GRUNDFOS **PRODUCT GUIDE**

Hydro MPC BoosterpaQ®

Booster sets with 2 to 6 pumps
60 Hz

CLASSIFIED
c UL US
WATER QUALITY

Single & Multi-Pump Systems
ANSI / NSF61
65GM
Max. use Temp. 23°C / 73°F
Annex G

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1. Product data

Introduction

Grundfos Hydro MPC BoosterpaQ® booster sets are designed for transfer, pressure boosting and circulation of water in:

- domestic water pressure boosting
- high rise buildings, hotels, and hospitals
- irrigation
- industry
- municipal water transfer
- HVAC.

As standard, Hydro MPC booster sets consist of two to six CR(E) pumps connected in parallel and mounted on a base frame provided with a control cabinet and all the necessary fittings.

Most of the booster sets are available with either CR pumps and/or CRE pumps. For further information, see page 5.

The pumps of the booster set can be removed without interfering with the pipework on either side of the manifolds. Consequently, even on the largest booster sets, service can be performed by a single person with a forklift truck or a crane.

Hydro MPC booster sets are divided into seven groups based on control variants. For further information, see “Product range” on page 5 and “Overview of variants” on page 13.

Hydro MPC-E

Booster sets with two to six CRE pumps. The terminology CRE means CR pump that includes an integrated variable frequency drive (VFD)/motor with sizes from 1 to 10 Hp.

Hydro MPC-E(CUE)

Booster sets with two to six CR pumps, each connected to external CUE VFD.

Hydro MPC-F

Booster sets with two to six CR pumps connected to one external VFD. The speed-controlled operation alternates between the pumps of the booster set.

Hydro MPC-S

Booster sets with two to six constant speed CR pumps.

Benefits

NSF 61 Annex G

CLASSIFIED C UL US WATER QUALITY

Single & Multi-Pump Systems
ANSI / NSF61
65GM
Max. use Temp. 23°C / 73°F
Annex G

The complete packaged pumping system is NSF 61 Annex G Listed for drinking water and low lead requirements.

CU 352 Multi-Pump Controller (MPC)

Advanced controller is specifically designed to control multiple parallel coupled pumps in a wide array of applications.

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Fig. 1 CU 352

The pumps of the Hydro MPC booster system are controlled individually by the CU 352 multi-pump control unit which contains application-optimized software and pump curve data. The CU 352 thus knows the exact hydraulic and electrical data of the pumps to be controlled. Furthermore, a log function enables monitoring of the system performance over a period of time.

User-friendliness

Hydro MPC features a built-in start-up wizard in a wide range of languages that guides the installer through a series of steps until the system is correctly installed and commissioned. When the installation is complete, the large, user-friendly color display will ensure that day-to-day operation is equally easy.

Reliability

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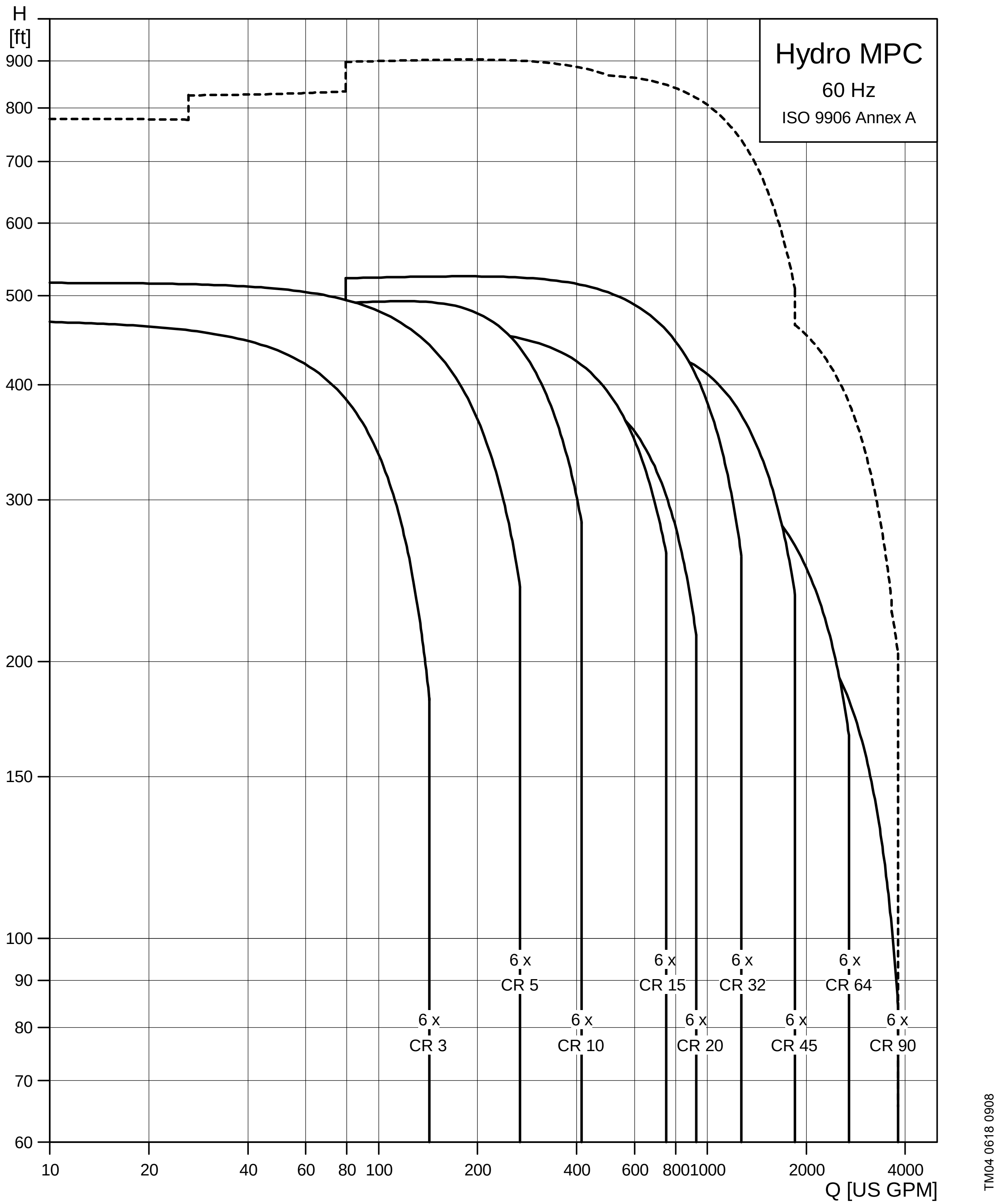
Fig. 2 Grundfos CR pumps

Hydro MPC is built on the highly renowned Grundfos CR pump range. CR pumps are known for their reliability, efficiency and adaptability.

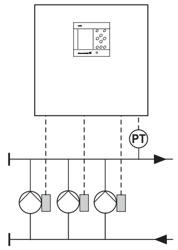
Every vital piece of the Hydro MPC is made by Grundfos. You are thus guaranteed long-lasting technology that requires a minimum of maintenance and provides a maximum of efficiency.

Performance range



Note: The area within the dotted line applies to Hydro MPC BooserpaQ® booster sets available on request. The performance range is based on the standard range of the CR pumps.

Product range



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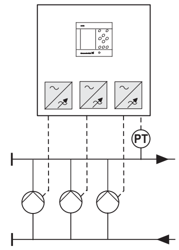

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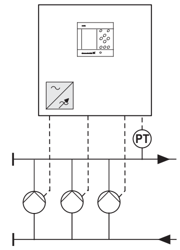

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Variant	Hydro MPC-E	Hydro MPC-E(CUE)	Hydro MPC-F
Hydraulic data			
Max. head [ft]	536	536	536
Flow rate [gpm]	0 - 3600	0 - 3600	0 - 3600
Liquid temperature [°F]	32 to 176 3)	32 to 176 3)	32 to 176 3)
Max. operating pressure [psi]	232 1)	232 1)	232 1)
Motor data			
Number of pumps	2 - 6	2 - 6	2 - 6
Motor power [Hp]	1 - 10	2 - 60	2 - 60
Shaft seal			
KUHE (TC/C-TC/EPDM)	● 2)	● 2)	● 2)
HQQE (SiC/SiC/EPDM)	● 2)	● 2)	● 2)
Materials			
CR Pumps: Cast iron and stainless steel AISI 304	●	●	●
CRI Pumps: Stainless steel AISI 304	❍	❍	❍
CRN Pumps: Stainless steel AISI 316	❍	❍	❍
Manifold: Stainless steel	●	●	●
Functions			
Constant pressure control	●	●	●
Automatic cascade control	●	●	●
Pump changeover/alternation	●	●	●
GENIbus communication (external)	❍	❍	❍
Integrated variable frequency drive (VFD)/motor (on pump)	●	-	-
External VFD (in cabinet)	-	●	●

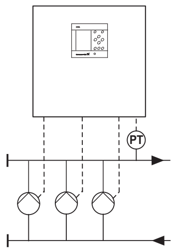
● Available as standard.

❍ Available on request.

1) Booster sets with a maximum operating pressure higher than 232 psi are available on request.

2) Standard shaft seal for CR 5 - CR 20 is HQQE. Standard shaft seal for CR 32 - CR 90 is KUHE.

3) Maximum liquid temperature can be increased by use of higher temp range sensor.



Variant	Hydro MPC-S
Hydraulic data	
Max. head [ft]	536
Flow rate [gpm]	0 - 3600
Liquid temperature [°F]	32 to 176[4)]
Max. operating pressure [psi]	232 [1)]
Motor data	
Number of pumps	2 - 6
Motor power [Hp]	1 - 60
Shaft seal	
KUHE (TC/C-TC/EPDM)	●[2)]
HQQE (SiC/SiC/EPDM)	●[2)]
Materials	
CR Pumps: Cast iron and stainless steel AISI 304	●
CRI Pumps: Stainless steel AISI 304	❍
CRN Pumps: Stainless steel AISI 316	❍
Manifold: Stainless steel	●
Functions	
Constant pressure control	●[3)]
Automatic cascade control	●
Pump changeover/alternation	●
GENIbus communication (external)	❍
Integrated VFD/motor (on pump)	-
External VFD (in cabinet)	-

● Available as standard.
❍ Available on request.
1) Booster sets with a maximum operating pressure higher than 232 psi are available on request.
2) Standard shaft seal for CR 5 - CR 20 is HQQE. Standard shaft seal for CR 32 - CR 90 is KUHE.
3) The pressure will range between H_{set} and H_{stop}. For further information, see page 14.
4) Maximum liquid temperature can be increased by use of higher temp range sensor.

Type key

Example	Hydro MPC	-E	/	/NS	2 CRE 10-3	3x460 V, PE, 60Hz
Type range	X					
Subgroups: Pumps with integrated variable frequency drive (VFD): -E Pumps with external VFD: -E(CUE), -F Direct online pumps (start/stop): -S		X				
Manifold material: : Stainless steel			X			
Suction manifold: : with suction manifold /NS : without suction manifold				X		
Number of pumps with integrated VFD/motor and pump type					X	
Supply voltage, frequency						X

Operating conditions

Operating pressure

As standard, the maximum operating pressure is 232 psi.

*On request, Grundfos offers Hydro MPC booster sets with a higher maximum operating pressure.

Temperature

Liquid temperature: 32 °F to 176 °F*
Ambient temperature: 32 °F to 104 °F.

*On request, Grundfos offers Hydro MPC booster sets with a higher maximum temperature range.

Relative humidity

Max. relative humidity: 95 %.

2. Construction

Pump

CR pumps are non-self-priming, vertical multistage centrifugal pumps.

Each pump consists of a base and a pump head. The chamber stack and outer sleeve are secured between the pump head and the base by means of staybolts. The base has suction and discharge ports on the same level (in-line) and of the same port size.

CRE pumps are based on CR pumps. The difference between the CR and CRE pump range is the motor. CRE pumps are fitted with a Grundfos MLE motor that includes an integrated variable frequency drive (VFD).

For further information, see the CR Product Guide literature number L-CR-PG-001. The Product Guide is available in WebCAPS on www.grundfos.com, see page 88.

For information about the pump's position in the booster set, see fig. 4 on page 10.

Shaft seal

All pumps are equipped with a maintenance-free mechanical cartridge type shaft seal.
The standard shaft seal for pump sizes CR 3, CR 5, CR 10, CR 15, and CR 20 is a HQQE. Seal faces of the HQQE shaft seal are silicon carbide/silicon carbide with rubber parts of EPDM. The standard shaft seal for pump sizes CR 32, CR 45, CR 64, and CR 90 is a KUHE. Seal faces of the KUHE shaft seal are tungsten carbide/carbon with embedded tungsten carbide with rubber parts of EPDM.

Note: Other shaft seal variants are available on request.

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Fig. 1 Cartridge shaft seal, HQQE shown above

The shaft seal can be replaced without dismantling the pump. The shaft seal of pumps with motors of 15 Hp and up can be replaced without removing the motor.

For further information, see the product guide titled "Shaft seals" (publication number 96519875) available in WebCAPS on www.grundfos.com; see page 88.

Motor

Grundfos standard motors - ML and Baldor motors

CR pumps are fitted with a Grundfos specified motor. The motors are all heavy-duty 2-pole, NEMA C-face motors. The standard motor for pumps 10 Hp and below, with 3-phase power, is the Grundfos ML motor with a TEFC enclosure. The standard motor for pumps above 10 Hp is a Baldor motor with an ODP enclosure.

Single phase motors are available up to 10 Hp. The standard motor for single phase power is a Baldor motor with a TEFC enclosure.

Integrated frequency-controlled motors - MLE motors

The MLE motors consists of a 2-pole, TEFC rated enclosure, NEMA C-faced motor and an integrated VFD in a NEMA 3R enclosure.

In single phase power, (1 x 208-230 V), Grundfos offers MLE motors from 0.5 Hp to 1.5 Hp.

In three phase power, (3 x 208-230 V), Grundfos offers MLE motors from 1.5 Hp to 7.5 Hp.

In three phase power, (3 x 460 V), Grundfos offers MLE motors from 1 Hp to 30 Hp.

Motors with integrated VFD require no external motor protection. The motor incorporates thermal protection against slow overloading and seizure (IEC 34-11: TP 211).

Optional motors

For special applications or operating conditions, Grundfos offers custom-built motors such as:

- explosion proof motors
- motors with anti-condensation heating unit
- energy efficient and premium efficiency motors
- motors with thermal protection

Manifold

A suction manifold of stainless steel (316 or 316 Ti) is fitted on the suction side of the pumps. An isolating valve is fitted between the suction manifold and the individual pumps. A discharge manifold of stainless steel (316 or 316 Ti) is fitted on the discharge side of the pumps. An isolating valve and a check valve are fitted between the discharge manifold and the individual pumps. For suction lift applications the check valve may be fitted on the suction side on request.

For information about the position of the suction and discharge manifold, see fig. 4 on page 10.

Control panel

The control panel is fitted with all the necessary components. If necessary, Hydro MPC booster sets are fitted with a fan to remove surplus heat generated by the variable frequency drive (VFD).

Control panel variants

The control panel are divided into two groups based on construction:

- Systems with the control panel mounted on the base frame next to the pumps, (solid base).
- Systems with the control panel mounted on a separate base frame, (split base).
  The control panel is mounted on its own base frame and therefore suitable for floor mounting near the booster system.

For further information, see fig. 4 on page 10 and see section *8. Technical data* for data on the individual Hydro MPC.

CU 352

The CU 352 multi-pump control unit of Hydro MPC is located in the door of the control cabinet.

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Fig. 2 CU 352

The CU 352 features a color display, ten buttons and two indicator lights. The control panel enables manual setting and change of parameters such as setpoint, start/stop of system or individual pumps.

The CU 352 has application-optimized software for adapting the system to the application in question.

IO 351

IO 351 is a module for exchange of digital and analog signals between CU 352 and the remaining electrical system via GENIbus. IO 351 comes in the variants A and B.

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Fig. 3 IO 351A and IO 351B

IO 351A

IO 351A is used for one to three Grundfos pumps with fixed speed.

IO 351B

IO 351B is used for one to six Grundfos pumps with fixed speed and/or one to three pumps controlled by external VFD(s). The module can also be used as an input-output module for communication with monitoring equipment or another external equipment.

System components

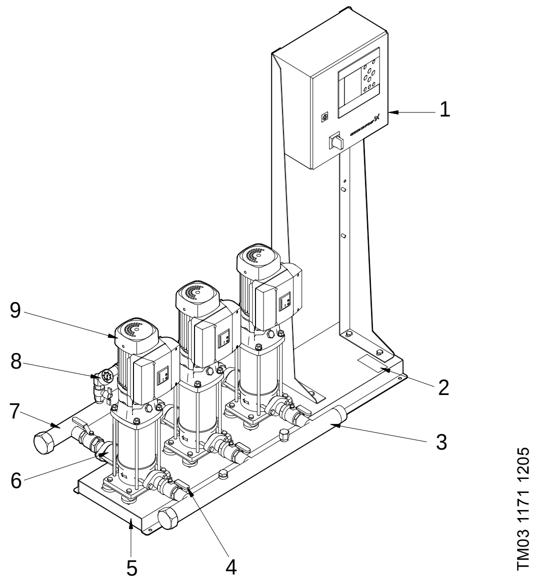

Fig. 4 System components

Pos.	Description	Quantity
1	Control panel	1
2	Nameplate	1
3	Suction manifold (316 stainless steel)	1
4	Isolating valve	2 per pump
5	Base frame (304 stainless steel)	1
6	Check valve	1 per pump
7	Discharge manifold (316 stainless steel)	1
8	Pressure transmitter/gauge	1 per manifold
9	Pump	2 - 6

3. Installation

Mechanical installation

Location

The booster set must be installed in a well-ventilated area to ensure sufficient cooling of the control panel and pumps.

Note: Hydro MPC is not designed for outdoor installation and must not be exposed to direct sunlight.

The booster set should be placed with a 3 feet clearance in front and on the two sides for inspection and removal.

Pipework

Arrows on the pump base show the direction of flow of water through the pump.

The pipework connected to the booster set must be of adequate size.

The pipes are connected to the manifolds of the booster set. Either end can be used. Apply sealing compound to the unused end of the manifold and fit the screw cap. For manifolds with flanges, a blanking flange with gasket must be fitted.

To optimize operation and minimize noise and vibration, it may be necessary to consider vibration dampening of the booster set.

Noise and vibration are generated by the rotating components in the motor and pump and by the flow in the pipe and fittings. The effect on the environment is subjective and depends on correct installation and the state of the remaining system.

If booster sets are installed where the first consumer on the line is close to the booster set, it is advisable to fit expansion joints on the suction and discharge pipes to prevent vibration being transmitted through the pipework.

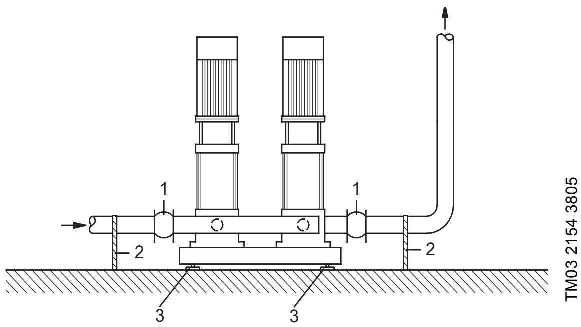

Fig. 5 Schematic view of hydraulic installation

Pos.	Description
1	Expansion joint
2	Pipe support and good location for system isolation valve
3	Machine shoe
4	Discharge pipe isolation valve

Note: Expansion joints, pipe supports and machine shoes shown in the figure above are not supplied with a standard booster set.

All nuts should be tightened prior to startup.

The pipes must be fastened to parts of the building to ensure that they cannot move or be twisted.

Foundation

The booster set should be positioned on an even and solid surface, such as a concrete floor or foundation. If the booster set is not fitted with machine shoes, it must be bolted to the floor or foundation.

Note: As a rule unless protected, the weight of a concrete foundation should be a minimum of 1.5 x the weight of the booster set.

Dampening

To prevent the transmission of vibrations to buildings, it may be necessary to isolate the booster set foundation from building parts by means of vibration dampers.

Determining the correct damper varies from installation to installation, and a wrong damper may increase the vibration level. Vibration dampers should therefore be sized by the supplier of vibration dampers.

If the booster set is installed on a base frame with vibration dampers, expansion joints should always be fitted on the manifolds. This is important to prevent the booster set from “hanging” in the pipework.

Expansion joints

Expansion joints are installed to

- absorb expansions/contractions in the pipework caused by changing liquid temperature
- reduce mechanical strains in connection with pressure surges in the pipework
- isolate mechanical structure-borne noise in the pipework (only rubber bellows expansion joints).

Note: Expansion joints must not be installed to compensate for inaccuracies in the pipework such as center displacement of flanges.

Fit expansion joints at a distance of minimum 1 to 1 1/2 times the nominal flange diameter from the manifold on the suction as well as on the discharge side. This prevents the development of turbulence in the expansion joints, resulting in better suction conditions and a minimum pressure loss on the pressure side. At high water velocities (> 10 ft/s) it is advisable to install larger expansion joints corresponding to the pipework.

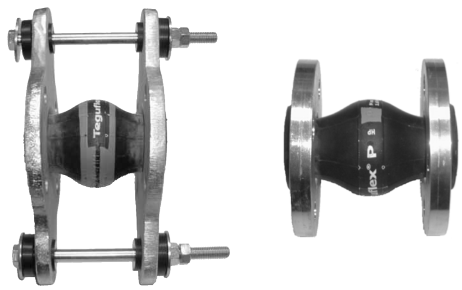

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Fig. 6 Examples of rubber bellows expansion joints with and without limit rods

Expansion joints with limit rods can be used to minimize the forces caused by the expansion joints. Expansion joints with limit rods are always recommended for flanges larger than 6 inches.

The pipes should be anchored so that it does not stress the expansion joints and the pump. Follow the supplier's instructions and pass them on to advisers or pipe installers.

Electrical installation

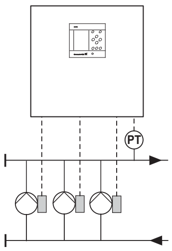
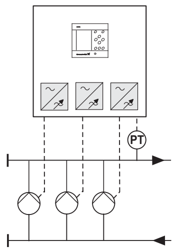
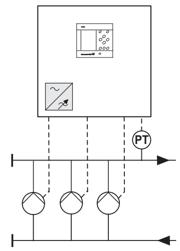
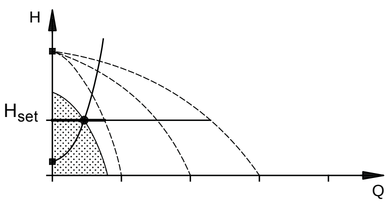
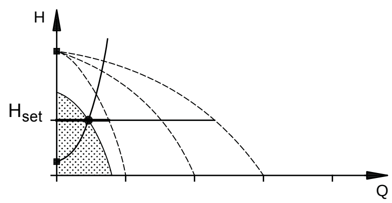
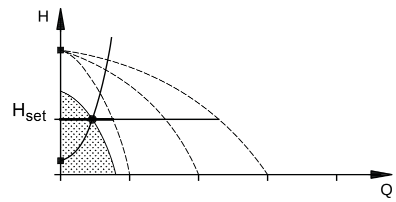
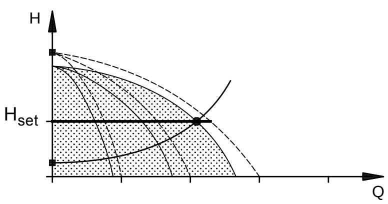
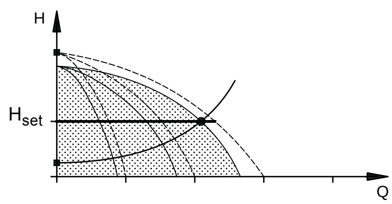
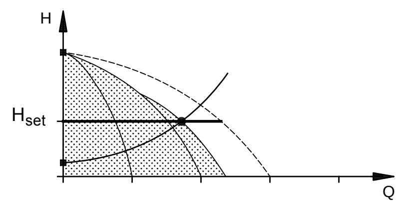
The electrical installation should be carried out by an authorized person in accordance with local regulations.

- The electrical installation of the booster set must be carried out in accordance with enclosure class or panel rating.
- Make sure that the booster set is suitable for the electricity supply to which it is connected.
- Make sure that the wire cross-section corresponds to the specifications in the wiring diagram and panel label - max. amps.

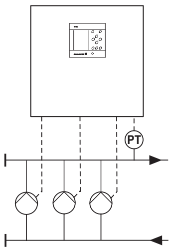
Note: The mains connection should be carried out as shown in the wiring diagram.

4. Functions

Overview of variants, examples

Booster sets with pumps with integrated variable frequency drive (VFD)	**Booster sets with pumps connected to external VFD**	
Hydro MPC-E	**Hydro MPC-E(CUE)**	**Hydro MPC-F**
Hydro MPC booster set with three CRE pumps.	Hydro MPC booster set with three CR pumps connected to external CUE VFD, in the control panel.	Hydro MPC booster set with three CR pumps. One of the pumps is connected to an external CUE VFD, in the control panel. The speed-controlled operation alternates between the pumps of the Hydro MPC.
 TM03 0993 0905	 TM03 0995 0905	 TM03 1265 1505
One CRE pump in operation.	One CR pump connected to an external CUE VFD in operation.	One CR pump connected to an external CUE VFD in operation.
 TM00 7995 2296	 TM00 7995 2296	 TM00 7995 2296
Three CRE pumps in operation.	Three CR pumps connected to external CUE VFDs in operation.	One CR pump connected to an external CUE VFD and two constant speed CR pumps in operation.
 TM00 7996 2296	 TM00 7996 2296	 TM00 7998 2296
• Hydro MPC-E maintains constant pressure through continuous variable adjustment of the speed of the CRE pumps. • The performance is adjusted to the demand through cutting in/out the required number of CRE pumps and through parallel control of the pumps in operation. • Pump changeover is automatic and depends on load, time and fault. • All pumps in operation will run at equal speed.	• Hydro MPC-E(CUE) maintains constant pressure through continuous variable adjustment of the speed of the pumps. • The performance is adjusted to the demand through cutting in/out the required number of pumps and through parallel control of the pumps in operation. • Pump changeover is automatic and depends on load, time and fault. • All pumps in operation will run at equal speed.	• Hydro MPC-F maintains constant pressure through continuous variable adjustment of the speed of the CR pump connected to an external CUE VFD. The speed controlled operation alternates between the pumps. • One CR pump connected to the VFD always starts first. If the pressure cannot be maintained by the pump, one or two constant speed CR pumps will be cut in. • Pump changeover is automatic and depends on load, time and fault.

Booster sets with direct online/constant speed pumps (on/off)
Hydro MPC-S
Hydro MPC booster set with three constant speed CR pumps.



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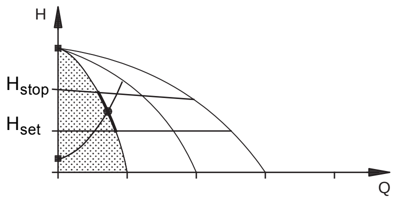
One constant speed CR pump in operation.



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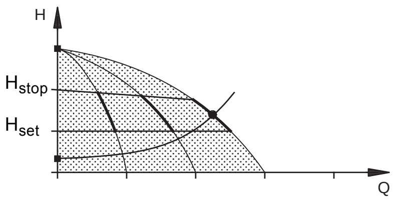
Three constant speed CR pumps in operation.



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- Hydro MPC-S maintains pressure range through cutting in/out the required number of pumps.
- The operating range of the pumps will lie between the lines H_{set} and H_{stop} (cut-out pressure). The cut-out pressure cannot be set, but is calculated automatically.
- Pump changeover is automatic and depends on load, time and fault.

Overview of functions

	Hydro MPC			
	-E	-E(CUE)	-F	-S
Functions via the CU 352 control panel				
Constant-pressure control	●	●	●	● 2)
Automatic cascade control	●	●	●	●
Alternative setpoints	●	●	●	●
Redundant primary sensor (option)	❍	❍	❍	❍
Min. changeover time	●	●	●	●
Number of starts per hour	●	●	●	●
Standby pumps	●	●	●	●
Forced pump changeover	●	●	●	●
Test run	●	●	●	●
Dry-running protection (suction transducer)	●	●	●	●
Stop function	●	●	●	- 3)
Password	●	●	●	●
Clock program	●	●	●	●
Proportional pressure	●	●	●	●
Pilot pump	●	●	●	●
Soft pressure build-up	●	●	●	●
Emergency run	●	●	●	●
Pump curve data	●	●	●	●
Flow estimation	●	●	●	●
Limit exceeded 1 and 2	●	●	●	●
End of curve protection	●	●	●	●
Communication				
GENIbus connection (external)	❍	❍	❍	❍
Other bus protocols: PROFIBUS, Interbus-S and radio/modem/PLC, Modbus via G100 gateway	❍	❍	❍	❍
Ethernet connection	●	●	●	●

● Standard.
❍ On request.
1) Pump changeover only possible among pumps of the same type.
2) The pressure will be between H_{set} and H_{stop}. For further information, see page 14.
3) Hydro MPC-S will have on/off control of all pumps. For further information, see page 18.

Description of selected functions

Constant-pressure control of E-systems

Constant-pressure control ensures that the system delivers a constant pressure despite a change in consumption.

When taps are opened, water will be drawn from the diaphragm tank, if installed. The pressure will drop to a set cut-in pressure, and the first speed-controlled pump will start to operate. The speed of the pump in operation will be continuously increased to meet the demand. As the consumption rises, more pumps will cut in until the performance of the pumps in operation corresponds to the demand. During operation, the CU 352 will control the speed of each pump individually according to known pump curve data downloaded into the CU 352.

Furthermore, the CU 352 regularly estimates whether pumps are to be cut in or out to ensure best efficiency.

When the water consumption falls, pumps will be cut out one by one to maintain the set discharge pressure.

Display language

Fig. 7 Display language

Via the CU 352, you can select the language for the display.

Options:

- English
- German
- Danish
- Spanish
- Finnish
- French
- Greek
- Italian
- Dutch
- Polish
- Portuguese
- Russian
- Swedish
- Chinese
- Korean
- Japanese
- Czech
- Turkish
- Hungarian
- Bulgarian.

Pump curve data

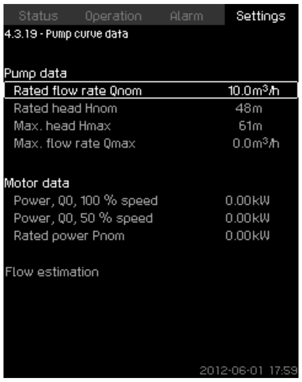


Fig. 8 Pump curve data

As standard, Hydro MPC will help you minimize energy consumption and cut energy costs. By means of pump curve data stored from factory, the CU 352 will know exactly which and how many pumps to control. These pump curve data enables the CU 352 to optimize performance and minimize energy consumption.

Redundant primary sensor

A redundant sensor can be installed as backup for the primary sensor in order to increase reliability and prevent stop of operation. The redundant primary sensor is in the same reference point as the primary sensor, i.e. in the discharge manifold of the booster system.

Note: The redundant primary sensor is available as a factory-fitted option.

Automatic cascade control

Cascade control ensures that the performance of Hydro MPC is automatically adapted to consumption by switching pumps on or off. The system thus runs as energy-efficiently as possible with a constant pressure and a limited number of pumps.

Alternative setpoints

This function makes it possible to set up to six setpoints as alternatives to the primary setpoint. The setpoints can be set for closed loop and open loop. The performance of the system can thus be adapted to other consumption patterns.

Example

A Hydro MPC booster system is used for irrigation of a hilly golf course.

Constant-pressure irrigation of golf course sections of different sizes and at different altitudes may require more than one setpoint.

For golf course sections at a higher altitude a higher discharge pressure is required.

Log function

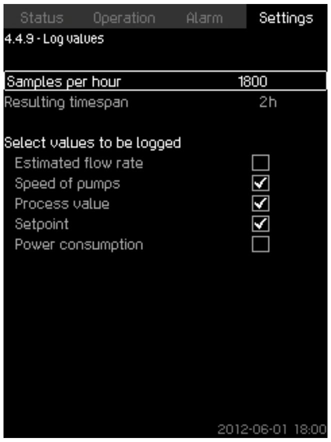


Fig. 9 Log values

The log function enables monitoring of selected parameters. The data can be presented in the display or exported as a .csv file via the built-in Ethernet connection.

Specific energy calculation

For MPC-E systems with a flowmeter connected, the CU 352 can calculate and show the specific energy used. It is shown as two values, the actual value and the average value.

Number of starts per hour

This function limits the number of pump starts and stops per hour. It reduces noise emission and improves the comfort of systems with mains-operated pumps.

Each time a pump starts or stops, the CU 352 will calculate when the next pump is allowed to start or stop in order not to exceed the permissible number of starts per hour.

This function always allows pumps to be started to meet the requirement, but pump stops will be delayed, if necessary, in order not to exceed the permissible number of starts/stops per hour.

Standby pumps

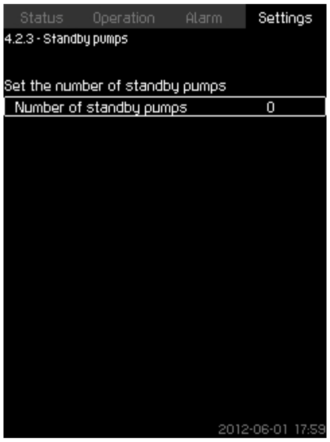


Fig. 10 Standby pumps

It is possible to let one or more pumps function as standby pumps. A booster system with for instance four pumps, one having the status of standby pump, will run like a booster system with three pumps, as the maximum number of pumps in operation is the total number of pumps minus the number of standby pumps.

If a pump is stopped due to a fault, the standby pump will be cut in. This function ensures that the system can maintain the rated performance even if one of the pumps is stopped due to a fault.

The status as standby pump alternates between all pumps of the same type, for instance electronically speed-controlled pumps.

Forced pump changeover

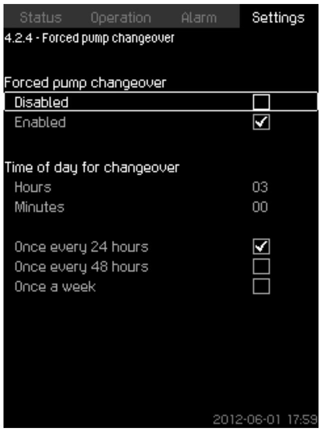


Fig. 11 Forced pump changeover

This function ensures that the pumps run for the same number of operating hours over time.

