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

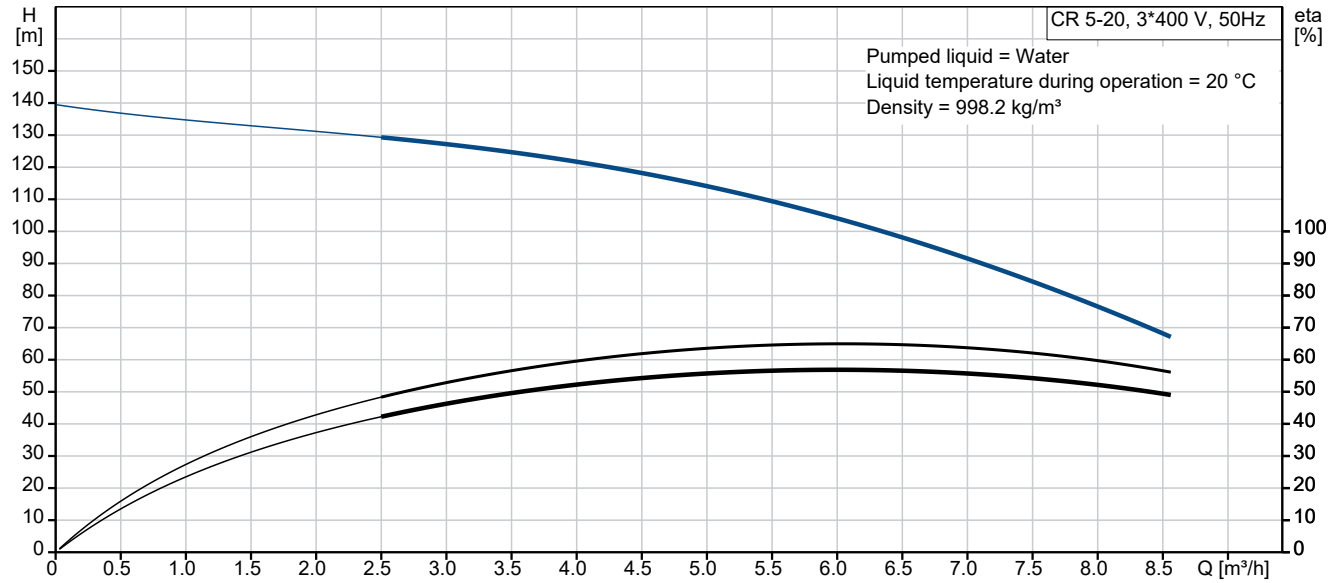
CR 5-20 A-A-A-E-HQQE

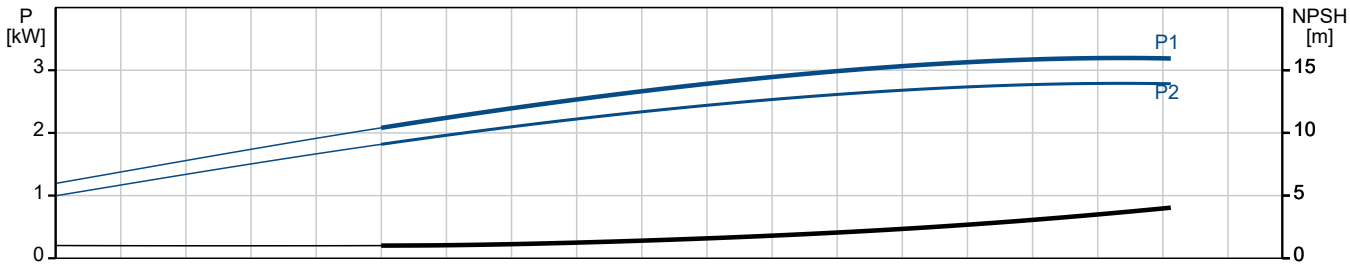
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

