

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

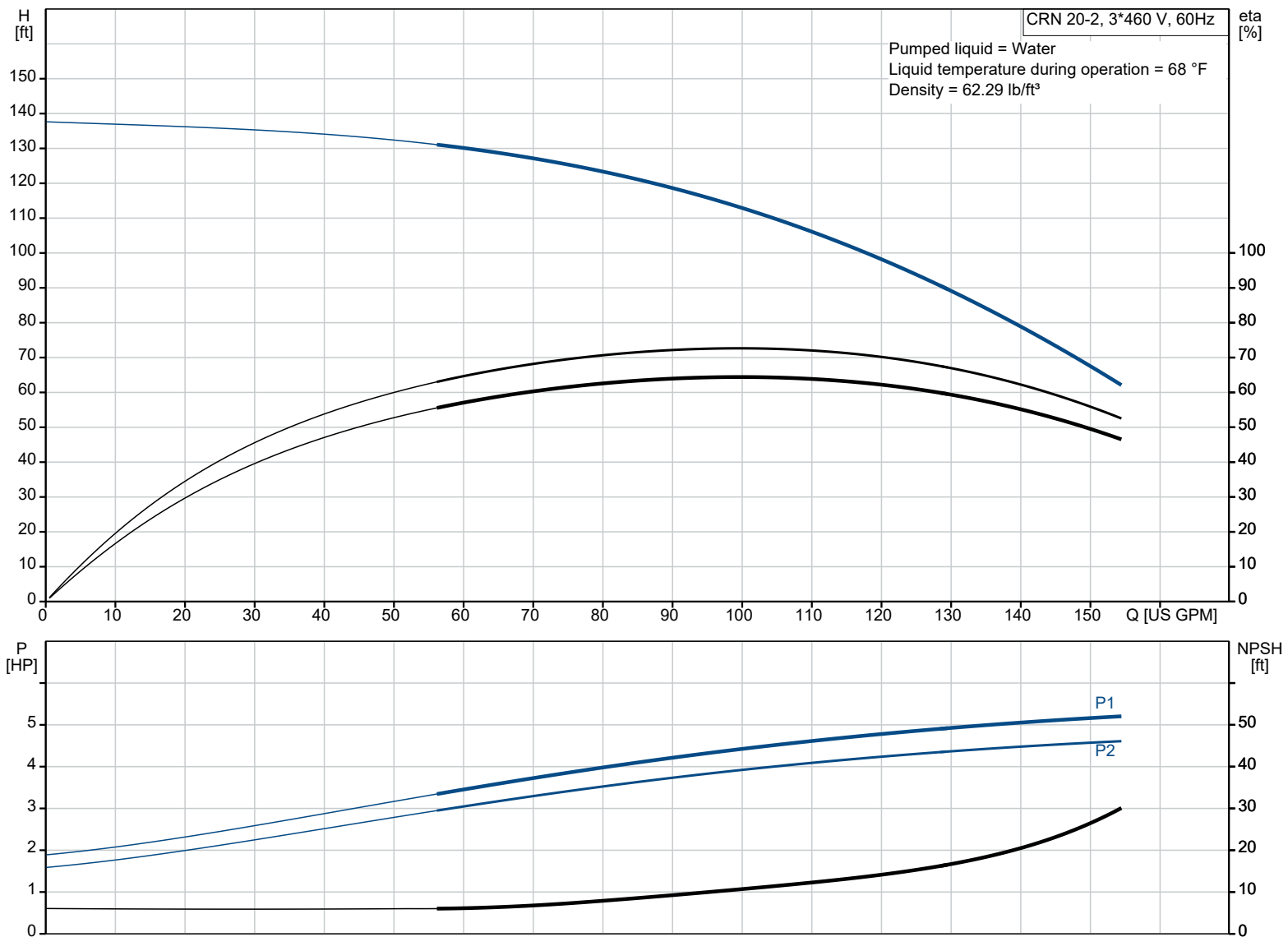


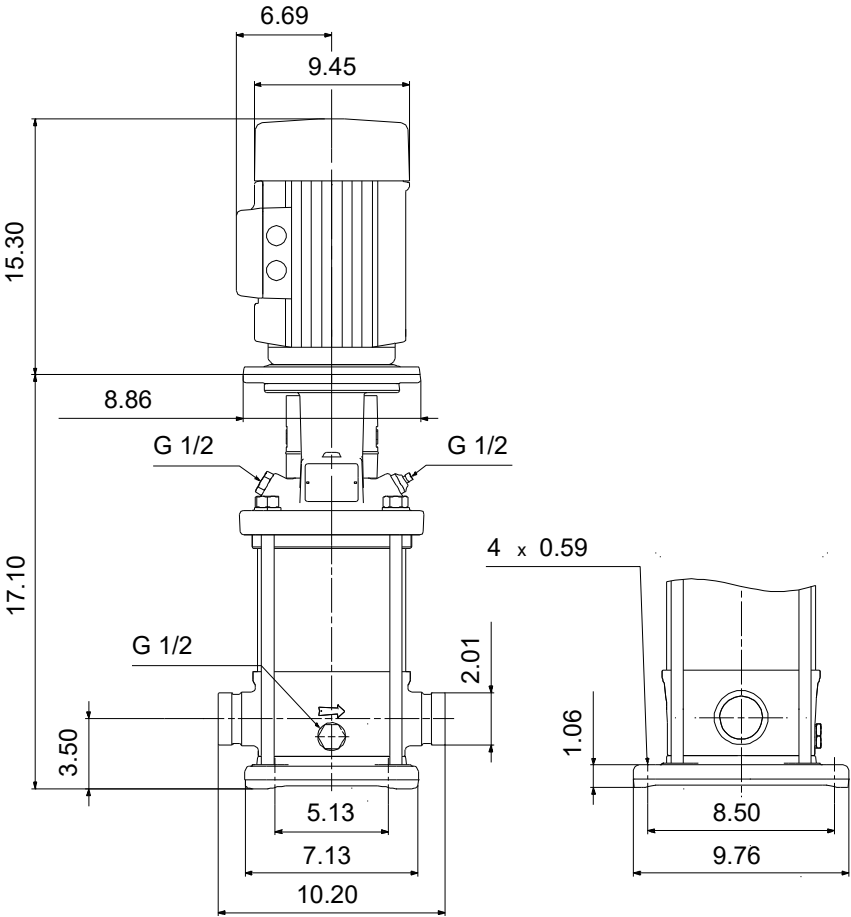
CRN 20-2 A-P-A-V-HQQV

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. Pump materials in contact with the liquid are in high-grade stainless steel (EN 1.4401)

Note! Product picture may differ from actual product


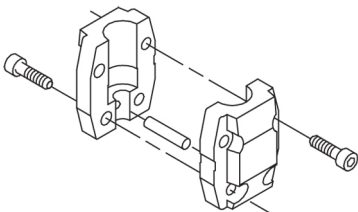
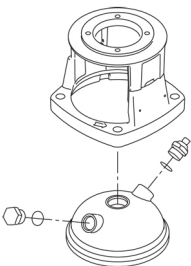
Conditions of Service		Pump Data		Motor Data	
Liquid:	Water	Max pressure at stated temp:	363 psi / 194 °F	Rated power - P2:	5 HP
Temperature:	68 °F	Liquid temperature range:	-4 .. 194 °F	Rated voltage:	230/460 V
Specific Gravity:	1.000	Maximum ambient temperature:	104 °F	Mains frequency:	60 Hz
		Shaft seal:	HQQV	Enclosure class:	IP55
		Product number:	99917879	Insulation class:	F
				Motor protection:	NONE
				Motor type:	WEG
				Eta 1/1:	88.5 %

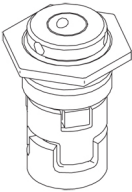
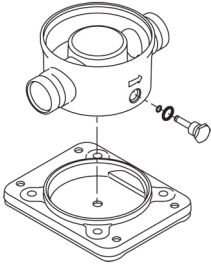




Materials:

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:	V

Qty.	Description
1	<p>CRN 20-2 A-P-A-V-HQQV</p>  <p>Product No.: 99917879</p> <p>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 PJE (Victaulic®) couplings.</p> <p>The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p>Further product details</p> <p>Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface.</p> <p>An integral part of the process is a pretreatment.</p> <p>The entire process consists of these elements:</p> <ol style="list-style-type: none"> 1) Alkaline-based cleaning. 2) Zinc phosphating. 3) Cathodic electro-deposition. 4) Curing to a dry film thickness 18-22 my m. <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p>Pump</p> <p>A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.</p>  <p>The pump head and flange for motor mounting is made in one piece (cast iron). The pump head cover is a separate component (stainless steel). The pump head has a combined 1/2" priming plug and vent screw.</p>  <p>The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.</p> <p>Seal faces:</p> <ul style="list-style-type: none"> • Rotating seal ring material: silicon carbide (SiC) • Stationary seat material: silicon carbide (SiC) <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: FKM (fluorocarbon rubber)</p> <p>FKM has excellent resistance to oils and chemicals. Above 90 °C, FKM should only be used in media without water.</p>

