

PROJECT: _____	UNIT TAG: _____	QUANTITY: _____
REPRESENTATIVE: _____	TYPE OF SERVICE: _____	DATE: _____
ENGINEER: _____	SUBMITTED BY: _____	DATE: _____
CONTRACTOR: _____	APPROVED BY: _____	DATE: _____
	ORDER NO.: _____	DATE: _____

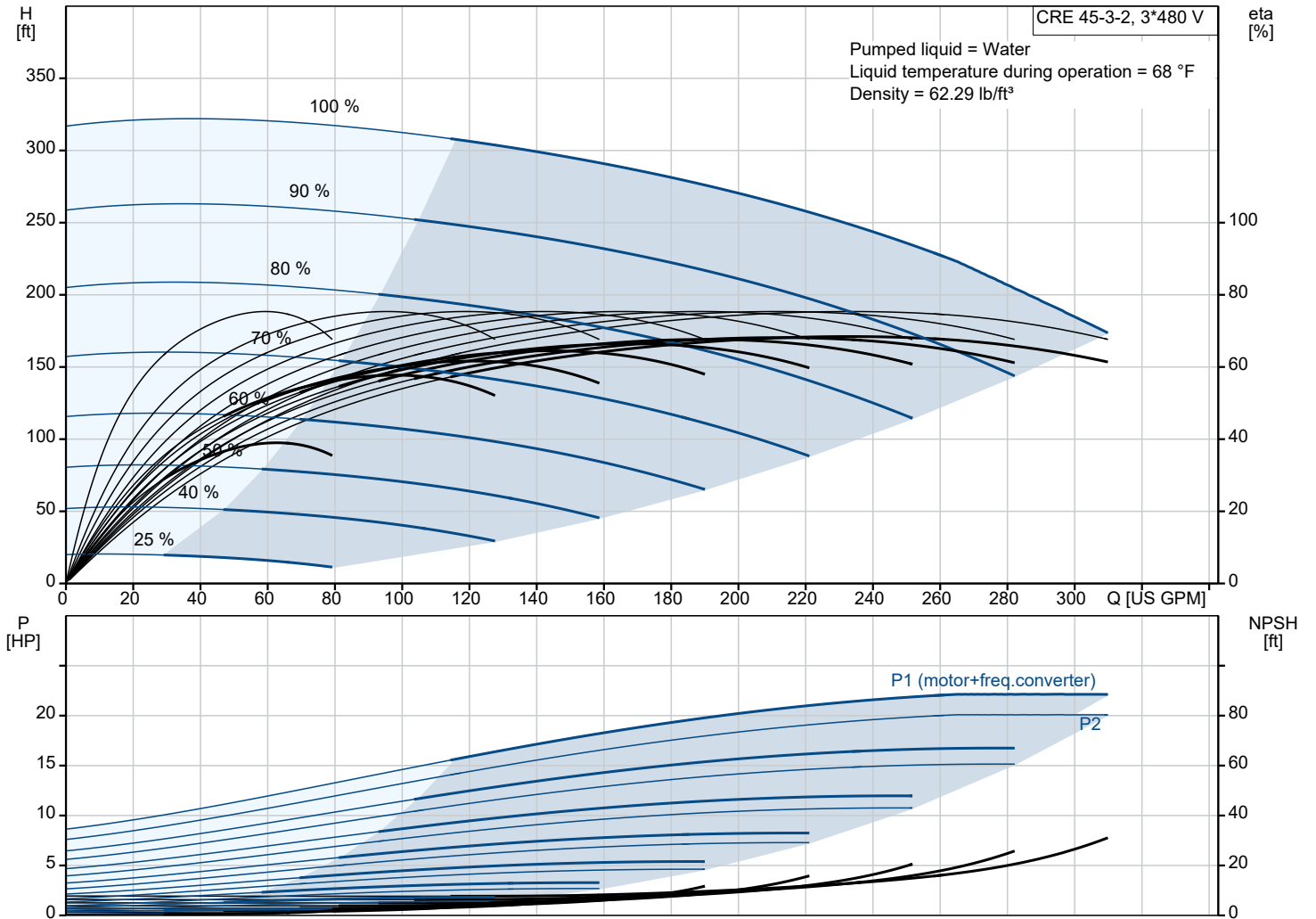


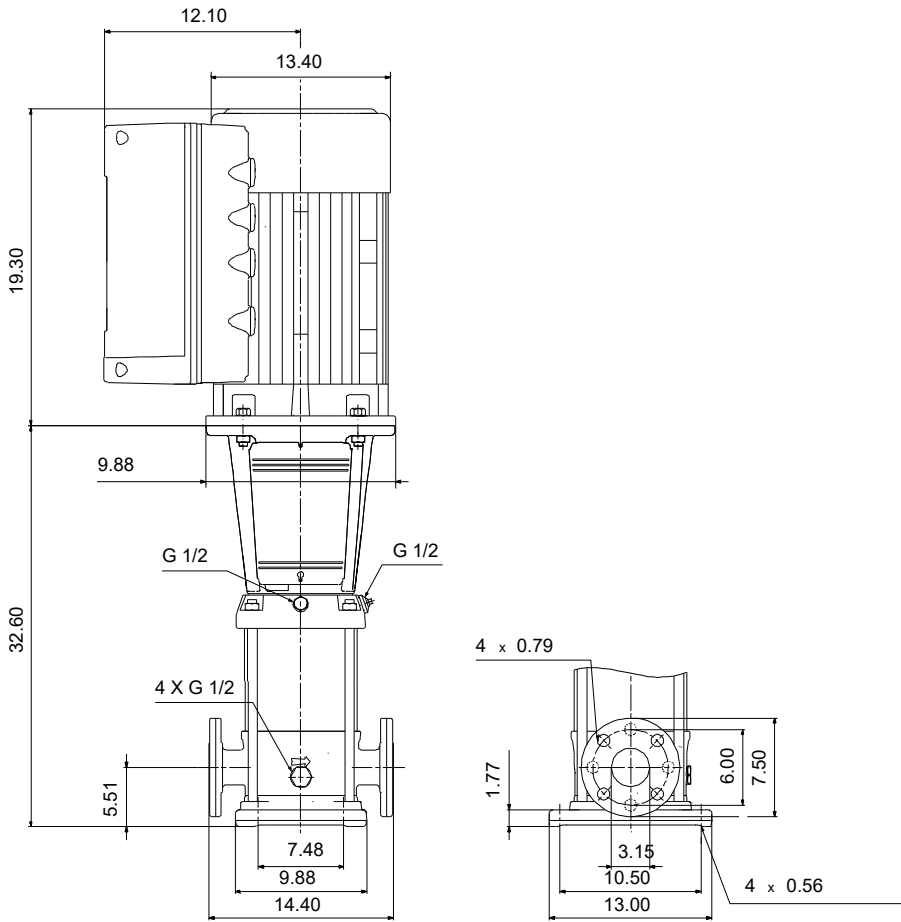
CRE 45-3-2 N-G-A-E-HQQE

Vertical, multistage centrifugal pump with integrated frequency converter. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Note! Product picture may differ from actual product

Conditions of Service		Pump Data		Motor Data	
Liquid:	Water	Max pressure at stated temp:	232 psi / 250 °F	Rated power - P2:	20 HP
Temperature:	68 °F	Liquid temperature range:	-22 .. 248 °F	Rated voltage:	460 V
Specific Gravity:	1.000	Maximum ambient temperature:	104 °F	Mains frequency:	60 Hz
		Shaft seal:	HQQE	Enclosure class:	IP55
		Product number:	98183640	Insulation class:	F
				Motor protection:	YES
				Motor type:	160AB
				Eta 1/1:	91.0 %





Materials:

- Base: Cast iron
- Base: EN 1563 EN-GJS-500-7
- Base: ASTM A536 80-55-06
- Impeller: Stainless steel
- Impeller: AISI 304
- Impeller: EN 1.4301
- Material code: A
- Code for rubber: E

Qty.	Description
------	-------------

1 **CRE 45-3-2 N-G-A-E-HQQE**



Note! Product picture may differ from actual product

Product No.: [98183640](#)

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 ANSI flanges.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

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.

