

## CRN32-14-2 A-F-G-E-HQQE 3x400/690 50 HZ Grundfos pump 96122376




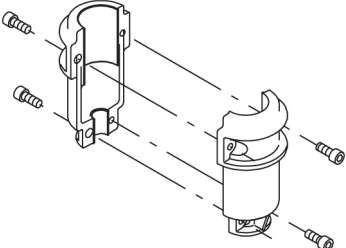
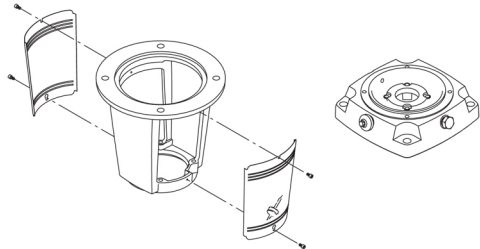
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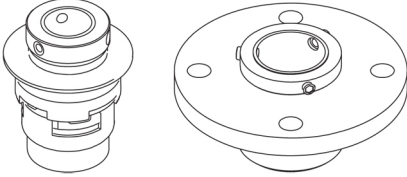
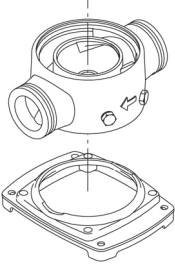
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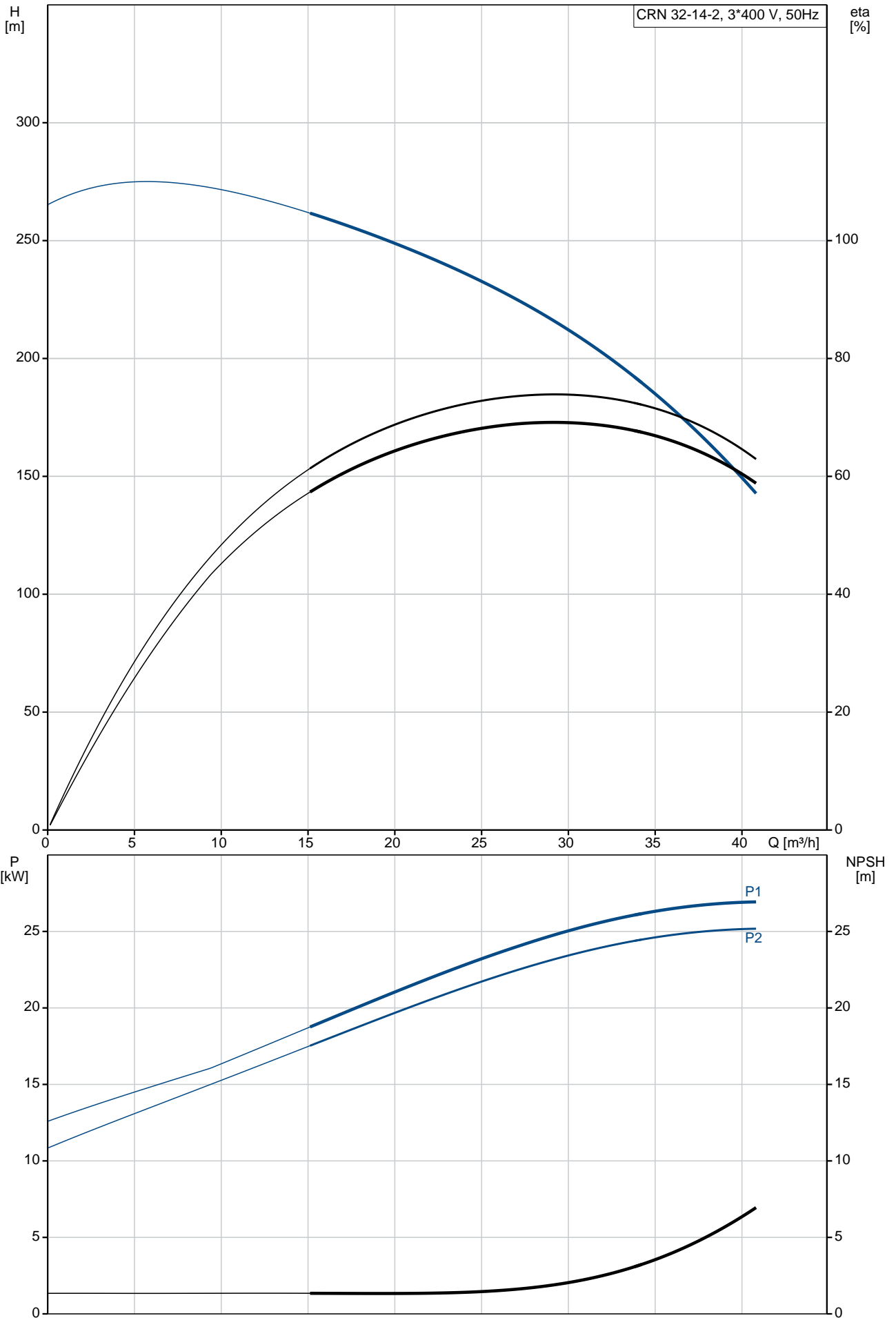
fax. +31 152 616 289

