

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

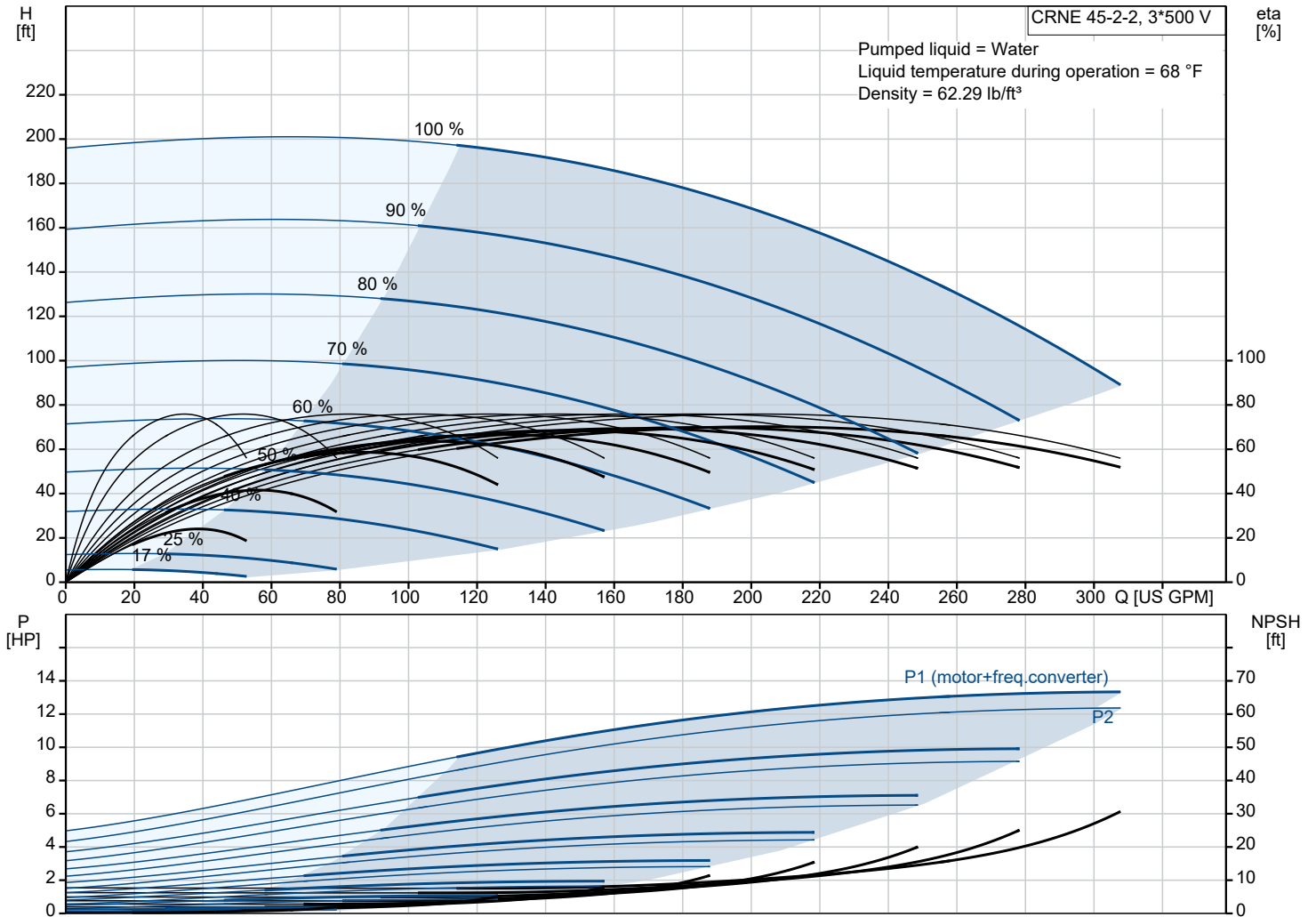


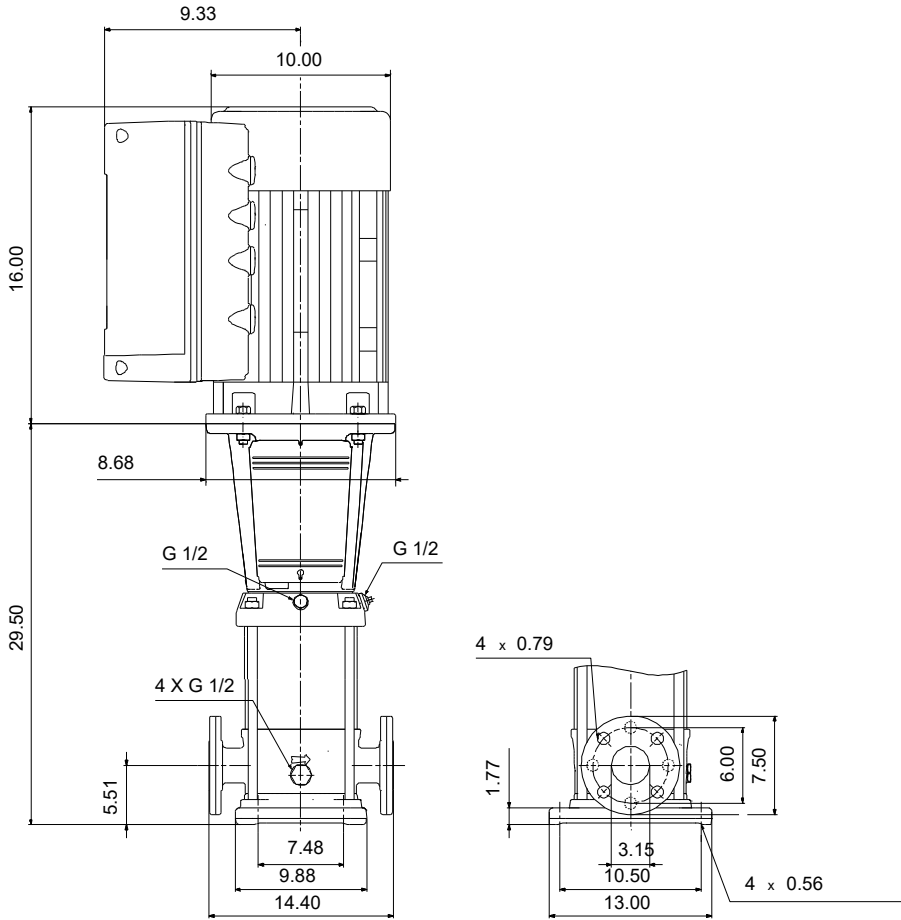
CRNE 45-2-2 N-G-A-E-HQQE

Vertical, multistage centrifugal pump with integrated frequency converter. Pump materials in contact with the liquid are in high-grade stainless steel (EN 1.4401)

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:	15 HP
Temperature:	68 °F	Liquid temperature range:	-40 .. 248 °F	Rated voltage:	440-480 V
Specific Gravity:	1.000	Maximum ambient temperature:	122 °F	Mains frequency:	60 Hz
		Shaft seal:	HQQE	Enclosure class:	IP55
		Product number:	99076554	Insulation class:	F
				Motor protection:	ELEC
				Motor type:	160H
				Eta 1/1:	93.2 %





Materials:

- Base: Stainless steel
- Base: EN 1.4408
- Base: AISI 316
- Impeller: Stainless steel
- Impeller: AISI 316
- Impeller: EN 1.4401
- Material code: A
- Code for rubber: E

