

# 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, instead of, 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.

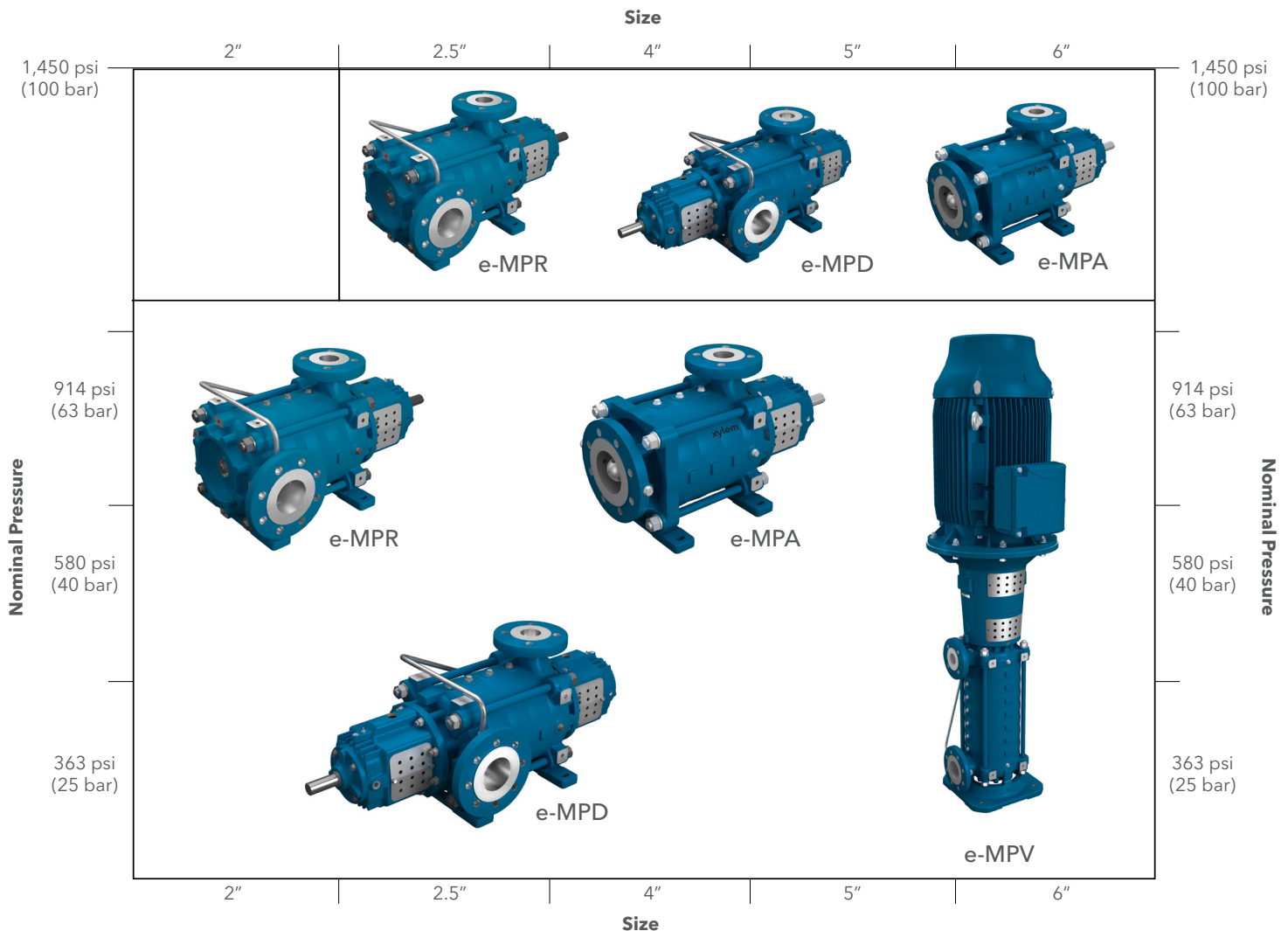
## Expert support

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 Xylem Solver 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. (<https://solver.xylem.com/>)

