

Submittal Data

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

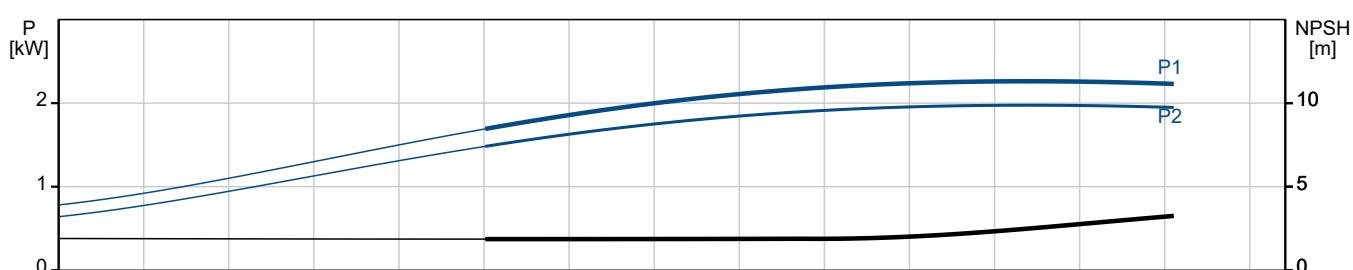
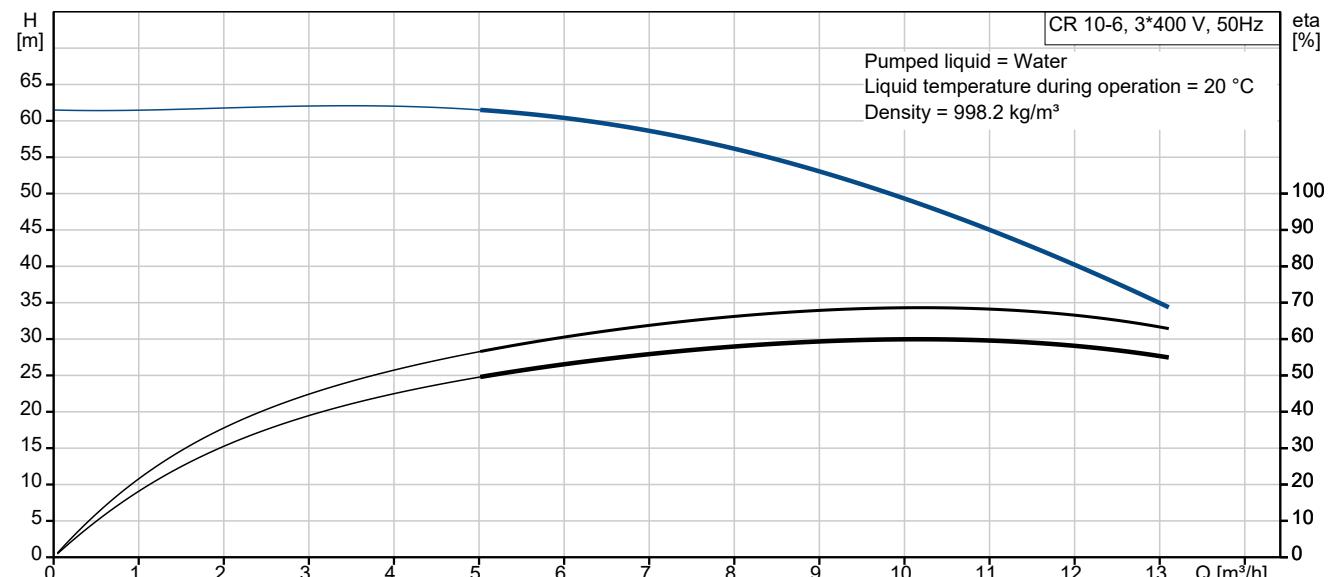