Qty.	Description																																										
1	<div></div> <p>The shaft seal is screwed into the pump head.</p> <p>The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PTFE neck ring offering improved sealing and high efficiency. The impellers have smooth surfaces, and the shape of the blades ensure a high efficiency.</p> <p>The pump has a stainless-steel base mounted on a separate base plate.</p> <p>The base and base plate are kept in position by the tension of the staybolts which hold the pump together.</p> <p>The outlet side of the base has a drain plug.</p> <p>The pump is secured to the foundation by four bolts through the base plate.</p> <p>The base is prepared for connection by means of PJE (Victualic®) couplings.</p> <div></div> <p>Motor</p> <p>The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with tapped-hole flange (FT).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (Code II).</p> <p>Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as premium efficiency in accordance with EISA2007.</p> <p>The motor does not incorporate motor protection and must be connected to a motor-protective circuit breaker which can be manually reset. The motor-protective circuit breaker must be set according to the rated current of the motor (I1/1).</p> <p>The motor can be connected to a variable speed drive for adjustment of pump performance to any duty point. Grundfos CUE offers a range of variable speed drives. Please find more information in Grundfos Product Center.</p> <p>Technical data</p> <table><tr><td>Liquid:</td><td></td></tr><tr><td>Pumped liquid:</td><td>Water</td></tr><tr><td>Liquid temperature range:</td><td>-4 .. 194 °F</td></tr><tr><td>Selected liquid temperature:</td><td>68 °F</td></tr><tr><td>Density:</td><td>62.29 lb/ft³</td></tr></table> <p>Technical:</p> <table><tr><td>Pump speed on which pump data are based:</td><td>3461 rpm</td></tr><tr><td>Rated flow:</td><td>111 US GPM</td></tr><tr><td>Rated head:</td><td>104 ft</td></tr><tr><td>Actual impeller diameter:</td><td>4.13 in</td></tr><tr><td>Pump orientation:</td><td>Vertical</td></tr><tr><td>Shaft seal arrangement:</td><td>Single</td></tr><tr><td>Code for shaft seal:</td><td>HQQV</td></tr><tr><td>Approvals:</td><td>CURUS</td></tr><tr><td>Curve tolerance:</td><td>ISO9906:2012 3B</td></tr></table> <p>Materials:</p> <table><tr><td>Base:</td><td>Stainless steel</td></tr><tr><td></td><td>EN 1.4408</td></tr><tr><td></td><td>AISI 316</td></tr><tr><td>Impeller:</td><td>Stainless steel</td></tr><tr><td></td><td>EN 1.4401</td></tr><tr><td></td><td>AISI 316</td></tr><tr><td>Bearing:</td><td>SIC</td></tr></table>	Liquid:		Pumped liquid:	Water	Liquid temperature range:	-4 .. 194 °F	Selected liquid temperature:	68 °F	Density:	62.29 lb/ft³	Pump speed on which pump data are based:	3461 rpm	Rated flow:	111 US GPM	Rated head:	104 ft	Actual impeller diameter:	4.13 in	Pump orientation:	Vertical	Shaft seal arrangement:	Single	Code for shaft seal:	HQQV	Approvals:	CURUS	Curve tolerance:	ISO9906:2012 3B	Base:	Stainless steel		EN 1.4408		AISI 316	Impeller:	Stainless steel		EN 1.4401		AISI 316	Bearing:	SIC