## 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

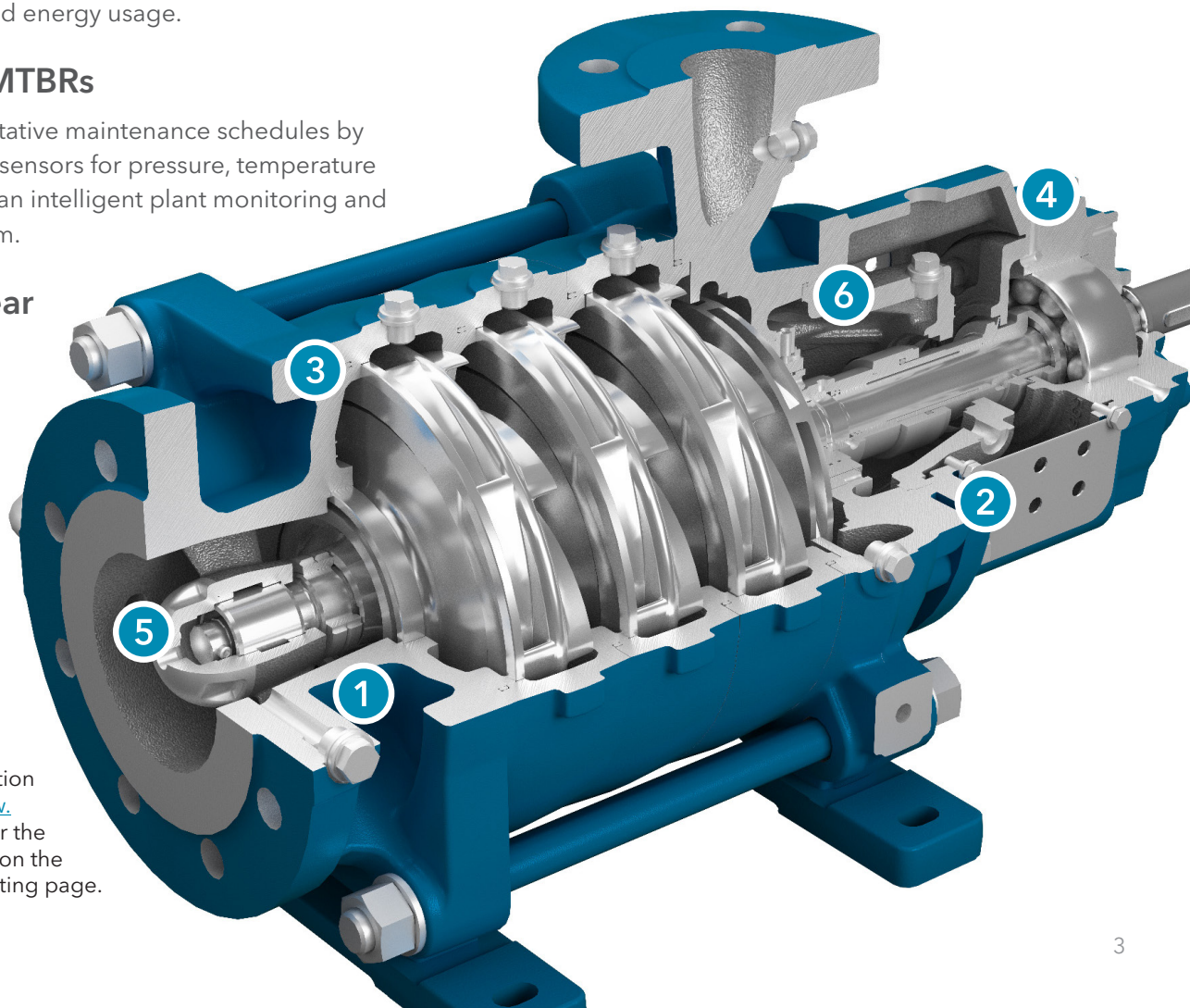
Establish preventative maintenance schedules by pairing optional sensors for pressure, temperature and vibration to an intelligent plant monitoring and diagnostic system.

### 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.



The e-MPD stainless steel pump versions meet NSF/ANSI 61 and 372 certification standards.