Position	Qty.	Description
	1	<p data-bbox="323 163 651 197"><b>CRN 32-14-2 A-F-A-E-HQQE</b></p>  <p data-bbox="323 481 603 515">Product No.: On request</p> <p data-bbox="323 548 1449 649">Vertical, multistage centrifugal pump with inlet and outlet ports on same the level (inline). Pump materials in contact with the liquid are in high-grade 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="323 683 1053 716">The pump is fitted with a 3-phase, fan-cooled asynchronous motor.</p> <p data-bbox="323 750 638 784"><b>Further product details</b></p> <p data-bbox="323 784 1449 884">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:</p> <ol data-bbox="323 896 1029 1041" 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 data-bbox="323 1019 1029 1052">The colour code for the finished product is NCS 9000/RAL 9005.</p> <p data-bbox="323 1075 406 1108"><b>Pump</b></p> <p data-bbox="323 1108 1460 1187">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.</p>  <p data-bbox="323 1478 1460 1534">The motor stool connects the pump head and motor. The pump head has a combined 1/2" priming plug and vent screw.</p>  <p data-bbox="323 1803 1428 1904">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 data-bbox="323 1915 470 1948">Primary seal:</p> <ul data-bbox="359 1948 917 2004" style="list-style-type: none"> <li>• Rotating seal ring material: silicon carbide (SiC)</li> <li>• Stationary seat material: silicon carbide (SiC)</li> </ul> <p data-bbox="323 2004 1428 2060">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="323 2060 981 2094">Secondary seal material: EPDM (ethylene-propylene rubber)</p>

Position	Qty.	Description
		<p>EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.</p>  <p>The shaft seal is retained in the pump head by a cover and screws. It can be replaced without removing the motor.</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 pump has a stainless-steel base mounted on a separate base plate. The base and base plate are kept in position by the tension of the staybolts which hold the pump together. Both the inlet and the outlet side of the base have two pressure gauge tapplings. The pump is secured to the foundation by four bolts through the base plate. The flanges are fastened to the base by means of locking rings.</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><b>Controls:</b>  Frequency converter:                    NONE</p> <p><b>Liquid:</b>  Pumped liquid:                            Water  Liquid temperature range:            -40 .. 120 °C  Liquid temperature during operation: 20 °C  Density:                                        998.2 kg/m<sup>3</sup></p> <p><b>Technical:</b>  Rated flow:                                    30 m<sup>3</sup>/h  Rated head:                                    212 m  Pump orientation:                        Vertical  Shaft seal arrangement:                Single  Code for shaft seal:                        HQQE</p>

