

Qty.	Description
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1	CR 150-6 A-F-A-E-HBQE
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Note! Product picture may differ from actual product

Product No.: [95922381](#)

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. 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.

The pump is fitted with a 3-phase, fan-cooled asynchronous motor.

### Further product details

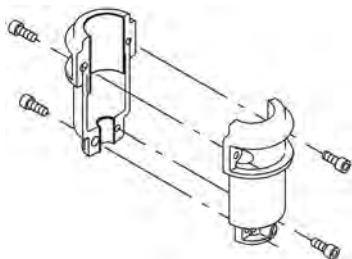
Steel, cast iron and aluminium components have an epoxy-based coating made in a cathodic electro-deposition (CED) process. CED is a high-quality dip-painting process where an electrical field around the products ensures deposition of paint particles as a thin, well-controlled layer on the surface. An 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.

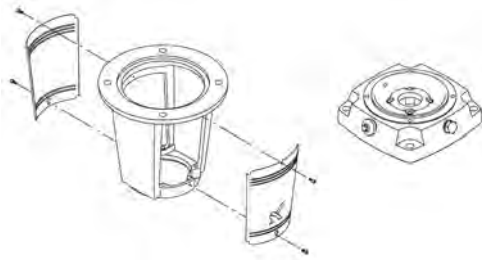
The colour code for the finished product is NCS 9000/RAL 9005.

### 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.

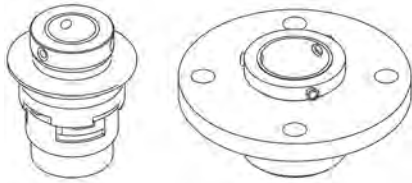
Primary seal:

- Rotating seal ring material: carbon graphite, resin-impregnated
- Stationary seat material: silicon carbide (SiC)

This material pairing has a very good corrosion resistance and is especially suitable for water up to 90 °C. The seal life will be reduced significantly at temperatures above 90 °C. The material pairing is not recommended for liquids containing particles as this will result in heavy wear on the SiC face.

Secondary seal material: EPDM (ethylene-propylene rubber)

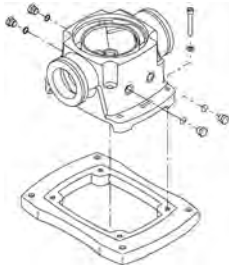
EPDM has excellent resistance to hot water. EPDM is not suitable for mineral oils.



The shaft seal is retained in the pump head by a cover and screws. It can be replaced without removing the motor.

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.

The base is made of cast iron and mounted on a separate cast-iron base plate. Both the inlet and the outlet side of the base have two pressure gauge tapings. 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.



## Motor

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).

Motor-mounting designation in accordance with IEC 60034-7: IM B 5 (Code I) / IM 3001 (Code II).

Electrical tolerances comply with IEC 60034.

The motor efficiency is classified as IE3 in accordance with IEC 60034-30-1.

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.

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.

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.

## Technical data

### Controls:

Frequency converter: NONE

### Liquid:

Pumped liquid: Water  
Liquid temperature range: 0 .. 120 °C  
Liquid temperature during operation: 20 °C  
Density: 998.2 kg/m<sup>3</sup>

### Technical:

Pump speed on which pump data are based: 2975 rpm  
Rated flow: 150 m<sup>3</sup>/h  
Rated head: 133.8 m  
Pump orientation: Vertical  
Shaft seal arrangement: Single  
Code for shaft seal: HBQE  
Approvals on nameplate: CE, EAC, ACS, DM174  
Curve tolerance: ISO9906:2012 3B

### Materials:

Base: Cast iron  
EN 1563 EN-GJS-500-7  
ASTM A536 80-55-06  
Impeller: Stainless steel  
EN 1.4301  
AISI 304  
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 / 0 °C  
Type of connection: DIN  
Size of inlet connection: DN 125  
Size of outlet connection: DN 125  
Pressure rating for pipe connection: PN 40  
Flange size for motor: FF500

### Electrical data:

Motor standard: IEC  
Motor type: SIEMENS  
IE Efficiency class: IE3  
Rated power - P2: 75 kW  
Power (P2) required by pump: 75 kW  
Mains frequency: 50 Hz  
Rated voltage: 3 x 380-420D/660-725Y V  
Rated current: 135-122/78,0-70,0 A  
Starting current: 680-680 %  
Cos phi - power factor: 0.89



Company name:

Created by:

Phone:

Date:

18/02/2019

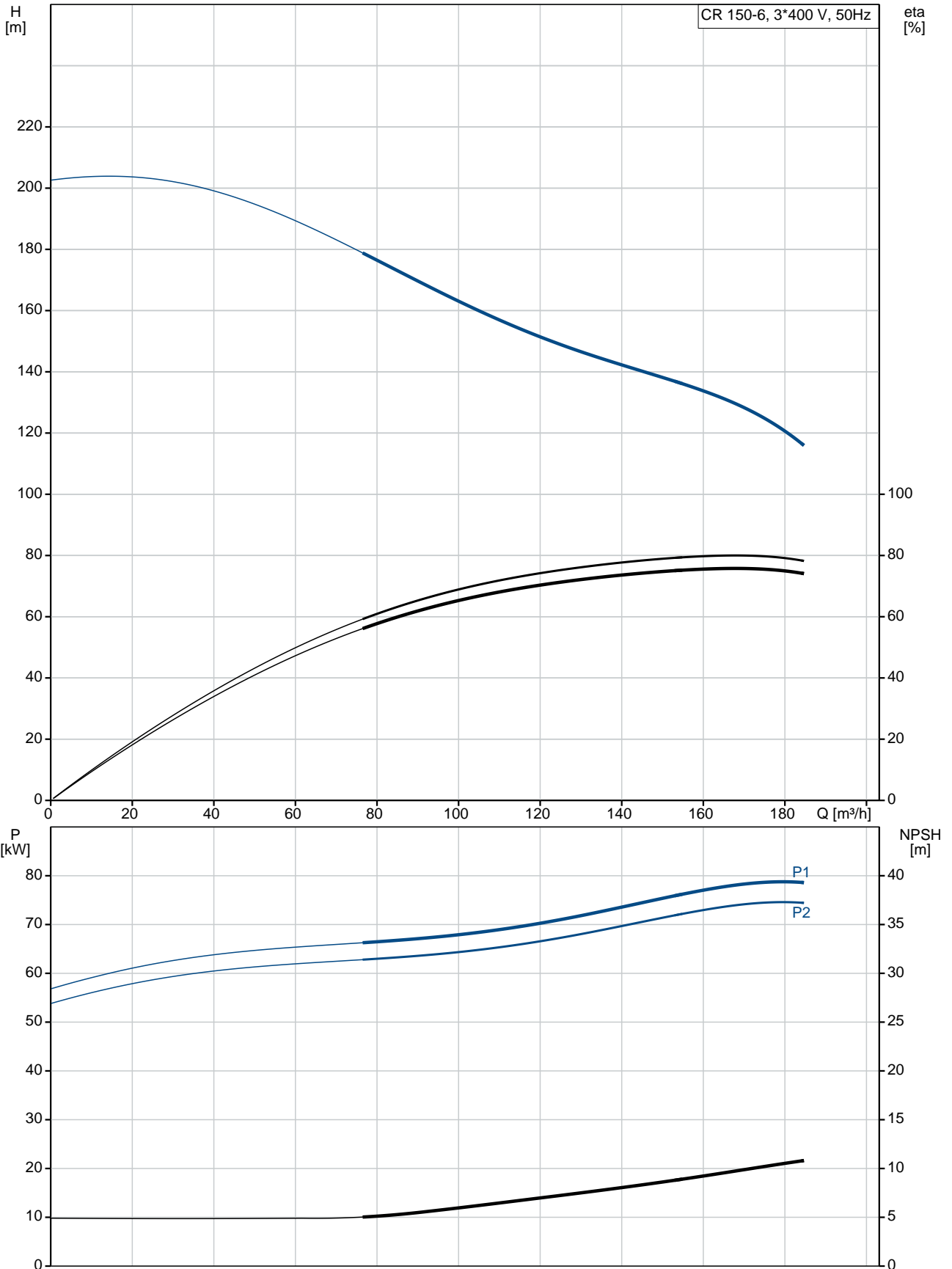
Qty.	Description
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Rated speed:	2975 rpm
Efficiency:	IE3 94,7%
Motor efficiency at full load:	94.7-94.7 %
Motor efficiency at 3/4 load:	94.8-94.8 %
Motor efficiency at 1/2 load:	94.1-94.1 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F

