Submittal Data

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

Note! Product picture may differ from actual product

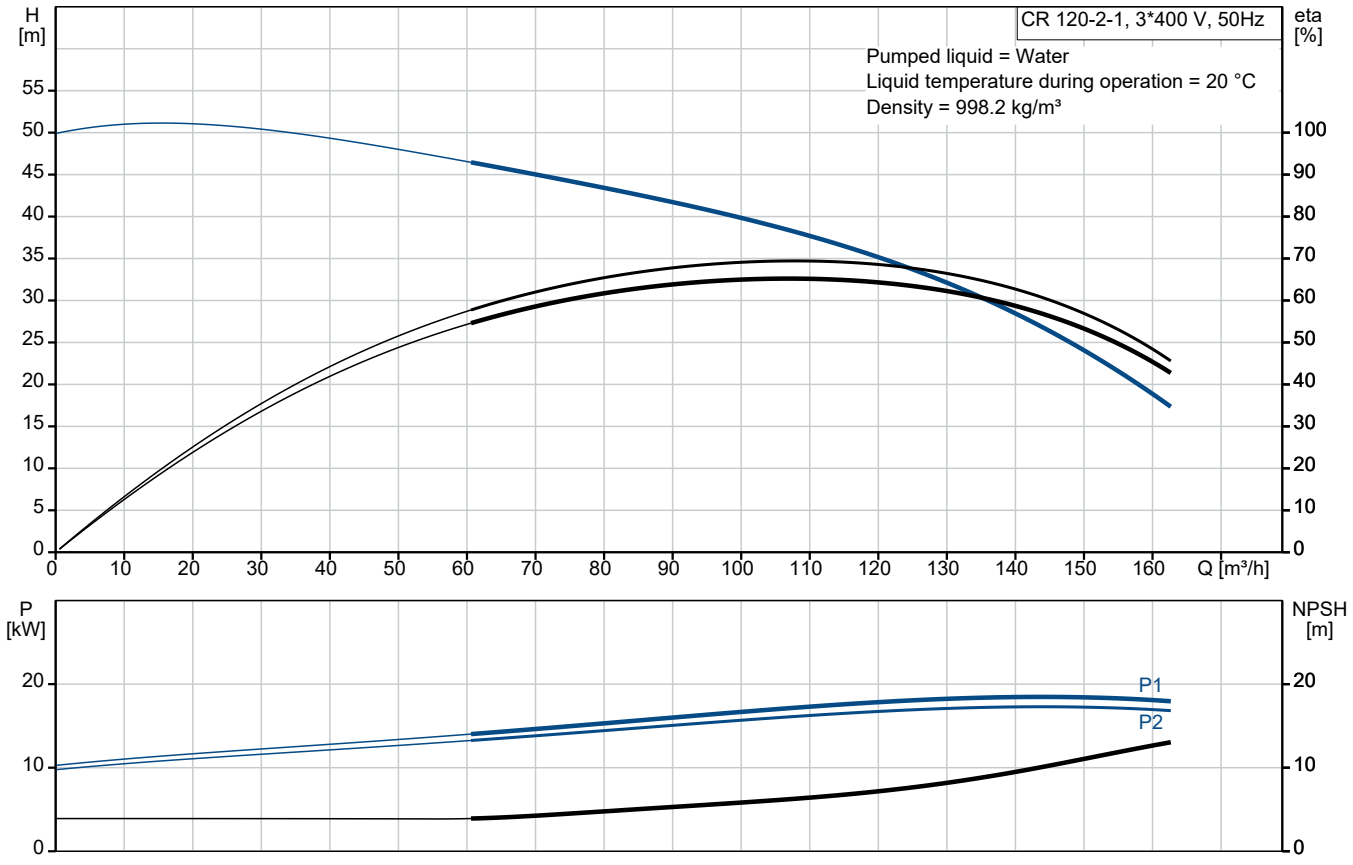
CR 120-2-1 A-F-A-E-HQQE

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)

