

**Date:** 19/06/2019

Qty. | Description

1 HYDRO MPC-E 2 CRIE5-12



Note! Product picture may differ from actual product

Product No.: 99208231

Pressure booster system supplied as compact assembly according to DIN standard 1988/T5.

All pumps are speed-controlled.

From 0.37 to 11 kW, the booster system is equipped with CR, CRE, CRI, CRIE pumps with electronically commutated permanent-magnet motors with extremely high efficiency. The total efficiency of the motor including the frequency converter applies to IE5 level in IEC60034-31.

From 15 to 22 kW, the booster system is equipped with CR, CRE, CRI, CRIE pumps with motors with integrated frequency control. The total efficiency of the motor including the frequency converter is better than the IE3 level in IEC60034-31, even though this standard only applies to the motor.

- \* Hydro MPC-E maintains a constant pressure through continuous adjustment of the speed of the pumps.
- \* The system performance is adapted to the demand through cutting in/out the required number of pumps and through parallel control of the pumps in operation.
- \* Pump changeover is automatic and depends on load, time and fault.

The system consists of these parts:

Pump parts in contact with the pumped liquid are made of stainless steel EN DIN 1.4301

Pump bases and heads are of either cast iron/stainless steel (CRI) or cast iron EN-GJS-500-7 (CR), depending on pump type; other vital parts are made of stainless steel EN DIN 1.4301

The pumps are equipped with a service-friendly cartridge shaft seal, HQQE (SiC/SiC/EPDM)

- Two stainless steel manifolds to EN DIN 1.4571
- \* Stainless steel base frame to EN DIN 1.4301 up to CR 90; above CR 90 the pumps are placed on a galvanized I-Beam frame
- \* One non-return valve (POM) and two isolating valves for each pump
- Non-return valves are certified according to DVGW, isolating valves according to DIN and DVGW
- \* Adapter with isolating valve for connection of diaphragm tank
- \* Pressure gauge and pressure transmitter (analog output 4-20 mA)
- \* Control MPC in a steel cabinet, IP54, including main switch, all required fuses, motor protection, switching equipment and microprocessor-controlled CU 352.

Dry-running protection and diaphragm tank are available according to the list of accessories.

Pump operation is controlled by Control MPC with the following functions:

Intelligent multipump controller, CU 352.

Constant-pressure control through continuously variable adjustment of the speed of each individual pump.

PID controller with adjustable PI parameters (Kp + Ti). Constant pressure at setpoint, independent of inlet pressure.

Soft pressure build-up (To prevent water hammer during startup).

On/off operation at low flow.

Automatic cascade control of pumps for optimum efficiency.

Selection of min. time between start/stop, automatic pump changeover and pump priority.

Automatic pump test function to prevent idle pumps from seizing up.

Possibility of standby pump allocation.

Possibility of backup sensor (redundant primary sensor).



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Secondary sensor (Possible to switch to another sensor/setpoint).

Multi-sensor (up to 6 sensors to influence the setpoint).

Manual operation.

Possibility of external setpoint influence.

Log function. Setpoint ramp.

Possibility of digital remote-control functions:

System on/off.

Max., min. or user-defined duty. Up to 6 alternative setpoints.

Digital inputs and outputs can be configured individually.

Pump and system monitoring functions:

Minimum and maximum limits of current value.

Inlet pressure.

Non-return valve monitoring.

Motor protection.

Sensors and cables monitored for malfunction. Alarm log with the previous 24 warnings/alarms.

Display and indication functions:

Colour screen display.

Green indicator light for operating indications and red indicator light for fault

indications

Potential-free changeover contacts for operation and fault.

Grundfos bus communication.

It is possible to add CIM communication modules for communicating with Scada/BMS.

Pumps, piping, cabling complete as well as Control MPC are mounted on the base frame.

The booster system has been preset and tested.

