

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

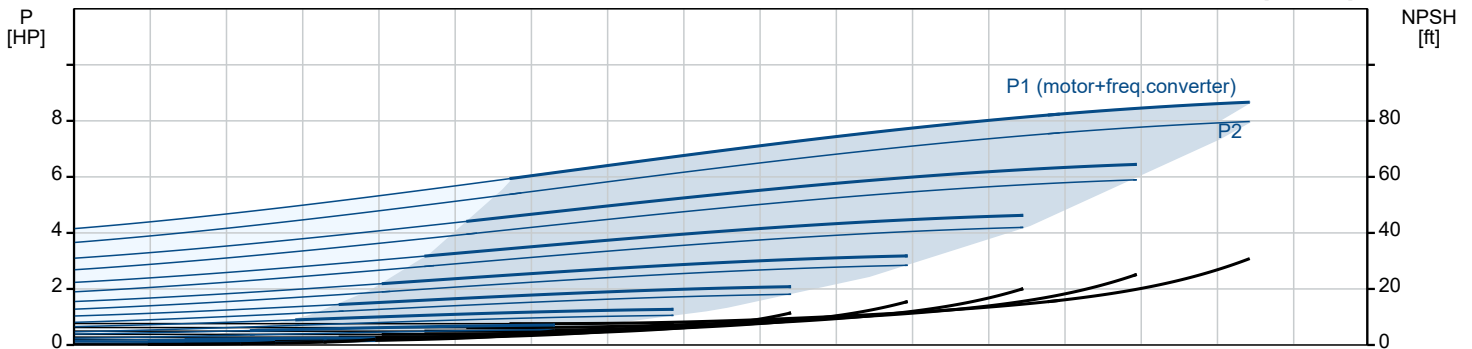
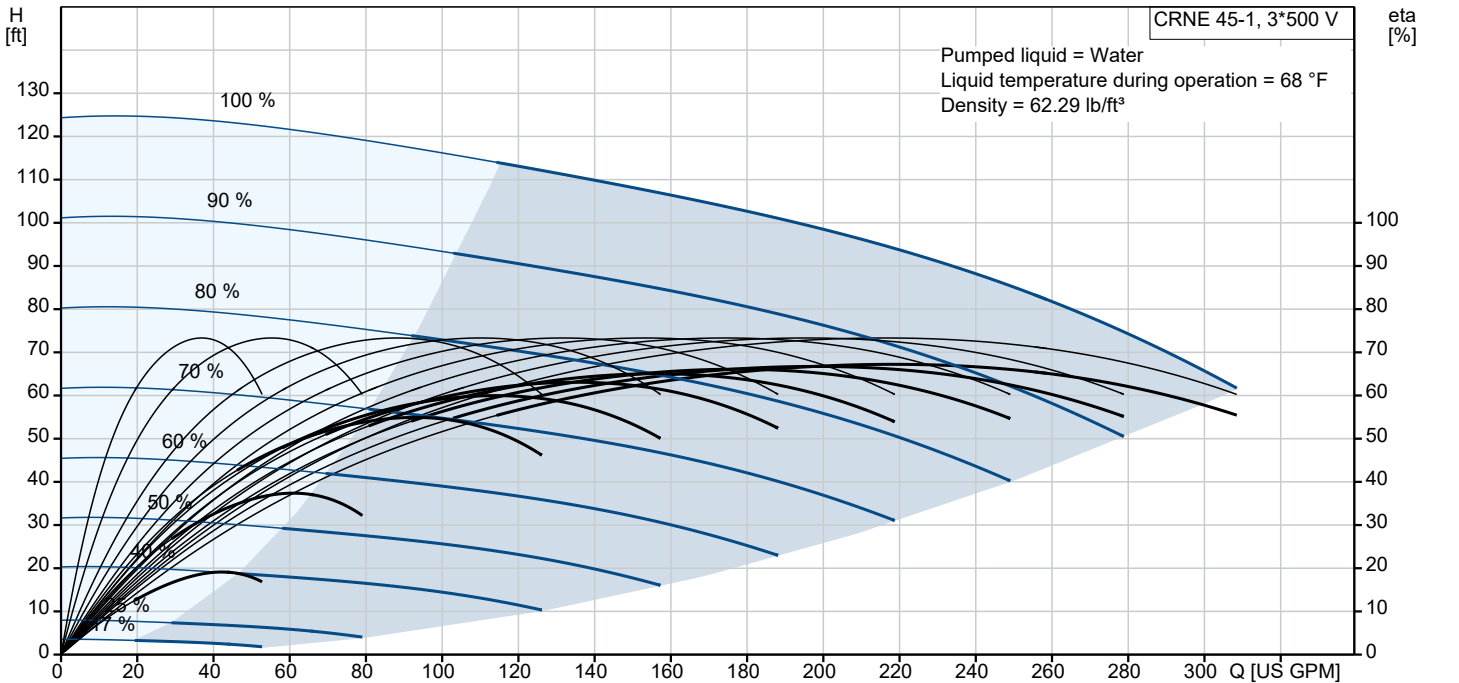


