

# HYDRO MPC HVAC

**THE INTEGRATED PACKAGED  
PUMPING SYSTEM DESIGNED  
FOR HVAC APPLICATIONS**



be  
think  
innovate

**GRUNDFOS** 

# THINK ABOUT HOW YOU CHOOSE HVAC PUMPING SOLUTIONS

When it comes to selecting a pump solution for hydronic heating and cooling applications, you've got a list of must-haves. Near the top of that list are savings, efficiency, performance and ease of use. If you thought building your pumping system piece-by-piece was the best way to achieve all that...

## **THINK AGAIN.**

It's time to stop laboring over field-built systems that perform most efficiently in high-load conditions, and start relying on a packaged system that performs efficiently in all conditions. The Grundfos Hydro MPC HVAC is a plug-and-pump solution that delivers all your must-haves in one fully integrated system designed for maximum performance and efficiency. It's a system that's making design, installation and ROI easier and faster than ever. It's a system that's challenging the industry to...

## **THINK DIFFERENTLY.**

With the Hydro MPC HVAC, Grundfos leverages parallel pumping to change the way you think about pump systems. Using smaller pumps and intelligent controls, parallel pumping splits the workload in a smarter way for greater flexibility, scalability and efficiency in ever-changing load conditions. And since it's a packaged pump system, the Hydro MPC HVAC comes pre-tested, pre-assembled and pre-wired for across-the-board excellence and reliability.

That's why it's time to...

## **THINK HYDRO MPC HVAC.**

# THINK SAVINGS

## SAVE ON INSTALLATION ...

Think about the true costs of using a field-built pumping solution. While the core of your costs are the pumps, that's not all there is to it. Not by far. Other components and labor add significantly to the cost. Because the Hydro MPC HVAC is a packaged system, everything you need comes pre-assembled and tested at the factory, so there are no unexpected extra costs during installation.

### TYPICAL COST COMPARISON EXAMPLE

	FIELD-BUILT		HYDRO MPC HVAC	
	Qty	Total Cost	Qty	Total Cost
Housekeeping Pad	2	\$600	1	\$300
Inertia Base/ Concrete/Grouting	2	\$1,200		N/A
Pumps	2	\$4,989		\$16,898
Gauges/Sensors/Misc.		\$1,000		
Controls & Integration Labor	1	\$3,800		
VFDs	2	\$3,270		
Suction Diffusers & Triple Duty Valves	2	\$680		N/A
Expansion Joints	4	\$202	2	\$101
Alignment	2	\$700		N/A
Installation (Mechanical/Electrical)		\$7,500		\$1,300
Commissioning @ \$150/hr	8	\$1,200	1	\$150
Communications @ \$1,500/pt*	3	\$4,500	1	\$1,500

\*Assumes minimum three points of data set

**TOTAL \$29,641.00 \$20,249.00**

**TOTAL SAVINGS: \$9,392.00**



#### CIM MODULE

Our CIM module integrates seamlessly with your BMS and, with access to over 30 points of data and control with one connection, drastically reduces your installation costs.

## ... AND KEEP SAVING EVERY DAY.

Designed for maximum efficiency, the Hydro MPC HVAC can reduce energy consumption by more than 18% compared to other variable speed HVAC systems. Modular designs, advanced motor technologies and smart controls all combine to optimize energy efficiency at any load point for a quicker ROI than other variable speed systems, without sacrificing building occupant comfort.

# THINK EASIER OF USE

- ✓ Single source responsibility
- ✓ Pre-piped, pre-wired and pre-tested
- ✓ No on-site assembly
- ✓ No alignment needed
- ✓ Self-optimizing intelligent controls
- ✓ Easy BMS integration

