

# Vorgabedaten

PROJEKT:	UNIT TAG:	MENGE:
ANSPRECHPARTNER: _____	SERVICELEISTUNG:	DATUM: _____
INGENIEUR/TECHNIKER:	VORGEGEBEN VON:	DATUM:
AUFTRAGNEHMER:	GENEHMIGT VON:	DATUM:
	BESTELLNUMMER:	DATUM:

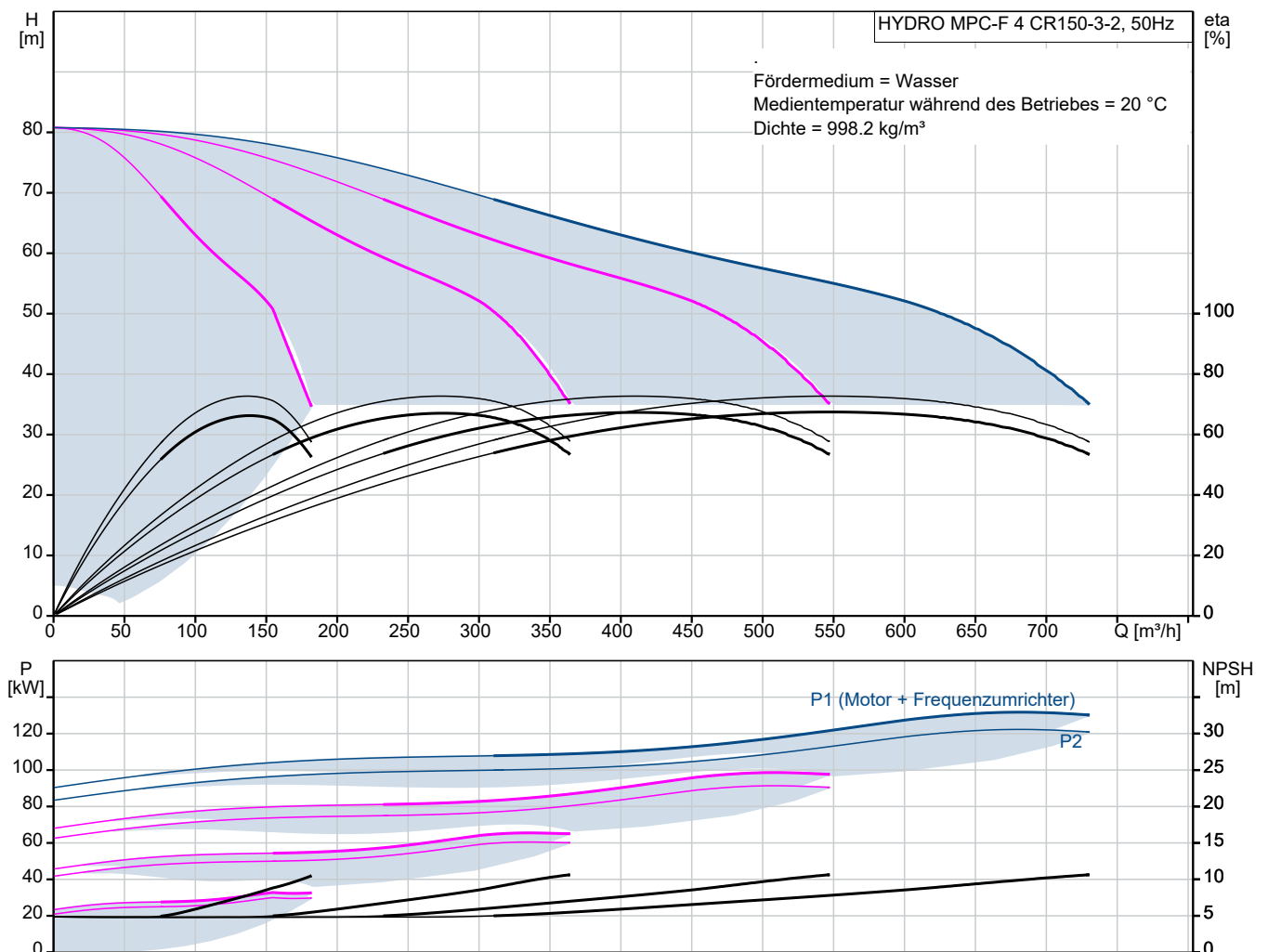
## HYDRO MPC-F 4 CR150-3-2

Druckerhöhungsanlagen mit Frequenzumrichtersteuerung

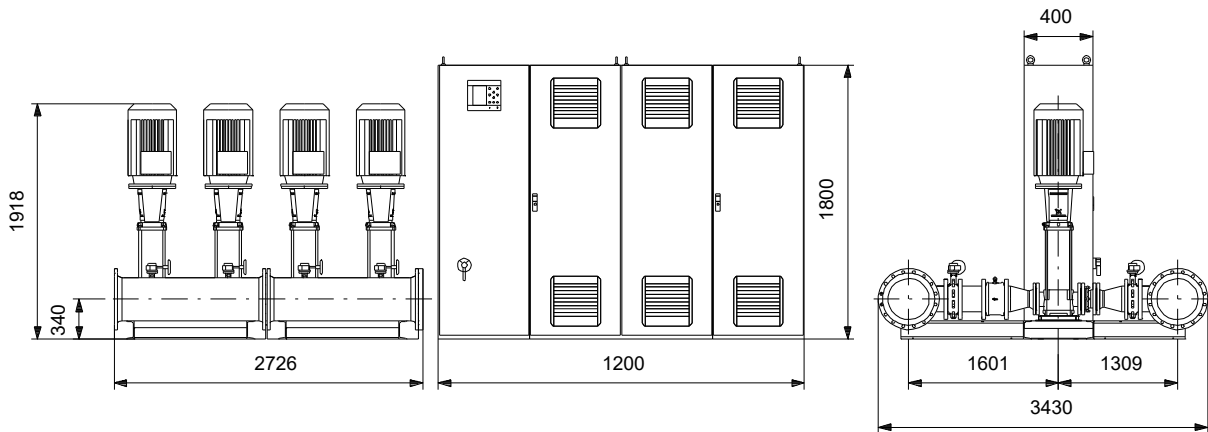


Hinweis! Abbildung kann vom Produkt abweichen.

Servicebedingungen		Pumpendaten		Motordaten	
Fördermedium:	Wasser	Max. Betriebsdruck:	16 bar	Netzfrequenz:	50 Hz
Temperatur:	20 °C	Medientemperaturbereich:	5 .. 60 °C	Schutzart:	IP54
Relative Dichte:	1.000	Produktnummer:	auf Anfr.		



# Vorgabedaten



**Werkstoffe:**

Verrohrung: EN/DIN 1.4571/ AISI 316 TI

Anz. Beschreibung

1 HYDRO MPC-F 4 CR150-3-2



Hinweis! Abbildung kann vom Produkt abweichen.

Produktnr.: auf Anfr.

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

