

Date: 26/11/2019

Qty. Description

1 | CRNE 64-2-1 N-F-A-E-HQQE



Product No.: 96124024

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 DIN flanges.

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

The motor includes a frequency converter and PI controller in the motor terminal box. This enables continuously variable control of the motor speed, which again enables adaptation of the performance to a given requirement.

An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The operating panel has indicator lights for "Operation" and "Fault".

Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".

The terminal box holds terminals for these connections:

- pump start/stop input (potential-free contact)
- remote setpoint setting via analog signal, 0-10 V, 0(4)-20 mA
- 10 V voltage supply for setpoint potentiometer, Imax = 5 mA
- three analog sensor inputs, 0-10 V, 0(4)-20 mA; the factory-fitted pressure sensor is connected to one of these inputs
- 24 V voltage supply for sensor, Imax = 40 mA
- one analog output
- three digital inputs
- two Pt100 inputs
- two potential-free fault signal relays with changeover contact, reporting "Fault", "Operation" or "Ready"
- RS-485 GENIbus connection
- · interface for Grundfos CIM fieldbus module.

Further product details

The pump is equipped with a pressure sensor registering pump outlet pressure and enabling controlled pump operation based on constant pressure.

An operating panel on the motor terminal box enables setting of required setpoint as well as setting of pump to "Min." or "Max." operation or to "Stop". The operating panel has indicator lights for "Operation" and "Fault".

Communication with the pump is possible by means of Grundfos GO Remote (accessory). The remote control enables further settings as well as reading out of a number of parameters such as "Actual value", "Speed", "Power input" and total "Power consumption".

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.

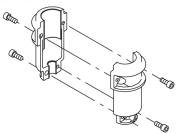
Pump



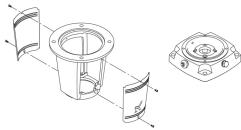
Date: 26/11/2019

Qty. | Description

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. 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:

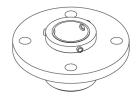
- Rotating seal ring material: silicon carbide (SiC)
- Stationary seat material: silicon carbide (SiC)

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

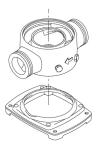
The pump has a special air-cooled shaft-seal chamber generating the same insulation effect as that of a vacuum flask. No external cooling is necessary; the ambient temperature is sufficient. An automatic vent vents the pump seal chamber.

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 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.



Date: 26/11/2019



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 IE3 in accordance with IEC 60034-30-1.

The motor requires no external motor protection. The motor control unit incorporates protection against slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

Technical data

Controls:

Frequency converter: Built-in Pressure sensor: Yes

Liquid:

Pumped liquid: Water Liquid temperature range: -40 .. 120 °C

Selected liquid temperature: 20 °C

Density at selected liquid temperature: 998.2 kg/m³

Technical:

Pump speed on which pump data are based: 3540 rpm

Rated flow: 77 m³/h
Rated head: 53.8 m
Pump orientation: Vertical
Shaft seal arrangement: Single
Code for shaft seal: HQQE
Approvals on nameplate: CE, EAC,ACS

Approvals on nameplate: CE, EAC,ACS
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: 40 °C Maximum operating pressure: 16 bar

Max pressure at stated temp: 16 bar / 120 °C

16 bar / -40 °C

Type of connection: DIN
Size of inlet connection: DN 100
Size of outlet connection: DN 100



Date: 26/11/2019

Qty. | Description

Pressure rating for pipe connection: PN 16 Flange size for motor: FF300

Electrical data:

Motor standard: IEC
Motor type: 160LB
IE Efficiency class: IE3
Rated power - P2: 18.5 kW
Power (P2) required by pump: 18.5 kW
Mains frequency: 50 Hz
Rated voltage: 3 x 380-48

Rated voltage: 3 x 380-480 V Rated current: 37.0-31.0 A Cos phi - power factor: 0.91-0.88 Rated speed: 480-3540 rpm Efficiency: IE3 92,4% Motor efficiency at full load: 92.4 % Number of poles: 2 Enclosure class (IEC 34-5): IP55

