


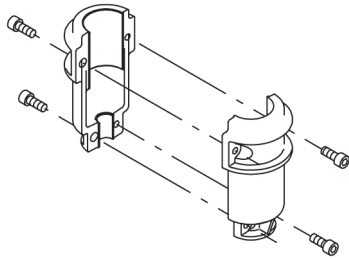
Qty.	Description
1	<p data-bbox="199 336 502 369">CRE 45-4-2 N-F-A-E-HQQE</p>  <p data-bbox="590 683 1061 705" style="text-align: center;">Note! Product picture may differ from actual product</p> <p data-bbox="199 716 462 739">Product No.: 96123415</p> <p data-bbox="199 772 1428 873">Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). The pump head and base are in cast iron – all other wetted parts are in stainless steel. A cartridge shaft seal ensures high reliability, safe handling, and easy access and service. Power transmission is via a rigid split coupling. Pipe connection is via DIN flanges.</p> <p data-bbox="199 918 917 940">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="199 952 1396 996">The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement.</p> <p data-bbox="199 1008 1444 1052">An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The operating panel has indicator lights for "Operation" and "Fault".</p> <p data-bbox="199 1064 1420 1131">Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".</p> <p data-bbox="199 1153 790 1176">The terminal box holds terminals for these connections:</p> <ul data-bbox="239 1176 1460 1534" style="list-style-type: none"> • pump start/stop input (potential-free contact) • remote setpoint setting via analog signal, 0-10 V, 0(4)-20 mA • 10 V voltage supply for setpoint potentiometer, I_{max} = 5 mA • three analog sensor inputs, 0-10 V, 0(4)-20 mA; the factory-fitted pressure sensor is connected to one of these inputs • 24 V voltage supply for sensor, I_{max} = 40 mA • one analog output • three digital inputs • two Pt100 inputs • two potential-free fault signal relays with changeover contact, reporting "Fault", "Operation" or "Ready" • RS-485 GENIbus connection • interface for Grundfos CIM fieldbus module. <p data-bbox="199 1556 510 1590">Further product details</p> <p data-bbox="199 1601 1364 1646">The pump is equipped with a pressure sensor registering pump outlet pressure and enabling controlled pump operation based on constant pressure.</p> <p data-bbox="199 1657 1444 1702">An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The operating panel has indicator lights for "Operation" and "Fault".</p> <p data-bbox="199 1713 1420 1780">Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".</p> <p data-bbox="199 1803 1396 1848">Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process.</p> <p data-bbox="199 1859 1428 1904">CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface.</p> <p data-bbox="199 1915 718 1937">An integral part of the process is a pretreatment.</p> <p data-bbox="199 1948 702 1971">The entire process consists of these elements:</p> <ol data-bbox="223 1982 702 2094" style="list-style-type: none"> 1) Alkaline-based cleaning. 2) Zinc phosphating. 3) Cathodic electro-deposition. 4) Curing to a dry film thickness 18-22 my m.

Qty. Description

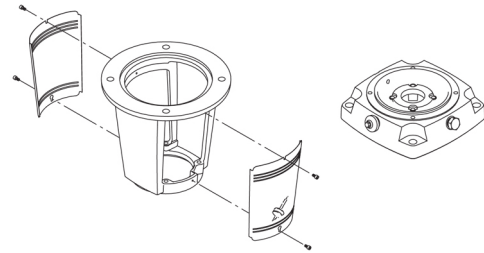
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

A long split coupling connects the pump and motor shaft. It is enclosed in the motor stool by means of two coupling guards. The long coupling makes it possible to replace the shaft seal without removing the motor from the pump.



The motor stool connects the pump head and motor. The pump head has a combined 1/2" priming plug and vent screw.



The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.

This seal type is assembled in a cartridge unit which makes replacement safe and easy.

Due to the balancing, this seal type is suitable for high-pressure applications.

The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.

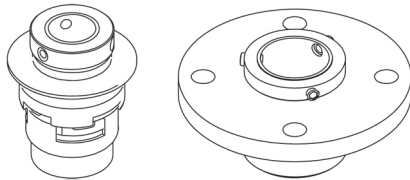
Primary seal:

- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

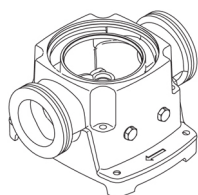
EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



The shaft seal is retained in the pump head by a cover and screws. It can be replaced without removing the motor.

The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.