The pumps are CR pumps connected to one external Grundfos CUE frequency converter. The speed-controlled operation alternates between the pumps.

- \* Hydro MPC-F maintains a constant pressure through continuous adjustment of the speed of the pump connected to the CUE frequency converter.
- \* The system performance is adapted to the demand through cutting in/out the required number of CR 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:

:vertical multistage centrifugal pumps, type CR150-3-2.

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 manifolds of stainless steel EN DIN 1.4571.
- \* Base frame of stainless steel EN DIN 1.4301 up to CR 90 above CR90 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, IP 54, including main switch, all required fuses, motor protection, switching equipment and microprocessor-controlled CU 352.

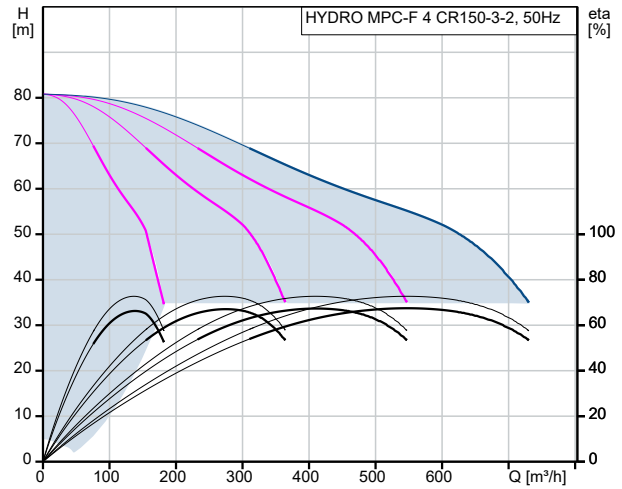
Dry-running protection and diaphragm tank are available according to the list of accessories.