Insulation class (IEC 85): F
Motor No: 85901026

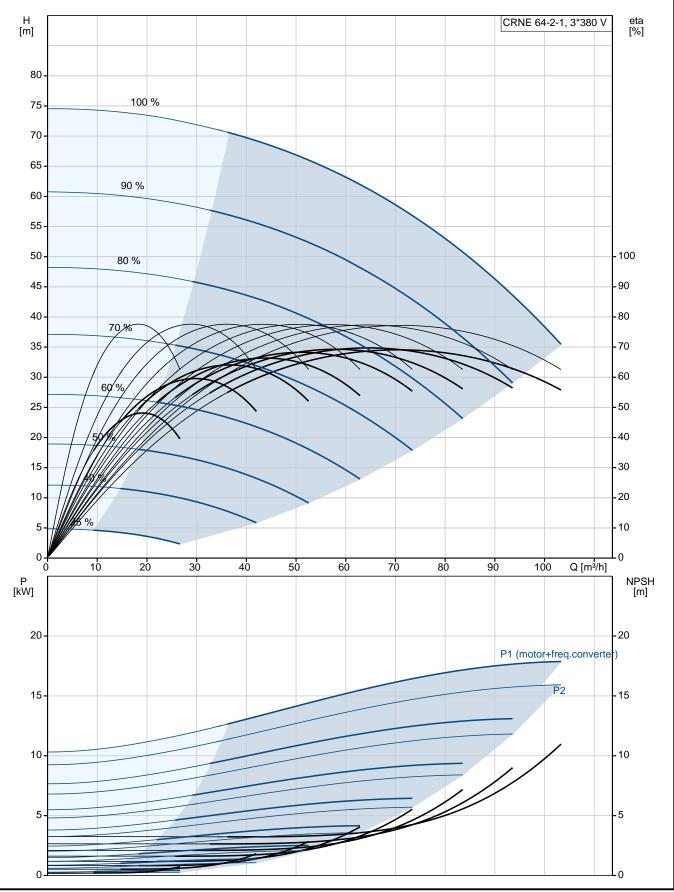
Others:

Minimum efficiency index, MEI : 0.70
Net weight: 219 kg
Gross weight: 270 kg
Shipping volume: 0.82 m³
Danish VVS No.: 385958521
Country of origin: GB
Custom tariff no.: 84137075