For the official certification listing, please visit [www.csagroup.org](http://www.csagroup.org) and enter the file and class numbers on the CSA Group Product Listing page.

# Built to perform

## FEATURES

### A Suction impeller

The first stage suction impeller 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

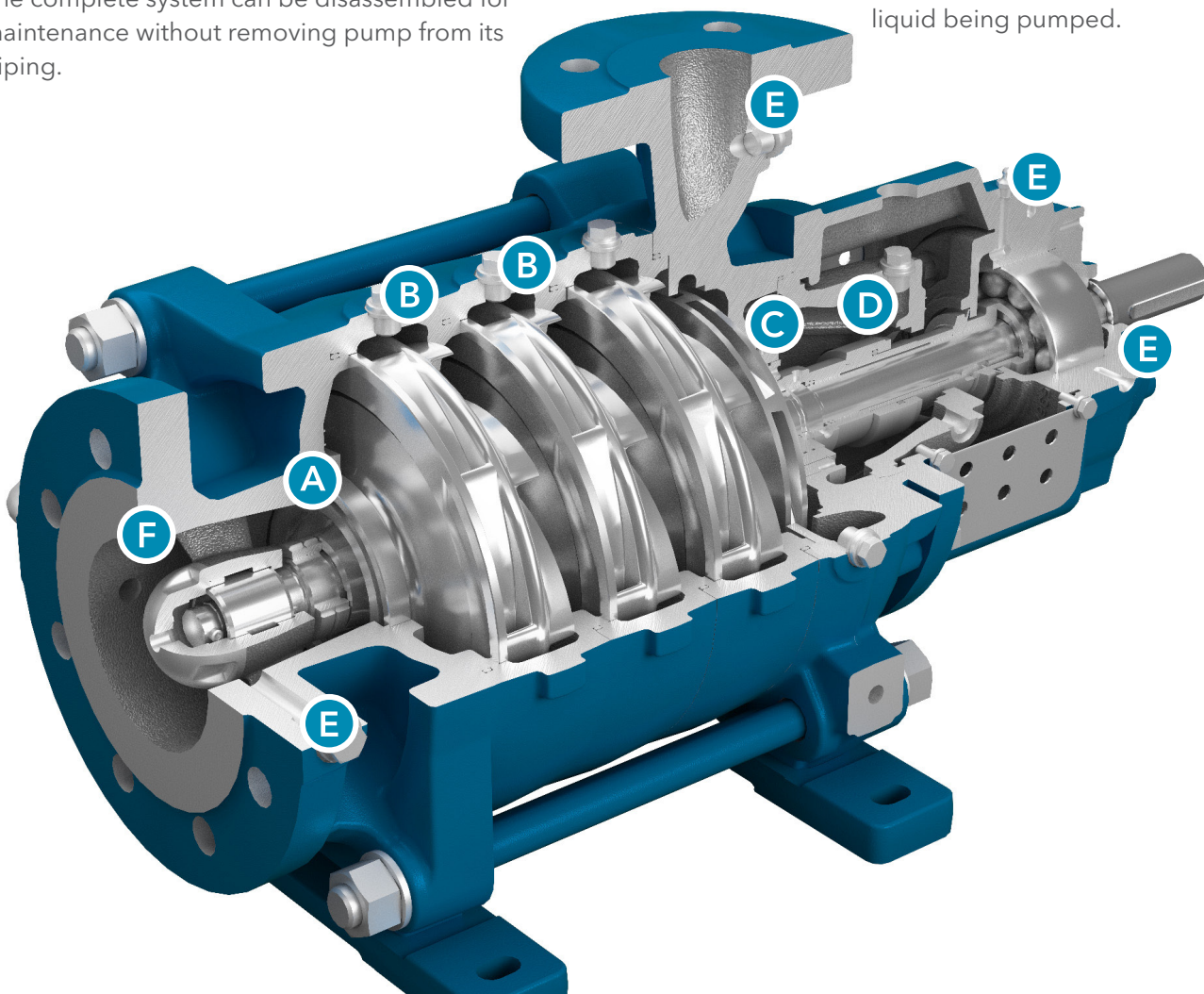
Large, self-cleaning seal housing transports particles outwards along the conical-shaped chamber to the relief piping, then back from sealing chamber to suction side to ensure seal longevity.

