

# INTELLIGENT PUMPING SOLUTIONS AND SERVICES



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**GRUNDFOS** 

# TAKE YOUR BOOSTER SOLUTION TO NEW HEIGHTS

The Grundfos Hydro MPC booster systems are renowned for their high performance and extreme reliability – and now the new advanced controller improves ease of operation and energy-efficiency even further.

If standard is simply not good enough for your building in terms of clean water pressure boosting, the Grundfos MPC booster system is the obvious choice. It combines unrivalled efficiency with an extremely simple user interface to ensure that all daily operations are easily handled in a variety of applications, including:

- High rise buildings
- Irrigation systems
- Booster substations
- General buildings

## THE BRAIN OF THE SYSTEM – THE CU 352

The Hydro MPC booster system is equipped with pumps and motors that are among the best in the world. But in themselves, they are no guarantee of an overall low energy consumption. This can, however, be achieved by means of the brain behind the system, the CU 352 controller, offering:

### High comfort

The pump speed is continuously adapted to the flow demand to keep the required pressure constant – and ensure high comfort throughout the day.

### Energy savings

Using the pump curve data to determine the most efficient speed and the required number of pumps, the energy consumption is continuously optimized.

### Easy operation

The big intuitive colour screen ensures easy operation just as the start-up wizard greatly facilitates commissioning.

### Early warning

The incorporated log feature enables constant monitoring of system performance and allows the user to react and adjust in time.

### Remote access

The controller communicates via the most common field-bus protocols – and features a built-in Ethernet connection, enabling remote access via a web browser.

### 100% GRUNDFOS

Every component in a Hydro MPC booster system – from the non-return valve to the manifold – is made by Grundfos. This is your guarantee that all technologies involved work perfectly together.



## CU 352 CONTROLLER

The CU 352 controller controls up to six pumps and features both digital and analogue outputs. Control functions include pump start and stop speed, compensation for start-up time, forced pump changeover, dry run protection and soft pressure build-up.

New features include:

- Colour screen
- Back-up battery
- CIM communication modules
- Setpoint ramping
- Log function

For a complete overview of functions, please consult the Hydro MPC data booklet.

## MANIFOLD

The stainless steel manifold is made in an extruding process that eliminates “dead corners” and efficiently reduces noise, friction and bacteria growth in the pipes. High-quality welding and finish ensure that all hygienic standards are met.



## PUMP

As standard, the Hydro MPC features the world's number one multi-stage centrifugal pumps, the all-stainless steel CR and CRE pumps – known for their reliability, efficiency and adaptability.

## MOTOR

Motors used in Hydro MPC booster systems comply with IE3 as a minimum and feature a built-in VFD to ensure a compact system that is easily controlled.

# THE BENEFITS OF MULTI-B

## FINDING THE RIGHT SYSTEM

Although not all booster system applications require highly advanced pressure boosting systems, most do not want to settle for a simple basic system.

Instead, they want a system that can adapt to changes in demand and is ready for future expansions – all without compromising high reliability and energy efficiency.

## EFFECTIVE YET VERY SIMPLE

The Hydro Multi-B is a unique combination of compact efficient variable speed multistage pumps and simple user interface. Due to the simplicity of the CU 323 controller unit, all daily operations can be handled in a safe and simple manner, which makes the system ideal for water supply in most applications that fits within the performance range of the Multi-B pump system.

*These pressure boosting applications include:*

- Large complexes such as schools and office buildings
- Multi-story buildings
- Situations in which redundant pumping is needed

## COMPACT AND DESIGNED TO LAST

The high-quality components and design of the Hydro Multi-B booster system have been chosen with a focus on sturdiness and compactness. As a result, the user gets the benefits of a complete solution with components optimized for domestic water pressure boosting.

## RELIABILITY

The CM pump has high reliability built-in. Clamping of the pumps impeller has been greatly improved by implementing a new stop ring to form a well-defined base. Combining this feature with a Nordlock® washer at the other end of the pump stack creates a robust and reliable design.

## READY... SET... PUMP!

At Grundfos, quality comes first. So before leaving the factory, every unit is completely assembled and thoroughly tested and inspected. This means that when customers receive their Multi-B booster system, it is only a matter of plugging it in and starting it up.