Position	Qty.	Description
		<p>Approvals on nameplate: CE, EAC,ACS  Curve tolerance: ISO9906:2012 3B</p> <p><b>Materials:</b>  Base: Stainless steel  EN 1.4408  AISI 316  Impeller: Stainless steel  EN 1.4401  AISI 316  Bearing: SIC  Support bearing: Graflon</p> <p><b>Installation:</b>  Maximum ambient temperature: 55 °C  Maximum operating pressure: 30 bar  Max pressure at stated temp: 30 bar / 120 °C  30 bar / -40 °C  Type of connection: DIN  Size of inlet connection: DN 65  Size of outlet connection: DN 65  Pressure rating for pipe connection: PN 40  Flange size for motor: FF350</p> <p><b>Electrical data:</b>  Motor standard: IEC  Motor type: SIEMENS  IE Efficiency class: IE3  Rated power - P2: 30 kW  Power (P2) required by pump: 30 kW  Mains frequency: 50 Hz  Rated voltage: 3 x 380-420D/660-725Y V  Rated current: 56,0-51,0/32,0-29,5 A  Starting current: 660-660 %  Cos phi - power factor: 0.86  Rated speed: 2955 rpm  Efficiency: IE3 93,3%  Motor efficiency at full load: 93.3-93.3 %  Motor efficiency at 3/4 load: 93.6-93.6 %  Motor efficiency at 1/2 load: 93.4-93.4 %  Number of poles: 2  Enclosure class (IEC 34-5): 55 Dust/Jetting  Insulation class (IEC 85): F</p> <p><b>Others:</b>  Minimum efficiency index, MEI : 0.7  Net weight: 350 kg  Gross weight: 400 kg  Shipping volume: 1.13 m<sup>3</sup>  Danish VVS No.: 385916142</p>

# On request CRN 32-14-2 A-F-A-E-HQQE 50 Hz



Description	Value
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**General information:**

Product name: CRN 32-14-2 A-F-A-E-HQQE  
 Product No: On request  
 EAN number: On request

**Technical:**

Rated flow: 30 m³/h  
 Rated head: 212 m  
 Stages: 14  
 Impellers: 14  
 Number of reduced-diameter impellers: 2  
 Low NPSH: N  
 Pump orientation: Vertical  
 Shaft seal arrangement: Single  
 Code for shaft seal: HQQE  
 Approvals on nameplate: CE, EAC, ACS  
 Curve tolerance: ISO9906:2012 3B  
 Pump version: A  
 Model: B

**Materials:**

Base: Stainless steel  
 EN 1.4408  
 AISI 316  
 Impeller: Stainless steel  
 EN 1.4401  
 AISI 316  
 Material code: A  
 Code for rubber: E  
 Bearing: SIC  
 Support bearing: Graflon

**Installation:**

Maximum ambient temperature: 55 °C  
 Maximum operating pressure: 30 bar  
 Max pressure at stated temp: 30 bar / 120 °C  
 30 bar / -40 °C

Type of connection: DIN  
 Size of inlet connection: DN 65  
 Size of outlet connection: DN 65

Pressure rating for pipe connection: PN 40

Flange size for motor: FF350  
 Connect code: F

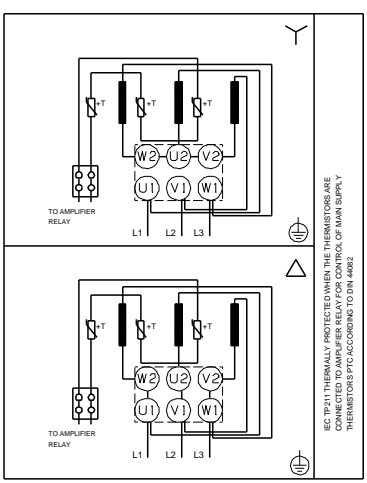
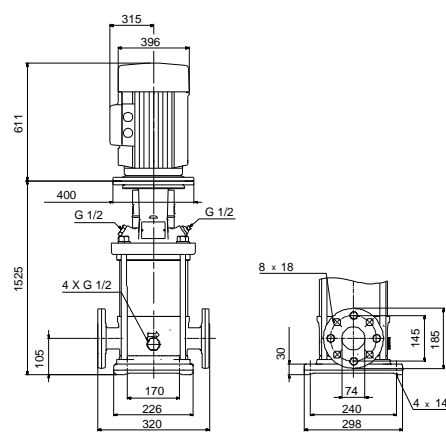
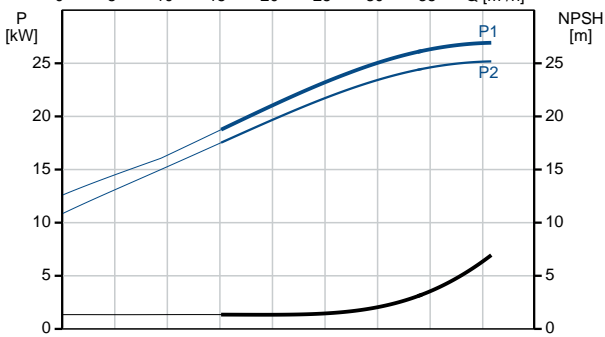
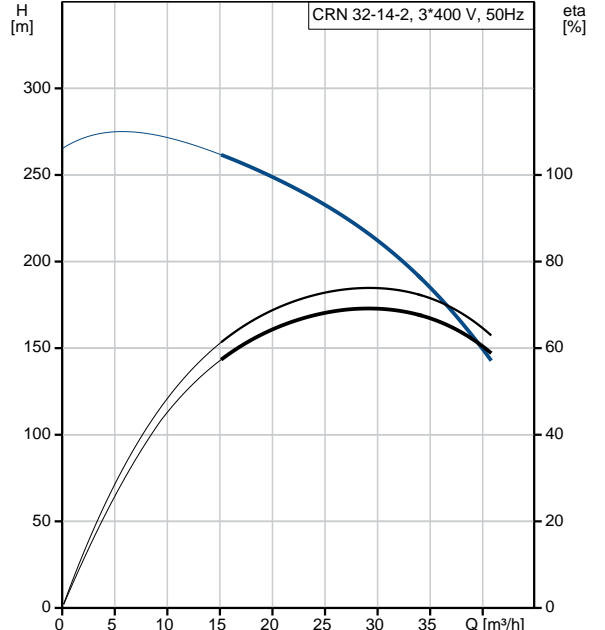
**Liquid:**