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

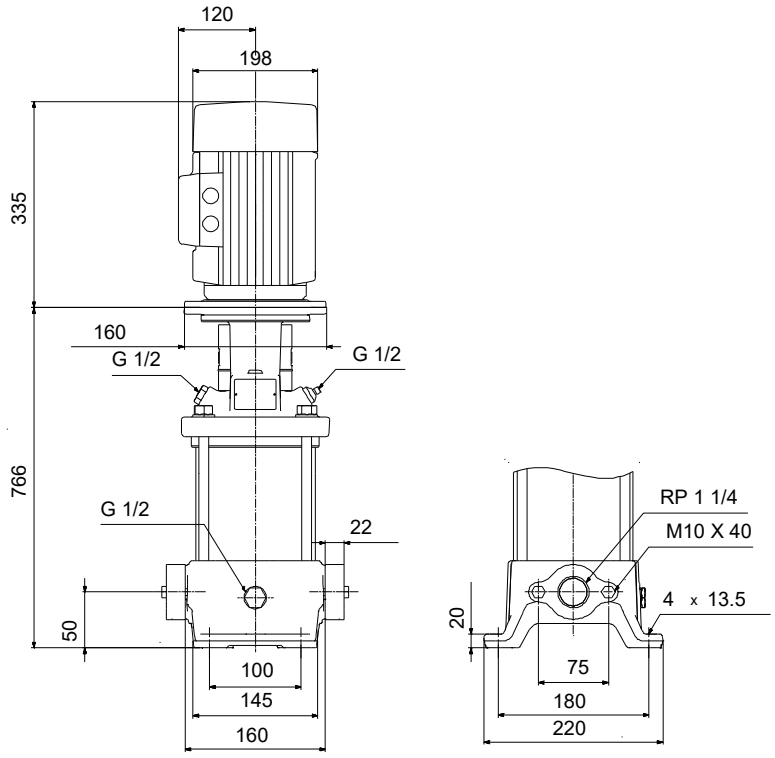
Pump Data	
Max pressure at stated temp:	16 bar / 120 °C
Liquid temperature range:	-20 .. 120 °C
Maximum ambient temperature:	60 °C
Shaft seal:	HQQE
Product number:	On request

Motor Data	
Rated power - P2:	3 kW
Rated voltage:	380-415D V
Mains frequency:	50 Hz
Enclosure class:	55 Dust/Jetting
Insulation class:	F
Motor protection:	PTC
Motor type:	100LC
Eta 1/1:	87.1 %





Submittal Data



Materials:

Base:	Cast iron
	EN 1561 EN-GJL-200
	ASTM A48-25B
Impeller:	Stainless steel
	AISI 304
	EN 1.4301
Material code:	A
Code for rubber:	E

Company name: ALMAWARED ENGINEERING AND TRADING S.A.E
Created by: adham Sabry
Phone: 01223033998
Email: adhasm.sabry@met-eg.com
Date:

Qty.	Description
1	**CR 5-20 A-A-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.

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.

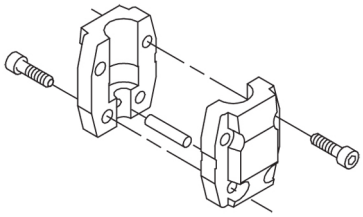
The entire process consists of these elements:

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

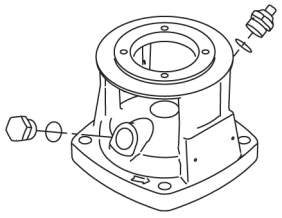
The colour code for the finished product is NCS 9000/RAL 9005.

Pump

A standard split coupling connects the pump and motor shaft. It is enclosed in the pump head/motor stool by means of two coupling guards.



The pump head, pump head cover and flange for motor mounting is made in one piece. The pump head has a combined 1/2" priming plug and vent screw.



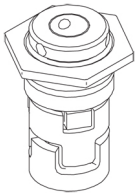
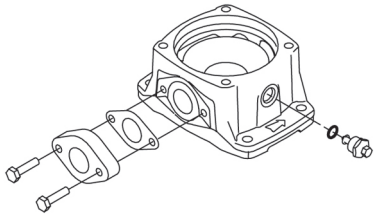
The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.

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.

Seal faces:

Qty.	Description
1	• 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 screwed into the pump head. 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. The oval flanges are bolted to the base. The outlet side of the base has a combined drain plug and bypass valve. The pump is secured to the foundation by four bolts through the base plate.  **Motor** The motor is a totally enclosed, fan-cooled motor with principal dimensions to IEC and DIN standards. The motor is flange-mounted with tapped-hole flange (FT). Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (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: -20 .. 120 °C Selected liquid temperature: 20 °C Density: 998.2 kg/m³ Technical: Pump speed on which pump data are based: 2902 rpm Rated flow: 5.8 m³/h Rated head: 102.9 m Pump orientation: Vertical Shaft seal arrangement: Single Primary shaft seal: HQQE Code for shaft seal: HQQE

GRUNDFOS

Company name: ALMAWARED ENGINEERING AND TRADING S.A.E
Created by: adham Sabry
Phone: 01223033998
Email: adhasm.sabry@met-eg.com
Date:

Qty.	Description	
1	Approvals:	CE,EAC,UKCA,SEPRO
	Approvals for drinking water:	WRAS,ACS
	Curve tolerance:	ISO9906:2012 3B
	Materials:	
	Base:	Cast iron
		EN 1561 EN-GJL-200
		ASTM A48-25B
	Impeller:	Stainless steel
		EN 1.4301
		AISI 304
	Bearing:	SIC
	Installation:	
	Maximum ambient temperature:	60 °C
	Maximum operating pressure:	16 bar
	Max pressure at stated temp:	16 bar / 120 °C
		16 bar / -20 °C
	Type of connection:	Oval / Rp
	Size of inlet connection:	1 1/4 inch
	Size of outlet connection:	1 1/4 inch
	Pressure rating for connection:	PN 16
	Flange size for motor:	FT130
	Electrical data:	
	Motor standard:	IEC
	Motor type:	100LC
	Rated power - P2:	3 kW
	Power (P2) required by pump:	3 kW
	Mains frequency:	50 Hz
	Rated voltage:	3 x 380-415D V
	Rated current:	6.3 A
	Starting current:	840-920 %
	Cos phi - power factor:	0.87-0.82
	Rated speed:	2900-2920 rpm
	IE Efficiency class:	IE3
	Motor efficiency at full load:	87.1 %
	Motor efficiency at 3/4 load:	88.0-87.0 %
	Motor efficiency at 1/2 load:	87.7-85.4 %
	Number of poles:	2
	Enclosure class (IEC 34-5):	55 Dust/Jetting
	Insulation class (IEC 85):	F
	Motor No:	85U15510
	Controls:	
	Frequency converter:	None
	Others:	
	Terminal box position:	6
	Minimum efficiency index, MEI ≥:	0.57
	Net weight:	48.9 kg
	Gross weight:	54.2 kg
	Shipping volume:	0.133 m³
	Danish VVS No.:	385902320
	Swedish RSK No.:	5855591
	Country of origin:	DK
	Custom tariff no.:	84137075