Note! Product picture may differ from actual product

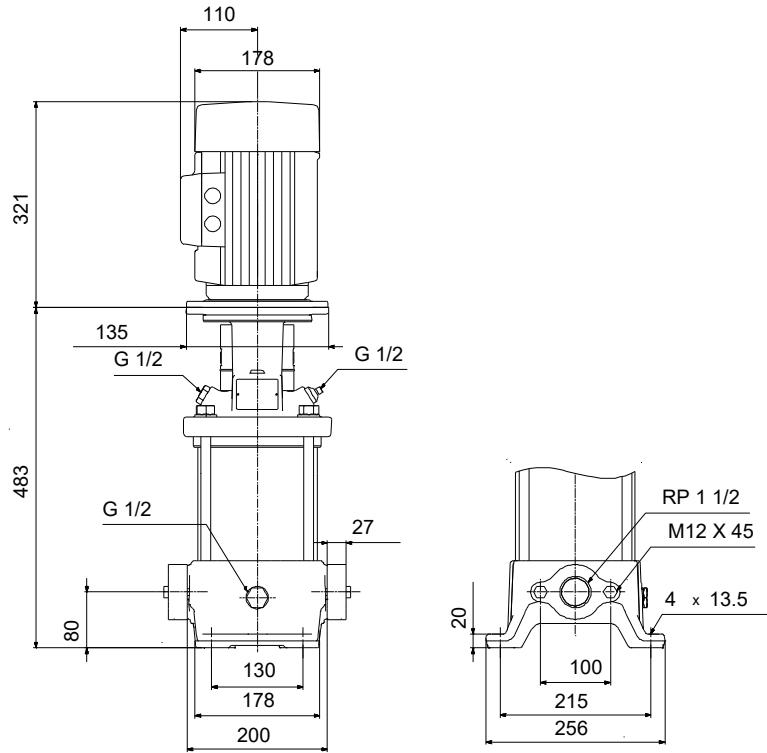
CR 10-6 A-A-A-E-HQQE

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)

Conditions of Service		Pump Data		Motor Data	
Liquid:	Water	Max pressure at stated temp:	16 bar / 120 °C	Rated power - P2:	2.2 kW
Temperature:	20 °C	Liquid temperature range:	-20 .. 120 °C	Rated voltage:	220-240D/380-415Y V
Specific Gravity:	1.000	Maximum ambient temperature:	60 °C	Mains frequency:	50 Hz
		Shaft seal:	HQQE	Enclosure class:	55 Dust/Jetting
		Product number:	On request	Insulation class:	F
				Motor protection:	NONE
				Motor type:	90LE
				Eta 1/1:	85.9 %



Submittal Data



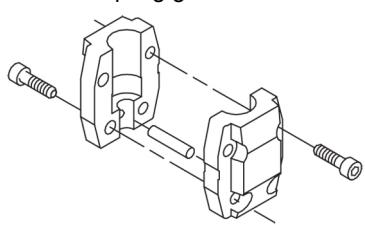
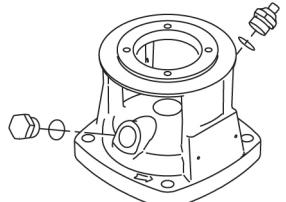
Materials:

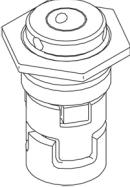
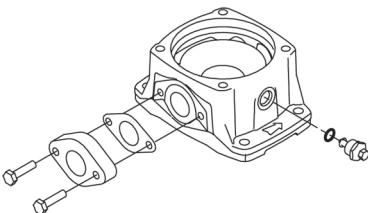
Base: Cast iron
EN 1561 EN-GJL-200
ASTM A48-25B

Impeller: Stainless steel
AISI 304
EN 1.4301

Material code: A

Code for rubber: E

Qty.	Description
1	<p>CR 10-6 A-A-A-E-HQQE</p>  <p>Note! Product picture may differ from actual product</p> <p>Product No.: On request</p> <p>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.</p> <p>The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p>Further product details</p> <p>Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process.</p> <p>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.</p> <p>An integral part of the process is a pretreatment.</p> <p>The entire process consists of these elements:</p> <ol style="list-style-type: none"> 1) Alkaline-based cleaning. 2) Zinc phosphating. 3) Cathodic electro-deposition. 4) Curing to a dry film thickness 18-22 my m. <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p>Pump</p> <p>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.</p>  <p>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.</p>  <p>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.</p> <p>Seal faces:</p>