In certain applications the required flow remains constant for long periods and does not require all pumps to run. In such situations, pump changeover does not take place naturally, and forced pump changeover may thus be required.

Once every 24 hours, the controller checks if any pump in operation has been running continuously for the last 24 hours.

If this is the case, the pump with the largest number of operating hours will be stopped and replaced by the pump with the lowest number of operating hours.

Pump test run

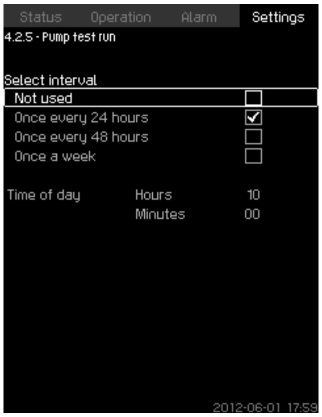


Fig. 12 Pump test run

This function is primarily used in connection with pumps that do not run every day.

Benefits:

- Pumps do not seize up during a long standstill due to deposits from the pumped liquid.
- The pumped liquid does not decay in the pump.
- Trapped air is removed from the pump.
- The pump starts automatically and runs for a short time.

Dry-running protection

This function is one of the most important ones, as dry running may damage bearings and shaft seals.

The inlet pressure of the system or the level in a tank, if any, on the inlet side is monitored. If the inlet pressure or the water level is too low, all pumps will be stopped.

Level switches, pressure switches or analog sensors signalling water shortage at a set level can be used. Furthermore, you can set the system to be reset and restarted manually or automatically after a situation with water shortage.

Stop function

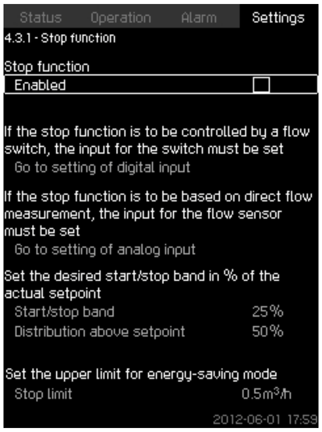


Fig. 13 Stop function

The stop function makes it possible to stop the last pump in operation if there is no or a very small consumption.

Purpose:

- to save energy.
- to prevent heating of shaft seal faces due to increased mechanical friction as a result of reduced cooling by the pumped liquid.
- to prevent heating of the pumped liquid.

This function is only used in Hydro MPC booster systems with variable-speed pumps.

Note: Hydro MPC-S will have on/off control of all pumps.

When the stop function is enabled, the operation of the system will be continuously monitored to detect a low flow rate. If the CU 352 detects no or a low flow rate ($Q < Q_{min}$), it will change from normal constant-pressure operation to on/off control of the last pump in operation.

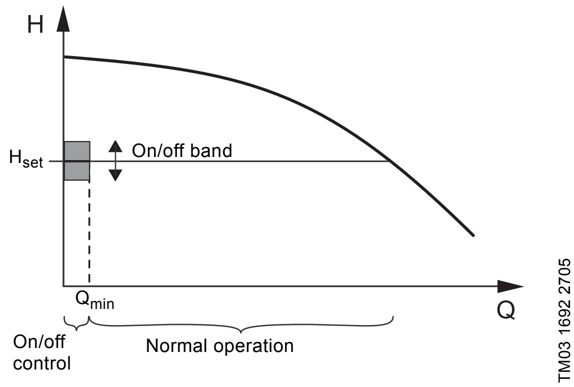


Fig. 14 On/off band

As long as the flow rate is lower than Q_{min}, the pump will run in on/off operation. If the flow rate is increased to above Q_{min}, the pumps will return to normal constant-pressure operation.

Via the CU 352 you can set the Hydro MPC to operate as energy-efficiently as possible or with the highest level of comfort.

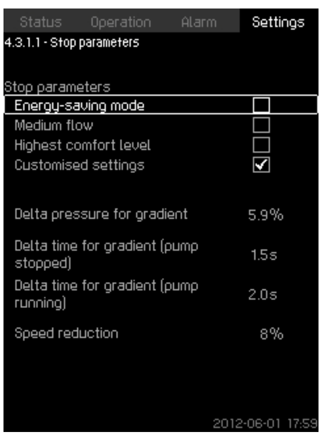


Fig. 15 Stop parameters

Four stop parameters can be selected:

- Energy-saving mode (factory setting)
  If you want the highest energy-saving mode possible.
- Medium flow
  If you want a compromise between the highest energy-saving mode and highest comfort level.
- Highest comfort level
  If you want the highest comfort level without too many pump starts/stops.
- Customised settings
  If you want to make your own settings.

Setpoint ramp

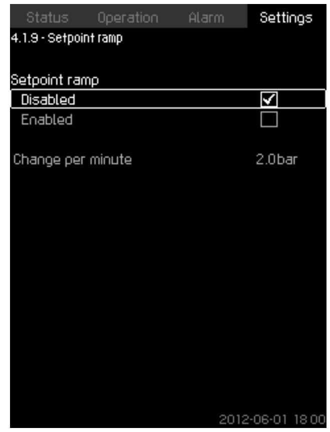


Fig. 16 Setpoint ramp

If this function is enabled, any setpoint change made via the controller, via clock program, when changing between alternative setpoints or via a SCADA system will be made gradually over time. In this way, smooth setpoint changes can be made, thus causing no discomfort to the user.

Pilot pump

The pilot pump will take over the operation from the main pumps in periods when the consumption is so small that the stop function of the main pumps is activated.

Purpose:

- to reduce the necessary size of the diaphragm tank
- to reduce the number of operating hours of the main pumps.

Password

Fig. 17 Password

Passwords make it possible to limit the access to the menus "Operation" and "Settings" in the controller. If the access is limited, it will not be possible to view or set any parameter in the menus.

Clock program

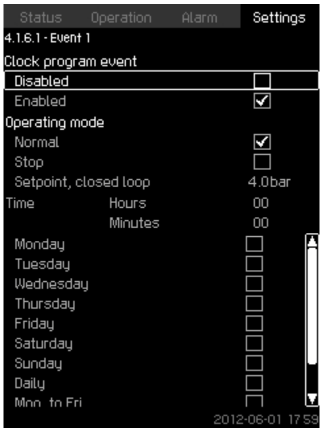


Fig. 18 Clock program

This function makes it possible to set up to ten events with specification of day and time for their activation/deactivation.

An example of application is sprinkling of golf courses at fixed times for the individual greens.

Proportional pressure

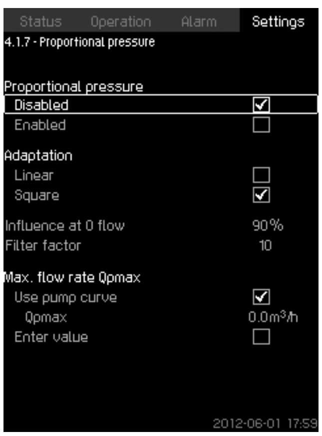


Fig. 19 Proportional pressure

This function can be used in applications with a large pipe system, for instance a village supplied with water from a pumping station or waterworks.

Purpose:

- to deliver the required water at all times
- to compensate for friction loss
- to keep energy consumption at a minimum
- to ensure the highest comfort level at tapping points, etc.
- to minimize water loss from leaks
- to reduce wear and tear on pipes.

In situations with high flow rates, the pressure loss in the pipe system is relatively high. In order to deliver a system pressure of 100 psi in such a situation, the discharge pressure of the system should be set to 115 psi if the pressure loss in the pipe system is 15 psi.

In a low-flow situation, the pressure loss in the pipe system may only be 0 psi. Here the system pressure would be 115 psi if the setpoint was fixed to 115 psi. That is 15 psi too high compared with the peak situation above.

To compensate for this excessive system pressure, the proportional-pressure function of the CU 352 automatically adapts the setpoint to the actual flow rate. The adaptation can be linear or square. Such an automatic adaptation offers you large energy savings and optimum comfort at tapping point!

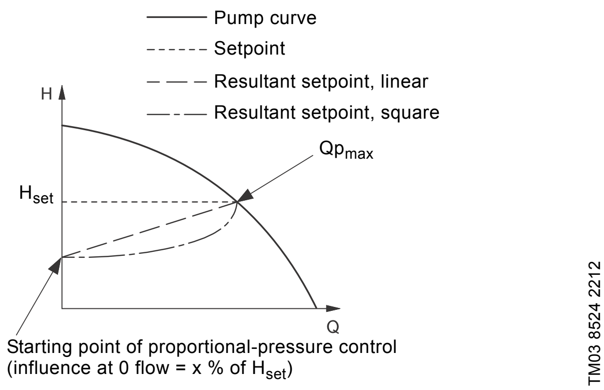


Fig. 20 Proportional-pressure control

Note: Qp_{max} is the expected maximum flow rate. It can either be set to the maximum flow the system can deliver at a determined setpoint, or a value can be entered manually based on a known or assessed maximum flow rate.

Example

Influence at 0 flow (Q0) = friction pressure loss in supply pipe x 100 / setpoint.

Influence at 0 flow (Q0) = 15 psi x 100 / 115 psi = 13 %.

Setpoint at Q_{min} with proportional-pressure control: 115 psi - (115 psi x 0.13) = **100 psi.**

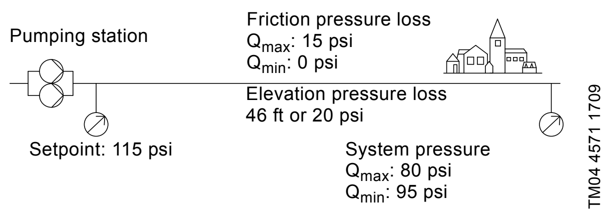


Fig. 21 Without proportional-pressure control

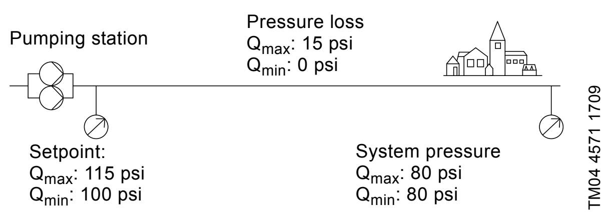


Fig. 22 With proportional-pressure control

Soft pressure build-up

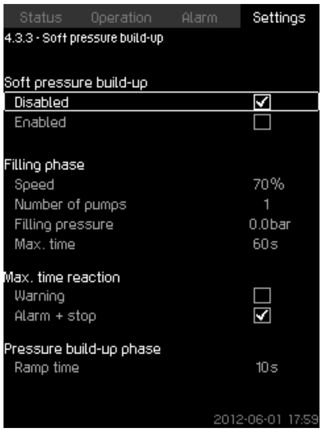


Fig. 23 Soft pressure build-up

This function ensures a soft start of systems with for instance empty pipework.

It has two phases:

1. The pipework is slowly filled with water.
2. When the pressure sensor of the system detects that the pipework has been filled with water, the pressure is increased until it reaches the setpoint. See fig. 24.

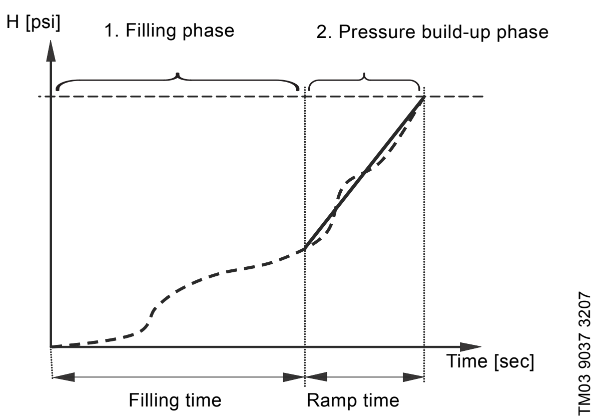


Fig. 24 Filling and pressure build-up phases

The function can be used for preventing water hammer in high-rise buildings with unstable power supply or in irrigation systems.

Emergency run

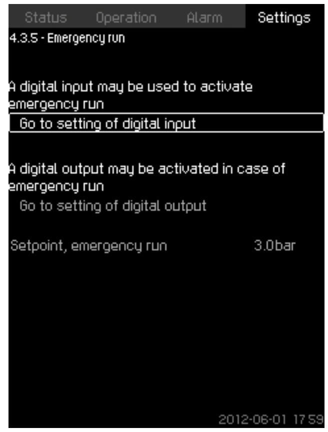


Fig. 25 Emergency run

This function is especially suited for important systems where the operation must not be interrupted.
The function will keep all pumps running regardless of warnings or alarms. The pumps will run according to a setpoint set specifically for this function.

Reduced operation

This function makes it possible to reduce the operation of the system via a digital input. The function is used in applications where the mains power is sometimes switched to generator power. To avoid using more power than the generator can deliver, the system can be derated via a digital input.

5. Sizing

When sizing a booster set, it is important to ensure

- that the performance of the booster set can meet the highest possible demand both in terms of flow rate and pressure.
- that the booster set is not oversized.
  This is important in relation to installation and operating costs.

Consumption pattern

The consumption pattern can be illustrated as a 24-hour profile and duty-time profile.

24-hour profile

The 24-hour profile shows the consumption during 24 hours.

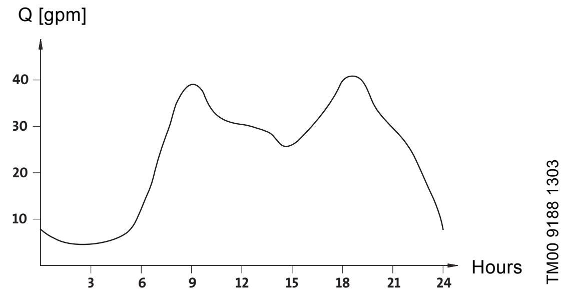


Fig. 26 24-hour profile

Duty-time profile

The duty-time profile is based on the 24-hour profile and gives an overview of how many per cent per day the booster operates at a specific flow rate.

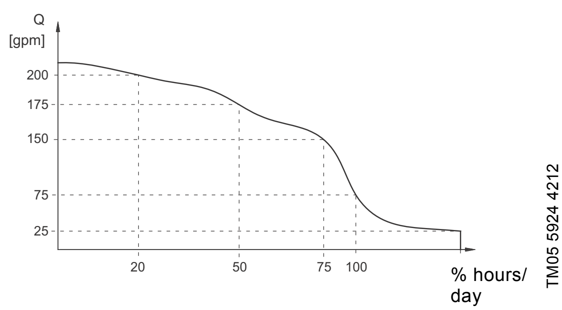


Fig. 27 Duty-time profile

The example in the duty profile above shows:

100 % of the time:	Flow rate ≥ 25 gpm
79 % of the time:	Flow rate > 75 gpm
75 % of the time:	Flow rate > 150 gpm
50 % of the time:	Flow rate > 175 gpm
20 % of the time:	Flow rate ≥ 200 gpm

Selection of booster set

When sizing, the following should be considered:

1. The **consumption pattern** to be met by the booster set:
   – How much does the consumption vary?
   – How suddenly does the consumption vary?
   See page 23.
2. The distribution of consumption over **time**.
   See page 23.
3. The **type** of booster set to be selected. The selection of type should be based upon the consumption pattern. The following types are available:
   -E, -E(CUE), -F, -S.
   See page 23.
4. The **system size** to be selected (pump performance and number of pumps). The selection of system size should be based upon the consumption pattern, considering the following aspects:
   – highest demand
   – efficiency
   – NPSH value
   – are stand-by pumps required?
   See page 24.
5. The **diaphragm tank** to be selected.
   See page 25.
6. The **dry-running protection** to be selected.
   See page 26.

WinCAPS and WebCAPS

WinCAPS and WebCAPS are both selection programs offered by Grundfos.

The two programs make it possible to calculate a Hydro MPC booster set's specific duty point and energy consumption.

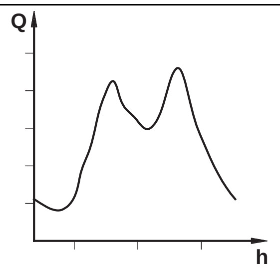
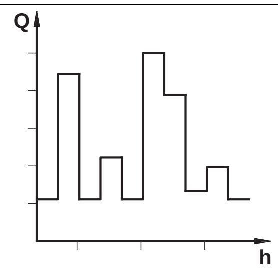
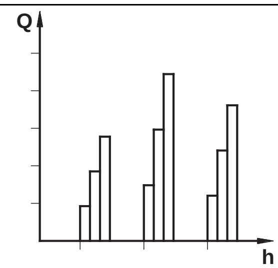
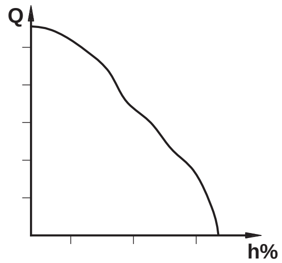
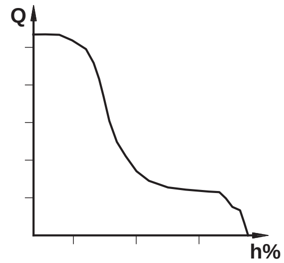
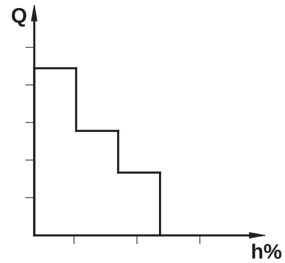
When you enter the dimensions of the pump, WinCAPS and WebCAPS can calculate the exact duty point and energy consumption. For further information, see page 88.

Type of booster set

The booster set type should be selected on the basis of the consumption pattern, i.e. the 24-hour and duty-time profiles.

If the consumption is variable and optimum comfort is required, pumps with continuously variable speed control should be used.

Examples of consumption patterns and their 24-hour and duty-time profiles:

	Water supply	Industry	Irrigation
24-hour profile	 TM00 9197 1705	 TM00 9200 1705	 TM00 9198 1705
	Flow rate: Highly variable.	**Flow rate:** Highly variable with sudden changes.	**Flow rate:** Constant and known.
	Pressure: Constant.	**Pressure:** Constant.	**Pressure:** Constant.
Duty-time profile	 TM00 9201 1705	 TM00 9199 1705	 TM00 9202 1705
	Consumption is highly variable. Continuously variable speed control of the pumps is recommended.	Consumption is highly variable with sudden changes. Continuously variable speed control of the pumps is recommended.	Variations in consumption are regular, yet known. Simple control is recommended.
	Recommended types: -E, -E(CUE), -F, -S	**Recommended types:** -E, -E(CUE), -F, -S	**Recommended type:** -S.

Selection of pumps

Pump size

The system must meet the highest possible demand. But as the highest demand will often occur for a comparatively short part of the duty period only, it is important to select a type of pump which can meet the varying demand throughout the duty period.

Efficiency

In order to achieve the optimum operating economy, select the pumps on the basis of optimum efficiency, i.e. the pumps should, as much as possible, operate within their nominal performance ranges.

As the booster set is always sized on the basis of the highest possible consumption, the duty point of the pumps should be to the right on the efficiency curve (see the pump performance curve) in order to keep efficiency high when consumption drops.

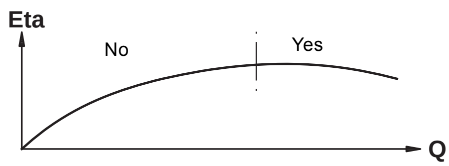


Fig. 28 Pump efficiency curve

Optimum efficiency is ensured by selecting a duty point within the hatched area.

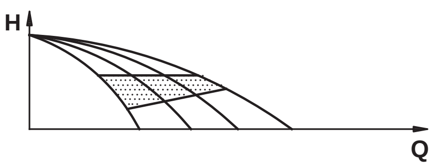


Fig. 29 Area of optimum efficiency

NPSH

In order to avoid cavitation, never select a pump with a duty point too far to the right on the NPSHr (NPSH required) curve in applications where suction pressure is low or in suction lift applications. Always check the NPSHr values of the pumps at the highest possible consumption with suction pressure, NPSHa (NPSH available), at this highest possible consumption rate.

CR pumps can be fitted with low NPSH impellers to decrease the pump's required NPSH. See the CR Custom-Built Product Guide for more information.

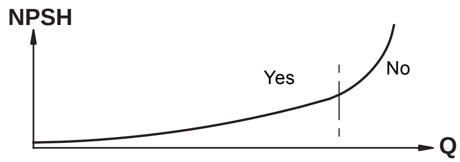


Fig. 30 NPSHr curve for pump

Stand-by pump

To most customers reliable supplies are a major factor. Often it is not acceptable if the system does not maintain its maximum flow even during pump repairs or breakdown. In order to prevent any disruption of the supply in such a situation, the booster set can be equipped with a stand-by pump.

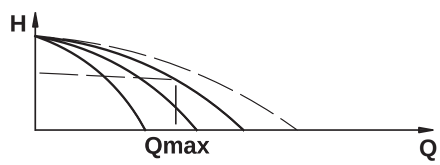


Fig. 31 System with stand-by pump

If flow or pressure is not critical, a standby pump may be omitted. The end result will be a reduced pressure at a required flow or a reduced flow at a required pressure if one of the pumps is requiring service.

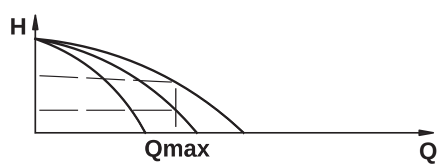


Fig. 32 System without stand-by pump

Selection of diaphragm tank

The need for a diaphragm tank should be estimated on the basis of the following guidelines:

- All Hydro MPC booster sets in buildings must be equipped with a diaphragm tank due to the stop function.
- Normally, Hydro MPC booster sets in water supply applications require no diaphragm tank as long piping layouts partly hold the necessary capacity, partly have the elasticity to give sufficient capacity. **Note:** To avoid the risk of water hammering a diaphragm tank may be necessary.
- The need for a diaphragm tank for Hydro MPC booster sets in industrial applications should be estimated from situation to situation on the basis of the individual factors on site.

Pump type	Recommended diaphragm tank size [gallons]			
	-E	-E(CUE)	-F	-S
CR(E) 3	4.4	4.4	4.4	20
CR(E) 5	4.4	4.4	4.4	34
CR(E) 10	10.2	10.2	10.2	62
CR(E) 15	34	34	34	211
CR(E) 20	34	34	34	211
CR(E) 32	44	44	44	317
CR(E) 45	86	86	86	528
CR(E) 64	132	132	132	1056
CR(E) 90	132	132	132	1056

The size of the recommended diaphragm tank in gallons can be calculated from the following equations:

Hydro MPC-E, -E(CUE), and -F

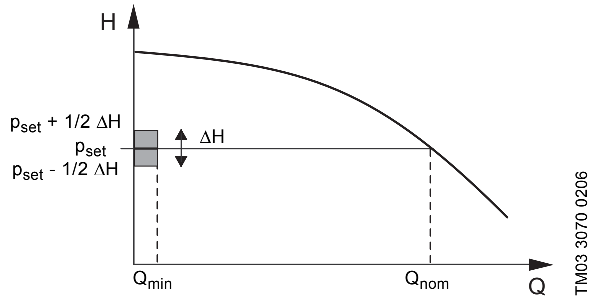
$$V_0 = \frac{k_Q \cdot Q \cdot (p_{set} + 14.5)^2 \cdot \left(\frac{3600}{N} - 10\right)}{60 \cdot (k_f \cdot p_{set} + 14.5) \cdot k_H \cdot p_{set}}$$

Hydro MPC-S

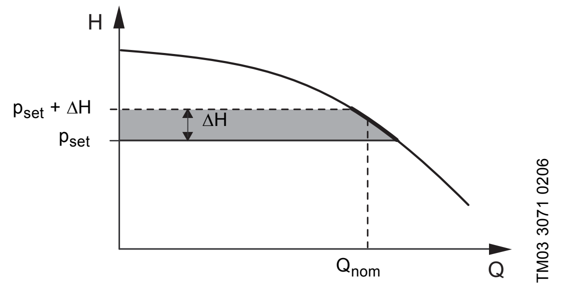
$$V_0 = \frac{15 \cdot Q \cdot (p_{set} + 14.5) \cdot (k_H \cdot p_{set} + p_{set} + 14.5)}{N \cdot (k_f \cdot p_{set} + 14.5) \cdot k_H \cdot p_{set}}$$

Symbol	Description
V_0	Tank volume [gallons]
k_Q	The ratio between nominal flow rate of one pump Q_{nom} and the flow rate Q_{min} at which the pump is to change to on/off operation. $k_Q = Q_{min}/Q_{nom}$, (0.10 for CR Pumps, 10%)
Q	Mean flow rate, Q_{nom} [gpm]
p_{set}	Setpoint [psi]
k_H	The ratio between the on/off band ΔH and the setpoint p_{set}, $k_H = \Delta H/p_{set}$
k_f	The ratio between tank pre-charge pressure p_0 and the setpoint p_{set}. $k_f = p_0$/pset. 0.9 for Hydro MPC-S 0.7 for Hydro MPC-E, -E(CUE), and -F
N	Maximum number of starts/stops per hour

Hydro MPC-E, -E (CUE), and -F



Hydro MPC-S



The tank values are based on the following data:

Symbol	Hydro MPC	
	-E, -E(CUE), and -F	-S
Q	Q_{nom} of one pump	Q_{nom} of one pump
k_Q	10%	-
p_{set}	58 psi	58 psi
k_H	20%	25%
k_f	0.7	0.9

Example of Hydro MPC-E and -S with CR(E) 10

Symbol	Hydro MPC-E	Hydro MPC-S
Q [gpm]	44	44
k_Q	10%	-
k_H	20%	25%
p_{set} [psi]	58	58
N [h^{-1}]	200	100
Result		
V_0 [gallons]	4.83	43.0
Selected tank	**4.4 or 10.2 gallon**	**44 or 62 gallon**
ΔH [psi]	11.6	14.5
p_0 [psi]	40.6	52.2

Dry-running protection

The booster set must be protected against dry-running. The inlet conditions determine the type of dry-running protection:

- If the system draws from a tank or a pit, select a float switch located in the tank, or liquid level switch for dry-running protection. The use of a float switch in these applications is recommended because the float switch will initialize the dry run protection before air enters the suction manifold & pumps therefore eliminating the need to vent the system after a dry-run fault has occurred.
- If the system has an inlet pressure, select a pressure transmitter or a pressure switch for dry-running protection.

Minimum inlet pressure - NPSHR

Calculation of the inlet pressure "H" is recommended when ....

- the liquid temperature is high,
- the flow is significantly higher than the rated flow,
- water is drawn from depths,
- water is drawn through long pipes,
- Inlet conditions are poor.

To avoid cavitation, make sure that there is a minimum pressure on the suction side of the pump. The maximum suction lift "L" in feet can be calculated as follows:

$H = p_b - NPSHR - H_f - H_v - H_s - L$

P_b = Barometric pressure in feet absolute. (Barometric pressure can be set to 33.9 feet. At sea level. In closed systems, pb indicates system pressure in feet.)

NPSHR = Net Positive Suction Head Required in feet. (To be read from the NPSHR curve at the highest flow the pump will be delivering).

H_f = Friction loss in suction pipe in feet. (At the highest flow the pump will be delivering.)

H_v = Vapor pressure in feet. (To be read from the vapor pressure scale. "H_v" depends on the liquid temperature "T_m").

H_s = Safety margin = minimum 2.0 feet.

If the "H" calculated is positive, the pump can operate at a suction lift of maximum "L" feet.

If the "H" calculated is negative, cavitation will occur. An inlet pressure of minimum value "H" feet (positive) is required.

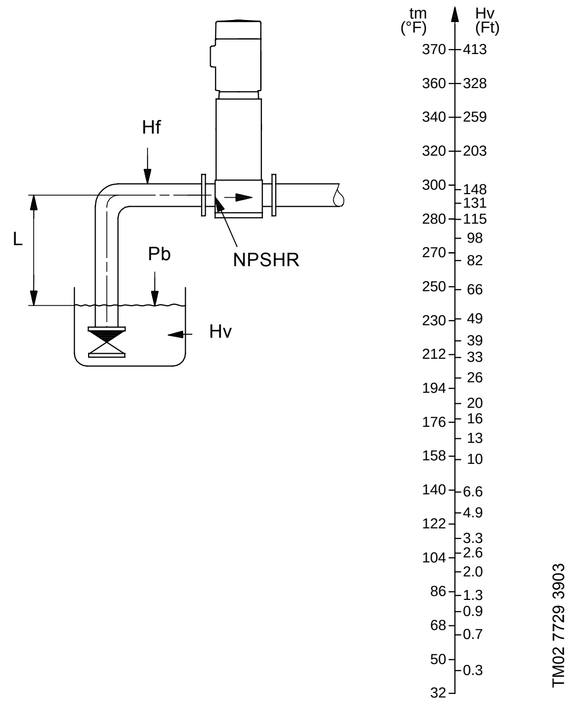


Fig. 33 Minimum inlet pressure - NPSHR

Note: In order to avoid cavitation **never**, select a pump whose duty point lies too far to the right on the NPSHR curve.

Always check the NPSHR value of the pump at the highest possible flow.

CR pumps can be fitted with low NPSH impellers to decrease the pump's required NPSH. See the CR Custom-Built Product Guide for more information.

How to read the curve charts

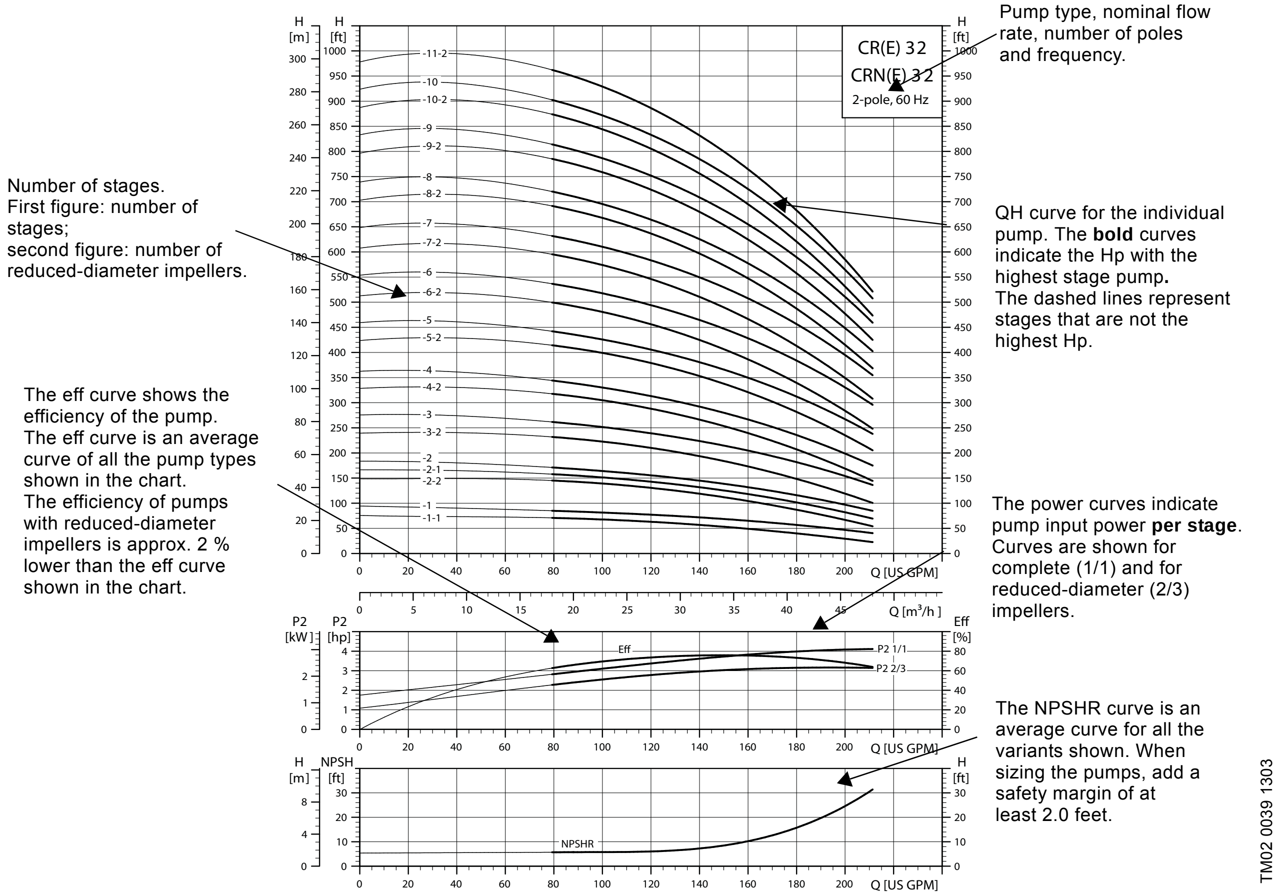


Fig. 34 How to read the curve charts

Guidelines to performance curves

The guidelines below apply to the curves shown on the following pages:

1. The motors used for the measurements are standard motors (ODP, TEFC or MLE).
2. Measurements have been made with airless water at a temperature of 68 °F.
3. The curves apply to a kinematic viscosity of $\upsilon = 1\ mm^2/s$ (1 cSt).
4. Due to the risk of overheating, the pumps should not be used at a flow below the minimum flow rate.
5. The QH curves apply to actual speed with the motor types mentioned at 60 Hz.

Example: How to select a system

A booster system is a parallel application of pumping where 2 to 6 pumps are connected to a common suction and common discharge manifold. In parallel applications the flows of each pump will add together and the head will remain the same.

Example 1

- A design maximum flow rate of 300 gpm is required.
- A pressure boost of 100 psi (231 feet) is required.
- Application: constant pressure domestic water supply.
- Power supply: 460V/3/60 Hz

1. Determine the number of pumps desired for the system.
   The number of pumps required for the booster system depends on the application. Given 300 gpm design flow for a domestic water supply application, it is known from a typical load profile (see page 23), for this application that the flow will vary significantly. Several factors impact the selection of the number of pumps. These include low flow efficiency, redundant/stand-by pumps, space limitations and overall cost of the system.
   For this example, assume three pumps best satisfy the the varying conditions. If the number of pumps required for the system is three then each pump would need to be able to deliver 100 gpm @ 231 ft to meet the design requirement of 300 gpm @ 231ft. Remember that pumping in parallel, flow is additive while head remains the same. This breaks down the total flow for the system into individual flows required from each pump.
2. After determining the number of pumps needed for the system it is time to look at individual pump curves on the following pages and select the pump that will meet the individual conditions.
   In this example a CR15-5 will meet the individual conditions of 100 gpm @ 231 ft. The selection will be a 3-pump CR15-5 to meet the total flow of 300 gpm @ 231 feet.
3. Now the number of pumps in the system is known and an individual pump model has been selected. It is now time to select the type of system.
   The requirements state that constant pressure is required with variable flow requirements, (see page 23). The recommended types of systems to meet the constant pressure and highly variable flow requirement are: -E, -E(CUE), -F, -S type systems, (see pages 13 and 14). All of the above mentioned systems incorporate at least one variable speed controlled pumps. The systems that include all variable speed controlled pumps, and give the greatest flexibility and redundancy, are the -E & -EF systems.
   For this example an MPC-E system is selected to incorporate the greatest flexibility and redundancy for the system. The name of the system will be: MPC-E 3CRE15-5.