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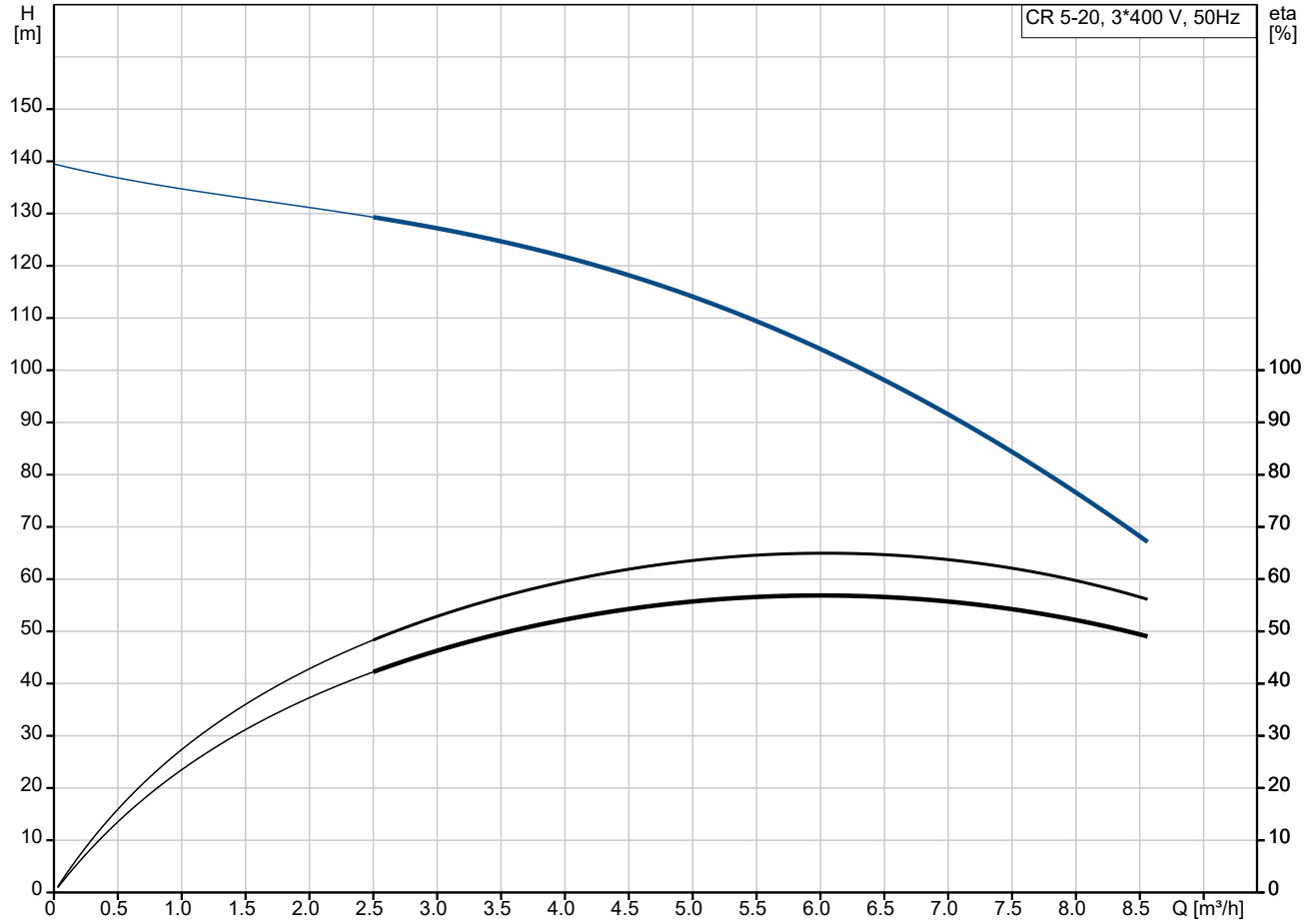
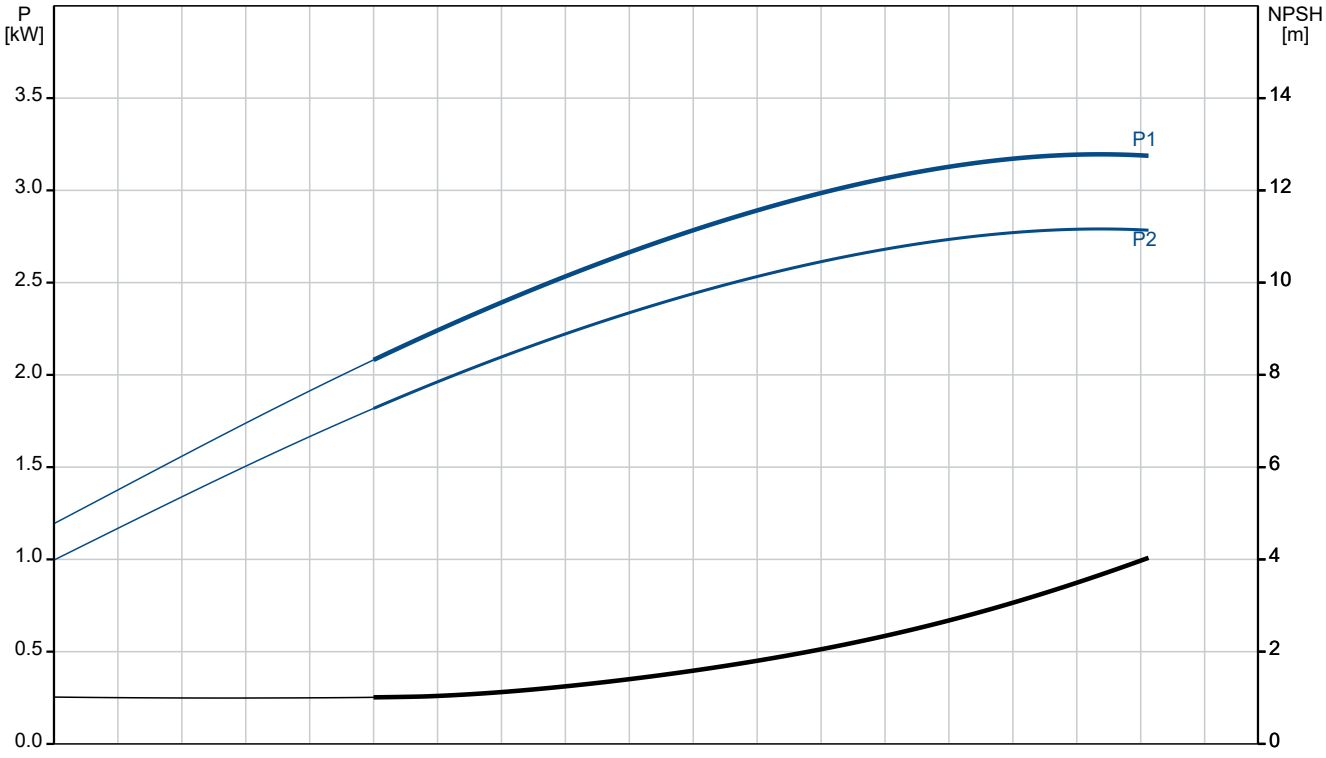
Date:

On request CR 5-20 A-A-A-E-HQQE 50 Hz



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



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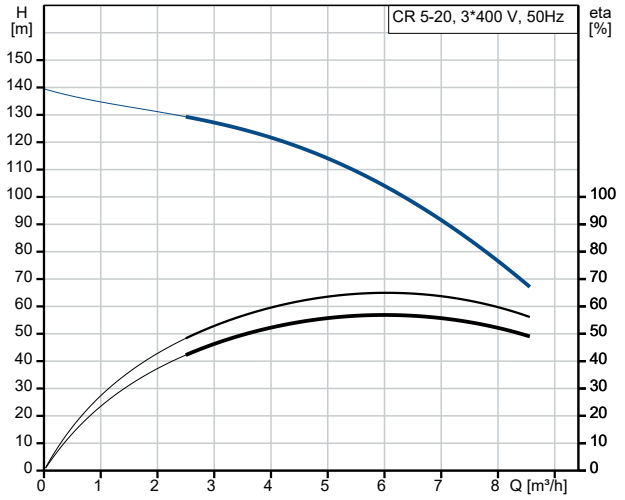
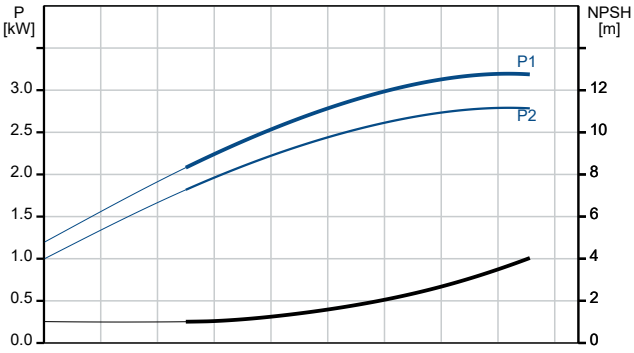
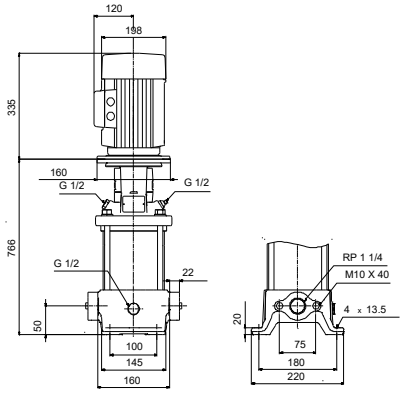
Date:

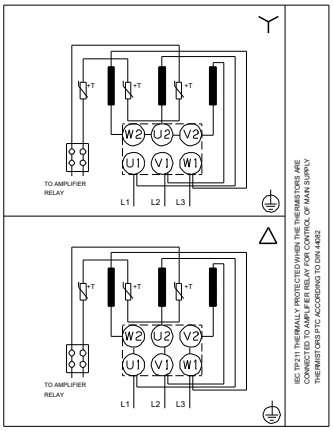
Description	Value
General information:	
Product name:	CR 5-20 A-A-A-E-HQQE
Product No:	On request
EAN number:	On request
Technical:	
Pump speed on which pump data are based:	2902 rpm
Rated flow:	5.8 m³/h
Rated head:	102.9 m
Maximum head:	136.1 m
Stages:	20
Impellers:	20
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Primary shaft seal:	HQQE
Code for shaft seal:	HQQE
Approvals:	CE,EAC,UKCA,SEPRO
Approvals for drinking water:	WRAS,ACS
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
Materials:	
Base:	Cast iron
	EN 1561 EN-GJL-200
	ASTM A48-25B
Impeller:	Stainless steel
	EN 1.4301
	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Installation:	
Maximum ambient temperature:	60 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
	16 bar / -20 °C
Type of connection:	Oval / Rp
Size of inlet connection:	1 1/4 inch
Size of outlet connection:	1 1/4 inch
Pressure rating for connection:	PN 16
Flange size for motor:	FT130
Connect code:	A
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor standard:	IEC
Motor type:	100LC
Rated power - P2:	3 kW
Power (P2) required by pump:	3 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D V
Rated current:	6.3 A
Starting current:	840-920 %



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







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Description	Value
Cos phi - power factor:	0.87-0.82
Rated speed:	2900-2920 rpm
IE Efficiency class:	IE3
Motor efficiency at full load:	87.1 %
Motor efficiency at 3/4 load:	88.0-87.0 %
Motor efficiency at 1/2 load:	87.7-85.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	85U15510
Controls:	
Frequency converter:	None
Others:	
Terminal box position:	6
Minimum efficiency index, MEI ≥:	0.57
Net weight:	48.9 kg
Gross weight:	54.2 kg
Shipping volume:	0.133 m^3
Danish VVS No.:	385902320
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Country of origin:	DK
Custom tariff no.:	84137075