Flow media: Water
Allowed liquid temp.: 5 °C .. 60 °C
System pressure max.: 16 bar
Flow (Plant): 20 m³/h

Flow without one stand-by pump acc. DIN 1988/T5: 10 m³/h

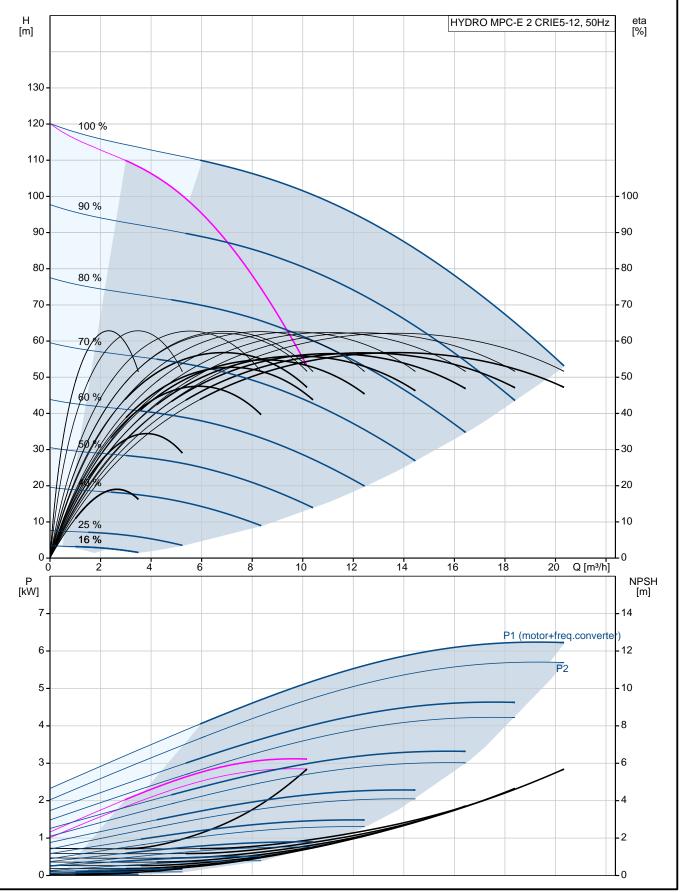
Mains suply: 380-415 V
Nom. current of plant: 11,6A-415 V
Nominal power: 3 kW
Net weight: 135 kg

Maximum head: 120 m Maximum flow: 20 m<sup>3</sup>/h



**Date:** 19/06/2019

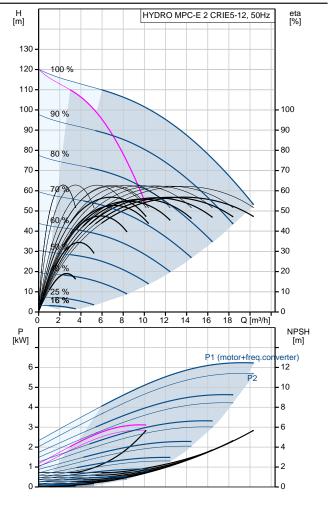
## 99208231 HYDRO MPC-E 2 CRIE5-12 50 Hz





