## **Submittal Data**

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



## CRN 64-4-2 A-G-A-V-HQQV

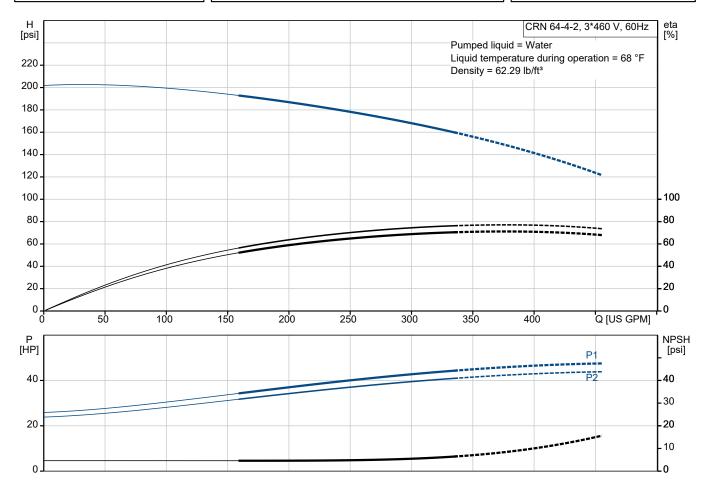
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. Pump materials in contact with the liquid are in high-grade stainless steel (EN 1.4401)

Note! Product picture may differ from actual product

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

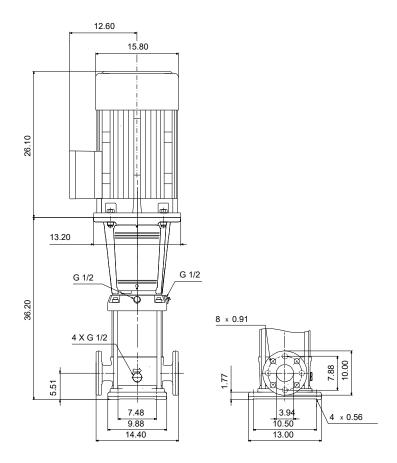
| Pump Data                    |                  |
|------------------------------|------------------|
| Max pressure at stated temp: | 435 psi / 194 °F |
| Liquid temperature range:    | -4 194 °F        |
| Maximum ambient temperature: | 104 °F           |
| Shaft seal:                  | HQQV             |
| Product number:              | 99918352         |
|                              |                  |

| Motor Dat         | a         |
|-------------------|-----------|
| Rated power - P2: | 40 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:          | 92.4 %    |



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:** 09/05/2024

Qty. | Description

1 | CRN 64-4-2 A-G-A-V-HQQV



Product No.: 99918352

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.

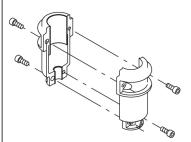
The entire process consists of these elements:

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

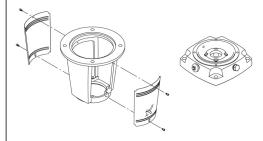
The colour code for the finished product is NCS 9000/RAL 9005.

### **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:** 09/05/2024

### 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.

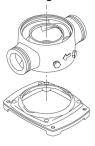
The pump has a stainless-steel base mounted on a separate base plate.

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:** 09/05/2024

Qty. | Description

1 Density: 62.29 lb/ft<sup>3</sup>

Technical:

Pump speed on which pump data are based: 3525 rpm

Rated flow: 339 US GPM
Rated head: 158 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: 435.11 psi
Max pressure at stated temp: 435 psi / 194 °F

435 psi / -4 °F

Type of connection: ANSI
Size of inlet connection: 4 inch
Size of outlet connection: 4 inch
Pressure rating for connection: PN 40
Flange rating inlet: 300 lb
Flange size for motor: 324TC

Electrical data:

Motor standard:

Motor type:

Rated power - P2:

Power (P2) required by pump:

Mains frequency:

Rated voltage:

NEMA

WEG

40 HP

40 HP

60 Hz

Rated voltage:

3 x 230/460 V

Service factor: 1.25
Rated current: 92.6/46.3 A
Starting current: 630 %
Cos phi - power factor: 0.88
Rated speed: 3560 rpm
IE efficiency: IE3 92,4%

