

# Submittal Data

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

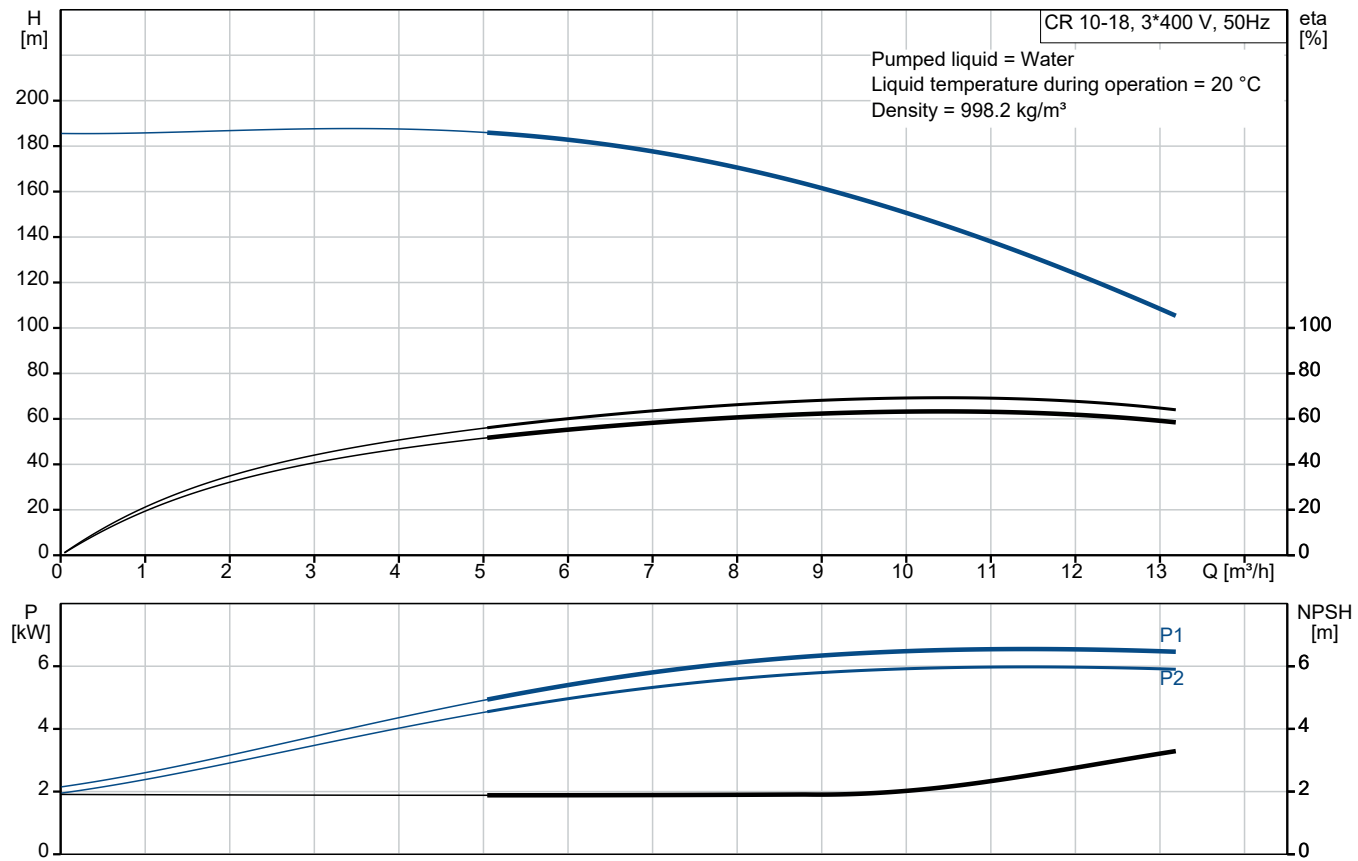


## CR 10-18 A-FJ-A-E-HQQE

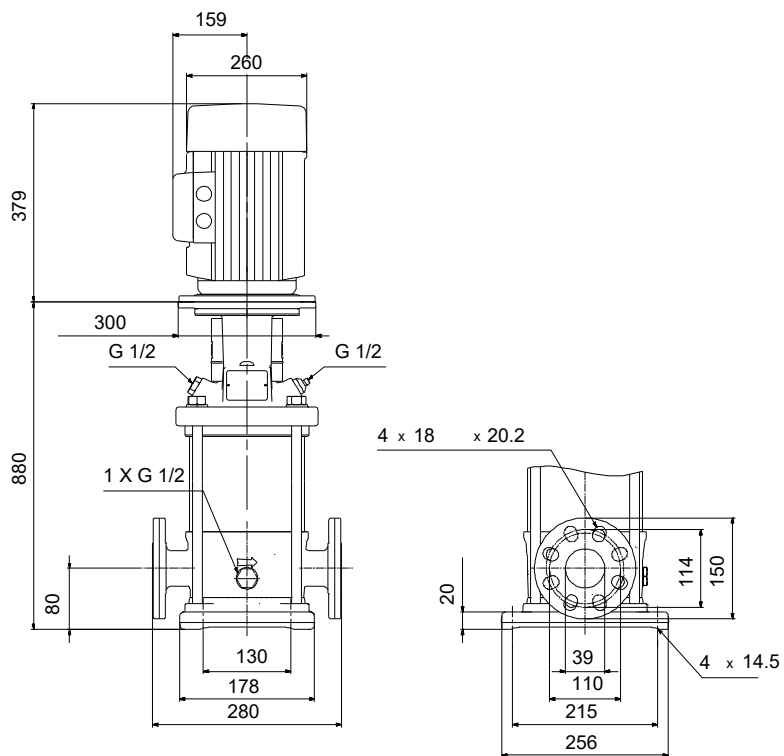
Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron - all other wetted parts are in stainless steel (EN 1.4301)

Note! Product picture may differ from actual product

Conditions of Service	Pump Data	Motor Data
Liquid: Water	Max pressure at stated temp: 25 bar / 120 °C	Rated power - P2: 7.5 kW
Temperature: 20 °C	Liquid temperature range: -20 .. 120 °C	Rated voltage: 380-415D/660-690Y 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: PTC
		Motor type: 132SB
		Eta 1/1: 90.1-90.4 %


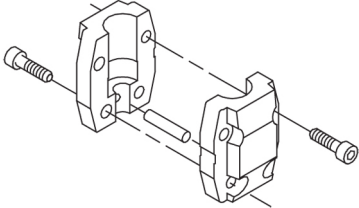
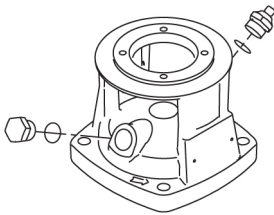


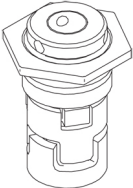
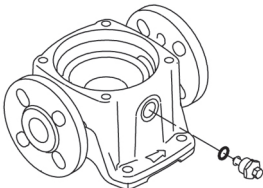
## Submittal Data



### 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><b>CR 10-18 A-FJ-A-E-HQQE</b></p>  <p><b>Note! Product picture may differ from actual product</b></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. Pipe connection is via combined DIN-JIS flanges.</p> <p>The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p><b>Further product details</b></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"> <li>1) Alkaline-based cleaning.</li> <li>2) Zinc phosphating.</li> <li>3) Cathodic electro-deposition.</li> <li>4) Curing to a dry film thickness 18-22 my m.</li> </ol> <p>The colour code for the finished product is NCS 9000/RAL 9005.</p> <p><b>Pump</b></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.</p>

Qty.	Description
1	<p>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> <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 flanges and base are cast in one piece. 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 free-hole flange (FF).</p> <p>Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (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 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.</p> <p>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.</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/m³</p> <p>Technical:</p> <p>Pump speed on which pump data are based: 2919 rpm</p> <p>Rated flow: 10 m³/h</p> <p>Rated head: 149.4 m</p> <p>Pump orientation: Vertical</p> <p>Shaft seal arrangement: Single</p> <p>Primary shaft seal: HQQE</p>

