

**Qty. Description**

1 CR 185-1 A-F-A-V-HQQV



Note! Product picture may differ from actual product

Product No.: [99143724](#)

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. The Grundfos 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.

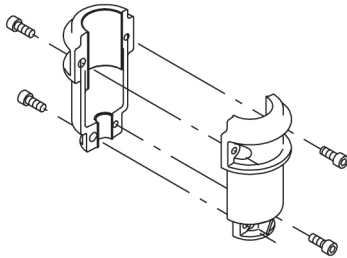
The entire process consists of these elements:

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

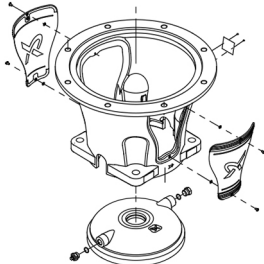
The colour code for the finished product is NCS 9000/RAL 9005.

**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.

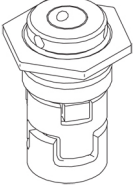
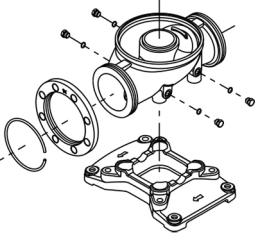


The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.

This seal type is assembled in a cartridge unit which makes replacement safe and easy.