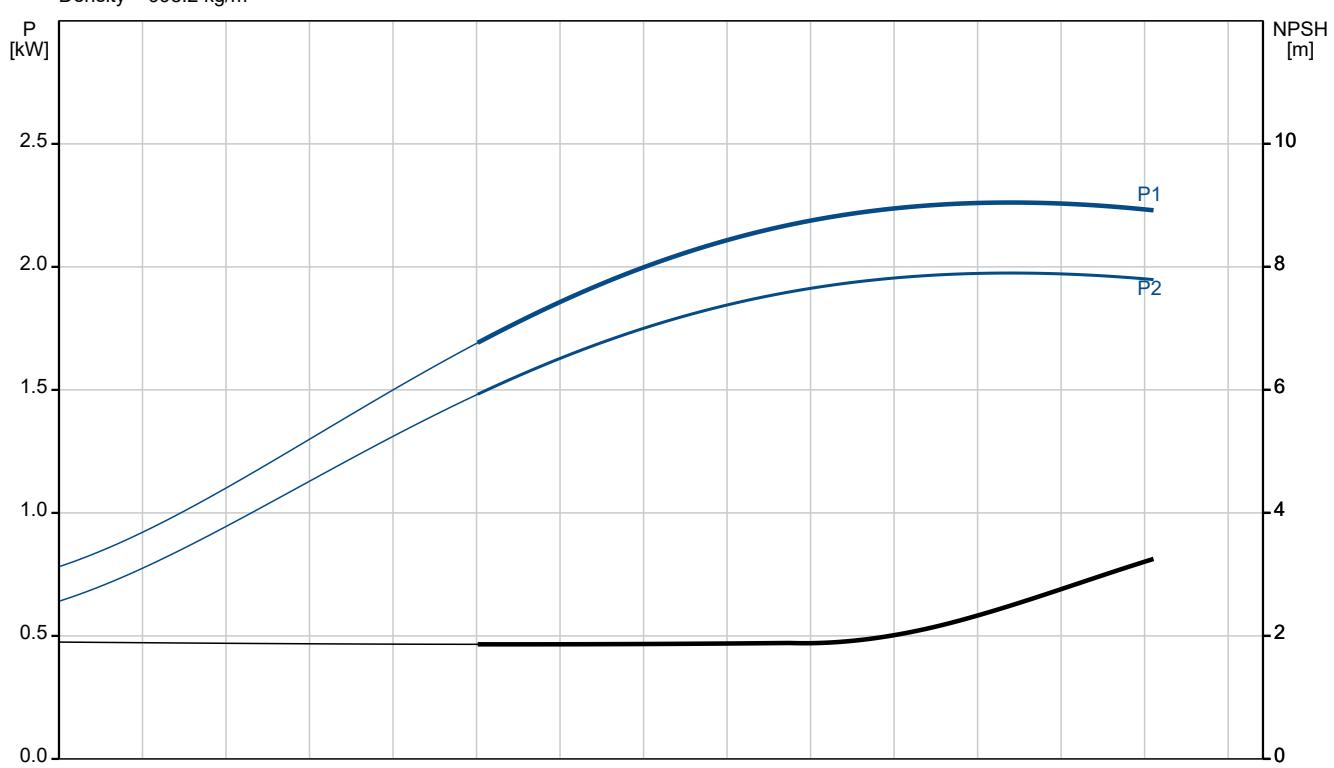
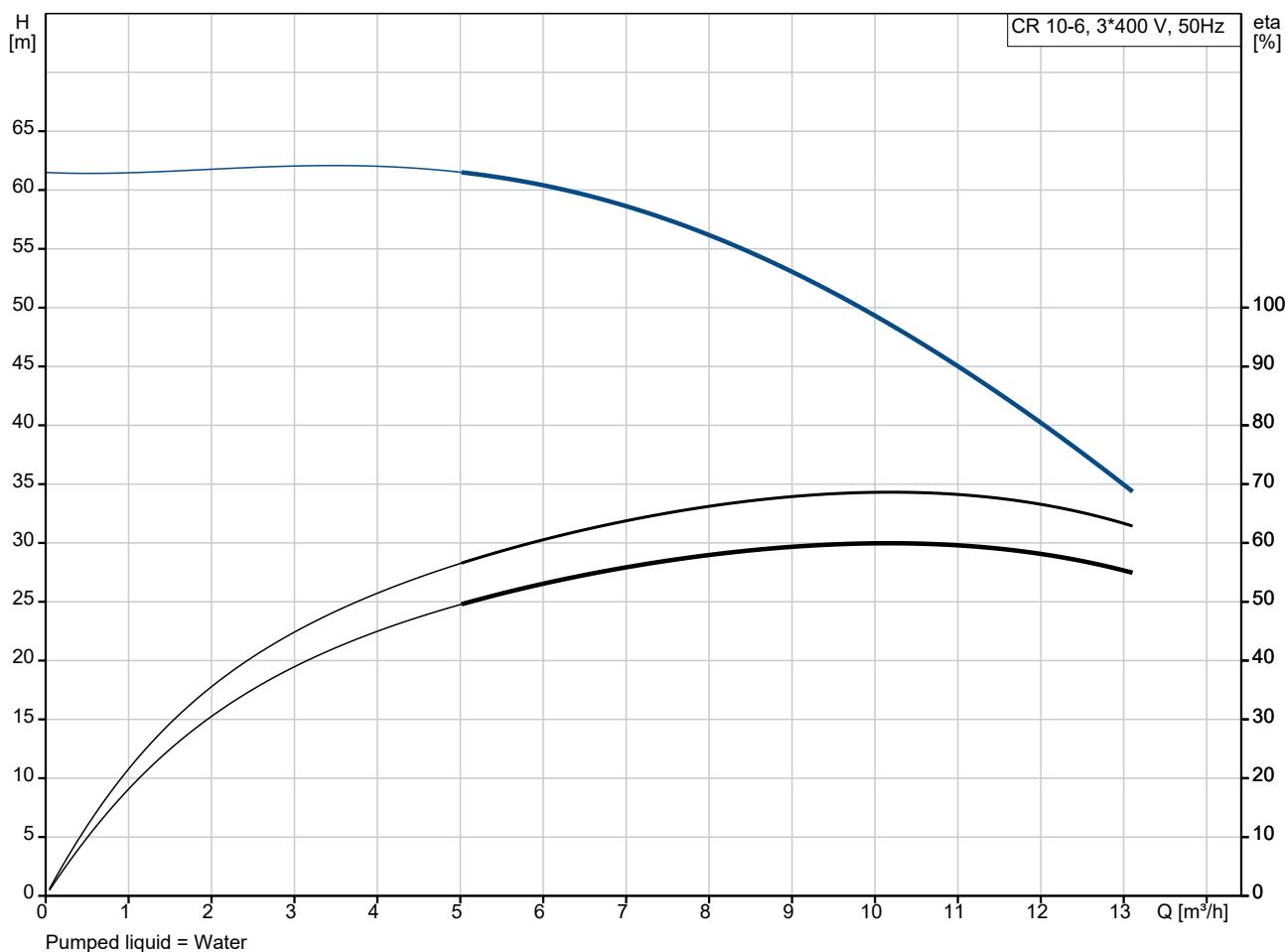
Qty.	Description																												
1	<ul style="list-style-type: none"> • Rotating seal ring material: silicon carbide (SiC) • Stationary seat material: silicon carbide (SiC) <p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber) 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>  <h3>Motor</h3> <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 (I1/1).</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> <h3>Technical data</h3> <p>Liquid:</p> <table> <tbody> <tr> <td>Pumped liquid:</td> <td>Water</td> </tr> <tr> <td>Liquid temperature range:</td> <td>-20 .. 120 °C</td> </tr> <tr> <td>Selected liquid temperature:</td> <td>20 °C</td> </tr> <tr> <td>Density:</td> <td>998.2 kg/m³</td> </tr> </tbody> </table> <p>Technical:</p> <table> <tbody> <tr> <td>Pump speed on which pump data are based:</td> <td>2899 rpm</td> </tr> <tr> <td>Rated flow:</td> <td>10 m³/h</td> </tr> <tr> <td>Rated head:</td> <td>48.3 m</td> </tr> <tr> <td>Pump