Date: 26/11/2019

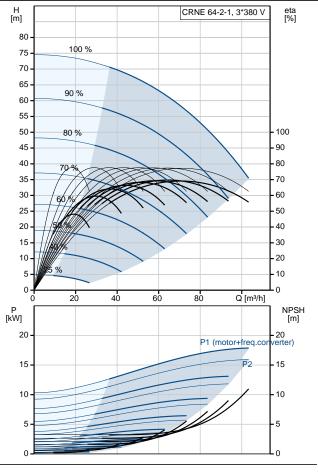
96124024 CRNE 64-2-1 N-F-A-E-HQQE 50 Hz

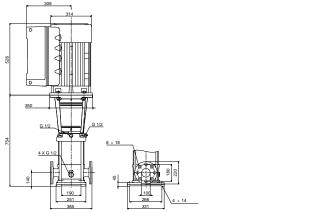


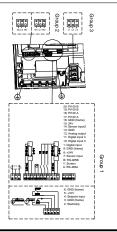


Date: 26/11/2019

Description Value General information: CRNE 64-2-1 NIF-A-E-HQGE Product No: 96124024 EAN number: 5700396703275 5700396703275 5700396703275 Technical: 3540 rpm Pump speed on which pump data are based: 3540 rpm Rated flow: 77 m³/h Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 1 Low NPSH: No Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HOQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: B Base: Stainless steel EN1,4408 AISI 316 Impeller: Stainless steel EN1,4401 AISI 316<	Description	Value
Product name: Product No: EAN number: 5700396703275 5700396703275 Technical: Pump speed on which pump data are based: Rated flow: Rated flow: Rated head: 53.8 m Head max: 74 m Stages: Impellers: Low NPSH: No Pump orientation: Shaft seal arrangement: Code for shaft seal: HQQE Approvals on nameplate: Code for shaft seal: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Impeller: Bearing: Support bearing: Graflon Maximum ambient temperature: DIN Size of outlet connection: DIN Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: FLOUB HEAD FESTIVATION FF300 FESTIVATION FF300 Connect code: FLOUB HEAD FF300 Connect code: Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 16 LB LS kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		valuc
Product No: 96124024 EAN number: 5700396703275 Technical: 5700396703275 Pump speed on which pump data are based: 3540 rpm Rated flow: 77 m³/h Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 2 Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: B Base: Stainless steel EN 1.4408 AlSI 316 Impeller: Stainless steel EN 1.4401 AlSI 316 Impeller: Stainless steel EN 1.4401 AlSI 316 Impeller: Graflon Installation: Impeller: <td></td> <td>CRNF 64-2-1</td>		CRNF 64-2-1
EAN number: 5700396703275 Technical: Pump speed on which pump data are based: 77 m³/h Rated flow: 77 m³/h Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 2 Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Installation: DN 100 Size of ountet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Water Liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160 LB IE Efficiency class: IE3 Rated voltage: 3 x 380-480 V	Product name:	
Technical:	Product No:	96124024
Technical: Pump speed on which pump data are based: Rated flow:	EAN number:	5700396703275
Pump speed on which pump data are based: 3540 rpm Rated flow: 77 m³/h Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 2 Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: B Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4408 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum aperating pressure: 16 bar / 120 °C Max p		5700396703275
based: 3540 rpm Rated flow: 77 m³/h Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 2 No Pumpellers: Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: B Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar / 40 °C <td>Technical:</td> <td></td>	Technical:	
Rated head: 53.8 m Head max: 74 m Stages: 2 Impellers: 2 Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Material: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4408 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature:		3540 rpm
Head max:	Rated flow:	77 m³/h
Stages: 2 Impellers: 2 Impellers: 2 Impellers: 2 Impellers: 2 Impellers: 2 Impellers: 1 Impellers: 1 Impellers: 1 Impellers: 1 Impellers: 1 Impellers: 1 Impellers: Single Impellers: Single Impellers: Single Impellers: Single Impellers:	Rated head:	53.8 m
Impellers:	Head max:	74 m
Number of reduced-diameter impellers: 1 Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor	Stages:	2
Low NPSH: No Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Impeller: B Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / -40 °C Type of connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Impellers:	2
Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQE Approvals on nameplate: CE, EAC,ACS Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Impeller: EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / -40 °C Type of connection: DN 100 Size of inlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Number of reduced-diameter impellers:	1
Shaft seal arrangement: Code for shaft seal: Approvals on nameplate: Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: Bearing: Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: I6 bar / 120 °C Maximum operating or pipe connection: DIN Size of inlet connection: DN 100 Pressure rating for pipe connection: Pressure at selected liquid temperature: Qo °C Density at selected liquid temperature: Pumped liquid: User Shaft Shaft Motor standard: EEC Motor type: Bearing: Big Caffon Big Caff	Low NPSH:	No
Code for shaft seal: Approvals on nameplate: Curve tolerance: ISO9906:2012 3B Pump version: Nodel: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: EBearing: Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: I6 bar / 40 °C Maximum operating pressure: I6 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: Pressure rating for pipe connection: Phane Flange size for motor: FF300 Connect code: F Liquid: Liquid temperature: Q0 °C Density at selected liquid temperature: Power of 160LB IE Efficiency class: Rated power - P2: Rated voltage: Rated voltage: S IES	Pump orientation:	Vertical
Approvals on nameplate: Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: EBearing: Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / -40 °C Type of connection: DIN Size of inlet connection: Pressure rating for pipe connection: Pressure rating for pipe connection: Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: Liquid: Pumped liquid: Water Liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: IEG(IEC) Mains frequency: Rated voltage: 3 x 380-480 V	Shaft seal arrangement:	Single