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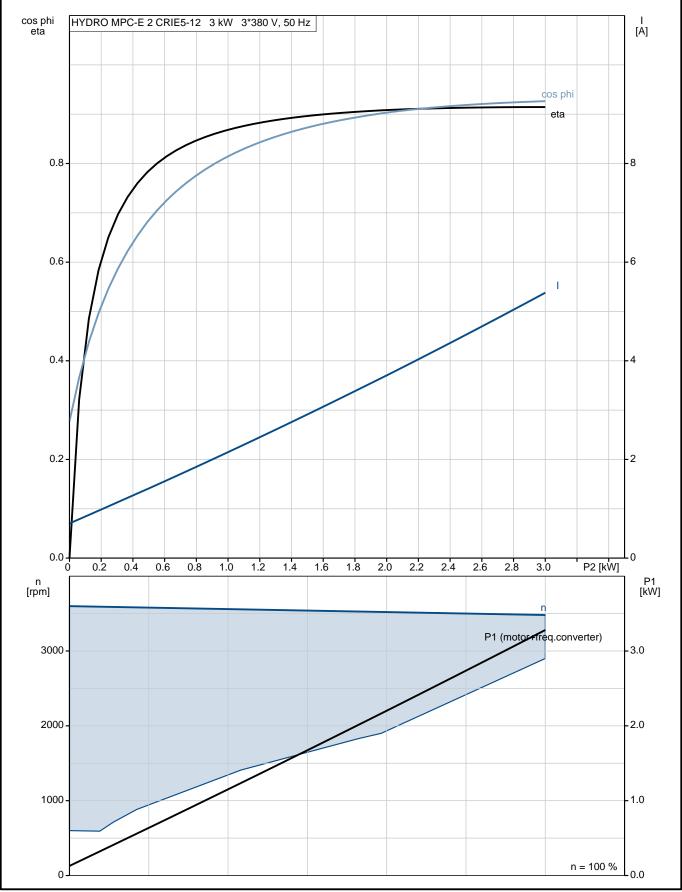
Description         Value           General information:         HYDRO MPC-E 2 CRIE5-12           Product name:         HYDRO MPC-E 2 CRIE5-12           Product No:         992/08/231           EAN number:         5712608712562           Technical:         Max flow:           Max flow system:         10 m³/h           Head max:         120 m           Main pump name:         CRIE5-12           Main pump No:         99072206           Number of pumps:         2           Non-ret. valve:         at discharge side           Materials:         EN/DIN 1.4571/ AISI 316 TI           Manifolds:         EN/DIN 1.4571/ AISI 316 TI           Installation:         Maximum operating pressure:           Manifold inlet:         R 2"           Manifold outlet:         R 2"           Pressure rating:         PN16           Earth connection:         PE           System design:         A           Liquid:         Water           Pumped liquid:         Water           Liquid temperature range:         5 60 °C           Selected liquid temperature:         20 °C           Density at selected liquid temperature:         998.2 kg/m³           Electri		
Product No:         HYDRO MPC-E 2 CRIE5-12           Product No:         99208231           EAN number:         5712608712562           Technical:         Freshing           Max flow:         20 m³/h           Max flow system:         10 m³/h           Head max:         120 m           Main pump name:         CRIE5-12           Main pump No:         99072206           Number of pumps:         2           Non-ret, valve:         at discharge side           Materials:         Manifolds:           Manifolds:         EN/DIN 1.4571/ AISI 316 TI           Installation:         Maximum operating pressure:         16 bar           Manifold inlet:         R 2"           Manifold outlet:         R 2"           Pressure rating:         PN16           Earth connection:         PE           System design:         A           Liquid:         Water           Uiquid:         Water           Pumped liquid:         Water           Uiquid temperature range:         5 60 °C           Selected liquid temperature:         20 °C           Density at selected liquid temperature:         20 °C           Electrical data:         Contro	Description	Value
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EAN number: 5712608712562  Technical:  Max flow: 20 m³/h  Max flow system: 10 m³/h  Head max: 120 m  Main pump name: CRIE5-12  Main pump No: 99072206  Number of pumps: 2  Non-ret. valve: at discharge side  Materials:  Manifolds: EN/DIN 1.4571/ AISI 316 TI  Installation:  Maximum operating pressure: 16 bar  Manifold inlet: R 2"  Manifold outlet: R 2"  Manifold outlet: R 2"  Pressure rating: PN16  Earth connection: PE  System design: A  Liquid:  Pumped liquid: Water  Liquid temperature range: 5 60 °C  Selected liquid temperature: 20 °C  Density at selected liquid temperature: 998.2 kg/m³  Electrical data:  Power (P2) main pump: 3 kW  Mains frequency: 50 Hz  Rated current of system: 11,6A-415V  Start. method: electronically  Enclosure class (IEC 34-5): IP54  Radio interference supression: EMC  DIRECTIVE(2014/30/EU)  Controls:  Control type: E  Tank:  Diaphragm tank: Yes  Others:  Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config.file Control MPC: 98271946	Product name:	HYDRO MPC-E 2 CRIE5-12
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Head max:         120 m           Main pump name:         CRIE5-12           Main pump No:         99072206           Number of pumps:         2           Non-ret. valve:         at discharge side           Materials:         manifolds:           Manifolds:         EN/DIN 1.4571/ AISI 316 TI           Installation:         Installation:           Maximum operating pressure:         16 bar           Manifold inlet:         R 2"           Manifold outlet:         R 2"           Pressure rating:         PN16           Earth connection:         PE           System design:         A           Liquid:         Water           Liquid temperature range:         5 60 °C           Selected liquid temperature:         20 °C           Density at selected liquid temperature:         998.2 kg/m³           Electrical data:         Power (P2) main pump:         3 kW           Mains frequency:         50 Hz           Rated voltage:         3 x 380-415 V           Rated current of system:         11,6A-415V           Start. method:         electronically           Enclosure class (IEC 34-5):         IP54           Radio interference supression:         EMC	Max flow:	20 m³/h
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Number of pumps: 2 Non-ret. valve: at discharge side  Materials: Manifolds: EN/DIN 1.4571/ AISI 316 TI Installation:  Maximum operating pressure: 16 bar Manifold inlet: R 2" Manifold outlet: R 2" Pressure rating: PN16 Earth connection: PE System design: A  Liquid: Pumped liquid: Water Liquid temperature range: 5 60 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³  Electrical data: Power (P2) main pump: 3 kW Mains frequency: 50 Hz Rated current of system: 11,6A-415V Start. method: electronically Enclosure class (IEC 34-5): IP54 Radio interference supression: EMC Directive (2014/30/EU)  Controls: Control type: E Tank: Diaphragm tank: Yes Others: Basis plant: Y Net weight: 135 kg Gross weight: 157 kg Product range: GB Config. file no: 98272380 Config. file no: 98271946	Main pump name:	CRIE5-12
