Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:
	TYPE OF SERVICE:	
REPRESENTATIVE:	SUBMITTED BY:	DATE:
ENGINEER:	APPROVED BY:	DATE:
CONTRACTOR:	ORDER NO.:	DATE:
1		

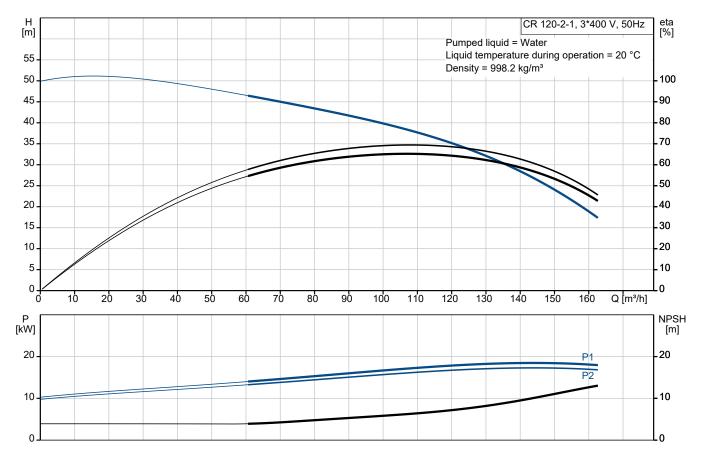


CR 120-2-1 A-F-A-E-HQQE

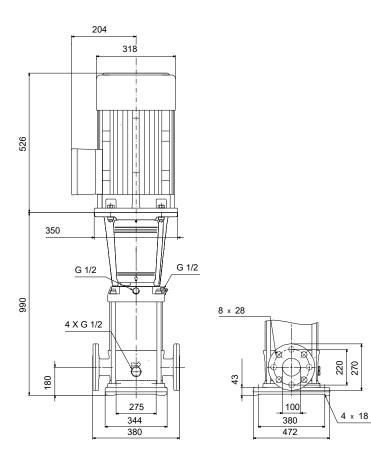
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Note! Product picture may differ from actual product

Conditions of Service		Pump Data		Motor Data		
Liquid:	Water	Max pressure at stated temp:	30 bar / 120 °C	Rated power - P2:	18.5 kW	
Temperature:	20 °C	Liquid temperature range:	-30 120 °C	Rated voltage:	380-415D/660-690Y V	
Specific Gravity:	1.000	Maximum ambient temperature:	60 °C	Mains frequency:	50 Hz	
		Approvals:	CE, EAC,ACS	Enclosure class:	55 Dust/Jetting	
		Shaft seal:	HQQE	Insulation class:	F	
		Product number:	On request	Motor protection:	PTC	
				Motor type:	160LB	
				Eta 1/1:	92.4-92.4 %	



Submittal Data



Materials:

Base: Base: Impeller: Impeller: Impeller: Material code: Code for rubber:

Е

Cast iron EN 1563 EN-GJS-500-7 ASTM A536 80-55-06 Stainless steel AISI 304 EN 1.4301 A





Note! Product picture may differ from actual product

Product No.: On request

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 DIN 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.

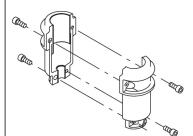
The entire process consists of these elements:

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

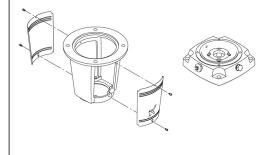
The colour code for the finished product is NCS 9000/RAL 9005.

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.





Qty. | Description

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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.

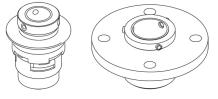
Seal faces:

- 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)

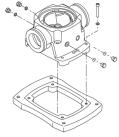
EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



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 base is made of cast iron and mounted on a separate cast-iron base plate. 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 IE3 in accordance with IEC 60034-30-1.