### E Sensor interfaces


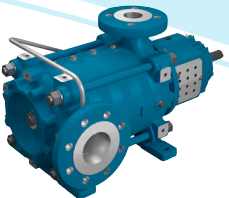
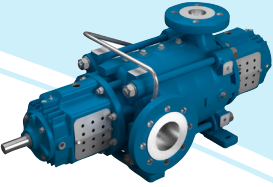

Two standard pressure sensors, one at suction and one at discharge nozzle, measure inlet and outlet pressure, while optional sensors, one for horizontal, one for vertical, at the bearing frame can measure vibrations and bearing temperature. The sensors can be connected to any intelligent plant monitoring 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
<b>Special feature(s)</b>	 <ul style="list-style-type: none"> <li>• highest suction capability (the lowest NPSH)</li> <li>• axial inlet flow</li> <li>• reduced wear due to fewer parts</li> <li>• small horizontal footprint</li> </ul>	 <ul style="list-style-type: none"> <li>• higher suction nozzle flexibility</li> <li>• reduced wear due to fewer parts</li> <li>• small horizontal footprint</li> </ul>	 <ul style="list-style-type: none"> <li>• higher possible inlet pressure (up to 580 psi)</li> <li>• double bearings</li> <li>• higher suction nozzle flexibility</li> <li>• optional drive on the suction side</li> <li>• horizontal footprint</li> <li>• NSF/ANSI 61 &amp; 372 certified*</li> </ul> <p>* Stainless steel versions only</p>	 <ul style="list-style-type: none"> <li>• compact vertical footprint</li> <li>• four nozzle positions (90°, 180°, 270°, 360°)</li> </ul>
<b>Size</b>	2" to 6"	2" to 6"	2" to 6"	2" to 6"
<b>Configuration</b>	Horizontal	Horizontal	Horizontal	Vertical
<b>Power: 2-pole 4-pole</b>	7.5 hp - 2,000 hp 3 hp - 500 hp	7.5 hp - 2,000 hp 3 hp - 500 hp	7.5 hp - 2,000 hp 3 hp - 500 hp	15 hp - 750 hp 15 hp - 500 hp
<b>Heads</b>	Up to 2,100 ft / 640 m (optional 3,100 ft / 950 m for 100 bar version)			up to 2,000 ft / 630 m
<b>Flows</b>	up to 2,600 gpm / 600 m <sup>3</sup> /h (optional 3,750 gpm / 850 m <sup>3</sup> /h for 100 bar version)			up to 2,600 gpm / 600 m <sup>3</sup> /h
<b>Temperature of pumped liquid</b>	14°F (optional -13°F) to 248°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C)	14°F (optional -13°F) to 248°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 212°F or -10°C (optional -25°C) to 140°C
<b>Inlet pressure</b>	up to 145 psi / 10 bar	up to 145 psi / 10 bar	up to 580 psi / 40 bar	up to 145 psi / 10 bar
<b>Shaft sealing</b>	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
<b>Bearings: Suction side Discharge side</b>	Plain bearing double angular ball bearing	Plain bearing double angular ball bearing	Radial ball bearing double angular dual ball bearing	Plain bearing double angular ball bearing
<b>Flange: Suction side Discharge side</b>	Axial radial, 90° rotatable (left, top, right)	90° Rotatable (left, top, right) radial, 90° rotatable (left, top, right)	90° Rotatable (left, top, right) radial, 90° rotatable (left, top, right)	90° Rotatable radial, 90° rotatable

