

Submittal Data

PROJECT:	UNIT TAG:		QUANTITY:	
	TYPE OF SERVICE:			
	THE OF CERTICE.			
REPRESENTATIVE:	SUBMITTED BY:		DATE:	
INCI NEOLIVIATIVE.	 OODIVIITIED DT.		DATE.	
ENGINEER:	APPROVED BY:	<u> </u>	DATE:	
LINGINLLIN.	AFFROVED DT.		DATE.	
CONTRACTOR:	ORDER NO.:		DATE:	
CONTRACTOR.	ONDER NO		DATE.	



Product photo could vary from the actual product

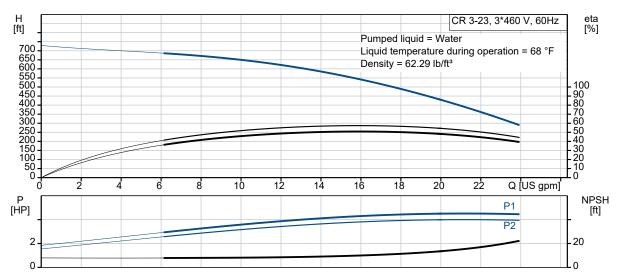
CR 3-23 A-FGJ-A-E-HQQE

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		
Efficiency:		
Liquid:	Water	
Temperature:	68 °F	
NPSH required:	ft	
Specific Gravity:	1.000	

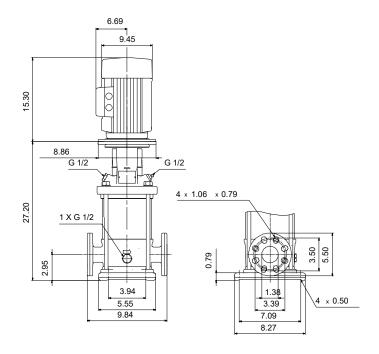
Pump Data		
Max pressure at stated temperature:	363 psi / 250 °F	
Liquid temperature range:	-4 248 °F	
Maximum ambient temperature:	104 °F	
Approvals:	CURUS,NSF61	
Shaft seal:	HQQE	
Product number:	99916355	

Motor Data		
Rated power - P2:	5 HP	
Rated voltage:	208-230/460 V	
Main frequency:	60 Hz	
Enclosure class:	IP55	
Insulation class:	F	
Motor protection:	NONE	
Motor type:	WEG	
Eff. 1/1:	88.5 %	





Submittal Data



Materials:

Base: Cast iron

Base: EN 1561 EN-GJL-200
Base: ASTM A48-25B
Impeller: Stailess steel

Impeller: AISI 304 Impeller: EN 1.4301

Material code: A
Code for rubber: E



Date: 3/18/2021

Count | Description

CR 3-23 A-FGJ-A-E-HQQE



Product No.: 99916355

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 combined DIN-ANSI-JIS flanges.

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.

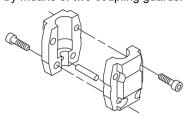
The entire process consists of these elements:

- 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

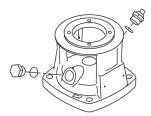
A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.



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.



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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 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 flanges and base are cast in one piece. 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.



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.



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Count | Description

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 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.

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: 3461 rpm
Rated flow: 15.4 US gpm

Rated head: 544 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

SIC

Installation:

Maximum ambient temperature: 104 °F Maximum operating pressure: 362.59 psi

Max pressure at stated temperature: 363 psi / 250 °F

363 psi / -4 °F

Type of connection: DIN / ANSI / JIS

Size of inlet connection: DN 25/32
Size of outlet connection: DN 25/32
Pressure rating for connection: PN 25
Flange rating inlet: 250 lb
Flange size for motor: 182TC

Electrical data:

Motor standard: NEMA Motor type: WEG



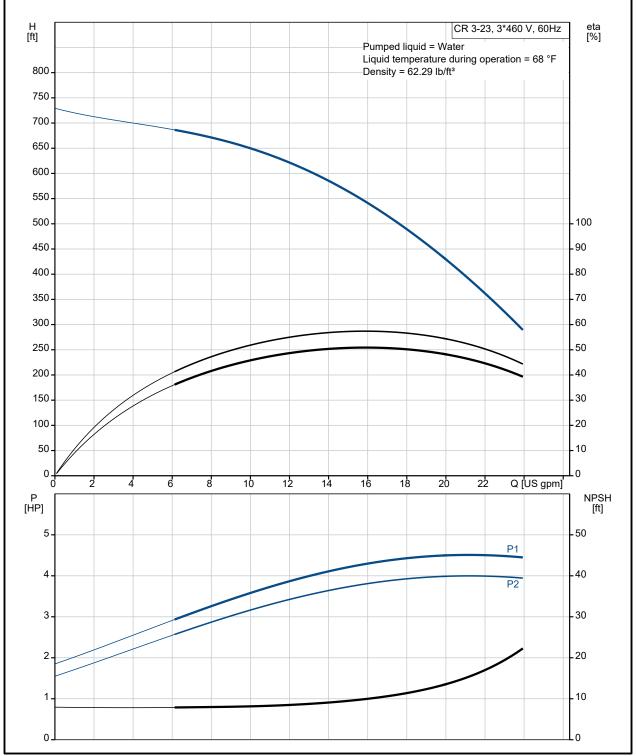
Date: 3/18/2021

		Date.	0/10/2021
Count	Description		
	IE Efficiency class:	IE3 / NEMA Premium	
	Rated power - P2:	5 HP	
	Power (P2) required by pump:	5 HP	
	Main frequency:	60 Hz	
	Rated voltage:	3 x 208-230/460 V	
	Service factor:	1.15	
	Rated current:	13,1-11,8/5,9 A	
	Starting current:	780-780 %	
	Cos phi - power factor:	0.89	
	Rated speed:	3500 rpm	
	IE efficiency:	IE3 88,5%	
	Motor efficiency at full load:	88.5 %	
	Motor efficiency at 3/4 load:	88.5 %	
	Motor efficiency at 1/2 load:	87.5 %	
	Number of poles:	2	
	Enclosure class (IEC 34-5):	IP55	
	Insulation class (IEC 85):	F	
	Motor Number:	99882380	
	Controls:		
	Frequency converter:	NONE	
	Others:		
	Net weight:	150 lb	
	Gross weight:	167 lb	
	Shipping volume:	10.1 ft³	
	Country of origin:	US	
	Custom tariff no.:	8413.70.2040	
	Castern tarm ne	0.110.70.20.10	



Date: 3/18/2021

99916355 CR 3-23 A-FGJ-A-E-HQQE 60 Hz

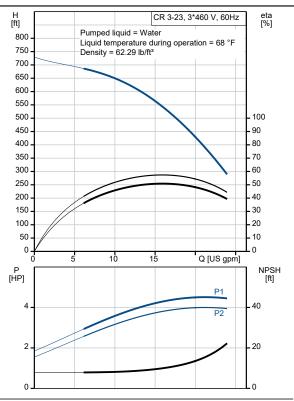


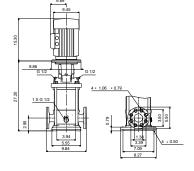


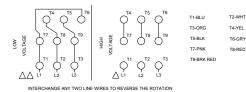
Date:

3/18/2021

		L
Description	Value	
General information:		
Product name:	CR 3-23 A-FGJ-A-E-HQQE	
Product No.:	99916355	
EAN:	5715114111041	
Technical:		
Rated pump speed:	3461 rpm	
Rated flow:	15.4 US gpm	
Rated head:	544 ft	
Maximum head:	724.1 ft	
Stages:	23	
Impellers:	23	
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:	Α	
Model:	Α	
Cooling:	IC 411	
Materials:		
Base:	Cast iron	Ŧ -
Base:	EN 1561 EN-GJL-200	
Base:	ASTM A48-25B	
Impeller:	Stainless steel	
Impeller:	EN 1.4301	
Impeller:	AISI 304	
Material code:	A	
Code for rubber:	Е	
Bearing:	SIC	
Bearing:	SIC	
Installation:		
Maximum ambient temperature:	104 °F	
Maximum operating pressure:	362.59 psi	
Max pressure at stated temperature:	363 psi / 250 °F	-
Max pressure at stated temperature:	363 psi / -4 °F	
Type of connection:	DIN / ANSI / JIS	
Size of inlet connection:	DN 25/32	
Size of outlet connection:	DN 25/32	
Pressure rating for connection:	PN 25	
Flange rating inlet:	250 lb	
Flange size for motor:	182TC	
Connect code:	FGJ	
Liquid:		