The motor has thermistors (PTC sensors) in the windings in accordance with DIN 44081/DIN 44082. The protection reacts to both slow- and quick-rising temperatures, e.g. constant overload and stalled conditions.

Thermal switches must be connected to an external control circuit in a way which ensures that the automatic reset cannot cause accidents. The motors must be connected to a motor-protective circuit breaker according to local regulations.

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:	-30 120 °C
Selected liquid temperature:	20 °C

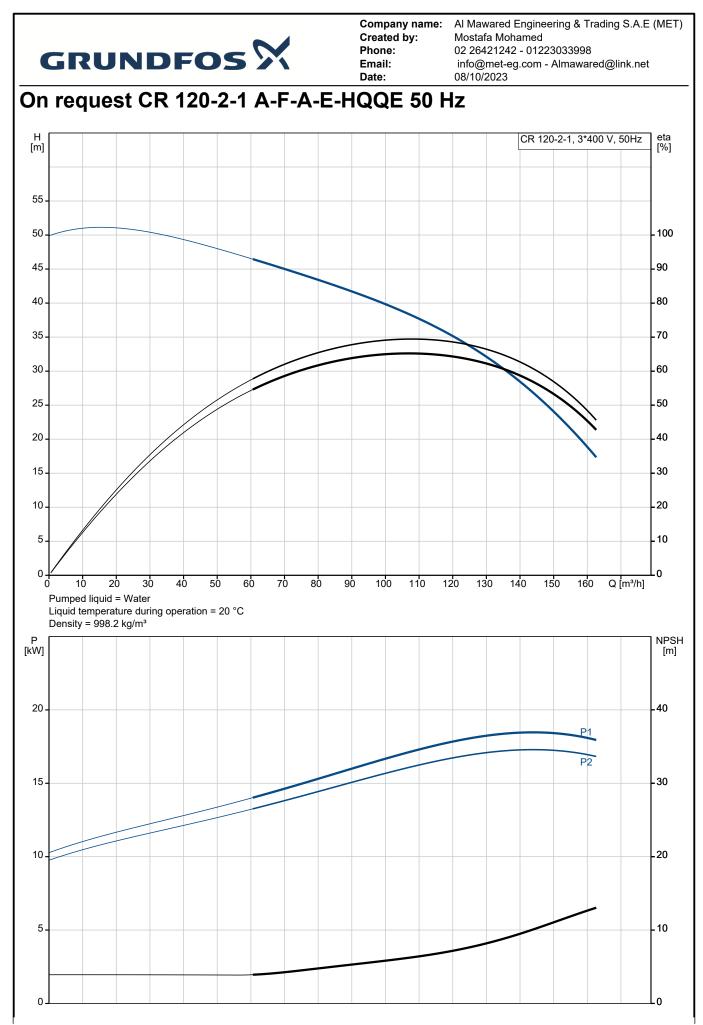


Company name:Al Mawared Engineering & Trading S.A.E (MET)Created by:Mostafa MohamedPhone:02 26421242 - 01223033998Email:info@met-eg.com - Almawared@link.netDate:08/10/2023

