Hydro MPC

Hydro MPC systems with 2 to 6 pumps
50/60 Hz



GRUNDFOS

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1. System introduction

System description

As standard, the system consists of two to six CR, CRI pumps or CRE, CRIE pumps connected in parallel and mounted on a common base frame with a control cabinet and all necessary fittings.

Pilot pump can be added in systems with high variating in flow demand to maintain high efficiency at low flow.

The pumps of the system can be removed without interfering with the pipes on either side of the manifolds.

The system comes in three control variants. For further information, see sections Product range and Control variants.

Hydro MPC-E/EC

- Systems are with two to six identical electronically speed-controlled pumps.
- Pipe connection is from R 2 to DN 500.
- Hydro MPC-E systems are from 0.37 to 22 kW equipped with CRE, CRIE pumps with integrated frequency converter.
- Hydro MPC-EC systems are from 30 kW equipped with CR pumps connected to Grundfos CUE frequency converters; one per pump.

Hydro MPC-F

- Systems are with two to six identical CR, CRI pumps connected to one Grundfos CUE frequency converter. The speed-controlled operation alternates between the pumps of the system.
- Pipe connection is from R 2 to DN 500.
- Motor sizes are from 0.55 kW.

Related information

Product range
Control variants

Applications

The system is designed for the transfer and pressure boosting of clean water in places such as:

- water-supply systems
- irrigation systems
- industrial applications
- commercial buildings
- high-rise buildings.

Features and benefits

Perfect constant-pressure control



GR-1014555

CU 352

The pumps of the systems are controlled individually by the CU 352 multi-pump control unit which contains application-optimised software and pump curve data. CU 352 knows the exact hydraulic and electrical data of the pumps to be controlled. A log function monitors the system performance over a period of time.

User-friendliness

The system features a built-in startup 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 colour display ensures that day-to-day operations are equally easy.

Reliability



TM1040082

Grundfos CRE pumps

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

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

Low energy consumption

The Hydro MPC-E systems with Grundfos MGE motors from 0.37 to 22 kW have a total efficiency which exceeds the Super Premium Efficiency EuP IE5 level according to IEC 60034-30-1.



TM083139

Grundfos MGE motors

MG motors up to 55 kW meet the legislative requirements of the EuP IE3 level, and from 75 kW and up to 200 kW meets the legislative requirements of the EuP IE4 level.

Furthermore, the system uses pump curve data to calculate and optimise the cut-in and cut-out of pumps.

High-efficient motors, advanced control in combination with optimised hydraulics for both the CRE pump and the manifold ensure that the system uses a minimum of energy.

Flexibility

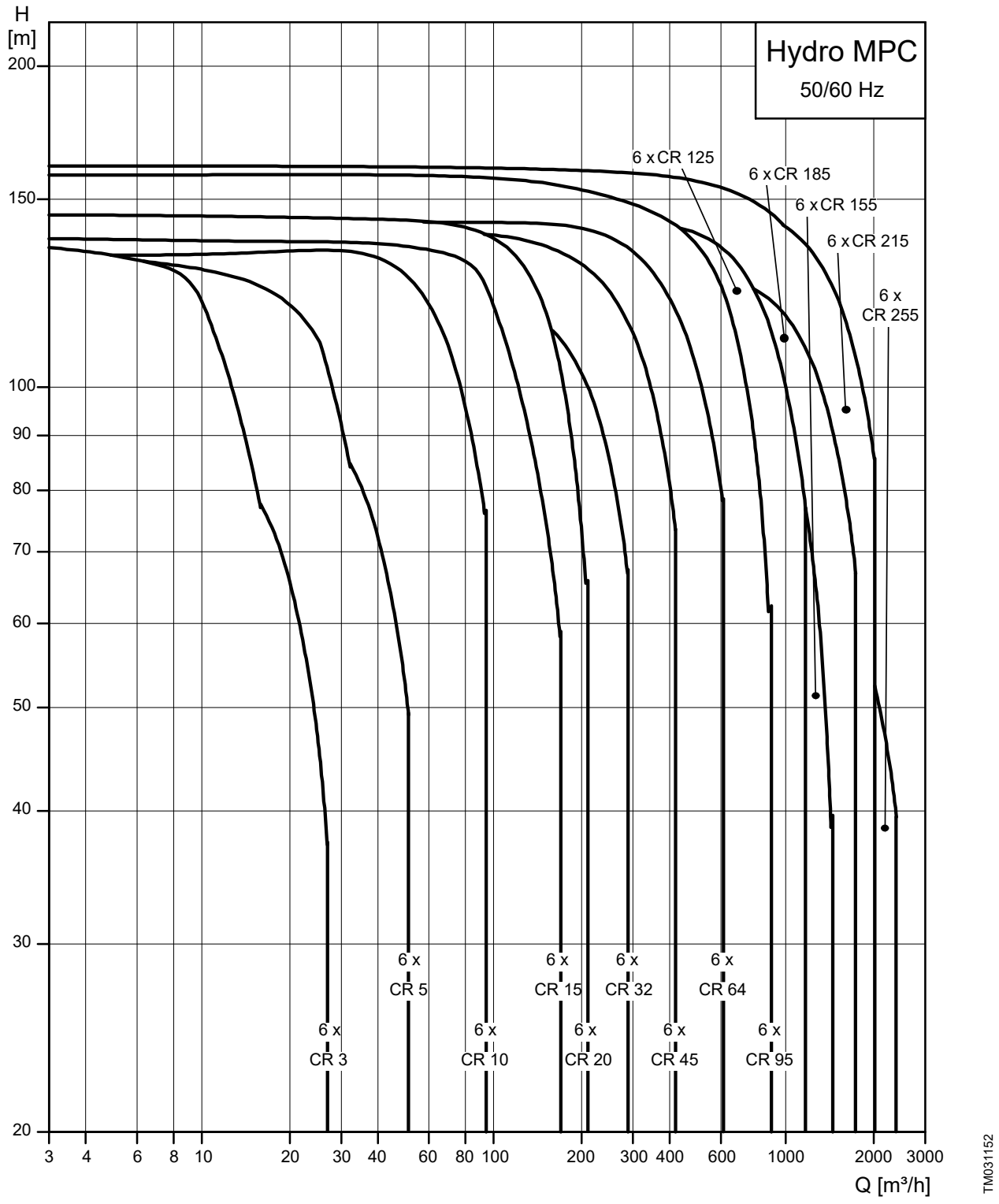
The elements of the system can be combined in a number of ways to make sure that we build the perfect solution for you.

Custom-built solutions

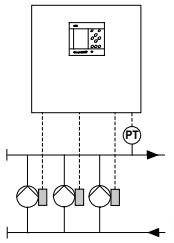
If this data booklet does not provide you with a solution that meets your specific pumping needs, contact Grundfos.

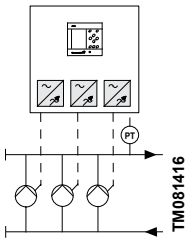
2. System data

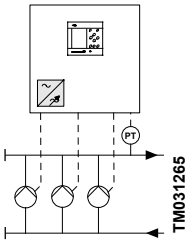
Performance range



Product range







Control variant	Hydro MPC-E	Hydro MPC-EC	Hydro MPC-F
Frequency	**50/60 Hz**		**50/60 Hz**
Hydraulic data			
Maximum head [m]	50 Hz: 146 60 Hz: 155		50 Hz: 146 60 Hz: 155
Rated flow rate [m^3/h]	0-1836		0-1460
Liquid temperature [°C]	5-60 [1]		5-60 [1]
Ambient temperature [°C]	0-40		0-40
Relative humidity	95 %		95 %
Maximum operating pressure [bar]	16 [2]		16 [2]
Motor data			
Number of pumps	2-6		2-6
Motor power [kW]	0.37 - 110 [3]		0.55 - 55
Shaft seal			
HQQE (SiC/SiC/EPDM)	●		●
Materials			
CR, CRE 3 to CR, CRE 155: cast iron and stainless steel EN 1.4301 / AISI 304	●		●
CR 185 to CR 255: cast iron and stainless steel EN 1.4301 / AISI 304	●		❍
CRI, CRIE 3 to CRI, CRIE 20: stainless steel EN 1.4301 / AISI 304	●		●
CRN, CRNE 3 to CRN, CRNE 155: stainless steel EN 1.4408 AISI 316	●		●
CRN 185 to CRN 255: stainless steel EN 1.4408 AISI 316	●		❍
Manifold: Stainless steel [4]	●		●
Pipe connection			
Union connection	R 2 - R 2 1/2		R 2 - R 2 1/2
DIN flange	DN 80 - DN 500		DN 80 - DN 400

1) Systems for lower and higher temperature are available on request.

2) Systems with a maximum operating pressure higher than 16 bar are available on request.

3) The Hydro MPC-E systems from 0.37 to 22 kW are fitted with speed-controlled CRE, CRIE pumps with integrated frequency converters. The Hydro MPC-EC systems from 30 to 110 kW are fitted with CR, CRI pumps connected to Grundfos CUE frequency converters.

4) In some regions, galvanised manifolds are available as an option. For further information, contact Grundfos.

● Available as standard.

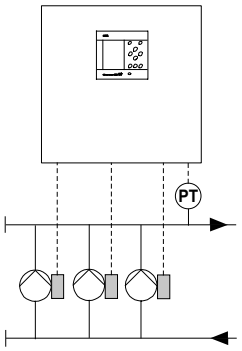
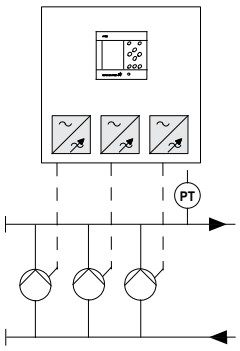
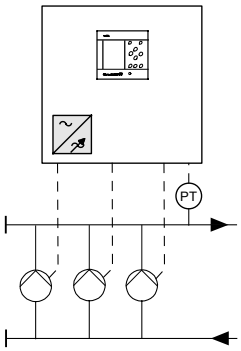
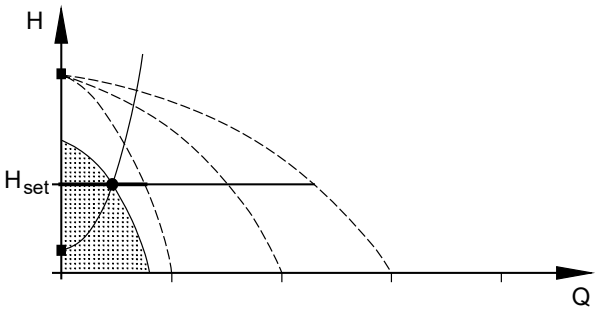
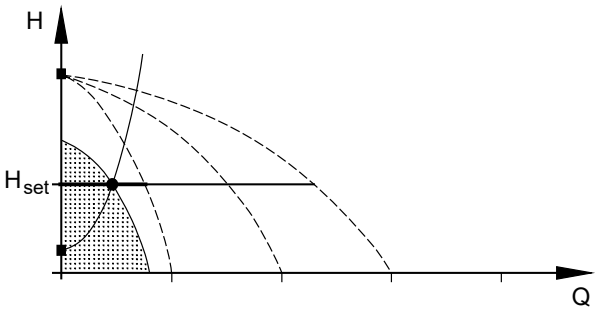
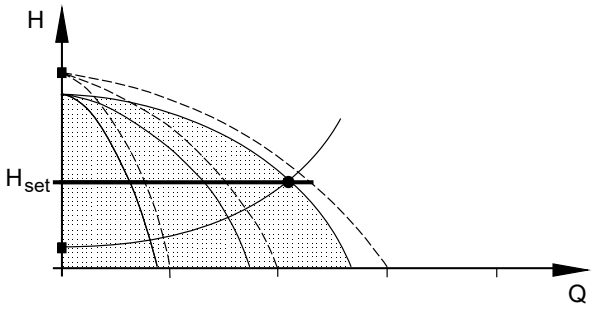
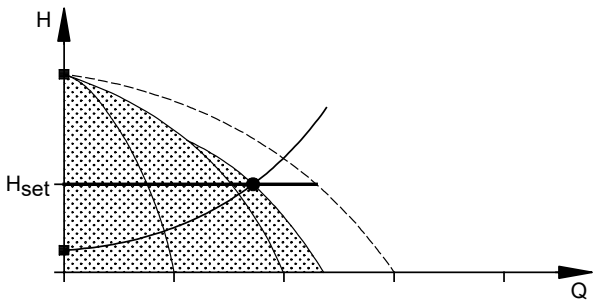
❍ Available on request.

Related information

Control variants

Control variants

The table shows examples of systems.

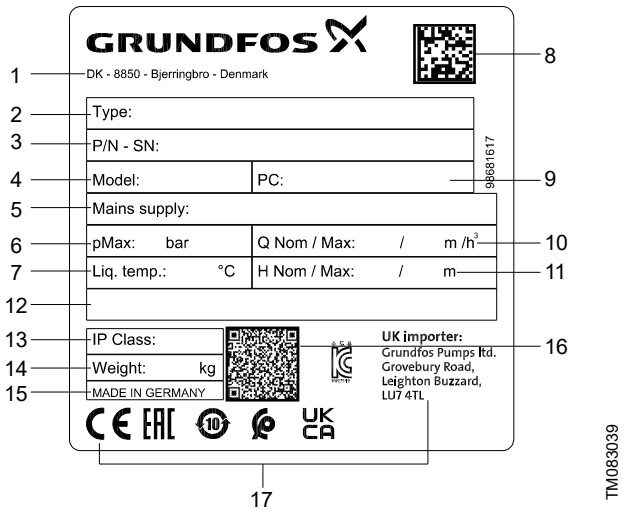
Systems with speed-controlled pumps		Systems with pumps connected to one CUE frequency converter
Hydro MPC-E	**Hydro MPC-EC**	**Hydro MPC-F**
System with three CR, CRIE pumps.		System with three CR pumps connected to one Grundfos CUE frequency converter in the control cabinet. The speed-controlled operation alternates between the pumps.
 TM030993	 TM081416	 TM031265
One CR, CRIE pump in operation.		One CR pump connected to one Grundfos CUE frequency converter in operation.
 TM007995		 TM007995
Three CRE, CRIE pumps in operation.		One CR pump connected to one Grundfos CUE frequency converter and two mains-operated CR pumps in operation.
 TM007996		 TM007998
• The system maintains a constant pressure through continuous adjustment of the speed of the pumps. • The system 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, operating hours and fault. • All pumps in operation will run at equal speed.		• The system maintains a constant pressure through continuous adjustment of the speed of the CR pump connected to the Grundfos CUE frequency converter. The speed-controlled operation alternates between the pumps. • One CR pump connected to the Grundfos CUE frequency converter always starts first. If the pressure cannot be maintained by the pump, one or two mains-operated CR pumps will be cut in. • Pump changeover is automatic and depends on load, operating hours and fault.

Type key

Example: Hydro MPC-E 6 CRNE155-1-1 U1 A-A-A-ABCD

Code	Explanation		Designation
Hydro MPC			System name
E	E: All pumps E Motor or CUE F: Fixed speed pumps, 1 CUE	S: Fixed speed pumps X: Customised system type	System type
6			Number of main pumps
CRNE155-1-1			Pump type
U1	U1: 3 x 380-415 V, N, PE, 50/60 Hz U2: 3 x 380-415 V, PE, 50/60 Hz U3: 3 x 380-415 V, N, PE, 50 Hz U4: 3 x 380-415 V, PE, 50 Hz U5: 3 x 380-415V, N, PE, 60 Hz U6: 3 x 380-415 V, PE, 60 Hz U7: 1 x 200-240 V, PE, 50/60 Hz U8: 1 x 200-240 V, N, PE, 50/60 Hz U9: 3 x 220-240 V, PE, 60 Hz	UA: 3 x 440-480 V, PE, 60 Hz UB: 1 x 220-240 V, N, PE, 50/60 Hz UC:1 x 220-240 V, N, PE, 50 Hz UD: 3 x 440-480 V, N, PE, 60 Hz UJ: 1 x 208-230 V, PE, 60 Hz UK: 3 x 208-230 V, PE, 60 Hz UL: 3 x 460-480 V, PE, 60 Hz UX: CSU variant (special voltage rating)	Voltage code
A	A: Systems with the control cabinet mounted on the same base frame as the pumps. B: Systems with the control cabinet centred on the base frame. C: Systems with the control cabinet mounted on its own base for floor mounting. The control cabinet can be placed up to 2 metres from the pumps. D: Systems with the control cabinet mounted on its own base frame. The control cabinet can be placed up to 2 metres from the pumps. E: APAC design. Systems with the control cabinet mounted on the same base frame as the pumps. F: APAC design. Systems with the control cabinet centred on the base frame. G: APAC design. Systems with the control cabinet mounted on its own base for floor mounting. The control cabinet can be placed up to 2 metres from the pumps. H: APAC design. Systems with the control cabinet mounted on its own base frame. The control cabinet can be placed up to 2 metres from the pumps. I: APAC design. Systems with the control cabinet prepared for wall mounting. The control cabinet can be placed up to 2 metres from the pumps. W: Systems with the control cabinet prepared for wall mounting. The control cabinet can be placed up to 2 metres from the pumps.		Design
A	A: E B: DOL C: SD		Starting method
A	A: Stainless steel manifold and base frame, and standard valves B: Stainless steel manifold, base frame and valves C: Galvanised steel manifold and base frame, and standard valves D: Stainless steel manifold, galvanised steel base frame, and standard valves H: Galvanised steel manifold and base frame painted black, and standard valves I: Stainless steel manifold and base frame painted black, and standard valves X: Customised material combination		Material combination
ABCD	A: Standard hydraulic, PN 16 B: Pilot pump C: Bypass D: NRV on inlet E: Elbow manifold F: No inlet manifold G: Diaphragm tank H: Dry-running protection I: Repair switch J: Redundant sensor or switch K: 1 free pump position L: 2 free pump position M: 3 free pump position	N: PN 10 pressure rating O: PN 25 pressure rating P: Low prepressure Q: PN 40 pressure rating R: RPM = 50 Hz S: Customised variant T: Certificate U: Undersized motor V: Standard controls with options W: Customised controls 3W: Hydro DDD panel X: More than 4 options Y: Control cabinet with double door	Option

Nameplate



TM083039

Nameplate example

Pos.	Description
1	Company address
2	Product type
3	Product number and Serial number
4	Model number
5	Mains supply
6	Max. operating pressure
7	Liquid temperature
8	Barcode
9	Production code
10	Nominal flow rate and maximum flow rate
11	Normal head and maximum head
12	Technical documents
13	IP class
14	Weight
15	Country of origin
16	QR code
17	Marks of approval

Sound pressure level

The sound pressure depends on the specific pump type and motor size and can be found in the installation and operating instructions of the pump.

In systems with multiple pumps the maximum total sound pressure $L_{p,tot}$ will increase according to the total number of pumps and can be calculated by the equation stated below.

Multiple sound sources may generally be added as [5)]

$$L_{p,tot} = 10Log_{10}\sum_{i} 10^{\frac{L_{p,i}}{10}}$$

This means that for a system including a number of identical pumps N, the total system sound level $L_{p,tot}$ may be obtained by adding the values below to the sound level of the specific pump type.

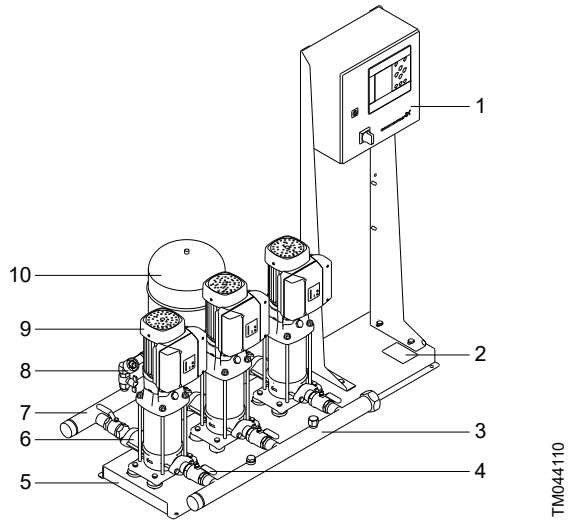
$$L_{p,tot} = L_p + \Delta L_p$$

Number of pumps N	ΔL_p
	dB(A)
1	0
2	3
3	5
4	6
5	7
6	8

5) Leo Beranek and Istvan L. Ver, *Noise and Vibration Control Engineering*, John Wiley and Sons, 1992

3. Construction

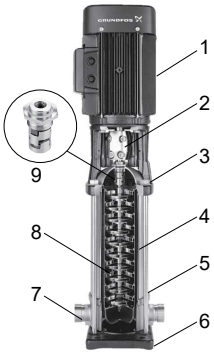
System structure



System structure

Pos.	Description	Quantity
1	Control cabinet	1
2	Nameplate	1
3	Inlet manifold	1
4	Isolating valve	2 per pump
5	Base frame	1-2
6	Non-return valve	1 per pump
7	Outlet manifold	1
8	Pressure transmitter or pressure gauge	1
9	Pump	2-6
10	Diaphragm tank (optional)	1

CR pump



CR pump

Pos.	Description
1	Motor
2	Coupling
3	Pump head
4	Sleeve
5	Staybolts
6	Base plate
7	Base
8	Impeller
9	Shaft seal (cartridge type)

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 inlet and outlet ports at the same level (in line) and of the same port size.

CRE and CRIE pumps are based on CR and CRI pumps. The difference between the CR and CRE pump is the motor. CRE and CRIE pumps are fitted with a motor with integrated frequency converter.

CR and CRE pumps have pump head and base of cast iron while CRI and CRIE pumps have pump head and base of stainless steel.

All hydraulic parts are made of stainless steel.

For further information, see the documents in section Product manuals.

Related information

16. Product manuals

Motors

CR and CRI pumps

CR and CRI pumps are fitted with a totally enclosed, fan-cooled, 2-pole Grundfos standard motor.

Principal dimensions are in accordance with the EN standards.

Electrical tolerances to EN 60034.

Three-phase Grundfos motors from 3 kW and up have a built-in thermistor (PTC) according to DIN 44082, class TP 211 according to IEC 34-11.

For further information, see the pump installation and operating instructions.

CRE and CRIE pumps

CRE and CRIE pumps are fitted with a totally enclosed, fan-cooled, permanent magnet motor with integrated frequency converter.

Principal dimensions are in accordance with EN standards.

Electrical tolerances to EN 60034.

Motors with integrated frequency converter require no external motor protection. The motor incorporates thermal protection against slow overloading and seizure, class TP 211 according to IEC 34-11.

For further information, see the pump installation and operating instructions.

Shaft seal

All pumps have a maintenance-free mechanical cartridge type HQQE shaft seal. Seal faces are silicon carbide. Rubber parts are of EPDM.

Other shaft seal variants are available on request.



GR3395H

Cartridge shaft seal

You can replace the shaft seal without dismantling the pump. You can replace the shaft seal of pumps with motors of 11 kW and up without removing the motor.

For further information, see the document in section Product manuals.

Related information

16. Product manuals

Base frame

The pumps in the system are mounted on a common base frame. The base frame is made of stainless steel AISI 304, except for systems with CR, CRE 95 and above are mounted on a corrosion protected steel base frame.

Manifold

A stainless steel manifold (AISI 316/EN DIN 1.4571/EN DIN 1.4404) is fitted on the inlet and outlet side of the pumps.

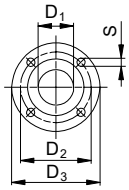
In some regions, AISI 304 and galvanised manifolds are available as an option. For further information, contact Grundfos.

An isolating valve and a non-return valve are fitted between the outlet manifold and the individual pumps. The non-return valve can be fitted on the inlet side on request.

An isolating valve and a check valve are fitted between the outlet manifold and the individual pumps. The check valve can be fitted on the inlet side on request.

Flange

PN 16 flanges, DN 80-500



TM027720

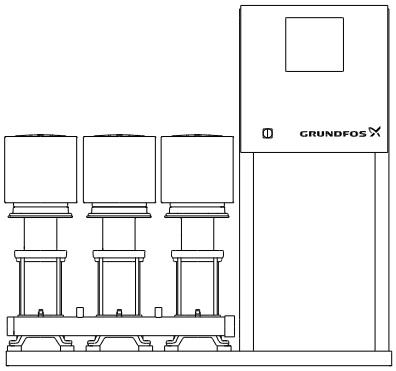
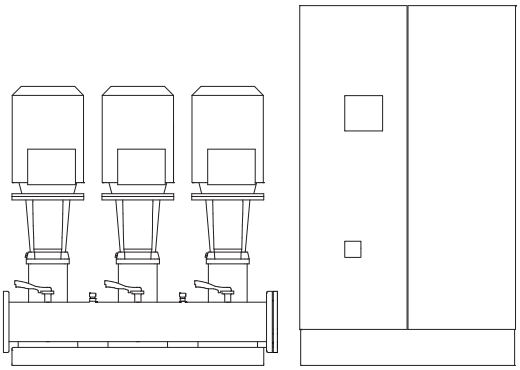
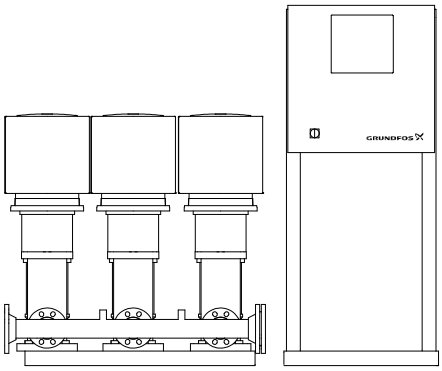
	Standard: EN 1092-2 PN 16 (1.6 MPa)										
	Nominal diameter (DN)										
DN	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**
D_1	80	100	125	150	200	250	300	350	400	450	500
D_2	160	180	210	240	295	355	410	470	525	585	650
D_3	200	220	250	285	340	405	460	520	580	640	715
S	8 x 19	8 x 19	8 x 19	8 x 23	12 x 23	12 x 28	12 x 28	16 x 28	16 x 28	20 x 30	20 x 33

Control cabinet

The control cabinet is fitted with all the necessary components. If necessary, the system is fitted with a fan to remove surplus heat generated by the frequency converter.

The control cabinet is divided into different designs:

Control cabinet variants

Variants	Description	Examples
Design A	Systems with the control cabinet mounted on the same base frame as the pumps.	 TM086207
Design C	Systems with the control cabinet mounted on its own base for floor mounting. The control cabinet can be placed up to 2 metres from the pumps.	 TM086209
Design D	Systems with the control cabinet mounted on its own base frame. The control cabinet can be placed up to 2 metres from the pumps.	 TM086210

CU 352

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



GR-1014555

CU 352

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

The CU 352 has application-optimised 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 is available in the A and B variants.



IO 351A and IO 351B

IO 351A

IO 351A is used for one to three mains-operated Grundfos pumps.

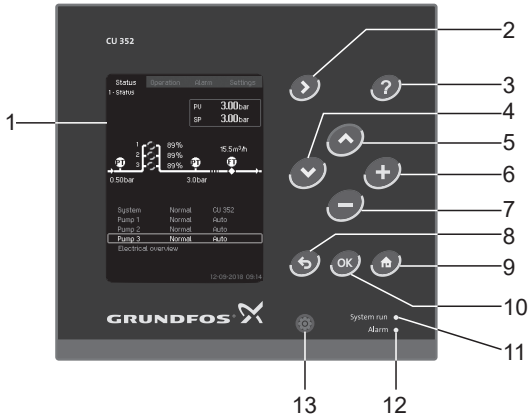
IO 351B

IO 351B is used for one to six mains-operated Grundfos pumps and/or pumps controlled by external Grundfos CUE frequency converters. The module can also be used as an input-output module for communication with monitoring equipment or other external equipment.

4. Control functions

CU 352 operating panel

The operating panel on the front cover of the control cabinet features a display, a number of buttons and two indicator lights. The operating panel enables manual setting and monitoring of the performance of the system.

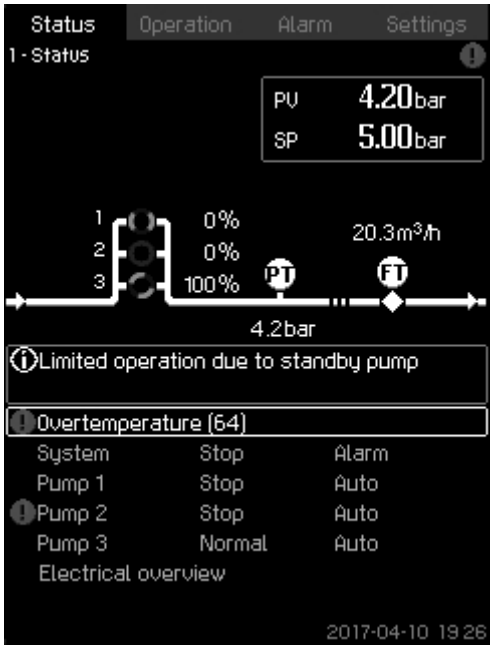


TM054258

CU 352 operating panel

Pos.	Description
1	Display
2	Arrow to the right
3	Help
4	Down
5	Up
6	Plus
7	Minus
8	Esc.
9	Home
10	OK
11	Indicator light, operation (green)
12	Indicator light, fault (red)
13	Display brightness

Status menu

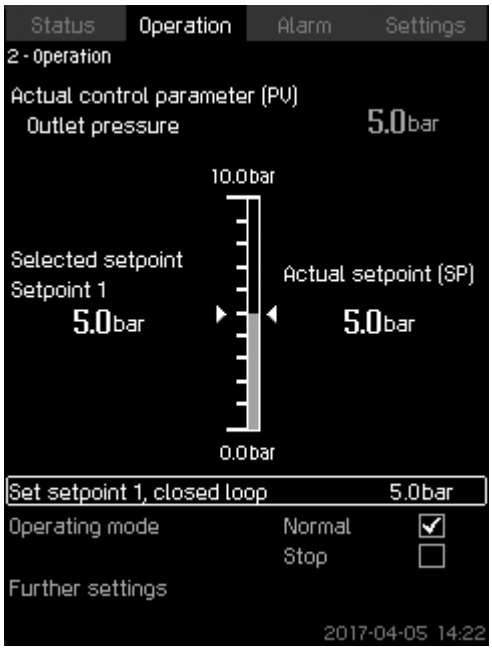


1_TM038947_001

***Status** menu*

- Reading of process value (PV) of control parameter and selected setpoint (SP)
- graphical illustration of system (upper half of the display)
- indication if any incidents occurring during operation (middle of the display)
- reading of performance of system and individual pumps (lower half of the display)
- button ⑦ for further information
- active buttons are on.

Operation menu



2_TM038950_002

***Operation** menu*

- Setting of basic parameters, for instance, setpoint or start/stop of system or individual pumps
- reading of selected setpoint and current setpoint
- button ⓘ for further information
- active buttons are on.

Alarm menu

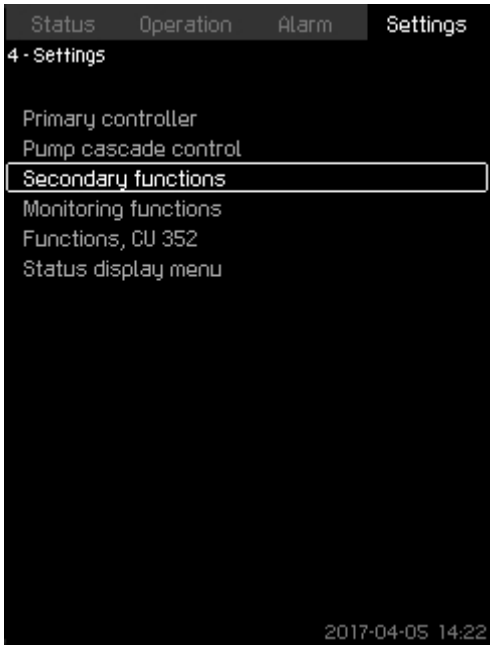


3_TM032291_003

***Alarm** menu*

- Overview of current warnings and alarms in clear text with detailed information:
  - Cause of the fault
  - remedy for the fault
  - where the fault occurred: system, pump no. 1, etc.
  - when the fault occurred (time and date)
  - when the fault disappeared (time and date)
  - whom to contact for service
- alarm log with up to 24 warnings and alarms
- button ⓘ for further information
- active buttons are on.

Settings menu



4_TM032294_004

***Settings** menu*

- Various settings:
  - **External setpoint influence**
  - **Redundant primary sensor**
  - **Standby pumps**
  - **Stop function**
  - **Proportional pressure**
  - **Display language**
  - **Ethernet**, etc.
- button ⓘ for further information
- active buttons are on.

Overview of functions

	Hydro MPC	
	-E/EC	-F
Functions via the CU 352 operating panel		
Alternative setpoints	●	●
Automatic cascade control	●	●
Clock program	●	●
Controlled output	●	●
Constant-pressure control	●	●
Dry-running protection [6)]	●	●
Emergency run	●	●
Flow estimation	●	●
Forced pump changeover	●	●
Limit 1 and 2 exceeded	●	●
Log function	●	●
Minimum changeover time	●	●
Monitoring of non-return valve [7)]	●	-
Multisensor	●	●
Number of starts per hour	●	●
Password	●	●
Pilot pump [6)]	●	●
Proportional pressure	●	●
Pump curve data	●	●
Pumps outside duty range	●	●
Pump test run	●	●
Reduced operation	●	●
Redundant primary sensor [6)]	●	●
Secondary sensor	●	●
Setpoint ramp	●	●
Specific energy calculation	● [8)]	-
Soft pressure buildup	●	●
Standby pumps	●	●
Stop function	●	●
Communication		
Ethernet connection	●	●
External GENIbus connection	❍	❍
Other bus protocols: PROFIBUS, LonWorks, Modbus, GRM, GSM, BACnet MS/TP, Industrial Ethernet via CIM modules. For further information, see section Optional equipment.	❍	❍

6) Hardware not supplied as standard, but the functionality is available in the control cabinet.

7) Systems with MGE motors, 0.37 - 22 kW.

8) Requires that a flowmeter is installed and connected.

● Standard.

❍ On request.

- Not available.

Related information

14. Optional equipment

Constant-pressure control of E-system

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

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

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

When the water consumption decreases, pumps are cut out one by one to maintain the set outlet pressure.

Display language



4-5-1_TM038987_116

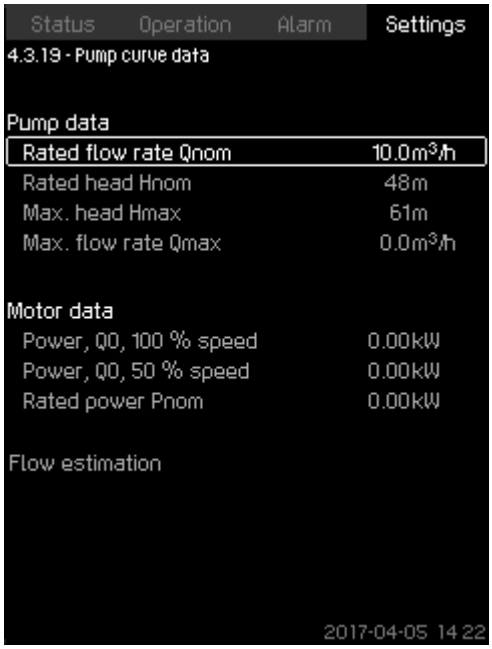
Display language

You can select the language for the display via CU 352.

Options

- **English**
- **Danish**
- **German**
- **French**
- **Italian**
- **Spanish**
- **Portuguese**
- **Greek**
- **Dutch**
- **Swedish**
- **Finnish**
- **Polish**
- **Russian**
- **Korean**
- **Chinese**
- **Japanese**
- **Czech**
- **Turkish**
- **Hungarian**
- **Bulgarian**
- **Croatian**
- **Latvian**
- **Lithuanian**
- **Romania**
- **Slovak**
- **Slovenian**
- **Serbian Latin**
- **US English**
- **Indonesian**
- **Malay**
- **Estonian**

Pump curve data



4-3-19_TM038975_104

Pump curve data

Pump curve data is loaded into the CU 352 control unit of the system at the factory.

The control unit uses pump curve data along with inlet and outlet pressure information to analyse and determine the operating point of each pump. This data is used to optimise the performance and minimise energy consumption and provides protection from running pumps outside their duty range.

Redundant primary sensor

A redundant sensor can be installed as backup for the primary sensor to increase reliability and prevent stop of operation. The redundant primary sensor can also act as a reference point in the outlet manifold of the system.

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

Automatic cascade control

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

Alternative setpoints

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

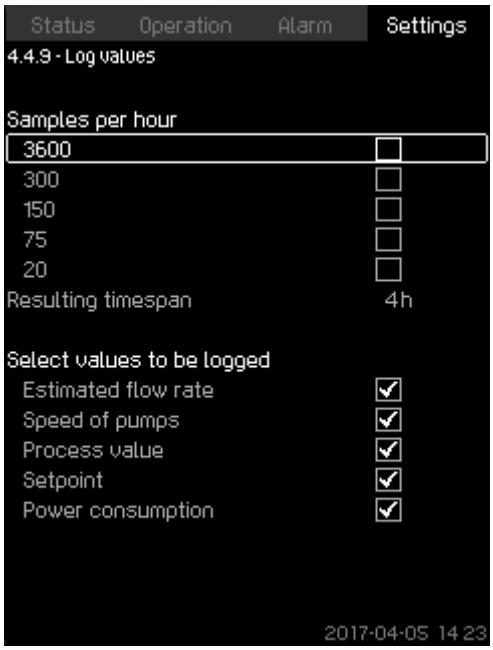
Example

A 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 outlet pressure is required.

Log function



4-4-9_TM052973_181

Log values

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

Specific energy calculation

For MPC-E systems with a flow meter connected, CU 352 can calculate and show the specific energy used. There are two values displayed: the actual value and the average value.

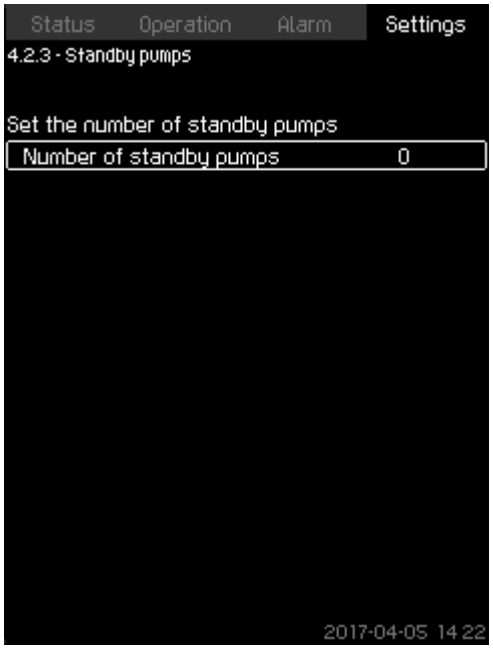
Number of starts per hour

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 when a pump starts or stops, CU 352 calculates 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. However, pump stops can be delayed to avoid exceeding the permissible number of starts/stops per hour.

Standby pumps



4-2-3_TM032366_075

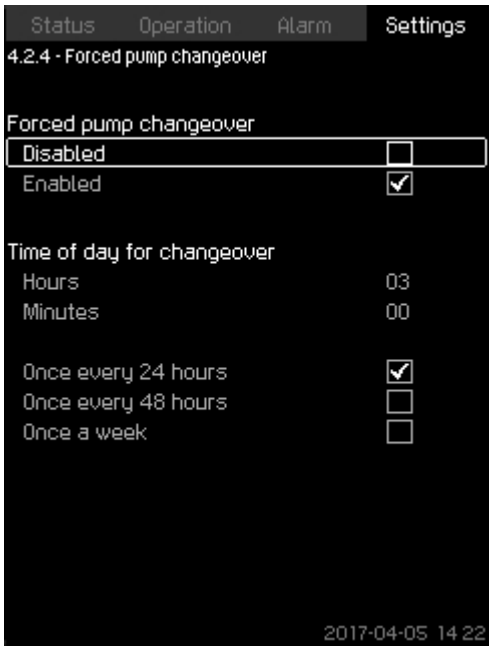
Standby pumps

You can let one or more pumps function as standby pumps. For example, a system of four pumps with one designated to be a standby pump runs as a three-pump system.

If a pump is stopped due to a fault, the standby pump is 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 of the standby pump alternates between all pumps of the same type, for instance electronically speed-controlled pumps.

Forced pump changeover



4-2-4_TM032365_058

Forced pump changeover

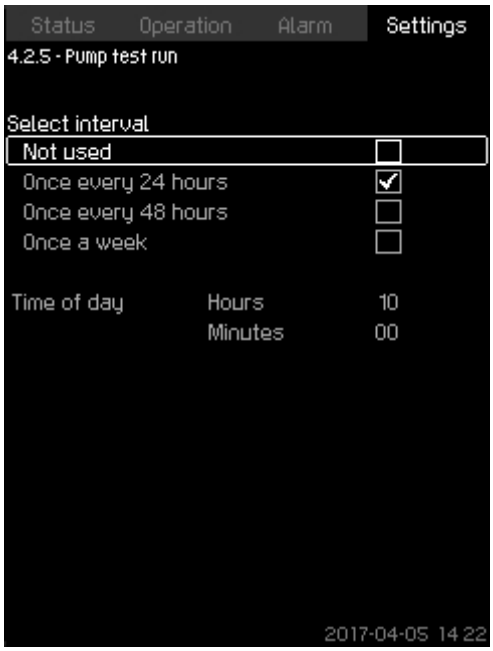
This function ensures that the pumps run for the same amount of operating hours over time.

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 automatically, and forced pump changeover may be required.

Once every 24 hours, the control unit checks if any pump in operation has been running continuously for the preceding 24 hours.

If that is the case, the pump with the most number of operating hours stops and is replaced by the pump with the lowest number of operating hours.

Pump test run



4-2-5_TM032364_057

Pump test run

This function is primarily used for connecting 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.

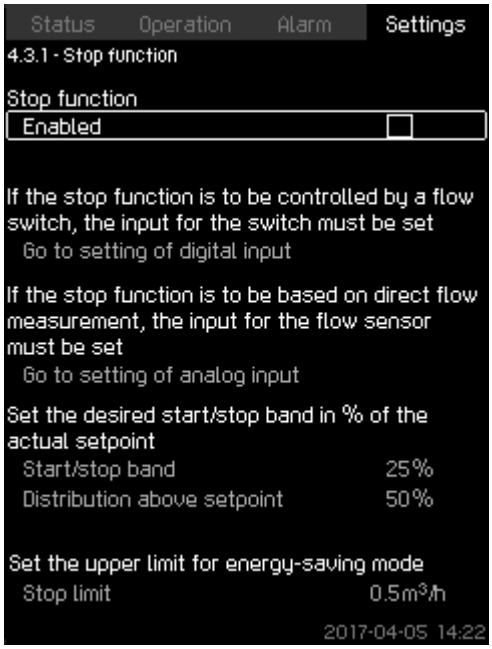
Dry-running protection

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 water 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 stop.

Level switches, pressure switches or analog sensors indicating water shortage at a set level can be used. The system can also be reset and restarted manually or automatically after water shortage.

Stop function



4-3-1_TM032355_102

Stop function

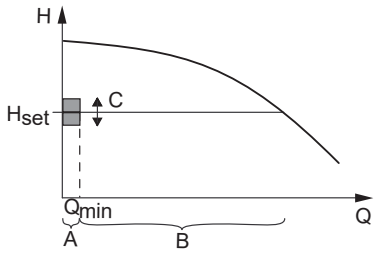
The stop function makes it possible to stop the last pump in operation if there is no or very small consumption.

Purposes are to:

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

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

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



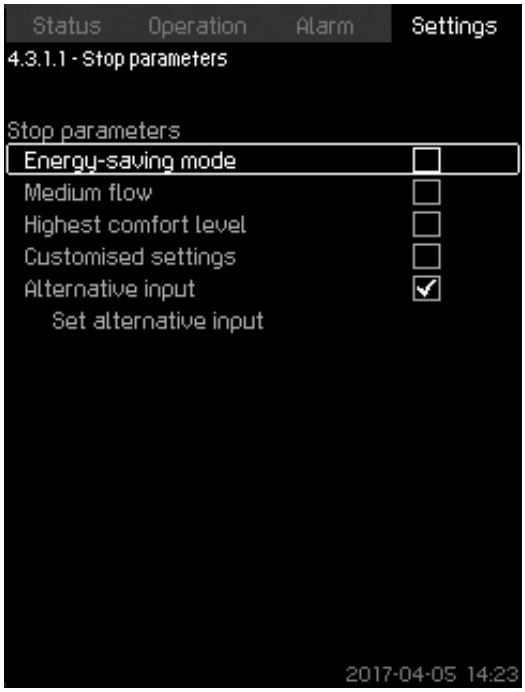
TM078147

On/off band

Pos.	Description
A	On/off control
B	Normal operation
C	Start/stop band

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

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



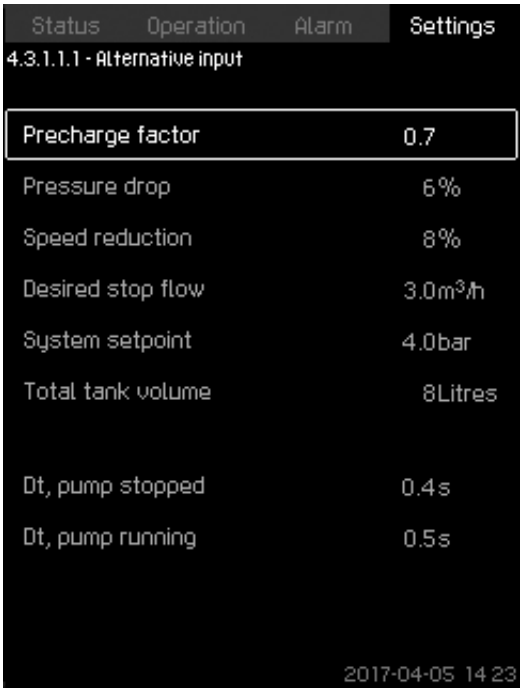
4-3-1-1_STOP_PARAMETERS_171

Stop parameters

Five stop parameters can be selected:

- **Energy-saving mode(factory setting)**
  It is the most energy-efficient mode possible.
- **Medium flow**
  It combines energy efficiency with high comfort.
- **Highest comfort level**
  It achieves the highest comfort level without too many pump starts or stops.
- **Customised settings**
  It allows for customized setup.
- **Alternative input**

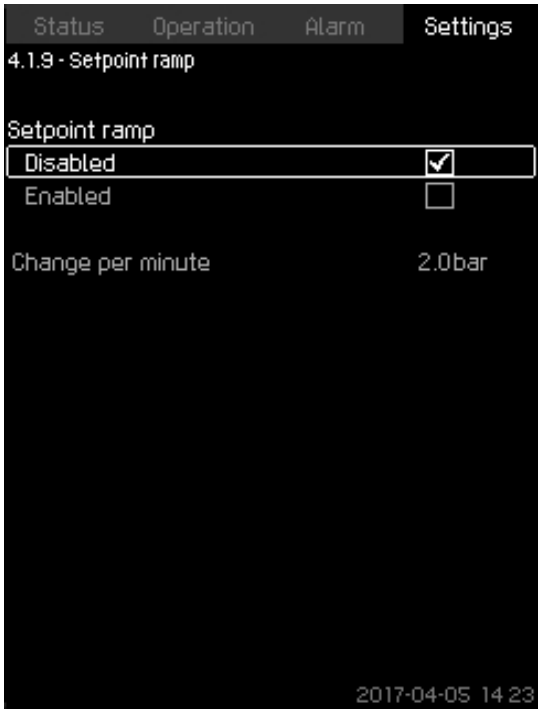
It allows for defining the stop flow on the basis of the system setpoint, total tank volume or pre-charge pressure.



4-3-1-1-1_ALTERNATIVE_INPUT_201

Alternative input

Setpoint ramp



4-1-9_TM052969_174

Setpoint ramp

If this function is enabled, any setpoint change made via the control unit or 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 consumer.

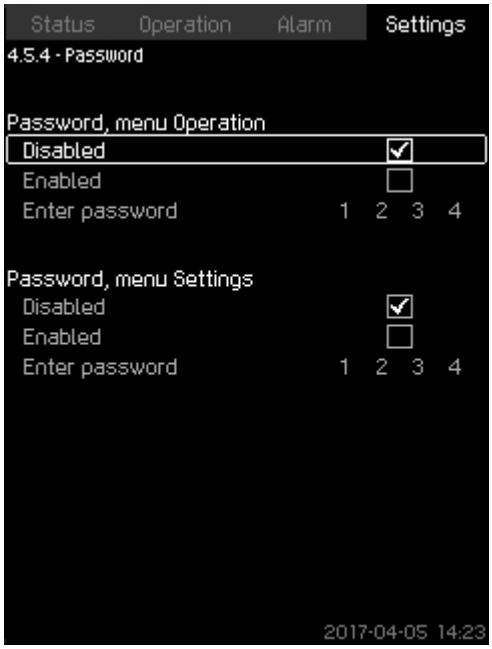
Pilot pump

The pilot pump takes 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:

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

Password

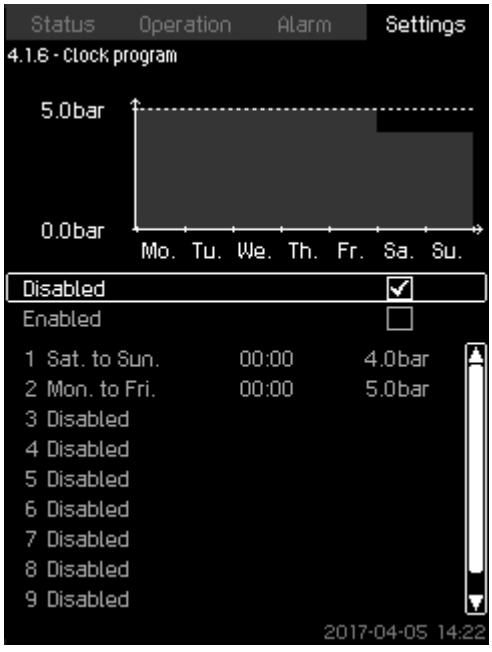


4-5-4_TM032899_115

Password

Passwords make it possible to limit the access to the **Operation** and **Settings** menus of the control unit. If the access is limited, it is not possible to view or set any parameter in the menus.

Clock program

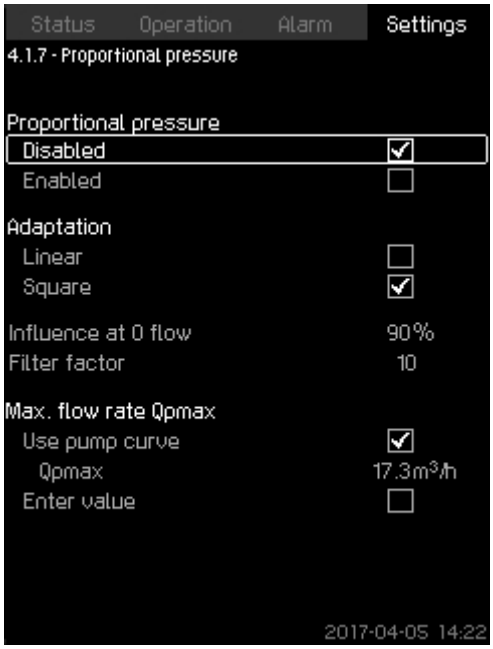


4-1-6_TM038990_129

Clock program

This function allows for specifying day and time for up to ten events, including activation or deactivation, for example, activating the sprinkling system of a golf course at fixed times for the individual greens.

Proportional pressure



4-1-7_TM038960_130

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.

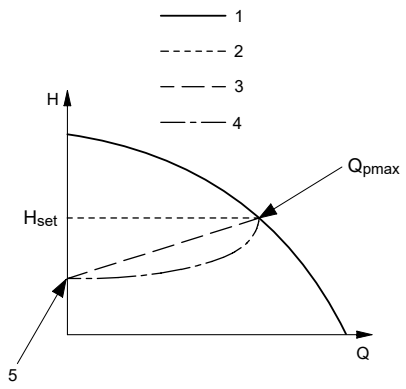
Purposes are to:

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

With high flow rates, the pressure loss in the pipe system is relatively high. To deliver a system pressure of 5 bar in such a situation, the outlet pressure of the system must be set to 6 bar if the pressure loss in the pipe system is 1 bar.

In a low-flow situation, the pressure loss in the pipe system may only be 0.2 bar. Here the system pressure would be 5.8 bar if the setpoint was fixed to 6 bar. That 0.8 bar is too high compared with the peak situation above.

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



TM038524

Proportional-pressure control

Pos.	Description
1	Pump curve
2	Setpoint
3	Resultant setpoint, linear
4	Resultant setpoint, square
5	Starting point of proportional-pressure control (influence at 0 flow = x % of H_{set})

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

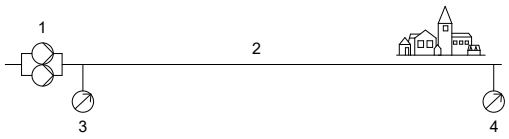
Example

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

Influence at 0 flow (Q0) = 1 bar x 100 / 6 bar = 16.67 %.

Setpoint at Q_{min} with proportional-pressure control:

6 bar - (6 bar x 0.1667) = 5 bar.

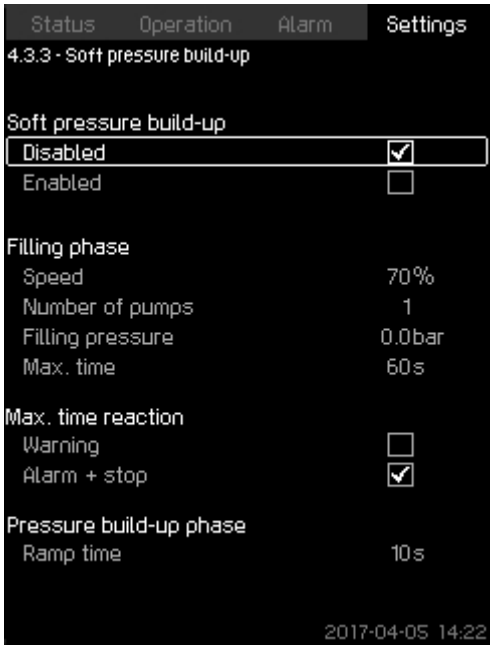


TM081526

Without proportional-pressure control

Pos.	Description
1	Pumping station
2	Pressure loss Q_{max}: 1 bar Q_{min}: 0.2 bar
3	Setpoint: 6 bar
4	System pressure Q_{max}: 5 bar Q_{min}: 5.8 bar

Soft pressure build-up



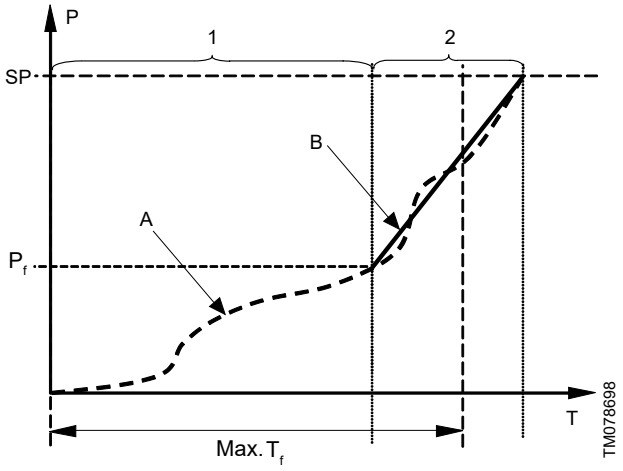
4-3-3_TM038970_133

Soft pressure build-up

This function is typically used in pressure-boosting applications and ensures a smooth startup of systems with, for instance, empty pipes.

Startup takes place in two phases:

- **Filling phase** (1): The pipes are slowly filled with water. When the pressure sensor of the system detects that the pipes are filled, phase 2 begins.
- **Pressure build-up phase** (2): The system pressure is increased until the setpoint (SP) is reached. The pressure buildup takes place over a ramp time. If SP is not reached within a given time, a warning or an alarm can be given, and the pumps can be stopped at the same time.



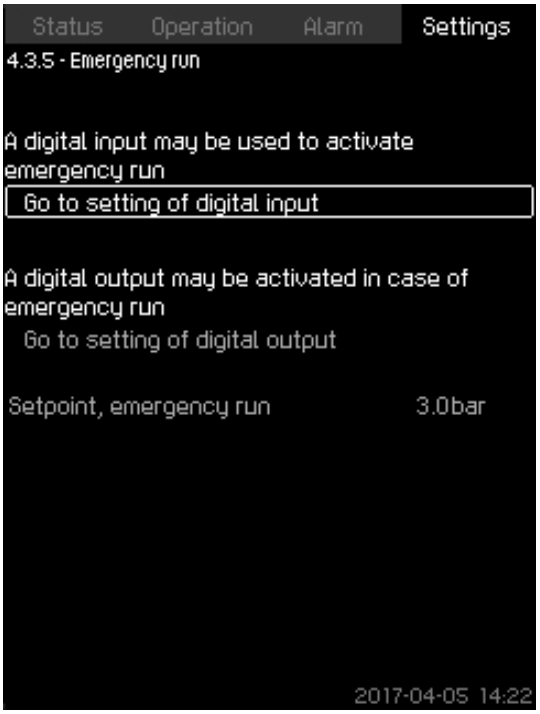
TM078698

Filling and pressure buildup phases

P: Pressure	T: Time [second]
P_f: Filling pressure	T_f: Filling time

Pos.	Description
1	**Filling phase**: constant-curve operation
2	**Pressure build-up phase**: constant-pressure operation
A	Actual value
B	Setpoint ramp-up

Emergency run



4-3-5_TM038971_132

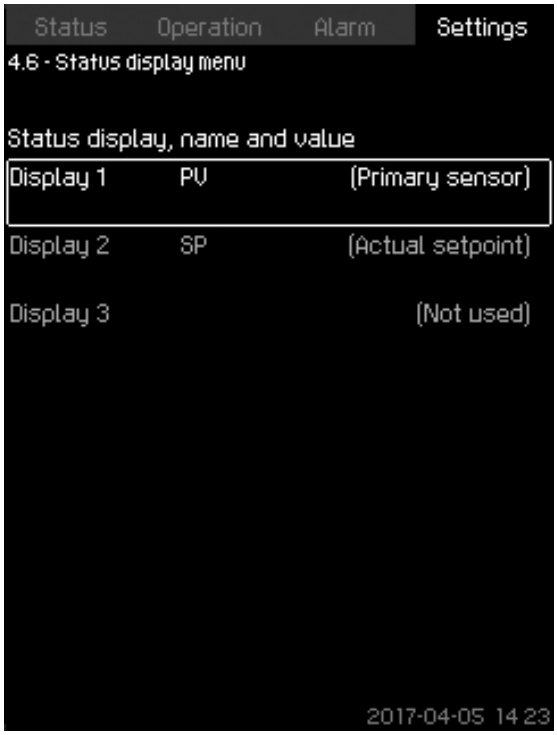
Emergency run

This function is for systems where the operation must not be interrupted. The function keeps all pumps running regardless of warnings or alarms. The pumps 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.

Status display menu



4-6_STATUS_DISPLAY_MENU_196

Status display menu

This main status menu can display up to three status values.

In this menu, you can define each status value and a name for the value.

Examples:

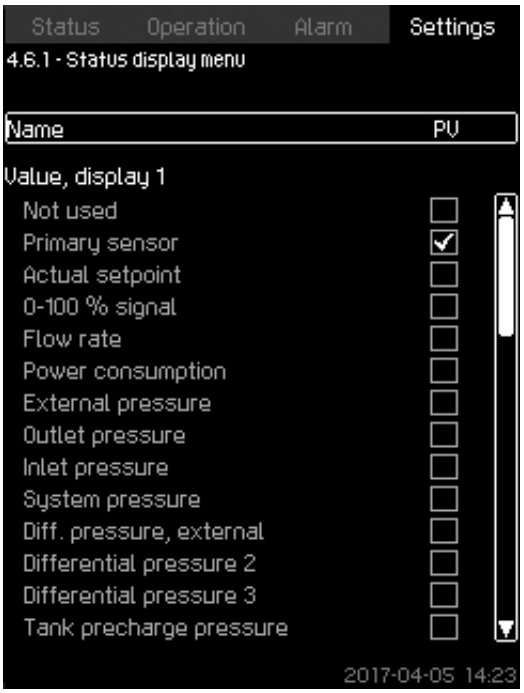
- PV: process value
- SP: setpoint
- Q: flow rate.

Setting range

1. Name of each display value.
2. Selection of displays 1 to 3.

Setting the display value

1. Go to the **Settings** menu.
2. Select **Status display menu**.
3. Mark the display and press **OK**.
4. Enter a name for display value.
5. Define the function of the display.



4-6-1_STATUS_DISPLAY_MENU_197

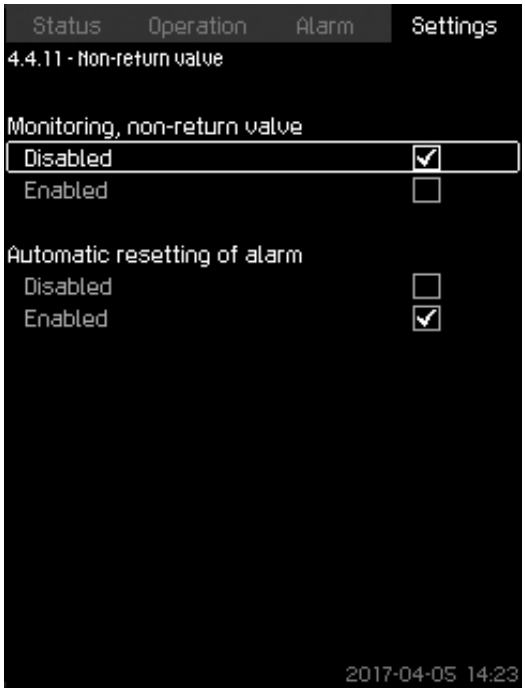
Status display menu

Factory settings

Display 1: PV, primary sensor.

Display 2: SP, actual setpoint.

Non-return valve



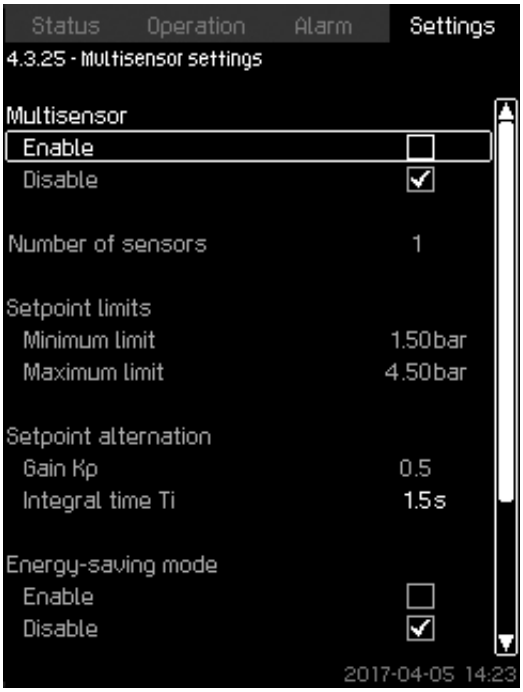
4-4-11_NON-RETURN_VALVE_202

Non-return valve

The function enables CU 352 to detect if a non-return valve is leaking or faulty. A small leakage after five accumulated incidents results in a warning. A faulty non-return valve will instantly result in an alarm and pump stop. In such case, the motor is not able to overcome the backflow through the pump with the faulty non-return valve.

The function is only valid for an MPC-E system with MGE motors, model F, G, H, I, J or K.

Multisensor settings



4-3-25_MULTISENSOR_186

Multisensor settings

The function is designed for controlling up to six different zones in a HVAC system with a defined differential-pressure band. If one of the multi-sensor signals is outside the specific sensor limits (minimum or maximum), the function adjusts the setpoint (SP) up or down to ensure that the specific sensor or zone is kept within its pressure band.

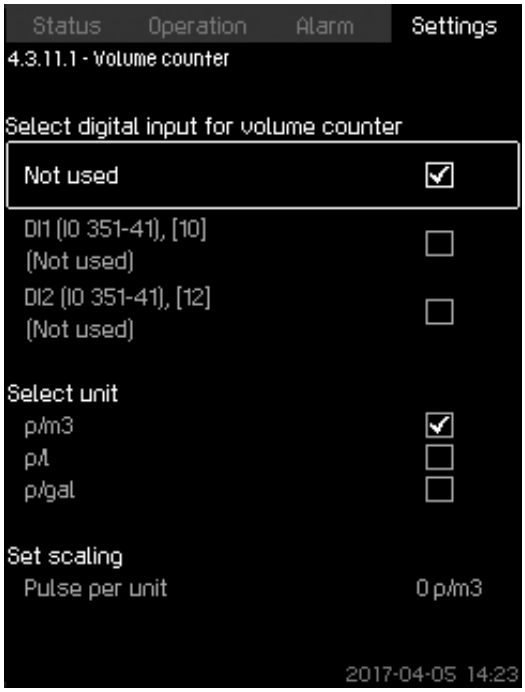
You can adjust the reaction of the setpoint influence by the means of dedicated setpoint alternation, Kp and Ti values.

If more sensors are below or above their limits, they can be prioritised. Through activating the energy-saving mode, the system can optimise the actual setpoint by lowering it to the minimum limit of one of the multisensors.