## HYDRO MULTI-B SYSTEM

Baseplate shown powdered-coated mild steel, actual baseplate 304 stainless steel.

# THE BENEFITS OF MULTI-E AND CRE-PLUS

The Multi-E and CRE-Plus systems are complete, ready-to-install “plug-n-pump” solutions.

The Hydro Multi-E is a high-quality and affordable all-variable speed control pump system option for your multi-pump pressure boosting applications. The single-pump system, CRE-Plus, utilizes “smart” pump technology to vary motor output according to demand so energy is not wasted on generating pump speed that isn’t required.

Both systems utilize one or more efficient CR pumps and use the Grundfos integrated variable frequency drive/motor combination, the MLE motor. The many advantages of the MLE motor include:

- Extremely quiet operation
- Motor with class F insulation and class B temperature with VFD operation

- High combination (VFD + Motor) efficiency
- Permanent magnetic motor (ECM) in certain horsepower and voltage ranges – Higher combined VFD and motor efficiency than NEMA Premium Efficiency motors alone.
- Perfectly match VFD to motor
- Space savings

Grundfos booster systems use high-quality materials of construction, which ensures durability and long life. Additional features with the Multi-E and CRE-Plus systems include:

- Low-flow shutdown
- High-quality cartridge mechanical seal makes for easier maintenance and servicing without dismantling the pump
- UL Listed packaged pumping system
- NSF61/UL372 approved
- Factory tested

## CRE-PLUS

High-quality single-pump system with no panel

## MULTI-E

High-quality multi-pump system with no panel



# WHAT IS GRUNDFOS ENGINEERED SYSTEMS

Grundfos Engineered Systems (GES) is an agile team created to provide integrated pumping system solutions from Grundfos. We focus on solutions that combine our unique core technologies.

The GES team combines project engineering, integrated motor/variable frequency drive (VFD) technology and intelligent system controls with the industry's broadest range of centrifugal, horizontal, vertical, in-line, and water treatment pumps as a comprehensive service offering. These leading brands include Grundfos, Peerless, PACO, Yeomans and Alldos.

From commercial building systems to municipal projects to industrial process pumping packages, GES provides the most efficient and cost-effective solutions to customers' unique pumping requirements.

## COMMERCIAL BUILDING SERVICES

Pressure Boosting and HVAC packaged solutions utilizing end-suction and split case pumps.

## RETROFIT

Replace an existing fixed-variable-speed system with an efficient Grundfos-based solution.

## GES OFFERS COMPREHENSIVE SUPPORT AND SERVICES, INCLUDING:

- Application expertise across multiple markets and industries
- Complete unit responsibility
- State-of-the-art engineering designs
- Value added services
- Reduced installation costs
- Worldwide technical support

## WATER UTILITY

Fully enclosed systems for the transport of potable water and wastewater. Solutions can include water treatment and remote management systems.

## INDUSTRIAL/OEM

With a wide range of pumps and controllers, Grundfos can provide you packaged solutions for the most demanding application and environmental needs.

# GRUNDFOS TOTAL MONITORING, PROTECTION AND CONTROL SOLUTIONS

# GRUNDFOS PROVIDES THE MOST COMPLETE AND EFFICIENT MONITORING, PROTECTION AND CONTROL SOLUTIONS

SURVEILLANCE AND  
MANAGEMENT



GRUNDFOS REMOTE MANAGEMENT

APPLICATION  
CONTROL



CU362



CR MONITOR

APPLICATION  
CONTROL



DEDICATED CONTROLS



SLC/DLC



CU352

PUMP  
CONTROL



CUE



MP204



IO113



IO351B



CIU 270/271



CIM

MEASUREMENT



FLOAT SWITCH



DIFFERENTIATED  
PRESSURE SENSOR



FLOW SENSOR



WATER IN OIL



DPI/RPI SENSORS



TEMPERATURE  
SENSOR

### SURVEILLANCE AND MANAGEMENT:

Grundfos Remote Management provides a secure, internet-based system for monitoring and managing pump installations in commercial buildings, water supply networks, wastewater plants, agricultural irrigation systems, and more.