Qty.	Description
1	<p data-bbox="119 85 454 118">CRNE 45-2-2 N-G-A-E-HQQE</p> <p data-bbox="119 118 391 141">Product No.: 99076554</p> <p data-bbox="119 174 1520 253">Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in high-grade 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.</p> <p data-bbox="119 264 1053 297">The pump is fitted with a 3-phase, fan-cooled, permanent-magnet, synchronous motor.</p> <p data-bbox="119 297 941 320">The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p data-bbox="119 320 1520 376">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="119 376 1473 409">The operating panel on the motor terminal box features a four-inch TFT display, push-buttons and the Grundfos Eye indicator.</p> <p data-bbox="119 443 890 477">The display gives an intuitive and user-friendly interface to all functions.</p> <p data-bbox="119 477 1465 521">The push-buttons are used to navigate through the menu structure to access pump and performance data on site and enable setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop".</p> <p data-bbox="119 589 1520 667">Communication with the pump is also 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="119 701 1117 734">The Grundfos Eye indicator on the operating panel provides visual indication of pump status:</p> <ul data-bbox="159 734 1436 824" style="list-style-type: none"> • "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights) • "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights) • "Alarm": Motor has stopped (flashing red indicator lights). <p data-bbox="119 824 1505 880">The terminal box has a number of inputs and outputs enabling the motor to be used in advanced applications where many inputs and outputs are required:</p> <ul data-bbox="159 880 1505 1272" style="list-style-type: none"> • two dedicated digital inputs • three analog inputs, 0(4)-20 mA, 0-5 V, 0-10 V, 0.5 - 3.5 V; the factory-fitted pressure sensor is connected to one of these inputs • 5 V voltage supply to potentiometer and sensor • one analog output, 0-10 V, 0(4)-20 mA • two configurable digital inputs or open-collector outputs • two Pt100/Pt1000 inputs • LiqTec, dry-running protection sensor input • Grundfos Digital Sensor input and output • 24 V voltage supply for sensors • two signal-relay outputs (potential-free contacts) • GENIbus connection • interface for Grundfos CIM fieldbus module. <p data-bbox="119 1294 199 1328">Liquid:</p> <p data-bbox="119 1328 558 1350">Pumped liquid: Water</p> <p data-bbox="119 1350 622 1384">Liquid temperature range: -40 .. 248 °F</p> <p data-bbox="119 1384 550 1417">Selected liquid temperature: 68 °F</p> <p data-bbox="119 1417 606 1451">Density: 62.29 lb/ft³</p> <p data-bbox="119 1473 239 1507">Technical:</p> <p data-bbox="119 1507 742 1541">Pump speed on which pump data are based: 3444 rpm</p> <p data-bbox="119 1541 630 1574">Rated flow: 238 US GPM</p> <p data-bbox="119 1574 574 1608">Rated head: 152.2 ft</p> <p data-bbox="119 1608 566 1641">Actual impeller diameter: 5.37 in</p> <p data-bbox="119 1641 574 1675">Pump orientation: Vertical</p> <p data-bbox="119 1675 558 1709">Shaft seal arrangement: Single</p> <p data-bbox="119 1709 566 1742">Code for shaft seal: HQQE</p> <p data-bbox="119 1742 574 1776">Approvals: CURUS</p> <p data-bbox="119 1776 638 1809">Approvals for drinking water: NSF/ANSI 61</p> <p data-bbox="119 1809 686 1843">Curve tolerance: ISO9906:2012 3B</p> <p data-bbox="119 1865 231 1899">Materials:</p> <p data-bbox="119 1899 646 1933">Base: Stainless steel</p> <p data-bbox="486 1933 606 1966">EN 1.4408</p> <p data-bbox="486 1966 582 2000">AISI 316</p> <p data-bbox="119 2000 646 2033">Impeller: Stainless steel</p> <p data-bbox="486 2033 606 2067">EN 1.4401</p> <p data-bbox="486 2067 582 2101">AISI 316</p> <p data-bbox="119 2101 534 2134">Bearing: SIC</p> <p data-bbox="119 2134 566 2168">Support bearing: Graflon</p> <p data-bbox="119 2190 247 2224">Installation:</p> <p data-bbox="119 2224 566 2240">t max amb: 122 °F</p>

Qty.	Description
	<p>Maximum operating pressure: 232.06 psi</p> <p>Max pressure at stated temp: 232 psi / 250 °F 232 psi / -40 °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: 160H</p> <p>IE Efficiency class: IE5</p> <p>Rated power - P2: 15 HP</p> <p>Power (P2) required by pump: 15 HP</p> <p>Mains frequency: 60 Hz</p> <p>Rated voltage: 3 x 440-480 V</p> <p>Service factor: 1.15</p> <p>Rated current: 17.9-16.6 A</p> <p>Cos phi - power factor: 0.92-0.91</p> <p>Rated speed: 360-4000 rpm</p> <p>Efficiency: 93.2%</p> <p>Motor efficiency at full load: 93.2 %</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 99256777</p> <p>Controls:</p> <p>Frequency converter: Built-in</p> <p>Pressure sensor: Y</p> <p>Others:</p> <p>DOE Pump Energy Index VL: 0.40</p> <p>Net weight: 279 lb</p> <p>Gross weight: 297 lb</p> <p>Shipping volume: 17.5 ft³</p>

99076554 CRNE 45-2-2 N-G-A-E-HQQE 60 Hz



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