Pumped liquid: Water  
 Liquid temperature range: -40 .. 120 °C

Liquid temperature during operation: 20 °C  
 Density: 998.2 kg/m³

**Electrical data:**

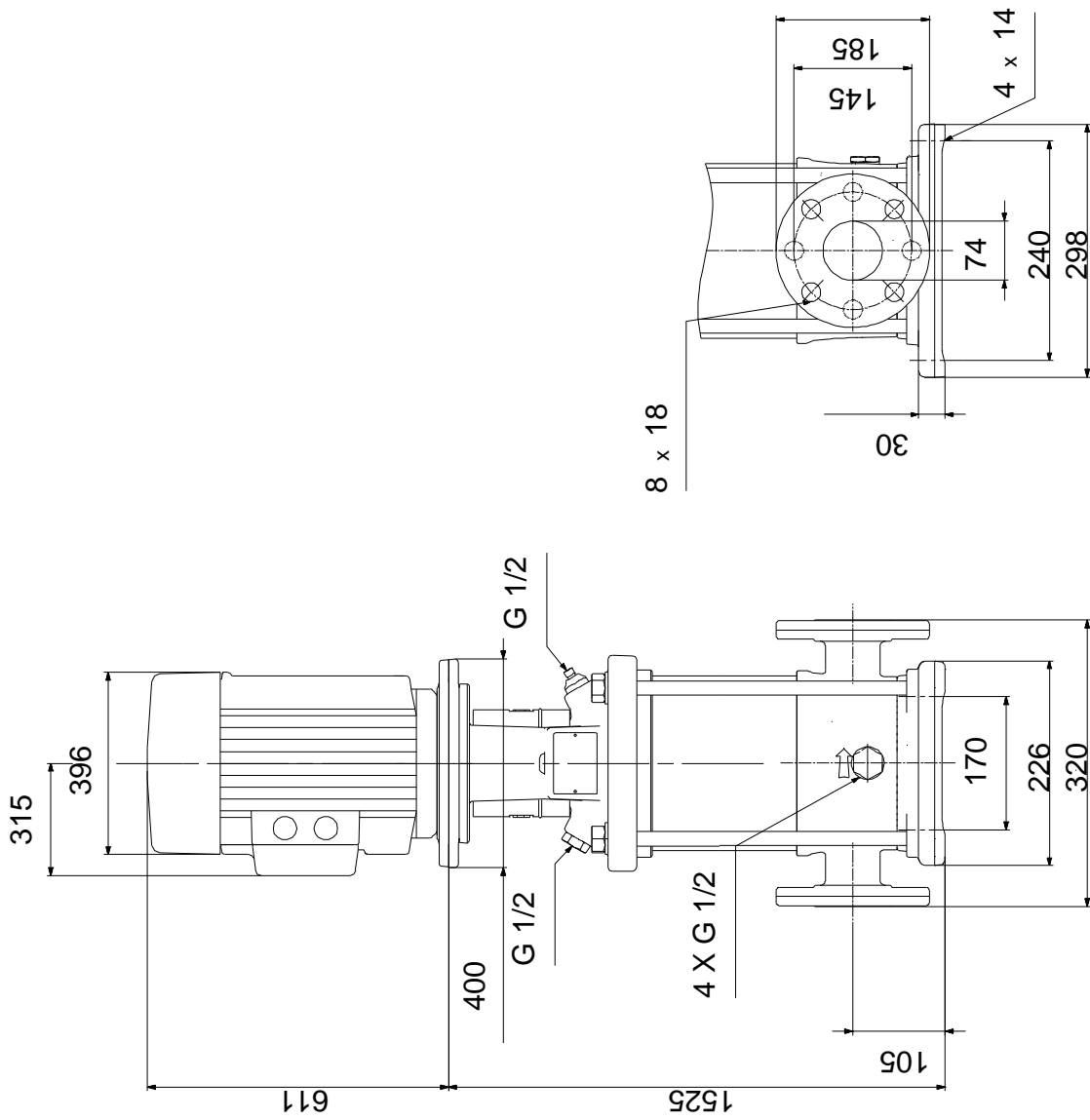
Motor standard: IEC  
 Motor type: SIEMENS  
 IE Efficiency class: IE3  
 Rated power - P2: 30 kW  
 Power (P2) required by pump: 30 kW  
 Mains frequency: 50 Hz  
 Rated voltage: 3 x 380-420D/660-725Y V  
 Rated current: 56,0-51,0/32,0-29,5 A  
 Starting current: 660-660 %  
 Cos phi - power factor: 0.86  
 Rated speed: 2955 rpm  
 Efficiency: IE3 93,3%  
 Motor efficiency at full load: 93.3-93.3 %  
 Motor efficiency at 3/4 load: 93.6-93.6 %  
 Motor efficiency at 1/2 load: 93.4-93.4 %  
 Number of poles: 2