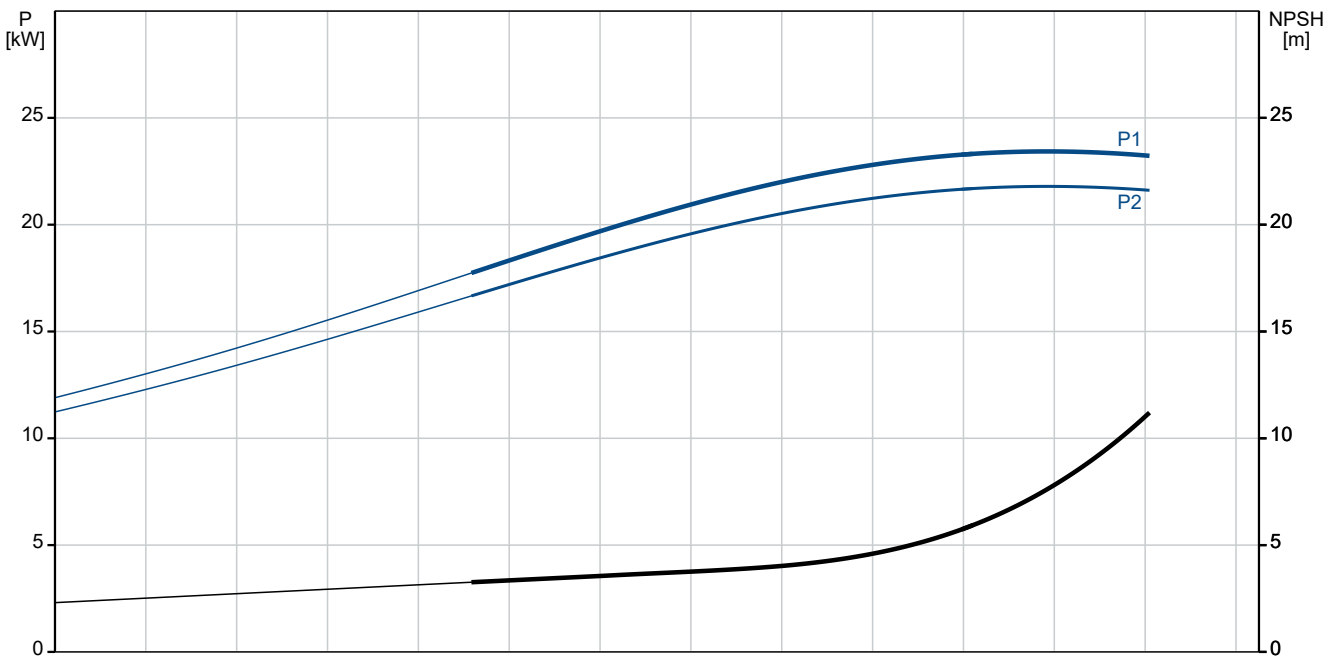
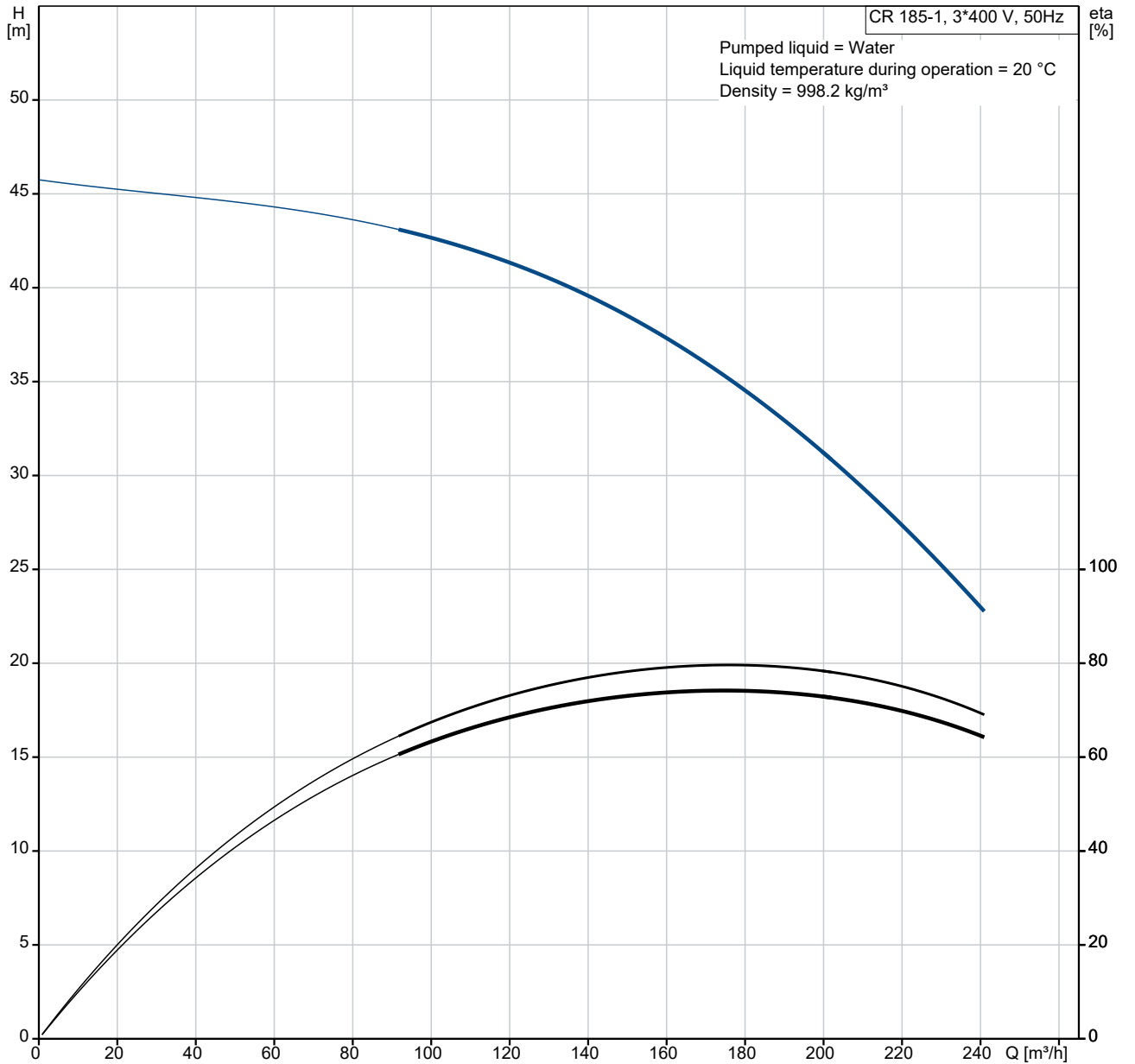
Due to the balancing, this seal type is suitable for high-pressure applications.

