

Submittal Data

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

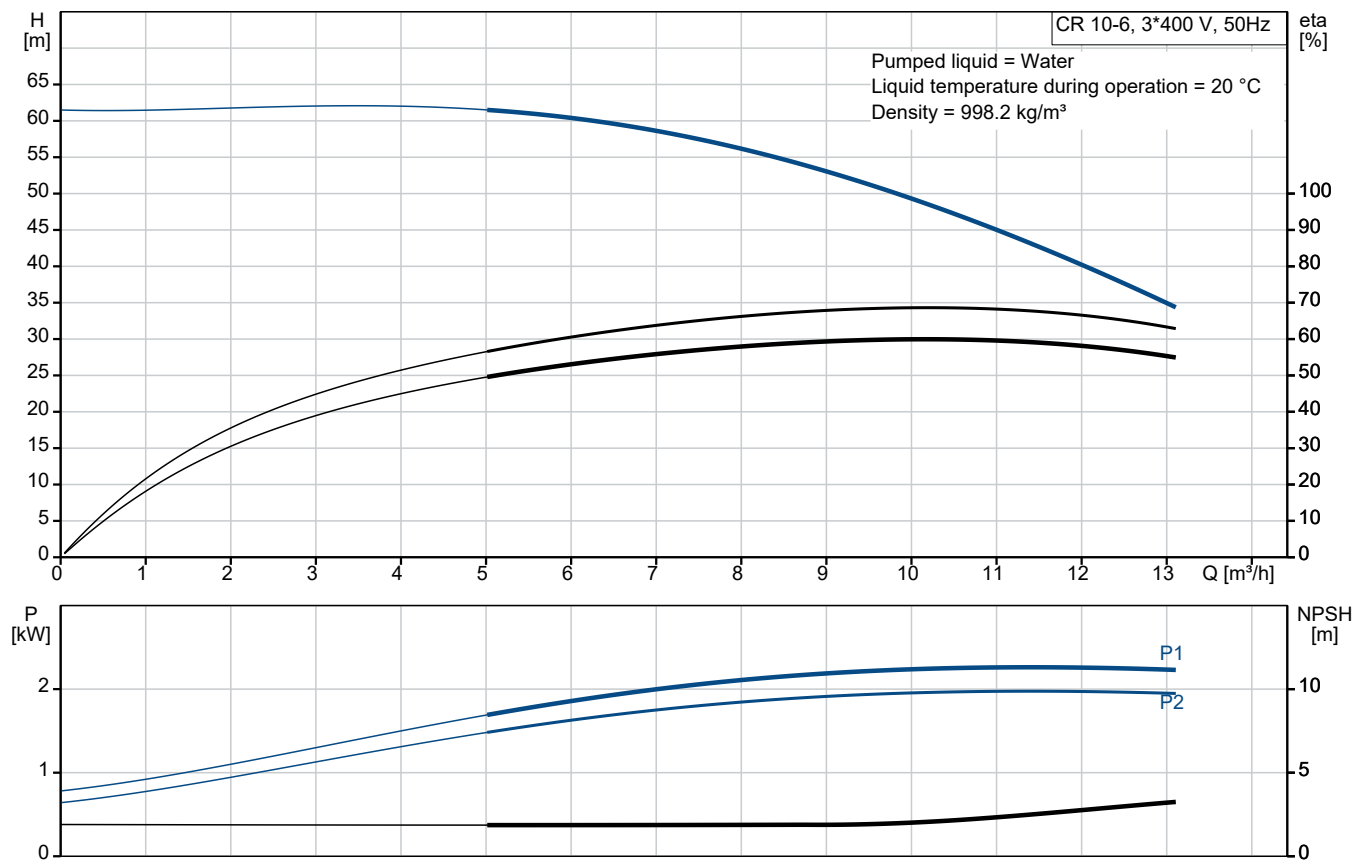


CR 10-6 A-A-A-E-HQQE

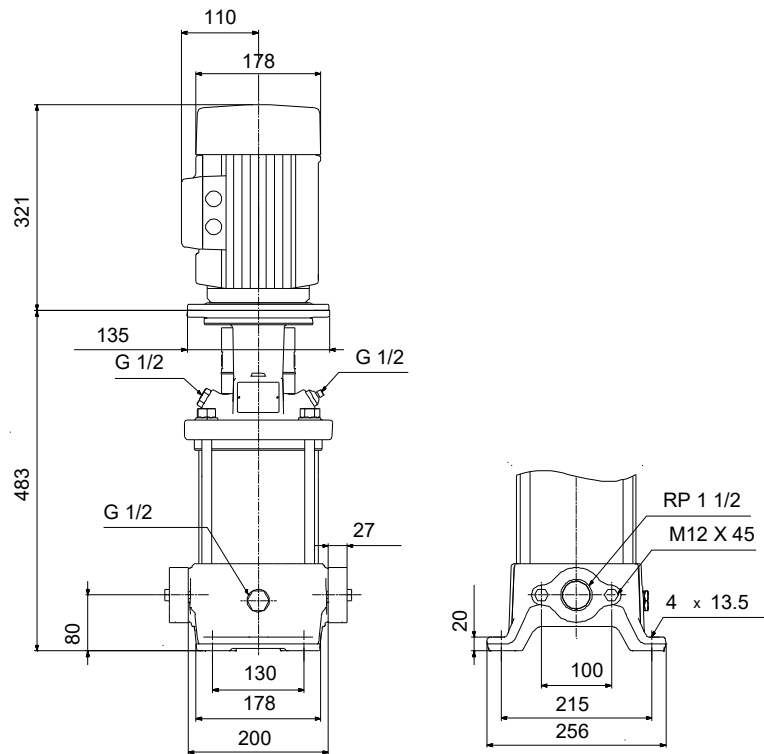
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Note! Product picture may differ from actual product

Conditions of Service	Pump Data	Motor Data
Liquid: Water Temperature: 20 °C Specific Gravity: 1.000	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	Rated power - P2: 2.2 kW Rated voltage: 220-240D/380-415Y V Mains frequency: 50 Hz Enclosure class: 55 Dust/Jetting Insulation class: F Motor protection: NONE Motor type: 90LE Eta 1/1: 85.9 %



## 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

Qty.	Description
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1	CR 10-6 A-A-A-E-HQQE