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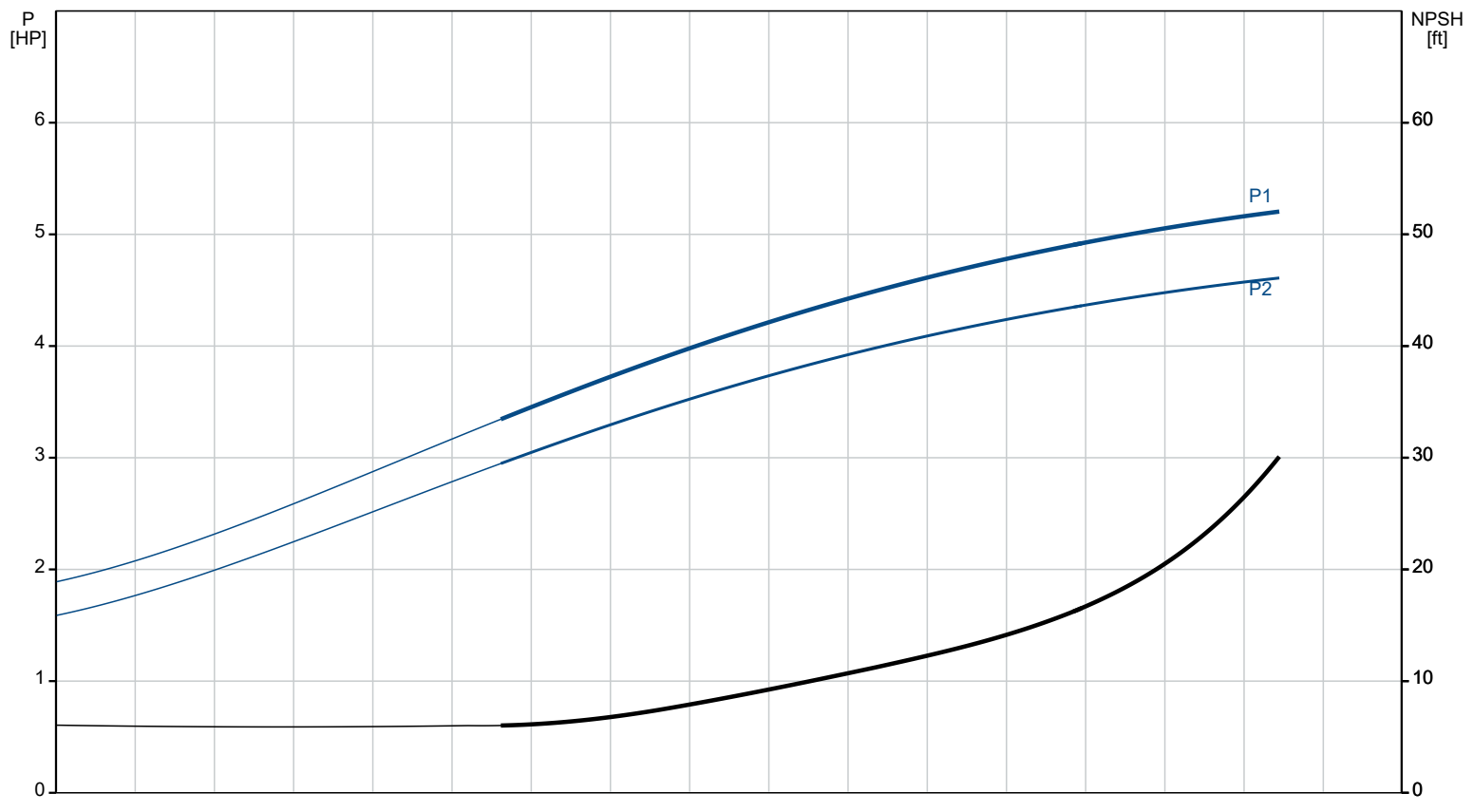
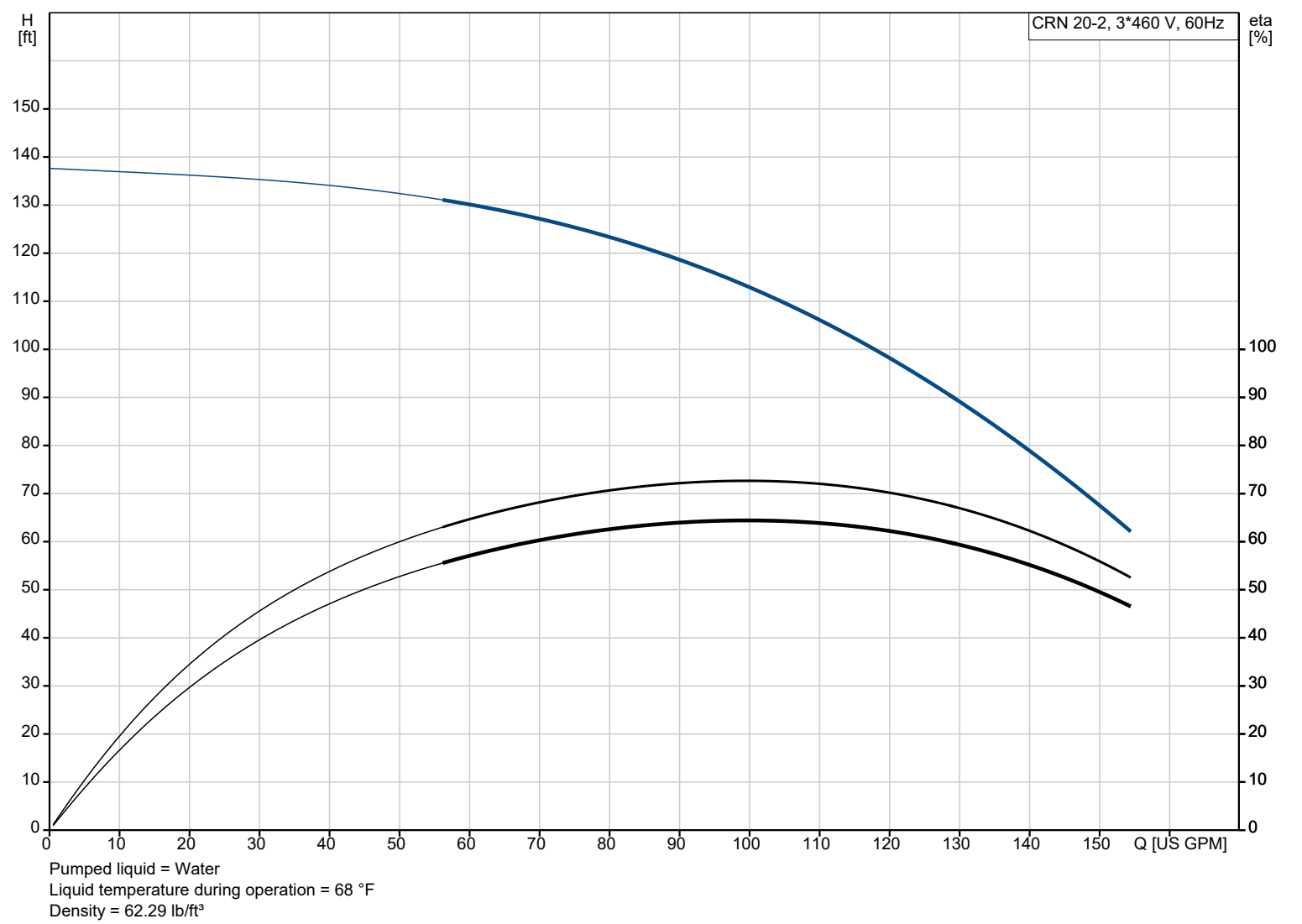
Qty.	Description
1	<p>Installation:</p> <p>t max amb: 104 °F</p> <p>Maximum operating pressure: 362.59 psi</p> <p>Max pressure at stated temp: 363 psi / 194 °F</p> <p>363 psi / -4 °F</p> <p>Type of connection: PJE</p> <p>Size of inlet connection: DN 50</p> <p>Size of outlet connection: DN 50</p> <p>Pressure rating for connection: PN 50</p> <p>Flange size for motor: 182TC</p> <p>Electrical data:</p> <p>Motor standard: NEMA</p> <p>Motor type: WEG</p> <p>IE Efficiency class: IE3 / NEMA Premium</p> <p>Rated power - P2: 5 HP</p> <p>Power (P2) required by pump: 5 HP</p> <p>Mains frequency: 60 Hz</p> <p>Rated voltage: 3 x 230/460 V</p> <p>Service factor: 1.15</p> <p>Rated current: 11.8/5.9 A</p> <p>Starting current: 780 %</p> <p>Cos phi - power factor: 0.89</p> <p>Rated speed: 3500 rpm</p> <p>Efficiency: IE3 88,5%</p> <p>Motor efficiency at full load: 88.5 %</p> <p>Motor efficiency at 3/4 load: 88.5 %</p> <p>Motor efficiency at 1/2 load: 87.5 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): IP55</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 99882380</p> <p>Controls:</p> <p>Frequency converter: NONE</p> <p>Others:</p> <p>DOE Pump Energy Index CL: 0.91</p> <p>Net weight: 159 lb</p> <p>Gross weight: 176 lb</p> <p>Shipping volume: 8.26 ft³</p>