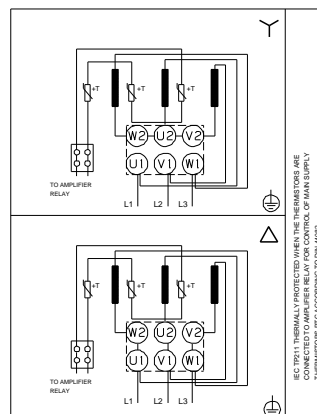
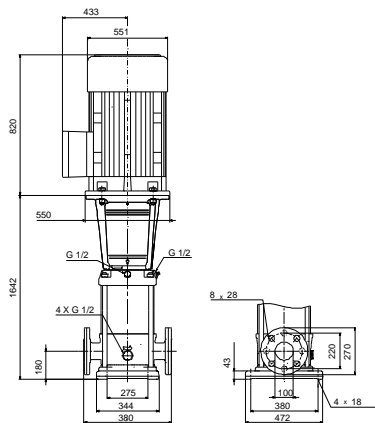
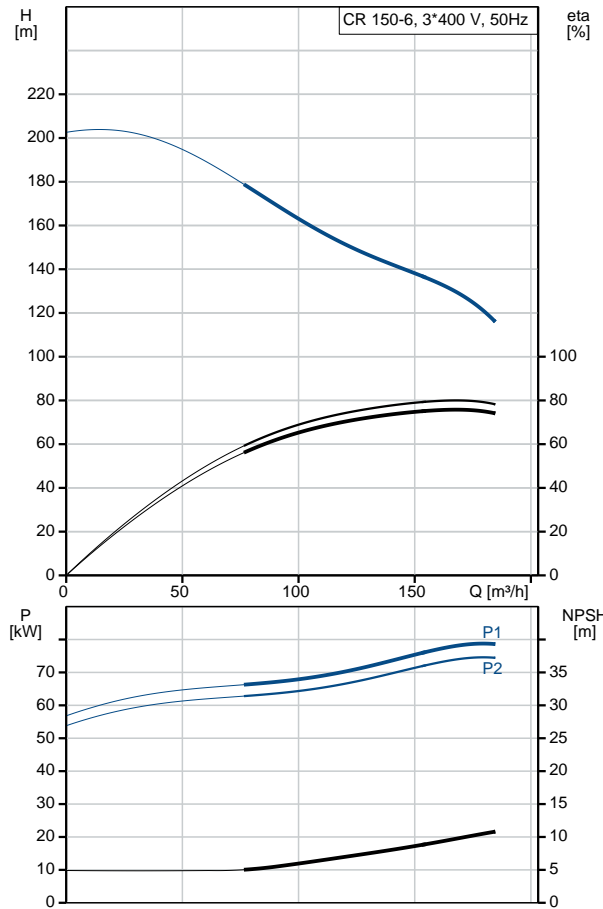
**Others:**

Minimum efficiency index, MEI $\eta_{min}$ :	0.70
Net weight:	738 kg
Gross weight:	902 kg
Shipping volume:	2.25 m <sup>3</sup>

## 95922381 CR 150-6 A-F-A-E-HBQE 50 Hz



Description	Value
<b>General information:</b>	
Product name:	CR 150-6 A-F-A-E-HBQE
Product No:	95922381
EAN number:	5700838935912
<b>Technical:</b>	
Pump speed on which pump data are based:	2975 rpm
Rated flow:	150 m <sup>3</sup> /h
Rated head:	133.8 m
Head max:	197.6 m
Stages:	6
Impellers:	6
Number of reduced-diameter impellers:	0
Low NPSH:	N
Pump orientation:	Vertical
Shaft seal arrangement:	Single
Code for shaft seal:	HBQE
Approvals on nameplate:	CE, EAC, ACS, DM174
Curve tolerance:	ISO9906:2012 3B
Pump version:	A
Model:	A
<b>Materials:</b>	
Base:	Cast iron EN 1563 EN-GJS-500-7
Impeller:	ASTM A536 80-55-06 Stainless steel EN 1.4301 AISI 304
Material code:	A
Code for rubber:	E
Bearing:	SIC
Support bearing:	Graflon
<b>Installation:</b>	
Maximum ambient temperature:	55 °C
Maximum operating pressure:	30 bar
Max pressure at stated temp:	30 bar / 120 °C 30 bar / 0 °C
Type of connection:	DIN
Size of inlet connection:	DN 125
Size of outlet connection:	DN 125
Pressure rating for pipe connection:	PN 40
Flange size for motor:	FF500
Connect code:	F
<b>Liquid:</b>	
Pumped liquid:	Water
Liquid temperature range:	0 .. 120 °C
Liquid temperature during operation:	20 °C
Density:	998.2 kg/m <sup>3</sup>
<b>Electrical data:</b>	
Motor standard:	IEC
Motor type:	SIEMENS
IE Efficiency class:	IE3
Rated power - P2:	75 kW
Power (P2) required by pump:	75 kW
Mains frequency:	50 Hz
Rated voltage:	3 x 380-420D/660-725V





Company name:

Created by:

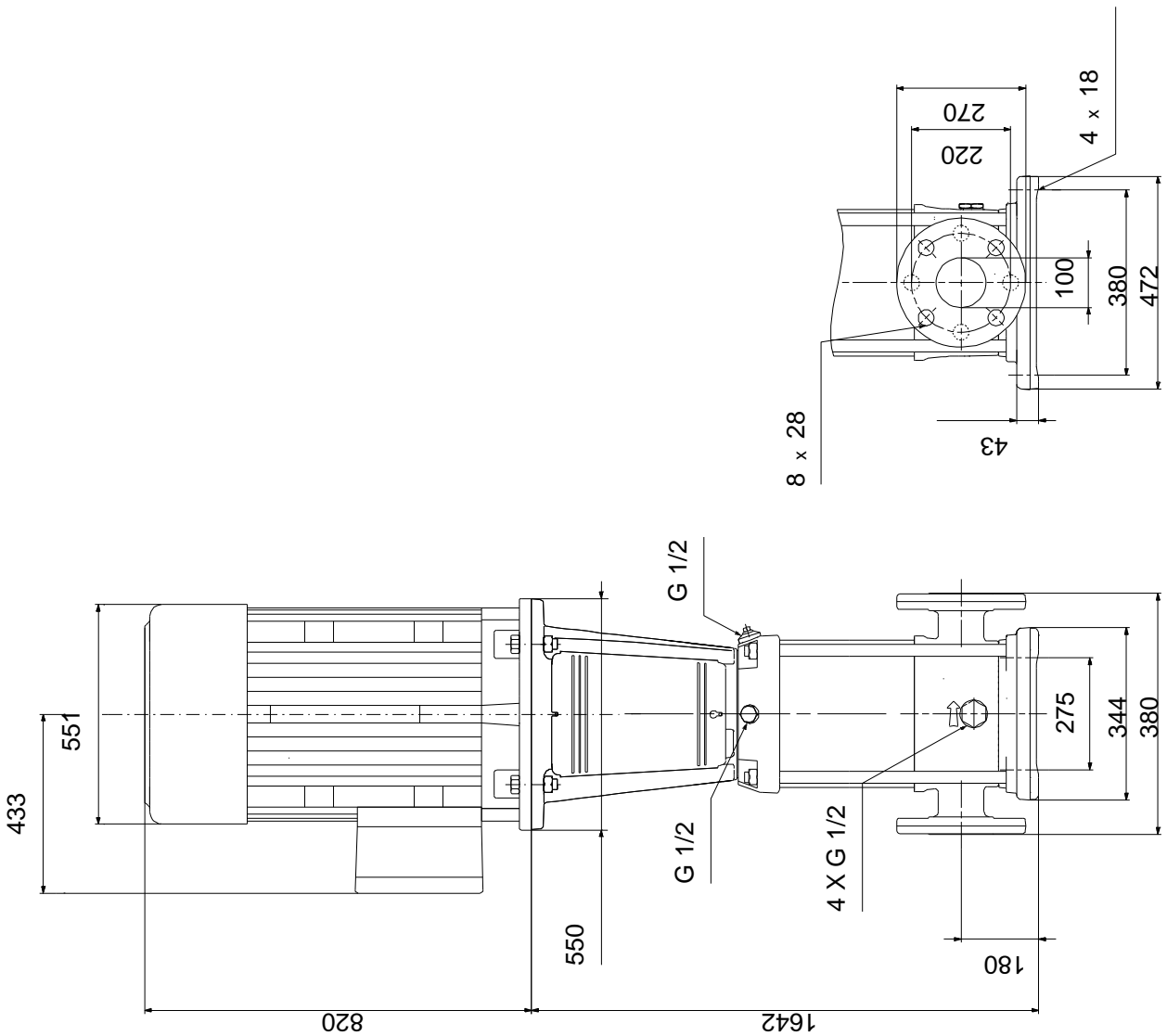
Phone:

Date:

18/02/2019

Description	Value
Rated current:	135-122/78,0-70,0 A
Starting current:	680-680 %
Cos phi - power factor:	0.89
Rated speed:	2975 rpm
Efficiency:	IE3 94,7%
Motor efficiency at full load:	94.7-94.7 %
Motor efficiency at 3/4 load:	94.8-94.8 %
Motor efficiency at 1/2 load:	94.1-94.1 %
Number of poles:	2
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F
Motor protec:	PTC
Motor No:	81U15340
<b>Controls:</b>	
Frequency converter:	NONE
<b>Others:</b>	
Minimum efficiency index, MEI $\eta_{min}$ :	0.70
Net weight:	738 kg
Gross weight:	902 kg
Shipping volume:	2.25 m <sup>3</sup>