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**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.

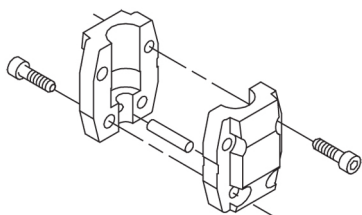
The entire process consists of these elements:

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

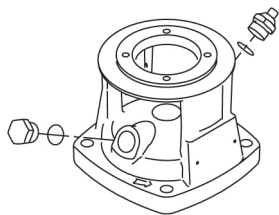
The colour code for the finished product is NCS 9000/RAL 9005.

### 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.



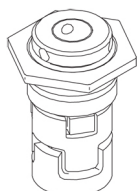
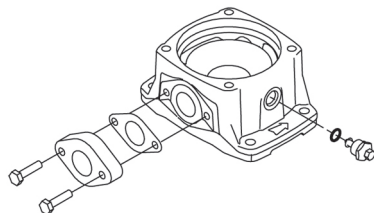
The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.

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.

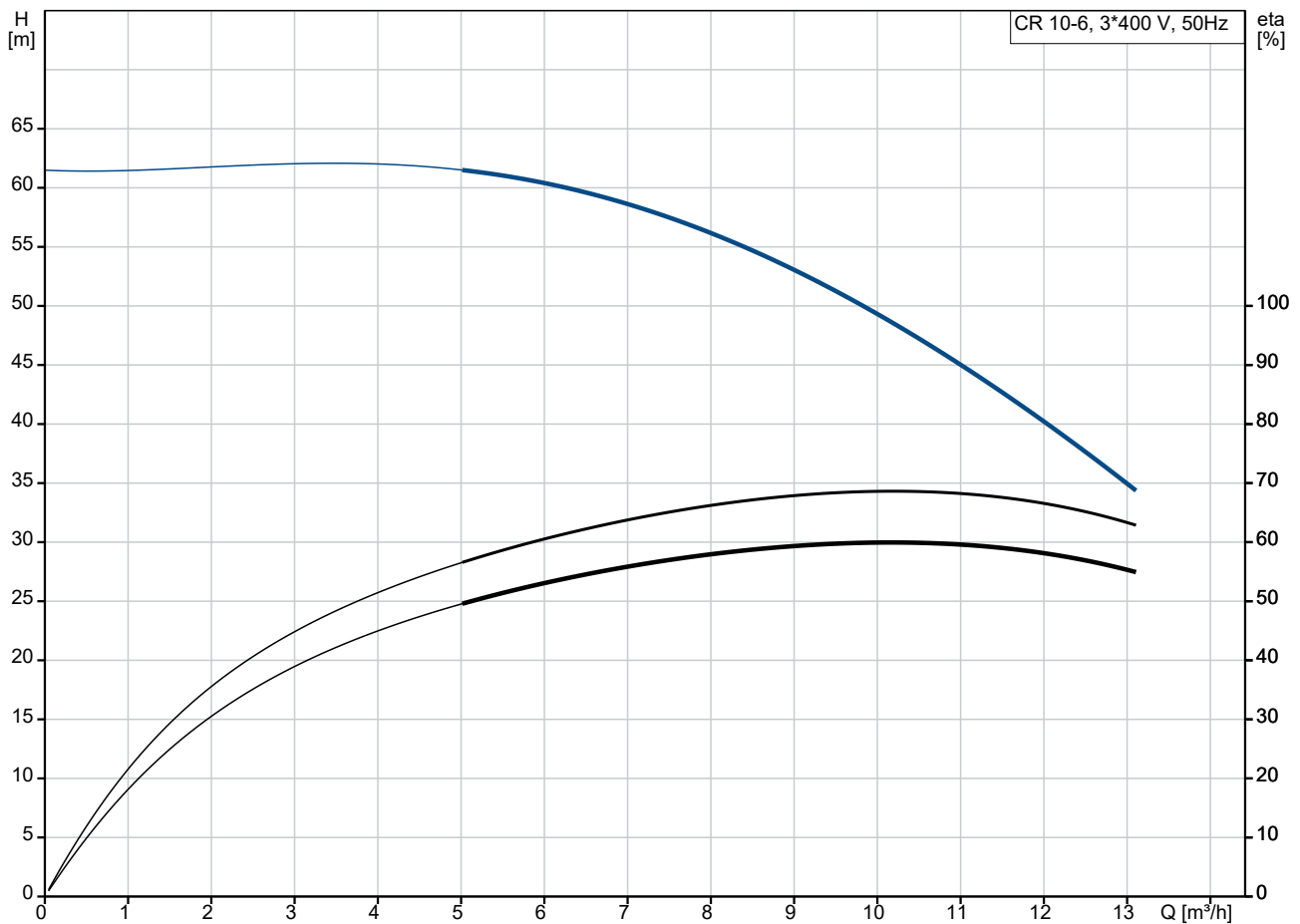
The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.