orientation:</td> <td>Vertical</td> </tr> <tr> <td>Shaft seal arrangement:</td> <td>Single</td> </tr> <tr> <td>Primary shaft seal:</td> <td>HQQE</td> </tr> <tr> <td>Code for shaft seal:</td> <td>HQQE</td> </tr> <tr> <td>Approvals:</td> <td>CE,EAC,UKCA,SEPRO</td> </tr> <tr> <td>Approvals for drinking water:</td> <td>WRAS,ACS</td> </tr> <tr> <td>Curve tolerance:</td> <td>ISO9906:2012 3B</td> </tr> </tbody> </table>	Pumped liquid:	Water	Liquid temperature range:	-20 .. 120 °C	Selected liquid temperature:	20 °C	Density:	998.2 kg/m³	Pump speed on which pump data are based:	2899 rpm	Rated flow:	10 m³/h	Rated head:	48.3 m	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
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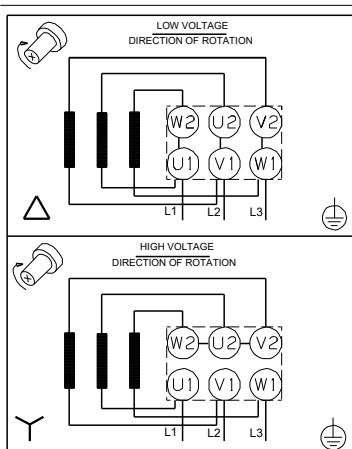
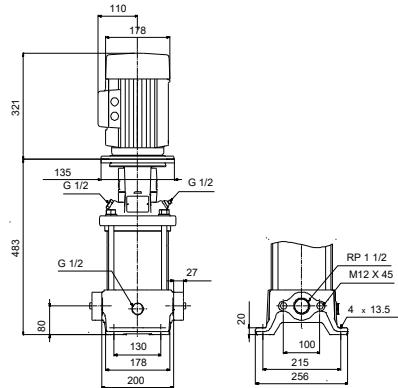
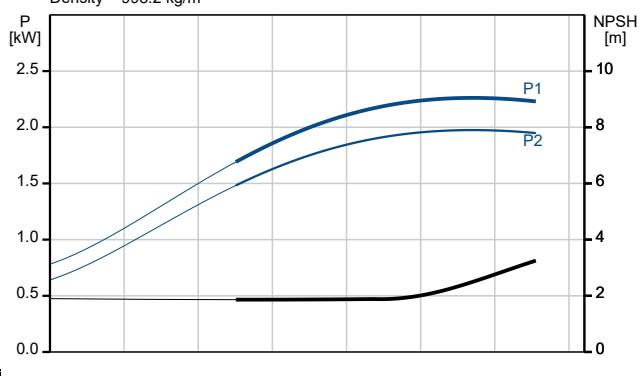
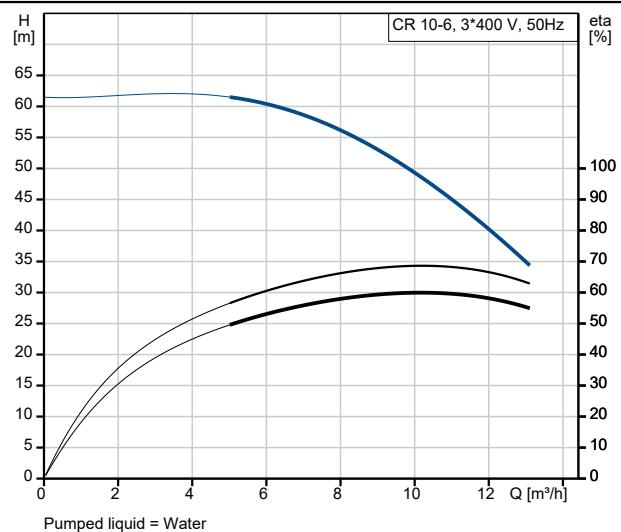
Company name: ALMAWARED ENGINEERING AND TRADING S.A.E
Created by: adham Sabry
Phone: 01223033998
Email: adhasm.sabry@met-eg.com
Date:

Qty.	Description
1	<p>Materials: 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: 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: 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: Frequency converter: None</p> <p>Others: 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



Description	Value
General information:	
Product name:	CR 10-6 A-A-E-HQQE
Product No:	On request
EAN number:	On request
Technical:	
Pump speed on which pump data are based:	2899 rpm
Rated flow:	10 m ³ /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
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 1/2 inch
Size of outlet connection:	1 1/2 inch
Pressure rating for connection:	PN 16
Flange size for motor:	FT115
Connect code:	A
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m ³
Electrical data:	
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

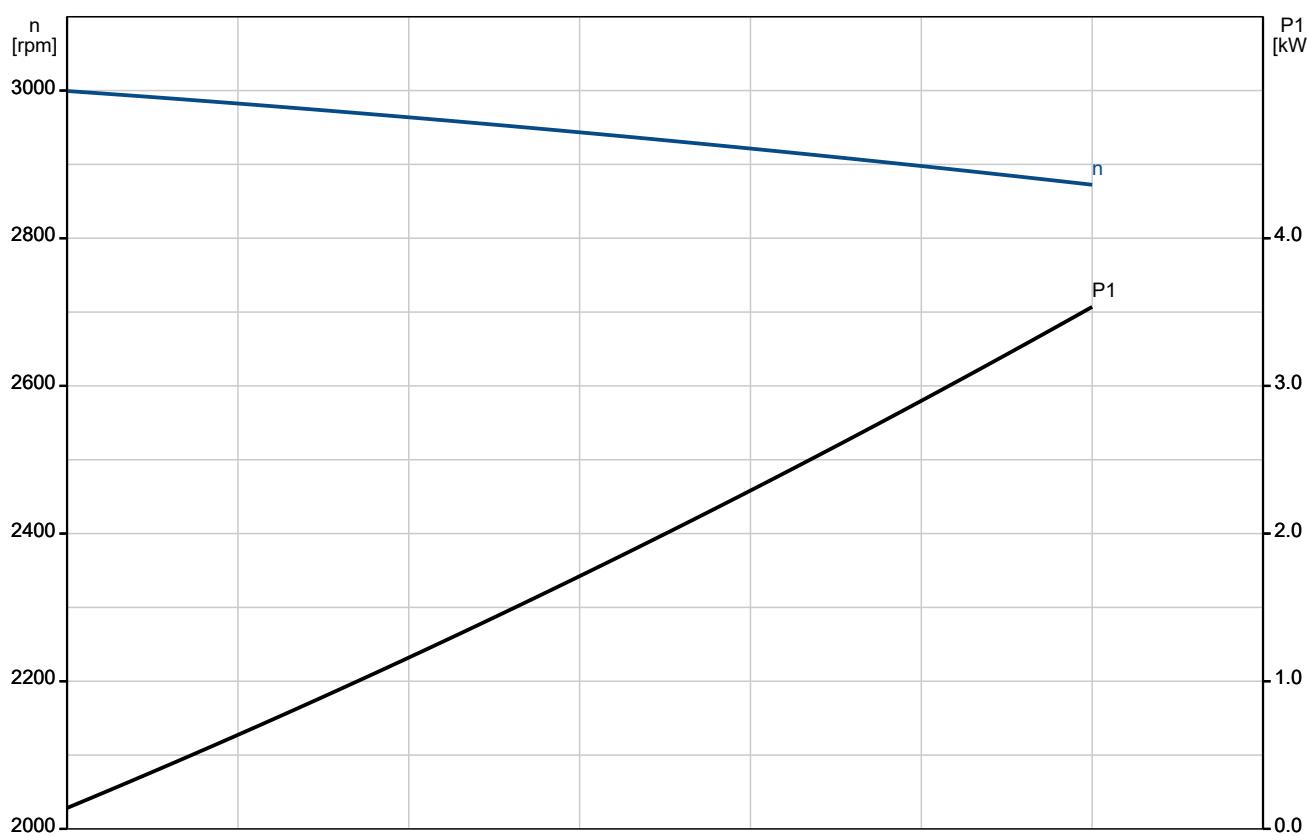
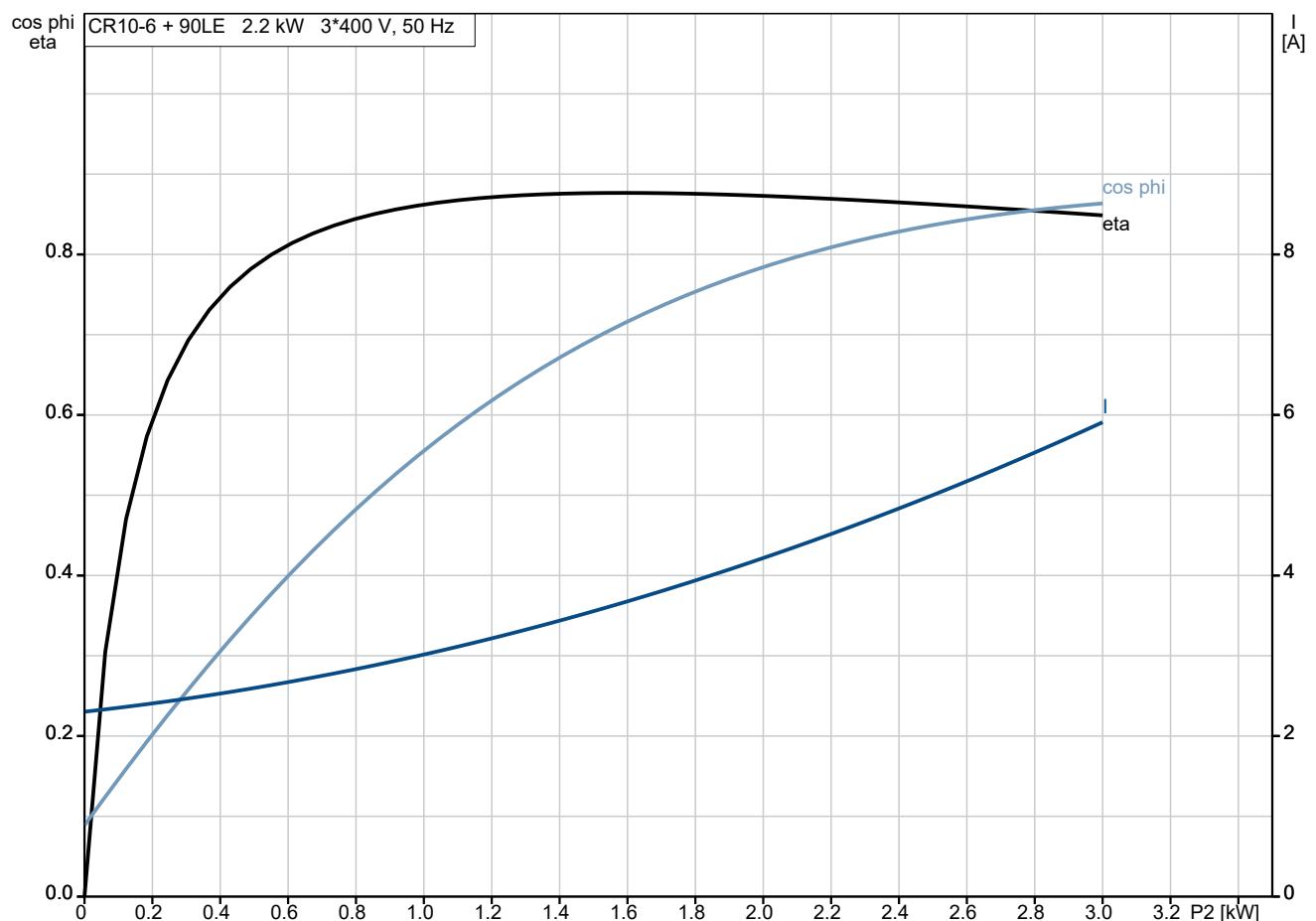


