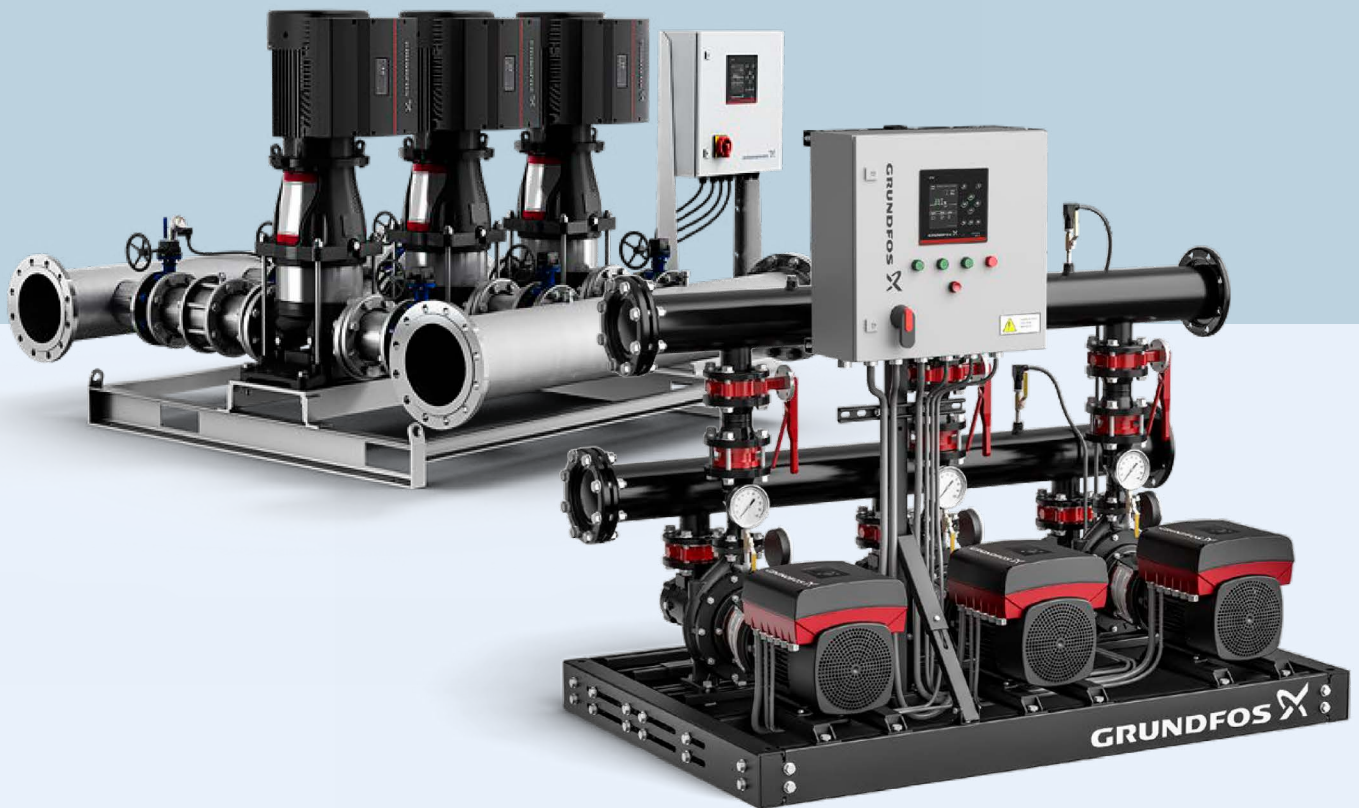


DELTA HCU

Grundfos Modular Pumping Systems for HVAC Applications



Think Differently About Pumping

- Think pre-engineered for simple specification.
- Think pre-piped, wired, and tested for hassle-free installation.
- Think pre-programmed, intelligent controls for easy commissioning.

GRUNDFOS 

Possibility in every drop

Think About How You Choose Pumping Solutions

Traditional HVAC pumping systems are designed and built piece-by-piece. Sourcing components from multiple suppliers, planning timelines, and labor shortages make logistics tricky, and extra costs can add up quickly. Today there is a better solution, and it's challenging the industry to...



