

Submittal Data

PROJECT:	UNIT TAG:	QUANTITY:	
	 TYPE OF SERVICE:		
REPRESENTATIVE:	 SUBMITTED BY:	 DATE:	
ENGINEER:	APPROVED BY:	DATE:	
CONTRACTOR:	 ORDER NO.:	 DATE:	

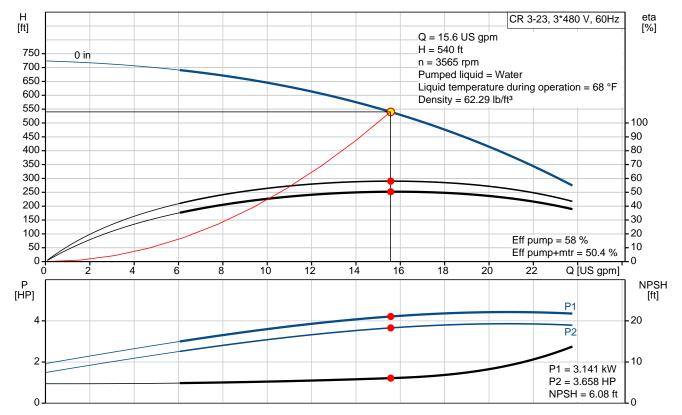


CR 3-23

Vertical, multistage centrifugal pump with suction and discharge ports on the same level. The pump head and base are in cast iron. All other wetted parts are in stainless steel (EN 1.4301)(AISI 304)

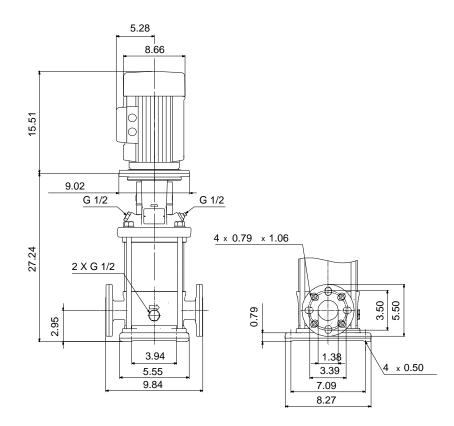
Product photo could vary from the actual product

Conditions	of Service	Pump Data		Moto	or Data
Flow:	15.6 US gpm	Max pressure at stated temperature:	363 psi / 194 °F	Rated power - P2:	5.5 HP
Head:	540 ft	Maximum ambient temperature:	140 °F	Rated voltage:	208-230YY/460Y V
Efficiency:	50.4 %	Approvals:	CURUS	Main frequency:	60 Hz
Liquid:	Water	Shaft seal:	HQQV	Enclosure class:	55 Dust/Jetting
Temperature:	68 °F	Product number:	96083322	Insulation class:	F
NPSH required:	6.08 ft			Motor protection:	PTC
Viscosity:				Motor type:	112CA
Specific Gravity:	1.000			Motor_efficiency:	88.5 %



Submittal Data





Materials:

Impeller:

Base:

Cast iron EN 1561 EN-GJL-200 ASTM A48-25B Stainless steel AISI 304 EN 1.4301 ode: A

Material code: A Code for rubber: V



2/20/2018

Tender Text



Product No.: 96083322 CR 3-23 A-FGJ-A-V-HQQV Vertical, non-self-priming, multistage, in-line, centrifugal pump for installation in pipe systems and mounting on a foundation. The pump has the following characteristics: Impellers and intermediate chambers are made of The shaft seal has assembly length according to EN 12756. - Power transmission is via cast iron split coupling. The motor is a 3-phase AC motor. Controls: Frequency converter: NONE Liquid: Pumped liquid: Water Liquid temperature during operation: 68 °F Density: 62.29 lb/ft3 Technical: Speed for pump data: 3461 rpm Actual calculated flow: 15.6 US gpm Resulting head of the pump: 540 ft Pump orientation: Vertical Shaft seal arrangement: Single Code for shaft seal: HQQV Approvals on nameplate: CURUS Curve tolerance: ISO9906:2012 3B Materials: Base: Cast iron EN 1561 EN-GJL-200 **ASTM A48-25B** Impeller: Stainless steel EN 1.4301 AISI 304 Bearing material: SIC Installation: Maximum ambient temperature: 140 °F Max pressure at stated temperature: 363 psi / 194 °F 363 psi / -4 °F Type of connection: DIN / ANSI / JIS Size of inlet connection: DN 25/32



Date:

2/20/2018

Size of suction port: Size of outlet connection: Size of outlet port: Pressure rating: Flange size for motor: Flange rating inlet:	1 1/4 inch DN 25/32 1 1/4 inch PN 25 182TC 250 lb
Electrical data:	
Motor standard:	NEMA
Motor type:	112CA
IE Efficiency class:	NEMA Premium / IE3 60Hz
Rated power - P2:	5.5 HP
Power (P2) required by pump:	
Main frequency:	60 Hz
Rated voltage:	3 x 208-230YY/460Y V
Service factor:	1,15
Rated current:	14,1-13,1/7,29 A
Starting current:	1000-1470 %
Cos phi - power factor:	0,89-0,86
Rated speed:	3525-3540 rpm
IE efficiency:	IE3 88,5%
Motor efficiency at full load:	88.5 %
Motor efficiency at 3/4 load:	88.6 %
Motor efficiency at 1/2 load:	85.2 %
Number of poles:	2 EE Duct/Jetting
Enclosure class (IEC 34-5):	55 Dust/Jetting
Insulation class (IEC 85):	F

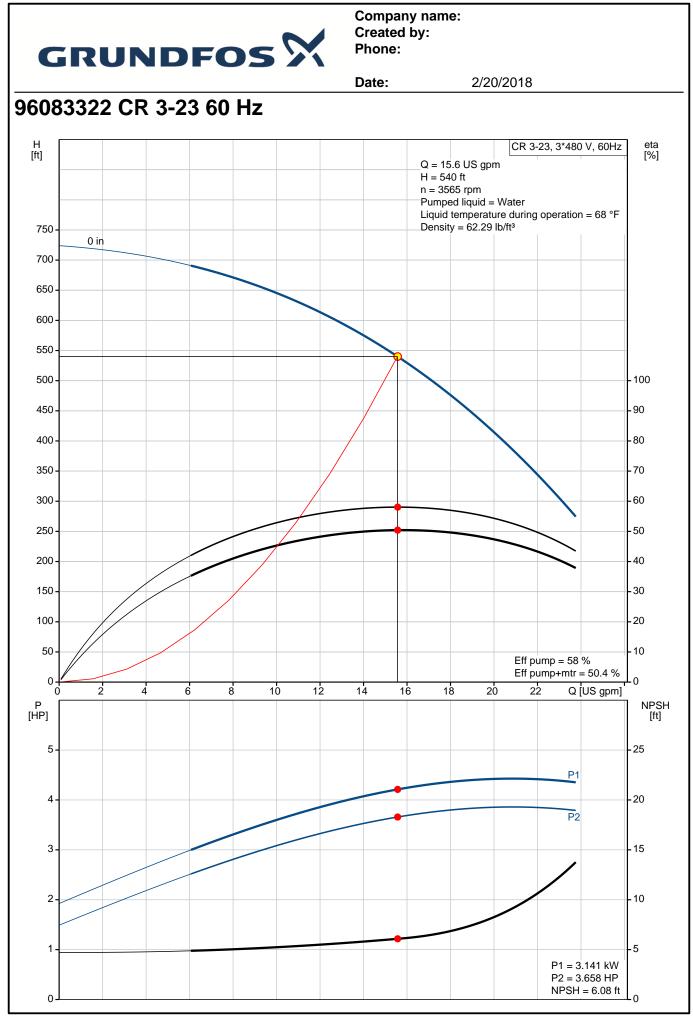
Others:

Net weight:	151 lb
Gross weight:	169 lb
Shipping volume:	10.1 ft ³

G	RU	INDFOS	Company Created by Phone:		
			Date:	2/20/2018	
Position	Count	Description			
	1	CR 3-23 A-FGJ-A-V-HQQV			
		Product No.: 96083322 Vertical, non-self-priming, multi centrifugal pump for installation and mounting on a foundation.			
		The pump has the following cha - Impellers and intermedia - The shaft seal has asser according to EN 12756. - Power transmission is vi coupling.	ate chambers are made mbly length	of	
		The motor is a 3-phase AC mot	or.		
		Controls: Frequency converter:	NONE		
		Liquid: Pumped liquid: Liquid temperature during opera Density:	Water ation: 68 °F 62.29 lb/ft³		
		Technical: Speed for pump data: Actual calculated flow: Resulting head of the pump: Pump orientation: Shaft seal arrangement: Code for shaft seal: Approvals on nameplate: Curve tolerance:	3461 rpm 15.6 US gpm 540 ft Vertical Single HQQV CURUS ISO9906:2012 3B		
		Materials: Base:	Cast iron EN 1561 EN-GJL-200)	
		Impeller:	ASTM A48-25B Stainless steel EN 1.4301		
		Bearing material:	AISI 304 SIC		
		Installation: Maximum ambient temperature Max pressure at stated tempera			
		Type of connection: Size of inlet connection: Size of suction port:	DIN / ANSI / JIS DN 25/32 1 1/4 inch		



