GRUNDFOS

Submittal Data

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

Product photo could vary from the actual product

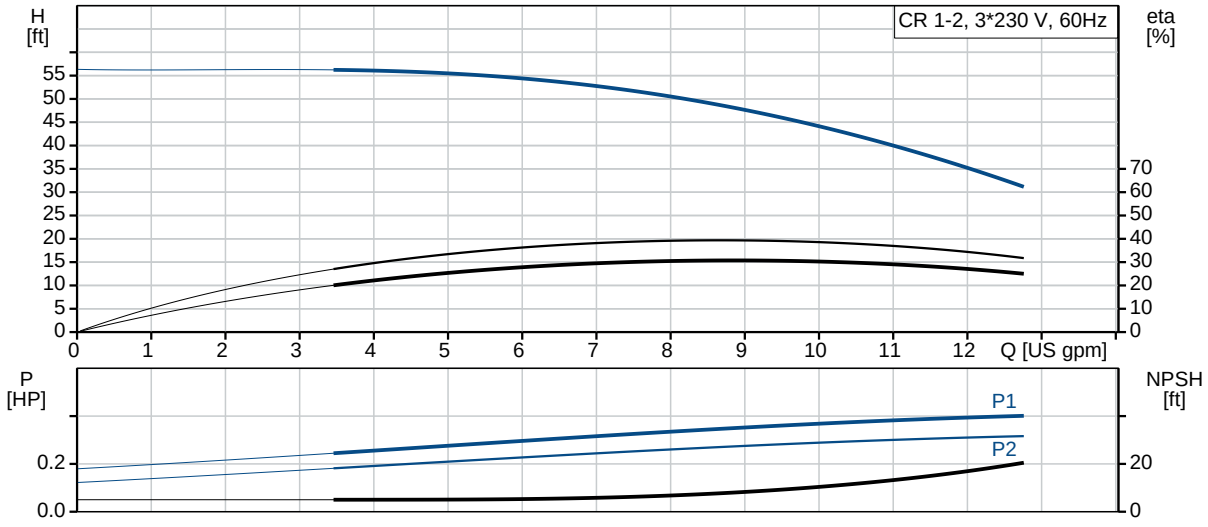
CR 1-2 A-B-A-E-HQQE

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron. All other wetted parts are in stainless steel (EN 1.4301)(AISI 304)

Conditions of Service	
Flow:	
Head:	
Efficiency:	
Liquid:	Water
Temperature:	68 °F
NPSH required:	ft
Viscosity:	
Specific Gravity:	1.000

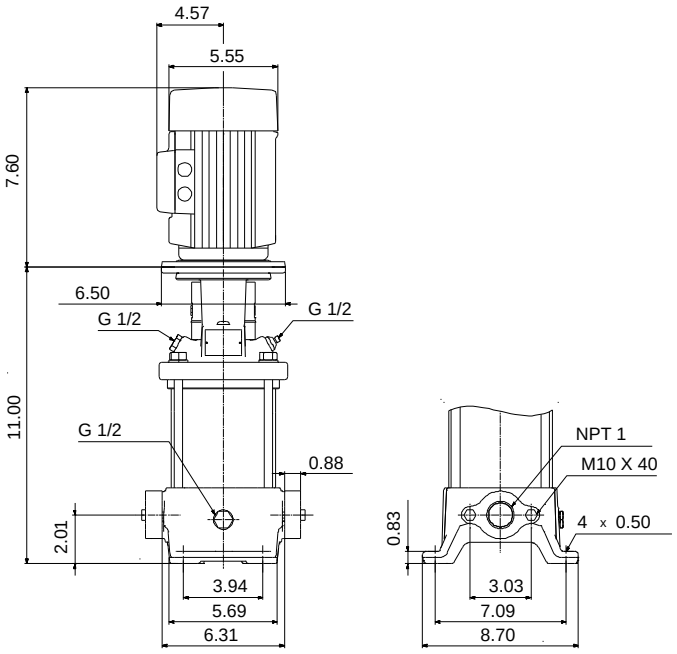
Pump Data	
Max pressure at stated temperature:	232 psi / 250 °F
Liquid temperature range:	-4 .. 248 °F
Maximum ambient temperature:	104 °F
Approvals:	CURUS,NSF61
Shaft seal:	HQQE
Product number:	96081966