Example 2

- A design maximum flow rate of 300 gpm is required.
- A pressure boost of 100 psi (231 feet) is required.
- Application: constant flow - tank fill application.
- One 100% stand-by pump required.
- Power supply: 460V/3/60 Hz.

1. Determine the number of pumps required for this application. This application is a constant flow-rate application, when the booster system is needed to run, a constant 300 gpm flow rate is required.
   The number of pumps required for this application is two, one duty pump and one stand-by pump with each pump capable of delivering 300 gpm @ 231 ft head.
2. After determining what the individual flow required from each pump is, look at the individual pump curves on the following pages and select the pump that will meet the condition.
   In this example a CR64-3-2 will meet the condition so the selection will be a 2-pump CR64-3-2, one duty pump and one stand-by pump.
3. The number of pumps in the system have been determined as well as the model of the the pumps. Now select the type of system that best meets the application. The requirements for this example states that a constant flow rate of 300 gpm at a boost pressure of 231 ft is needed any time the pump(s) are called to run. The recommended type of system to meet the constant flow rate at a constant head is an: -S system (see page 23). The name of this system will be a MPC-S 2CR64-3-2.

Example: Calculating total system pressure drop

Example

- A design maximum flow rate of 300 gpm is required.
- A pressure boost of 100 psi (231 feet) is required.
- Application: constant pressure domestic water supply.
- Power supply: 460V/3/60 Hz
- BoosterpaQ System Selection: MPC-E 3CRE15-5.

Calculating the total system pressure drop is very important to ensure the system will meet the design condition. A common way to calculate the total system pressure drop requires a hydraulic data book with information on pipe friction pressure loss and various fittings pressure loss information. The total system pressure drop loss consists of the following:

- Suction manifold losses due to water passing through the manifold with interconnecting piping connections. These losses can be considered as water passing through a “Tee Fitting” with in-line flow.
- Manifold exit loss, this loss can be considered as an “Abrupt Contraction” to flow.
- Suction isolation valve loss.
- Check valve loss.
- Discharge isolation valve loss.
- Manifold entry loss, this loss can be considered as an “Abrupt Enlargement” to flow.
- Discharge manifold losses due to water passing through the manifold with interconnecting piping connections. These losses can be considered as water passing through a “Tee Fitting” with in-line flow.

In this example there is a design flow of 300 gpm and a 3-pump MPC-E 3CRE15-5 system has been choosen, which has four-inch manifolds. Consider that each pump on this system is operating at 100 gpm. Base the calculation on the worst case scenario, that is, the flow path of the furthermost pump from the BoosterpaQ manifold connections to the building’s piping.

1. Calculate the suction manifold losses due to water passing through the manifold with interconnecting piping connections. There is a pressure drop from the first interconnecting pipe and the flow will drop from 300 gpm to 200 gpm. Referencing a hydraulic data book, the loss associated with this is equivalent to 7.2 ft of pipe. The friction loss for incoming flow of 300 gpm flowing through 4” pipe is 4.89 ft per 100 feet of pipe, so the loss would be 7.2 x 4.89 / 100 = 0.35 ft pressure drop.

   The next manifold loss the flow will drop from 200 gpm to 100 gpm.

   Referencing a hydraulic data book, the friction loss for incoming flow of 200 gpm flowing through a 4” pipe is 2.25 ft per 100 feet of piping so the loss would be 7.2 x 2.25 / 100 = 0.16 ft pressure drop. The total pressure drop for the suction manifold losses is equal to 0.35 + 0.16 = 0.51 feet.
2. Calculate the manifold exit loss for the 100 gpm flowing into the interconnecting piping connected to the furthermost pump. Use an “abrupt contraction” to flow as the bases for the calculation. Referencing a hydraulic data book, this is equivalent to 4 feet of piping of the smaller diameter piping; in this case the interconnection piping is 2” piping. Referencing a hydraulic data book for 2” piping with a flow of 100 gpm we find a pressure drop of 17.5 ft per 100 ft of piping. This pressure drop is 4 x 17.5 / 100 = 0.7 ft
3. Calculate the suction isolation valve loss for 100 gpm flow through a 2-inch ball valve. In this example the isolation valve is a ball valve which has negligible pressure drop so will not be considered. For systems that have a butterfly valve this loss should be considered.
4. Calculate the loss through the check valve. Referencing the check valve manufacture’s published pressure drop curve with a flow of 100 gpm through a 2” check valve results in a pressure drop of 8 feet.
5. Calculate the discharge isolation valve loss for 100 gpm flow through a 2-inch ball valve. See step # 3 above.
6. Calculate the discharge manifold entry loss for 100 gpm flow entering the manifold. Use an “abrupt enlargement” as the bases for this calculation. Referencing a hydraulic data book, find an equivalent length of pipe equal to 3.5 ft and find that 100 gpm flow through a 2-inch pipe has a friction loss of 14.51 ft per 100 ft of pipe. The pressure drop for the manifold entry loss is 3.5 x 14.51 / 100 = 0.51 ft.
7. The manifold losses due to water passing through the manifold will be the same as calculated in step #1 and is equal to 0.51 feet.
8. Now add all the pressure drops up. In this example there is: 0.51 + 0.7 + 0 + 8 + 0 + 0.51 + 0.51 = 9.8 ft.
9. Now look at the individual pump performance curve and see if the pump selected, (CR15-5), is capable of 100 gpm @ 231 ft + 9.8 ft (241 ft).

6. Curve conditions

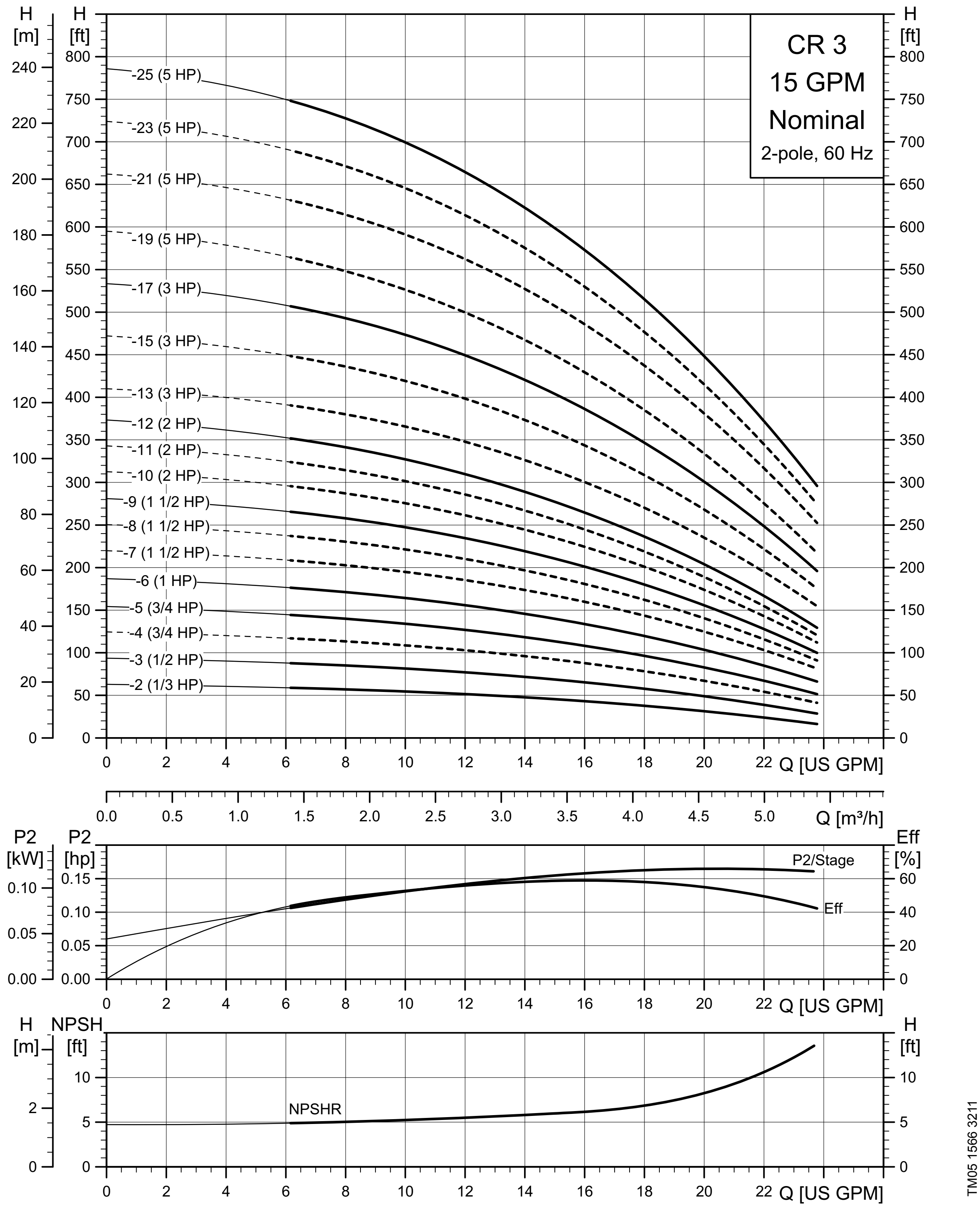
How to read the curve charts

The guidelines below apply to the curves shown on the following pages:

1. Tolerances to ISO 9906, Annex A, if indicated.
2. The curves show the pump mean values.
3. The curves should not be used as guarantee curves.
4. Measurements were made with pure water at a temperature of 68 °F.
5. The curves apply to a kinematic viscosity of υ = 1 mm^2/s (1 cSt).
6. Curves represent single pump performance and do not represent system performance. See page 28 for proper sizing.
7. Bold portion of performance curve is correctly sized, do not size pumps out of this range.

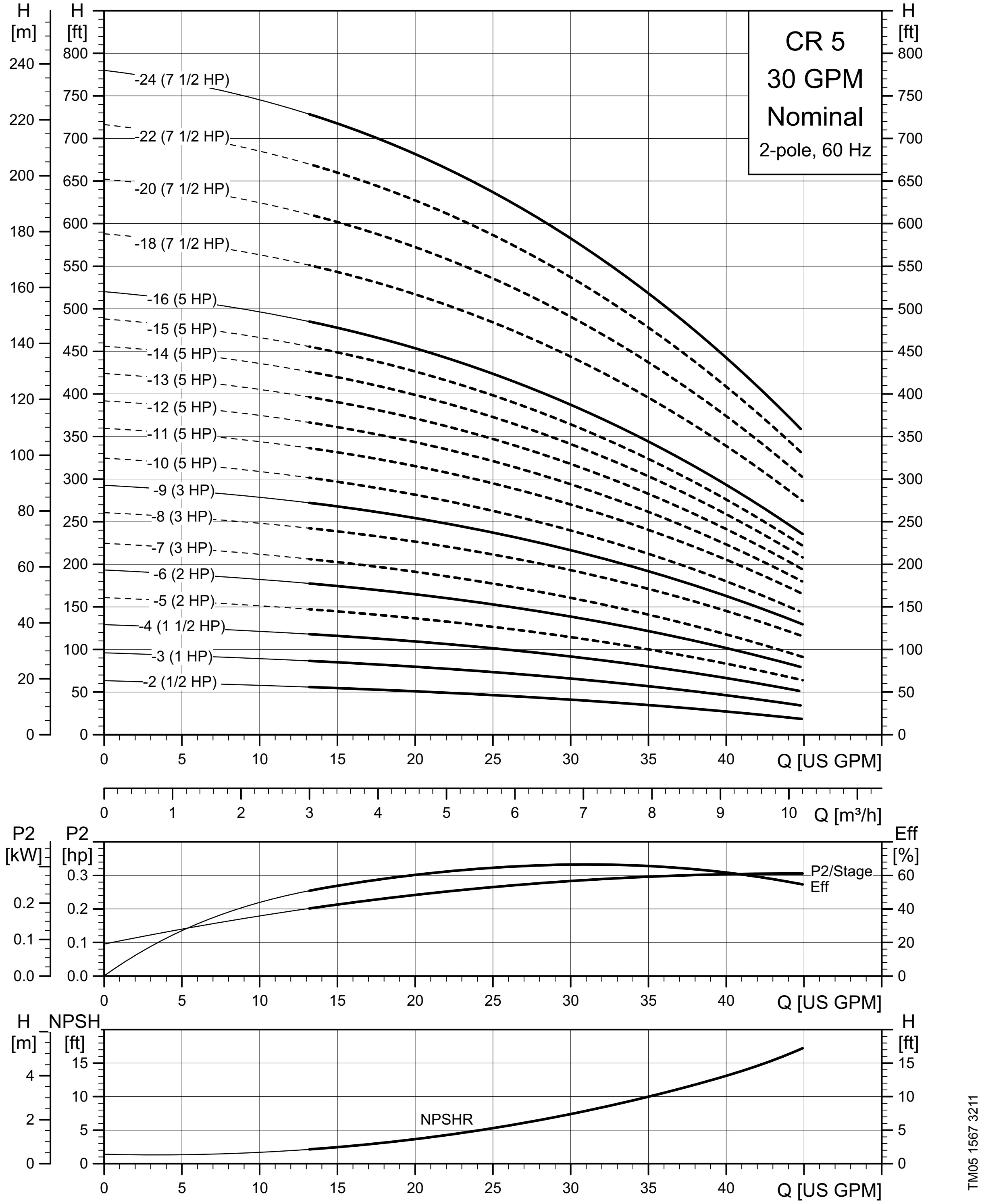
7. Performance curves

CR 3



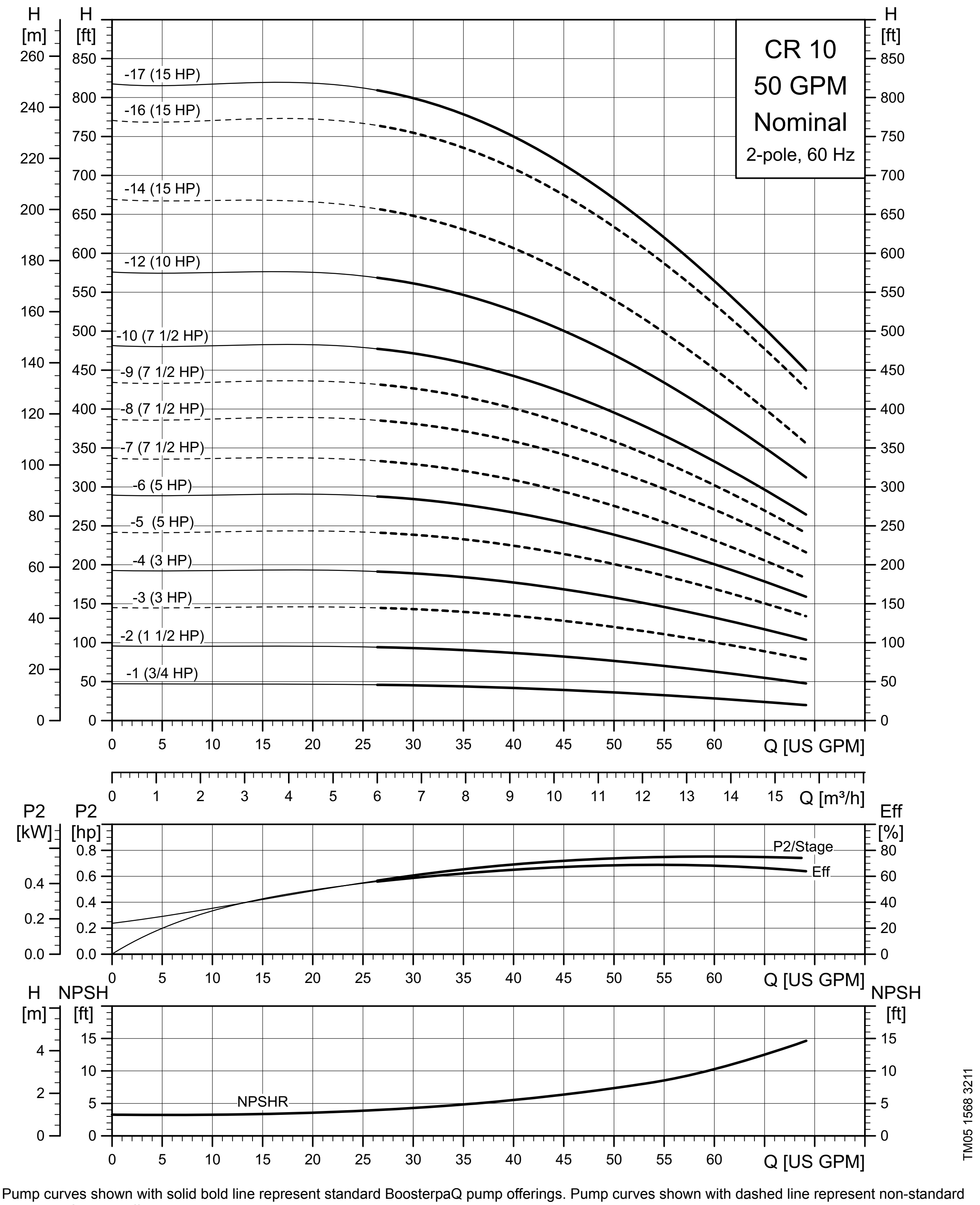
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 5



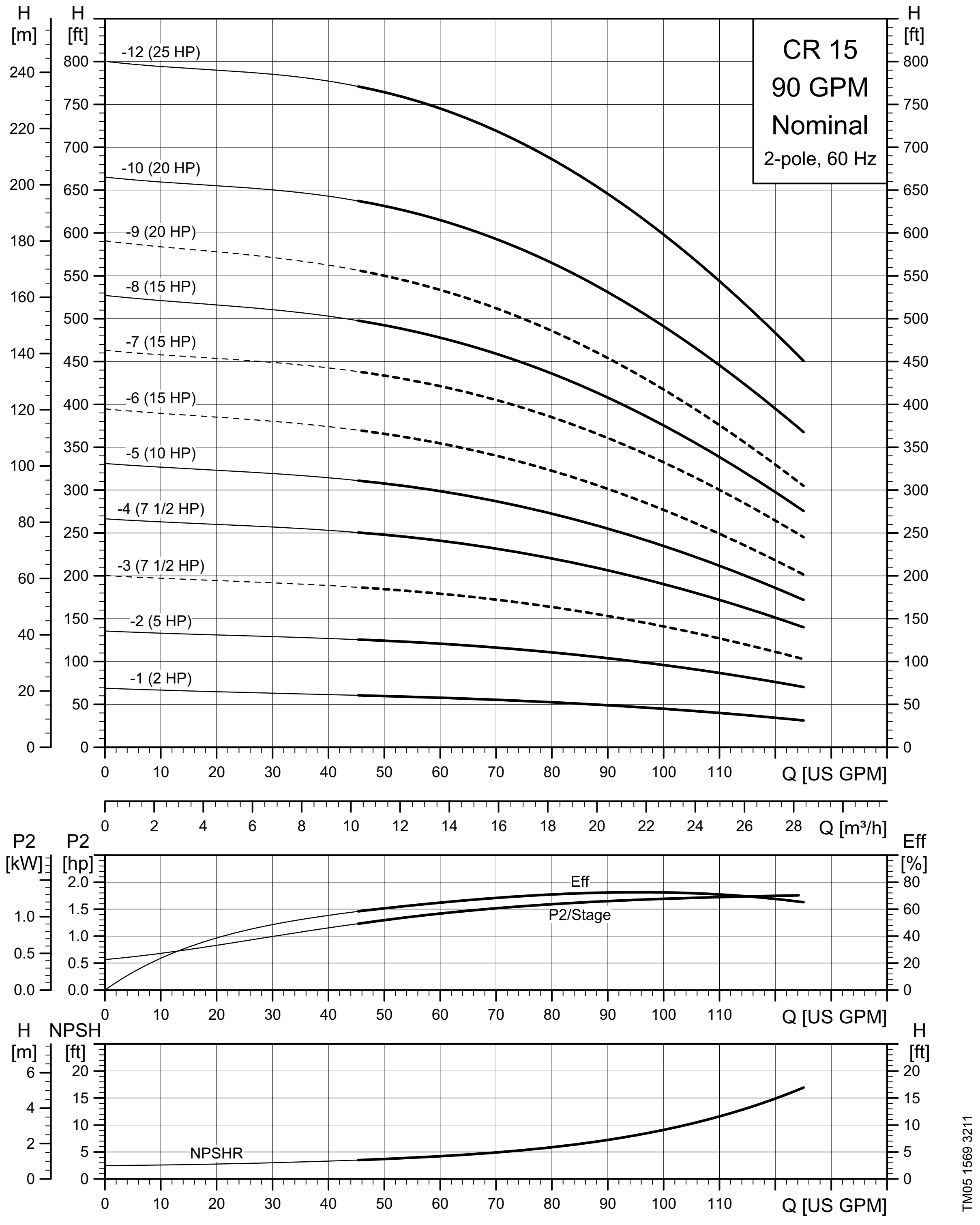
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 10



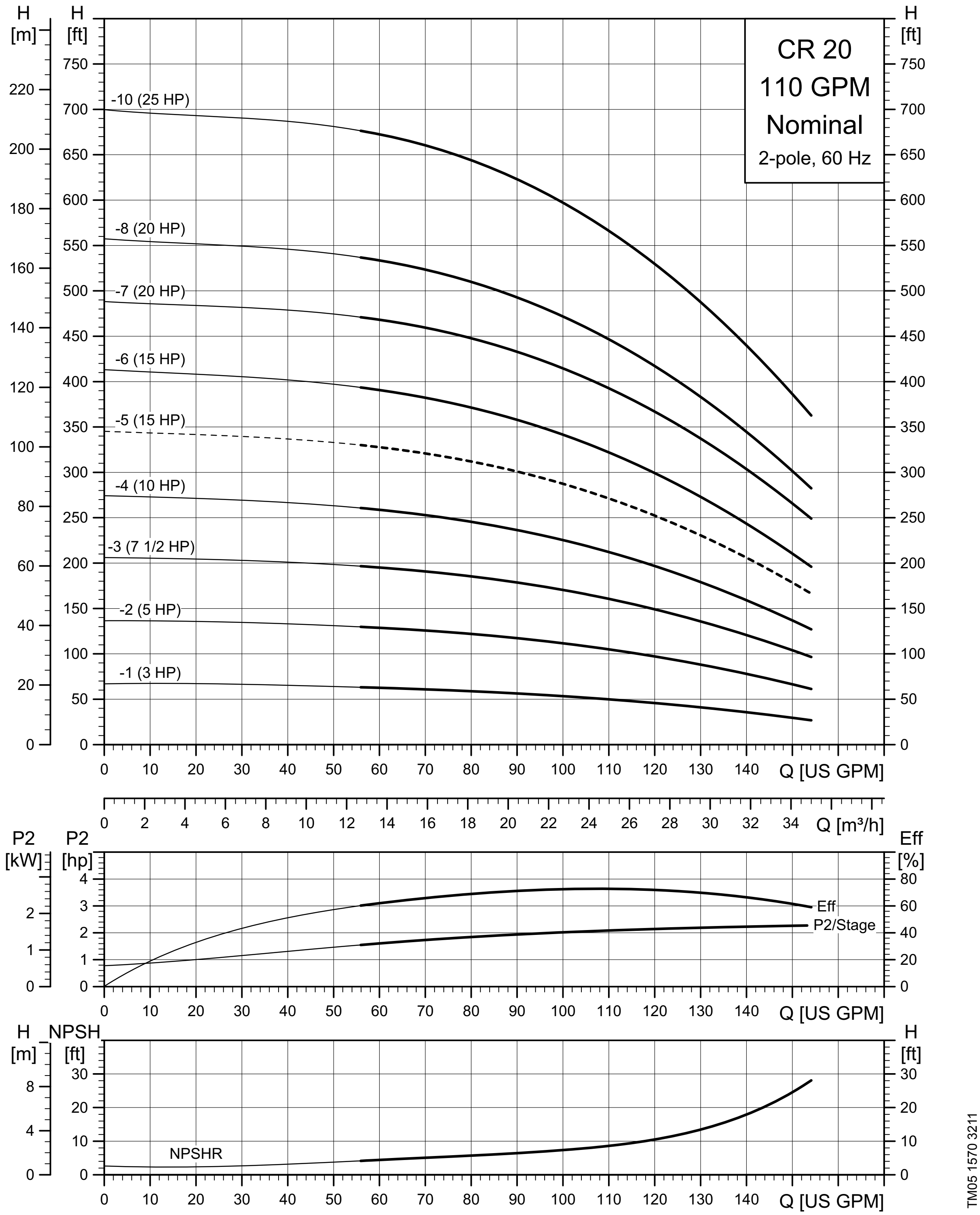
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 15



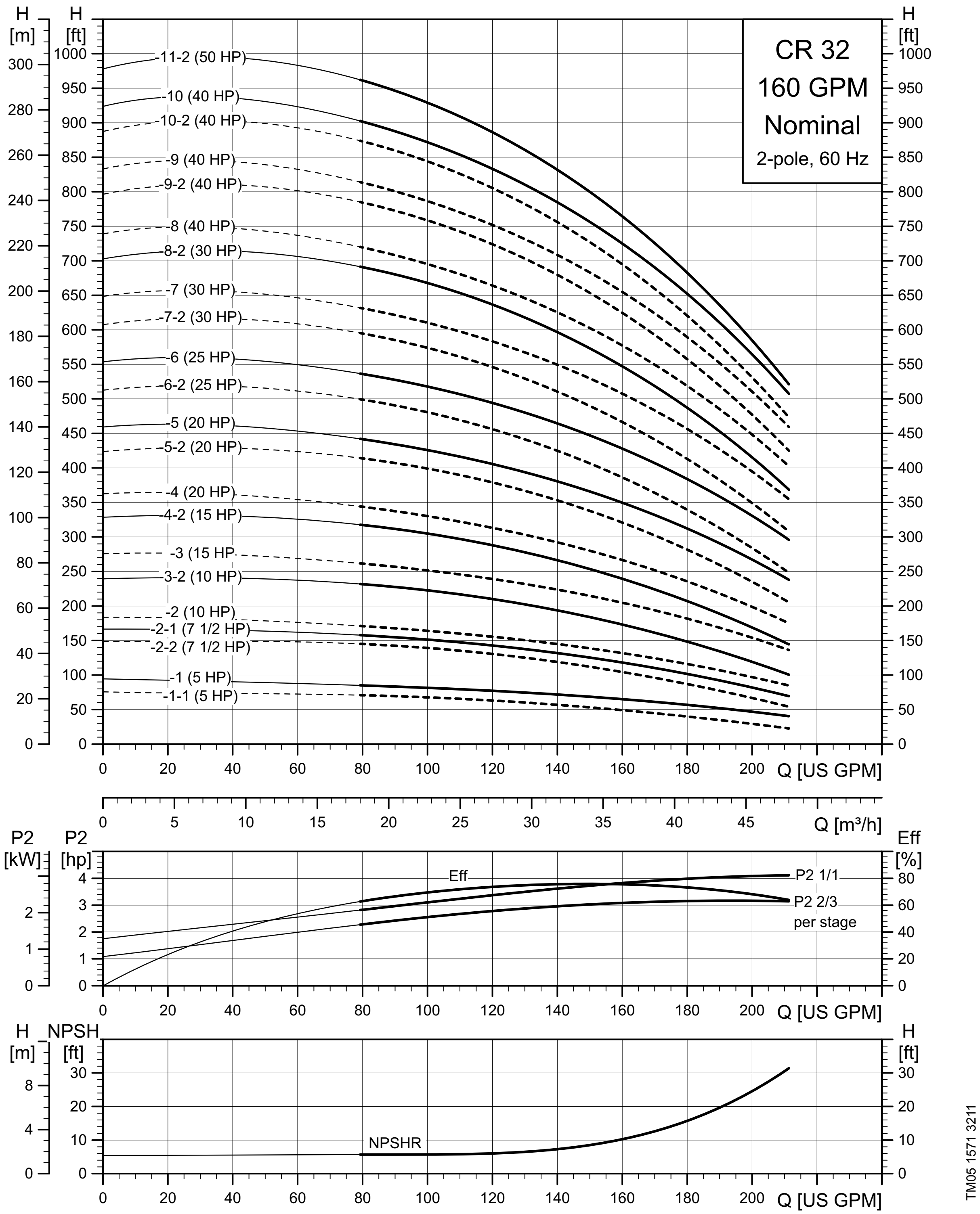
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 20



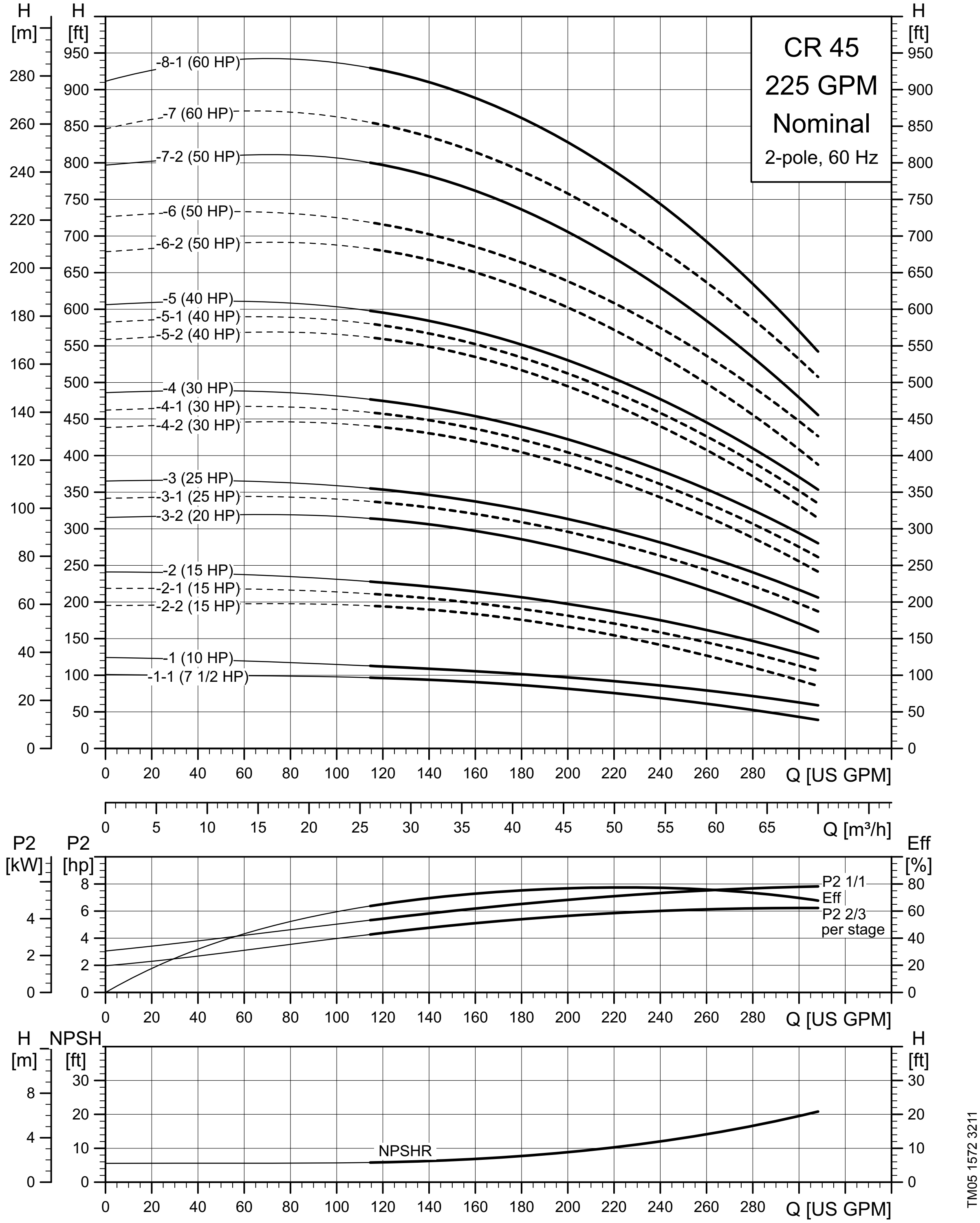
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 32