			Date:	2/20/2018
Position	Count	Description		
		Size of outlet connection:	DN 25/32	
		Size of outlet port:	1 1/4 inch	
		Pressure rating:	PN 25	
		Flange size for motor:	182TC	
		Flange rating inlet:	250 lb	
		Electrical data:		
		Motor standard:	NEMA	
		Motor type:	112CA	
		IE Efficiency class: Rated power - P2:	NEMA Premium / IE3 60Hz 5.5 HP	
		Power (P2) required by pump:	5.5 HP	
		Main frequency:	60 Hz	
		Rated voltage:	3 x 208-230YY/460Y V	
		Service factor:	1,15	
		Rated current:	14,1-13,1/7,29 A	
		Starting current:	1000-1470 %	
		Cos phi - power factor:	0,89-0,86	
		Rated speed:	3525-3540 rpm	
		IE efficiency: Motor efficiency at full load:	IE3 88,5% 88.5 %	
		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	
		Others:		
		Net weight:	151 lb	
		Gross weight:	169 lb	
		Shipping volume:	10.1 ft ³	
	I	I		



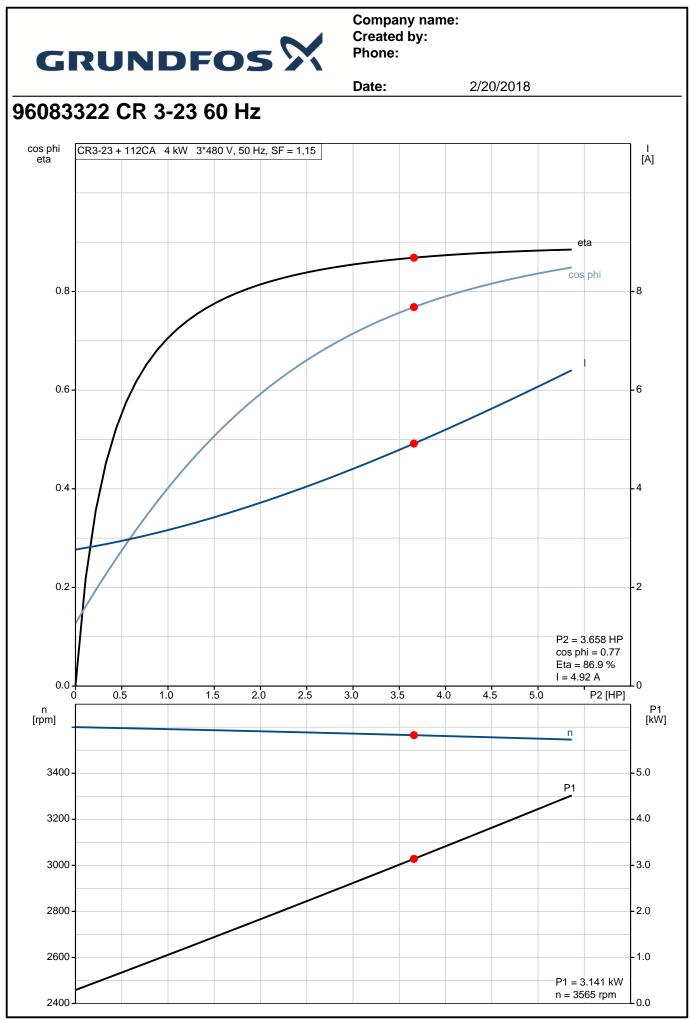


		Date:	2/2	0/2018			
Description	Value	H [ft]			CR 3-23,	3*480 V, 60Hz	eta [%]
General information:				.6 US gpm			
Product name:	CR 3-23 A-FGJ-A-V-HQQV	750	H = 54 n = 35				
Product No.:	96083322	750 - 0 in	Pumpe	ed liquid = W			1
EAN:	5700395184907	700 -	Liquid	temperature y = 62.29 lb،	e during ope /ft ³	eration = 68 °F	1
EAN.	5700595184907	650 -		,			
Technical:		600 -		\mathbf{i}			1
Speed for pump data:	2461 rpm	550 -			ຄ		-
	3461 rpm	500 -		j			100
Actual calculated flow:	15.6 US gpm	450 -		/			90
Resulting head of the pump:	540 ft	400 -					- 80
Stages:	23	350 -					70
Impellers:	23						
Low NPSH:	Ν	300 -		-	•		- 60
Pump orientation:	Vertical	250 -			<u> </u>		- 50
Shaft seal arrangement:	Single	200 -				<u>``</u>	40
Code for shaft seal:	HQQV	150 -					- 30
Approvals on nameplate:	CURUS	100-					20
Curve tolerance:	ISO9906:2012 3B	50 -			Eff pump		- 10
Pump version:	A	0			Eff pump	+mtr = 50.4 %	\int_{0}^{∞}
Model:	A	o	5 10	15	2	20 Q [US gpm]	Ũ