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

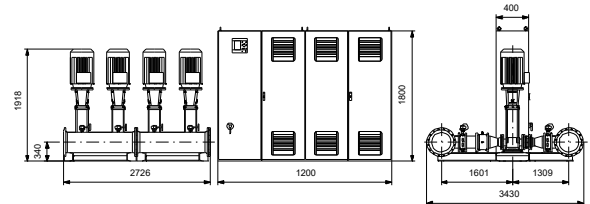
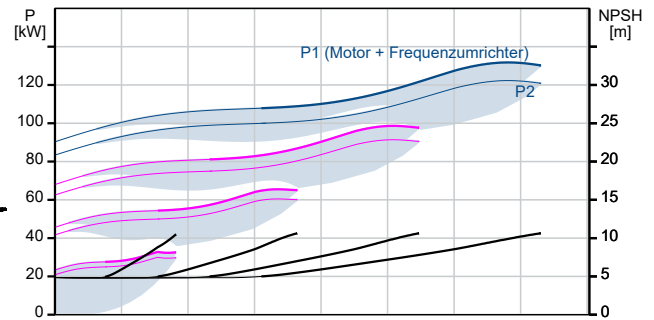
- \* Intelligent multipump controller, CU 352.  
Constant-pressure control through continuously variable adjustment of the speed of each individual pump.  
PID controller with adjustable PI parameters ( $K_p + T_i$ ).  
Constant pressure at setpoint, independent of inlet pressure.  
Soft pressure build-up ( $T_o$  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).

Anz.	Beschreibung
1	<p>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.            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.</p> <p>It is possible to add CIM communication modules for communicating with Scada/BMS.</p> <p>Pumps, piping, cabling complete as well as Control MPC are mounted on the base frame.            The booster system has been preset and tested.</p> <p>Fördermedium: Wasser            zul. Mediumtemp.: 5 °C .. 60 °C            Max. Betriebsdruck: 16 bar            Max. Förderstrom d. Anlage: 720 m³/h            Förderstrom der Anlage ohne die Reservepumpe nach DIN 1988/T5: 495 m³/h            Nennstrom der Anlage: 53.5 A            Motorbemessungsleistung: 30 kW            Membranbehälter, Komponenten zur Wassermangelüberwachung und alternative Bedieneinheiten können aus der Zubehörliste ausgewählt werden.            Nettogewicht: 3190 kg</p>