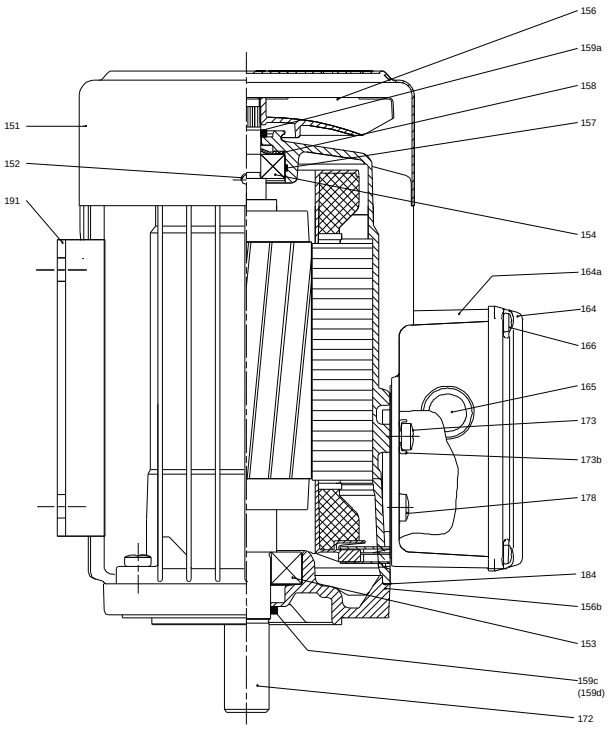
Motor Data	
Rated power - P2:	0.33 HP
Rated voltage:	208-230YY/460Y V
Main frequency:	60 Hz
Enclosure class:	55 Dust/Jetting
Insulation class:	F
Motor protection:	NONE
Motor type:	71AA
Motor_efficiency:	77.4 %



GRUNDFOS

Submittal Data





Materials:

Base:	Cast iron EN 1561 EN-GJL-200 ASTM A48-25B
Impeller:	Stainless steel AISI 304 EN 1.4301
Material code:	A
Code for rubber:	E

Company name:
Created by:
Phone:

Date: 4/15/2020

Count	Description
1	**CR 1-2 A-B-A-E-HQQE**

Product No.: 96081966

Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). The pump head and base are in cast iron – all other wetted parts are in 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 oval flanges with internal NPT threads.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

Further product details

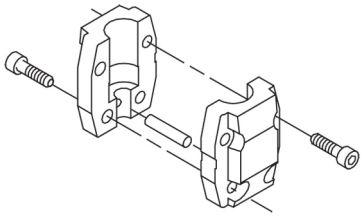
Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An integral part of the process is a pretreatment. The entire process consists of these elements:

1) Alkaline-based cleaning.
2) Zinc phosphating.
3) Cathodic electro-deposition.
4) Curing to a dry film thickness 18-22 my m.

The colour code for the finished product is NCS 9000/RAL 9005.

Pump

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.



The pump head, pump head cover and flange for motor mounting is made in one piece. The pump head has a combined 1/2" priming plug and vent screw.

Company name:
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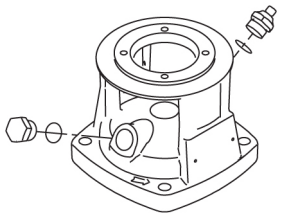


The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system. This seal type is assembled in a cartridge unit which makes replacement safe and easy. Due to the balancing, this seal type is suitable for high-pressure applications. The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.