Seal faces:

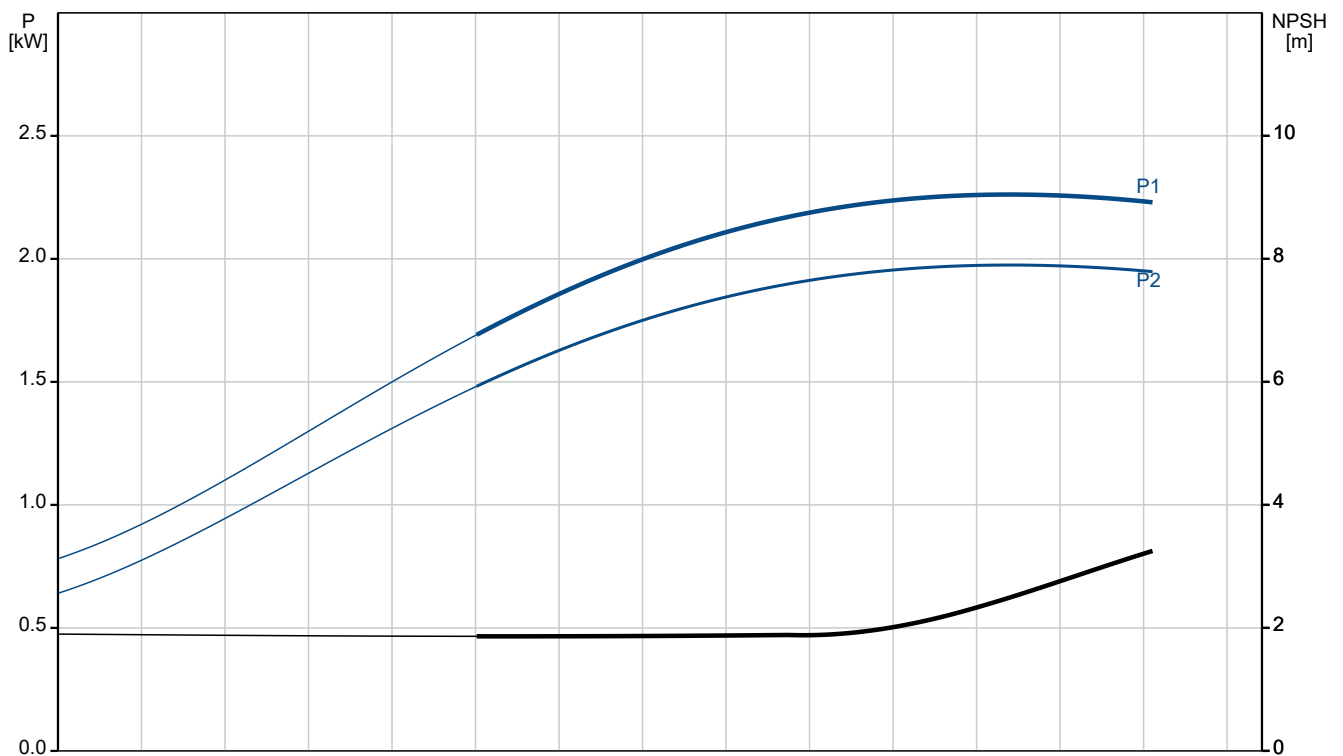
Qty.	Description
1	<ul style="list-style-type: none"> <li>Rotating seal ring material: silicon carbide (SiC)</li> <li>Stationary seat material: silicon carbide (SiC)</li> </ul> <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> <p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p>  <p>The shaft seal is screwed into the pump head.</p> <p>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.</p> <p>The base is made of cast iron. The oval flanges are bolted to the base. The outlet side of the base has a drain plug. The pump is secured to the foundation by four bolts through the base plate.</p>  <p><b>Motor</b></p> <p>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).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 14 (Code I) / IM 3601 (Code II).</p> <p>Electrical tolerances comply with IEC 60034.</p> <p>The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p>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 (I<sub>1</sub>/1).</p> <p>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.</p> <p><b>Technical data</b></p> <p>Liquid:</p> <p>Pumped liquid: Water</p> <p>Liquid temperature range: -20 .. 120 °C</p> <p>Selected liquid temperature: 20 °C</p> <p>Density: 998.2 kg/m<sup>3</sup></p> <p>Technical:</p> <p>Pump speed on which pump data are based: 2899 rpm</p> <p>Rated flow: 10 m<sup>3</sup>/h</p> <p>Rated head: 48.3 m</p> <p>Pump orientation: Vertical</p> <p>Shaft seal arrangement: Single</p> <p>Primary shaft seal: HQQE</p> <p>Code for shaft seal: HQQE</p> <p>Approvals: CE, EAC, UKCA, SEPRO</p> <p>Approvals for drinking water: WRAS, ACS</p> <p>Curve tolerance: ISO9906:2012 3B</p>

