

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

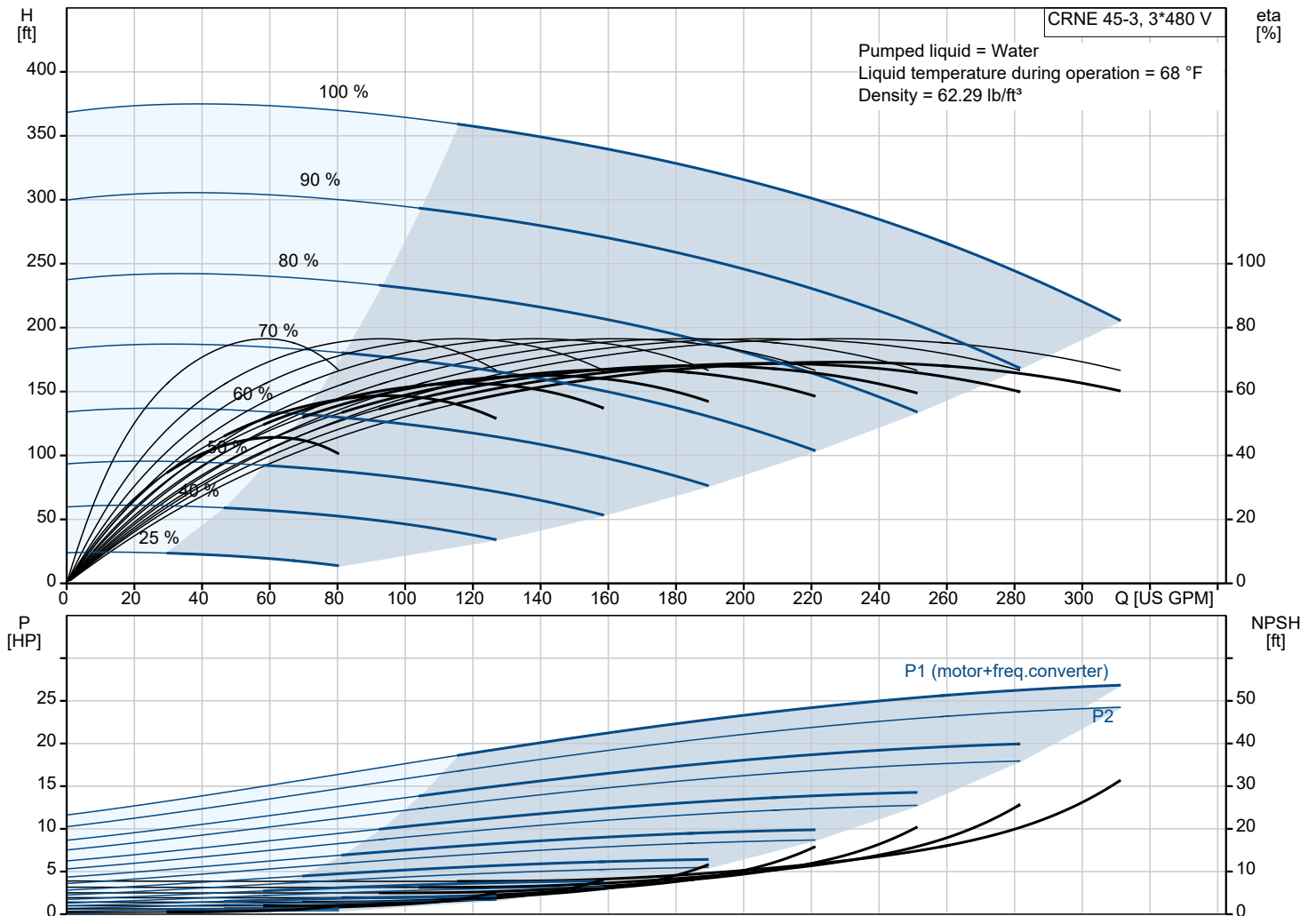


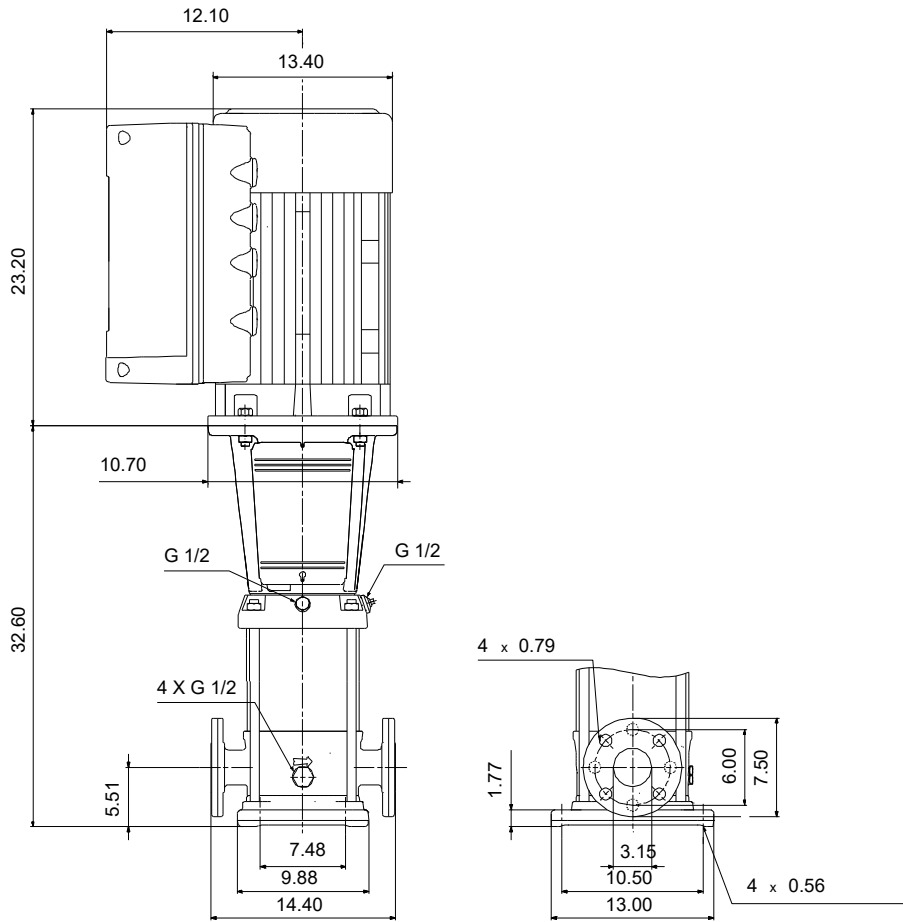
## CRNE 45-3 N-G-A-E-HQQE

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:	25 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:	98183872	Insulation class:	F
				Motor protection:	YES
				Motor type:	160AC
				Eta 1/1:	91.7 %