Non-ret. valve: at discharge side  Materials:  Manifolds: EN/DIN 1.4571/ AISI 316 TI Installation:  Maximum operating pressure: 16 bar  Manifold inlet: R 2"  Manifold outlet: R 2"  Pressure rating: PN16  Earth connection: PE System design: A  Liquid:  Pumped liquid: Water  Liquid temperature range: 5 60 °C  Selected liquid temperature: 20 °C  Density at selected liquid temperature: 998.2 kg/m³  Electrical data:  Power (P2) main pump: 3 kW  Mains frequency: 50 Hz  Rated voltage: 3 x 380-415 V  Rated current of system: 11,6A-415V  Start. method: electronically Enclosure class (IEC 34-5): IP54  Radio interference supression: EMC DIRECTIVE(2014/30/EU)  Controls:  Control type: E  Tank:  Diaphragm tank: Yes  Others: Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946	Main pump No:	99072206
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Power (P2) main pump:         3 kW           Mains frequency:         50 Hz           Rated voltage:         3 x 380-415 V           Rated current of system:         11,6A-415V           Start. method:         electronically           Enclosure class (IEC 34-5):         IP54           Radio interference supression:         EMC DIRECTIVE(2014/30/EU)           Controls:         E           Control type:         E           Tank:         Yes           Diaphragm tank:         Yes           Others:         Basis plant:           Net weight:         135 kg           Gross weight:         157 kg           Product range:         GB           Config. file no:         98272380           Config. file Control MPC:         98271946	Density at selected liquid	998.2 kg/m³
Mains frequency: Rated voltage: 3 x 380-415 V  Rated current of system: 11,6A-415V  Start. method: electronically  Enclosure class (IEC 34-5):  Radio interference supression:  Controls:  Control type:  Diaphragm tank: Diaphragm tank:  Others:  Basis plant: Net weight: Gross weight: P50 Hz  Sand-415 V  EMC DIRECTIVE(2014/30/EU)  E  Tank:  Diaphragm tank: Yes  Others:  Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946	Electrical data:	
Mains frequency: Rated voltage: 3 x 380-415 V  Rated current of system: 11,6A-415V  Start. method: electronically  Enclosure class (IEC 34-5):  Radio interference supression:  Controls:  Control type:  Diaphragm tank: Diaphragm tank:  Others:  Basis plant: Net weight: Gross weight: P50 Hz  Sand-415 V  EMC DIRECTIVE(2014/30/EU)  E  Tank:  Diaphragm tank: Yes  Others:  Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946	Power (P2) main pump:	3 kW
Rated current of system: 11,6A-415V  Start. method: electronically  Enclosure class (IEC 34-5): IP54  Radio interference supression: EMC DIRECTIVE(2014/30/EU)  Controls: Control type: E  Tank: Diaphragm tank: Yes  Others: Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946		50 Hz
Rated current of system: 11,6A-415V  Start. method: electronically  Enclosure class (IEC 34-5): IP54  Radio interference supression: EMC DIRECTIVE(2014/30/EU)  Controls: Control type: E  Tank: Diaphragm tank: Yes  Others: Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946	· · · · · · · · · · · · · · · · · · ·	3 x 380-415 V
Start. method: electronically  Enclosure class (IEC 34-5): IP54  Radio interference supression: DIRECTIVE(2014/30/EU)  Controls: Control type: E  Tank: Diaphragm tank: Yes  Others: Basis plant: Y Net weight: 135 kg Gross weight: 157 kg Product range: GB  Config. file no: 98272380  Config. file Control MPC: 98271946		11,6A-415V
Enclosure class (IEC 34-5):  Radio interference supression:  Controls:  Control type:  E Tank:  Diaphragm tank:  Others:  Basis plant:  Net weight:  Gross weight:  Product range:  Config. file no:  98272380  Config. file Control MPC:		electronically
Radio interference supression:  Controls: Control type: E Tank: Diaphragm tank: Ves Others: Basis plant: Net weight: Gross weight: Product range: Config. file no: 98272380 Config. file Control MPC:	Enclosure class (IEC 34-5):	
Control type: E  Tank: Diaphragm tank: Yes  Others: Basis plant: Y Net weight: 135 kg Gross weight: 157 kg Product range: GB Config. file no: 98272380 Config.file Control MPC: 98271946		
Tank: Diaphragm tank:  Others:  Basis plant:  Net weight:  Gross weight:  Product range:  Config. file no:  98272380  Config.file Control MPC:  98271946	Controls:	
Diaphragm tank: Yes  Others:  Basis plant: Y  Net weight: 135 kg  Gross weight: 157 kg  Product range: GB  Config. file no: 98272380  Config.file Control MPC: 98271946	Control type:	E
Others:  Basis plant:  Net weight:  Gross weight:  135 kg  157 kg  Product range:  GB  Config. file no:  98272380  Config.file Control MPC:  98271946	Tank:	
Others:  Basis plant:  Net weight:  Gross weight:  135 kg  157 kg  Product range:  GB  Config. file no:  98272380  Config.file Control MPC:  98271946	Diaphragm tank:	Yes
Net weight: 135 kg Gross weight: 157 kg Product range: GB Config. file no: 98272380 Config.file Control MPC: 98271946		
Gross weight: 157 kg Product range: GB Config. file no: 98272380 Config.file Control MPC: 98271946	Basis plant:	Υ
Product range: GB  Config. file no: 98272380  Config.file Control MPC: 98271946	Net weight:	135 kg
Product range: GB  Config. file no: 98272380  Config.file Control MPC: 98271946		
Config. file no: 98272380 Config.file Control MPC: 98271946		
Config.file Control MPC: 98271946		
Cornig.ine rivaro ivir C. 30272020	Config.file Hydro MPC:	98272020
Country of origin: GB		
Custom tariff no.: 84137075		





