Dynamic Pressure Boosting
Solutions from Grundfos
Superior Boosting and State-of-the-Art Reliability and Efficiency

THE OPTIMAL CHOICE FOR RELIABLE AND EFFICIENT PRESSURE BOOSTING

Grundfos pressure boosting solutions are the optimal choice for commercial building, water supply, industry, and irrigation applications.

Our complete, packaged systems – the Grundfos Hydro MPC BoosterpaQ®, Hydro Multi-E, and CRE-Plus – are all UL-listed, use pumps with NSF 61 approval, and provide consistent, reliable and efficient pressure boosting to meet capacity requirements for your application.

COMMERCIAL BUILDINGS

Water flows can vary significantly throughout the day and place extraordinary demands on pumping equipment in commercial installations. Grundfos pressure boosting systems are designed to handle these challenges to provide comfortable and constant water pressure for users in:

- High-rise/multi-story buildings
- Hotels
- Apartments
- Schools and dormitories
- Other institutional buildings

WATER SUPPLY

Our systems are ideal for meeting capacity requirements with optimal efficiency. You can be assured of maintaining constant pressure in your waterworks applications and water distribution networks.

INDUSTRY

Your industry can benefit from using a Grundfos pressure boosting solution. Our systems are manufactured to handle even the most difficult applications with ease and accuracy.

- Food industries (dairy, brewing, processing)
- Petrochemical, pharmaceutical, and metal industries
- Water treatment plants
- Tourism and recreation (water parks, theme parks, fountains)

IRRIGATION

Our packaged boosting solutions can help you conserve water, optimize crop yields, ease demands on piping networks, and automatically adapt performance at any pressure zone during the irrigation cycle. Grundfos pressure boosting systems provide dependable irrigation for:

- Commercial landscaping
- Agriculture
- Sports arenas and golf courses
- Parks and other recreational settings
- Nurseries

TAKING RESPONSIBILITY WITH SUSTAINABLE SOLUTIONS

When you specify or install a Grundfos pressure boosting system, you have the assurance that you’re doing your part to conserve water, energy, and other precious resources.

Sustainability has long been at the forefront of our processes, and we continue to pioneer innovative designs that support sustainability.

On average, power consumption accounts for 85% of all costs incurred during the life cycle of a pump – nine times more than the initial purchase price and cost of regular maintenance. So, even the smallest improvement in efficiency can translate to sizeable savings.

By choosing a Grundfos pressure boosting solution, you will be minimizing your life cycle costs while saving energy and reducing waste.
The Grundfos Booster Program – Complete, Comprehensive Systems

HYDRO MPC BOOSTERPAQ®
> Fully integrated systems (with advanced controls) utilizing combinations of variable-speed and on/off-controlled pumps (+4, +5)
> Configured with 2 to 6 Grundfos CR/CRE pumps

CRE-PLUS
> Single pump variable-speed systems
> Pump control integrated in terminal box

HYDRO MULTI-E
> Parallel-mounted 2, 3, or 4 pump systems utilizing all Grundfos CRE variable-speed pumps size up to 10 hp
> Pump control integrated in terminal box

<table>
<thead>
<tr>
<th>FEATURES/FUNCTIONS</th>
<th>HYDRO MPC BOOSTERPAQ®</th>
<th>HYDRO MULTI-E</th>
<th>CRE-PLUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL-listed</td>
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<tr>
<td>NSF61 Annex G 372 Listed</td>
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<tr>
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<tr>
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<tr>
<td>Automatic cascade control</td>
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<td>Low-system pressure shutdown</td>
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<td>Limit exceeded 2 (flow, level, temp., etc.)</td>
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<tr>
<td>End of curve protection</td>
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<tr>
<td>Built-in logging capability</td>
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<tr>
<td>Battery back-up capability</td>
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</table>
Performance Ranges That Cover a Spectrum of Applications

**HYDRO MPC BOOSTERPAQ® PERFORMANCE RANGE**

**HYDRO MULTI-E PERFORMANCE RANGE**

**CRE-PLUS PERFORMANCE RANGE**

**NOTE:** The area within the dotted line applies to Hydro MPC booster sets available on request. The performance range is based on the standard range of the CR and CRI pumps.
Hydro MPC BoosterpaQ® – A “Fully Loaded” Packaged Solution

FEATURES AND BENEFITS

We can’t say enough about the Hydro MPC BoosterpaQ® – our most complete pressure boosting system that features all the bells and whistles along with the reliability you’ve come to depend on from Grundfos pumps.