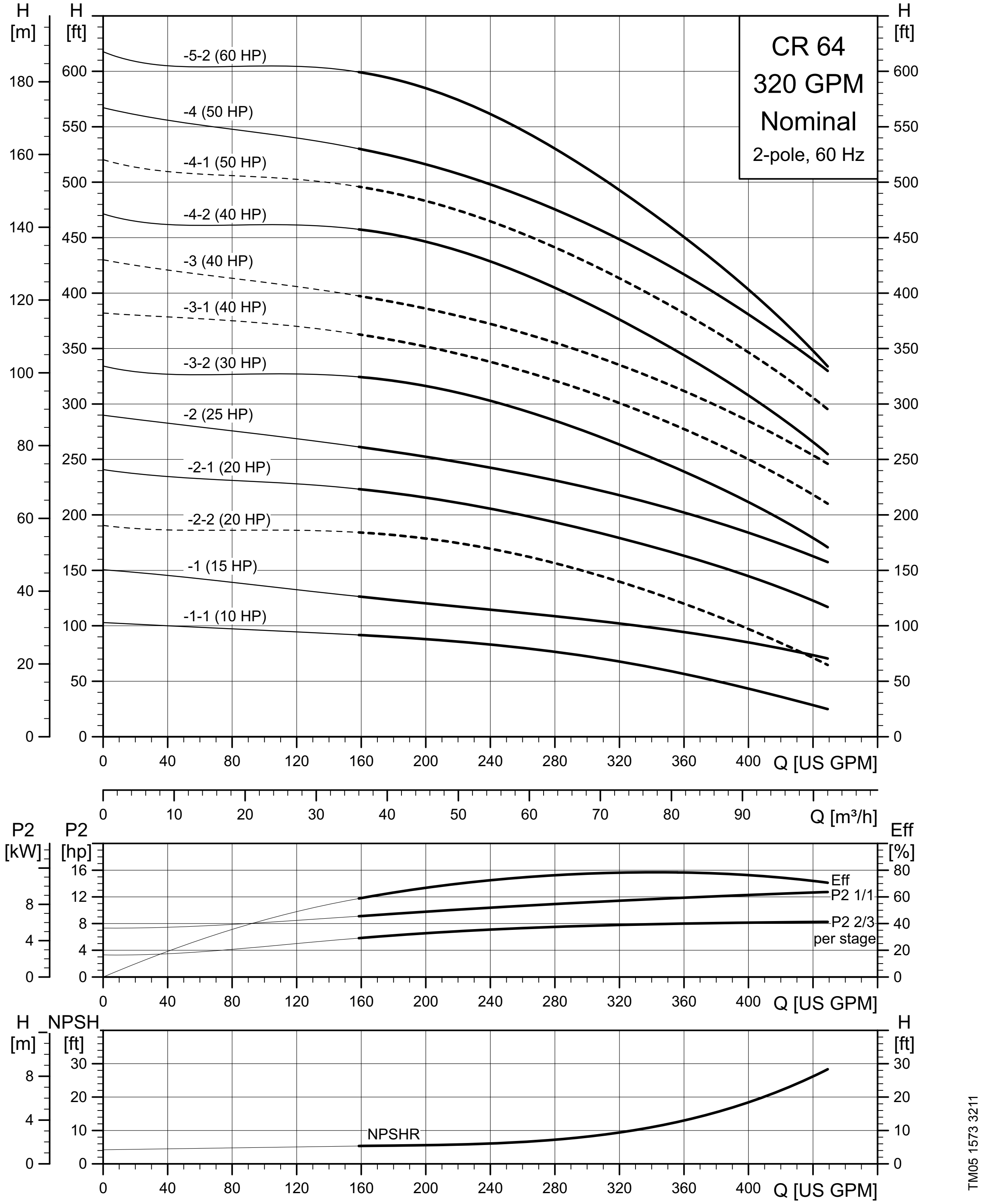
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 45



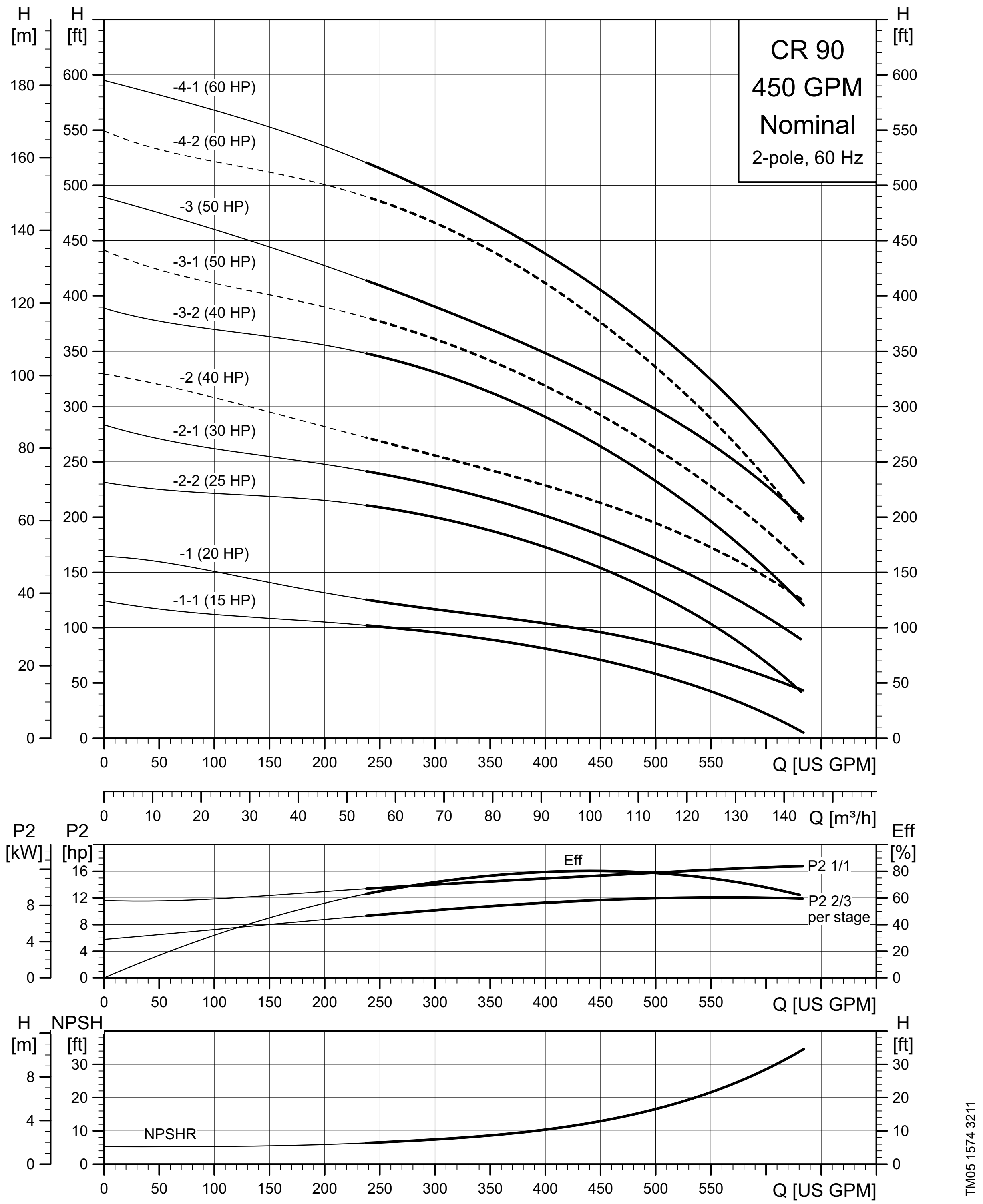
Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 64



Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

CR 90



Pump curves shown with solid bold line represent standard BoosterpaQ pump offerings. Pump curves shown with dashed line represent non-standard BoosterpaQ pump offerings, which are available upon request.

8. Technical data

Hydro MPC BoosterpaQ with CR(E) 3 pumps

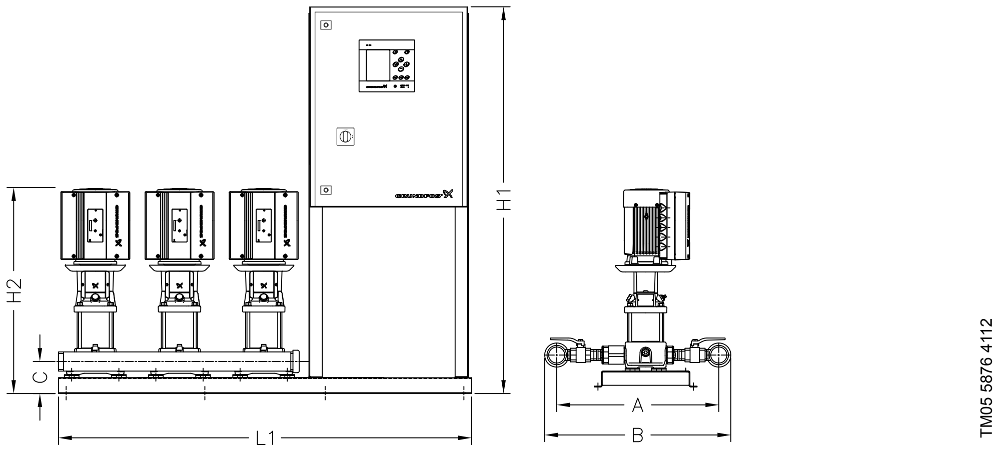


Fig. 35 Drawing of a Hydro MPC booster set with a control panel mounted on the same base plate as the pumps. (Design A)

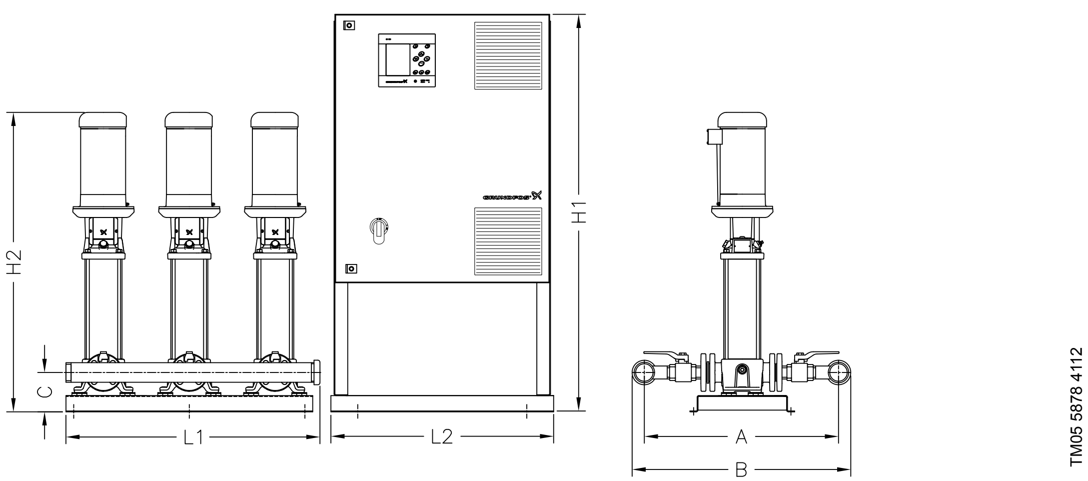


Fig. 36 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

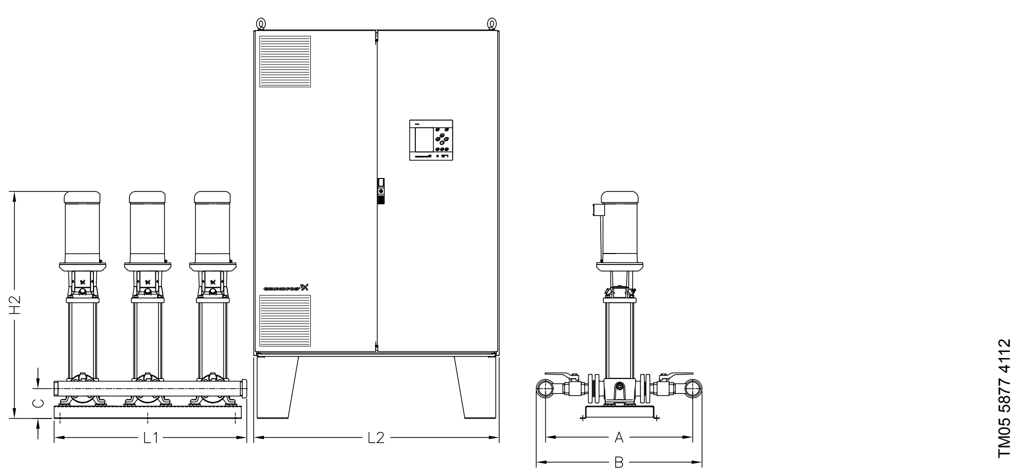


Fig. 37 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 3 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 3-6	1	2" NPT	22.4	24.8	4.8	57.9	29.7	49.2	N/A	30x24x9	270	366	A
	CRE 3-9	1.5					57.9	31.8	49.2	N/A	30x24x9	276	372	A
	CRE 3-12	2					57.9	33.9	49.2	N/A	30x24x9	280	376	A
	CRE 3-15	3					57.9	37.6	49.2	N/A	30x24x9	316	412	A
3	CRE 3-6	1	2" NPT	22.4	24.8	4.8	57.9	29.7	61.8	N/A	30x24x9	401	509	A
	CRE 3-9	1.5					57.9	31.8	61.8	N/A	30x24x9	410	518	A
	CRE 3-12	2					57.9	33.9	61.8	N/A	30x24x9	416	524	A
	CRE 3-15	3					57.9	37.6	61.8	N/A	30x24x9	470	578	A
4	CRE 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	29.7	74.4	N/A	30x24x9	523	644	A
	CRE 3-9	1.5					57.9	31.8	74.4	N/A	30x24x9	535	656	A
	CRE 3-12	2					57.9	33.9	74.4	N/A	30x24x9	543	664	A
	CRE 3-15	3					57.9	37.6	74.4	N/A	30x24x9	615	736	A
5	CRE 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	29.7	61.4	24.8	30x24x9	701	834	B
	CRE 3-9	1.5					57.9	31.8	61.4	24.8	30x24x9	716	849	B
	CRE 3-12	2					57.9	33.9	61.4	24.8	30x24x9	726	859	B
	CRE 3-15	3					57.9	37.6	61.4	24.8	30x24x9	816	949	B
6	CRE 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	29.7	74.0	32.7	40x32x12	836	1036	B
	CRE 3-9	1.5					57.9	31.8	74.0	32.7	40x32x12	854	1054	B
	CRE 3-12	2					57.9	33.9	74.0	32.7	40x32x12	866	1066	B
	CRE 3-15	3					57.9	37.6	74.0	32.7	40x32x12	974	1174	B

Hydro MPC-E(CUE) BoosterpaQ with CR 3 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 3-6	1	2" NPT	22.4	24.8	4.8	60.0	24.3	26.6	36.0	48x36x16	194	432	C
	CR 3-9	1.5					60.0	27.6	26.6	36.0	48x36x16	208	446	C
	CR 3-12	2					60.0	32.3	26.6	36.0	48x36x16	254	499	C
	CR 3-15	3					60.0	37.6	26.6	36.0	48x36x16	270	516	C
3	CR 3-6	1	2" NPT	22.4	24.8	4.8	60.0	24.3	36.2	36.0	48x36x16	287	542	C
	CR 3-9	1.5					60.0	27.6	36.2	36.0	48x36x16	308	563	C
	CR 3-12	2					75.0	32.3	36.2	48.0	63x48x20	377	805	C
	CR 3-15	3					75.0	37.6	36.2	48.0	63x48x20	401	829	C
4	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	60.0	24.3	48.8	36.0	48x36x16	371	643	C
	CR 3-9	1.5					60.0	27.6	48.8	36.0	48x36x16	399	671	C
	CR 3-12	2					75.0	32.3	48.8	48.0	63x48x20	491	939	C
	CR 3-15	3					75.0	37.6	48.8	48.0	63x48x20	523	971	C
5	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	75.0	24.3	61.4	63.0	63x63x20	511	1091	C
	CR 3-9	1.5					75.0	27.6	61.4	63.0	63x63x20	546	1126	C
	CR 3-12	2					75.0	32.3	61.4	63.0	63x63x20	661	1259	C
	CR 3-15	3					75.0	37.6	61.4	63.0	63x63x20	701	1299	C
6	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	83.0	24.3	74.0	71.0	71x71x20	608	1285	C
	CR 3-9	1.5					83.0	27.6	74.0	71.0	71x71x20	650	1327	C
	CR 3-12	2					83.0	32.3	74.0	71.0	71x71x20	788	1486	C
	CR 3-15	3					83.0	37.6	74.0	71.0	71x71x20	836	1534	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 3 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 3-6	1	2" NPT	22.4	24.8	4.8	57.9	24.3	26.6	32.7	40x32x12	194	353	B
	CR 3-9	1.5					57.9	27.6	26.6	32.7	40x32x12	208	367	B
	CR 3-12	2					57.9	32.3	26.6	32.7	40x32x12	254	416	B
	CR 3-15	3					57.9	37.6	26.6	32.7	40x32x12	270	432	B
3	CR 3-6	1	2" NPT	22.4	24.8	4.8	57.9	24.3	36.2	32.7	40x32x12	287	459	B
	CR 3-9	1.5					57.9	27.6	36.2	32.7	40x32x12	308	480	B
	CR 3-12	2					57.9	32.3	36.2	32.7	40x32x12	377	553	B
	CR 3-15	3					57.9	37.6	36.2	32.7	40x32x12	401	577	B
4	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	48.8	32.7	40x32x12	371	557	B
	CR 3-9	1.5					57.9	27.6	48.8	32.7	40x32x12	399	585	B
	CR 3-12	2					57.9	32.3	48.8	32.7	40x32x12	491	680	B
	CR 3-15	3					57.9	37.6	48.8	32.7	40x32x12	523	713	B
5	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	61.4	32.7	47x32x12	511	739	B
	CR 3-9	1.5					57.9	27.6	61.4	32.7	47x32x12	546	774	B
	CR 3-12	2					57.9	32.3	61.4	32.7	47x32x12	661	892	B
	CR 3-15	3					57.9	37.6	61.4	32.7	47x32x12	701	932	B
6	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	74.0	32.7	47x32x12	608	849	B
	CR 3-9	1.5					57.9	27.6	74.0	32.7	47x32x12	650	891	B
	CR 3-12	2					57.9	32.3	74.0	32.7	47x32x12	788	1033	B
	CR 3-15	3					57.9	37.6	74.0	32.7	47x32x12	836	1081	B

Hydro MPC-S BoosterpaQ with CR 3 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 3-6	1	2" NPT	22.4	24.8	4.8	57.9	24.3	49.2	N/A	24x24x8	194	271	A
	CR 3-9	1.5					57.9	27.6	49.2	N/A	24x24x8	208	285	A
	CR 3-12	2					57.9	32.3	49.2	N/A	24x24x8	254	331	A
	CR 3-15	3					57.9	37.6	49.2	N/A	24x24x8	270	347	A
3	CR 3-6	1	2" NPT	22.4	24.8	4.8	57.9	24.3	61.8	N/A	24x24x8	287	376	A
	CR 3-9	1.5					57.9	27.6	61.8	N/A	24x24x8	308	397	A
	CR 3-12	2					57.9	32.3	61.8	N/A	24x24x8	377	466	A
	CR 3-15	3					57.9	37.6	61.8	N/A	24x24x8	401	490	A
4	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	74.4	N/A	40x32x12	371	549	A
	CR 3-9	1.5					57.9	27.6	74.4	N/A	40x32x12	399	577	A
	CR 3-12	2					57.9	32.3	74.4	N/A	40x32x12	491	669	A
	CR 3-15	3					57.9	37.6	74.4	N/A	40x32x12	523	701	A
5	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	61.4	32.7	47x32x12	511	730	B
	CR 3-9	1.5					57.9	27.6	61.4	32.7	47x32x12	546	765	B
	CR 3-12	2					57.9	32.3	61.4	32.7	47x32x12	661	880	B
	CR 3-15	3					57.9	37.6	61.4	32.7	47x32x12	701	920	B
6	CR 3-6	1	2 1/2" NPT	24.6	27.5	4.8	57.9	24.3	74.0	32.7	47x32x12	608	840	B
	CR 3-9	1.5					57.9	27.6	74.0	32.7	47x32x12	650	882	B
	CR 3-12	2					57.9	32.3	74.0	32.7	47x32x12	788	1020	B
	CR 3-15	3					57.9	37.6	74.0	32.7	47x32x12	836	1068	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes.
Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 5 pumps

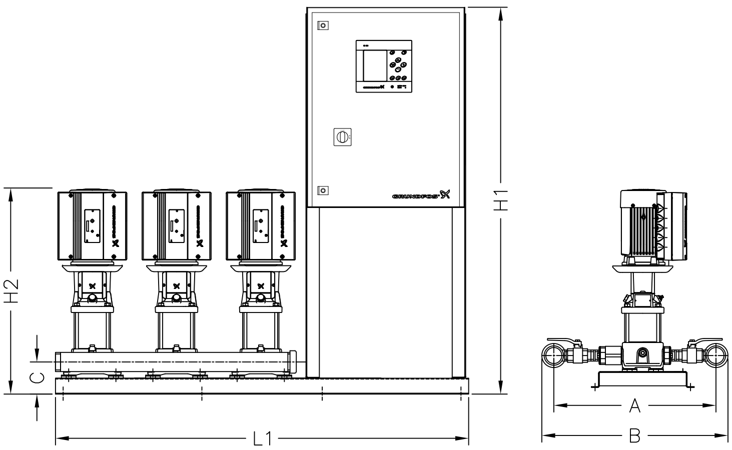


Fig. 38 Drawing of a Hydro MPC booster set with a control panel mounted on the same base plate as the pumps. (Design A)

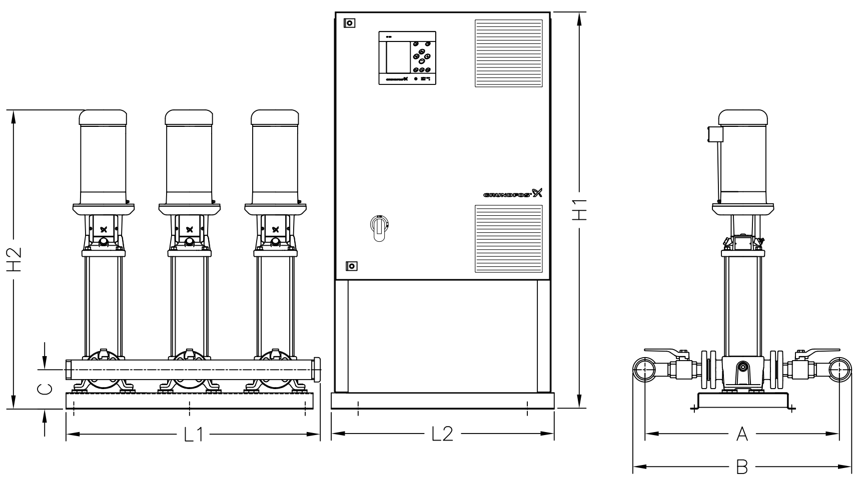


Fig. 39 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

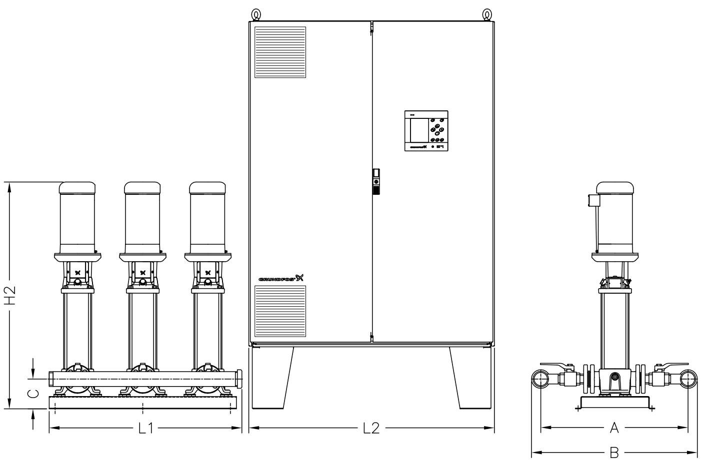


Fig. 40 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 5 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 5-4	1.5	2" NPT	22.4	24.8	4.8	57.9	29.7	49.2	N/A	30x24x9	271	367	A
	CRE 5-6	2					57.9	31.8	49.2	N/A	30x24x9	276	373	A
	CRE 5-9	3					57.9	36.6	49.2	N/A	30x24x9	314	410	A
	CRE 5-13	5					57.9	43.0	49.2	N/A	30x24x9	394	491	A
	CRE 5-16	5					57.9	46.2	49.2	N/A	30x24x9	402	498	A
3	CRE 5-4	1.5	2.5" NPT	24.6	27.5	4.8	57.9	29.7	61.8	N/A	30x24x9	397	505	A
	CRE 5-6	2					57.9	31.8	61.8	N/A	30x24x9	404	513	A
	CRE 5-9	3					57.9	36.6	61.8	N/A	30x24x9	461	570	A
	CRE 5-13	5					57.9	43.0	61.8	N/A	30x24x9	581	690	A
	CRE 5-16	5					57.9	46.2	61.8	N/A	30x24x9	593	701	A
4	CRE 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	29.7	74.4	N/A	30x24x9	526	646	A
	CRE 5-6	2					57.9	31.8	74.4	N/A	30x24x9	536	657	A
	CRE 5-9	3					57.9	36.6	74.4	N/A	30x24x9	612	732	A
	CRE 5-13	5					57.9	43.0	74.4	N/A	30x24x9	772	893	A
	CRE 5-16	5					57.9	46.2	74.4	N/A	30x24x9	787	908	A
5	CRE 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	29.7	61.4	24.8	30x24x9	705	837	B
	CRE 5-6	2					57.9	31.8	61.4	24.8	30x24x9	718	850	B
	CRE 5-9	3					57.9	36.6	61.4	24.8	30x24x9	812	945	B
	CRE 5-13	5					57.9	43.0	61.4	24.8	30x24x9	1012	1145	B
	CRE 5-16	5					57.9	46.2	61.4	24.8	30x24x9	1032	1164	B
6	CRE 5-4	1.5	4" ANSI	24.7	33.7	4.8	57.9	29.7	75.0	32.7	40x32x12	841	1040	B
	CRE 5-6	2					57.9	31.8	75.0	32.7	40x32x12	856	1056	B
	CRE 5-9	3					57.9	36.6	75.0	32.7	40x32x12	970	1169	B
	CRE 5-13	5					57.9	43.0	75.0	32.7	40x32x12	1210	1409	B
	CRE 5-16	5					57.9	46.2	75.0	32.7	40x32x12	1233	1432	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 5 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 5-4	1.5	2" NPT	22.4	24.8	4.8	60.0	25.5	23.6	36.0	48x36x16	203	442	C
	CR 5-6	2					60.0	30.2	23.6	36.0	48x36x16	250	496	C
	CR 5-9	3					60.0	36.5	23.6	36.0	48x36x16	268	514	C
	CR 5-13	5					60.0	43.0	23.6	36.0	48x36x16	306	552	C
	CR 5-16	5					60.0	46.2	23.6	36.0	48x36x16	314	560	C
3	CR 5-4	1.5	2.5" NPT	24.6	27.5	4.8	60.0	25.5	36.2	36.0	48x36x16	295	550	C
	CR 5-6	2					75.0	30.2	36.2	48.0	63x48x20	365	793	C
	CR 5-9	3					75.0	36.5	36.2	48.0	63x48x20	392	820	C
	CR 5-13	5					75.0	43.0	36.2	48.0	63x48x20	449	877	C
	CR 5-16	5					75.0	46.2	36.2	48.0	63x48x20	461	889	C
4	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	60.0	25.5	48.8	36.0	48x36x16	390	662	C
	CR 5-6	2					75.0	30.2	48.8	48.0	63x48x20	484	932	C
	CR 5-9	3					75.0	36.5	48.8	48.0	63x48x20	520	968	C
	CR 5-13	5					75.0	43.0	48.8	48.0	63x48x20	596	1044	C
	CR 5-16	5					75.0	46.2	48.8	48.0	63x48x20	611	1060	C
5	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	60.0	25.5	61.4	36.0	48x36x16	535	823	C
	CR 5-6	2					75.0	30.2	61.4	63.0	63x63x20	653	1250	C
	CR 5-9	3					75.0	36.5	61.4	63.0	63x63x20	697	1295	C
	CR 5-13	5					75.0	43.0	61.4	63.0	63x63x20	792	1390	C
	CR 5-16	5					75.0	46.2	61.4	63.0	63x63x20	812	1409	C
6	CR 5-4	1.5	4" ANSI	24.7	33.7	4.8	60.0	25.5	75.0	36.0	48x36x16	637	942	C
	CR 5-6	2					83.0	30.2	75.0	71.0	71x71x20	778	1476	C
	CR 5-9	3					83.0	36.5	75.0	71.0	71x71x20	832	1530	C
	CR 5-13	5					83.0	43.0	75.0	71.0	71x71x20	946	1644	C
	CR 5-16	5					83.0	46.2	75.0	71.0	71x71x20	969	1667	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 5 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 5-4	1.5	2" NPT	22.4	24.8	4.8	57.9	25.5	23.6	32.7	40x32x12	203	362	B
	CR 5-6	2					57.9	30.2	23.6	32.7	40x32x12	250	413	B
	CR 5-9	3					57.9	36.5	23.6	32.7	40x32x12	268	431	B
	CR 5-13	5					57.9	43.0	23.6	32.7	40x32x12	306	469	B
	CR 5-16	5					57.9	46.2	23.6	32.7	40x32x12	314	476	B
3	CR 5-4	1.5	2.5" NPT	24.6	27.5	4.8	57.9	25.5	36.2	32.7	40x32x12	295	467	B
	CR 5-6	2					57.9	30.2	36.2	32.7	40x32x12	365	541	B
	CR 5-9	3					57.9	36.5	36.2	32.7	40x32x12	392	568	B
	CR 5-13	5					57.9	43.0	36.2	32.7	40x32x12	449	625	B
	CR 5-16	5					57.9	46.2	36.2	32.7	40x32x12	461	637	B
4	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	25.5	48.8	32.7	40x32x12	390	576	B
	CR 5-6	2					57.9	30.2	48.8	32.7	40x32x12	484	674	B
	CR 5-9	3					57.9	36.5	48.8	32.7	40x32x12	520	709	B
	CR 5-13	5					57.9	43.0	48.8	32.7	40x32x12	596	785	B
	CR 5-16	5					57.9	46.2	48.8	32.7	40x32x12	611	801	B
5	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	25.5	61.4	32.7	47x32x12	535	762	B
	CR 5-6	2					57.9	30.2	61.4	32.7	47x32x12	653	884	B
	CR 5-9	3					57.9	36.5	61.4	32.7	47x32x12	697	928	B
	CR 5-13	5					57.9	43.0	61.4	32.7	47x32x12	792	1023	B
	CR 5-16	5					57.9	46.2	61.4	32.7	47x32x12	812	1042	B
6	CR 5-4	1.5	4" ANSI	24.7	33.7	4.8	57.9	25.5	75.0	32.7	47x32x12	637	877	B
	CR 5-6	2					57.9	30.2	75.0	32.7	47x32x12	778	1023	B
	CR 5-9	3					57.9	36.5	75.0	32.7	47x32x12	832	1076	B
	CR 5-13	5					57.9	43.0	75.0	32.7	47x32x12	946	1190	B
	CR 5-16	5					57.9	46.2	75.0	32.7	47x32x12	969	1213	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 5 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 5-4	1.5	2" NPT	22.4	24.8	4.8	57.9	25.5	49.2	N/A	24x24x8	203	280	A
	CR 5-6	2					57.9	30.2	49.2	N/A	24x24x8	250	327	A
	CR 5-9	3					57.9	36.5	49.2	N/A	24x24x8	268	345	A
	CR 5-13	5					57.9	43.0	49.2	N/A	24x24x8	306	383	A
	CR 5-16	5					57.9	46.2	49.2	N/A	24x24x8	314	391	A
3	CR 5-4	1.5	2.5" NPT	24.6	27.5	4.8	57.9	25.5	61.8	N/A	24x24x8	295	384	A
	CR 5-6	2					57.9	30.2	61.8	N/A	24x24x8	365	455	A
	CR 5-9	3					57.9	36.5	61.8	N/A	24x24x8	392	482	A
	CR 5-13	5					57.9	43.0	61.8	N/A	24x24x8	449	539	A
	CR 5-16	5					57.9	46.2	61.8	N/A	24x24x8	461	550	A
4	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	25.5	48.8	32.7	40x32x12	390	568	B
	CR 5-6	2					57.9	30.2	48.8	32.7	40x32x12	484	663	B
	CR 5-9	3					57.9	36.5	48.8	32.7	40x32x12	520	698	B
	CR 5-13	5					57.9	43.0	48.8	32.7	40x32x12	596	774	B
	CR 5-16	5					57.9	46.2	48.8	32.7	40x32x12	611	790	B
5	CR 5-4	1.5	3" NPT	24.6	28.1	4.8	57.9	25.5	61.4	32.7	47x32x12	535	754	B
	CR 5-6	2					57.9	30.2	61.4	32.7	47x32x12	653	872	B
	CR 5-9	3					57.9	36.5	61.4	32.7	47x32x12	697	916	B
	CR 5-13	5					57.9	43.0	61.4	32.7	47x32x12	792	1012	B
	CR 5-16	5					57.9	46.2	61.4	32.7	47x32x12	812	1031	B
6	CR 5-4	1.5	4" ANSI	24.7	33.7	4.8	57.9	25.5	75.0	32.7	47x32x12	637	869	B
	CR 5-6	2					57.9	30.2	75.0	32.7	47x32x12	778	1010	B
	CR 5-9	3					57.9	36.5	75.0	32.7	47x32x12	832	1064	B
	CR 5-13	5					57.9	43.0	75.0	32.7	47x32x12	946	1178	B
	CR 5-16	5					57.9	46.2	75.0	32.7	47x32x12	969	1201	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 10 pumps

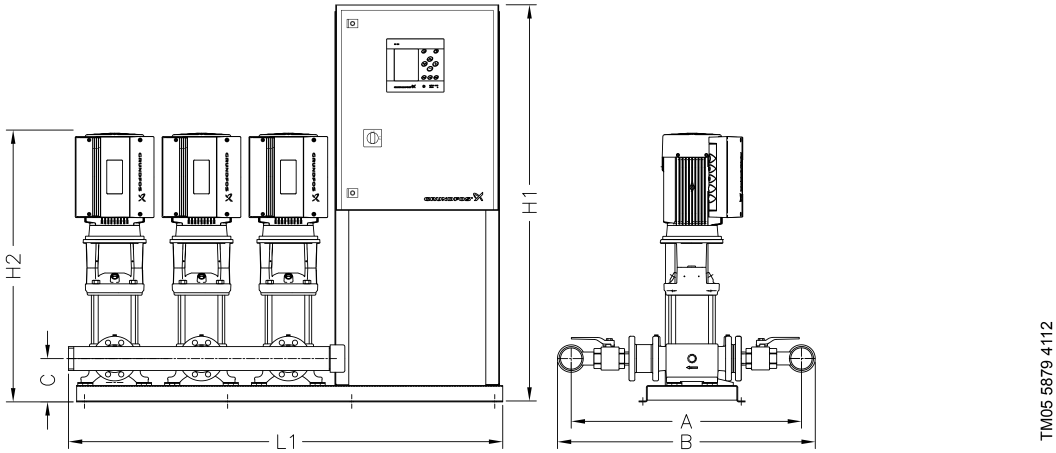


Fig. 41 Drawing of a Hydro MPC booster set with a control panel mounted on the same base plate as the pumps. (Design A)