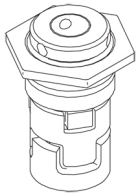
Primary seal:

- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.

Secondary seal material: EPDM (ethylene-propylene rubber)

EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.

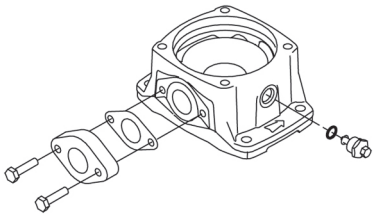


The shaft seal is screwed into the pump head.

The pump has a special air-cooled shaft-seal chamber generating the same insulation effect as that of a vacuum flask. No external cooling is necessary; the ambient temperature is sufficient. An automatic vent vents the pump seal chamber.

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.

The base is made of cast iron. The oval flanges are bolted to the base. The outlet side of the base has a combined drain plug and bypass valve. The pump is secured to the foundation by four bolts through the base plate.



GRUNDFOS

Company name:
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Count	Description

Motor

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).

Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (Code II).

Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as premium efficiency in accordance with EISA2007.

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).

Technical data

Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-4 .. 248 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft³

Technical:

Rated pump speed:	3425 rpm
Rated flow:	9.69 US gpm
Rated head:	45.28 ft
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQE
Approvals on nameplate:	CURUS,NSF61
Curve tolerance:	ISO9906:2012 3B

Materials:

Base:	Cast iron EN 1561 EN-GJL-200 ASTM A48-25B
Impeller:	Stainless steel EN 1.4301 AISI 304
Bearing:	SIC

Installation:

Maximum ambient temperature:	104 °F
Maximum operating pressure:	232.06 psi
Max pressure at stated temperature:	232 psi / 250 °F 232 psi / -4 °F
Type of connection:	Oval / NPT(F)
Size of suction port:	1 inch
Size of outlet port:	1 inch
Pressure rating for connection:	PN 16
Flange size for motor:	56C

Electrical data:

GRUNDFOS

Company name:
Created by:
Phone:

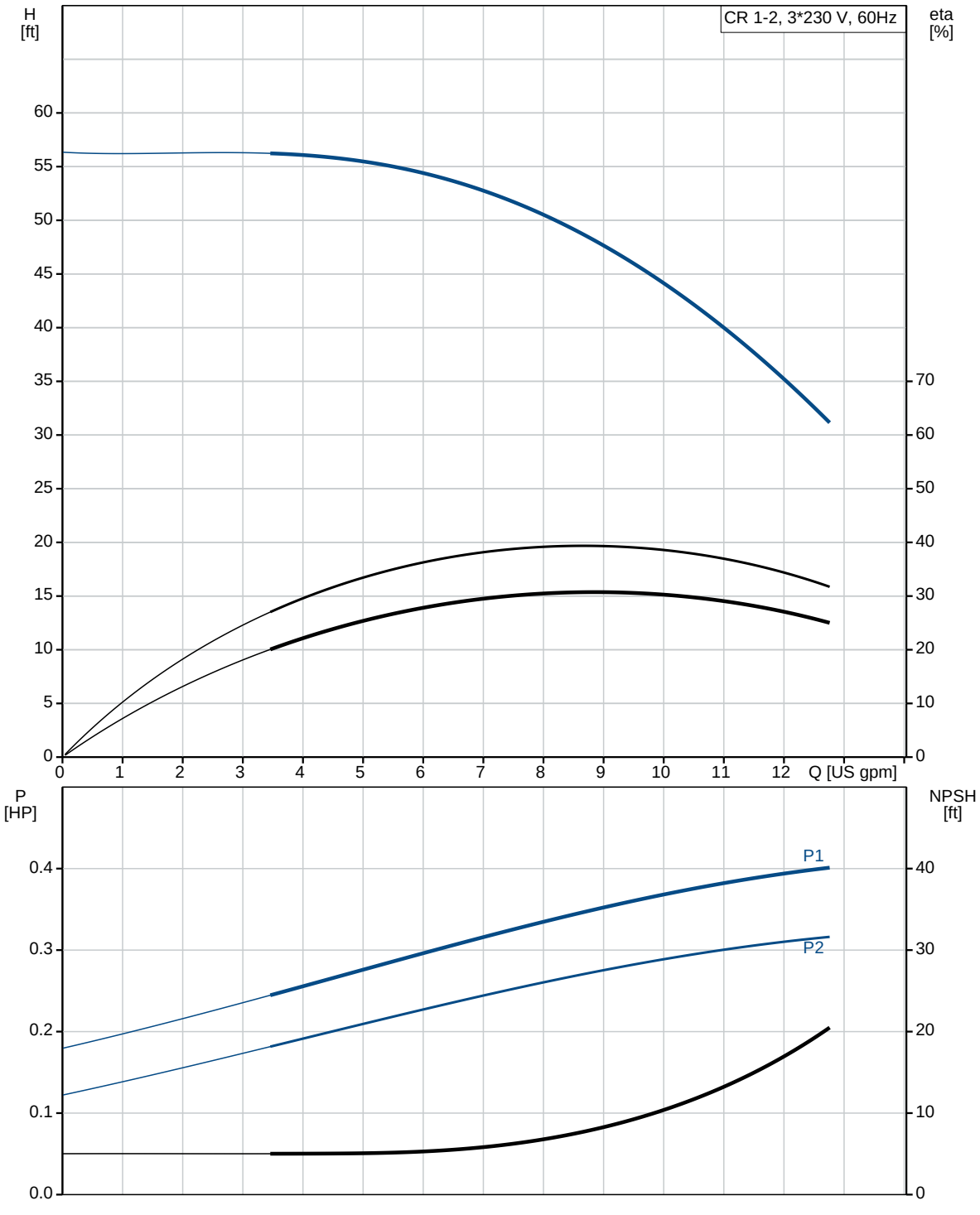
Date: 4/15/2020

Count	Description	
	Motor standard:	NEMA
	Motor type:	71AA
	IE Efficiency class:	NEMA Premium / IE3 60Hz
	Rated power - P2:	0.33 HP
	Power (P2) required by pump:	0.33 HP
	Main frequency:	60 Hz
	Rated voltage:	3 x 208-230YY/460Y V
	Service factor:	1.35
	Rated current:	1,12-1,10/0,55 A
	Starting current:	630-700 %
	Cos phi - power factor:	0.81-0.75
	Rated speed:	3450-3480 rpm
	Motor efficiency at full load:	77.4 %
	Motor efficiency at 3/4 load:	77.7 %
	Motor efficiency at 1/2 load:	73.3 %
	Number of poles:	2
	Enclosure class (IEC 34-5):	55 Dust/Jetting
	Insulation class (IEC 85):	F
	Motor Number:	85900700
	Controls:	
	Frequency converter:	NONE
	Others:	
	Net weight:	45.6 lb
	Gross weight:	56.6 lb
	Shipping volume:	4.94 ft^3
	Country of origin:	US
	Custom tariff no.:	8413.70.2040

Company name:
Created by:
Phone:

Date: 4/15/2020

96081966 CR 1-2 A-B-A-E-HQQE 60 Hz



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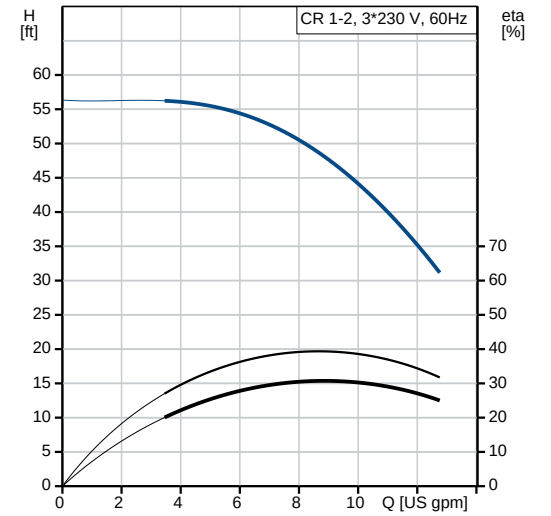
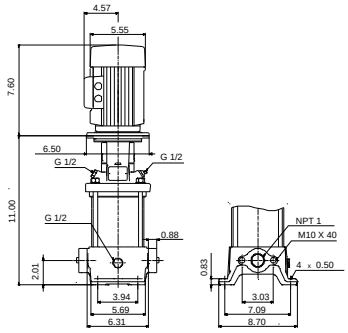
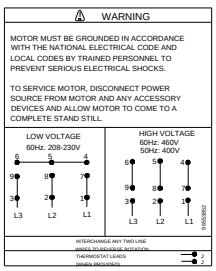
Date: 4/15/2020

Description	Value
General information:	
Product name:	CR 1-2 A-B-A-E-HQQE
Product No.:	96081966
EAN:	5700395167047
	5700395167047
Technical:	
Rated pump speed:	3425 rpm
Rated flow:	9.69 US gpm
Rated head:	45.28 ft
Maximum head:	59.39 ft
Stages:	3
Impellers:	2
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQE
Approvals on nameplate:	CURUS,NSF61
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
Cooling:	TEFC
Materials:	
Base:	Cast iron
	EN 1561 EN-GJL-200
	ASTM A48-25B
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Installation:	
Maximum ambient temperature:	104 °F
Maximum operating pressure:	232.06 psi
Max pressure at stated temperature:	232 psi / 250 °F
	232 psi / -4 °F
Type of connection:	Oval / NPT(F)
Size of suction port:	1 inch
Size of outlet port:	1 inch
Pressure rating for connection:	PN 16
Flange size for motor:	56C
Connect code:	B
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-4 .. 248 °F
Selected liquid temperature:	68 °F







GRUNDFOS

Company name:
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Description	Value
Density:	62.29 lb/ft³
Electrical data:	
Motor standard:	NEMA
Motor type:	71AA
IE Efficiency class:	NEMA Premium / IE3 60Hz
Rated power - P2:	0.33 HP
Power (P2) required by pump:	0.33 HP
Main frequency:	60 Hz
Rated voltage:	3 x 208-230YY/460Y V
Service factor:	1.35
Rated current:	1,12-1,10/0,55 A
Starting current:	630-700 %
Load current:	1,5-1,45/0,75 A
Cos phi - power factor:	0.81-0.75
Rated speed:	3450-3480 rpm
Motor efficiency at full load:	77.4 %
Motor efficiency at 3/4 load:	77.7 %
Motor efficiency at 1/2 load:	73.3 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protection:	NONE
Motor Number:	85900700
Controls:	
Frequency converter:	NONE
Others:	
Net weight:	45.6 lb
Gross weight:	56.6 lb
Shipping volume:	4.94 ft³
Country of origin:	US
Custom tariff no.:	8413.70.2040

