

Qty. Description

1 CR 155-4-1 A-F-A-V-HQQV



Note! Product picture may differ from actual product

Product No.: [99143268](#)

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.

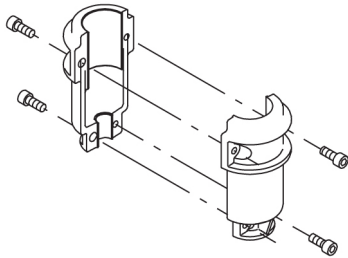
The entire process consists of these elements:

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

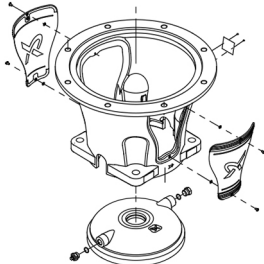
The colour code for the finished product is NCS 9000/RAL 9005.

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.

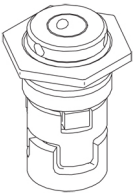
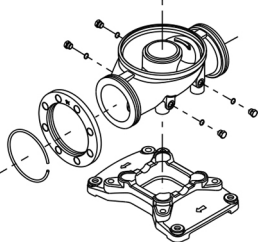


The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.

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

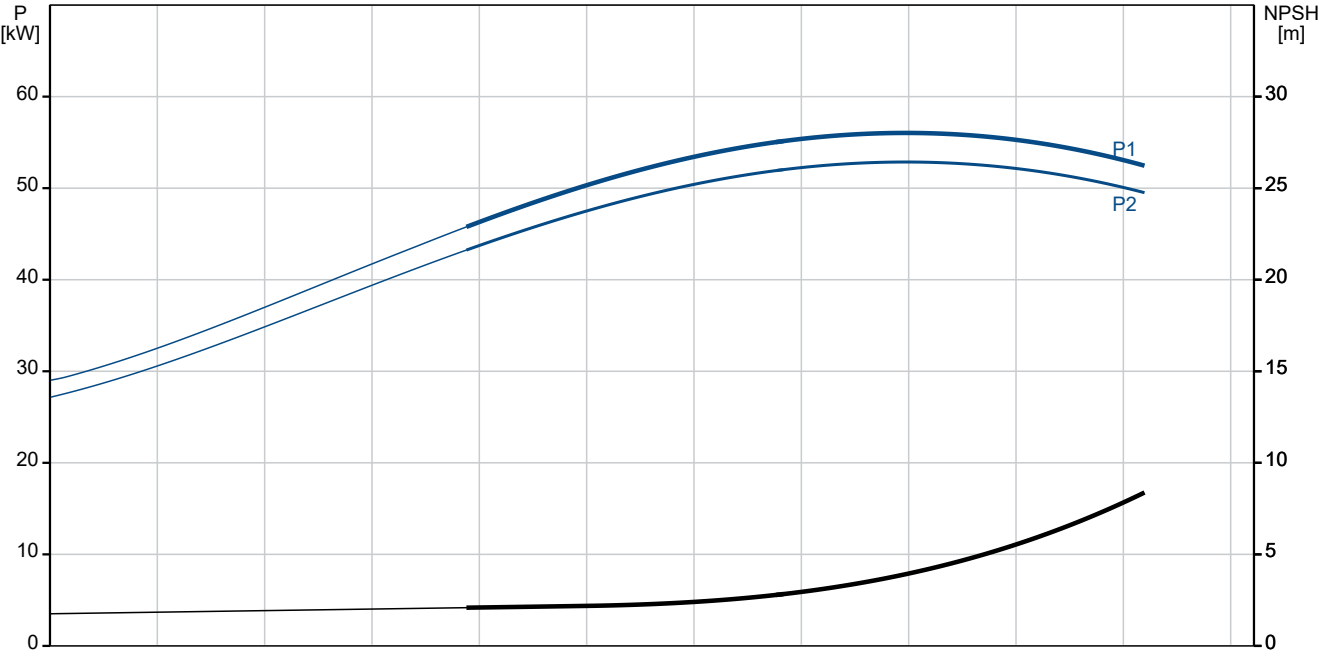
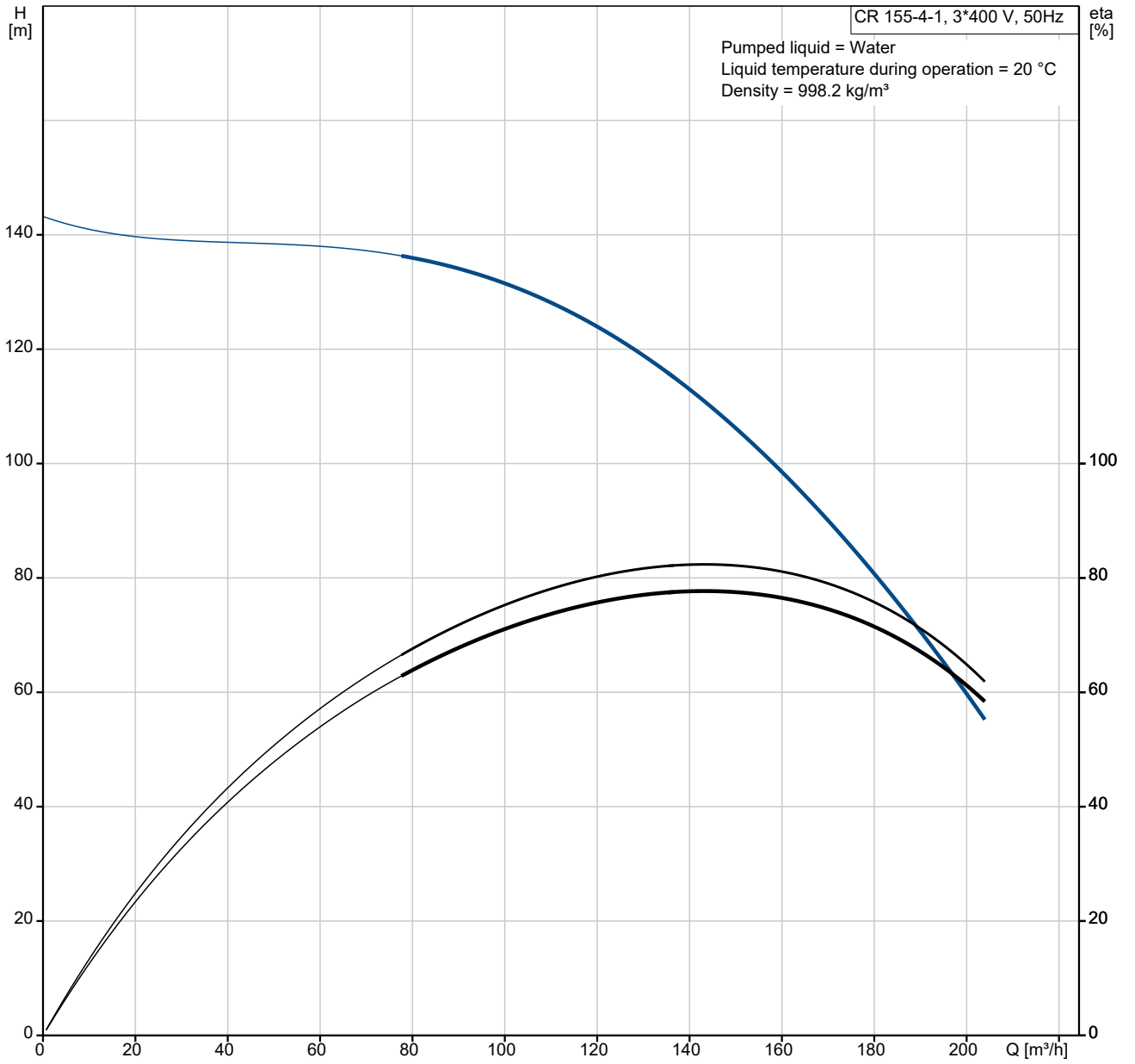
Due to the balancing, this seal type is suitable for high-pressure applications.

