
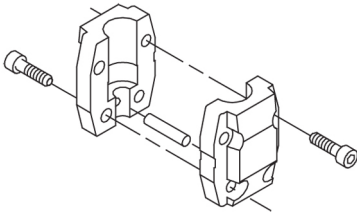
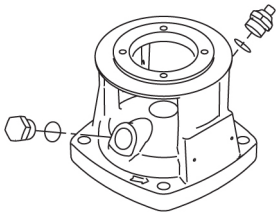
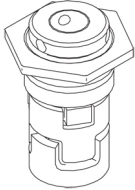
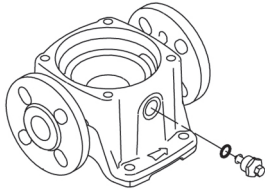
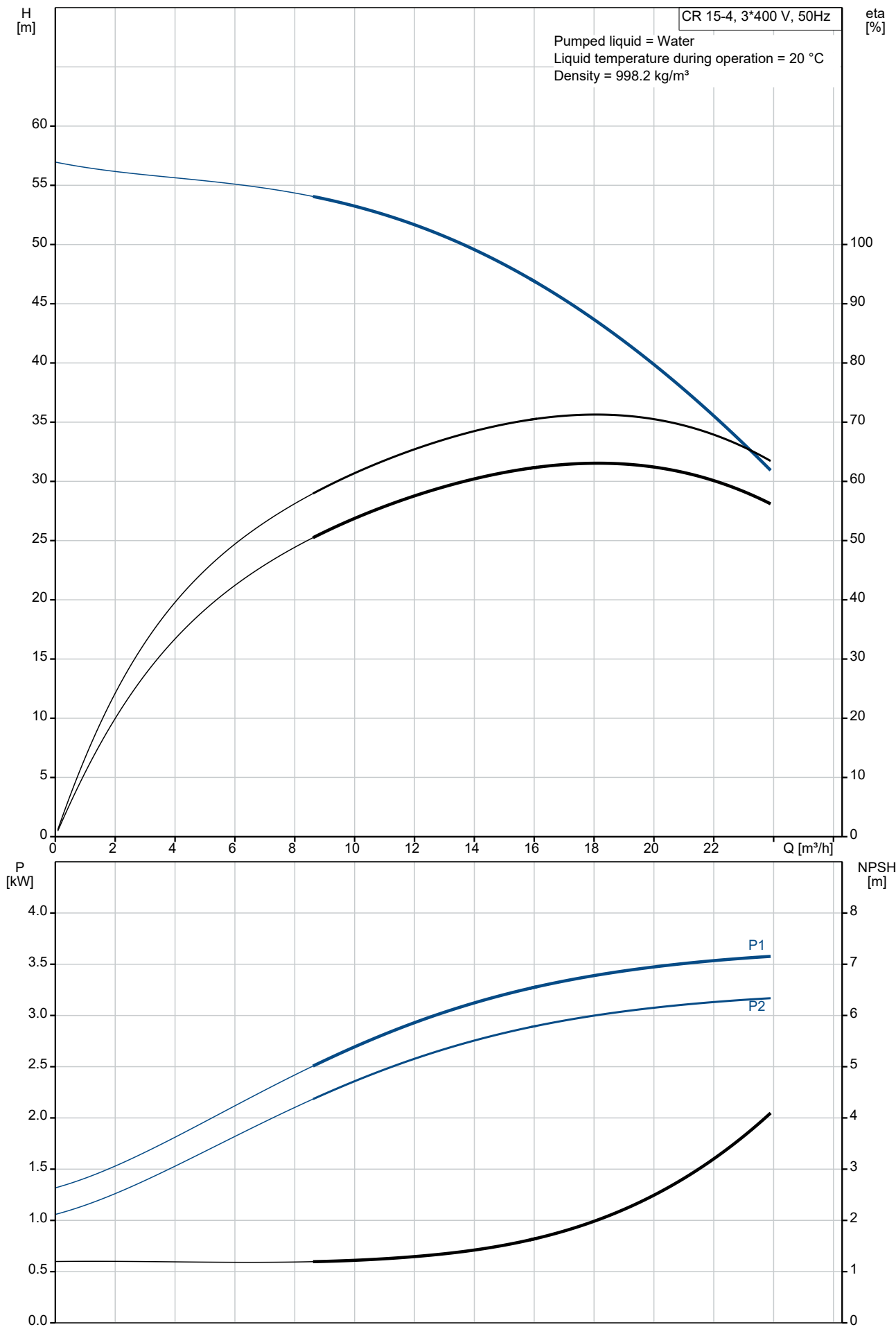