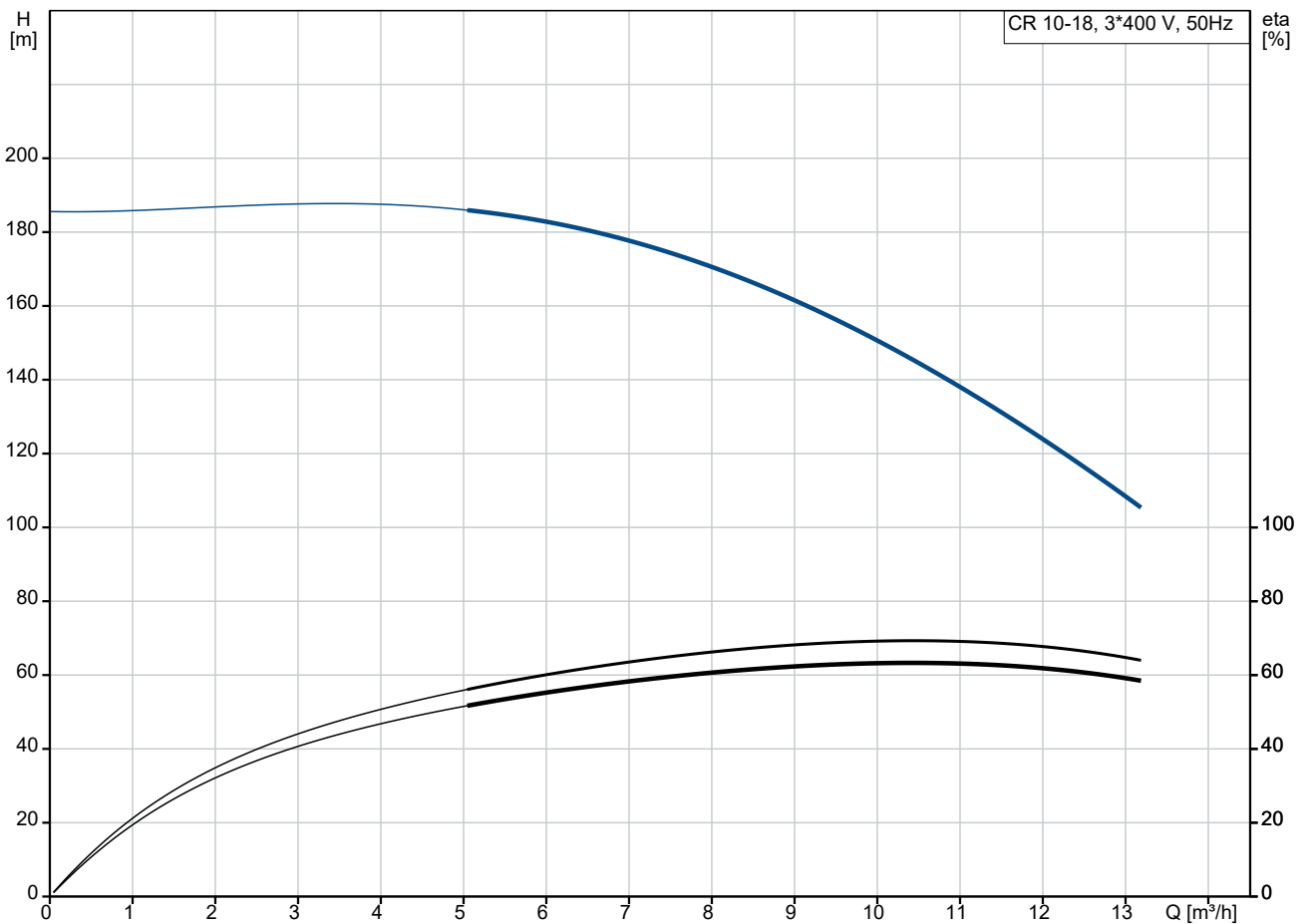
Qty.	Description
1	<p>Code for shaft seal: HQQE</p> <p>Approvals: CE,EAC,UKCA,SEPRO</p> <p>Approvals for drinking water: WRAS,ACS</p> <p>Curve tolerance: ISO9906:2012 3B</p> <p>Materials:</p> <p>Base: Cast iron EN 1561 EN-GJL-200 ASTM A48-25B</p> <p>Impeller: Stainless steel EN 1.4301 AISI 304</p> <p>Bearing: SIC</p> <p>Installation:</p> <p>Maximum ambient temperature: 60 °C</p> <p>Maximum operating pressure: 25 bar</p> <p>Max pressure at stated temp: 25 bar / 120 °C 25 bar / -20 °C</p> <p>Type of connection: DIN / JIS</p> <p>Size of inlet connection: DN 40 1 1/2 inch</p> <p>Size of outlet connection: DN 40</p> <p>Pressure rating for connection: PN 25</p> <p>Flange rating inlet: 300 lb</p> <p>Flange size for motor: FF265</p> <p>Electrical data:</p> <p>Motor standard: IEC</p> <p>Motor type: 132SB</p> <p>Rated power - P2: 7.5 kW</p> <p>Power (P2) required by pump: 7.5 kW</p> <p>Mains frequency: 50 Hz</p> <p>Rated voltage: 3 x 380-415D/660-690Y V</p> <p>Rated current: 14,4-14,0/8,30-8,10 A</p> <p>Starting current: 780-910 %</p> <p>Cos phi - power factor: 0.88-0.82</p> <p>Rated speed: 2910-2920 rpm</p> <p>IE Efficiency class: IE3</p> <p>Motor efficiency at full load: 90.1-90.4 %</p> <p>Motor efficiency at 3/4 load: 90.8-90.9 %</p> <p>Motor efficiency at 1/2 load: 90.8-90.4 %</p> <p>Number of poles: 2</p> <p>Enclosure class (IEC 34-5): 55 Dust/Jetting</p> <p>Insulation class (IEC 85): F</p> <p>Motor No: 85U17522</p> <p>Controls:</p> <p>Frequency converter: None</p> <p>Others:</p> <p>Terminal box position: 6</p> <p>Minimum efficiency index, MEI ≥: 0.70</p> <p>Net weight: 109 kg</p> <p>Gross weight: 131 kg</p> <p>Shipping volume: 0.321 m³</p> <p>Danish VVS No.: 385903180</p> <p>Swedish RSK No.: 5823469</p> <p>Finnish LVI No.: 4925428</p>



