Submittal Data

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



CRN 64-1 A-G-A-V-HQQV

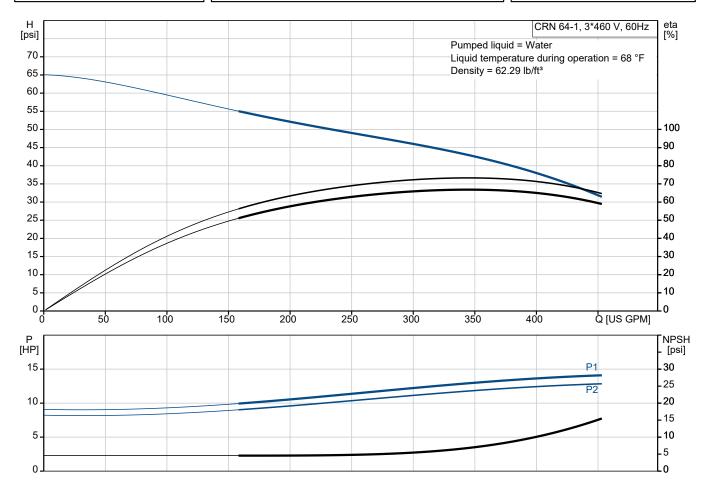
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. Pump materials in contact with the liquid are in high-grade stainless steel (EN 1.4401)

Note! Product picture may differ from actual product

Conditions of Service							
Liquid:	Water						
Temperature:	68 °F						
Specific Gravity:	1.000						

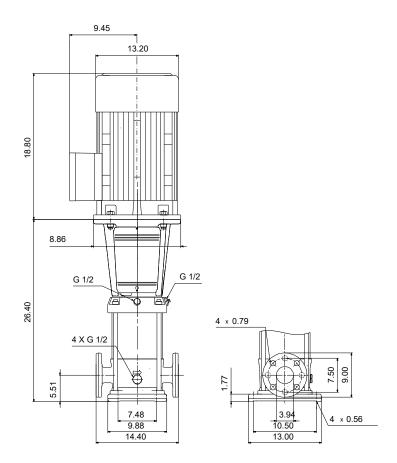
Pump Data	
Max pressure at stated temp:	232 psi / 194 °F
Liquid temperature range:	-4 194 °F
Maximum ambient temperature:	104 °F
Shaft seal:	HQQV
Product number:	99918345

Motor Data							
Rated power - P2:	15 HP						
Rated voltage:	230/460 V						
Mains frequency:	60 Hz						
Enclosure class:	IP55						
Insulation class:	F						
Motor protection:	NONE						
Motor type:	WEG						
Eta 1/1:	91 %						



1

Submittal Data



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



Date: 07/05/2024

Qty. | Description

1 | CRN 64-1 A-G-A-V-HQQV



Product No.: 99918345

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.

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.

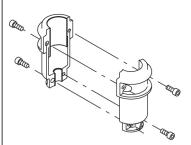
The entire process consists of these elements:

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

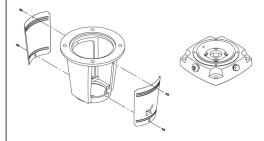
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

A long split coupling connects the pump and motor shaft. It is enclosed in the motor stool by means of two coupling guards. The long coupling makes it possible to replace the shaft seal without removing the motor from the pump.



The motor stool connects the pump head and motor. 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.



Date: 07/05/2024

Qty. | Description

1 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: FKM (fluorocarbon rubber)

FKM has excellent resistance to oils and chemicals. Above 90 °C, FKM should only be used in media without water.





The shaft seal is retained in the pump head by a cover and screws. It can be replaced without removing the motor.

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.

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

Both the inlet and the outlet side of the base have two pressure gauge tappings.

The pump is secured to the foundation by four bolts through the base plate.

The flanges are fastened to the base by means of locking rings.



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 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).