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

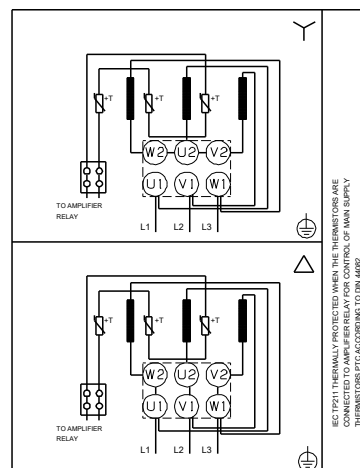
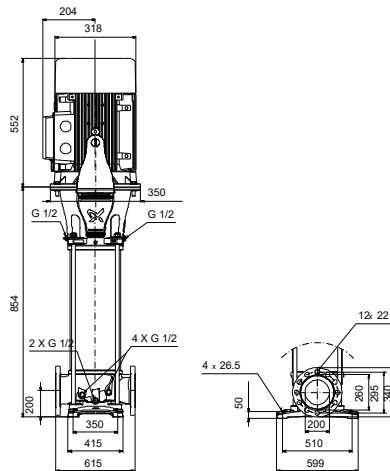
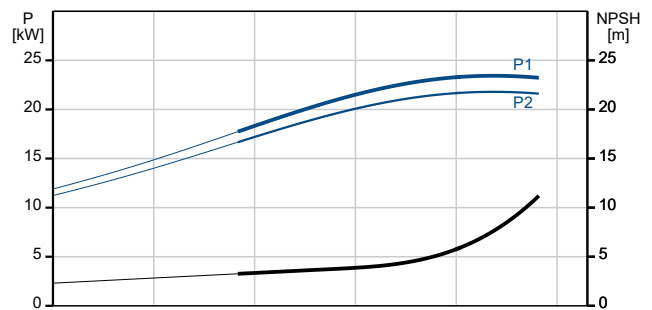
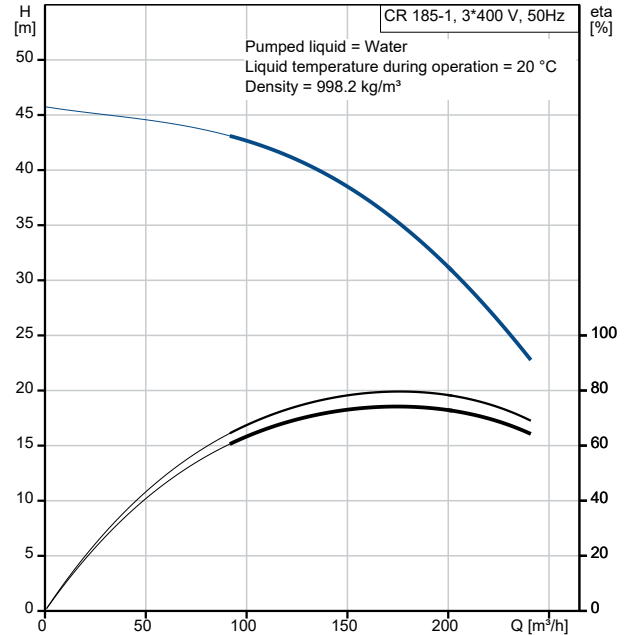
Qty.	Description																										
1	<p data-bbox="204 165 323 188">Seal faces:</p> <ul data-bbox="240 194 788 250" style="list-style-type: none"> <li data-bbox="240 194 788 219">• Rotating seal ring material: silicon carbide (SiC)</li> <li data-bbox="240 224 761 250">• Stationary seat material: silicon carbide (SiC)</li> </ul> <p data-bbox="204 255 1452 304">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 data-bbox="204 311 761 338">Secondary seal material: FKM (fluorocarbon rubber)</p> <p data-bbox="204 342 1437 369">FKM has excellent resistance to oils and chemicals. Above 90 °C, FKM should only be used in media without water.</p>  <p data-bbox="204 618 695 645">The shaft seal is screwed into the pump head.</p> <p data-bbox="204 649 1425 723">The chambers and impellers are made of stainless-steel sheet. The chambers are provided with a PEEK 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 data-bbox="204 763 1046 790">The base is made of cast iron and mounted on a separate cast-iron base plate.</p> <p data-bbox="204 795 1054 822">Both the inlet and the outlet side of the base have two pressure gauge tappings.</p> <p data-bbox="204 826 1007 853">The pump is secured to the foundation by four bolts through the base plate.</p> <p data-bbox="204 857 882 884">The flanges are fastened to the base by means of locking rings.</p>  <p data-bbox="204 1189 284 1216"><b>Motor</b></p> <p data-bbox="204 1227 1431 1276">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 data-bbox="204 1283 1243 1310">Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).</p> <p data-bbox="204 1314 679 1341">Electrical tolerances comply with IEC 60034.</p> <p data-bbox="204 1346 1015 1373">The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p data-bbox="204 1377 1434 1426">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 data-bbox="204 1431 1422 1505">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 data-bbox="204 1516 1406 1565">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 data-bbox="204 1576 400 1603"><b>Technical data</b></p> <table data-bbox="204 1666 695 1814"> <tr> <td data-bbox="204 1666 276 1693">Liquid:</td> <td></td> </tr> <tr> <td data-bbox="204 1697 363 1724">Pumped liquid:</td> <td data-bbox="564 1697 632 1724">Water</td> </tr> <tr> <td data-bbox="204 1729 480 1756">Liquid temperature range:</td> <td data-bbox="564 1729 691 1756">-20 .. 