Qty.	Description
1	<p>Materials:</p> <p>Base: Cast iron EN 1561 EN-GJL-200 ASTM A48-25B</p> <p>Impeller: Stainless steel EN 1.4301 AISI 304</p> <p>Bearing: SIC</p> <p>Installation:</p> <p>Maximum ambient temperature: 60 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 120 °C 16 bar / -20 °C</p> <p>Type of connection: Oval / Rp Size of inlet connection: 1 1/2 inch Size of outlet connection: 1 1/2 inch Pressure rating for connection: PN 16 Flange size for motor: FT115</p> <p>Electrical data:</p> <p>Motor standard: IEC Motor type: 90LE Rated power - P2: 2.2 kW Power (P2) required by pump: 2.2 kW Mains frequency: 50 Hz Rated voltage: 3 x 220-240D/380-415Y V Rated current: 8.00/4.60 A Starting current: 840-920 % Cos phi - power factor: 0.86-0.80 Rated speed: 2890-2910 rpm IE Efficiency class: IE3 Motor efficiency at full load: 85.9 % Motor efficiency at 3/4 load: 88.2-87.2 % Motor efficiency at 1/2 load: 88.0-85.5 % Number of poles: 2 Enclosure class (IEC 34-5): 55 Dust/Jetting Insulation class (IEC 85): F Motor No: 85U01908</p> <p>Controls:</p> <p>Frequency converter: None</p> <p>Others:</p> <p>Terminal box position: 6 Minimum efficiency index, MEI ≥: 0.70 Net weight: 50 kg Gross weight: 54 kg Shipping volume: 0.104 m³ Danish VVS No.: 385903060 Swedish RSK No.: 5855599 Norwegian NRF no.: 9040462 Country of origin: HU Custom tariff no.: 84137075</p>

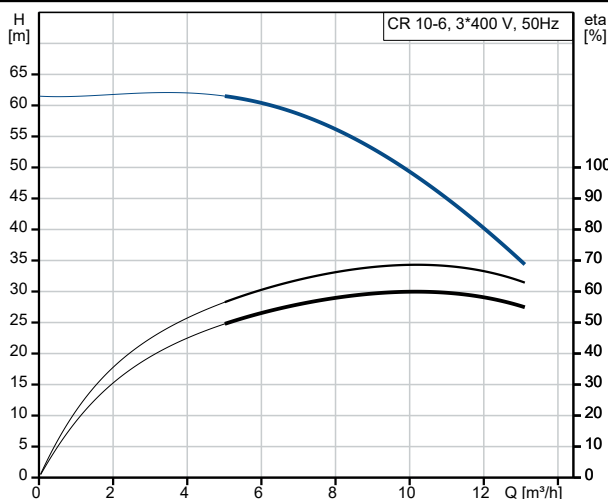
## On request CR 10-6 A-A-A-E-HQQE 50 Hz