**Date:** 19/06/2019

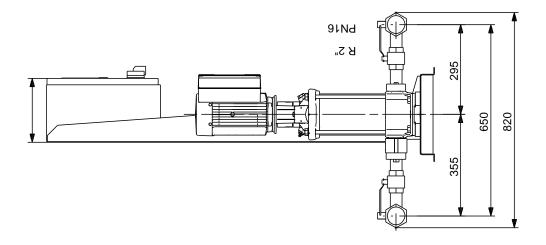
## 99208231 HYDRO MPC-E 2 CRIE5-12 50 Hz

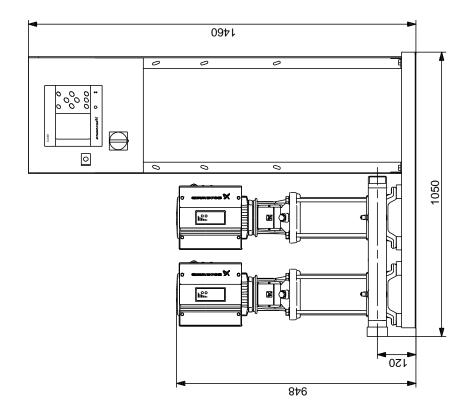




**Date:** 19/06/2019

## 99208231 HYDRO MPC-E 2 CRIE5-12 50 Hz





Note! All units are in [mm] unless others are stated. Disclaimer: This simplified dimensional drawing does not show all details.



**Date:** 19/06/2019

## 99208231 HYDRO MPC-E 2 CRIE5-12 50 Hz