90 °C</td> </tr> <tr> <td data-bbox="204 1760 504 1787">Selected liquid temperature:</td> <td data-bbox="564 1760 628 1787">20 °C</td> </tr> <tr> <td data-bbox="204 1792 292 1818">Density:</td> <td data-bbox="564 1792 695 1818">998.2 kg/m<sup>3</sup></td> </tr> </table> <table data-bbox="204 1845 820 2083"> <tr> <td data-bbox="204 1845 312 1872">Technical:</td> <td></td> </tr> <tr> <td data-bbox="204 1877 683 1904">Pump speed on which pump data are based:</td> <td data-bbox="715 1877 820 1904">2961 rpm</td> </tr> <tr> <td data-bbox="204 1908 323 1935">Rated flow:</td> <td data-bbox="564 1908 663 1935">185 m<sup>3</sup>/h</td> </tr> <tr> <td data-bbox="204 1939 336 1966">Rated head:</td> <td data-bbox="564 1939 639 1966">34.1 m</td> </tr> <tr> <td data-bbox="204 1971 392 1998">Pump orientation:</td> <td data-bbox="564 1971 647 1998">Vertical</td> </tr> <tr> <td data-bbox="204 2002 459 2029">Shaft seal arrangement:</td> <td data-bbox="564 2002 635 2029">Single</td> </tr> <tr> <td data-bbox="204 2033 411 2060">Code for shaft seal:</td> <td data-bbox="564 2033 639 2060">HQQV</td> </tr> <tr> <td data-bbox="204 2065 469 2092">Approvals and markings:</td> <td data-bbox="564 2065 820 2092">CE,EAC,UKCA,SEPRO</td> </tr> </table>	Liquid:		Pumped liquid:	Water	Liquid temperature range:	-20 .. 90 °C	Selected liquid temperature:	20 °C	Density:	998.2 kg/m <sup>3</sup>	Technical:		Pump speed on which pump data are based:	2961 rpm	Rated flow:	185 m <sup>3</sup> /h	Rated head:	34.1 m	Pump orientation:	Vertical	Shaft seal arrangement:	Single	Code for shaft seal:	HQQV	Approvals and markings:	CE,EAC,UKCA,SEPRO
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Qty.	Description
1	<p>Approvals for drinking water: ACS Curve tolerance: ISO9906:2012 3B</p> <p>Materials: Base: Ductile cast iron EN 1563 EN-GJS-500-7 ASTM A536-84 65-45-12</p> <p>Impeller: Stainless steel EN 1.4401 AISI 316</p> <p>Bearing arrangement: WC/WC Support bearing: Graflon Material certified according to: European standards</p> <p>Installation: t max amb: 60 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 90 °C Type of connection: DIN Size of inlet connection: DN 200 Size of outlet connection: DN 200 Pressure rating for connection: PN 16 Flange size for motor: FF300</p> <p>Electrical data: Motor standard: IEC Motor type: 180MB IE Efficiency class: IE3 Rated power - P2: 22 kW Power (P2) required by pump: 22 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-415D/660-690Y V Rated current: 39.5/22.8 A Starting current: 830 % Cos phi - power factor: 0.90-0.90 Rated speed: 2950 rpm Efficiency: IE3 92,7% Motor efficiency at full load: 92.7-92.7 % Motor efficiency at 3/4 load: 93.7 % Motor efficiency at 1/2 load: 94.4 % Number of poles: 2 Enclosure class (IEC 34-5): 55 Dust/Jetting Insulation class (IEC 85): F Motor No: 85U17530</p> <p>Controls: Frequency converter: NONE</p> <p>Others: Minimum efficiency index, MEI ≥: 0.70 Net weight: 360 kg Gross weight: 481 kg Shipping volume: 1.25 m<sup>3</sup> Thrust handling device: N</p>

