GRUNDFOS

Submittal Data

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

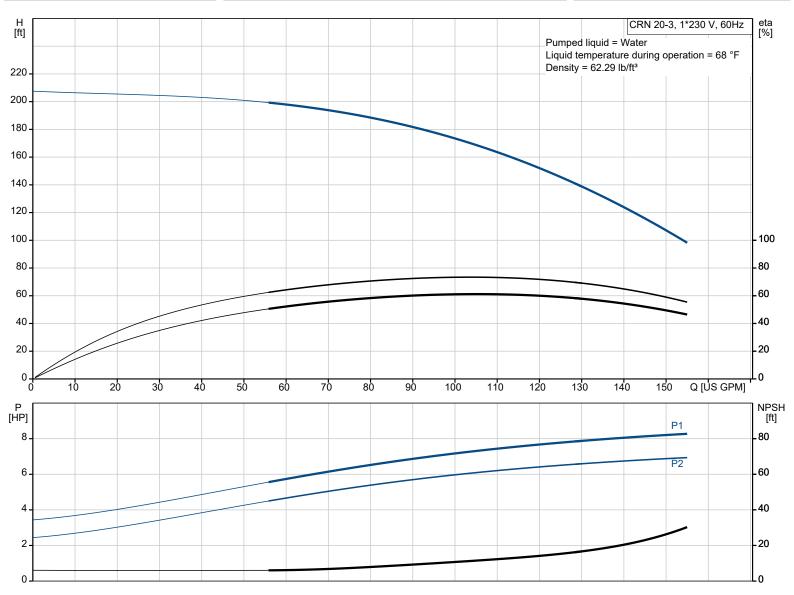


CRN 20-3 A-FGJ-A-E-HQQE

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)

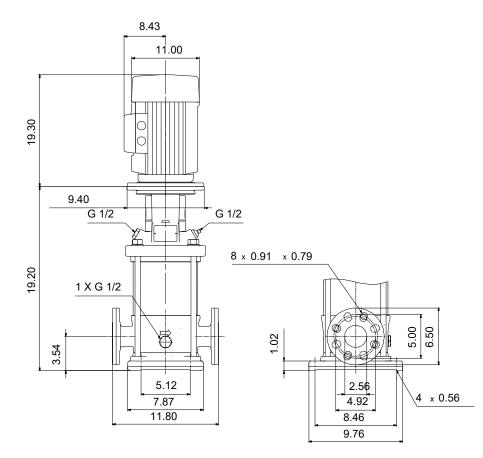
Note! Product picture may differ from actual product

Conditions of Service		Pump Data		Motor Data	
Liquid: Temperature: Specific Gravity:	Water 68 °F 1.000	Max pressure at stated temp: Liquid temperature range: Maximum ambient temperature: Shaft seal: Product number:	363 psi / 250 °F -4 248 °F 104 °F HQQE On request	Rated power - P2: Rated voltage: Mains frequency: Enclosure class: Insulation class: Motor protection: Motor type: Eta 1/1:	7.5 HP 208-230 V 60 Hz IP55 F NONE WEG 84.0 %



Submittal Data





Materials:

materials.	
Base:	Stainless steel
Base:	EN 1.4408
Base:	AISI 316
Impeller:	Stainless steel
Impeller:	AISI 316
Impeller:	EN 1.4401
Material code:	А
Code for rubber:	E



Date:

25/01/2023

Qty. | Description

1 CRN 20-3 A-FGJ-A-E-HQQE



Product No.: On request

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 combined DIN-ANSI-JIS flanges.

The pump is fitted with a 1-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.

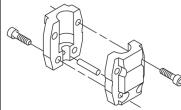
An integral part of the process is a pretreatment.

The entire process consists of these elements:

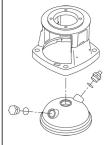
- 1) Alkaline-based cleaning.
- 2) Zinc phosphating.
- 3) Cathodic electro-deposition.
- 4) Curing to a dry film thickness 18-22 my m.
- The colour code for the finished product is NCS 9000/RAL 9005.