Cooling:	TEFC	P [HP]					NPSF [ft]
Cooling.		5-					- 25
Materials:		-				P1	
	Costines	4 -					- 20
Base:	Cast iron	-				P2	
	EN 1561 EN-GJL-200	3-					- 15
	ASTM A48-25B	2					- 10
Impeller:	Stainless steel	2			_		T ¹⁰
	EN 1.4301	1				P1 = 3.141 kW	-5
	AISI 304					P2 = 3.658 HP NPSH = 6.08 ft	
Material code:	A	• •				VI ON = 0.00 It	Lo
Code for rubber:	V	•					
Bearing material:	SIC		5.28				
Installation:							
Maximum ambient temperature:	140 °F	15.51					
Max pressure at stated temperature:	363 psi / 194 °F	-	Ţ				
· · · · · · · · · · · · · · · · · · ·	363 psi / -4 °F	9.02					
Type of connection:	DIN / ANSI / JIS	<u>G</u>					
Connect code:	FGJ	- 		0.79 × 1.06			
Size of inlet connection:	DN 25/32	52 2X C	3 1/2	π	$\overline{1}$		
	1 1/4 inch	-				8	
Size of suction port:			PL KI	8- J		ő	
Size of outlet connection:	DN 25/32	• • • •	3.94	· [7]	1.38	0.50	
Size of outlet port:	1 1/4 inch		<u>5.55</u> 9.84		7.09	× 0.50	
Pressure rating:	PN 25				8.27		
Flange size for motor:	182TC						
Flange rating inlet:	250 lb						
Liquid:		_	M WARNING				
Pumped liquid:	Water	MOTOR MUST	BE GROUNDED IN ACCORDANC	E			
Liquid temperature during operation:	68 °F	WITH THE NAT LOCAL CODES	TIONAL ELECTRICAL CODE AND BY TRAINED PERSONNEL TO				
Density:	62.29 lb/ft ³	TO SERVICE M	NOUS ELECTRICAL SHOCKS.				
		SOURCE FROM DEVICES AND	M MOTOR AND ANY ACCESSOR ALLOW MOTOR TO COME TO A	Y			
Electrical data:		COMPLETE ST	HIGH VOLT	AGE			
Motor standard:	NEMA	60Hz. 208-		40			
Motor type:	112CA	9 8	7	II			
IE Efficiency class:	NEMA Premium / IE3 60Hz	3 2	1♥ 9● 8● 3♥ 2♥	7● 1● 8			
Rated power - P2:	5.5 HP	L3 L2	L1 L3 L2	L1 18			
•		-	INTERCHANGE ANY TWO LINE WIEES TO BEVERSE BOTATION THERMOSTAT LEADS	-			
Power (P2) required by pump:	5.5 HP		(WHEN PROVIDED)	 ;			
Main frequency:	60 Hz						
Rated voltage:	3 x 208-230YY/460Y V						