Think Differently

Grundfos DELTA HCU Modular Pumping Systems Come:

- Pre-engineered for simpler specification and faster completion
- Pre-piped, wired, and tested for a hassle-free installation
- Pre-programmed controls for easy commissioning and integration

Finally a plug-and-pump solution that delivers all your must-haves in one fully integrated system — all from one supplier for true single-source responsibility — to help engineers, contractors, and facility managers achieve the greatest savings and highest efficiency, in the shortest time frame. Don't settle for outdated, unreliable, and costly HVAC systems. Think differently.



Think Grundfos Modular Systems

Save time with simpler specifications

Save money with easier installation

Save energy with smarter controls

Think Simplicity and Savings

Don't labor over field-built systems — or pay the extra costs. Skip add-on wiring, sensors, VFDs and controls. Avoid field alignment and testing. Commission in hours, not days. Intelligently engineered to eliminate the hassles, time, and added expenses of traditional HVAC systems, Grundfos DELTA HCU Modular Systems come pre-assembled and tested at the factory, so there are no surprise, extra costs during installation.

Cost Comparison Example

Field-built			DELTA HCU	
	Qty	Total Cost	Qty	Total Cost
Housekeeping Pad	3	\$5,079	1	\$560
Inertia Base/Concrete/Grouting				N/A
Pumps	3	\$7,745	1	\$28,336
Gauges/Sensors/Misc.		\$1,120		
Controls & Integration Labor	1	\$7,840		
VFDs	3	\$3,584		
Valves and Fittings		\$2,369		
Expansion Joints	6	\$672		
Alignment	3	\$784		N/A
Installation (Mechanical/Electrical)		\$14,000		\$3,360
Commissioning @ \$150/hr	8	\$1,344	1	\$168
Communications @ \$1,500/pt*	3	\$5,040	1	\$1,680
	Total	\$49,577		\$34,384
Total savings: \$15,193				

*Assumes minimum three points of data set

Don't Think Piece-by-Piece, From Multiple Suppliers

Think One Source, Complete Modular Systems Range

Grundfos Delta HCU NBSE

Split-Coupled End-Suction Pumps with Innovative Grundfos MLE Motor

- The Grundfos MLE motor is the industry's most efficient PM Motor with integrated VSD and onboard controls
- Up to 10% more efficient than NEMA Premium motors at design load, up to 50% more efficient at part-load conditions
- Innovative split-coupled pump design never needs alignment
- Silicon carbide (SiC/SiC) hard faced seals standard



*Grundfos Delta HCU CR(E)

Vertical Multistage Pumps with Innovative Grundfos MLE Motor

- The Grundfos MLE motor is the industry's most efficient PM Motor with integrated VSD and onboard controls
- Up to 10% more efficient than NEMA Premium motors at design load, up to 50% more efficient at part-load conditions
- Innovative split-coupled pump design never needs alignment
- Silicon carbide (SiC/SiC) hard faced seals standard

*(Also branded Grundfos Hydro MPC)



Grundfos Delta HCU NBS

Split-Coupled End-Suction Pumps with Grundfos CUE Drive

- Innovative split-coupled pump design never needs alignment
- Silicon carbide (SiC/SiC) hard faced seals standard
- Space-saving design



Grundfos Delta HCU Custom

Custom Engineered Fluid Handling Solutions

- Complete hydronic packages including: tanks, air separation, chemical feed, etc.
- Hot and chilled water central plants designed, packaged and delivered



Think Ease of Use

- Single-Source Responsibility
- Pre-Piped, Pre-Wired & Pre-Tested
- No On-Site Assembly

- Lifetime Alignment Guarantee
- Pre-Programmed, Intelligent Controls
- Seamless BMS Integration

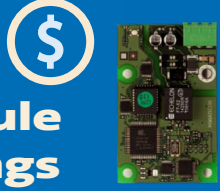
Easier Installation and Maintenance

Pre-packaged Grundfos DELTA HCU Modular Systems ship pre-piped, wired and tested, ready to go on arrival — just plug and pump. Plus, maintenance is easy with our uniquely designed cartridge seal that can be changed in minutes without removing the motor or disturbing wiring. DELTA HCU NBS(E) Systems include a lifetime alignment guarantee — eliminating undue

wear and tear on mechanical seals and bearings and requiring significantly less maintenance. If any part of your DELTA HCU system needs service, you won't have to think twice about who to call — Grundfos is your single source supplier for every component of your pumping system.

