- condensate pumping
- de-aerating
- water injection/transport
- auxiliary systems
- cooling and heating circuits
- district cooling and heating systems
- geothermal well services
- heat transfer fluids
- steam/water (gas-cycles) systems
- cooling water systems
- water supply and disposal systems
- process heating water systems



Oil and gas

(hydraulic fracturing, conventional, off-shore platforms, pipelines, and refineries)

- oil condensate pumping
- LACT units
- sea water/water injection
- water supply/transport/treatment
- Floating Production Storage and Offloading (FPSO)
- brackish water transport



Mining

(surface and underground)

- dewatering (filtered water)
- leachate pumping
- water transport
- washing and cleaning systems
- dust suppression

Applications



Commercial building services

- water transport
- booster systems
- HVAC systems



Agriculture

- water transport
- irrigation



Water utilities

(water works, desalination plants, water treatment plants, drainage/ flood protection and tunnels)

- district cooling and heating systems
- water transport/treatment systems
- desalinization systems
- reverse osmosis systems
- nanofiltration
- booster systems



Leisure industry

(ski resorts, leisure parks and spas)

- snow making
- water transport/boosting

Pumpable fluids include:

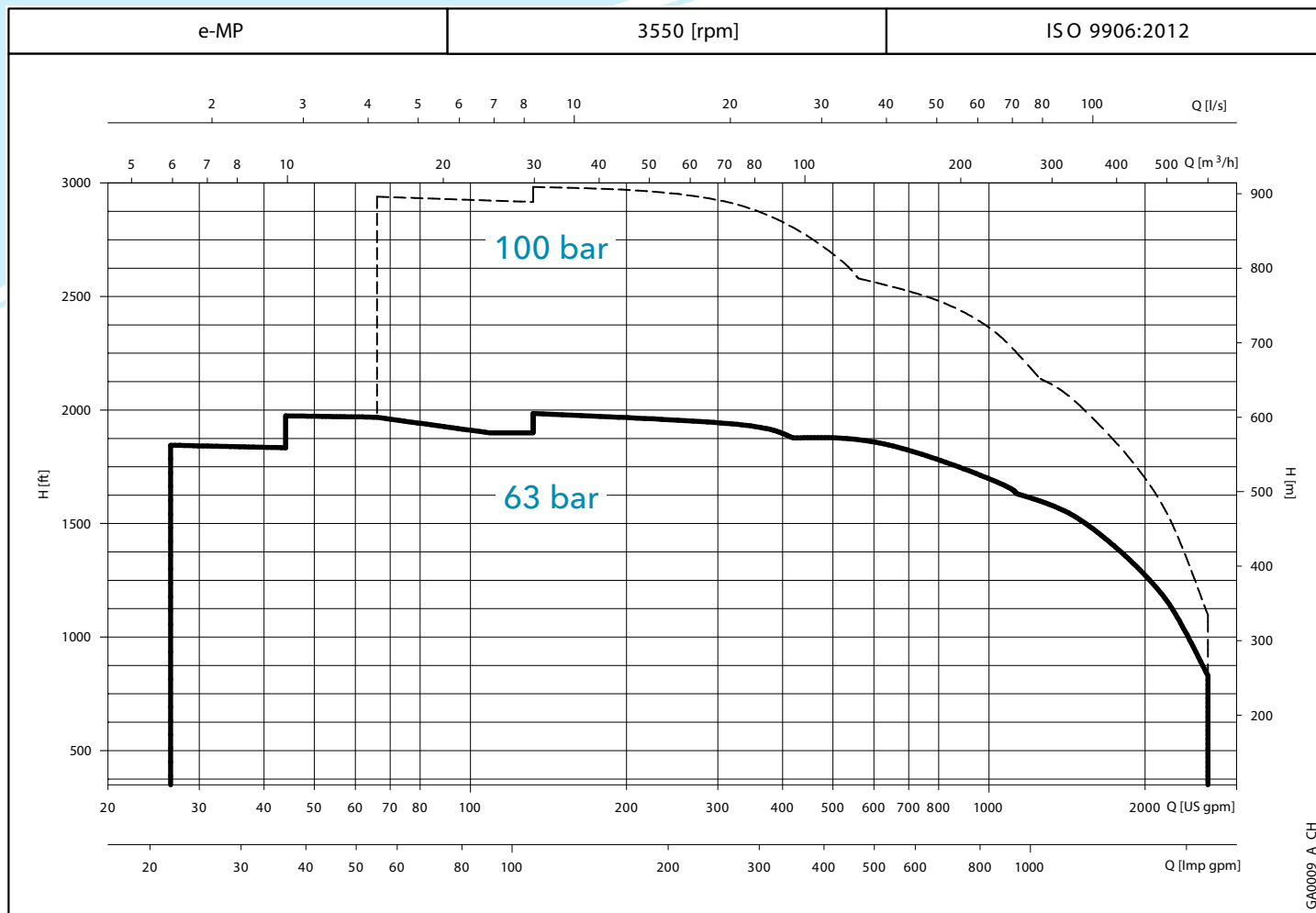
- Groundwater
- Potable water
- Process water
- Gray/used water
- Seawater
- Brackish water