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

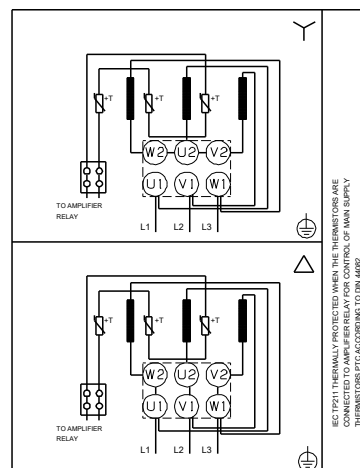
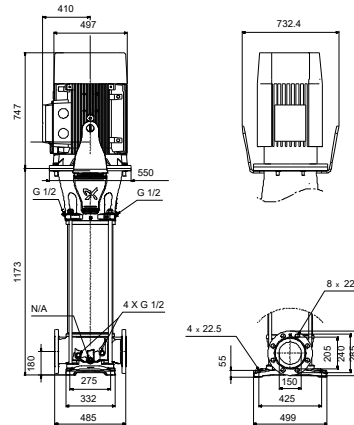
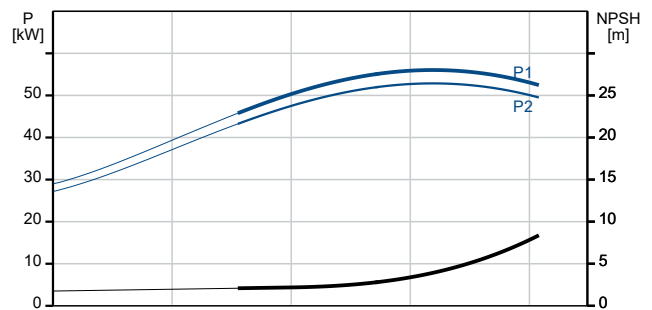
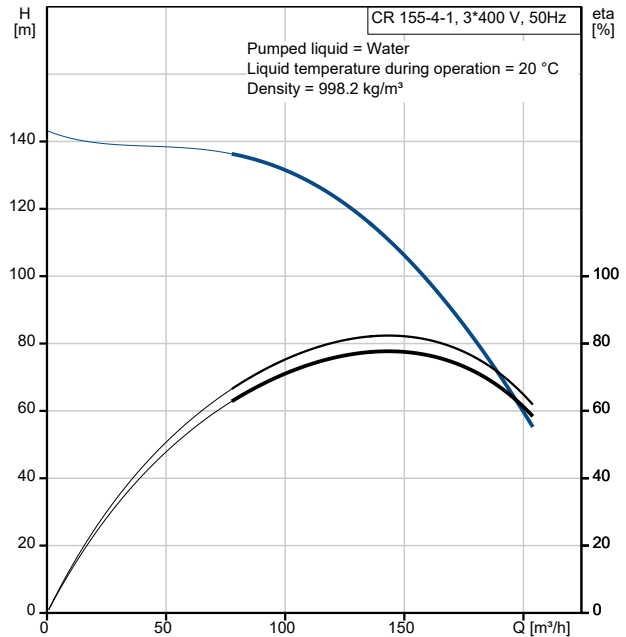
Qty.	Description																						
1	<p data-bbox="204 163 323 185">Seal faces:</p> <ul data-bbox="240 192 788 248" style="list-style-type: none"> <li data-bbox="240 192 788 219">• Rotating seal ring material: silicon carbide (SiC) <li data-bbox="240 221 761 248">• Stationary seat material: silicon carbide (SiC) <p data-bbox="204 253 1452 302">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="204 309 761 336">Secondary seal material: FKM (fluorocarbon rubber)</p> <p data-bbox="204 340 1437 367">FKM has excellent resistance to oils and chemicals. Above 90 °C, FKM should only be used in media without water.</p>  <p data-bbox="204 616 695 642">The shaft seal is screwed into the pump head.</p> <p data-bbox="204 647 1425 721">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="204 761 1046 788">The base is made of cast iron and mounted on a separate cast-iron base plate.</p> <p data-bbox="204 792 1054 819">Both the inlet and the outlet side of the base have two pressure gauge tapings.</p> <p data-bbox="204 824 1005 851">The pump is secured to the foundation by four bolts through the base plate.</p> <p data-bbox="204 855 882 882">The flanges are fastened to the base by means of locking rings.</p>  <p data-bbox="204 1187 284 1214">Motor</p> <p data-bbox="204 1223 1431 1274">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 1279 1243 1305">Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).</p> <p data-bbox="204 1310 679 1337">Electrical tolerances comply with IEC 60034.</p> <p data-bbox="204 1341 1015 1368">The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.</p> <p data-bbox="204 1373 1434 1422">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 1426 1422 1500">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 1512 1382 1563">A variable speed drive makes adjustment of pump performance to any duty point possible. If the motor is to be connected to a variable speed drive, the pump must be ordered with an electrically insulated motor bearing.</p> <p data-bbox="204 1572 400 1599">Technical data</p> <table data-bbox="204 1664 695 1812"> <tr> <td data-bbox="204 1664 272 1691">Liquid:</td> <td data-bbox="204 1695 632 1722">Pumped liquid: Water</td> </tr> <tr> <td data-bbox="204 1727 480 1753">Liquid temperature range:</td> <td data-bbox="204 1758 691 1785">-20 .. 