The base is made of cast iron. Both the inlet and the outlet side of the base have two pressure gauge tappings. The pump is secured to the foundation by four bolts through the base plate. The flanges are fastened to the base by means of locking rings.



Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with free-hole flange (FF).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).

Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.

The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

Technical data

Liquid:

Pumped liquid: Water
Liquid temperature range: -30 .. 120 °C
Selected liquid temperature: 20 °C
Density: 998.2 kg/m³

Technical:

Pump speed on which pump data are based: 3556 rpm
Rated flow: 54 m³/h
Rated head: 104 m
Pump orientation: Vertical
Shaft seal arrangement: Single
Code for shaft seal: HQQE
Approvals: CE, EAC, UKCA
Approvals for drinking water: WRAS, ACS
Curve tolerance: ISO9906:2012 3B

Materials:

Base: Cast iron
EN 1563 EN-GJS-500-7
ASTM A536 80-55-06
Impeller: Stainless steel
EN 1.4301
AISI 304
Bearing: SIC
Support bearing: Graflon

Installation:

t max amb: 40 °C
Maximum operating pressure: 16 bar
Max pressure at stated temp: 16 bar / 120 °C
16 bar / -30 °C

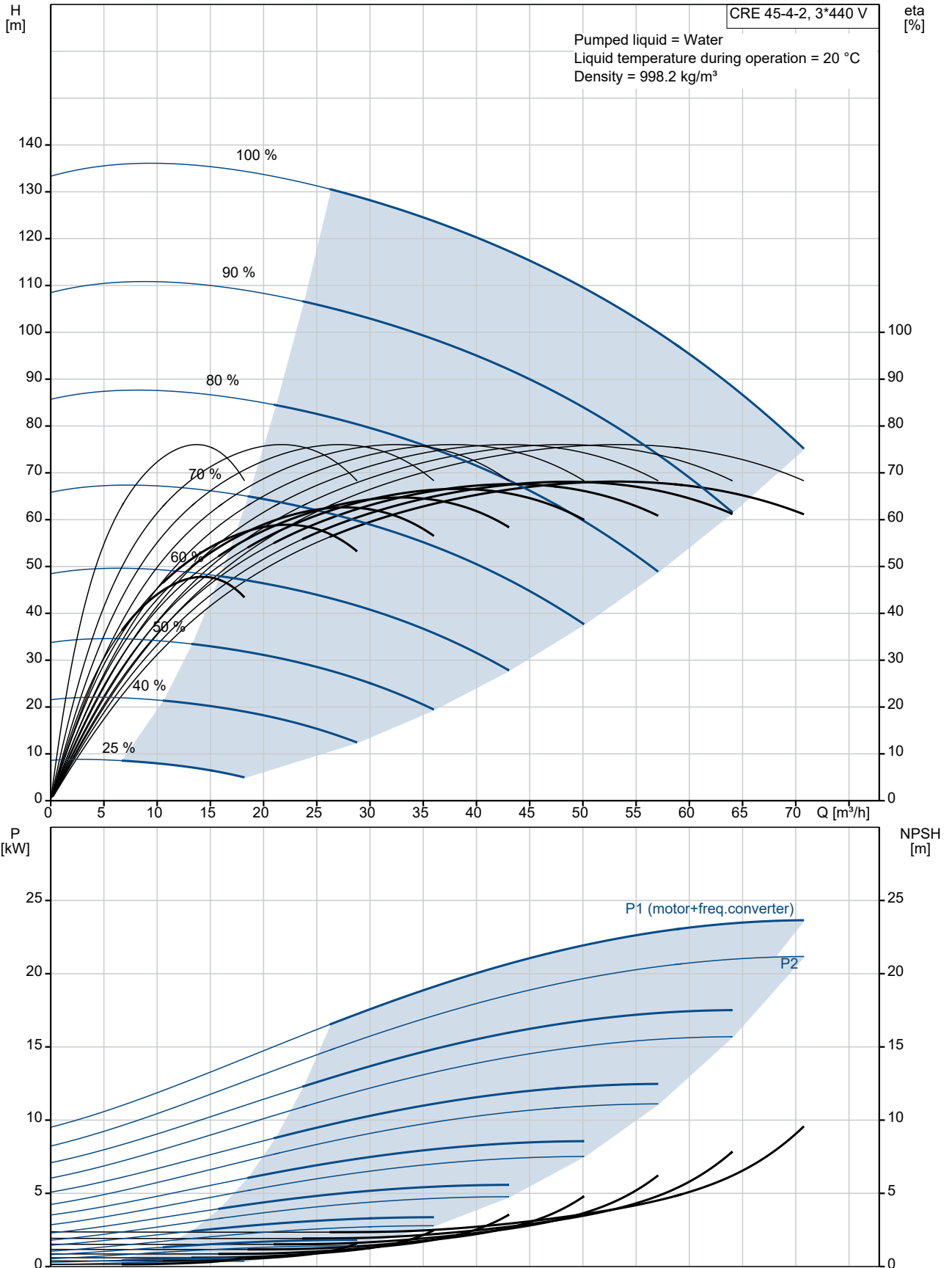
Type of connection: DIN
Size of inlet connection: DN 80
Size of outlet connection: DN 80
Pressure rating for connection: PN 40
Flange size for motor: FF300

