

BoosterpaQ®

Pressure Boosting Systems

Maintain constant pressure with Grundfos Pressure Boosting Systems

- Reliable and efficient
- Economical to install and operate
- Compact and complete



Water Supply • Buildings • Industry • Irrigation

BoosterpaQ: your best choice for pressure boosting

Designed to meet dynamic capacity requirements with maximum efficiency

Grundfos BoosterpaQ pressure boosting systems are the optimal choice for water supply, buildings, industry, and irrigation.

Water Supply

BoosterpaQ systems maintain constant pressure for waterworks and water distribution networks.

Buildings

BoosterpaQ systems provide comfortable and consistent water pressure for:

- multi-story buildings
- hotels
- apartments
- dormitories
- camping sites
- schools
- other institutional buildings

Industry

Grundfos BoosterpaQ systems meet the need for reliable, constant water pressure for:

- food industries such as poultry and beef processing, breweries, dairies, feed lots, and more
- water treatment plants
- petrochemical, pharmaceutical, and metal industries
- tourism and recreation—water parks, theme parks, fountains

Irrigation

Grundfos BoosterpaQ systems provide dependable irrigation for:

- commercial landscaping
- golf courses
- agriculture
- sports arenas
- parks and other recreation areas
- nurseries



Reliable, efficient, economical plus a comprehensive range

BoosterpaQ systems use the rugged Grundfos CR

Grundfos CR multistage pumps are the industry standard for trouble-free operation. The Grundfos CR is engineered and built for superior reliability and unmatched cost of ownership.

The most expensive part of owning a pump is the electricity to run it. A recent redesign of the already efficient CR resulted in a substantial savings in power consumption.

Grundfos MLE motors with built-in variable frequency drives are just one of the unique features of the BoosterpaQ system.



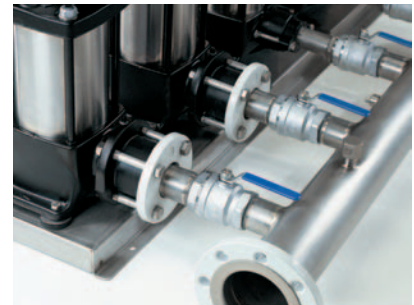
“Smart” controller regulates and monitors the pumps

The BoosterpaQ controller can switch the system on/off or regulate the frequency of up to six parallel connected pumps. As a result, BoosterpaQ systems can maintain constant pressure and optimize pumping efficiency over wide flow ranges.

Control 2000 features all the parameters necessary to ensure optimal comfort and efficiency. Some functions available are:



- constant pressure
- friction-loss compensation
- timer program
- alternative set-point
- pump priority



BoosterpaQ arrives ready for operation

All BoosterpaQ systems are assembled and tested by Grundfos prior to delivery. The pumps are fitted with intake and discharge manifolds, including all necessary shut-off and check valves. Pressure transmitters ensure instant regulation. The corrosion-free 304 stainless steel frame and 316 stainless steel manifolds ensure water quality and cleanliness. Minimum pressure loss is assured by specially designed check valves.

BoosterpaQ Operating Specs

Fluid temp.	32° to 176° F (0° to 80° C)
Max. flow range	3,800 gpm (864 m ³ h)
Head range	0 - 500 ft. (0 - 152 m)
Max. working pressure	232 psi (16 bar) additionally limited by the tank rating
Max. ambient temp.	104° F (40° C)*
Hp range	1 to 50 hp (system total) 300 hp, 6 pumps)

* higher when motors and control panel are de-rated



Configured to fit any application

ME, MES, MF, MS



Description	BoosterpaQ®
RANGE	
Total capacity gpm	Up to 3,800 gpm/864 m ³ m/hr
Pressure range	232 psi [16 bar] standard (reduced by pressure transducer, gauge, and tank limits)
Pump horsepower range	1 hp – 50 hp
Number of pumps	2 – 4 (up to 6 pumps upon request)
CONTROL	
On/off program	MS range
Variable speed	ME, MES, MF range
1/2 size pump(s)	Upon request
Advanced regulation	Whole range
MATERIAL	
Pumps	Standard CR program (optional CRN 316 SS)
Manifold	Stainless steel – AISI 316
Base and panel stand	Stainless steel – AISI 304

BoosterpaQ systems come in three main types

ME(S) type some or all of the pumps are fitted with MLE motors with integrated variable frequency drives

MF type control panel features a variable frequency drive for controlling some of the pumps in the system

MS type all of the pumps in the system are constant speed (start/stop)



Water supply boosting for performance and comfort

Recommended system types: ME, MES, MF

Grundfos BoosterpaQ systems provide excellent performance for municipal as well as pressure boosting for multi-story buildings such as hotels, schools, etc. BoosterpaQ systems are economical to operate, reliable, flexible, and guarantee comfort and performance.