If the multisensor function is enabled, it has higher priority and the following programs are overruled:

- **Clock program**
- **Proportional pressure**
- **Alternative setpoints**
- **External setpoint influence**
- **Setpoint ramp**.

Counter inputs



4-3-11-1_VOLUME_COUNTER_195

Volume counter

You can set CU 352 to accumulate a pumped volume from a digital water meter.

This menu only appears if an IO 351B module is connected to CU 352.

5. Installation

Mechanical installation

Location

The system is only designed for indoor installation and must not be exposed to direct sunlight.

- Install the system in a well-ventilated room to ensure sufficient cooling of the control cabinet and pumps.
- Install the system with a one-meter (3 ft) clearance on all sides for inspection and removal.

Pipes

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

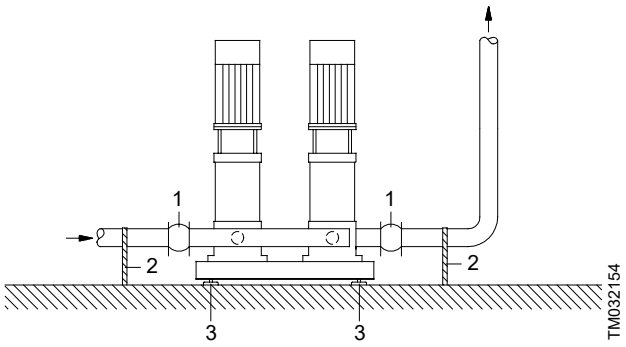
The pipes connected to the system must be of adequate size.

Connect the pipes to the manifolds of the system. Either end can be used. Apply sealing compound to the unused end of the manifold, and fit the screw cap. For manifolds with flanges, fit a blanking flange with gasket.

To optimise operation and minimise noise and vibration, it may be necessary to consider vibration dampening of the system.

Noise and vibration are generated by the rotations in motor and pump and by the flow in pipes and fittings. The effect on the environment is subjective and depends on correct installation and the state of the other parts of the system.

If systems are installed in blocks of flats or the first consumer on the line is close to the system, we recommend that you fit expansion joints on the inlet and outlet pipes to prevent vibration from being transmitted through the pipes.



Example showing the position of expansion joints, pipe supports and vibration dampers

Pos.	Description
1	Expansion joint
2	Pipe support (and good location for system isolation valve)
3	Vibration damper

Expansion joints, pipe supports and vibration dampers shown in the figure above are not included in a standard system.

Foundation

We recommend that you install the system on an even and solid surface, such as a concrete floor or foundation. If the system is not equipped with vibration dampers, bolt it to the floor or foundation.

The weight of a concrete foundation must be at least 1.5 times the weight of the system.

Vibration dampers

To prevent the transmission of vibration to buildings, we recommend that you isolate the system foundation from the building parts by vibration dampers.

A proper damper varies in different installation situations, and a wrong damper may increase the vibration level. Vibration dampers must therefore be sized by the supplier. If the system is installed on a base frame with vibration dampers, always install expansion joints on the manifolds. This is important to prevent the system from "hanging" on the pipes.

Expansion joints

Fit expansion joints for these reasons:

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

You must not install the expansion joints to compensate for inaccuracies in the pipes such as centre 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 inlet as well as on the outlet side. This prevents the development of turbulence in the expansion joints, resulting in better inlet conditions and a minimum pressure loss on the pressure side.



TM024981

Examples of rubber bellows expansion joints without limiting rods



TM024979

Examples of rubber bellows expansion joints with limiting rods

Expansion joints with limiting rods can be used to minimise the forces caused by the expansion joints. We always recommend that you use expansion joints with limiting rods for flanges larger than DN 100.

Anchor the pipes so that they do not stress the expansion joints, manifolds and the pump. Follow the supplier's instructions and pass them on to advisers or pipe installers.

Electrical installation

The electrical installation must be carried out by authorised personnel in accordance with local regulations.

- The electrical installation of the system must be carried out in accordance with enclosure class IP54.
- Check that the supply voltage and frequency correspond to the values stated on the nameplate. Contact Grundfos if you have special voltage requirements.
- Make sure that the conductor cross-section meets the specifications in the wiring diagram.
- The mains connection must be carried out as shown in the wiring diagram.

Hygiene

Grundfos systems are functionally tested and may therefore contain small amounts of residual water. Before using the system, it must be rinsed or flushed thoroughly. This also applies if the system has not been used for a longer period.

Rinsing and flushing must always be done in accordance with local regulations and practices. Contaminated drinking water can endanger health.

6. Sizing

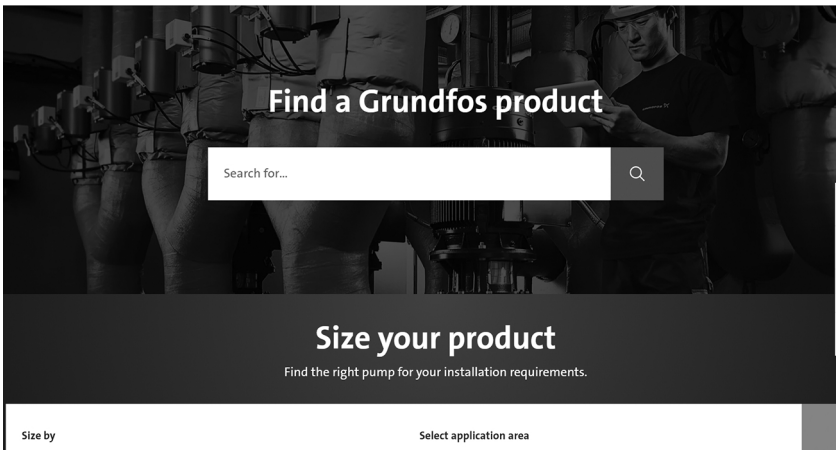
When sizing a system, take the following into account:

- The performance of the system must meet the highest possible demand both in terms of flow rate and pressure.
- The system must not be oversized. This is important in relation to installation and operating costs.

You can size the systems via Grundfos Product Center or this data booklet.

Sizing in Grundfos Product Center (recommended)

We recommend that you size your system in Grundfos Product Center, which is a selection program offered by Grundfos. For further information, see section Grundfos Product Center.



TM083490

Sizing in Grundfos Product Center

Sizing via this data booklet

There are seven steps:

1. maximum flow requirement
2. required outlet pressure
3. system layout
4. consumption profile and load profile
5. inlet pressure
6. system selection
7. accessories.

Related information

18. Grundfos Product Center

Maximum flow requirement

The total consumption and the required maximum flow rate depend on the application in question. The maximum flow requirement can be calculated by means of the table below which is based on statistical data.

Consumer	Unit	Q_{year}	Consumption period	Q_{day}	fd [9]	$Q(m)_{day}$	ft [10]	Maximum flow rate
		[m^3/year]	[days/year]	[m^3/day]		[m^3/day]		[m^3/h]
Residence building	Residence (2.5 persons)	183	365	0.5	1.3	0.65	1.7	0.046
Office building	Employee	25	250	0.1	1.2	0.12	3.6	0.018
Shopping centre	Employee	25	300	0.08	1.2	0.1	4.3	0.018
Supermarket	Employee	80	300	0.27	1.5	0.4	3.0	0.05
Hotel	Bed	180	365	0.5	1.5	0.75	4.0	0.125
Hospital	Bed	300	365	0.8	1.2	1.0	3.0	0.12
School	Pupil	8	200	0.04	1.3	0.065	2.5	0.007

9) Maximum consumption factor, day

10) Maximum consumption factor, hour

Example: Hotel with 540 beds

Number of beds:	n
Total annual consumption:	$Q_{year} \times n$
Consumption period:	d
Average consumption per day:	$(Q_{year} \times n) / d$
Maximum consumption per day:	$Q_{(m)day} = f_d \times Q_{day}$
Maximum flow requirement per hour:	Q_{max} = maximum flow rate/hour × number of beds.

Calculation

n	=	540 beds.
$Q_{year} \times n$	=	180 × 540 = 97,200 m^3/year.
d	=	365 days/year.
$(Q_{year} \times n)/d$	=	97,200/365 = 266.3 m^3/day.
$Q(m)_{day}$	=	$f_d \times Q_{day}$ = 1.5 × 266.3 = 399.4 m^3/day.
Q_{max}	=	Maximum flow rate/hour x number of beds = 0.125 × 540 = 67.5 m^3/h.

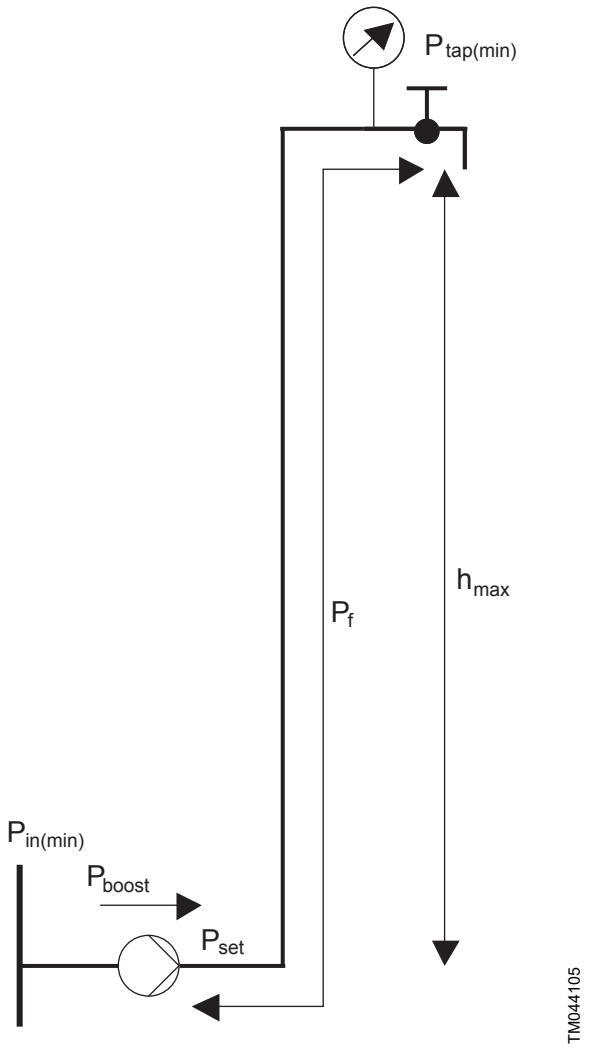
Required outlet pressure

The required outlet pressure of the system can be calculated with the following equation:

p_{set}	=	$p_{tap(min)} + p_f + (h_{max}/10.2)$
p_{boost}	=	$p_{set} - p_{in(min)}$

Key

p_{set}	=	Required outlet pressure in bar
$p_{tap(min)}$	=	Required minimum pressure at the highest tapping point in bar
p_f	=	Total pipe friction loss in bar
h_{max}	=	Height from system outlet port to highest tapping point in metres
$p_{in(min)}$	=	Minimum inlet pressure in bar
p_{boost}	=	Required boost in bar



Calculation of required outlet pressure

Example calculation

$p_{tap(min)}$	=	2 bar
p_f	=	1.2 bar
h_{max}	=	41.5 m
$p_{in(min)}$	=	2 bar
p_{set}	=	2 + 1.2 + (41.5/10.2) = 7.3 bar
p_{boost}	=	7.3 - 2 = 5.3 bar

System layout

- Direct boosting

Example: The system is connected to water mains designed to distribute water from one place to another.

- Break tank

Example: The system is connected to a break tank installed before the system.

- Pressure boosting in zones

Example: A high-rise building or a hilly landscape where the water supply system is divided into zones.

- Roof tank

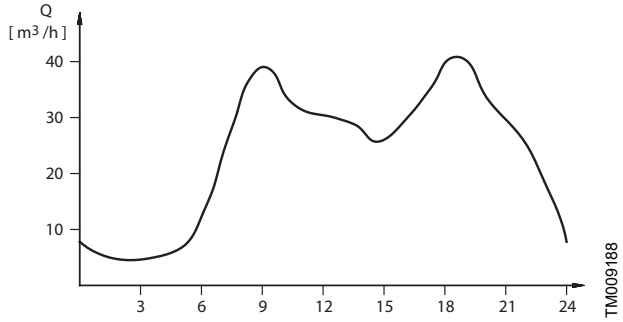
Example: The system distributes water to a roof tank on top of a high-rise building.

Consumption profile and load profile

The consumption pattern of the installation can be illustrated as a 24-hour consumption profile and a load profile.

24-hour consumption profile

The 24-hour consumption profile is the relation between the time of the day and the flow rate.



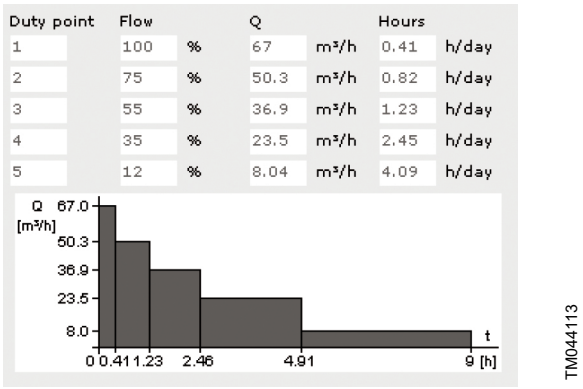
Example of a 24-hour consumption profile

If the consumption is variable and optimum comfort is required, use pumps with continuously variable speed.

Load profile

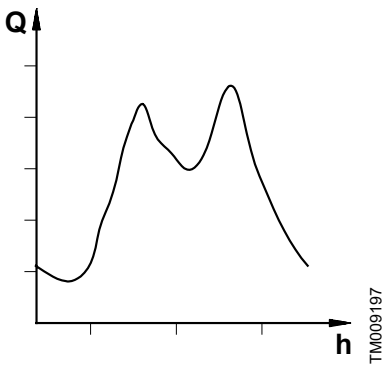
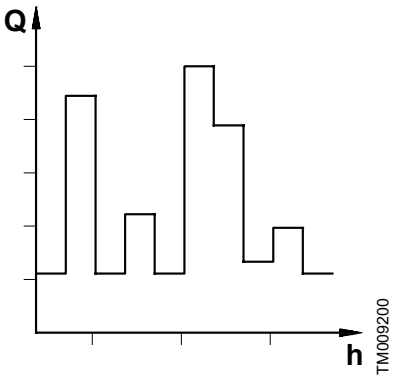
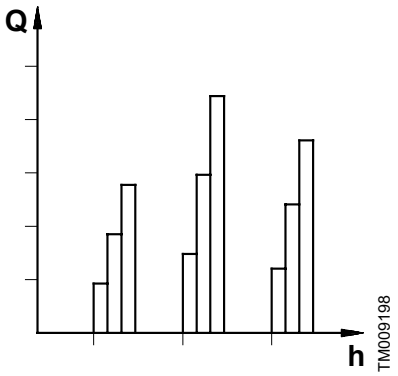
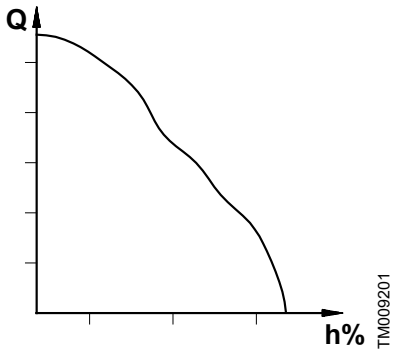
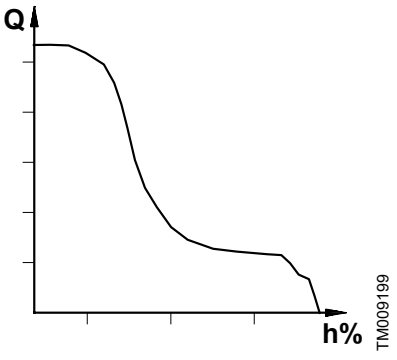
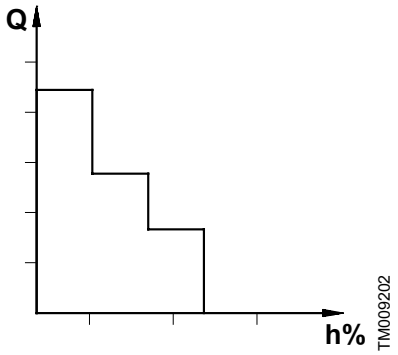
You can make the load profile when the 24-hour consumption profile has been determined.

The load profile gives an overview of how many per cent per day the system operates at a specific flow rate.



Load profile

Examples of typical 24-hour consumption profiles and their load profiles:

	Water supply	Industry	Irrigation
24-hour profile			
	Flow rate: Highly variable **Pressure:** Constant	**Flow rate:** Highly variable with sudden changes **Pressure:** Constant	**Flow rate:** Constant and known **Pressure:** Constant
Duty-time profile			
	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.

Inlet pressure

If there is a positive inlet pressure, take the inlet pressure into consideration to ensure safe and energy optimal operation.

Ensure that the system maximum head and the inlet pressure do not exceed the PN rating for the system.

System selection

Select the system on the basis of these factors:

- maximum flow requirement
- required outlet pressure
- load profile
- number of pumps required
- possible standby pumps.

Accessories

When you have selected the optimum system, consider whether you require any of the accessories mentioned below.

Dry-running protection

Every system must be protected against dry running.

The inlet conditions determine the type of dry-running protection:

- If the system draws water from a tank or a well, select a level switch or an electrode relay for dry-running protection.
- If the system has an inlet pressure, select a pressure transmitter or a pressure switch for dry-running protection.

Pilot pump

If a pilot pump is selected, size it according to the size of the main pumps in the system. The pilot pump should not be smaller than 1/5 of the flow of a main pump at the desired setpoint.

Diaphragm tank

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

- Due to the stop function, all systems in buildings must be equipped with a diaphragm tank.
- Normally, the systems in water-supply applications require no diaphragm tank, as miles of piping partly hold the necessary capacity, partly have the elasticity to give sufficient capacity.

To avoid the risk of water hammer, a diaphragm tank may be necessary.

- Estimate the need for a diaphragm tank for the systems in industrial applications from situation to situation on the basis of the individual factors on site.

If the system includes pilot pumps, the diaphragm tank is to be sized according to the capacity of this pump.

The tank consists of a bladder usually made of rubber. The water is contained in the bladder and does not come in direct contact with air in the tank. The bladder holding the water expands into the pressurized air space in the tank as it is filled. As water is used from the system, the bladder collapses until the water is almost emptied before the minimum pressure is reached, activating the system. The tank is pressurised at the factory, typically around 1.5 bar, but the pressure must be adjusted according to the setpoint using the air valve located near the top of the tank without any system pressure on the tank inlet.

- In E-systems, 0.7 x setpoint.

For further information about optional equipment and accessories, see sections Optional equipment and Accessories.

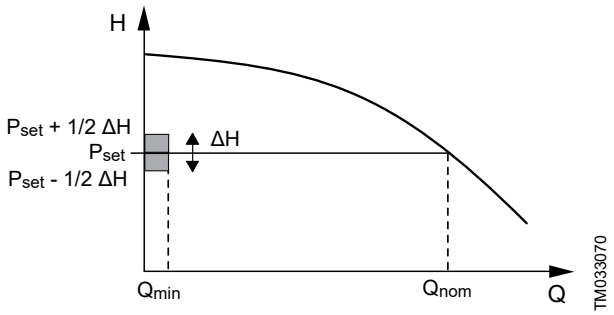
Recommended tank size V_0 can be calculated from the following equations:

Hydro MPC-E/EC and -F

$$V_0 = \frac{K_Q \times Q \times (p_{set} + 1)^2 \times \left(\frac{3600}{N} - 10\right)}{3.6 \times (k_f \times P_{set} + 1) \times k_H \times P_{set}}$$

Symbol	Description
V_0	Tank volume
k_Q	The ratio between rated flow rate of the smallest pump in the system Q_{nom} and the flow rate Q_{min} at which the pump is changed to on/off operation $k_Q = Q_{min}/Q_{nom}$ It is only used in E-system where we have speed regulated pumps and can be set to 2-10 % depending on the pump size.
Q	Nominal flow rate of the smallest pump in the system
P_{set}	Setpoint of the system
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 precharge pressure P_0 and the setpoint P_{set} $kf = P_0/P_{set}$ 0.7 for Hydro MPC-E/EC and -F
N	Maximum numbers of start/stop per hour which depends on the motor type or size and the application, in systems with E-motors it is allowed to have up to 200 pr hour. All prefab MPC-E/EC systems delivered with tanks are calculated with this value.

Hydro MPC-E/EC and -F



The tank values are based on the following data:

Symbol	Hydro MPC-E/EC and -F
Q	Q_{nom} of one pump
k_Q	10 %
P_{set}	4 bar
k_H	20 %
k_f	0.7

Example of Hydro MPC-E with CRE 20

Symbol	Hydro MPC-E and -F
Q [m^3/h]	10
k_Q	10 %
k_H	20 %
P_{set} [bar]	4
N [h^{-1}]	200
Result	
V_0 [litre]	18.3
Selected tank [litre]	18
ΔH [bar]	0.8
P_0 [bar]	2.8

For further information, see the document Tank calculation in E systems in section Product manuals.

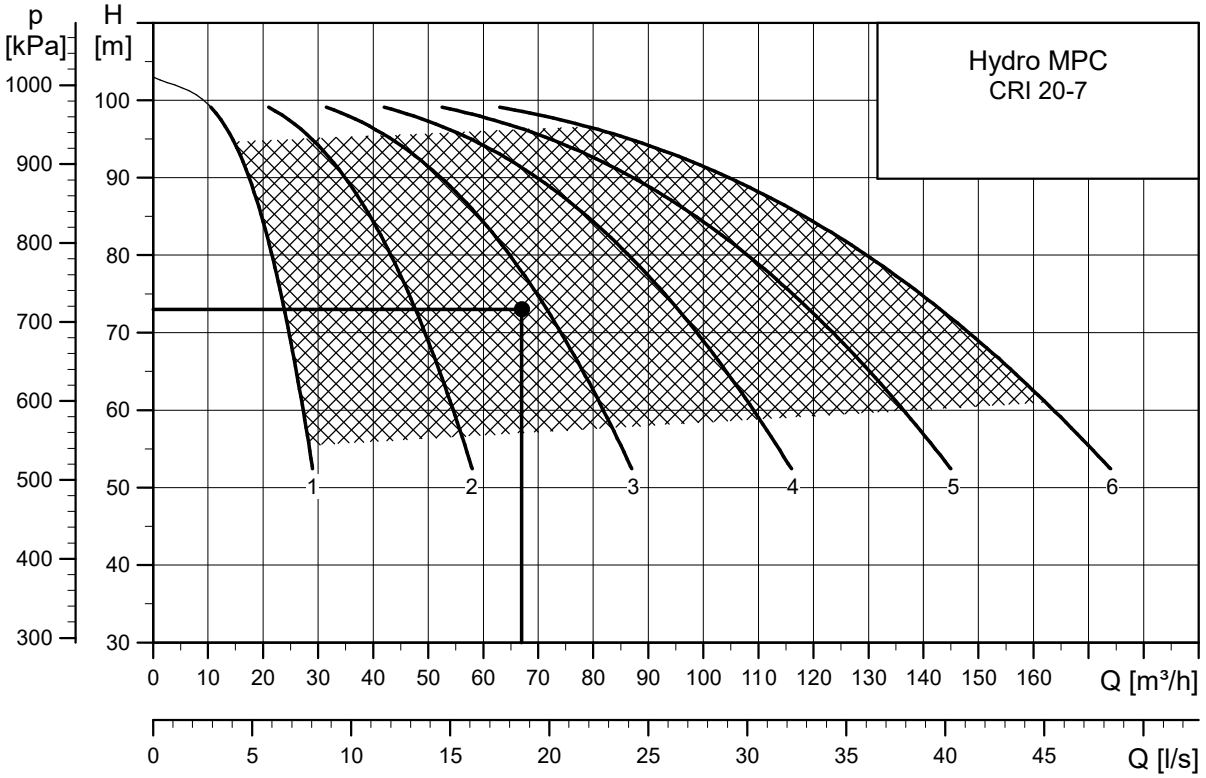
Related information

14. Optional equipment
15. Accessories

Example: How to select a system

- A flow rate of 67.5 m^3/h is required.
- A head of 73 metres is required.

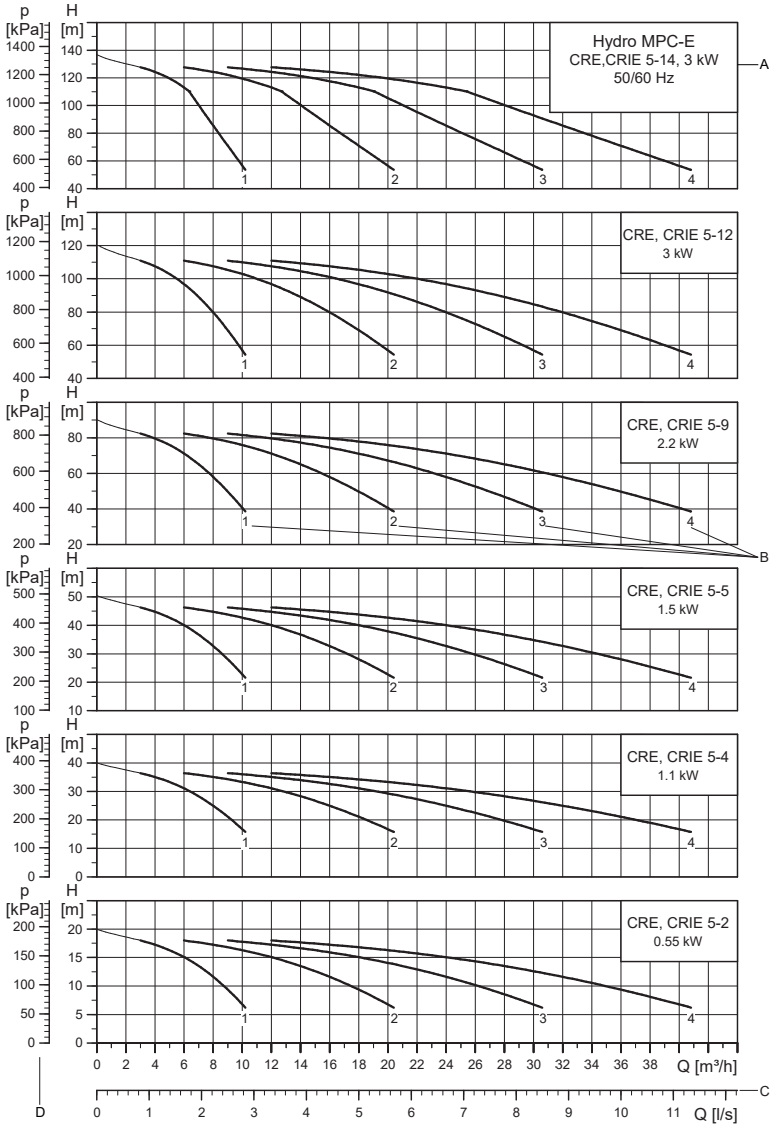
Draw a vertical line from the required flow rate.
Draw a horizontal line from the required head.
The intersection of the two lines gives the number of pumps required for the system (three CRE, CRIE 20-7).
The pump type best meeting this specification is found by means of the y-axis, for instance three CRE, CRIE 20-7.
Select only systems with performance ranges within the hatched area in the example.



7. Curve conditions

Understanding the performance curve

The x-axis showing the flow rate (Q) in m^3/h is common to all the curves; the y-axis showing the head (H) in metres has been adapted to the individual pump type.



Pos.	Description
A	Specification of system, pump type, frequency and the standard to which the QH curves correspond.
B	Specification of system performance based on the number of pumps in operation: • 1: one pump in operation • 2: two pumps in operation • 3: three pumps in operation • 4: four pumps in operation.
C	The x-axis is common to all pump types.
D	The y-axis is adapted to the individual pump type.

How to read the performance curve

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

- Measurements have been made with airless water at a temperature of 20 °C (68 °F).
- The curves apply to a kinematic viscosity: υ = 1 mm^2/s (1 cSt).
- The QH curves apply to fixed speeds of 2900 RPM at 50 Hz and 3480 RPM at 60 Hz.

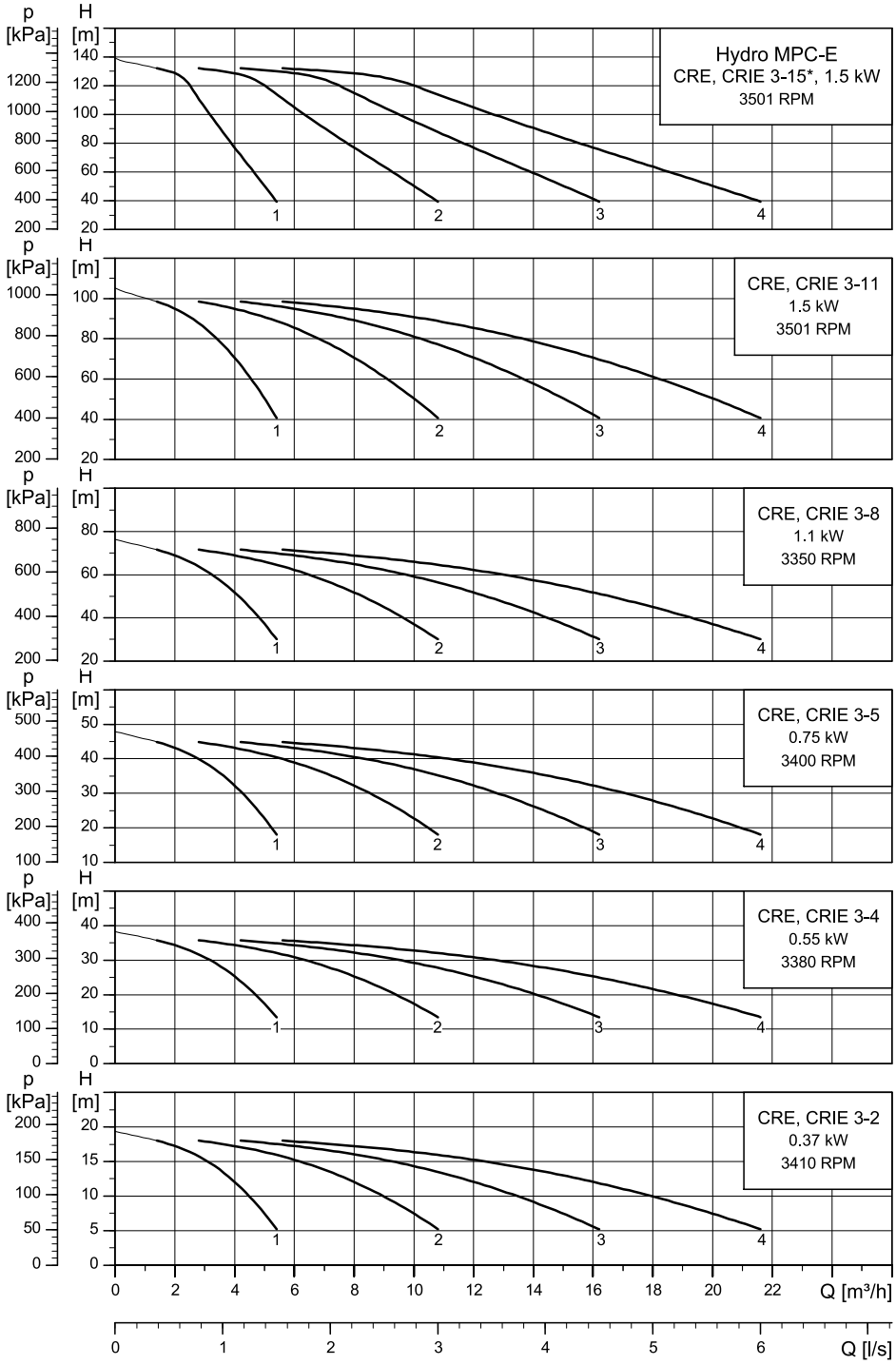


In most cases, the actual speed deviates from the above-mentioned speeds. For realistic curves, refer to Grundfos Product Center where the pump curves include the characteristics of the selected motor and therefore show curves at actual speeds. In Grundfos Product Center, you can also adjust the curves depending on the density and viscosity.

- The conversion between head H [m] ([ft]) and pressure P [kPa] ([psi]) applies to a specific weight equal to 8.3 lb/gal, water density of ρ = 1000 kg/m^3.

8. Curve charts, Hydro MPC-E, 50/60 Hz

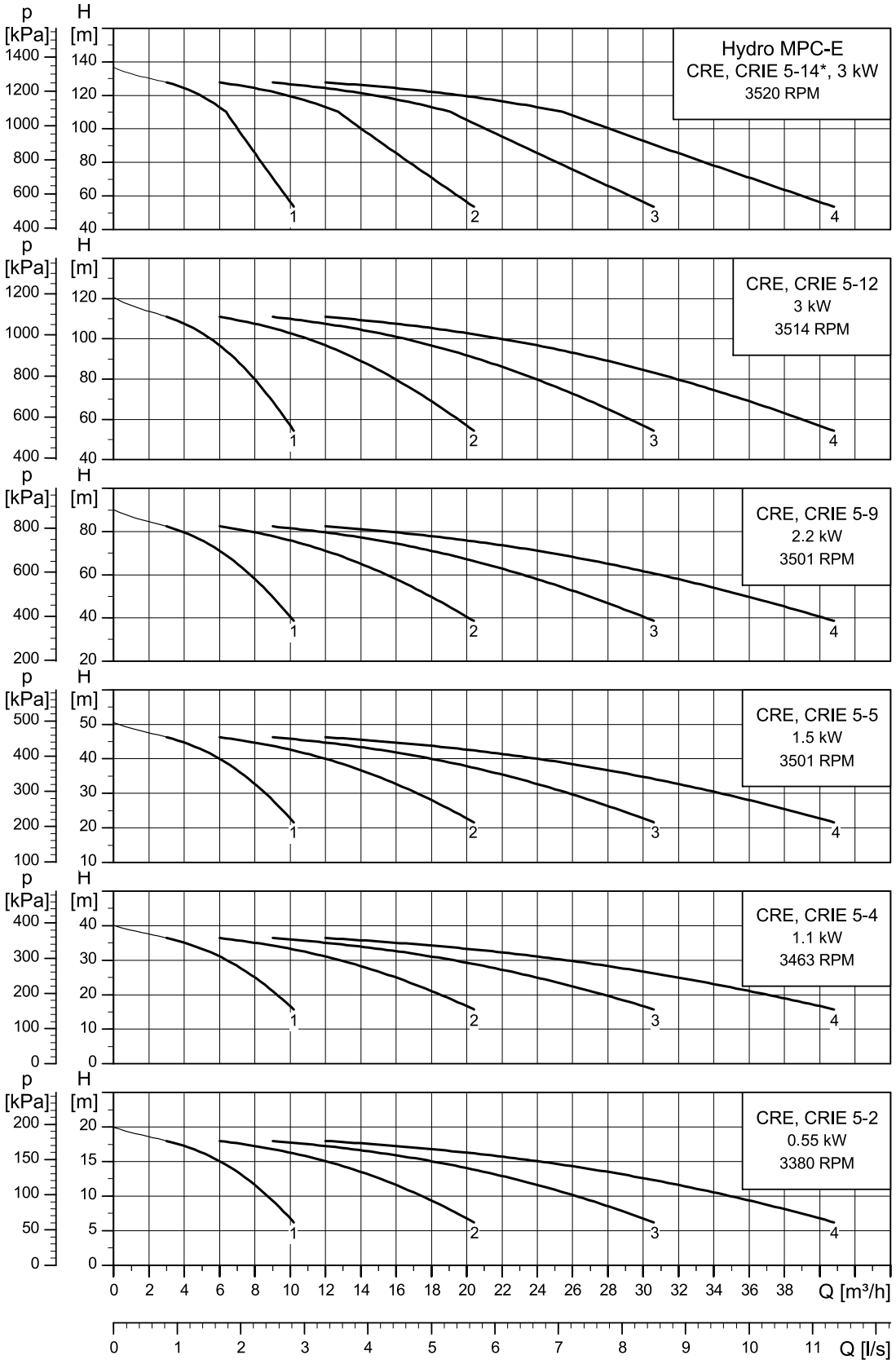
Hydro MPC-E with CRE, CRIE 3



TM057279

* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

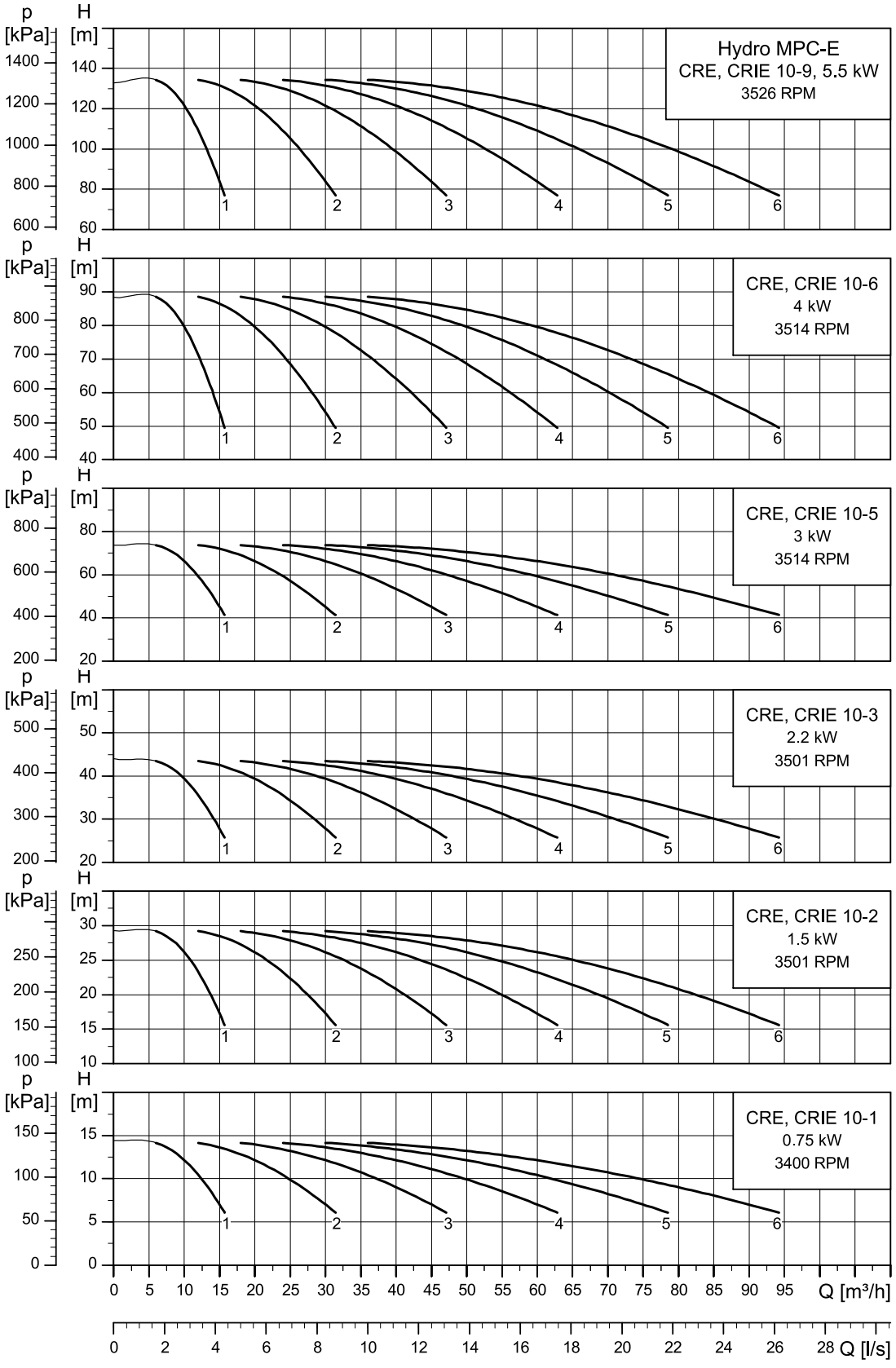
Hydro MPC-E with CRE, CRIE 5



TM057280

* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

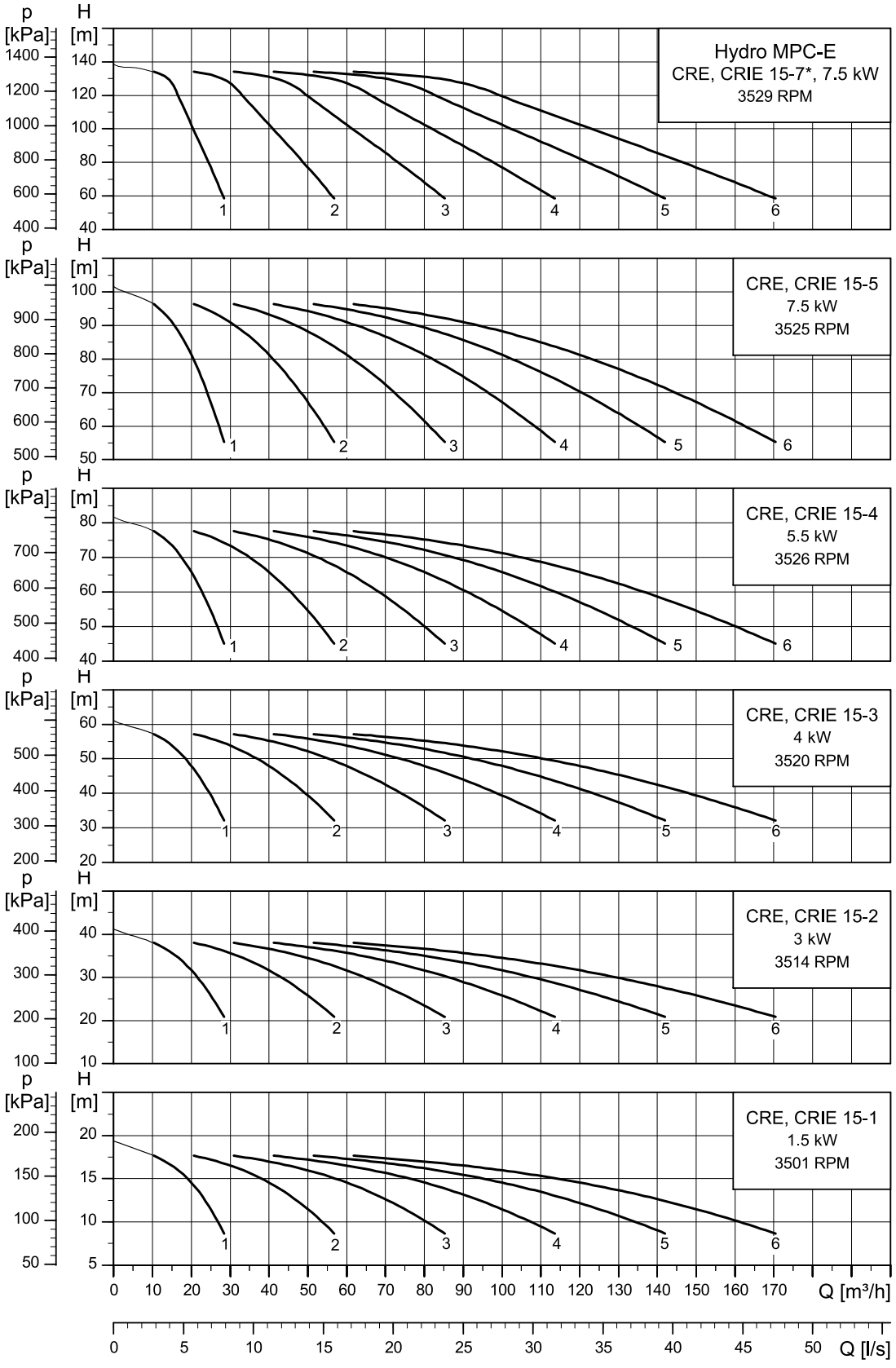
Hydro MPC-E with CRE, CRIE 10



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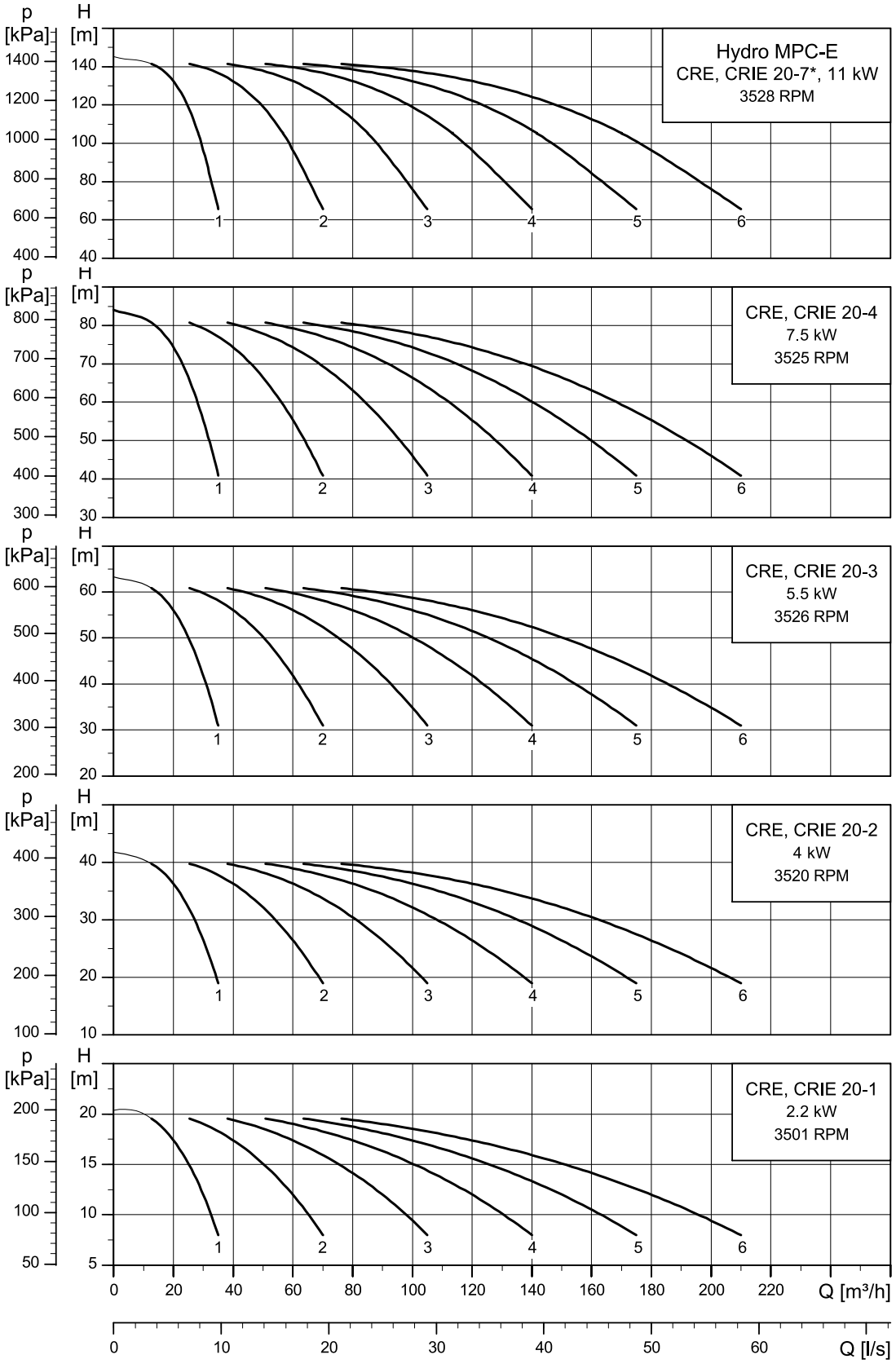
Losses in fittings and valves are not included.

Hydro MPC-E with CRE, CRIE 15



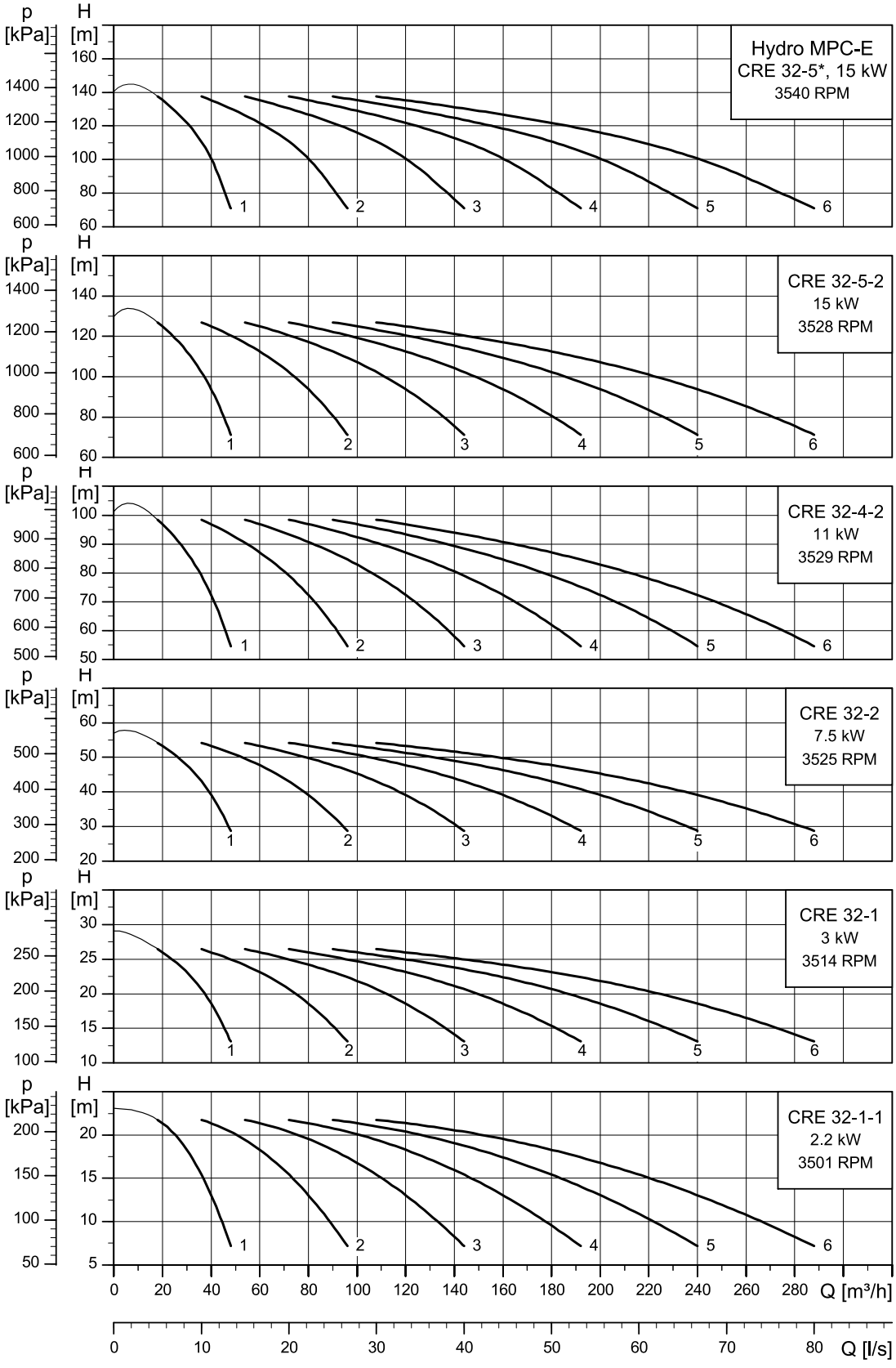
* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

Hydro MPC-E with CRE, CRIE 20



* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

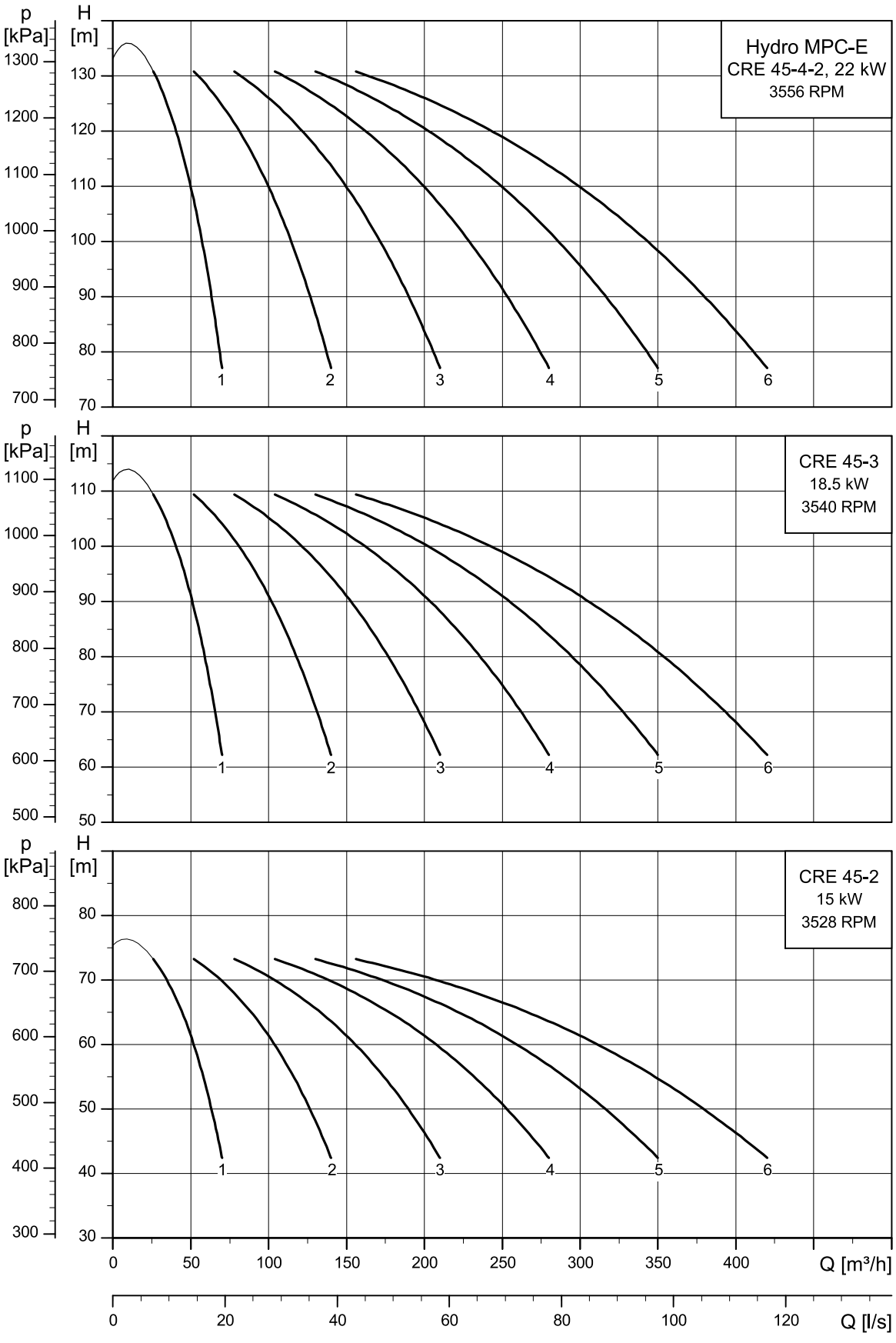
Hydro MPC-E with CRE 32



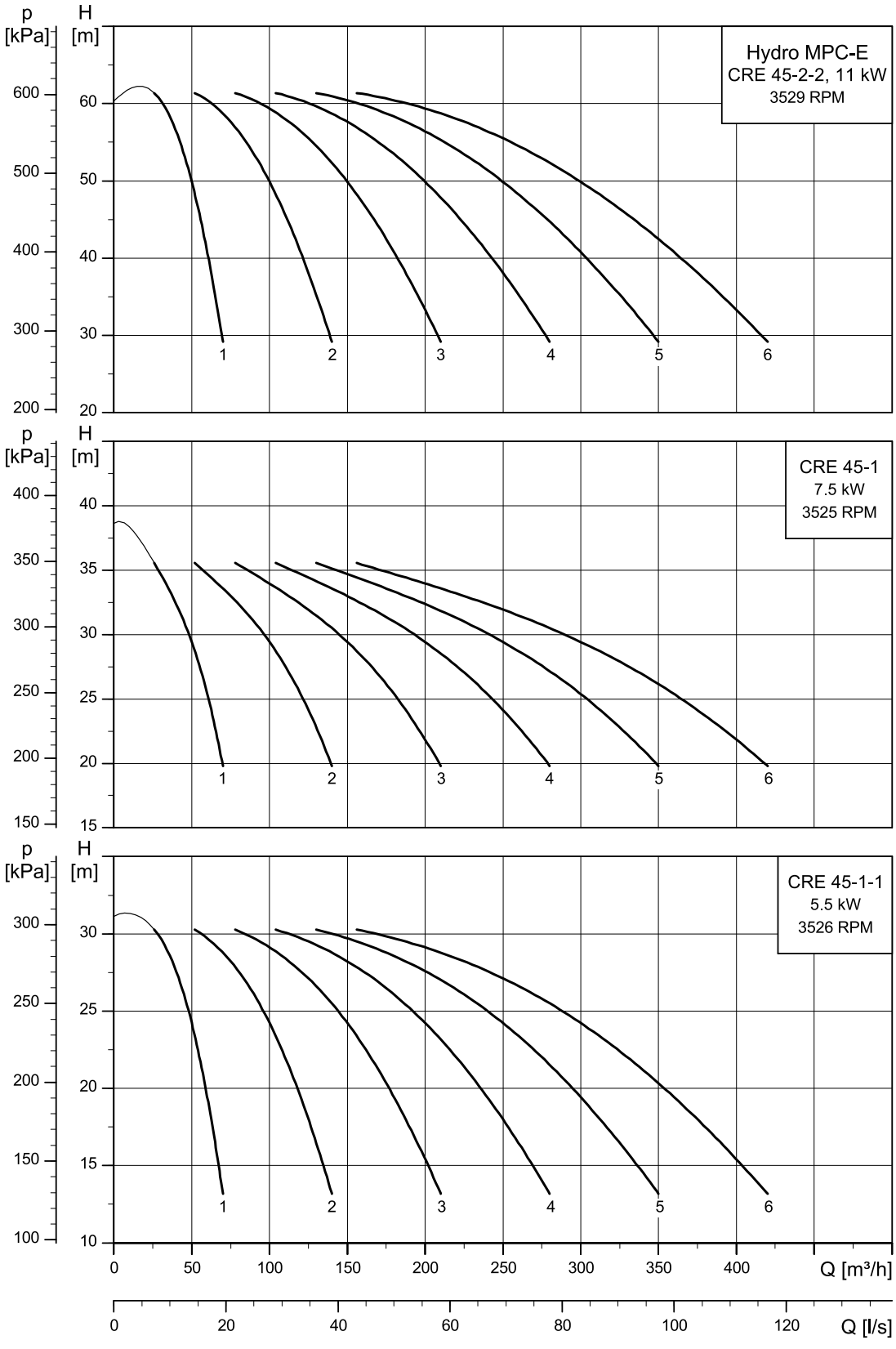
TM057284

* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

Hydro MPC-E with CRE 45

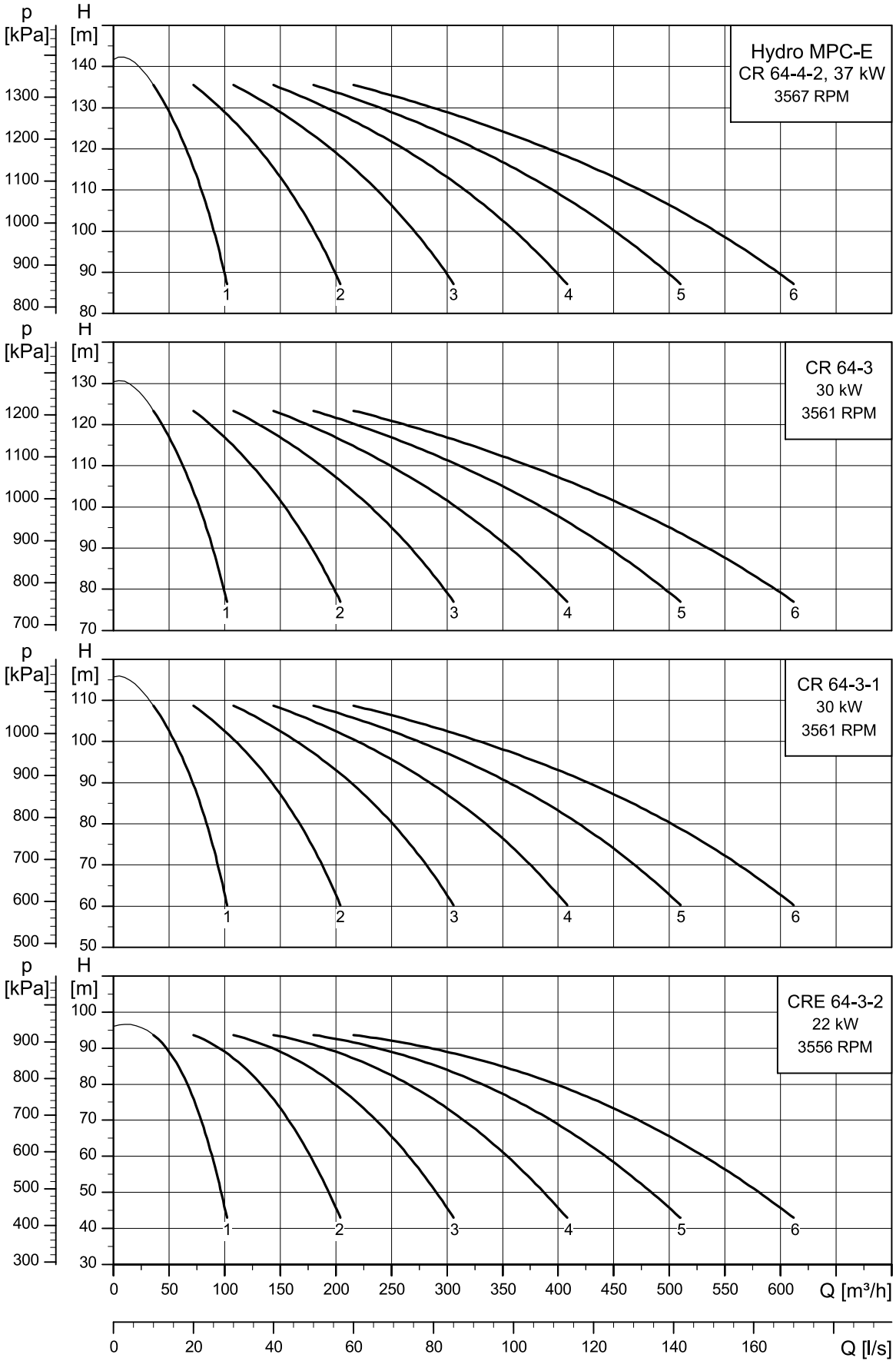


Losses in fittings and valves are not included.

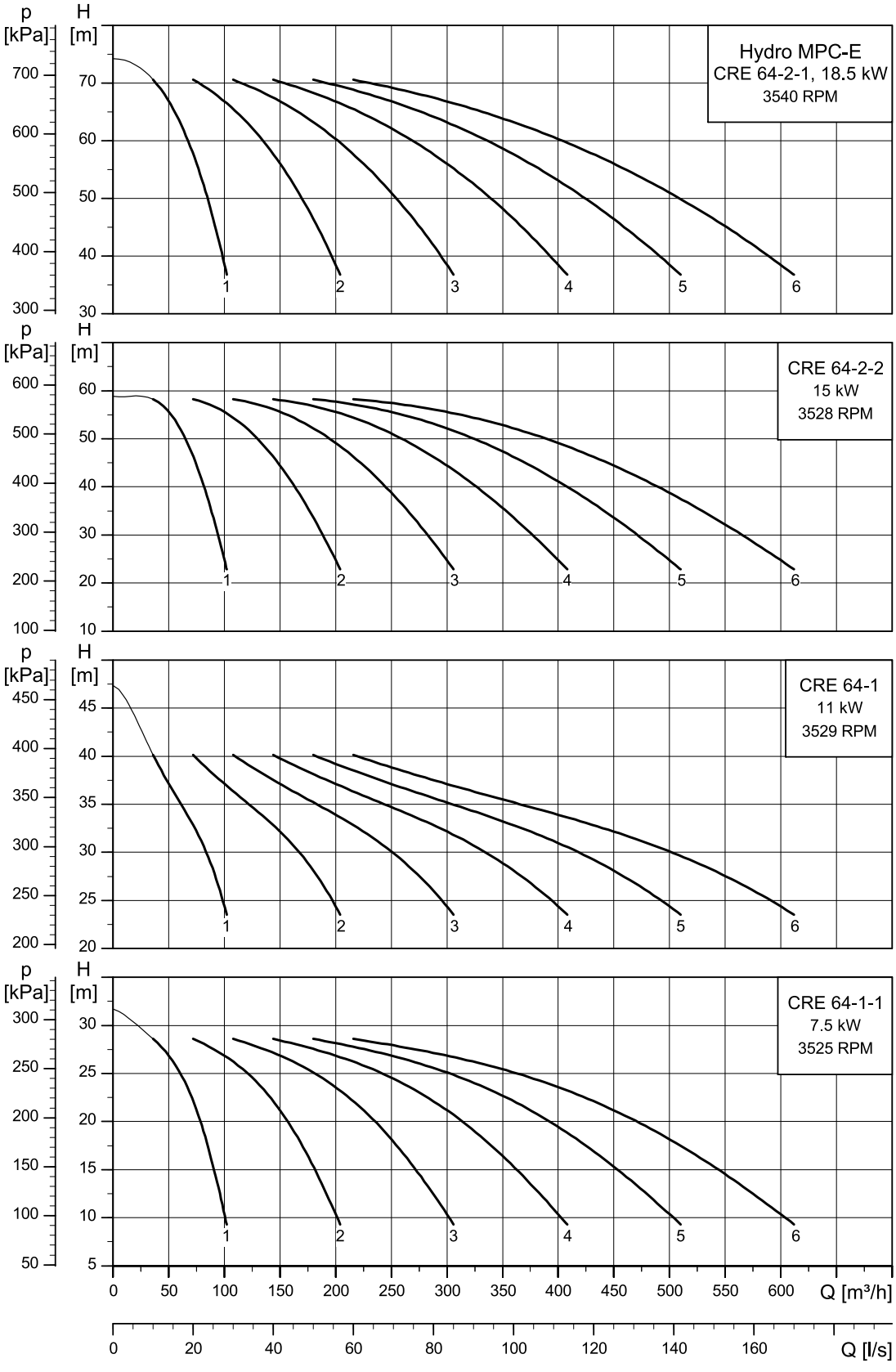


Losses in fittings and valves are not included.