## EASIER INSTALLATION & MAINTENANCE

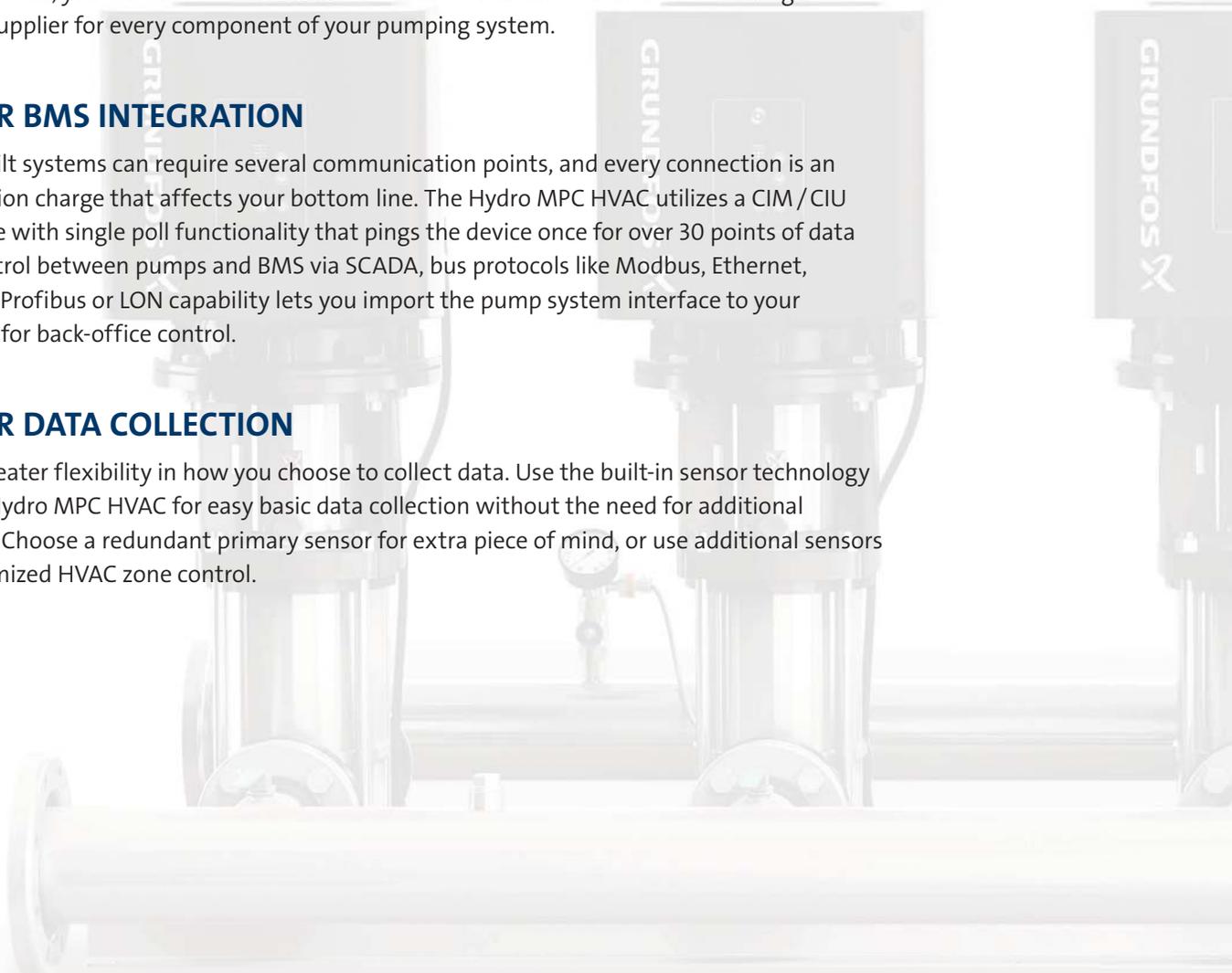
The pre-packaged Hydro MPC HVAC is ready to go out of the box — just plug and pump. Think about the time you'll save by eliminating the sourcing of parts, and the work of piping, wiring, grouting, alignment and testing. Plus, maintenance is easy with our newly designed cartridge seal that can be changed in only 15 minutes. If any other part of your Hydro MPC HVAC ever needs service, you won't have to think twice about who to call — Grundfos is the single source supplier for every component of your pumping system.

## EASIER BMS INTEGRATION

Field-built systems can require several communication points, and every connection is an installation charge that affects your bottom line. The Hydro MPC HVAC utilizes a CIM / CIU interface with single poll functionality that pings the device once for over 30 points of data and control between pumps and BMS via SCADA, bus protocols like Modbus, Ethernet, BACnet, Profibus or LON capability lets you import the pump system interface to your desktop for back-office control.

## EASIER DATA COLLECTION

Enjoy greater flexibility in how you choose to collect data. Use the built-in sensor technology on the Hydro MPC HVAC for easy basic data collection without the need for additional sensors. Choose a redundant primary sensor for extra piece of mind, or use additional sensors for optimized HVAC zone control.