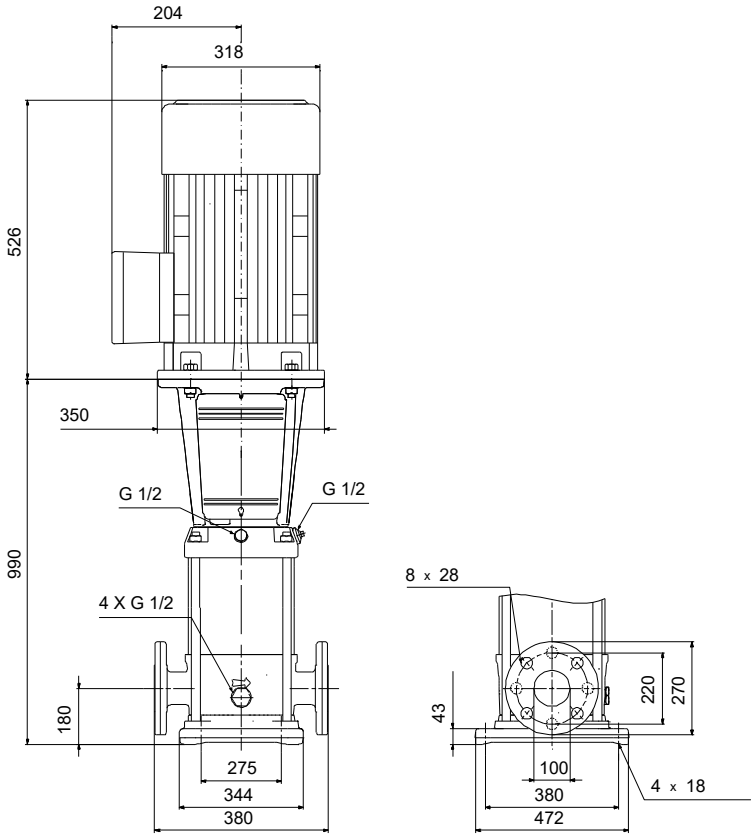
Conditions of Service	
Liquid:	Water
Temperature:	20 °C
Specific Gravity:	1.000

Pump Data	
Max pressure at stated temp:	30 bar / 120 °C
Liquid temperature range:	-30 .. 120 °C
Maximum ambient temperature:	60 °C
Approvals:	CE, EAC,ACS
Shaft seal:	HQQE
Product number:	On request

Motor Data	
Rated power - P2:	18.5 kW
Rated voltage:	380-415D/660-690Y V
Mains frequency:	50 Hz
Enclosure class:	55 Dust/Jetting
Insulation class:	F
Motor protection:	PTC
Motor type:	160LB
Eta 1/1:	92.4-92.4 %



Submittal Data



Materials:

Base:	Cast iron
Base:	EN 1563 EN-GJS-500-7
Base:	ASTM A536 80-55-06
Impeller:	Stainless steel
Impeller:	AISI 304
Impeller:	EN 1.4301
Material code:	A
Code for rubber:	E

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

Qty.	Description
1	**CR 120-2-1 A-F-A-E-HQQE**

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.

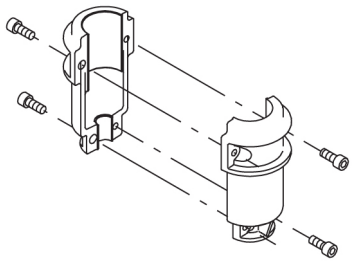
The entire process consists of these elements:

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

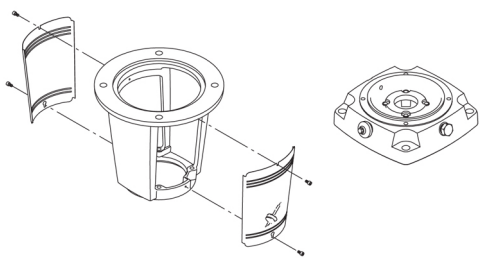
The colour code for the finished product is NCS 9000/RAL 9005.

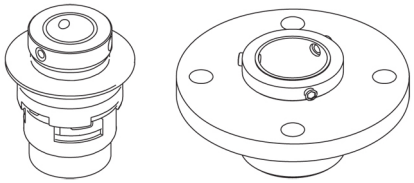
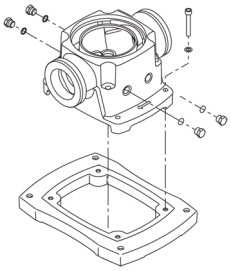
Pump

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
1	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

GRUNDFOS

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Created by: Mostafa Mohamed
Phone: 02 26421242 - 01223033998
Email: info@met-eg.com - Almawared@link.net
Date: 08/10/2023