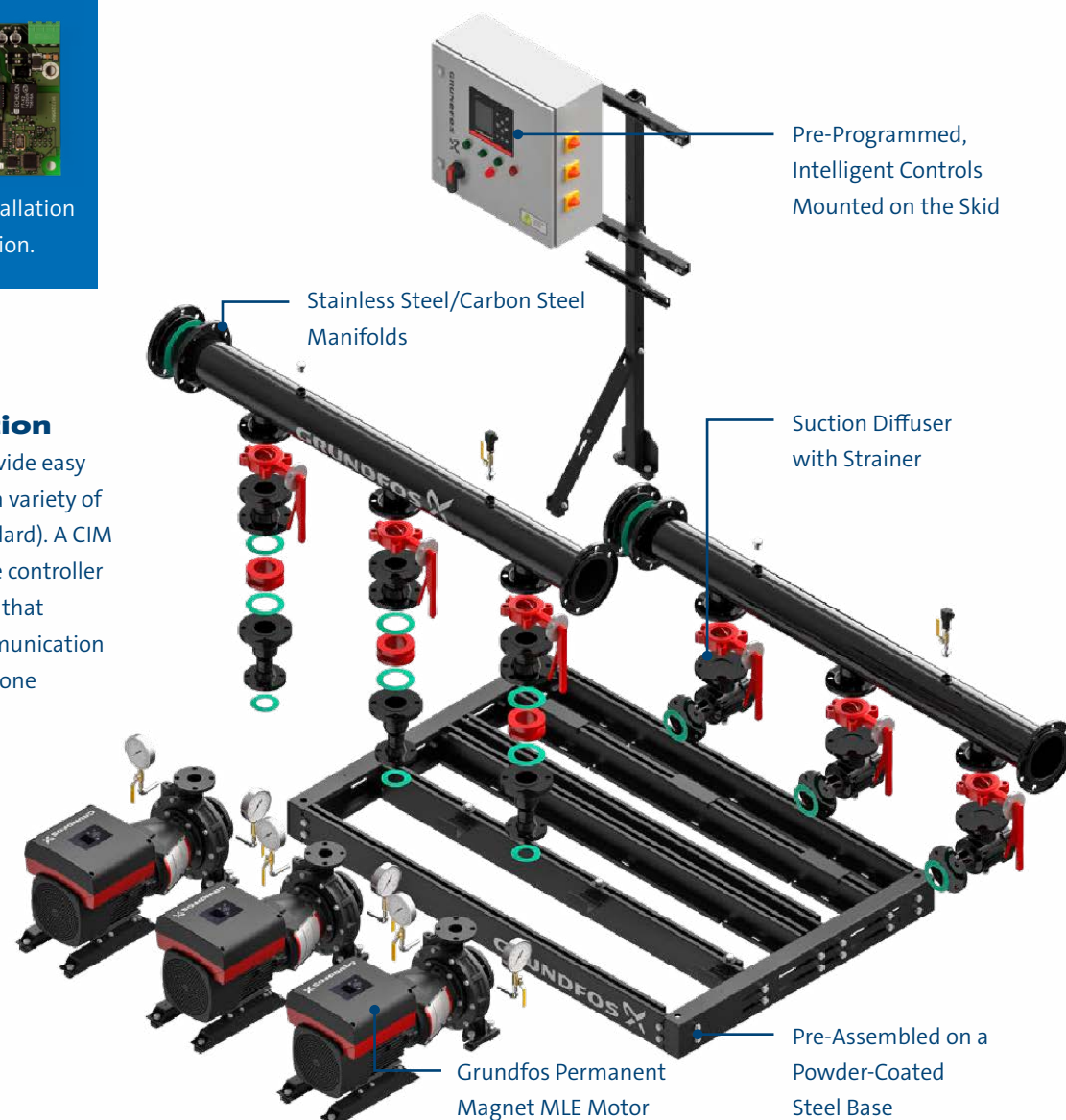
CIM Module Savings

The DELTA HCU reduces installation costs with only one connection.