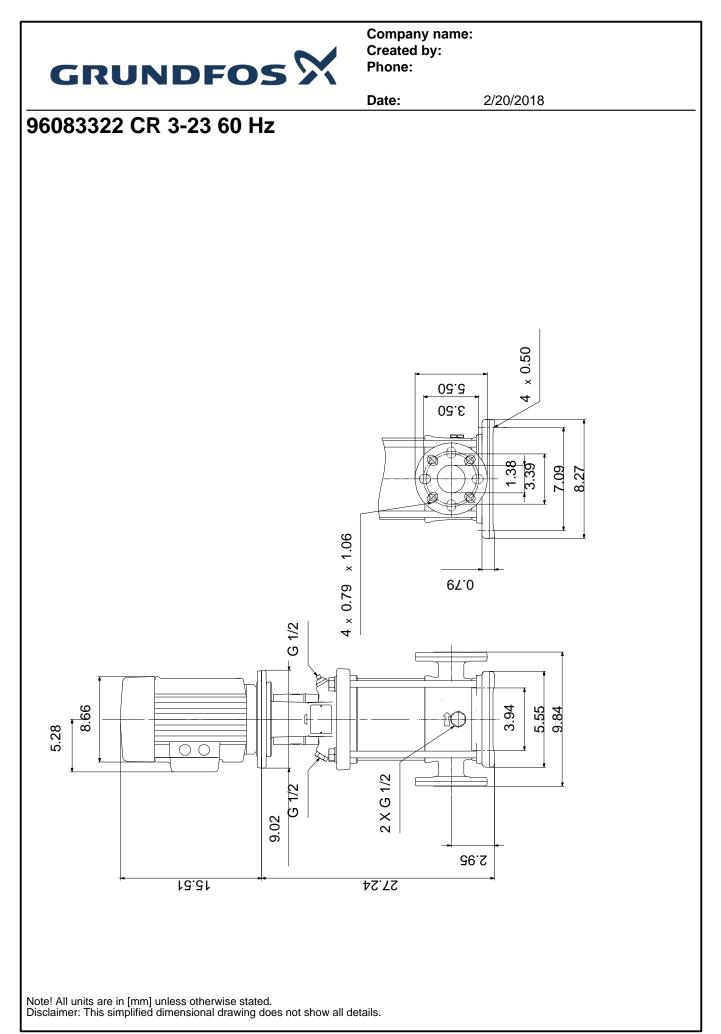
Printed from Grundfos Product Center [2017.09.058]



		Date:	
Description	Value		
Service factor:	1,15		
Rated current:	14,1-13,1/7,29 A		
Starting current:	1000-1470 %		
Load current:	16,2-15,0/8,40 A		
Cos phi - power factor:	0,89-0,86		
Rated speed:	3525-3540 rpm		
IE efficiency:	IE3 88,5%		
Motor efficiency at full load:	88.5 %		
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		
Motor protection:	PTC		
Motor Number:	85904389		
Controls:			
Frequency converter:	NONE		
Others:			
Net weight:	151 lb		
Gross weight:	169 lb		
Shipping volume:	10.1 ft ³		



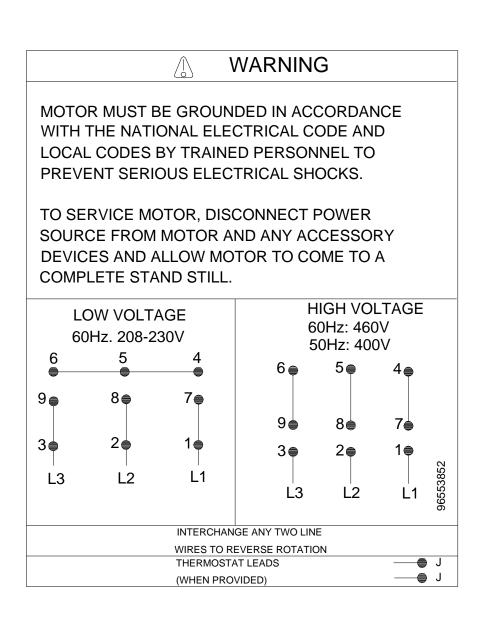
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96083322 CR 3-23 60 Hz