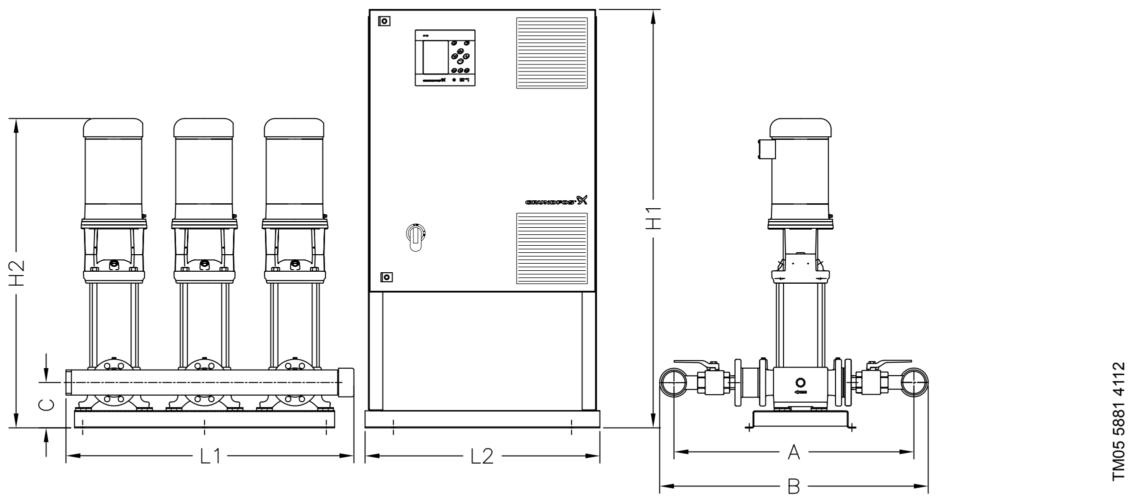


Fig. 42 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

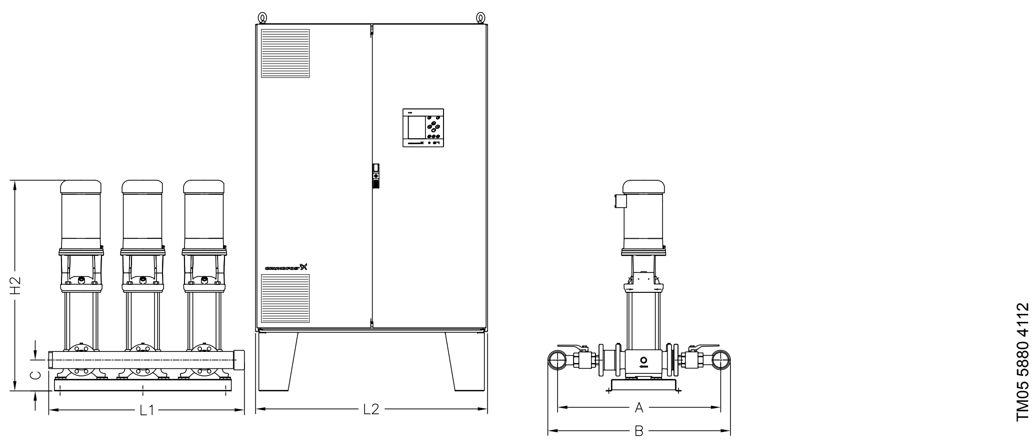


Fig. 43 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 10 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 10-2	1.5	2.5" NPT	33.5	36.4	6.3	57.9	30.8	50.4	N/A	30x24x9	375	471	A
	CRE 10-3	3					57.9	33.3	50.4	N/A	30x24x9	425	522	A
	CRE 10-4	3					57.9	34.5	50.4	N/A	30x24x9	430	526	A
	CRE 10-5	5					57.9	37.8	50.4	N/A	30x24x9	506	602	A
	CRE 10-6	5					57.9	39.0	50.4	N/A	30x24x9	511	607	A
	CRE 10-8	7.5					57.9	41.7	50.4	N/A	30x24x9	531	627	A
	CRE 10-10	7.5					57.9	44.1	50.4	N/A	30x24x9	549	645	A
3	CRE 10-2	1.5	3" NPT	33.6	37.1	6.3	57.9	30.8	63.0	N/A	30x24x9	554	662	A
	CRE 10-3	3					57.9	33.3	63.0	N/A	30x24x9	630	738	A
	CRE 10-4	3					57.9	34.5	63.0	N/A	30x24x9	637	745	A
	CRE 10-5	5					57.9	37.8	63.0	N/A	30x24x9	751	860	A
	CRE 10-6	5					57.9	39.0	63.0	N/A	30x24x9	758	866	A
	CRE 10-8	7.5					57.9	41.7	63.0	N/A	30x24x9	788	897	A
	CRE 10-10	7.5					57.9	44.1	63.0	N/A	30x24x9	815	923	A
4	CRE 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	30.8	76.8	N/A	30x24x9	775	896	A
	CRE 10-3	3					57.9	33.3	76.8	N/A	30x24x9	877	997	A
	CRE 10-4	3					57.9	34.5	76.8	N/A	30x24x9	886	1006	A
	CRE 10-5	5					57.9	37.8	76.8	N/A	30x24x9	1038	1159	A
	CRE 10-6	5					57.9	39.0	76.8	N/A	30x24x9	1047	1168	A
	CRE 10-8	7.5					57.9	41.7	76.8	N/A	30x24x9	1088	1209	A
	CRE 10-10	7.5					57.9	44.1	76.8	N/A	30x24x9	1123	1244	A
5	CRE 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	30.8	64.7	24.8	30x24x9	965	1098	B
	CRE 10-3	3					57.9	33.3	64.7	24.8	30x24x9	1093	1225	B
	CRE 10-4	3					57.9	34.5	64.7	24.8	30x24x9	1104	1236	B
	CRE 10-5	5					57.9	37.8	64.7	24.8	30x24x9	1295	1427	B
	CRE 10-6	5					57.9	39.0	64.7	24.8	30x24x9	1306	1438	B
	CRE 10-8	7.5					57.9	41.7	64.7	32.7	40x32x12	1357	1544	B
	CRE 10-10	7.5					57.9	44.1	64.7	32.7	40x32x12	1401	1588	B
6	CRE 10-2	1.5	6" ANSI	35.8	46.8	6.3	57.9	30.8	77.4	32.7	40x32x12	1174	1374	B
	CRE 10-3	3					57.9	33.3	77.4	32.7	40x32x12	1327	1527	B
	CRE 10-4	3					57.9	34.5	77.4	32.7	40x32x12	1340	1540	B
	CRE 10-5	5					57.9	37.8	77.4	32.7	40x32x12	1569	1769	B
	CRE 10-6	5					57.9	39.0	77.4	32.7	40x32x12	1583	1782	B
	CRE 10-8	7.5					57.9	41.7	77.4	32.7	40x32x12	1644	1844	B
	CRE 10-10	7.5					57.9	44.1	77.4	32.7	40x32x12	1697	1897	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 10 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 10-2	1.5	2.5" NPT	33.5	36.4	6.3	60.0	26.7	26.0	36.0	48x36x16	307	545	C
	CR 10-3	3					60.0	33.2	26.0	36.0	48x36x16	379	625	C
	CR 10-4	3					60.0	34.4	26.0	36.0	48x36x16	384	629	C
	CR 10-5	5					60.0	37.8	26.0	36.0	48x36x16	418	664	C
	CR 10-6	5					60.0	39.0	26.0	36.0	48x36x16	423	668	C
	CR 10-8	7.5					75.0	41.7	26.0	48.0	63x48x20	529	947	C
	CR 10-10	7.5					75.0	44.1	26.0	48.0	63x48x20	547	964	C
3	CR 10-2	1.5	3" NPT	33.6	37.1	6.3	60.0	26.7	38.6	36.0	48x36x16	452	707	C
	CR 10-3	3					75.0	33.2	38.6	48.0	63x48x20	561	989	C
	CR 10-4	3					75.0	34.4	38.6	48.0	63x48x20	568	996	C
	CR 10-5	5					75.0	37.8	38.6	48.0	63x48x20	619	1047	C
	CR 10-6	5					75.0	39.0	38.6	48.0	63x48x20	626	1054	C
	CR 10-8	7.5					75.0	41.7	38.6	48.0	63x48x20	785	1228	C
	CR 10-10	7.5					75.0	44.1	38.6	48.0	63x48x20	812	1255	C
4	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	60.0	26.7	54.5	36.0	48x36x16	639	911	C
	CR 10-3	3					75.0	33.2	54.5	48.0	63x48x20	785	1233	C
	CR 10-4	3					75.0	34.4	54.5	48.0	63x48x20	794	1242	C
	CR 10-5	5					75.0	37.8	54.5	48.0	63x48x20	862	1311	C
	CR 10-6	5					75.0	39.0	54.5	48.0	63x48x20	871	1320	C
	CR 10-8	7.5					75.0	41.7	54.5	48.0	63x48x20	1084	1552	C
	CR 10-10	7.5					75.0	44.1	54.5	48.0	63x48x20	1119	1588	C
5	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	75.0	26.7	64.7	63.0	63x63x20	795	1375	C
	CR 10-3	3					75.0	33.2	64.7	63.0	63x63x20	978	1575	C
	CR 10-4	3					75.0	34.4	64.7	63.0	63x63x20	989	1586	C
	CR 10-5	5					75.0	37.8	64.7	63.0	63x63x20	1075	1672	C
	CR 10-6	5					75.0	39.0	64.7	63.0	63x63x20	1086	1683	C
	CR 10-8	7.5					83.0	41.7	64.7	71.0	71x71x20	1352	2054	C
	CR 10-10	7.5					83.0	44.1	64.7	71.0	71x71x20	1396	2098	C
6	CR 10-2	1.5	6" ANSI	35.8	46.8	6.3	83.0	26.7	77.4	71.0	71x71x20	970	1647	C
	CR 10-3	3					83.0	33.2	77.4	71.0	71x71x20	1189	1887	C
	CR 10-4	3					83.0	34.4	77.4	71.0	71x71x20	1202	1900	C
	CR 10-5	5					83.0	37.8	77.4	71.0	71x71x20	1305	2003	C
	CR 10-6	5					83.0	39.0	77.4	71.0	71x71x20	1319	2016	C
	CR 10-8	7.5					83.0	41.7	77.4	71.0	71x71x20	1638	2366	C
	CR 10-10	7.5					83.0	44.1	77.4	71.0	71x71x20	1691	2419	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 10 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 10-2	1.5	2.5" NPT	33.5	36.4	6.3	57.9	26.7	26.0	32.7	40x32x12	307	465	B
	CR 10-3	3					57.9	33.2	26.0	32.7	40x32x12	379	542	B
	CR 10-4	3					57.9	34.4	26.0	32.7	40x32x12	384	546	B
	CR 10-5	5					57.9	37.8	26.0	32.7	40x32x12	418	580	B
	CR 10-6	5					57.9	39.0	26.0	32.7	40x32x12	423	585	B
	CR 10-8	7.5					57.9	41.7	26.0	32.7	40x32x12	529	698	B
	CR 10-10	7.5					57.9	44.1	26.0	32.7	40x32x12	547	715	B
3	CR 10-2	1.5	3" NPT	33.6	37.1	6.3	57.9	26.7	38.6	32.7	40x32x12	452	624	B
	CR 10-3	3					57.9	33.2	38.6	32.7	40x32x12	561	737	B
	CR 10-4	3					57.9	34.4	38.6	32.7	40x32x12	568	743	B
	CR 10-5	5					57.9	37.8	38.6	32.7	40x32x12	619	795	B
	CR 10-6	5					57.9	39.0	38.6	32.7	40x32x12	626	802	B
	CR 10-8	7.5					57.9	41.7	38.6	32.7	40x32x12	785	968	B
	CR 10-10	7.5					57.9	44.1	38.6	32.7	40x32x12	812	995	B
4	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	26.7	54.5	32.7	47x32x12	639	853	B
	CR 10-3	3					57.9	33.2	54.5	32.7	47x32x12	785	1002	B
	CR 10-4	3					57.9	34.4	54.5	32.7	47x32x12	794	1011	B
	CR 10-5	5					57.9	37.8	54.5	32.7	47x32x12	862	1080	B
	CR 10-6	5					57.9	39.0	54.5	32.7	47x32x12	871	1089	B
	CR 10-8	7.5					57.9	41.7	54.5	32.7	47x32x12	1084	1309	B
	CR 10-10	7.5					57.9	44.1	54.5	32.7	47x32x12	1119	1344	B
5	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	26.7	64.7	32.7	47x32x12	795	1023	B
	CR 10-3	3					57.9	33.2	64.7	32.7	47x32x12	978	1208	B
	CR 10-4	3					57.9	34.4	64.7	32.7	47x32x12	989	1219	B
	CR 10-5	5					57.9	37.8	64.7	32.7	47x32x12	1075	1305	B
	CR 10-6	5					57.9	39.0	64.7	32.7	47x32x12	1086	1317	B
	CR 10-8	7.5					57.9	41.7	64.7	32.7	47x32x12	1352	1591	B
	CR 10-10	7.5					57.9	44.1	64.7	32.7	47x32x12	1396	1635	B
6	CR 10-2	1.5	6" ANSI	35.8	46.8	6.3	83.0	26.7	77.4	39.0	71x39x16	970	1358	C
	CR 10-3	3					83.0	33.2	77.4	39.0	71x39x16	1189	1580	C
	CR 10-4	3					83.0	34.4	77.4	39.0	71x39x16	1202	1594	C
	CR 10-5	5					83.0	37.8	77.4	39.0	71x39x16	1305	1697	C
	CR 10-6	5					83.0	39.0	77.4	39.0	71x39x16	1319	1710	C
	CR 10-8	7.5					83.0	41.7	77.4	39.0	71x39x16	1638	2038	C
	CR 10-10	7.5					83.0	44.1	77.4	39.0	71x39x16	1691	2091	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 10 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 10-2	1.5	2.5" NPT	33.5	36.4	6.3	57.9	26.7	50.4	N/A	24x24x8	307	383	A
	CR 10-3	3					57.9	33.2	50.4	N/A	24x24x8	379	456	A
	CR 10-4	3					57.9	34.4	50.4	N/A	24x24x8	384	460	A
	CR 10-5	5					57.9	37.8	50.4	N/A	24x24x8	418	495	A
	CR 10-6	5					57.9	39.0	50.4	N/A	24x24x8	423	499	A
	CR 10-8	7.5					57.9	41.7	50.4	N/A	24x24x8	529	606	A
	CR 10-10	7.5					57.9	44.1	50.4	N/A	24x24x8	547	624	A
3	CR 10-2	1.5	3" NPT	33.6	37.1	6.3	57.9	26.7	63.0	N/A	24x24x8	452	541	A
	CR 10-3	3					57.9	33.2	63.0	N/A	24x24x8	561	650	A
	CR 10-4	3					57.9	34.4	63.0	N/A	24x24x8	568	657	A
	CR 10-5	5					57.9	37.8	63.0	N/A	24x24x8	619	709	A
	CR 10-6	5					57.9	39.0	63.0	N/A	24x24x8	626	715	A
	CR 10-8	7.5					57.9	41.7	38.6	32.7	40x32x12	785	952	B
	CR 10-10	7.5					57.9	44.1	38.6	32.7	40x32x12	812	978	B
4	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	26.7	54.5	32.7	40x32x12	639	817	B
	CR 10-3	3					57.9	33.2	54.5	32.7	40x32x12	785	963	B
	CR 10-4	3					57.9	34.4	54.5	32.7	40x32x12	794	972	B
	CR 10-5	5					57.9	37.8	54.5	32.7	40x32x12	862	1041	B
	CR 10-6	5					57.9	39.0	54.5	32.7	40x32x12	871	1050	B
	CR 10-8	7.5					57.9	41.7	54.5	32.7	40x32x12	1084	1264	B
	CR 10-10	7.5					57.9	44.1	54.5	32.7	40x32x12	1119	1299	B
5	CR 10-2	1.5	4" ANSI	33.6	42.6	6.3	57.9	26.7	64.7	32.7	47x32x12	795	1015	B
	CR 10-3	3					57.9	33.2	64.7	32.7	47x32x12	978	1197	B
	CR 10-4	3					57.9	34.4	64.7	32.7	47x32x12	989	1208	B
	CR 10-5	5					57.9	37.8	64.7	32.7	47x32x12	1075	1294	B
	CR 10-6	5					57.9	39.0	64.7	32.7	47x32x12	1086	1305	B
	CR 10-8	7.5					57.9	41.7	64.7	32.7	47x32x12	1352	1572	B
	CR 10-10	7.5					57.9	44.1	64.7	32.7	47x32x12	1396	1616	B
6	CR 10-2	1.5	6" ANSI	35.8	46.8	6.3	57.9	26.7	77.4	32.7	47x32x12	970	1202	B
	CR 10-3	3					57.9	33.2	77.4	32.7	47x32x12	1189	1421	B
	CR 10-4	3					57.9	34.4	77.4	32.7	47x32x12	1202	1434	B
	CR 10-5	5					57.9	37.8	77.4	32.7	47x32x12	1305	1537	B
	CR 10-6	5					57.9	39.0	77.4	32.7	47x32x12	1319	1551	B
	CR 10-8	7.5					57.9	41.7	77.4	32.7	47x32x12	1638	1872	B
	CR 10-10	7.5					57.9	44.1	77.4	32.7	47x32x12	1691	1925	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 15 pumps

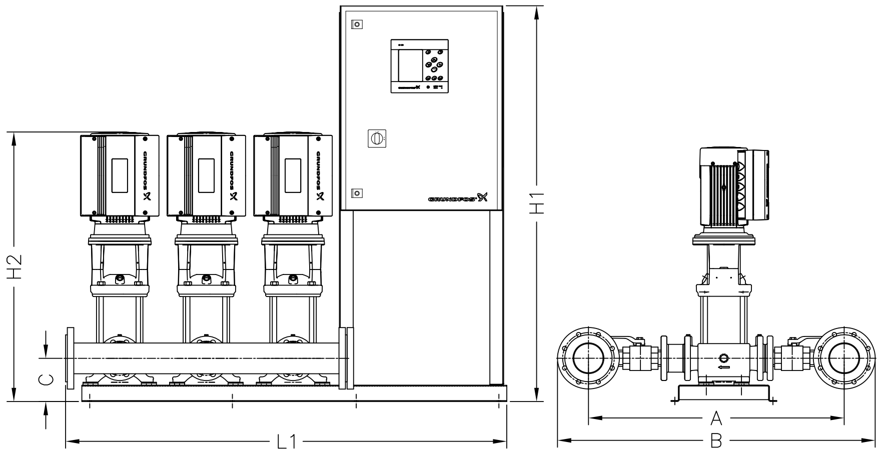


Fig. 44 Drawing of a Hydro MPC booster set with a control panel mounted on the same base plate as the pumps. (Design A)

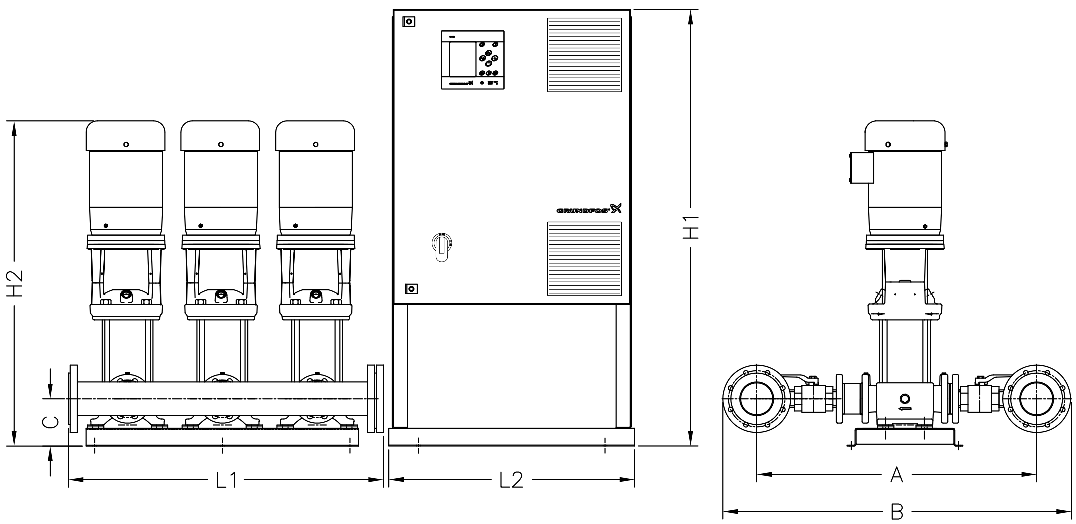


Fig. 45 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

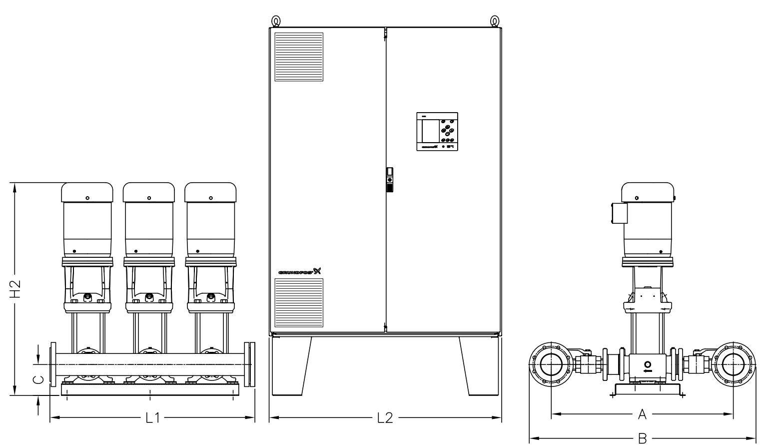


Fig. 46 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 15 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	32.8	51.6	N/A	30x24x9	528	625	A
	CRE 15-3	7.5					57.9	35.4	51.6	N/A	30x24x9	553	649	A
	CRE 15-4	7.5					57.9	37.1	51.6	N/A	30x24x9	566	663	A
	CRE 15-5	10					57.9	38.9	51.6	N/A	30x24x9	594	690	A
	CRE 15-7	15					57.9	48.7	29.3	24.8	30x24x9	935	1031	B
3	CRE 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	32.8	64.2	N/A	30x24x9	774	882	A
	CRE 15-3	7.5					57.9	35.4	64.2	N/A	30x24x9	811	920	A
	CRE 15-4	7.5					57.9	37.1	64.2	N/A	30x24x9	831	940	A
	CRE 15-5	10					57.9	38.9	64.2	N/A	30x24x9	872	980	A
	CRE 15-7	15					57.9	48.7	41.9	32.7	40x32x12	1384	1548	B
4	CRE 15-2	5	6" ANSI	35.3	44.3	6.3	57.9	32.8	76.8	N/A	30x24x9	1047	1167	A
	CRE 15-3	7.5					57.9	35.4	76.8	N/A	30x24x9	1096	1217	A
	CRE 15-4	7.5					57.9	37.1	76.8	N/A	30x24x9	1123	1243	A
	CRE 15-5	10					57.9	38.9	76.8	N/A	30x24x9	1177	1298	A
	CRE 15-7	15					57.9	48.7	54.5	32.7	40x32x12	1861	2036	B
5	CRE 15-2	5	6" ANSI	35.3	44.3	6.3	57.9	32.8	67.1	24.8	30x24x9	1342	1475	B
	CRE 15-3	7.5					57.9	35.4	67.1	32.7	40x32x12	1404	1592	B
	CRE 15-4	7.5					57.9	37.1	67.1	32.7	40x32x12	1437	1625	B
	CRE 15-5	10					57.9	38.9	67.1	32.7	40x32x12	1505	1693	B
	CRE 15-7	15					57.9	48.7	67.1	TBD	Contact Factory	2359	TBD	B
6	CRE 15-2	5	6" ANSI	35.3	44.3	6.3	57.9	32.8	79.7	32.7	40x32x12	1610	1810	B
	CRE 15-3	7.5					57.9	35.4	79.7	32.7	40x32x12	1684	1884	B
	CRE 15-4	7.5					57.9	37.1	79.7	32.7	40x32x12	1724	1924	B
	CRE 15-5	10					57.9	38.9	79.7	32.7	40x32x12	1806	2006	B
	CRE 15-7	15					57.9	48.7	79.7	TBD	Contact Factory	2831	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 15 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
	CR 15-2	5					60.0	35.5	29.3	36.0	48x36x16	440	686	C
	CR 15-3	7.5					75.0	37.6	29.3	48.0	63x48x20	449	867	C
2	CR 15-4	7.5	4" ANSI	35.2	44.2	6.3	75.0	39.3	29.3	48.0	63x48x20	564	982	C
	CR 15-5	10					60.0	41.1	29.3	36.0	48x36x16	578	833	C
	CR 15-7	15					60.0	46.2	29.3	36.0	48x36x16	649	960	C
	CR 15-2	5					75.0	35.5	41.9	48.0	63x48x20	642	1070	C
	CR 15-3	7.5					75.0	37.6	41.9	48.0	63x48x20	655	1098	C
3	CR 15-4	7.5	4" ANSI	35.2	44.2	6.3	75.0	39.3	41.9	48.0	63x48x20	828	1271	C
	CR 15-5	10					75.0	41.1	41.9	48.0	63x48x20	848	1291	C
	CR 15-7	15					75.0	46.2	41.9	48.0	63x48x20	955	1481	C
	CR 15-2	5					75.0	35.5	54.5	48.0	63x48x20	871	1319	C
	CR 15-3	7.5					75.0	37.6	54.5	48.0	63x48x20	888	1357	C
4	CR 15-4	7.5	6" ANSI	35.3	46.3	6.3	75.0	39.3	54.5	48.0	63x48x20	1119	1587	C
	CR 15-5	10					75.0	41.1	54.5	48.0	63x48x20	1145	1614	C
	CR 15-7	15					75.0	46.2	54.5	48.0	63x48x20	1289	1867	C
	CR 15-2	5					75.0	35.5	67.1	63.0	63x63x20	1122	1720	C
	CR 15-3	7.5					83.0	37.6	67.1	71.0	71x71x20	1144	1847	C
5	CR 15-4	7.5	6" ANSI	35.3	46.3	6.3	83.0	39.3	67.1	71.0	71x71x20	1432	2135	C
	CR 15-5	10					83.0	41.1	67.1	71.0	71x71x20	1465	2168	C
	CR 15-7	15					75.0	46.2	67.1	63.0	63x63x20	1644	2404	C
	CR 15-2	5					83.0	35.5	79.7	71.0	71x71x20	1346	2044	C
	CR 15-3	7.5					83.0	37.6	79.7	71.0	71x71x20	1372	2101	C
6	CR 15-4	7.5	6" ANSI	35.3	46.3	6.3	83.0	39.3	79.7	71.0	71x71x20	1718	2446	C
	CR 15-5	10					91.0	41.1	79.7	93.0	79x93x24	1758	2598	C
	CR 15-7	15					83.0	46.2	79.7	71.0	71x71x20	1973	2866	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 15 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	35.5	29.3	32.7	40x32x12	440	603	B
	CR 15-3	7.5					57.9	37.6	29.3	32.7	40x32x12	449	616	B
	CR 15-4	7.5					57.9	39.3	29.3	32.7	40x32x12	564	733	B
	CR 15-5	10					57.9	41.1	29.3	32.7	40x32x12	578	746	B
	CR 15-7	15					60.0	46.2	29.3	36.0	48x36x16	649	923	C
3	CR 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	35.5	41.9	32.7	40x32x12	642	818	B
	CR 15-3	7.5					57.9	37.6	41.9	32.7	40x32x12	655	836	B
	CR 15-4	7.5					57.9	39.3	41.9	32.7	40x32x12	828	1011	B
	CR 15-5	10					57.9	41.1	41.9	32.7	40x32x12	848	1031	B
	CR 15-7	15					60.0	46.2	41.9	36.0	48x36x16	955	1244	C
4	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	54.5	32.7	47x32x12	871	1088	B
	CR 15-3	7.5					57.9	37.6	54.5	32.7	47x32x12	888	1111	B
	CR 15-4	7.5					57.9	39.3	54.5	32.7	47x32x12	1119	1344	B
	CR 15-5	10					57.9	41.1	54.5	32.7	47x32x12	1145	1370	B
	CR 15-7	15					75.0	46.2	54.5	47.0	63x47x20	1289	1753	C
5	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	67.1	32.7	47x32x12	1122	1353	B
	CR 15-3	7.5					57.9	37.6	67.1	32.7	47x32x12	1144	1380	B
	CR 15-4	7.5					57.9	39.3	67.1	32.7	47x32x12	1432	1671	B
	CR 15-5	10					83.0	41.1	67.1	39.0	71x39x16	1465	1851	C
	CR 15-7	15					75.0	46.2	67.1	47.0	63x47x20	1644	2123	C
6	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	79.7	32.7	47x32x12	1346	1590	B
	CR 15-3	7.5					57.9	37.6	79.7	32.7	47x32x12	1372	1622	B
	CR 15-4	7.5					83.0	39.3	79.7	39.0	71x39x16	1718	2118	C
	CR 15-5	10					83.0	41.1	79.7	39.0	71x39x16	1758	2158	C
	CR 15-7	15					75.0	46.2	79.7	47.0	63x47x20	1973	2466	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 15 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	35.5	51.6	N/A	24x24x8	440	517	A
	CR 15-3	7.5					57.9	37.6	51.6	N/A	24x24x8	449	526	A
	CR 15-4	7.5					57.9	39.3	51.6	N/A	24x24x8	564	642	A
	CR 15-5	10					57.9	41.1	51.6	N/A	24x24x8	578	655	A
	CR 15-7	15					57.9	46.2	51.6	N/A	24x24x8	649	726	A
3	CR 15-2	5	4" ANSI	35.2	44.2	6.3	57.9	35.5	64.2	N/A	24x24x8	642	732	A
	CR 15-3	7.5					57.9	37.6	64.2	N/A	24x24x8	655	745	A
	CR 15-4	7.5					57.9	39.3	64.2	N/A	24x24x8	828	919	A
	CR 15-5	10					57.9	41.1	64.2	N/A	40x32x12	848	1014	A
	CR 15-7	15					57.9	46.2	64.2	N/A	40x32x12	955	1122	A
4	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	76.8	N/A	40x32x12	871	1049	A
	CR 15-3	7.5					57.9	37.6	76.8	N/A	40x32x12	888	1067	A
	CR 15-4	7.5					57.9	39.3	76.8	N/A	40x32x12	1119	1298	A
	CR 15-5	10					57.9	41.1	76.8	N/A	40x32x12	1145	1325	A
	CR 15-7	15					57.9	46.2	76.8	N/A	40x32x12	1289	1468	A
5	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	67.1	32.7	47x32x12	1122	1341	B
	CR 15-3	7.5					57.9	37.6	67.1	32.7	47x32x12	1144	1363	B
	CR 15-4	7.5					57.9	39.3	67.1	32.7	47x32x12	1432	1653	B
	CR 15-5	10					57.9	41.1	67.1	32.7	47x32x12	1465	1686	B
	CR 15-7	15					57.9	46.2	67.1	32.7	47x32x12	1644	1865	B
6	CR 15-2	5	6" ANSI	35.3	46.3	6.3	57.9	35.5	79.7	32.7	47x32x12	1346	1578	B
	CR 15-3	7.5					57.9	37.6	79.7	32.7	47x32x12	1372	1605	B
	CR 15-4	7.5					57.9	39.3	79.7	32.7	47x32x12	1718	1952	B
	CR 15-5	10					57.9	41.1	79.7	32.7	47x32x12	1758	1992	B
	CR 15-7	15					57.9	46.2	79.7	32.7	47x32x12	1973	2207	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 20 pumps

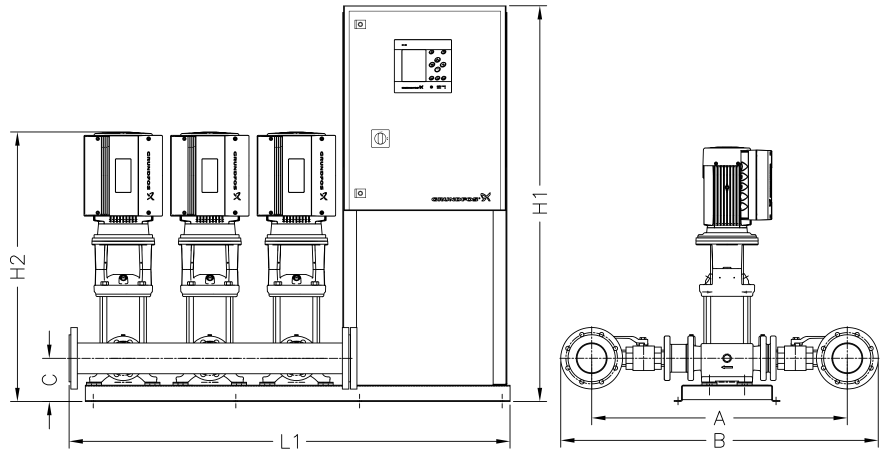


Fig. 47 Drawing of a Hydro MPC booster set with a control panel mounted on the same base plate as the pumps. (Design A)