## EASIER CONTROL

The Grundfos CU 352 controller is the highly intelligent “brain” of the Hydro MPC HVAC, with the ability to evaluate constantly changing building demands and simultaneously monitor the pump’s power, pressure and curve data, giving you the highest level of hydraulic optimization for your system. This cascade control is designed to distribute demand over multiple pumps for wider range, unparalleled efficiency and exceptional performance.

### Proportional pressure function

Reduce overall energy consumption by continuously adapting to building demand with a control mode that reduces pump head (pressure) proportionally to changes in varying flow.

### Multizone control

Control up to six HVAC zones within a defined differential-pressure band. Optimize setpoints by analyzing the minimum limit of each multisensor.

### Advanced efficiency staging

Cascade control monitors pump power, individual and multiple pump hydraulics, and changes in system conditions for up to six pumps, delivering unparalleled comfort and maximized efficiency.

### Easy interface

Large, backlit graphic display with dashboard view of key measuring points and menu bar provides easy navigation.

### Installation wizard

Set up is foolproof with guided instructions that take you through the process step by step.

### Logging capability

Operational data such as system performance, energy consumption, alarms and warnings are continuously recorded for analysis.

### Control HVAC (optional)

Add more robust control options by upgrading to the Grundfos Control HVAC controller. This controller is designed specifically for HVAC applications, with the ability to control up to 26 zones and includes chiller bypass control.



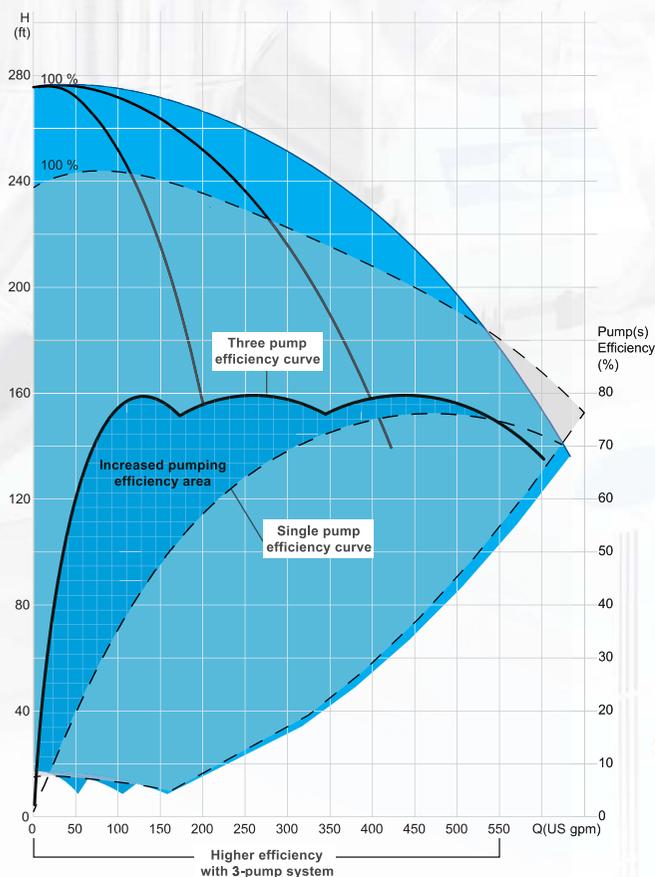
# THINK EFFICIENCY

You design your systems to provide comfort on the most extreme days of the year. But most of the time the system runs somewhere outside of that extreme range, which leads to significant energy waste. It's time to expect more than that from your pumping system.

Plus, the Grundfos MLE motor offers an additional 7–10% decrease in energy cost over NEMA Premium motors with conventional variable frequency drives.\*

The Hydro MPC HVAC's technology and design make achieving energy savings, while maintaining building comfort, easier than ever through parallel pumping. It's built with smaller pumps to provide more flexibility, a wider range, and everyday efficiency even in partial-load conditions — so you can stop wasting energy during shoulder months.

## Energy Efficiency Throughout the Entire Flow Range



Comparing the three-pump efficiency curve to the single-pump curve reveals a significant increase in efficiency for this multipump system example.

## Grundfos Permanent Magnet MLE Motor\*



UP TO  
**10%**  
ADDITIONAL  
ENERGY  
COST  
SAVINGS  
OVER MOTORS  
WITH VFDS

IE5

Super Premium  
Efficiency / IE4

NEMA Premium / IE3

\*Available up to 15 HP.