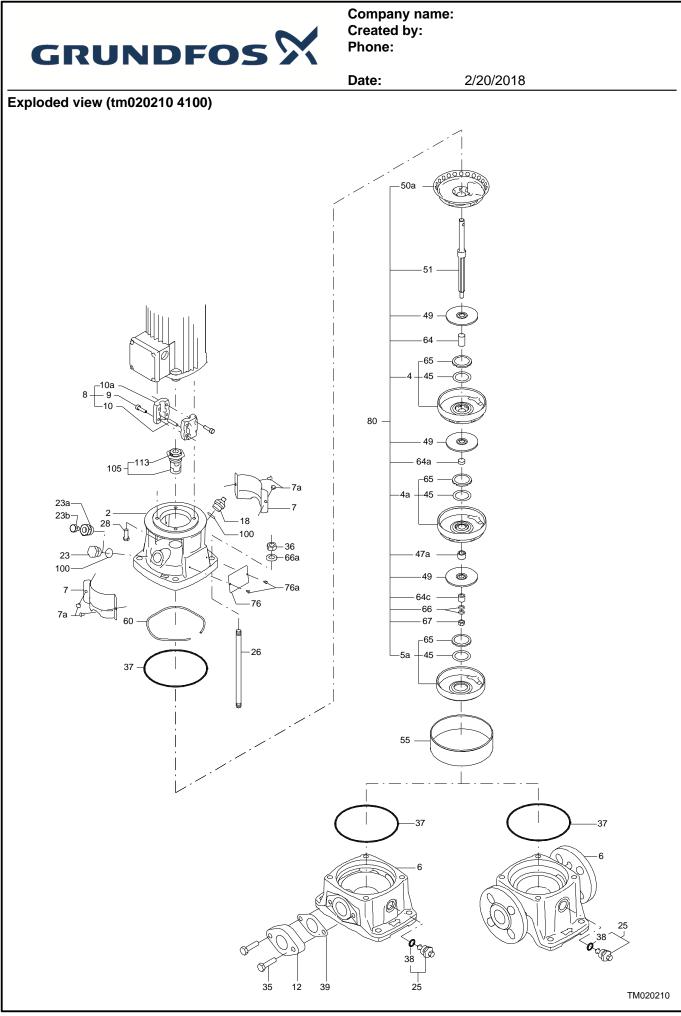


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Order Data:

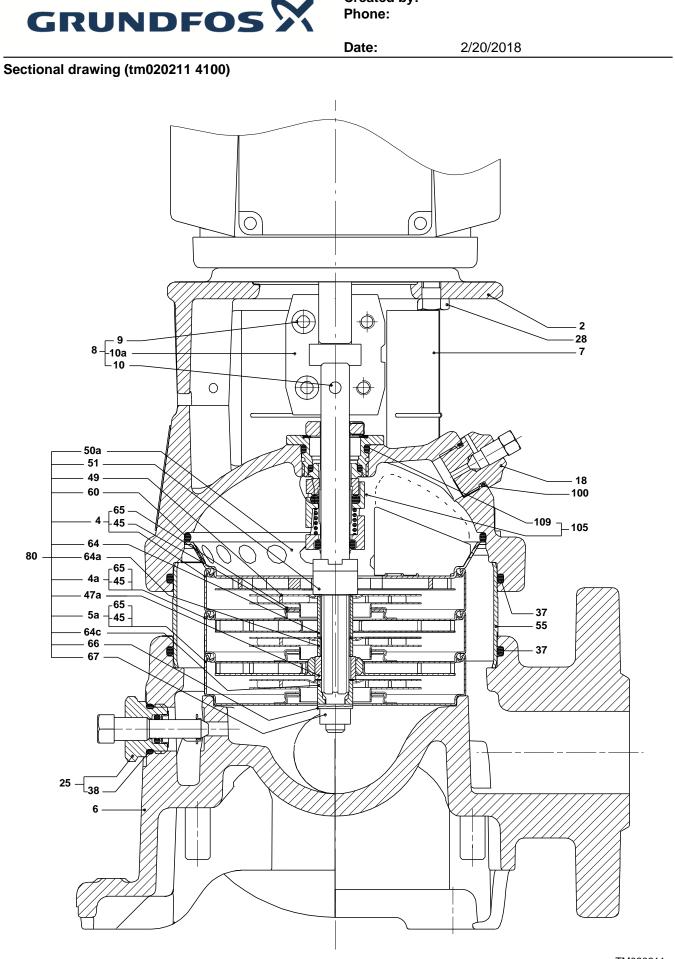
Product name: CR 3-23 A-FGJ-A-V-HQQV Amount: 1 Product No.: 96083322

Total: Price on request





Company name: Created by:



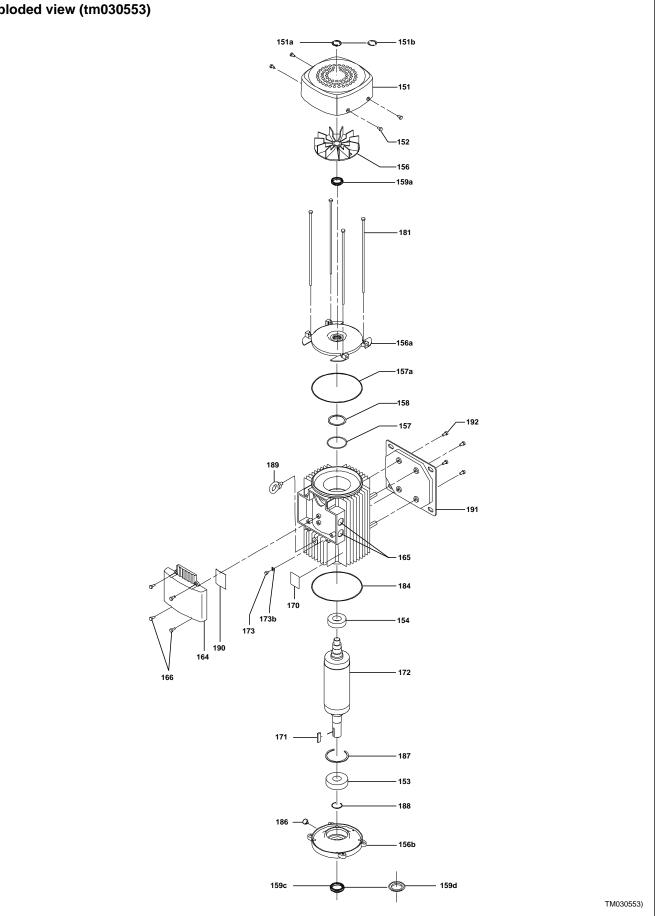
TM020211



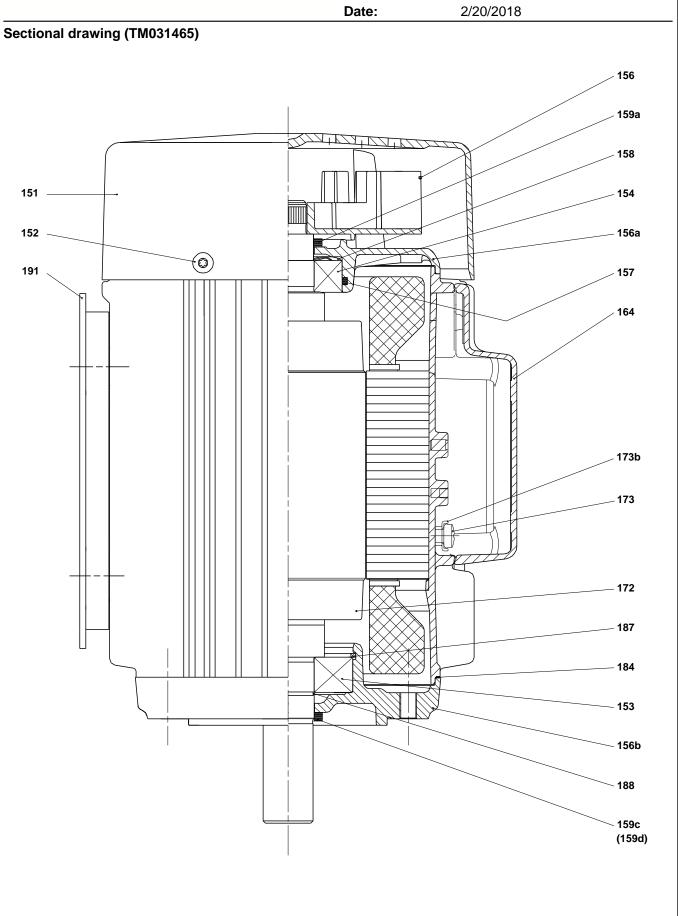


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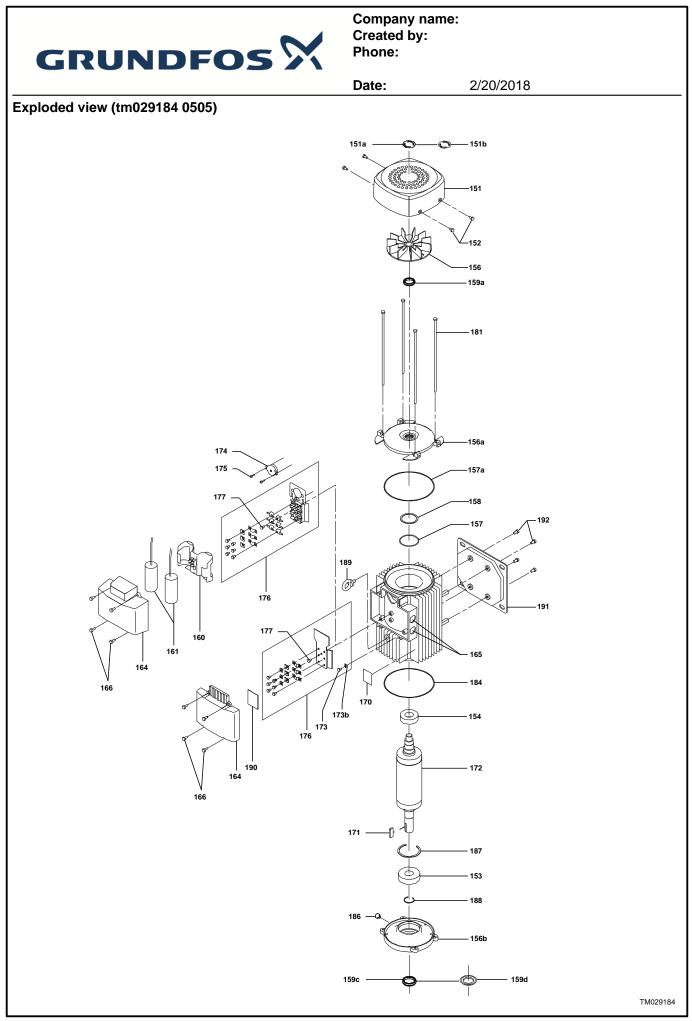
Exploded view (tm030553)