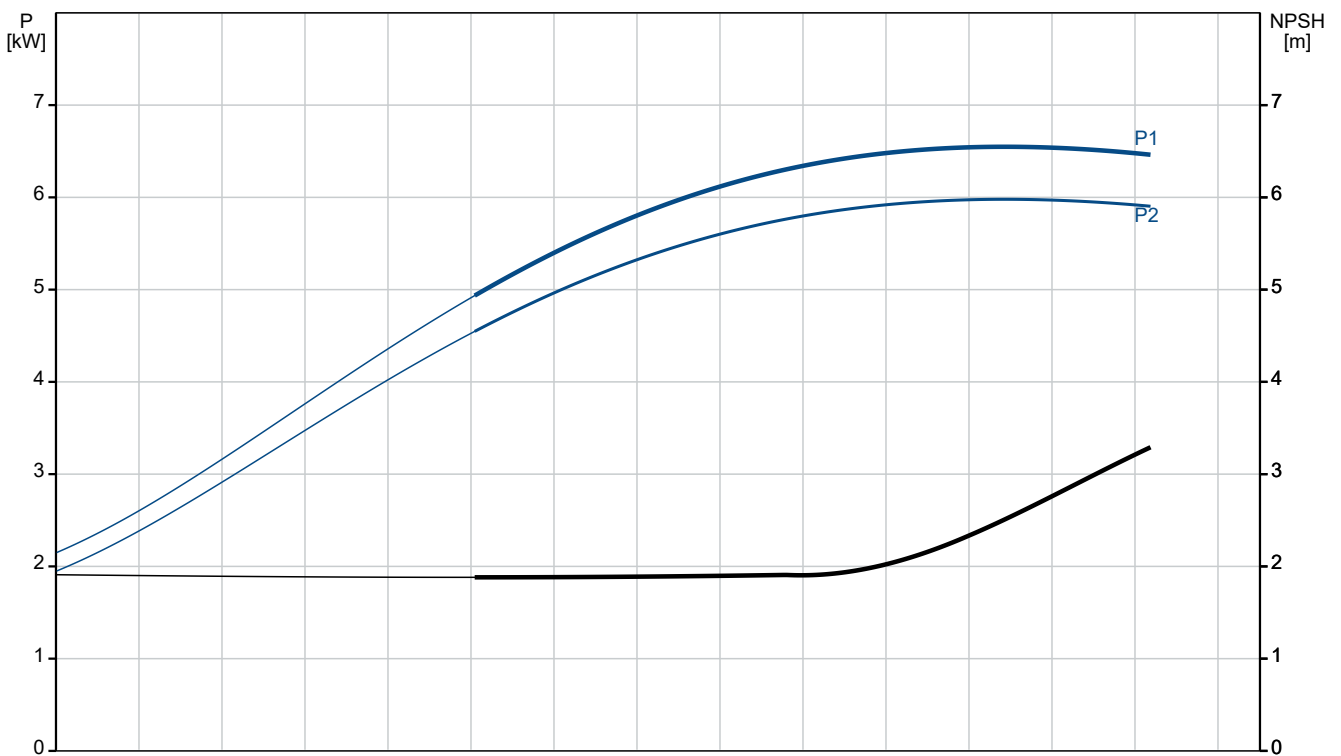
**Company name:** ALMAWARED ENGINEERING AND TRADING S.A.E  
**Created by:** adham Sabry  
**Phone:** 01223033998  
**Email:** adhasm.sabry@met-eg.com  
**Date:**