Operating economy

Over time, constantly changing water consumption patterns make heavy demands on the adaptability of the pump system. BoosterpaQ cascade control ensures that only the necessary number of pumps are in operation. Features:

- friction loss compensation
- alternative setpoints for night reduction
- variable speed models

Reliability

In the event a pump stops, the Control 2000 automatically starts another parallel connected pump. Optional standby pumps ensure full capacity at all times. The Grundfos Control 2000 constantly monitors the system and will, if necessary, stop the system and trigger an alarm. Communication enables the transfer of all parameters to a central control

station. Variable-speed regulated systems minimize the risk of water hammer and subsequent pipe damage.

Operator selectable

BoosterpaQ systems can be set to operate at constant or proportional pressure. Proportional pressure regulation (falling discharge pressure at decreasing flow) guarantees optimum comfort and reduces potential water losses.

Reduction of tank size in variable speed regulated systems reduces space and cost.

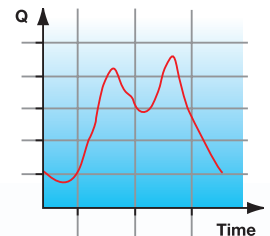
Comfort

BoosterpaQ output is continually adjusted by the Grundfos Control 2000 to maintain constant pressure. CR model pumps ensure quiet operation. Variable speed systems reduce operation noise during low usage, especially important for dwellings during sleep hours.

Consumption pattern for a typical water supply:

FLOW: Large variation between maximum and minimum consumption

PRESSURE REQUIREMENTS: Constant pressure



Industrial pressure boosting should be reliable & user-friendly

Recommended system types: ME, MES, MF

Water is a vital part of many industrial processes. The need for constant pressure, even under conditions with great fluctuations in flow, places great demands on any pressure boosting system. BoosterpaQ meets the challenge of a wide variety of industrial requirements with reliable, rugged pumps constructed of premium materials, in a flexible, user-friendly design.

Reliability

Industrial applications require operational reliability and constant monitoring; breakdowns can have serious financial consequences. BoosterpaQ systems help ensure reliable water supply with:

- Grundfos CR low-maintenance, high-efficiency pumps
- optional standby pumps
- alarm functions

Large and rapid flow variations often place great demands on pressure boosting systems. The BoosterpaQ Control 2000, combined with variable speed pumps, handles variations easily.

Digital remote control and a

multiple set-point program are just some of the many functions which make BoosterpaQ systems ideally suited to industry.

Standard AISI 316 stainless manifolds provide excellent corrosion resistance. Optional CRN model pumps extend application coverage to aggressive liquids.

Installation and operation

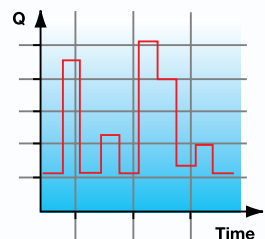
The in-line manifold design of all BoosterpaQ systems makes installation and service user-friendly. With its advanced controller, the BoosterpaQ is simple to operate.



Consumption pattern for a typical industrial application:

FLOW: Large variation between maximum and minimum consumption

PRESSURE REQUIREMENTS: Constant pressure



Dependable irrigation for peace of mind

Recommended system types: (ME, MF), MS

Maintaining green spaces and crops requires dependable irrigation, especially during the hottest months. Grundfos BoosterpaQ helps conserve water and electrical power while providing adequate and accurate coverage. BoosterpaQ makes it easy to adjust output quickly and efficiently.

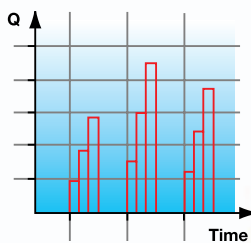
Reliability can be critical

Depending upon the climate and season, the need for reliable supplies and for standby pumps vary. A drop in pressure due to system failure is likely to cause plant or turf loss. Grundfos BoosterpaQ systems can provide the peace of mind you need.

Consumption pattern for a typical irrigation system:

FLOW: Varying but known consumption

PRESSURE REQUIREMENTS: Constant and pressure zones



Monitoring functions such as maximum pressure limits safeguard the distribution circuit against pipe damage and ensure that the pre-set pressure limit cannot be exceeded. Optional standby capacity pumps, manual control, and alarm options ensure peace of mind.

Correct pressure

Large irrigation areas often require pressure zones. Using a timer program, the BoosterpaQ can control different pressure zones (set-point). This function ensures correct pressure and minimizes energy costs.

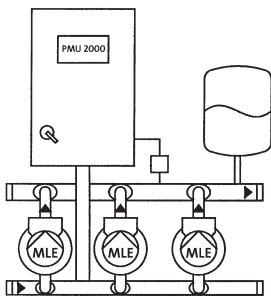
There are no special requirements for a BoosterpaQ installation location. The compact design facilitates installation very nearly anywhere.