Qty.	Description
1	<p data-bbox="204 159 469 188">CR 15-4 A-F-A-E-HQQE</p>  <p data-bbox="593 506 1062 528">Note! Product picture may differ from actual product</p> <p data-bbox="204 537 477 562">Product No.: On request</p> <p data-bbox="204 598 1430 696">Vertical, multistage centrifugal pump with inlet 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 DIN flanges.</p> <p data-bbox="204 739 916 763">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="204 797 512 826">Further product details</p> <p data-bbox="204 833 1394 884">Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process.</p> <p data-bbox="204 891 1430 943">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 data-bbox="204 949 719 974">An integral part of the process is a pretreatment.</p> <p data-bbox="204 981 702 1005">The entire process consists of these elements:</p> <ol data-bbox="225 1010 702 1126" 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 data-bbox="204 1131 890 1155">The colour code for the finished product is NCS 9000/RAL 9005.</p> <p data-bbox="204 1189 280 1218">Pump</p> <p data-bbox="204 1225 1436 1274">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 data-bbox="204 1523 1377 1572">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 data-bbox="204 1823 1169 1848">The pump is fitted with a balanced O-ring seal unit with a rigid torque-transmission system.</p> <p data-bbox="204 1854 1141 1879">This seal type is assembled in a cartridge unit which makes replacement safe and easy.</p> <p data-bbox="204 1886 1021 1910">Due to the balancing, this seal type is suitable for high-pressure applications.</p> <p data-bbox="204 1917 1412 1964">The cartridge construction also protects the pump shaft from possible wear from a dynamic O-ring between pump shaft and shaft seal.</p> <p data-bbox="204 1971 323 1995">Seal faces:</p> <ul data-bbox="240 2002 788 2058" style="list-style-type: none"> • Rotating seal ring material: silicon carbide (SiC) • Stationary seat material: silicon carbide (SiC)

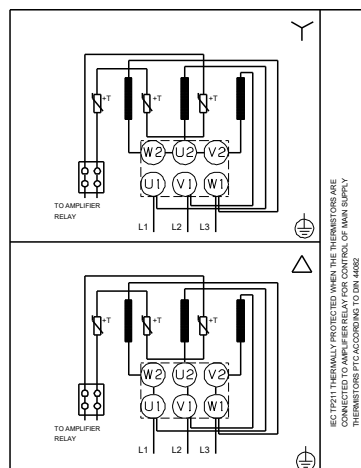
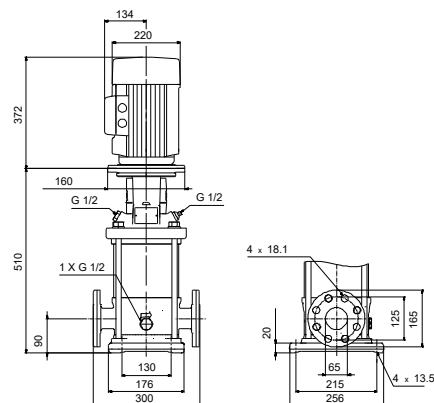
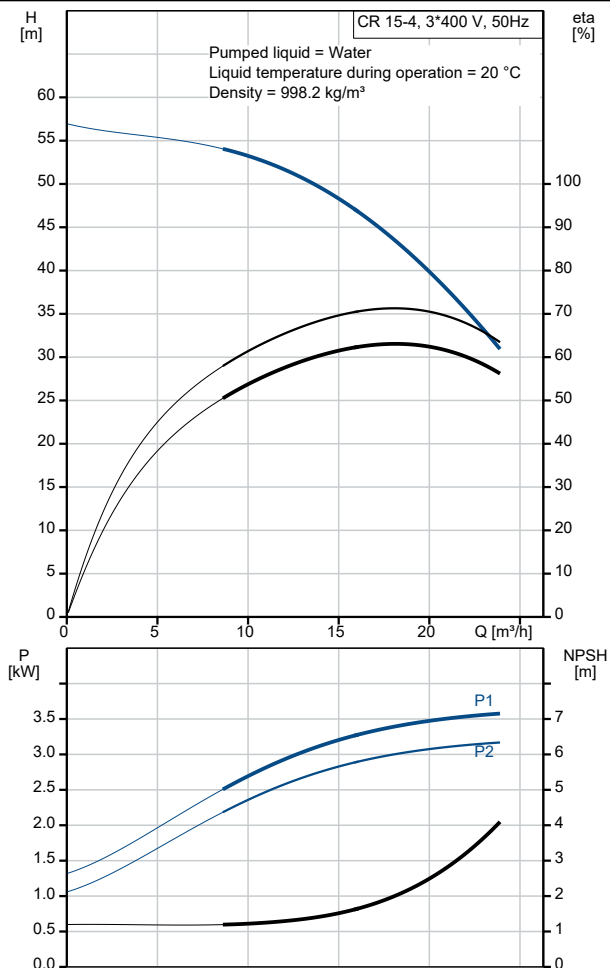
Qty.	Description
	<p>This material pairing is used where higher corrosion resistance is required. The high hardness of this material pairing offers good resistance against abrasive particles.</p> <p>Secondary seal material: EPDM (ethylene-propylene rubber)</p> <p>EPDM has excellent resistance to hot 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>Motor</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 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>Technical data</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: 2917 rpm</p> <p>Rated flow: 17 m³/h</p> <p>Rated head: 44.8 m</p> <p>Pump orientation: Vertical</p> <p>Shaft seal arrangement: Single</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> <p>Materials:</p> <p>Base: Cast iron EN 1561 EN-GJL-200 ASTM A48-25B</p> <p>Impeller: Stainless steel EN 1.4301</p>