Hydro MPC-E with CR, CRE 64

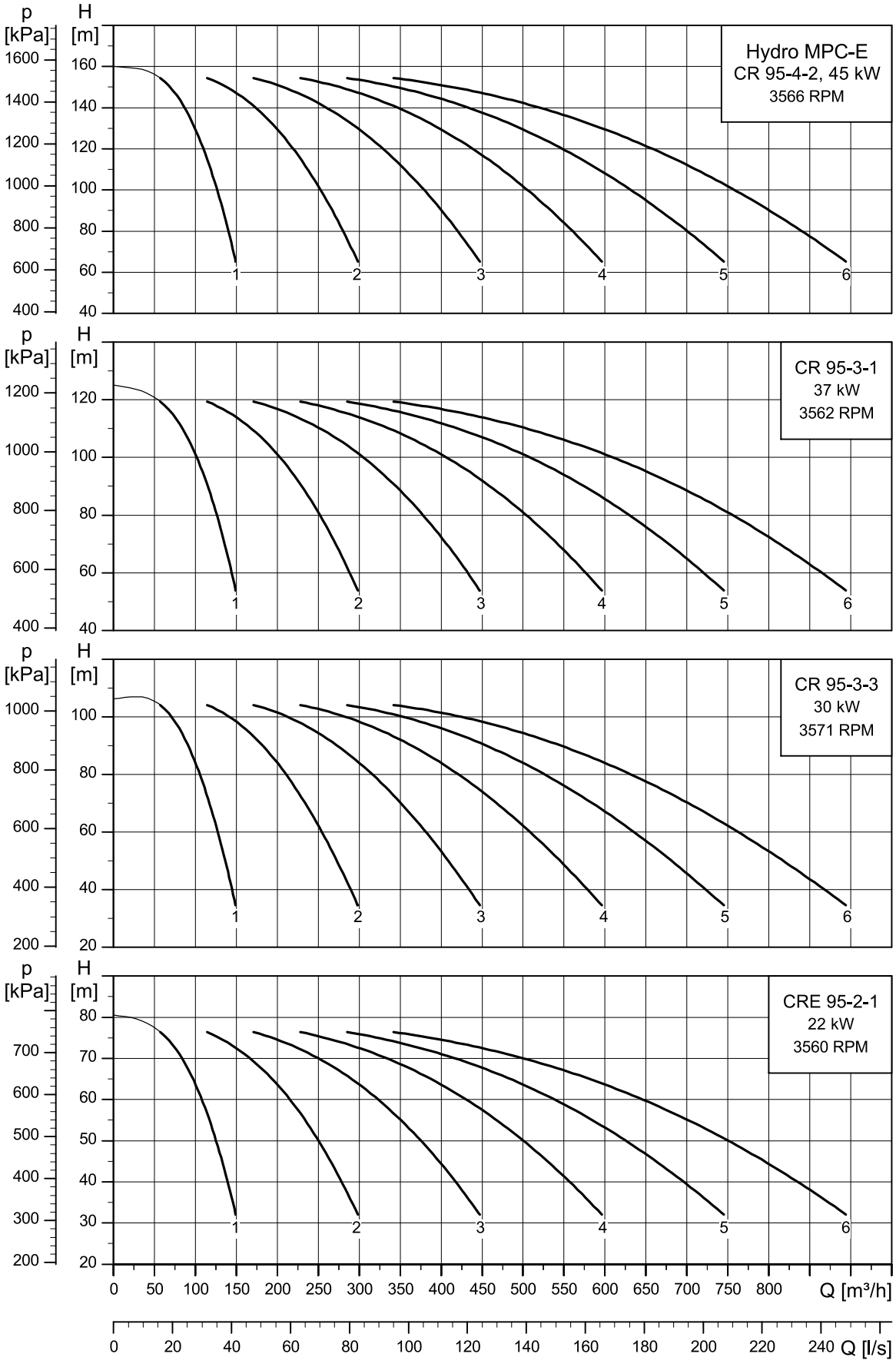


Losses in fittings and valves are not included.

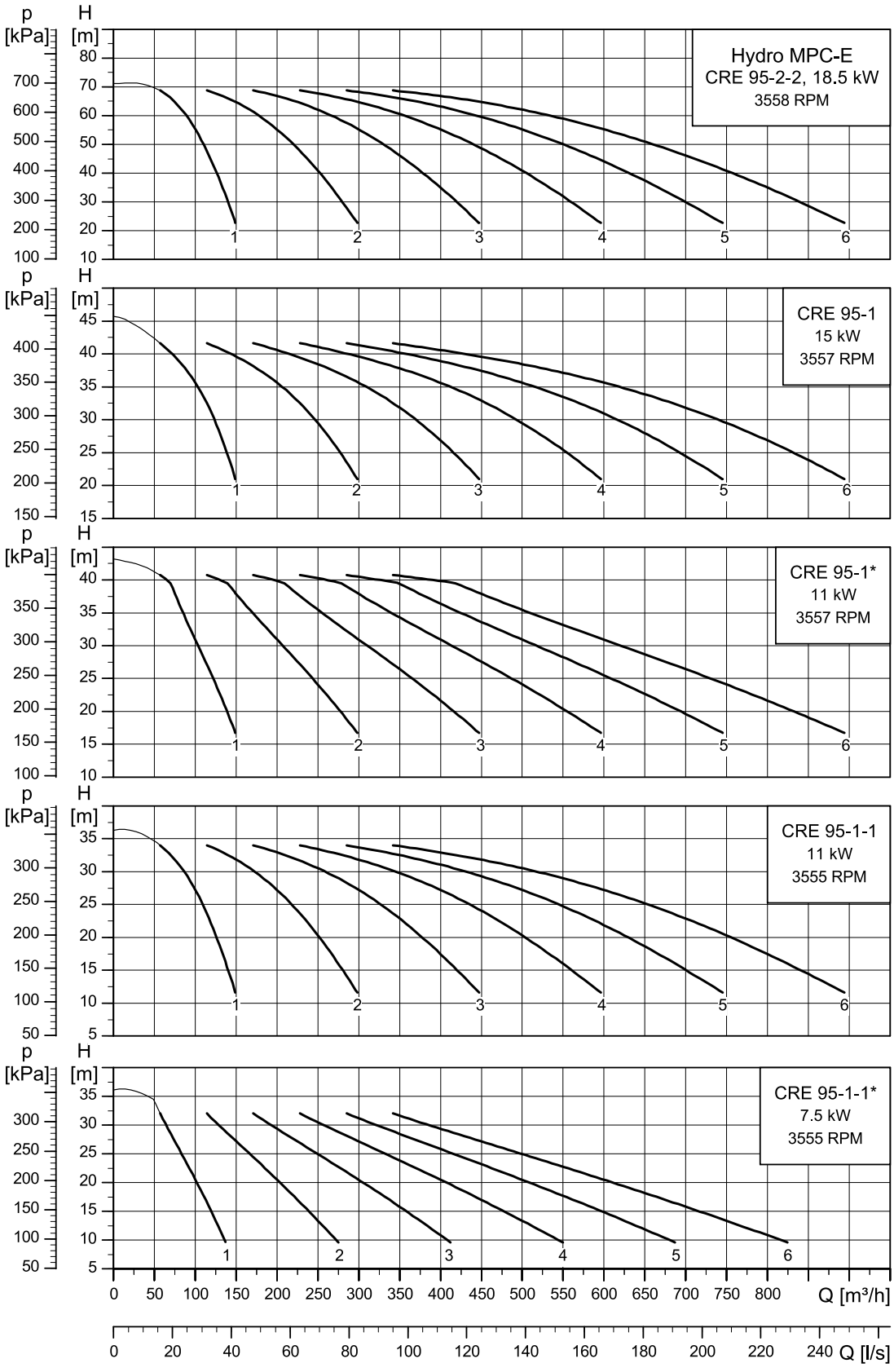


Losses in fittings and valves are not included.

Hydro MPC-E with CR, CRE 95



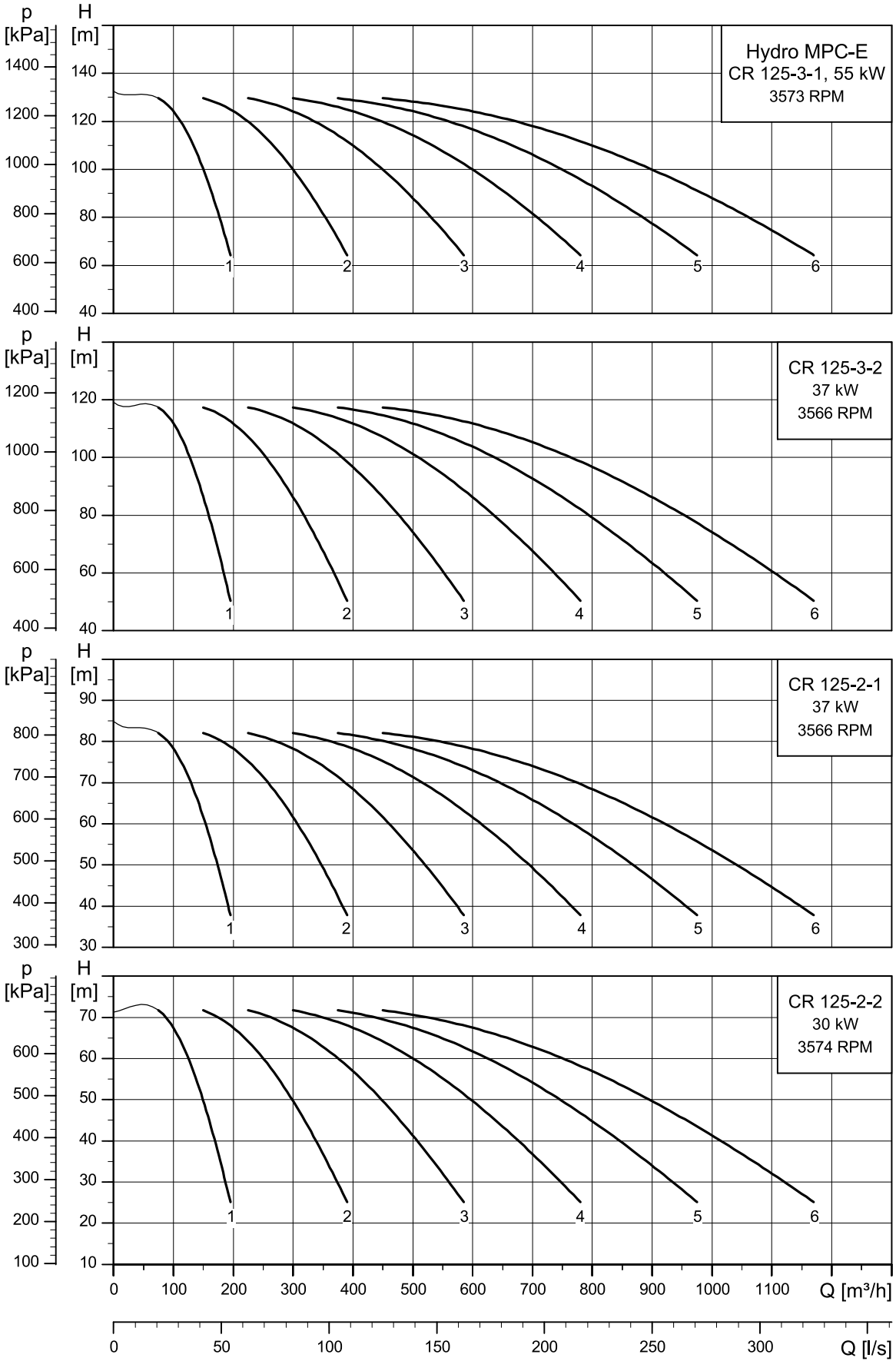
Losses in fittings and valves are not included.



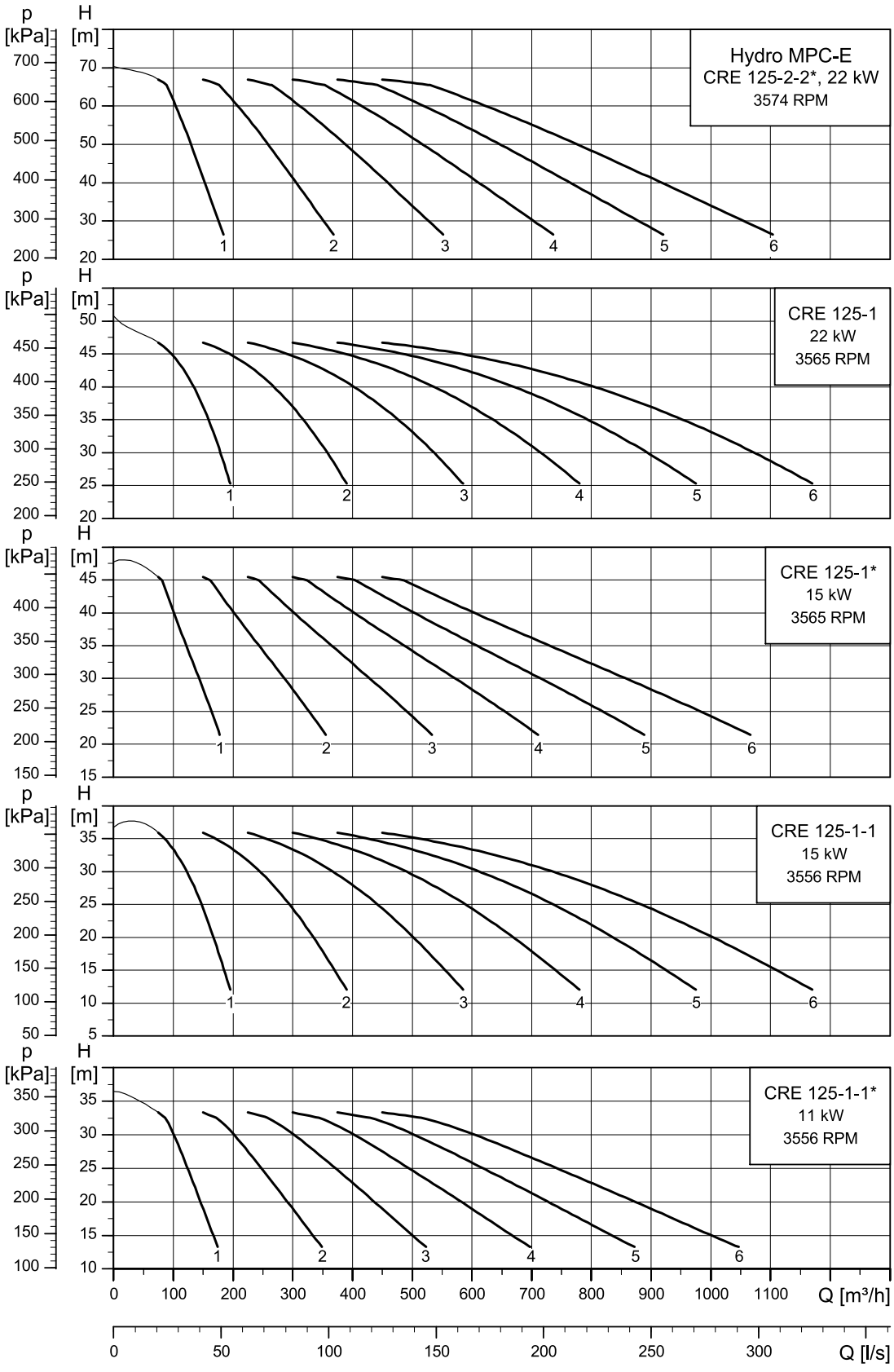
TM071624

* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

Hydro MPC-E with CR, CRE 125



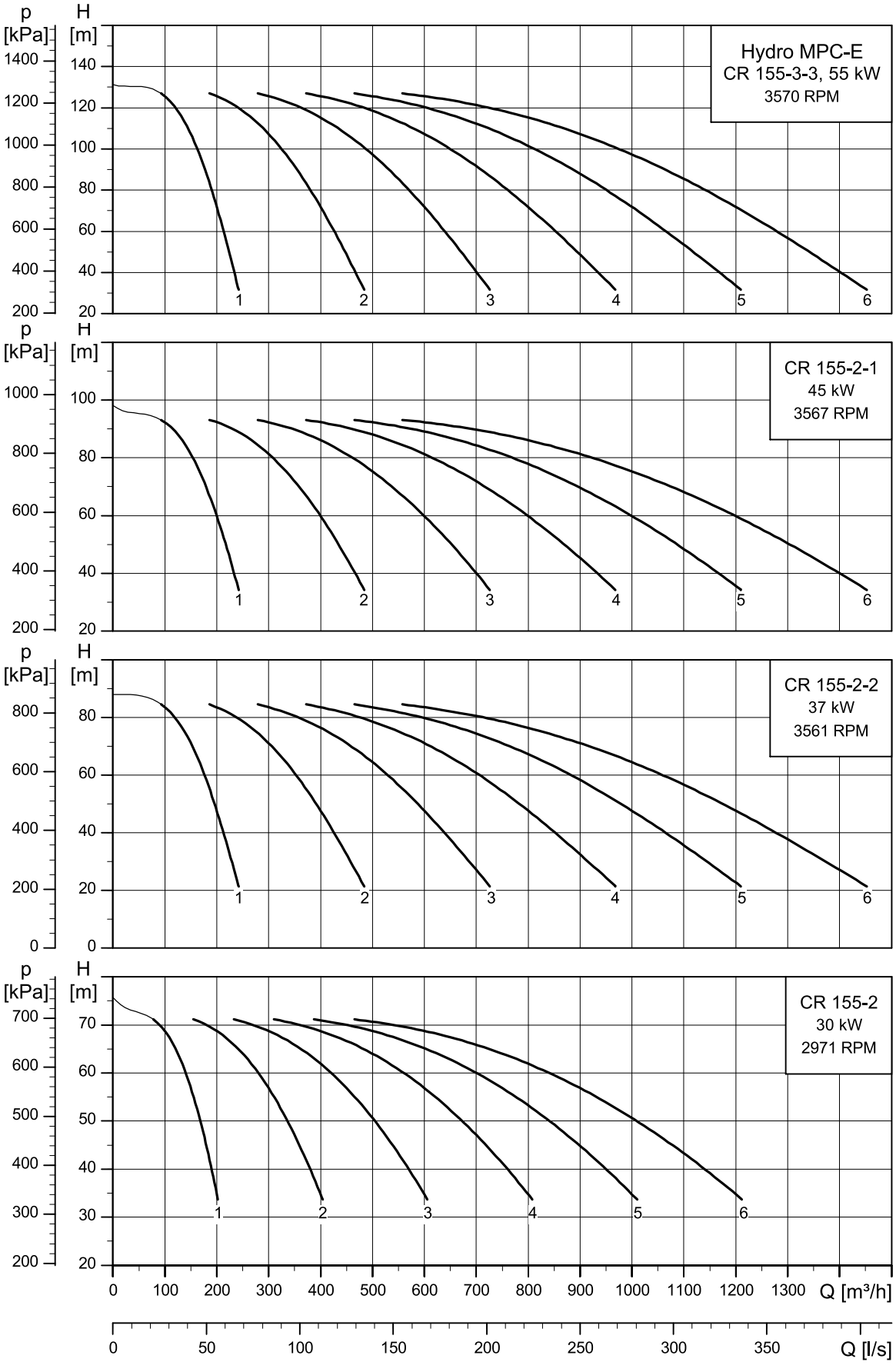
Losses in fittings and valves are not included.



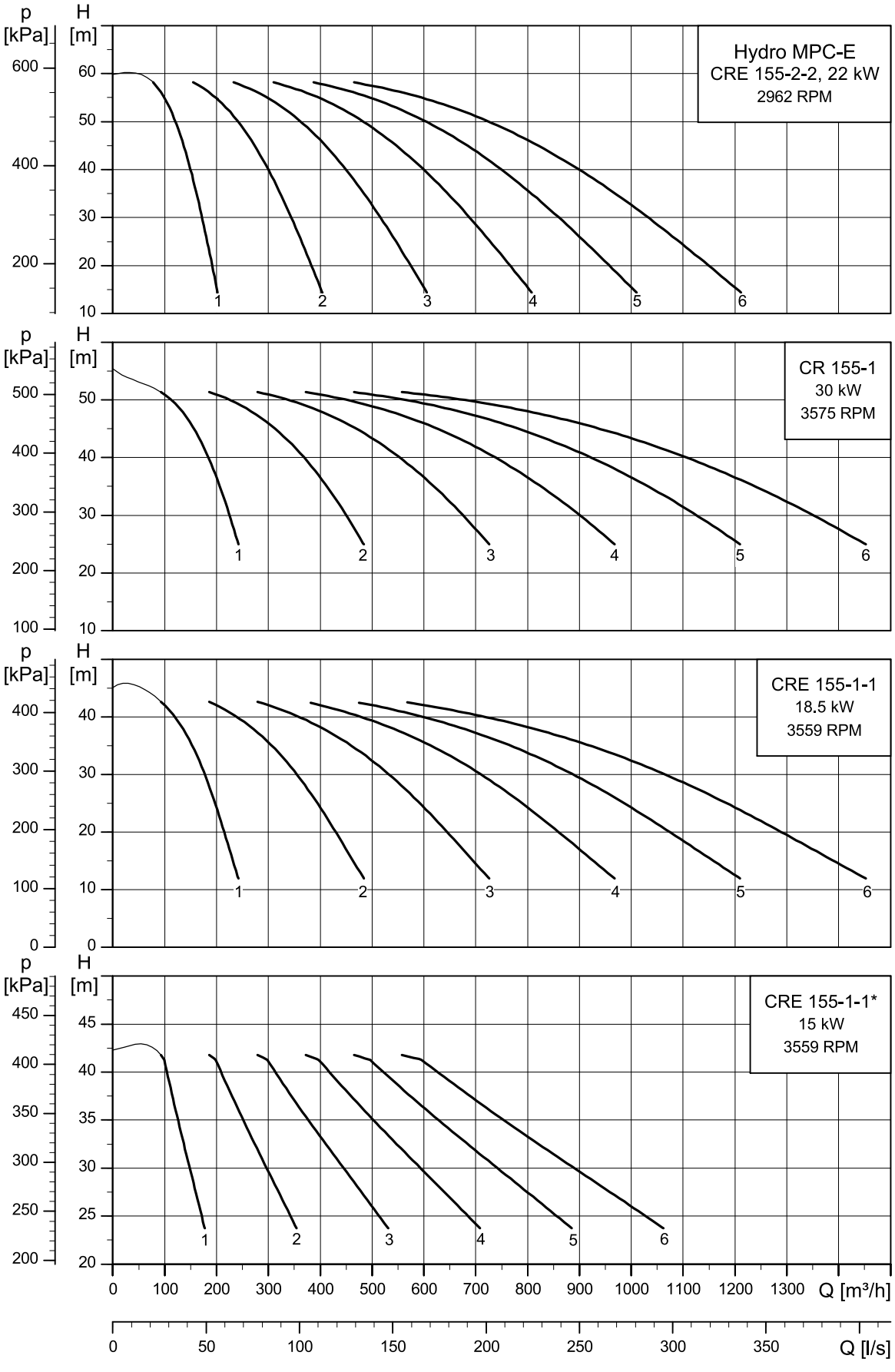
TM071626

* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

Hydro MPC-E with CR, CRE 155

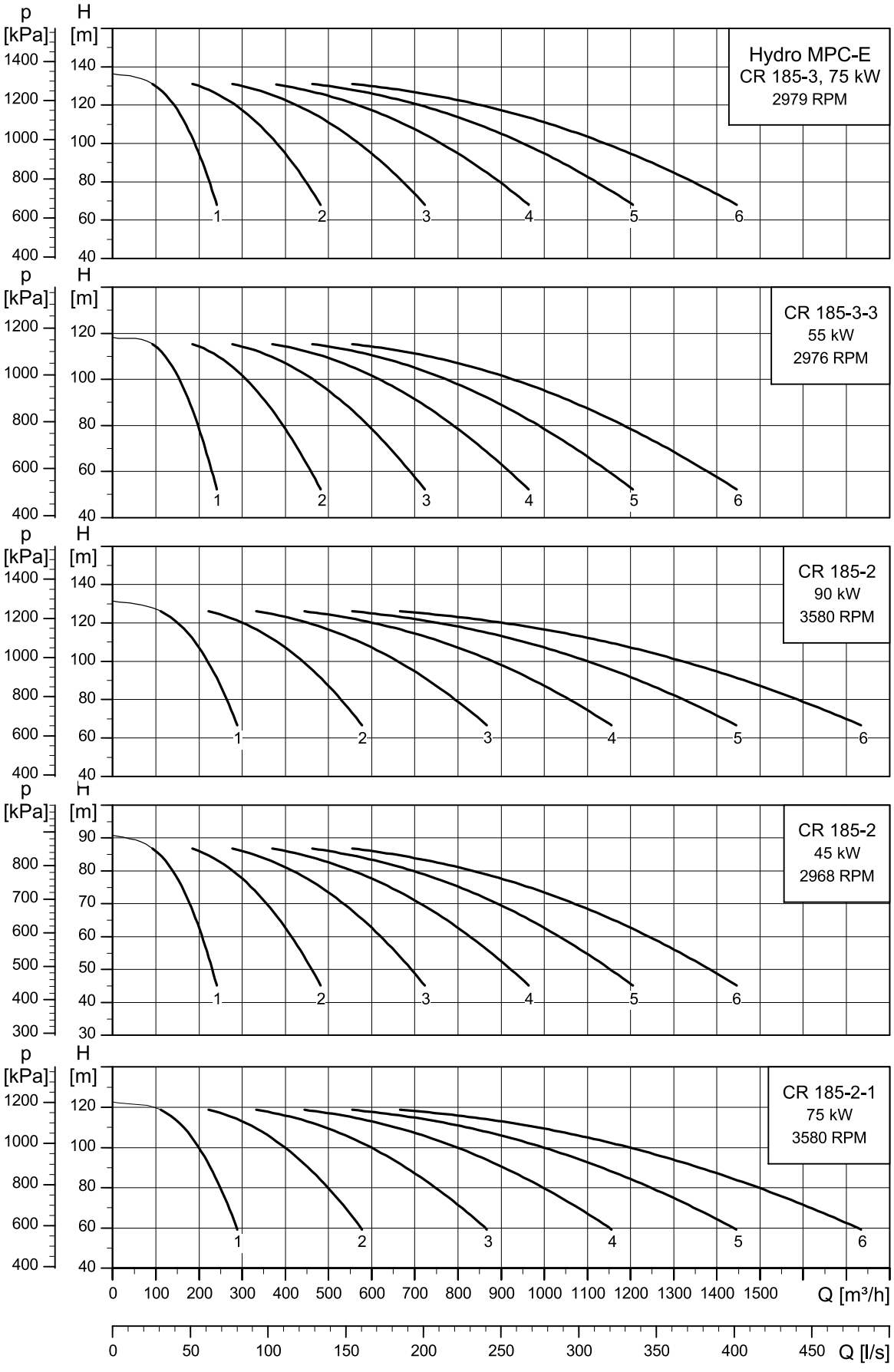


Losses in fittings and valves are not included.

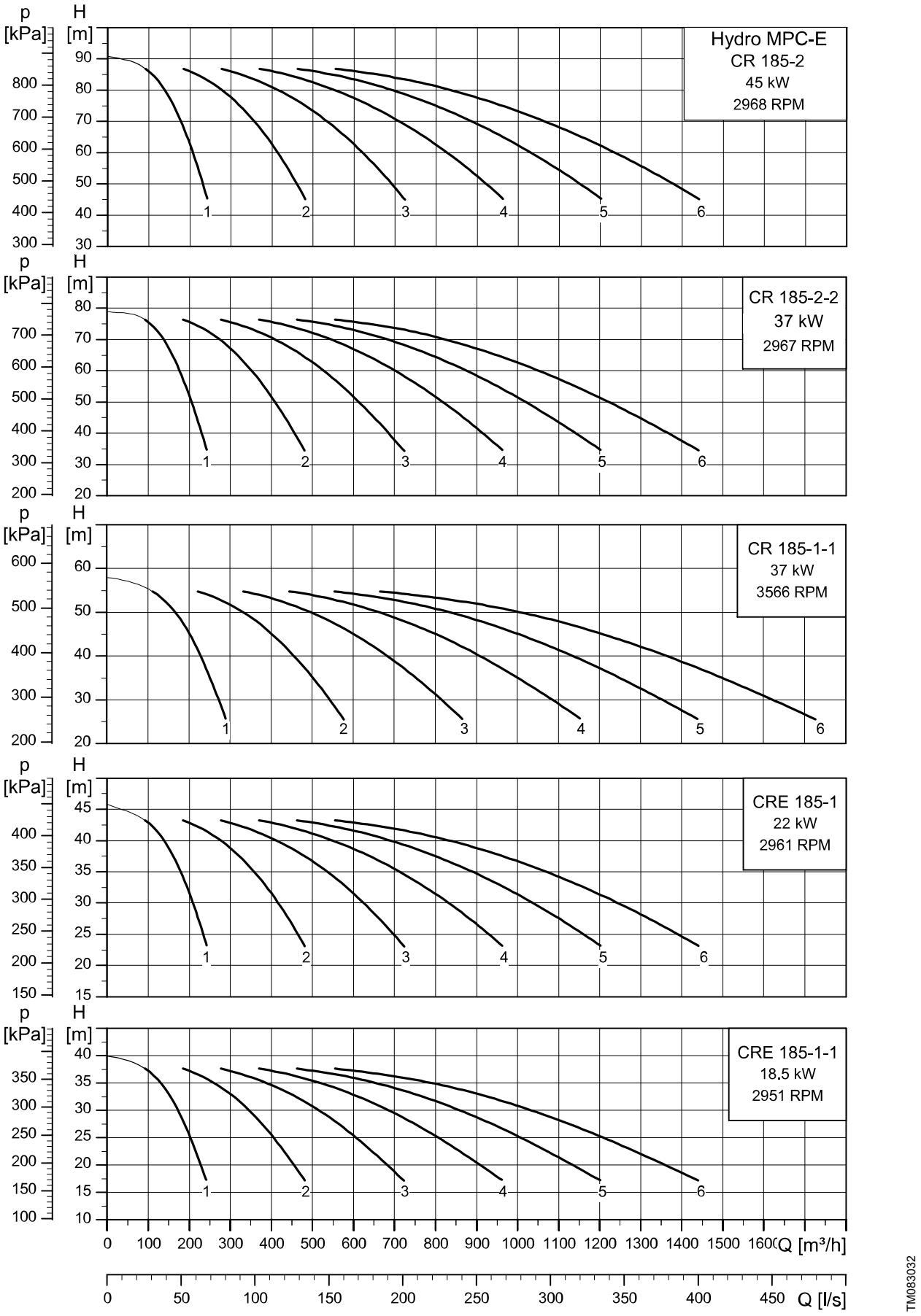


* For undersized motors, the maximum speed depends on the power usage.
Losses in fittings and valves are not included.

Hydro MPC-E with CR 185



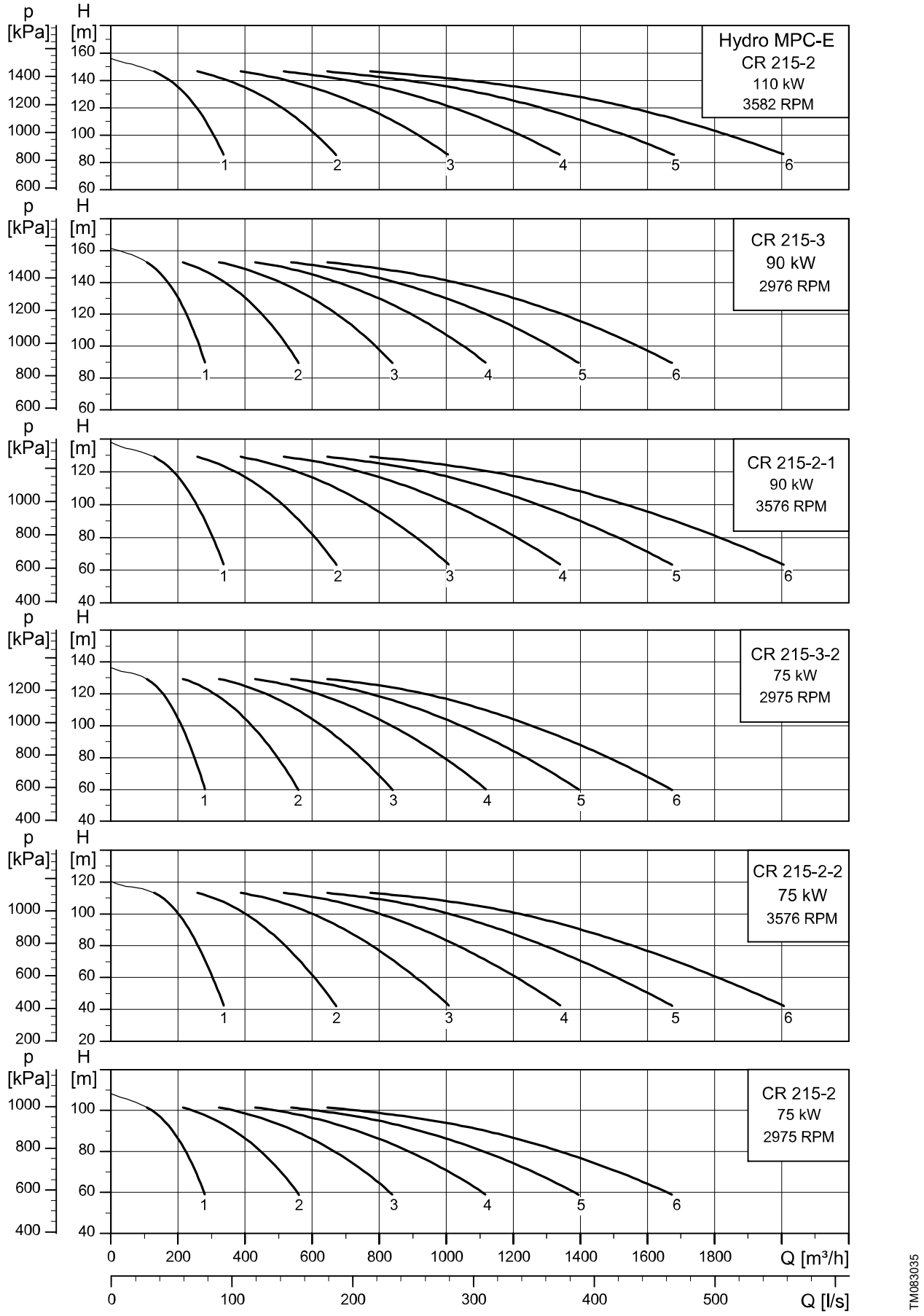
Losses in fittings and valves are not included.



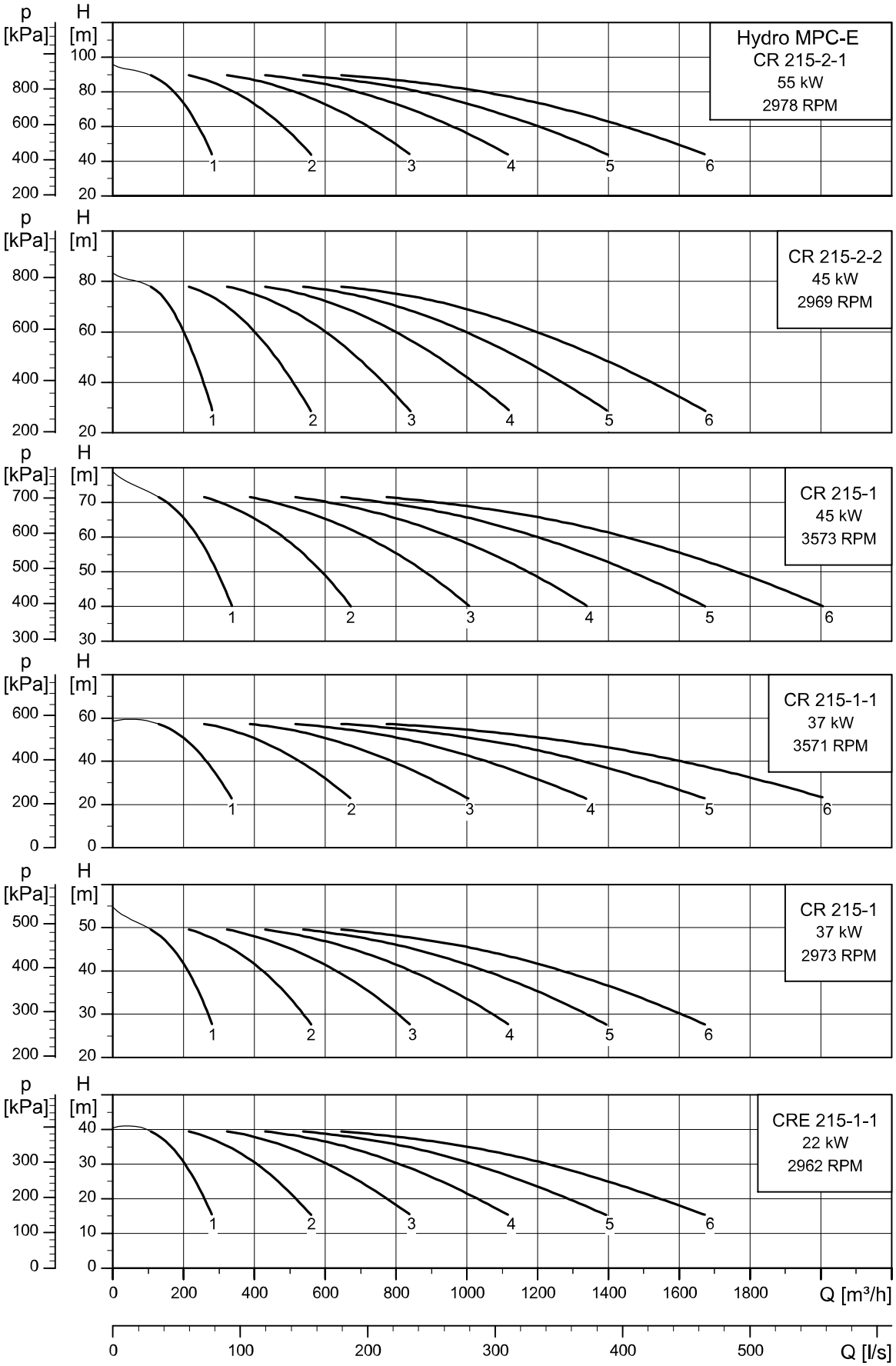
TM083032

Losses in fittings and valves are not included.

Hydro MPC-E with CR 215



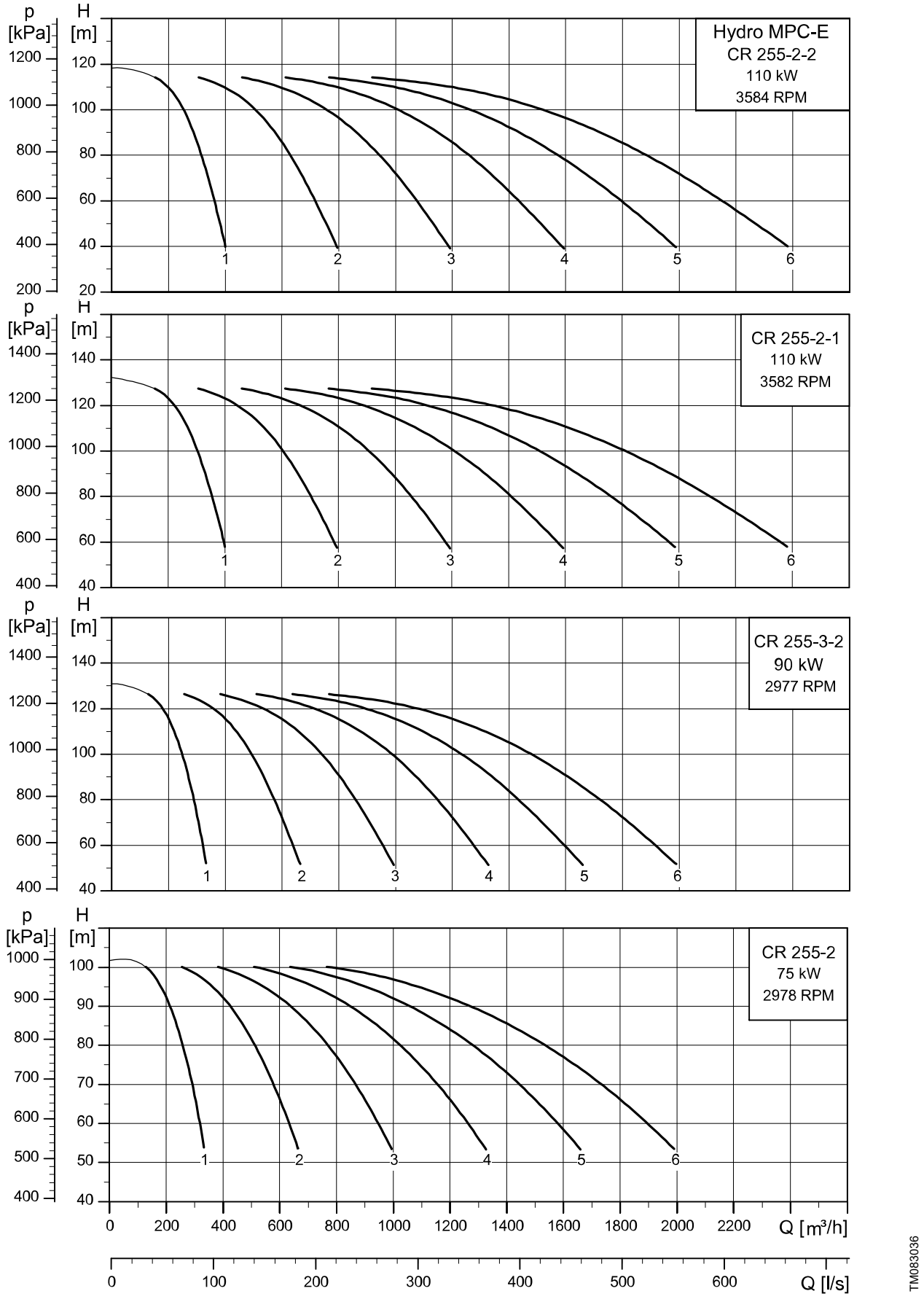
Losses in fittings and valves are not included.



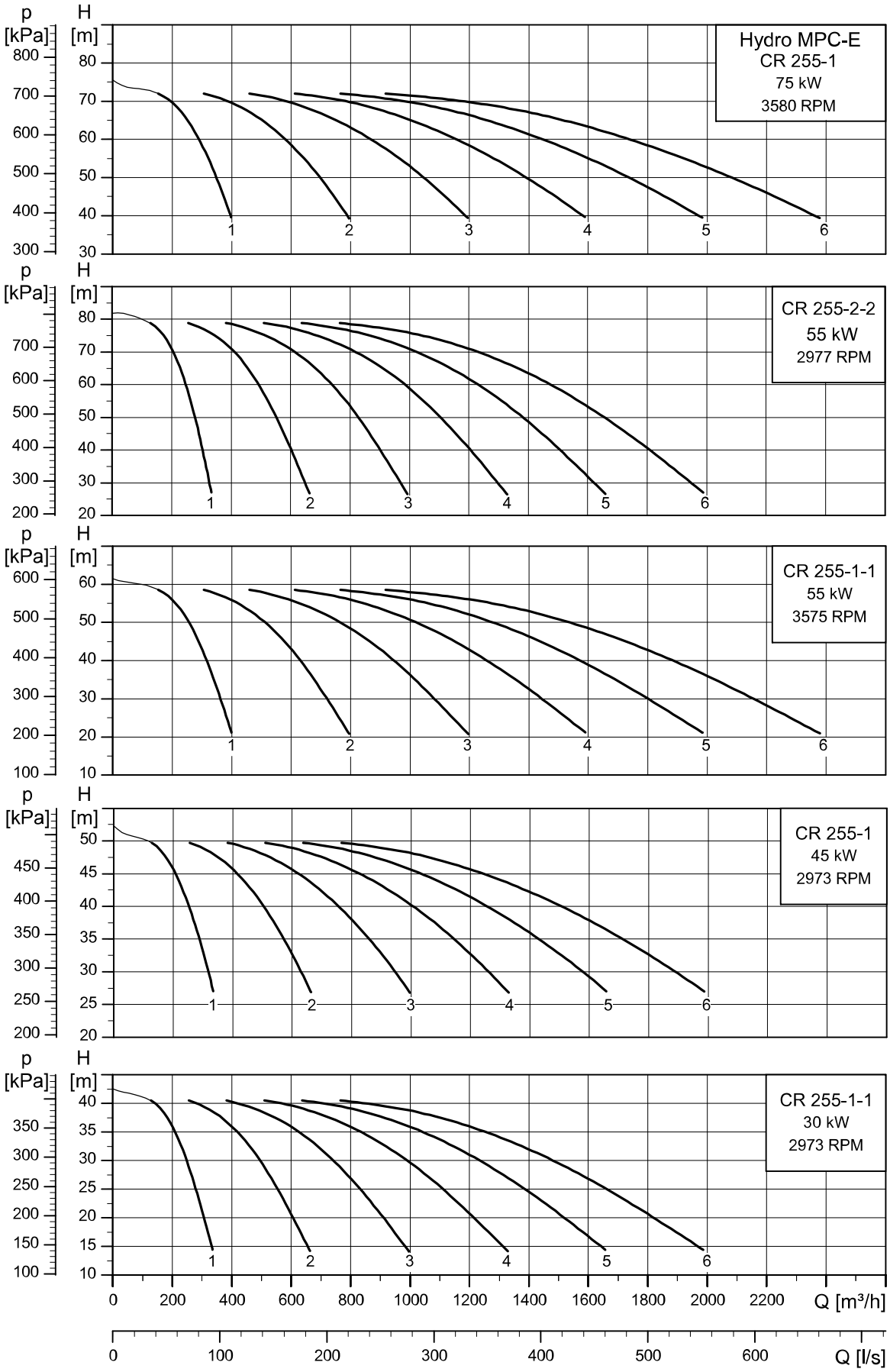
TM083034

Losses in fittings and valves are not included.

Hydro MPC-E with CR 255



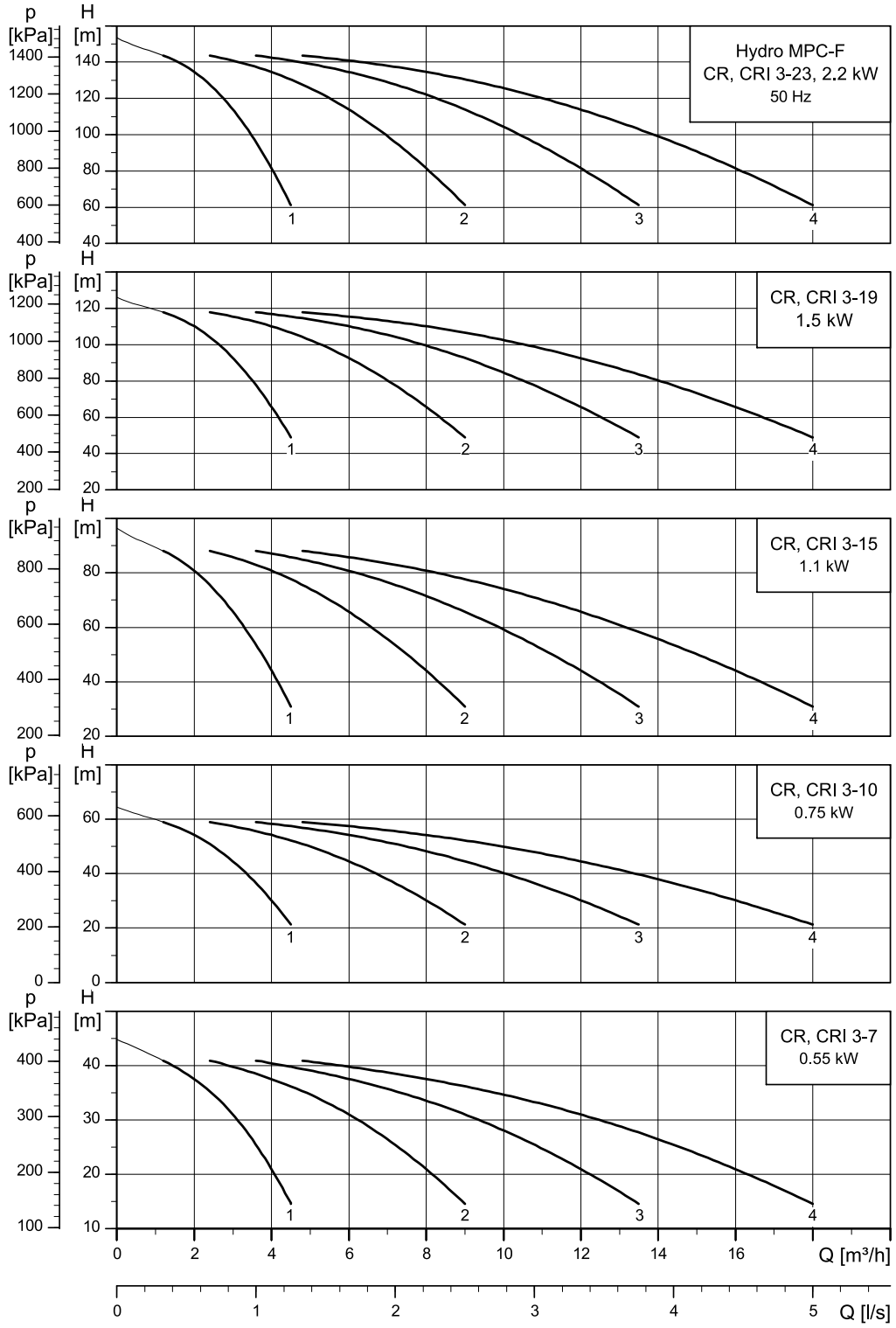
Losses in fittings and valves are not included.



Losses in fittings and valves are not included.