Qty.	Description
1	Country of origin: DK Custom tariff no.: 84137075

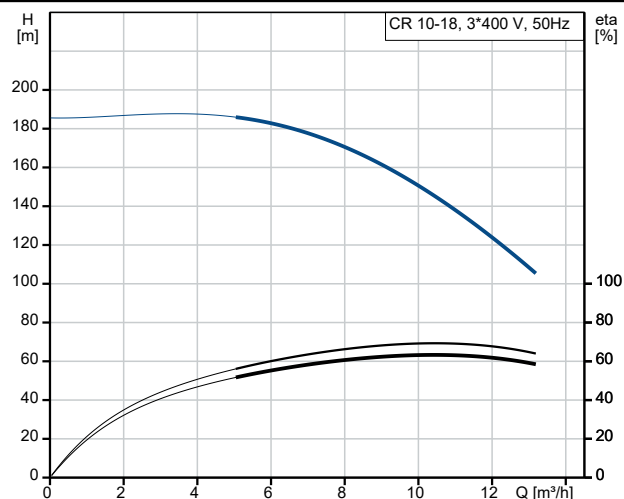
## On request CR 10-18 A-FJ-A-E-HQQE 50 Hz



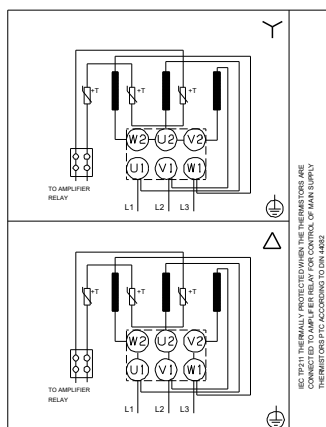
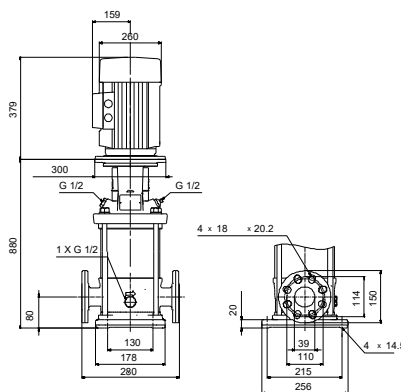
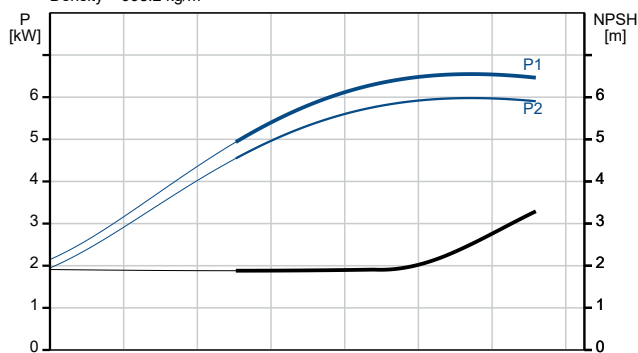
Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m³



Description	Value
<b>General information:</b>	
Product name:	CR 10-18 A-FJ-A-E-HQQE
Product No:	On request
EAN number:	On request
<b>Technical:</b>	
Pump speed on which pump data are based:	2919 rpm
Rated flow:	10 m <sup>3</sup> /h
Rated head:	149.4 m
Maximum head:	185 m
Stages:	18
Impellers:	18
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:	25 bar
Max pressure at stated temp:	25 bar / 120 °C 25 bar / -20 °C
Type of connection:	DIN / JIS
Size of inlet connection:	DN 40 1 1/2 inch
Size of outlet connection:	DN 40
Pressure rating for connection:	PN 25
Flange rating inlet:	300 lb
Flange size for motor:	FF265
Connect code:	FJ
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m <sup>3</sup>
<b>Electrical data:</b>	
Motor standard:	IEC
Motor type:	132SB
Rated power - P2:	7.5 kW
Power (P2) required by pump:	7.5 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V