T P R R P S C A C W B Ir B S	Density: Fechnical: Pump speed on which pump data Rated flow: Rated head: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals on nameplate: Curve tolerance: Materials: Base: mpeller: Bearing: Support bearing: Installation: Maximum ambient temperature:	998.2 kg/m ³ a are based: 2934 rpm 120 m ³ /h 36.4 m Vertical Single HQQE CE, EAC,ACS ISO9906:2012 3B Cast iron EN 1563 EN-GJS-500-7 ASTM A536 80-55-06 Stainless steel EN 1.4301 AISI 304 SIC Grafion
P R R P S C A C M B Ir B S	Pump speed on which pump data Rated flow: Rated head: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals on nameplate: Curve tolerance: Materials: Base: Base: Support bearing: Support bearing: Installation:	120 m³/h 36.4 m Vertical Single HQQE CE, EAC,ACS ISO9906:2012 3B Cast iron EN 1563 EN-GJS-500-7 ASTM A536 80-55-06 Stainless steel EN 1.4301 AISI 304 SIC
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B	Bearing: Support bearing: nstallation:	AISI 304 SIC
S	Support bearing:	AISI 304 SIC
S	Support bearing:	SIC
S	Support bearing:	
	nstallation:	Granon
10		
	laximum amhient temperature	
	Maximum operating pressure:	30 bar
N	lax pressure at stated temp:	30 bar / 120 °C
		30 bar / -30 °C
T	ype of connection:	DIN
	Size of inlet connection:	DN 125
	Size of outlet connection:	DN 125
	Pressure rating for connection:	PN 40
	Flange size for motor:	FF300
F	Electrical data:	
	Aotor standard:	IEC
	Notor type:	160LB
	Rated power - P2:	18.5 kW
	Power (P2) required by pump:	18.5 kW
	Aains frequency:	50 Hz
	Rated voltage:	3 x 380-415D/660-690Y V
	Rated current:	34,5-32,5/20,0-18,8 A
	Starting current:	830-980 %
	Cos phi - power factor:	0.89-0.85
R	Rated speed:	2940-2950 rpm
	E efficiency:	IE3 92,4%
	E Efficiency class:	IE3
	Aotor efficiency at full load:	92.4-92.4 %
	Aotor efficiency at 3/4 load:	93.2-93.0 %
	Notor efficiency at 1/2 load:	93.2-92.2 %
	Notor emclency at 1/2 load.	2
	Enclosure class (IEC 34-5):	
		55 Dust/Jetting F
	nsulation class (IEC 85): /lotor No:	F 85U17528
	Controls:	
F	requency converter:	NONE
c	Others:	
-	/inimum efficiency index, MEI ≥:	0.70

Company name:Al Mawared Engineering & Trading S.A.E (MET)Created by:Mostafa MohamedPhone:02 26421242 - 01223033998Email:info@met-eg.com - Almawared@link.netDate:08/10/2023

			Date:	08/10/2023
Otv	Description			
1	Net weight: Gross weight: Shipping volume:	225 kg 286 kg 1.02 m³		
•	Crease weight			
	Gross weight:	286 Kg		
	Shipping volume:	1.02 m³		
	11 0			