- Boiler feed water
- Water condensate
- Heat transfer fluids
- Produced water
- Solvents/oil

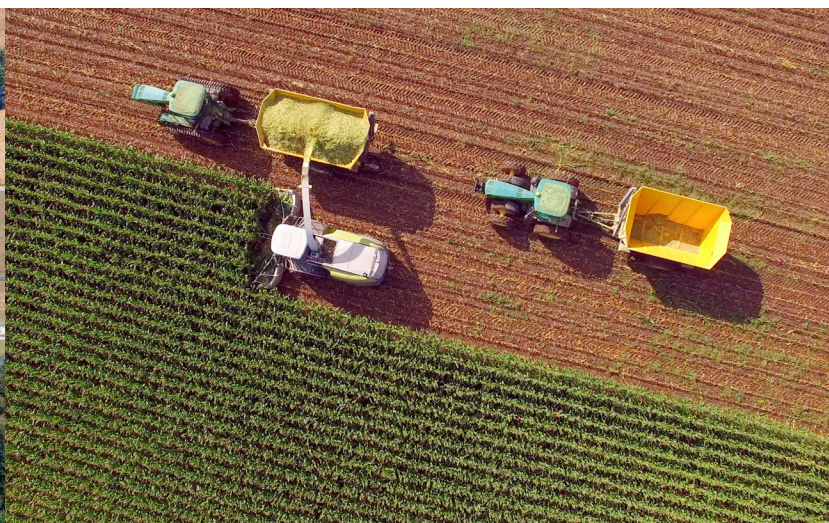
If your process is not listed above, please contact our experts at [xylem.com/industrial](https://www.xylem.com/industrial).