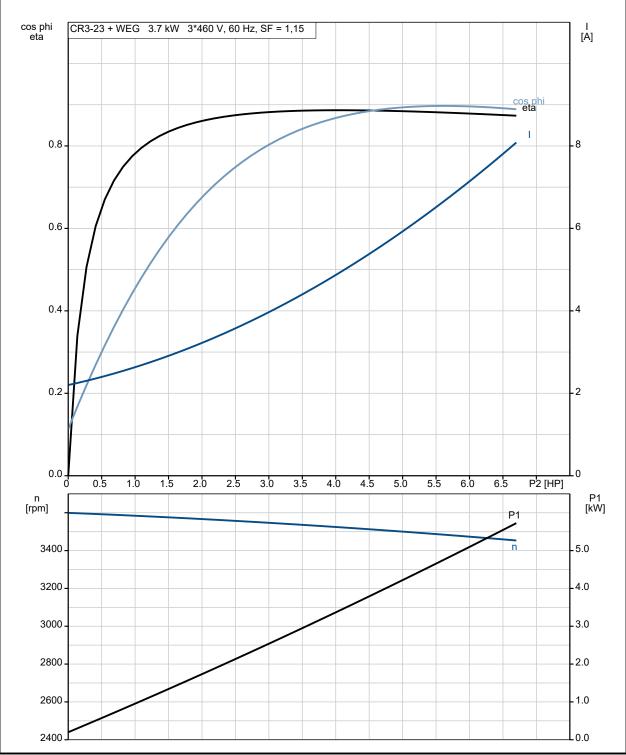
Date: 3/18/2021

Pumped liquid: Liquid temperature range: Selected liquid temperature: 68 °F Density: 62.29 lb/ft³ Electrical data: Motor standard: Motor type: WEG IE Efficiency class: Rated power - P2: Power (P2) required by pump: Fated voltage: Service factor: Rated current: Cos phi - power factor: Rated speed: Befficiency at 1/2 load: Rated speed: Befficiency: Beffi	_	., .
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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 Main frequency: 60 Hz Rated voltage: 3 x 208-230/460 V Service factor: 1.15 Rated current: 13,1-11,8/5,9 A Starting current: 780-780 % Load current: 13.6/6.79 A Cos phi - power factor: 0.89 Rated speed: 3500 rpm IE efficiency: IE3 88,5% Motor efficiency at full load: 88.5 % Motor efficiency at 1/2 load: 87.5 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor Number: 99882380 Controls: Frequency converter: NONE Others: Net weight: 150 lb		
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Motor protection: Motor Number: 99882380 Controls: Frequency converter: NONE Others: Net weight: 150 lb	Enclosure class (IEC 34-5):	IP55
Motor Number: 99882380 Controls: Frequency converter: NONE Others: Net weight: 150 lb	Insulation class (IEC 85):	F
Controls: Frequency converter: NONE Others: Net weight: 150 lb	Motor protection:	NONE
Frequency converter: NONE Others: Net weight: 150 lb	Motor Number:	99882380
Others: Net weight: 150 lb	Controls:	
Net weight: 150 lb	Frequency converter:	NONE
	Others:	
	Net weight:	150 lb
Gross weight: 167 lb	Gross weight:	167 lb
Shipping volume: 10.1 ft ³	_	10.1 ft³
Country of origin: US	•	US
Custom tariff no.: 8413.70.2040	Custom tariff no.:	8413.70.2040



Date: 3/18/2021

99916355 CR 3-23 A-FGJ-A-E-HQQE 60 Hz

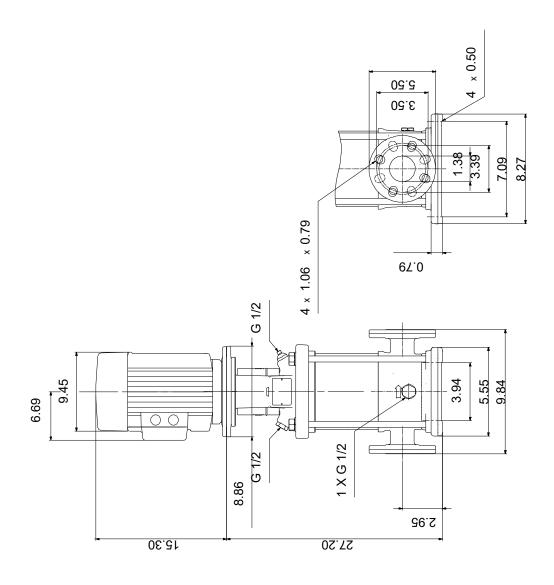




Date:

3/18/2021

99916355 CR 3-23 A-FGJ-A-E-HQQE 60 Hz



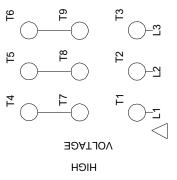
Note! All units are in [in] unless otherwise stated. Disclaimer: This simplified dimensional drawing does not show all details.

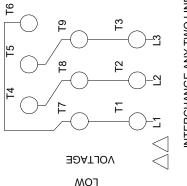


Date:

3/18/2021

99916355 CR 3-23 A-FGJ-A-E-HQQE 60 Hz





INTERCHANGE ANY TWO LINE WIRES TO REVERSE THE ROTATION

All units are [in] unless otherwise presented.