IE Efficiency class: IE3 / NEMA Premium

Motor efficiency at full load: 92.4 %
Motor efficiency at 3/4 load: 92.4 %
Motor efficiency at 1/2 load: 91.7 %
Number of poles: 2
Enclosure class (IEC 34-5): IP55
Insulation class (IEC 85): F

Motor No: 99883251

Controls:



**Date:** 09/05/2024

Qty. | Description

Frequency converter: None

Others:

DOE Pump Energy Index CL: 0.93

Net weight: 749 lb

Gross weight: 767 lb

Shipping volume: 39.9 ft³

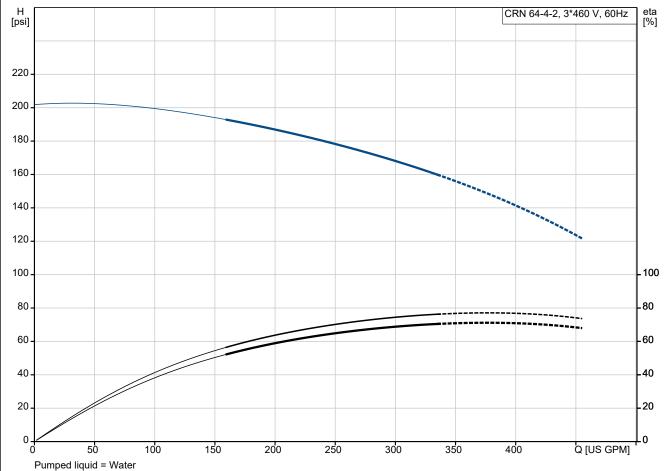
Country of origin: US

Custom tariff no.: 8413.70.2040

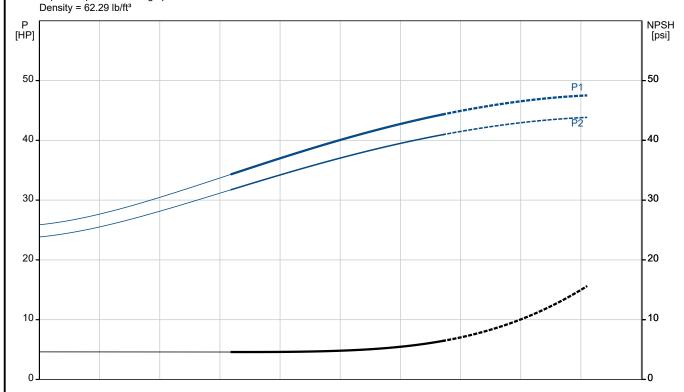


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# 99918352 CRN 64-4-2 A-G-A-V-HQQV 60 Hz