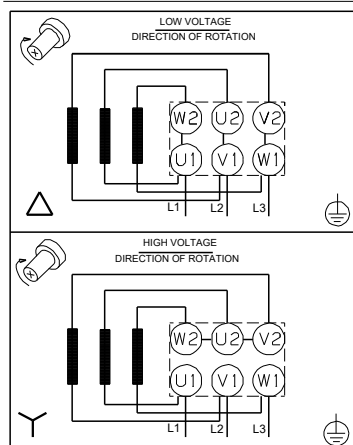
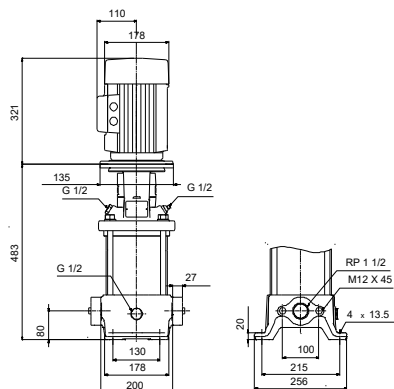
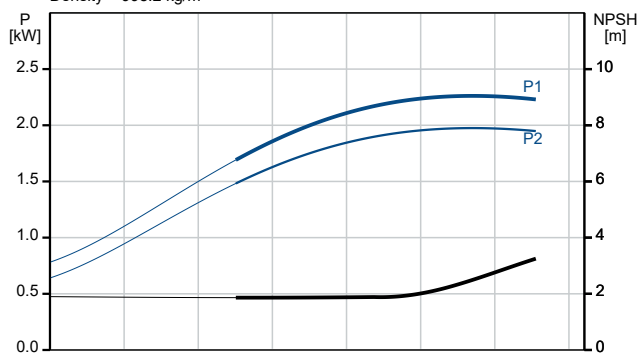
Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m³



Description	Value
<b>General information:</b>	
Product name:	CR 10-6 A-A-A-E-HQQE
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Pump speed on which pump data are based:	2899 rpm
Rated flow:	10 m³/h
Rated head:	48.3 m
Maximum head:	61.2 m
Stages:	6
Impellers:	6
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
<b>Materials:</b>	
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
<b>Installation:</b>	
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 1/2 inch
Size of outlet connection:	1 1/2 inch
Pressure rating for connection:	PN 16
Flange size for motor:	FT115
Connect code:	A
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
<b>Electrical data:</b>	
Motor standard:	IEC
Motor type:	90LE
Rated power - P2:	2.2 kW
Power (P2) required by pump:	2.2 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 220-240D/380-415Y V
Rated current:	8.00/4.60 A



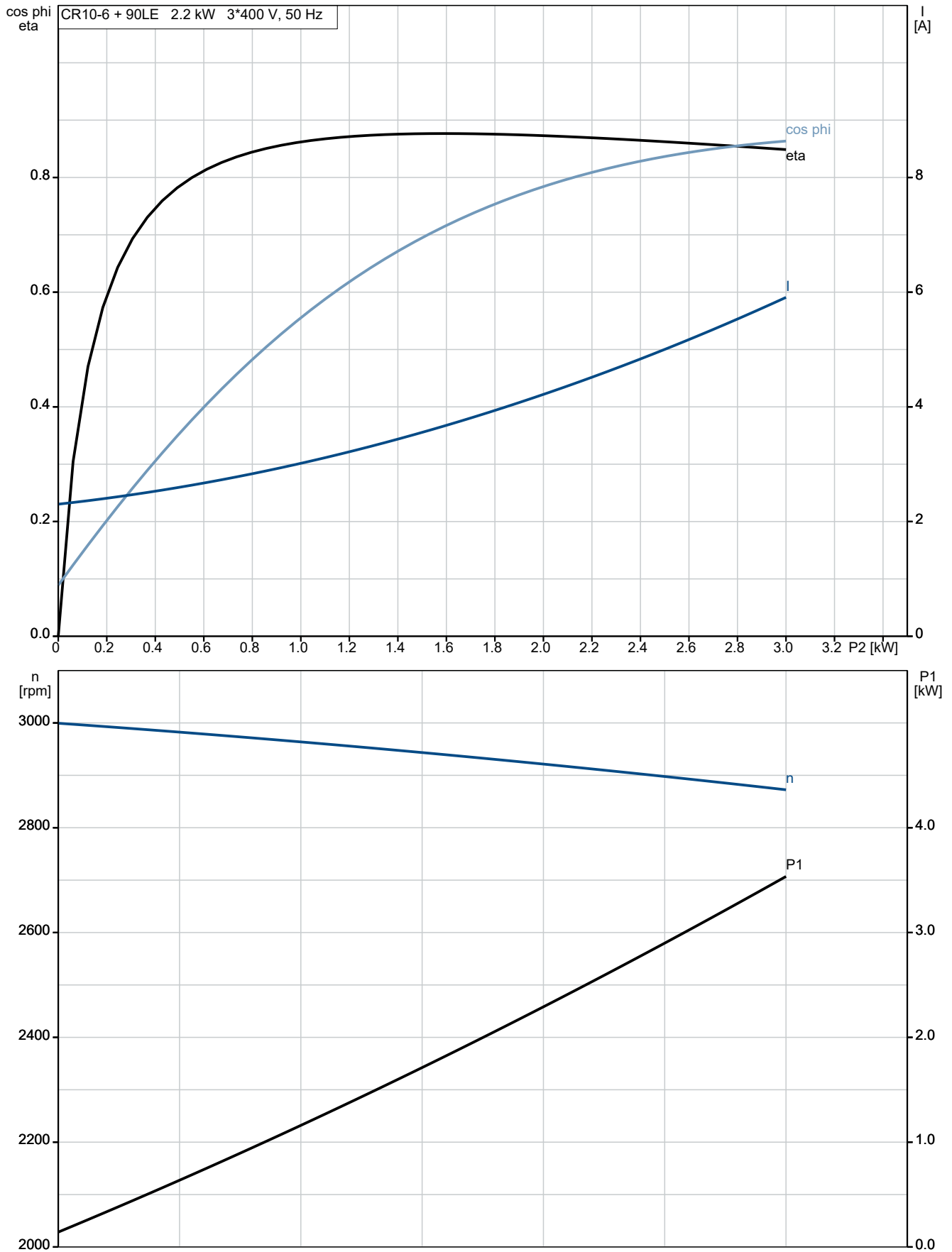
Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m³