Curves

Hydraulic performance range at 60 Hz, 2-Poles

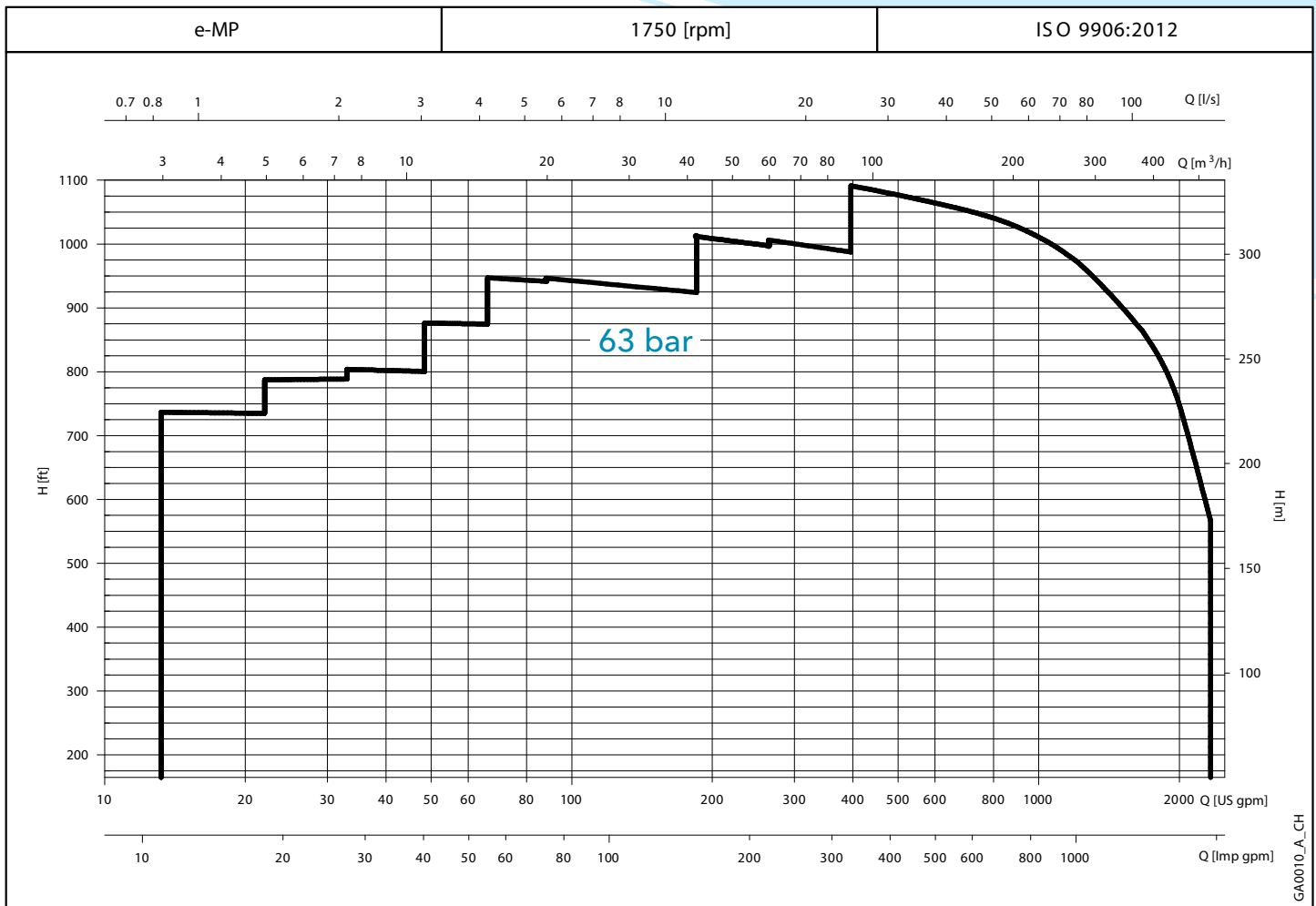


--- 100 bar version. Contact factory for more information.



Curves

Hydraulic performance range at 60 Hz, 4-Poles



Make your system even more efficient

There are significant opportunities to reduce a pumping system's energy consumption such as through smart hydraulic system design, retrofitting for variable speed performance and operating practices. To build and operate an efficient water system, you need both the right products and experts who know the application. Aquavar® IPC and Hydrovar® controllers have been designed by Xylem's engineers with these things in mind. With the help of the Aquavar or Hydrovar variable speed controller, you can optimize your pump operations and reduce your energy costs by as much as 70%.



FEATURES

- Wide range of standard and permanent magnet motors with power up to 90 kw / 600 hp
- Developed by pump experts and optimized for controlling pumps
- Submersible and above ground applications
- Easier start-up and programming with Start-Up Genie
- Two wire multi-pump connection for faster installation
- Hand on, off, and auto-on buttons available for easy pump operation at the keypad. No toggling between local and remote operation
- Multi-pump configuration for up to four (4) pumps - no need for PLC
- System redundancy with multi-master control in case of drive failure
- Wide range of voltage and enclosure options
- True 208 V coverage
- Dedicated single phase input
- Remote commissioning and monitoring with USB Connectivity and software
- In-panel or handheld keypad with backlit display
- Alarm Log for last 5 alarms and maintenance events
- EMC/RFI filters and Dual DC-link reactors to reduce drive noise emissions and interference
- I/O expansion cards, factory installed or field configured

Aquavar® IPC variable speed controller

Aquavar IPC variable speed controller is optimized for e-MP multistage pumps in submersible and ground water applications. It adds capabilities including multi-pump configuration and remote monitoring.