## Options and Accessories

Description	Options Available
<b>Sizes</b>	2" to 6"
<b>Configurations</b>	Horizontal or vertical
<b>Horizontal power range</b>	2-pole: 7.5 hp - 2,000 hp 4-pole: 3 hp - 500 hp
<b>Vertical power range</b>	2-pole: 10 hp - 480 hp 4-pole: 3 hp - 220 hp
<b>Temperature of pumped liquid</b>	14°F (optional -13°F) to 284°F (optional 356°F) or -10°C (optional -25°C) to 140°C (optional 180°C) (horizontal)
<b>Pump casings</b>	Ductile iron, stainless steel (AISI 316), duplex stainless steel, super duplex stainless steel
<b>Impeller</b>	Stainless steel (AISI 316), duplex stainless steel, super duplex stainless steel
<b>Elastomers</b>	EPDM, FPM
<b>Shaft sealing</b>	Cartridge, standard mechanical (seal packing optional)
<b>Controllers</b>	Aquavar® IPC, Hydrovar®
<b>Optional accessories</b>	Frames, couplings, coupling guards, monitoring & control interfaces, repair parts
<b>Available upon request</b>	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)

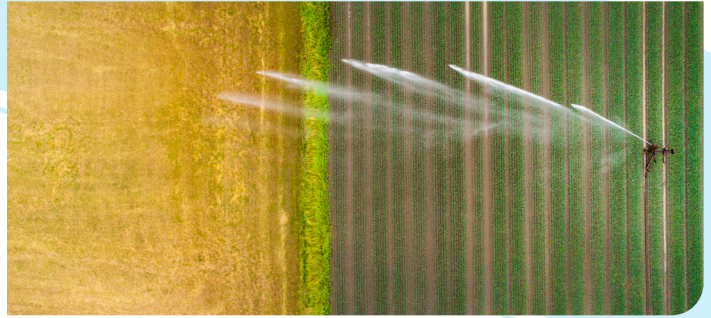
- Dewatering (filtered water)
- Leachate pumping
- Water transport
- Washing and cleaning systems
- Dust suppression

# 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

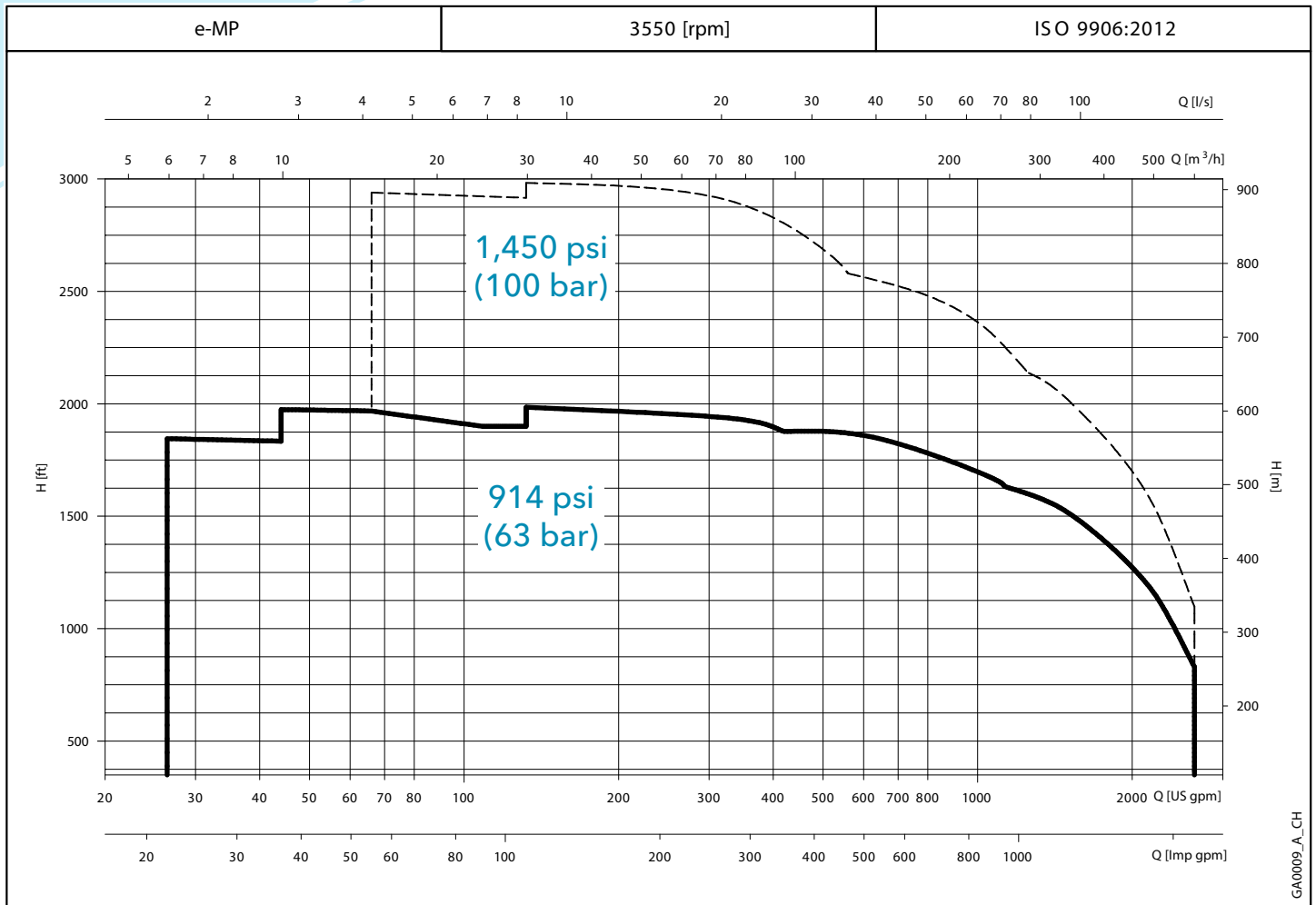
## Pumpable fluids include:

- 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](http://xylem.com).

# Curves

## Hydraulic performance range at 60 Hz, 2-Poles

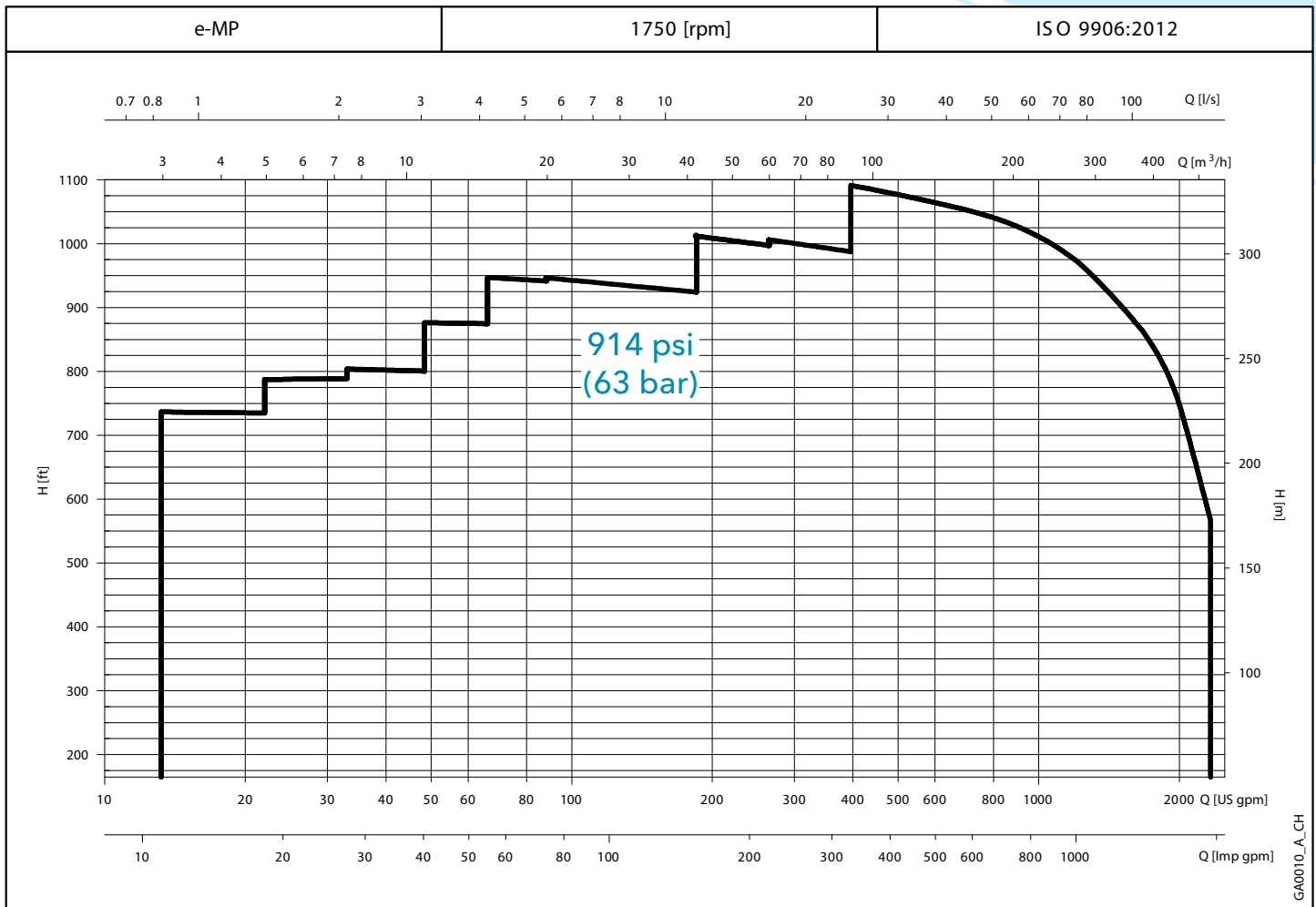


--- 100 bar version. Contact factory for more information.



# 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%.



## 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.

### FEATURES

- Wide range of standard and permanent magnet motors with power up to 600 hp / 90 kw
- 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

### SPECIFICATIONS

<b>Indoor enclosures</b>	IP20 Open, TYPE 1, TYPE 12
<b>Outdoor enclosures</b>	TYPE 3R, TYPE 4X
<b>Input supply</b>	1.5 - 600 hp (frame A - D) wall or base mounted
<b>Ambient temperature</b>	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)
<b>Communication</b>	Modbus® RTU, Metasys N2, FLN, and BACnet standard Others available with option cards
<b>Altitudes</b>	At altitudes from 0 to 3,300 ft. (0 to 1,000 m) Nameplate rated current is available Derate for altitudes above 3,300 ft (1,000 m) with a maximum operating altitude of 9,900 ft (3,000 m) Consult factory for applications above 9,900 ft (3,000 m)
<b>Relative humidity</b>	Lower than 95% without condensation
<b>Electrical - input power</b>	3 phase 380 V to 480 V ±10% 1 phase 200 V to 240 V ±10% 3 phase 200 V to 240 V ±10% 3 phase 525 V to 600 V ±10% Frequency 50 or 60 Hz, ±2 Hz
<b>Electrical - output power</b>	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