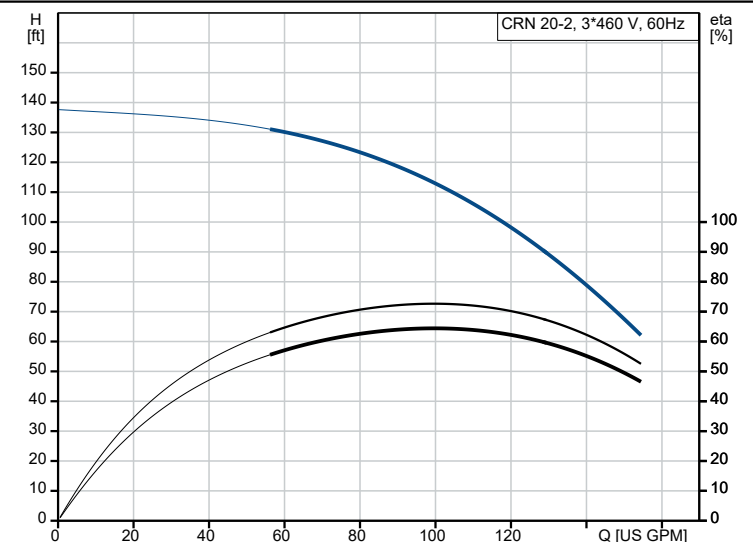
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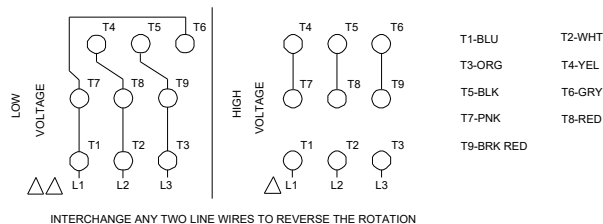
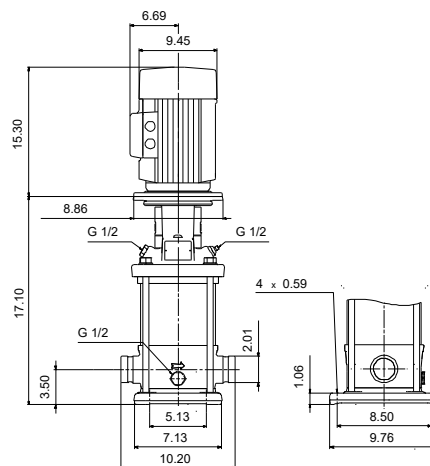
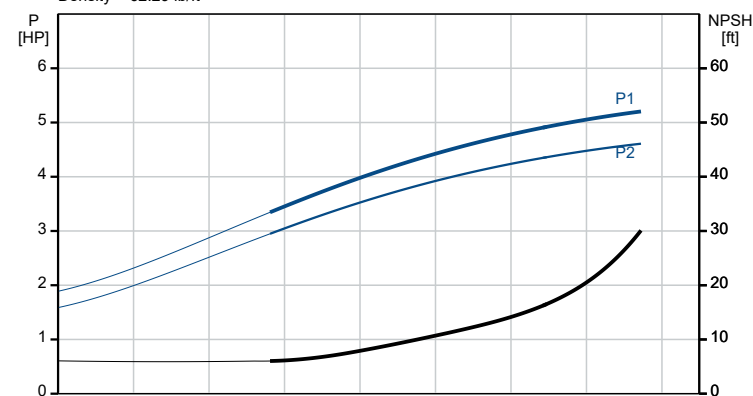
99917879 CRN 20-2 A-P-A-V-HQQV 60 Hz



