

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

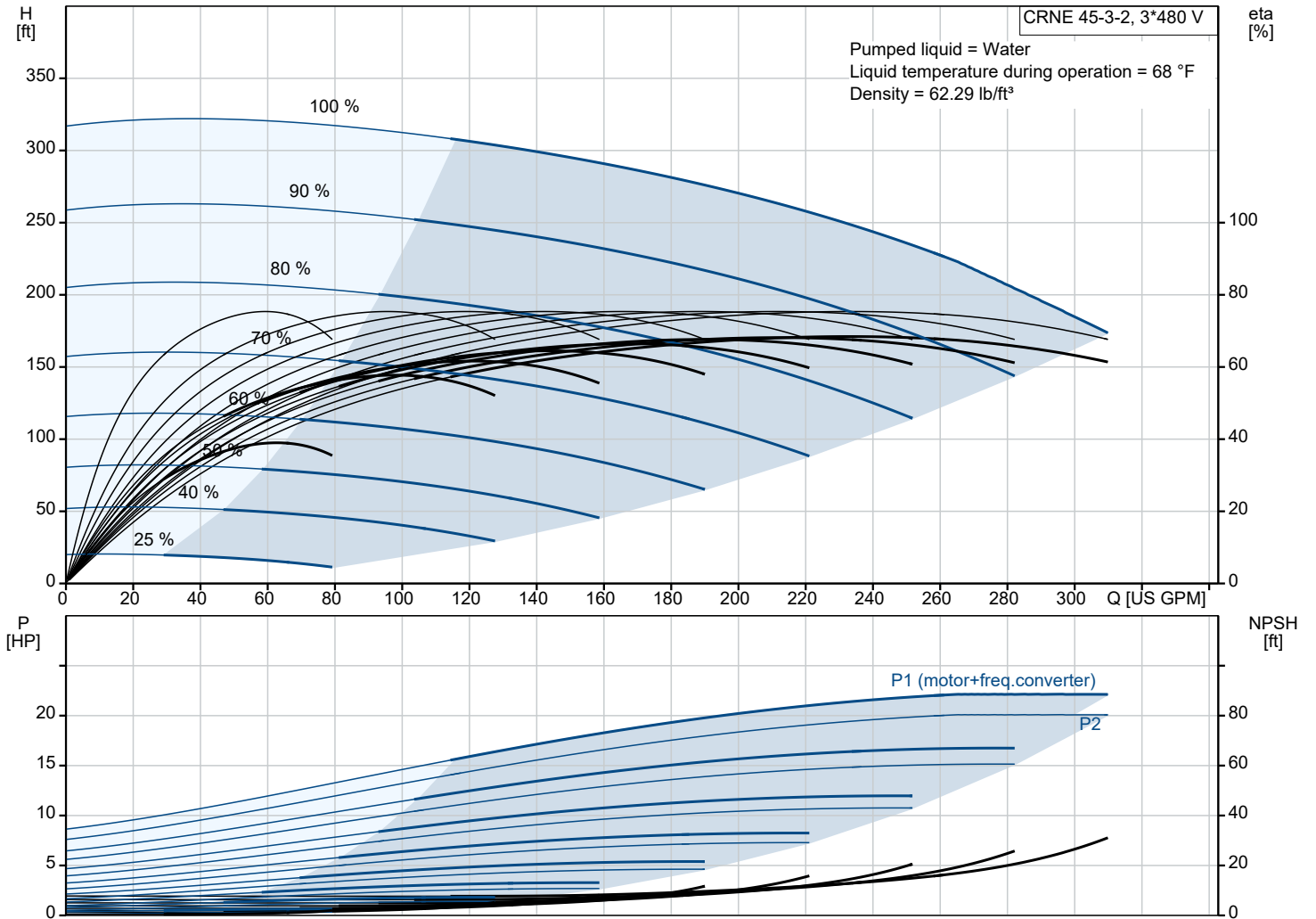


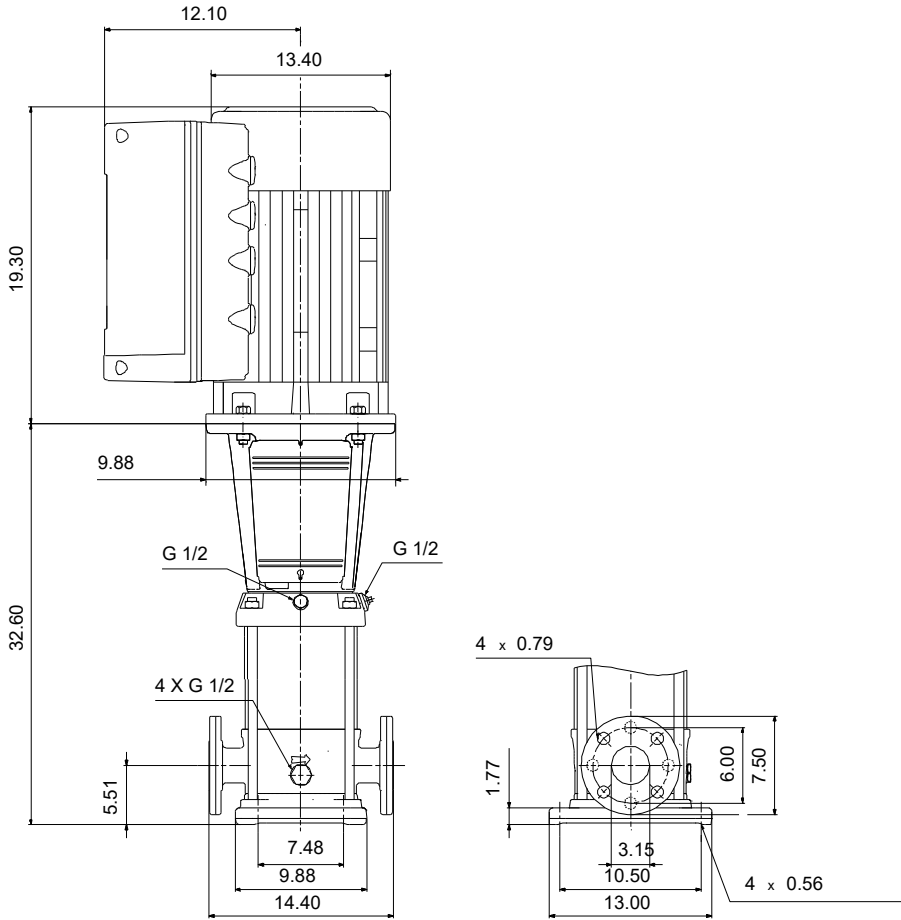
CRNE 45-3-2 N-G-A-E-HQQE

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:	20 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:	98183871	Insulation class:	F
				Motor protection:	YES
				Motor type:	160AB
				Eta 1/1:	91.0 %