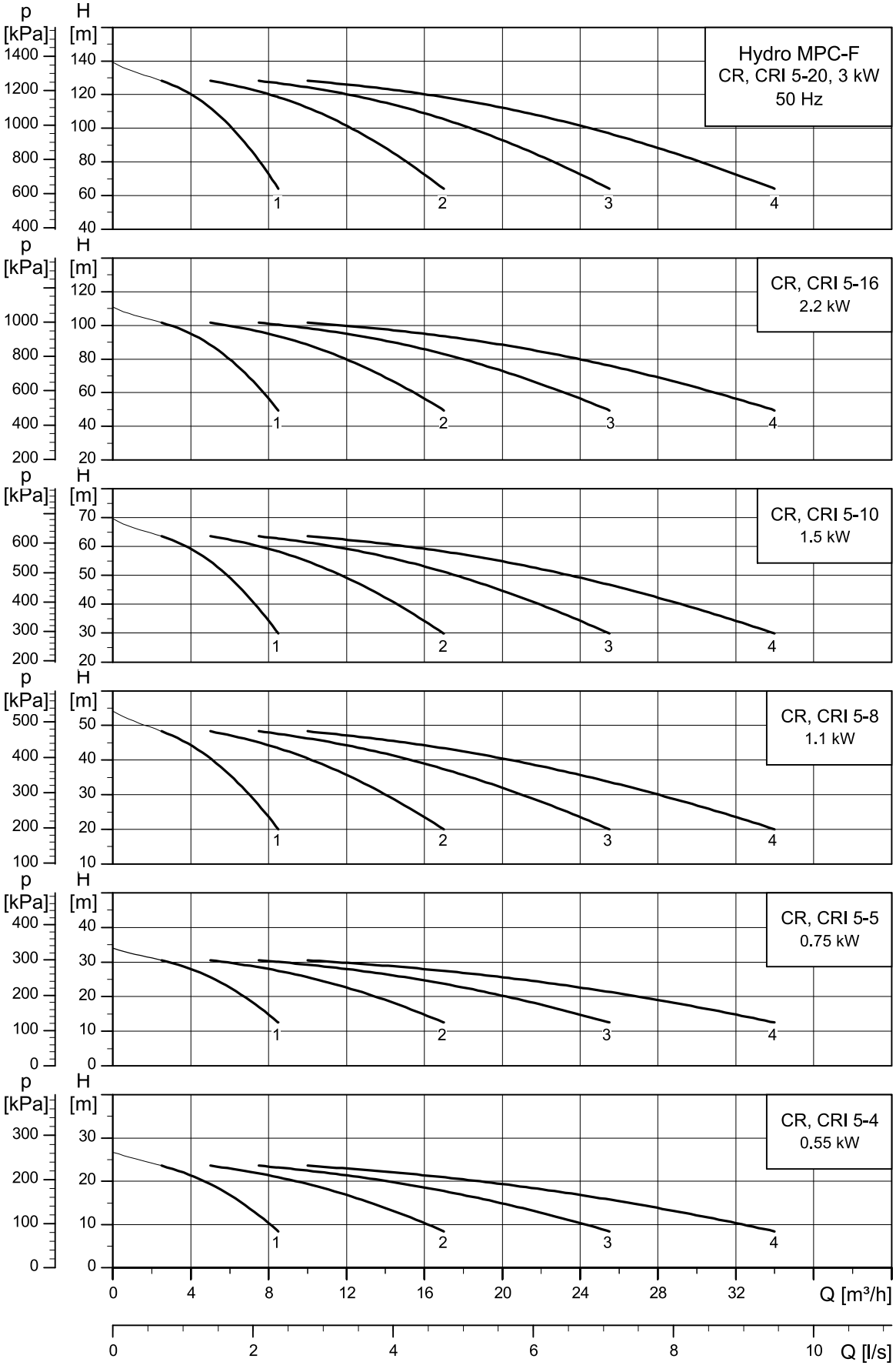
9. Curve charts, Hydro MPC-F, 50 Hz

Hydro MPC-F with CR, CRI 3



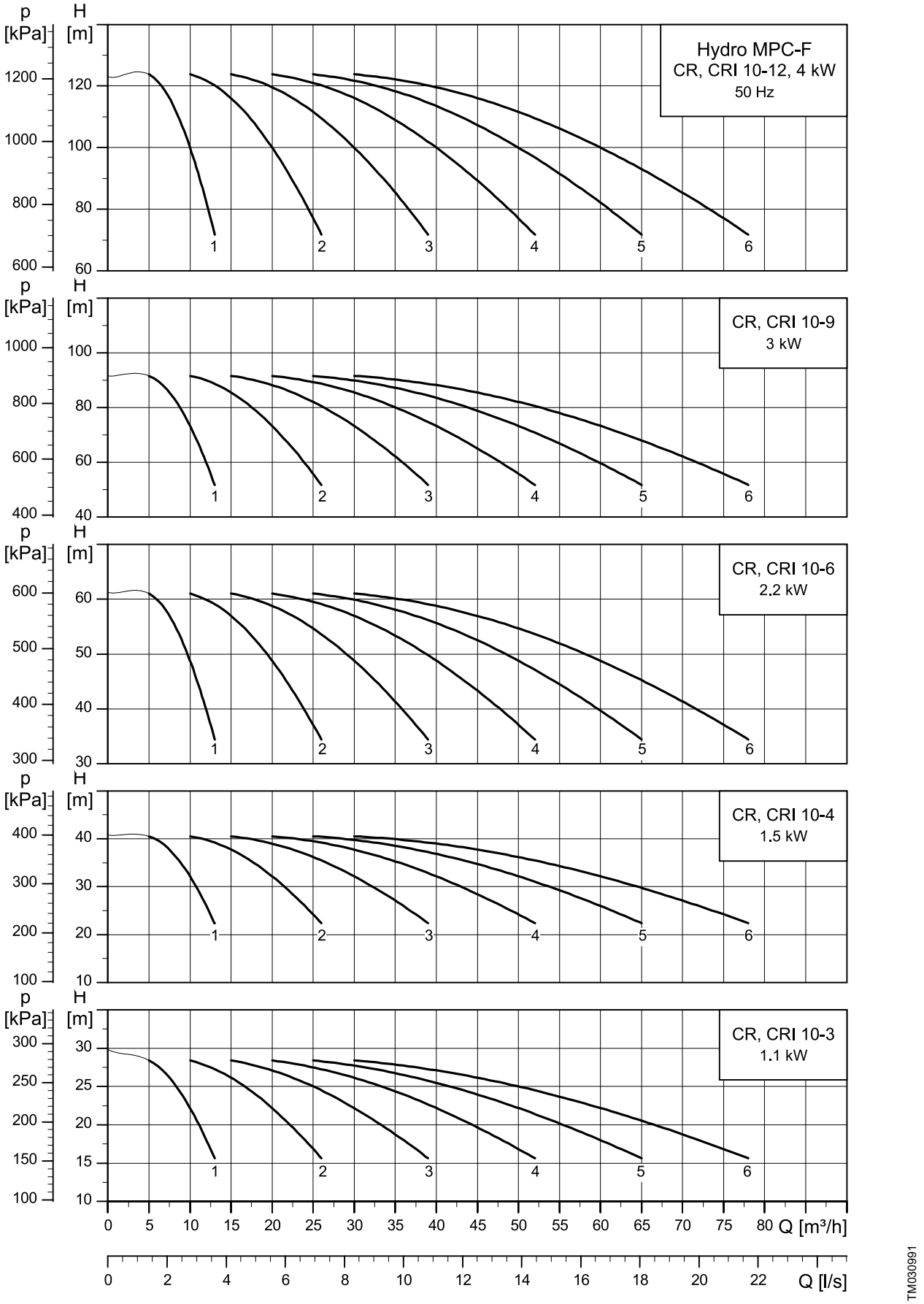
TM030989

Hydro MPC-F with CR, CRI 5

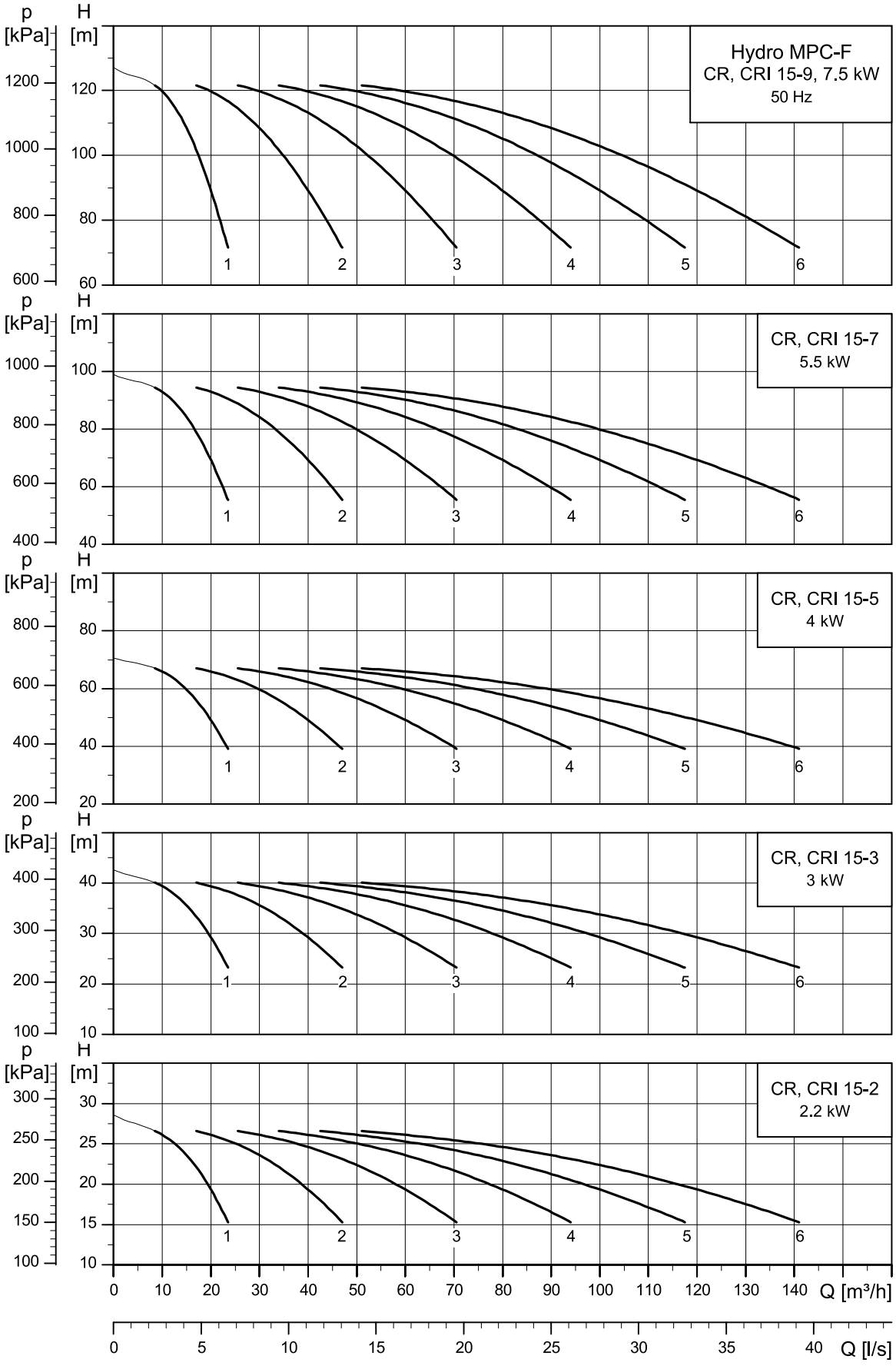


TM030990

Hydro MPC-F with CR, CRI 10

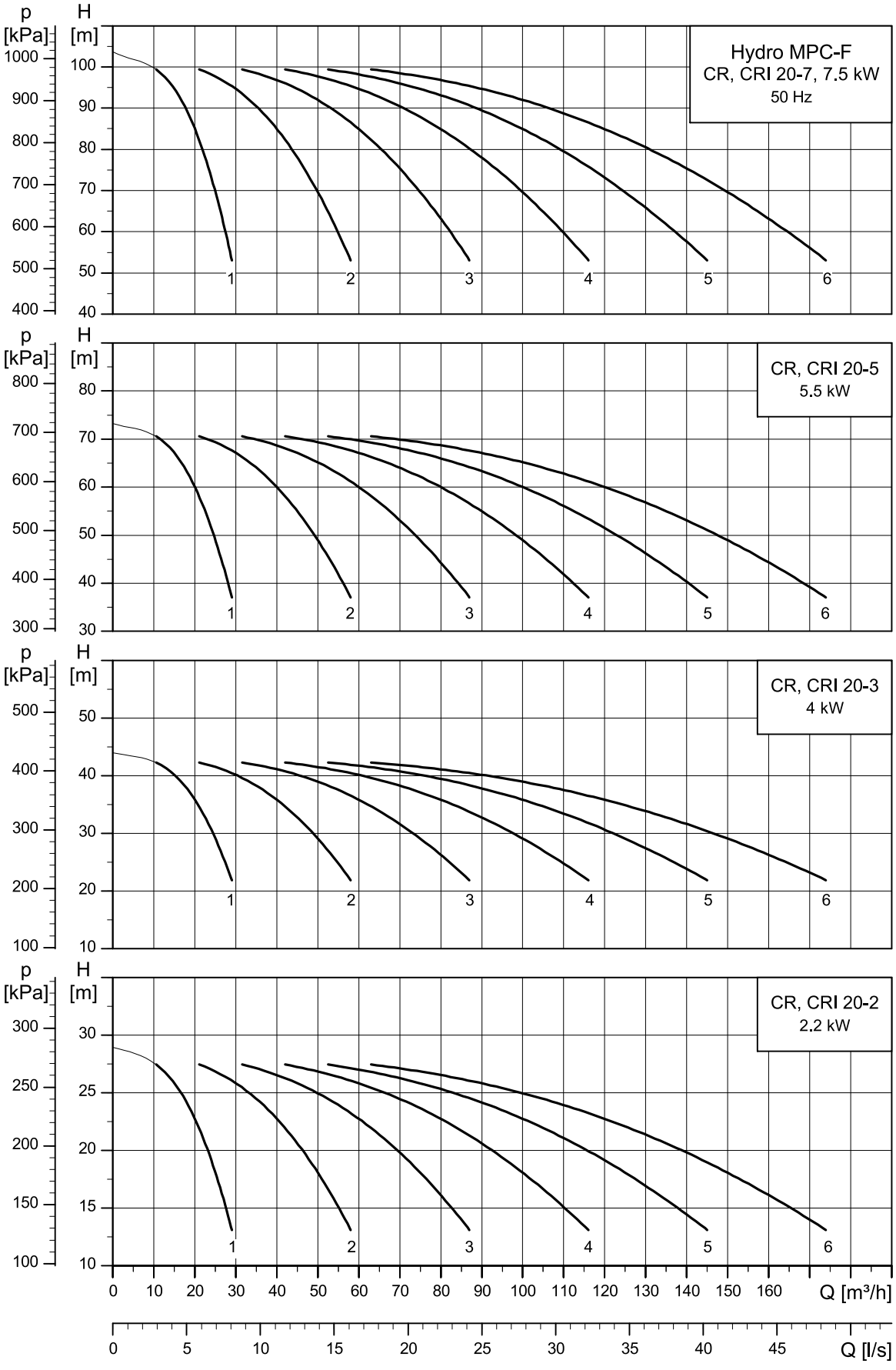


Hydro MPC-F with CR, CRI 15



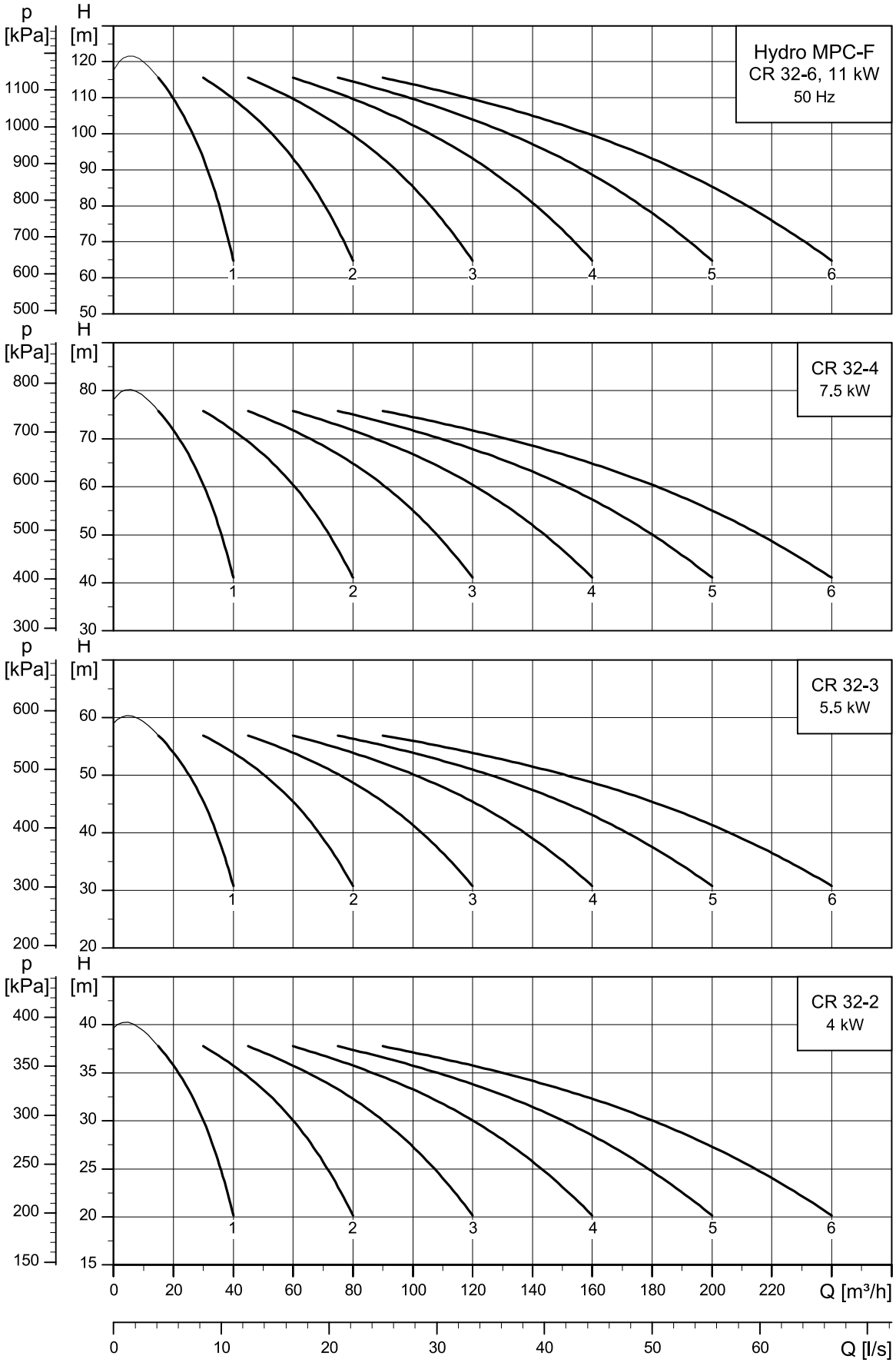
TM031066

Hydro MPC-F with CR, CRI 20



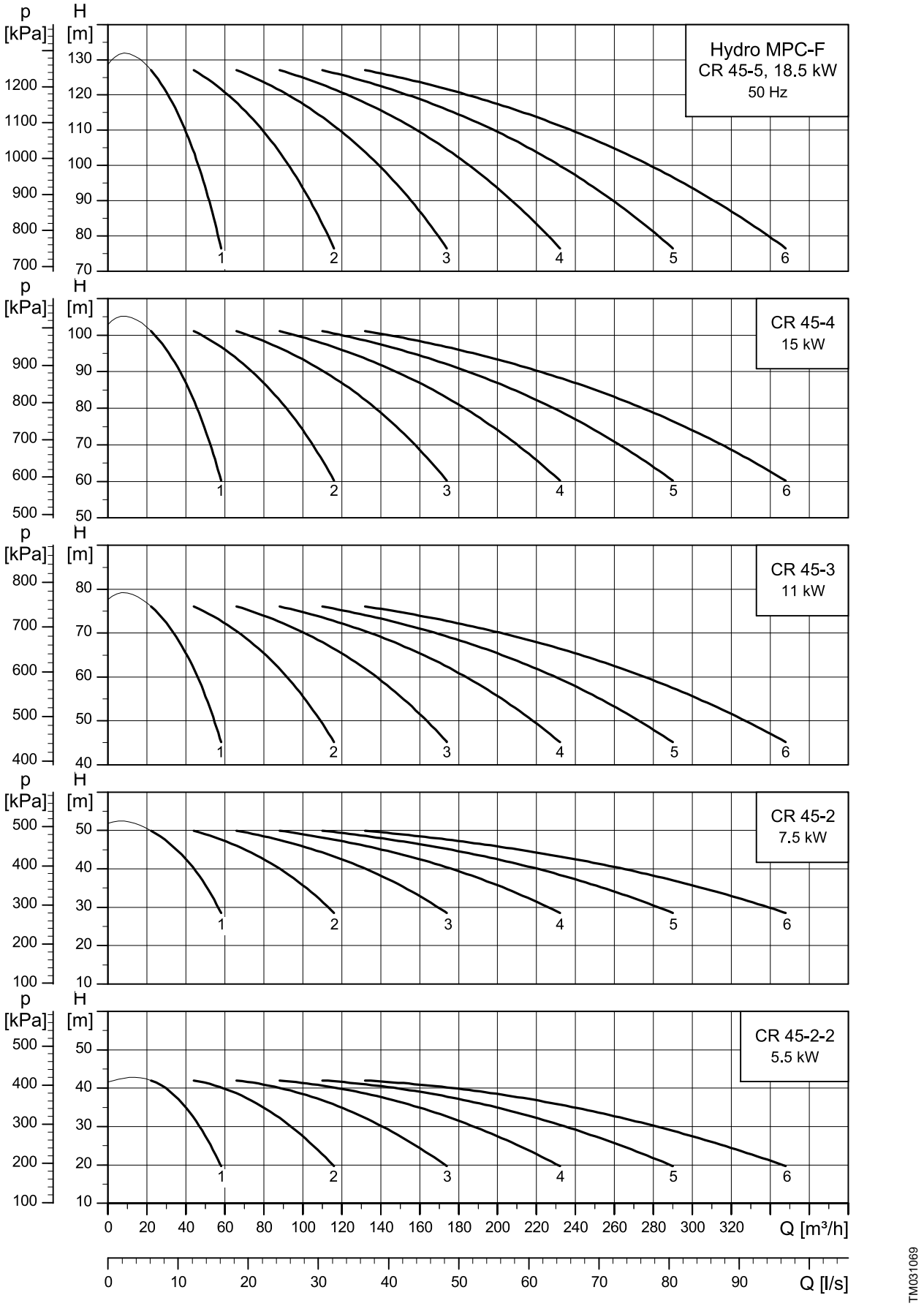
TM031067

Hydro MPC-F with CR 32

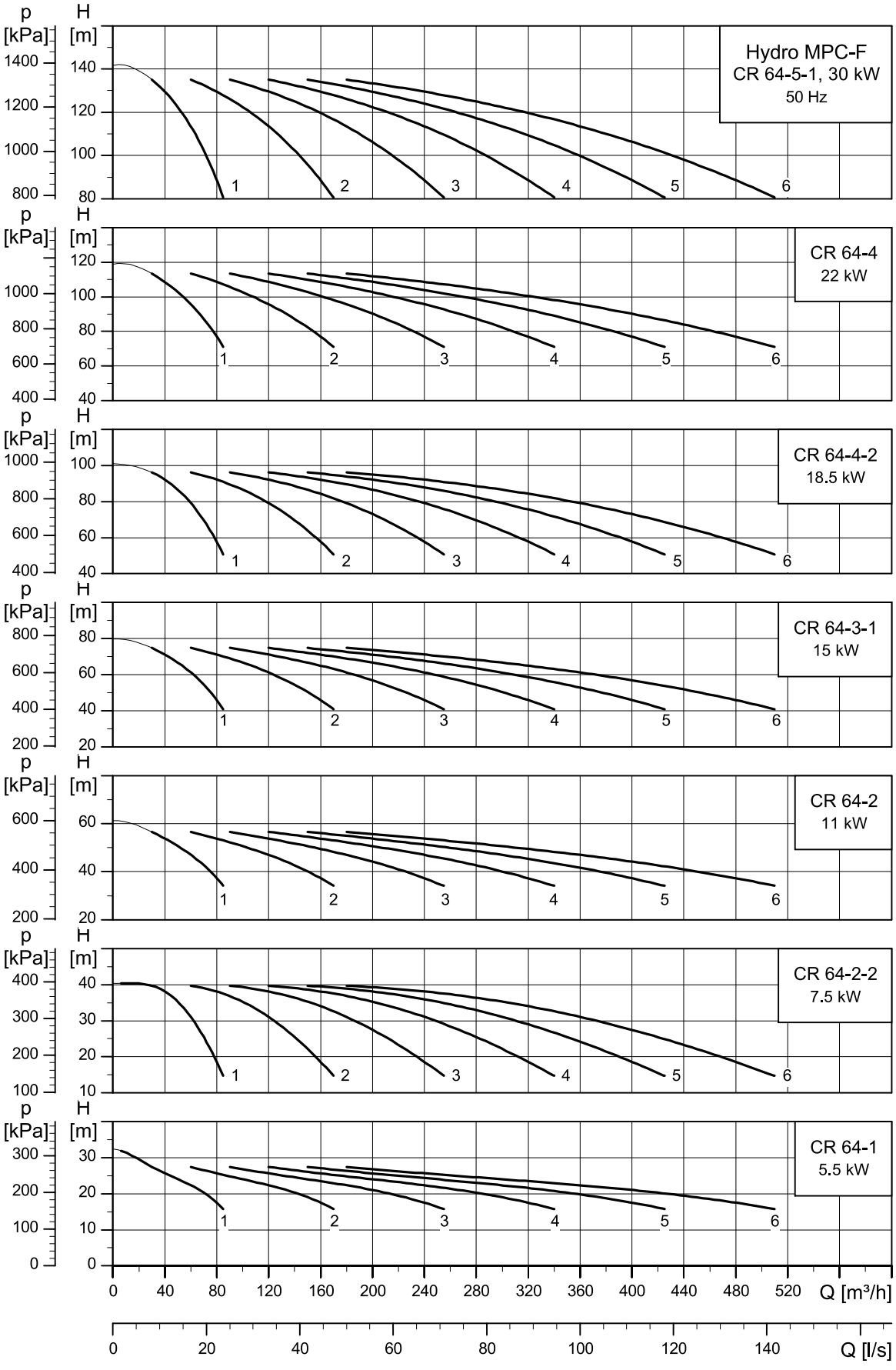


TM031068

Hydro MPC-F with CR 45

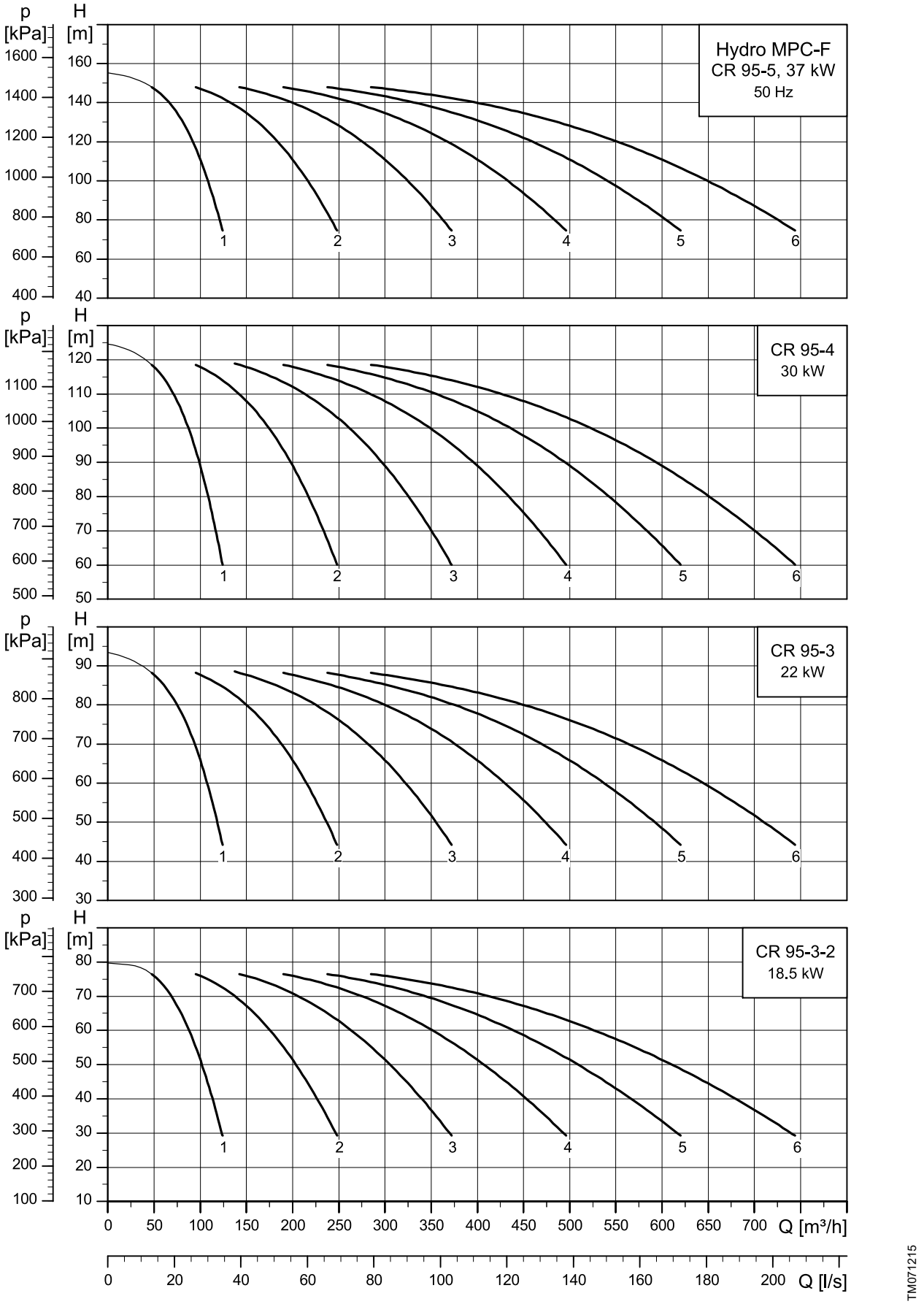


Hydro MPC-F with CR 64

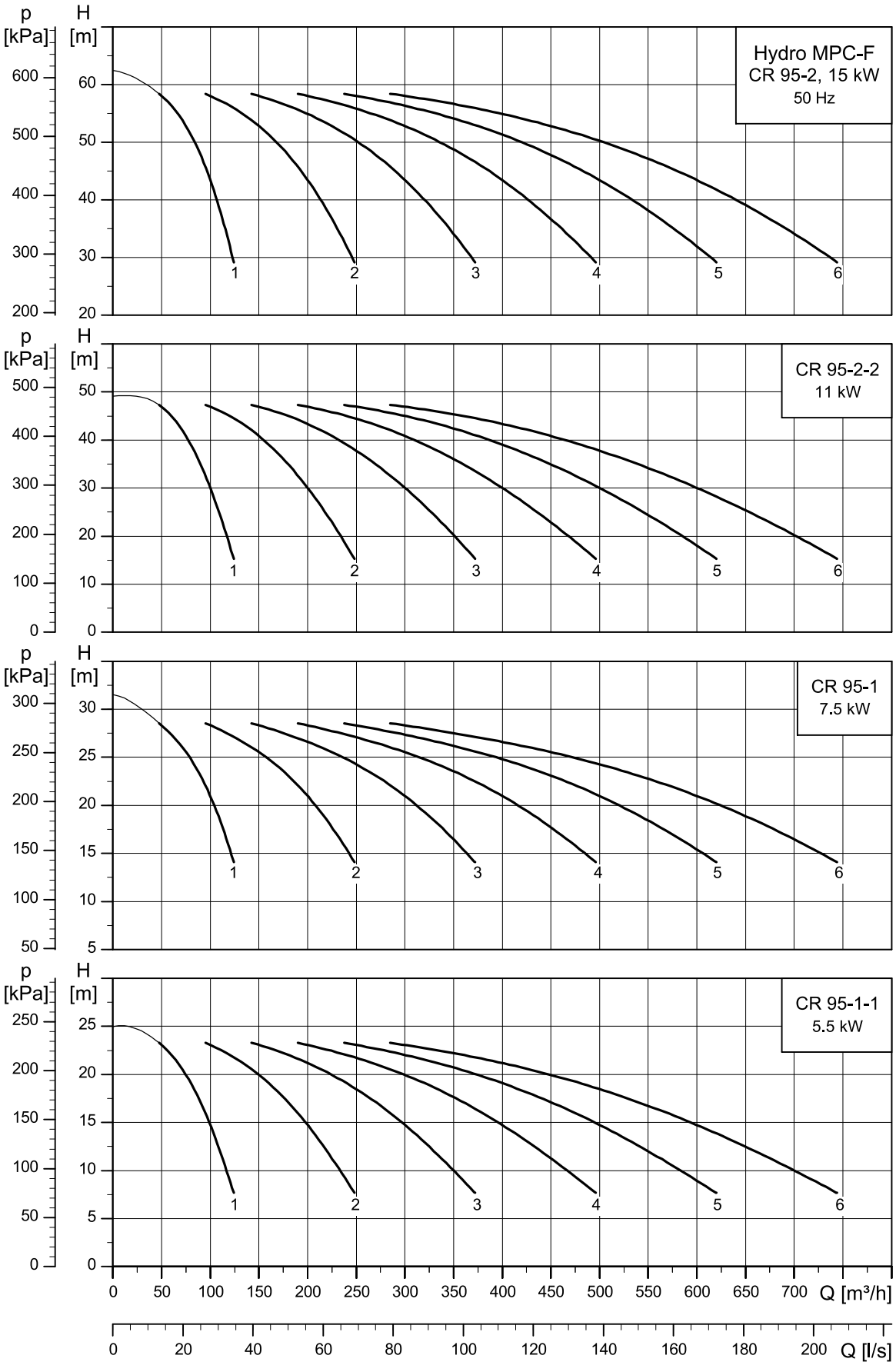


TM031070

Hydro MPC-F with CR 95

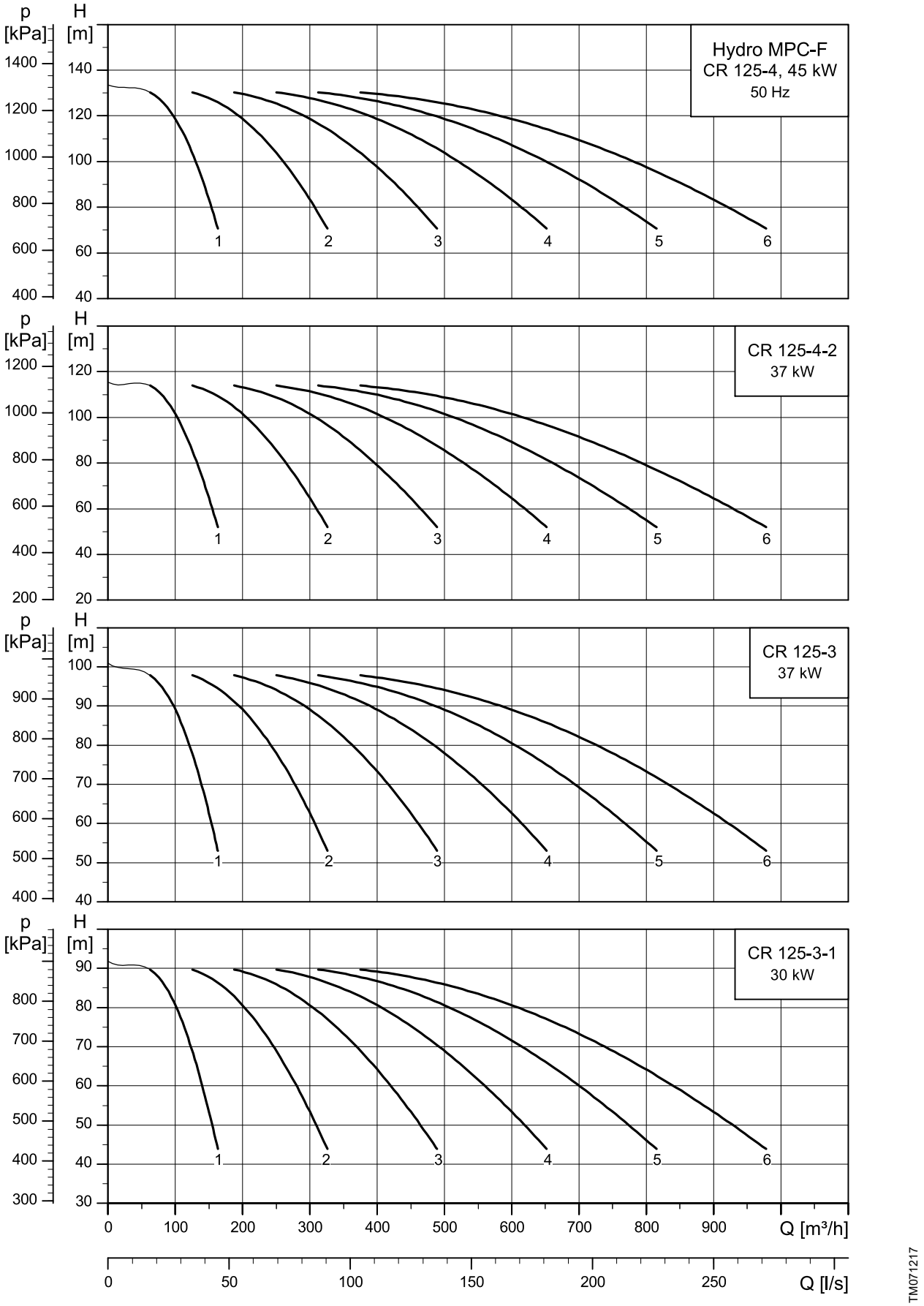


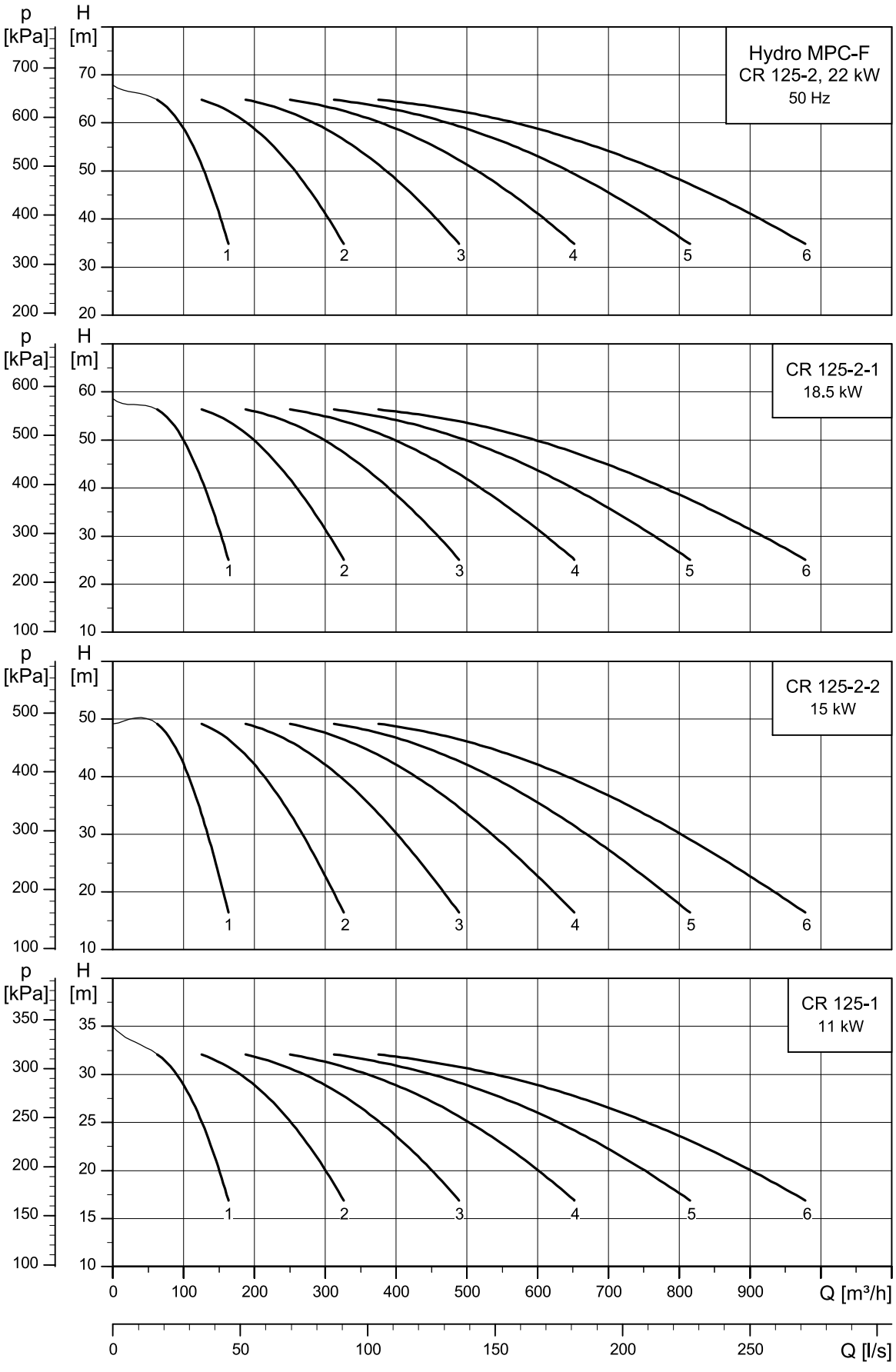
TM071215


p [kPa]
H [m]
Hydro MPC-F
CR 95-2, 15 kW
50 Hz
CR 95-2-2
11 kW
CR 95-1
7.5 kW
CR 95-1-1
5.5 kW
1
2
3
4
5
6
0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 Q [m³/h]
0 20 40 60 80 100 120 140 160 180 200 Q [l/s]

TM071214

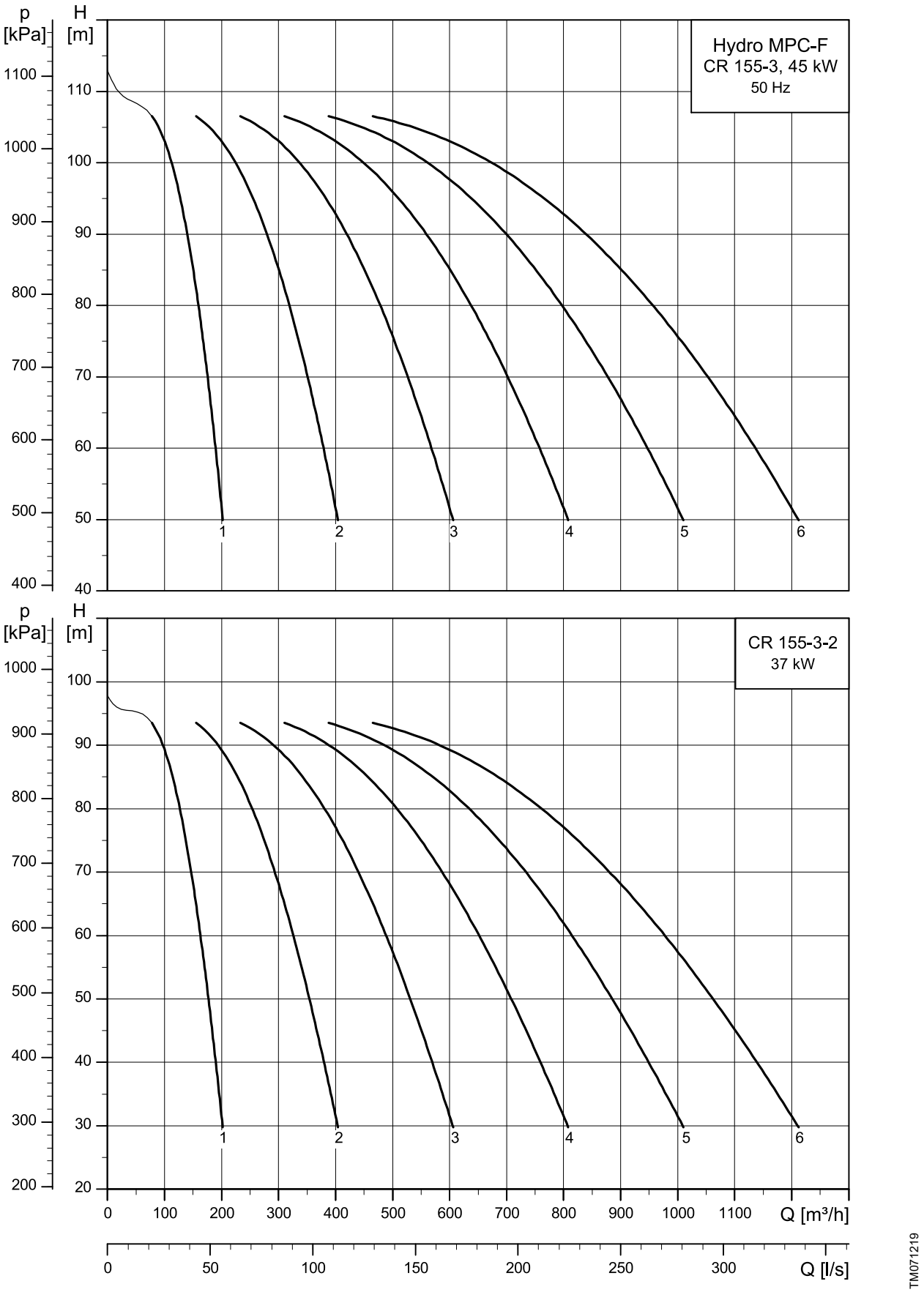
Hydro MPC-F with CR 125

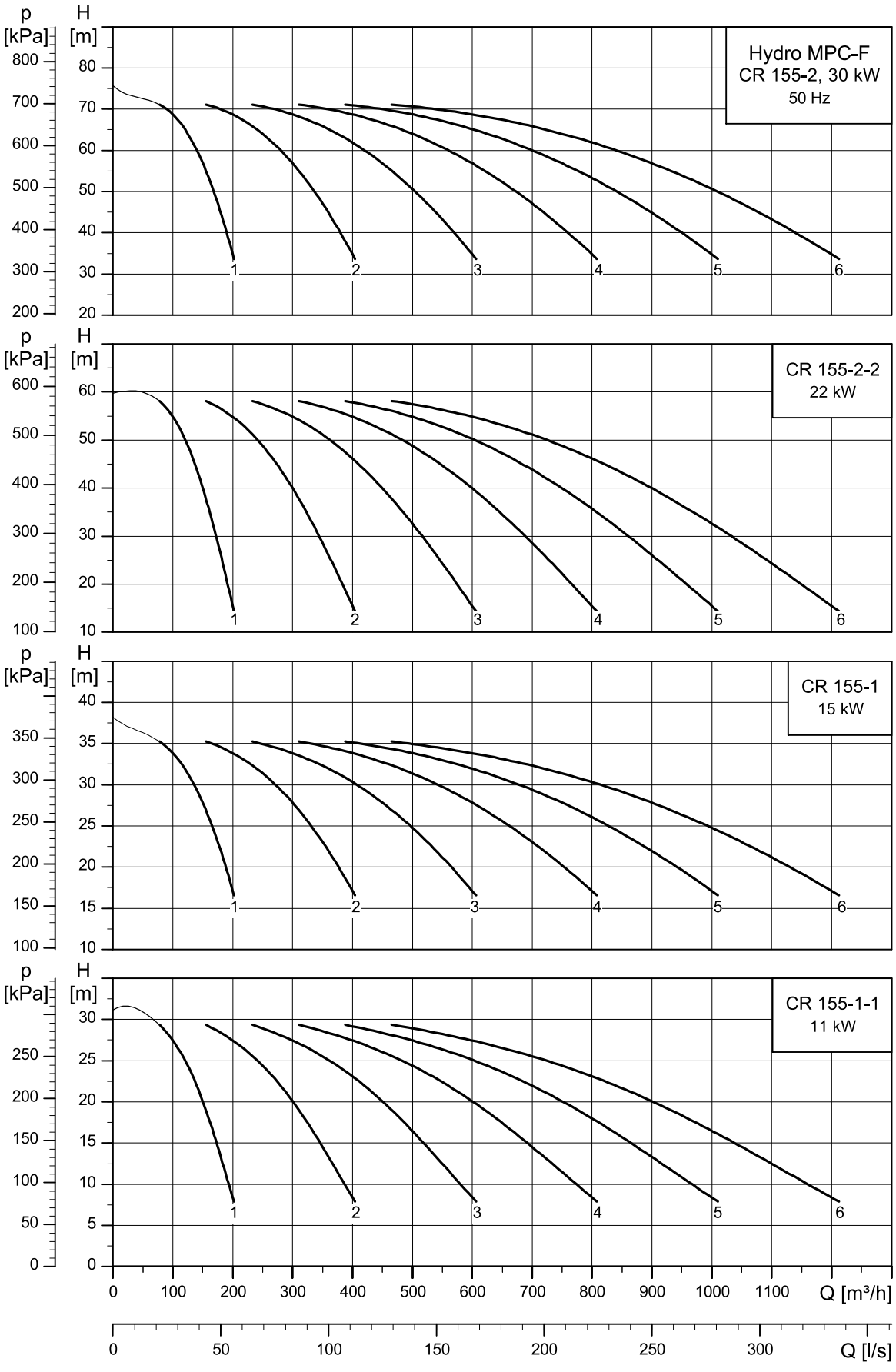



p [kPa]
H [m]
Hydro MPC-F
CR 125-2, 22 kW
50 Hz
1
2
3
4
5
6
CR 125-2-1
18.5 kW
CR 125-2-2
15 kW
CR 125-1
11 kW
Q [m³/h]
Q [l/s]

TM071216

Hydro MPC-F with CR 155

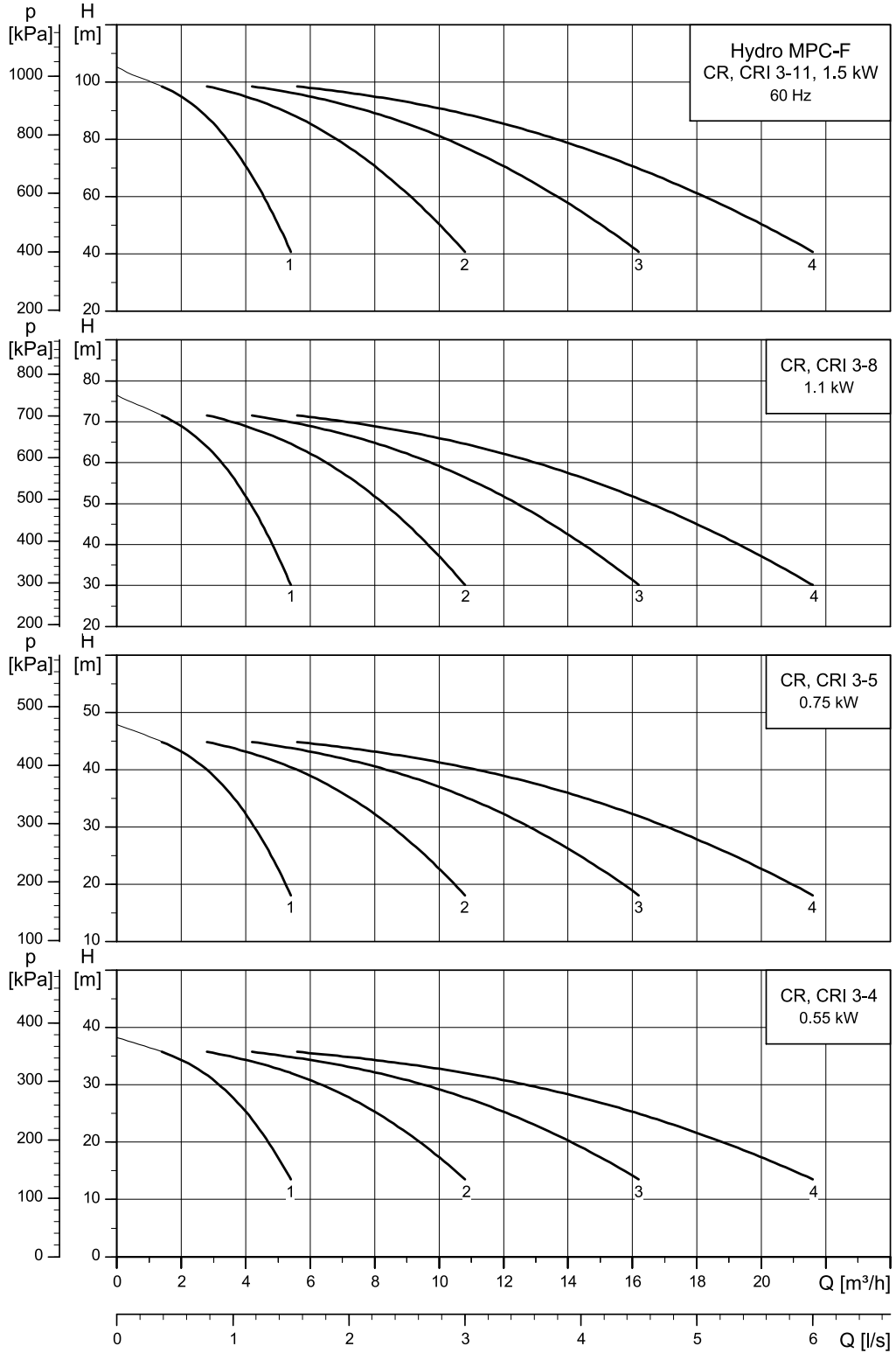



p [kPa]
H [m]
Hydro MPC-F
CR 155-2, 30 kW
50 Hz
1
2
3
4
5
6
CR 155-2-2
22 kW
CR 155-1
15 kW
CR 155-1-1
11 kW
Q [m³/h]
Q [l/s]