Qty.	Description	
1	Density:	998.2 kg/m³
	Technical:	
	Pump speed on which pump data are based:	2934 rpm
	Rated flow:	120 m³/h
	Rated head:	36.4 m
	Pump orientation:	Vertical
	Shaft seal arrangement:	Single
	Code for shaft seal:	HQQE
	Approvals on nameplate:	CE, EAC,ACS
	Curve tolerance:	ISO9906:2012 3B
	Materials:	
	Base:	Cast iron
		EN 1563 EN-GJS-500-7
		ASTM A536 80-55-06
	Impeller:	Stainless steel
		EN 1.4301
		AISI 304
	Bearing:	SIC
	Support bearing:	Graflon
	Installation:	
	Maximum ambient temperature:	60 °C
	Maximum operating pressure:	30 bar
	Max pressure at stated temp:	30 bar / 120 °C
		30 bar / -30 °C
	Type 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
	Electrical data:	
	Motor standard:	IEC
	Motor type:	160LB
	Rated power - P2:	18.5 kW
	Power (P2) required by pump:	18.5 kW
	Mains 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
	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
	Motor No:	85U17528
	Controls:	
	Frequency converter:	NONE
	Others:	
	Minimum efficiency index, MEI ≥:	0.70

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Qty.	Description	
1	Net weight:	225 kg
	Gross weight:	286 kg
	Shipping volume:	1.02 m³

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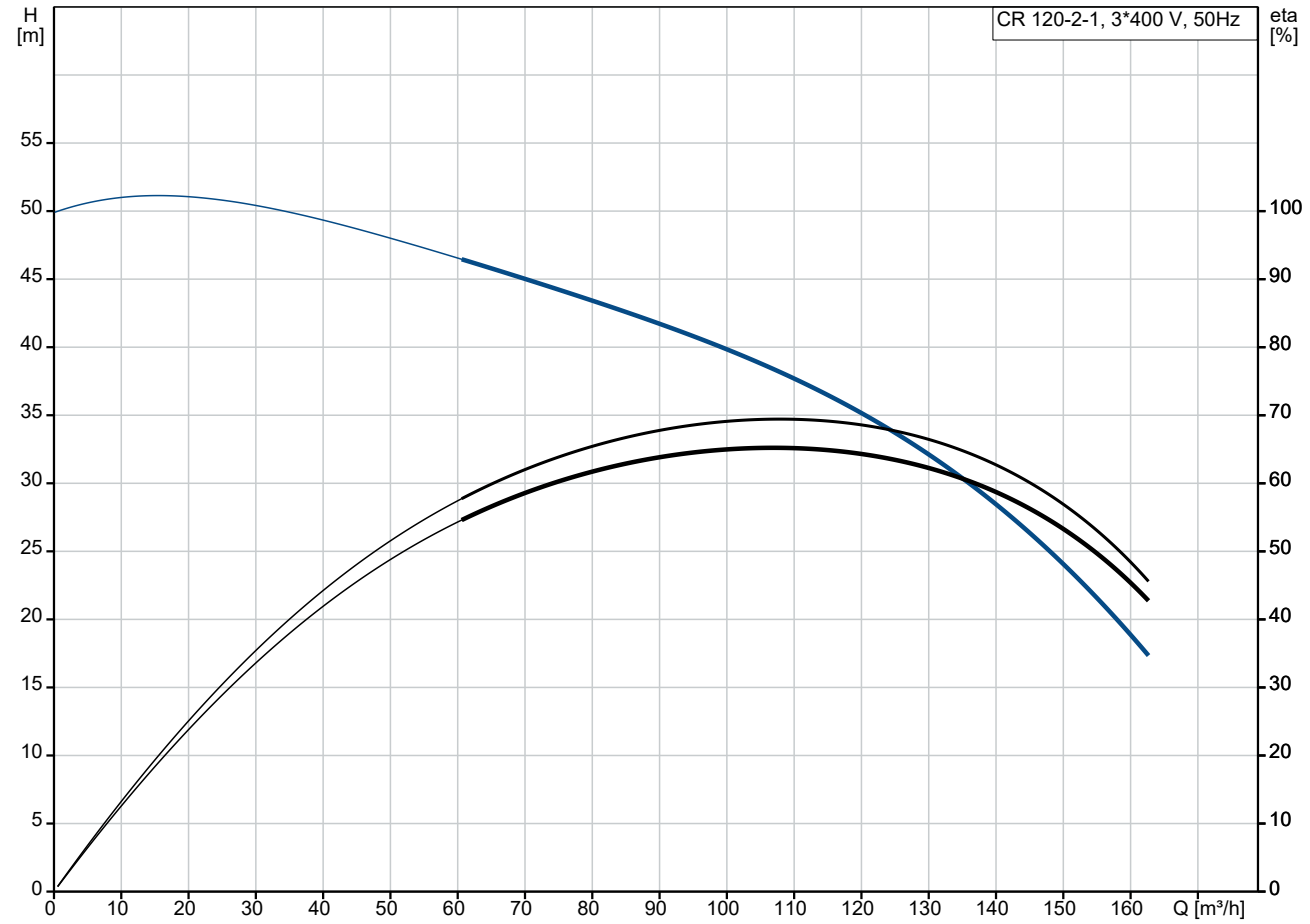
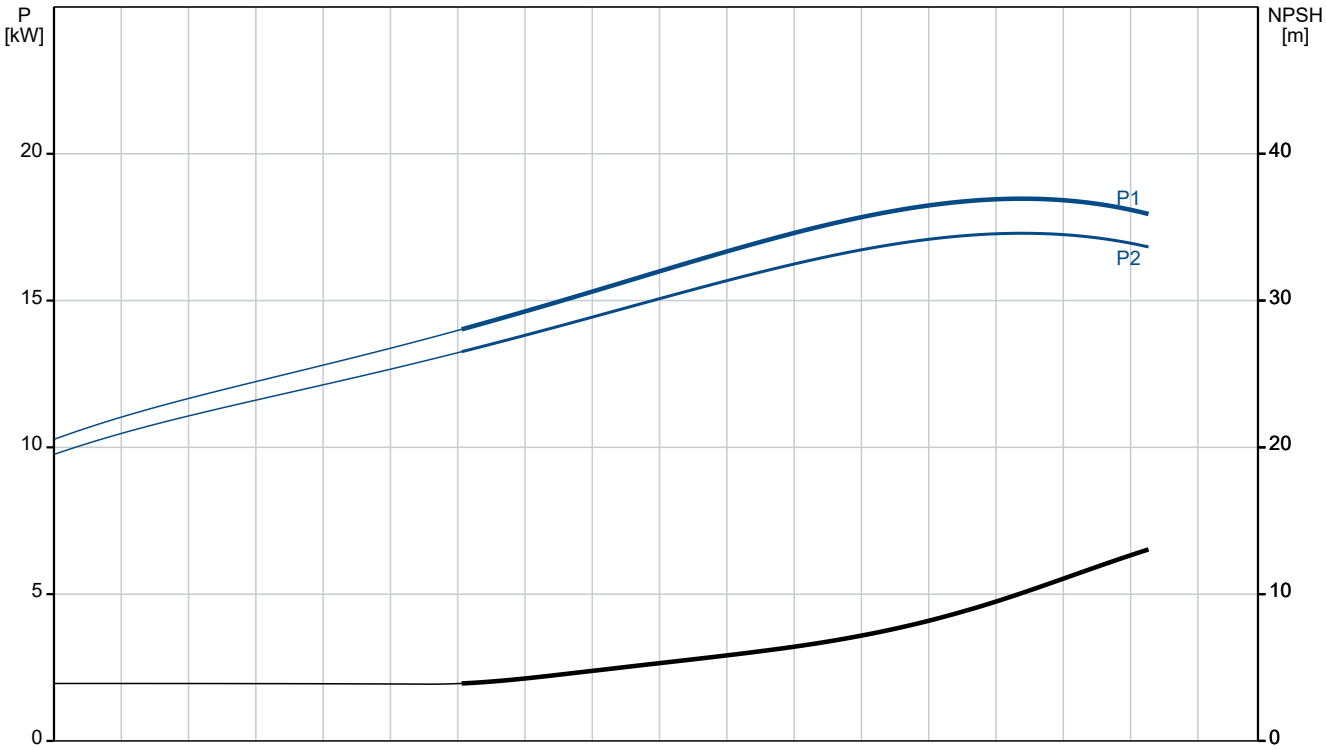
On request CR 120-2-1 A-F-A-E-HQQE 50 Hz