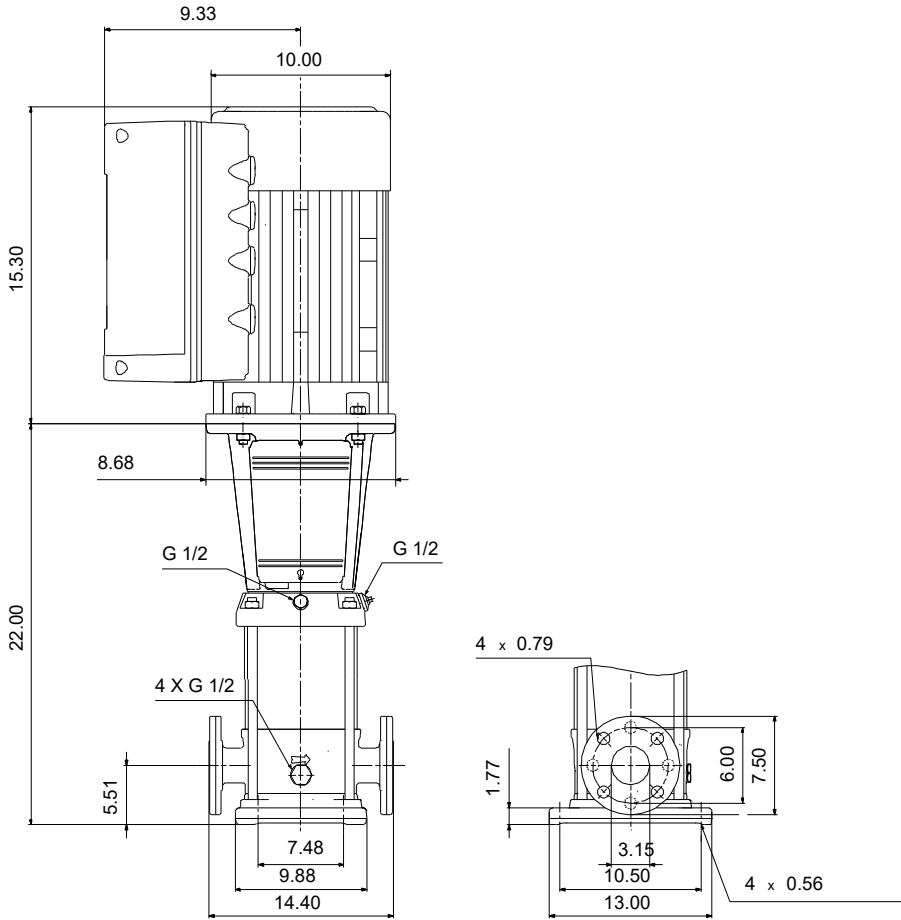
## CRNE 45-1 N-G-A-E-HQQE

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:	10 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:	99076541	Insulation class:	F
				Motor protection:	ELEC
				Motor type:	132F
				Eta 1/1:	92.5 %