TM071218

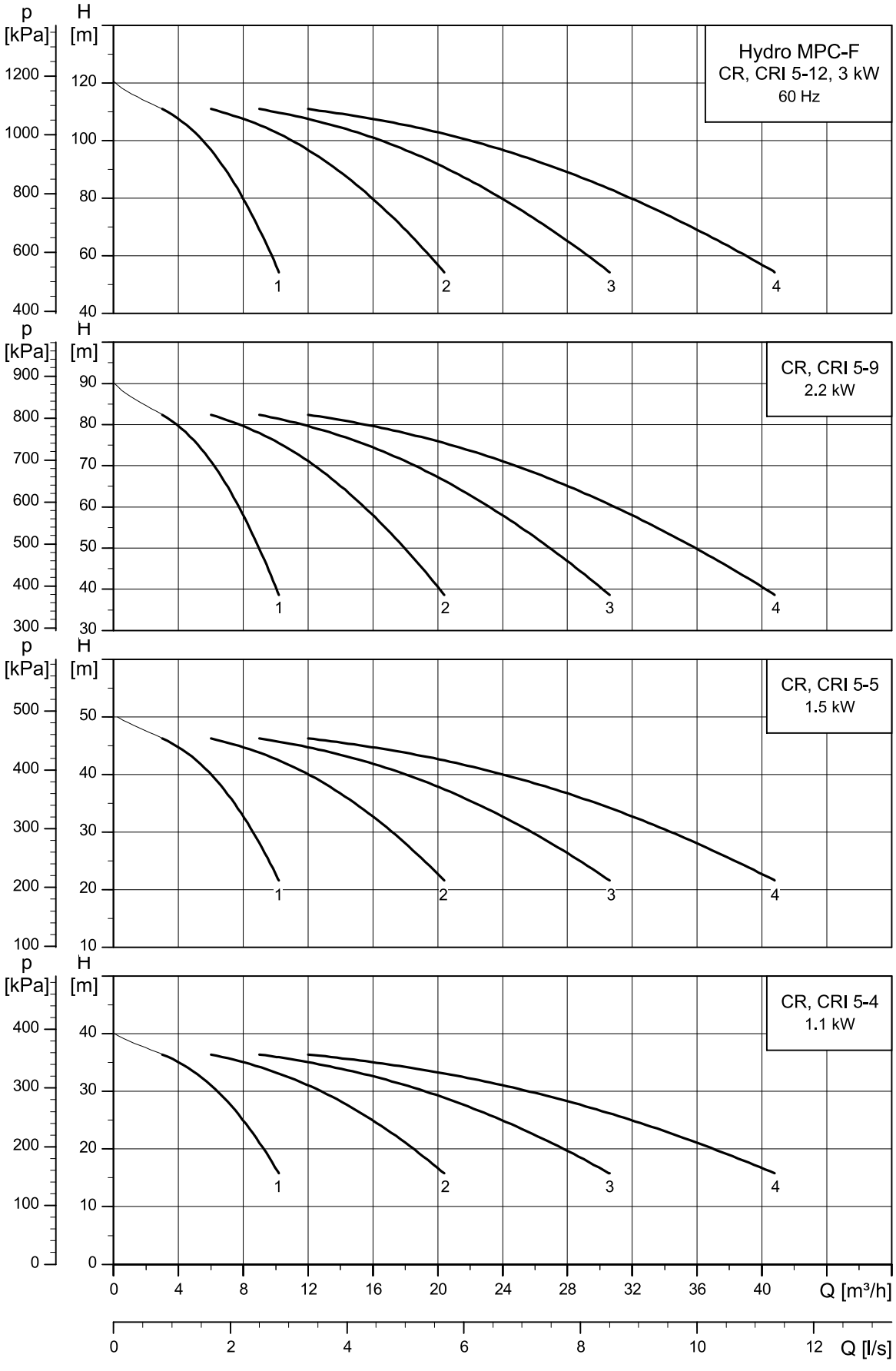
10. Curve charts, Hydro MPC-F, 60 Hz

Hydro MPC-F with CR, CRI 3



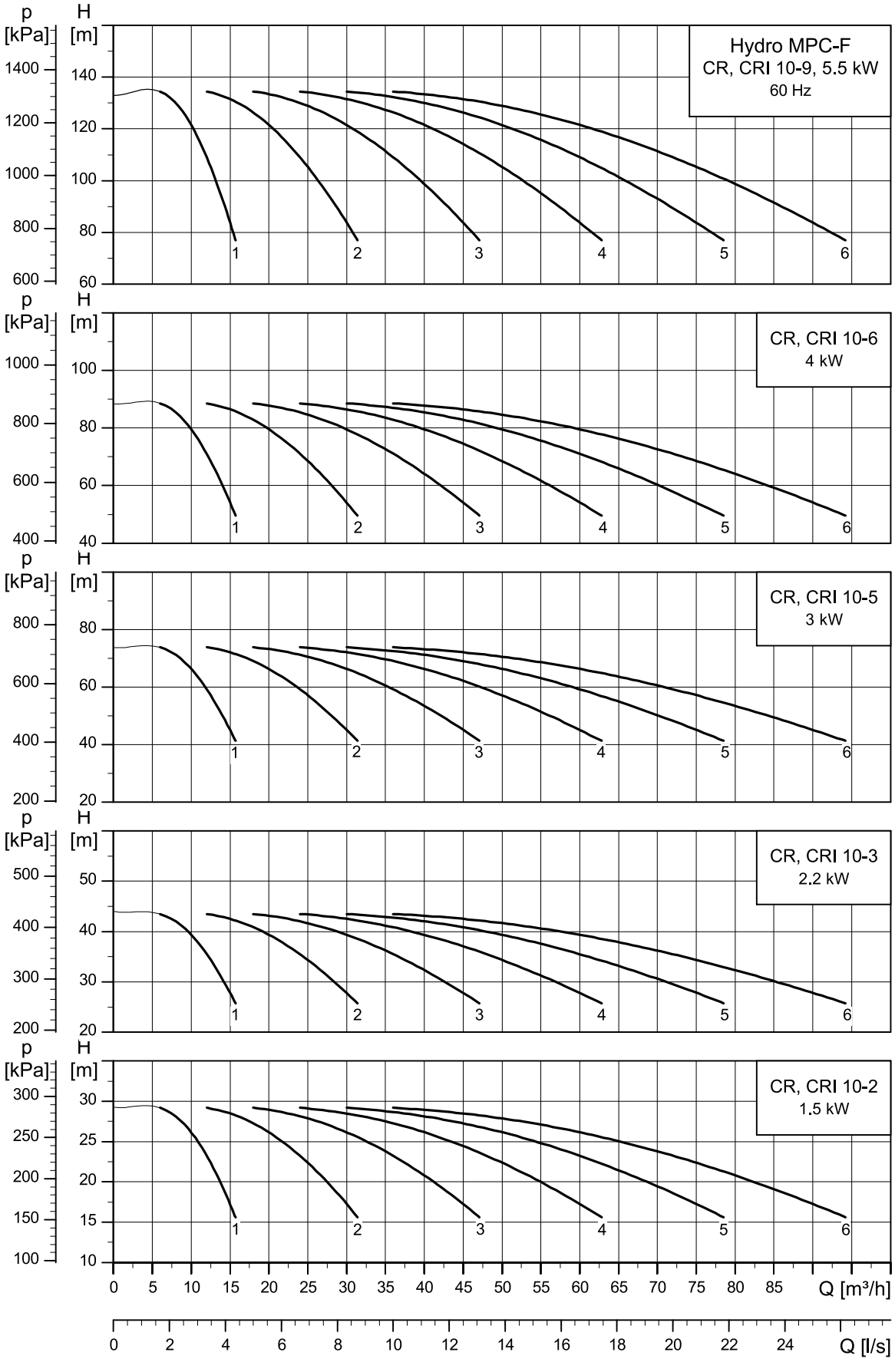
TM033349

Hydro MPC-F with CR, CRI 5



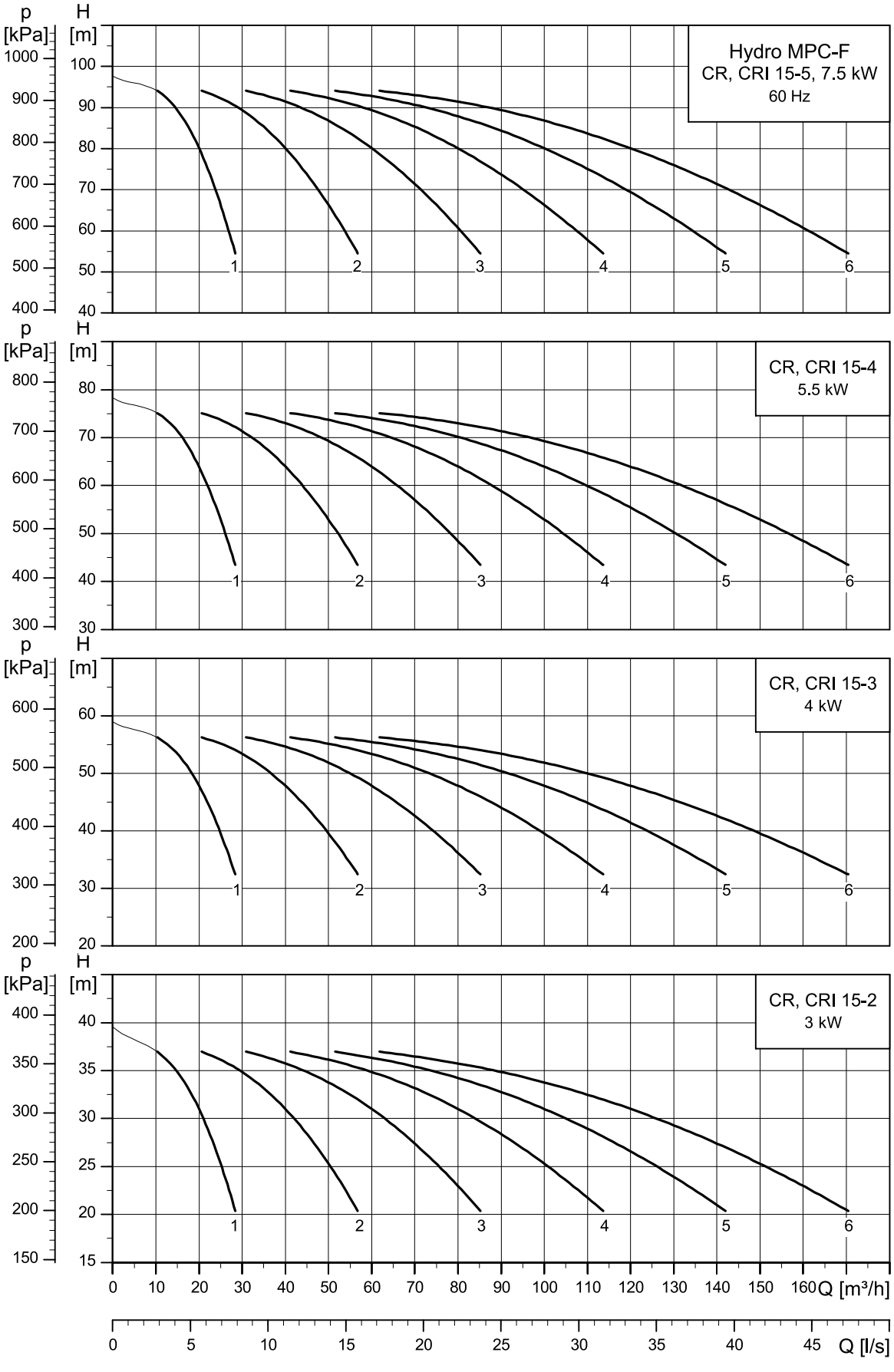
TM031144

Hydro MPC-F with CR, CRI 10



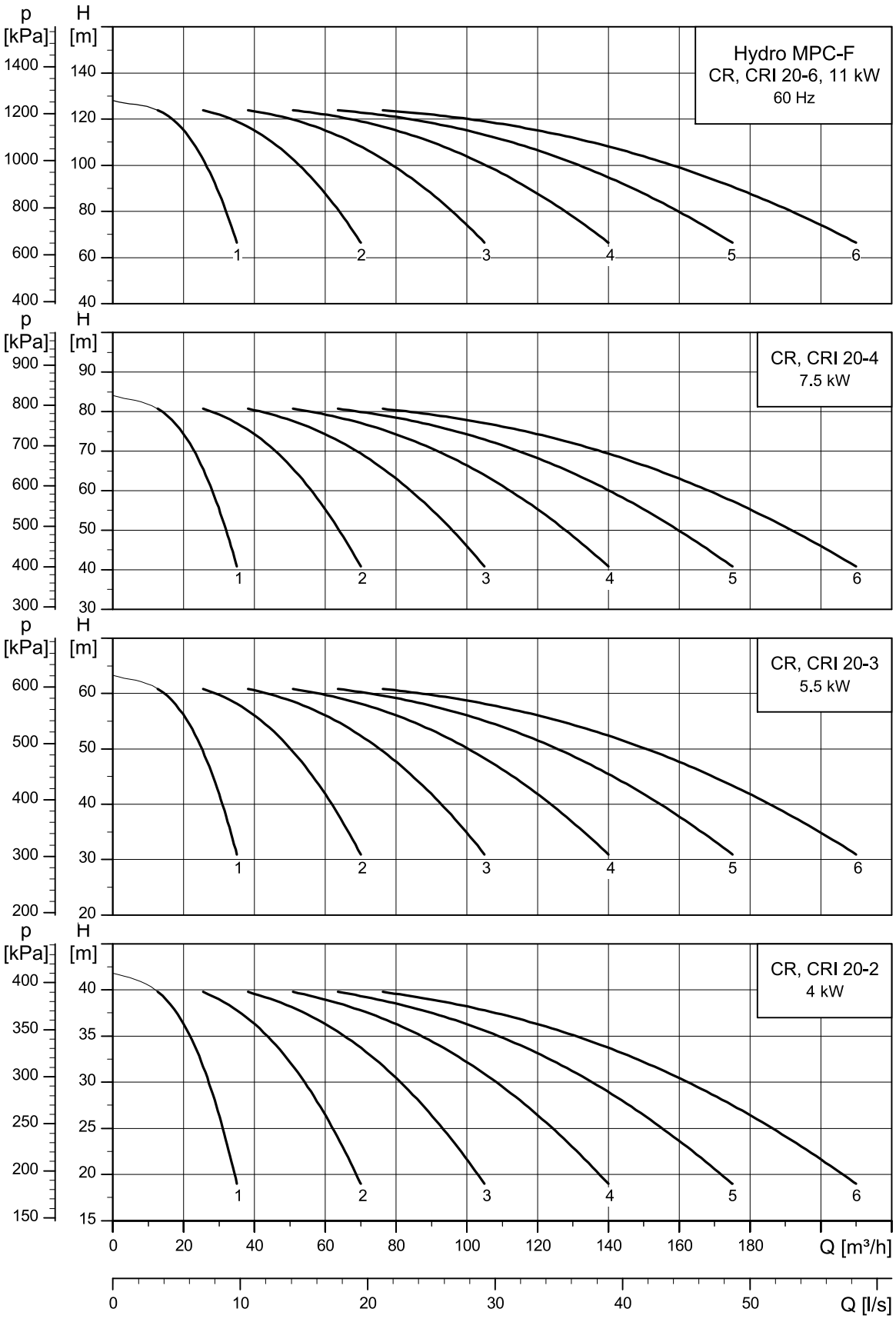
TM031145

Hydro MPC-F with CR, CRI 15

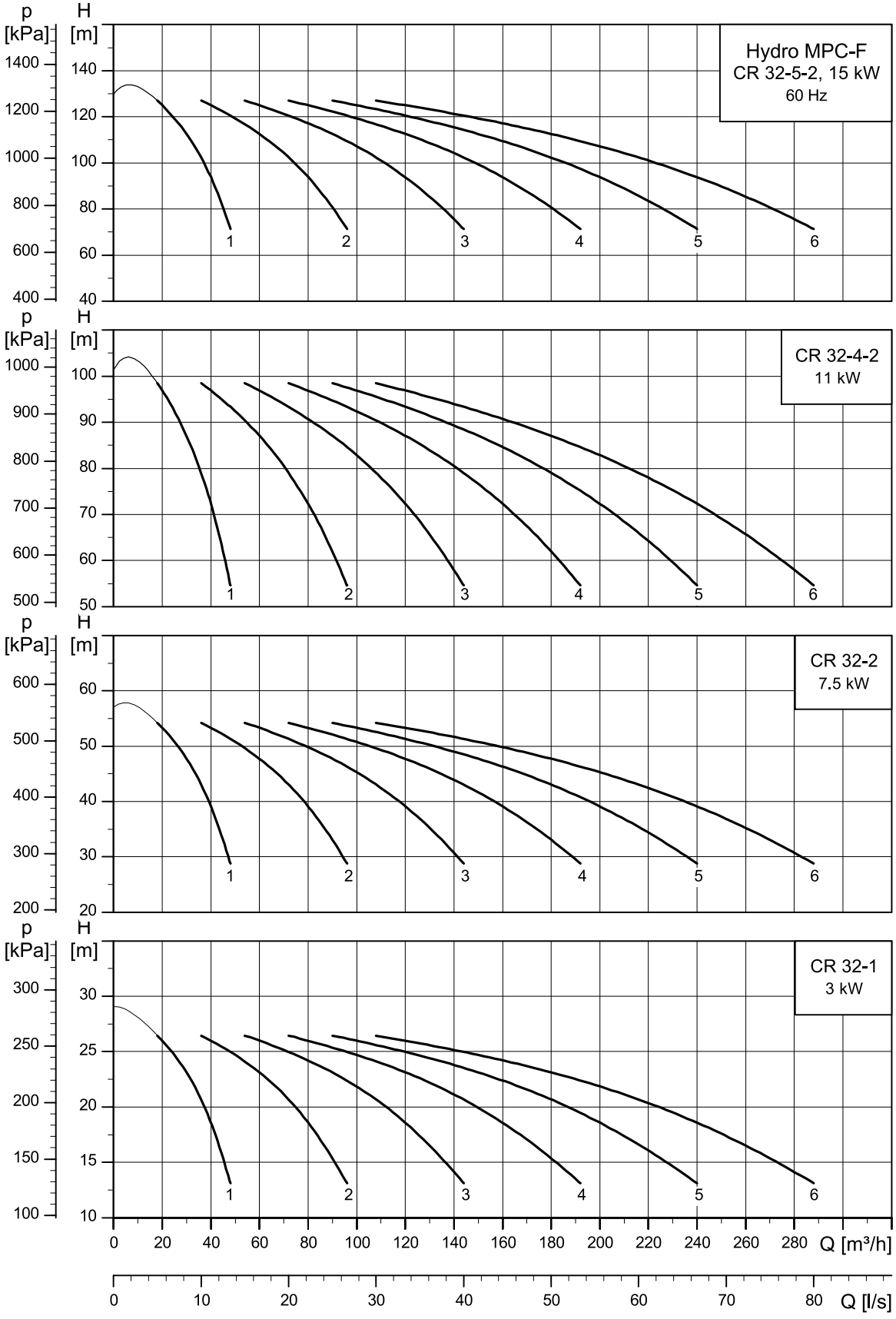


TM031146

Hydro MPC-F with CR, CRI 20

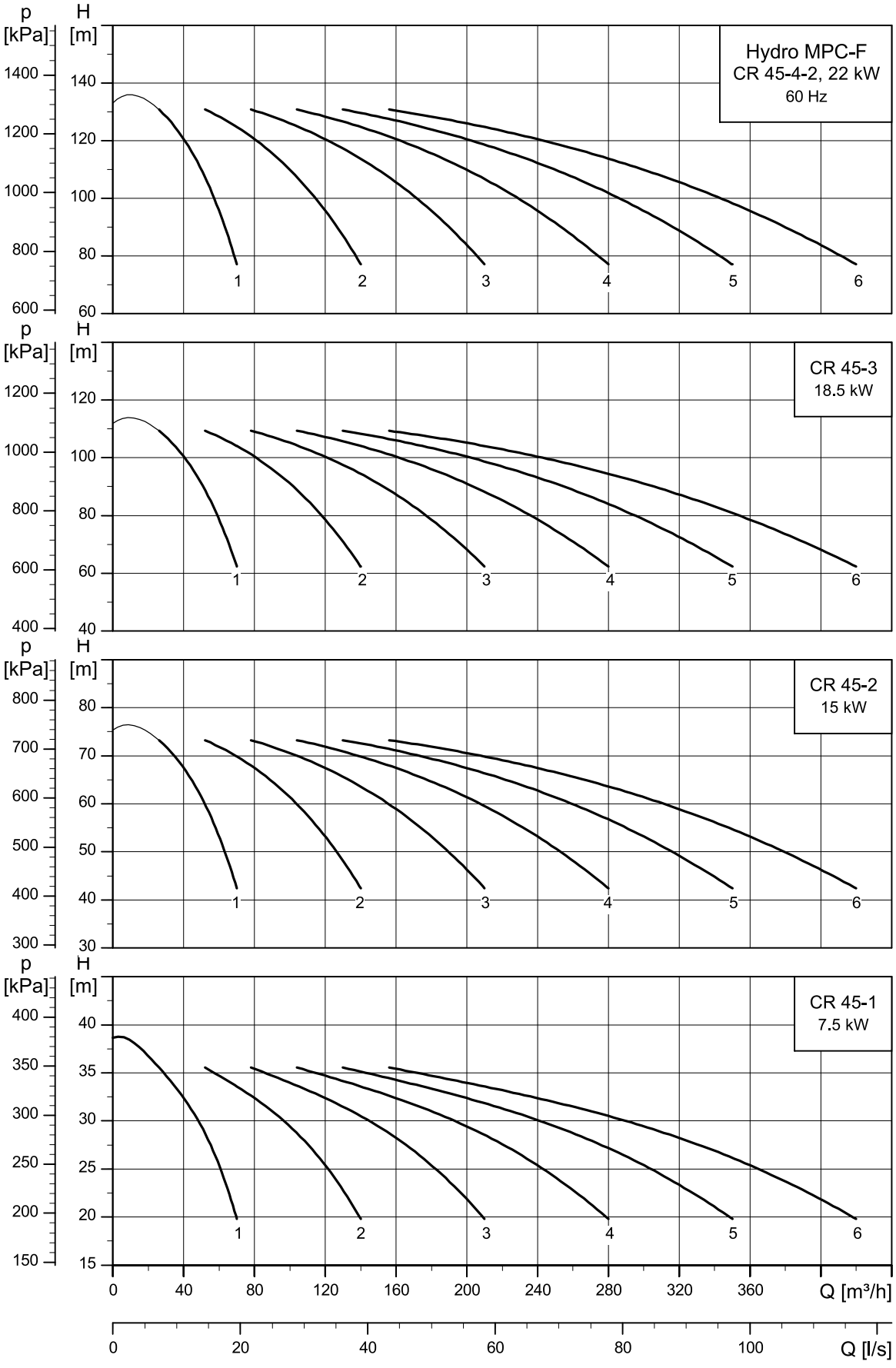


Hydro MPC-F with CR 32



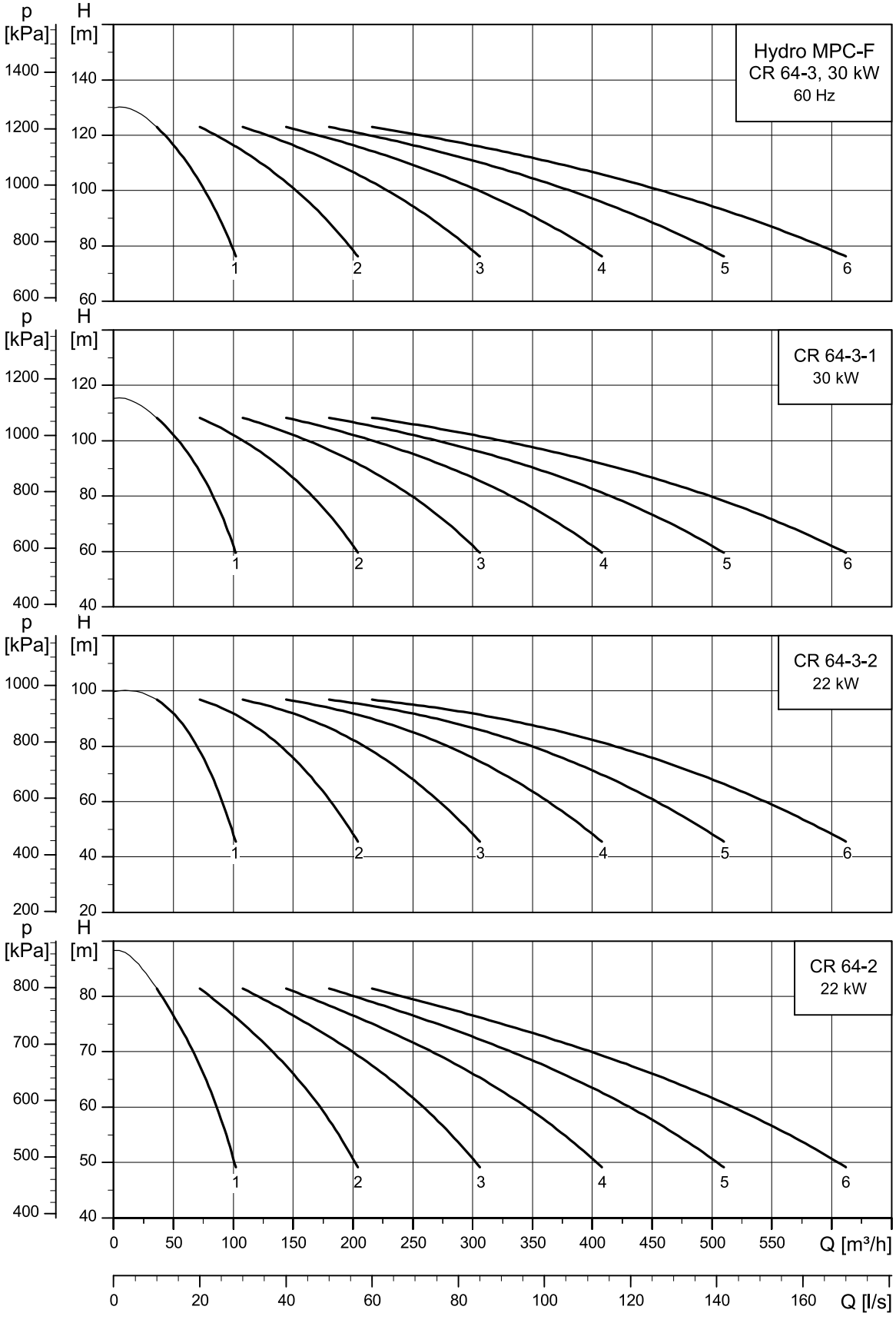
TM031148

Hydro MPC-F with CR 45

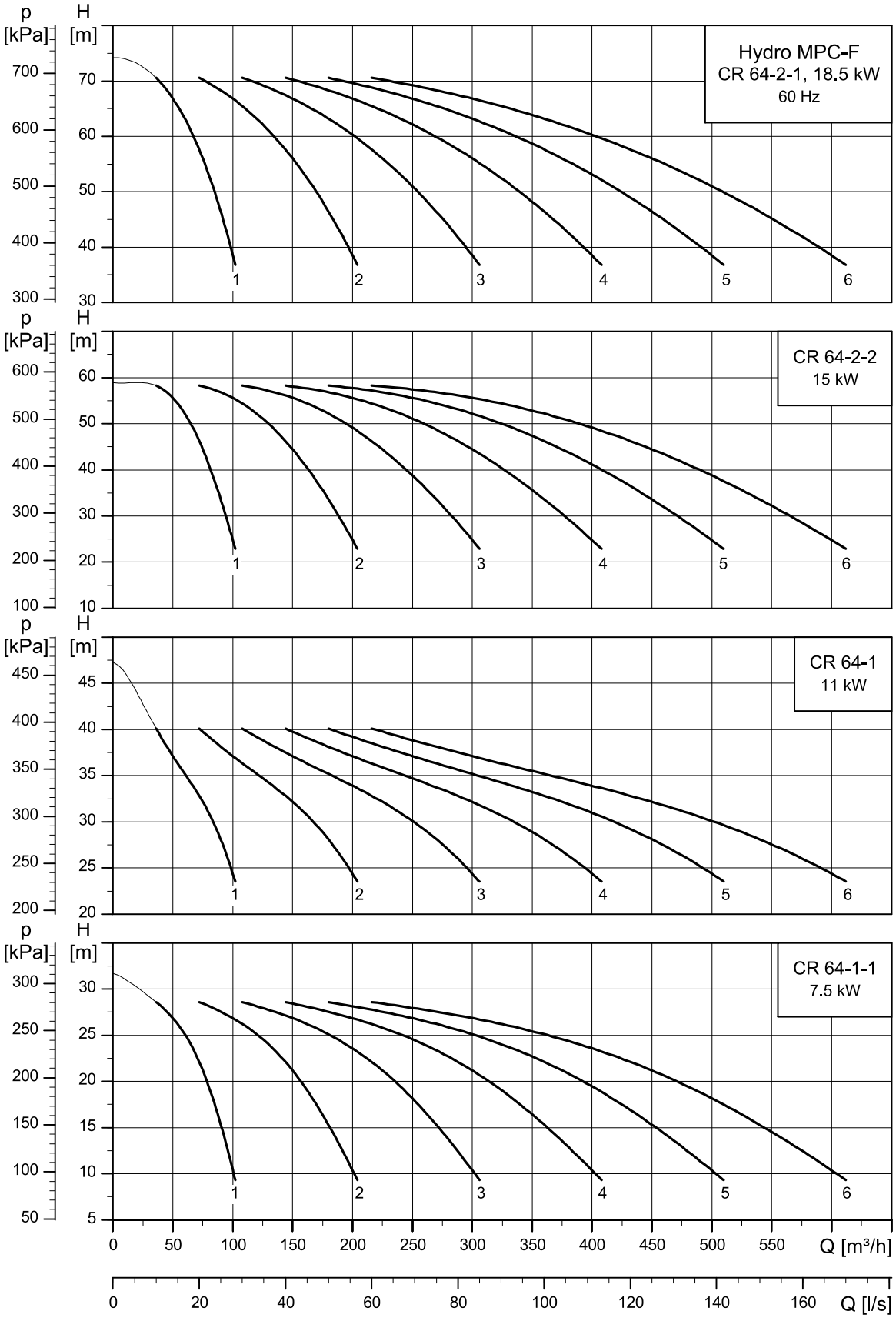


TM031149

Hydro MPC-F with CR 64

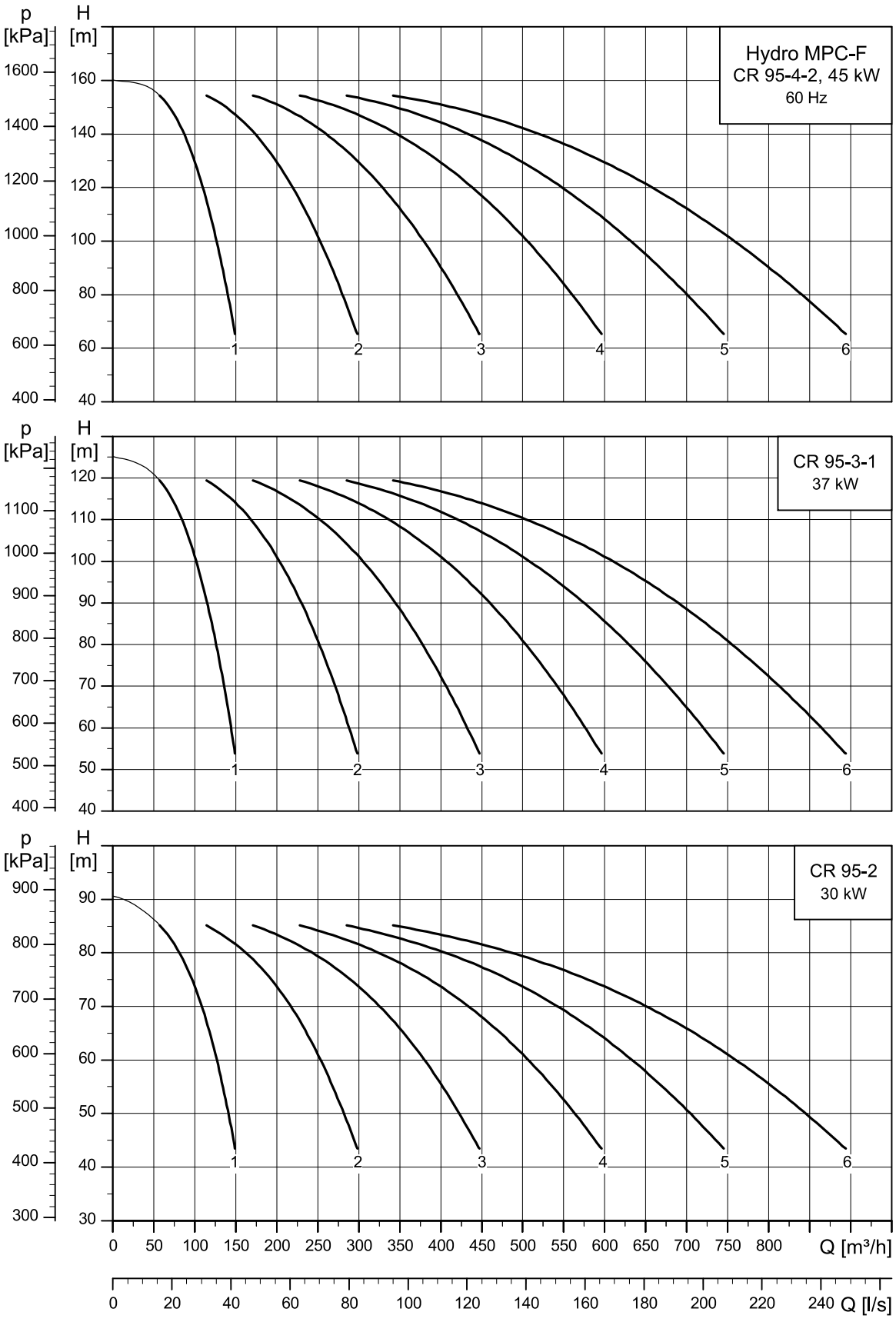


TM044776

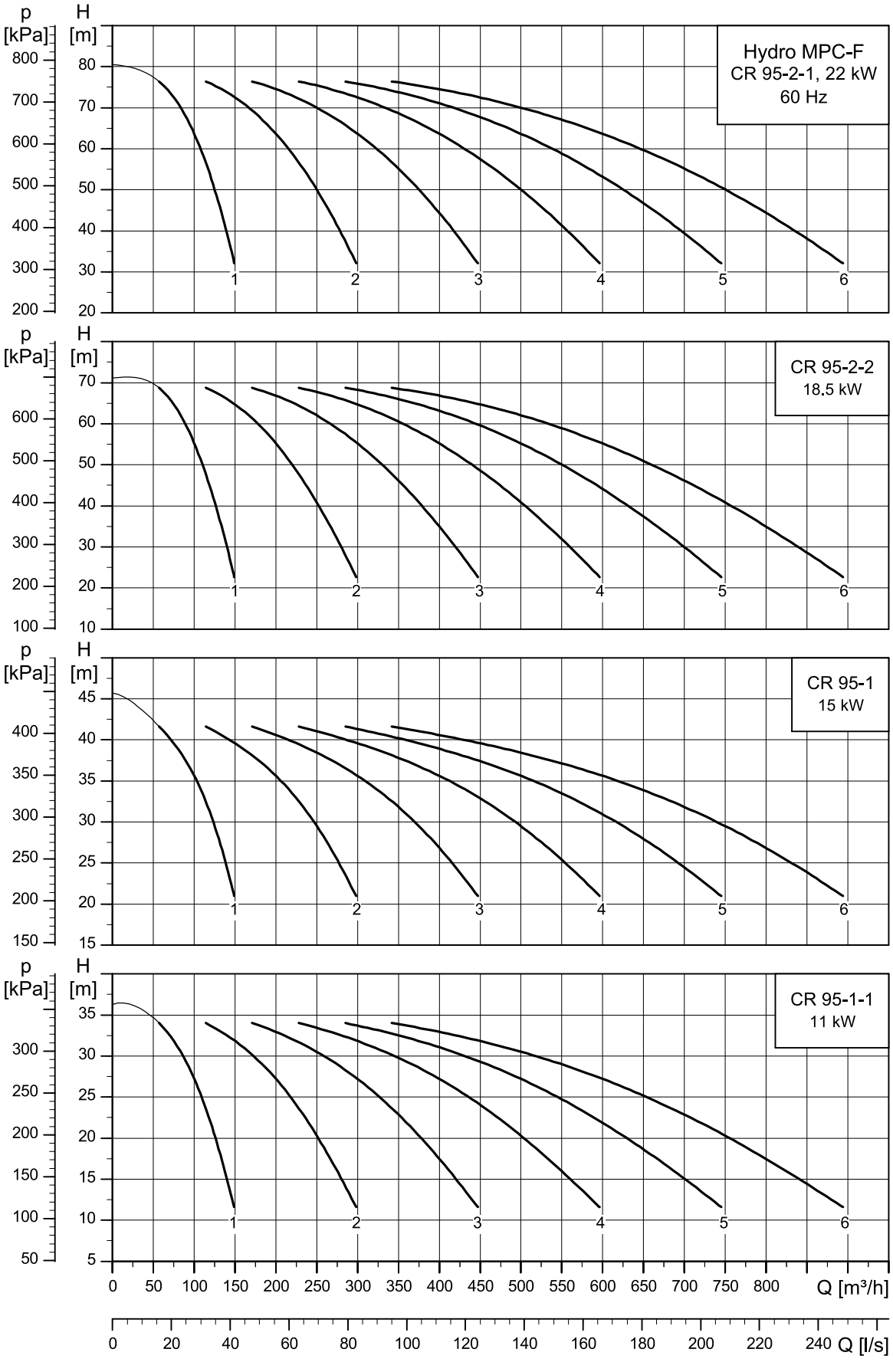

p [kPa]
H [m]
Hydro MPC-F
CR 64-2-1, 18.5 kW
60 Hz
CR 64-2-2
15 kW
CR 64-1
11 kW
CR 64-1-1
7.5 kW
1
2
3
4
5
6
Q [m³/h]
Q [l/s]

TM031150

Hydro MPC-F with CR 95

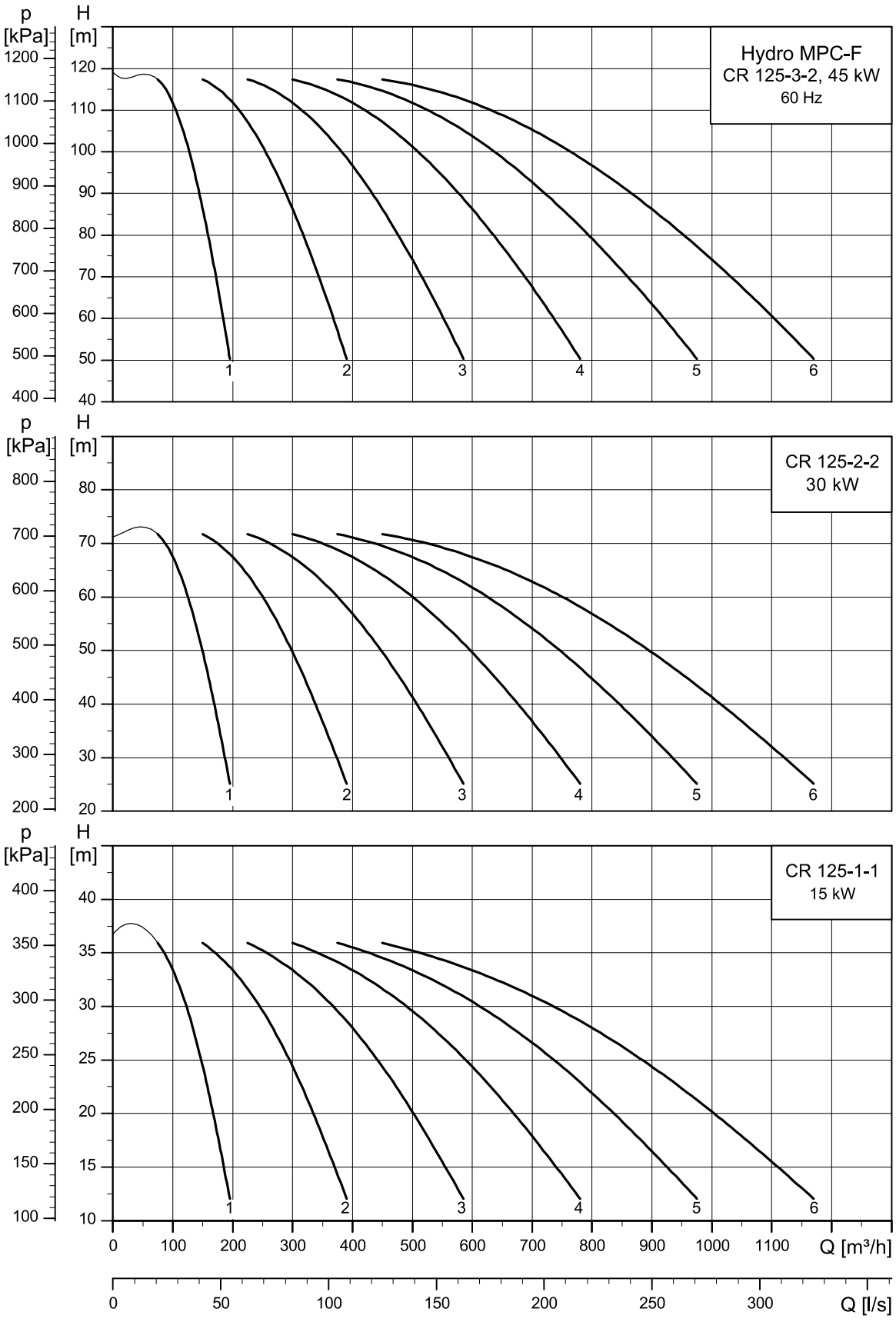


TM071221


p [kPa]
H [m]
Hydro MPC-F
CR 95-2-1, 22 kW
60 Hz
CR 95-2-2
18.5 kW
CR 95-1
15 kW
CR 95-1-1
11 kW
1
2
3
4
5
6
Q [m³/h]
Q [l/s]

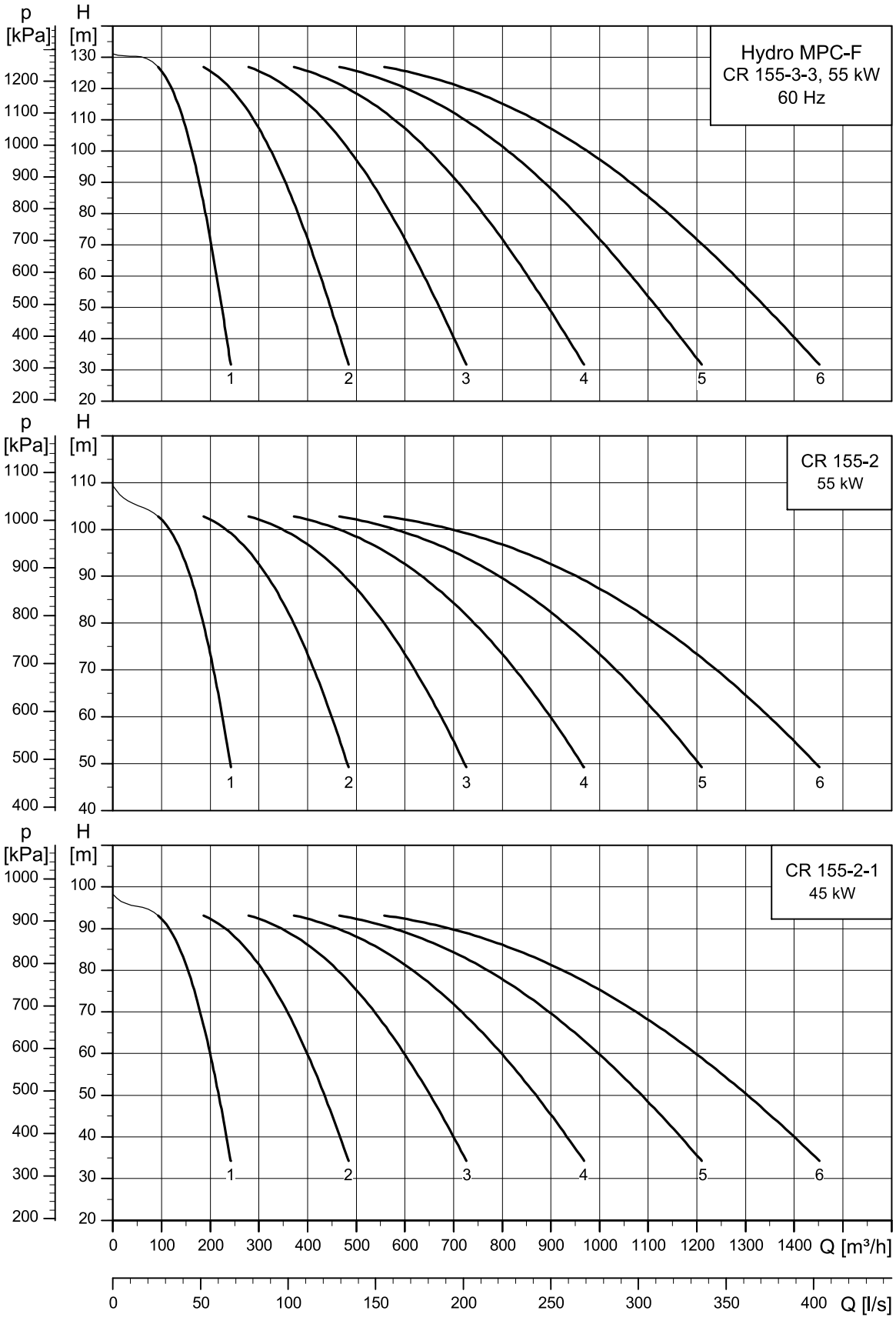
TM071220

Hydro MPC-F with CR 125

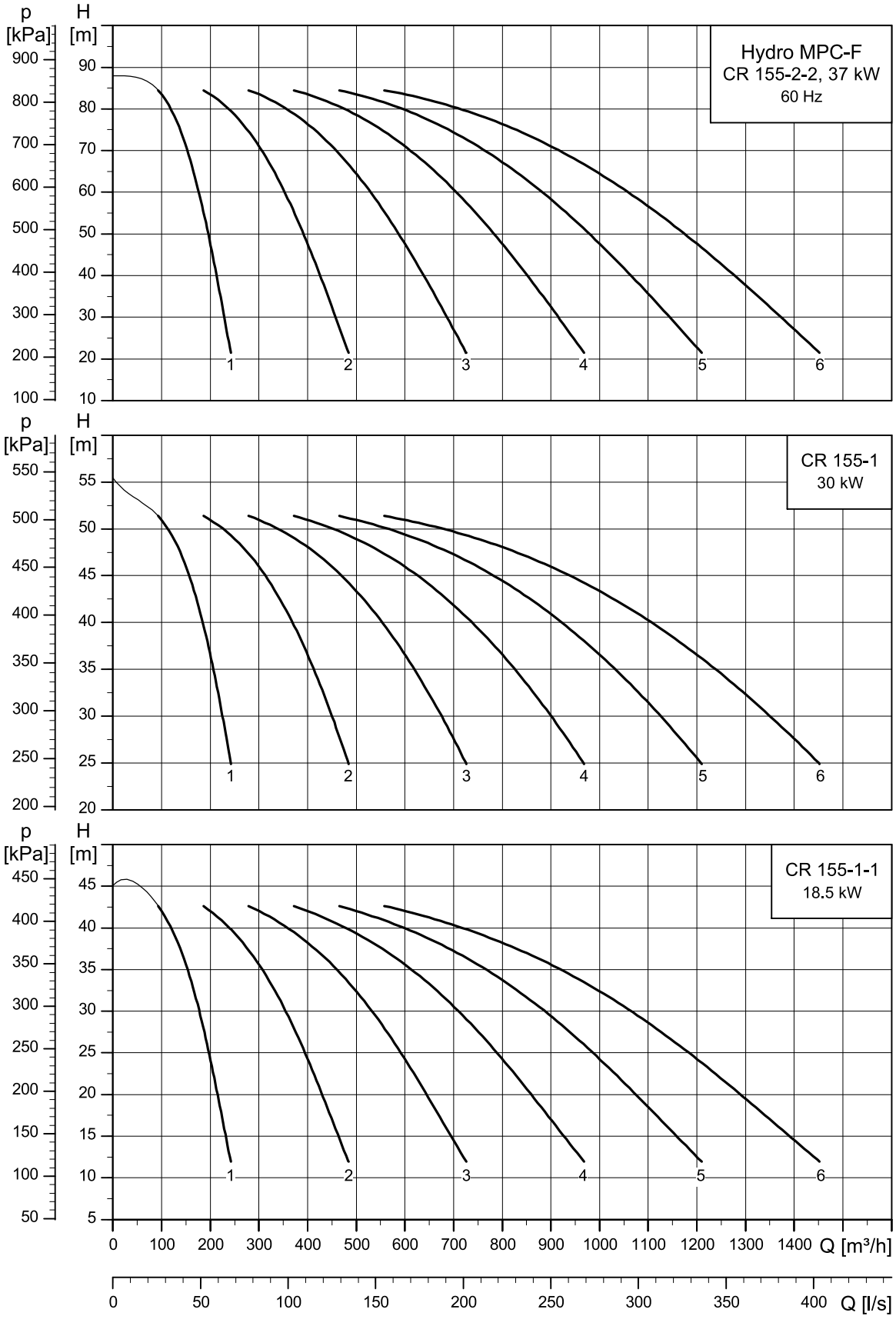


TM071222

Hydro MPC-F with CR 155



TM071225

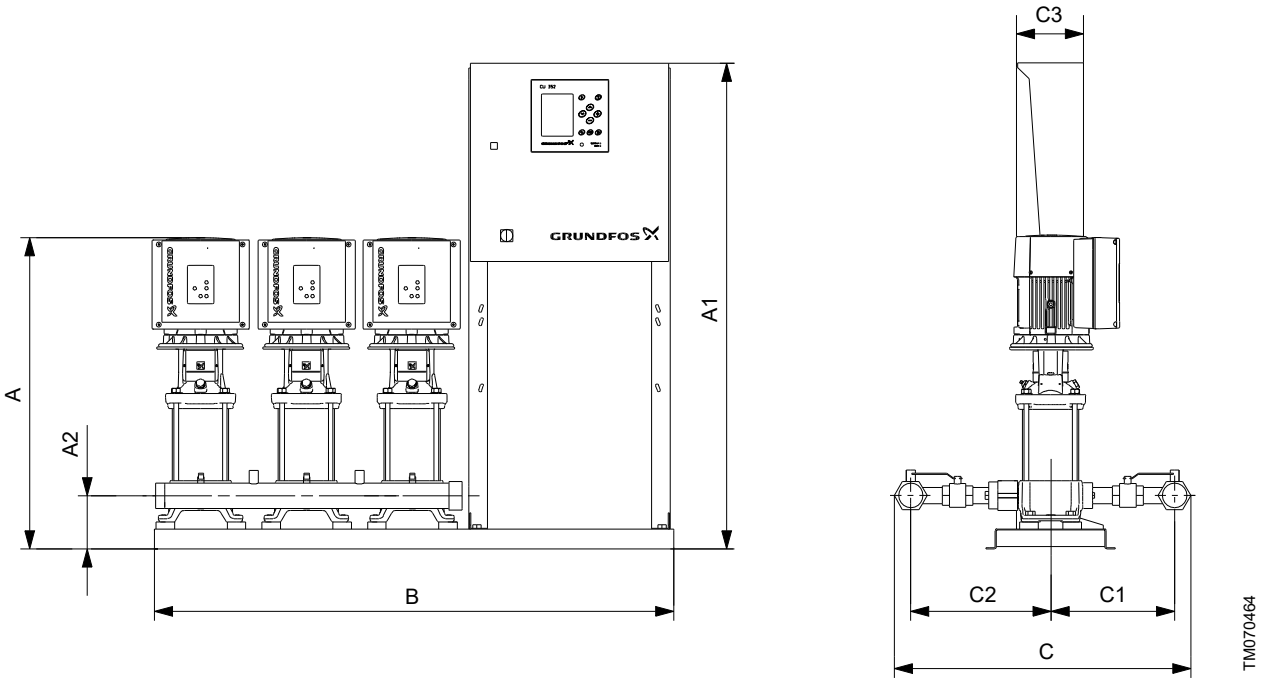

p [kPa]
H [m]
Hydro MPC-F
CR 155-2-2, 37 kW
60 Hz
1
2
3
4
5
6
p [kPa]
H [m]
CR 155-1
30 kW
1
2
3
4
5
6
p [kPa]
H [m]
CR 155-1-1
18.5 kW
1
2
3
4
5
6
Q [m³/h]
Q [l/s]

TM071224

11. Technical data, Hydro MPC-E, 50/60 Hz

Hydro MPC-E with CRE, CRIE 3, CRE, CRIE 5

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design A

Electrical data, dimensions and weights

Hydro MPC-E with CRE, CRIE 3

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRIE 3-2	U1	0.37	2.18	R 2"	3410	533	1460	112	1050	-	726	295	355	210	90	A
	CRIE 3-4	U1	0.55	3.04	R 2"	3380	551	1460	112	1050	-	726	295	355	210	92	A
	CRIE 3-5	U1	0.75	4.1	R 2"	3400	575	1460	112	1050	-	726	295	355	210	95	A
	CRIE 3-8	U1	1.1	5.88	R 2"	3350	629	1460	112	1050	-	726	295	355	210	99	A
	CRIE 3-11	U2	1.5	5.64	R 2"	3501	759	1460	112	1050	-	726	295	355	210	117	A
	CRIE 3-15 [11)]	U2	1.5	5.64	R 2"	3501	831	1460	112	1050	-	726	295	355	210	120	A
3	CRIE 3-2	U1	0.37	2.18	R 2"	3410	533	1460	112	1350	-	726	295	355	210	119	A
	CRIE 3-4	U1	0.55	3.04	R 2"	3380	551	1460	112	1350	-	726	295	355	210	120	A
	CRIE 3-5	U1	0.75	4.1	R 2"	3400	575	1460	112	1350	-	726	295	355	210	126	A
	CRIE 3-8	U1	1.1	5.88	R 2"	3350	629	1460	112	1350	-	726	295	355	210	132	A
	CRIE 3-11	U2	1.5	8.46	R 2"	3501	759	1460	112	1350	-	726	295	355	210	155	A
	CRIE 3-15 [11)]	U2	1.5	8.46	R 2"	3501	831	1460	112	1350	-	726	295	355	210	160	A
4	CRIE 3-2	U1	0.37	4.36	R 2 1/2"	3410	533	1460	112	1670	-	741	295	355	210	150	A
	CRIE 3-4	U1	0.55	6.08	R 2 1/2"	3380	551	1460	112	1670	-	741	295	355	210	152	A
	CRIE 3-5	U1	0.75	8.2	R 2 1/2"	3400	575	1460	112	1670	-	741	295	355	210	160	A
	CRIE 3-8	U1	1.1	11.76	R 2 1/2"	3350	629	1460	112	1670	-	741	295	355	210	168	A
	CRIE 3-11	U2	1.5	11.28	R 2 1/2"	3501	759	1460	112	1670	-	741	295	355	210	200	A
	CRIE 3-15 [11)]	U2	1.5	11.28	R 2 1/2"	3501	831	1460	112	1670	-	741	295	355	210	207	A

11) Pump with undersized motor

Voltage code, U1: 3 x 380-415 V ± 10 %, N, PE.

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design A: System with a control cabinet mounted on the same base frame as the pumps.

Maximum current in neutral conductor, Max. I_O [A], applies to systems with single-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-E with CRE, CRIE 5

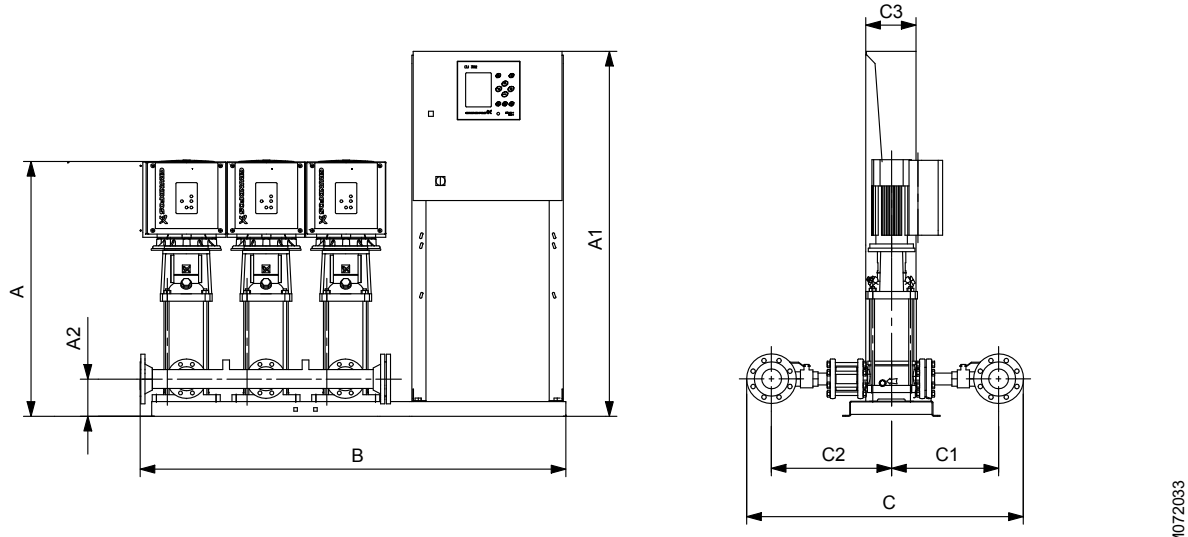
Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRIE 5-2	U1	0.55	2.68	R 2"	3380	533	1460	112	1050	-	726	295	355	210	91	A
	CRIE 5-4	U1	1.1	8.6	R 2"	3350	593	1460	112	1050	-	726	295	355	210	97	A
	CRIE 5-5	U2	1.5	5.64	R 2"	3501	696	1460	112	1050	-	726	295	355	210	114	A
	CRIE 5-9	U2	2.2	8.06	R 2"	3501	804	1460	112	1050	-	726	295	355	210	121	A
	CRIE 5-12	U2	3	11.26	R 2"	3514	950	1460	112	1050	-	726	295	355	210	144	A
	CRIE 5-14 [12)]	U2	3	11.26	R 2"	3520	1004	1460	112	1050	-	726	295	355	210	141	A
3	CRIE 5-2	U1	0.55	4.02	R 2"	3380	533	1460	112	1350	-	726	295	355	210	119	A
	CRIE 5-4	U1	1.1	6.45	R 2"	3350	593	1460	112	1350	-	726	295	355	210	129	A
	CRIE 5-5	U2	1.5	8.46	R 2"	3501	696	1460	112	1350	-	726	295	355	210	150	A
	CRIE 5-9	U2	2.2	12.09	R 2"	3501	804	1460	112	1350	-	726	295	355	210	161	A
	CRIE 5-12	U2	3	16.89	R 2"	3514	950	1460	112	1350	-	726	295	355	210	196	A
	CRIE 5-14 [12)]	U2	3	16.89	R 2"	3520	1004	1460	112	1350	-	726	295	355	210	191	A
4	CRIE 5-2	U1	0.55	5.36	R 2 1/2"	3380	533	1460	112	1670	-	741	295	355	210	150	A
	CRIE 5-4	U1	1.1	4.3	R 2 1/2"	3350	593	1460	112	1670	-	741	295	355	210	164	A
	CRIE 5-5	U2	1.5	11.28	R 2 1/2"	3501	696	1460	112	1670	-	741	295	355	300	194	A
	CRIE 5-9	U2	2.2	16.12	R 2 1/2"	3501	804	1460	112	1670	-	741	295	355	300	209	A
	CRIE 5-12	U2	3	22.52	R 2 1/2"	3514	950	1460	112	1670	-	741	295	355	210	245	A
	CRIE 5-14 [12)]	U2	3	22.52	R 2 1/2"	3520	1004	1460	112	1670	-	741	295	355	210	239	A

[12)] Pump with undersized motor

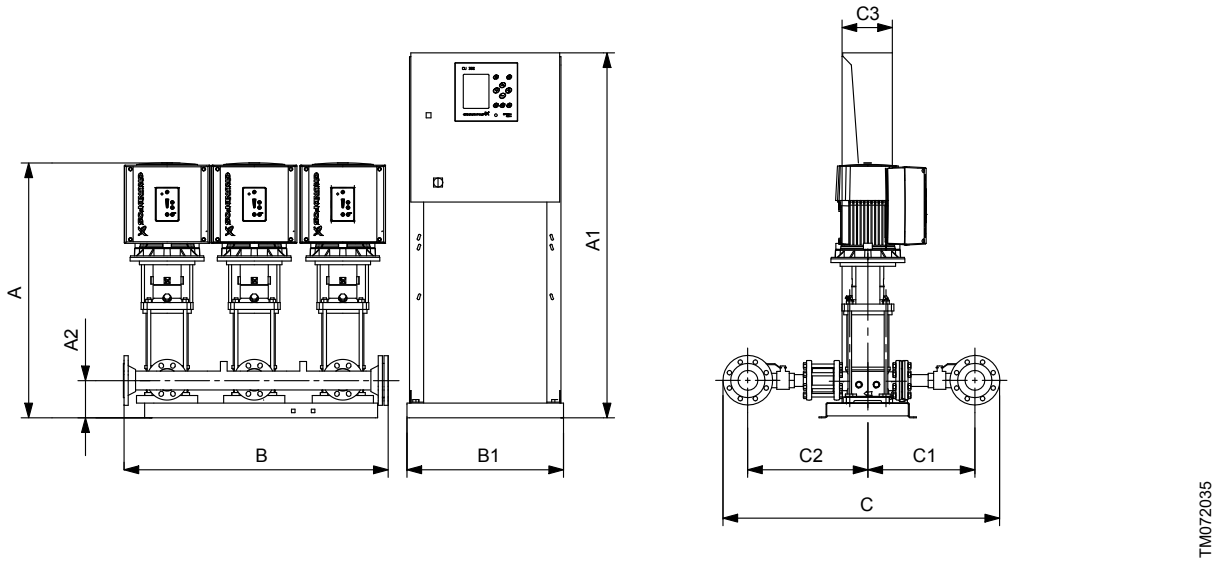
Voltage code, U1: 3 x 380-415 V ± 10 %, N, PE.
Voltage code, U2: 3 x 380-415 V ± 10 %, PE.
Design A: System with a control cabinet mounted on the same base frame as the pumps.
Maximum current in neutral conductor, Max. I_O [A], applies to systems with single-phase motors.
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CRE, CRIE 10

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design A



Design D

Electrical data, dimensions and weights

Hydro MPC-E with CRE, CRIE 10

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRIE 10-1	U1	0.75	3.36	R 2 1/2"	3400	633	1460	142	1080	-	891	371	431	210	126	A
	CRIE 10-2	U2	1.5	5.64	R 2 1/2"	3501	709	1460	142	1080	-	891	371	431	210	145	A
	CRIE 10-3	U2	2.2	8.06	R 2 1/2"	3501	739	1460	142	1080	-	891	371	431	210	151	A
	CRIE 10-5	U2	3	11.26	R 2 1/2"	3514	864	1460	142	1080	-	891	371	431	210	173	A
	CRIE 10-6	U2	4	14.74	R 2 1/2"	3514	894	1460	142	1080	-	891	371	431	210	186	A
	CRIE 10-9	U2	5.5	19.9	R 2 1/2"	3526	1047	1460	142	1080	-	891	371	431	210	230	A
3	CRIE 10-1	U1	0.75	5.04	DN 80	3400	633	1460	142	1380	-	1000	371	431	210	188	A
	CRIE 10-2	U2	1.5	8.46	DN 80	3501	709	1460	142	1380	-	1000	371	431	210	213	A
	CRIE 10-3	U2	2.2	12.09	DN 80	3501	739	1460	142	1380	-	1000	371	431	210	222	A
	CRIE 10-5	U2	3	16.89	DN 80	3514	864	1460	142	1380	-	1000	371	431	210	255	A
	CRIE 10-6	U2	4	22.11	DN 80	3514	894	1460	142	1380	-	1000	371	431	210	274	A
	CRIE 10-9	U2	5.5	29.85	DN 80	3526	1047	1460	142	1380	-	1000	371	431	210	340	A
4	CRIE 10-1	U1	0.75	6.72	DN 80	3400	633	1460	142	1700	-	1000	371	431	210	234	A
	CRIE 10-2	U2	1.5	11.28	DN 80	3501	709	1460	142	1700	-	1000	371	431	300	270	A
	CRIE 10-3	U2	2.2	16.12	DN 80	3501	739	1460	142	1700	-	1000	371	431	300	282	A
	CRIE 10-5	U2	3	22.52	DN 80	3514	864	1460	142	1700	-	1000	371	431	210	315	A
	CRIE 10-6	U2	4	29.48	DN 80	3514	894	1460	142	1700	-	1000	371	431	210	341	A
	CRIE 10-9	U2	5.5	39.8	DN 80	3526	1047	1460	142	1920	-	1000	371	431	210	439	A
5	CRIE 10-1	U1	0.75	8.4	DN 100	3400	633	1460	142	1642	410	1020	371	431	210	290	D
	CRIE 10-2	U2	1.5	14.1	DN 100	3501	709	1460	142	1642	630	1020	371	431	210	334	D
	CRIE 10-3	U2	2.2	20.15	DN 100	3501	739	1460	142	1642	630	1020	371	431	210	349	D
	CRIE 10-5	U2	3	28.15	DN 100	3514	864	1460	142	1642	630	1020	371	431	210	404	D
	CRIE 10-6	U2	4	36.86	DN 100	3514	894	1460	142	1642	630	1020	371	431	210	437	D
	CRIE 10-9	U2	5.5	49.75	DN 100	3526	1047	1460	142	1642	630	1020	371	431	210	547	D
6	CRIE 10-1	U1	0.75	10.08	DN 100	3400	633	1460	142	1962	410	1020	371	431	210	343	D
	CRIE 10-2	U2	1.5	16.92	DN 100	3501	709	1460	142	1962	630	1020	371	431	210	393	D
	CRIE 10-3	U2	2.2	24.18	DN 100	3501	739	1460	142	1962	630	1020	371	431	210	411	D
	CRIE 10-5	U2	3	33.78	DN 100	3514	864	1460	142	1962	630	1020	371	431	210	478	D
	CRIE 10-6	U2	4	44.22	DN 100	3514	894	1460	142	1962	630	1020	371	431	210	516	D
	CRIE 10-9	U2	5.5	59.7	DN 100	3526	1047	1460	142	1962	630	1020	371	431	210	651	D

Voltage code, U1: 3 x 380-415 V ± 10 %, N, PE.

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design A: System with a control cabinet mounted on the same base frame as the pumps.

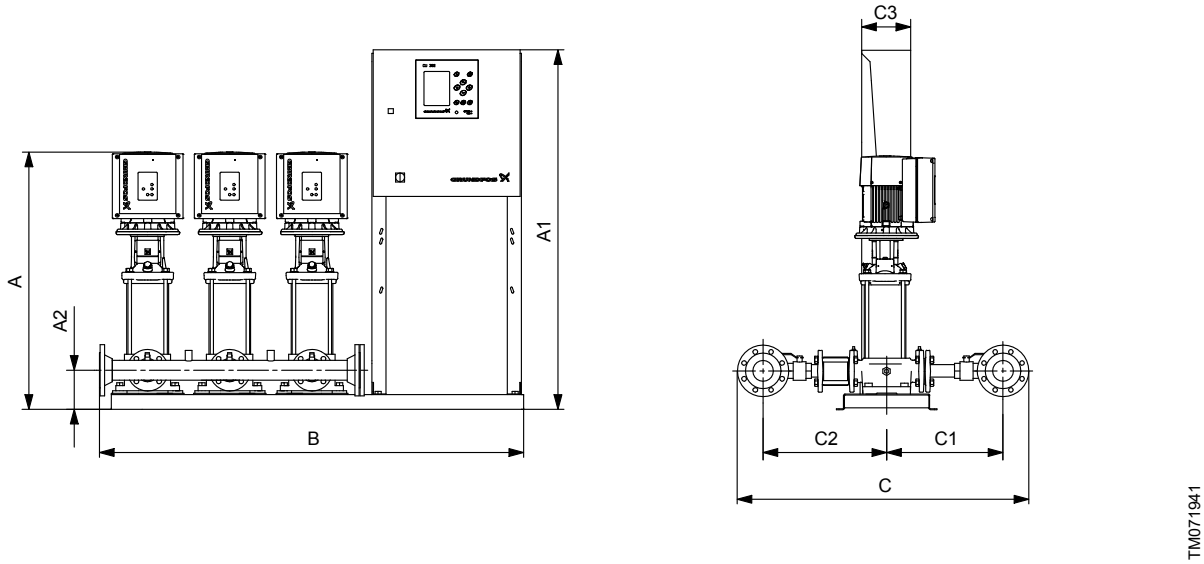
Design D: System with a control cabinet mounted on a separate base frame.

Maximum current in neutral conductor. Max. I_O [A]. applies to systems with single-phase motors.

Dimensions may vary by ± 10 mm.

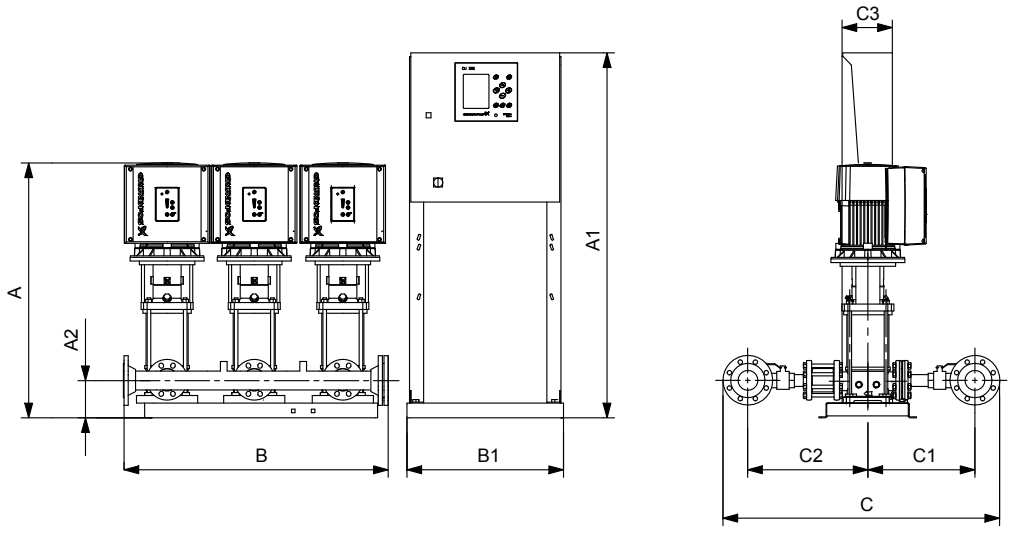
Hydro MPC-E with CRE, CRIE 15, CRE, CRIE 20

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



TM071941

Design A



TM072035

Design D

Electrical data, dimensions and weights

Hydro MPC-E with CRE, CRIE 15

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRIE 15-1	U2	1.5	5.64	DN 80	3501	749	1460	152	1110	-	1135	438	497	210	172	A
	CRIE 15-2	U2	3	11.26	DN 80	3514	814	1460	152	1110	-	1135	438	497	210	197	A
	CRIE 15-3	U2	4	14.74	DN 80	3520	859	1460	152	1110	-	1135	438	497	210	205	A
	CRIE 15-4	U2	5.5	19.9	DN 80	3526	967	1460	152	1110	-	1135	438	497	210	249	A
	CRIE 15-5	U2	7.5	27.24	DN 80	3525	1036	1460	152	1022	410	1135	438	497	210	282	D
	CRIE 15-7 [13)]	U2	7.5	27.24	DN 80	3529	1126	1460	152	1022	410	1135	438	497	210	288	D
3	CRIE 15-1	U2	1.5	8.46	DN 100	3501	749	1460	152	1410	-	1155	438	497	210	235	A
	CRIE 15-2	U2	3	16.89	DN 100	3514	814	1460	152	1410	-	1155	438	497	210	271	A
	CRIE 15-3	U2	4	22.11	DN 100	3520	859	1460	152	1410	-	1155	438	497	210	283	A
	CRIE 15-4	U2	5.5	29.85	DN 100	3526	967	1460	152	1410	-	1155	438	497	210	349	A
	CRIE 15-5	U2	7.5	40.86	DN 100	3525	1036	1460	152	1522	410	1155	438	497	210	401	D
	CRIE 15-7 [13)]	U2	7.5	40.86	DN 100	3529	1126	1460	152	1522	410	1155	438	497	210	410	D
4	CRIE 15-1	U2	1.5	11.28	DN 100	3501	749	1460	152	1730	-	1155	438	497	300	298	A
	CRIE 15-2	U2	3	22.52	DN 100	3514	814	1460	152	1730	-	1155	438	497	210	335	A
	CRIE 15-3	U2	4	29.48	DN 100	3520	859	1460	152	1730	-	1155	438	497	210	352	A
	CRIE 15-4	U2	5.5	39.8	DN 100	3526	967	1460	152	1950	-	1155	438	497	210	451	A
	CRIE 15-5	U2	7.5	54.48	DN 100	3525	1036	1460	152	2022	630	1155	438	497	210	524	D
	CRIE 15-7 [13)]	U2	7.5	54.48	DN 100	3529	1126	1460	152	2022	630	1155	438	497	210	536	D
5	CRIE 15-1	U2	1.5	14.1	DN 150	3501	749	1460	152	1704	630	1220	438	497	210	390	D
	CRIE 15-2	U2	3	28.15	DN 150	3514	814	1460	152	1704	630	1220	438	497	210	450	D
	CRIE 15-3	U2	4	36.85	DN 150	3520	859	1460	152	1704	630	1220	438	497	210	472	D
	CRIE 15-4	U2	5.5	49.75	DN 150	3526	967	1460	152	1704	630	1220	438	497	210	582	D
	CRIE 15-5	U2	7.5	68.1	DN 150	3525	1036	1460	152	2524	630	1220	438	497	210	679	D
	CRIE 15-7 [13)]	U2	7.5	68.1	DN 150	3529	1126	1460	152	2524	630	1220	438	497	210	695	D
6	CRIE 15-1	U2	1.5	16.92	DN 150	3501	749	1460	152	2024	630	1220	438	497	210	451	D
	CRIE 15-2	U2	3	33.78	DN 150	3514	814	1460	152	2024	630	1220	438	497	210	524	D
	CRIE 15-3	U2	4	44.22	DN 150	3520	859	1460	152	2024	630	1220	438	497	210	550	D
	CRIE 15-4	U2	5.5	59.7	DN 150	3526	967	1460	152	2024	630	1220	438	497	210	685	D
	CRIE 15-5	U2	7.5	81.72	DN 150	3525	1036	1460	152	3024	630	1220	438	497	210	804	D
	CRIE 15-7 [13)]	U2	7.5	81.72	DN 150	3529	1126	1460	152	3024	630	1220	438	497	210	822	D

[13)] Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.
Design A: System with a control cabinet mounted on the same base frame as the pumps.
Design D: System with a control cabinet mounted on a separate base frame.
All pumps are fitted with three-phase motors.
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CRE, CRIE 20

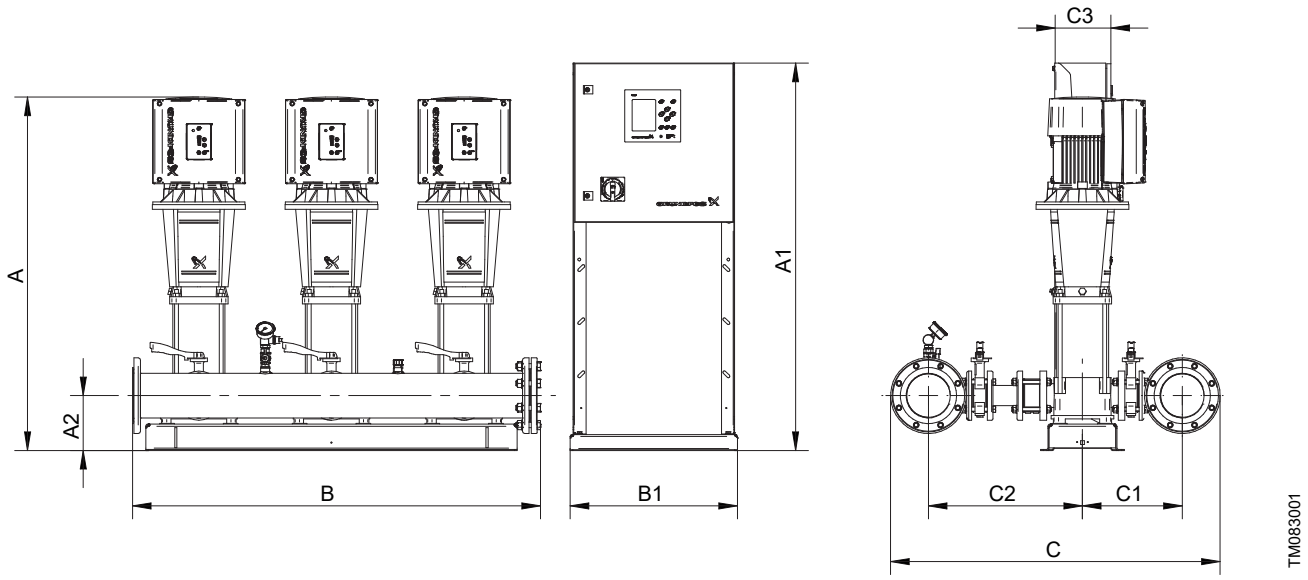
Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRIE 20-1	U2	2.2	8.06	DN 80	3501	749	1460	152	1110	-	1135	438	497	210	176	A
	CRIE 20-2	U2	4	14.74	DN 80	3520	814	1460	152	1110	-	1135	438	497	210	203	A
	CRIE 20-3	U2	5.5	19.9	DN 80	3526	922	1460	152	1110	-	1135	438	497	210	247	A
	CRIE 20-4	U2	7.5	27.24	DN 80	3525	991	1460	152	1022	410	1135	438	497	210	278	D
	CRIE 20-7 [14)]	U2	11	39.16	DN 80	3528	1260	1460	192	1022	410	1135	438	497	210	338	D
3	CRIE 20-1	U2	2.2	12.09	DN 100	3501	749	1460	152	1410	-	1155	438	497	210	241	A
	CRIE 20-2	U2	4	22.11	DN 100	3520	814	1460	152	1410	-	1155	438	497	210	280	A
	CRIE 20-3	U2	5.5	29.85	DN 100	3526	922	1460	152	1410	-	1155	438	497	210	346	A
	CRIE 20-4	U2	7.5	40.86	DN 100	3525	991	1460	152	1522	410	1155	438	497	210	394	D
	CRIE 20-7 [14)]	U2	11	58.74	DN 100	3528	1260	1460	192	1522	410	1155	438	497	210	484	D
4	CRIE 20-1	U2	2.2	16.12	DN 100	3501	749	1460	152	1730	-	1155	438	497	300	306	A
	CRIE 20-2	U2	4	29.48	DN 100	3520	814	1460	152	1730	-	1155	438	497	210	348	A
	CRIE 20-3	U2	5.5	39.8	DN 100	3526	922	1460	152	1950	-	1155	438	497	210	447	A
	CRIE 20-4	U2	7.5	54.48	DN 100	3525	991	1460	152	2022	630	1155	438	497	210	516	D
	CRIE 20-7 [14)]	U2	11	78.32	DN 100	3528	1260	1460	192	2022	630	1155	438	497	210	635	D
5	CRIE 20-1	U2	2.2	20.15	DN 150	3501	749	1460	152	1704	630	1220	438	497	210	400	D
	CRIE 20-2	U2	4	36.85	DN 150	3520	814	1460	152	1704	630	1220	438	497	210	467	D
	CRIE 20-3	U2	5.5	49.75	DN 150	3526	922	1460	152	1704	630	1220	438	497	210	577	D
	CRIE 20-4	U2	7.5	68.1	DN 150	3525	991	1460	152	2524	630	1220	438	497	210	669	D
	CRIE 20-7 [14)]	U2	11	97.9	DN 150	3528	1260	1460	192	2524	830	1220	438	497	210	829	D
6	CRIE 20-1	U2	2.2	24.18	DN 150	3501	749	1460	152	2024	630	1220	438	497	210	463	D
	CRIE 20-2	U2	4	44.22	DN 150	3520	814	1460	152	2024	630	1220	438	497	210	544	D
	CRIE 20-3	U2	5.5	59.7	DN 150	3526	922	1460	152	2024	630	1220	438	497	210	679	D
	CRIE 20-4	U2	7.5	81.72	DN 150	3525	991	1460	152	3024	630	1220	438	497	210	792	D
	CRIE 20-7 [14)]	U2	11	117.48	DN 150	3528	1260	1460	192	3024	830	1220	438	497	210	975	D

[14)] Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.
Design A: System with a control cabinet mounted on the same base frame as the pumps.
Design D: System with a control cabinet mounted on a separate base frame.
All pumps are fitted with three-phase motors.
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CRE 32

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design D

Electrical data, dimensions and weights

Hydro MPC-E with CRE 32

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRE 32-1-1	U2	2.2	8.06	DN 100	3501	841	1460	167	1022	410	1180	379	579	210	242	D
	CRE 32-1	U2	3	11.26	DN 100	3514	901	1460	167	1022	410	1180	379	579	210	260	D
	CRE 32-2	U2	7.5	27.24	DN 100	3525	1026	1460	167	1022	410	1180	379	579	210	315	D
	CRE 32-4-2	U2	11	39.16	DN 100	3529	1333	1460	207	1022	410	1180	379	579	210	387	D
	CRE 32-5-2	U2	15	51.52	DN 100	3528	1479	1460	207	1022	630	1180	379	579	210	436	D
	CRE 32-5 [15)]	U2	15	51.52	DN 100	3540	1479	1460	207	1022	630	1180	379	579	210	436	D
3	CRE 32-1-1	U2	2.2	12.09	DN 150	3501	841	1460	167	1524	410	1245	379	579	210	355	D
	CRE 32-1	U2	3	16.89	DN 150	3514	901	1460	167	1524	410	1245	379	579	210	382	D
	CRE 32-2	U2	7.5	40.86	DN 150	3525	1026	1460	167	1524	410	1245	379	579	210	465	D
	CRE 32-4-2	U2	11	58.74	DN150	3529	1333	1460	207	1524	410	1245	379	579	210	573	D
	CRE 32-5-2	U2	15	77.28	DN 150	3528	1479	1460	207	1524	630	1245	379	579	210	647	D
	CRE 32-5 [15)]	U2	15	77.28	DN 150	3540	1479	1460	207	1524	630	1245	379	579	210	647	D
4	CRE 32-1-1	U2	2.2	16.12	DN 150	3501	841	1460	167	2024	410	1245	379	579	300	452	D
	CRE 32-1	U2	3	22.52	DN 150	3514	901	1460	167	2024	410	1245	379	579	210	478	D
	CRE 32-2	U2	7.5	54.48	DN 150	3525	1026	1460	167	2024	630	1245	379	579	210	604	D
	CRE 32-4-2	U2	11	78.32	DN 150	3529	1333	1460	207	2024	630	1245	379	579	210	748	D
	CRE 32-5-2	U2	15	103.04	DN 150	3528	1479	1460	207	2024	830	1245	379	579	300	856	D
	CRE 32-5 [15)]	U2	15	103.04	DN 150	3540	1479	1460	207	2024	830	1245	379	579	300	856	D
5	CRE 32-1-1	U2	2.2	20.15	DN 150	3501	841	1460	167	2524	630	1245	379	579	210	561	D
	CRE 32-1	U2	3	28.15	DN 150	3514	901	1460	167	2524	630	1245	379	579	210	606	D
	CRE 32-2	U2	7.5	68.1	DN 150	3525	1026	1460	167	2524	630	1245	379	579	210	747	D
	CRE 32-4-2	U2	11	97.9	DN 150	3529	1333	1460	207	2524	830	1245	379	579	210	937	D
	CRE 32-5-2	U2	15	128.8	DN 150	3528	1479	1460	207	2524	830	1245	379	579	300	1056	D
	CRE 32-5 [15)]	U2	15	128.8	DN 150	3540	1479	1460	207	2524	830	1245	379	579	300	1056	D
6	CRE 32-1-1	U2	2.2	24.18	DN 150	3501	841	1460	167	3024	630	1245	379	579	210	654	D
	CRE 32-1	U2	3	33.78	DN 150	3514	901	1460	167	3024	630	1245	379	579	210	709	D
	CRE 32-2	U2	7.5	81.72	DN 150	3525	1026	1460	167	3024	630	1245	379	579	210	884	D
	CRE 32-4-2	U2	11	117.48	DN 150	3529	1333	1460	207	3024	830	1245	379	579	210	1104	D
	CRE 32-5-2	U2	15	154.56	DN 150	3528	1479	1460	207	3024	830	1245	379	579	300	1251	D
	CRE 32-5 [15)]	U2	15	154.56	DN 150	3540	1479	1460	207	3024	830	1245	379	579	300	1251	D

[15)] Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

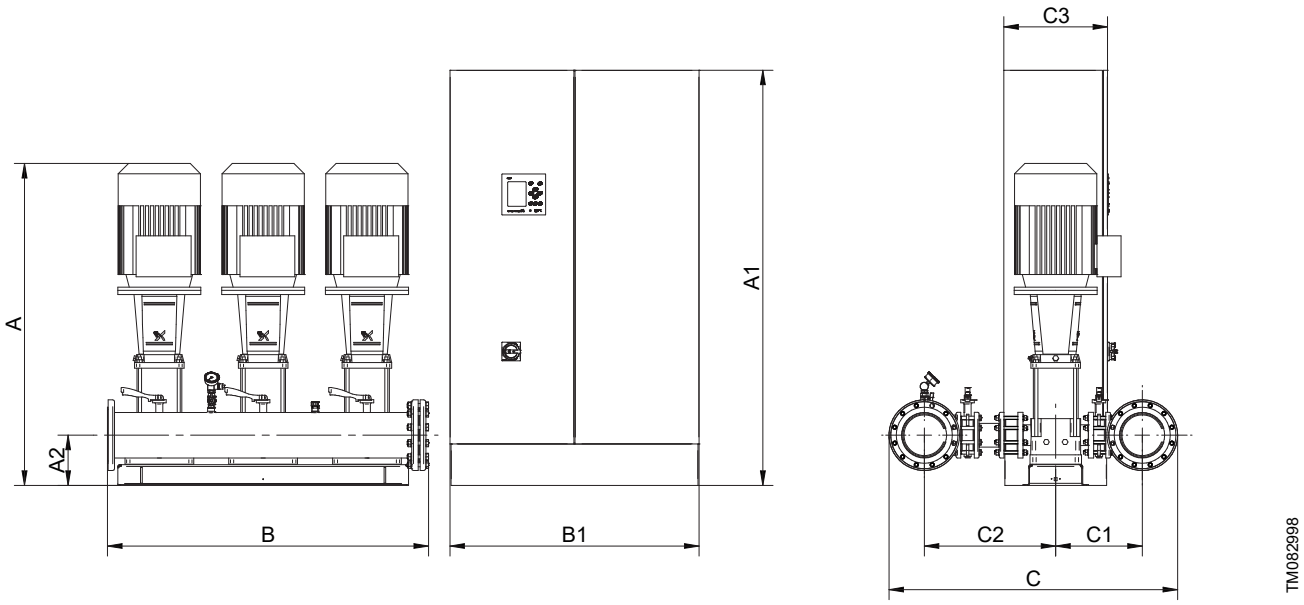
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

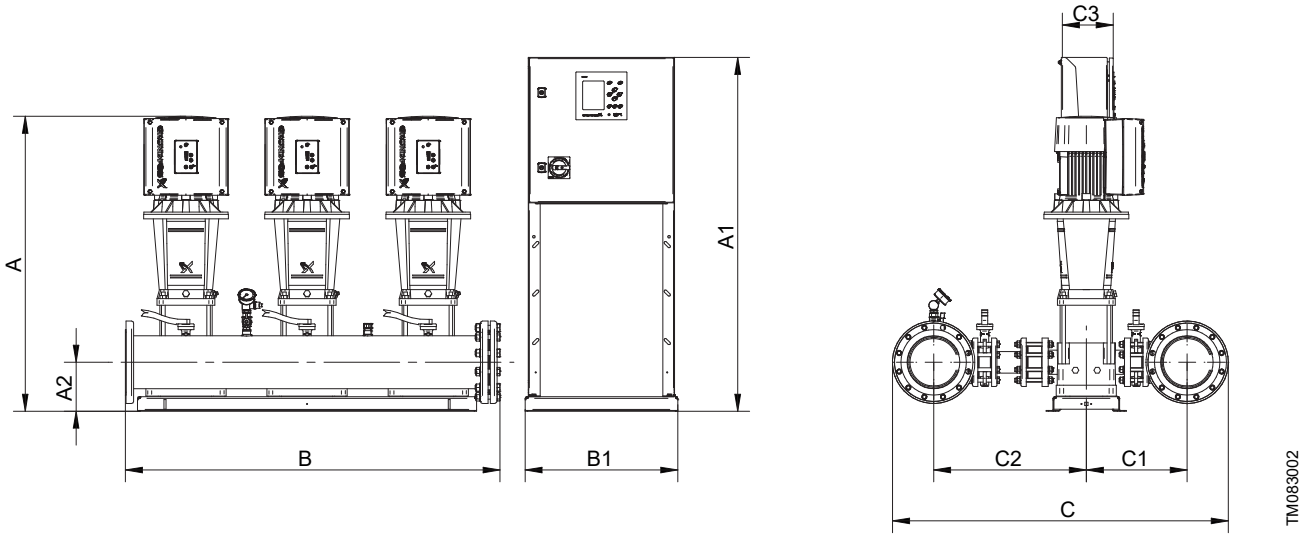
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR, CRE 45, CR, CRE 64