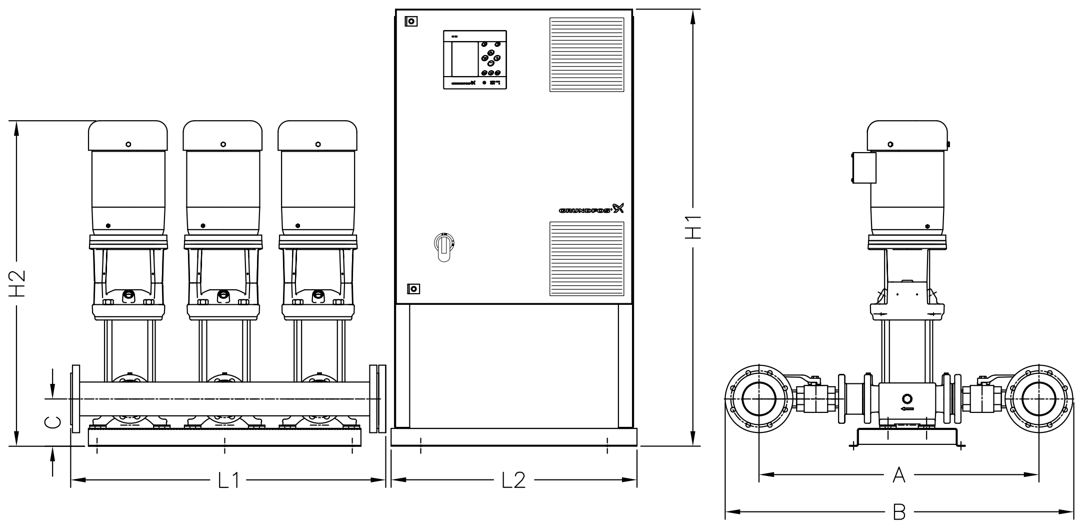


Fig. 48 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

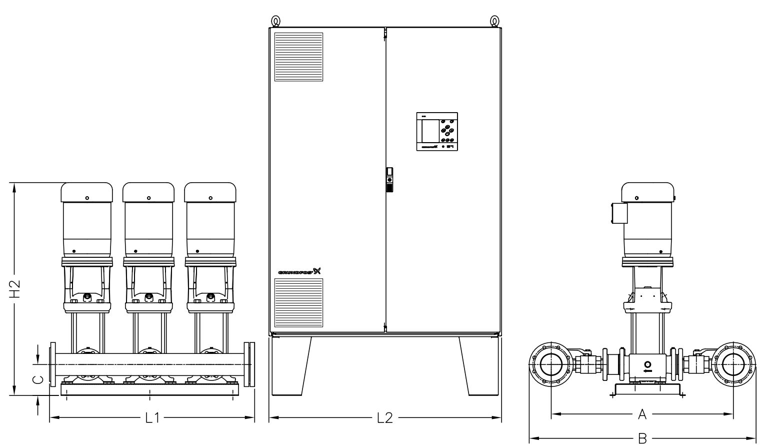


Fig. 49 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 20 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	32.8	51.6	N/A	30x24x9	456	553	A
	CRE 20-2	5					57.9	32.8	51.6	N/A	30x24x9	528	625	A
	CRE 20-3	7.5					57.9	35.4	51.6	N/A	30x24x9	558	654	A
	CRE 20-4	10					57.9	37.1	51.6	N/A	30x24x9	580	677	A
	CRE 20-5	15					57.9	46.9	29.3	24.8	30x24x9	922	1018	B
	CRE 20-6	15					57.9	48.7	29.3	24.8	30x24x9	931	1027	B
3	CRE 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	32.8	64.2	N/A	30x24x9	666	774	A
	CRE 20-2	5					57.9	32.8	64.2	N/A	30x24x9	774	882	A
	CRE 20-3	7.5					57.9	35.4	64.2	N/A	30x24x9	818	926	A
	CRE 20-4	10					57.9	37.1	64.2	N/A	30x24x9	852	961	A
	CRE 20-5	15					57.9	46.9	41.9	32.7	40x32x12	1365	1528	B
	CRE 20-6	15					57.9	48.7	41.9	32.7	40x32x12	1378	1541	B
4	CRE 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	32.8	76.8	N/A	30x24x9	903	1023	A
	CRE 20-2	5					57.9	32.8	76.8	N/A	30x24x9	1047	1167	A
	CRE 20-3	7.5					57.9	35.4	76.8	N/A	30x24x9	1105	1226	A
	CRE 20-4	10					57.9	37.1	76.8	N/A	30x24x9	1151	1271	A
	CRE 20-5	15					57.9	46.9	54.5	32.7	40x32x12	1834	2010	B
	CRE 20-6	15					57.9	48.7	54.5	32.7	40x32x12	1852	2027	B
5	CRE 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	32.8	67.1	32.7	40x32x12	1162	1350	B
	CRE 20-2	5					57.9	32.8	67.1	32.7	40x32x12	1342	1530	B
	CRE 20-3	7.5					57.9	35.4	67.1	32.7	40x32x12	1415	1603	B
	CRE 20-4	10					57.9	37.1	67.1	32.7	40x32x12	1472	1660	B
	CRE 20-5	15					57.9	46.9	67.1	TBD	Contact Factory	2326	TBD	B
	CRE 20-6	15					57.9	48.7	67.1	TBD	Contact Factory	2348	TBD	B
6	CRE 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	32.8	79.7	32.7	40x32x12	1394	1594	B
	CRE 20-2	5					57.9	32.8	79.7	32.7	40x32x12	1610	1810	B
	CRE 20-3	7.5					57.9	35.4	79.7	32.7	40x32x12	1697	1898	B
	CRE 20-4	10					57.9	37.1	79.7	32.7	40x32x12	1766	1966	B
	CRE 20-5	15					57.9	46.9	79.7	TBD	Contact Factory	2791	TBD	B
	CRE 20-6	15					57.9	48.7	79.7	TBD	Contact Factory	2817	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 20 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 20-1	3	4" ANSI	35.2	44.2	6.3	60.0	33.2	29.3	36.0	48x36x16	410	656	C
	CR 20-2	5					60.0	35.5	29.3	36.0	48x36x16	440	686	C
	CR 20-3	7.5					75.0	37.6	29.3	48.0	63x48x20	556	973	C
	CR 20-4	10					60.0	39.3	29.3	36.0	48x36x16	564	820	C
	CR 20-5	15					60.0	44.7	29.3	36.0	48x36x16	636	947	C
	CR 20-6	15					60.0	46.5	29.3	36.0	48x36x16	645	955	C
3	CR 20-1	3	4" ANSI	35.2	44.2	6.3	75.0	33.2	41.9	48.0	63x48x20	597	1025	C
	CR 20-2	5					75.0	35.5	41.9	48.0	63x48x20	642	1070	C
	CR 20-3	7.5					75.0	37.6	41.9	48.0	63x48x20	815	1258	C
	CR 20-4	10					75.0	39.3	41.9	48.0	63x48x20	828	1271	C
	CR 20-5	15					75.0	44.7	41.9	48.0	63x48x20	936	1461	C
	CR 20-6	15					75.0	46.5	41.9	48.0	63x48x20	949	1474	C
4	CR 20-1	3	6" ANSI	35.3	46.3	6.3	75.0	33.2	54.5	48.0	63x48x20	811	1259	C
	CR 20-2	5					75.0	35.5	54.5	48.0	63x48x20	871	1319	C
	CR 20-3	7.5					75.0	37.6	54.5	48.0	63x48x20	1101	1569	C
	CR 20-4	10					75.0	39.3	54.5	48.0	63x48x20	1119	1587	C
	CR 20-5	15					75.0	44.7	54.5	48.0	63x48x20	1262	1840	C
	CR 20-6	15					75.0	46.5	54.5	48.0	63x48x20	1280	1858	C
5	CR 20-1	3	6" ANSI	35.3	46.3	6.3	75.0	33.2	67.1	63.0	63x63x20	1047	1645	C
	CR 20-2	5					75.0	35.5	67.1	63.0	63x63x20	1122	1720	C
	CR 20-3	7.5					83.0	37.6	67.1	71.0	71x71x20	1410	2113	C
	CR 20-4	10					83.0	39.3	67.1	71.0	71x71x20	1432	2135	C
	CR 20-5	15					75.0	44.7	67.1	63.0	63x63x20	1611	2371	C
	CR 20-6	15					75.0	46.5	67.1	63.0	63x63x20	1633	2393	C
6	CR 20-1	3	6" ANSI	35.3	46.3	6.3	83.0	33.2	79.7	71.0	71x71x20	1256	1954	C
	CR 20-2	5					83.0	35.5	79.7	71.0	71x71x20	1346	2044	C
	CR 20-3	7.5					83.0	37.6	79.7	71.0	71x71x20	1691	2420	C
	CR 20-4	10					91.0	39.3	79.7	93.0	79x93x24	1718	2558	C
	CR 20-5	15					83.0	44.7	79.7	71.0	71x71x20	1933	2826	C
	CR 20-6	15					83.0	46.5	79.7	71.0	71x71x20	1959	2853	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes.
Please contact Grundfos for a Certified drawing for construction purposes..

Hydro MPC-F BoosterpaQ with CR 20 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	33.2	29.3	32.7	40x32x12	410	573	B
	CR 20-2	5					57.9	35.5	29.3	32.7	40x32x12	440	603	B
	CR 20-3	7.5					57.9	37.6	29.3	32.7	40x32x12	556	724	B
	CR 20-4	10					57.9	39.3	29.3	32.7	40x32x12	564	733	B
	CR 20-5	15					60.0	44.7	29.3	36.0	48x36x16	636	910	C
	CR 20-6	15					60.0	46.5	29.3	36.0	48x36x16	645	919	C
3	CR 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	33.2	41.9	32.7	40x32x12	597	773	B
	CR 20-2	5					57.9	35.5	41.9	32.7	40x32x12	642	818	B
	CR 20-3	7.5					57.9	37.6	41.9	32.7	40x32x12	815	998	B
	CR 20-4	10					57.9	39.3	41.9	32.7	40x32x12	828	1011	B
	CR 20-5	15					60.0	44.7	41.9	36.0	48x36x16	936	1224	C
	CR 20-6	15					60.0	46.5	41.9	36.0	48x36x16	949	1237	C
4	CR 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	33.2	54.5	32.7	47x32x12	811	1028	B
	CR 20-2	5					57.9	35.5	54.5	32.7	47x32x12	871	1088	B
	CR 20-3	7.5					57.9	37.6	54.5	32.7	47x32x12	1101	1326	B
	CR 20-4	10					57.9	39.3	54.5	32.7	47x32x12	1119	1344	B
	CR 20-5	15					75.0	44.7	54.5	47.0	63x47x20	1262	1726	C
	CR 20-6	15					75.0	46.5	54.5	47.0	63x47x20	1280	1744	C
5	CR 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	33.2	67.1	32.7	47x32x12	1047	1278	B
	CR 20-2	5					57.9	35.5	67.1	32.7	47x32x12	1122	1353	B
	CR 20-3	7.5					83.0	37.6	67.1	39.0	71x39x16	1410	1796	C
	CR 20-4	10					83.0	39.3	67.1	39.0	71x39x16	1432	1818	C
	CR 20-5	15					75.0	44.7	67.1	47.0	63x47x20	1611	2090	C
	CR 20-6	15					75.0	46.5	67.1	47.0	63x47x20	1633	2112	C
6	CR 20-1	3	6" ANSI	35.3	46.3	6.3	83.0	33.2	79.7	39.0	71x39x16	1256	1647	C
	CR 20-2	5					83.0	35.5	79.7	39.0	71x39x16	1346	1737	C
	CR 20-3	7.5					83.0	37.6	79.7	39.0	71x39x16	1691	2092	C
	CR 20-4	10					83.0	39.3	79.7	39.0	71x39x16	1718	2118	C
	CR 20-5	15					75.0	44.7	79.7	47.0	63x47x20	1933	2426	C
	CR 20-6	15					75.0	46.5	79.7	47.0	63x47x20	1959	2452	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 20 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	33.2	51.6	N/A	24x24x8	410	487	A
	CR 20-2	5					57.9	35.5	51.6	N/A	24x24x8	440	517	A
	CR 20-3	7.5					57.9	37.6	51.6	N/A	24x24x8	556	633	A
	CR 20-4	10					57.9	39.3	51.6	N/A	40x32x12	564	718	A
	CR 20-5	15					57.9	44.7	51.6	N/A	24x24x8	636	713	A
	CR 20-6	15					57.9	46.5	51.6	N/A	24x24x8	645	722	A
3	CR 20-1	3	4" ANSI	35.2	44.2	6.3	57.9	33.2	64.2	N/A	24x24x8	597	687	A
	CR 20-2	5					57.9	35.5	64.2	N/A	24x24x8	642	732	A
	CR 20-3	7.5					57.9	37.6	64.2	N/A	40x32x12	815	981	A
	CR 20-4	10					57.9	39.3	64.2	N/A	40x32x12	828	995	A
	CR 20-5	15					57.9	44.7	64.2	N/A	40x32x12	936	1102	A
	CR 20-6	15					57.9	46.5	64.2	N/A	40x32x12	949	1115	A
4	CR 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	33.2	76.8	N/A	40x32x12	811	989	A
	CR 20-2	5					57.9	35.5	76.8	N/A	40x32x12	871	1049	A
	CR 20-3	7.5					57.9	37.6	76.8	N/A	40x32x12	1101	1281	A
	CR 20-4	10					57.9	39.3	76.8	N/A	40x32x12	1119	1298	A
	CR 20-5	15					57.9	44.7	76.8	N/A	40x32x12	1262	1442	A
	CR 20-6	15					57.9	46.5	76.8	N/A	40x32x12	1280	1459	A
5	CR 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	33.2	67.1	32.7	47x32x12	1047	1266	B
	CR 20-2	5					57.9	35.5	67.1	32.7	47x32x12	1122	1341	B
	CR 20-3	7.5					57.9	37.6	67.1	32.7	47x32x12	1410	1631	B
	CR 20-4	10					57.9	39.3	67.1	32.7	47x32x12	1432	1653	B
	CR 20-5	15					57.9	44.7	67.1	32.7	47x32x12	1611	1832	B
	CR 20-6	15					57.9	46.5	67.1	32.7	47x32x12	1633	1854	B
6	CR 20-1	3	6" ANSI	35.3	46.3	6.3	57.9	33.2	79.7	32.7	47x32x12	1256	1488	B
	CR 20-2	5					57.9	35.5	79.7	32.7	47x32x12	1346	1578	B
	CR 20-3	7.5					57.9	37.6	79.7	32.7	47x32x12	1691	1926	B
	CR 20-4	10					57.9	39.3	79.7	32.7	47x32x12	1718	1952	B
	CR 20-5	15					57.9	44.7	79.7	32.7	47x32x12	1933	2167	B
	CR 20-6	15					57.9	46.5	79.7	32.7	47x32x12	1959	2194	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 32 pumps

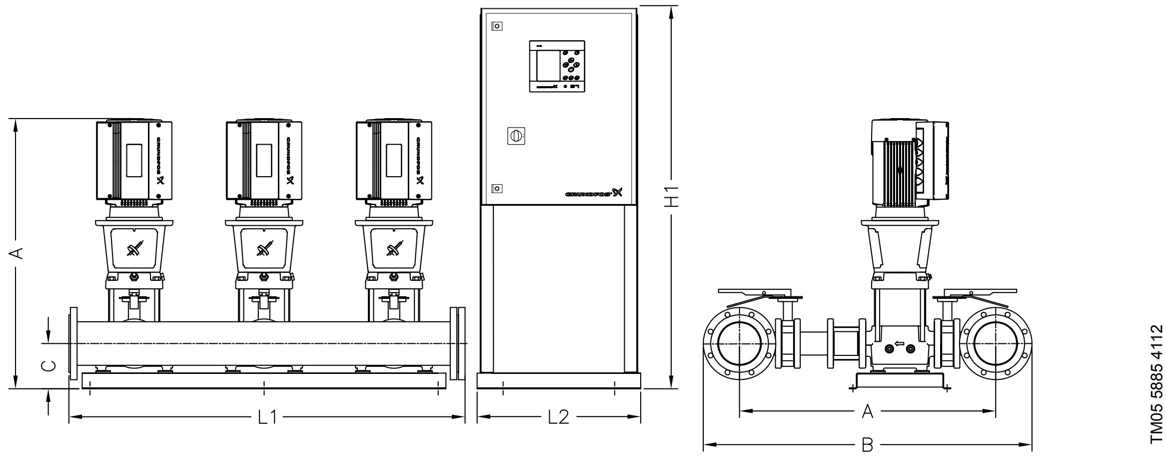


Fig. 50 Drawing of a Hydro MPC booster set with integrated VFD/motors and control panel and pumps on separate base plates. (Design A)

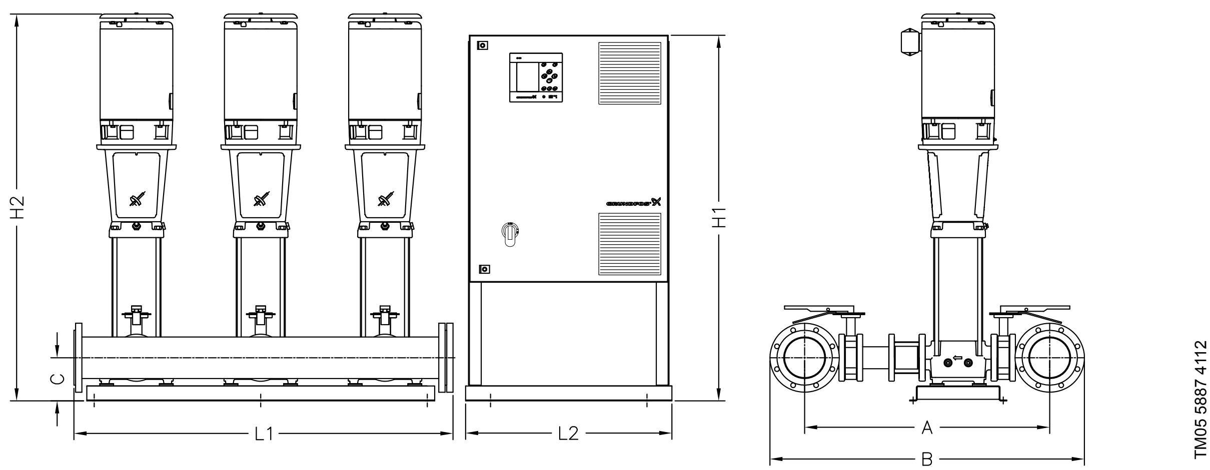


Fig. 51 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

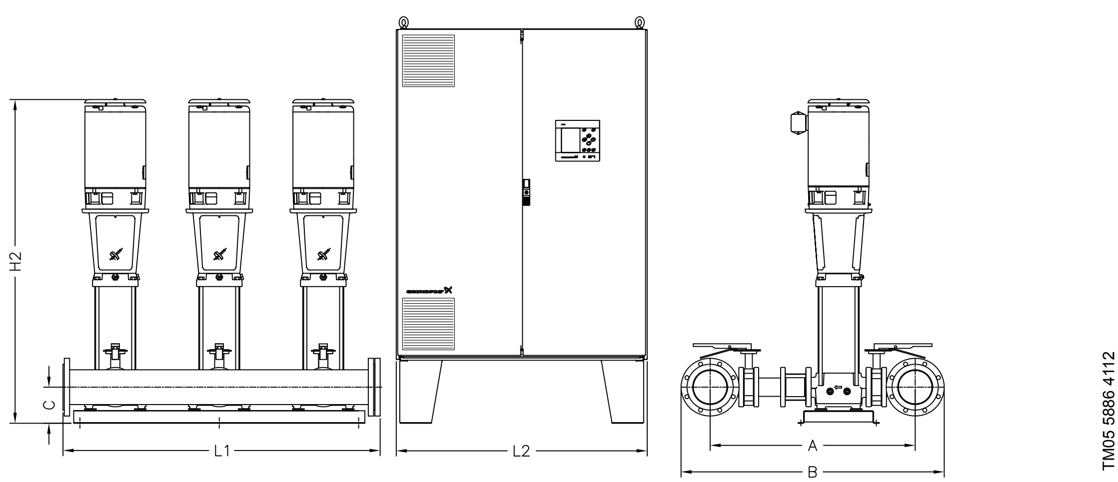


Fig. 52 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 32 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 32-1	5	4" ANSI	38.8	47.8	6.9	57.9	38.2	40.3	24.8	30x24x9	659	755	B
	CRE 32-2-1	7.5					57.9	40.9	40.3	24.8	30x24x9	687	784	B
	CRE 32-3-2	10					57.9	43.1	40.3	24.8	30x24x9	716	812	B
	CRE 32-4-2	15					57.9	54.0	40.3	24.8	30x24x9	1085	1181	B
	CRE 32-5	20					57.9	56.8	40.3	24.8	30x24x9	1107	1205	B
	CRE 32-6-2	25					57.9	59.5	40.3	32.7	40x32x12	1178	1331	B
3	CRE 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	60.1	24.8	30x24x9	974	1082	B
	CRE 32-2-1	7.5					57.9	40.9	60.1	24.8	30x24x9	1016	1125	B
	CRE 32-3-2	10					57.9	43.1	60.1	24.8	30x24x9	1058	1167	B
	CRE 32-4-2	15					57.9	54.0	60.1	32.7	40x32x12	1613	1776	B
	CRE 32-5	20					57.9	56.8	60.1	32.7	40x32x12	1645	1812	B
	CRE 32-6-2	25					57.9	59.5	60.1	32.7	40x32x12	1752	1919	B
4	CRE 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	79.7	24.8	30x24x9	1328	1449	B
	CRE 32-2-1	7.5					57.9	40.9	79.7	24.8	30x24x9	1385	1505	B
	CRE 32-3-2	10					57.9	43.1	79.7	24.8	30x24x9	1441	1562	B
	CRE 32-4-2	15					57.9	54.0	79.7	32.7	40x32x12	2180	2356	B
	CRE 32-5	20					57.9	56.8	79.7	32.7	40x32x12	2223	2404	B
	CRE 32-6-2	25					57.9	59.5	79.7	32.7	40x32x12	2366	2546	B
5	CRE 32-1	5	8" ANSI	40.4	53.9	8.5	57.9	39.7	99.6	24.8	30x24x9	1692	1824	B
	CRE 32-2-1	7.5					57.9	42.5	99.6	24.8	40x32x12	1763	1950	B
	CRE 32-3-2	10					57.9	44.7	99.6	24.8	40x32x12	1833	2020	B
	CRE 32-4-2	15					57.9	55.6	99.6	TBD	Contact Factory	2756	TBD	B
	CRE 32-5	20					57.9	58.4	99.6	TBD	Contact Factory	2811	TBD	B
	CRE 32-6-2	25					57.9	61.1	99.6	TBD	Contact Factory	2989	TBD	B
6	CRE 32-1	5	8" ANSI	40.4	53.9	8.5	57.9	39.7	119.2	24.8	40x32x12	1982	2182	B
	CRE 32-2-1	7.5					57.9	42.5	119.2	24.8	40x32x12	2067	2267	B
	CRE 32-3-2	10					57.9	44.7	119.2	24.8	40x32x12	2151	2351	B
	CRE 32-4-2	15					57.9	55.6	119.2	TBD	Contact Factory	3259	TBD	B
	CRE 32-5	20					57.9	58.4	119.2	TBD	Contact Factory	3324	TBD	B
	CRE 32-6-2	25					57.9	61.1	119.2	TBD	Contact Factory	3538	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 32 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 32-1	5	4" ANSI	38.8	47.8	6.9	60.0	38.2	40.3	36.0	48x36x16	571	817	C
	CR 32-2-1	7.5					75.0	40.9	40.3	48.0	63x48x20	685	1103	C
	CR 32-3-2	10					60.0	43.7	40.3	36.0	48x36x16	700	955	C
	CR 32-4-2	15					60.0	51.8	40.3	36.0	48x36x16	799	1110	C
	CR 32-5	20					60.0	54.6	40.3	36.0	48x36x16	941	1253	C
	CR 32-6-2	25					60.0	60.6	40.3	36.0	48x36x16	918	1231	C
3	CR 32-1	5	6" ANSI	38.8	49.8	6.9	75.0	38.2	60.1	48.0	63x48x20	842	1270	C
	CR 32-2-1	7.5					75.0	40.9	60.1	48.0	63x48x20	1013	1456	C
	CR 32-3-2	10					75.0	43.7	60.1	48.0	63x48x20	1034	1477	C
	CR 32-4-2	15					75.0	51.8	60.1	48.0	63x48x20	1184	1709	C
	CR 32-5	20					75.0	54.6	60.1	48.0	63x48x20	1396	1925	C
	CR 32-6-2	25					75.0	60.6	60.1	48.0	63x48x20	1362	1891	C
4	CR 32-1	5	6" ANSI	38.8	49.8	6.9	75.0	38.2	79.7	48.0	63x48x20	1152	1600	C
	CR 32-2-1	7.5					75.0	40.9	79.7	48.0	63x48x20	1381	1849	C
	CR 32-3-2	10					75.0	43.7	79.7	48.0	63x48x20	1409	1877	C
	CR 32-4-2	15					75.0	51.8	79.7	48.0	63x48x20	1608	2187	C
	CR 32-5	20					75.0	54.6	79.7	48.0	63x48x20	1891	2474	C
	CR 32-6-2	25					75.0	60.6	79.7	48.0	63x48x20	1846	2429	C
5	CR 32-1	5	8" ANSI	40.4	53.9	8.5	75.0	39.7	99.6	63.0	63x63x20	1472	2069	C
	CR 32-2-1	7.5					83.0	42.5	99.6	71.0	71x71x20	1758	2460	C
	CR 32-3-2	10					83.0	45.2	99.6	71.0	71x71x20	1793	2495	C
	CR 32-4-2	15					83.0	53.4	99.6	71.0	71x71x20	2041	2882	C
	CR 32-5	20					83.0	56.2	99.6	71.0	71x71x20	2396	3242	C
	CR 32-6-2	25					83.0	62.2	99.6	71.0	71x71x20	2339	3185	C
6	CR 32-1	5	8" ANSI	40.4	53.9	8.5	83.0	39.7	119.2	71.0	71x71x20	1718	2416	C
	CR 32-2-1	7.5					83.0	42.5	119.2	71.0	71x71x20	2061	2789	C
	CR 32-3-2	10					91.0	45.2	119.2	93.0	79x93x24	2103	2943	C
	CR 32-4-2	15					83.0	53.4	119.2	71.0	71x71x20	2401	3295	C
	CR 32-5	20					83.0	56.2	119.2	71.0	71x71x20	2826	3726	C
	CR 32-6-2	25					83.0	62.2	119.2	71.0	71x71x20	2758	3658	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 32 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 32-1	5	4" ANSI	38.8	47.8	6.9	57.9	38.2	40.3	32.7	40x32x12	571	733	B
	CR 32-2-1	7.5					57.9	40.9	40.3	32.7	40x32x12	685	854	B
	CR 32-3-2	10					57.9	43.7	40.3	32.7	40x32x12	700	868	B
	CR 32-4-2	15					60.0	51.8	40.3	36.0	48x36x16	799	1073	C
	CR 32-5	20					60.0	54.6	40.3	36.0	48x36x16	941	1222	C
	CR 32-6-2	25					60.0	60.6	40.3	36.0	48x36x16	918	1199	C
3	CR 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	60.1	32.7	40x32x12	842	1018	B
	CR 32-2-1	7.5					57.9	40.9	60.1	32.7	40x32x12	1013	1196	B
	CR 32-3-2	10					57.9	43.7	60.1	32.7	40x32x12	1034	1217	B
	CR 32-4-2	15					60.0	51.8	60.1	36.0	48x36x16	1184	1472	C
	CR 32-5	20					60.0	54.6	60.1	36.0	48x36x16	1396	1695	C
	CR 32-6-2	25					60.0	60.6	60.1	36.0	48x36x16	1362	1661	C
4	CR 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	79.7	32.7	47x32x12	1152	1370	B
	CR 32-2-1	7.5					57.9	40.9	79.7	32.7	47x32x12	1381	1606	B
	CR 32-3-2	10					57.9	43.7	79.7	32.7	47x32x12	1409	1634	B
	CR 32-4-2	15					60.0	51.8	79.7	36.0	48x36x16	1608	1911	C
	CR 32-5	20					75.0	54.6	79.7	47.0	63x47x20	1891	2370	C
	CR 32-6-2	25					75.0	60.6	79.7	47.0	63x47x20	1846	2325	C
5	CR 32-1	5	8" ANSI	40.4	53.9	8.5	57.9	39.7	99.6	32.7	47x32x12	1472	1703	B
	CR 32-2-1	7.5					83.0	42.5	99.6	39.0	71x39x16	1758	2143	C
	CR 32-3-2	10					83.0	45.2	99.6	39.0	71x39x16	1793	2179	C
	CR 32-4-2	15					75.0	53.4	99.6	47.0	63x47x20	2041	2520	C
	CR 32-5	20					75.0	56.2	99.6	47.0	63x47x20	2396	2892	C
	CR 32-6-2	25					75.0	62.2	99.6	63.0	63x63x20	2339	2964	C
6	CR 32-1	5	8" ANSI	40.4	53.9	8.5	83.0	39.7	119.2	39.0	71x39x16	1718	2109	C
	CR 32-2-1	7.5					83.0	42.5	119.2	39.0	71x39x16	2061	2461	C
	CR 32-3-2	10					83.0	45.2	119.2	39.0	71x39x16	2103	2503	C
	CR 32-4-2	15					75.0	53.4	119.2	63.0	63x63x20	2401	3024	C
	CR 32-5	20					75.0	56.2	119.2	63.0	63x63x20	2826	3470	C
	CR 32-6-2	25					75.0	62.2	119.2	63.0	63x63x20	2758	3402	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 32 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 32-1	5	4" ANSI	38.8	47.8	6.9	57.9	38.2	40.3	24.8	24x24x8	571	648	B
	CR 32-2-1	7.5					57.9	40.9	40.3	24.8	24x24x8	685	763	B
	CR 32-3-2	10					57.9	43.7	40.3	24.8	24x24x8	700	777	B
	CR 32-4-2	15					57.9	51.8	40.3	24.8	24x24x8	799	876	B
	CR 32-5	20					57.9	54.6	40.3	24.8	24x24x8	941	1023	B
	CR 32-6-2	25					57.9	60.6	40.3	24.8	24x24x8	918	1000	B
3	CR 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	60.1	24.8	24x24x8	842	931	B
	CR 32-2-1	7.5					57.9	40.9	60.1	24.8	24x24x8	1013	1104	B
	CR 32-3-2	10					57.9	43.7	60.1	24.8	24x24x8	1034	1125	B
	CR 32-4-2	15					57.9	51.8	60.1	32.7	40x32x12	1184	1350	B
	CR 32-5	20					57.9	54.6	60.1	32.7	40x32x12	1396	1569	B
	CR 32-6-2	25					57.9	60.6	60.1	32.7	40x32x12	1362	1535	B
4	CR 32-1	5	6" ANSI	38.8	49.8	6.9	57.9	38.2	79.7	32.7	40x32x12	1152	1330	B
	CR 32-2-1	7.5					57.9	40.9	79.7	32.7	40x32x12	1381	1560	B
	CR 32-3-2	10					57.9	43.7	79.7	32.7	40x32x12	1409	1589	B
	CR 32-4-2	15					57.9	51.8	79.7	32.7	40x32x12	1608	1788	B
	CR 32-5	20					57.9	54.6	79.7	32.7	40x32x12	1891	2081	B
	CR 32-6-2	25					57.9	60.6	79.7	32.7	40x32x12	1846	2035	B
5	CR 32-1	5	8" ANSI	40.4	53.9	8.5	57.9	39.7	99.6	32.7	47x32x12	1472	1691	B
	CR 32-2-1	7.5					57.9	42.5	99.6	32.7	47x32x12	1758	1978	B
	CR 32-3-2	10					57.9	45.2	99.6	32.7	47x32x12	1793	2014	B
	CR 32-4-2	15					57.9	53.4	99.6	32.7	47x32x12	2041	2263	B
	CR 32-5	20					57.9	56.2	99.6	32.7	47x32x12	2396	2628	B
	CR 32-6-2	25					57.9	62.2	99.6	32.7	47x32x12	2339	2571	B
6	CR 32-1	5	8" ANSI	40.4	53.9	8.5	57.9	39.7	119.2	32.7	47x32x12	1718	1950	B
	CR 32-2-1	7.5					57.9	42.5	119.2	32.7	47x32x12	2061	2295	B
	CR 32-3-2	10					57.9	45.2	119.2	32.7	47x32x12	2103	2337	B
	CR 32-4-2	15					57.9	53.4	119.2	32.7	47x32x12	2401	2636	B
	CR 32-5	20					57.9	56.2	119.2	32.7	47x32x12	2826	3075	B
	CR 32-6-2	25					57.9	62.2	119.2	32.7	47x32x12	2758	3006	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 45 pumps

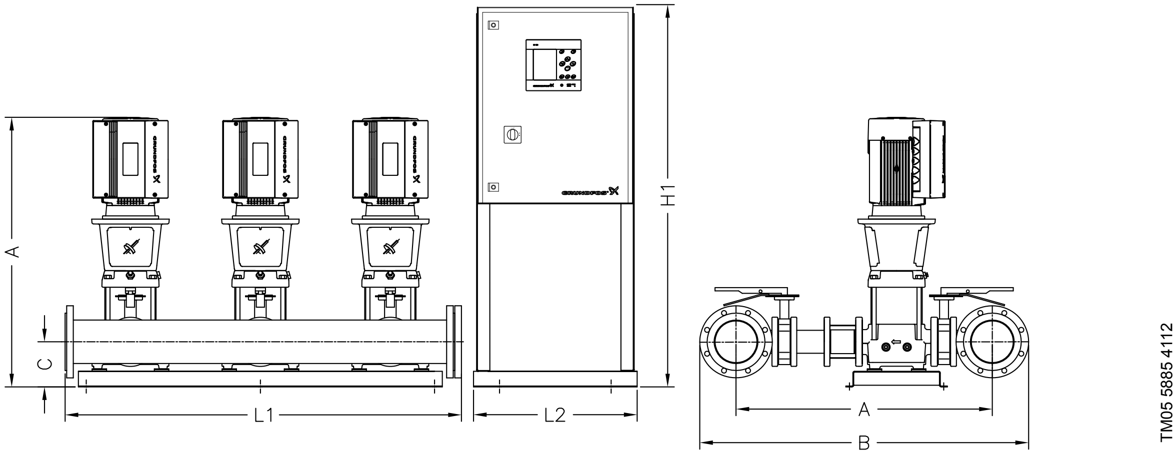


Fig. 53 Drawing of a Hydro MPC booster set with integrated VFD/motors and control panel and pumps on separate base plates. (Design A)