### APPLICATION CONTROL:

Grundfos System controllers provide superior pump and monitoring control. Grundfos pump controllers and panels

are designed specifically for pump applications. For wastewater, pressure boosting, and HVAC, Grundfos has a control system for you.

### PUMP CONTROL AND MEASUREMENT:

Grundfos utilizes motor/pump protection, variable-speed control and communication technology to optimize pump performance.



### GRUNDFOS GO

Grundfos GO Remote gives you intuitive hand-held pump control on a wide range of mobile smart platforms. GO provides easy-to-follow tips and guidance as well as live pump data feeds. Interfacing with your smart pumps has never been easier!

# THE ALL-IN-ONE SOLUTION

## VARIABLE-SPEED PUMP WITH INTEGRATED FREQUENCY CONVERTER, CONTROLLER AND SENSOR

Grundfos E-pumps with integrated frequency converter, PID controller and, in some models, pressure or differential pressure sensor offer all the advantages associated with total system integration - coupled with unique performance and user-friendliness. Pump, motor, frequency converter, PID controller, and sensor are perfectly matched, tested and configured at the factory, which greatly facilitates the subsequent installation and commissioning. An E-pump solution constitutes the ideal variable-speed solution for all types of industry and building applications.

## PUTTING INNOVATIONS INTO ACTION

For more than 25 years, we have designed and produced variable-speed pump solutions with automatic speed control and energy-saving functionality. Grundfos was in fact the first pump manufacturer in the world to bring a pump solution with built-in frequency converter into the market, so we know what we are talking about. By combining our innovative edge, extensive know-how, and experience we aim to maintain our position as a technology leader in the field of electronically controlled pumps and pump systems. With an E-solution, you are guaranteed the unique Grundfos quality and special touch. All our E-solutions are designed and manufactured to ensure superior performance of and compatibility between pump, motor and electronics.

## COMPLETE PROCESS CONTROL

Our E-solutions are also renowned for their unique functionality, and rightly so. You have total control of your pump application and processes at all times. The advanced pump functionality provides extensive possibilities of process control - for example constant temperature, constant flow or constant pressure applications in industrial installations. Grundfos E-solutions cover all pump types, applications and power supplies. Whether you choose an integrated E-pump or a wall-mounted CUE solution, you get the special E-pump features and functionality of built-in PID controller for constant pressure, flow, or temperature operation, automatic stop function for water supply applications, proportional pressure function for circulator pump applications, possibility of external control of setpoint, start/stop, etc. and bus communication with Grundfos GENIbus for remote control and monitoring.

## LESS SPEED, MORE SAVINGS

There are several good reasons for choosing a Grundfos E-solution with speed control over a conventional fixed-speed pump. In most applications where output needs vary during the day or with the seasons, substantial energy savings can be gained by regulating the pump's speed according to the current demand. The frequency converter adjusts the speed to suit current flow and demand so that energy is never wasted. The result is energy savings of up to 50 percent every year. Simple and rapid installation and commission.

## INCREASED COMFORT AND CONVENIENCE

Grundfos E-solutions offer all the comfort and convenience that you expect from a high-quality pump solution - and more. With its unique user interface, handling and operation of the pump system are exceptionally easy and intuitive.



### CIU 250 GSM/GPRS

Standard interface to control and monitor Grundfos pump from a mobile phone.



### CIU 300 BACnet

Standard interface between BACnet MS/TP network and a Grundfos pump

LON, PROFIBUS DP, PROFINET IO, PROFIBUS, MODBUS RTU, MODBUS TCP, ARE AVAILABLE IN CIU WALL UNIT SHOWN ABOVE OR CIM CARD MODULE (NOT SHOWN)



### MLE MOTOR

The MLE motor combines a premium efficiency motor with the extra energy savings and precision control of a variable frequency drive built into the terminal box. The newest versions up to 3Hp use permanent magnet motor technology to give you even more energy savings.



### ML MOTOR

The Grundfos fixed speed, NEMA premium efficient motor is available up to 30Hp. The motors are inverter duty rated and manufactured with spike resistant wire.



### CUE

The CUE is a great accompaniment to our pumps and motors. It includes Grundfos communication and designed for centrifugal pump applications. Use the user-friendly, start-up guide to easily install the Grundfos solution in your application.

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