Qty.	Description
	<div> <div>AISI 304</div> <div>Bearing: SIC</div> </div>
	<div> <div>Installation:</div> <div>t max amb: 60 °C</div> <div>Maximum operating pressure: 16 bar</div> <div>Max pressure at stated temp: 16 bar / 120 °C</div> <div>16 bar / -20 °C</div> </div>
	<div> <div>Type of connection: DIN</div> <div>Size of inlet connection: DN 50</div> <div>Size of outlet connection: DN 50</div> <div>Pressure rating for connection: PN 25</div> <div>Flange size for motor: FT130</div> </div>
	<div> <div>Electrical data:</div> <div>Motor standard: IEC</div> <div>Motor type: 112MC</div> <div>IE Efficiency class: IE3</div> <div>Rated power - P2: 4 kW</div> <div>Power (P2) required by pump: 4 kW</div> <div>Mains frequency: 50 Hz</div> <div>Rated voltage: 3 x 380-415D V</div> <div>Rated current: 7.9 A</div> <div>Starting current: 1000-1110 %</div> <div>Cos phi - power factor: 0.87-0.87</div> <div>Rated speed: 2920-2940 rpm</div> <div>Efficiency: IE3 88,1%</div> <div>Motor efficiency at full load: 88.1 %</div> <div>Motor efficiency at 3/4 load: 88.6 %</div> <div>Motor efficiency at 1/2 load: 85.2 %</div> <div>Number of poles: 2</div> <div>Enclosure class (IEC 34-5): 55 Dust/Jetting</div> <div>Insulation class (IEC 85): F</div> <div>Motor No: 85U15413</div> </div>
	<div> <div>Controls:</div> <div>Frequency converter: NONE</div> </div>
	<div> <div>Others:</div> <div>Minimum efficiency index, MEI ≥: 0.70</div> <div>Net weight: 72 kg</div> <div>Gross weight: 94 kg</div> <div>Shipping volume: 0.234 m³</div> <div>Danish VVS No.: 385904341</div> <div>Swedish RSK No.: 5823475</div> <div>Finnish LVI No.: 4925434</div> </div>