Electrical data:

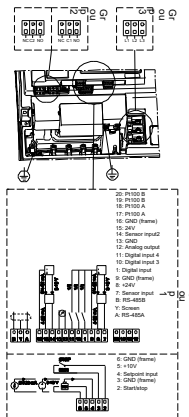
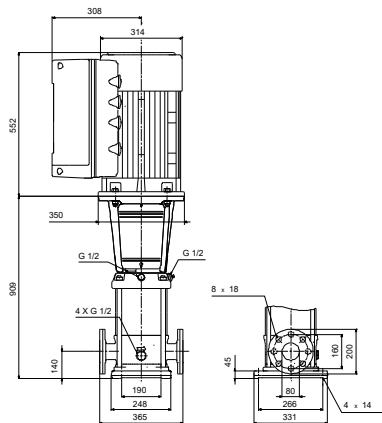
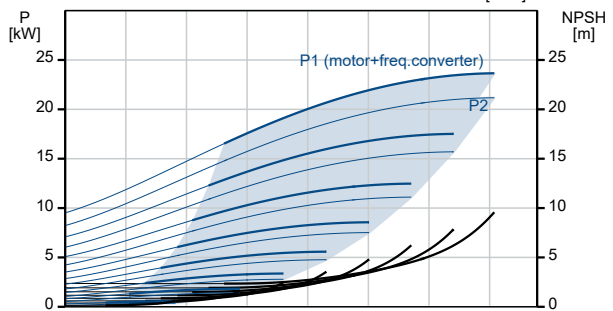
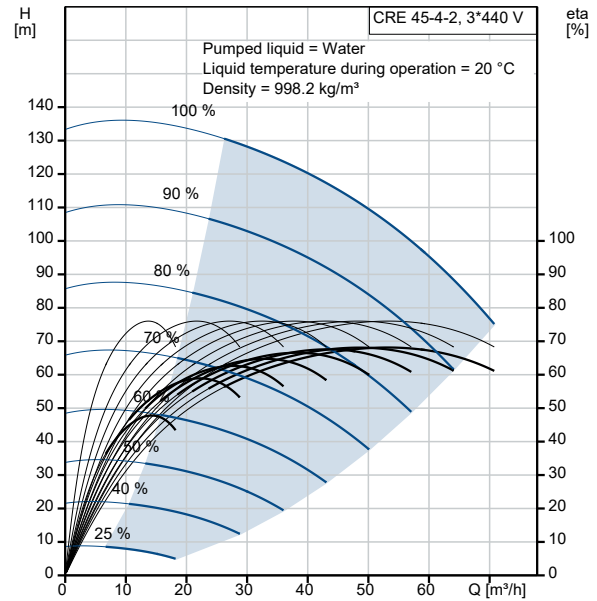
Motor standard: IEC

Qty.	Description
	Motor type: 180MB
	IE Efficiency class: IE3
	Rated power - P2: 22 kW
	Power (P2) required by pump: 22 kW
	Mains frequency: 50 / 60 Hz
	Rated voltage: 3 x 380-480 V
	Rated current: 43.5-35.0 A
	Cos phi - power factor: 0.91-0.90
	Rated speed: 480-3540 rpm
	Efficiency: IE3 92,7%
	Motor efficiency at full load: 92.7 %
	Number of poles: 2
	Enclosure class (IEC 34-5): IP55
	Insulation class (IEC 85): F
	Motor No: 85901027
	Controls:
	Frequency converter: Built-in
	Pressure sensor: Y
	Others:
	Minimum efficiency index, MEI \geq : 0.70
	Net weight: 237 kg
	Gross weight: 288 kg
	Shipping volume: 0.82 m ³
	Danish VVS No.: 385947542

