Hydro MPC

Grundfos Integrated Packaged Pumping Systems for HVAC Applications

Think differently about HVAC pumping

grundfos.us/hydrompc

GRUNDFOS

Possibility in every drop

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

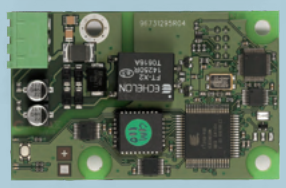
Save on installation ...

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
	Total	**$29,641.00**		**$20,249.00**
Total Savings: $9,392.00				

*Assumes minimum three points of data set



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
Ease 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

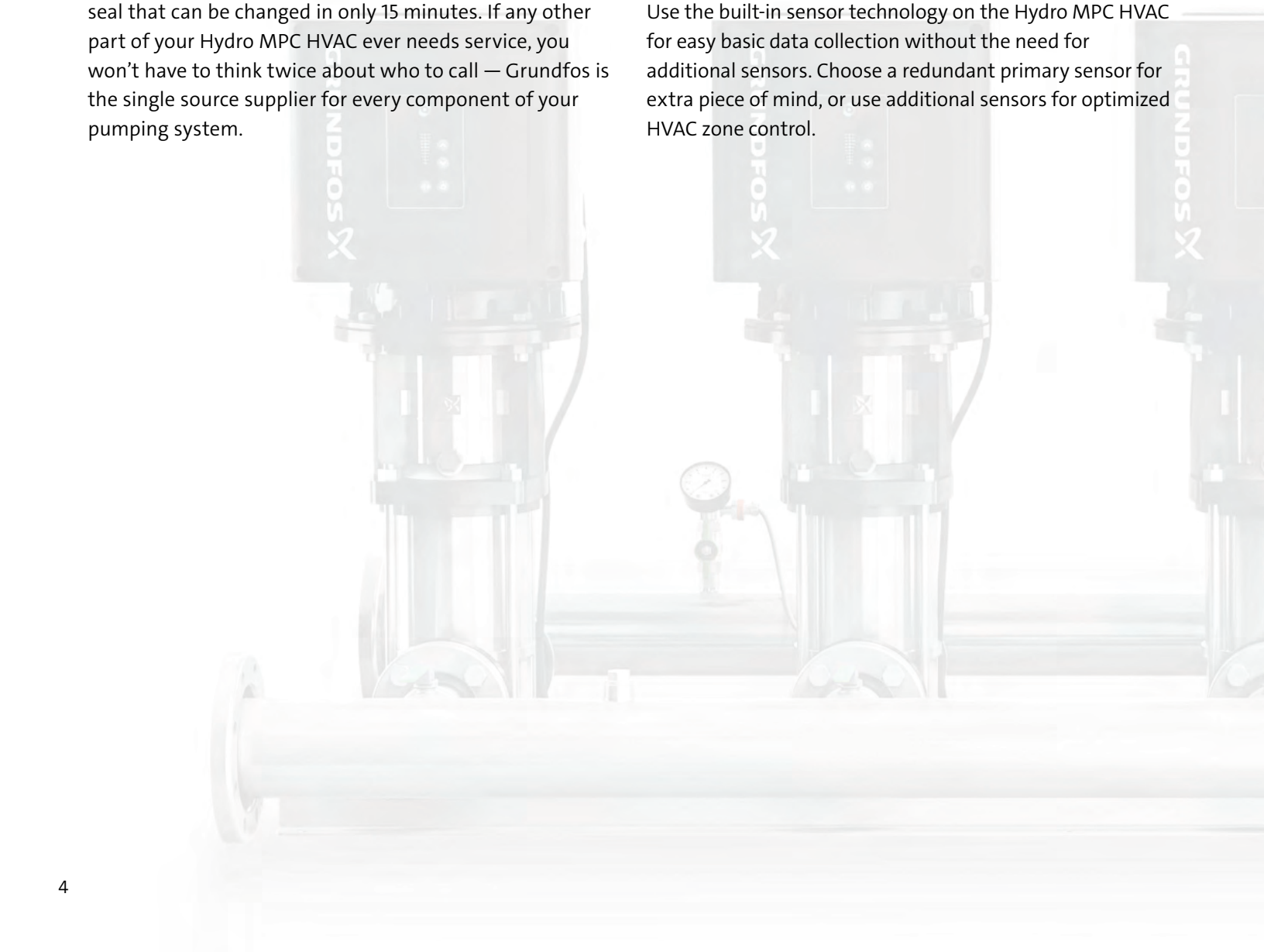
The pre-packaged Hydro MPC HVAC is ready to go out of the box — just plug and pump. Think about the time you'll save by eliminating the sourcing of parts, and the work of piping, wiring, grouting, alignment and testing. Plus, maintenance is easy with our newly designed cartridge seal that can be changed 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