# 99143724 CR 185-1 A-F-A-V-HQQV 50 Hz

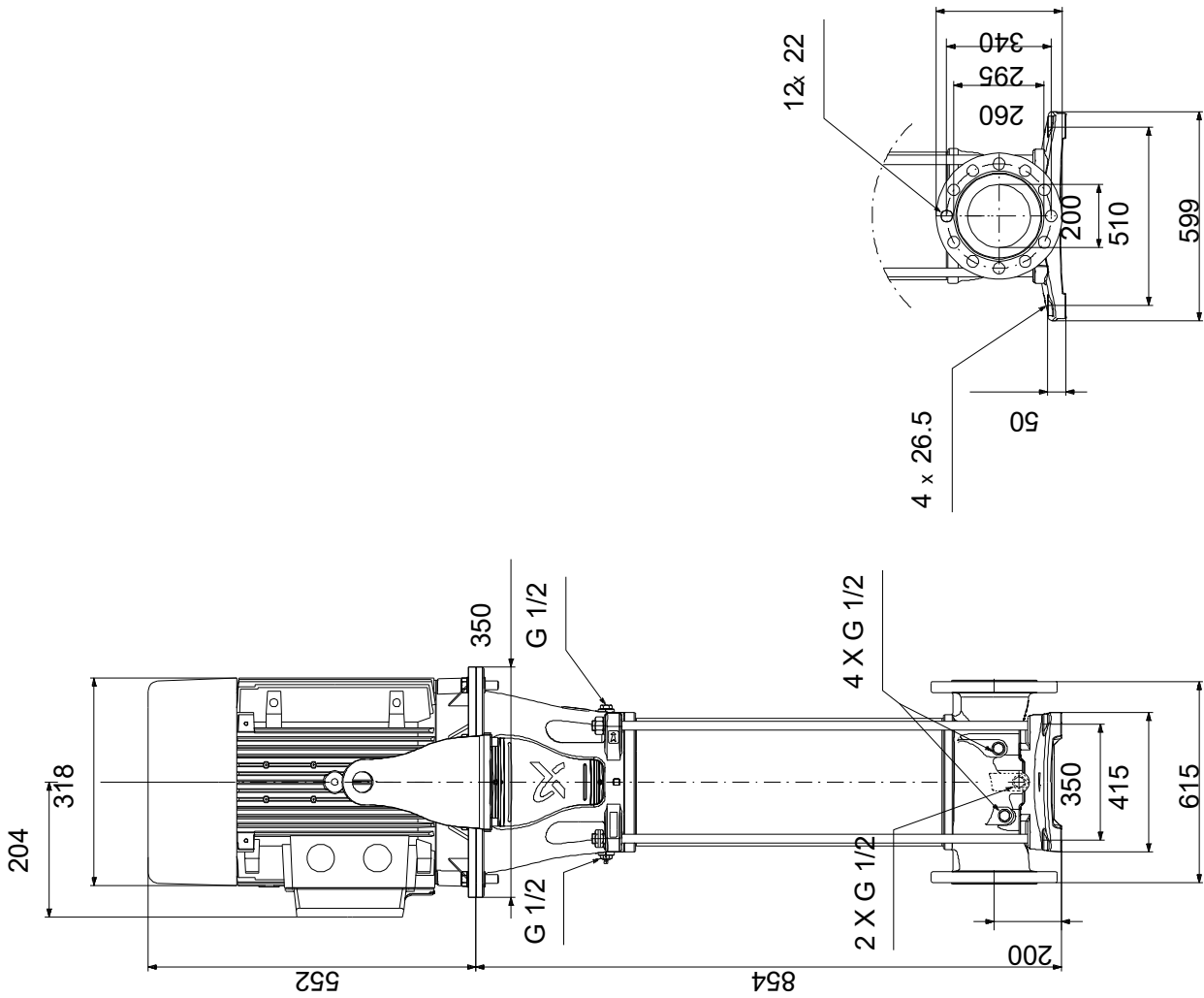


Description	Value
<b>General information:</b>	
Product name:	CR 185-1 A-F-A-V-HQQV
Product No:	99143724
EAN number:	5712607561666
<b>Technical:</b>	
Pump speed on which pump data are based:	2961 rpm
Rated flow:	185 m <sup>3</sup> /h
Rated head:	34.1 m
Maximum head:	45.8 m
Number of stages:	1
Impellers:	1
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HQQV
Approvals and markings:	CE,EAC,UKCA,SEPRO
Approvals for drinking water:	ACS
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
The first model is called A which is followed by model B, C etc.:	A
Cooling according to IEC 34-6:	IC 411
<b>Materials:</b>	
Base:	Ductile cast iron
Base:	EN 1563 EN-GJS-500-7
Base:	ASTM A536-84 65-45-12
Impeller:	Stainless steel
Impeller:	EN 1.4401
Impeller:	AISI 316
Material code:	A
Code for rubber:	V
Bearing arrangement:	WC/WC
Support bearing:	Graflon
Material certified according to:	European standards
<b>Installation:</b>	
t max amb:	60 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 90 °C
Type of connection:	DIN
Size of inlet connection:	DN 200
Size of outlet connection:	DN 200
Pressure rating for connection:	PN 16
Flange size for motor:	FF300
Connect code:	F
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 90 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m <sup>3</sup>
<b>Electrical data:</b>	
Motor standard:	IEC
Motor type:	180MB
IE Efficiency class:	IE3
Rated power - P2:	22 kW
Power (P2) required by pump:	22 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D/660-690Y V
Rated current:	39.5/22.8 A