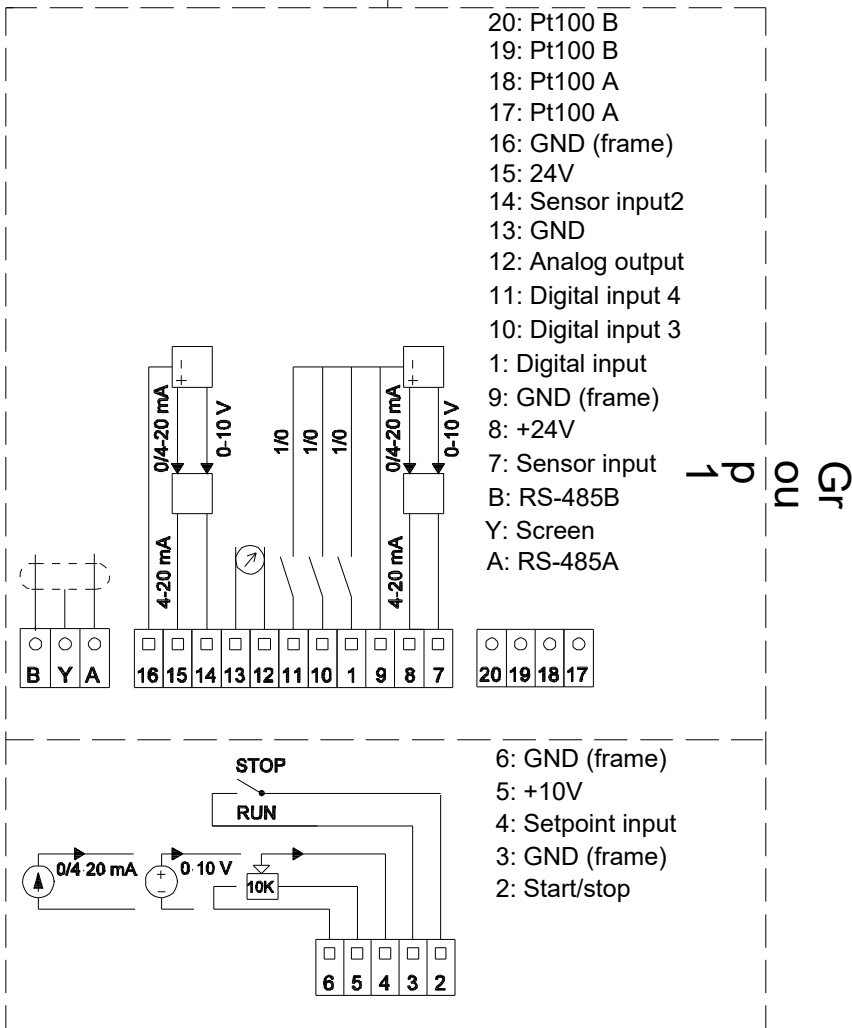
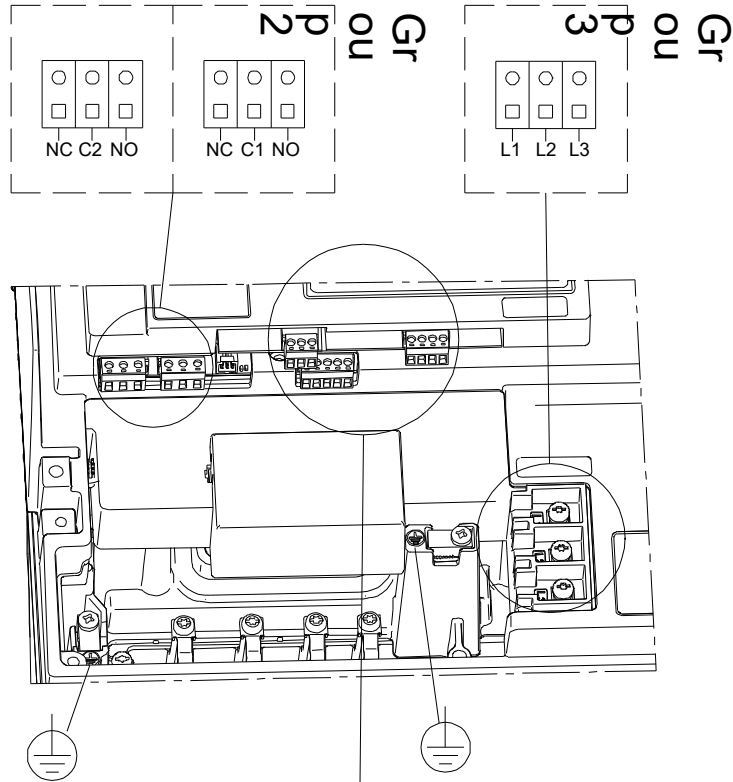
Materials:

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 45-3-2 N-G-A-E-HQQE</p> <p data-bbox="119 118 391 152">Product No.: 98183871</p> <p data-bbox="119 174 1524 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="119 264 837 297">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="119 297 1524 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="119 353 1476 409">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="119 409 1476 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="119 499 726 533">The terminal box holds terminals for these connections:</p> <ul data-bbox="159 533 1460 857" style="list-style-type: none"> • 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. <p data-bbox="119 880 199 913">Liquid:</p> <p data-bbox="119 913 558 947">Pumped liquid: Water</p> <p data-bbox="119 947 630 981">Liquid temperature range: -40 .. 248 °F</p> <p data-bbox="119 981 550 1014">Selected liquid temperature: 68 °F</p> <p data-bbox="119 1014 614 1048">Density: 62.29 lb/ft³</p> <p data-bbox="119 1059 239 1093">Technical:</p> <p data-bbox="119 1093 742 1126">Pump speed on which pump data are based: 3497 rpm</p> <p data-bbox="119 1126 630 1160">Rated flow: 238 US GPM</p> <p data-bbox="119 1160 574 1193">Rated head: 247.4 ft</p> <p data-bbox="119 1193 566 1227">Actual impeller diameter: 5.37 in</p> <p data-bbox="119 1227 574 1261">Pump orientation: Vertical</p> <p data-bbox="119 1261 558 1294">Shaft seal arrangement: Single</p> <p data-bbox="119 1294 558 1328">Code for shaft seal: HQQE</p> <p data-bbox="119 1328 574 1361">Approvals: CURUS</p> <p data-bbox="119 1361 638 1395">Approvals for drinking water: NSF/ANSI 61</p> <p data-bbox="119 1395 686 1429">Curve tolerance: ISO9906:2012 3B</p> <p data-bbox="119 1440 231 1473">Materials:</p> <p data-bbox="119 1473 646 1541">Base: Stainless steel EN 1.4408 AISI 316</p> <p data-bbox="119 1541 646 1630">Impeller: Stainless steel EN 1.4401 AISI 316</p> <p data-bbox="119 1630 534 1664">Bearing: SIC</p> <p data-bbox="119 1664 574 1697">Support bearing: Graflon</p> <p data-bbox="119 1709 247 1742">Installation:</p> <p data-bbox="119 1742 566 1776">t max amb: 104 °F</p> <p data-bbox="119 1776 606 1809">Maximum operating pressure: 232.06 psi</p> <p data-bbox="119 1809 662 1865">Max pressure at stated temp: 232 psi / 250 °F 232 psi / -40 °F</p> <p data-bbox="119 1865 550 1899">Type of connection: ANSI</p> <p data-bbox="119 1899 558 1933">Size of inlet connection: 3 inch</p> <p data-bbox="119 1933 558 1966">Size of outlet connection: 3 inch</p> <p data-bbox="119 1966 558 2000">Pressure rating for connection: PN 16</p> <p data-bbox="119 2000 558 2033">Flange rating inlet: 150 lb</p> <p data-bbox="119 2033 566 2067">Flange size for motor: 254TC</p> <p data-bbox="119 2078 287 2112">Electrical data:</p> <p data-bbox="119 2112 566 2145">Motor standard: NEMA</p> <p data-bbox="119 2145 566 2179">Motor type: 160AB</p>

Qty.	Description
	IE Efficiency class: NEMA Premium / IE3 60Hz
	Rated power - P2: 20 HP
	Power (P2) required by pump: 20 HP
	Mains frequency: 60 Hz
	Rated voltage: 3 x 460 V
	Service factor: 1.15
	Rated current: 26 A
	Cos phi - power factor: 0.89
	Rated speed: 480-3540 rpm
	Efficiency: IE3 91,0%
	Motor efficiency at full load: 91.0 %
	Number of poles: 2
	Enclosure class (IEC 34-5): IP55
	Insulation class (IEC 85): F
	Motor No: 85901137
	Controls:
	Frequency converter: Built-in
	Pressure sensor: Y
	Others:
	DOE Pump Energy Index VL: 0.46
	Net weight: 445 lb
	Gross weight: 462 lb
	Shipping volume: 29 ft ³

98183871 CRNE 45-3-2 N-G-A-E-HQQE 60 Hz



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