Pumped liquid = Water Liquid temperature during operation = 68 °F



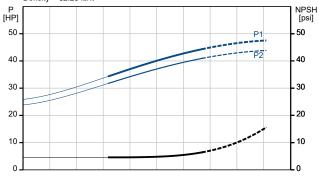


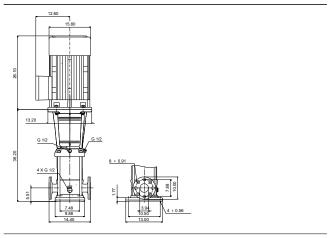
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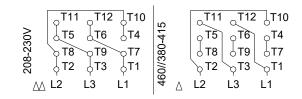
| Description                                     | Value                      |
|---|----------------------------|
| General information:                            |                            |
| Product name:                                   | CRN 64-4-2<br>A-G-A-V-HQQV |
| Product No:                                     | 99918352                   |
| AN number:                                      | 5715114132190              |
| echnical:                                       |                            |
| ump speed on which pump data are ased:          | 3525 rpm                   |
| Rated flow:                                     | 339 US GPM                 |
| Rated head:                                     | 158 psi                    |
| Maximum head:                                   | 204.2 psi                  |
| Actual impeller diameter:                       | 5.59 in                    |
| Stages:   | 4                          |
| mpellers:                                       | 4                          |
| lumber of reduced-diameter impellers:           | 2                          |
| ow NPSH:  | N                          |
| ump orientation:                                | Vertical                   |
| haft seal arrangement:                          | Single                     |
| ode for shaft seal:                             | HQQV                       |
| approvals:                                      | CURUS                      |
| curve tolerance:                                | ISO9906:2012 3B            |
| ump version:                                    | A                          |
| lodel:  | В                          |
| ooling:   | IC 411                     |
| aterials:                                       | 10 411                     |
| ase:  | Stainless steel            |
| ase:  | EN 1.4408                  |
|   | AISI 316                   |
| ase:  | Stainless steel            |
| npeller:  | EN 1.4401                  |
| mpeller:  |                            |
| npeller:  | AISI 316                   |
| laterial code:                                  | A                          |
| ode for rubber:                                 | V                          |
| earing:   | SIC                        |
| upport bearing:                                 | Graflon                    |
| stallation:                                     |                            |
| laximum ambient temperature:                    | 104 °F                     |
| laximum operating pressure:                     | 435.11 psi                 |
| lax pressure at stated temp:                    | 435 psi / 194 °F           |
| lax pressure at stated temp:                    | 435 psi / -4 °F            |
| ype of connection:                              | ANSI                       |
| ize of inlet connection:                        | 4 inch                     |
| ize of outlet connection:                       | 4 inch                     |
| ressure rating for connection:                  | PN 40                      |
| lange rating inlet:                             | 300 lb                     |
| lange size for motor:                           | 324TC                      |
| onnect code:                                    | G                          |
| quid:   |                            |
| umped liquid:                                   | Water                      |
| iquid temperature range:                        | -4 194 °F                  |
| elected liquid temperature:                     | 68 °F                      |
| elected liquid temperature.                     | 62.29 lb/ft³               |
| Electrical data:                                | 02.23 ID/IL                |
|   | NEMA                       |
| Notor standard:                                 | NEMA                       |
| Motor type:                                     | WEG                        |
| Rated power - P2:                               | 40 HP                      |
| lower (1371) required by pump:                  | 40 HP                      |
| ower (P2) required by pump:<br>lains frequency: | 60 Hz                      |

| H<br>psi]             | CRN 64-4-2, 3*460 V, 60Hz eta [%] |
|-----------------------|-----------------------------------|
| 220 -                 |                                   |
| 200                   |                                   |
| 80                    |                                   |
| 60                    |                                   |
| 40                    | ****                              |
| 20                    |                                   |
| 00                    | - 100                             |
| 80                    | -80                               |
| 60                    | -60                               |
| 40                    | -40                               |
| 20                    | -20                               |
| 0 50 100 150 200      | 250 300 350 Q [US GPM] 0          |
| Pumped liquid = Water | 250 300 350 Q [US GPM]            |