TM031465)





Date:

2/20/2018 Sectional drawing (tm029178 2004) 156 159a 211/11/11/ 158 151 -154 152 156a (\mathbf{O}) 191 157 164 177 - 172 187 184 - 153 - 156b - 188 - 159c (159d)

TM029178



Date:

2/20/2018

Parts list CR 3-23, Prod number 96083322 Valid from 1.7.2011 (1127)

	Position		Annotation	Classification data	Part No.	Col	Int	Unit
ł		Motor				1		pcs
ł		Motor				1		pcs
		Base cpl.				1		pcs
	6	Base					1	
		Sealing parts				1		pcs
	25	Drain plug w/bypass valve					1	
	38	O-ring		Diameter: 16,3				
				Material type: FKM				
				Thickness: 2,4				
	37	O-ring		Diameter: 137,5			2	
				Material type: FKM				
				Thickness: 3,3				
	100	O-ring		Diameter: 16,3			2	
		- ····9		Material type: FKM				
				Thickness: 2,4				
-	2	Pump head cpl.		1110111000. 2,1		1		pcs
	2	Pump head				•	1	P00
	7	Coupling guard					2	
	7 7a	Thread cutting screw					2 4	
_	7a 18	Air vent screw					4 1	
	10	Plug					•	
		8						
	25	Spindle Droin plug					1	
-	25	Drain plug					1	
	23	Pipe plug						
	25	Drain plug						
	28	Hex head cap screw		Length: 25			4	
	~~			Thread: UNC 1/2"				
	60	Formed wire spring					1	
-	8	Coupling cpl.		Designation: DIN 040	•	1		pcs
	9	Hex socket head cap screw		Designation: DIN 912			4	
				Length: 25				
				Thread: M8				
	10	Shaft pin		Diameter: 5			1	
				Length: 26				
	10a	Coupling half					2	
	26	Staybolt		Length: 439		4		pcs
				Thread: M12				
	36a	Washer		Designation: DIN 125 A		4		pcs
				Inner diameter: 13				
				Outer diameter: 24				
				Thickness: 2,5				
	55	Outer sleeve				1		pcs
	66a	Nut		Thread: M12		4		pcs
	80	Chamber stack				1		pcs
		Guide vane cpl.					1	
		Guide vane						
		Plate						
	50b	Top plate						
-	4	Chamber cpl.					19	
		Guide vane						
		Plate						
		Retainer						
		Intermediate chamber						



				Date:	2/20/2018		
	Position	Description	Annotation	Classification data	Part No.	Count	Unit
		Vane					
	45	Neck ring					
	65	Retainer					
-	4a	Chamber w. bearing cpl.				3	
		Guide vane					
		Retainer for bearing					
		Bearing bush					
		Retainer					
		Intermediate chamber					
		Vane					
	45	Neck ring					
	65	Retainer					
-	5a	Chamber cpl.				1	
		Retainer					
		Intermediate chamber					
		Vane					
	45	Neck ring					
	65	Retainer					
	36	Lock nut		Thread: M8		1	
	47a	Bearing ring, rotating				3	
	49	Impeller cpl.				23	
	51	Shaft, spline, cpl.				1	
	64a	Spacing pipe				19	
	64a	Spacing pipe		Inner diameter: 12,8	5	3	
				Outer diameter: 15,85			
				Length: 4,50			
	64c	Clamp, splined		Inner diameter: 8,5		1	
				Outer diameter: 15			
	66	Wedge lock washer				1	
-	105	Shaft seal		Material type: HQQV		1	pcs
		O-ring				1	
		O-ring				1	
		O-ring				1	
		Seal driver, upper				1	
		Seal driver, lower				1	
		Spacer ring				1	
		Pipe				1	
		Plug				1	
		Plug				1	
		Compression spring				1	
		Socket set screw				3	
	103	Seal ring, stationary				1	
	105	Seal ring, rotating				1	
(109	O-ring				1	