On request CR 15-4 A-F-A-E-HQQE 50 Hz

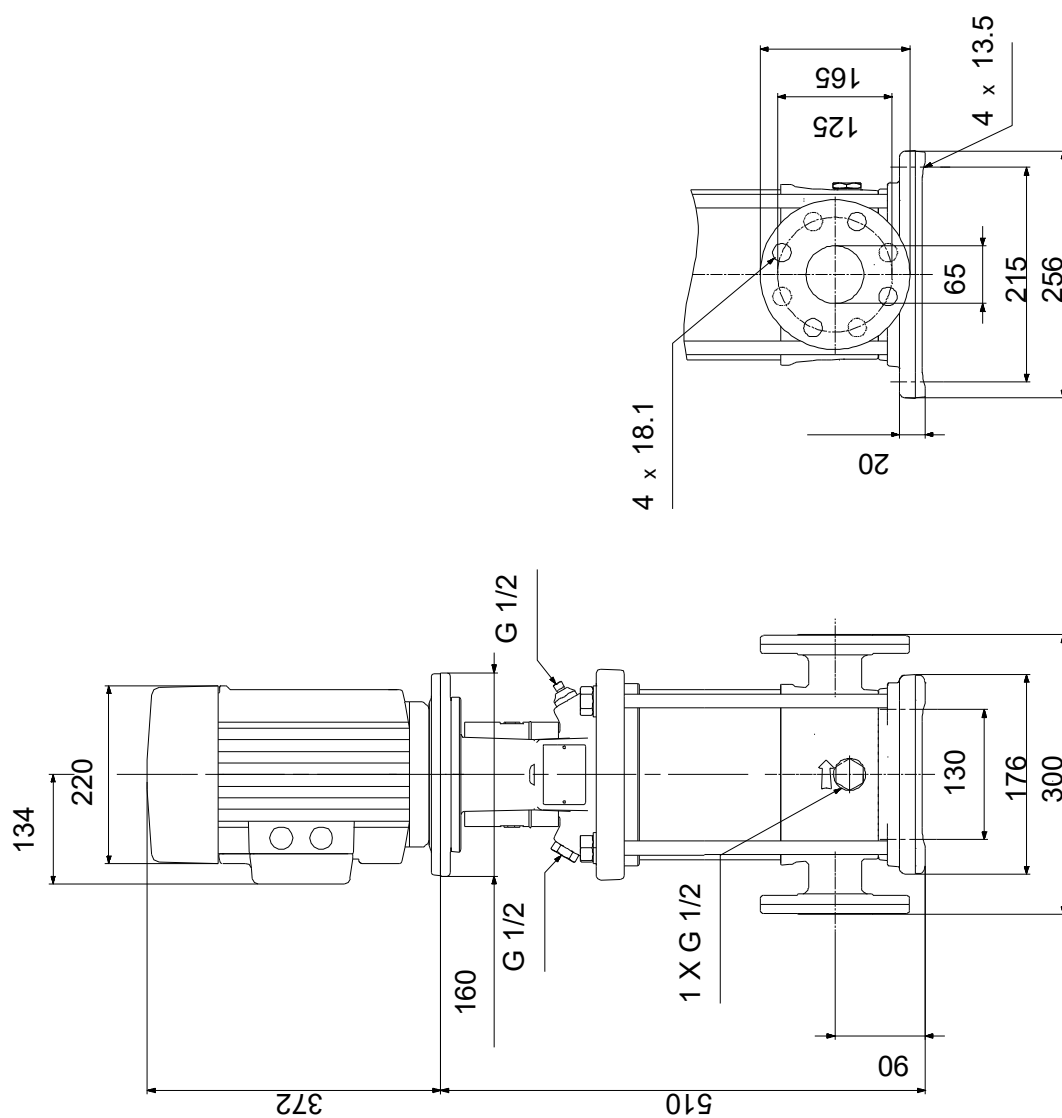


Description	Value
General information:	
Product name:	CR 15-4 A-F-A-E-HQQE
Product No:	On request
EAN number:	On request
Price:	
Technical:	
Pump speed on which pump data are based:	2917 rpm
Rated flow:	17 m³/h
Rated head:	44.8 m
Maximum head:	56.8 m
Stages:	4
Impellers:	4
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
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
Base:	EN 1561 EN-GJL-200
Base:	ASTM A48-25B
Impeller:	Stainless steel
Impeller:	EN 1.4301
Impeller:	AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Installation:	
t max amb:	60 °C
Maximum operating pressure:	16 bar
Max pressure at stated temp:	16 bar / 120 °C
Max pressure at stated temp:	16 bar / -20 °C
Type of connection:	DIN
Size of inlet connection:	DN 50
Size of outlet connection:	DN 50
Pressure rating for connection:	PN 25
Flange size for motor:	FT130
Connect code:	F
Liquid:	
Pumped liquid:	Water
Liquid temperature range:	-20 .. 120 °C
Selected liquid temperature:	20 °C
Density:	998.2 kg/m³
Electrical data:	
Motor standard:	IEC
Motor type:	112MC
IE Efficiency class:	IE3
Rated power - P2:	4 kW
Power (P2) required by pump:	4 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-415D V
Rated current:	7.9 A
Starting current:	1000-1110 %
Cos phi - power factor:	0.87-0.87
Rated speed:	2920-2940 rpm
Efficiency:	IE3 88,1%
Motor efficiency at full load:	88.1 %