<b>Input supply (from 2 hp to 30 hp):</b>	<ul style="list-style-type: none"> <li>• 1Ø Input 208/230 V, 2 - 5 hp (208-240 V ± 10%)</li> <li>• 3Ø Input 208/230 V, 2 - 15 hp (208-240 V ± 10%)</li> <li>• 3Ø Input 460 V, 2 - 30 hp (380-460 V ± 10%)</li> </ul>
<b>Speed</b>	from 15-70 Hz
<b>Power supply</b>	single or three phase 50 or 60 Hz
<b>Motor requirements</b>	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
<b>Maximum ambient temperature</b>	104° F
<b>Indoor enclosure</b>	NEMA 1. Avoid excessive dust, corrosives, salts and direct sunlight.
<b>Communication</b>	RS485 interface, BACnet, Modbus

## e-MPD Stainless Steel Certifications



Drinking Water  
Low Lead Content  
**NSF/ANSI 61 & 372**  
File#: 009553\_0\_000

NSF/ANSI 61 (*Drinking Water System Components - Health Effects*) is a certification standard for products that come into contact with drinking water. NSF/ANSI 372 (*Drinking Water System Components - Lead Content*) verifies the lead content of drinking water products meets levels determined by the Safe Drinking Water Act. These requirements are based on EPA and Health Canada Requirement.

For the official certification listing, please visit [www.csagroup.org](http://www.csagroup.org) and enter the file and class numbers on the CSA Group Product Listing page.

## 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](http://www.xylem.com)**



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