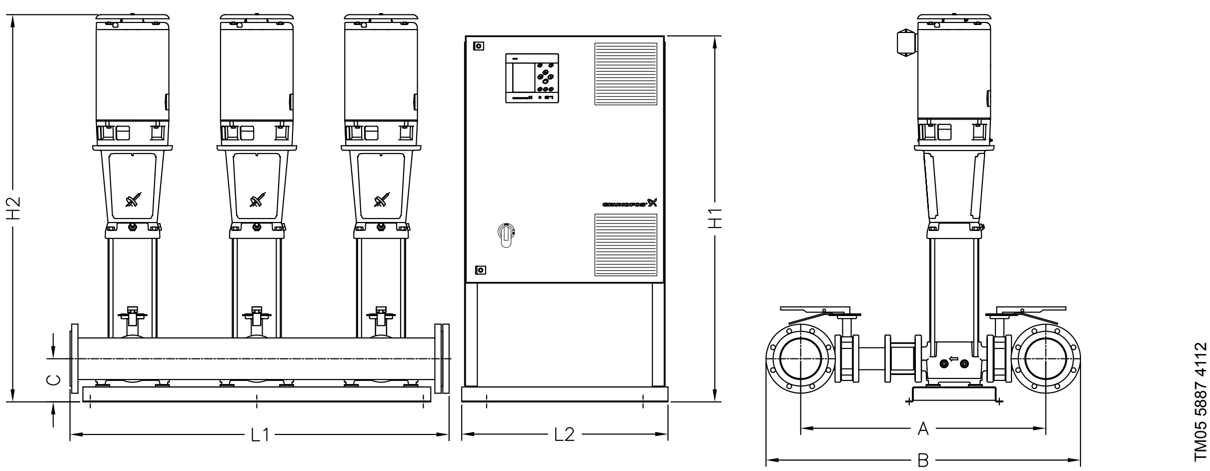


Fig. 54 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

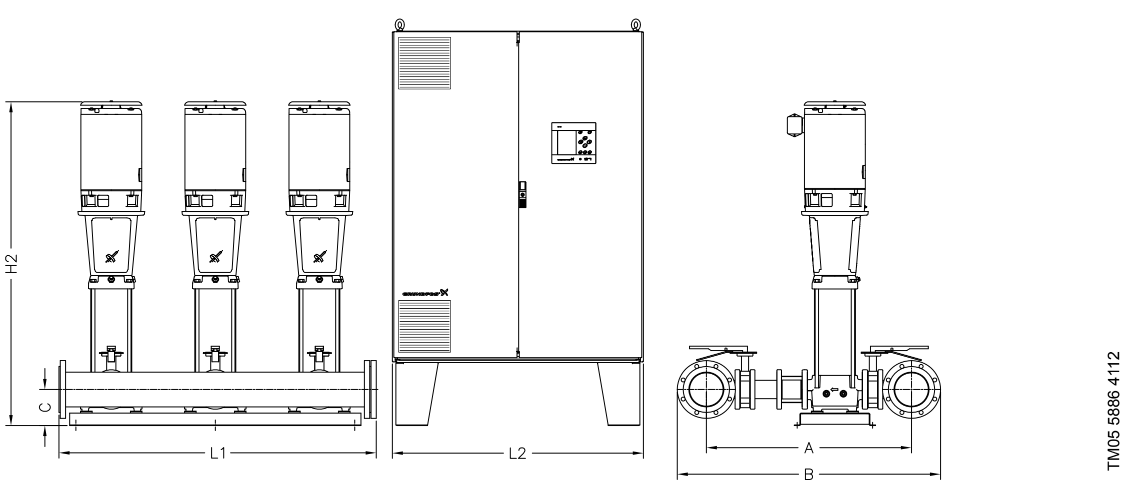


Fig. 55 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 45 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 45-1-1	7.5	6" ANSI	40.6	51.6	8.3	57.9	40.3	40.4	24.8	30x24x9	715	811	B
	CRE 45-1	10					57.9	39.7	40.4	24.8	30x24x9	729	825	B
	CRE 45-2	15					57.9	51.0	40.4	24.8	30x24x9	1102	1198	B
	CRE 45-3-2	20					57.9	54.2	40.4	24.8	30x24x9	1127	1225	B
	CRE 45-3	25					57.9	58.1	40.4	32.7	40x32x12	1181	1335	B
	CRE 45-4	30					57.9	61.3	40.4	32.7	40x32x12	1261	1415	B
3	CRE 45-1-1	7.5	6" ANSI	40.6	51.6	8.3	57.9	40.3	60.1	24.8	30x24x9	1058	1166	B
	CRE 45-1	10					57.9	39.7	60.1	24.8	30x24x9	1079	1187	B
	CRE 45-2	15					57.9	51.0	60.1	32.7	40x32x12	1638	1801	B
	CRE 45-3-2	20					57.9	54.2	60.1	32.7	40x32x12	1676	1842	B
	CRE 45-3	25					57.9	58.1	60.1	32.7	40x32x12	1757	1924	B
	CRE 45-4	30					57.9	61.3	60.1	32.7	40x32x12	1877	2044	B
4	CRE 45-1-1	7.5	8" ANSI	42.2	55.7	9.8	57.9	41.9	79.9	24.8	30x24x9	1481	1602	B
	CRE 45-1	10					57.9	41.3	79.9	24.8	30x24x9	1509	1630	B
	CRE 45-2	15					57.9	52.6	79.9	32.7	40x32x12	2254	2430	B
	CRE 45-3-2	20					57.9	55.8	79.9	32.7	40x32x12	2305	2485	B
	CRE 45-3	25					57.9	59.7	79.9	32.7	40x32x12	2414	2594	B
	CRE 45-4	30					57.9	62.9	79.9	32.7	40x32x12	2573	2754	B
5	CRE 45-1-1	7.5	8" ANSI	42.2	55.7	9.8	57.9	41.9	99.6	32.7	40x32x12	1775	1963	B
	CRE 45-1	10					57.9	41.3	99.6	32.7	40x32x12	1931	2119	B
	CRE 45-2	15					57.9	52.6	99.6	TBD	Contact Factory	2741	TBD	B
	CRE 45-3-2	20					57.9	55.8	119.2	TBD	Contact Factory	2854	TBD	B
	CRE 45-3	25					57.9	59.7	138.9	TBD	Contact Factory	3099	TBD	B
	CRE 45-4	30					57.9	62.9	138.9	TBD	Contact Factory	3298	TBD	B
6	CRE 45-1-1	7.5	10" ANSI	46.0	59.5	12.2	57.9	44.2	119.3	32.7	40x32x12	2137	2337	B
	CRE 45-1	10					57.9	43.6	119.3	32.7	40x32x12	2179	2379	B
	CRE 45-2	15					57.9	55.0	119.3	TBD	Contact Factory	3296	TBD	B
	CRE 45-3-2	20					57.9	58.1	158.7	TBD	Contact Factory	3589	TBD	B
	CRE 45-3	25					57.9	62.1	158.7	TBD	Contact Factory	3753	TBD	B
	CRE 45-4	30					57.9	65.2	158.7	TBD	Contact Factory	3992	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.
Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.
Design C: Hydro MPC booster set with a floor mounted control panel.
Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 45 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 45-1	10	6" ANSI	40.6	51.6	8.3	60.0	40.3	40.4	36.0	48x36x16	713	969	C
	CR 45-2	15					60.0	48.8	40.4	36.0	48x36x16	816	1126	C
	CR 45-3-2	20					60.0	52.0	40.4	36.0	48x36x16	961	1274	C
	CR 45-3	25					60.0	55.2	40.4	36.0	48x36x16	921	1234	C
	CR 45-4	30					75.0	61.7	40.4	48.0	63x48x20	1043	1557	C
3	CR 45-1	10	6" ANSI	40.6	51.6	8.3	75.0	40.3	60.1	48.0	63x48x20	1055	1498	C
	CR 45-2	15					75.0	48.8	60.1	48.0	63x48x20	1209	1734	C
	CR 45-3-2	20					75.0	52.0	60.1	48.0	63x48x20	1427	1955	C
	CR 45-3	25					75.0	55.2	60.1	48.0	63x48x20	1367	1896	C
	CR 45-4	30					75.0	61.7	60.1	48.0	63x48x20	1550	2137	C
4	CR 45-1	10	8" ANSI	42.2	55.7	9.8	75.0	41.9	79.9	48.0	63x48x20	1477	1946	C
	CR 45-2	15					75.0	50.4	79.9	48.0	63x48x20	1682	2261	C
	CR 45-3-2	20					75.0	53.6	79.9	48.0	63x48x20	1973	2556	C
	CR 45-3	25					75.0	56.8	79.9	48.0	63x48x20	1894	2477	C
	CR 45-4	30					83.0	63.3	79.9	63.0	71x63x20	2137	2917	C
5	CR 45-1	10	8" ANSI	42.2	55.7	9.8	83.0	41.9	99.6	71.0	71x71x20	1770	2473	C
	CR 45-2	15					83.0	50.4	99.6	71.0	71x71x20	2026	2868	C
	CR 45-3-2	20					83.0	53.6	99.6	71.0	71x71x20	2389	3236	C
	CR 45-3	25					83.0	56.8	99.6	71.0	71x71x20	2290	3137	C
	CR 45-4	30					83.0	63.3	99.6	71.0	71x71x20	2595	3538	C
6	CR 45-1	10	10" ANSI	46.0	59.5	12.2	91.0	44.2	119.3	93.0	79x93x24	2131	2971	C
	CR 45-2	15					83.0	52.8	119.3	71.0	71x71x20	2438	3333	C
	CR 45-3-2	20					83.0	55.9	119.3	71.0	71x71x20	2874	3775	C
	CR 45-3	25					83.0	59.2	119.3	71.0	71x71x20	2755	3656	C
	CR 45-4	30					91.0	65.7	119.3	93.0	79x93x24	3121	4249	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 45 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 45-1	10	6" ANSI	40.6	51.6	8.3	60.0	40.3	40.4	36.0	48x36x16	713	960	C
	CR 45-2	15					60.0	48.8	40.4	36.0	48x36x16	816	1090	C
	CR 45-3-2	20					60.0	52.0	40.4	36.0	48x36x16	961	1242	C
	CR 45-3	25					60.0	55.2	40.4	36.0	48x36x16	921	1203	C
	CR 45-4	30					60.0	61.7	40.4	36.0	48x36x16	1043	1344	C
3	CR 45-1	10	6" ANSI	40.6	51.6	8.3	60.0	40.3	60.1	36.0	48x36x16	1055	1316	C
	CR 45-2	15					60.0	48.8	60.1	36.0	48x36x16	1209	1497	C
	CR 45-3-2	20					60.0	52.0	60.1	36.0	48x36x16	1427	1725	C
	CR 45-3	25					60.0	55.2	60.1	36.0	48x36x16	1367	1666	C
	CR 45-4	30					60.0	61.7	60.1	36.0	48x36x16	1550	1868	C
4	CR 45-1	10	8" ANSI	42.2	55.7	9.8	60.0	41.9	79.9	36.0	48x36x16	1477	1752	C
	CR 45-2	15					60.0	50.4	79.9	36.0	48x36x16	1682	1985	C
	CR 45-3-2	20					75.0	53.6	79.9	47.0	63x47x20	1973	2452	C
	CR 45-3	25					75.0	56.8	79.9	47.0	63x47x20	1894	2373	C
	CR 45-4	30					75.0	63.3	79.9	47.0	63x47x20	2137	2636	C
5	CR 45-1	10	8" ANSI	42.2	55.7	9.8	75.0	41.9	99.6	47.0	63x47x20	1770	2221	C
	CR 45-2	15					75.0	50.4	99.6	47.0	63x47x20	2026	2506	C
	CR 45-3-2	20					75.0	53.6	99.6	47.0	63x47x20	2389	2887	C
	CR 45-3	25					75.0	56.8	99.6	63.0	63x63x20	2290	2917	C
	CR 45-4	30					75.0	63.3	99.6	63.0	63x63x20	2595	3241	C
6	CR 45-1	10	10" ANSI	46.0	59.5	12.2	75.0	44.2	119.3	63.0	63x63x20	2131	2725	C
	CR 45-2	15					75.0	52.8	119.3	63.0	63x63x20	2438	3061	C
	CR 45-3-2	20					75.0	55.9	119.3	63.0	63x63x20	2874	3518	C
	CR 45-3	25					75.0	59.2	119.3	63.0	63x63x20	2755	3400	C
	CR 45-4	30					75.0	65.7	119.3	63.0	63x63x20	3121	3784	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 45 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 45-1	10	6" ANSI	40.6	51.6	8.3	57.9	40.3	40.4	24.8	24x24x8	713	791	B
	CR 45-2	15					57.9	48.8	40.4	24.8	24x24x8	816	893	B
	CR 45-3-2	20					57.9	52.0	40.4	24.8	24x24x8	961	1043	B
	CR 45-3	25					57.9	55.2	40.4	24.8	24x24x8	921	1003	B
	CR 45-4	30					57.9	61.7	40.4	24.8	24x24x8	1043	1125	B
3	CR 45-1	10	6" ANSI	40.6	51.6	8.3	57.9	40.3	60.1	24.8	24x24x8	1055	1145	B
	CR 45-2	15					57.9	48.8	60.1	24.8	40x32x12	1209	1375	B
	CR 45-3-2	20					57.9	52.0	60.1	24.8	40x32x12	1427	1600	B
	CR 45-3	25					57.9	55.2	60.1	24.8	40x32x12	1367	1541	B
	CR 45-4	30					57.9	61.7	60.1	24.8	40x32x12	1550	1723	B
4	CR 45-1	10	8" ANSI	42.2	55.7	9.8	57.9	41.9	79.9	24.8	40x32x12	1477	1657	B
	CR 45-2	15					57.9	50.4	79.9	24.8	40x32x12	1682	1862	B
	CR 45-3-2	20					57.9	53.6	79.9	24.8	40x32x12	1973	2162	B
	CR 45-3	25					57.9	56.8	79.9	24.8	40x32x12	1894	2083	B
	CR 45-4	30					57.9	63.3	79.9	32.7	40x32x12	2137	2327	B
5	CR 45-1	10	8" ANSI	42.2	55.7	9.8	57.9	41.9	99.6	32.7	47x32x12	1770	1991	B
	CR 45-2	15					57.9	50.4	99.6	32.7	47x32x12	2026	2248	B
	CR 45-3-2	20					57.9	53.6	99.6	32.7	47x32x12	2389	2623	B
	CR 45-3	25					57.9	56.8	99.6	32.7	47x32x12	2290	2524	B
	CR 45-4	30					57.9	63.3	99.6	32.7	47x32x12	2595	2828	B
6	CR 45-1	10	10" ANSI	46.0	59.5	12.2	57.9	44.2	119.3	32.7	47x32x12	2131	2365	B
	CR 45-2	15					57.9	52.8	119.3	32.7	47x32x12	2438	2674	B
	CR 45-3-2	20					57.9	55.9	119.3	32.7	47x32x12	2874	3123	B
	CR 45-3	25					57.9	59.2	119.3	32.7	47x32x12	2755	3004	B
	CR 45-4	30					57.9	65.7	119.3	32.7	47x32x12	3121	3370	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR(E) 64 pumps

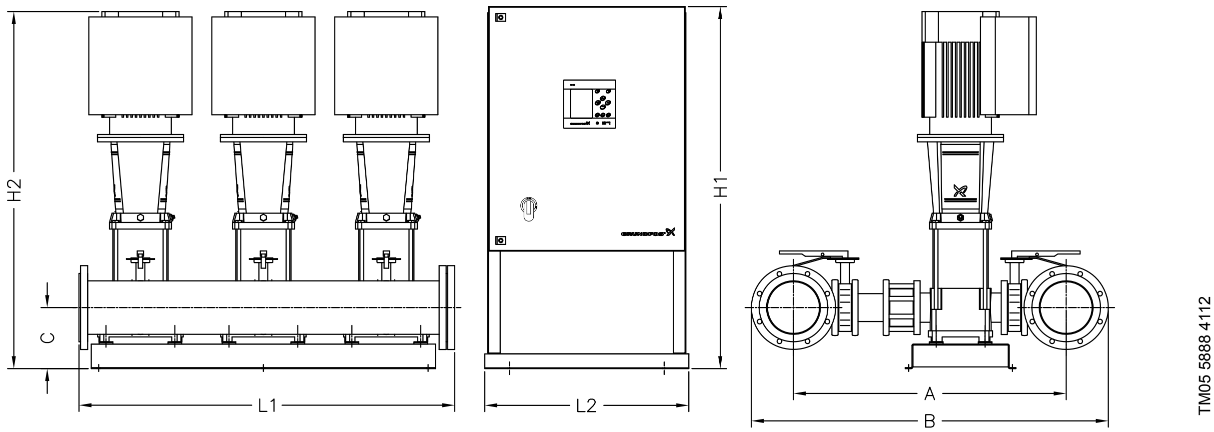


Fig. 56 Drawing of a Hydro MPC booster set with integrated VFD/motors and control panel and pumps on separate base plates. (Design A)

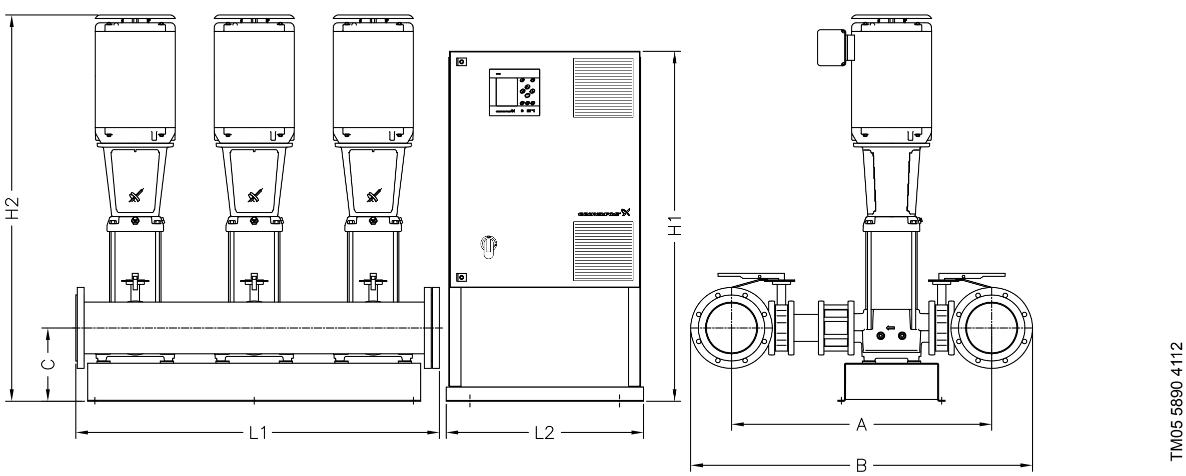


Fig. 57 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

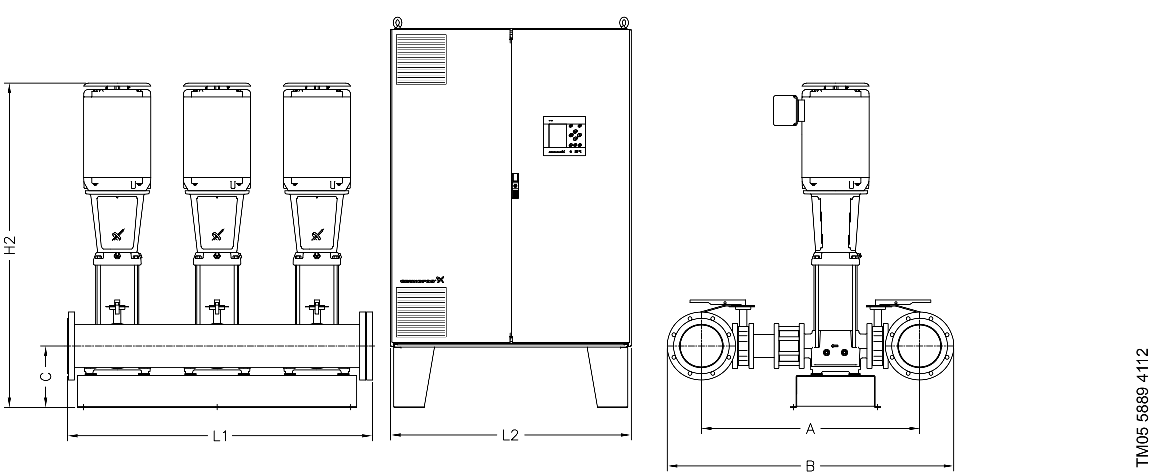


Fig. 58 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 64 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 64-1-1	10	6" ANSI	43.5	54.5	8.3	57.9	40.3	40.4	24.8	30x24x9	832	929	B
	CRE 64-1	15					57.9	48.0	40.4	24.8	30x24x9	1208	1305	B
	CRE 64-2-1	20					57.9	51.2	40.4	24.8	30x24x9	1216	1315	B
	CRE 64-2	25					57.9	55.2	40.4	32.7	40x32x12	1274	1428	B
	CRE 64-3-2	30					57.9	58.4	40.4	32.7	40x32x12	1342	1496	B
3	CRE 64-1-1	10	8" ANSI	43.2	56.7	9.8	57.9	41.8	60.2	24.8	30x24x9	1241	1350	B
	CRE 64-1	15					57.9	49.5	60.2	32.7	40x32x12	1805	1969	B
	CRE 64-2-1	20					57.9	52.8	60.2	32.7	40x32x12	1817	1984	B
	CRE 64-2	25					57.9	56.8	60.2	32.7	40x32x12	1904	2071	B
	CRE 64-3-2	30					57.9	60.0	60.2	32.7	40x32x12	2006	2173	B
4	CRE 64-1-1	10	8" ANSI	43.2	56.7	9.8	57.9	41.8	79.9	24.8	30x24x9	1590	1711	B
	CRE 64-1	15					57.9	49.5	79.9	32.7	40x32x12	2342	2518	B
	CRE 64-2-1	20					57.9	52.8	79.9	32.7	40x32x12	2358	2538	B
	CRE 64-2	25					57.9	56.8	79.9	32.7	40x32x12	2474	2654	B
	CRE 64-3-2	30					57.9	60.0	79.9	32.7	40x32x12	2610	2790	B
5	CRE 64-1-1	10	10" ANSI	48.5	64.5	12.2	57.9	44.2	107.2	24.8	40x32x12	2331	2520	B
	CRE 64-1	15					57.9	51.9	107.2	TBD	Contact Factory	3271	TBD	B
	CRE 64-2-1	20					57.9	55.2	107.2	TBD	Contact Factory	3291	TBD	B
	CRE 64-2	25					57.9	59.1	107.2	TBD	Contact Factory	3436	TBD	B
	CRE 64-3-2	30					57.9	62.3	107.2	TBD	Contact Factory	3605	TBD	B
6	CRE 64-1-1	10	12" ANSI	50.9	69.9	12.2	57.9	44.2	110.2	32.7	40x32x12	2381	2582	B
	CRE 64-1	15					57.9	51.9	110.2	TBD	Contact Factory	4036	TBD	B
	CRE 64-2-1	20					57.9	55.2	110.2	TBD	Contact Factory	4060	TBD	B
	CRE 64-2	25					57.9	59.1	110.2	TBD	Contact Factory	4234	TBD	B
	CRE 64-3-2	30					57.9	62.3	110.2	TBD	Contact Factory	4437	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 64 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 64-1-1	10	6" ANSI	43.5	54.5	8.3	60.0	40.4	40.4	36.0	48x36x16	816	1072	C
	CR 64-1	15					60.0	45.8	40.4	36.0	48x36x16	922	1233	C
	CR 64-2-1	20					60.0	49.0	40.4	36.0	48x36x16	1050	1363	C
	CR 64-2	25					60.0	52.3	40.4	36.0	48x36x16	1014	1327	C
	CR 64-3-2	30					75.0	58.9	40.4	48.0	63x48x20	1124	1638	C
	CR 64-3	40					75.0	58.9	40.4	48.0	63x48x20	1242	1759	C
3	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	75.0	41.9	60.2	48.0	63x48x20	1217	1660	C
	CR 64-1	15					75.0	47.3	60.2	48.0	63x48x20	1376	1902	C
	CR 64-2-1	20					75.0	50.6	60.2	48.0	63x48x20	1568	2097	C
	CR 64-2	25					75.0	53.9	60.2	48.0	63x48x20	1514	2043	C
	CR 64-3-2	30					75.0	60.4	60.2	48.0	63x48x20	1679	2266	C
	CR 64-3	40					75.0	60.4	60.2	48.0	63x48x20	1856	2447	C
4	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	75.0	41.9	79.9	48.0	63x48x20	1558	2027	C
	CR 64-1	15					75.0	47.3	79.9	48.0	63x48x20	1770	2349	C
	CR 64-2-1	20					75.0	50.6	79.9	48.0	63x48x20	2026	2609	C
	CR 64-2	25					75.0	53.9	79.9	48.0	63x48x20	1954	2537	C
	CR 64-3-2	30					83.0	60.4	79.9	63.0	71x63x20	2174	2953	C
	CR 64-3	40					83.0	60.4	79.9	63.0	71x63x20	2410	3195	C
5	CR 64-1-1	10	10" ANSI	48.5	64.5	12.2	83.0	44.3	107.2	71.0	71x71x20	2291	2995	C
	CR 64-1	15					83.0	49.7	107.2	71.0	71x71x20	2556	3397	C
	CR 64-2-1	20					83.0	53.0	107.2	71.0	71x71x20	2876	3725	C
	CR 64-2	25					83.0	56.2	107.2	71.0	71x71x20	2786	3635	C
	CR 64-3-2	30					83.0	62.8	107.2	71.0	71x71x20	3060	4006	C
	CR 64-3	40					83.0	62.8	107.2	71.0	71x71x20	3355	4308	C
6	CR 64-1-1	10	12" ANSI	50.9	66.9	12.2	83.0	44.3	110.2	71.0	71x71x20	2860	3589	C
	CR 64-1	15					83.0	49.7	110.2	71.0	71x71x20	3178	4072	C
	CR 64-2-1	20					83.0	53.0	110.2	71.0	71x71x20	3562	4465	C
	CR 64-2	25					83.0	56.2	110.2	71.0	71x71x20	3454	4357	C
	CR 64-3-2	30					91.0	62.8	110.2	93.0	79x93x24	3783	4915	C
	CR 64-3	40					91.0	62.8	110.2	93.0	79x93x24	4137	5277	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 64 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 64-1-1	10	6" ANSI	43.5	54.5	8.3	60.0	40.4	40.4	36.0	48x36x16	816	1063	C
	CR 64-1	15					60.0	45.8	40.4	36.0	48x36x16	922	1196	C
	CR 64-2-1	20					60.0	49.0	40.4	36.0	48x36x16	1050	1332	C
	CR 64-2	25					60.0	52.3	40.4	36.0	48x36x16	1014	1296	C
	CR 64-3-2	30					60.0	58.9	40.4	36.0	48x36x16	1124	1425	C
	CR 64-3	40					60.0	58.9	40.4	36.0	48x36x16	1242	1555	C
3	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	60.0	41.9	60.2	36.0	48x36x16	1217	1478	C
	CR 64-1	15					60.0	47.3	60.2	36.0	48x36x16	1376	1664	C
	CR 64-2-1	20					60.0	50.6	60.2	36.0	48x36x16	1568	1867	C
	CR 64-2	25					60.0	53.9	60.2	36.0	48x36x16	1514	1813	C
	CR 64-3-2	30					60.0	60.4	60.2	36.0	48x36x16	1679	1997	C
	CR 64-3	40					75.0	60.4	60.2	47.0	63x47x20	1856	2355	C
4	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	60.0	41.9	79.9	36.0	48x36x16	1558	1833	C
	CR 64-1	15					60.0	47.3	79.9	36.0	48x36x16	1770	2073	C
	CR 64-2-1	20					75.0	50.6	79.9	47.0	63x47x20	2026	2505	C
	CR 64-2	25					75.0	53.9	79.9	47.0	63x47x20	1954	2433	C
	CR 64-3-2	30					75.0	60.4	79.9	47.0	63x47x20	2174	2672	C
	CR 64-3	40					75.0	60.4	79.9	47.0	63x47x20	2410	2933	C
5	CR 64-1-1	10	10" ANSI	48.5	64.5	12.2	75.0	44.3	107.2	47.0	63x47x20	2291	2743	C
	CR 64-1	15					75.0	49.7	107.2	47.0	63x47x20	2556	3036	C
	CR 64-2-1	20					75.0	53.0	107.2	47.0	63x47x20	2876	3376	C
	CR 64-2	25					75.0	56.2	107.2	63.0	63x63x20	2786	3415	C
	CR 64-3-2	30					75.0	62.8	107.2	63.0	63x63x20	3060	3709	C
	CR 64-3	40					75.0	62.8	107.2	63.0	63x63x20	3355	4035	C
6	CR 64-1-1	10	12" ANSI	50.9	66.9	12.2	75.0	44.3	110.2	63.0	63x63x20	2860	3455	C
	CR 64-1	15					75.0	49.7	110.2	63.0	63x63x20	3178	3801	C
	CR 64-2-1	20					75.0	53.0	110.2	63.0	63x63x20	3562	4209	C
	CR 64-2	25					75.0	56.2	110.2	63.0	63x63x20	3454	4101	C
	CR 64-3-2	30					75.0	62.8	110.2	63.0	63x63x20	3783	4450	C
	CR 64-3	40					83.0	62.8	110.2	71.0	71x71x20	4137	4921	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 64 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 64-1-1	10	6" ANSI	43.5	54.5	8.3	57.9	40.4	40.4	24.8	24x24x8	816	894	B
	CR 64-1	15					57.9	45.8	40.4	24.8	24x24x8	922	1000	B
	CR 64-2-1	20					57.9	49.0	40.4	24.8	24x24x8	1050	1132	B
	CR 64-2	25					57.9	52.3	40.4	24.8	24x24x8	1014	1096	B
	CR 64-3-2	30					57.9	58.9	40.4	24.8	24x24x8	1124	1206	B
	CR 64-3	40					57.9	58.9	40.4	24.8	40x32x12	1242	1408	B
3	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	57.9	41.9	60.2	24.8	24x24x8	1217	1308	B
	CR 64-1	15					57.9	47.3	60.2	24.8	40x32x12	1376	1543	B
	CR 64-2-1	20					57.9	50.6	60.2	24.8	40x32x12	1568	1742	B
	CR 64-2	25					57.9	53.9	60.2	24.8	40x32x12	1514	1688	B
	CR 64-3-2	30					57.9	60.4	60.2	32.7	40x32x12	1679	1852	B
	CR 64-3	40					57.9	60.4	60.2	32.7	40x32x12	1856	2041	B
4	CR 64-1-1	10	8" ANSI	43.2	56.7	9.8	57.9	41.9	79.9	24.8	40x32x12	1558	1738	B
	CR 64-1	15					57.9	47.3	79.9	24.8	40x32x12	1770	1950	B
	CR 64-2-1	20					57.9	50.6	79.9	24.8	40x32x12	2026	2215	B
	CR 64-2	25					57.9	53.9	79.9	24.8	40x32x12	1954	2143	B
	CR 64-3-2	30					57.9	60.4	79.9	32.7	40x32x12	2174	2363	B
	CR 64-3	40					57.9	60.4	79.9	32.7	40x32x12	2410	2614	B
5	CR 64-1-1	10	10" ANSI	48.5	64.5	12.2	57.9	44.3	107.2	32.7	47x32x12	2291	2513	B
	CR 64-1	15					57.9	49.7	107.2	32.7	47x32x12	2556	2778	B
	CR 64-2-1	20					57.9	53.0	107.2	32.7	47x32x12	2876	3112	B
	CR 64-2	25					57.9	56.2	107.2	32.7	47x32x12	2786	3022	B
	CR 64-3-2	30					57.9	62.8	107.2	32.7	47x32x12	3060	3297	B
	CR 64-3	40					57.9	62.8	107.2	32.7	47x32x12	3355	3611	B
6	CR 64-1-1	10	12" ANSI	50.9	66.9	12.2	57.9	44.3	110.2	32.7	47x32x12	2860	3095	B
	CR 64-1	15					57.9	49.7	110.2	32.7	47x32x12	3178	3413	B
	CR 64-2-1	20					57.9	53.0	110.2	32.7	47x32x12	3562	3813	B
	CR 64-2	25					57.9	56.2	110.2	32.7	47x32x12	3454	3705	B
	CR 64-3-2	30					57.9	62.8	110.2	32.7	47x32x12	3783	4035	B
	CR 64-3	40					57.9	62.8	110.2	32.7	47x32x12	4137	4412	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC BoosterpaQ with CR 90 pumps

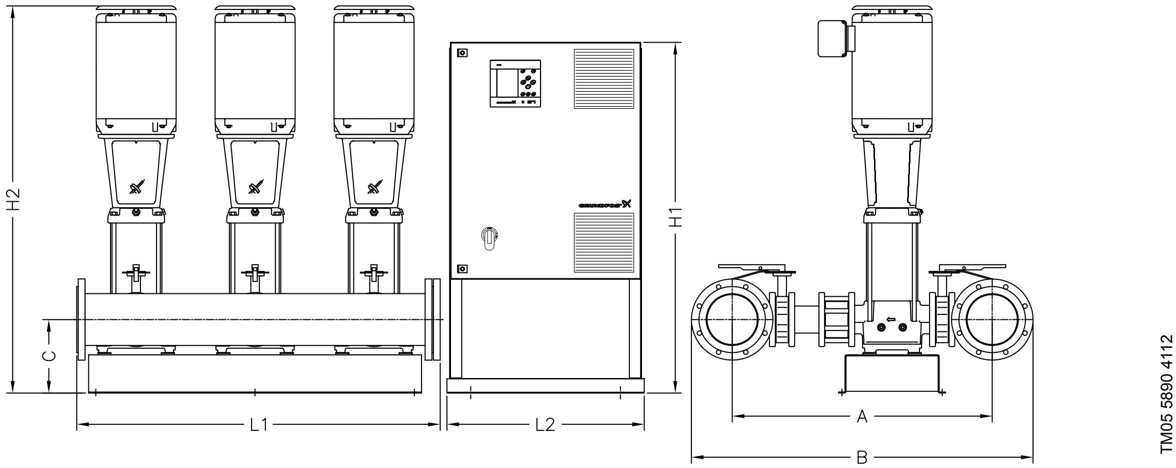


Fig. 59 Drawing of a Hydro MPC booster set with control panel and pumps on separate base plates. (Design B)

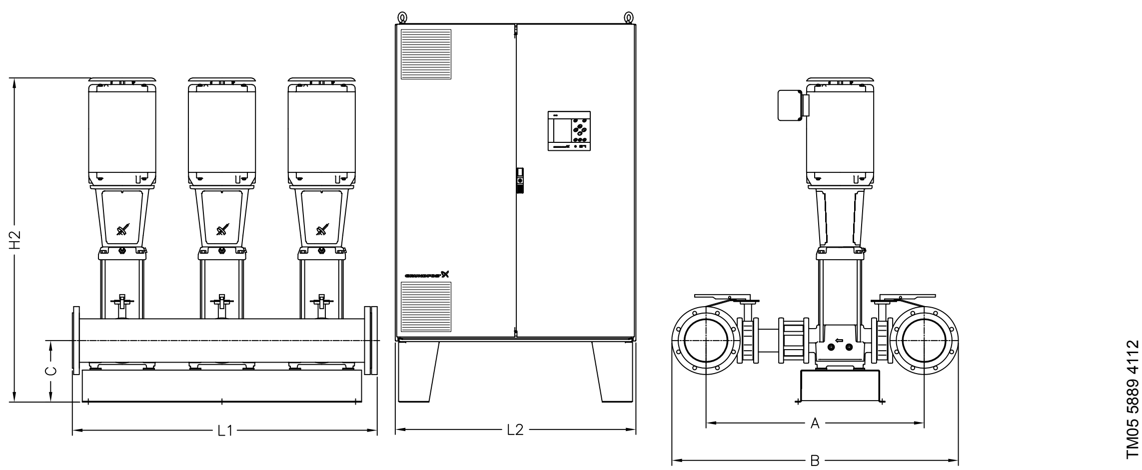


Fig. 60 Drawing of a Hydro MPC booster set with a floor-mounted control panel. (Design C)