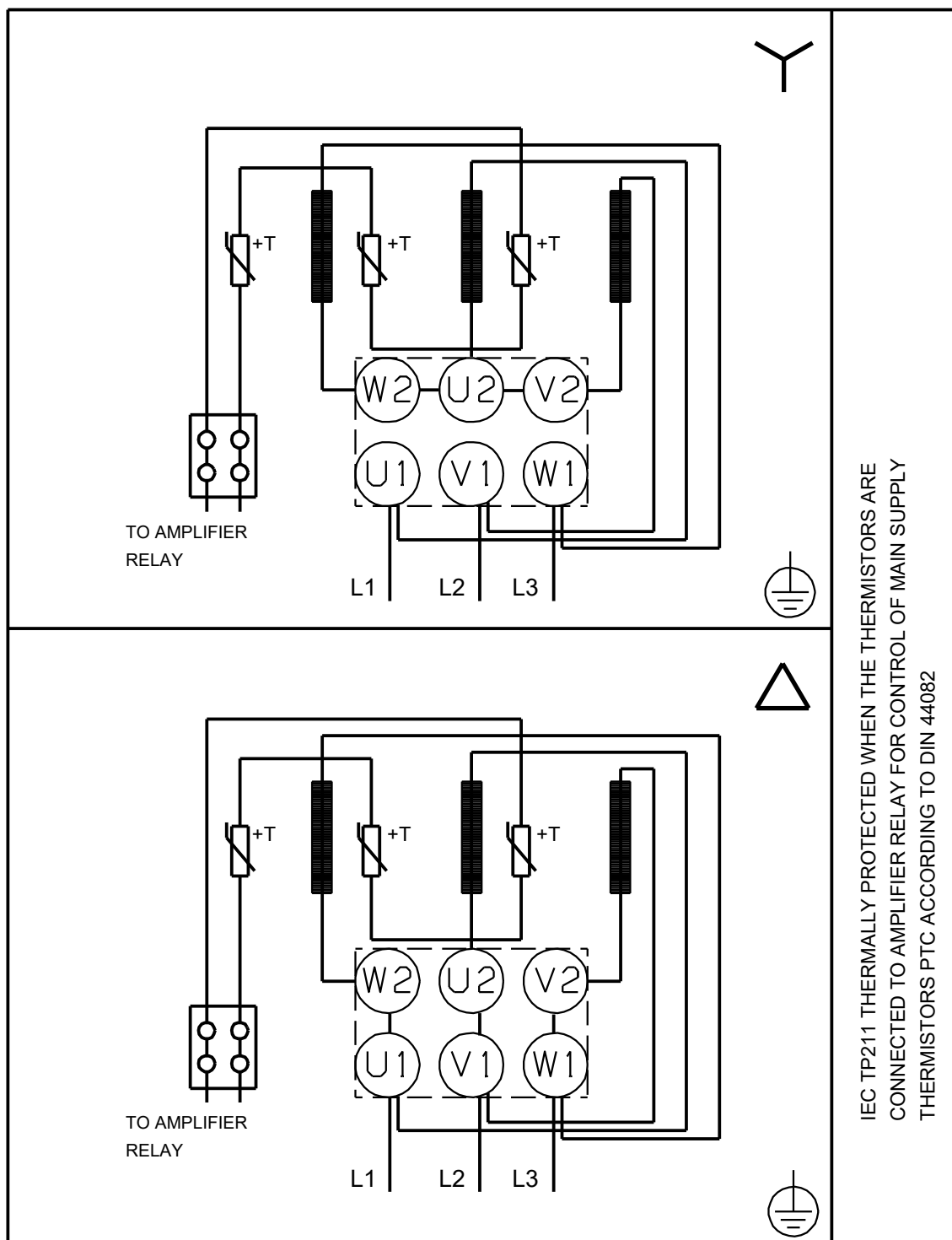
Description	Value
Motor efficiency at 3/4 load:	88.6 %
Motor efficiency at 1/2 load:	85.2 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Built-in motor protection:	PTC
Motor No:	85U15413
Controls:	
Frequency converter:	NONE
Others:	
Minimum efficiency index, MEI ≥:	0.70
Net weight:	72 kg
Gross weight:	94 kg
Shipping volume:	0.234 m ³
Danish VVS No.:	385904341
Swedish RSK No.:	5823475
Finnish LVI No.:	4925434

On request CR 15-4 A-F-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 15-4 A-F-A-E-HQQE 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.