**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="124 85 432 114"><b>CRNE 45-1 N-G-A-E-HQQE</b></p> <p data-bbox="124 116 387 145">Product No.: <a href="#">99076541</a></p> <p data-bbox="124 174 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="124 262 1051 291">The pump is fitted with a 3-phase, fan-cooled, permanent-magnet, synchronous motor.</p> <p data-bbox="124 293 940 322">The motor efficiency is classified as IE5 in accordance with IEC 60034-30-2.</p> <p data-bbox="124 324 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="124 383 1469 412">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="124 441 890 470">The display gives an intuitive and user-friendly interface to all functions.</p> <p data-bbox="124 472 1461 524">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="124 589 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="124 701 1114 730">The Grundfos Eye indicator on the operating panel provides visual indication of pump status:</p> <ul data-bbox="164 732 1434 819" style="list-style-type: none"> <li>• "Power on": Motor is running (rotating green indicator lights) or not running (permanently green indicator lights)</li> <li>• "Warning": Motor is still running (rotating yellow indicator lights) or has stopped (permanently yellow indicator lights)</li> <li>• "Alarm": Motor has stopped (flashing red indicator lights).</li> </ul> <p data-bbox="124 822 1501 873">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="164 880 1501 1263" style="list-style-type: none"> <li>• two dedicated digital inputs</li> <li>• 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</li> <li>• 5 V voltage supply to potentiometer and sensor</li> <li>• one analog output, 0-10 V, 0(4)-20 mA</li> <li>• two configurable digital inputs or open-collector outputs</li> <li>• two Pt100/Pt1000 inputs</li> <li>• LiqTec, dry-running protection sensor input</li> <li>• Grundfos Digital Sensor input and output</li> <li>• 24 V voltage supply for sensors</li> <li>• two signal-relay outputs (potential-free contacts)</li> <li>• GENIbus connection</li> <li>• interface for Grundfos CIM fieldbus module.</li> </ul> <p data-bbox="124 1294 199 1323">Liquid:</p> <p data-bbox="124 1326 557 1355">Pumped liquid: Water</p> <p data-bbox="124 1357 624 1386">Liquid temperature range: -40 .. 248 °F</p> <p data-bbox="124 1388 549 1417">Selected liquid temperature: 68 °F</p> <p data-bbox="124 1420 606 1449">Density: 62.29 lb/ft<sup>3</sup></p> <p data-bbox="124 1473 237 1503">Technical:</p> <p data-bbox="124 1505 743 1534">Pump speed on which pump data are based: 3467 rpm</p> <p data-bbox="124 1536 633 1565">Rated flow: 238 US GPM</p> <p data-bbox="124 1568 560 1597">Rated head: 92.2 ft</p> <p data-bbox="124 1599 563 1628">Actual impeller diameter: 5.37 in</p> <p data-bbox="124 1630 571 1659">Pump orientation: Vertical</p> <p data-bbox="124 1662 549 1691">Shaft seal arrangement: Single</p> <p data-bbox="124 1693 563 1722">Code for shaft seal: HQQE</p> <p data-bbox="124 1724 576 1753">Approvals: CURUS</p> <p data-bbox="124 1756 633 1785">Approvals for drinking water: NSF/ANSI 61</p> <p data-bbox="124 1787 683 1816">Curve tolerance: ISO9906:2012 3B</p> <p data-bbox="124 1841 233 1870">Materials:</p> <p data-bbox="124 1872 647 1946">Base: Stainless steel EN 1.4408 AISI 316</p> <p data-bbox="124 1948 647 2022">Impeller: Stainless steel EN 1.4401 AISI 316</p> <p data-bbox="124 2024 533 2054">Bearing: SIC</p> <p data-bbox="124 2056 571 2085">Support bearing: Graflon</p> <p data-bbox="124 2110 248 2139">Installation:</p> <p data-bbox="124 2141 563 2170">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: 213TC</p> <p>Electrical data:</p> <p>Motor standard: NEMA</p> <p>Motor type: 132F</p> <p>IE Efficiency class: IE5</p> <p>Rated power - P2: 10 HP</p> <p>Power (P2) required by pump: 10 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: 12.4-11.5 A</p> <p>Cos phi - power factor: 0.91-0.90</p> <p>Rated speed: 360-4000 rpm</p> <p>Efficiency: 92.5%</p> <p>Motor efficiency at full load: 92.5 %</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 99256776</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: 227 lb</p> <p>Gross weight: 245 lb</p> <p>Shipping volume: 17.5 ft<sup>3</sup></p>

# 99076541 CRNE 45-1 N-G-A-E-HQQE 60 Hz



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