Description	Value
General information:	
Product name:	CRN 20-2 A-P-A-V-HQQV
Product No:	99917879
EAN number:	5715114127073
Technical:	
Pump speed on which pump data are based:	3461 rpm
Rated flow:	111 US GPM
Rated head:	104 ft
Maximum head:	136.5 ft
Actual impeller diameter:	4.13 in
Stages:	2
Impellers:	2
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQV
Approvals:	CURUS
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
Cooling:	IC 411
Materials:	
Base:	Stainless steel
Base:	EN 1.4408
Base:	AISI 316
Impeller:	Stainless steel
Impeller:	EN 1.4401
Impeller:	AISI 316
Material code:	A
Code for rubber:	V
Bearing:	SIC
Installation:	
t max amb:	104 °F
Maximum operating pressure:	362.59 psi
Max pressure at stated temp:	363 psi / 194 °F
Max pressure at stated temp:	363 psi / -4 °F
Type of connection:	PJE
Size of inlet connection:	DN 50
Size of outlet connection:	DN 50
Pressure rating for connection:	PN 50
Flange size for motor:	182TC
Connect code:	P
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-4 .. 194 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft³
Electrical data:	
Motor standard:	NEMA
Motor type:	WEG
IE Efficiency class:	IE3 / NEMA Premium
Rated power - P2:	5 HP
Power (P2) required by pump:	5 HP
Mains frequency:	60 Hz
Rated voltage:	3 x 230/460 V
Service factor:	1.15
Rated current:	11.8/5.9 A
Starting current:	780 %
Full load SF current:	13.6/6.79 A
Cos phi - power factor:	0.89
Rated speed:	3500 rpm
Efficiency:	IE3 88,5%
Motor efficiency at full load:	88.5 %
Motor efficiency at 3/4 load:	88.5 %