Spare parts CR 15-4, Product No. On request
Produced After 1152 (production year and week number)

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
-	Kit, Chamber stack			96508456	1	pcs
- 80	Chamber stack				1	
- 3	Top intermediate chamber					
	Intermediate chamber					
	Front plate					
	Guide vane					
- 4a	Intermediate chamber cpl.					
	Bearing plate					
3	Intermediate chamber					
45	Neck ring cpl.					
47	Bearing bush					
65	Retainer for upper seal ring					
- 4	Intermediate chamber cpl.					
45	Neck ring cpl.					
65	Retainer for upper seal ring					
26a	Strap cpl.					
26.c	Washer		Designation: DIN 125A Thickness: 1,6			
26.b	Hex head screw					
44b	Inlet part					
- 44a	Inlet part cpl.					
	Sand Lifter					
	Guide cup					
	Inlet part					
45	Neck ring cpl.					
65	Retainer for upper seal ring					
47a	Bearing ring					
- 49	Impeller cpl.					
	Impeller plate					
	Impeller plate					
	Blade					
49c	Wear ring					
- 51	Shaft, spline, cpl.					
	Bar					
62	Stop ring					
64d	Spacing bush					
64c	Spacer					
64b	Spacing bush		Length (mm): 5.00			
64a	Spacing pipe		Internal diameter: 17,5 Length (mm): 17			
64	Spacing pipe		Length (mm): 43.6			
66	Wedge lock washer					
67	Lock nut		Thread: M8			
69	Spacing bush					
-	Kit, Coupling			96511350	1	pcs
	Adjusting fork				1	
9	Hex socket head cap screw		Designation: DIN 912 Length (mm): 25 Thread: M8		4	
10a	Coupling half				2	
10	Shaft pin		Diameter: 5 Length (mm): 26		1	
-	Kit, Coupling guard			96509612	1	pcs
7a	Combi Slot Torx screw				4	
7	Coupling guard				2	
-	Kit, Gaskets			96509609	1	pcs
	Gasket				2	
24	O-ring				2	
37	O-ring				2	

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
38	O-ring				1	
38	O-ring				1	
38	O-ring				2	
60	Spring				4	
415	Gasket		Internal diameter: 44		2	
			Outer diameter: 60			
			Thickness: 2			
441b	Gasket		Internal diameter: 49		2	
			Outer diameter: 92			
			Thickness: 2			
-	Kit, Plug			96511311	1	pcs
- 18	Air vent screw				1	
	Spindle					
	Plug					
25a	Drain plug				1	
25	Plug				1	
38	O-ring				1	
38	O-ring				1	
38	O-ring				2	
38	O-ring		Diameter: 5,3		1	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		1	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		2	
			Material type: FKM			
			Thickness: 2,4			
-	Kit, Shaft seal HQQE			96511844	1	pcs
105	Shaft seal		Material type: HQQE		1	
-	Kit, Wear parts			96511824	1	pcs
- 4a	Intermediate chamber cpl.				1	
	Sand Lifter					
	Guide cup					
	Bearing plate					
	Guide vane					
3	Intermediate chamber					
45	Neck ring cpl.					
47	Bearing bush					
65	Retainer					
26c	Washer		Designation: DIN 125A		2	
			Thickness: 1,6			
26b	Hex head screw				2	
45	Neck ring cpl.				5	
47a	Bearing ring				1	
49c	Wear ring				6	
62	Retaining ring				1	
64d	Spacing bush				1	
64c	Spacer				1	
64b	Spacing bush		Length (mm): 5.00		1	
64a	Spacing pipe		Internal diameter: 17,5		1	
			Length (mm): 17			
65	Retainer				5	
66	Wedge lock washer				1	
67	Lock nut		Thread: M8		1	
-	Motor			85903740	1	pcs
-	Kit, Bearing cpl.			96279802	1	
111	Ball bearing		Designation: 6206.2Z.C3.SYN			
153	Angular-contact bearing					
157	O-ring		Diameter: 62			
			Material type: NBR			
			Thickness: 3			
158	Waved washer					
-	Kit, End shield			96279790	1	