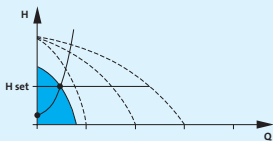
Hydraulic Functions

VARIABLE SPEED

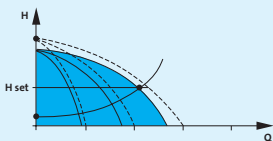
Grundfos BoosterpaQ® ME



One pump in operation.

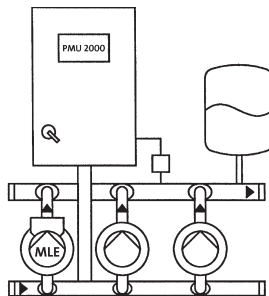


Three pumps in operation.

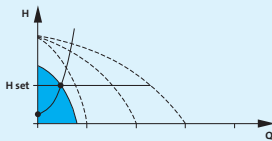


- Maintain constant pressure through continuous adjustment of the speed of the operating pumps.
- The system performance is adjusted to the demand through cutting in/out of pumps and parallel speed control of the pumps in operation.
- Pump changeover is automatic and depends on load, time and fault.

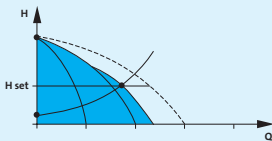
Grundfos BoosterpaQ® MES



One pump with MLE motor in operation.

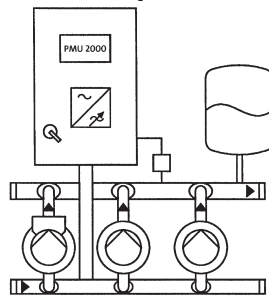


One pump with MLE motor and two mains-operated pumps in operation.

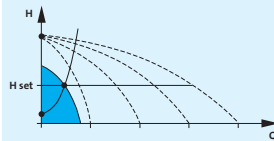


- Maintain constant pressure through continuous adjustment of the speed of one variable speed pump. The other pumps (fixed speed) are cut in/out according to demand, providing performance corresponding to the consumption.
- The variable speed pump (MLE motor) will always start first.
- Pump changeover is automatic and depends on load, time and fault.

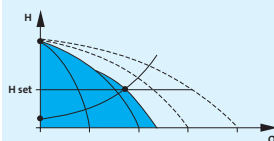
Grundfos BoosterpaQ® MF



One pump in operation via variable frequency drive.



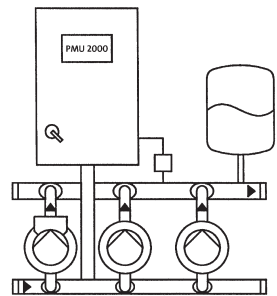
One pump in operation via variable frequency drive and two pumps mains-operated.



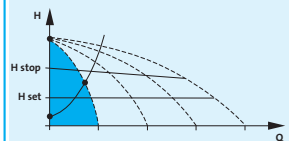
- Maintain constant pressure through continuous adjustment of the speed of one pump. The other pumps (fixed speed) are cut in/out as required.
- The variable frequency-controlled pump is always started first.
- Pump changeover is automatic and depends on load, time and fault.
- All pumps are controlled by the variable frequency drive alternately.

START/STOP

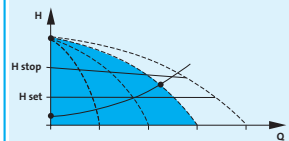
Grundfos BoosterpaQ® MS



One pump in operation.



Three pumps in operation.



- Maintains an almost constant pressure by cutting the pumps in or out as required.
- Pump changeover is automatic and depends on load, time and fault.

Product Range

SYSTEM	ME	MES	MF	MS
Standard Configuration				
Range				
Number of pumps	2-4	2-4	2-6	2-6
Mechanical				
In-line pipe routing	•	•	•	•
AISI 316 stainless steel manifold	•	•	•	•
AISI 304 stainless steel base frame	•	•	•	•
232 psi [16 bar] standard maximum output, 362 psi [25 bar] optional (reduced by pressure transducer, gauge, and tank limits)	•	•	•	•
Control				
NEMA 3R			•	
NEMA 4	•	•		•
PFU 2000 (simple operation)	•	•	•	•
PMU 2000 (Advanced Control)	•	•	•	•
Pump alternation	•	•	•	•
Constant pressure	•	•	•	
Friction loss compensation	•	•	•	
Dry running protection	•	•	•	•
External variable frequency drive			•	
Integrated variable frequency drive (MLE motor)	•	•		
Application (recommended models)				
Water Supply	•	•	•	•
Industry	•	•	•	
Irrigation	•	•	•	•
Approvals*				
	cUL	cUL	cUL	cUL

* All control panels are UL listed to US and Canadian safety standards and all motors are UL/cUL recognized. BoosterpaQs are certified and listed by UL for conformance to US and Canadian safety standards.