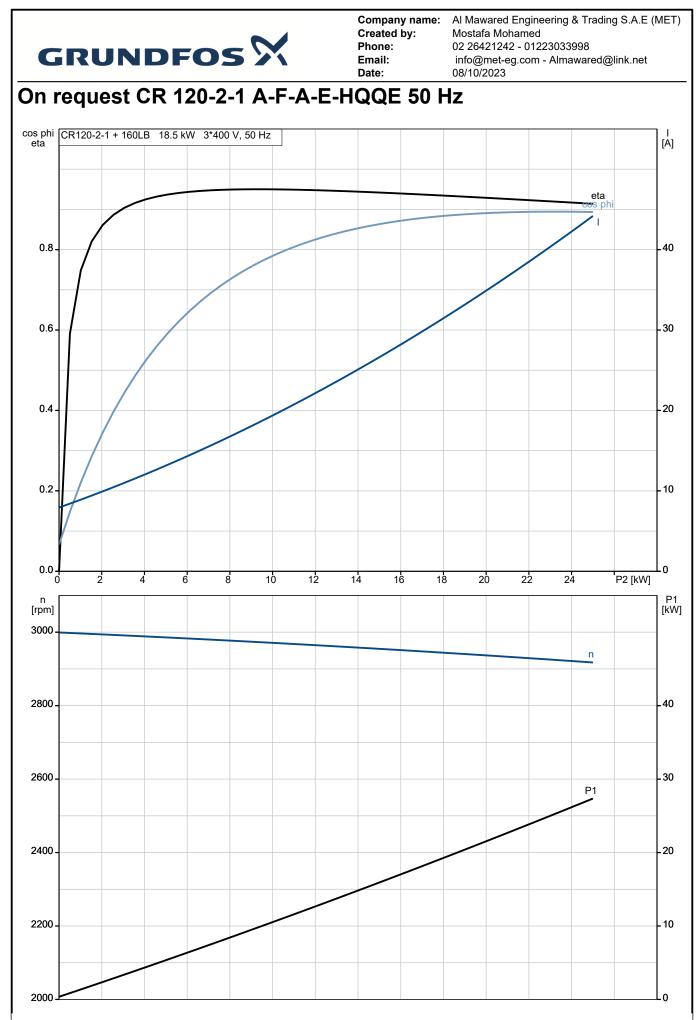


GRUNDFO	sX	Company name Created by: Phone: Email: Date:	Mostafa Mol 02 26421242	Engineering & ⁻ hamed 2 - 0122303399 g.com - Almawa	8	
Description	Value	H [m]		CR 120-2-1	, 3*400 V, 50Hz	eta [%]
General information:		55 _				
Product name:	CR 120-2-1 A-F-A-E-HQQE	50				100
Product No:	On request	45 -				90
EAN number:	On request	40 _				80
Fechnical:		35 -				70
Pump speed on which pump data are based:	2934 rpm	35 - 30 -				60
Rated flow:	120 m³/h	25 -				50
Rated head:	36.4 m	20 -				40
Maximum head:	50.4 m	//				
Stages:	2	15				- 30
-		10				20
mpellers:	2	5				10
Number of reduced-diameter impellers:	1	0				
Low NPSH:	N	0 20	40 60 80	100 120	140 Q [m³/h]	
Pump orientation:	Vertical	Pumped liquid				
Shaft seal arrangement:	Single		ature during operation	= 20 °C		
Code for shaft seal:	HQQE	Density = 998.	2 kg/m³			
Approvals on nameplate:	CE, EAC,ACS	[kW]				[m]
Curve tolerance:	ISO9906:2012 3B	20 -				40
Pump version:	Α	20-			P1	F 40
Model:	А	_			P2	
Materials:		15			12	- 30
Base:	Cast iron	-				
Base:	EN 1563 EN-GJS-500-7	10				20
Base:	ASTM A536 80-55-06	_				
	Stainless steel	5 _				- 10
Impeller:	EN 1.4301					
Impeller:	AISI 304	0				Lo
Material code:	A	1				
Code for rubber:	E	204				
Bearing:	SIC	318				
Support bearing:	Graflon					
Installation:						
Maximum ambient temperature:	60 °C	228				
Maximum operating pressure:	30 bar					
Max pressure at stated temp:	30 bar / 120 °C					
Max pressure at stated temp:	30 bar / -30 °C	350				
Type of connection:	DIN	- - 1 1				
Size of inlet connection:	DN 125	G 1/2	G 1/2			
Size of outlet connection:	DN 125	- 8 1	8 × 28			
Pressure rating for connection:	PN 40	4 X G 1/2				
-						
Flange size for motor:	FF300					
Connect code:	F	275		4 × 18		
Liquid:		380	I4/			
Pumped liquid:	Water		Ţ			
Liquid temperature range:	-30 120 °C	_	Y			
Selected liquid temperature:	20 °C					
Density:	998.2 kg/m³		т 10+т			
Electrical data:		_ Ĭ ¶Ľ				
Motor standard:	IEC		<u>erenen </u>			
Motor type:	160LB			RS ARE		
Rated power - P2:	18.5 kW	RELAY L1		L OF MANSUPPLY L OF MANSUPPLY		
Power (P2) required by pump:	18.5 kW	_	\triangle	716 71 062 002 082		
Mains frequency:	50 Hz			0 MHEN FORCC 0 DN 44		
	3 x 380-415D/660-690Y	V _{N+T} ■ V _N +	т 10+т	ERBELAN PRDNG T PRDNG T		
Rated voltage:	V			INERVIAL Y PF		
Rated current:	34,5-32,5/20,0-18,8 A)	THERMISTO		
Starting current:	830-980 %	TO AMPLIFIER RELAY		₩ 8 x		
Cos phi - power factor:	0.89-0.85	1	12 13			