IEC TP211 THERMALLY PROTECTED WHEN THE THERMISTORS ARE CONNECTED TO AMPLIFIER RELAY FOR CONTROL OF MAIN SUPPLY THERMISTORS ARE TO BE CONNECTED TO GND.

Description	Value
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	81U15332
<b>Controls:</b>	
Frequency converter:	NONE
<b>Others:</b>	
Minimum efficiency index, MEI :	0.7
Net weight:	350 kg
Gross weight:	400 kg
Shipping volume:	1.13 m <sup>3</sup>
Danish VVS No.:	385916142

# On request CRN 32-14-2 A-F-A-E-HQQE 50 Hz



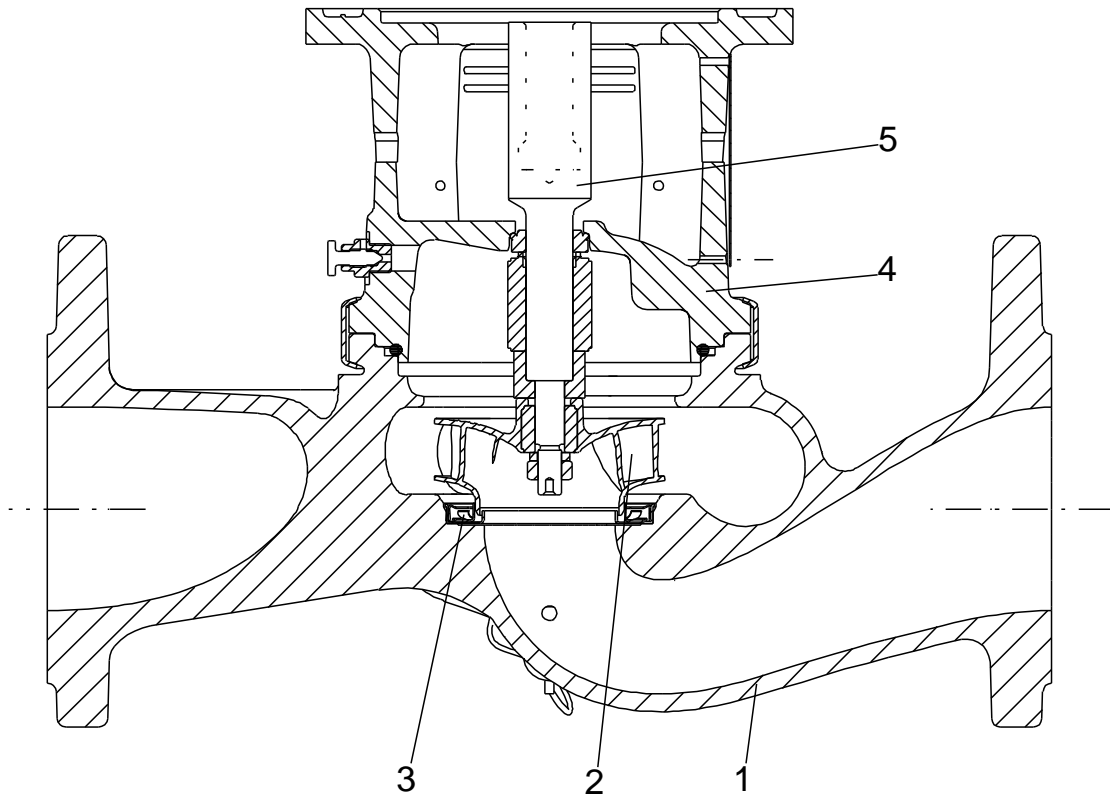
Note! All units are in [mm] unless others are stated.  
Disclaimer: This simplified dimensional drawing does not show all details.