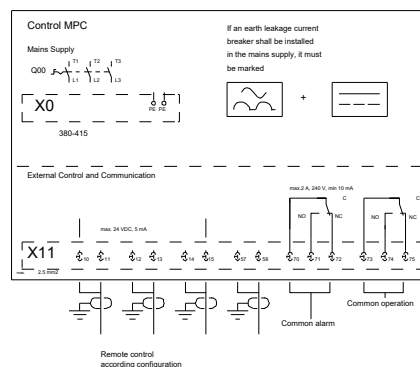
Beschreibung	Daten
<b>Allgemeine Informationen:</b>	
Produktbezeichnung:	HYDRO MPC-F 4 CR150-3-2
Produktnummer:	auf Anfr.
EAN-Nummer:	auf Anfr.
Preis:	
<b>Technische Daten:</b>	
Maximaler Förderstrom:	720 m <sup>3</sup> /h
Max. Q Anlage (ohne Reservep.):	495 m <sup>3</sup> /h
Maximale Förderhöhe:	78 m
Bezeichnung der Hauptpumpe:	CR150-3-2
Produktnummer Hauptpumpe:	95922377
Anzahl der Pumpen:	4
Rückflußverhinderer:	Y
<b>Werkstoffe:</b>	
Verrohrung:	EN/DIN 1.4571/ AISI 316 TI
<b>Installation:</b>	
Max. Betriebsdruck:	16 bar
Maximal zulässiger Zulaufdruck:	8.2 bar
Anschluss Saugseite:	DN350
Anschluss Druckseite:	DN350
Nennndruck:	PN16
Masseanschluss:	PE
Anlagengestaltung:	C
<b>Fördermedium:</b>	
Fördermedium:	Wasser
Medientemperaturbereich:	5 .. 60 °C
Medientemperatur während des Betriebs:	20 °C
Dichte:	998.2 kg/m <sup>3</sup>
<b>Elektrische Daten:</b>	
Leistung (P2) je Pumpe:	30 kW
Netzfrequenz:	50 Hz
Bemessungsspannung:	3 x 380-415 V
Nennstrom der Anlage:	53.5 A
Einschaltart:	S/D
Schutzart (gemäß IEC 34-5):	IP54
Funkentstörung:	EMC DIRECTIVE(2014/30/EU)
<b>Art der Steuerung:</b>	
Steuerungsart:	F
<b>Behälter:</b>	
Membrandruckbehälter:	N
<b>Sonstiges:</b>	
Nettogewicht:	3190 kg
Bruttogewicht:	3400 kg
Softwareversion:	98272339
Konfigurationsdatei Control MPC:	98272003
Konfigurationsdatei Hydro MPC:	98272018



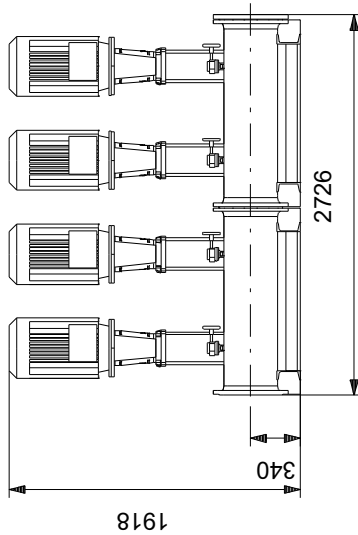
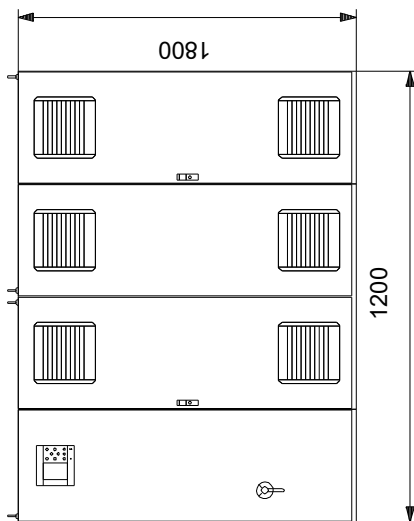
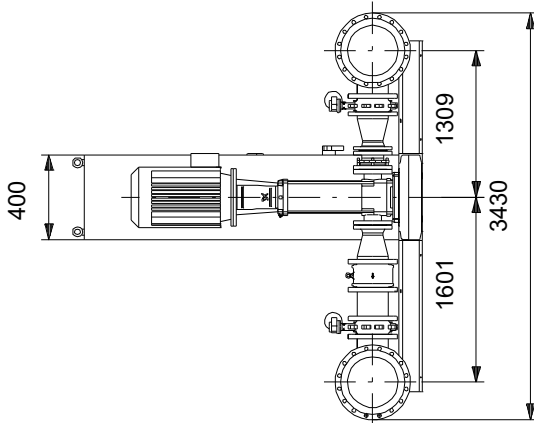
Fördermedium = Wasser  
 Medientemperatur während des Betriebes = 20 °C  
 Dichte = 998.2 kg/m<sup>3</sup>



### Field Wiring



## auf Anfr. HYDRO MPC-F 4 CR150-3-2 50 Hz



Achtung! Soweit nicht anders angegeben, handelt es sich um Millimeterangaben (mm). Die vereinfachte Maßzeichnung zeigt nicht alle