90 °C</td> </tr> <tr> <td data-bbox="204 1789 504 1816">Selected liquid temperature:</td> <td data-bbox="204 1821 628 1848">20 °C</td> </tr> <tr> <td data-bbox="204 1852 288 1879">Density:</td> <td data-bbox="204 1883 695 1910">998.2 kg/m³</td> </tr> </table> <table data-bbox="204 1843 820 2080"> <tr> <td data-bbox="204 1843 312 1870">Technical:</td> <td data-bbox="204 1874 820 1901">Pump speed on which pump data are based: 2976 rpm</td> </tr> <tr> <td data-bbox="204 1906 320 1933">Rated flow:</td> <td data-bbox="204 1937 663 1964">155 m³/h</td> </tr> <tr> <td data-bbox="204 1968 336 1995">Rated head:</td> <td data-bbox="204 2000 647 2027">102.4 m</td> </tr> <tr> <td data-bbox="204 2031 392 2058">Pump orientation:</td> <td data-bbox="204 2063 647 2089">Vertical</td> </tr> <tr> <td data-bbox="204 2094 461 2121">Shaft seal arrangement:</td> <td data-bbox="204 2125 632 2152">Single</td> </tr> <tr> <td data-bbox="204 2157 413 2184">Code for shaft seal:</td> <td data-bbox="204 2188 639 2215">HQQV</td> </tr> <tr> <td data-bbox="204 2219 469 2240">Approvals and markings:</td> <td data-bbox="204 2251 820 2240">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 ³	Technical:	Pump speed on which pump data are based: 2976 rpm	Rated flow:	155 m ³ /h	Rated head:	102.4 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 1.4301 AISI 304</p> <p>Bearing arrangement: WC/WC Support bearing: Graflon Material certified according to: European standards</p> <p>Installation: t max amb: 55 °C Maximum operating pressure: 16 bar Max pressure at stated temp: 16 bar / 90 °C Type of connection: DIN Size of inlet connection: DN 150 Size of outlet connection: DN 150 Pressure rating for connection: PN 16 Flange size for motor: FF500</p> <p>Electrical data: Motor standard: IEC Motor type: SIEMENS IE Efficiency class: IE3 Rated power - P2: 55 kW Power (P2) required by pump: 55 kW Mains frequency: 50 Hz Rated voltage: 3 x 380-420D/660-725Y V Rated current: 95/55 A Starting current: 670-670 % Cos phi - power factor: 0.89 Rated speed: 2975 rpm Efficiency: IE3 94,3% Motor efficiency at full load: 94.3-94.3 % Motor efficiency at 3/4 load: 94.5-94.5 % Motor efficiency at 1/2 load: 93.9-93.9 % Number of poles: 2 Enclosure class (IEC 34-5): IP55 Insulation class (IEC 85): F Motor No: 81U15338</p> <p>Controls: Frequency converter: NONE</p> <p>Others: Minimum efficiency index, MEI ≥: 0.70 Net weight: 637 kg Gross weight: 780 kg Shipping volume: 2.04 m³ Thrust handling device: N</p>