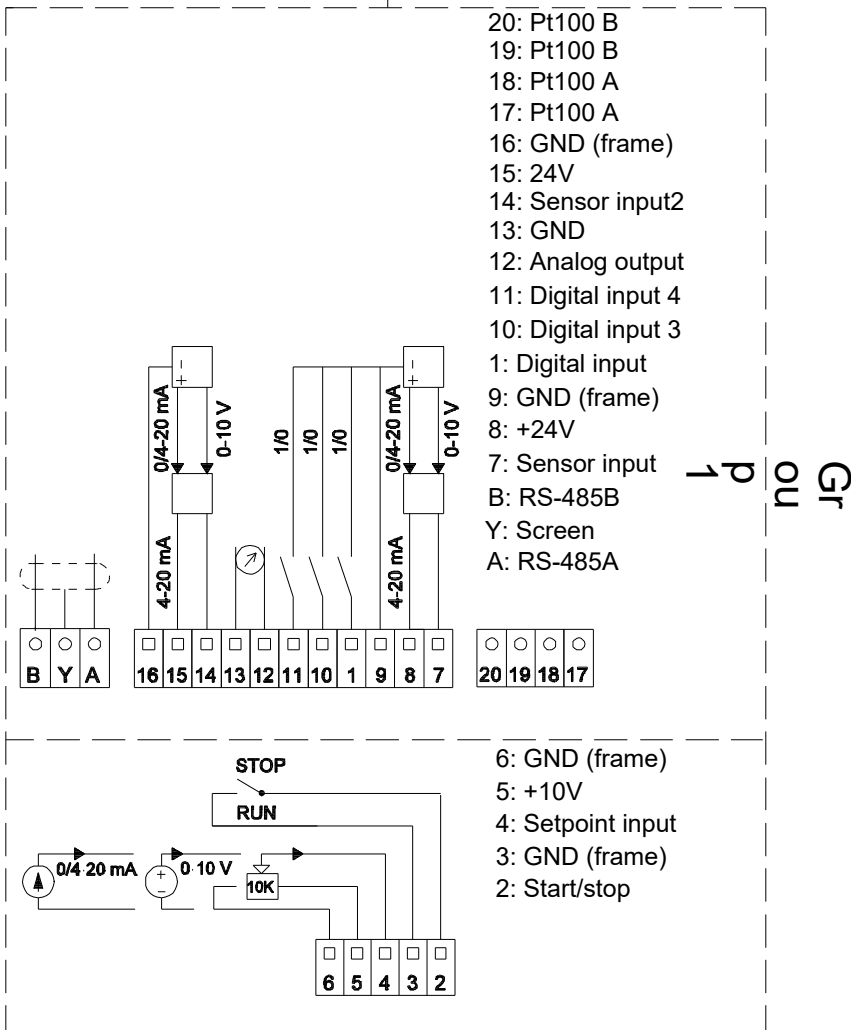
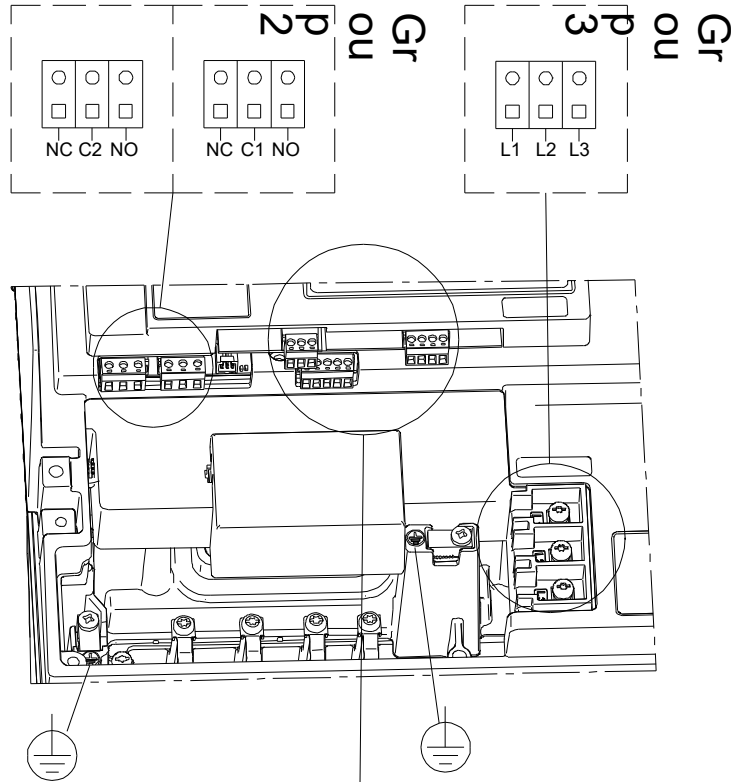
**Materials:**