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".

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".

The terminal box holds terminals for these connections:

- 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.

Liquid:

Pumped liquid: Water
 Liquid temperature range: -22 .. 248 °F
 Selected liquid temperature: 68 °F
 Density: 62.29 lb/ft³

Technical:

Pump speed on which pump data are based: 3497 rpm
 Rated flow: 238 US GPM
 Rated head: 247.4 ft
 Actual impeller diameter: 5.37 in
 Pump orientation: Vertical
 Shaft seal arrangement: Single
 Code for shaft seal: HQQE
 Approvals: CURUS
 Approvals for drinking water: NSF/ANSI 61
 Curve tolerance: ISO9906:2012 3B

Materials:

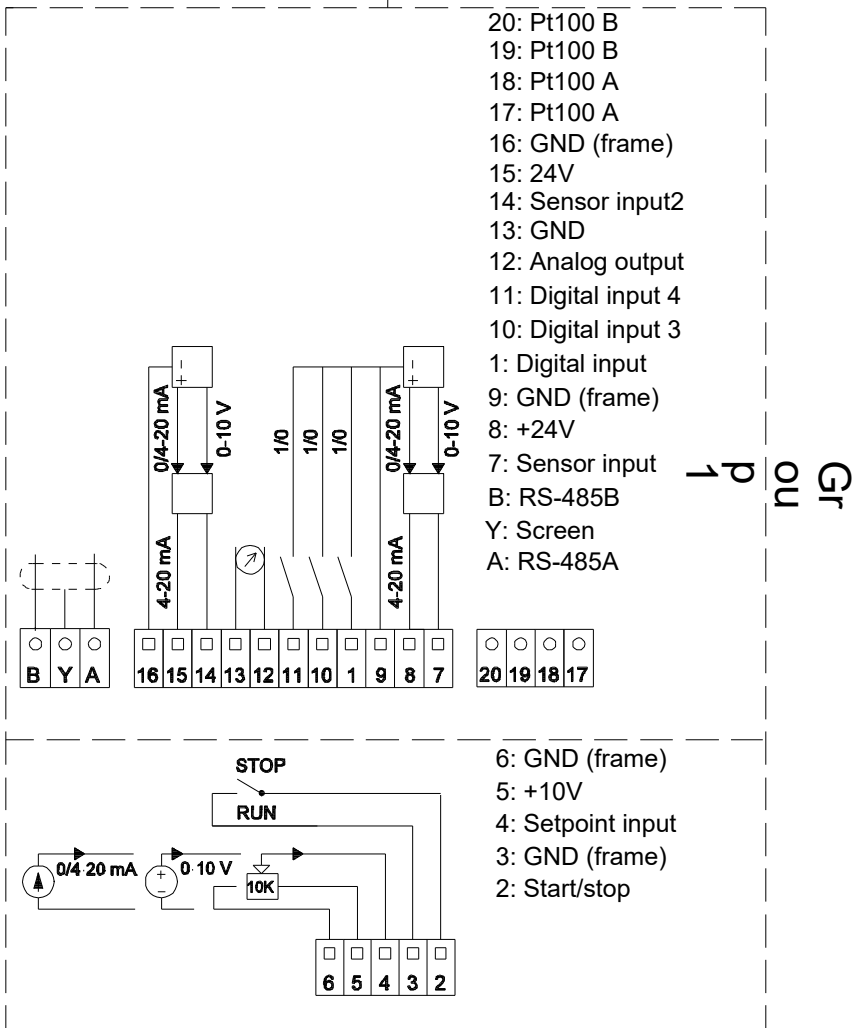
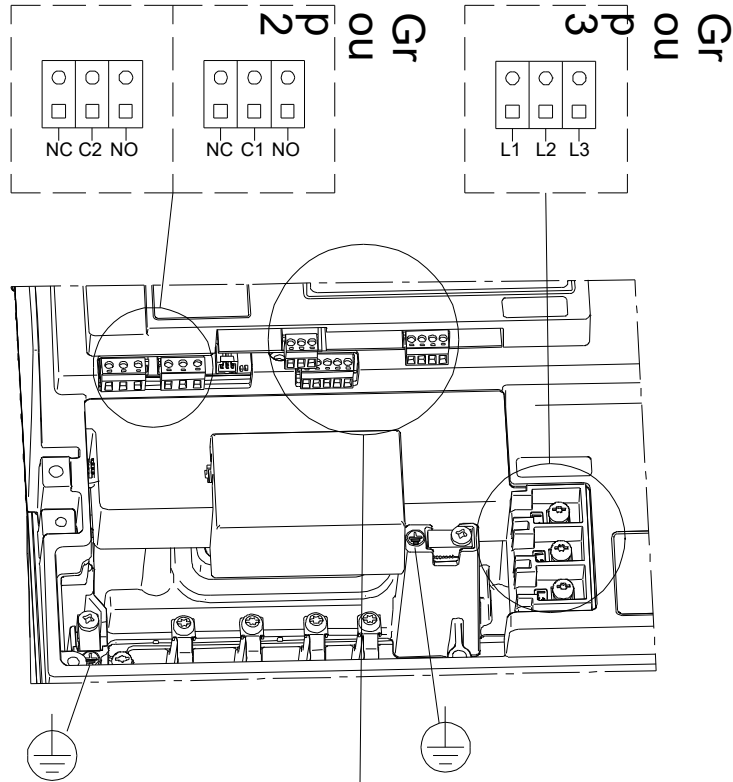
Base: Cast iron
 EN 1563 EN-GJS-500-7
 ASTM A536 80-55-06
 Impeller: Stainless steel
 EN 1.4301
 AISI 304
 Bearing: SIC
 Support bearing: Graflon