- NSF 61 Annex G listed pump systems
- Grundfos CR pumps, cascade control, stop function, and speed control help to lower energy consumption
- Proven components that are designed, built, and tested by Grundfos guarantee reliable pump performance
- Multiple configurations – with up to six pumps in parallel – provide a wide range of options for any application
- Intuitive graphical interface and installation wizard makes the system user-friendly and easy to install and operate
- Power consumption (Kw), energy consumption (Kwh), and specific energy (Kw/gpm) information available from display
- Battery back-up capability on the controller
- Built-in data logging capability. Logged values are graphically displayed on the controller and can be exported to the computer via standard connection
- Estimated flow-rate read-out on display (no flow meter required )

The Hydro MPC BoosterpaQ® is an economical and flexible solution that provides constant pressure when you need it. Additional features available on the MPC include:

- Standby pumps and redundant sensor
- Min./max. pressure limits
- Alternative set-points
- External set-point influence
- Pump test/change-over

TYPICAL APPLICATIONS

- Water supply systems
- Pressure boosting in high-rise buildings
- Industrial plants
- Irrigation systems
- HVAC applications

MPC FUNCTIONS

The Hydro MPC BoosterpaQ® boasts a number of advantageous and customized functions.

- Clock Program
  Sets up to 10 events with day and time for each activation and deactivation.
- Proportional Pressure/Friction Loss Compensator
  Adapts the set-point to the current flow rate and used primarily in applications with moderate to high pipe system friction loss.
- Stop Function
  Stops the last pump if there is no or very little consumption with one of four stop parameter modes: energy-saving (factory setting), medium flow, highest comfort level, and customized.
- Soft Pressure Build-Up
  Ensures the smooth start-up of systems in one of two phases: pipe filling or pressure build-up.
- Pump Start/Stop Speed
  Controls the starting/stoppage of pumps using one of two speed options: calculated speed or predetermined speed.
- Emergency Run
  Designed for systems where operation cannot be interrupted and has a higher priority than other operating modes.
- Pump Curve Data
  Pump curves are loaded into the controller to ensure optimal performance and flow estimation.
- Pilot Pump
  Used in situations where loads of the consumption profile fluctuate extensively.
- Reduced Operation
  Can reduce the number of pumps available to operate or limit the maximum power consumption in situations with generator supplied power.
The Sky’s the Limit with the Grundfos Hydro MPC BoosterpaQ®

CU352 — CONTROL INTERFACE

**TYPE RANGE**

<table>
<thead>
<tr>
<th>SYSTEM TYPE</th>
<th>CONTROL TYPE</th>
<th>SCHEMATIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro MPC-E</td>
<td>All E-pumps (E-pumps use integrated VFD/motor)</td>
<td></td>
</tr>
<tr>
<td>Hydro MPC-E (CUE)</td>
<td>One external CUE VFD per pump</td>
<td><img src="image" alt="4x" /></td>
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<tr>
<td>Hydro MPC-F</td>
<td>One external VFD; rest fixed speed</td>
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<tr>
<td>Hydro MPC-S</td>
<td>Only on/off control; all fixed speed</td>
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</table>
Hydro Multi-E – An Innovative Solution for Pressure Boosting

ENERGY SAVINGS AND COMFORT
The Hydro Multi-E uses parallel mounted Grundfos CRE variable-speed pumps that have a reputation for providing the ultimate in efficiency and reliability for increased energy savings and comfort.