Easier BMS Integration

Grundfos Modular Systems provide easy integration with your BMS, via a variety of protocols (with BACnet as standard). A CIM expansion Module added to the controller utilizes single poll functionality that provides access to over 30 communication points of data and control with one connection.



Think Better Performance

Get Unrivaled Reliability and Durability

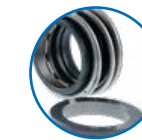
As the OEM, Grundfos manufactures every vital component of DELTA HCU Modular Systems, including the pumps, motors and VFDs. We make sure each part is designed to our high standards, manufactured from the best materials in state-of-the-art facilities,

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 HVAC drive and control logic components.



Silicon Carbide (SiC) Seal Standard

Innovative mechanical seal design uses SiC hard faces to improve performance and longevity.



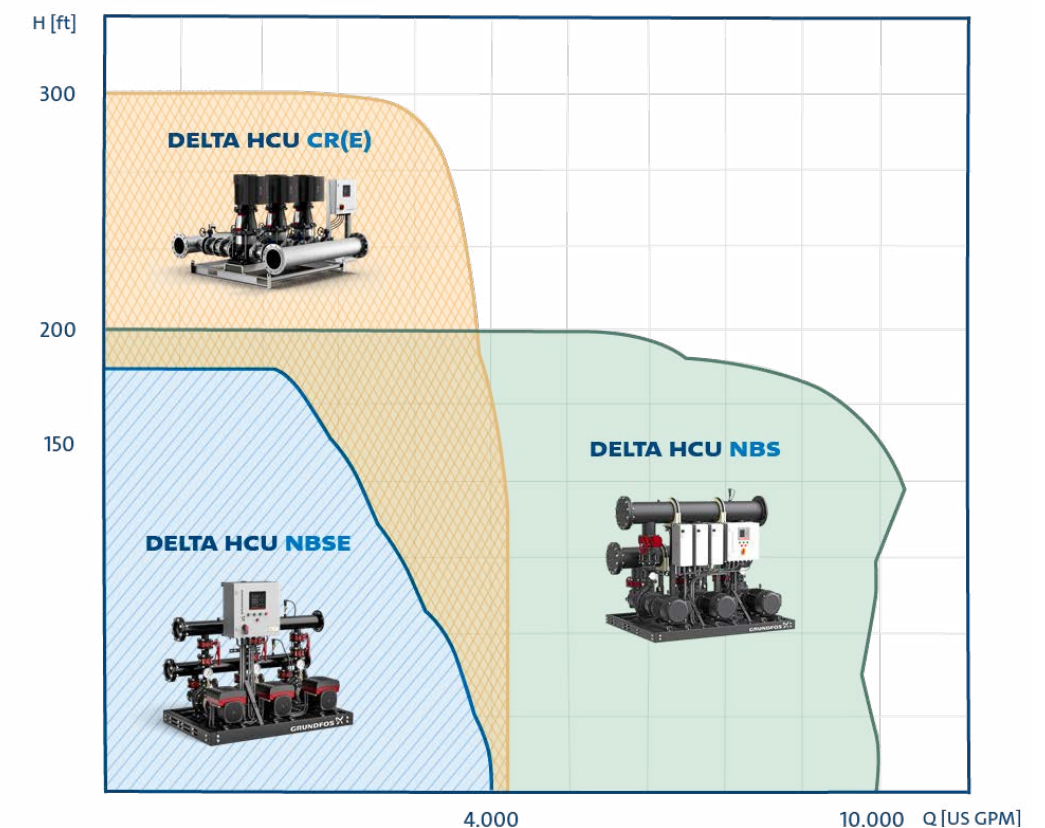
Automatic Peace of Mind

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.



Think Smarter Controls



Intelligent, Pre-Programmed Controls
 Grundfos Modular Pumping Systems are powered by the industry-leading CU 352 controller — a highly intelligent “brain” that monitors constantly changing building demands with the pump’s power, pressure, and curve data, and then adjusts the sequence of multi-pump operation (cascade control) to deliver the highest level of application-optimized 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.