96123415 CRE 45-4-2 N-F-A-E-HQQE



Description	Value
General information:	
Product name:	CRE 45-4-2 N-F-A-E-HQQE
Product No:	96123415
EAN number:	5700396694719
Price:	
Technical:	
Pump speed on which pump data are based:	3556 rpm
Rated flow:	54 m ³ /h
Rated head:	104 m
Maximum head:	133.1 m
Stages:	4
Impellers:	4
Number of reduced-diameter impellers:	2
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQE
Approvals:	CE,EAC,UKCA
Approvals for drinking water:	WRAS,ACS
Curve tolerance:	ISO9906:2012 3B
Pump version:	N
Model:	B
Materials:	
Base:	Cast iron
Base:	EN 1563 EN-GJS-500-7
Base:	ASTM A536 80-55-06
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Support bearing:	Graflon
Installation:	
t max amb:	40 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
Max pressure at stated temp:	16 bar / -30 °C
Type of connection:	DIN
Size of inlet connection:	DN 80
Size of outlet connection:	DN 80
Pressure rating for connection:	PN 40
Flange size for motor:	FF300
Connect code:	F
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-30 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m ³
Electrical data:	
Motor standard:	IEC
Motor type:	180MB
IE Efficiency class:	IE3
Rated power - P2:	22 kW
Power (P2) required by pump:	22 kW
Mains frequency:	50 / 60 Hz
Rated voltage:	3 x 380-480 V





Company name:

Created by:

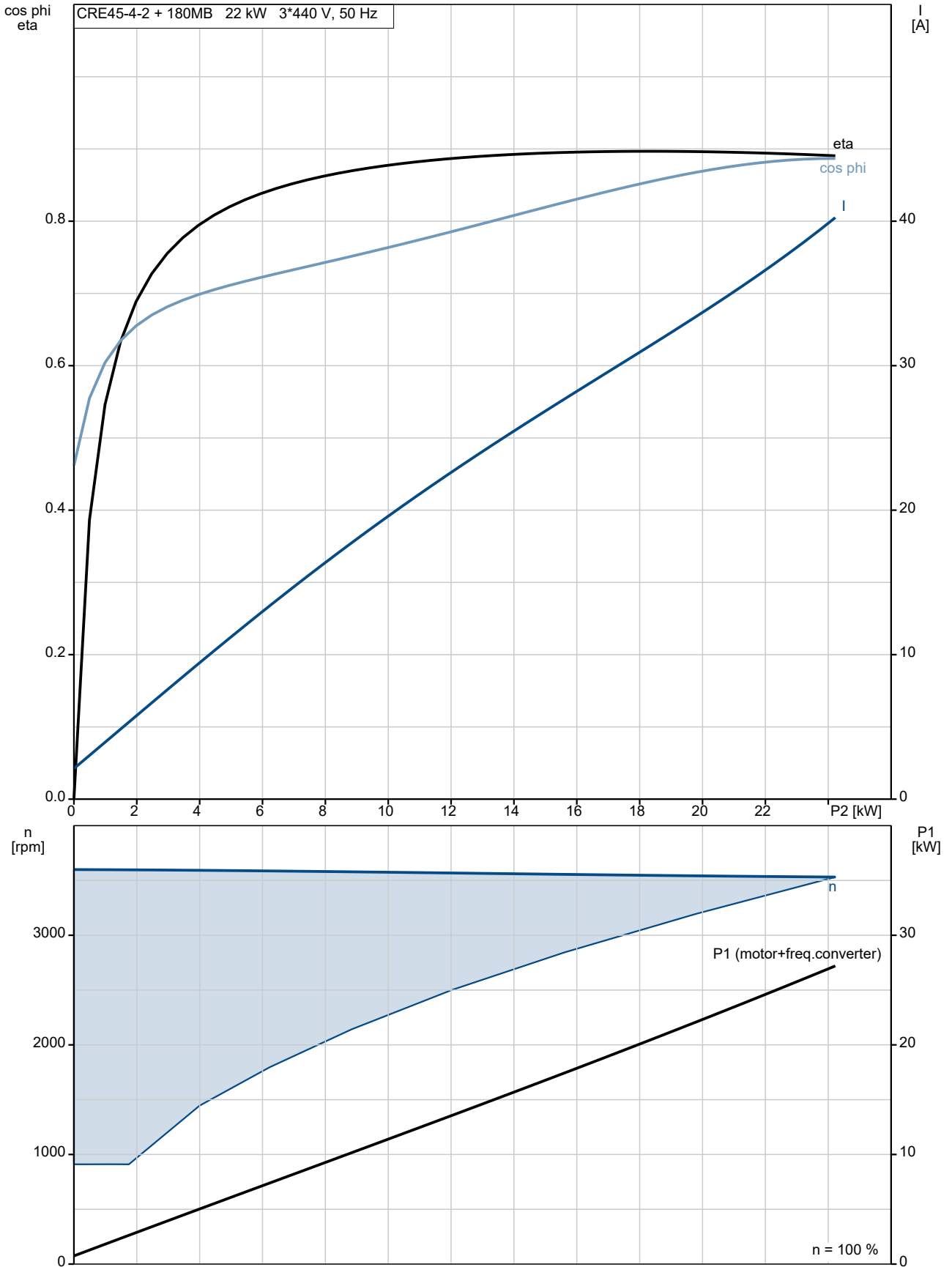
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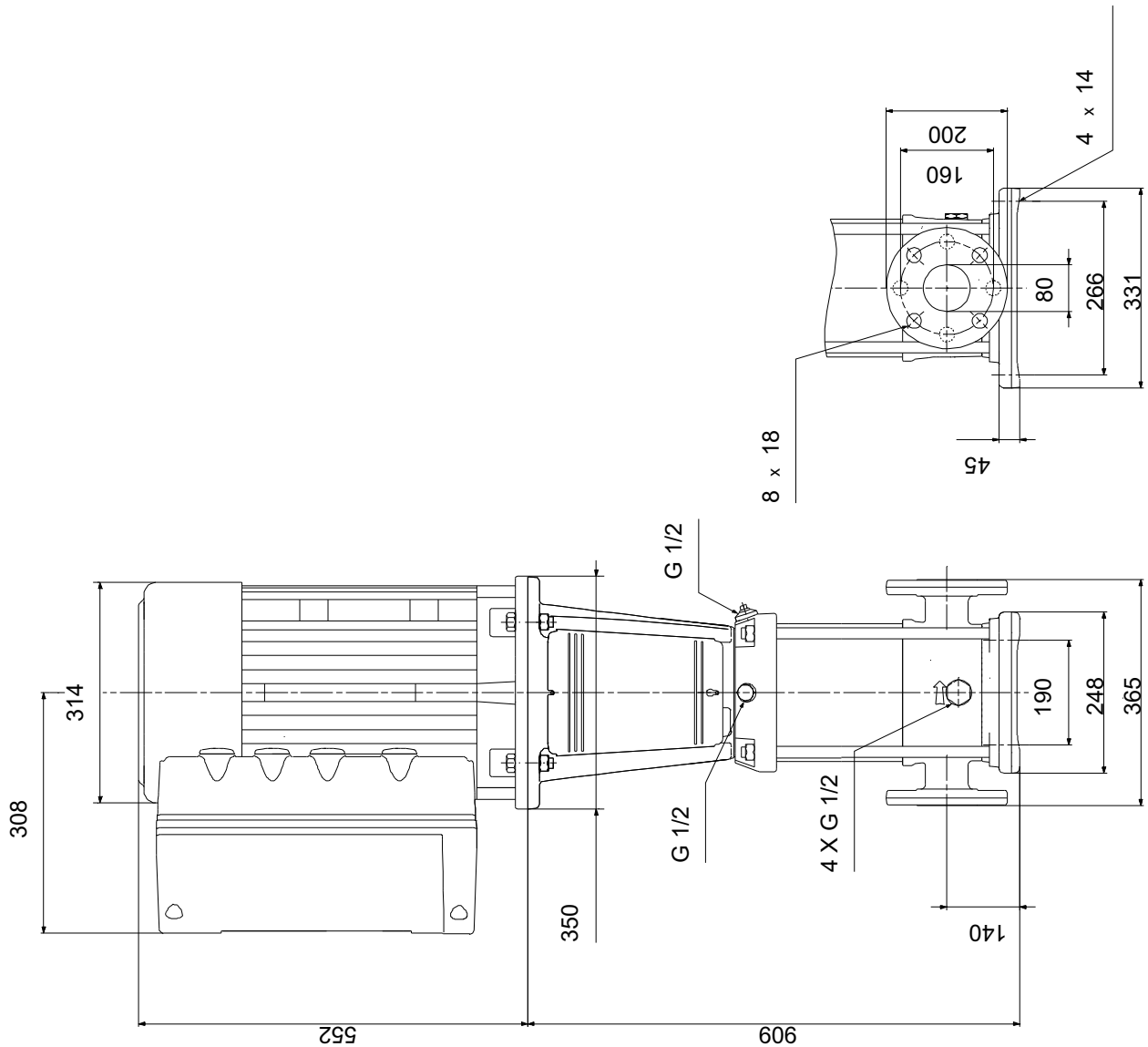
14/02/2022