Hydro MPC-E BoosterpaQ with CRE 90 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CRE 90-1-1	15	6" ANSI	44.1	55.1	8.3	57.9	48.4	40.4	32.7	30x24x9	653	750	B
	CRE 90-1	20					57.9	48.4	40.4	32.7	30x24x9	653	750	B
	CRE 90-2-2	25					57.9	55.9	40.4	32.7	40x32x12	671	825	B
	CRE 90-2-1	30					57.9	55.9	40.4	32.7	40x32x12	671	825	B
3	CRE 90-1-1	15	8" ANSI	43.8	57.3	9.8	57.9	49.9	60.2	32.7	40x32x12	893	1057	B
	CRE 90-1	20					57.9	49.9	60.2	32.7	40x32x12	893	1057	B
	CRE 90-2-2	25					57.9	57.5	60.2	32.7	40x32x12	971	1138	B
	CRE 90-2-1	30					57.9	57.5	60.2	32.7	40x32x12	971	1139	B
4	CRE 90-1-1	15	10" ANSI	48.4	64.4	12.2	57.9	52.3	79.9	32.7	40x32x12	1437	1613	B
	CRE 90-1	20					57.9	52.3	79.9	32.7	40x32x12	1437	1613	B
	CRE 90-2-2	25					57.9	59.9	79.9	32.7	40x32x12	1541	1723	B
	CRE 90-2-1	30					57.9	59.9	79.9	32.7	40x32x12	1541	1725	B
5	CRE 90-1-1	15	12" ANSI	51.5	70.5	12.2	57.9	52.3	99.7	TBD	Contact Factory	1937	TBD	B
	CRE 90-1	20					57.9	52.3	99.7	TBD	Contact Factory	1937	TBD	B
	CRE 90-2-2	25					57.9	59.9	99.7	TBD	Contact Factory	2067	TBD	B
	CRE 90-2-1	30					57.9	59.9	99.7	TBD	Contact Factory	2067	TBD	B
6	CRE 90-1-1	15	12" ANSI	51.5	70.5	12.2	57.9	52.3	110.2	TBD	Contact Factory	2235	TBD	B
	CRE 90-1	20					57.9	52.3	110.2	TBD	Contact Factory	2235	TBD	B
	CRE 90-2-2	25					57.9	59.9	110.2	TBD	Contact Factory	2391	TBD	B
	CRE 90-2-1	30					57.9	59.9	110.2	TBD	Contact Factory	2391	TBD	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-E(CUE) BoosterpaQ with CR 90 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
	CR 90-1-1	15					60.0	46.2	40.4	36.0	48x36x16	923	1234	C
	CR 90-1	20					60.0	46.2	40.4	36.0	48x36x16	1051	1362	C
	CR 90-2-2	25					60.0	53.0	40.4	36.0	48x36x16	1033	1346	C
2	CR 90-2-1	30	6" ANSI	44.1	55.1	8.3	75.0	56.4	40.4	48.0	63x48x20	1127	1641	C
	CR 90-2	40					75.0	56.4	40.4	48.0	63x48x20	1245	1762	C
	CR 90-3-2	40					75.0	60.0	40.4	48.0	63x48x20	1268	1785	C
	CR 90-3	50					75.0	64.6	40.4	48.0	63x48x20	1548	2138	C
	CR 90-1-1	15					75.0	47.7	60.2	48.0	63x48x20	1298	1824	C
	CR 90-1	20					75.0	47.7	60.2	48.0	63x48x20	1490	2016	C
	CR 90-2-2	25					75.0	54.6	60.2	48.0	63x48x20	1514	2043	C
3	CR 90-2-1	30	8" ANSI	43.8	57.3	9.8	75.0	58.0	60.2	48.0	63x48x20	1655	2243	C
	CR 90-2	40					75.0	58.0	60.2	48.0	63x48x20	1832	2424	C
	CR 90-3-2	40					75.0	61.6	60.2	48.0	63x48x20	1856	2448	C
	CR 90-3	50					75.0	66.2	60.2	48.0	63x48x20	2276	2978	C
	CR 90-1-1	15					75.0	50.1	79.9	48.0	63x48x20	1977	2556	C
	CR 90-1	20					75.0	50.1	79.9	48.0	63x48x20	2233	2812	C
	CR 90-2-2	25					75.0	57.0	79.9	48.0	63x48x20	2265	2849	C
4	CR 90-2-1	30	10" ANSI	48.4	64.4	12.2	83.0	60.3	79.9	63.0	71x63x20	2453	3236	C
	CR 90-2	40					83.0	60.3	79.9	63.0	71x63x20	2689	3478	C
	CR 90-3-2	40					83.0	64.0	79.9	63.0	71x63x20	2721	3510	C
	CR 90-3	50					83.0	68.6	79.9	63.0	71x63x20	3281	4214	C
	CR 90-1-1	15					83.0	50.1	99.7	71.0	71x71x20	2612	3453	C
	CR 90-1	20					83.0	50.1	99.7	71.0	71x71x20	2932	3773	C
	CR 90-2-2	25					83.0	57.0	99.7	71.0	71x71x20	2972	3819	C
5	CR 90-2-1	30	12" ANSI	51.5	70.5	12.2	83.0	60.3	99.7	71.0	71x71x20	3207	4153	C
	CR 90-2	40					83.0	60.3	99.7	71.0	71x71x20	3502	4455	C
	CR 90-3-2	40					83.0	64.0	99.7	71.0	71x71x20	3541	4495	C
	CR 90-3	50					83.0	68.6	99.7	71.0	71x71x20	4241	5375	C
	CR 90-1-1	15					83.0	50.1	110.2	71.0	71x71x20	3045	3939	C
	CR 90-1	20					83.0	50.1	110.2	71.0	71x71x20	3429	4323	C
	CR 90-2-2	25					83.0	57.0	110.2	71.0	71x71x20	3477	4378	C
6	CR 90-2-1	30	12" ANSI	51.5	70.5	12.2	91.0	60.3	110.2	93.0	79x93x24	3759	4890	C
	CR 90-2	40					91.0	60.3	110.2	93.0	79x93x24	4113	5253	C
	CR 90-3-2	40					91.0	64.0	110.2	93.0	79x93x24	4161	5300	C
	CR 90-3	50					91.0	68.6	110.2	93.0	79x93x24	5001	6356	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-F BoosterpaQ with CR 90 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
2	CR 90-1-1	15	6" ANSI	44.1	55.1	8.3	60.0	40.4	40.4	36.0	48x36x16	923	1234	C
	CR 90-1	20					60.0	45.5	40.4	36.0	48x36x16	1051	1362	C
	CR 90-2-2	25					60.0	54.3	40.4	36.0	48x36x16	1033	1346	C
	CR 90-2-1	30					60.0	54.9	40.4	36.0	48x36x16	1127	1479	C
	CR 90-2	40					60.0	56.3	40.4	36.0	48x36x16	1245	1600	C
	CR 90-3-2	40					60.0	59.9	40.4	36.0	48x36x16	1268	1623	C
	CR 90-3	50					60.0	59.4	40.4	36.0	48x36x16	1548	1976	C
3	CR 90-1-1	15	8" ANSI	43.8	57.3	9.8	60.0	41.9	60.2	36.0	48x36x16	1298	1662	C
	CR 90-1	20					60.0	47.1	60.2	36.0	48x36x16	1490	1854	C
	CR 90-2-2	25					60.0	55.8	60.2	36.0	48x36x16	1514	1881	C
	CR 90-2-1	30					60.0	56.5	60.2	36.0	48x36x16	1655	2081	C
	CR 90-2	40					75.0	57.8	60.2	47.0	63x47x20	1832	2424	C
	CR 90-3-2	40					75.0	61.5	60.2	47.0	63x47x20	1856	2448	C
	CR 90-3	50					75.0	61.0	60.2	47.0	63x47x20	2276	2978	C
4	CR 90-1-1	15	10" ANSI	48.4	64.4	12.2	60.0	44.3	79.9	36.0	48x36x16	1977	2394	C
	CR 90-1	20					75.0	49.4	79.9	47.0	63x47x20	2233	2812	C
	CR 90-2-2	25					75.0	58.2	79.9	47.0	63x47x20	2265	2849	C
	CR 90-2-1	30					75.0	58.8	79.9	47.0	63x47x20	2453	3117	C
	CR 90-2	40					75.0	60.2	79.9	47.0	63x47x20	2689	3359	C
	CR 90-3-2	40					75.0	63.8	79.9	47.0	63x47x20	2721	3391	C
	CR 90-3	50					75.0	63.3	79.9	47.0	63x47x20	3281	4095	C
5	CR 90-1-1	15	12" ANSI	51.5	70.5	12.2	75.0	44.3	99.7	47.0	63x47x20	2612	3244	C
	CR 90-1	20					75.0	49.4	99.7	47.0	63x47x20	2932	3564	C
	CR 90-2-2	25					75.0	58.2	99.7	63.0	63x63x20	2972	3739	C
	CR 90-2-1	30					75.0	58.8	99.7	63.0	63x63x20	3207	4073	C
	CR 90-2	40					75.0	60.2	99.7	63.0	63x63x20	3502	4375	C
	CR 90-3-2	40					75.0	63.8	99.7	63.0	63x63x20	3541	4415	C
	CR 90-3	50					75.0	63.3	99.7	63.0	63x63x20	4241	5295	C
6	CR 90-1-1	15	12" ANSI	51.5	70.5	12.2	75.0	44.3	110.2	63.0	63x63x20	3045	3859	C
	CR 90-1	20					75.0	49.4	110.2	63.0	63x63x20	3429	4243	C
	CR 90-2-2	25					75.0	58.2	110.2	63.0	63x63x20	3477	4298	C
	CR 90-2-1	30					75.0	58.8	110.2	63.0	63x63x20	3759	4698	C
	CR 90-2	40					83.0	60.2	110.2	71.0	71x71x20	4113	5141	C
	CR 90-3-2	40					83.0	63.8	110.2	71.0	71x71x20	4161	5188	C
	CR 90-3	50					83.0	63.3	110.2	71.0	71x71x20	5001	6244	C

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

Design B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Hydro MPC-S BoosterpaQ with CR 90 pumps

No. of pumps	Pump type	Motor [hp]	Connect. size [in.]	A [in]	B [in]	C [in]	H1 [in]	H2 [in]	L1 [in]	L2 [in]	Panel dim. HxWxD [in]	Wt. w/out panel [lb]	Wt. w/panel [lb]	Design
	CR 90-1-1	15					57.9	40.4	40.4	32.7	24x24x8	923	999	B
	CR 90-1	20					57.9	45.5	40.4	32.7	24x24x8	1051	1127	B
	CR 90-2-2	25					57.9	54.3	40.4	32.7	24x24x8	1033	1111	B
2	CR 90-2-1	30	6" ANSI	44.1	55.1	8.3	57.9	54.9	40.4	32.7	24x24x8	1127	1205	B
	CR 90-2	40					57.9	56.3	40.4	32.7	40x32x12	1245	1402	B
	CR 90-3-2	40					57.9	59.9	40.4	32.7	40x32x12	1268	1425	B
	CR 90-3	50					57.9	59.4	40.4	40.6	40x32x12	1548	1706	B
	CR 90-1-1	15					57.9	41.9	60.2	32.7	40x32x12	1298	1462	B
	CR 90-1	20					57.9	47.1	60.2	32.7	40x32x12	1490	1654	B
	CR 90-2-2	25					57.9	55.8	60.2	32.7	40x32x12	1514	1681	B
3	CR 90-2-1	30	8" ANSI	43.8	57.3	9.8	57.9	56.5	60.2	40.6	40x32x12	1655	1823	B
	CR 90-2	40					57.9	57.8	60.2	40.6	40x32x12	1832	2004	B
	CR 90-3-2	40					57.9	61.5	60.2	40.6	40x32x12	1856	2028	B
	CR 90-3	50					57.9	61.0	60.2	72.0	40x32x12	2276	2450	B
	CR 90-1-1	15					57.9	44.3	79.9	40.6	40x32x12	1977	2153	B
	CR 90-1	20					57.9	49.4	79.9	40.6	40x32x12	2233	2409	B
	CR 90-2-2	25					57.9	58.2	79.9	40.6	40x32x12	2265	2447	B
4	CR 90-2-1	30	10" ANSI	48.4	64.4	12.2	57.9	58.8	79.9	40.6	40x32x12	2453	2637	B
	CR 90-2	40					57.9	60.2	79.9	40.6	40x32x12	2689	2879	B
	CR 90-3-2	40					57.9	63.8	79.9	40.6	40x32x12	2721	2911	B
	CR 90-3	50					57.9	63.3	79.9	72.0	40x32x12	3281	3471	B
	CR 90-1-1	15					57.9	44.3	99.7	40.6	47x32x12	2612	2829	B
	CR 90-1	20					57.9	49.4	99.7	40.6	47x32x12	2932	3149	B
	CR 90-2-2	25					57.9	58.2	99.7	40.6	47x32x12	2972	3194	B
5	CR 90-2-1	30	12" ANSI	51.5	70.5	12.2	57.9	58.8	99.7	40.6	47x32x12	3207	3432	B
	CR 90-2	40					57.9	60.2	99.7	40.6	47x32x12	3502	3734	B
	CR 90-3-2	40					57.9	63.8	99.7	40.6	47x32x12	3541	3774	B
	CR 90-3	50					57.9	63.3	99.7	72.0	47x32x12	4241	4474	B
	CR 90-1-1	15					57.9	44.3	110.2	72.0	47x32x12	3045	3274	B
	CR 90-1	20					57.9	49.4	110.2	72.0	47x32x12	3429	3658	B
	CR 90-2-2	25					57.9	58.2	110.2	72.0	47x32x12	3477	3713	B
6	CR 90-2-1	30	12" ANSI	51.5	70.5	12.2	57.9	58.8	110.2	72.0	47x32x12	3759	3997	B
	CR 90-2	40					57.9	60.2	110.2	72.0	47x32x12	4113	4360	B
	CR 90-3-2	40					57.9	63.8	110.2	72.0	47x32x12	4161	4407	B
	CR 90-3	50					57.9	63.3	110.2	72.0	47x32x12	5001	5247	B

Design A: Hydro MPC booster set with a control panel mounted on the same base plate as the pumps.

esign B: Hydro MPC booster set with a control panel and pumps mounted on separate base plates.

Design C: Hydro MPC booster set with a floor mounted control panel.

Note: All control panel dimensions based on 460/3/60 power. Dimensions may vary ± 1 in. and vary due to options requested and component changes. Please contact Grundfos for a Certified drawing for construction purposes.

Maximum system amps (full load amperage)

No. of pumps	Motor [hp]	MPC-E(CRE)				MPC-E(CUE)	MPC-S	MPC-E(CUE), -F, -S				
		1x230V	3x208V	3x230V	3x460V	1x230V	1x230V	3x208V	3x230V	3x460V	3x575V
2	1	13.4			6.4	14.6	15.0	9.7	9.5	6.4	5.6
	1.5	18.2	11.7	11.1	7.4	19.3	22.0	12.4	12.2	7.6	7
	2		14.5	13.5	8.4	22.7	28.4	14.4	13.8	8.4	8.6
	3		19.6	18.2	10.4	32.1	35.0	19.8	18.4	10.8	9.4
	5		30.6	29.6	15.2	50.7	51.0	30.6	29.0	16.0	14
	7.5		43.0	40.0	20.8	73.6	70.6	43.8	41.8	22.4	18.2
	10				26.2	94.7	83.0	56.0	54.0	28.6	22.2
	15				39.0			77.0	73.0	38.0	31
	20				51.0			107.0	99.0	51.0	41.4
	25				64.0			131.0	121.0	62.0	50
	30				76.0				143.0	73.0	58.2
	40								191.0	97.0	77
	50								235.0	119.0	95
	60								267.0	135.0	113.4
3	1	18.6			8.1	20.4	21.0	13.1	12.8	8.0	6.9
	1.5	25.8	16.1	15.2	9.6	27.4	31.5	17.1	16.8	9.9	9
	2		20.3	18.8	11.1	32.6	37.5	20.1	19.2	11.1	11.4
	3		27.9	25.8	14.1	46.6	51.0	28.2	26.1	14.7	12.6
	5		44.4	42.9	21.3	74.6	75.0	44.4	42.0	22.5	19.5
	7.5		63.0	58.5	29.7	108.9	104.4	64.2	61.2	32.1	25.8
	10				37.8	140.5	123.0	82.5	79.5	41.4	31.8
	15				57.0			114.0	108.0	55.5	45
	20				75.0			159.0	147.0	75.0	60.6
	25				94.5			195.0	180.0	91.5	73.5
	30				112.5				213.0	108.0	85.8
	40								285.0	144.0	114
	50								351.0	177.0	141
	60								399.0	201.0	168.6
4	1	23.8			9.8	26.2	27.0	16.4	16.0	9.7	8.2
	1.5	33.4	20.4	19.2	11.8	35.5	41.0	21.8	21.4	12.2	11
	2		26.0	24.0	13.8	42.4	49.0	25.8	24.6	13.8	14.2
	3		36.2	33.4	17.8	61.1	67.0	36.6	33.8	18.6	15.8
	5		58.2	56.2	27.4	98.5	99.0	58.2	55.0	29.0	25
	7.5		83.0	77.0	38.6	144.2	138.2	84.6	80.6	41.8	33.4
	10				49.4	186.4	163.0	109.0	105.0	54.2	41.4
	15				75.0			151.0	143.0	73.0	59
	20				99.0			211.0	195.0	99.0	79.8
	25				125.0			259.0	239.0	121.0	97
	30				149.0				283.0	143.0	113.4
	40								379.0	191.0	151
	50								467.0	235.0	187
	60								531.0	267.0	223.8
5	1	29.0			11.5	32.0	33.0	19.8	19.3	11.4	9.5
	1.5	41.0	24.8	23.3	14.0	43.7	50.5	26.5	26.0	14.5	13
	2		31.8	29.3	16.5	52.3	60.5	31.5	30.0	16.5	17
	3		44.5	41.0	21.5	75.7	83.0	45.0	41.5	22.5	19
	5		72.0	69.5	33.5	122.4	123.0	72.0	68.0	35.5	30.5
	7.5		103.0	95.5	47.5	179.5	172.0	105.0	100.0	51.5	41
	10				61.0	232.2	203.0	135.5	130.5	67.0	51
	15				93.0			188.0	178.0	90.5	73
	20				123.0			263.0	243.0	123.0	99
	25				155.5			323.0	298.0	150.5	120.5
	30				185.5				353.0	178.0	141
	40								473.0	238.0	188
	50								583.0	293.0	233
	60								663.0	333.0	279

Notes: 1. Maximum system amperage reflect panels with no options and may change due to panel options requested.

Max. system amps (full load amperage)

No. of pumps	Motor [hp]	MPC-E(CRE)				MPC-E(CUE)	MPC-S	MPC-E(CUE), -F, -S			
		1x230V	3x208V	3x230V	3x460V	1x230V	1x230V	3x208V	3x230V	3x460V	3x575V
6	1	34.2			13.2	37.8	39.0	23.1	22.5	13.1	10.8
	1.5	48.6	29.1	27.3	16.2	51.8	60.0	31.2	30.6	16.8	15
	2		37.5	34.5	19.2	62.2	72.0	37.2	35.4	19.2	19.8
	3		52.8	48.6	25.2	90.2	99.0	53.4	49.2	26.4	22.2
	5		85.8	82.8	39.6	146.2	147.0	85.8	81.0	42.0	36
	7.5		123.0	114.0	56.4	214.8	205.8	125.4	119.4	61.2	48.6
	10				72.6	278.1	243.0	162.0	156.0	79.8	60.6
	15				111.0			225.0	213.0	108.0	87
	20				147.0			315.0	291.0	147.0	118.2
	25				186.0			387.0	357.0	180.0	144
	30				222.0				423.0	213.0	168.6
	40								567.0	285.0	225
	50								699.0	351.0	279
	60								795.0	399.0	334.2

Notes: 1. Maximum system amperage reflect panels with no options and may change due to panel options requested.

9. Optional equipment

All optional equipment, if required, must be specified when ordering the Hydro MPC booster set, as it must be fitted from factory prior to delivery.

Diaphragm tank

In most systems a diaphragm tank must be installed on the discharge side of the system. See page 25 for recommended size.

Redundant primary sensor

In order to increase the reliability, a redundant primary sensor can be connected as backup sensor for the primary sensor.

Note: The redundant primary sensor [1] must be of the same type as the primary sensor.

[1] The redundant primary sensor is normally connected to the analog input AI3 of CU 352. If this input is used for another function, such as External setpoint, the redundant sensor must be connected to the analog input AI2. If, however, this input is also occupied, the number of analog inputs must be increased by installing an IO 351B module, see page 86.

Dry-running protection

Dry-running protection must always be installed on the suction side of the system.

The following types of dry run protection are available with each BoosterpaQ.

- Pressure transducer (4-20mA) [2]
- Liquid level switch [1]

[1] Only one type of dry-running protection can be selected, as it must be connected to the same digital input of CU 351. This also applies to level switches.
For further information about CU 352, see page 9.

[2] The inlet pressure sensor is normally connected to the analog input AI2 of CU 352. If this input is used for another function, such as External setpoint, the sensor must be connected to the analog input AI3. If, however, this input is also occupied, the number of analog inputs must be increased by installing an IO 351B module, see page 86.
For further information about IO 351B, see page 86.

Position of non-return valve

As standard, non-return valves are fitted on the discharge side. They can also be fitted on the suction side of the pump.

Emergency operation switch

The emergency operation switch enables emergency operation if a fault occurs in the CU 352. The emergency operation switch are located inside the panel as standard but can be located through the door if requested.

Note: The motor protection and the dry-running protection are not activated during emergency operation.

Note: Order 1 switch for each pump.

Service disconnect switch

By means of a repair switch fitted to the individual pumps of the Hydro MPC booster set, the pumps can be switched off during repair, etc.

Note: Order 1 switch for each pump.

Pump run indicator light

The indicator light is on when the relevant pump is in operation.

Note: Order 1 operation indicator light for each pump.

System Fault indicator light

The fault indicator light is on if a fault occurs in the booster set.

Note: Phase failure causes no fault indication.

Individual pump fault indicator light

The fault indicator light is on if a fault occurs in the pump.

Note: Order 1 fault indicator light for each pump.

Surge arrestor

A surge arrestor is mounted in the control panel to aid in the protection against a lightning strike and power spikes.

Phase-failure monitor

The booster set should be protected against phase failure.

Note: A potential-free switch is available for external monitoring. Systems that include all variable frequency drives (VFD) do not need this option as the VFD will protect the motors from loss of phase.

Panel dome light

The dome light is on in case of a system alarm.

Note: Phase failure causes no alarm indication.

Audible alarm

The audible alarm sounds in case of a system alarm. Two types are available:

- 80 dB

Voltmeter

A voltmeter indicates the mains voltage between the main phases.

Ammeter

An ammeter indicates the current of one phase per pump.

IO 351B interface

Fig. 61 IO 351B interface

This option features a factory-fitted and non-programmed IO 351B interface enabling exchange of nine additional digital inputs, seven additional digital outputs and two additional analog inputs.

Note: As standard the CU 352 supports the installation of one IO 351B interface.

Description	Location	Product number
I/O interface via IO 351B	In control panel	96161730

Ethernet

The ethernet connection makes it possible to get unlimited access to the setting and monitoring of the Hydro MPC from a remote PC. Ethernet connection is standard on CU 352 controller.

Backup battery

- The battery is connected to the CU352 as a backup in case the power supply is interrupted.

CIM communication interface modules

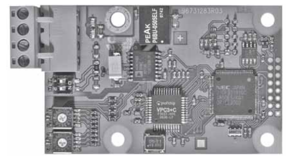


Fig. 62 Grundfos CIM communication interface module

The CIM modules enable communication of operating data, such as measured values and setpoints, between the Hydro MPC and a building management system.

Note: CIM modules must be fitted by authorised personnel.

The CIM module enables transfer of data such as:

- operating mode
- setpoint
- control mode
- warnings and alarms
- power/energy consumption.

We offer the following CIM modules:

Module	Fieldbus protocol	Product number
CIM 050	GENIbus	96020422
CIM 110	LONworks	96020415
CIM 150	Profibus DP	96020416
CIM 200	Modbus RTU	96020417
CIM 250	GSM	96020418
CIM 270	GRM	96020419
CIM 300	BACnet MS/TP	96020420

Antennae for CIM 250

Description	Product number
Antenna for roof	97631956
Antenna for desk	97631957

Transient voltage protection

The transient voltage protection protects the booster system against high-energy transients.

Description	Range	Product number
Transient voltage protection	3 x 400 V, N, PE, 50/60 Hz	96020181
	3 x 400 V, PE, 50/60 Hz	96020182

Lightning protection

The booster system can be protected against strokes of lightning. The lightning protection is in accordance with IEC 61024-1:1992-10, class B and C.

Note: Additional earthing facilities must be arranged by the customer at the installation site.

Description	Range	Product number
Lightning protection	3 x 400 V, N, PE, 50/60 Hz	96020125
	3 x 400 V, PE, 50/60 Hz	96020180

Grundfos GO Remote

The Grundfos GO Remote is used for wireless infrared or radio communication with the pumps.

Various Grundfos GO Remote variants are available. The variants are described in the following.

MI 201

The MI 201 is a complete solution, consisting of an Apple iPod touch 4G and a Grundfos cover for infrared and radio communication with Grundfos pumps or systems.

TM05 3886 1712

Fig. 63 MI 201

Supplied with the product:

- Apple iPod touch 4G incl. accessories
- Grundfos MI 201 cover
- battery charger
- quick guide.

MI 202

The MI 202 is an add-on module with built-in infrared and radio communication. The MI 202 can be used in conjunction with Apple iPod Touch 4, iPhone 4 or later.

TM05 3887 1712

Fig. 64 MI 202

Supplied with the product:

- Grundfos MI 202
- quick guide.

MI 301

The MI 301 is a module with built-in infrared and radio communication. The MI 301 must be used in conjunction with an Android or iOS-based Smartphone with a Bluetooth connection. The MI 301 has rechargeable Li-ion battery and must be charged separately.

TM05 3890 1712

Fig. 65 MI 301

Supplied with the product:

- Grundfos MI 301
- battery charger
- quick guide.

Product numbers

Grundfos GO Remote variant	Product number
Grundfos MI 201	98140638
Grundfos MI 202	98046376
Grundfos MI 301	98046408

Supported units

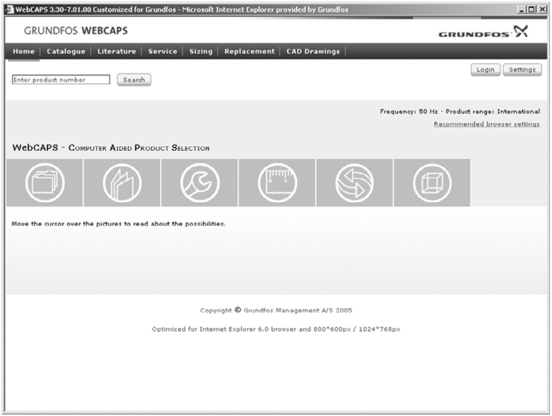
Make	Model	Operating system	MI 201	MI 202	MI 301
Apple	iPod touch 4G	iOS 5.0 or later	●	●	●
	iPhone 4G, 4GS		-	●	●
HTC	Desire S	Android 2.3.3 or later	-	-	●
	Sensation	Android 2.3.4 or later	-	-	●
Samsung	Galaxy S II		-	-	●

Note: Similar Android and iOS-based devices may work as well, but are not supported by Grundfos.

Subject to alterations.

10. Further product documentation

WebCAPS

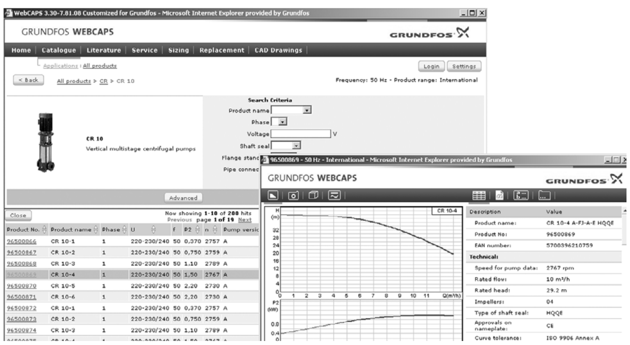


WebCAPS is a **Web**-based **C**omputer **A**ided **P**roduct **S**election program available on www.grundfos.com.

WebCAPS contains detailed information on more than 185,000 Grundfos products in more than 20 languages.

In WebCAPS, all information is divided into 6 sections:

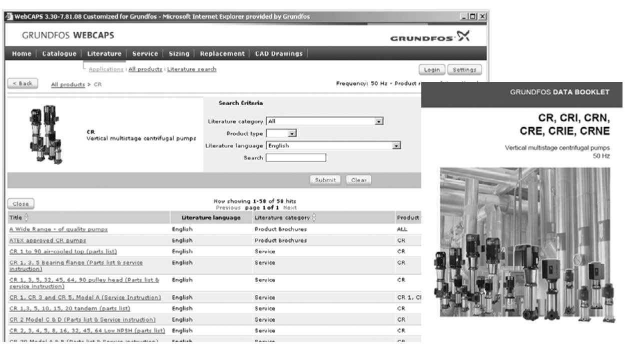
- Catalog
- Literature
- Service
- Sizing
- Replacement
- CAD drawings.



Catalog

This section is based on fields of application and pump types, and contains

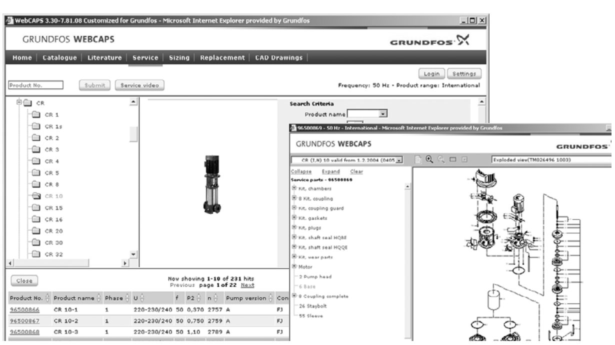
- technical data
- curves (QH, Eta, P1, P2, etc) which can be adapted to the density and viscosity of the pumped liquid and show the number of pumps in operation
- product photos
- dimensional drawings
- wiring diagrams
- quotation texts, etc.



Literature

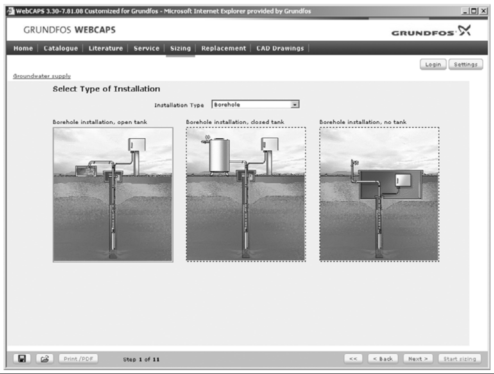
In this section you can access all the latest documents of a given pump, such as

- product guides
- installation and operating instructions
- service documentation, such as Service kit catalog and Service kit instructions
- quick guides
- product brochures, etc.



Service

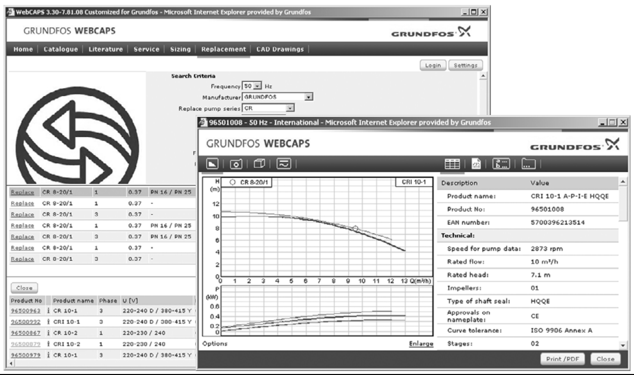
This section contains an easy-to-use interactive service catalog. Here you can find and identify service parts of both existing and discontinued Grundfos pumps.
Furthermore, this section contains service videos showing you how to replace service parts.



Sizing

This section is based on different fields of application and installation examples, and gives easy step-by-step instructions in how to

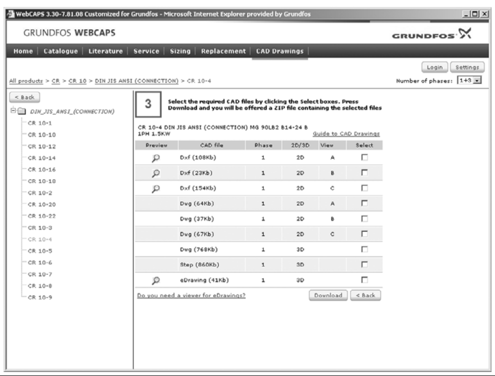
- select the most suitable and efficient pump for your installation
- carry out advanced calculations based on energy consumption, payback periods, load profiles, life cycle costs, etc.
- analyse your selected pump via the built-in life cycle cost tool
- determine the flow velocity in wastewater applications, etc.



Replacement

In this section you find a guide to selecting and comparing replacement data of an installed pump in order to replace the pump with a more efficient Grundfos pump.
The section contains replacement data of a wide range of pumps produced by other manufacturers than Grundfos.

Based on an easy step-by-step guide, you can compare Grundfos pumps with the one you have installed on your site. When you have specified the installed pump, the guide will suggest a number of Grundfos pumps which can improve both comfort and efficiency.



CAD drawings

In this section it is possible to download 2-dimensional (2D) and 3-dimensional (3D) CAD drawings of most Grundfos pumps.

These formats are available in WebCAPS:

<u>2-dimensional drawings:</u>
- .dxf, wireframe drawings
- .dwg, wireframe drawings.

<u>3-dimensional drawings:</u>
- .dwg, wireframe drawings (without surfaces)
- .stp, solid drawings (with surfaces)
- .eprt, E-drawings.

WinCAPS

WinCAPS CD-ROM

WinCAPS is a **Win**dows-based **C**omputer **A**ided **P**roduct **S**election program containing detailed information on more than 185,000 Grundfos products in more than 20 languages.

The program contains the same features and functions as WebCAPS, but is an ideal solution if no Internet connection is available.

WinCAPS is available on CD-ROM and updated once a year.

Subject to alterations.

GO CAPS

Mobile solution for professionals on the GO!

CAPS functionality on the mobile workplace.

Available on the App Store

BE > THINK > INNOVATE >

Being responsible is our foundation
Thinking ahead makes it possible
Innovation is the essence

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