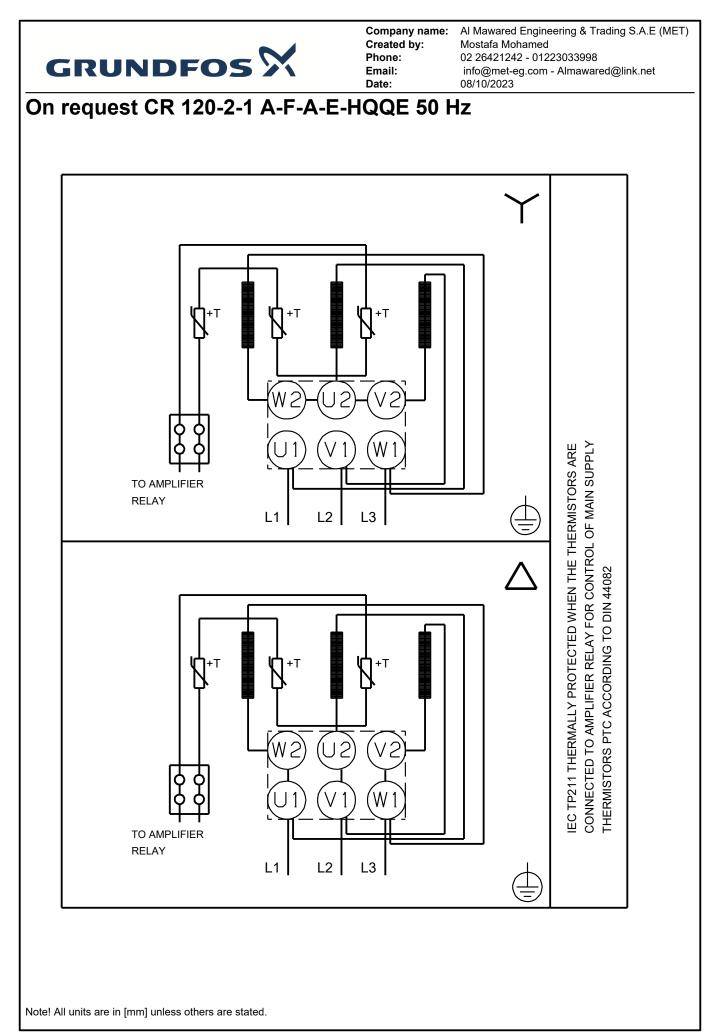


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Date:	08/10/2023

Description	Value
Rated speed:	2940-2950 rpm
IE efficiency:	IE3 92,4%
IE Efficiency class:	IE3
Motor efficiency at full load:	92.4-92.4 %
Motor efficiency at 3/4 load:	93.2-93.0 %
Motor efficiency at 1/2 load:	93.2-92.2 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	85U17528
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	225 kg
Gross weight:	286 kg
Shipping volume:	1.02 m³



Al Mawared Engineering & Trading S.A.E (MET) Company name: Created by: Mostafa Mohamed **GRUNDFOS** Phone: 02 26421242 - 01223033998 Email: info@met-eg.com - Almawared@link.net Date: 08/10/2023 On request CR 120-2-1 A-F-A-E-HQQE 50 Hz × 18 520 4 520 380 472 ğ 8 × 28 43 G 1/2 f 1 275 344 380 318 Æ Ð 204 4 X G 1/2 G 1/2 350 081 066 929 Note! All units are in [mm] unless others are stated. Disclaimer: This simplified dimensional drawing does not show all details.





Your pos.

Position

Total

Price on

Date: 08/10/2023 Order Data: Product name Amount Product No CR 120-2-1 1 On request

	CR 120-2-1	1	On request	Price on request