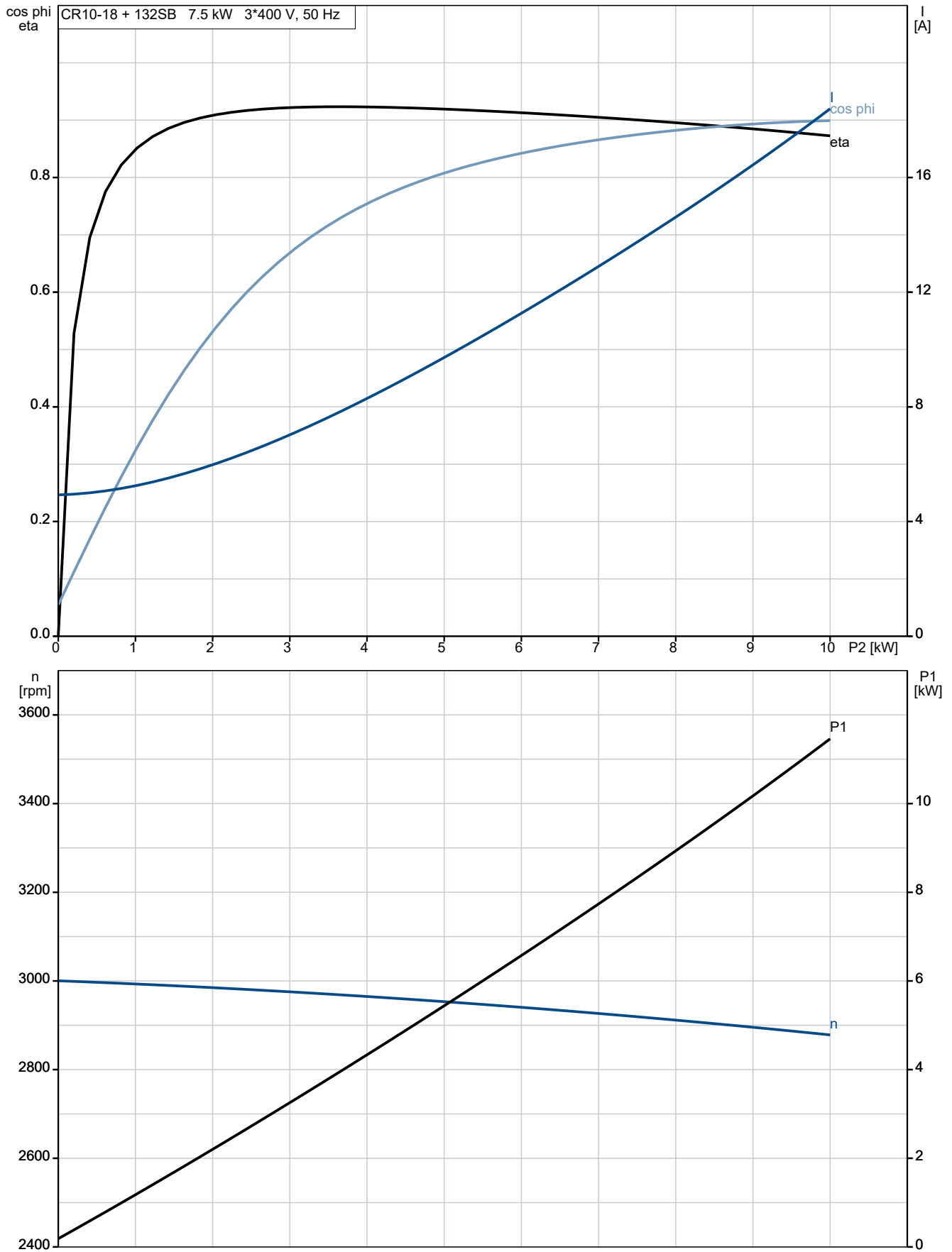


Pumped liquid = Water  
 Liquid temperature during operation = 20 °C  
 Density = 998.2 kg/m<sup>3</sup>