99143268 CR 155-4-1 A-F-A-V-HQQV 50 Hz

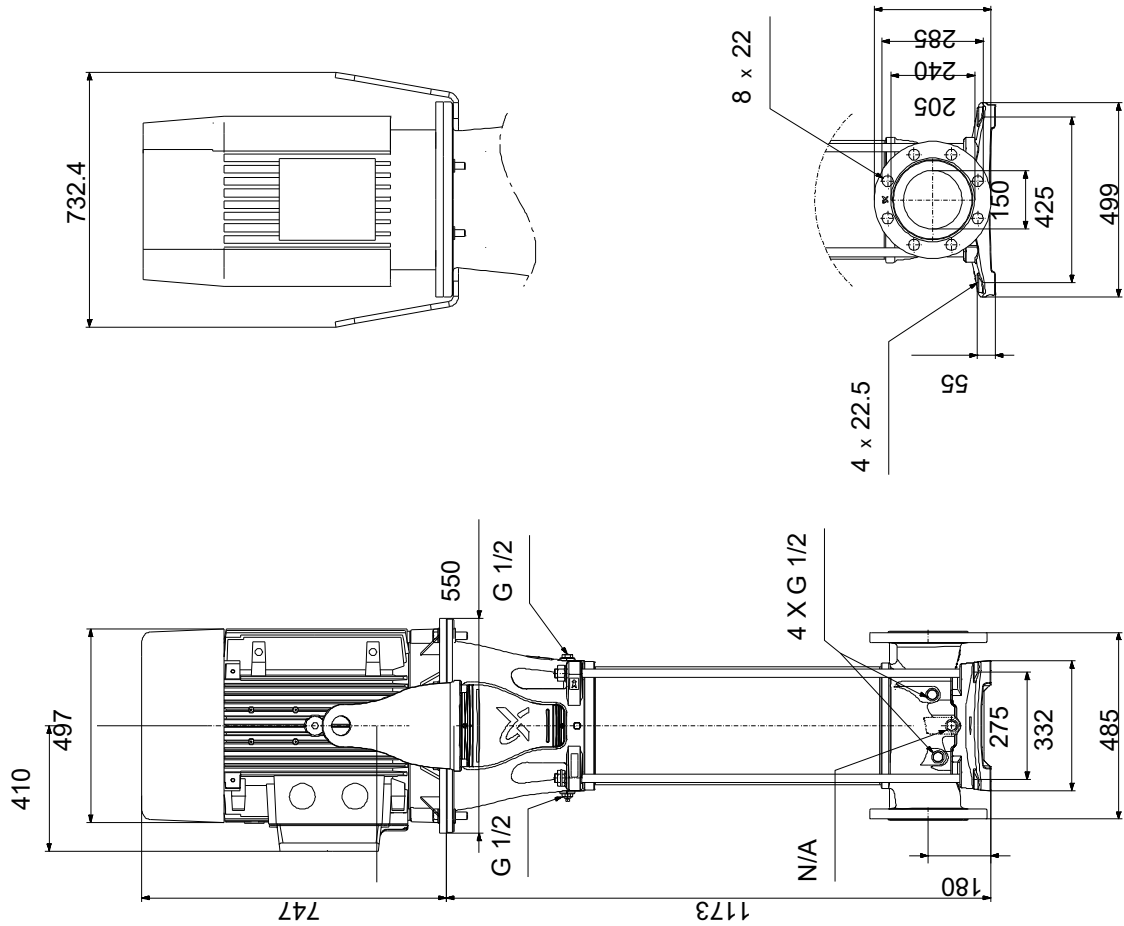


Description	Value
General information:	
Product name:	CR 155-4-1 A-F-A-V-HQQV
Product No:	99143268
EAN number:	5712607553012
Technical:	
Pump speed on which pump data are based:	2976 rpm
Rated flow:	155 m ³ /h
Rated head:	102.4 m
Maximum head:	143.2 m
Number of stages:	4
Impellers:	4
Number of reduced-diameter impellers:	1
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
Materials:	
Base:	Ductile cast iron
Base:	EN 1563 EN-GJS-500-7
Base:	ASTM A536-84 65-45-12
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	A
Code for rubber:	V
Bearing arrangement:	WC/WC
Support bearing:	Graflon
Material certified according to:	European standards
Installation:	
t max amb:	55 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 90 °C
Type of connection:	DIN
Size of inlet connection:	DN 150
Size of outlet connection:	DN 150
Pressure rating for connection:	PN 16
Flange size for motor:	FF500
Connect code:	F
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 90 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m ³
Electrical data:	
Motor standard:	IEC
Motor type:	SIEMENS
IE Efficiency class:	IE3
Rated power - P2:	55 kW
Power (P2) required by pump:	55 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-420D/660-725Y V
Rated current:	95/55 A
Starting current:	670-670 %
Cos phi - power factor:	0.89