Description	Value
Rated current:	43.5-35.0 A
Cos phi - power factor:	0.91-0.90
Rated speed:	480-3540 rpm
Efficiency:	IE3 92,7%
Motor efficiency at full load:	92.7 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	YES
Motor No:	85901027
Controls:	
Function Module:	ADVANCED I/O
Frequency converter:	Built-in
Pressure sensor:	Y
Others:	
Minimum efficiency index, MEI \geq :	0.70
Net weight:	237 kg
Gross weight:	288 kg
Shipping volume:	0.82 m ³
Config. file no:	95139537
Danish VVS No.:	385947542

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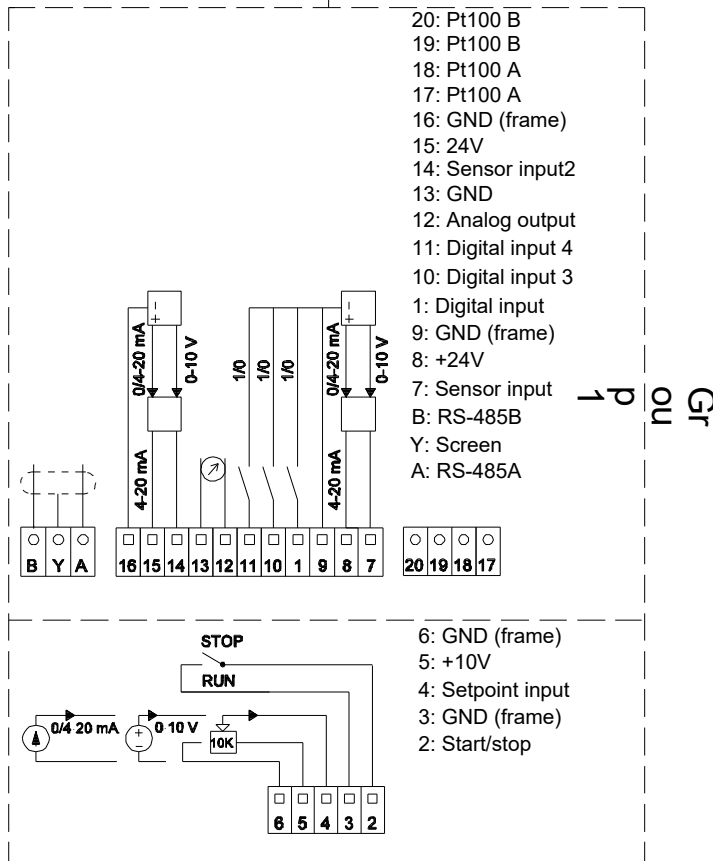
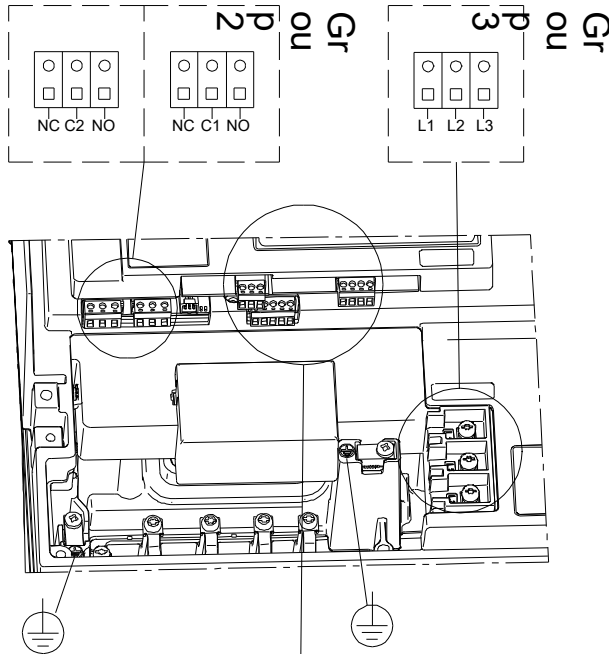


96123415 CRE 45-4-2 N-F-A-E-HQQE



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

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Note! All units are in [mm] unless others are stated.