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-E with CR, CRE 45

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CRE 45-1-1	U2	5.5	29.85	DN 200	3526	986	1460	202	1526	410	1390	419	629	210	495	D
	CRE 45-1	U2	7.5	4086	DN 200	3525	1010	1460	202	1526	410	1390	419	629	210	523	D
	CRE 45-2-2	U2	11	58.74	DN 200	3529	1257	1460	242	1526	410	1390	419	629	210	617	D
	CRE 45-2	U2	15	77.28	DN 200	3528	1333	1460	242	1526	630	1390	419	629	300	689	D
	CRE 45-3	U2	18.5	95.88	DN 200	3540	1457	1460	242	1526	630	1390	419	629	300	727	D
	CRE 45-4-2	U2	22	113.1	DN 200	3556	1563	1460	242	1526	830	1390	419	629	300	790	D
4	CRE 45-1-1	U2	5.5	39.8	DN 200	3526	986	1460	202	2026	630	1390	419	629	210	637	D
	CRE 45-1	U2	7.5	54.48	DN 200	3525	1010	1460	202	2026	630	1390	419	629	210	678	D
	CRE 45-2-2	U2	11	78.32	DN 200	3529	1257	1460	242	2026	630	1390	419	629	210	803	D
	CRE 45-2	U2	15	103.04	DN 200	3528	1333	1460	242	2026	830	1390	419	629	300	908	D
	CRE 45-3	U2	18.5	127.84	DN 200	3540	1457	1460	242	2026	830	1390	419	629	300	946	D
	CRE 45-4-2	U2	22	150.8	DN 200	3556	1563	1460	242	2026	830	1390	419	629	300	1017	D
5	CRE 45-1-1	U2	5.5	49.75	DN 200	3526	986	1460	202	2526	630	1390	419	629	210	789	D
	CRE 45-1	U2	7.5	68.1	DN 200	3525	1010	1460	202	2526	630	1390	419	629	210	840	D
	CRE 45-2-2	U2	11	97.9	DN 200	3529	1257	1460	242	2526	830	1390	419	629	210	1006	D
	CRE 45-2	U2	15	128.8	DN 200	3528	1333	1460	242	2526	830	1390	419	629	300	1121	D
	CRE 45-3	U2	18.5	159.8	DN 200	3540	1457	1460	242	2526	830	1390	419	629	300	1172	D
	CRE 45-4-2	U2	22	188.5	DN 200	3556	1563	1460	242	2526	830	1390	419	629	300	1257	D
6	CRE 45-1-1	U2	5.5	59.7	DN 200	3526	986	1460	202	3026	630	1390	419	629	210	928	D
	CRE 45-1	U2	7.5	81.72	DN 200	3525	1010	1460	202	3026	630	1390	419	629	210	993	D
	CRE 45-2-2	U2	11	117.48	DN 200	3529	1257	1460	242	3026	830	1390	419	629	210	1183	D
	CRE 45-2	U2	15	154.56	DN 200	3528	1333	1460	242	3026	830	1390	419	629	300	1326	D
	CRE 45-3	U2	18.5	191.76	DN 200	3540	1457	1600	242	3026	830	1390	419	629	300	1383	D
	CRE 45-4-2	U2	22	226.2	DN 200	3556	1563	1600	242	3026	830	1390	419	629	300	1491	D

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR, CRE 64

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CRE 64-1-1	U2	7.5	40.86	DN 200	3525	1012	1460	202	1526	410	1390	421	631	210	532	D
	CRE 64-1	U2	11	58.74	DN 200	3529	1179	1460	242	1526	410	1390	421	631	210	614	D
	CRE 64-2-2	U2	15	77.28	DN 200	3528	1338	1460	242	1526	630	1390	421	631	210	699	D
	CRE 64-2-1	U2	18.5	95.88	DN 200	3540	1338	1460	242	1526	630	1390	421	631	300	726	D
	CRE 64-3-2	U2	22	113.1	DN 200	3556	1446	1460	242	1526	830	1390	421	631	300	791	D
	CR 64-3-1	U2	30	159	DN 200	3561	1549	2000	242	1526	1200	1390	421	631	400	1472	C
	CR 64-3	U2	30	159	DN 200	3561	1549	2000	242	1526	1200	1390	421	631	400	1472	C
	CR 64-4-2	U2	37	195	DN 200	3566	1657	2000	242	1526	1600	1390	421	631	400	1651	C
4	CRE 64-1-1	U2	7.5	54.48	DN 200	3525	1012	1460	202	2026	630	1390	421	631	210	689	D
	CRE 64-1	U2	11	78.32	DN 200	3529	1179	1460	242	2026	630	1390	421	631	210	799	D
	CRE 64-2-2	U2	15	103.04	DN 200	3528	1338	1460	242	2026	830	1390	421	631	300	923	D
	CRE 64-2-1	U2	18.5	127.84	DN 200	3540	1338	1460	242	2026	830	1390	421	631	300	944	D
	CRE 64-3-2	U2	22	150.8	DN 200	3556	1446	1460	242	2026	830	1390	421	631	300	1018	D
	CR 64-3-1	U2	30	212	DN 200	3561	1549	2200	242	2026	2000	1390	421	631	400	2080	C
	CR 64-3	U2	30	212	DN 200	3561	1549	2200	242	2026	2000	1390	421	631	400	2080	C
	CR 64-4-2	U2	37	260	DN 200	3566	1657	2200	242	2026	2000	1390	421	631	400	2227	C
5	CRE 64-1-1	U2	7.5	68.1	DN 200	3525	1012	1460	202	2526	630	1390	421	631	210	854	D
	CRE 64-1	U2	11	97.9	DN 200	3529	1179	1460	242	2526	830	1390	421	631	210	1001	D
	CRE 64-2-2	U2	15	128.8	DN 200	3528	1338	1460	242	2526	830	1390	421	631	300	1139	D
	CRE 64-2-1	U2	18.5	159.8	DN 200	3540	1338	1460	242	2526	830	1390	421	631	300	1171	D
	CRE 64-3-2	U2	22	188.5	DN 200	3556	1446	1460	242	2526	830	1390	421	631	300	1259	D
	CR 64-3-1	U2	30	265	DN 200	3561	1549	2000	242	2526	2400	1390	421	631	500	2514	C
	CR 64-3	U2	30	265	DN 200	3561	1549	2000	242	2526	2400	1390	421	631	500	2514	C
	CR 64-4-2	U2	37	325	DN 200	3566	1657	2000	242	2526	2400	1390	421	631	400	2697	C
6	CRE 64-1-1	U2	7.5	81.72	DN 200	3525	1012	1460	202	3026	630	1390	421	631	210	1009	D
	CRE 64-1	U2	11	117.48	DN 200	3529	1179	1460	242	3026	830	1390	421	631	210	1178	D
	CRE 64-2-2	U2	15	154.56	DN 200	3528	1338	1460	242	3026	830	1390	421	631	300	1347	D
	CRE 64-2-1	U2	18.5	191.76	DN 200	3540	1338	1460	242	3026	830	1390	421	631	300	1381	D
	CRE 64-3-2	U2	22	226.2	DN 200	3556	1446	1460	242	3026	830	1390	421	631	300	1493	D
	CR 64-3-1	U2	30	318	DN 200	3561	1549	2000	242	3026	2400	1390	421	631	500	2913	C
	CR 64-3	U2	30	318	DN 200	3561	1549	2000	242	3026	2400	1390	421	631	500	2913	C
	CR 64-4-2	U2	37	390	DN 200	3566	1657	2000	242	3026	2400	1390	421	631	400	3149	C

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

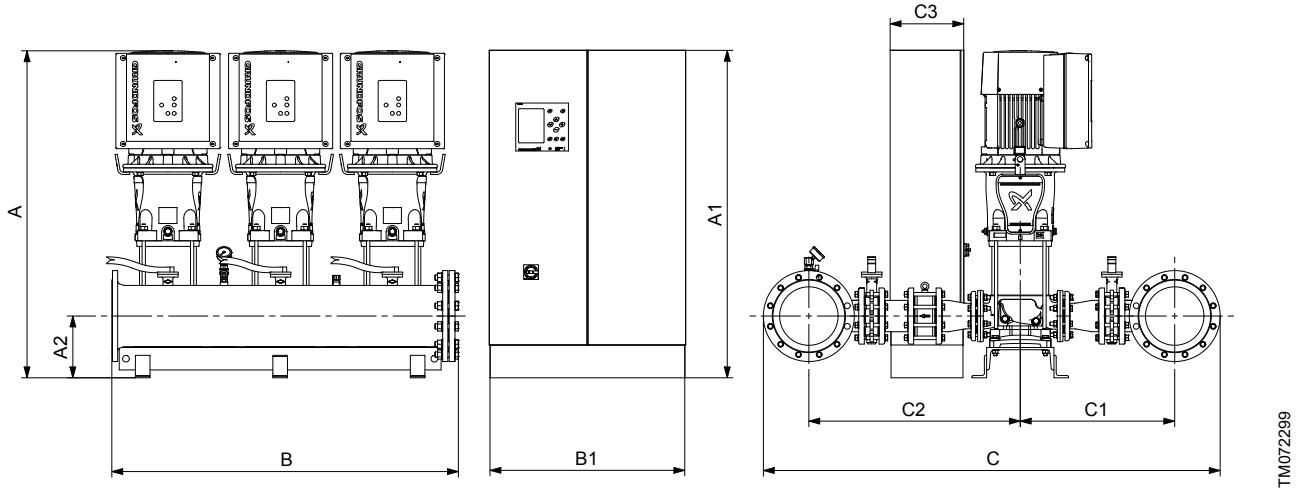
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

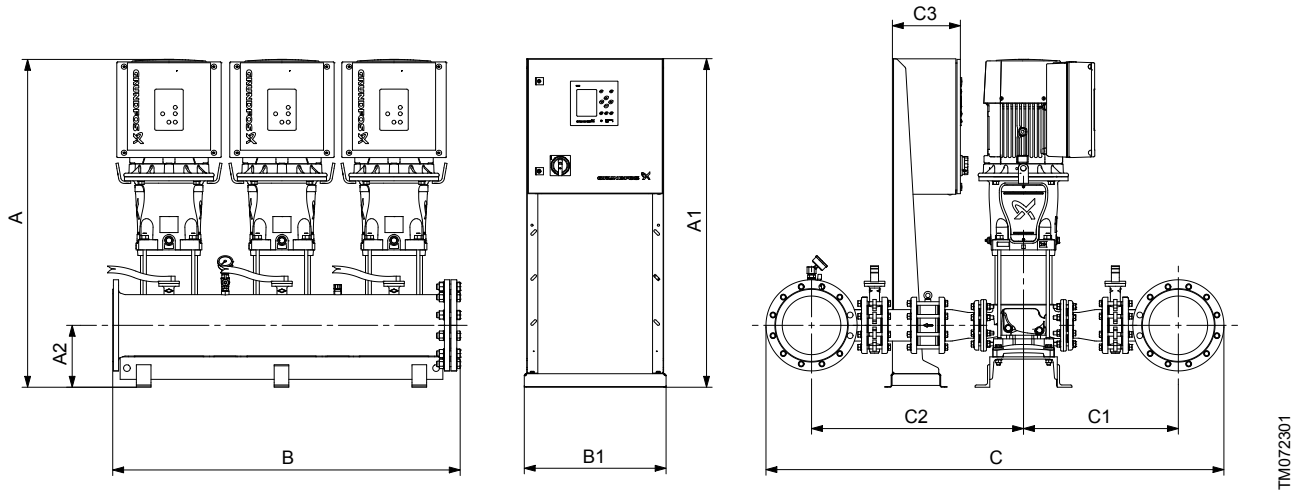
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR, CRE 95

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-E with CR, CRE 95

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRE 95-1-1 [16)]	U2	7.5	27.24	DN 200	3555	1225	1460	287	1026	410	1970	690	940	210	580	D
	CRE 95-1-1	U2	11	39.16	DN 200	3555	1244	1460	287	1026	410	1970	690	940	210	624	D
	CRE 95-1 [16)]	U2	11	39.16	DN 200	3557	1244	1460	287	1026	410	1970	690	940	210	625	D
	CRE 95-1	U2	15	51.52	DN 200	3557	1320	1460	287	1026	630	1970	690	940	210	654	D
	CRE 95-2-2	U2	18.5	63.92	DN 200	3558	1424	1460	287	1026	630	1970	690	940	210	678	D
	CRE 95-2-1	U2	22	75.4	DN 200	3560	1450	1460	287	1026	630	1970	690	940	210	705	D
	CR 95-3-3	U2	30	106	DN 200	3571	1663	1600	287	1026	1200	1970	690	940	500	1212	C
	CR 95-3-1	U2	37	130	DN 200	3562	1688	2000	287	1026	1000	1970	690	940	400	1273	C
	CR 95-4-2	U2	45	156	DN 200	3566	1884	2000	287	1026	1200	1970	690	940	500	1519	C

Number of pumps	Pump type	Voltage code	Motor [kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight [kg]	Design
3	CRE 95-1-1 16)	U2	7.5	40.86	DN 250	3555	1225	1460	287	1528	410	2035	690	940	210	925	D
	CRE 95-1-1	U2	11	58.74	DN 250	3555	1244	1460	287	1528	410	2035	690	940	210	992	D
	CRE 95-1 16)	U2	11	58.74	DN 250	3557	1244	1460	287	1528	410	2035	690	940	210	993	D
	CRE 95-1	U2	15	77.28	DN 250	3557	1320	1460	287	1528	630	2035	690	940	210	1037	D
	CRE 95-2-2	U2	18.5	95.88	DN 250	3558	1424	1460	287	1528	630	2035	690	940	300	1082	D
	CRE 95-2-1	U2	22	113.1	DN 250	3560	1450	1460	287	1528	830	2035	690	940	300	1132	D
	CR 95-3-3	U2	30	159	DN 250	3571	1663	2000	287	1528	1200	2035	690	940	400	1802	C
	CR 95-3-1	U2	37	195	DN 250	3562	1688	2000	287	1528	1600	2035	690	940	400	2013	C
	CR 95-4-2	U2	45	234	DN 250	3566	1884	2200	287	1528	2000	2035	690	940	600	2482	C
4	CRE 95-1-1 16)	U2	7.5	54.48	DN 250	3555	1225	1460	287	2028	630	2035	690	940	210	1187	D
	CRE 95-1-1	U2	11	78.32	DN 250	3555	1244	1460	287	2028	630	2035	690	940	210	1277	D
	CRE 95-1 16)	U2	11	78.32	DN 250	3557	1244	1460	287	2028	630	2035	690	940	210	1279	D
	CRE 95-1	U2	15	103.04	DN 250	3557	1320	1460	287	2028	830	2035	690	940	300	1347	D
	CRE 95-2-2	U2	18.5	127.84	DN 250	3558	1424	1460	287	2028	830	2035	690	940	300	1392	D
	CRE 95-2-1	U2	22	150.8	DN 250	3560	1450	1460	287	2028	830	2035	690	940	300	1448	D
	CR 95-3-3	U2	30	212	DN 250	3571	1663	2000	287	2028	2000	2035	690	940	400	2431	C
	CR 95-3-1	U2	37	260	DN 250	3562	1688	2000	287	2028	2000	2035	690	940	400	2610	C
	CR 95-4-2	U2	45	312	DN 250	3566	1884	2000	287	2028	2400	2035	690	940	500	3095	C
5	CRE 95-1-1 16)	U2	7.5	68.1	DN 300	3555	1225	1460	287	2530	630	2090	690	940	210	1570	D
	CRE 95-1-1	U2	11	97.9	DN 300	3555	1244	1460	287	2530	830	2090	690	940	210	1692	D
	CRE 95-1 16)	U2	11	97.9	DN 300	3557	1244	1460	287	2530	830	2090	690	940	210	1694	D
	CRE 95-1	U2	15	128.8	DN 300	3557	1320	1460	287	2530	830	2090	690	940	300	1762	D
	CRE 95-2-2	U2	18.5	159.8	DN 300	3558	1424	1460	287	2530	830	2090	690	940	300	1824	D
	CRE 95-2-1	U2	22	188.5	DN 300	3560	1450	1460	287	2530	830	2090	690	940	300	1889	D
	CR 95-3-3	U2	30	265	DN 300	3571	1663	2000	287	2530	2400	2090	690	940	500	3139	C
	CR 95-3-1	U2	37	325	DN 300	3562	1688	2000	287	2530	2400	2090	690	940	400	3349	C
	CR 95-4-2	U2	45	390	DN 300	3566	1884	2200	287	2530	3000	2090	690	940	500	4061	C
6	CRE 95-1-1 16)	U2	7.5	81.72	DN 350	3555	1225	1460	287	3032	630	2150	690	940	210	1918	D
	CRE 95-1-1	U2	11	117.48	DN 350	3555	1244	1460	287	3032	830	2150	690	940	210	2056	D
	CRE 95-1 16)	U2	11	117.48	DN 350	3557	1244	1460	287	3032	830	2150	690	940	210	2058	D
	CRE 95-1	U2	15	154.56	DN 350	3557	1320	1460	287	3032	830	2150	690	940	300	2144	D
	CRE 95-2-2	U2	18.5	191.76	DN 350	3558	1424	1460	287	3032	830	2150	690	940	300	2214	D
	CRE 95-2-1	U2	22	226.2	DN 350	3560	1450	1460	287	3032	830	2150	690	940	300	2299	D
	CR 95-3-3	U2	30	318	DN 350	3571	1663	2000	287	3032	2400	2150	690	940	500	3713	C
	CR 95-3-1	U2	37	390	DN 350	3562	1688	2000	287	3032	2400	2150	690	940	400	3983	C
	CR 95-4-2	U2	45	468	DN 350	3566	1884	2000	287	3032	3600	2150	690	940	500	4825	C

16) Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

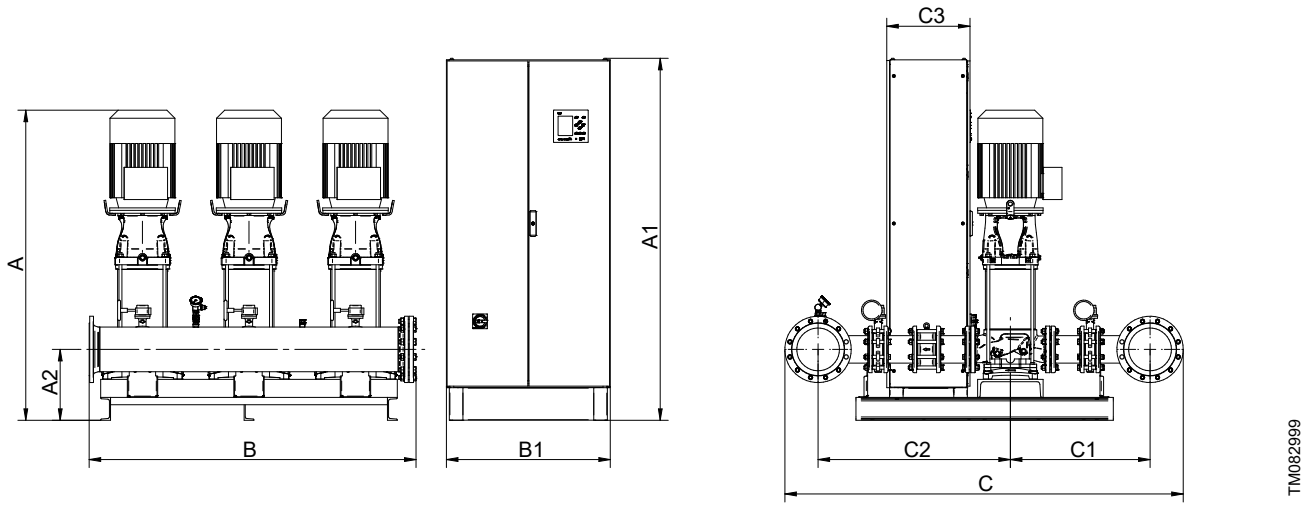
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

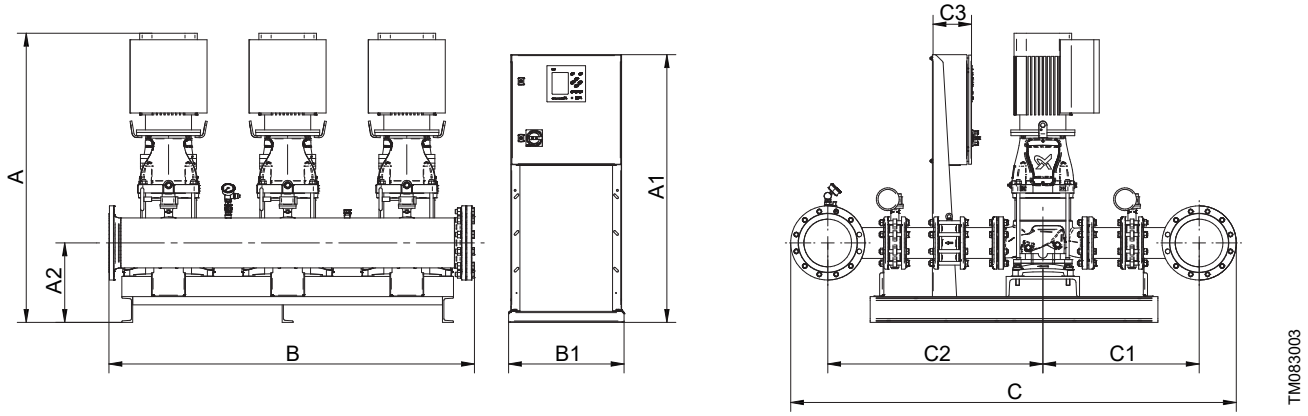
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR, CRE 125, CR, CRE 155

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-E with CR, CRE 125

Number of pumps	Pump type	Voltage code	Motor [kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRE 125-1-1 [17]	U2	11	39.16	DN 250	3556	1441	1460	432	1328	410	2440	860	1176	210	965	D
	CRE 125-1-1	U2	15	51.52	DN 250	3556	1517	1460	432	1328	630	2440	860	1176	210	999	D
	CRE 125-1 [17]	U2	18.5	63.92	DN 250	3565	1517	1460	432	1328	630	2440	860	1176	210	1012	D
	CRE 125-1	U2	22	75.4	DN 250	3565	1543	1460	432	1328	630	2440	860	1176	210	1038	D
	CRE 125-2-2 [17]	U2	22	75.4	DN 250	3574	1665	1460	432	1328	630	2440	860	1176	210	1060	D
	CR 125-2-2	U2	30	106	DN 250	3574	1770	1600	432	1328	1200	2440	860	1176	500	1577	C
	CR 125-2-1	U2	37	130	DN 250	3566	1795	2000	432	1328	1000	2440	860	1176	400	1581	C
	CR 125-3-2	U2	45	156	DN 250	3566	2012	2000	432	1328	1200	2440	860	1176	500	1867	C
	CR 125-3-1	U2	55	190	DN 250	3573	2050	2200	432	1328	1200	2440	860	1176	500	2151	C
3	CRE 125-1-1 [17]	U2	11	58.74	DN 250	3556	1441	1460	432	1978	410	2440	860	1176	210	1347	D
	CRE 125-1-1	U2	15	77.28	DN 250	3556	1517	1460	432	1978	630	2440	860	1176	210	1399	D
	CRE 125-1 [17]	U2	18.5	95.88	DN 250	3565	1517	1460	432	1978	630	2440	860	1176	300	1426	D
	CRE 125-1	U2	22	113.1	DN 250	3565	1543	1460	432	1978	830	2440	860	1176	300	1476	D
	CRE 125-2-2 [17]	U2	22	113.1	DN 250	3574	1665	1460	432	1978	830	2440	860	1176	300	1509	D
	CR 125-2-2	U2	30	159	DN 250	3574	1770	2000	432	1978	1200	2440	860	1176	400	2193	C
	CR 125-2-1	U2	37	195	DN 250	3566	1795	2000	432	1978	1600	2440	860	1176	400	2319	C
	CR 125-3-2	U2	45	234	DN 250	3566	2012	2200	432	1978	2000	2440	860	1176	600	2847	C
	CR 125-3-1	U2	55	285	DN 250	3573	2050	2000	432	1978	2400	2440	860	1176	500	3187	C
4	CRE 125-1-1 [17]	U2	11	78.32	DN 300	3556	1441	1460	432	2630	630	2495	860	1176	210	1917	D
	CRE 125-1-1	U2	15	103.04	DN 300	3556	1517	1460	432	2630	830	2495	860	1176	300	1993	D
	CRE 125-1 [17]	U2	18.5	127.84	DN 300	3565	1517	1460	432	2630	830	2495	860	1176	300	2015	D
	CRE 125-1	U2	22	150.8	DN 300	3565	1543	1460	432	2630	830	2495	860	1176	300	2071	D
	CRE 125-2-2 [17]	U2	22	150.8	DN 300	3574	1665	1460	432	2630	830	2495	860	1176	300	2114	D
	CR 125-2-2	U2	30	212	DN 300	3574	1770	2000	432	2630	2000	2495	860	1176	400	3124	C
	CR 125-2-1	U2	37	260	DN 300	3566	1795	2000	432	2630	2000	2495	860	1176	400	3190	C
	CR 125-3-2	U2	45	312	DN 300	3566	2012	2000	432	2630	2400	2495	860	1176	500	3755	C
	CR 125-3-1	U2	55	380	DN 300	3573	2050	2000	432	2630	2400	2495	860	1176	500	4247	C
5	CRE 125-1-1 [17]	U2	11	97.9	DN 350	3556	1441	1460	432	3282	830	2555	860	1176	210	2386	D
	CRE 125-1-1	U2	15	128.8	DN 350	3556	1517	1460	432	3282	830	2555	860	1176	300	2468	D
	CRE 125-1 [17]	U2	18.5	159.8	DN 350	3565	1517	1460	432	3282	830	2555	860	1176	300	2499	D
	CRE 125-1	U2	22	188.5	DN 350	3565	1543	1460	432	3282	830	2555	860	1176	300	2565	D
	CRE 125-2-2 [17]	U2	22	188.5	DN 350	3574	1665	1460	432	3282	830	2555	860	1176	300	2619	D
	CR 125-2-2	U2	30	265	DN 350	3574	1770	2000	432	3282	2400	2555	860	1176	500	3892	C
	CR 125-2-1	U2	37	325	DN 350	3566	1795	2000	432	3282	2400	2555	860	1176	400	3962	C
	CR 125-3-2	U2	45	390	DN 350	3566	2012	2200	432	3282	3000	2555	860	1176	500	4774	C
	CR 125-3-1	U2	55	475	DN 350	3573	2050	2200	432	3282	3000	2555	860	1176	500	5376	C
6	CRE 125-1-1 [17]	U2	11	117.48	DN 350	3556	1441	1460	432	3932	830	2555	860	1176	210	2788	D
	CRE 125-1-1	U2	15	154.56	DN 350	3556	1517	1460	432	3932	830	2555	860	1176	300	2880	D
	CRE 125-1 [17]	U2	18.5	191.76	DN 350	3565	1517	1460	432	3932	830	2555	860	1176	300	2914	D
	CRE 125-1	U2	22	226.2	DN 350	3565	1543	1460	432	3932	830	2555	860	1176	300	2999	D
	CRE 125-2-2 [17]	U2	22	226.2	DN 350	3574	1665	1460	432	3932	830	2555	860	1176	300	3064	D
	CR 125-2-2	U2	30	318	DN 350	3574	1770	2000	432	3932	2400	2555	860	1176	500	4506	C
	CR 125-2-1	U2	37	390	DN 350	3566	1795	2000	432	3932	2400	2555	860	1176	400	4607	C
	CR 125-3-2	U2	45	468	DN 350	3566	2012	2000	432	3932	3600	2555	860	1176	500	5571	C
	CR 125-3-1	U2	55	570	DN 350	3573	2050	2000	432	3932	3600	2555	860	1176	500	6289	C

[17] Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR, CRE 155

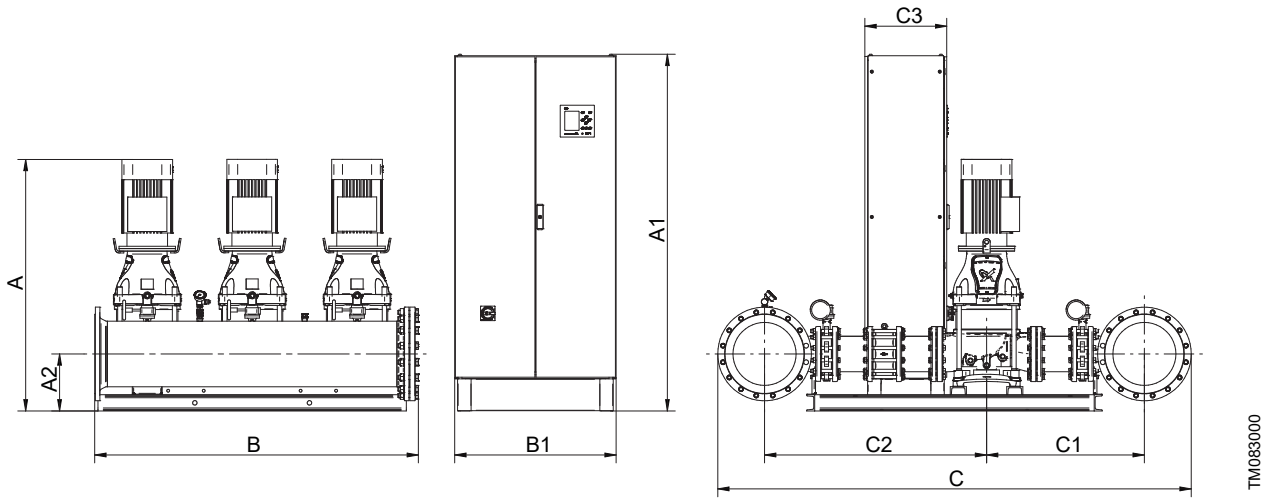
Number of pumps	Pump type	Voltage code	Motor [kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRE 155-1-1 [18)]	U2	15	51.52	DN 250	3559	1517	1460	432	1328	630	2688	947	1337	210	1104	D
	CRE 155-1-1	U2	18.5	63.92	DN 250	3559	1517	1460	432	1328	630	2688	947	1337	210	1117	D
	CR 155-1	U2	30	106	DN 250	3575	1648	1600	432	1328	1200	2688	947	1337	500	1662	C
	CR 155-2	U2	30	106	DN 250	2971	1770	1600	432	1328	1200	2688	947	1337	500	1683	C
	CR 155-2-2	U2	37	130	DN 250	3561	1795	2000	432	1328	1000	2688	947	1337	400	1716	C
	CR 155-2-1	U2	45	156	DN 250	3567	1890	2000	432	1328	1200	2688	947	1337	500	1953	C
	CR 155-3-3	U2	55	190	DN 250	3570	2050	2200	432	1328	1200	2688	947	1337	500	2259	C
3	CRE 155-1-1 [18)]	U2	15	77.28	DN 300	3559	1517	1460	432	1980	630	2743	947	1337	210	1596	D
	CRE 155-1-1	U2	18.5	95.88	DN 300	3559	1517	1460	432	1980	630	2743	947	1337	300	1623	D
	CR 155-1	U2	30	159	DN 300	3575	1648	2000	432	1980	1200	2743	947	1337	400	2360	C
	CR 155-2	U2	30	159	DN 300	2971	1770	2000	432	1980	1200	2743	947	1337	400	2392	C
	CR 155-2-2	U2	37	195	DN 300	3561	1795	2000	432	1980	1600	2743	947	1337	400	2561	C
	CR 155-2-1	U2	45	234	DN 300	3567	1890	2200	432	1980	2000	2743	947	1337	600	3016	C
	CR 155-3-3	U2	55	285	DN 300	3570	2050	2000	432	1980	2400	2743	947	1337	500	3389	C
4	CRE 155-1-1 [18)]	U2	15	103.04	DN 350	3559	1517	1460	432	2632	830	2803	947	1337	300	2280	D
	CRE 155-1-1	U2	18.5	127.84	DN 350	3559	1517	1460	432	2632	830	2803	947	1337	300	2302	D
	CR 155-1	U2	30	212	DN 350	3575	1648	2000	432	2632	2000	2803	947	1337	400	3371	C
	CR 155-2	U2	30	212	DN 350	2971	1770	2000	432	2632	2000	2803	947	1337	400	3414	C
	CR 155-2-2	U2	37	260	DN 350	3561	1795	2000	432	2632	2000	2803	947	1337	400	3537	C
	CR 155-2-1	U2	45	312	DN 350	3567	1890	2000	432	2632	2400	2803	947	1337	500	4004	C
	CR 155-3-3	U2	55	380	DN 350	3570	2050	2000	432	2632	2400	2803	947	1337	500	4539	C
5	CRE 155-1-1 [18)]	U2	15	128.8	DN 400	3559	1517	1460	432	3284	830	2863	947	1337	300	2746	D
	CRE 155-1-1	U2	18.5	159.8	DN 400	3559	1517	1460	432	3284	830	2863	947	1337	300	2778	D
	CR 155-1	U2	30	265	DN 400	3575	1648	2000	432	3284	2400	2863	947	1337	500	4121	C
	CR 155-2	U2	30	265	DN 400	2971	1770	2000	432	3284	2400	2863	947	1337	500	4175	C
	CR 155-2-2	U2	37	325	DN 400	3561	1795	2000	432	3284	2400	2863	947	1337	400	4316	C
	CR 155-2-1	U2	45	390	DN 400	3567	1890	2200	432	3284	3000	2863	947	1337	500	5005	C
	CR 155-3-3	U2	55	475	DN 400	3570	2050	2200	432	3284	3000	2863	947	1337	500	5661	C
6	CRE 155-1-1 [18)]	U2	15	154.56	DN 400	3559	1517	1460	432	3934	830	2863	947	1337	300	3235	D
	CRE 155-1-1	U2	18.5	191.76	DN 400	3559	1517	1460	432	3934	800	2863	947	1337	300	3269	D
	CR 155-1	U2	30	318	DN 400	3575	1648	2000	432	3934	2400	2863	947	1337	500	4801	C
	CR 155-2	U2	30	318	DN 400	2971	1770	2000	432	3934	2400	2863	947	1337	500	4866	C
	CR 155-2-2	U2	37	390	DN 400	3561	1795	2000	432	3934	2400	2863	947	1337	400	5053	C
	CR 155-2-1	U2	45	468	DN 400	3567	1890	2000	432	3934	3600	2863	947	1337	500	5869	C
	CR 155-3-3	U2	55	570	DN 400	3570	2050	2000	432	3934	3600	2863	947	1337	500	6652	C

[18)] Pump with undersized motor

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.
Design C: System with a floor-mounted control cabinet.
Design D: System with a control cabinet mounted on a separate base frame.
All pumps are fitted with three-phase motors.
Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR 185

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-E with CR 185

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 185-1-1	U2	18.5	68.1	DN 250	2951	1580	1500	400	1330	1000	2755	975	1375	400	1523	C
	CR 185-1-1	U2	37	132.2	DN 250	3566	1700	2200	400	1330	1000	2755	975	1375	500	1939	C
	CR 185-1	U2	22	80.2	DN 250	2961	1610	2200	400	1330	800	2755	975	1375	500	1639	C
	CR 185-1	U2	45	164.4	DN 250	3571	1790	2000	400	1330	1200	2755	975	1375	600	2165	C
	CR 185-2-2	U2	37	132.2	DN 250	2967	1830	2200	400	1330	1000	2755	975	1375	500	1969	C
	CR 185-2-1	U2	75	266.6	DN 250	3580	2040	2200	400	1830	2400	2755	975	1375	600	3091	C
	CR 185-2	U2	45	164.4	DN 250	2968	1920	2000	400	1330	1200	2755	975	1375	600	2195	C
	CR 185-2	U2	90	-	DN 250	3580	2150	-	400	1830	-	2755	975	1375	-	-	C
	CR 185-3-3	U2	55	192.6	DN 250	2976	2090	2200	400	1830	1200	2755	975	1375	600	2548	C
	CR 185-3	U2	75	266.6	DN 250	2979	2160	2200	400	1830	2400	2757	977	1375	600	3119	C
3	CR 185-1-1	U2	18.5	102.4	DN 300	2951	1580	2200	400	1980	800	2782	962	1360	500	2224	C
	CR 185-1-1	U2	37	198.9	DN 350	3566	1700	2000	400	1980	1600	2872	977	1375	400	3068	C
	CR 185-1	U2	22	120.4	DN 300	2961	1610	2200	400	1980	1000	2780	960	1360	500	2352	C
	CR 185-1	U2	45	246.6	DN 350	3571	1790	2200	400	1980	2000	2872	977	1375	600	3425	C
	CR 185-2-2	U2	37	198.9	DN 300	2967	1830	2000	400	1980	1600	2780	960	1360	400	3059	C
	CR 185-2-1	U2	75	400.4	DN 350	3580	2040	2200	400	2730	2400	2872	977	1375	600	4424	C
	CR 185-2	U2	45	246.6	DN 300	2968	1920	2200	400	1980	2000	2780	960	1360	600	3416	C
	CR 185-2	U2	90	-	DN 350	3580	2150	-	400	2730	-	2872	977	1375	-	-	C
	CR 185-3-3	U2	55	288.6	DN 300	2976	2090	2200	400	2730	2000	2780	960	1360	600	3933	C
	CR 185-3	U2	75	400.4	DN 300	2979	2160	2200	400	2730	2400	2780	960	1360	600	4388	C
4	CR 185-1-1	U2	18.5	136.6	DN 350	2951	1580	2200	400	2630	1200	2870	975	1375	500	3062	C
	CR 185-1-1	U2	37	264.6	DN 350	3566	1700	2200	400	2630	2000	2870	975	1375	500	3986	C
	CR 185-1	U2	22	160.9	DN 350	2961	1610	2200	400	2630	2000	2870	975	1375	500	3413	C
	CR 185-1	U2	45	328.6	DN 350	3571	1790	2000	400	2630	2400	2870	975	1375	600	4432	C
	CR 185-2-2	U2	37	264.6	DN 350	2967	1830	2200	400	2630	2000	2870	975	1375	500	4046	C
	CR 185-2-1	U2	75	533.4	DN 350	3580	2040	2200	400	3630	3600	2870	975	1375	600	6050	C
	CR 185-2	U2	45	328.6	DN 350	2968	1920	2000	400	2630	2400	2870	975	1375	600	4492	C
	CR 185-2	U2	90	-	DN 350	3580	2150	-	400	3630	-	2870	975	1375	-	-	C
	CR 185-3-3	U2	55	385.4	DN 350	2976	2090	2000	400	3630	2400	2870	975	1375	600	5247	C
	CR 185-3	U2	75	533.4	DN 350	2979	2160	2200	400	3630	3600	2870	975	1375	600	6106	C

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
5	CR 185-1-1	U2	18.5	170.9	DN 400	2951	1580	2200	400	3290	2000	2930	975	1375	500	3978	C
	CR 185-1-1	U2	37	330.6	DN 400	3566	1700	2000	400	3290	2400	2930	975	1375	500	4821	C
	CR 185-1	U2	22	200.6	DN 400	2961	1610	2200	400	3290	2000	2930	975	1375	500	4105	C
	CR 185-1	U2	45	411.4	DN 400	3571	1790	2200	400	3290	3000	2930	975	1375	600	5641	C
	CR 185-2-2	U2	37	330.6	DN 400	2967	1830	2000	400	3290	2400	2930	975	1375	500	4896	C
	CR 185-2-1	U2	75	667.3	DN 400	3580	2040	2200	400	4540	3600	2930	975	1375	600	7392	C
	CR 185-2	U2	45	411.4	DN 400	2968	1920	2200	400	3290	3000	2930	975	1375	600	5716	C
	CR 185-2	U2	90	-	DN 400	3580	2150	-	400	4540	-	2930	975	1375	-	-	C
	CR 185-3-3	U2	55	481.4	DN 400	2976	2090	2200	400	4540	3000	2930	975	1375	600	6707	C
	CR 185-3	U2	75	667.3	DN 400	2979	2160	2200	400	4540	3600	2930	975	1375	600	7462	C
6	CR 185-1-1	U2	18.5	204.6	DN 400	2951	1580	2200	400	3940	2000	2930	975	1375	500	4690	C
	CR 185-1-1	U2	37	397.4	DN 450	3566	1700	2000	400	3940	2400	3040	1000	1400	500	5860	C
	CR 185-1	U2	22	240.6	DN 400	2961	1610	2000	400	3940	2400	2930	975	1375	500	4849	C
	CR 185-1	U2	45	493.4	DN 450	3571	1790	2000	400	3940	3600	3040	1000	1400	600	6788	C
	CR 185-2-2	U2	37	397.4	DN 400	2967	1830	2000	400	3940	2400	2930	975	1375	500	5783	C
	CR 185-2-1	U2	75	799.4	DN 450	3580	2040	2400	400	5440	4800	3040	1000	1400	600	9069	C
	CR 185-2	U2	45	493.4	DN 400	2968	1920	2000	400	3940	3600	2930	975	1375	600	6711	C
	CR 185-2	U2	90	-	DN 450	3580	2150	-	400	5440	-	3040	1000	1400	-	-	C
	CR 185-3-3	U2	55	578.3	DN 400	2976	2090	2000	400	5440	3600	2930	975	1375	600	7789	C
	CR 185-3	U2	75	799.4	DN 400	2979	2160	2400	400	5440	4800	2930	975	1375	600	8975	C

-: On request.

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

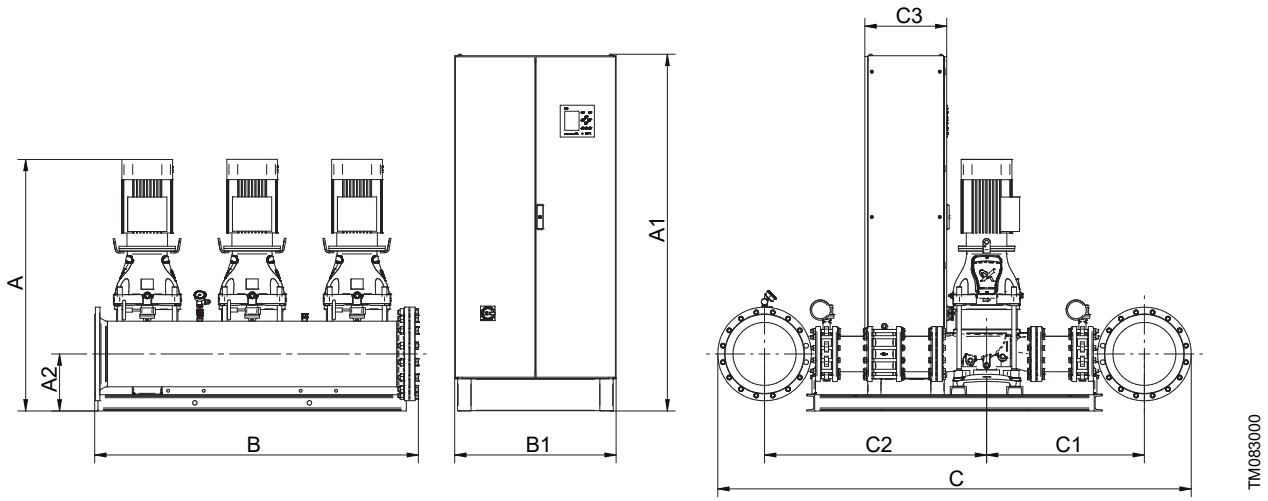
Design C: System with a floor-mounted control cabinet.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR 215

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-E with CR 215

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 215-1-1	U2	22	80.2	DN 300	2962	1610	2200	400	1330	800	2780	960	1360	500	1705	C
	CR 215-1-1	U2	45	164.4	DN 300	3571	1790	2000	400	1330	1200	2780	960	1360	600	2231	C
	CR 215-1	U2	37	132.2	DN 300	2973	1700	2200	400	1330	1000	2780	960	1360	500	2005	C
	CR 215-1	U2	55	192.6	DN 300	3573	1840	2200	400	1830	1200	2780	960	1360	600	2516	C
	CR 215-2-2	U2	45	164.4	DN 300	2969	1920	2000	400	1330	1200	2780	960	1360	600	2261	C
	CR 215-2-2	U2	75	266.6	DN 300	3576	2040	2200	400	1830	2400	2780	960	1360	600	3117	C
	CR 215-2-1	U2	55	192.6	DN 300	2978	1960	2200	400	1830	1200	2780	960	1360	600	2546	C
	CR 215-2-1	U2	90	-	DN 300	3576	2150	-	400	1830	-	2780	960	1360	-	-	C
	CR 215-2	U2	75	266.6	DN 300	2975	2040	2200	400	1830	2400	2780	960	1360	600	3117	C
	CR 215-2	U2	110	-	DN 300	3582	2150	-	400	1830	-	2780	960	1360	-	-	C
	CR 215-3-2	U2	75	266.6	DN 300	2975	2160	2200	400	1830	2400	2780	960	1360	600	3147	C
	CR 215-3	U2	90	-	DN 300	2976	2270	-	400	1830	-	2780	960	1360	-	-	C
3	CR 215-1-1	U2	22	120.4	DN 350	2962	1610	2200	400	1980	1000	2870	975	1375	500	2439	C
	CR 215-1-1	U2	45	246.6	DN 350	3571	1790	2200	400	1980	2000	2870	975	1375	600	3458	C
	CR 215-1	U2	37	198.9	DN 350	2973	1700	2000	400	1980	1600	2870	975	1375	400	3101	C
	CR 215-1	U2	55	288.6	DN 350	3573	1840	2200	400	2730	2000	2870	975	1375	600	3895	C
	CR 215-2-2	U2	45	246.6	DN 350	2969	1920	2200	400	1980	2000	2870	975	1375	600	3503	C
	CR 215-2-2	U2	75	400.4	DN 350	3576	2040	2200	400	2730	2400	2870	975	1375	600	4395	C
	CR 215-2-1	U2	55	288.6	DN 350	2978	1960	2200	400	2730	2000	2870	975	1375	600	3940	C
	CR 215-2-1	U2	90	-	DN 350	3576	2150	-	400	2730	-	2870	975	1375	-	-	C
	CR 215-2	U2	75	400.4	DN 350	2975	2040	2200	400	2730	2400	2870	975	1375	600	4395	C
	CR 215-2	U2	110	-	DN 350	3582	2150	-	400	2730	-	2870	975	1375	-	-	C
	CR 215-3-2	U2	75	400.4	DN 350	2975	2160	2200	400	2730	2400	2870	975	1375	600	4440	C
	CR 215-3	U2	90	-	DN 350	2976	2270	-	400	2730	-	2870	975	1375	-	-	C

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
4	CR 215-1-1	U2	22	160.9	DN 400	2962	1610	2200	400	2640	2000	2930	975	1375	500	3608	C
	CR 215-1-1	U2	45	328.6	DN 400	3571	1790	2000	400	2640	2400	2930	975	1375	600	4627	C
	CR 215-1	U2	37	264.6	DN 400	2973	1700	2200	400	2640	2000	2930	975	1375	500	4181	C
	CR 215-1	U2	55	385.4	DN 400	3573	1840	2000	400	3640	2400	2930	975	1375	600	5223	C
	CR 215-2-2	U2	45	328.6	DN 400	2969	1920	2000	400	2640	2400	2930	975	1375	600	4687	C
	CR 215-2-2	U2	75	533.4	DN 400	3576	2040	2200	400	3640	3600	2930	975	1375	600	6142	C
	CR 215-2-1	U2	55	385.4	DN 400	2978	1960	2000	400	3640	2400	2930	975	1375	600	5283	C
	CR 215-2-1	U2	90	-	DN 400	3576	2150	-	400	3640	-	2930	975	1375	-	-	C
	CR 215-2	U2	75	533.4	DN 400	2975	2040	2200	400	3640	3600	2930	975	1375	600	6142	C
	CR 215-2	U2	110	-	DN 400	3582	2150	-	400	3640	-	2930	975	1375	-	-	C
	CR 215-3-2	U2	75	533.4	DN 400	2975	2160	2200	400	3640	3600	2930	975	1375	600	6202	C
	CR 215-3	U2	90	-	DN 400	2976	2270	-	400	3640	-	2930	975	1375	-	-	C
5	CR 215-1-1	U2	22	200.6	DN 450	2962	1610	2200	400	3290	2000	3090	1025	1425	500	4416	C
	CR 215-1-1	U2	45	411.4	DN 450	3571	1790	2200	400	3290	3000	3090	1025	1425	600	5952	C
	CR 215-1	U2	37	330.6	DN 450	2973	1700	2000	400	3290	2400	3090	1025	1425	500	5132	C
	CR 215-1	U2	55	481.4	DN 450	3573	1840	2200	400	4540	3000	3090	1025	1425	600	6707	C
	CR 215-2-2	U2	45	411.4	DN 450	2969	1920	2200	400	3290	3000	3090	1025	1425	600	6027	C
	CR 215-2-2	U2	75	667.3	DN 450	3576	2040	2200	400	4540	3600	3090	1025	1425	600	7536	C
	CR 215-2-1	U2	55	481.4	DN 450	2978	1960	2200	400	4540	3000	3090	1025	1425	600	6782	C
	CR 215-2-1	U2	90	-	DN 450	3576	2150	-	400	4540	-	3090	1025	1425	-	-	C
	CR 215-2	U2	75	667.3	DN 450	2975	2040	2200	400	4540	3600	3090	1025	1425	600	7536	C
	CR 215-2	U2	110	-	DN 450	3582	2150	-	400	4540	-	3090	1025	1425	-	-	C
	CR 215-3-2	U2	75	667.3	DN 450	2975	2160	2200	400	4540	3600	3090	1025	1425	600	7611	C
	CR 215-3	U2	90	-	DN 450	2976	2270	-	400	4540	-	3090	1025	1425	-	-	C
6	CR 215-1-1	U2	22	240.6	DN 500	2962	1610	2000	400	5250	2400	3225	1055	1455	500	5311	C
	CR 215-1-1	U2	45	493.4	DN 500	3571	1790	2000	400	5250	3600	3225	1055	1455	600	7083	C
	CR 215-1	U2	37	397.4	DN 500	2973	1700	2000	400	5250	2400	3225	1055	1455	500	6155	C
	CR 215-1	U2	55	578.3	DN 500	3573	1840	2000	400	7250	3600	3225	1055	1455	600	7991	C
	CR 215-2-2	U2	45	493.4	DN 500	2969	1920	2000	400	5250	3600	3225	1055	1455	600	7173	C
	CR 215-2-2	U2	75	799.4	DN 500	3576	2040	2400	400	7250	4800	3225	1055	1455	600	9267	C
	CR 215-2-1	U2	55	578.3	DN 500	2978	1960	2000	400	7250	3600	3225	1055	1455	600	8081	C
	CR 215-2-1	U2	90	-	DN 500	3576	2150	-	400	7250	-	3225	1055	1455	-	-	C
	CR 215-2	U2	75	799.4	DN 500	2975	2040	2400	400	7250	4800	3225	1055	1455	600	9267	C
	CR 215-2	U2	110	-	DN 500	3582	2150	-	400	7250	-	3225	1055	1455	-	-	C
	CR 215-3-2	U2	75	799.4	DN 500	2975	2160	2400	400	7250	4800	3225	1055	1455	600	9357	C
	CR 215-3	U2	90	-	DN 500	2976	2270	-	400	7250	-	3225	1055	1455	-	-	C

-: On request

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

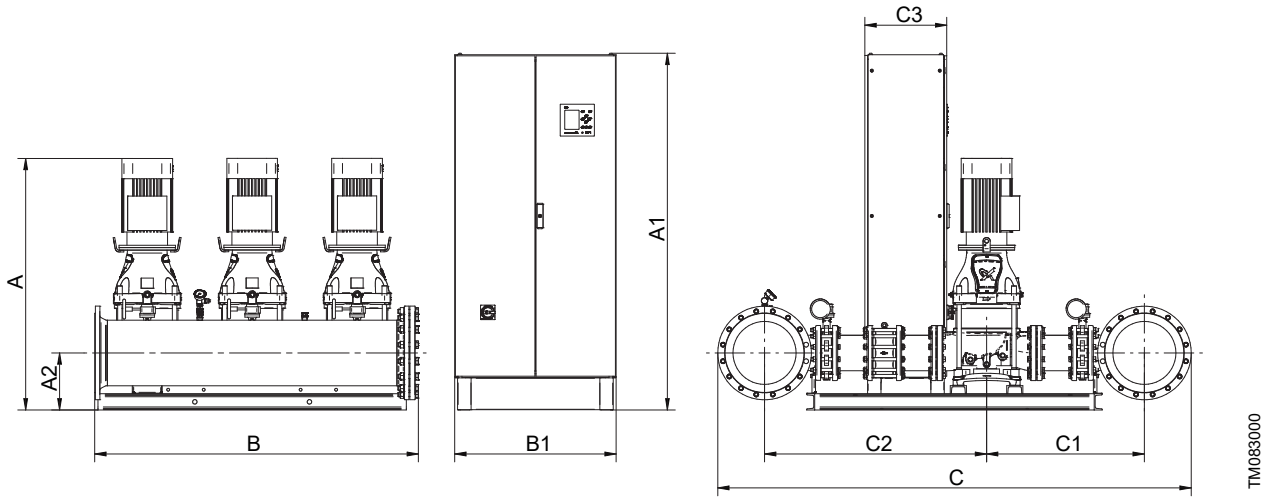
Design C: System with a floor-mounted control cabinet.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-E with CR 255

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-E with CR 255

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
	CR 255-1-1	U2	30	110.36	DN 300	2973	1670	2200	400	1330	800	2780	960	1360	500	1864	C
	CR 255-1-1	U2	55	192.6	DN 300	3575	1840	2200	400	1830	1200	2780	960	1360	600	2516	C
	CR 255-1	U2	45	164.4	DN 300	2973	1790	2000	400	1330	1200	2780	960	1360	600	2231	C
	CR 255-1	U2	75	266.6	DN 300	3580	1910	2200	400	1830	2400	2780	960	1360	600	3087	C
2	CR 255-2-2	U2	55	192.6	DN 300	2977	1960	2200	400	1830	1200	2780	960	1360	600	2546	C
	CR 255-2-2	U2	110	-	DN 300	3584	2150	-	400	1830	-	2780	960	1360	-	-	C
	CR 255-2	U2	75	266.6	DN 300	2978	2040	2200	400	1830	2400	2780	960	1360	600	3117	C
	CR 255-2-1	U2	110	-	DN 300	3582	2150	-	400	1830	-	2780	960	1360	-	-	C
	CR 255-3-2	U2	90	-	DN 300	2977	2270	-	400	1830	-	2780	960	1360	-	-	C
	CR 255-1-1	U2	30	165.58	DN 350	2973	1670	2000	400	1980	1200	2870	975	1375	500	2720	C
	CR 255-1-1	U2	55	288.6	DN 400	3575	1840	2200	400	2730	2000	2930	975	1375	600	3975	C
	CR 255-1	U2	45	246.6	DN 350	2973	1790	2200	400	1980	2000	2870	975	1375	600	3458	C
	CR 255-1	U2	75	400.4	DN 400	3580	1910	2200	400	2730	2400	2930	975	1375	600	4430	C
3	CR 255-2-2	U2	55	288.6	DN 350	2977	1960	2200	400	2730	2000	2870	975	1375	600	3940	C
	CR 255-2-2	U2	110	-	DN 400	3584	2150	-	400	2730	-	2930	975	1375	-	-	C
	CR 255-2	U2	75	400.4	DN 350	2978	2040	2200	400	2730	2400	2870	975	1375	600	4395	C
	CR 255-2-1	U2	110	-	DN 400	3582	2150	-	400	2730	-	2930	975	1375	-	-	C
	CR 255-3-2	U2	90	-	DN 350	2977	2270	-	400	2730	-	2870	975	1375	-	-	C
	CR 255-1-1	U2	30	220.6	DN 450	2973	1670	2200	400	2640	2000	3090	1025	1425	500	4116	C
	CR 255-1-1	U2	55	385.4	DN 450	3575	1840	2000	400	3640	2400	3090	1025	1425	600	5388	C
	CR 255-1	U2	45	328.6	DN 450	2973	1790	2000	400	2640	2400	3090	1025	1425	600	4784	C
	CR 255-1	U2	75	533.4	DN 450	3580	1910	2200	400	3640	3600	3090	1025	1425	600	6247	C
4	CR 255-2-2	U2	55	385.4	DN 450	2977	1960	2000	400	3640	2400	3090	1025	1425	600	5448	C
	CR 255-2-2	U2	110	-	DN 450	3584	2150	-	400	3640	-	3090	1025	1425	-	-	C
	CR 255-2	U2	75	533.4	DN 450	2978	2040	2200	400	3640	3600	3090	1025	1425	600	6307	C
	CR 255-2-1	U2	110	-	DN 450	3582	2150	-	400	3640	-	3090	1025	1425	-	-	C
	CR 255-3-2	U2	90	-	DN 450	2977	2270	-	400	3640	-	3090	1025	1425	-	-	C

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	Rated speed	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
5	CR 255-1-1	U2	30	275.6	DN 500	2973	1670	2000	400	3300	2400	3225	1055	1455	500	5103	C
	CR 255-1-1	U2	55	481.4	DN 500	3575	1840	2200	400	4550	3000	3225	1055	1455	600	6928	C
	CR 255-1	U2	45	411.4	DN 500	2973	1790	2200	400	3300	3000	3225	1055	1455	600	6163	C
	CR 255-1	U2	75	667.3	DN 500	3580	1910	2200	400	4550	3600	3225	1055	1455	600	7682	C
	CR 255-2-2	U2	55	481.4	DN 500	2977	1960	2200	400	4550	3000	3225	1055	1455	600	7003	C
	CR 255-2-2	U2	110	-	DN 500	3584	2150	-	400	4550	-	3225	1055	1455	-	-	C
	CR 255-2	U2	75	667.3	DN 500	2978	2040	2200	400	4550	3600	3225	1055	1455	600	7757	C
	CR 255-2-1	U2	110	-	DN 500	3582	2150	-	400	4550	-	3225	1055	1455	-	-	C
	CR 255-3-2	U2	90	-	DN 500	2977	2270	-	400	4550	-	3225	1055	1455	-	-	C
6	CR 255-1-1	U2	30	331.4	DN 500	2973	1670	2000	400	5250	2400	3225	1055	1455	500	5871	C
	CR 255-1-1	U2	55	578.3	DN 500	3575	1840	2000	400	7250	3600	3225	1055	1455	600	7991	C
	CR 255-1	U2	45	493.4	DN 500	2973	1790	2000	400	5250	3600	3225	1055	1455	600	7083	C
	CR 255-1	U2	75	799.4	DN 500	3580	1910	2400	400	7250	4800	3225	1055	1455	600	9177	C
	CR 255-2-2	U2	55	578.3	DN 500	2977	1960	2000	400	7250	3600	3225	1055	1455	600	8081	C
	CR 255-2-2	U2	110	-	DN 500	3584	2150	-	400	7250	-	3225	1055	1455	-	-	C
	CR 255-2	U2	75	799.4	DN 500	2978	2040	2400	400	7250	4800	3225	1055	1455	600	9267	C
	CR 255-2-1	U2	110	-	DN 500	3582	2150	-	400	7250	-	3225	1055	1455	-	-	C
	CR 255-3-2	U2	90	-	DN 500	2977	2270	-	400	7250	-	3225	1055	1455	-	-	C

-: On request

Voltage code, U2: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

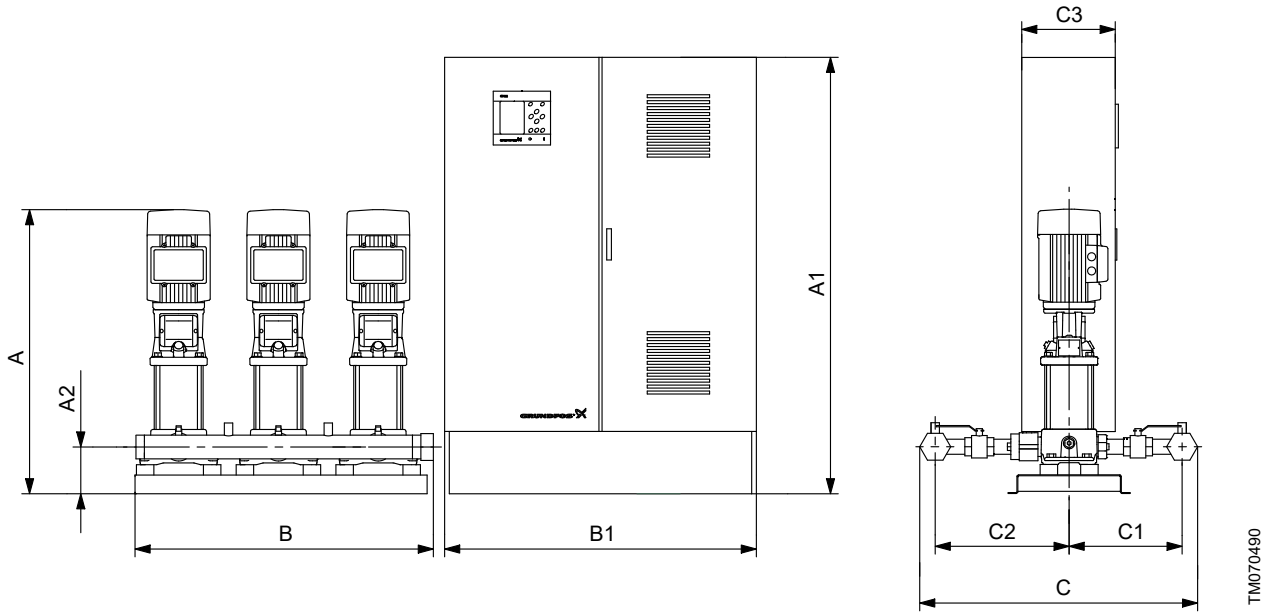
All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

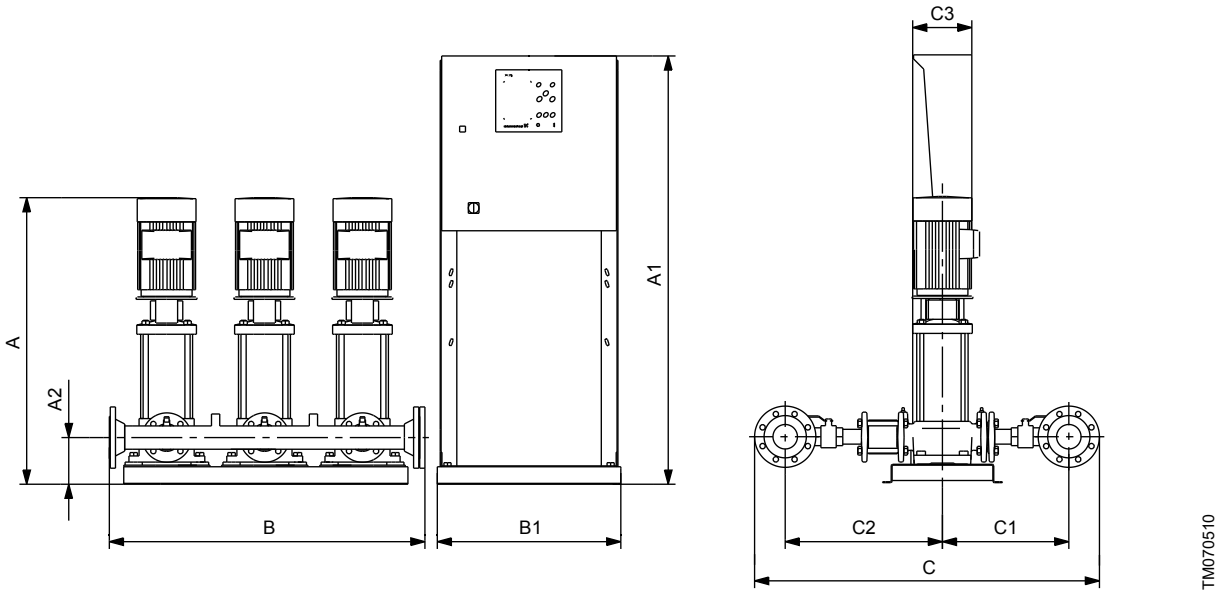
12. Technical data, Hydro MPC-F, 50 Hz

Hydro MPC-F with CR, CRI 3, CR, CRI 5

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 3

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 3-7	U4	0.55	2.88	R 2"	582	1500	112	605	600	726	295	355	400	152	C
	CRI 3-10	U4	0.75	3.8	R 2"	682	1500	112	605	600	726	295	355	400	161	C
	CRI 3-15	U4	1.1	5	R 2"	792	1500	112	605	600	726	295	355	400	169	C
	CRI 3-19	U4	1.5	6.6	R 2"	910	1500	112	605	600	726	295	355	400	184	C
3	CRI 3-7	U4	0.55	4.32	R 2"	582	1500	112	925	600	726	295	355	400	180	C
	CRI 3-10	U4	0.75	5.7	R 2"	682	1500	112	925	600	726	295	355	400	195	C
	CRI 3-15	U4	1.1	7.5	R 2"	792	1460	112	925	830	726	295	355	300	191	D
	CRI 3-19	U4	1.5	9.9	R 2"	910	1460	112	925	830	726	295	355	300	214	D
4	CRI 3-7	U4	0.55	5.76	R 2 1/2"	582	1460	112	1245	830	741	295	355	300	198	D
	CRI 3-10	U4	0.75	7.6	R 2 1/2"	682	1460	112	1245	830	741	295	355	300	217	D
	CRI 3-15	U4	1.1	10	R 2 1/2"	792	1460	112	1245	830	741	295	355	300	233	D
	CRI 3-19	U4	1.5	13.2	R 2 1/2"	910	1460	112	1245	830	741	295	355	300	264	D

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

Maximum current in neutral conductor, Max. I_O [A], applies to systems with single-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 5

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 5-4	U4	0.55	2.88	R 2"	564	1500	112	605	600	726	295	355	400	151	C
	CRI 5-5	U4	0.75	3.8	R 2"	637	1500	112	605	600	726	295	355	400	159	C
	CRI 5-8	U4	1.1	5	R 2"	738	1500	112	605	600	726	295	355	400	166	C
	CRI 5-10	U4	1.5	6.6	R 2"	838	1500	112	605	600	726	295	355	400	180	C
	CRI 5-16	U4	2.2	9.3	R 2"	1040	1500	112	605	600	726	295	355	400	196	C
	CRI 5-20	U4	3	12.6	R 2"	1167	1500	112	605	600	726	295	355	400	213	C
3	CRI 5-4	U4	0.55	4.32	R 2"	564	1500	112	925	600	726	295	355	400	179	C
	CRI 5-5	U4	0.75	5.7	R 2"	637	1500	112	925	600	726	295	355	400	191	C
	CRI 5-8	U4	1.1	7.5	R 2"	738	1460	112	925	830	726	295	355	300	186	D
	CRI 5-10	U4	1.5	9.9	R 2"	838	1460	112	925	830	726	295	355	300	208	D
	CRI 5-16	U4	2.2	13.95	R 2"	1040	1460	112	925	830	726	295	355	300	231	D
	CRI 5-20	U4	3	18.9	R 2"	1167	1460	112	925	830	726	295	355	300	255	D
4	CRI 5-4	U4	0.55	5.76	R 2 1/2"	564	1460	112	1245	830	741	295	355	300	196	D
	CRI 5-5	U4	0.75	7.6	R 2 1/2"	637	1460	112	1245	830	741	295	355	300	212	D
	CRI 5-8	U4	1.1	10	R 2 1/2"	738	1460	112	1245	830	741	295	355	300	227	D
	CRI 5-10	U4	1.5	13.2	R 2 1/2"	838	1460	112	1245	830	741	295	355	300	255	D
	CRI 5-16	U4	2.2	18.6	R 2 1/2"	1040	1460	112	1245	830	741	295	355	300	286	D
	CRI 5-20	U4	3	25.2	R 2 1/2"	1167	1460	112	1245	830	741	295	355	300	318	D

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

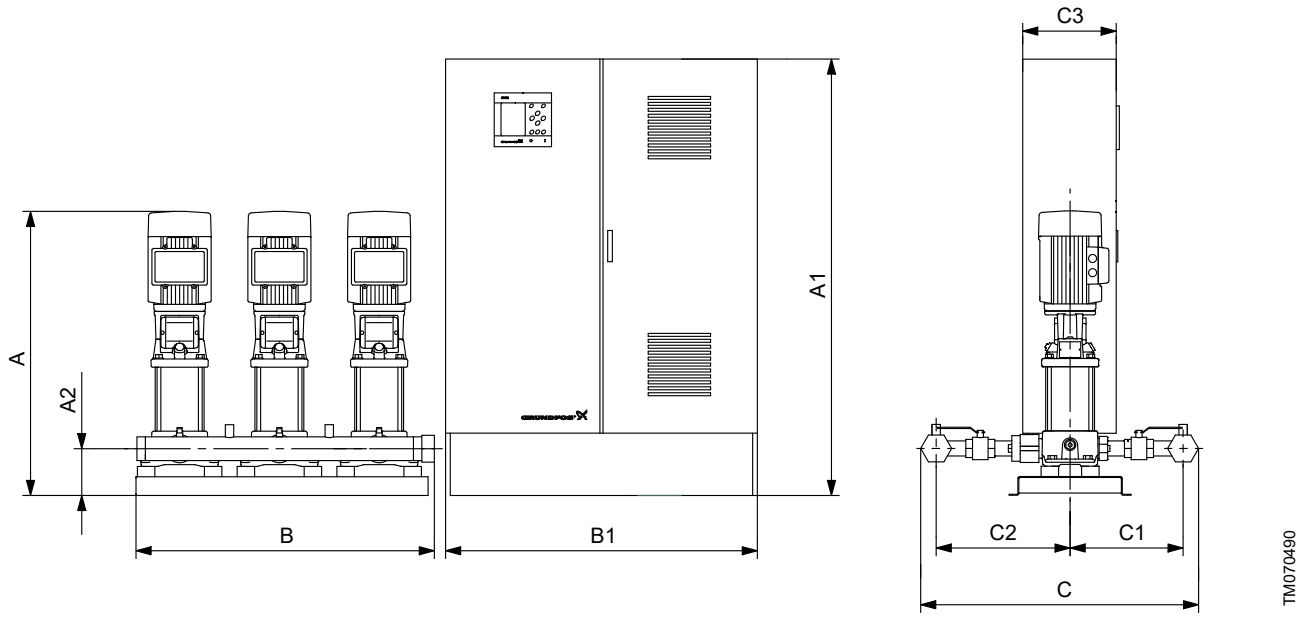
Design D: System with a control cabinet mounted on a separate base frame.