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









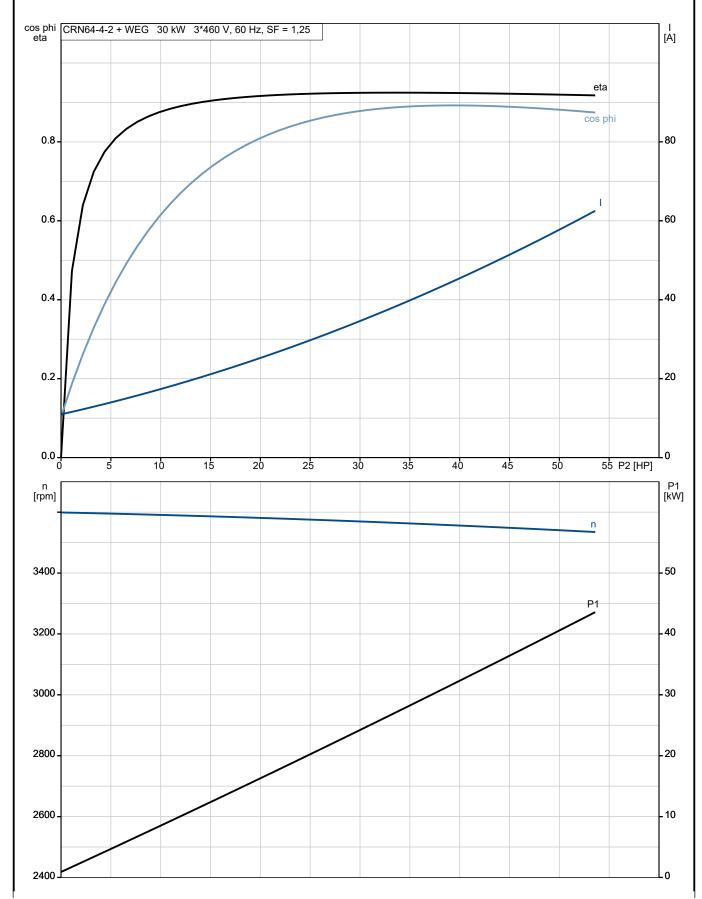
**Date:** 09/05/2024

| Description                    | Value              |
|--------------------------------|--------------------|
| Rated voltage:                 | 3 x 230/460 V      |
| Service factor:                | 1.25               |
| Rated current:                 | 92.6/46.3 A        |
| Starting current:              | 630 %              |
| Full load SF current:          | 116/57 9 A         |
| Cos phi - power factor:        | 0.88               |
| • •                            | ****               |
| Rated speed:                   | 3560 rpm           |
| IE efficiency:                 | IE3 92,4%          |
| IE Efficiency class:           | IE3 / NEMA Premium |
| Motor efficiency at full load: | 92.4 %             |
| Motor efficiency at 3/4 load:  | 92.4 %             |
| Motor efficiency at 1/2 load:  | 91.7 %             |
| Number of poles:               | 2                  |
| Enclosure class (IEC 34-5):    | IP55               |
| Insulation class (IEC 85):     | F                  |
| Built-in motor protection:     | NONE               |
| Motor No:                      | 99883251           |
| Controls:                      |                    |
| Frequency converter:           | None               |
| Others:                        |                    |
| DOE Pump Energy Index CL:      | 0.93               |
| Net weight:                    | 749 lb             |
| Gross weight:                  | 767 lb             |
| Shipping volume:               | 39.9 ft³           |
| Country of origin:             | US                 |
| Custom tariff no.:             | 8413.70.2040       |



**Date:** 09/05/2024

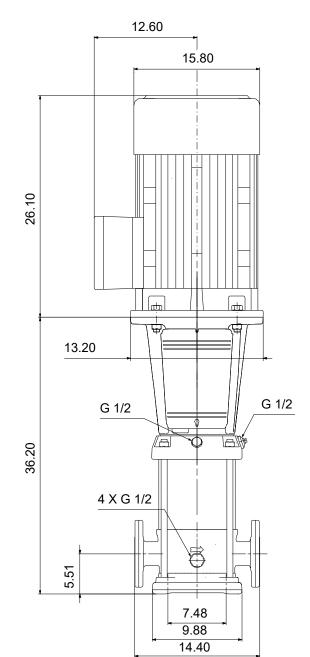
# 99918352 CRN 64-4-2 A-G-A-V-HQQV 60 Hz

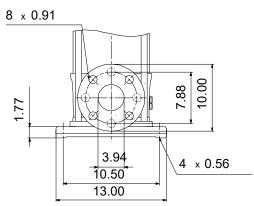




09/05/2024 Date:

# 99918352 CRN 64-4-2 A-G-A-V-HQQV 60 Hz





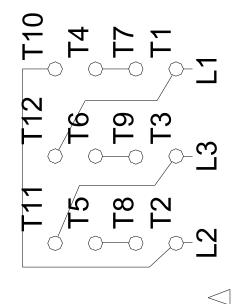
Note! All units are in [in] unless others are stated. Disclaimer: This simplified dimensional drawing does not show all details.



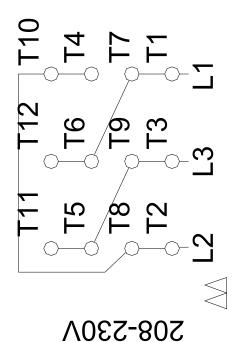
Date:

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## 99918352 CRN 64-4-2 A-G-A-V-HQQV 60 Hz



914-088//094



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