

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

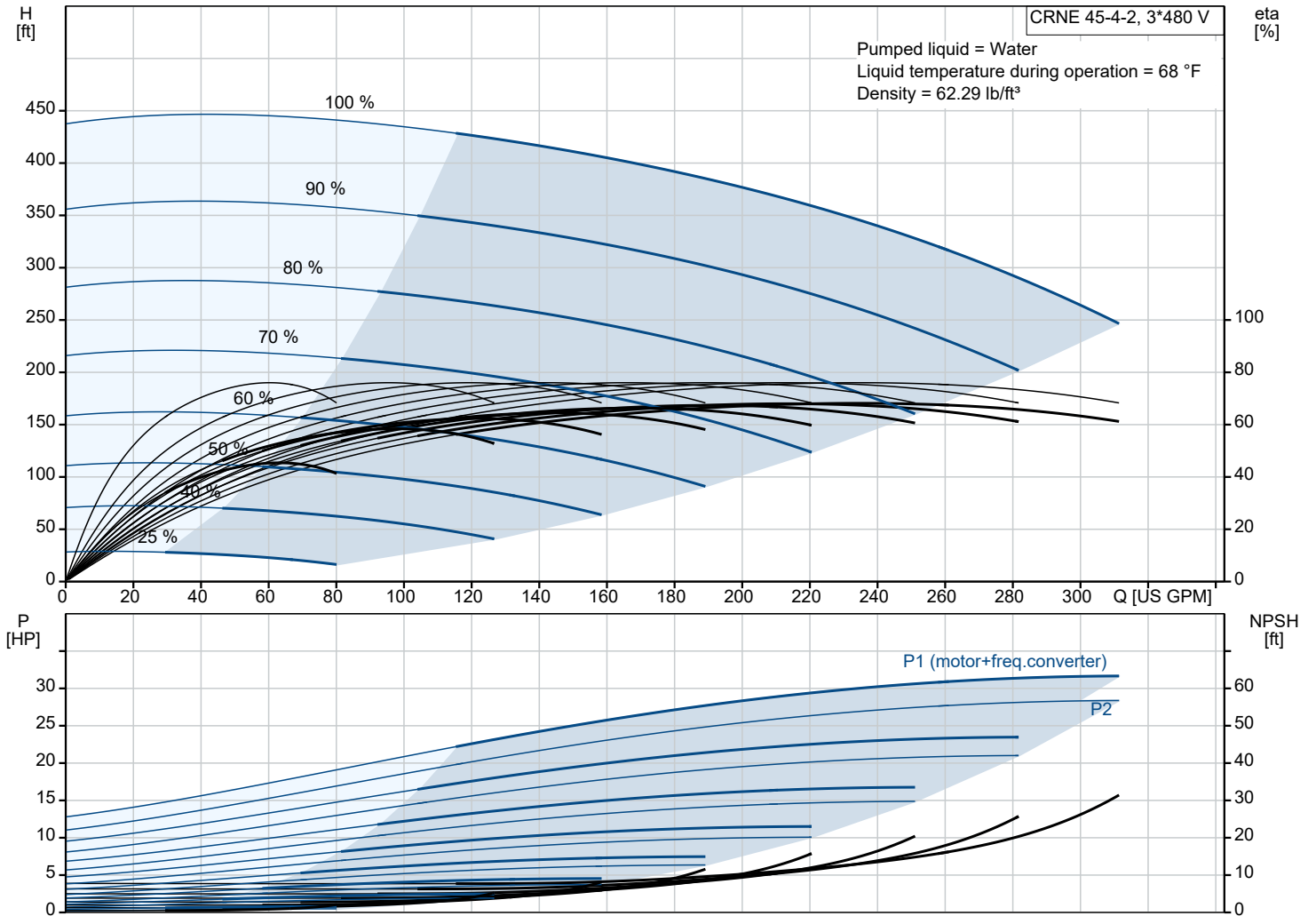


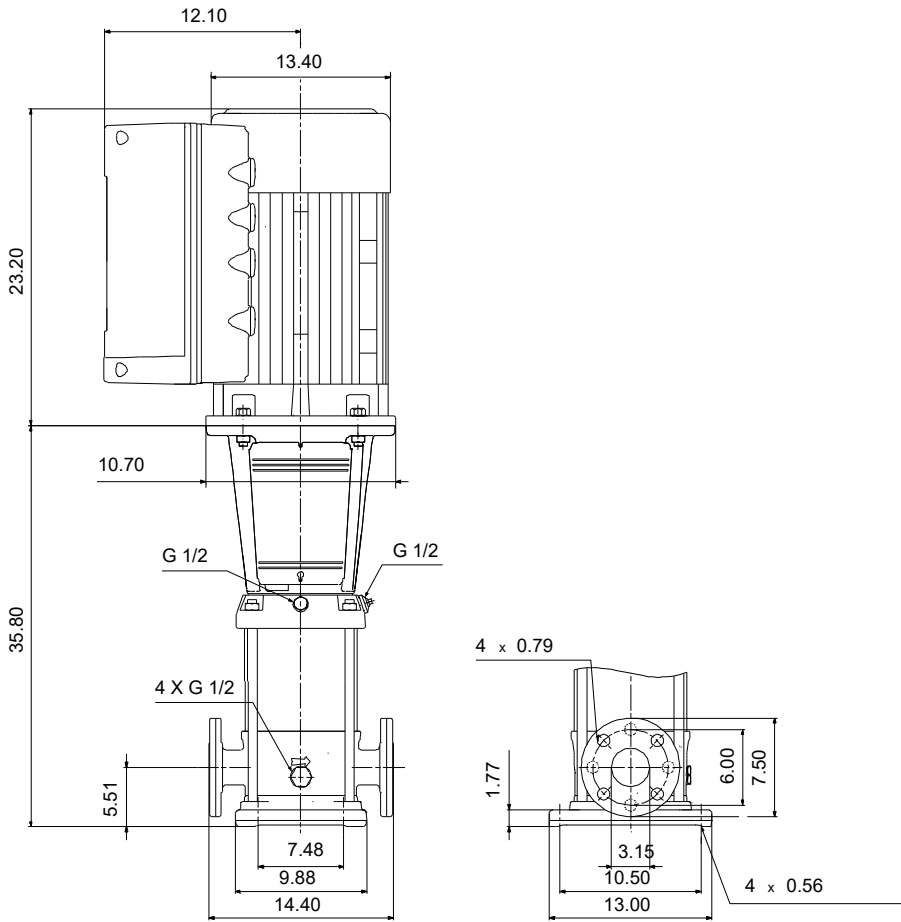
## CRNE 45-4-2 N-G-A-E-HQQE

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:	30 HP
Temperature:	68 °F	Liquid temperature range:	-40 .. 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:	98183873	Insulation class:	F
				Motor protection:	YES
				Motor type:	180AA
				Eta 1/1:	91.7 %