Maximum current in neutral conductor, Max. I_O [A], applies to systems with single-phase motors.

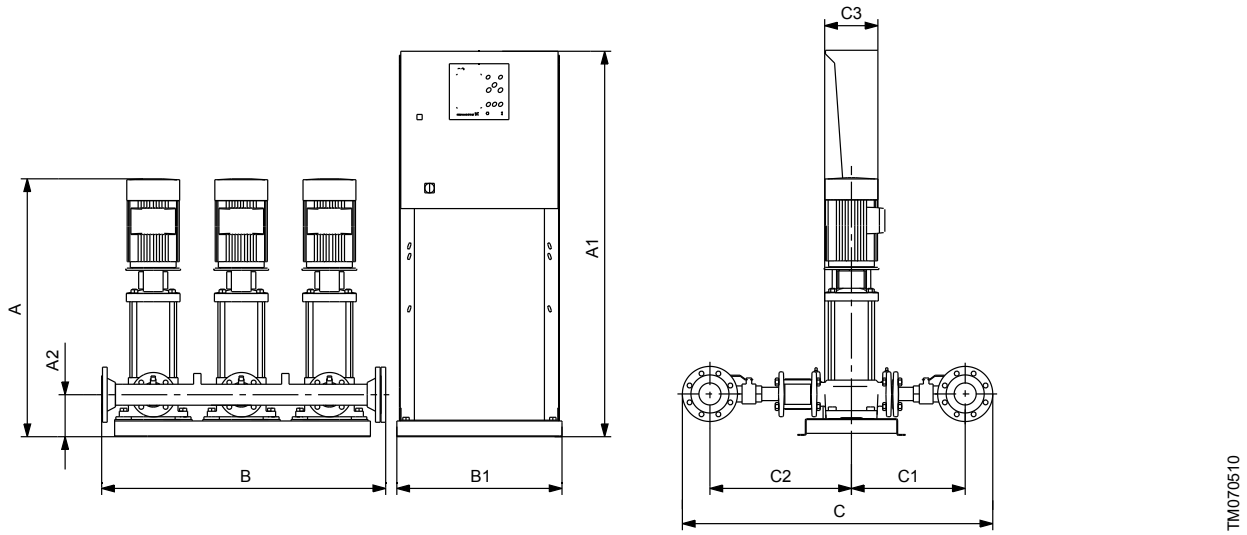
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 10

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 10

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 10-3	U4	1.1	5	R 2 1/2"	700	1500	142	665	600	891	371	431	400	196	C
	CRI 10-4	U4	1.5	6.6	R 2 1/2"	776	1500	142	665	600	891	371	431	400	210	C
	CRI 10-6	U4	2.2	9.3	R 2 1/2"	876	1500	142	665	600	891	371	431	400	223	C
	CRI 10-9	U4	3	12.6	R 2 1/2"	985	1500	142	665	600	891	371	431	400	240	C
	CRI 10-12	U4	4	15.8	R 2 1/2"	1112	1500	142	665	600	891	371	431	400	270	C
3	CRI 10-3	U4	1.1	7.5	R 2 1/2"	700	1460	142	925	830	891	371	431	300	231	D
	CRI 10-4	U4	1.5	9.9	R 2 1/2"	776	1460	142	925	830	891	371	431	300	252	D
	CRI 10-6	U4	2.2	13.95	R 2 1/2"	876	1460	142	925	830	891	371	431	300	270	D
	CRI 10-9	U4	3	18.9	R 2 1/2"	985	1460	142	925	830	891	371	431	300	295	D
	CRI 10-12	U4	4	23.7	R 2 1/2"	1112	1460	142	925	830	891	371	431	300	341	D
4	CRI 10-3	U4	1.1	10	DN 80	700	1460	142	1322	830	1000	371	431	300	300	D
	CRI 10-4	U4	1.5	13.2	DN 80	776	1460	142	1322	830	1000	371	431	300	328	D
	CRI 10-6	U4	2.2	18.6	DN 80	876	1460	142	1322	830	1000	371	431	300	353	D
	CRI 10-9	U4	3	25.2	DN 80	985	1460	142	1322	830	1000	371	431	300	385	D
	CRI 10-12	U4	4	31.6	DN 80	1112	1460	142	1322	830	1000	371	431	300	447	D
5	CRI 10-3	U4	1.1	12.5	DN 80	700	1460	142	1642	830	1000	371	431	300	351	D
	CRI 10-4	U4	1.5	16.5	DN 80	776	1460	142	1642	830	1000	371	431	300	386	D
	CRI 10-6	U4	2.2	23.25	DN 80	876	1460	142	1642	830	1000	371	431	300	416	D
	CRI 10-9	U4	3	31.5	DN 80	985	1460	142	1642	830	1000	371	431	300	458	D
	CRI 10-12	U4	4	39.5	DN 80	1112	1460	142	1642	830	1000	371	431	300	535	D
6	CRI 10-3	U4	1.1	15	DN 100	700	1700	142	1962	1000	1020	371	431	300	464	C
	CRI 10-4	U4	1.5	19.8	DN 100	776	1700	142	1962	1000	1020	371	431	300	506	C
	CRI 10-6	U4	2.2	27.9	DN 100	876	1700	142	1962	1000	1020	371	431	300	543	C
	CRI 10-9	U4	3	37.8	DN 100	985	1700	142	1962	1000	1020	371	431	300	593	C
	CRI 10-12	U4	4	47.4	DN 100	1112	1700	142	1962	1000	1020	371	431	300	684	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

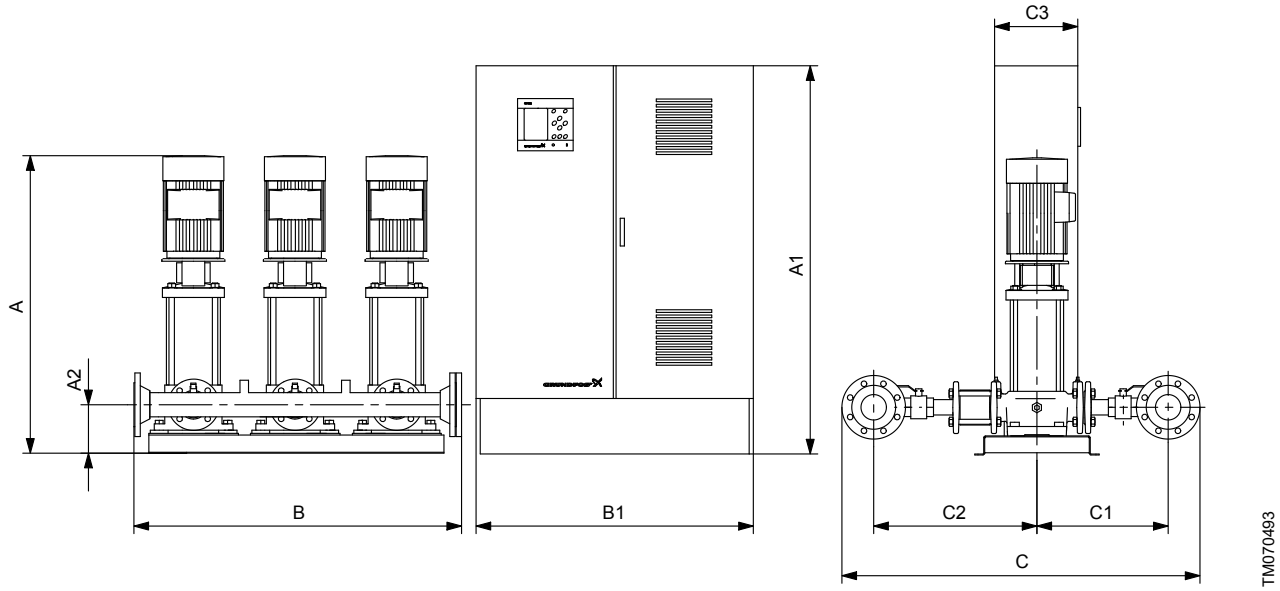
Design D: System with a control cabinet mounted on a separate base frame.

Maximum current in neutral conductor, Max. I_O [A], applies to systems with single-phase motors.

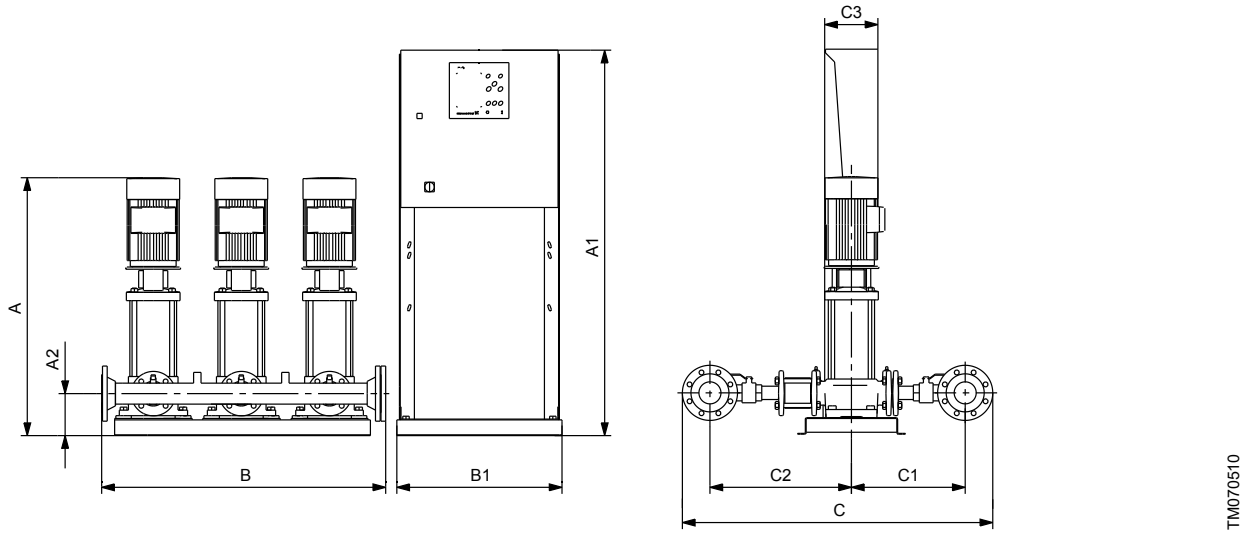
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 15, CR, CRI 20

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 15

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 15-2	U4	2.2	9.3	DN 80	796	1500	152	742	600	1135	438	497	400	243	C
	CRI 15-3	U4	3	12.6	DN 80	860	1500	152	742	600	1135	438	497	400	257	C
	CRI 15-5	U4	4	15.8	DN 80	987	1500	152	742	600	1135	438	497	400	287	C
	CRI 15-7	U4	5.5	22	DN 80	1128	1500	152	742	600	1135	438	497	400	332	C
	CRI 15-9	U4	7.5	28.34	DN 80	1206	1460	152	742	830	1135	438	497	300	341	D
3	CRI 15-2	U4	2.2	13.95	DN 100	796	1460	152	1062	830	1155	438	497	300	296	D
	CRI 15-3	U4	3	18.9	DN 100	860	1460	152	1062	830	1155	438	497	300	318	D
	CRI 15-5	U4	4	23.7	DN 100	987	1460	152	1062	830	1155	438	497	300	364	D
	CRI 15-7	U4	5.5	33	DN 100	1128	1460	152	1062	830	1155	438	497	300	429	D
	CRI 15-9	U4	7.5	42.51	DN 100	1206	1460	152	1062	830	1155	438	497	300	468	D
4	CRI 15-2	U4	2.2	18.6	DN 100	796	1460	152	1382	830	1155	438	497	300	364	D
	CRI 15-3	U4	3	25.2	DN 100	860	1460	152	1382	830	1155	438	497	300	393	D
	CRI 15-5	U4	4	31.6	DN 100	987	1460	152	1382	830	1155	438	497	300	455	D
	CRI 15-7	U4	5.5	44	DN 100	1128	2000	152	1382	800	1155	438	497	400	625	C
	CRI 15-9	U4	7.5	56.68	DN 100	1206	1460	152	1382	1030	1155	438	497	300	614	D
5	CRI 15-2	U4	2.2	23.25	DN 150	796	1460	152	1704	830	1220	438	497	300	455	D
	CRI 15-3	U4	3	31.5	DN 150	860	1460	152	1704	830	1220	438	497	300	491	D
	CRI 15-5	U4	4	39.5	DN 150	987	1460	152	1704	830	1220	438	497	300	568	D
	CRI 15-7	U4	5.5	55	DN 150	1128	2000	152	1704	1000	1220	438	497	400	786	C
	CRI 15-9	U4	7.5	70.85	DN 150	1206	2000	152	1704	1000	1220	438	497	400	852	C
6	CRI 15-2	U4	2.2	27.9	DN 150	796	1700	152	2024	1000	1220	438	497	300	577	C
	CRI 15-3	U4	3	37.8	DN 150	860	1700	152	2024	1000	1220	438	497	300	621	C
	CRI 15-5	U4	4	47.4	DN 150	987	1700	152	2024	1000	1220	438	497	300	712	C
	CRI 15-7	U4	5.5	66	DN 150	1128	2000	152	2024	1200	1220	438	497	400	934	C
	CRI 15-9	U4	7.5	85.02	DN 150	1206	2000	152	2024	1200	1220	438	497	400	1015	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 20

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 20-2	U4	2.2	9.3	DN 80	796	1500	152	742	600	1135	438	497	400	243	C
	CRI 20-3	U4	4	15.8	DN 80	897	1500	152	742	600	1135	438	497	400	281	C
	CRI 20-5	U4	5.5	22	DN 80	1038	1500	152	742	600	1135	438	497	400	325	C
	CRI 20-7	U4	7.5	28.34	DN 80	1116	1460	152	742	830	1135	438	497	300	335	D
3	CRI 20-2	U4	2.2	13.95	DN 100	796	1460	152	1062	830	1155	438	497	300	296	D
	CRI 20-3	U4	4	23.7	DN 100	897	1460	152	1062	830	1155	438	497	300	355	D
	CRI 20-5	U4	5.5	33	DN 100	1038	1460	152	1062	830	1155	438	497	300	420	D
	CRI 20-7	U4	7.5	42.51	DN 100	1116	1460	152	1062	830	1155	438	497	300	459	D
4	CRI 20-2	U4	2.2	18.6	DN 100	796	1460	152	1382	830	1155	438	497	300	364	D
	CRI 20-3	U4	4	31.6	DN100	897	1460	152	1382	830	1155	438	497	300	443	D
	CRI 20-5	U4	5.5	44	DN 100	1038	2000	152	1382	800	1155	438	497	400	613	C
	CRI 20-7	U4	7.5	56.68	DN 100	1116	1460	152	1382	1030	1155	438	497	300	602	D
5	CRI 20-2	U4	2.2	23.25	DN 150	796	1460	152	1704	830	1220	438	497	300	455	D
	CRI 20-3	U4	4	39.5	DN 150	897	1460	152	1704	830	1220	438	497	300	553	D
	CRI 20-5	U4	5.5	55	DN 150	1038	2000	152	1704	1000	1220	438	497	400	770	C
	CRI 20-7	U4	7.5	70.85	DN 150	1116	2000	152	1704	1000	1220	438	497	400	837	C
6	CRI 20-2	U4	2.2	27.9	DN 150	796	1700	152	2024	1000	1220	438	497	300	577	C
	CRI 20-3	U4	4	47.4	DN 150	897	1700	152	2024	1000	1220	438	497	300	694	C
	CRI 20-5	U4	5.5	66	DN 150	1038	2000	152	2024	1200	1220	438	497	400	916	C
	CRI 20-7	U4	7.5	85.02	DN 150	1116	2000	152	2024	1200	1220	438	497	400	997	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

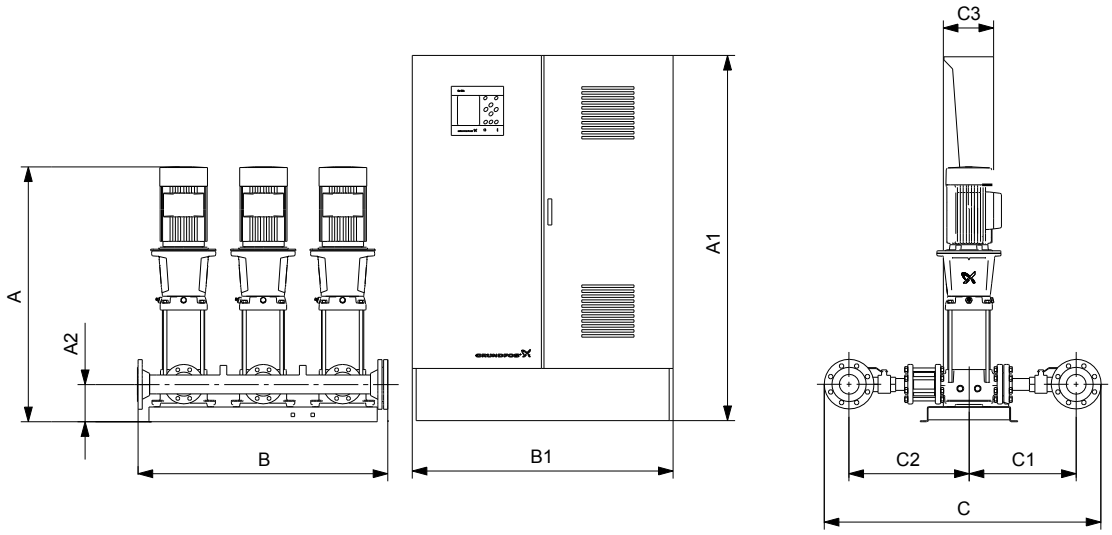
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

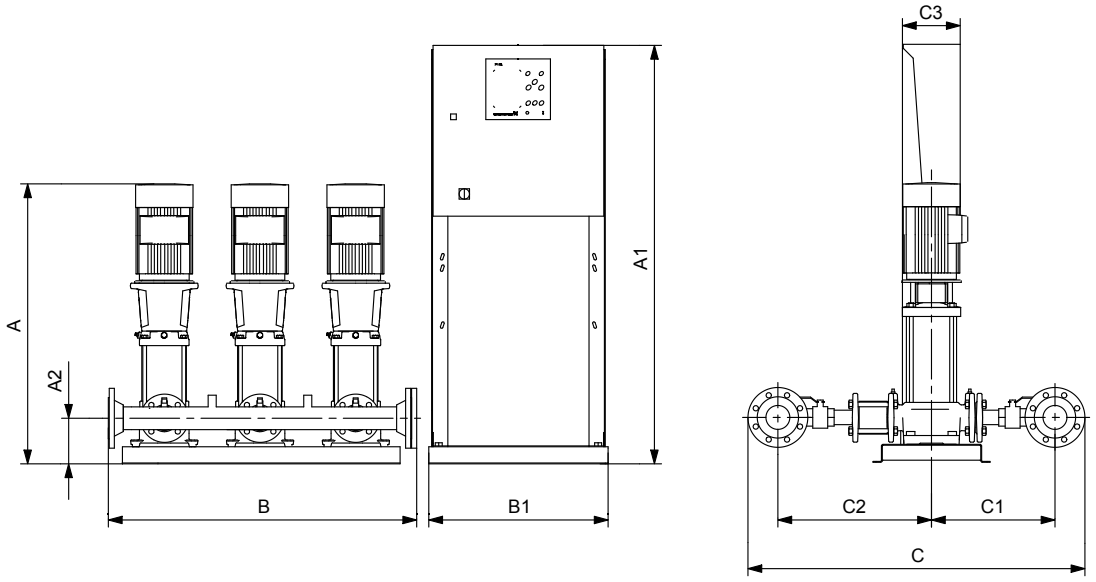
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 32

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR 32

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 32-2	U4	4	15.8	DN 100	1009	1500	167	1022	600	1180	379	579	400	343	C
	CR 32-3	U4	5.5	22	DN 100	1098	1500	167	1022	600	1180	379	579	400	370	C
	CR 32-4	U4	7.5	28.34	DN 100	1156	1460	167	1022	830	1180	379	579	300	380	D
	CR 32-6	U4	11	40.46	DN 100	1549	2400	207	1022	600	1180	379	579	600	616	C
3	CR 32-2	U4	4	23.7	DN 150	1009	1460	167	1524	830	1245	379	579	300	466	D
	CR 32-3	U4	5.5	33	DN 150	1098	1460	167	1524	830	1245	379	579	300	505	D
	CR 32-4	U4	7.5	42.51	DN 150	1156	1460	167	1524	830	1245	379	579	300	544	D
	CR 32-6	U4	11	60.69	DN 150	1549	1700	207	1524	1000	1245	379	579	400	772	C
4	CR 32-2	U4	4	31.6	DN 150	1009	1460	167	2024	830	1245	379	579	300	586	D
	CR 32-3	U4	5.5	44	DN 150	1098	2000	167	2024	800	1245	379	579	400	723	C
	CR 32-4	U4	7.5	56.68	DN 150	1156	1460	167	2024	1030	1245	379	579	300	711	D
	CR 32-6	U4	11	80.92	DN 150	1549	2000	207	2024	1000	1245	379	579	400	1029	C
5	CR 32-2	U4	4	39.5	DN 150	1009	1460	167	2524	830	1245	379	579	300	716	D
	CR 32-3	U4	5.5	55	DN 150	1098	2000	167	2524	1000	1245	379	579	400	900	C
	CR 32-4	U4	7.5	70.85	DN 150	1156	2000	167	2524	1000	1245	379	579	400	965	C
	CR 32-6	U4	11	101.15	DN 150	1549	2200	207	2524	1200	1245	379	579	400	1322	C
6	CR 32-2	U4	4	47.4	DN 150	1009	1700	167	3024	1000	1245	379	579	300	896	C
	CR 32-3	U4	5.5	66	DN 150	1098	2000	167	3024	1200	1245	379	579	400	1067	C
	CR 32-4	U4	7.5	85.02	DN 150	1156	2000	167	3024	1200	1245	379	579	400	1147	C
	CR 32-6	U4	11	121.38	DN 150	1549	2000	207	3024	1200	1245	379	579	400	1495	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

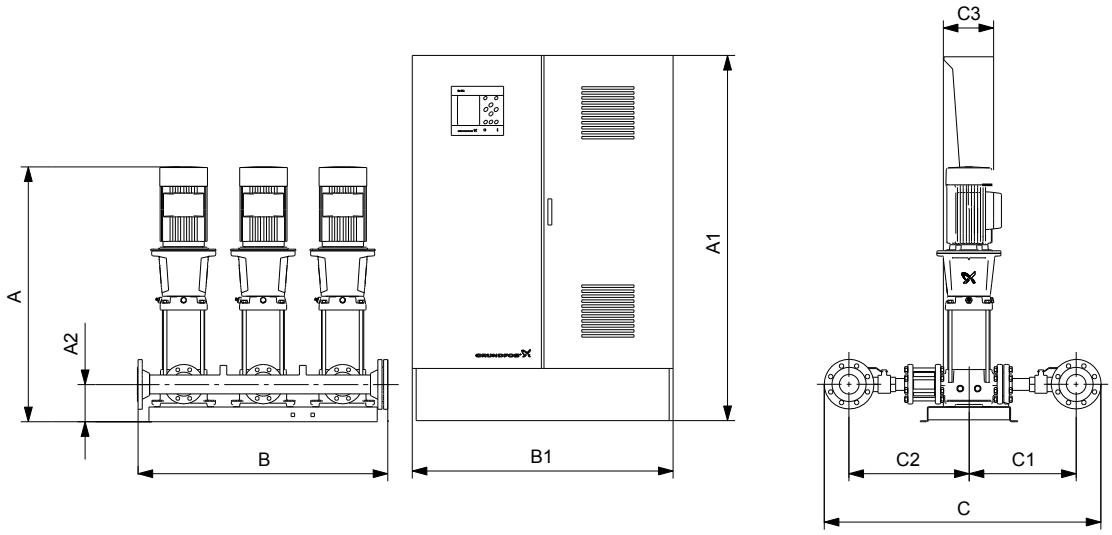
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

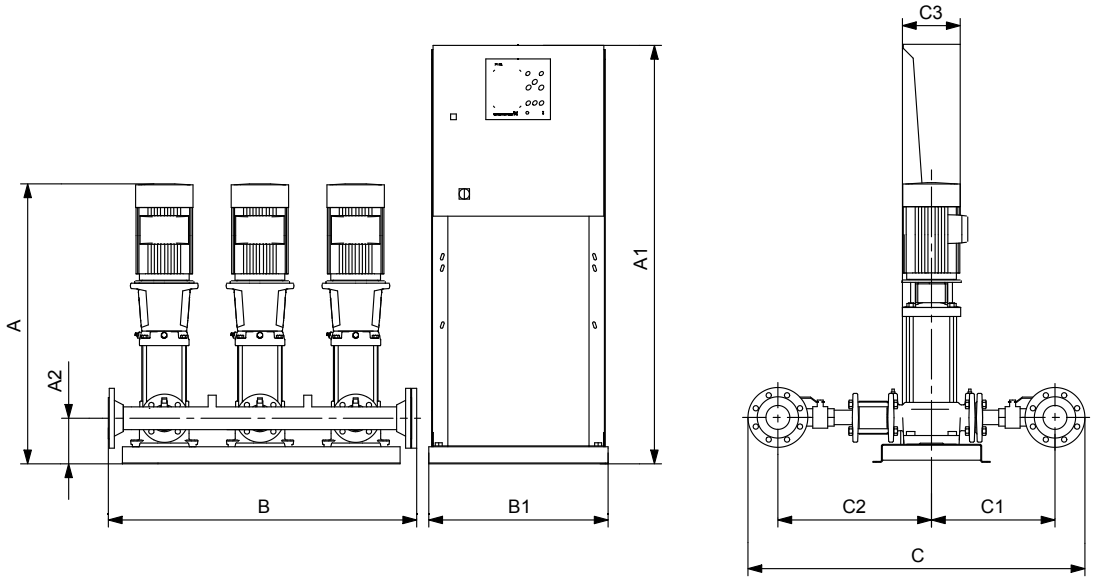
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 45, CR 64

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR 45

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CR 45-2-2	U4	5.5	33	DN 200	1092	1460	202	1526	830	1390	419	629	300	566	D
	CR 45-2	U4	7.5	42.51	DN 200	1080	1460	202	1526	830	1390	419	629	300	595	D
	CR 45-3	U4	11	60.69	DN 200	1413	1700	242	1526	1000	1390	419	629	400	817	C
	CR 45-4	U4	15	80.58	DN 200	1493	2000	242	1526	1000	1390	419	629	400	923	C
	CR 45-5	U4	18.5	100.08	DN 200	1617	2000	242	1526	1000	1390	419	629	400	981	C
4	CR 45-2-2	U4	5.5	44	DN 200	1092	2000	202	2026	800	1390	419	629	400	799	C
	CR 45-2	U4	7.5	56.68	DN 200	1080	1460	202	2026	1030	1390	419	629	300	775	D
	CR 45-3	U4	11	80.92	DN 200	1413	2000	242	2026	1000	1390	419	629	400	1085	C
	CR 45-4	U4	15	107.44	DN 200	1493	2400	242	2026	1200	1390	419	629	600	1261	C
	CR 45-5	U4	18.5	133.44	DN 200	1617	2000	242	2026	1200	1390	419	629	400	1265	C
5	CR 45-2-2	U4	5.5	55	DN 200	1092	2000	202	2526	1000	1390	419	629	400	995	C
	CR 45-2	U4	7.5	70.85	DN 200	1080	2000	202	2526	1000	1390	419	629	400	1045	C
	CR 45-3	U4	11	101.15	DN 200	1413	2200	242	2526	1200	1390	419	629	400	1391	C
	CR 45-4	U4	15	134.3	DN 200	1493	2000	242	2526	1200	1390	419	629	400	1445	C
	CR 45-5	U4	18.5	166.8	DN 200	1617	2000	242	2526	2000	1390	419	629	400	1667	C
6	CR 45-2-2	U4	5.5	66	DN 200	1092	2000	202	3026	1200	1390	419	629	400	1179	C
	CR 45-2	U4	7.5	85.02	DN 200	1080	2000	202	3026	1200	1390	419	629	400	1241	C
	CR 45-3	U4	11	121.38	DN 200	1413	2000	242	3026	1200	1390	419	629	400	1575	C
	CR 45-4	U4	15	161.16	DN 200	1493	2200	242	3026	1200	1390	419	629	400	1715	C
	CR 45-5	U4	18.5	200.16	DN 200	1617	2000	242	3026	2400	1390	419	629	400	2014	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 64

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CR 64-1	U4	5.5	33	DN 200	1014	1460	202	1526	830	1390	421	631	300	563	D
	CR 64-2-2	U4	7.5	42.51	DN 200	1085	1460	202	1526	830	1390	421	631	300	606	D
	CR 64-2	U4	11	60.69	DN 200	1338	1700	242	1526	1000	1390	421	631	400	816	C
	CR 64-3-1	U4	15	80.58	DN 200	1420	2000	242	1526	1000	1390	421	631	400	924	C
	CR 64-4-2	U4	18.5	100.08	DN 200	1547	2000	242	1526	1000	1390	421	631	400	985	C
	CR 64-4	U4	22	118.5	DN 200	1573	2000	242	1526	1000	1390	421	631	400	1036	C
	CR 64-5-1	U4	30	159	DN 200	1714	2000	242	1526	1200	1390	421	631	400	1407	C
4	CR 64-1	U4	5.5	44	DN 200	1014	2000	202	2026	800	1390	421	631	400	796	C
	CR 64-2-2	U4	7.5	56.68	DN 200	1085	1460	202	2026	1030	1390	421	631	300	790	D
	CR 64-2	U4	11	80.92	DN 200	1338	2000	242	2026	1000	1390	421	631	400	1084	C
	CR 64-3-1	U4	15	107.44	DN 200	1420	2400	242	2026	1200	1390	421	631	600	1263	C
	CR 64-4-2	U4	18.5	133.44	DN 200	1547	2000	242	2026	1200	1390	421	631	400	1270	C
	CR 64-4	U4	22	158	DN 200	1573	2000	242	2026	1600	1390	421	631	400	1418	C
	CR 64-5-1	U4	30	212	DN 200	1714	2000	242	2026	2000	1390	421	631	400	1922	C
5	CR 64-1	U4	5.5	55	DN 200	1014	2000	202	2526	1000	1390	421	631	400	991	C
	CR 64-2-2	U4	7.5	70.85	DN 200	1085	2000	202	2526	1000	1390	421	631	400	1063	C
	CR 64-2	U4	11	101.15	DN 200	1338	2200	242	2526	1200	1390	421	631	400	1390	C
	CR 64-3-1	U4	15	134.3	DN 200	1420	2000	242	2526	1200	1390	421	631	400	1447	C
	CR 64-4-2	U4	18.5	166.8	DN 200	1547	2000	242	2526	2000	1390	421	631	400	1674	C
	CR 64-4	U4	22	197.5	DN 200	1573	2000	242	2526	2000	1390	421	631	400	1751	C
	CR 64-5-1	U4	30	265	DN 200	1714	2200	242	2526	1200	1390	421	631	400	2211	C
6	CR 64-1	U4	5.5	66	DN 200	1014	2000	202	3026	1200	1390	421	631	400	1173	C
	CR 64-2-2	U4	7.5	85.02	DN 200	1085	2000	202	3026	1200	1390	421	631	400	1262	C
	CR 64-2	U4	11	121.38	DN 201	1338	2000	242	3026	1200	1390	421	631	400	1573	C
	CR 64-3-1	U4	15	161.16	DN 200	1420	2200	242	3026	1200	1390	421	631	400	1717	C
	CR 64-2-2	U4	7.5	200.16	DN 200	1547	2000	242	3026	2400	1390	421	631	400	2022	C
	CR 64-4	U4	22	237	DN 200	1573	2000	242	3026	2400	1390	421	631	400	2120	C
	CR 64-5-1	U4	30	318	DN 200	1714	2000	242	3026	3000	1390	421	631	400	2891	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

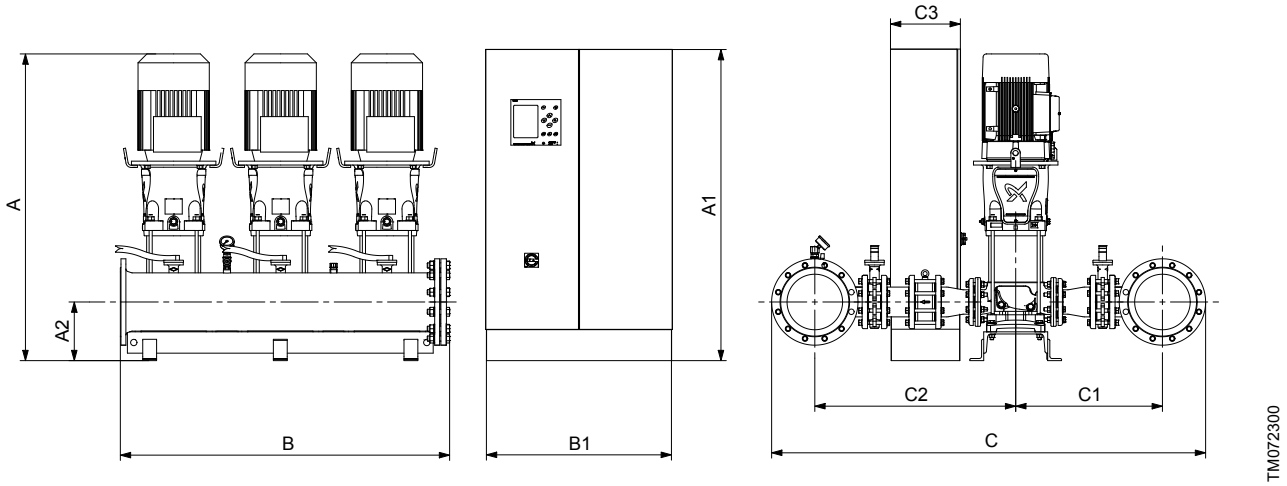
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

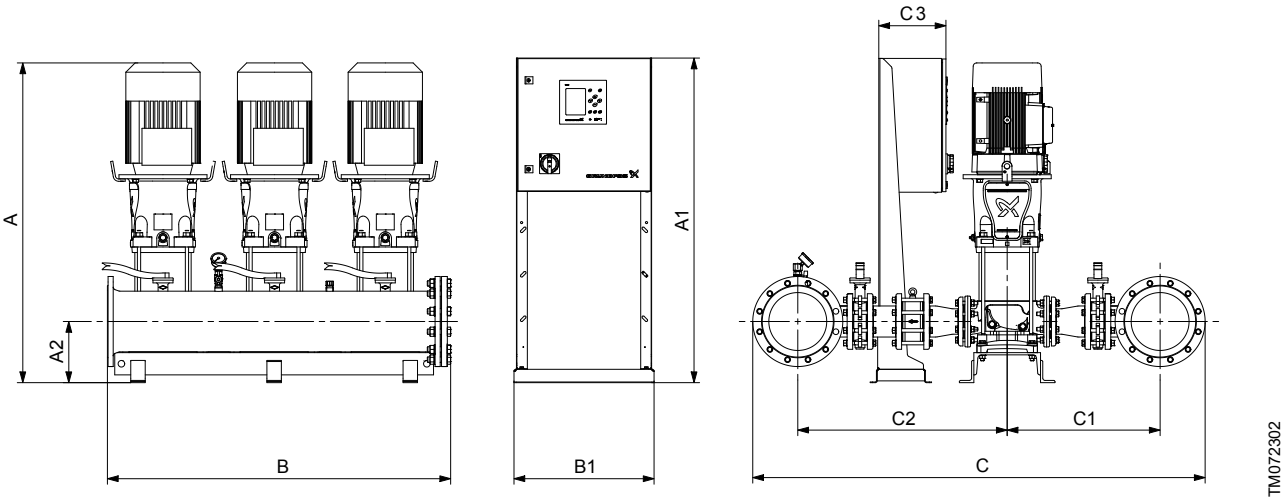
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 95

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR 95

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 95-1-1	U4	5.5	22	DN 200	1227	1500	287	1026	600	1970	690	940	400	629	C
	CR 95-1	U4	7.5	28.34	DN 200	1215	1460	287	1026	830	1970	690	940	300	632	D
	CR 95-2-2	U4	11	40.46	DN 200	1413	2400	287	1026	600	1970	690	940	600	853	C
	CR 95-2	U4	15	53.72	DN 200	1413	2000	287	1026	800	1970	690	940	400	845	C
	CR 95-3-2	U4	18.5	66.72	DN 200	1573	1600	287	1026	800	1970	690	940	500	883	C
	CR 95-3	U4	22	79	DN 200	1588	2000	287	1026	800	1970	690	940	400	926	C
	CR 95-4	U4	30	106	DN 200	1767	2000	287	1026	1000	1970	690	940	400	1205	C
	CR 95-5	U4	37	130	DN 200	1897	2000	287	1026	1600	1970	690	940	400	1395	C
3	CR 95-1-1	U4	5.5	33	DN 200	1227	1460	287	1526	830	1970	690	940	300	866	D
	CR 95-1	U4	7.5	42.51	DN 200	1215	1460	287	1526	830	1970	690	940	300	896	D
	CR 95-2-2	U4	11	60.69	DN 200	1413	1700	287	1526	1000	1970	690	940	400	1101	C
	CR 95-2	U4	15	80.58	DN 200	1413	2000	287	1526	1000	1970	690	940	400	1196	C
	CR 95-3-2	U4	18.5	100.08	DN 200	1562	2000	287	1526	1000	1970	690	940	400	1261	C
	CR 95-3	U4	22	118.5	DN 200	1588	2000	287	1526	1000	1970	690	940	400	1312	C
	CR 95-4	U4	30	159	DN 200	1767	2000	287	1526	1200	1970	690	940	400	1734	C
	CR 95-5	U4	37	195	DN 200	1897	2000	287	1526	1600	1970	690	940	400	1918	C
4	CR 95-1-1	U4	5.5	44	DN 250	1227	2000	287	2028	800	2035	690	940	400	1293	C
	CR 95-1	U4	7.5	56.68	DN 250	1215	1460	287	2028	1030	2035	690	940	300	1270	D
	CR 95-2-2	U4	11	80.92	DN 250	1413	2000	287	2028	1000	2035	690	940	400	1558	C
	CR 95-2	U4	15	107.44	DN 250	1413	2400	287	2028	1200	2035	690	940	600	1719	C
	CR 95-3-2	U4	18.5	133.44	DN 250	1562	2000	287	2028	1200	2035	690	940	400	1732	C
	CR 95-3	U4	22	158	DN 250	1588	2000	287	2028	1600	2035	690	940	400	1880	C
	CR 95-4	U4	30	212	DN 250	1767	2000	287	2028	2000	2035	690	940	400	2451	C
	CR 95-5	U4	37	260	DN 250	1897	2200	287	2028	2000	2035	690	940	500	2671	C
5	CR 95-1-1	U4	5.5	55	DN 300	1227	2000	287	2530	1000	2090	690	940	400	1706	C
	CR 95-1	U4	7.5	70.85	DN 300	1215	2000	287	2530	1000	2090	690	940	400	1756	C
	CR 95-2-2	U4	11	101.15	DN 300	1413	2200	287	2530	1200	2090	690	940	400	2076	C
	CR 95-2	U4	15	134.3	DN 300	1413	2000	287	2530	1200	2090	690	940	400	2111	C
	CR 95-3-2	U4	18.5	166.8	DN 300	1562	2000	287	2530	2000	2090	690	940	400	2344	C
	CR 95-3	U4	22	197.5	DN 300	1588	2000	287	2530	2000	2090	690	940	400	2421	C
	CR 95-4	U4	30	265	DN 300	1767	2200	287	2530	1200	2090	690	940	400	2966	C
	CR 95-5	U4	37	325	DN 300	1897	2200	287	2530	2400	2090	690	940	400	3380	C
6	CR 95-1-1	U4	5.5	66	DN 300	1227	2000	287	3030	1200	2090	690	940	400	2011	C
	CR 95-1	U4	7.5	85.02	DN 300	1215	2000	287	3030	1200	2090	690	940	400	2073	C
	CR 95-2-2	U4	11	121.38	DN 300	1413	2000	287	3030	1200	2090	690	940	400	2375	C
	CR 95-2	U4	15	161.16	DN 300	1413	2200	287	3030	1200	2090	690	940	400	2492	C
	CR 95-3-2	U4	18.5	200.16	DN 300	1562	2000	287	3030	2400	2090	690	940	400	2805	C
	CR 95-3	U4	22	237	DN 300	1588	2000	287	3030	2400	2090	690	940	400	2902	C
	CR 95-4	U4	30	318	DN 300	1767	2000	287	3030	3000	2090	690	940	400	3775	C
	CR 95-5	U4	37	390	DN 300	1897	2200	287	3030	3000	2090	690	940	500	4090	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

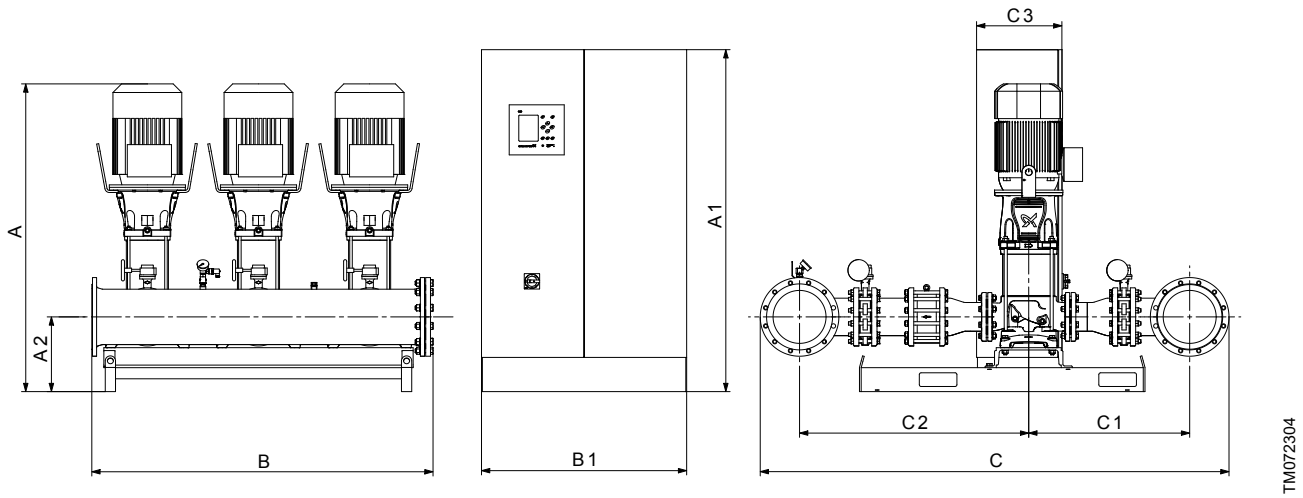
Design D: System with a control cabinet mounted on a separate base frame.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 125, CR 155

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-F with CR 125

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 125-1	U4	11	40.46	DN 200	1506	2400	432	1326	600	2375	860	1176	600	1094	C
	CR 125-2-2	U4	15	53.72	DN 200	1628	2000	432	1326	800	2375	860	1176	400	1106	C
	CR 125-2-1	U4	18.5	66.72	DN 200	1672	1600	432	1326	800	2375	860	1176	500	1132	C
	CR 125-2	U4	22	79	DN 200	1698	2000	432	1326	800	2375	860	1176	400	1176	C
	CR 125-3-1	U4	30	106	DN 200	1892	2000	432	1326	1000	2375	860	1176	400	1462	C
	CR 125-3	U4	37	130	DN 200	1917	2000	432	1326	1600	2375	860	1176	400	1640	C
	CR 125-4-2	U4	37	130	DN 200	2039	2000	432	1326	1600	2375	860	1176	400	1661	C
	CR 125-4	U4	45	156	DN 200	2134	2200	432	1326	1600	2375	860	1176	500	1900	C
3	CR 125-1	U4	11	60.69	DN 250	1506	1700	432	1978	1000	2440	860	1176	400	1527	C
	CR 125-2-2	U4	15	80.58	DN 250	1628	2000	432	1978	1000	2440	860	1176	400	1653	C
	CR 125-2-1	U4	18.5	100.08	DN 250	1672	2000	432	1978	1000	2440	860	1176	400	1700	C
	CR 125-2	U4	22	118.5	DN 250	1698	2000	432	1978	1000	2440	860	1176	400	1750	C
	CR 125-3-1	U4	30	159	DN 250	1892	2000	432	1978	1200	2440	860	1176	400	2184	C
	CR 125-3	U4	37	195	DN 250	1917	2000	432	1978	1600	2440	860	1176	400	2350	C
	CR 125-4-2	U4	37	195	DN 250	2039	2000	432	1978	1600	2440	860	1176	400	2381	C
	CR 125-4	U4	45	234	DN 250	2134	2200	432	1978	2000	2440	860	1176	500	2780	C
4	CR 125-1	U4	11	80.92	DN 300	1506	2000	432	2630	1000	2495	860	1176	400	2179	C
	CR 125-2-2	U4	15	107.44	DN 300	1628	2400	432	2630	1200	2495	860	1176	600	2381	C
	CR 125-2-1	U4	18.5	133.44	DN 300	1672	2000	432	2630	1200	2495	860	1176	400	2370	C
	CR 125-2	U4	22	158	DN 300	1698	2000	432	2630	1600	2495	860	1176	400	2518	C
	CR 125-3-1	U4	30	212	DN 300	1892	2000	432	2630	2000	2495	860	1176	400	3104	C
	CR 125-3	U4	37	260	DN 300	1917	2200	432	2630	2000	2495	860	1176	500	3301	C
	CR 125-4-2	U4	37	260	DN 300	2039	2200	432	2630	2000	2495	860	1176	500	3342	C
	CR 125-4	U4	45	312	DN 300	2134	2200	432	2630	2400	2495	860	1176	500	3763	C
5	CR 125-1	U4	11	101.15	DN 300	1506	2200	432	3280	1200	2495	860	1176	400	2666	C
	CR 125-2-2	U4	15	134.3	DN 300	1628	2000	432	3280	1200	2495	860	1176	400	2753	C
	CR 125-2-1	U4	18.5	166.8	DN 300	1672	2000	432	3280	2000	2495	860	1176	400	2956	C
	CR 125-2	U4	22	197.5	DN 300	1698	2000	432	3280	2000	2495	860	1176	400	3033	C
	CR 125-3-1	U4	30	265	DN 300	1892	2200	432	3280	1200	2495	860	1176	400	3597	C
	CR 125-3	U4	37	325	DN 300	1917	2200	432	3280	2400	2495	860	1176	400	3981	C
	CR 125-4-2	U4	37	325	DN 300	2039	2200	432	3280	2400	2495	860	1176	400	4032	C
	CR 125-4	U4	45	390	DN 300	2134	2200	432	3280	3000	2495	860	1176	500	4617	C
6	CR 125-1	U4	11	121.38	DN 350	1506	2000	432	3932	1200	2555	860	1176	400	3130	C
	CR 125-2-2	U4	15	161.16	DN 350	1628	2200	432	3932	1200	2555	860	1176	400	3310	C
	CR 125-2-1	U4	18.5	200.16	DN 350	1672	2000	432	3932	2400	2555	860	1176	400	3587	C
	CR 125-2	U4	22	237	DN 350	1698	2000	432	3932	2400	2555	860	1176	400	3684	C
	CR 125-3-1	U4	30	318	DN 350	1892	2000	432	3932	3000	2555	860	1176	400	4579	C
	CR 125-3	U4	37	390	DN 350	1917	2200	432	3932	3000	2555	860	1176	500	4859	C
	CR 125-4-2	U4	37	390	DN 350	2039	2200	432	3932	3000	2555	860	1176	500	4920	C
	CR 125-4	U4	45	468	DN 350	2134	2200	432	3932	3000	2555	860	1176	500	5459	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 155

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 155-1-1	U4	11	40.46	DN 250	1506	2400	432	1328	600	2688	947	1337	600	1288	C
	CR 155-1	U4	15	53.72	DN 250	1506	2000	432	1328	800	2688	947	1337	400	1279	C
	CR 155-2-2	U4	22	79	DN 250	1698	2000	432	1328	800	2688	947	1337	400	1370	C
	CR 155-2	U4	30	106	DN 250	1770	2000	432	1328	1000	2688	947	1337	400	1636	C
	CR 155-3-2	U4	37	130	DN 250	1917	2000	432	1328	1600	2688	947	1337	400	1836	C
	CR 155-3	U4	45	156	DN 250	2012	2200	432	1328	1600	2688	947	1337	500	2075	C
3	CR 155-1-1	U4	11	60.69	DN 300	1506	1700	432	1980	1000	2743	947	1337	400	1725	C
	CR 155-1	U4	15	80.58	DN 300	1506	2000	432	1980	1000	2743	947	1337	400	1820	C
	CR 155-2-2	U4	22	118.5	DN 300	1698	2000	432	1980	1000	2743	947	1337	400	1950	C
	CR 155-2	U4	30	159	DN 300	1770	2000	432	1980	1200	2743	947	1337	400	2353	C
	CR 155-3-2	U4	37	195	DN 300	1917	2000	432	1980	1600	2743	947	1337	400	2551	C
	CR 155-3	U4	45	234	DN 300	2012	2200	432	1980	2000	2743	947	1337	500	2951	C
4	CR 155-1-1	U4	11	80.92	DN 300	1506	2000	432	2630	1000	2743	947	1337	400	2395	C
	CR 155-1	U4	15	107.44	DN 300	1506	2400	432	2630	1200	2743	947	1337	600	2556	C
	CR 155-2-2	U4	22	158	DN 300	1698	2000	432	2630	1600	2743	947	1337	400	2736	C
	CR 155-2	U4	30	212	DN 300	1770	2000	432	2630	2000	2743	947	1337	400	3281	C
	CR 155-3-2	U4	37	260	DN 300	1917	2200	432	2630	2000	2743	947	1337	500	3521	C
	CR 155-3	U4	45	312	DN 300	2012	2200	432	2630	2400	2743	947	1337	500	3942	C
5	CR 155-1-1	U4	11	101.15	DN 350	1506	2200	432	3282	1200	2803	947	1337	400	3004	C
	CR 155-1	U4	15	134.3	DN 350	1506	2000	432	3282	1200	2803	947	1337	400	3039	C
	CR 155-2-2	U4	22	197.5	DN 350	1698	2000	432	3282	2000	2803	947	1337	400	3373	C
	CR 155-2	U4	30	265	DN 350	1770	2200	432	3282	1200	2803	947	1337	400	3886	C
	CR 155-3-2	U4	37	325	DN 350	1917	2200	432	3282	2400	2803	947	1337	400	4323	C
	CR 155-3	U4	45	390	DN 350	2012	2200	432	3282	3000	2803	947	1337	500	4908	C
6	CR 155-1-1	U4	11	121.38	DN 400	1506	2000	432	3934	1200	2863	947	1337	400	3488	C
	CR 155-1	U4	15	161.16	DN 400	1506	2200	432	3934	1200	2863	947	1337	400	3606	C
	CR 155-2-2	U4	22	237	DN 400	1698	2000	432	3934	2400	2863	947	1337	400	4044	C
	CR 155-2	U4	30	318	DN 400	1770	2000	432	3934	3000	2863	947	1337	400	4878	C
	CR 155-3-2	U4	37	390	DN 400	1917	2200	432	3934	3000	2863	947	1337	500	5222	C
	CR 155-3	U4	45	468	DN 400	2012	2200	432	3934	3000	2863	947	1337	500	5760	C

Voltage code, U4: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

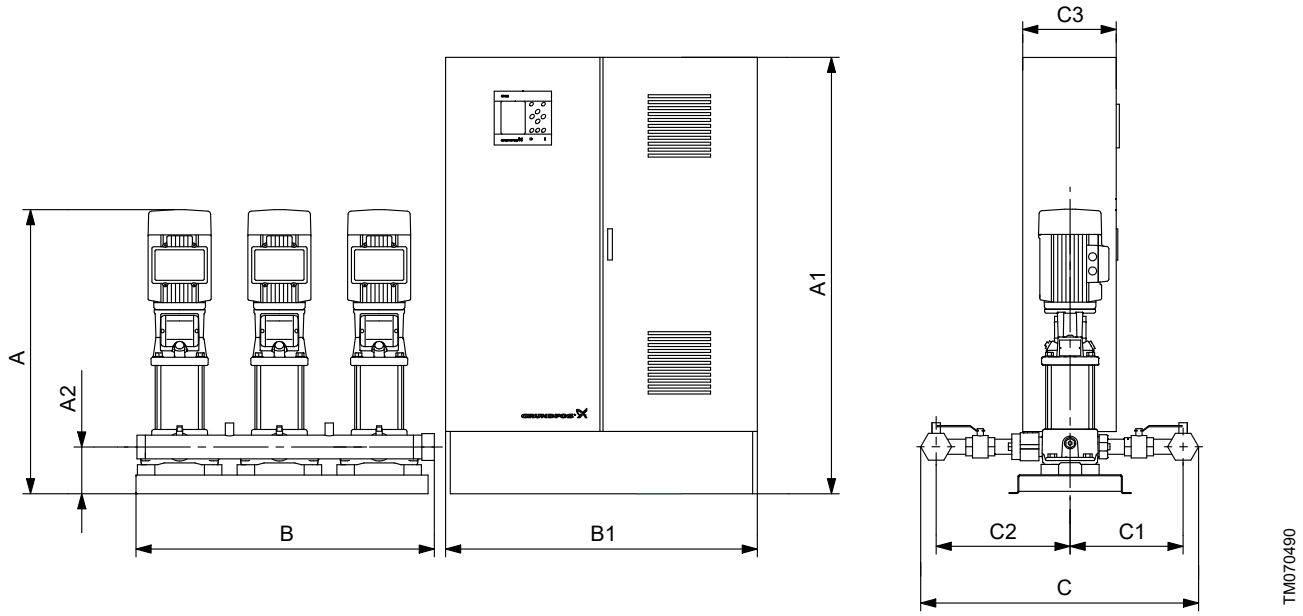
All pumps are fitted with three-phase motors.

Dimensions may vary by ± 10 mm.

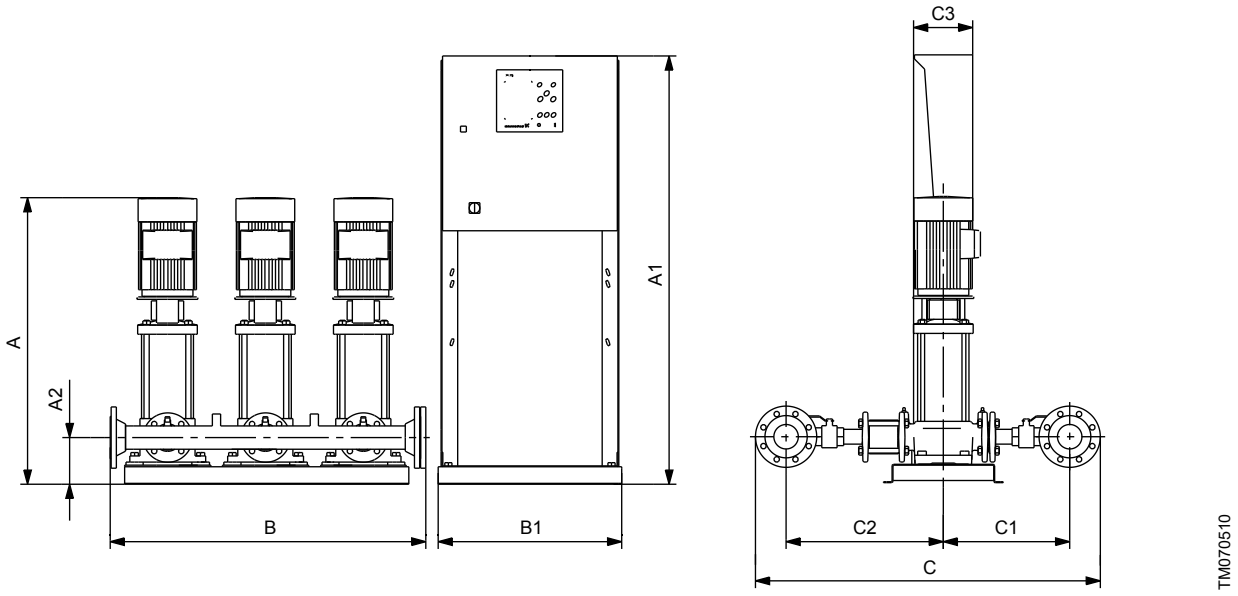
13. Technical data, Hydro MPC-F, 60 Hz

Hydro MPC-F with CR, CRI 3, CR, CRI 5

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 3

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 3-4	U6	0.55	2.46	R 2"	528	1500	112	605	600	726	295	355	400	149	C
	CRI 3-5	U6	0.75	3.34	R 2"	592	1500	112	605	600	726	295	355	400	157	C
	CRI 3-8	U6	1.1	4.74	R 2"	666	1500	112	605	600	726	295	355	400	148	C
	CRI 3-11	U6	1.5	6.1	R 2"	766	1500	112	605	600	726	295	355	400	165	C
3	CRI 3-4	U6	0.55	3.69	R 2"	528	1500	112	925	600	726	295	355	400	176	C
	CRI 3-5	U6	0.75	5.01	R 2"	592	1500	112	925	600	726	295	355	400	188	C
	CRI 3-8	U6	1.1	7.11	R 2"	666	1460	112	925	830	726	295	355	300	182	D
	CRI 3-11	U6	1.5	9.15	R 2"	766	1460	112	925	830	726	295	355	300	209	D
4	CRI 3-4	U6	0.55	4.92	R 2 1/2"	528	1460	112	1245	830	741	295	355	300	193	D
	CRI 3-5	U6	0.75	6.68	R 2 1/2"	592	1460	112	1245	830	741	295	355	300	209	D
	CRI 3-8	U6	1.1	9.48	R 2 1/2"	666	1460	112	1245	830	741	295	355	300	222	D
	CRI 3-11	U6	1.5	12.2	R 2 1/2"	766	1460	112	1245	830	741	295	355	300	257	D

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 5

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 5-4	U6	1.1	4.74	R 2"	630	1500	112	605	600	726	295	355	400	146	C
	CRI 5-5	U6	1.5	6.1	R 2"	703	1500	112	605	600	726	295	355	400	162	C
	CRI 5-9	U6	2.2	8.6	R 2"	851	1500	112	605	600	726	295	355	400	173	C
	CRI 5-12	U6	3	12	R 2"	951	1500	112	605	600	726	295	355	400	186	C
3	CRI 5-4	U6	1.1	7.11	R 2"	630	1460	112	925	830	726	295	355	300	179	D
	CRI 5-5	U6	1.5	9.15	R 2"	703	1460	112	925	830	726	295	355	300	204	D
	CRI 5-9	U6	2.2	12.9	R 2"	851	1460	112	925	830	726	295	355	300	221	D
	CRI 5-12	U6	3	18	R 2"	951	1460	112	925	830	726	295	355	300	240	D
4	CRI 5-4	U6	1.1	9.48	R 2 1/2"	630	1460	112	1245	830	741	295	355	300	218	D
	CRI 5-5	U6	1.5	12.2	R 2 1/2"	703	1460	112	1245	830	741	295	355	300	250	D
	CRI 5-9	U6	2.2	17.2	R 2 1/2"	851	1460	112	1245	830	741	295	355	300	273	D
	CRI 5-12	U6	3	24	R 2 1/2"	951	1460	112	1245	830	741	295	355	300	299	D

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

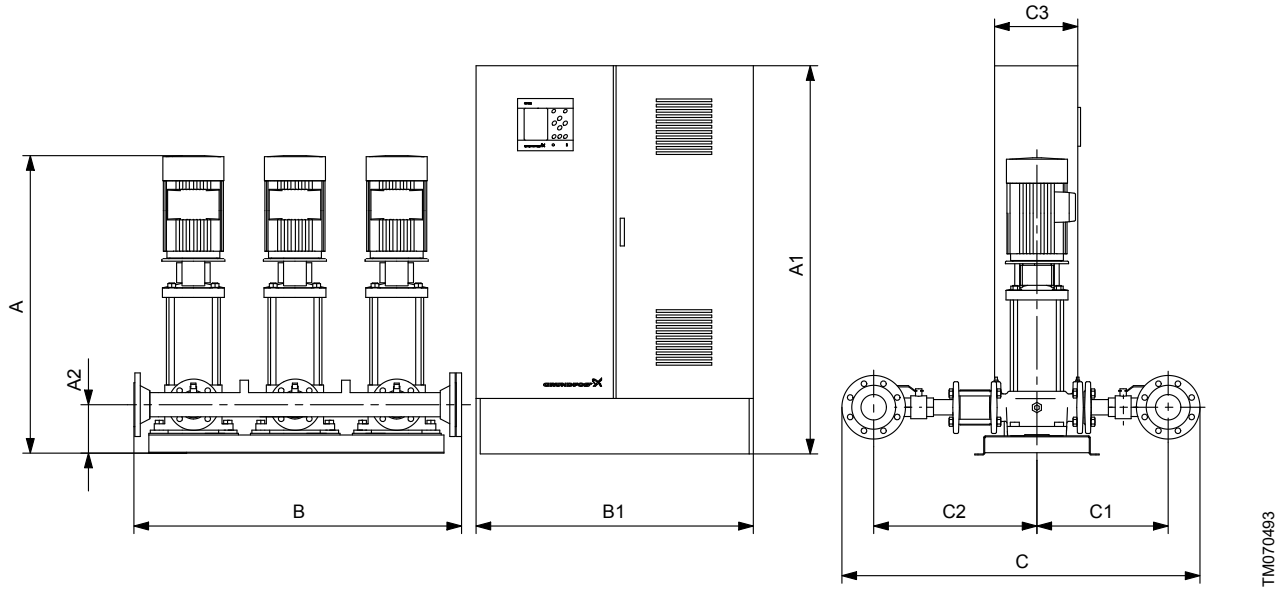
Design D: System with a control cabinet mounted on a separate base frame.