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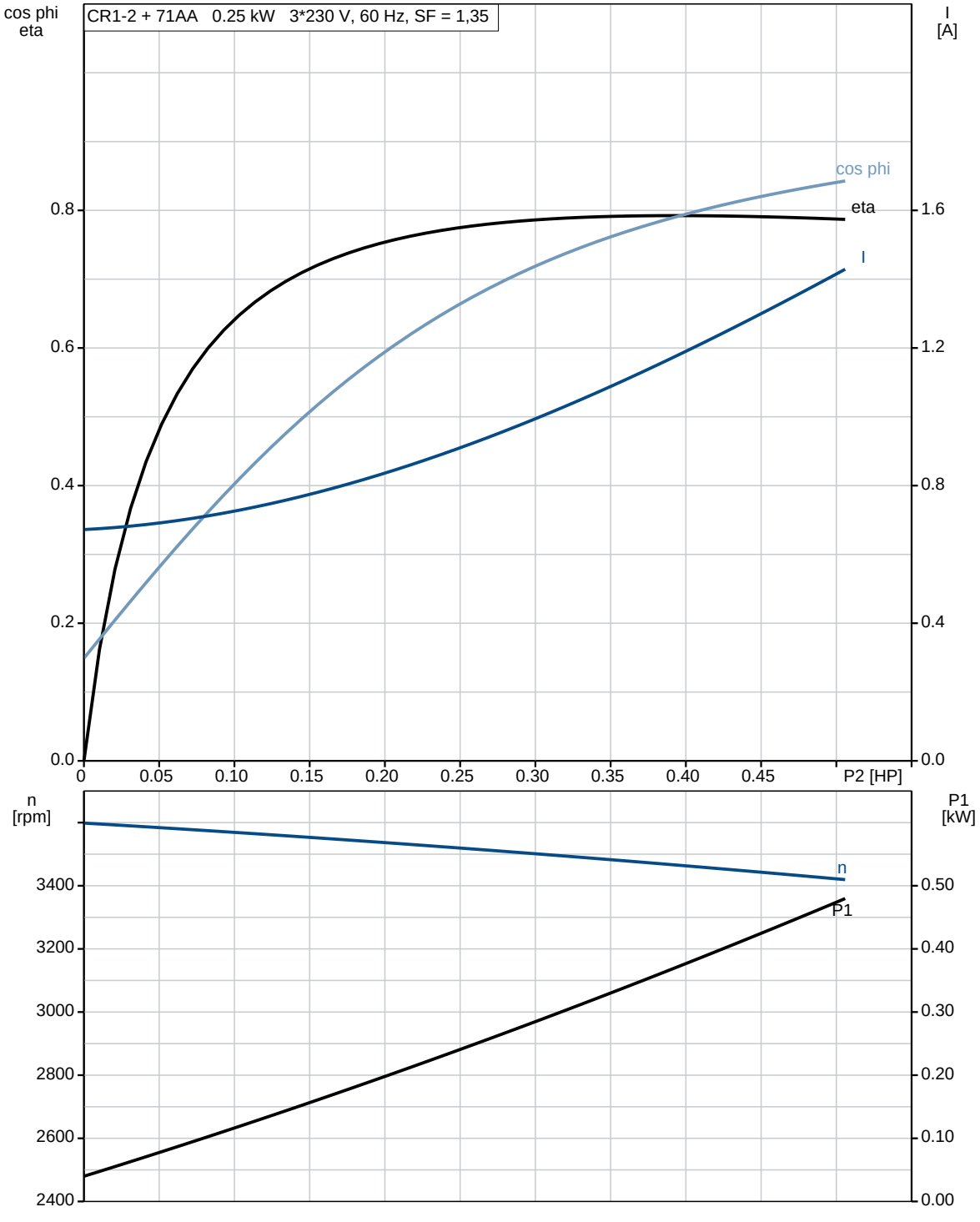
96081966 CR 1-2 A-B-A-E-HQQE 60 Hz