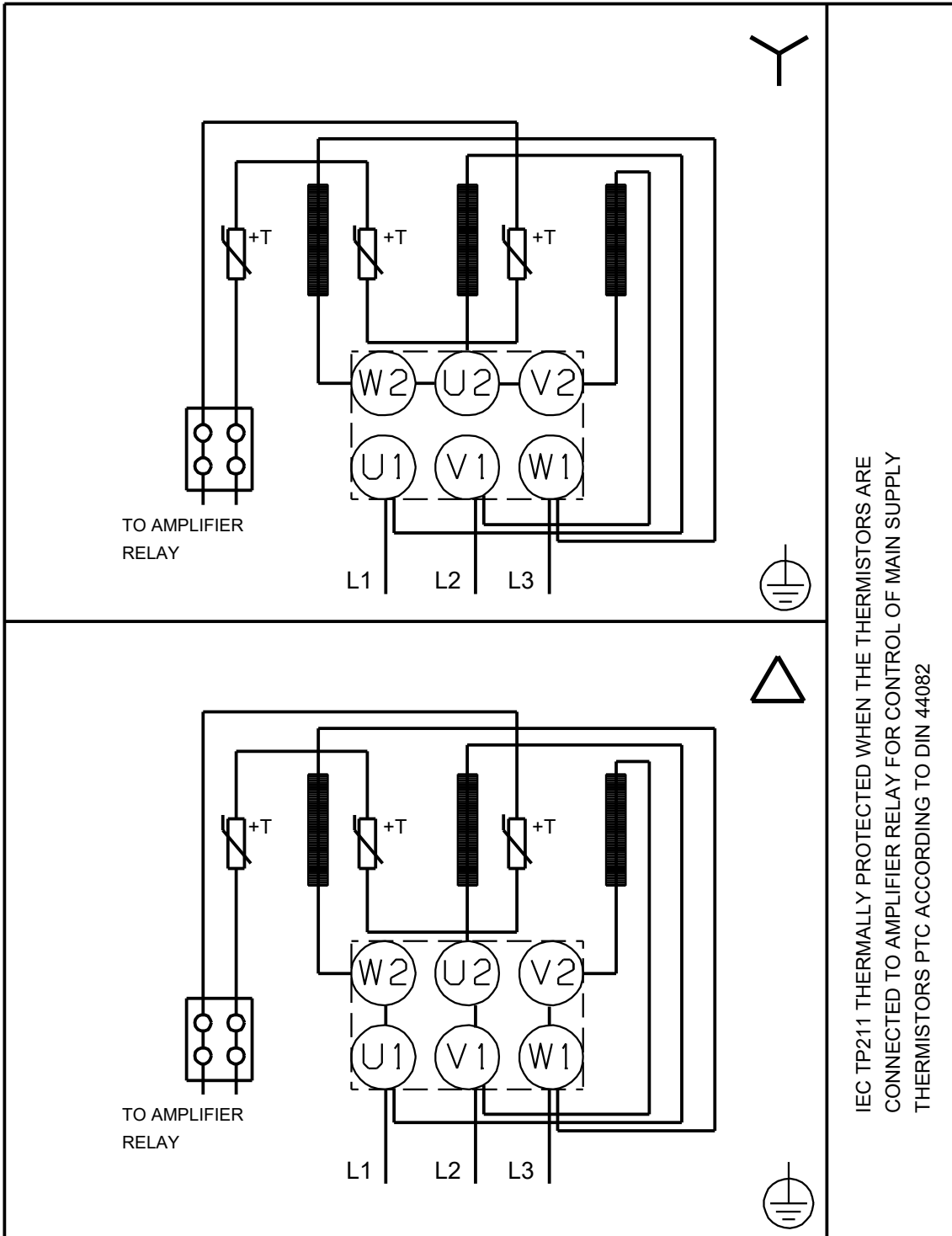
Description	Value
Rated speed:	2975 rpm
Efficiency:	IE3 94,3%
Motor efficiency at full load:	94.3-94.3 %
Motor efficiency at 3/4 load:	94.5-94.5 %
Motor efficiency at 1/2 load:	93.9-93.9 %
Number of poles:	2
Enclosure class (IEC 34-5):	IP55
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	81U15338
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	637 kg
Gross weight:	780 kg
Shipping volume:	2.04 m ³
Thrust handling device:	N

99143268 CR 155-4-1 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.

99143268 CR 155-4-1 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.