Dimensions may vary by ± 10 mm.

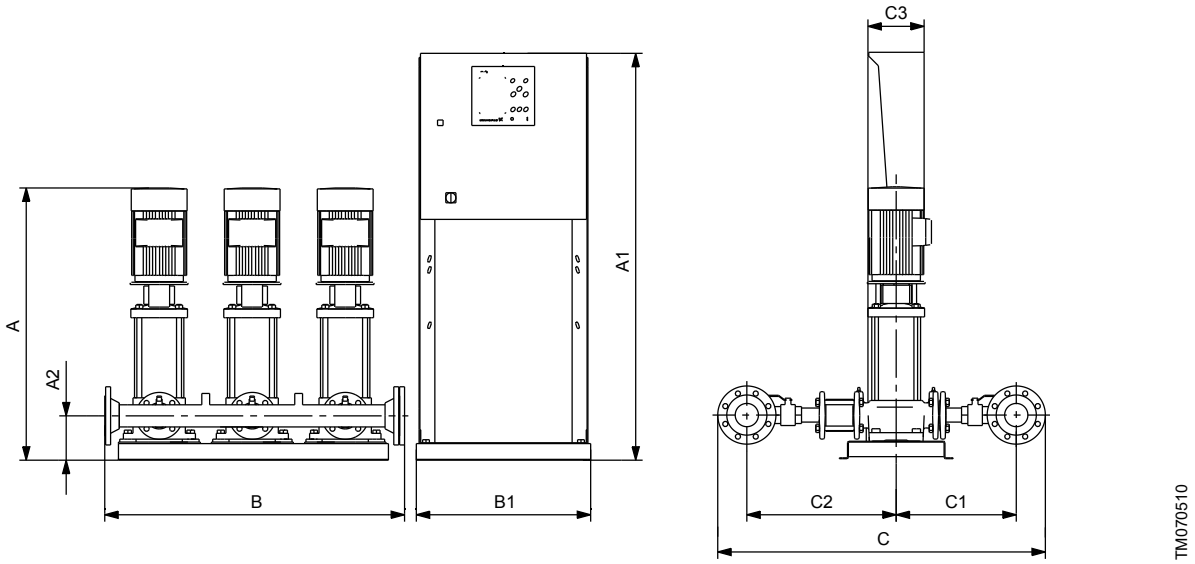
Hydro MPC-F with CR, CRI 10

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.

The manifold connection is either R thread or DIN flange. For further details, see the relevant table in below subsection Electrical data, dimensions and weights.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 10

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 10-2	U6	1.5	6.1	R 2 1/2"	716	1500	142	665	600	891	371	431	400	194	C
	CRI 10-3	U6	2.2	8.6	R 2 1/2"	786	1500	142	665	600	891	371	431	400	202	C
	CRI 10-5	U6	3	12	R 2 1/2"	865	1500	142	665	600	891	371	431	400	215	C
	CRI 10-6	U6	4	15.6	R 2 1/2"	932	1500	142	665	600	891	371	431	400	258	C
	CRI 10-9	U6	5.5	20.68	R 2 1/2"	1073	1500	142	665	600	891	371	431	400	304	C
3	CRI 10-2	U6	1.5	9.15	DN 80	716	1460	142	1062	830	1000	371	431	300	268	D
	CRI 10-3	U6	2.2	12.9	DN 80	786	1460	142	1062	830	1000	371	431	300	281	D
	CRI 10-5	U6	3	18	DN 80	865	1460	142	1062	830	1000	371	431	300	299	D
	CRI 10-6	U6	4	23.4	DN 80	932	1460	142	1062	830	1000	371	431	300	339	D
	CRI 10-9	U6	5.5	31.02	DN 80	1073	1460	142	1062	830	1000	371	431	300	407	D
4	CRI 10-2	U6	1.5	12.2	DN 80	716	1460	142	1322	830	1000	371	431	300	328	D
	CRI 10-3	U6	2.2	17.2	DN 80	786	1460	142	1322	830	1000	371	431	300	344	D
	CRI 10-5	U6	3	24	DN 80	865	1460	142	1322	830	1000	371	431	300	369	D
	CRI 10-6	U6	4	31.2	DN 80	932	1460	142	1322	830	1000	371	431	300	423	D
	CRI 10-9	U6	5.5	41.36	DN 80	1073	2000	142	1322	800	1000	371	431	400	597	C
5	CRI 10-2	U6	1.5	15.25	DN 100	716	1460	142	1642	830	1020	371	431	300	389	D
	CRI 10-3	U6	2.2	21.5	DN 100	786	1460	142	1642	830	1020	371	431	300	409	D
	CRI 10-5	U6	3	30	DN 100	865	1460	142	1642	830	1020	371	431	300	441	D
	CRI 10-6	U6	4	39	DN 100	932	1460	142	1642	830	1020	371	431	300	507	D
	CRI 10-9	U6	5.5	51.7	DN 100	1073	2000	142	1642	1000	1020	371	431	400	730	C
6	CRI 10-2	U6	1.5	18.3	DN 100	716	1700	142	1962	1000	1020	371	431	300	537	C
	CRI 10-3	U6	2.2	25.8	DN 100	786	1700	142	1962	1000	1020	371	431	300	561	C
	CRI 10-5	U6	3	36	DN 100	865	1700	142	1962	1000	1020	371	431	300	600	C
	CRI 10-6	U6	4	46.8	DN 100	932	1700	142	1962	1000	1020	371	431	300	648	C
	CRI 10-9	U6	5.5	62.04	DN 100	1073	2000	142	1962	1200	1020	371	431	400	876	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

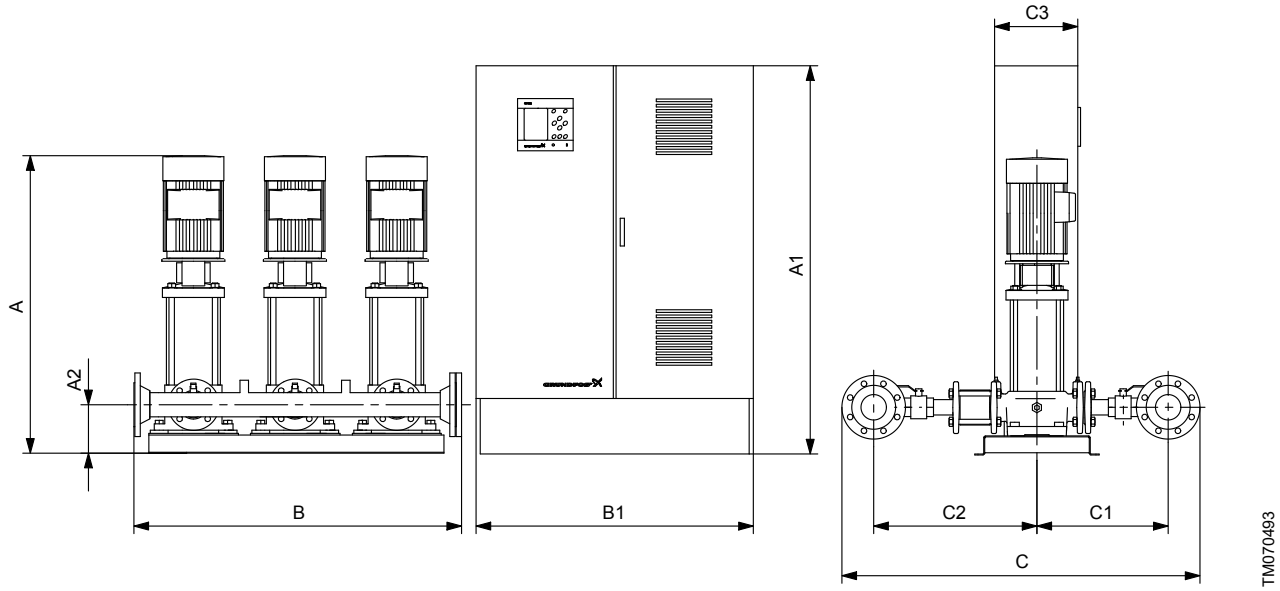
Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

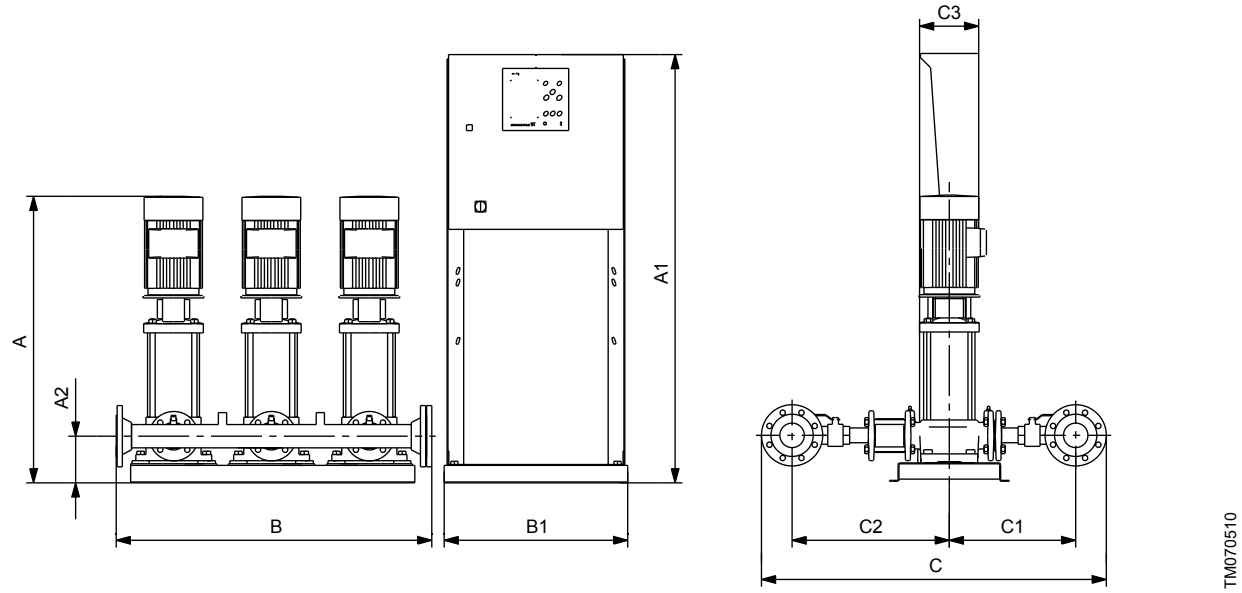
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR, CRI 15, CR, CRI 20

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR, CRI 15

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 15-2	U6	3	12	DN 80	815	1500	152	742	600	1135	438	497	400	238	C
	CRI 15-3	U6	4	15.6	DN 80	897	1500	152	742	600	1135	438	497	400	281	C
	CRI 15-4	U6	5.5	20.68	DN 80	993	1500	152	742	600	1135	438	497	400	323	C
	CRI 15-5	U6	7.5	27.6	DN 80	1026	1460	152	742	830	1135	438	497	300	390	D
3	CRI 15-2	U6	3	18	DN 100	815	1460	152	1062	830	1155	438	497	300	315	D
	CRI 15-3	U6	4	23.4	DN 100	897	1460	152	1062	830	1155	438	497	300	355	D
	CRI 15-4	U6	5.5	31.02	DN 100	993	1460	152	1062	830	1155	438	497	300	417	D
	CRI 15-5	U6	7.5	41.4	DN 100	1026	1460	152	1062	830	1155	438	497	300	529	D
4	CRI 15-2	U6	3	24	DN 100	815	1460	152	1382	830	1155	438	497	300	389	D
	CRI 15-3	U6	4	31.2	DN 100	897	1460	152	1382	830	1155	438	497	300	443	D
	CRI 15-4	U6	5.5	41.36	DN 100	993	2000	152	1382	800	1155	438	497	400	609	C
	CRI 15-5	U6	7.5	55.2	DN 100	1026	1460	152	1382	1030	1155	438	497	300	709	D
5	CRI 15-2	U6	3	30	DN 150	815	1460	152	1704	830	1220	438	497	300	487	D
	CRI 15-3	U6	4	39	DN 150	897	1460	152	1704	830	1220	438	497	300	553	D
	CRI 15-4	U6	5.5	51.7	DN 150	993	2000	152	1704	1000	1220	438	497	400	765	C
	CRI 15-5	U6	7.5	69	DN 150	1026	2000	152	1704	1000	1220	438	497	400	852	C
6	CRI 15-2	U6	3	36	DN 150	815	1700	152	2024	1000	1220	438	497	300	645	C
	CRI 15-3	U6	4	46.8	DN 150	897	1700	152	2024	1000	1220	438	497	300	694	C
	CRI 15-4	U6	5.5	62.04	DN 150	993	2000	152	2024	1200	1220	438	497	400	910	C
	CRI 15-5	U6	7.5	82.8	DN 150	1026	2000	152	2024	1200	1220	438	497	400	973	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR , CRI 20

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CRI 20-2	U6	4	15.6	DN 80	852	1500	152	742	600	1135	438	497	400	279	C
	CRI 20-3	U6	5.5	20.68	DN 80	948	1500	152	742	600	1135	438	497	400	319	C
	CRI 20-4	U6	7.5	27.6	DN 80	981	1460	152	742	830	1135	438	497	300	388	D
	CRI 20-6	U6	11	40.2	DN 80	1291	2400	192	1022	600	1135	438	497	600	512	C
3	CRI 20-2	U6	4	23.4	DN 100	852	1460	152	1062	830	1155	438	497	300	352	D
	CRI 20-3	U6	5.5	31.02	DN 100	948	1460	152	1062	830	1155	438	497	300	411	D
	CRI 20-4	U6	7.5	41.4	DN 100	981	1460	152	1062	830	1155	438	497	300	526	D
	CRI 20-6	U6	11	60.3	DN 100	1291	1700	192	1522	1000	1155	438	497	400	686	C
4	CRI 20-2	U6	4	31.2	DN 100	852	1460	152	1382	830	1155	438	497	300	439	D
	CRI 20-3	U6	5.5	41.36	DN 100	948	2000	152	1382	800	1155	438	497	400	601	C
	CRI 20-4	U6	7.5	55.2	DN 100	981	1460	152	1382	1030	1155	438	497	300	705	D
	CRI 20-6	U6	11	80.4	DN 100	1291	2000	192	2022	1000	1155	438	497	400	917	C
5	CRI 20-2	U6	4	39	DN 150	852	1460	152	1704	830	1220	438	497	300	547	D
	CRI 20-3	U6	5.5	51.7	DN 150	948	2000	152	1704	1000	1220	438	497	400	755	C
	CRI 20-4	U6	7.5	69	DN 150	981	2000	152	1704	1000	1220	438	497	400	847	C
	CRI 20-6	U6	11	100.5	DN 150	1291	2200	192	2524	1200	1220	438	497	400	1140	C
6	CRI 20-2	U6	4	46.8	DN 150	852	1700	152	2024	1000	1220	438	497	300	688	C
	CRI 20-3	U6	5.5	62.04	DN 150	948	2000	152	2024	1200	1220	438	497	400	897	C
	CRI 20-4	U6	7.5	82.8	DN 150	981	2000	152	2024	1200	1220	438	497	400	967	C
	CRI 20-6	U6	11	120.6	DN 150	1291	2000	192	3024	1200	1220	438	497	400	1321	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

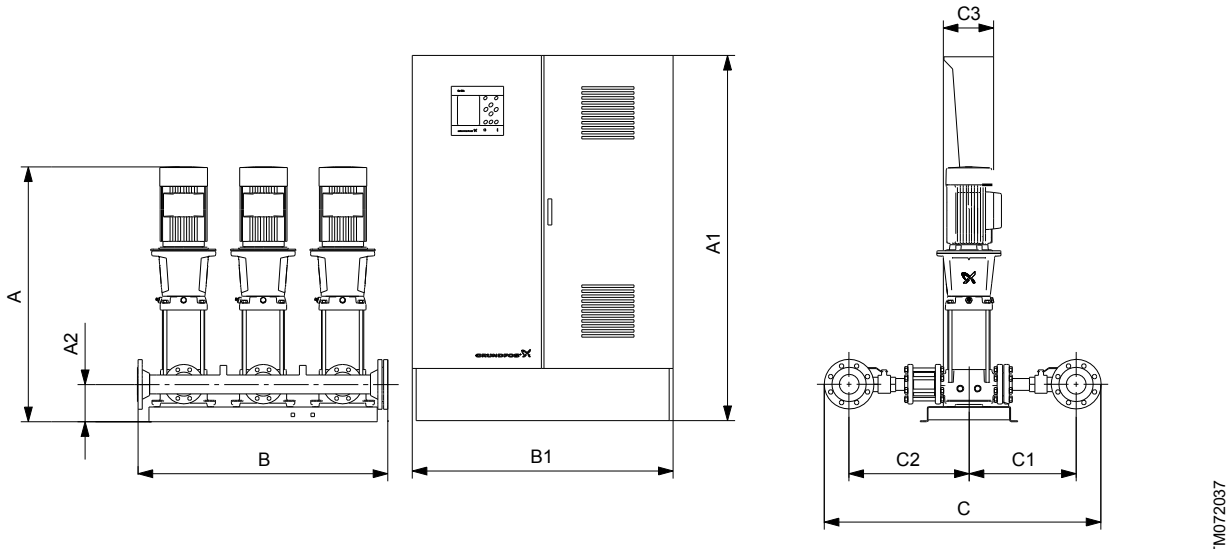
Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

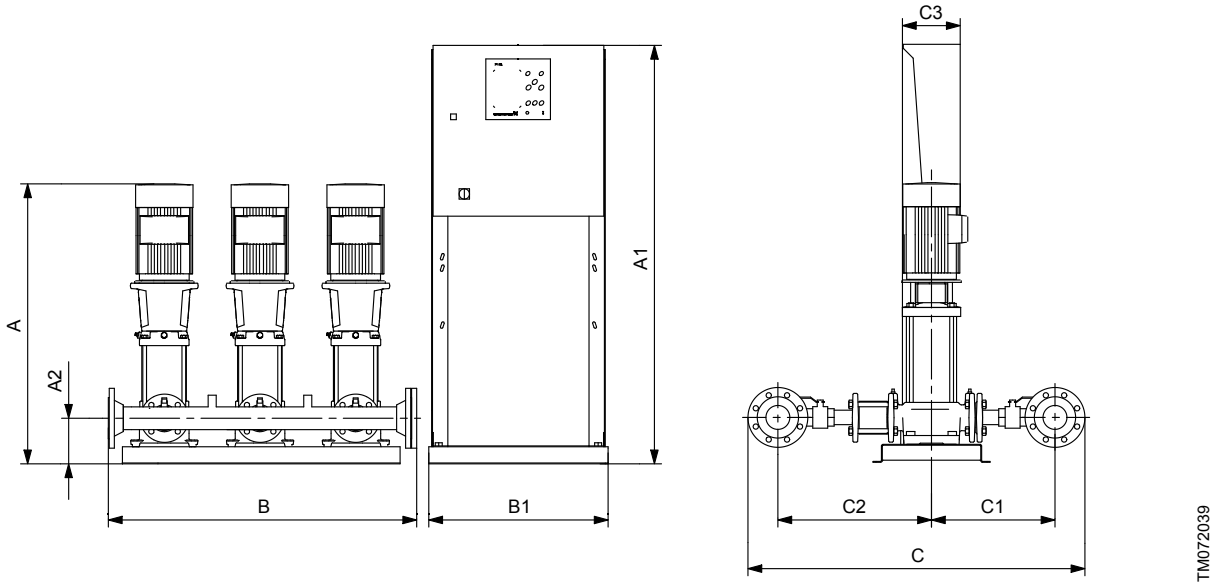
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 32

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR 32

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 32-1	U6	3	12	DN 100	902	1500	167	1022	600	1180	379	579	400	296	C
	CR 32-2	U6	7.5	27.6	DN 100	1016	1460	167	1022	830	1180	379	579	300	428	D
	CR 32-4-2	U6	11	40.2	DN 100	1409	2400	207	1022	600	1180	379	579	600	563	C
	CR 32-5-2	U6	15	53.8	DN 100	1479	2000	207	1022	800	1180	379	579	400	595	C
3	CR 32-1	U6	3	18	DN 150	902	1460	167	1524	830	1245	379	579	300	421	D
	CR 32-2	U6	7.5	41.4	DN 150	1016	1460	167	1524	830	1245	379	579	300	605	D
	CR 32-4-2	U6	11	60.3	DN 150	1409	1700	207	1524	1000	1245	379	579	400	779	C
	CR 32-5-2	U6	15	80.7	DN 150	1468	1600	207	1524	800	1245	379	579	500	828	C
4	CR 32-1	U6	3	24	DN 150	902	1460	167	2024	830	1245	379	579	300	526	D
	CR 32-2	U6	7.5	55.2	DN 150	1016	1460	167	2024	1030	1245	379	579	300	806	D
	CR 32-4-2	U6	11	80.4	DN 150	1409	2000	207	2024	1000	1245	379	579	400	1035	C
	CR 32-5-2	U6	15	107.6	DN 150	1479	2400	207	2024	1200	1245	379	579	600	1066	C
5	CR 32-1	U6	3	30	DN 150	902	1460	167	2524	830	1245	379	579	300	641	D
	CR 32-2	U6	7.5	69	DN 150	1016	2000	167	2524	1000	1245	379	579	400	964	C
	CR 32-4-2	U6	11	100.5	DN 150	1409	2200	207	2524	1200	1245	379	579	400	1255	C
	CR 32-5-2	U6	15	134.5	DN 150	1479	2000	207	2524	1200	1245	379	579	400	1419	C
6	CR 32-1	U6	3	36	DN 150	902	1700	167	3024	1000	1245	379	579	300	837	C
	CR 32-2	U6	7.5	82.8	DN 150	1016	2000	167	3024	1200	1245	379	579	400	1104	C
	CR 32-4-2	U6	11	120.6	DN 150	1409	2000	207	3024	1200	1245	379	579	400	1459	C
	CR 32-5-2	U6	15	161.4	DN 150	1479	2200	207	3024	1200	1245	379	579	400	1684	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

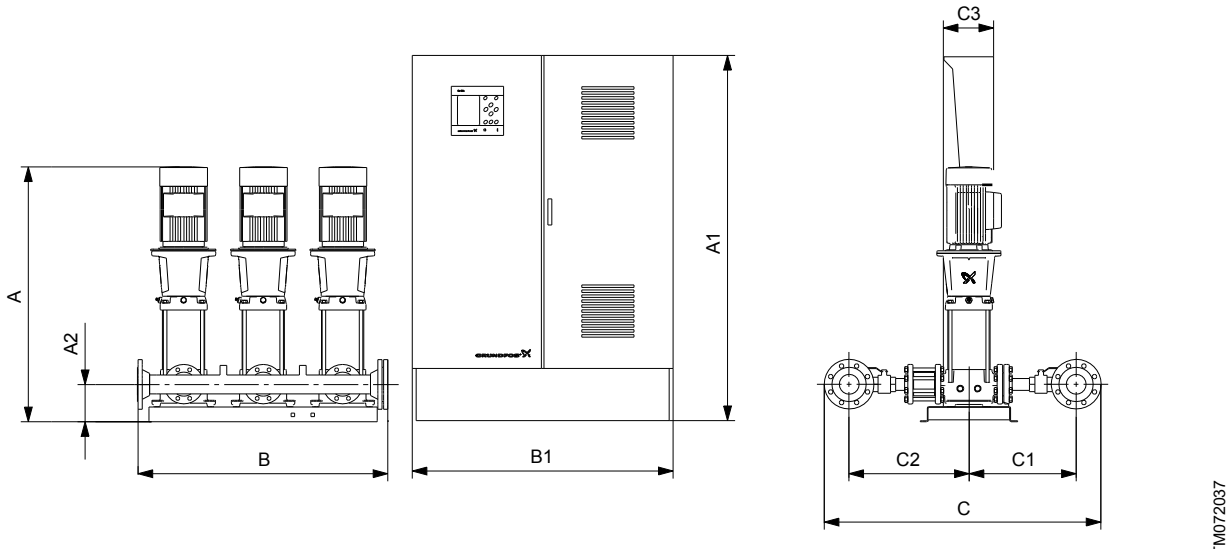
Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

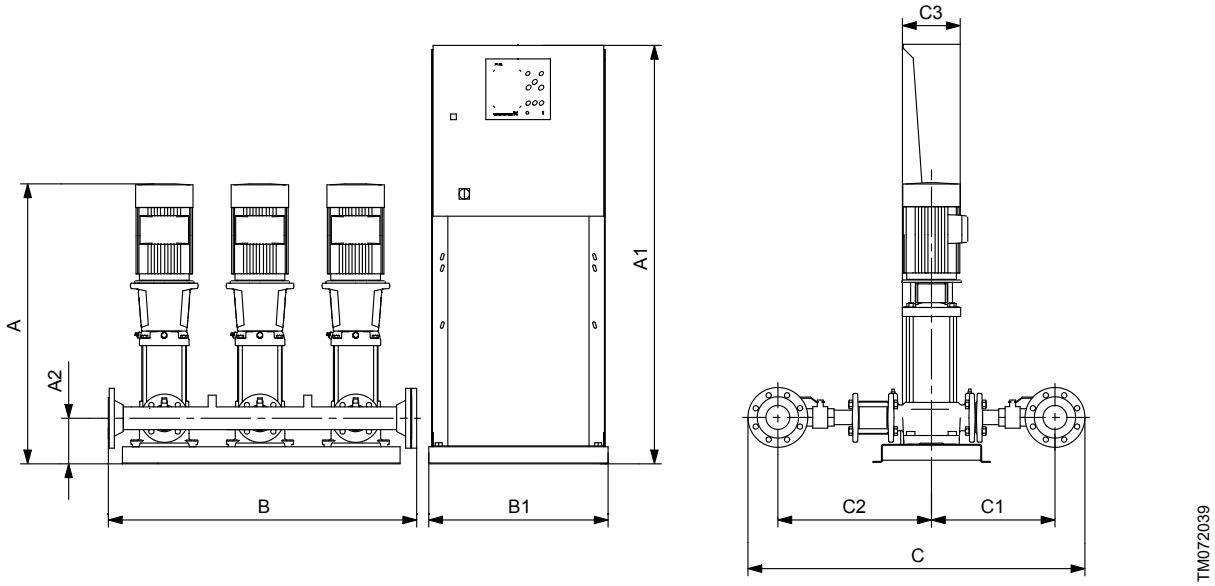
Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 45, CR 64

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C



Design D

Electrical data, dimensions and weights

Hydro MPC-F with CR 45

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CR 45-1	U6	7.5	41.4	DN 200	1000	1460	202	1526	830	1390	419	629	300	664	D
	CR 45-2	U6	15	80.7	DN 200	1333	2000	242	1526	1000	1390	419	629	400	870	C
	CR 45-3	U6	18.5	99.6	DN 200	1457	2000	242	1526	1000	1390	419	629	400	959	C
	CR 45-4-2	U6	22	115.5	DN 200	1563	2000	242	1526	1000	1390	419	629	400	1021	C
4	CR 45-1	U6	7.5	55.2	DN 200	1000	1460	202	2026	1030	1390	419	629	300	880	D
	CR 45-2	U6	15	107.6	DN 200	1333	2400	242	2026	1200	1390	419	629	600	1118	C
	CR 45-3	U6	18.5	132.8	DN 200	1457	2000	242	2026	1200	1390	419	629	400	1236	C
	CR 45-4-2	U6	22	154	DN 200	1563	2000	242	2026	1600	1390	419	629	400	1398	C
5	CR 45-1	U6	7.5	69	DN 200	1000	2000	202	2526	1000	1390	419	629	400	1057	C
	CR 45-2	U6	15	134.5	DN 200	1333	2000	242	2526	1200	1390	419	629	400	1484	C
	CR 45-3	U6	18.5	166	DN 200	1457	2000	242	2526	2000	1390	419	629	400	1630	C
	CR 45-4-2	U6	22	192.5	DN 200	1563	2000	242	2526	2000	1390	419	629	400	1726	C
6	CR 45-1	U6	7.5	82.8	DN 200	1000	2000	202	3026	1200	1390	419	629	400	1212	C
	CR 45-2	U6	15	161.4	DN 200	1333	2200	242	3026	1200	1390	419	629	400	1758	C
	CR 45-3	U6	18.5	199.2	DN 200	1457	2000	242	3026	2400	1390	419	629	400	1970	C
	CR 45-4-2	U6	22	231	DN 200	1563	2000	242	3026	2400	1390	419	629	400	2089	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 64

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
3	CR 64-1-1	U6	7.5	41.4	DN 200	1002	1460	202	1526	830	1390	421	631	300	672	D
	CR 64-1	U6	11	60.3	DN 200	1255	1700	242	1526	1000	1390	421	631	400	827	C
	CR 64-2-2	U6	15	80.7	DN 200	1338	2000	242	1526	1000	1390	421	631	400	881	C
	CR 64-2-1	U6	18.5	99.6	DN 200	1382	2000	242	1526	1000	1390	421	631	400	958	C
	CR 64-3-1	U6	30	141	DN 200	1549	2000	242	1526	1200	1390	421	631	400	1501	C
	CR 64-3	U6	30	141	DN 200	1549	2000	242	1526	1200	1390	421	631	400	1501	C
	CR 64-4-2	U6	37	171	DN 200	1657	2000	242	1526	1600	1390	421	631	400	1608	C
4	CR 64-1-1	U6	7.5	55.2	DN 200	1002	1460	202	2026	1030	1390	421	631	300	891	D
	CR 64-1	U6	11	80.4	DN 200	1255	2000	242	2026	1000	1390	421	631	400	1096	C
	CR 64-2-2	U6	15	107.6	DN 200	1338	2400	242	2026	1200	1390	421	631	600	1132	C
	CR 64-2-1	U6	18.5	132.8	DN 200	1382	2000	242	2026	1200	1390	421	631	400	1234	C
	CR 64-3-1	U6	30	188	DN 200	1549	2000	242	2026	2000	1390	421	631	400	1945	C
	CR 64-3	U6	30	188	DN 200	1549	2000	242	2026	2000	1390	421	631	400	1945	C
	CR 64-4-2	U6	37	228	DN 200	1657	2200	242	2026	2000	1390	421	631	500	2166	C
5	CR 64-1-1	U6	7.5	69	DN 200	1002	2000	202	2526	1000	1390	421	631	400	1071	C
	CR 64-1	U6	11	100.5	DN 200	1255	2200	242	2526	1200	1390	421	631	400	1331	C
	CR 64-2-2	U6	15	134.5	DN 200	1338	2000	242	2526	1200	1390	421	631	400	1502	C
	CR 64-2-1	U6	18.5	166	DN 200	1382	2000	242	2526	2000	1390	421	631	400	1628	C
	CR 64-3-1	U6	30	235	DN 200	1549	2200	242	2526	1200	1390	421	631	400	2346	C
	CR 64-3	U6	30	235	DN 200	1549	2200	242	2526	1200	1390	421	631	400	2346	C
	CR 64-4-2	U6	37	285	DN 200	1657	2200	242	2526	2400	1390	421	631	400	2655	C
6	CR 64-1-1	U6	7.5	82.8	DN 200	1002	2000	202	3026	1200	1390	421	631	400	1229	C
	CR 64-1	U6	11	120.6	DN 200	1255	2000	242	3026	1200	1390	421	631	400	1546	C
	CR 64-2-2	U6	15	161.4	DN 200	1338	2200	242	3026	1200	1390	421	631	400	1780	C
	CR 64-2-1	U6	18.5	199.2	DN 200	1382	2000	242	3026	2400	1390	421	631	400	1968	C
	CR 64-3-1	U6	30	282	DN 200	1549	2000	242	3026	3000	1390	421	631	400	2927	C
	CR 64-3	U6	30	282	DN 200	1549	2000	242	3026	3000	1390	421	631	400	2927	C
	CR 64-4-2	U6	37	342	DN 200	1657	2200	242	3026	3000	1390	421	631	500	3243	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

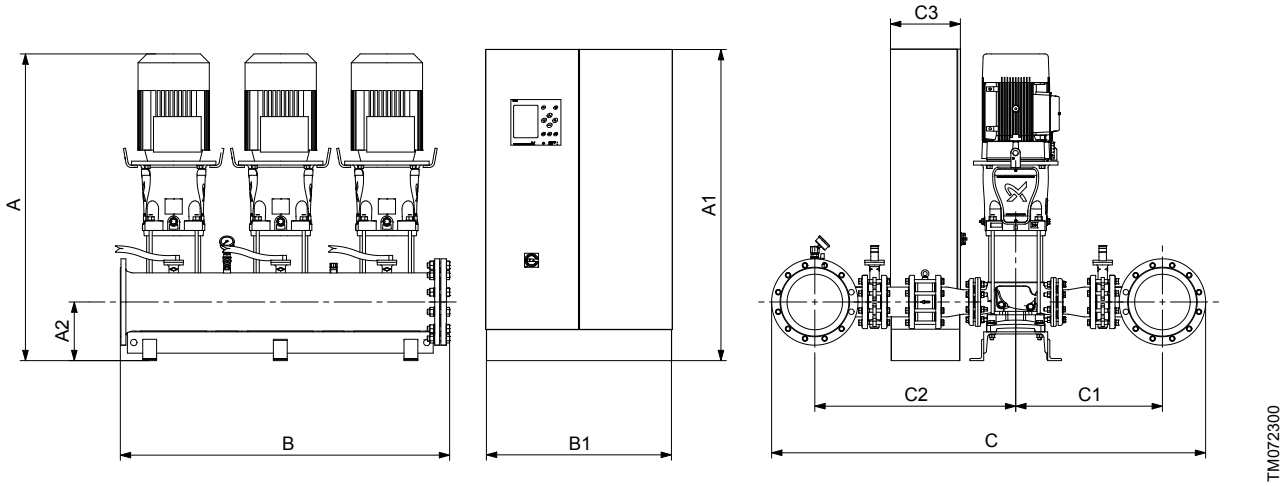
Design C: System with a floor-mounted control cabinet.

Design D: System with a control cabinet mounted on a separate base frame.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 95

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-F with CR 95

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 95-1-1	U6	11	40.2	DN 200	1309	2400	287	1026	600	1970	690	940	600	841	C
	CR 95-1	U6	15	53.8	DN 200	1309	2000	287	1026	800	1970	690	940	400	833	C
	CR 95-2-2	U6	18.5	66.4	DN 200	1457	1600	287	1026	800	1970	690	940	500	871	C
	CR 95-2-1	U6	22	77	DN 200	1483	2000	287	1026	800	1970	690	940	400	915	C
	CR 95-2	U6	30	94	DN 200	1558	2000	287	1026	1000	1970	690	940	400	1181	C
	CR 95-3-2	U6	30	94	DN 200	1663	2000	287	1026	1000	1970	690	940	400	1193	C
	CR 95-3-1	U6	37	114	DN 200	1688	2000	287	1026	1600	1970	690	940	400	1371	C
	CR 95-4-2	U6	45	138	DN 200	1884	2200	287	1026	1600	1970	690	940	500	1619	C
3	CR 95-1-1	U6	11	60.3	DN 250	1309	1700	287	1528	1000	2035	690	940	400	1173	C
	CR 95-1	U6	15	80.7	DN 250	1309	2000	287	1528	1000	2035	690	940	400	1267	C
	CR 95-2-2	U6	18.5	99.6	DN 250	1457	2000	287	1528	1000	2035	690	940	400	1333	C
	CR 95-2-1	U6	22	115.5	DN 250	1483	2000	287	1528	1000	2035	690	940	400	1383	C
	CR 95-2	U6	30	141	DN 250	1558	2000	287	1528	1200	2035	690	940	400	1787	C
	CR 95-3-2	U6	30	141	DN 250	1663	2000	287	1528	1200	2035	690	940	400	1805	C
	CR 95-3-1	U6	37	171	DN 250	1688	2000	287	1528	1600	2035	690	940	400	1971	C
	CR 95-4-2	U6	45	207	DN 250	1884	2200	287	1528	2000	2035	690	940	500	2384	C
4	CR 95-1-1	U6	11	80.4	DN 250	1309	2000	287	2028	1000	2035	690	940	400	1534	C
	CR 95-1	U6	15	107.6	DN 250	1309	2400	287	2028	1200	2035	690	940	600	1695	C
	CR 95-2-2	U6	18.5	132.8	DN 250	1457	2000	287	2028	1200	2035	690	940	400	1708	C
	CR 95-2-1	U6	22	154	DN 250	1483	2000	287	2028	1600	2035	690	940	400	1856	C
	CR 95-2	U6	30	188	DN 250	1558	2000	287	2028	2000	2035	690	940	400	2403	C
	CR 95-3-2	U6	30	188	DN 250	1663	2000	287	2028	2000	2035	690	940	400	2427	C
	CR 95-3-1	U6	37	228	DN 250	1688	2200	287	2028	2000	2035	690	940	500	2623	C
	CR 95-4-2	U6	45	276	DN 250	1884	2200	287	2028	2400	2035	690	940	500	3063	C
5	CR 95-1-1	U6	11	100.5	DN 300	1309	2200	287	2530	1200	2090	690	940	400	2046	C
	CR 95-1	U6	15	134.5	DN 300	1309	2000	287	2530	1200	2090	690	940	400	2081	C
	CR 95-2-2	U6	18.5	166	DN 300	1457	2000	287	2530	2000	2090	690	940	400	2314	C
	CR 95-2-1	U6	22	192.5	DN 300	1483	2000	287	2530	2000	2090	690	940	400	2391	C
	CR 95-2	U6	30	235	DN 300	1558	2200	287	2530	1200	2090	690	940	400	2906	C
	CR 95-3-2	U6	30	235	DN 300	1663	2200	287	2530	1200	2090	690	940	400	2936	C
	CR 95-3-1	U6	37	285	DN 300	1688	2200	287	2530	2400	2090	690	940	400	3320	C
	CR 95-4-2	U6	45	345	DN 300	1884	2200	287	2530	3000	2090	690	940	500	3927	C
6	CR 95-1-1	U6	11	120.6	DN 350	1309	2000	287	3032	1200	2150	690	940	400	2410	C
	CR 95-1	U6	15	161.4	DN 350	1309	2200	287	3032	1200	2150	690	940	400	2527	C
	CR 95-2-2	U6	18.5	199.2	DN 350	1457	2000	287	3032	2400	2150	690	940	400	2840	C
	CR 95-2-1	U6	22	231	DN 350	1483	2000	287	3032	2400	2150	690	940	400	2937	C
	CR 95-2	U6	30	282	DN 350	1558	2000	287	3032	3000	2150	690	940	400	3774	C
	CR 95-3-2	U6	30	282	DN 350	1663	2000	287	3032	3000	2150	690	940	400	3810	C
	CR 95-3-1	U6	37	342	DN 350	1688	2200	287	3032	3000	2150	690	940	500	4089	C
	CR 95-4-2	U6	45	414	DN 350	1884	2200	287	3032	3000	2150	690	940	500	4654	C

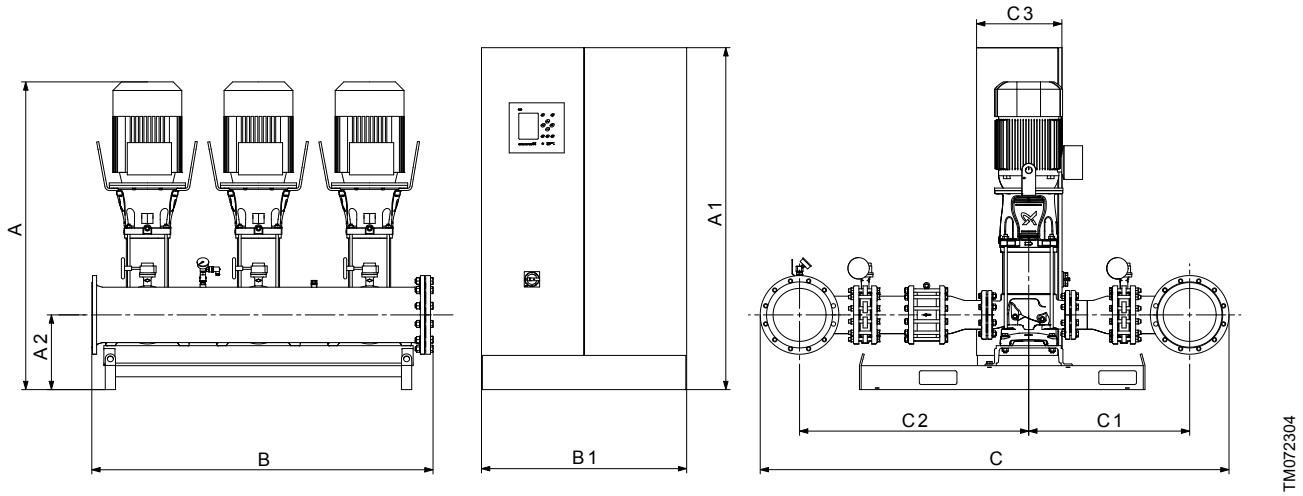
Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 125, CR 155

Below is the dimensional sketch of a system in different designs. The system is shown as an example. The pumps supplied may differ from the sketch.



Design C

Electrical data, dimensions and weights

Hydro MPC-F with CR 125

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 125-1-1	U6	15	53.8	DN 250	1506	2000	432	1328	800	2440	860	1176	400	1173	C
	CR 125-2-2	U6	30	94	DN 250	1770	2000	432	1328	1000	2440	860	1176	400	1529	C
	CR 125-2	U6	37	114	DN 250	1795	2000	432	1328	1600	2440	860	1176	400	1707	C
	CR 125-3-2	U6	45	138	DN 250	2012	2200	432	1328	1600	2440	860	1176	500	1967	C
	CR 125-3	U6	55	166	DN 250	2050	2200	432	1328	2000	2440	860	1176	500	2275	C
3	CR 125-1-1	U6	15	80.7	DN 250	1506	2000	432	1978	1000	2440	860	1176	400	1622	C
	CR 125-2-2	U6	30	141	DN 250	1770	2000	432	1978	1200	2440	860	1176	400	2153	C
	CR 125-2	U6	37	171	DN 250	1795	2000	432	1978	1600	2440	860	1176	400	2319	C
	CR 125-3-2	U6	45	207	DN 250	2012	2200	432	1978	2000	2440	860	1176	500	2749	C
	CR 125-3	U6	55	249	DN 250	2050	2200	432	1978	2000	2440	860	1176	500	3112	C
4	CR 125-1-1	U6	15	107.6	DN 300	1506	2400	432	2630	1200	2495	860	1176	600	2340	C
	CR 125-2-2	U6	30	188	DN 300	1770	2000	432	2630	2000	2495	860	1176	400	3063	C
	CR 125-2	U6	37	228	DN 300	1795	2200	432	2630	2000	2495	860	1176	500	3259	C
	CR 125-3-2	U6	45	276	DN 300	2012	2200	432	2630	2400	2495	860	1176	500	3722	C
	CR 125-3	U6	55	332	DN 300	2050	2200	432	2630	2400	2495	860	1176	500	4202	C
5	CR 125-1-1	U6	15	134.5	DN 350	1506	2000	432	3282	1200	2555	860	1176	400	2774	C
	CR 125-2-2	U6	30	235	DN 350	1770	2200	432	3282	1200	2555	860	1176	400	3618	C
	CR 125-2	U6	37	285	DN 350	1795	2200	432	3282	2400	2555	860	1176	400	4002	C
	CR 125-3-2	U6	45	345	DN 350	2012	2200	432	3282	3000	2555	860	1176	500	4638	C
	CR 125-3	U6	55	415	DN 350	2050	2200	432	3282	3000	2555	860	1176	500	5230	C
6	CR 125-1-1	U6	15	161.4	DN 350	1506	2200	432	3932	1200	2555	860	1176	400	3248	C
	CR 125-2-2	U6	30	282	DN 350	1770	2000	432	3932	3000	2555	860	1176	400	4518	C
	CR 125-2	U6	37	342	DN 350	1795	2200	432	3932	3000	2555	860	1176	500	4797	C
	CR 125-3-2	U6	45	414	DN 350	2012	2200	432	3932	3000	2555	860	1176	500	5397	C
	CR 125-3	U6	55	498	DN 350	2050	2200	432	3932	3600	2555	860	1176	500	6205	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

Design C: System with a floor-mounted control cabinet.

Dimensions may vary by ± 10 mm.

Hydro MPC-F with CR 155

Number of pumps	Pump type	Voltage code	Motor[kW]	Max. I_N at 400 V [A]	Connections	A [mm]	A1 [mm]	A2 [mm]	B [mm]	B1 [mm]	C [mm]	C1 [mm]	C2 [mm]	C3 [mm]	Weight[kg]	Design
2	CR 155-1-1	U6	18.5	66.4	DN 250	1550	1600	432	1328	800	2688	947	1337	500	1305	C
	CR 155-1	U6	30	94	DN 250	1648	2000	432	1328	1000	2688	947	1337	400	1615	C
	CR 155-2-2	U6	37	114	DN 250	1795	2000	432	1328	1600	2688	947	1337	400	1814	C
	CR 155-2-1	U6	45	138	DN 250	1890	2200	432	1328	1600	2688	947	1337	500	2053	C
	CR 155-2	U6	55	166	DN 250	1928	2200	432	1328	2000	2688	947	1337	500	2361	C
	CR 155-3-3	U6	55	166	DN 250	2050	2200	432	1328	2000	2688	947	1337	500	2383	C
3	CR 155-1-1	U6	18.5	99.6	DN 300	1550	2000	432	1980	1000	2743	947	1337	400	1868	C
	CR 155-1	U6	30	141	DN 300	1648	2000	432	1980	1200	2743	947	1337	400	2320	C
	CR 155-2-2	U6	37	171	DN 300	1795	2000	432	1980	1600	2743	947	1337	400	2519	C
	CR 155-2-1	U6	45	207	DN 300	1890	2200	432	1980	2000	2743	947	1337	500	2918	C
	CR 155-2	U6	55	249	DN 300	1928	2200	432	1980	2000	2743	947	1337	500	3281	C
	CR 155-3-3	U6	55	249	DN 300	2050	2200	432	1980	2000	2743	947	1337	500	3314	C
4	CR 155-1-1	U6	18.5	132.8	DN 350	1550	2000	432	2632	1200	2803	947	1337	400	2617	C
	CR 155-1	U6	30	188	DN 350	1648	2000	432	2632	2000	2803	947	1337	400	3311	C
	CR 155-2-2	U6	37	228	DN 350	1795	2200	432	2632	2000	2803	947	1337	500	3550	C
	CR 155-2-1	U6	45	276	DN 350	1890	2200	432	2632	2400	2803	947	1337	500	3971	C
	CR 155-2	U6	55	332	DN 350	1928	2200	432	2632	2400	2803	947	1337	500	4452	C
	CR 155-3-3	U6	55	332	DN 350	2050	2200	432	2632	2400	2803	947	1337	500	4495	C
5	CR 155-1-1	U6	18.5	166	DN 400	1550	2000	432	3284	2000	2863	947	1337	400	3258	C
	CR 155-1	U6	30	235	DN 400	1648	2200	432	3284	1200	2863	947	1337	400	3847	C
	CR 155-2-2	U6	37	285	DN 400	1795	2200	432	3284	2400	2863	947	1337	400	4285	C
	CR 155-2-1	U6	45	345	DN 400	1890	2200	432	3284	3000	2863	947	1337	500	4869	C
	CR 155-2	U6	55	415	DN 400	1928	2200	432	3284	3000	2863	947	1337	500	5462	C
	CR 155-3-3	U6	55	415	DN 400	2050	2200	432	3284	3000	2863	947	1337	500	5516	C
6	CR 155-1-1	U6	18.5	199.2	DN 400	1550	2000	432	3934	2400	2863	947	1337	400	3883	C
	CR 155-1	U6	30	282	DN 400	1648	2000	432	3934	3000	2863	947	1337	400	4813	C
	CR 155-2-2	U6	37	342	DN 400	1795	2200	432	3934	3000	2863	947	1337	500	5157	C
	CR 155-2-1	U6	45	414	DN 400	1890	2200	432	3934	3000	2863	947	1337	500	5695	C
	CR 155-2	U6	55	498	DN 400	1928	2200	432	3934	3600	2863	947	1337	500	6504	C
	CR 155-3-3	U6	55	498	DN 400	2050	2200	432	3934	3600	2863	947	1337	500	6569	C

Voltage code, U6: 3 x 380-415 V ± 10 %, PE.

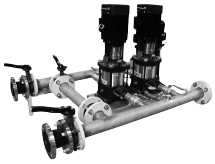
Design C: System with a floor-mounted control cabinet.

Dimensions may vary by ± 10 mm.

14. Optional equipment

All optional equipment must be specified when ordering the system, as it must be fitted from factory prior to delivery. See options in the type key.

The options listed below are not all available for all markets.

Option		Description	Location	Options (type key for Hydro MPC)
Standard hydraulics, PN 16		This is the standard option for Hydro MPC hydraulics rated for PN 16 as a minimum.	System	A
Pilot pump		The pilot pump takes over operation from main pumps during periods when the consumption is so low that the pilot pump can deliver the flow and in that way maintain a high efficiency, the typically pump size is 25 % of the main pump. Pilot pumps are available for Hydro MPC-E and -F control variants.	System	B
Bypass connection		The bypass connection is a pipe diversion consisting of a manifold, two isolating valves and a non-return valve. The bypass connection allows water to bypass the pumps from the inlet to the outlet manifold.	System	C
NRV on inlet side		As standard, the non-return valves are fitted on the outlet side of the pumps of the system. In installations with suction lift, we recommend that you install non-return valves on the inlet side of the pumps to prevent dry running.	Inlet side	D
Elbow manifold	-	Manifolds with elbows in one end can reduce dead ends. On request.	Inlet or outlet side	E
No inlet manifold		Depending on the application or installation site, the system can be ordered without inlet manifold.	-	F
Diaphragm tank		In buildings it is usually necessary to install a diaphragm tank on the outlet side of the system. As standard, the system is designed for a maximum system pressure of 16 bar. A standard system includes pressure transmitters and one gauge with a rated pressure of 16 bar (full scale). Hydro MPC systems designed for PN 16 diaphragm tanks up to 33 litres are mounted on the outlet manifold.	On outlet manifold Up to 33 l	G
Dry-running protection		The system must be protected against dry running. The inlet conditions determine the type of dry-running protection. • If the system draws water from a tank or a well, select a level switch or an electrode relay for dry-running protection. • If the system has an inlet pressure, select a pressure transmitter or a pressure switch for dry-running protection. For further description, see section Dry-running protection.	On inlet manifold	H
Repair switch	-	By means of a repair switch fitted on the individual pumps of the Hydro system, the supply voltage to the pump can be switched off during, for example, repair. One switch per pump. For further description, see section Repair switch.	On the pump	I

Option		Description	Location	Options (type key for Hydro MPC)
Redundant primary sensor		To increase the reliability, a redundant primary sensor can be connected as backup sensor for the primary sensor. The redundant primary sensor must be of the same type as the primary sensor. For further description, see section Redundant primary sensor.	-	J
One free pump position	-	Systems with one free pump position are available from a 3-pump up to a 6-pump system. The systems, including the control cabinet, are prepared for the future pump.	-	K
Two free pump positions		Systems with two free pump positions are available from a 4-pump up to a 6-pump system. The systems, including the control cabinet, are prepared for the future pumps.	-	L
Three free pump positions		Systems with three free pump positions are available from a 5-pump up to a 6-pump system. The systems, including the control cabinet, are prepared for the future pumps.	-	M
PN 10 pressure rating	-	With this option the Hydro MPC hydraulics are rated to PN10 as a minimum.	-	N
PN 25 pressure rating	-	With this option the Hydro MPC hydraulics are rated to PN 25 as a minimum.	-	O
PN 40 pressure rating	-	With this option the Hydro MPC hydraulics are rated to PN 40 as a minimum.	-	P
Low pre-pressure (low NPSH)	-	The systems are available with CR low-NPSH pumps designed to eliminate the risk of cavitation and ensure a stable and reliable operation. The CR low-NPSH has a special inlet design that reduces the NPSH value required by the pump and prevents erosion and destruction of pump, pipes and valves. The improved inlet design may expose the low-NPSH pump to more stress than conventional pumps without affecting the stability of operation. The CR low-NPSH pump reduces excess pressure itself and does not require any additional tank to provide supplementary pressure. Systems are available on request with CR low-NPSH from CR, CRI 3 to CR, CRI 20 and CRN, CRNE from CRN, CRNE 3 to CRN, CRNE 64.	-	Q
RPM = 50 Hz	-	50 Hz pumps.	-	R
Customised variant	-	Customised systems can be produced on request. For further information contact your local Grundfos sales office.	-	S
Certificate	-	For further information contact your local Grundfos sales office.	-	T
Undersized motor		We recommend a Hydro system with undersized motors if operating conditions deviate from those stated in the Hydro MPC Data Booklet and Grundfos Product Center. We especially recommend undersized motors if the duty point is constant and the flow rate is significantly lower than the maximum recommended flow rate.	-	U
Standard controls with options		See Control MPC installation and operating instructions.	-	V
Customised controls		See Control MPC installation and operating instructions.	-	W

Related information

Type key
Dry-running protection
Repair switch
Redundant primary sensor

Dry-running protection

Description	Range [bar]
Dry-running protection by means of electrode relay, without electrodes and electrode cable [19)]	-
Pressure switch [19)]	0-2
	0-4
	0-8
	0-16
Inlet pressure sensor [20)]	0-1
	0-4
	0-6
	0-10
	0-16

19) Only one type of dry-running protection can be selected, as it must be connected to the same digital input as CU 352. This also applies to level switches. For further information about CU 352, see section CU 352.

20) 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", connect the sensor to analog input AI3. If, however, this input is also occupied, increase the number of analog inputs by installing an IO 351B module, see Control MPC installation and operating instructions. For further information about IO 351B, see section IO 351.

Related information

CU 352
IO 351

Repair switch

Description	Motor current and starting method
Repair switch	≤ 16 A, DOL
	> 16 A < 25 A, DOL
	> 25 A < 40 A, DOL
	> 40 A < 63 A, DOL
	> 63 A < 80 A, DOL
	> 80 A < 100 A, DOL
	> 100 A < 125 A, DOL
	> 125 A < 175 A, DOL
	> 175 A < 250 A, DOL
	≤ 16 A, Y/Δ
	> 16 A < 25 A, Y/Δ
	> 25 A < 40 A, Y/Δ
	> 40 A < 63 A, Y/Δ
	> 63 A < 80 A, Y/Δ
	> 80 A < 100 A, Y/Δ
	> 100 A < 125 A, Y/Δ
	> 125 A < 175 A, Y/Δ
	> 175 A < 250 A, Y/Δ

Redundant primary sensor

Description	Range [bar]
Redundant primary sensor [21)]	0-10
	0-16

21) 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", connect the redundant sensor to analog input AI2. If this input is also occupied, increase the number of analog inputs by installing an IO 351B module, see Control MPC installation and operating instructions.

15. Accessories

All accessories can be fitted to the system after delivery.

Option		Description
Dry-running protection	-	The system must be protected against dry running. Dry-running protection by means of level switches is used in installations where the system draws water from a tank or well. For further description, see section Dry-running protection.
Diaphragm tank		A diaphragm tank can be installed on the outlet side of the system. The diaphragm tanks are separate tanks without valve, fittings and pipes. For further data, see section Diaphragm tank.
Foot valve		Foot valves are typically used in minor systems with suction lift, for example when Hydro MPC draws water from a break tank placed at a lower geodetic height than the system. Foot valves are designed to ensure optimum inlet conditions. For further description, see section Foot valve.
Adjustable vibration damper		The vibration damper reduces any vibrations from the system to the floor allowing the system to be height-adjusted by ± 20 mm. For further description, see section Adjustable vibration damper.
Grundfos GO	-	Grundfos GO is used for wireless infrared or radio communication with the pumps. Various Grundfos GO variants are available. For further description, see section Grundfos GO.
MI 301		The MI 301 is a module with built-in infrared and radio communication. Use the MI 301 in conjunction with an Android- or iOS-based Smartphone with a Bluetooth connection. The MI 301 has a rechargeable Li-ion battery and must be charged separately. For further description, see section Grundfos GO.

Related information

Dry-running protection
Diaphragm tank
Foot valve
Adjustable vibration damper
Grundfos GO

Dry-running protection

Description	Product number
Level switch including 5 metres of cable [22)]	96020142

22) The input for the level switch is not included.

See section Optional equipment.

Only one type of dry-running protection can be selected, as it must be connected to the same digital input as CU 352. This also applies to level switches.

Related information

14. Optional equipment

Diaphragm tank

Diaphragm tank, 10 bar

Capacity [litres]	Connection	Product number
8	G 3/4	96528335
12	G 3/4	96528336
18	G 3/4	96528337
24	G 1	96528339
33	G 1	96528340
60	G 1	96528341
80	G 1	96528342
100	G 1	99082696
150	G 1	99082697
200	G 1 1/4	99082698
300	G 1 1/4	99082699
500	G 1 1/4	99082700
750	G 2	99082701
1000	G 2	99082702
1500	G 2	99082703
2000	G 2	99082704
3000	G 2	99082705

Diaphragm tank, 16 bar

Capacity [litres]	Connection	Product number
8	G 3/4	96573347
12	G 3/4	96573348
25	G 3/4	96573349
80	G 1	96603420
100	G 1	99082706
150	G 1	99082707
200	G 1 1/4	99082708
300	G 1 1/4	99082709
500	G 1 1/4	99082710
750	G 2	99082711
1000	G 2	99082712
1500	G 2	99082713
2000	G 2	99082714
3000	G 2 1/2	99082715

Foot valve

Description	Connection	Product number
Foot valve	Rp 2	956120
	Rp 3	956130
	Rp 4	956449
	Rp 5	956459
	Rp 6	956461

Adjustable vibration damper

Description	Pump	Product number
Vibration damper	CR, CRI, CRE, CRIE 3 and 5	96412344
	CR, CRI, CRE, CRIE 10 to 20	96412345
	CR, CRE 32 to 90	96412347

The product number covers one vibration damper.

Grundfos GO

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

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.



TM053890

MI 301

Supplied with the product:

- Grundfos MI 301
- battery charger
- quick guide.

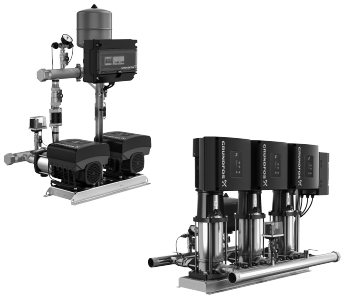
Product numbers for MI 301

Grundfos GO variant	Product number
Grundfos MI 301	98046408

16. Product manuals

Title	Document type	QR code	Link	Publication number
CR, CRI, CRN (50 Hz)	Data booklet		http://net.grundfos.com/qr/i/99301179	99301179
CR, CRI, CRN (60 Hz)	Data booklet		http://net.grundfos.com/qr/i/99301180	99301180
CR, CRI, CRN, CRT, CRE, CRIE, CRNE, CRTE custom-built pumps	Data booklet		http://net.grundfos.com/qr/i/96486346	96486346
CRE, CRIE, CRNE	Data booklet		http://net.grundfos.com/qr/i/98423696	98423696
CR, CRI, CRN	Installation and operating instructions		http://net.grundfos.com/qr/i/96462123	96462123
CR, CRN 95-255	Installation and operating instructions		http://net.grundfos.com/qr/i/99078486	99078486
CR, CRN 95-255	Service instructions		http://net.grundfos.com/qr/i/99233360	99233360
Hydro MPC	Installation and operating instructions		http://net.grundfos.com/qr/i/96605907	96605907
Hydro MPC	Quick guide		http://net.grundfos.com/qr/i/99107595	99107595
Control MPC	Installation and operating instructions		http://net.grundfos.com/qr/i/99725671	99725671
Control MPC	Installation and operating instructions		http://net.grundfos.com/qr/i/96768036	96768036
Tank calculation in E systems	-		http://net.grundfos.com/qr/i/92845021	92845021

17. Alternative systems

System	Data and features	
Hydro Multi-E 	Maximum head	10 to 145 m
	Flow rate	2 to 144 m^3/h
	Max. operating pressure	16 bar
	Number of pumps	2 or 4
	Pump type	CRE, CRIE, CME
	Features	Specially designed for water supply in buildings. 100 % adaptation to consumption. Easy to install and commission. Small footprint. Data communication via Grundfos GO.

18. Grundfos Product Center

Online search and sizing tool to help you make the right choice.
From the international view, you can select your specific country to view the product range available to you.
International view: *https://product-selection.grundfos.com*

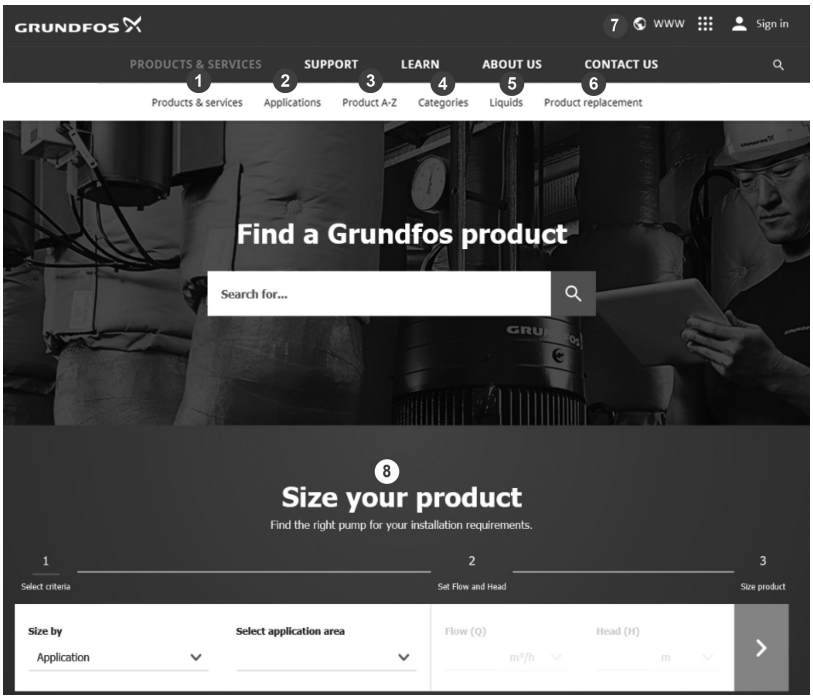
All the information you need in one place

Performance curves, technical specifications, pictures, dimensional drawings, motor curves, wiring diagrams, spare parts, service kits, 3D drawings, documents, system parts. The Product Center displays any recent and saved items - including complete projects - right on the main page.

Downloads

On the product pages, you can download installation and operating instructions, data booklets, service instructions, etc., in PDF format.





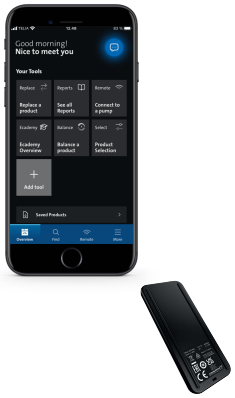
When you select your country, you will see the menus below. Note that some menus may not be available depending on the country.
Example: *https://product-selection.grundfos.com/uk*

Pos.	Description
1	**Products & services** enables you to find products and documents by typing a product number or name into the search field.
2	**Applications** enables you to choose an application to see how Grundfos can help you design and optimise your system.
3	**Products A-Z** enables you to look through a list of all the Grundfos products.
4	**Categories** enables you to look for a product category.
5	**Liquids** enables you to find pumps designed for aggressive, flammable or other special liquids.
6	**Product replacement** enables you to find a suitable replacement.
7	**WWW** enables you to select the country, which changes the language, the available product range and the structure of the website.
8	**Sizing** enables you to size a product based on your application and operating conditions.

19. Grundfos GO

Mobile solution for professionals on the GO!

Grundfos GO is the mobile toolbox for professional users on the go. It is the most comprehensive platform for mobile pump control and pump selection, including sizing, replacement and documentation. It offers intuitive, handheld assistance and access to Grundfos online tools, and it saves valuable time for reporting and data collection.



GET IT ON Google play

Available on the App Store

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