- 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 85 432 118"><b>CRNE 45-3 N-G-A-E-HQQE</b></p> <p data-bbox="124 118 391 141">Product No.: <a href="#">98183872</a></p> <p data-bbox="124 174 1517 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 1517 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 1469 488">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="124 499 719 521">The terminal box holds terminals for these connections:</p> <ul data-bbox="164 533 1453 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="124 880 199 902">Liquid:</p> <p data-bbox="124 913 555 936">Pumped liquid: Water</p> <p data-bbox="124 947 624 969">Liquid temperature range: -40 .. 248 °F</p> <p data-bbox="124 981 550 1003">Selected liquid temperature: 68 °F</p> <p data-bbox="124 1014 608 1037">Density: 62.29 lb/ft<sup>3</sup></p> <p data-bbox="124 1070 236 1093">Technical:</p> <p data-bbox="124 1104 743 1126">Pump speed on which pump data are based: 3521 rpm</p> <p data-bbox="124 1137 635 1160">Rated flow: 238 US GPM</p> <p data-bbox="124 1171 576 1193">Rated head: 282.5 ft</p> <p data-bbox="124 1205 560 1227">Actual impeller diameter: 5.37 in</p> <p data-bbox="124 1238 571 1261">Pump orientation: Vertical</p> <p data-bbox="124 1272 560 1294">Shaft seal arrangement: Single</p> <p data-bbox="124 1305 560 1328">Code for shaft seal: HQQE</p> <p data-bbox="124 1339 576 1361">Approvals: CURUS</p> <p data-bbox="124 1373 635 1395">Approvals for drinking water: NSF/ANSI 61</p> <p data-bbox="124 1406 683 1429">Curve tolerance: ISO9906:2012 3B</p> <p data-bbox="124 1462 236 1485">Materials:</p> <p data-bbox="124 1496 651 1541">Base: Stainless steel EN 1.4408 AISI 316</p> <p data-bbox="124 1552 651 1630">Impeller: Stainless steel EN 1.4401 AISI 316</p> <p data-bbox="124 1641 539 1664">Bearing: SIC</p> <p data-bbox="124 1675 571 1697">Support bearing: Graflon</p> <p data-bbox="124 1731 252 1753">Installation:</p> <p data-bbox="124 1765 560 1787">t max amb: 104 °F</p> <p data-bbox="124 1798 603 1821">Maximum operating pressure: 232.06 psi</p> <p data-bbox="124 1832 667 1877">Max pressure at stated temp: 232 psi / 250 °F 232 psi / -40 °F</p> <p data-bbox="124 1888 555 1910">Type of connection: ANSI</p> <p data-bbox="124 1921 555 1944">Size of inlet connection: 3 inch</p> <p data-bbox="124 1955 555 1977">Size of outlet connection: 3 inch</p> <p data-bbox="124 1989 560 2011">Pressure rating for connection: PN 16</p> <p data-bbox="124 2022 555 2045">Flange rating inlet: 150 lb</p> <p data-bbox="124 2056 560 2078">Flange size for motor: 284TC</p> <p data-bbox="124 2112 300 2134">Electrical data:</p> <p data-bbox="124 2145 560 2168">Motor standard: NEMA</p> <p data-bbox="124 2179 560 2201">Motor type: 160AC</p>

Qty.	Description
	IE Efficiency class: NEMA Premium / IE3 60Hz
	Rated power - P2: 25 HP
	Power (P2) required by pump: 25 HP
	Mains frequency: 60 Hz
	Rated voltage: 3 x 460 V
	Service factor: 1.15
	Rated current: 30.5 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: 85901138
	Controls:
	Frequency converter: Built-in
	Pressure sensor: Y
	Others:
	DOE Pump Energy Index VL: 0.46
	Net weight: 471 lb
	Gross weight: 489 lb
	Shipping volume: 29 ft <sup>3</sup>

# 98183872 CRNE 45-3 N-G-A-E-HQQE 60 Hz



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