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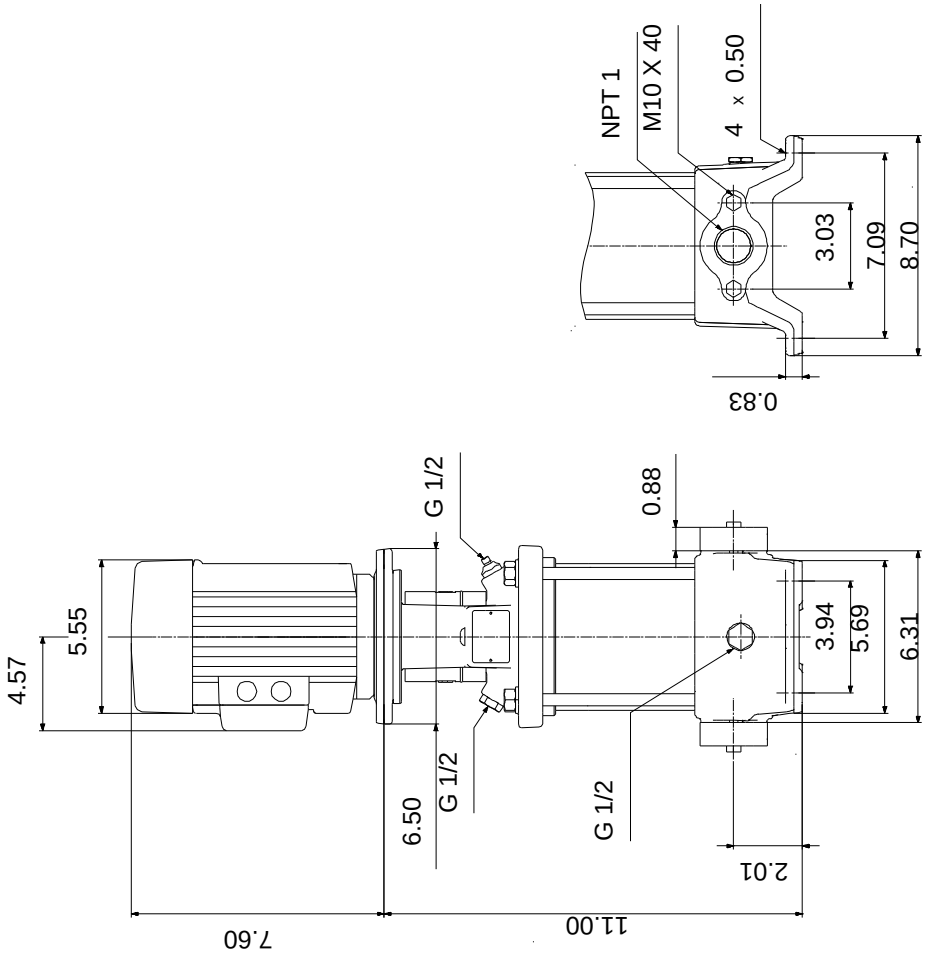
96081966 CR 1-2 A-B-A-E-HQQE 60 Hz



Note! All units are in [in] unless otherwise stated.
Disclaimer: This simplified dimensional drawing does not show all details.

Company name:
Created by:
Phone:

Date: 4/15/2020

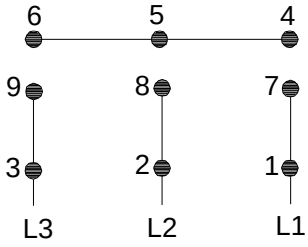
96081966 CR 1-2 A-B-A-E-HQQE 60 Hz

⚠ WARNING

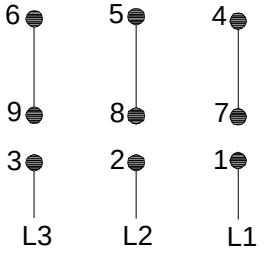
MOTOR MUST BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES BY TRAINED PERSONNEL TO PREVENT SERIOUS ELECTRICAL SHOCKS.

TO SERVICE MOTOR, DISCONNECT POWER SOURCE FROM MOTOR AND ANY ACCESSORY DEVICES AND ALLOW MOTOR TO COME TO A COMPLETE STAND STILL.

LOW VOLTAGE
60Hz. 208-230V



HIGH VOLTAGE
60Hz: 460V
50Hz: 400V



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INTERCHANGE ANY TWO LINE WIRES TO REVERSE ROTATION

THERMOSTAT LEADS (WHEN PROVIDED) — J — J

All units are [in] unless otherwise presented.