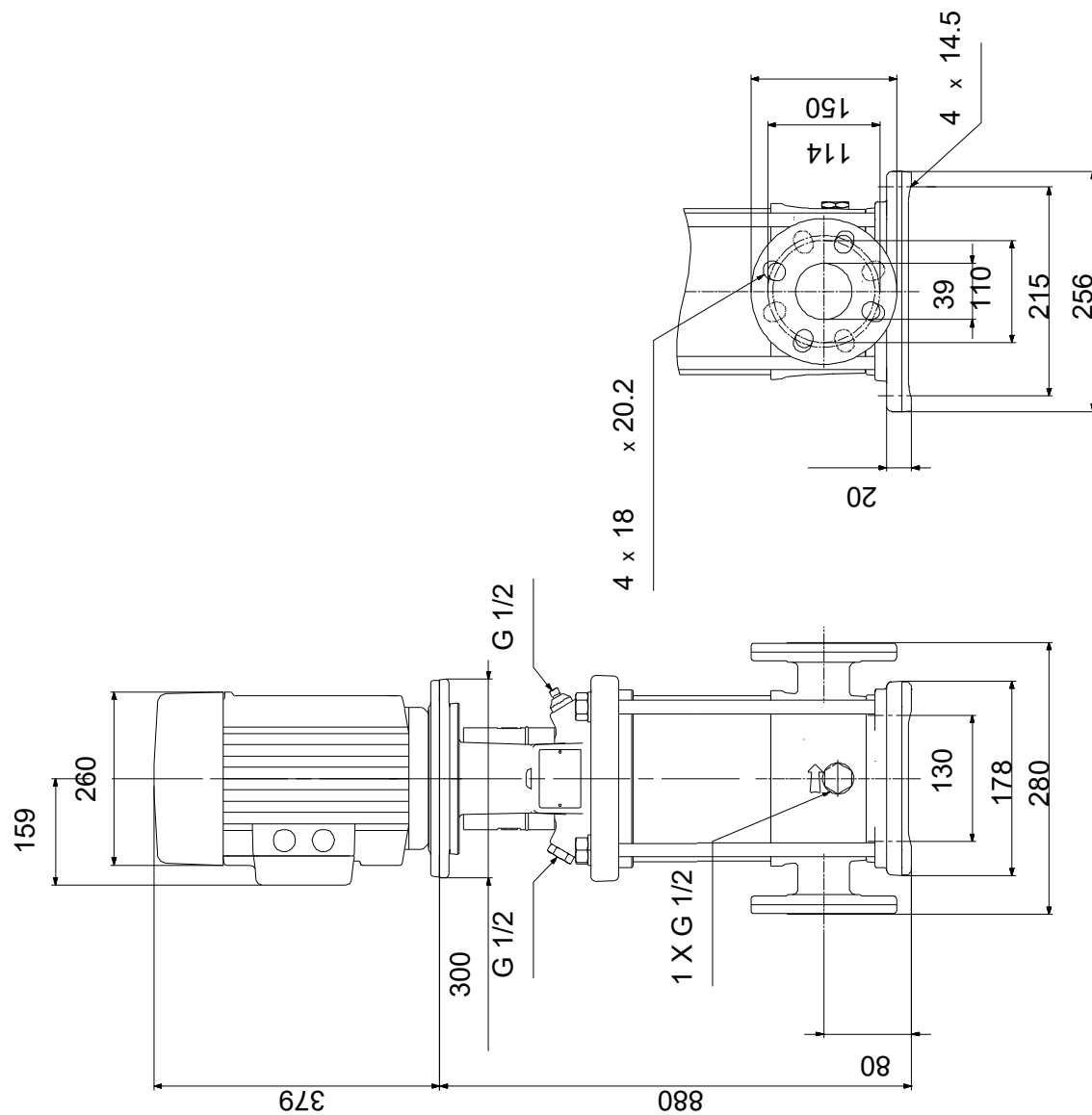


Description	Value
Rated current:	14,4-14,0/8,30-8,10 A
Starting current:	780-910 %
Cos phi - power factor:	0.88-0.82
Rated speed:	2910-2920 rpm
IE Efficiency class:	IE3
Motor efficiency at full load:	90.1-90.4 %
Motor efficiency at 3/4 load:	90.8-90.9 %
Motor efficiency at 1/2 load:	90.8-90.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	<a href="#">85U17522</a>
<b>Controls:</b>	
Frequency converter:	None
<b>Others:</b>	
Terminal box position:	6
Minimum efficiency index, MEI ≥:	0.70
Net weight:	109 kg
Gross weight:	131 kg
Shipping volume:	0.321 m³
Danish VVS No.:	385903180
Swedish RSK No.:	5823469
Finnish LVI No.:	4925428
Country of origin:	DK
Custom tariff no.:	84137075