# THINK PERFORMANCE

## GET UNRIVALED RELIABILITY AND DURABILITY

As the OEM, Grundfos manufactures every vital piece of the Hydro MPC HVAC, including the pumps, motors and VFDs. So we make sure each part is designed to our high standards, manufactured from the best materials in state-of-the-art facilities, and tested to deliver long-lasting performance. Every final configuration is tested again to make sure it's ready on day one to start delivering the years of reliable performance you expect from Grundfos products.



### Variable speed performance

Advanced MLE motor features ECM technology and is designed and built by Grundfos to work with Hydro MPC HVAC drive and control logic components.



### Best-in-class pumps

The unmatched performance and reliability of CR/CRE pumps have made them the world's number one vertical multistage centrifugal pumps. Featuring a compact inline design with a registered fit, no alignment is necessary.



### Hassle-free maintenance

The cartridge shaft seal can be replaced in minutes without dismantling the pump, and is available in a variety of materials.



### Automatic peace of mind

A non-return valve (NRV) on each pump outlet prevents backflow when a pump isn't running. If the pump is forced backward due to a defective NRV, the controller will give a warning/alarm.

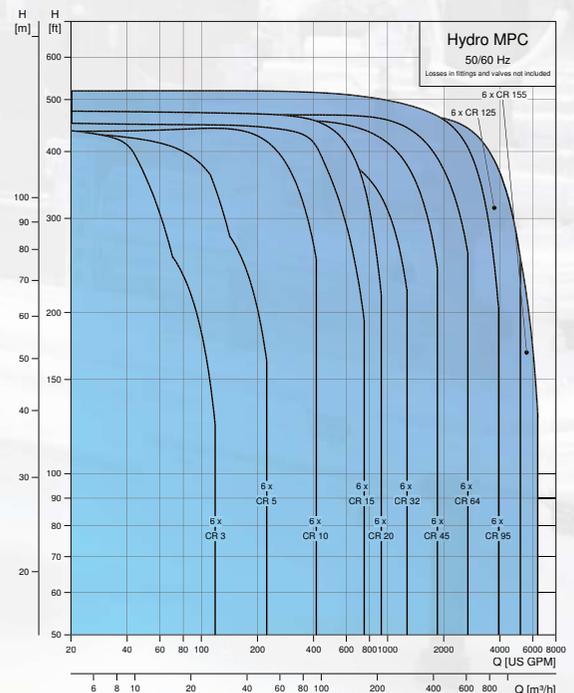


### Streamlined design

Stainless steel manifolds are engineered to reduce streamline flow, minimize pressure loss and protect against corrosion.

## HYDRO MPC HVAC TECHNICAL DATA

Flow, Q (2–6 pumps):	max. 6,000 gpm (1,363 m <sup>3</sup> /h)
Head, H:	max. 1,000 ft (305 m)
Working Pressure:	max. 400 psi (27.6 bar)
Liquid Temperature:	32 °F to 180 °F (0 °C to 82 °C) <sup>†</sup>



The Hydro MPC HVAC offers configurations to handle almost any head and flow, delivering consistent performance year after year.

<sup>†</sup> Higher temperatures available on request.

**Think Hydro MPC HVAC for your next heating and cooling project.**

To learn more or contact a rep, visit [www.grundfos.us/hydrompcHVAC](http://www.grundfos.us/hydrompcHVAC)

Grundfos is a global leader in advanced pump solutions and a trendsetter in water technology. Grundfos supplies complete pumping systems and solutions for buildings, industry and every aspect of water use. An annual production of more than 16 million pump units makes Grundfos a leading pump manufacturer, with more than 18,000 employees worldwide. Key products include circulator and centrifugal pumps for industry, water supply, sewage and dosing; as well as standard and submersible motors and state-of-the-art electronics for monitoring and controlling pumps. In the US, more than 1,200 employees staff operations, sales and service facilities in Illinois, Kansas, Pennsylvania, California, Texas, Indiana and Alabama. Grundfos provides comprehensive market coverage in North America through a number of marquee product brands, with more than 765 years of service combined.

High on the company's corporate agenda is an active commitment to improving the environment. Grundfos contributes to global sustainability by pioneering technologies that improve quality of life for people and care for the planet. For more information, visit [www.grundfos.us](http://www.grundfos.us), or follow us on Facebook and LinkedIn.

Visit [grundfos.us/pei](http://grundfos.us/pei) to learn more about Department of Energy (DOE) pump energy index (PEI) requirements and PEI ratings on specific Grundfos models.