FEATURES AND BENEFITS
- NSF 61 Annex G listed pump systems
- Thoroughly tested systems arrive ready to install
- Simple installation and operation
- Integrated variable frequency drive motors allow unique control functionality for increased comfort for the user and decreased operating costs
- Automatic pump changeover ensures equal wear and tear on all pumps in the system
- Effective communication between pumps and control via the GENibus/RS485 interface
- High-quality material construction ensures durability and long life
- Low-flow shutdown

The Hydro Multi-E is an affordable option for your pressure boosting applications. Additional features available with the Multi-E include:
- Same plumbing as the Hydro MPC BoosterpaQ®
- UL-listed
- Advance programming via PC Tool
- Set-point via Grundfos GO infrared remote
- Simple program with few options and no panel
- Redundancy
- All components – pump, VFD motor, connections, and accessories – come from one supplier, which streamlines ordering and maintenance (single-source responsibility)

TYPICAL APPLICATIONS
- Residential/commercial buildings
- Municipal
- Irrigation

E-PUMP FUNCTIONALITY
The Multi-E features a number of E-pump functionalities, including:

Setting via Control Panel
Set-point, start/stop, and max. curve (100% speed).

Reading via Control Panel
Set-point, operating indication, and fault indication.

Setting via Grundfos GO Remote
Set-point, start/stop, max. curve (100% speed), control mode, PI-controller, and stop function.

Reading via Grundfos GO Remote
Set-point, operating indication, and pump status.

External Signals
Inputs: sensor (fitted) and external fault. Outputs: signal relay

AVAILABLE ACCESSORIES
- Diaphragm tank (required for low-flow shutdown)
- Grundfos GO Infrared remote control (for advanced settings and status information)
- CIU/CIM SCADA communication modules. Available protocol: LON, Modbus, Bacnet, Profibus

TYPICAL APPLICATIONS
- Residential/commercial buildings
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Inputs: sensor (fitted) and external fault. Outputs: signal relay

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- Diaphragm tank (required for low-flow shutdown)
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- CIU/CIM SCADA communication modules. Available protocol: LON, Modbus, Bacnet, Profibus
**CRE-Plus** – An Intelligent Boosting Solution for Maximum Efficiency

**VARIABLE SPEED MAKES THE DIFFERENCE**

The CRE-Plus is one of a wide range of E-pumps offered by Grundfos. It utilizes “smart” pump technology to vary motor output according to demand so energy is not wasted on generating pump speed that isn’t required.

The CRE-Plus optimizes pumping efficiency at all times, saving energy, driving down costs, and lessening system wear and tear. CRE pumps maintain constant pressure at any time, even with the most challenging variations in demand.

**FEATURES AND BENEFITS**

- NSF 61 Annex G listed pump systems
- Superior efficiency plus variable speed control are a winning combination for saving on energy costs year after year
- Grundfos CR pump and speed control help to lower energy consumption
- Set-point via Grundfos GO Infrared control allows CRE pumps without a factory installed pressure sensor to control variables as demand changes
- Low-flow shutdown
- High-quality cartridge mechanical seal makes for easier maintenance and servicing without dismantling the pump
- UL-listed package pump system
- All components – pump, VFD motor, connections, and accessories – come from one supplier, which streamlines ordering and maintenance (single-source responsibility)

The CRE-Plus surpasses any other pump of its type in reliability and efficiency. This efficiency often makes it possible to power the pump with a smaller motor, thus increasing savings further.

**TYPICAL APPLICATIONS**

- Water supply
- Irrigation
- Water treatment
- Industrial plants

**CONFIGURATION**

The CRE-Plus is available with single and three-phase motors and a range of sizes. The complete pressure boosting system includes:

- Pump
- Motor frame
- VFD with terminal box
- Service disconnect switch
- Inlet and discharge piping
- Isolation valves
- Check valve
- Pressure transducer
- Low pressure inlet switch

The diaphragm tank is shipped separately.