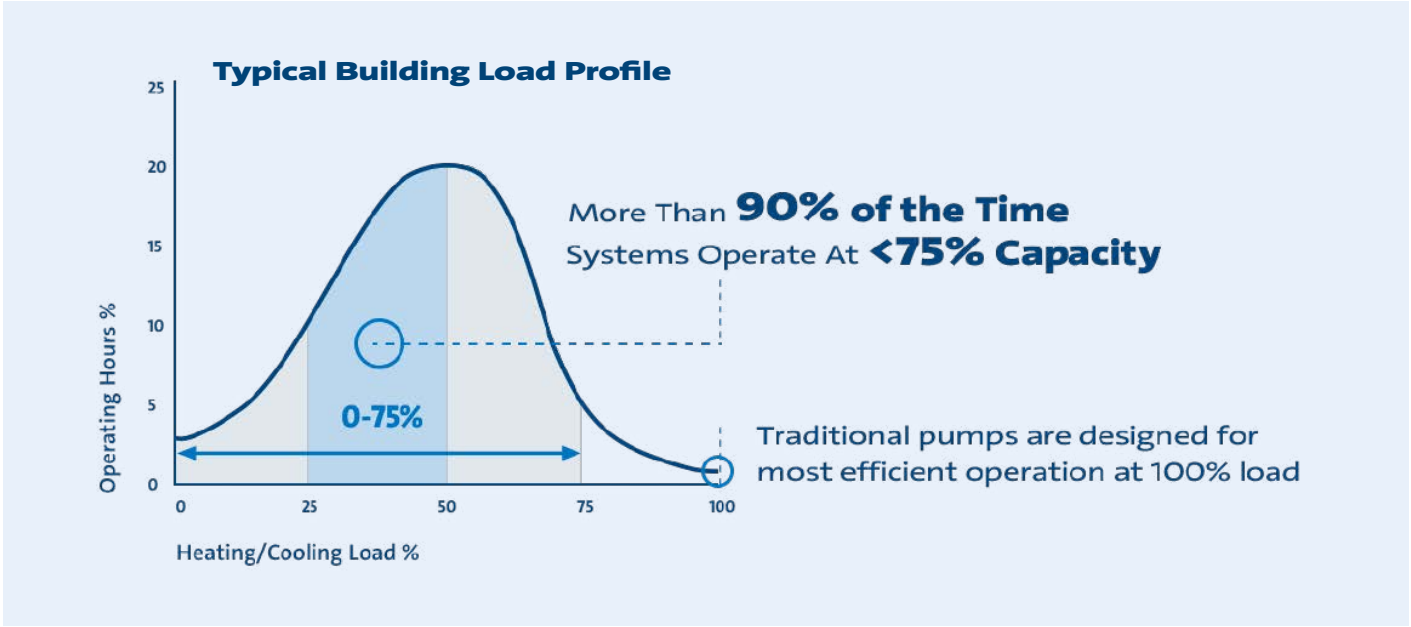
Logging Capability
 Operational data such as system performance, energy consumption, alarms and warnings are continuously recorded for analysis.



Think Higher Efficiency

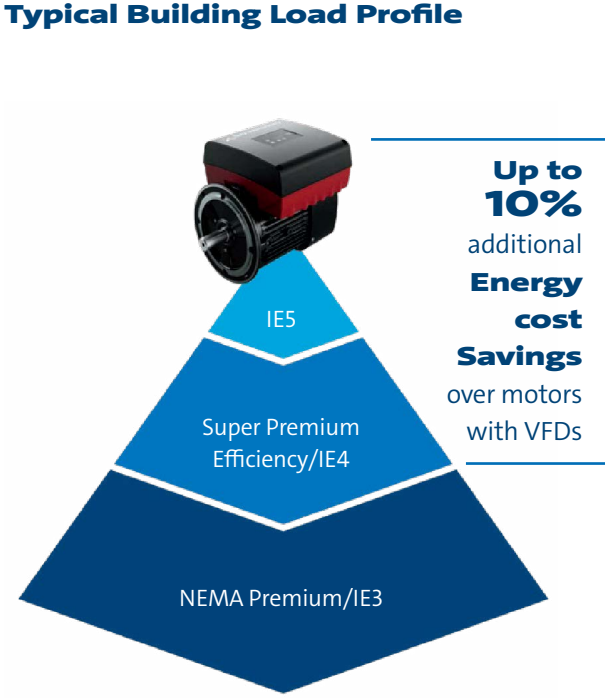
Energy Efficiency Savings
 You design your systems to provide comfort on the most extreme days of the year. But most of the time the system runs somewhere outside of that extreme range, which leads to significant energy waste. Non-optimized pumping systems not only operate