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
156a	End shield					
157	O-ring		Diameter: 62			
			Material type: NBR			
			Thickness: 3			
158	Waved washer					
159a	Seal ring					
-	Kit, Eyebolt			96279825	1	
189	Eyebolt					
-	Kit, Fan			96279758	1	
156	Fan					
159c	Seal ring					
159a	Seal ring					
-	Kit, Fan cover			96279756	1	
151b	Label					
151	Fan cover					
152	Pan head thread forming screw					
-	Kit, Flange			96279779	1	
156b	Flange					
159.c	Seal ring					
186	Drain plug					
-	Kit, Shaft seal			96279763	1	
159c	Seal ring					
159a	Seal ring					
-	Kit, Staybolts			96279793	1	
181	Pan head staybolt					
-	Kit, Terminal board			96279769	1	
	Bracket cpl.					
163	Hex socket head screw					
173a	Base					
173	Pan head thread forming screw		Designation: COMBI TORX T25			
176	Slot cheese head screw		Designation: COMBI TORX T25			
			Length (mm): 10			
			Thread: M5			
176	Terminal					
176	Connecting piece					
176	Wire clamp					
176	Terminal board					
177	Pan head screw					
-	Kit, Terminal box			96279772	1	
164	Terminal box cover w/gasket					
166	Pan head thread forming screw					
2a	Pump head			98785091	1	pcs
+ 3	Top intermediate chamber			96538971	1	pcs
+ 3	Top intermediate chamber			98371105	1	pcs
- 4a	Intermediate chamber cpl.			98371109	1	pcs
3	Intermediate chamber			96535086	1	
+ 4a	Intermediate chamber cpl.			96538842	1	pcs
+ 4a	Intermediate chamber cpl.			98371108	1	pcs
- 4	Intermediate chamber cpl.			98371107	2	pcs
65	Retainer for upper seal ring			97699527	1	
65	Retainer for upper seal ring			96587913	1	
+ 4	Intermediate chamber cpl.			96538817	2	pcs
+ 4	Intermediate chamber cpl.			98371106	2	pcs
6	Base			98681111	1	pcs
7.a	Combi Slot Torx screw			96886324	4	pcs
10	Shaft pin		Diameter: 5	96536473	1	pcs
			Length (mm): 26			
10	Shaft pin		Diameter: 5	96587588	1	pcs
			Length (mm): 26			
+ 18	Air vent screw			96547461	1	pcs
+ 18	Air vent screw			95061351	1	pcs
25	Plug			96536013	1	pcs
25a	Drain plug			96535881	1	pcs
26a	Strap cpl.			98926722	2	pcs

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
26.c	Washer		Designation: DIN 125A Thickness: 1,6	99262704	2	pcs
26.c	Washer		Designation: DIN 125A Thickness: 1,6	99886930	2	pcs
26	Staybolt			98982842	4	pcs
28	Hex head screw		Length (mm): 25 Thread: M8	99335941	4	pcs
32	Washer		Designation: DIN 125 A Internal diameter: 17 Outer diameter: 30 Thickness: 3	98923051	4	pcs
36	Hex nut		Thread: M16	96620480	4	pcs
37	O-ring			96538857	2	pcs
38	O-ring			99198791	1	pcs
38	O-ring			99198815	2	pcs
38	O-ring			99412727	2	pcs
44b	Inlet part			98814595	1	pcs
+ 44a	Inlet part cpl.			98818924	1	pcs
47a	Bearing ring			96538795	1	pcs
- 49	Impeller cpl.			98394448	4	pcs
49c	Wear ring			96547340	1	
+ 51	Shaft, spline, cpl.			98368609	1	pcs
55	Outer sleeve			98812623	1	pcs
60	Spring			96538963	4	pcs
64d	Spacing bush			96538947	1	pcs
64c	Spacer			97980241	1	pcs
64b	Spacing bush		Length (mm): 5.00	96535098	1	pcs
64a	Spacing pipe		Internal diameter: 17,5 Length (mm): 17	98417487	1	pcs
64	Spacing pipe		Length (mm): 43.6	96535107	2	pcs
66	Wedge lock washer			96536157	1	pcs
66	Wedge lock washer			92575609	1	pcs
67	Lock nut		Thread: M8	98277008	1	pcs
69	Spacing bush			96538949	1	pcs
76a	Rivet			96620489	1	pcs
105	Shaft seal		Material type: HQQE	96538914	1	pcs