**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 85 454 118"><b>CRNE 45-4-2 N-G-A-E-HQQE</b></p> <p data-bbox="124 118 391 141">Product No.: <a href="#">98183873</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="124 264 842 286">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="124 297 1520 342">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="124 353 1481 398">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="124 409 1473 477">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="124 499 722 521">The terminal box holds terminals for these connections:</p> <ul data-bbox="164 533 1457 846" style="list-style-type: none"> <li>• pump start/stop input (potential-free contact)</li> <li>• remote setpoint setting via analog signal, 0-10 V, 0(4)-20 mA</li> <li>• 10 V voltage supply for setpoint potentiometer, I<sub>max</sub> = 5 mA</li> <li>• three analog sensor inputs, 0-10 V, 0(4)-20 mA; the factory-fitted pressure sensor is connected to one of these inputs</li> <li>• 24 V voltage supply for sensor, I<sub>max</sub> = 40 mA</li> <li>• one analog output</li> <li>• three digital inputs</li> <li>• two Pt100 inputs</li> <li>• two potential-free fault signal relays with changeover contact, reporting "Fault", "Operation" or "Ready"</li> <li>• RS-485 GENIbus connection</li> <li>• interface for Grundfos CIM fieldbus module.</li> </ul> <p data-bbox="124 880 204 902">Liquid:</p> <p data-bbox="124 913 563 936">Pumped liquid: Water</p> <p data-bbox="124 947 627 969">Liquid temperature range: -40 .. 248 °F</p> <p data-bbox="124 981 547 1003">Selected liquid temperature: 68 °F</p> <p data-bbox="124 1014 611 1037">Density: 62.29 lb/ft<sup>3</sup></p> <p data-bbox="124 1059 244 1081">Technical:</p> <p data-bbox="124 1093 746 1115">Pump speed on which pump data are based: 3541 rpm</p> <p data-bbox="124 1126 635 1149">Rated flow: 238 US GPM</p> <p data-bbox="124 1160 579 1182">Rated head: 341.2 ft</p> <p data-bbox="124 1193 563 1216">Actual impeller diameter: 5.37 in</p> <p data-bbox="124 1227 579 1249">Pump orientation: Vertical</p> <p data-bbox="124 1261 563 1283">Shaft seal arrangement: Single</p> <p data-bbox="124 1294 563 1317">Code for shaft seal: HQQE</p> <p data-bbox="124 1328 579 1350">Approvals: CURUS</p> <p data-bbox="124 1361 643 1384">Approvals for drinking water: NSF/ANSI 61</p> <p data-bbox="124 1395 691 1417">Curve tolerance: ISO9906:2012 3B</p> <p data-bbox="124 1440 236 1462">Materials:</p> <p data-bbox="124 1473 651 1529">Base: Stainless steel EN 1.4408 AISI 316</p> <p data-bbox="124 1541 651 1619">Impeller: Stainless steel EN 1.4401 AISI 316</p> <p data-bbox="124 1630 531 1653">Bearing: SIC</p> <p data-bbox="124 1664 571 1686">Support bearing: Graflon</p> <p data-bbox="124 1720 252 1742">Installation:</p> <p data-bbox="124 1753 563 1776">t max amb: 104 °F</p> <p data-bbox="124 1787 611 1809">Maximum operating pressure: 232.06 psi</p> <p data-bbox="124 1821 667 1865">Max pressure at stated temp: 232 psi / 250 °F 232 psi / -40 °F</p> <p data-bbox="124 1877 547 1899">Type of connection: ANSI</p> <p data-bbox="124 1910 563 1933">Size of inlet connection: 3 inch</p> <p data-bbox="124 1944 563 1966">Size of outlet connection: 3 inch</p> <p data-bbox="124 1977 563 2000">Pressure rating for connection: PN 16</p> <p data-bbox="124 2011 563 2033">Flange rating inlet: 150 lb</p> <p data-bbox="124 2045 563 2067">Flange size for motor: 284TC</p> <p data-bbox="124 2089 292 2112">Electrical data:</p> <p data-bbox="124 2123 563 2145">Motor standard: NEMA</p> <p data-bbox="124 2157 563 2179">Motor type: 180AA</p>

Qty.	Description
	IE Efficiency class: NEMA Premium / IE3 60Hz
	Rated power - P2: 30 HP
	Power (P2) required by pump: 30 HP
	Mains frequency: 60 Hz
	Rated voltage: 3 x 460 V
	Service factor: 1.15
	Rated current: 36.5 A
	Cos phi - power factor: 0.88
	Rated speed: 480-3540 rpm
	Efficiency: IE3 91,7%
	Motor efficiency at full load: 91.7 %
	Number of poles: 2
	Enclosure class (IEC 34-5): IP55
	Insulation class (IEC 85): F
	Motor No: 85901139
	Controls:
	Frequency converter: Built-in
	Pressure sensor: Y
	Others:
	DOE Pump Energy Index VL: 0.46
	Net weight: 506 lb
	Gross weight: 524 lb
	Shipping volume: 29 ft <sup>3</sup>

# 98183873 CRNE 45-4-2 N-G-A-E-HQQE 60 Hz