inefficiently but have a negative impact on other equipment in the system like chillers and boilers. It’s time to expect more and hold pumping systems to higher standards.



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

Grundfos DELTA HCU Modular Systems are designed to make achieving energy savings, while maintaining building comfort, easier than ever through parallel pumping. They’re 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. Don’t settle for outdated and costly HVAC systems. Think differently. Think Grundfos DELTA HCU Modular Systems.



Think Custom Solutions

Delta HCU Custom

Expertly Engineered Fluid Handling Solution

Grundfos Engineered Systems (GES) are engineered-to-order, fluid-handling solutions. These solutions include optimized pumping systems with the selection of the most efficient pump types and technologies and intelligent controls available for each application. They arrive on a structural steel base with all the pumps, piping, valves, fittings, accessories, instrumentation, electrical, and controls mounted on a skid or in an enclosure. The base and its accessories include options for customizing your perfect solution.



Typical Selections Include

- Pumps
- Structural Steel Base with or without Steel Decking
- Carbon Steel Headers
- Isolation Valves
- Check or Combination Valves
- Suction Diffusers
- Pressure Sensors
- NSF/ANSI 61 and 372 compliant components

Additional Accessories

- Epoxy Coating for Corrosion Protection
- Stainless Steel Base
- Open Base for Field Grouting
- Galvanized/Stainless Steel Decking
- Removable Lugs
- Forklift Pockets
- Vibration Isolators
- Epoxy Coated Headers and Stainless Steel Headers



Delta HCU CRH(E)

Vertical Multistage ANSI Dimensional Pumping System

The DELTA HCU CRH(E) provides all the benefits of the renowned Grundfos CR for an ANSI dimensional solution that will fit into your existing pump and piping footprint. It offers optimized duty points to maximize pump efficiency and minimize internal wear, which significantly lowers energy costs, increases pump life, and reduces maintenance.

DELTA HCU CRH(E) Feature

- Compact, inline design fits into small footprint
- Highly efficient design reduces energy consumption by up to half compared to fixed speed pumps
- Unique cartridge seal design can be replaced in minutes



Accessories Package

- Factory-packaged hydronic accessories simplify system installation and shorten project timelines
- Package includes Grundfos tangential air separator, bladder expansion tank, 5-gallon bypass feeder, all associated piping, and is installed on a structural steel base
- Expansion tank has removable bladder and is intelligently designed with a bladder integrity monitor and an integrated air-side pressure gauge
- Tangential-style air separator promotes a low-velocity vortex effect allowing entrained air to be released from the system via an automatic air vent



Think Differently About Pumping

Think pre-engineered for simple specification
Think pre-piped, wired, and tested for hassle-free installation
Think pre-programmed, intelligent controls for easy commissioning

Think DELTA HCU – It's Just Better

Explore Our
Modular Solutions
grundfos.us/DELTAHCU



We believe there is — Possibility in every drop

Our work is everyone's workplace, and everyone's home – the hospitals, residential high-rises, airports and offices that keep us moving. Places where everyday comfort and energy efficiency meet to provide heating, ventilation, air conditioning and water applications.

Grundfos knows that buildings provide significant opportunities for saving energy and mitigating CO₂ emissions.

The demands for increased comfort and cost efficiency mean we must embrace smarter, more sustainable solutions, and that only through meaningful innovation can we rise to meet the sustainability challenges.

So, every day we go to work – reducing environmental footprints while increasing comfort, uniting knowledge, technology and people through a shared mission, creating workspaces and places to live that work for people, business and the planet.

To discuss your next pumping project, visit grundfos.to/cbs

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