## 95922381 CR 150-6 A-F-A-E-HBQE 50 Hz



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



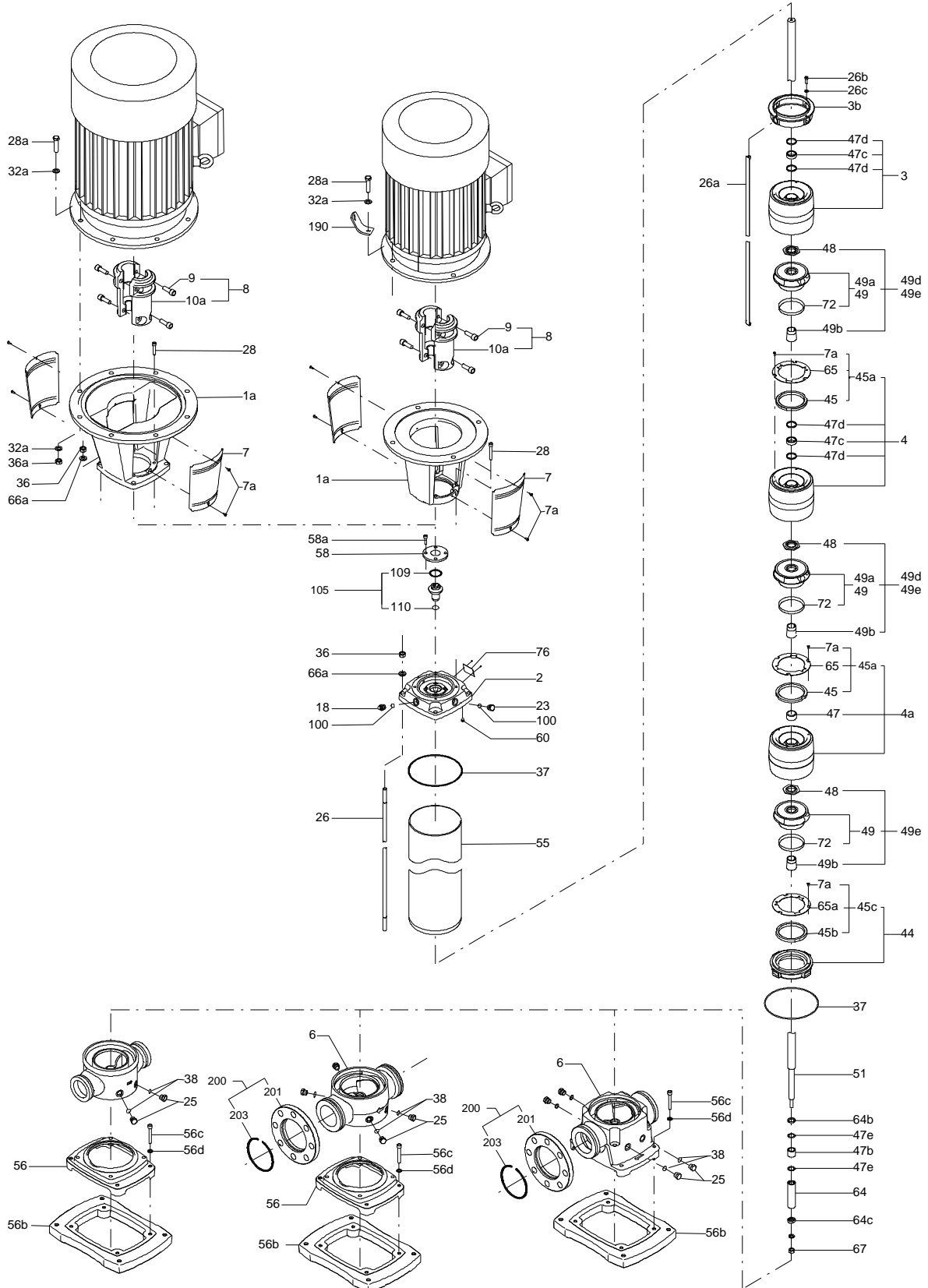
## 95922381 CR 150-6 A-F-A-E-HBQE 50 Hz



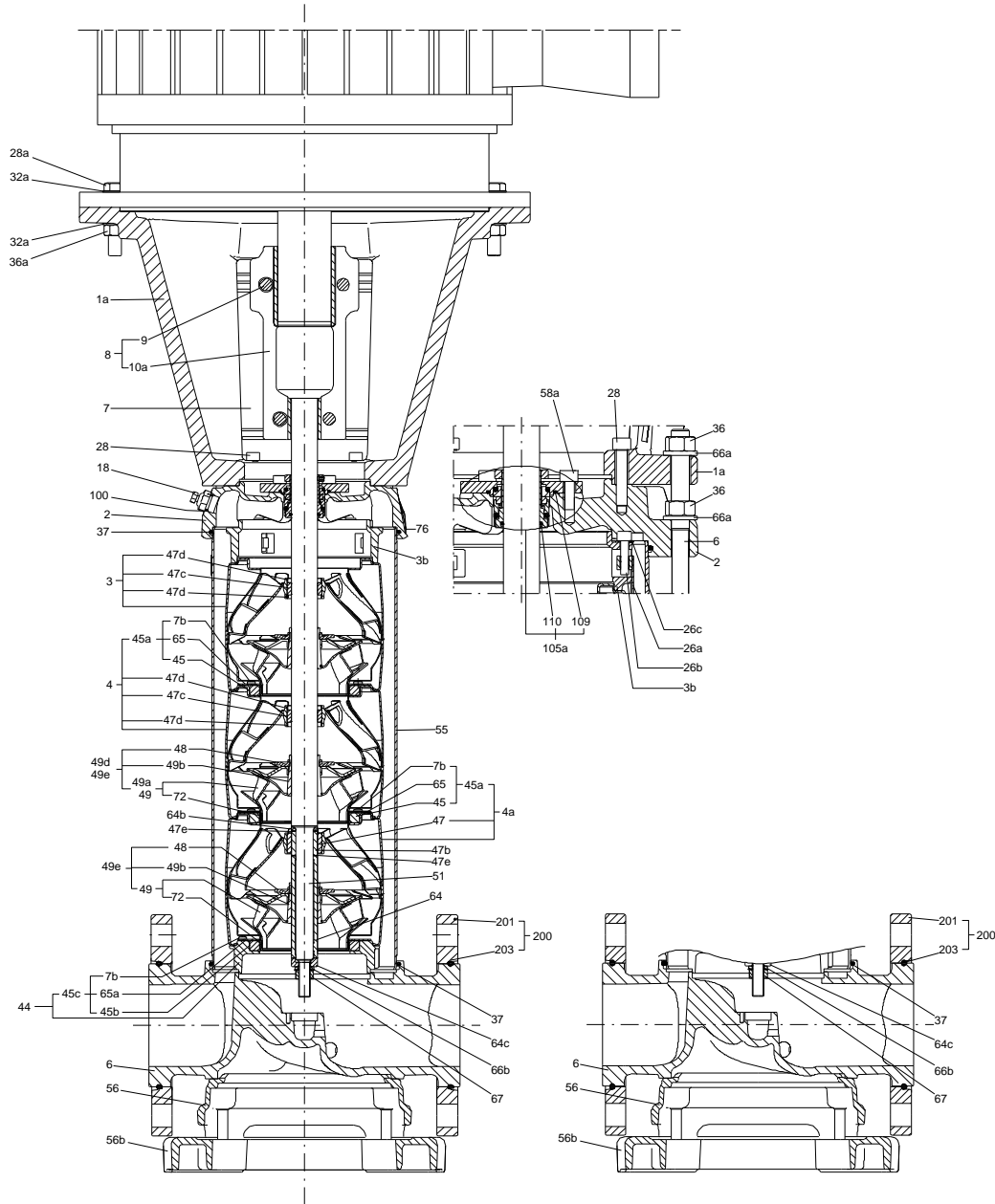