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 .. 194 °F
Selected liquid temperature: 68 °F



Date: 07/05/2024

Qty. | Description

1 Density: 62.29 lb/ft³

Technical:

Pump speed on which pump data are based: 3444 rpm

Rated flow: 339 US GPM
Rated head: 44.72 psi
Actual impeller diameter: 5.59 in
Pump orientation: Vertical
Shaft seal arrangement: Single
Code for shaft seal: HQQV
Approvals: CURUS

Curve tolerance: ISO9906:2012 3B

Materials:

Base: Stainless steel

EN 1.4408 AISI 316

Impeller: Stainless steel

EN 1.4401 AISI 316

Bearing: SIC Support bearing: Graflon

Installation:

Maximum ambient temperature: 104 °F
Maximum operating pressure: 232.06 psi
Max pressure at stated temp: 232 psi / 194 °F

232 psi / -4 °F

Type of connection:

Size of inlet connection:

4 inch

Size of outlet connection:

4 inch

Pressure rating for connection:

PN 16

Flange rating inlet:

150 lb

Flange size for motor:

254TC

Electrical data:

Motor standard: NEMA
Motor type: WEG
Rated power - P2: 15 HP
Power (P2) required by pump: 15 HP
Mains frequency: 60 Hz

Rated voltage: 3 x 230/460 V
Service factor: 1.15
Rated current: 34.8/17.4 A
Starting current: 680 %
Cos phi - power factor: 0.87

Cos phi - power factor: 0.87
Rated speed: 3525 rpm
IE efficiency: IE3 91%

IE Efficiency class: IE3 / NEMA Premium

Motor efficiency at full load: 91 %

Motor efficiency at 3/4 load: 91 %

Motor efficiency at 1/2 load: 89.5 %

Number of poles: 2

Enclosure class (IEC 34-5): IP55

Insulation class (IEC 85): F

Motor No: 99883247

Controls:



Date: 07/05/2024

Qty. | Description

Frequency converter: None

Others:

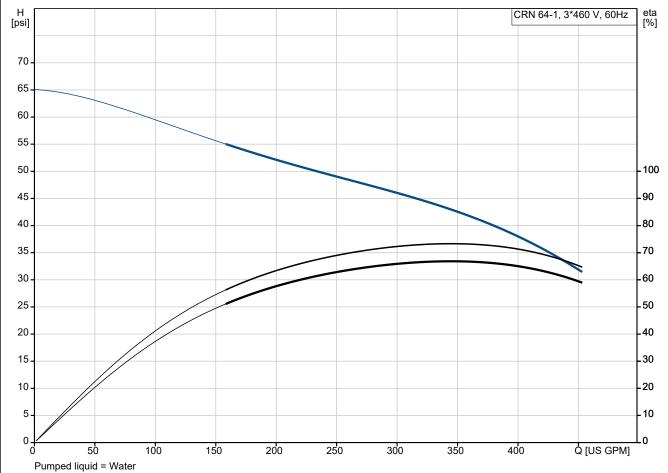
DOE Pump Energy Index CL: 0.93
Net weight: 348 lb
Gross weight: 366 lb
Shipping volume: 28.9 ft³
Country of origin: US