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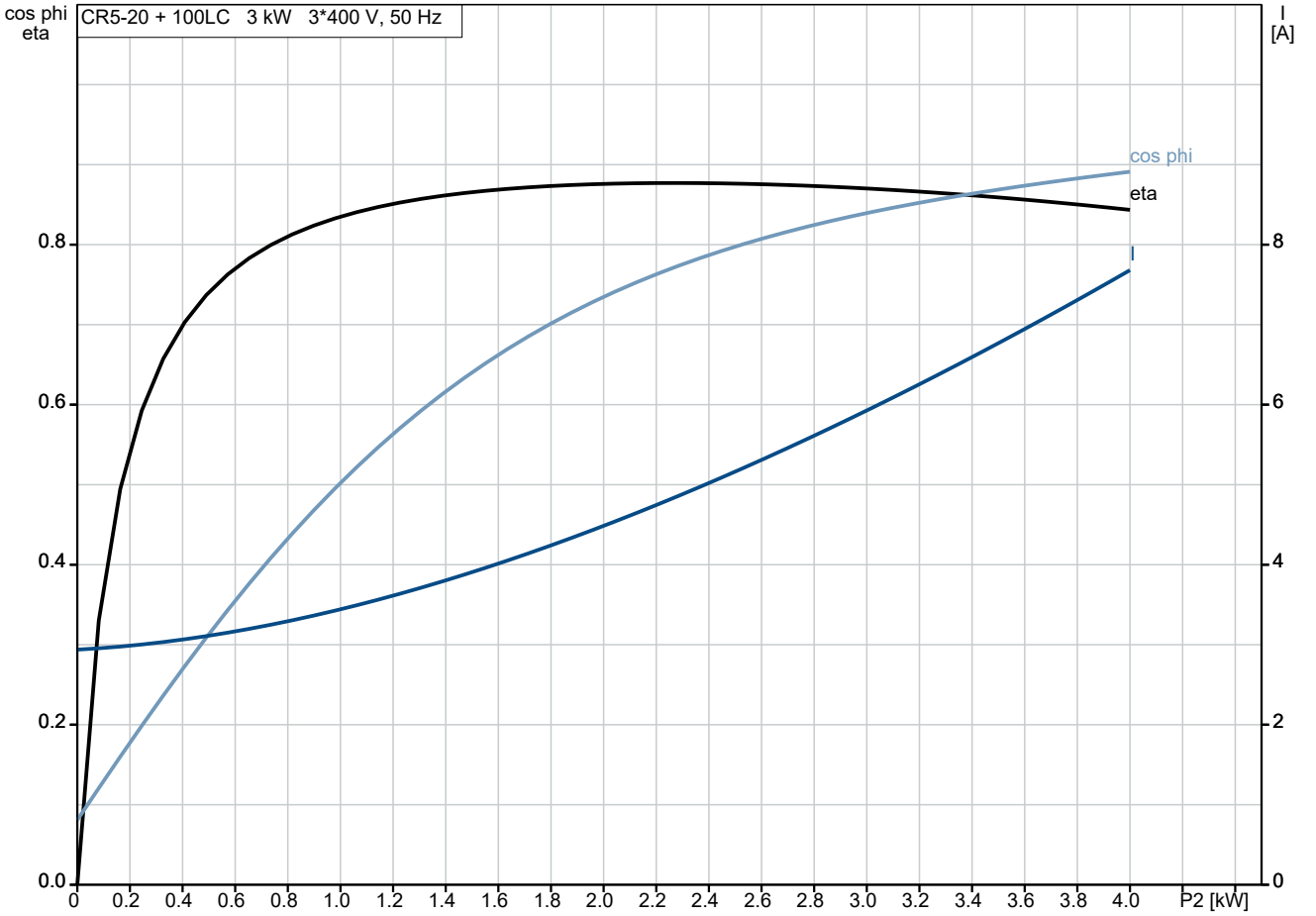
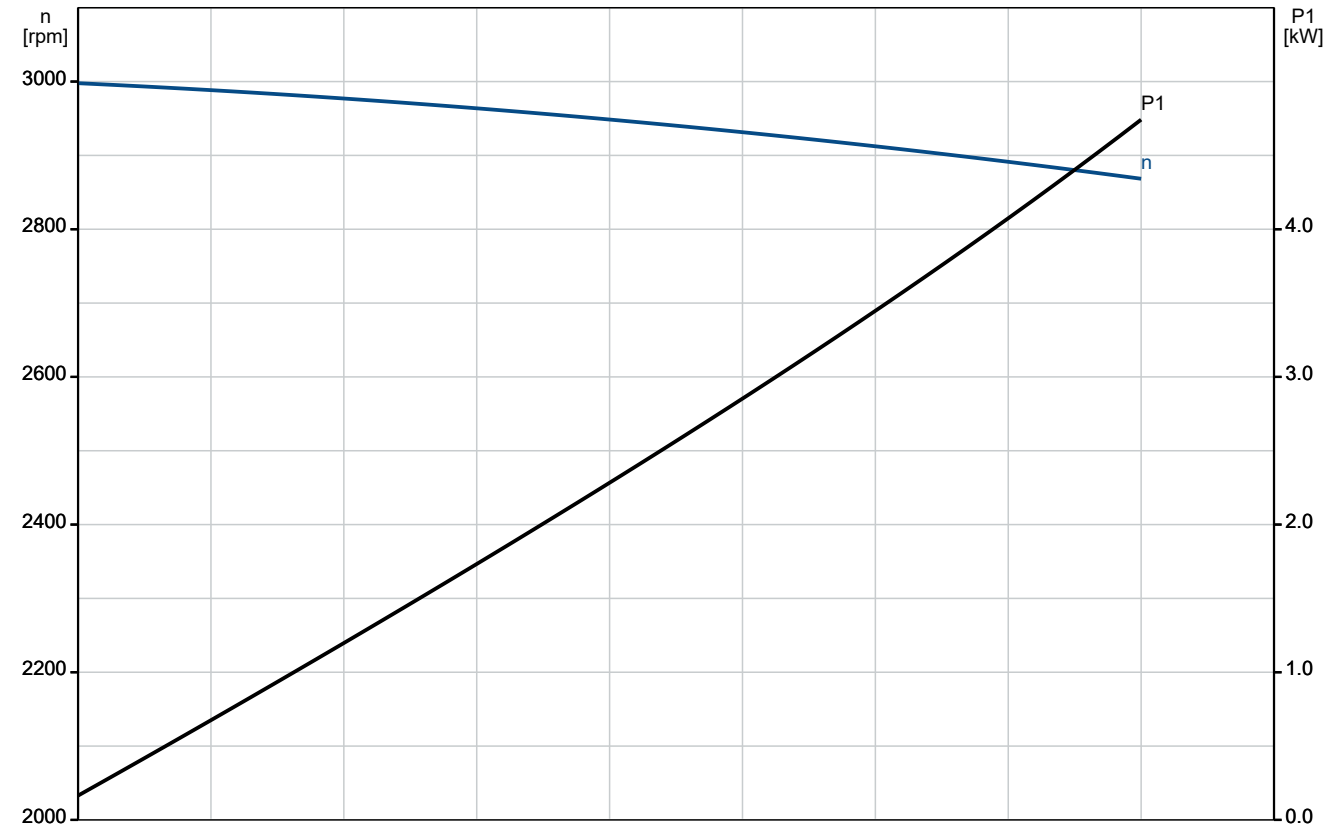
Date:

On request CR 5-20 A-A-A-E-HQQE 50 Hz





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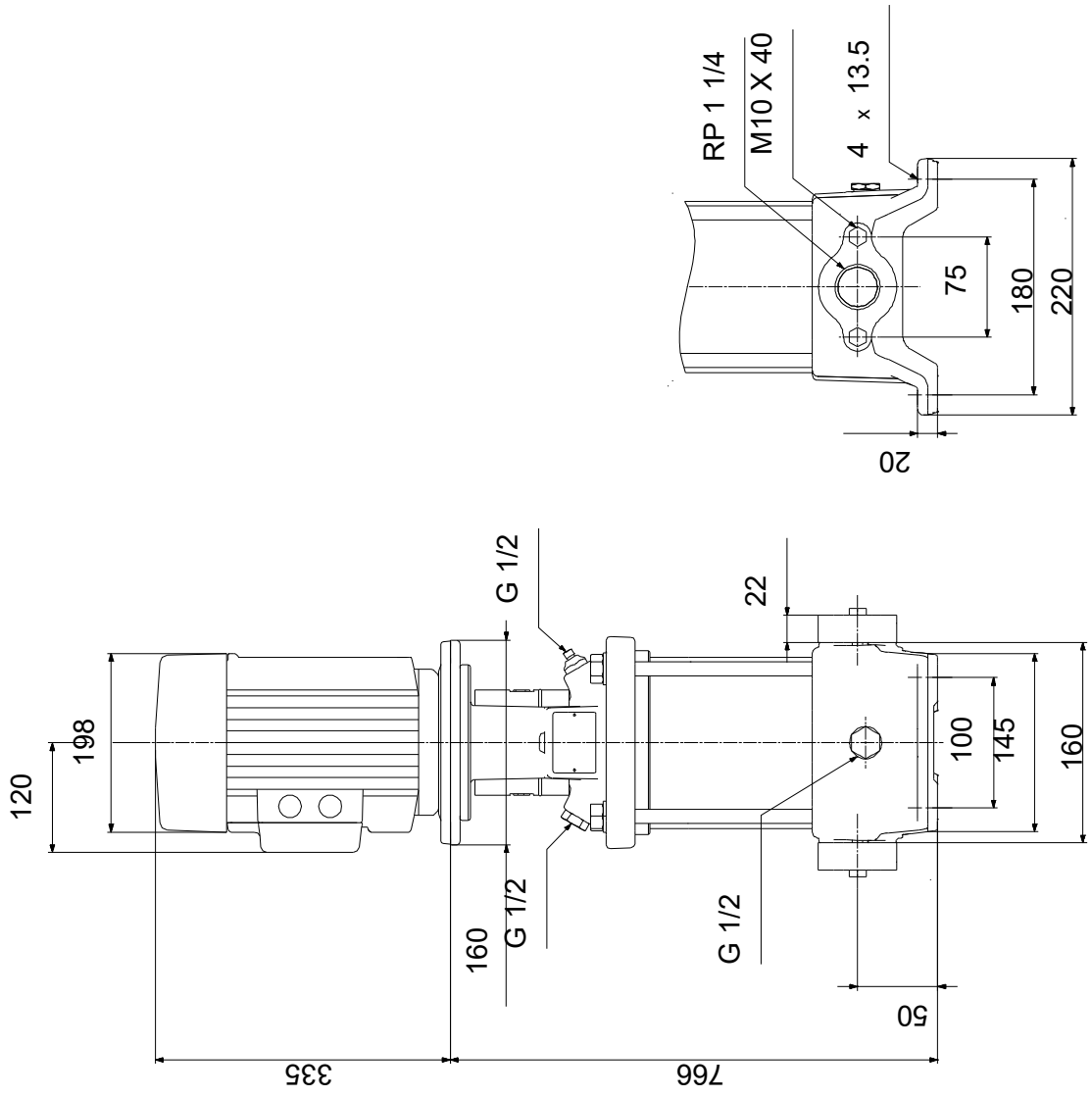
On request CR 5-20 A-A-A-E-HQQE 50 Hz