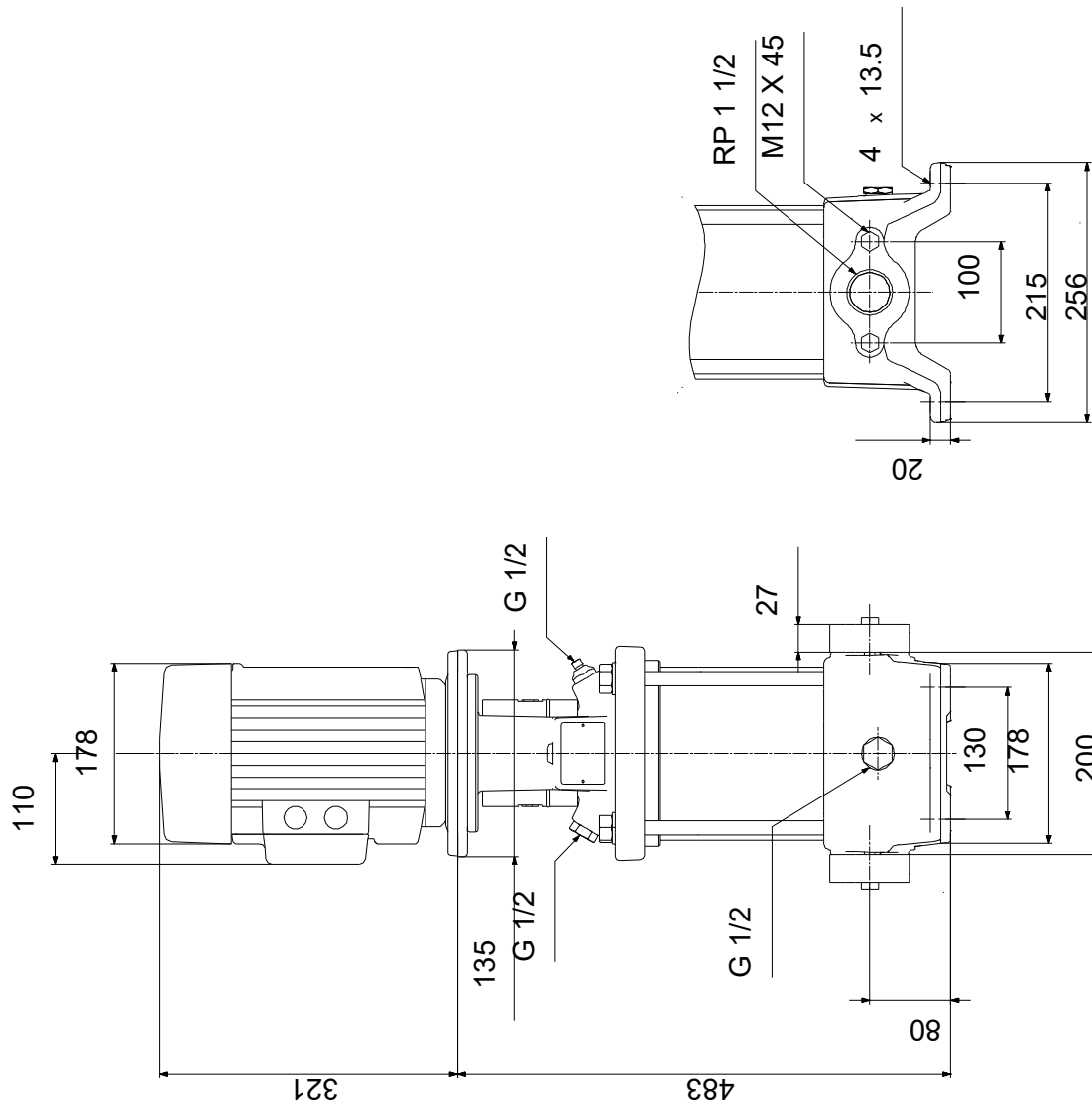
Description	Value
Starting current:	840-920 %
Cos phi - power factor:	0.86-0.80
Rated speed:	2890-2910 rpm
IE Efficiency class:	IE3
Motor efficiency at full load:	85.9 %
Motor efficiency at 3/4 load:	88.2-87.2 %
Motor efficiency at 1/2 load:	88.0-85.5 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	NONE
Motor No:	85U01908
<b>Controls:</b>	
Frequency converter:	None
<b>Others:</b>	
Terminal box position:	6
Minimum efficiency index, MEI ≥:	0.70
Net weight:	50 kg
Gross weight:	54 kg
Shipping volume:	0.104 m³
Danish VVS No.:	385903060
Swedish RSK No.:	5855599
Norwegian NRF no.:	9040462
Country of origin:	HU
Custom tariff no.:	84137075