Custom tariff no.: 8413.70.2040

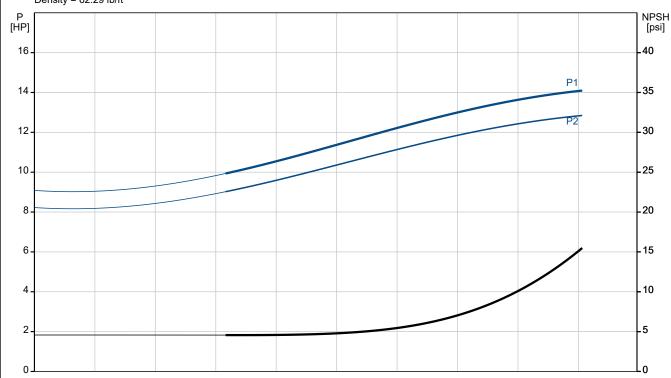


Date: 07/05/2024

99918345 CRN 64-1 A-G-A-V-HQQV 60 Hz



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



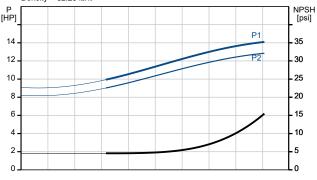


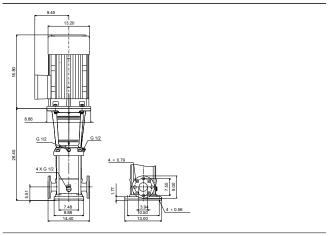
Date: 07/05/2024

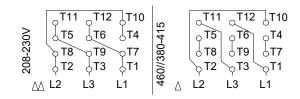
Description	Value
General information:	
Product name:	CRN 64-1 A-G-A-V-HQQV
Product No:	99918345
EAN number:	5715114132121
Technical:	
Pump speed on which pump data are based:	3444 rpm
Rated flow:	339 US GPM
Rated head:	44.72 psi
Maximum head:	66.59 psi
Actual impeller diameter:	5.59 in
Stages:	1
Impellers:	1
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:	Α
Model:	В
Cooling:	IC 411
Materials:	
Base:	Stainless steel
Base:	EN 1.4408
Base:	AISI 316
mpeller:	Stainless steel
Impeller:	EN 1.4401
mpeller:	AISI 316
Material code:	Α
Code for rubber:	V
Bearing:	SIC
Support bearing:	Graflon
Installation:	
Maximum ambient temperature:	104 °F
Maximum operating pressure:	232.06 psi
Max pressure at stated temp:	232 psi / 194 °F
Max pressure at stated temp:	232 psi / -4 °F
Type of connection:	ANSI
Size of inlet connection:	4 inch
Size of outlet connection:	4 inch
Pressure rating for connection:	PN 16
Flange rating inlet:	150 lb
Flange size for motor:	254TC
Connect code:	G
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-4 194 °F
Selected liquid temperature:	68 °F
Density:	62.29 lb/ft ³
Electrical data:	
Motor standard:	NEMA
Motor type:	WEG
Rated power - P2:	15 HP
Power (P2) required by pump:	15 HP
Mains frequency:	60 Hz

H [psi]											CRN	64-1,	3*46	60 V,	60Hz	eta [%]
70 -					-					-			+			
65 –			-		-			-		-			+			-
60 -					-					_			-			
55 -			-		-			-		-			+			
50 -			_		-					_			_			100
45 -			_							\rightarrow			-			90
40 -			_		-					_	_					80
35 -			_		-					\pm						70
30 -			_					_	_	\Box					-	60
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20 -			/		+			-		-			+			40
15 -		//	4		-					-			+			30
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5 -			+		-			-		+			+			10
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		i o	100		50	20	JU	250	U	300	3	50	G	ยูบร	GPM]	
	Pumpe					one	ratio	n =	68 °	F						