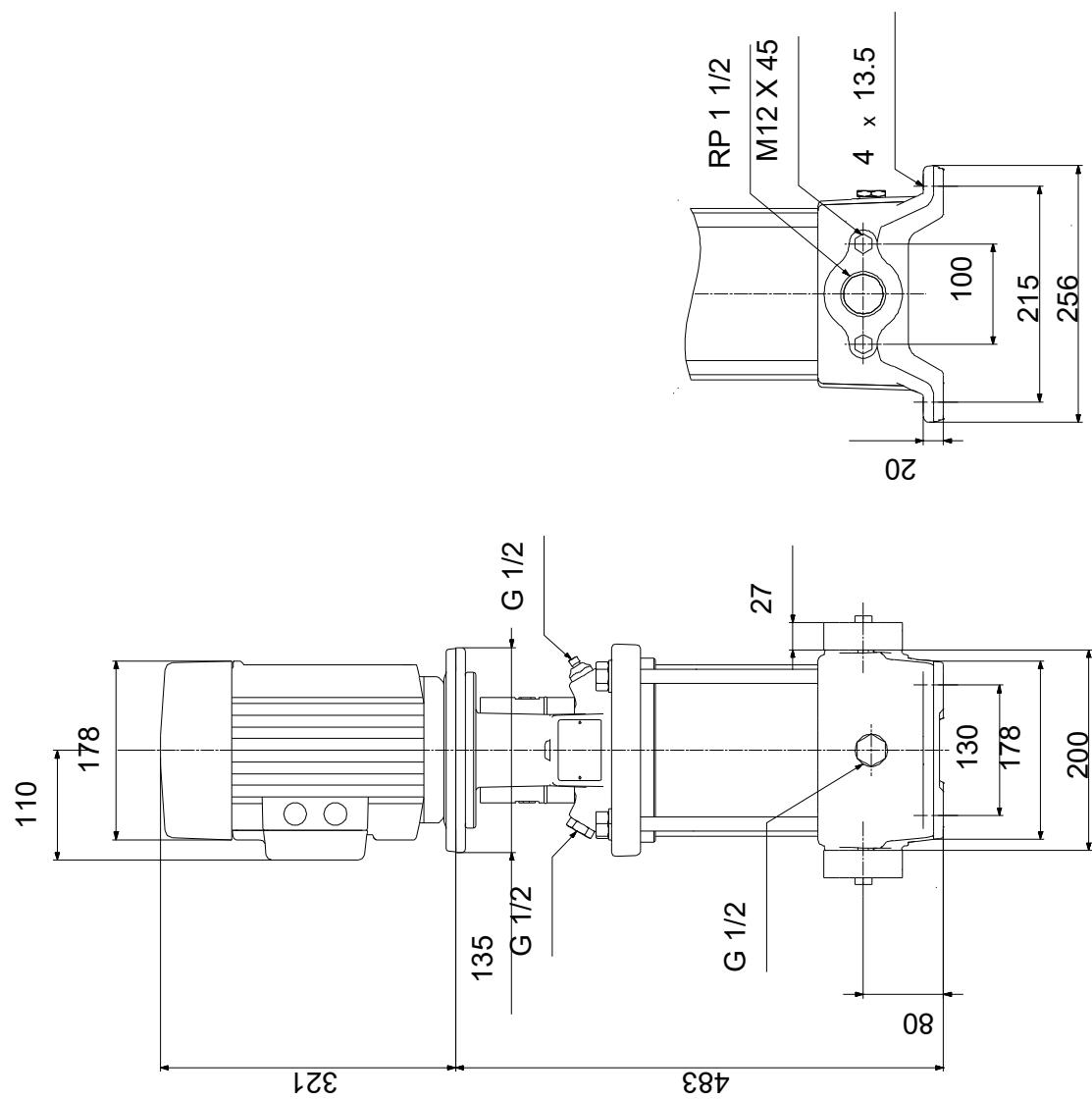


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Date:

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
Controls:	
Frequency converter:	None
Others:	
Terminal box position:	6
Minimum efficiency index, MEI ≥:	0.70
Net weight:	50 kg
Gross weight:	54 kg
Shipping volume:	0.104 m ³
Danish VVS No.:	385903060
Swedish RSK No.:	5855599
Norwegian NRF no.:	9040462
Country of origin:	HU
Custom tariff no.:	84137075

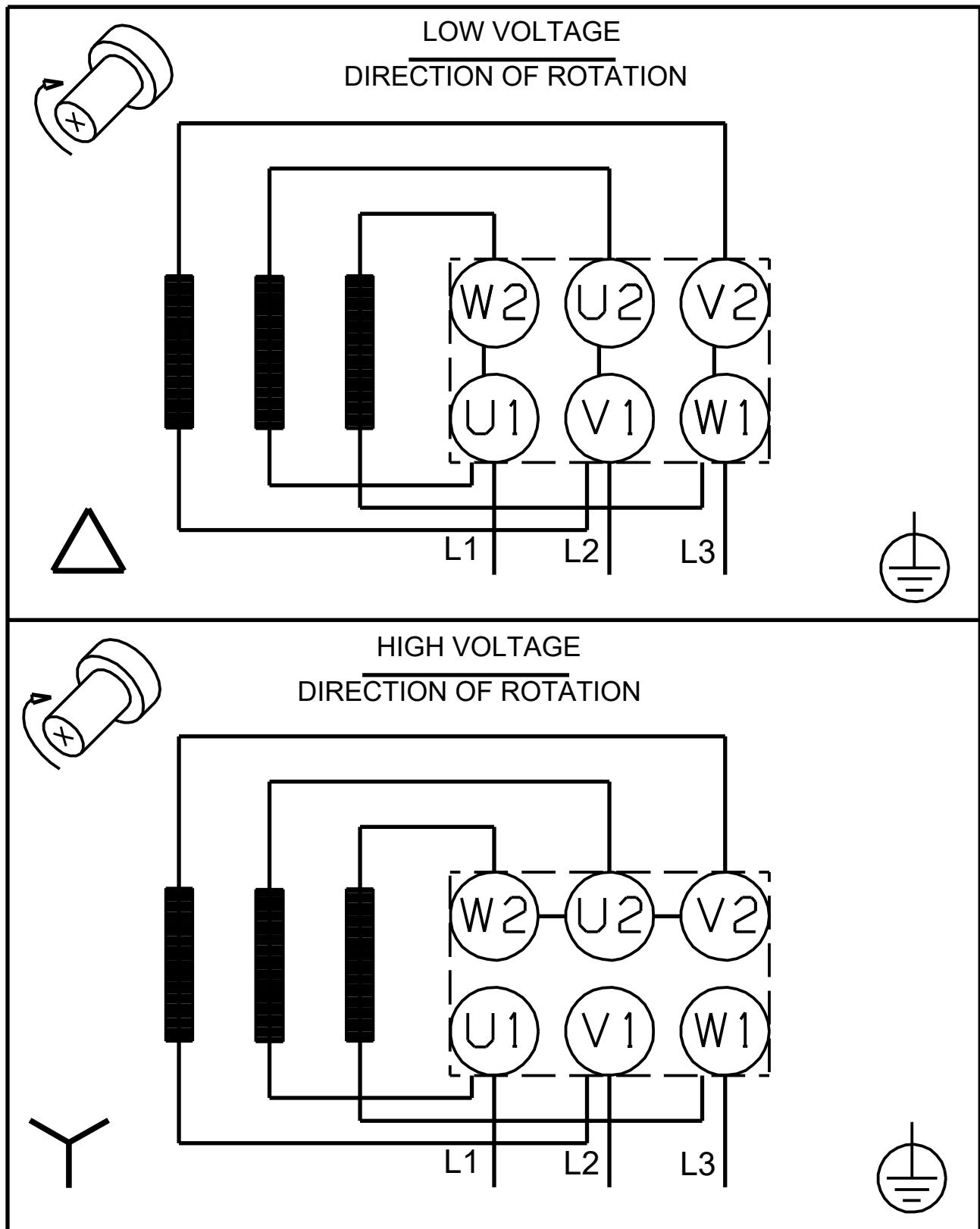
On request CR 10-6 A-A-A-E-HQQE 50 Hz



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



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