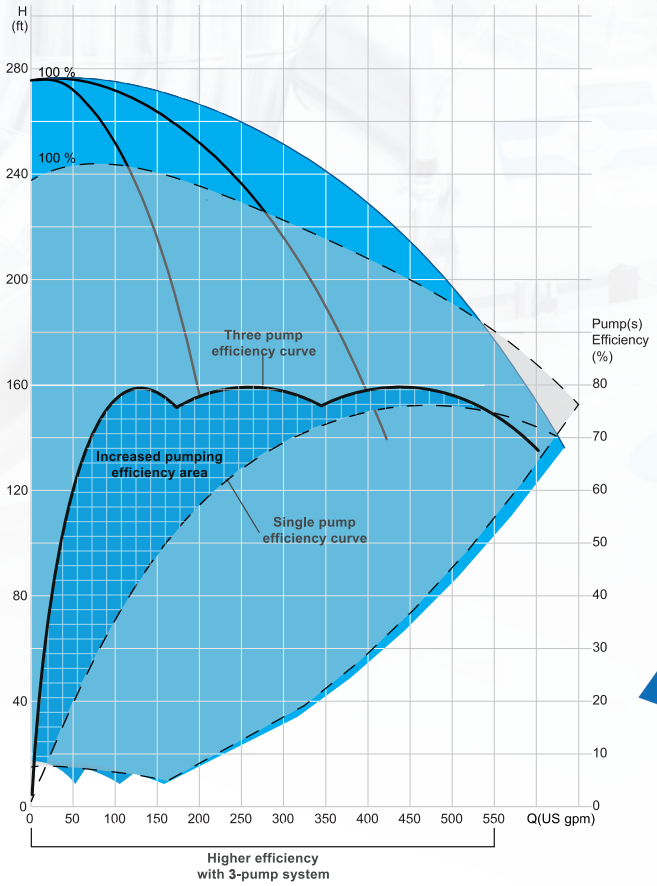
You design your systems to provide comfort on the most extreme days of the year.

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.*

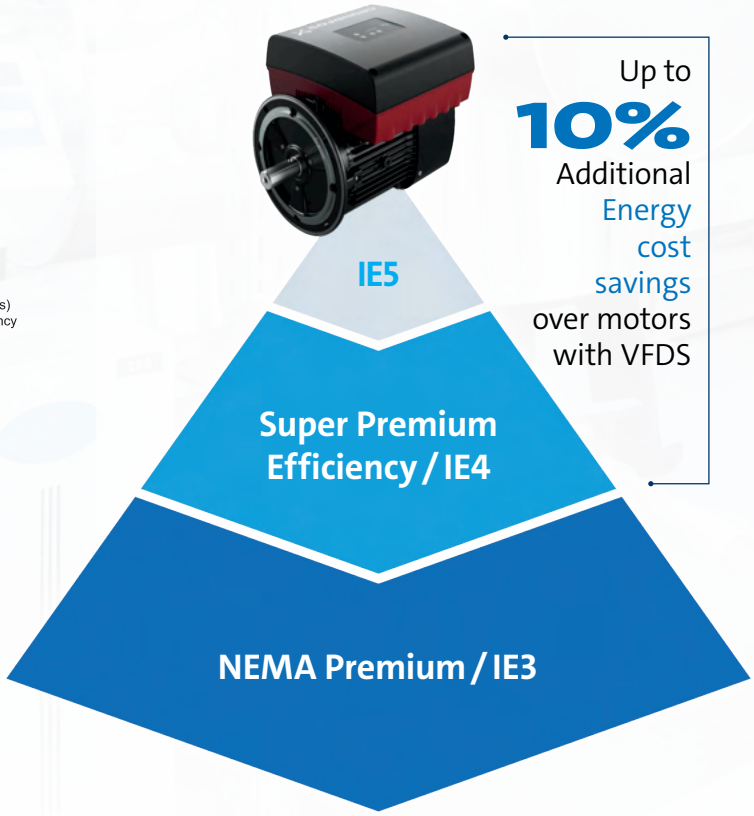
The Hydro MPC HVAC's technology and design make achieving energy savings, while maintaining building comfort, easier than ever through parallel pumping. It's built with smaller pumps to provide more flexibility, a wider range, and everyday efficiency even in partial-load conditions — so you can stop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



*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. Get unrivaled reliability and durability.

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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.

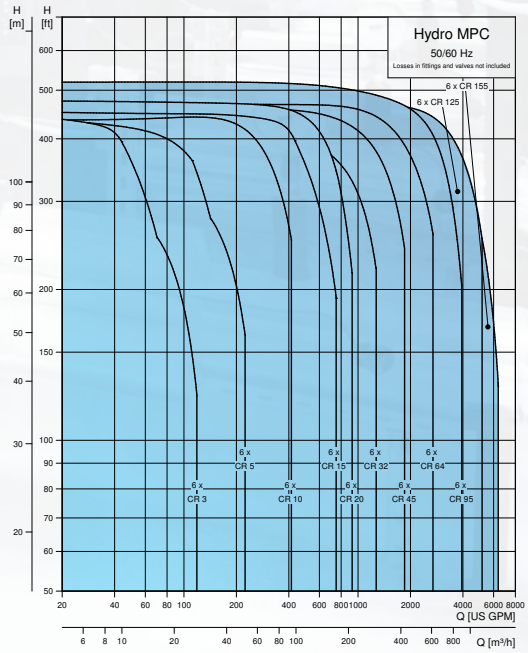
Hassle-free maintenance
The cartridge shaft seal can be replaced in minutes without dismantling the pump, and is available in a variety of materials.

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 m³/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)*



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

** Higher temperatures available on request.*

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More Comfort. Less Energy.

Don't settle for costly and complex systems. Grundfos hydronic solutions deliver unrivaled simplicity, efficiency, and savings. See what's possible with Grundfos!

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

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