## On request CR 10-6 A-A-A-E-HQQE 50 Hz

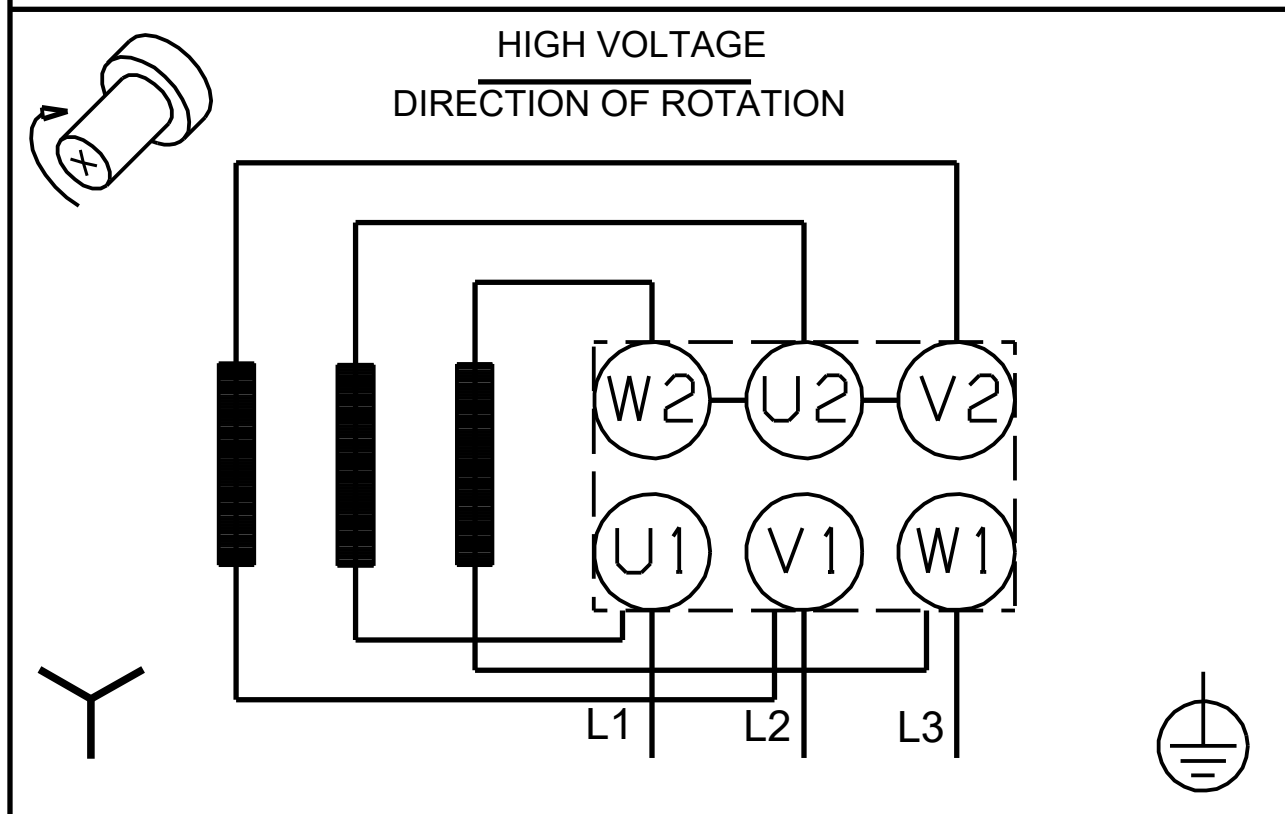
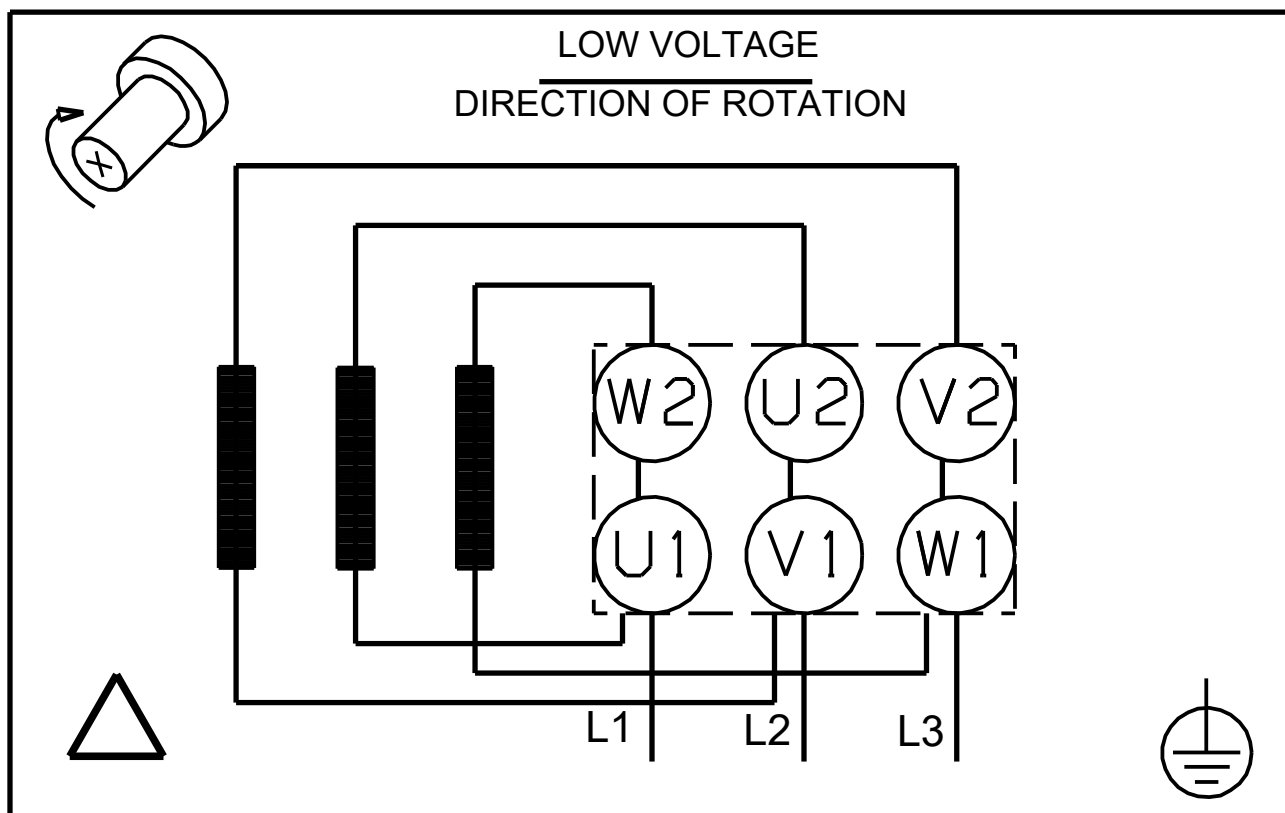


## On request CR 10-6 A-A-A-E-HQQE 50 Hz

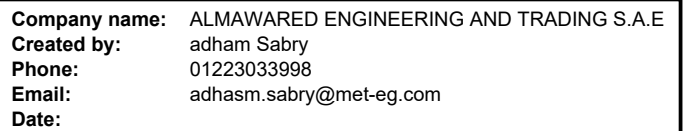


Note! All units are in [mm] unless others are stated.  
 Disclaimer: This simplified dimensional drawing does not show all details.

**On request CR 10-6 A-A-A-E-HQQE 50 Hz**



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



Position	Your pos.	Product name	Amount	Product No	Total
		CR 10-6 A-A-A-E-HQQE	1	On request	