IEC TP211 THERMALLY PROTECTED WHEN THE THERMISTORS ARE  
CONNECTED TO AMPLIFIER RELAY FOR CONTROL OF MAIN SUPPLY  
THERMISTORS PTC ACCORDING TO DIN 44082

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

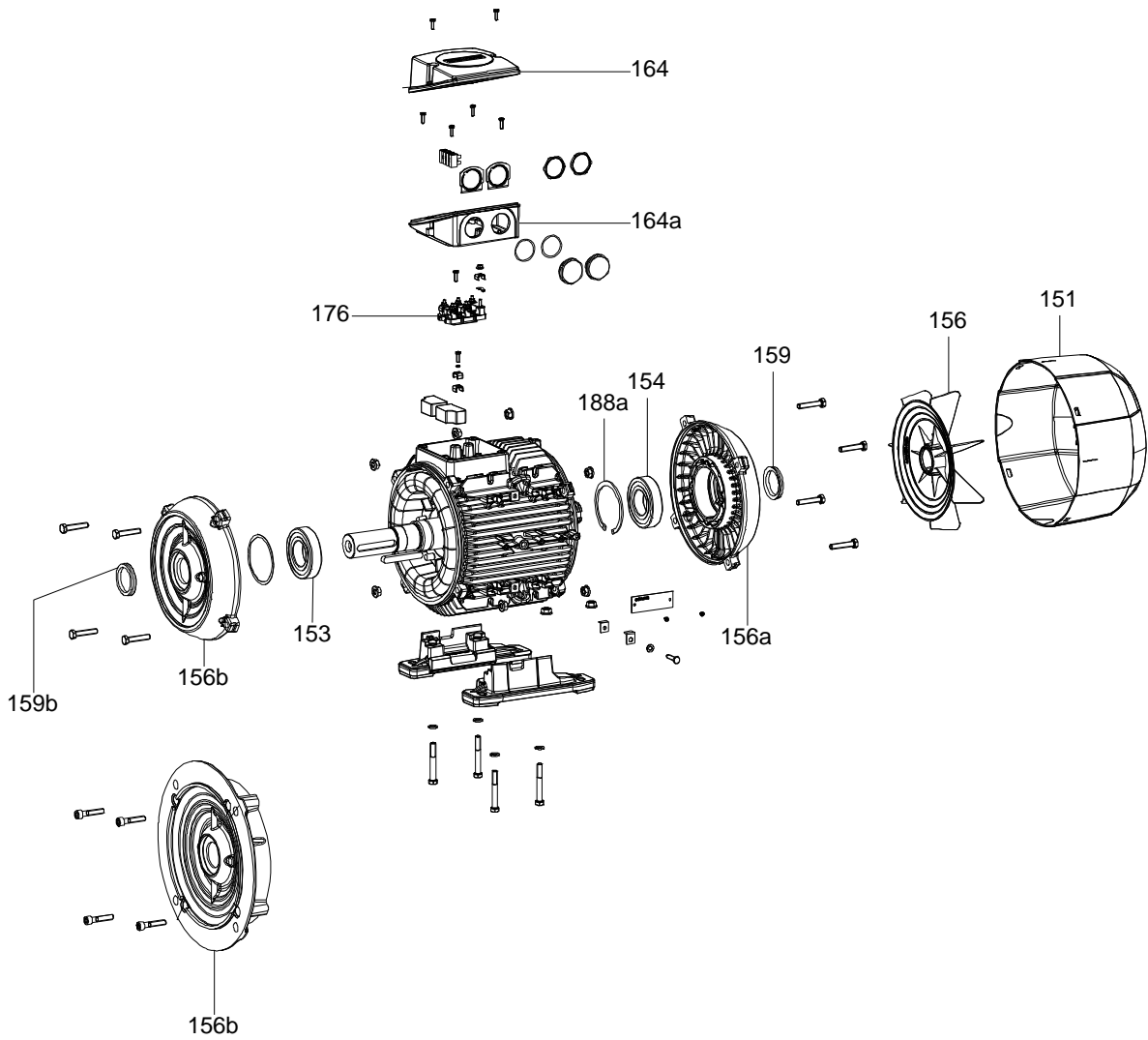
( TM065565 XLCR)