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 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.



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.

Seal faces:

- 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.



Date:

25/01/2023

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The shaft seal is screwed into the pump head.

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 pump has a stainless steel base mounted on a separate base plate.

This base and base plate are kept in position by the tension of the staybolts which hold the pump together.

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.

The flanges and base are cast in one piece and prepared for connection by means of DIN, ANSI or JIS.

Motor

The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with free-hole flange (FF).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).

Electrical tolerances comply with IEC 60034.

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).

The motor has built-in thermal protection (PTO current and temperature sensors) in accordance with IEC 60034-11 and requires no further motor protection. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

As the thermal protection incorporates automatic reset, the motor must be connected in a way which ensures that the automatic reset cannot cause accidents.

Technical data

Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density:	Water -4 248 °F 68 °F 62.29 lb/ft³
Technical: Pump speed on which pump data Rated flow: Rated head: Actual impeller diameter: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals: Approvals for drinking water: Curve tolerance:	are based: 3508 rpm 111 US GPM 159.1 ft 4.13 in Vertical Single HQQE CURUS NSF/ANSI 61 ISO9906:2012 3B
Materials:	
Base:	Stainless steel EN 1.4408
Impeller:	AISI 316 Stainless steel EN 1.4401
Bearing:	AISI 316 SIC
Installation:	
t max amb:	104 °F
Maximum operating pressure:	362.59 psi
Max pressure at stated temp:	363 psi / 250 °F
Town of a sum of the sum	363 psi / -4 °F
Type of connection:	DIN / ANSI / JIS
Size of inlet connection:	DN 50



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	Size of outlet connection: Pressure rating for connection: Flange rating inlet: Flange size for motor:	DN 50 PN 25 300 lb 213TC
	Electrical data: Motor standard: Motor type: Rated power - P2: Power (P2) required by pump: Mains frequency: Rated voltage: Service factor: Rated current: Starting current: Cos phi - power factor: Rated speed: Efficiency: Motor efficiency at full load: Motor efficiency at 3/4 load: Motor efficiency at 1/2 load: Number of poles: Enclosure class (IEC 34-5): Insulation class (IEC 85): Motor No:	NEMA WEG 7.5 HP 7.5 HP 60 Hz 1 x 208-230 V 1.15 31.7-28.8 A 710-710 % 0.99 3515 rpm 84.0% 84.0 % 82.5 % 78.5 % 2 IP55 F 99883305
	Controls: Frequency converter: Others:	NONE
	DOE Pump Energy Index CL: Net weight: Gross weight: Shipping volume: Country of origin: Custom tariff no.:	0.91 240 lb 326 lb 13.1 ft ³ US 8413.70.2040

Company name: Created by: Phone:

Date:

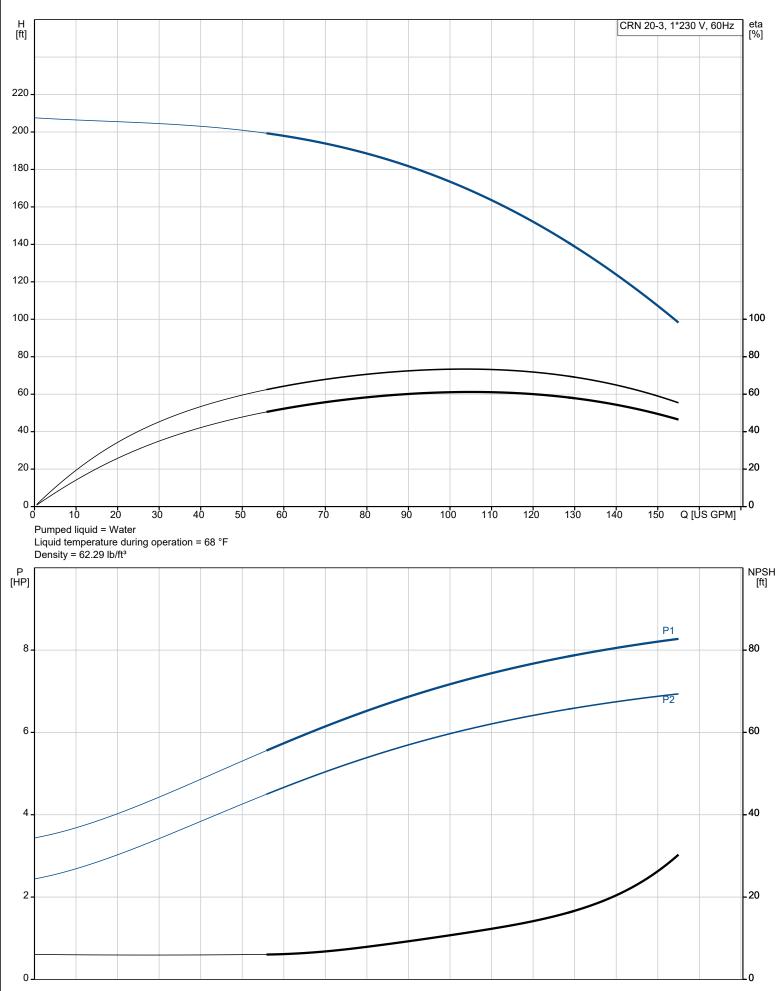
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Date:

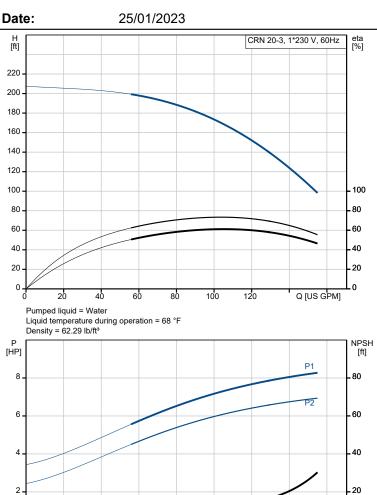
On request CRN 20-3 A-FGJ-A-E-HQQE 60 Hz



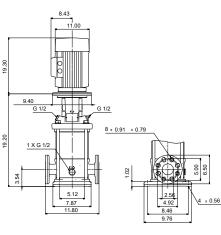
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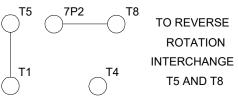
Company name: Created by: Phone:

Description General information: Product name: Product No: EAN number: Technical: Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	Value CRN 20-3 A-FGJ-A-E-HQQE On request 3508 rpm 111 US GPM 159.1 ft 206 ft 4.13 in 3	H [ft] 220 - 200 - 180 - 160 - 140 -	
Product name: Product No: EAN number: Technical: Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	On request On request 3508 rpm 111 US GPM 159.1 ft 206 ft 4.13 in	200 - 180 - 160 - 140 -	
Product No: EAN number: Technical: Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	On request On request 3508 rpm 111 US GPM 159.1 ft 206 ft 4.13 in	200 - 180 - 160 - 140 -	
EAN number: Technical: Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	On request 3508 rpm 111 US GPM 159.1 ft 206 ft 4.13 in	180 - 160 - 140 -	
Technical: Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	3508 rpm 111 US GPM 159.1 ft 206 ft 4.13 in	160 - 140 -	
Pump speed on which pump data are based: Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	111 US GPM 159.1 ft 206 ft 4.13 in	140 -	
Rated flow: Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	111 US GPM 159.1 ft 206 ft 4.13 in	140 -	
Rated head: Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	159.1 ft 206 ft 4.13 in	_	
Maximum head: Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	206 ft 4.13 in	-	
Actual impeller diameter: Stages: Impellers: Number of reduced-diameter impellers:	4.13 in	120 -	
Stages: Impellers: Number of reduced-diameter impellers:			
Stages: Impellers: Number of reduced-diameter impellers:	3	100 -	
Impellers: Number of reduced-diameter impellers:		80 -	
Number of reduced-diameter impellers:	3	60 -	
	0	_	
Low NPSH:	N	40 -	
Pump orientation:	Vertical	20 -	
Shaft seal arrangement:	Single	- 0-	
Code for shaft seal:	HQQE		20
			oumped liquid =
Approvals:	CURUS		iquid temperatu Density = 62.29
Approvals for drinking water:	NSF/ANSI 61	- P [
Curve tolerance:	ISO9906:2012 3B	[HP]	
Pump version:	A		
Model:	A	8-	
Cooling:	IC 411		
Materials:		6 -	
Base:	Stainless steel		
Base:	EN 1.4408		
Base:	AISI 316	4 -	
Impeller:	Stainless steel		
Impeller:	EN 1.4401	2	
Impeller:	AISI 316		
Material code:	A	_	
Code for rubber:	E	0 L	
Bearing:	SIC	- 7	
Installation:			
t max amb:	104 °F		8.
Maximum operating pressure:	362.59 psi		
Max pressure at stated temp:	363 psi / 250 °F		
Max pressure at stated temp:	363 psi / -4 °F	19.30	
Type of connection:	DIN / ANSI / JIS	19	
Size of inlet connection:			
Size of outlet connection:	DN 50		9.40 G 1/2
	DN 50		
Pressure rating for connection:	PN 25	8	l 'TF
Flange rating inlet:	300 lb	19.20	1 X G 1/2
Flange size for motor:	213TC		l. Nh
Connect code:	FGJ		5
Liquid:			
Pumped liquid:	Water		
Liquid temperature range:	-4 248 °F		h
Selected liquid temperature:	68 °F		
Density:	62.29 lb/ft ³		
Electrical data:			
Motor standard:	NEMA		
Motor type:	WEG		\sim
Rated power - P2:	7.5 HP		\bigcirc
Power (P2) required by pump:	7.5 HP		
Mains frequency:	60 Hz		1
Rated voltage:	1 x 208-230 V		(
Service factor:	1.15		\bigcirc
Rated current:	31.7-28.8 A		
Starting current:	710-710 %		T1-
Full load SF current:	31.7/44.6 A		T8-F
Cos phi - power factor:	0.99		10-6
Rated speed:	3515 rpm		
Efficiency:	84.0%		
Motor efficiency at full load:	84.0 %		



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T1- BLUE	T4-YELLOW	T5-BLACK
T8-RED		7P2-BROWN



25/01/2023

Date:

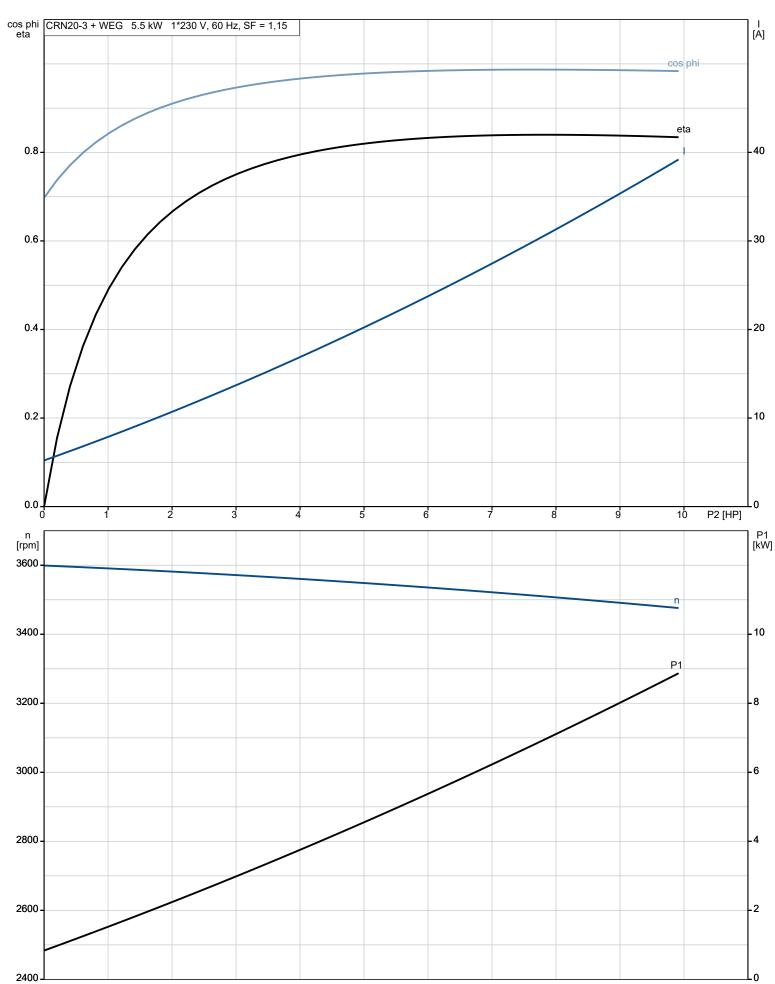
Description Value Motor efficiency at 3/4 load: 82.5 % Motor efficiency at 1/2 load: 78.5 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Built-in motor protection: NONE Motor No: 99883305 Controls: Frequency converter: NONE Others: DOE Pump Energy Index CL: 0.91 240 lb Net weight: Gross weight: 326 lb Shipping volume: 13.1 ft³ Country of origin: US Custom tariff no .: 8413.70.2040



Date:

25/01/2023

On request CRN 20-3 A-FGJ-A-E-HQQE 60 Hz



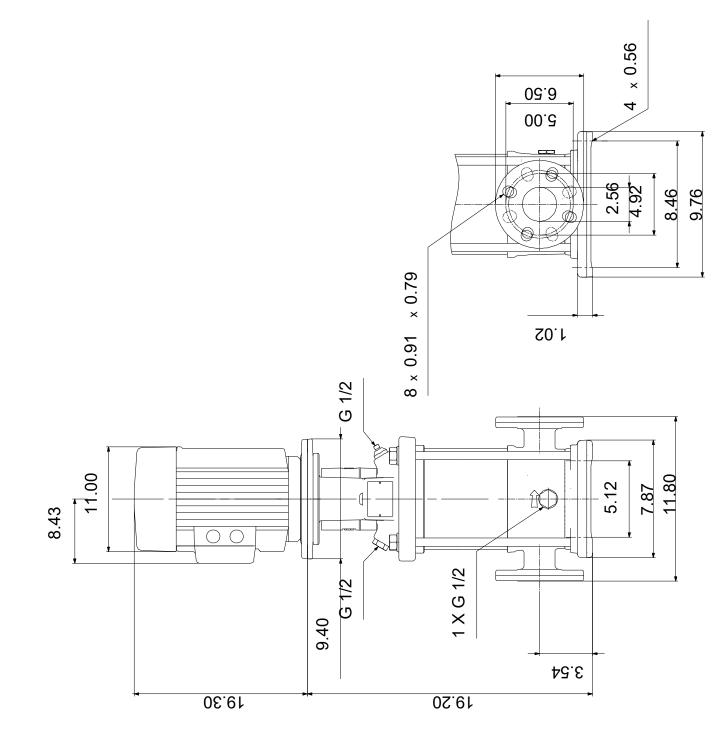
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Company name: Created by: Phone:

Date:

25/01/2023





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



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				Date:	25/01/202	3	
				Data:			
Position	Your pos.		Product name		Amount		Total
		CRN 20-3			1	On request	Price on request