## On request CR 10-18 A-FJ-A-E-HQQE 50 Hz

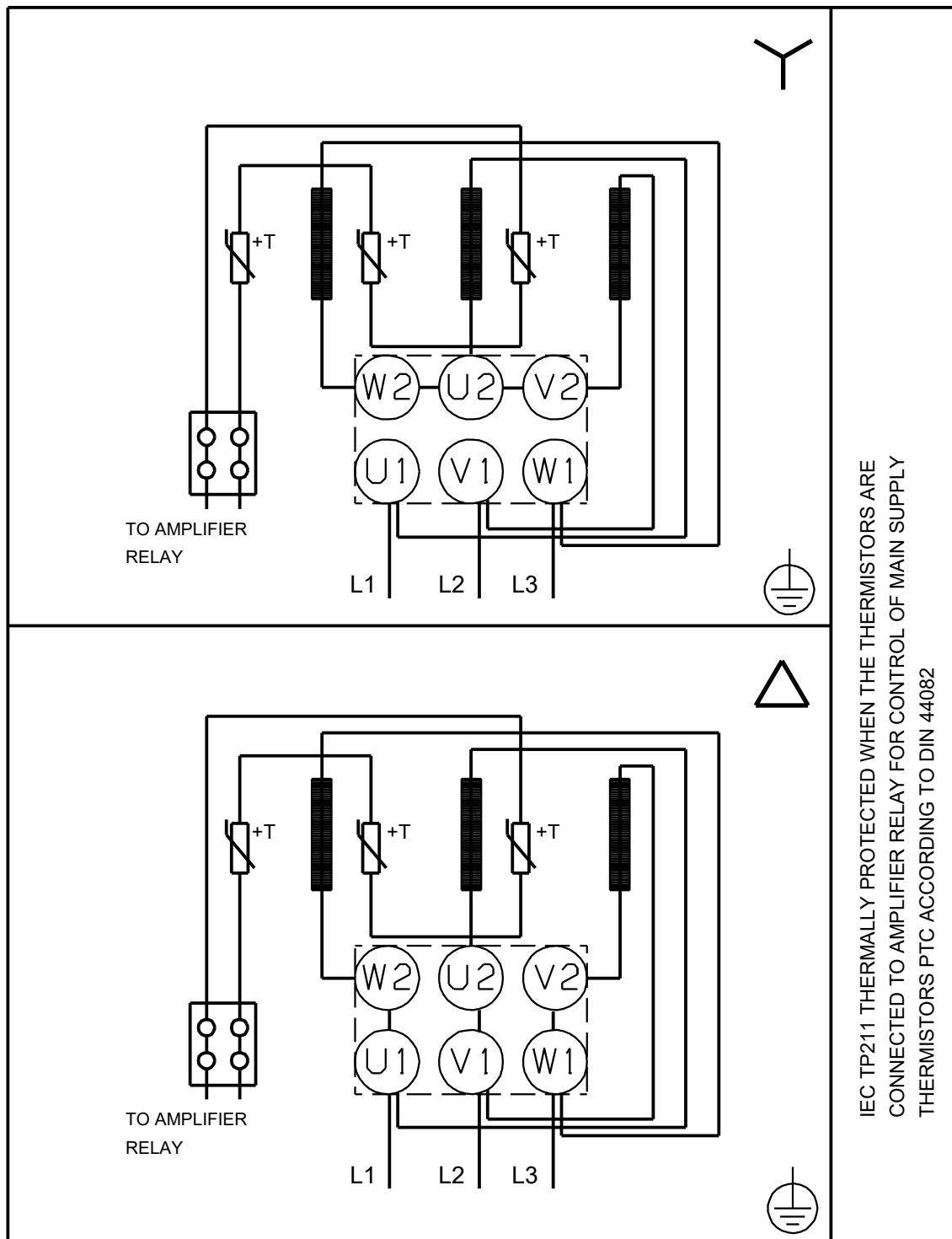


**On request CR 10-18 A-FJ-A-E-HQQE 50 Hz**

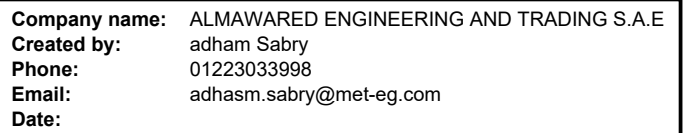


Note! All units are in [mm] unless others are stated.  
Disclaimer: This simplified dimensional drawing does not show all details.

## On request CR 10-18 A-FJ-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 10-18 A-FJ-A-E-HQQE	1	On request	