Exploded view



Sectional drawing (TM058200 for TPE2,TPE3)



TM058200

Exploded view ( TM057026 for MGE model H/I )



**Parts list CRN 32-14-2, Product No. On request**  
**Valid from 1.4.2012 (1213)**

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
+	Motor				1	pcs
- 1	Basic unit				1	pcs
- 2a	Pump head cpl.				1	
2	Pump head				1	
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 25			
			Thread: M10			
- 18	Air vent screw				1	
	Plug					
	Spindle					
23	Plug				1	
37	O-ring				1	
58	Cover				1	
60	Spring				4	
100	O-ring		Diameter: 16,3		2	
			Material type: EPDM			
			Thickness: 2,4			
- 6b	Base cpl.		Rubber type: EPDM		1	
	Bearing ring, stationary				1	
6	Base				1	
25	Plug				4	
31	Hex socket head cap screw				1	
32	Washer		Designation: DIN 125A		1	
			Internal diameter: 6,4			
			Outer diameter: 12,0			
			Thickness: 1,6			
37	O-ring				1	
38	O-ring		Diameter: 16,3		4	
			Material type: EPDM			
			Thickness: 2,4			
56	Base plate				1	
26	Staybolt		Length (mm): 1192		4	
			Thread: M16			
36	Nut		Thread: M16		4	
55	Outer sleeve		Outer diameter: 197		1	
			Length (mm): 1005,5			
66a	Washer		Designation: DIN 125 A2		4	
			Internal diameter: 17			
			Outer diameter: 30			
			Thickness: 3			
- 1a	Motor stool cpl.				1	pcs
1a	Motor stool				1	
7	Coupling guard				2	
7a	Socket button head screw				4	
- 8	Coupling cpl.		Dimension: 22/55		1	
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 25			
			Thread: M10			
10a	Coupling half				2	
28	Hex head screw		Length (mm): 60		4	
			Thread: M16			
28	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 50			
			Thread: M10			
32a	Washer		Designation: DIN 125 A		8	
			Internal diameter: 17			
			Outer diameter: 30			
			Thickness: 3			
36	Hex nut		Thread: M16		4	

Pos	Description	Annotation	Données de classification	Référence	Quantité	Unité
- 76	Nameplate set				1	pcs
76	Plate				1	
76a	Rivet				2	
- 105	Shaft seal		Material type: HQQE		1	pcs
	Adjusting fork				1	
109	O-ring				1	
110	O-ring		Diameter: 21,5		1	
			Material type: EPDM			
			Thickness: 4,25			
- 200	Flange cpl.				2	pcs
201	Flange		Diameter: DN 65		1	
			Pressure: PN 40			
203	Lock ring				1	

*Disclaimer: The information about the Grundfos pump in this document may be outdated.*

*Data may be subject to alterations without further notice.*

*Please contact us to verify the data above is still accurate/up-to-date.*

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