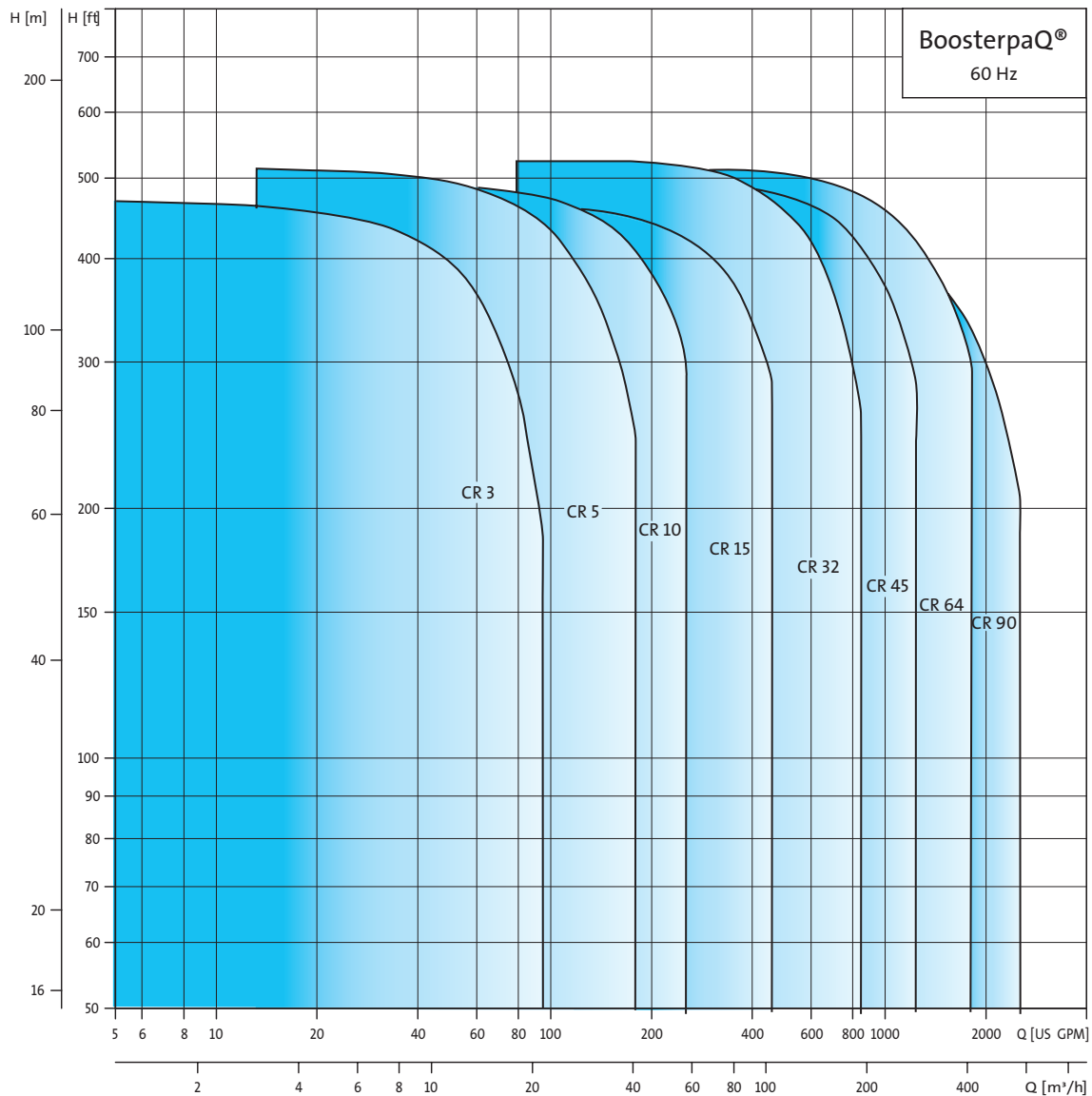


Options and Accessories

(available with all models—call for options not listed)

- Diaphragm tank
- ASME (code) tank
- Audible and visible alarms
- Pump elapsed time meters
- Higher temperatures
- Panel enclosure variants
- Volt and ammeters
- Verified factory performance test
- Emergency/normal switches, manual operated constant speed pumps
- Pump lock-out switches
- Lightning protection
- Pump run indicator lights
- Pump fault indicator lights
- Control panel internal illumination light

Grundfos BoosterpaQ Performance Curves



Performance curves and other technical information in this brochure is listed as a range only and subject to change without notice. Consult a Grundfos product submittal data sheet for exact pump specifications.

BoosterpaQ® is a registered trademark for Grundfos Pumps

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