Curve tolerance: ISO9906:2012 3B Pump version: N Model: B Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Code for shaft seal:	HQQE
Pump version: Model: Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: Code for rubber: Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / -40 °C Type of connection: Size of inlet connection: DN 100 Size of outlet connection: Pressure rating for pipe connection: Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature: 20 °C Density at selected liquid temperature: 20 °C Density at selected liquid temperature: Bearing: Size of Connection: Bun 100 Pressure rating for pipe connection: FF300 Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Bearing: Size of Connection: Bun 100 Pressure rating for pipe connection: FEC Motor standard: IEC Motor type: IE Efficiency class: Rated power - P2: 18.5 kW Mains frequency: Fo Hz Rated voltage: 3 x 380-480 V	Approvals on nameplate:	CE, EAC,ACS
Model: Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Impeller: EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: BIC Motor standard: Motor standard: EEC Motor type: IES Rated power - P2: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		ISO9906:2012 3B
Materials: Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Pump version:	N
Base: Stainless steel EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Uwater Liquid temperature: 20 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Model:	В
EN 1.4408 AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Materials:	
AISI 316 Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: E Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Base:	Stainless steel
Impeller: Stainless steel EN 1.4401 AISI 316 Material code: A Code for rubber: Bearing: Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: SIC Graflon A A A A A A A A A A A A A		EN 1.4408
EN 1.4401 AISI 316 Material code: A Code for rubber: Bearing: Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: Maximum operating: Maximum operating pressure: Max pressure at stated temp: Max pressure at stat		AISI 316
EN 1.4401 AISI 316 Material code: Code for rubber: EBearing: Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: 16 bar Max pressure at stated temp: 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: Selected voltage: 3 x 380-480 V	Impeller:	Stainless steel
Material code: Code for rubber: Bearing: Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: Type of connection: Size of inlet connection: Din 100 Size of outlet connection: Pressure rating for pipe connection: Pressure rating for pipe connection: Frange size for motor: Connect code: Liquid: Pumped liquid: Vater Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Density at selected liquid temperature: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Rated voltage: Rated voltage: SIC SolC Graflon Bar A0 °C A0 °C DN 100 PN 100 PN 100 PF300 CO PN 16 FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE 5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		EN 1.4401
Code for rubber: Bearing: Support bearing: Graflon Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: Type of connection: Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: A0 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: Rated voltage: Rated voltage: Rated voltage: SIC SIC Graflon Graflon Graflon Graflon Graflon Graflon Graflon Ho °C A0 °C DIN Size of outlet connection: DN 100 PN 16 FF300 FF300 CO PN 16 FF300 F		AISI 316
Bearing: SIC Support bearing: Graflon Installation: Maximum ambient temperature: 40 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	Material code:	
Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: Installation: Day 100 Compet connection: Installation: DIN Size of connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Liquid temperature range: Jumped liquid: Water Liquid temperature range: Jumped liquid temperature: Poensity at selected liquid temperature: Poensity at selected liquid temperature: Biscoluble IEC Motor type: IEC Motor type: IES Rated power - P2: Power (P2) required by pump: Rated voltage: Sasson-480 V	Code for rubber:	E
Support bearing: Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: Installation: Day 100 Compet connection: Installation: DIN Size of connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Liquid temperature range: Jumped liquid: Water Liquid temperature range: Jumped liquid temperature: Poensity at selected liquid temperature: Poensity at selected liquid temperature: Biscoluble IEC Motor type: IEC Motor type: IES Rated power - P2: Power (P2) required by pump: Rated voltage: Sasson-480 V		SIC
Installation: Maximum ambient temperature: Maximum operating pressure: Max pressure at stated temp: 16 bar / 120 °C 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Density at selected liquid temperature: Bectrical data: Motor standard: Motor type: IEC Motor type: IES Rated power - P2: Power (P2) required by pump: Rated voltage: Rated voltage: 3 x 380-480 V	S .	
Maximum operating pressure: Max pressure at stated temp: 16 bar / 120 °C 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Petrical data: Motor standard: Motor type: IEC Motor type: 160LB IE Efficiency class: Rated power - P2: Rated voltage: Rated voltage: 16 bar 120 °C 16 bar / 120 °C Water Liquid Water -40 120 °C 998.2 kg/m³ EIEC Motor type: 160LB IES Rated power - P2: 18.5 kW Mains frequency: So Hz Rated voltage: 3 x 380-480 V		0.4