Installation:

t max amb: 104 °F
 Maximum operating pressure: 232.06 psi
 Max pressure at stated temp: 232 psi / 250 °F

Qty.	Description
	<p>232 psi / -22 °F</p> <p>Type of connection: ANSI</p> <p>Size of inlet connection: 3 inch</p> <p>Size of outlet connection: 3 inch</p> <p>Pressure rating for connection: PN 16</p> <p>Flange rating inlet: 150 lb</p> <p>Flange size for motor: 254TC</p> <p>Electrical data:</p> <p>Motor standard: NEMA</p> <p>Motor type: 160AB</p> <p>IE Efficiency class: NEMA Premium / IE3 60Hz</p> <p>Rated power - P2: 20 HP</p> <p>Power (P2) required by pump: 20 HP</p> <p>Mains frequency: 60 Hz</p> <p>Rated voltage: 3 x 460 V</p> <p>Service factor: 1.15</p> <p>Rated current: 26 A</p> <p>Cos phi - power factor: 0.89</p> <p>Rated speed: 480-3540 rpm</p> <p>Efficiency: IE3 91,0%</p> <p>Motor efficiency at full load: 91.0 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 85901137</p> <p>Controls:</p> <p>Frequency converter: Built-in</p> <p>Pressure sensor: Y</p> <p>Others:</p> <p>DOE Pump Energy Index VL: 0.46</p> <p>Net weight: 444 lb</p> <p>Gross weight: 462 lb</p> <p>Shipping volume: 29 ft³</p>

98183640 CRE 45-3-2 N-G-A-E-HQQE 60 Hz



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