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

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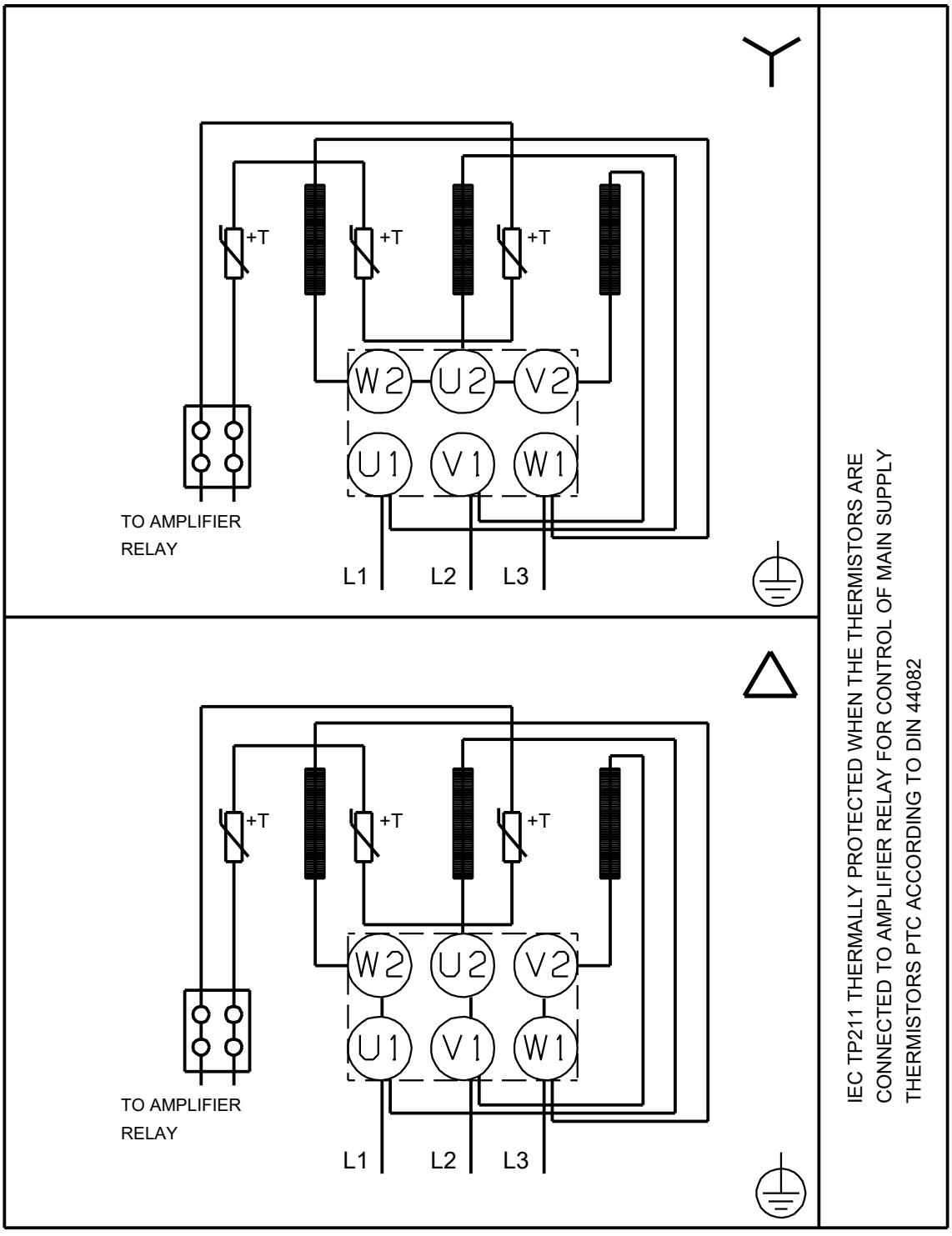
On request CR 5-20 A-A-A-E-HQQE 50 Hz



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

GRUNDFOS

Company name:	ALMAWARED ENGINEERING AND TRADING S.A.E
Created by:	adham Sabry
Phone:	01223033998
Email:	adhasm.sabry@met-eg.com
Date:	

Order Data:

Position	Your pos.	Product name	Amount	Product No	Total
		CR 5-20 A-A-A-E-HQQE	1	On request	