Pumped liquid = Water
Liquid temperature during operation = 20 °C
Density = 998.2 kg/m³



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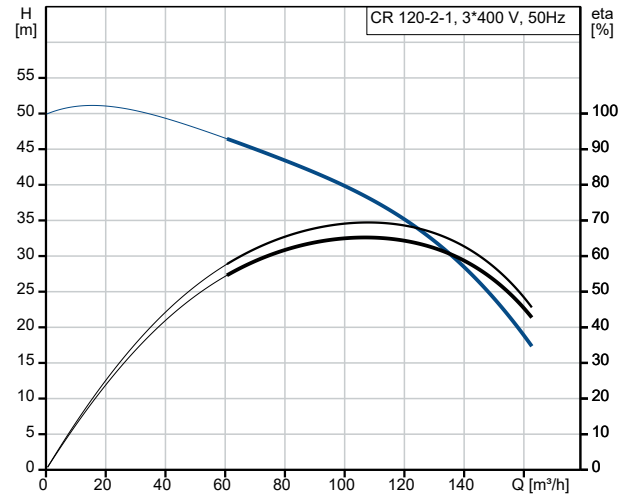
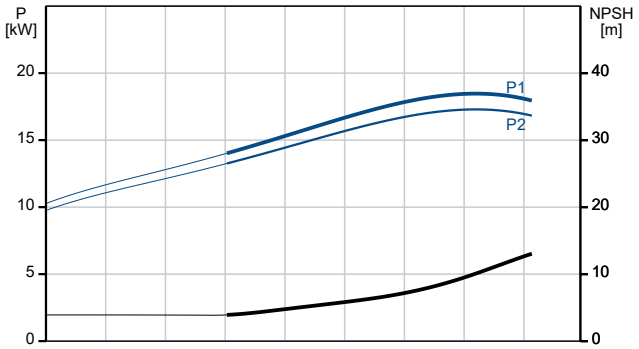
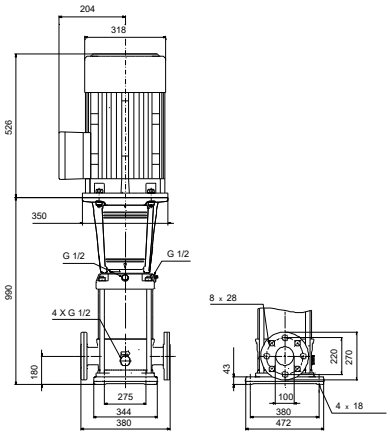
Date: 08/10/2023

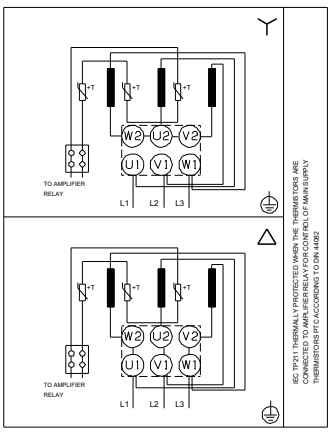
Description	Value
General information:	
Product name:	CR 120-2-1 A-F-A-E-HQQE
Product No:	On request
EAN number:	On request
Technical:	
Pump speed on which pump data are based:	2934 rpm
Rated flow:	120 m³/h
Rated head:	36.4 m
Maximum head:	50.4 m
Stages:	2
Impellers:	2
Number of reduced-diameter impellers:	1
Low NPSH:	N
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:	A
Model:	A
Materials:	
Base:	Cast iron
Base:	EN 1563 EN-GJS-500-7
Base:	ASTM A536 80-55-06
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Support bearing:	Graflon
Installation:	
Maximum ambient temperature:	60 °C
Maximum operating pressure:	30 bar
Max pressure at stated temp:	30 bar / 120 °C
Max pressure at stated temp:	30 bar / -30 °C
Type 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
Connect code:	F
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-30 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor standard:	IEC
Motor type:	160LB
Rated power - P2:	18.5 kW
Power (P2) required by pump:	18.5 kW
Mains 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



Pumped liquid = Water
Liquid temperature during operation = 20 °C
Density = 998.2 kg/m³







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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