( TM065579 XLCR)



( TM058162 )



**Spare parts CR 150-6, Product No. 95922381**  
**Valid from 12.9.2007 (0737)**

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
-	Base			98807603	1	pcs
6	Base				1	
-	Kit, bearing			96752215	1	pcs
	Adjusting fork				1	
	Adjusting fork				1	
47e	Washer		Internal diameter: D22		2	
			Outer diameter: D32			
47b	Bearing ring, rotating				1	
-	Kit, chamber stack			95059854	1	pcs
-	80 Chamber stack				1	
-	Shaft cpl.		Diameter: D32			
			Length (mm): 1198			
47e	Washer		Internal diameter: D22			
			Outer diameter: D32			
47b	Bearing ring, rotating					
51	Pump shaft		Diameter: D32			
			Length (mm): 1198			
64c	Spacer ring					
64b	Wedge lock washer					
64b	Lock washer					
64	Spacing bush					
67	Hex nut		Thread: M14			
-	3 Chamber cpl.					
47d	Locking ring					
47c	Bush					
-	4a Chamber cpl.					
7a	Cross recess Pan head screw					
45	Neck ring					
47	Bearing ring					
65a	Retainer					
-	4 Chamber cpl.					
7a	Cross recess Pan head screw					
45	Neck ring					
47d	Locking ring					
47c	Bush					
65a	Retainer					
7a	Cross recess Pan head screw					
26c	Washer		Designation: DIN 125A			
			Thickness: 1,6			
26b	Hex socket head cap screw					
26a	Strap cpl.		Length (mm): 983			
44a	Discharge part					
-	44 Inlet part					
	Inlet part					
45b	Neck ring					
-	49e Impeller cpl.					
48	Split cone nut					
49b	Split cone					
-	49 Impeller cpl. reduced diameter					
49c	Wear ring					
65a	Retainer					
-	Kit, chambers			96751984	1	pcs
	Adjusting fork				1	

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
	Adjusting fork				1	
- 4a	Chamber cpl.				1	
7a	Cross recess Pan head screw					
45	Neck ring					
47	Bearing ring					
65a	Retainer					
-	Kit, coupling			95059813	1	pcs
	Adjusting fork				1	
- 8	Coupling		Dimension: 65/32		1	
10a	Coupling half					
9	Hex socket head cap screw		Designation: DIN 912		4	
			Length (mm): 45			
			Thread: M16			
-	Kit, coupling guard			96505135	1	pcs
7a	Socket button head screw				4	
7	Coupling guard				2	
-	Kit, gaskets			95059804	1	pcs
	Adjusting fork				1	
	Adjusting fork				1	
37	O-ring				2	
38	O-ring		Diameter: 16,3		4	
			Material type: EPDM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		2	
			Material type: EPDM			
			Thickness: 2,4			
60	Spring				4	
109	O-ring				1	
109	O-ring		Material type: EPDM		1	
110	O-ring				1	
110	O-ring		Diameter: 21,5		1	
			Material type: EPDM			
			Thickness: 4,25			
-	Kit, plug			96505136	1	pcs
- 18	Air vent screw				1	
	Spindle					
	Plug					
25	Plug				4	
25	Plug				1	
38	O-ring		Diameter: 16,3		2	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		4	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		6	
			Material type: FKM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		2	
			Material type: EPDM			
			Thickness: 2,4			
38	O-ring		Diameter: 16,3		4	
			Material type: EPDM			
			Thickness: 2,4			
-	Kit, shaft			98368851	1	pcs
-	Shaft cpl.		Diameter: D32		1	
			Length (mm): 1198			
47e	Washer		Internal diameter: D22			
			Outer diameter: D32			