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









Date: 07/05/2024

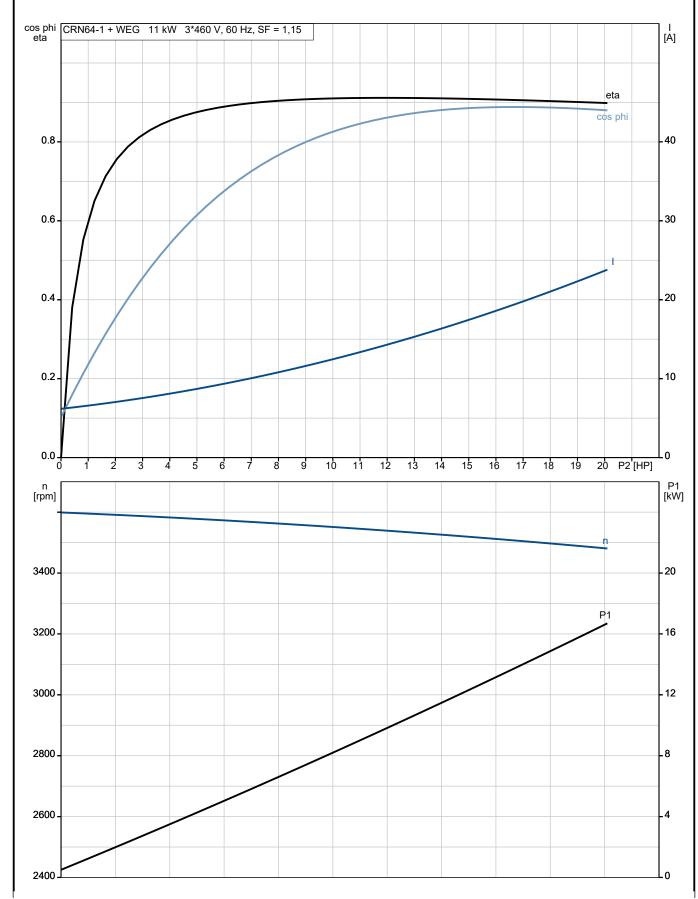
Description	Value					
Rated voltage:	3 x 230/460 V					
Service factor:	1.15					

Rated current:	34.8/17.4 A					
Starting current:	680 %					
Full load SF current:	40/20 A					
Cos phi - power factor:	0.87					
Rated speed:	3525 rpm					
IE efficiency:	IE3 91%					
IE Efficiency class:	IE3 / NEMA Premium					
Motor efficiency at full load:	91 %					
Motor efficiency at 3/4 load:	91 %					
Motor efficiency at 1/2 load:	89.5 %					
Number of poles:	2					
Enclosure class (IEC 34-5):	IP55					
Insulation class (IEC 85):	F					
Built-in motor protection:	NONE					
Motor No:	99883247					
Controls:						
Frequency converter:	None					
Others:						
DOE Pump Energy Index CL:	0.93					
Net weight:	348 lb					
Gross weight:	366 lb					
Shipping volume:	28.9 ft³					
Country of origin:	US					
Custom tariff no.:	8413.70.2040					



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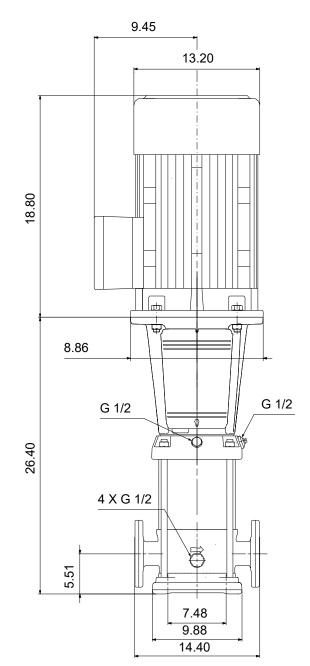
99918345 CRN 64-1 A-G-A-V-HQQV 60 Hz

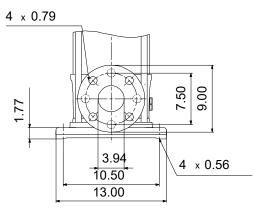




07/05/2024 Date:

99918345 CRN 64-1 A-G-A-V-HQQV 60 Hz





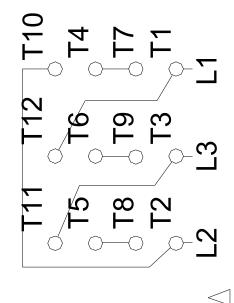
Note! All units are in [in] unless others are stated. Disclaimer: This simplified dimensional drawing does not show all details.



Date:

07/05/2024

99918345 CRN 64-1 A-G-A-V-HQQV 60 Hz



914-085//094

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