Pumped liquid = Water
Liquid temperature during operation = 68 °F
Density = 62.29 lb/ft³



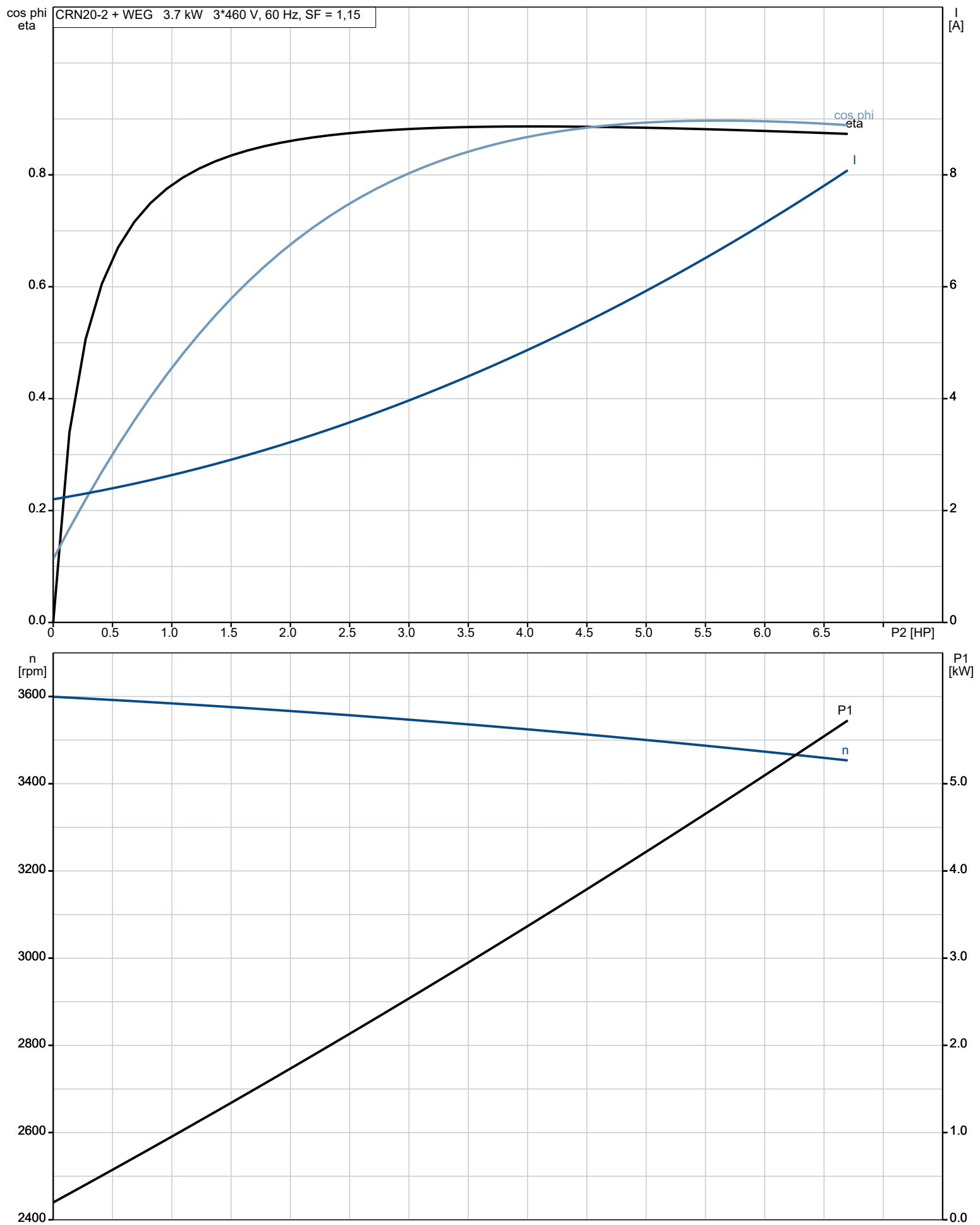


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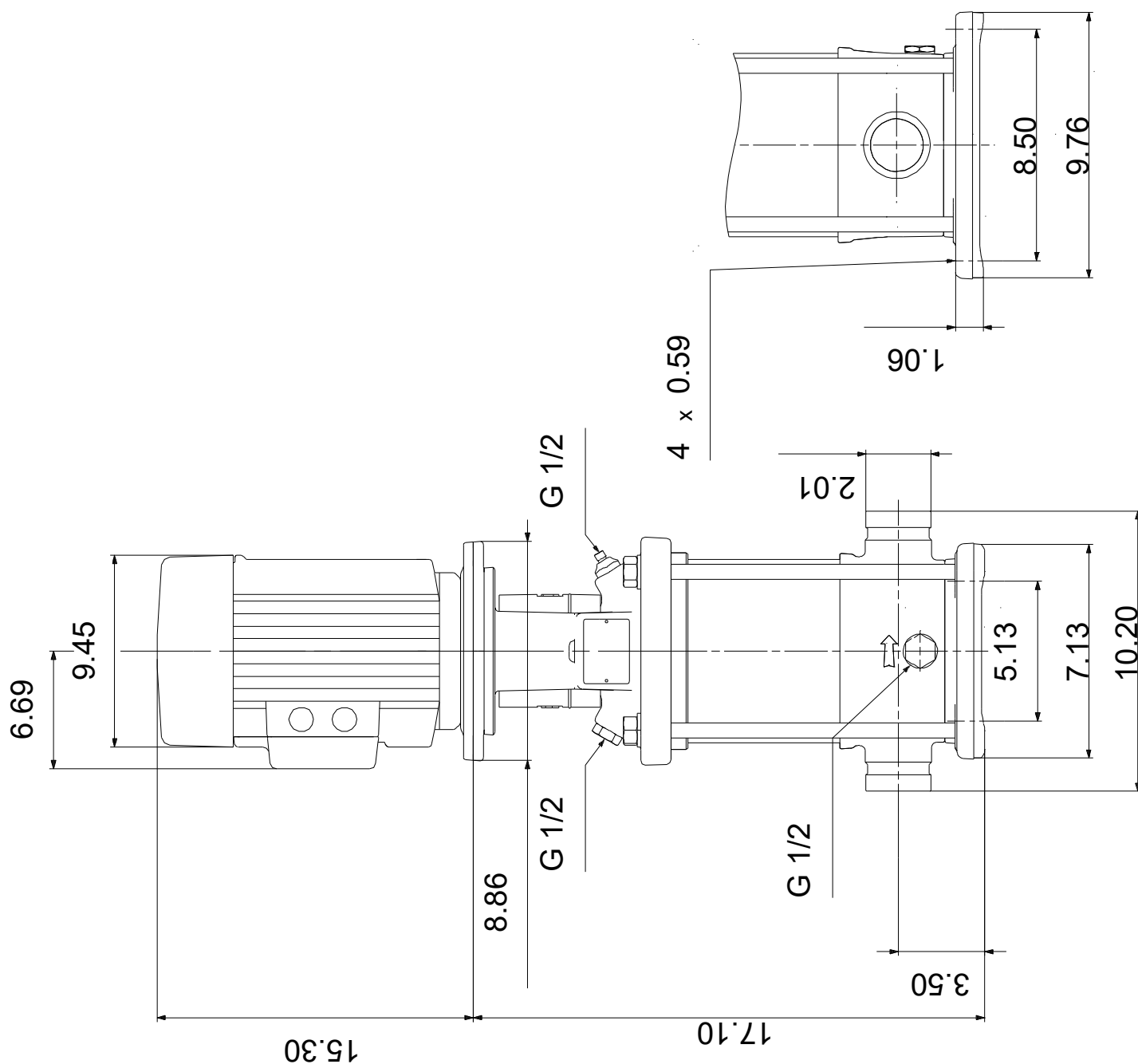
Date: 27/01/2023

Description	Value
Motor efficiency at 1/2 load:	87.5 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	NONE
Motor No:	99882380
Controls:	
Frequency converter:	NONE
Others:	
DOE Pump Energy Index CL:	0.91
Net weight:	159 lb
Gross weight:	176 lb
Shipping volume:	8.26 ft³

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