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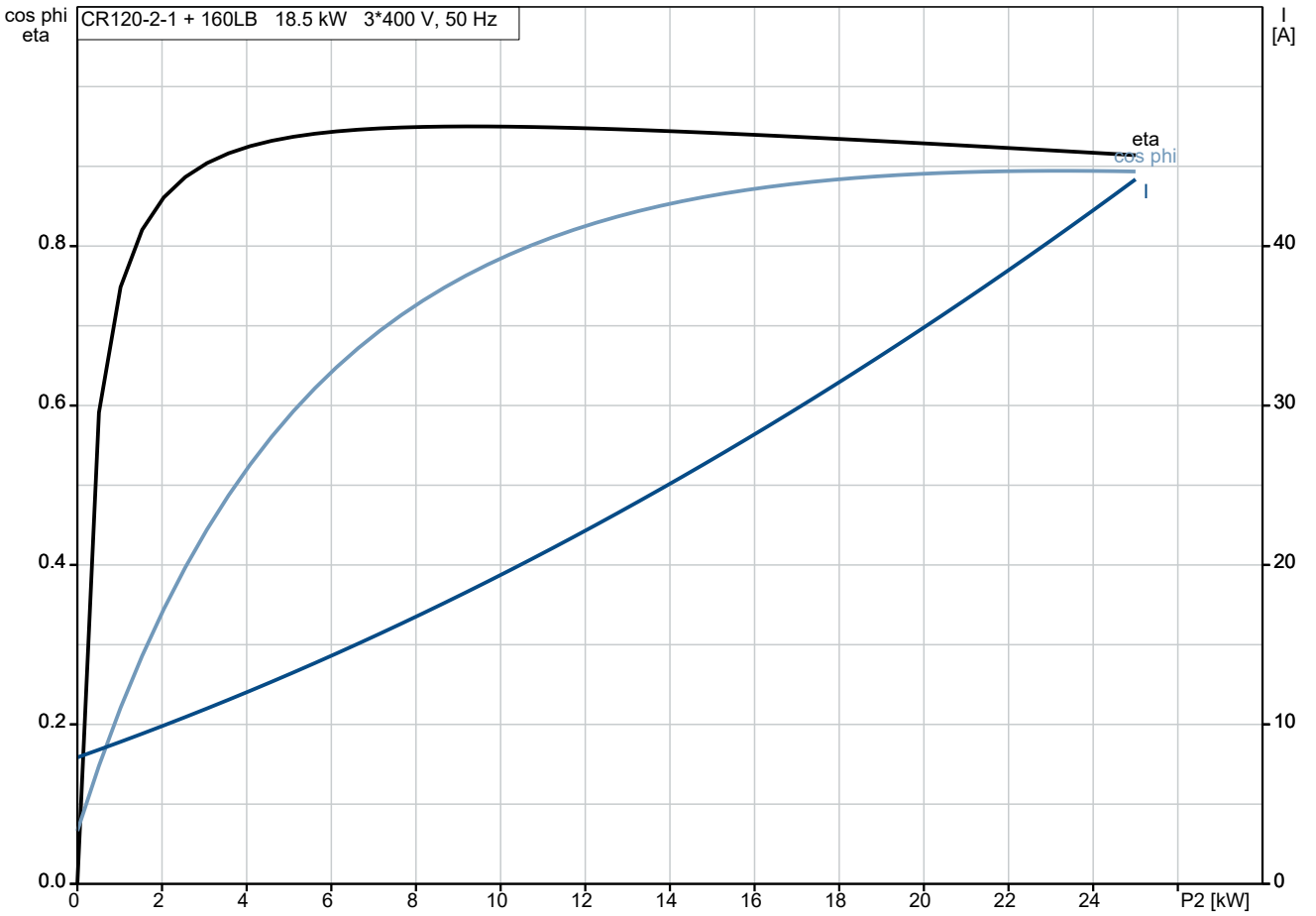
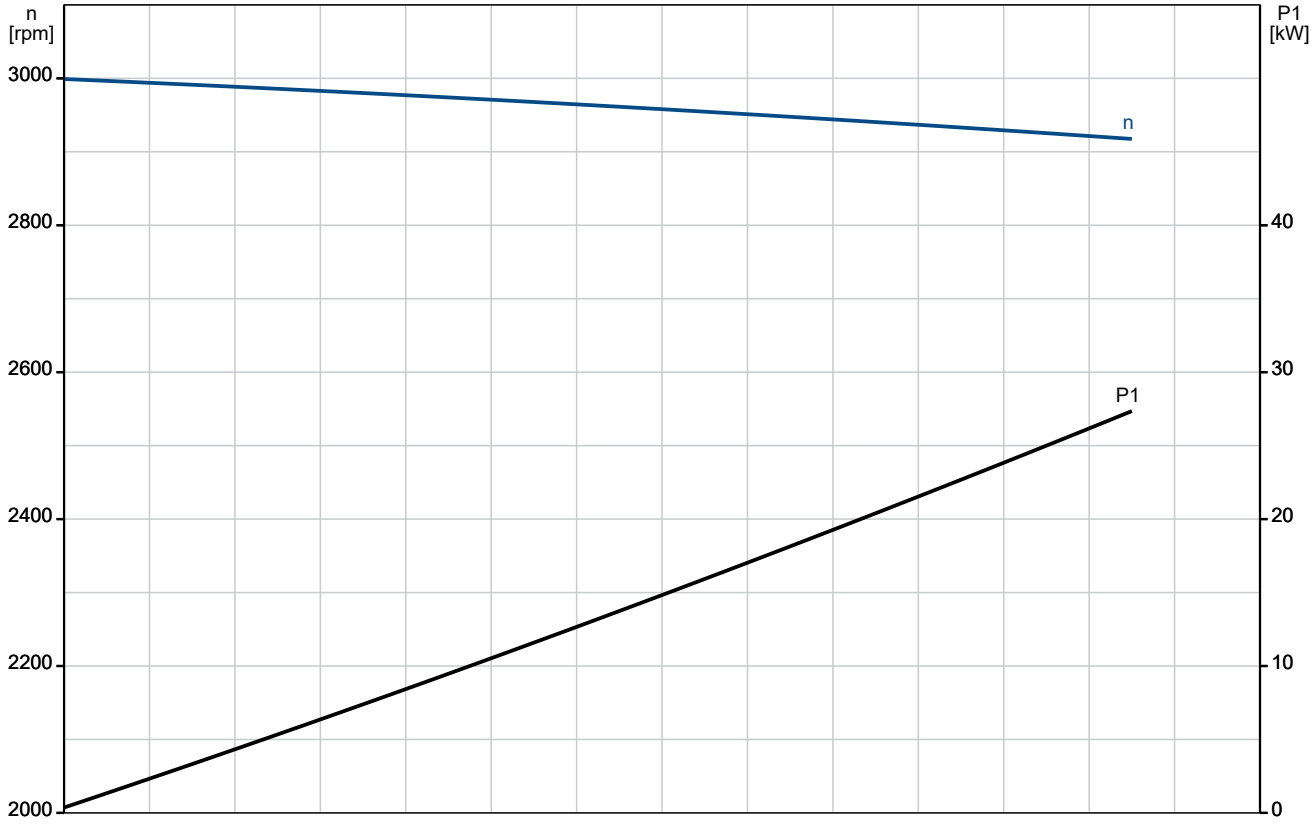
On request CR 120-2-1 A-F-A-E-HQQE 50 Hz