Maximum operating pressure: Max pressure at stated temp: 16 bar / 120 °C 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Petrical data: Motor standard: Motor type: IEC Motor type: 160LB IE Efficiency class: Rated power - P2: Rated voltage: Rated voltage: 16 bar 120 °C 16 bar / 120 °C Water Liquid Water -40 120 °C 998.2 kg/m³ EIEC Motor type: 160LB IES Rated power - P2: 18.5 kW Mains frequency: So Hz Rated voltage: 3 x 380-480 V		40 °C
Max pressure at stated temp: 16 bar / 120 °C 16 bar / -40 °C Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: Pressure rating for pipe connection: Flange size for motor: Connect code: F Liquid: Pumped liquid: Uiquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Density at selected liquid temperature: Electrical data: Motor standard: Motor type: 160LB IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: 16 bar / 120 °C 18 bar / 12		
Type of connection: DIN Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Uiquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Motor standard: Motor type: IEC Motor type: IES Rated power - P2: Rated voltage: Rated voltage: 100 DN 100 DN 100 PN 16 FF300 Connect code: F Liquid: Vater 20 °C 20 °C 20 °C 20 Bensity at selected liquid temperature: BEC Motor type: 160LB IES Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: So Hz Rated voltage: 3 x 380-480 V		
Type of connection: Size of inlet connection: DN 100 Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Petrical data: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Passed in the standard is selected by pump: Rated voltage: Size of inlet connection: DN 100 Nation Water FF300 F C Selected liquid: Water -40 120 °C Selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE 3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: So Hz Rated voltage: 3 x 380-480 V	wax produce at diated temp.	
Size of inlet connection: Size of outlet connection: DN 100 Pressure rating for pipe connection: PN 16 Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Pumped liquid: Selectrical data: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: SN 100 DN 100 DN 100 DN 100 PN 16 FF300 FC CO POBLE F Liquid: Water -40 120 °C Selected liquid temperature: 998.2 kg/m³ EIEC Motor type: 160LB IE S Rated power - P2: 18.5 kW Power (P2) required by pump: Na 18.5 kW Mains frequency: SO Hz Rated voltage: 3 x 380-480 V	Type of connection:	
Size of outlet connection: Pressure rating for pipe connection: Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Rated voltage: Rated voltage: DN 100 PN 16 FF300 Co PF300 F Co PO 20 PO 20 PO 20 PO 20 PO 20 PO 20 PO 30 PO 40 PO 30 PO 40		
Pressure rating for pipe connection: PN 16 Flange size for motor: FF300 Connect code: F Liquid: Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		
Flange size for motor: Connect code: F Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Pumped liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: Motor type: IEC Motor type: IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: Rated voltage: FF300 FF300 FF300 FF300 Nater		
Connect code: Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Pumped liquid: Selected liquid temperature: Density at selected liquid temperature: Selectrical data: Motor standard: Motor type: IEC Motor type: IES Rated power - P2: Power (P2) required by pump: Rated voltage: Selectrical data: Motor standard: IEC Motor type: 160LB IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 3 x 380-480 V		
Liquid: Pumped liquid: Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: Motor type: 160LB IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: 3 x 380-480 V		
Pumped liquid: Water Liquid temperature range: -40 120 °C Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		Г
Liquid temperature range: Selected liquid temperature: Density at selected liquid temperature: Plectrical data: Motor standard: Motor type: IE Efficiency class: Rated power - P2: Power (P2) required by pump: Rated voltage: IEQ Aug. 120 °C 20 °C 198.2 kg/m³ IEC Motor type: 160LB IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW	•	10/2424
Selected liquid temperature: 20 °C Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		
Density at selected liquid temperature: 998.2 kg/m³ Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		
Electrical data: Motor standard: IEC Motor type: 160LB IE Efficiency class: Rated power - P2: 18.5 kW Power (P2) required by pump: Mains frequency: Rated voltage: 3 x 380-480 V		
Motor standard: IEC Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		998.2 kg/m³
Motor type: 160LB IE Efficiency class: IE3 Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		150
IE Efficiency class: Rated power - P2: Power (P2) required by pump: Mains frequency: Rated voltage: 1E3 18.5 kW 18.5 kW 50 Hz Rated voltage: 3 x 380-480 V		
Rated power - P2: 18.5 kW Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	• •	
Power (P2) required by pump: 18.5 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V	·	
Mains frequency: 50 Hz Rated voltage: 3 x 380-480 V		
Rated voltage: 3 x 380-480 V		18.5 kW
_	Mains frequency:	50 Hz
Rated current: 37.0-31.0 A	Rated voltage:	3 x 380-480 V
	Rated current:	37.0-31.0 A









Date: 26/11/2019

Description	Value
Cos phi - power factor:	0.91-0.88
Rated speed:	480-3540 rpm
Efficiency:	IE3 92,4%
Motor efficiency at full load:	92.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Motor protec:	YES
Motor No:	85901026
Controls:	
Function Module:	ADVANCED I/O
Frequency converter:	Built-in
Pressure sensor:	Yes
Others:	
Minimum efficiency index, MEI :	0.70
Net weight:	219 kg
Gross weight:	270 kg
Shipping volume:	0.82 m³
Danish VVS No.:	385958521
Country of origin:	GB
Custom tariff no.:	84137075



Date: 26/11/2019

96124024 CRNE 64-2-1 N-F-A-E-HQQE 50 Hz