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	14° F - 113° F (-10° C - 45° C) Higher temperatures can be achieved by derating the output amperage of the drive 10% for up to 122° F (50° C)
Communication	Modbus® RTU, Metasys N2, FLN, and BACnet standard Others available with option cards
Altitudes	At altitudes from 0 to 1,000 meters (0 to 3,300 ft) Nameplate rated current is available Derate for altitudes above 1,000 (3,300 ft) with a maximum operating altitude of 3,000 m (9,900 ft) Consult factory for applications above 3,000 m (9,900 ft)
Relative humidity	Lower than 95% without condensation
Electrical - input power	3 phase 380 V to 480 V $\pm 10\%$ 1 phase 200 V to 240 V $\pm 10\%$ 3 phase 200 V to 240 V $\pm 10\%$ 3 phase 525 V to 600 V $\pm 10\%$ Frequency 50 or 60 Hz, ± 2 Hz
Electrical - output power	3 phase from 0 to V supply

Xylem Hydrovar® pump mounted variable speed controller

Hydrovar is the intelligent pump controller that matches performance to system demand. Xylem Hydrovar is efficient and easy to install and operate, making it the ideal variable speed controller for new and retrofit applications.

The Hydrovar controller works with any standard AC motor and can be direct mounted or wall mounted to support to support the e-MP multistage pump. The built-in application software makes it the easiest drive to commission, program and operate, enabling virtually any configuration of pumps.



FEATURES

- Easy to setup and commission
- Energy savings (up to 70%)
- Large LCD display
- Pre-programming for standard motors
- Twenty-eight (28) language sets
- Optional Wi-Fi card for the flexibility of wireless connection
- Advanced motor control to reduce heating and extend the lifetime of the motor
- Embedded THDi filter for better electricity quality from the grid, extending the lifetime of the equipment
- Standard multi-pump capability of up to eight (8) pumps with no single failure point
- Premium card option for extended I/O
- Backward compatibility to existing Hydrovar products
- BACnet and Modbus as a standard for seamless BMS integration

SPECIFICATIONS

Input supply (from 2 hp to 30 hp):	<ul style="list-style-type: none">• 1Ø Input 208/230 V, 2 - 5 hp (208-240 V \pm 10%)• 3Ø Input 208/230 V, 2 - 15 hp (208-240 V \pm 10%)• 3Ø Input 460 V, 2 - 30 hp (380-460 V \pm 10%)
Speed	from 15-70 Hz
Power supply	single or three phase 50 or 60 Hz
Motor requirements	3 phase, TEFC, 208 - 230 V or 460 V, 0 - 60 Hz, Class F insulation, NEMA design A or B Motor to fan cover of TEFC motor for a packaged unit with a small footprint
Maximum ambient temperature	104° F
Indoor enclosure	NEMA 1. Avoid excessive dust, corrosives, salts and direct sunlight.
Communication	RS485 interface, BACnet, Modbus

Xylem ['zīləm]

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

We're 12,000 people unified in a common purpose: creating innovative solutions to meet our world's water needs. Developing new technologies that will improve the way water is used, conserved, and re-used in the future is central to our work. We move, treat, analyze, and return water to the environment, and we help people use water efficiently, in their homes, buildings, factories and farms. 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, backed by a legacy of innovation.

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

Free Line group

We offer:

- Engineering and technical solutions of Xylem for water supply, wastewater and water purification systems, which are leading in the world.
- A full range of pumps and equipment for such applications as supplying drinking or untreated water, diversion of industrial wastewater, sewage, drainage, monitoring installations and operation, primary and secondary biological treatment, filtration and disinfection.
- Technical support and maintenance of pumps. Our local service center provides comprehensive services and support for safe, efficient and reliable operation. You can rely on us to ensure trouble-free operation and minimal downtime. We will quickly respond and give a professional answer to your questions, as well as provide high-quality service using original spare parts.

Free Line Group LLC

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