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
47b	Bearing ring, rotating					
51	Pump shaft		Diameter: D32 Length (mm): 1198			
64c	Spacer ring					
64b	Wedge lock washer					
64b	Lock washer					
64	Spacing bush					
67	Hex nut		Thread: M14			
47e	Washer		Internal diameter: D22 Outer diameter: D32		2	
47b	Bearing ring, rotating				1	
51	Pump shaft		Diameter: D32 Length (mm): 1198		1	
64c	Spacer ring				1	
64b	Wedge lock washer				1	
64b	Lock washer				1	
64	Spacing bush				1	
67	Hex nut		Thread: M14		1	
-	Kit, shaft seal HBQE			95059800	1	pcs
105	Shaft seal		Material type: HBQE		1	
-	Kit, wear parts			95059811	1	pcs
	Adjusting fork				1	
	Adjusting fork				1	
7a	Cross recess Pan head screw				18	
45	Neck ring				6	
47e	Washer		Internal diameter: D22 Outer diameter: D32		2	
47d	Locking ring				10	
47c	Bush				5	
47b	Bearing ring, rotating				1	
49c	Wear ring				6	
65a	Retainer				6	
	Bulk, Gasket (10 pcs)			99158755	1	pcs
-	Motor				1	pcs
151	Kit, fan cover			99018554	1	
156b	Kit, flange			98062295	1	
	Kit, lubrication nipple			98062536	1	
156a	Kit, ND-end shield cpl.			98062520	1	
159b	Kit, seal ring			98062554	1	
176	Kit, terminal board			98062239	1	
164a	Kit, terminal box			98062264	1	
156	Spare, motor fan			96766463	1	
1a	Motor stool			99367309	1	pcs
2	Pump head			98906052	1	pcs
+ 3	Chamber cpl.			98371400	1	pcs
+ 4a	Chamber cpl.			98371404	1	pcs
- 4	Chamber cpl.			98371402	4	pcs
65a	Retainer			98461640	1	
6	Base			99321771	1	pcs
7a	Bulk, Socket button head screw (10 pcs)			96549696	4	pcs
7	Bulk, Coupling guard (10 pcs)			96603279	2	pcs
+ 18	Bulk, Air vent screw (5 pcs)			96547461	1	pcs
+ 18	Air vent screw			95061351	1	pcs
25	Bulk, Plug (10 pcs)			96536013	1	pcs
26c	Bulk, Washer (4 pcs)		Designation: DIN 125A Thickness: 1,6	99262704	4	pcs
26c	Washer		Designation: DIN 125A Thickness: 1,6	96586880	4	pcs

Pos	Description	Annotation	Classification Data	Part no.	Qty.	Unit
26b	Bulk, Hex socket head cap screw (10 pcs)			98931380	4	pcs
26a	Strap cpl.		Length (mm): 983	98984448	4	pcs
26	Staybolt		Length (mm): 1208 Thread: M16	98976646	4	pcs
28	Bulk, Hex socket head cap screw (10 pcs)		Designation: DIN 912 Length (mm): 50 Thread: M10	96536147	4	pcs
28	Bulk, Hex head screw (20 pcs)		Length (mm): 60 Thread: M16	97506949	8	pcs
32	Bulk, Washer (100 pcs)		Designation: DIN 125 A Internal diameter: 17 Outer diameter: 30 Thickness: 3	98923051	16	pcs
36	Bulk, Hex nut (20 pcs)		Thread: M16	96620480	8	pcs
38	Bulk, O-ring (10 pcs)		Diameter: 16,3 Material type: EPDM Thickness: 2,4	99198815	2	pcs
38	Bulk, O-ring (50 pcs)		Diameter: 16,3 Material type: EPDM Thickness: 2,4	99412727	2	pcs
44a	Discharge part			99052574	1	pcs
+ 44	Inlet part			99106112	1	pcs
- 49e	Impeller cpl.			98394378	6	pcs
48	Bulk, Split cone nut (10 pcs)			96551333	1	
55	Outer sleeve		Outer diameter: 225 Length (mm): 1006,5	99021303	1	pcs
56b	Base plate			99048161	1	pcs
60	Bulk, Spring (20 pcs)			96536032	4	pcs
65a	Retainer			98461640	1	pcs
440b	Bulk, Lock ring (4 pcs)			96547435	1	pcs