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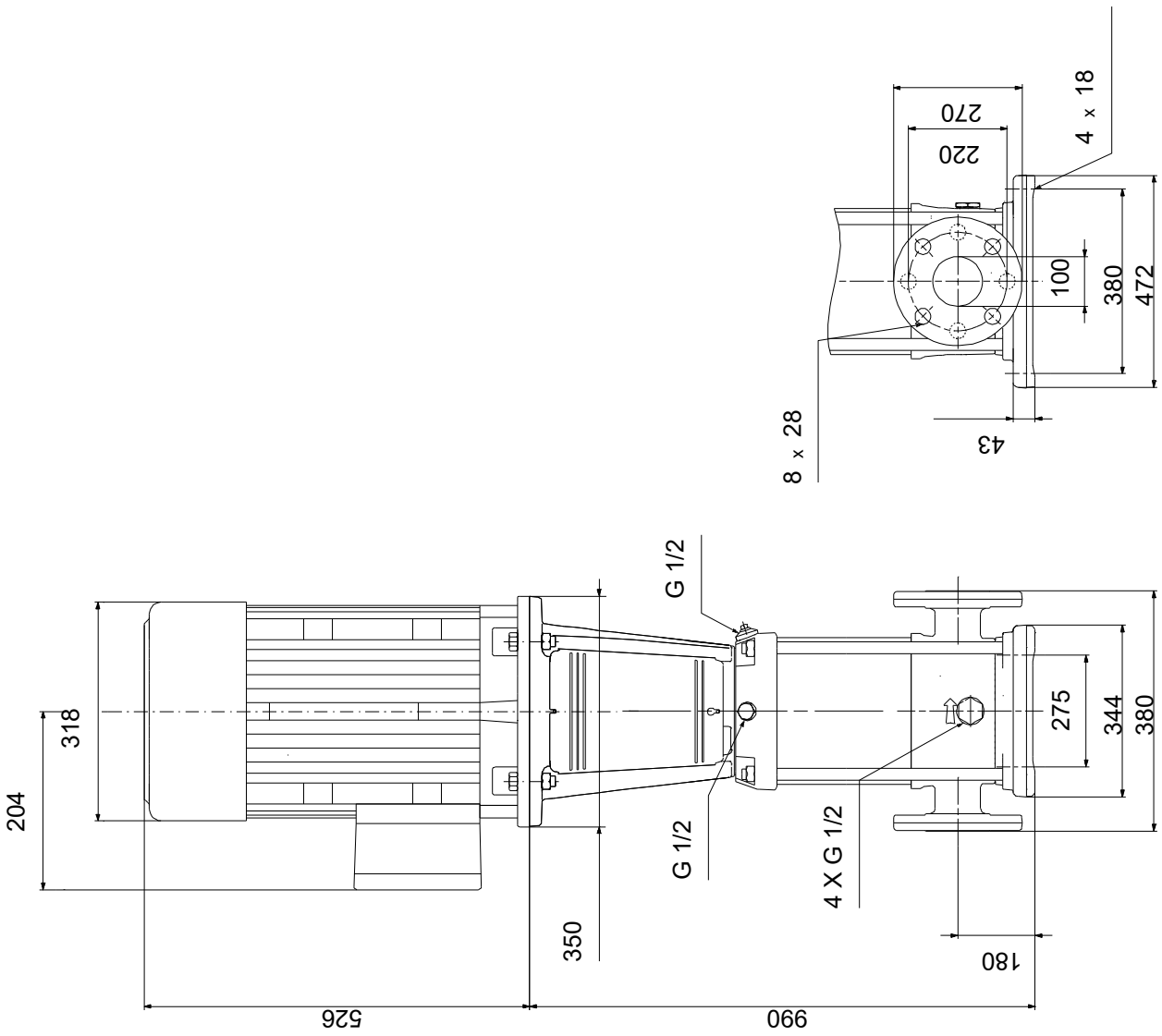
On request CR 120-2-1 A-F-A-E-HQQE 50 Hz