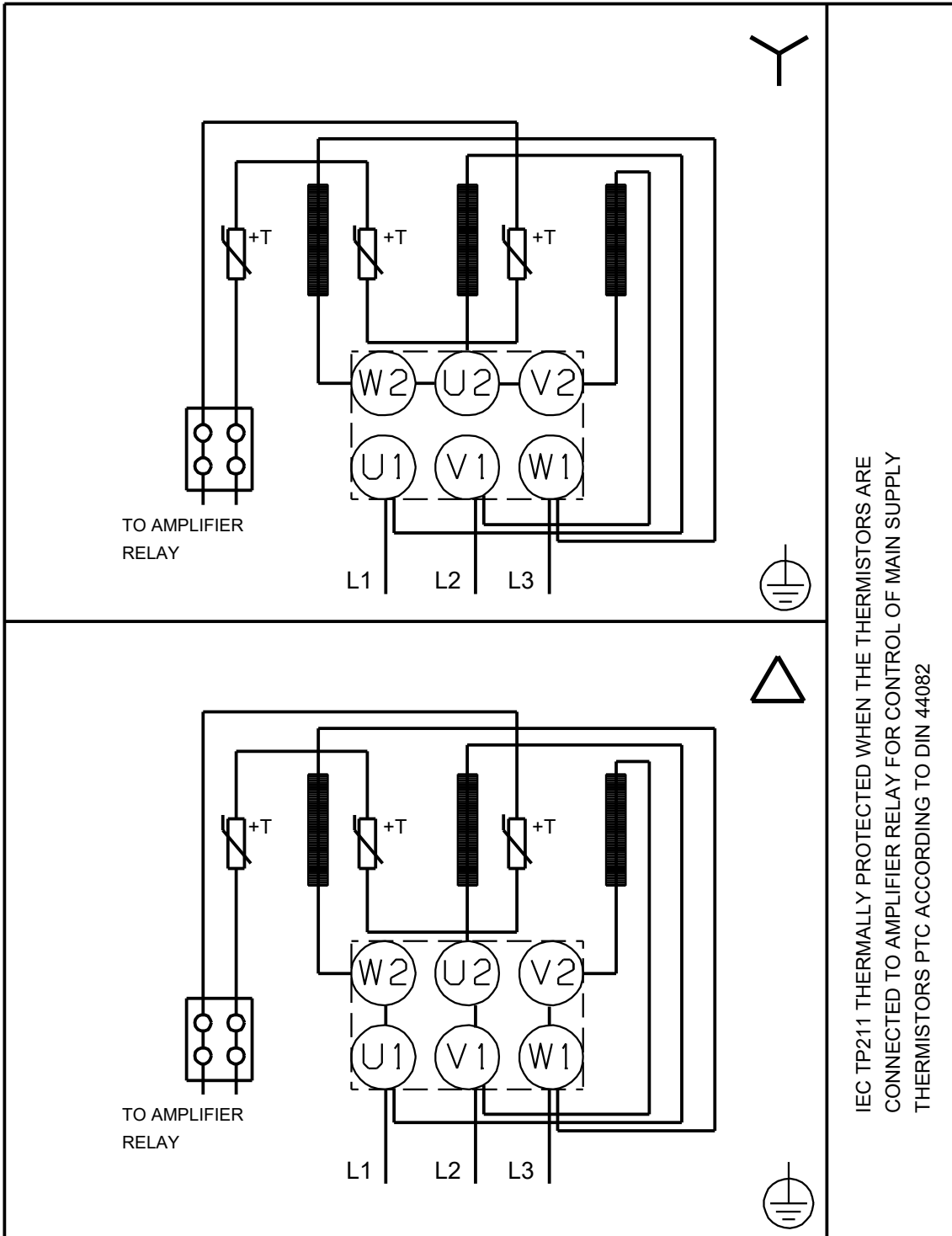
Description	Value
Starting current:	830 %
Cos phi - power factor:	0.90-0.90
Rated speed:	2950 rpm
Efficiency:	IE3 92,7%
Motor efficiency at full load:	92.7-92.7 %
Motor efficiency at 3/4 load:	93.7 %
Motor efficiency at 1/2 load:	94.4 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	85U17530
<b>Controls:</b>	
Frequency converter:	NONE
<b>Others:</b>	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	360 kg
Gross weight:	481 kg
Shipping volume:	1.25 m <sup>3</sup>
Thrust handling device:	N

# 99143724 CR 185-1 A-F-A-V-HQQV 50 Hz



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

# 99143724 CR 185-1 A-F-A-V-HQQV 50 Hz



IEC TP211 THERMALLY PROTECTED WHEN THE THERMISTORS ARE  
 CONNECTED TO AMPLIFIER RELAY FOR CONTROL OF MAIN SUPPLY  
 THERMISTORS PTC ACCORDING TO DIN 44082

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