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

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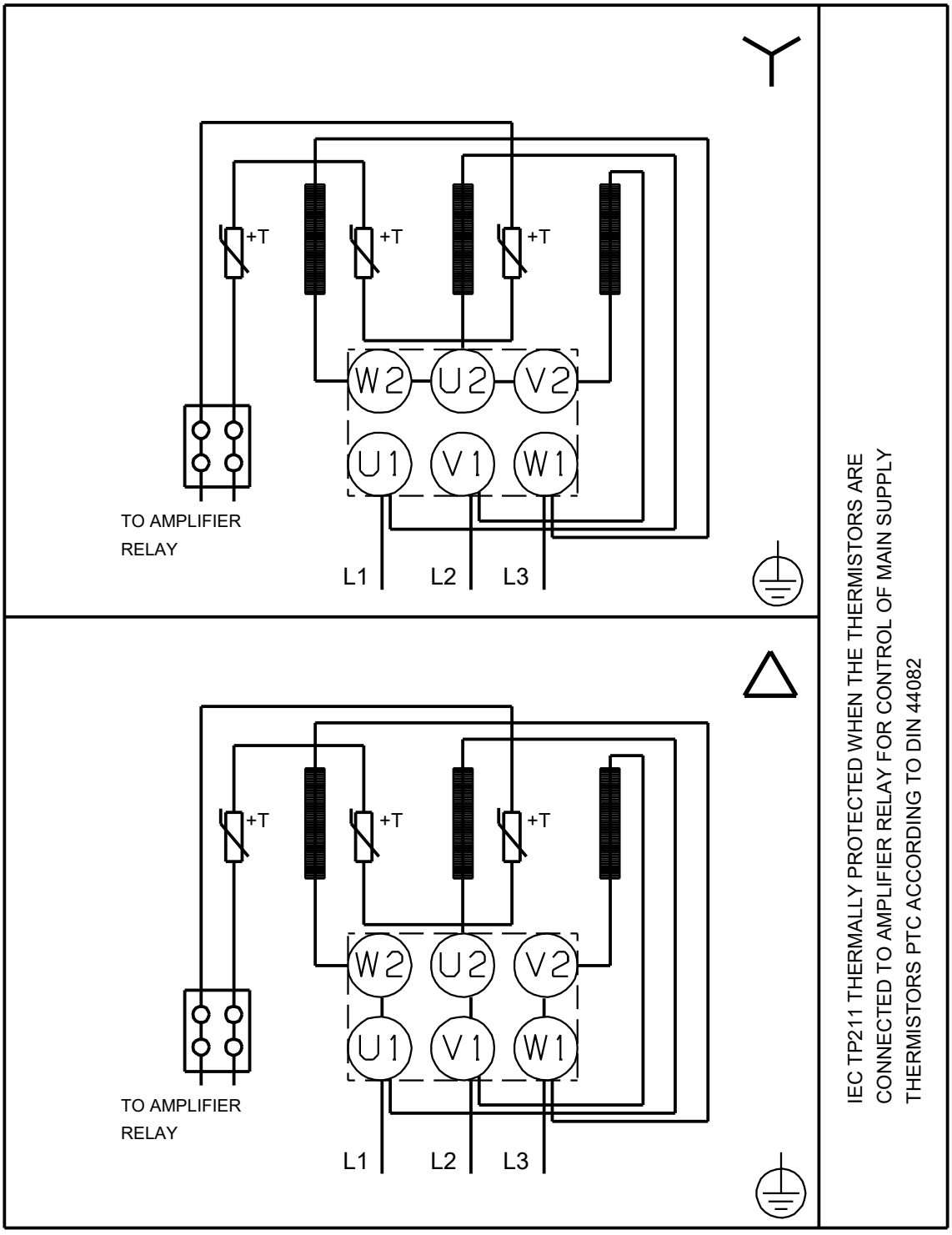

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Order Data:

Position	Your pos.	Product name	Amount	Product No	Total
		CR 120-2-1	1	On request	Price on request