

Hydraulic Rotators



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HYDRAULIC ROTATORS
General Information

The hydraulic rotator rotates the harvesting head of a forest machine or grapple of a crane.

FR series rotators ensure high slewing power via their high torque vane motors and have oil fed from the upper stator ports through the central shaft to the lower base port outlets, to power grapples and attachments.

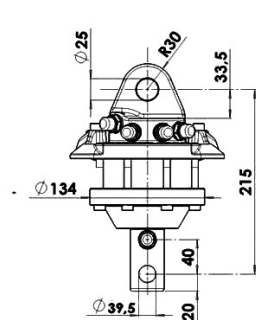
A wide range of FR rotators are available with six sizes and ten models from 500 to 3500 Nm torque and links to suit all forest machine applications.

The hydraulic rotators of FR series are produced and certified according to EN ISO 9001 rules.

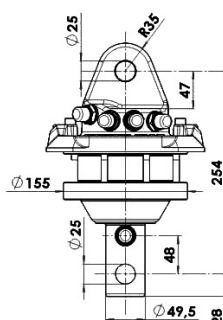


HYDRAULIC ROTATORS SELECTION CARD

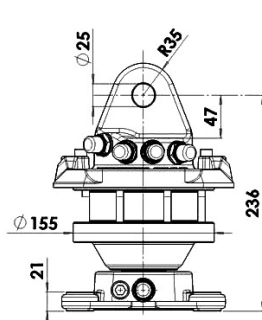
Rotator Model	Max. Axial Load kg		Rotation Angle	Torque Nm (at 250 bar)	Pressure bar	Flow lt/min.	Weight Kg
	Static	Dinamic					
FR 15	1200	600	360° cont.	500	250	10	10
FR 35	3500	1750	360° cont.	700	250	20	17
FR 35 F	3500	1750	360° cont.	700	250	20	22
FR 50	5000	2500	360° cont.	1100	250	20	25
FR 50 F	5000	2500	360° cont.	1100	250	20	28
FR 65	6500	3250	360° cont.	1750	250	25	38
FR 65 F	6500	3250	360° cont.	1750	250	25	41
FR 110 F SH	11000	5500	360° cont.	2500	250	30	56
FR 110 F DH	11000	5500	360° cont.	2500	250	30	59
FR 160 F S	16000	8000	360° cont.	3500	250	40	70



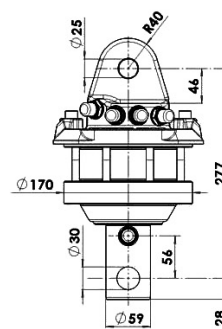
FR 15



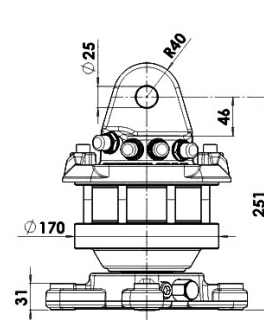
FR 35



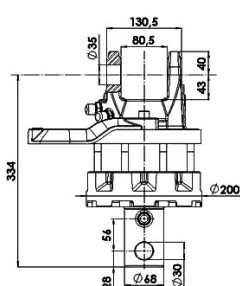
FR 35F



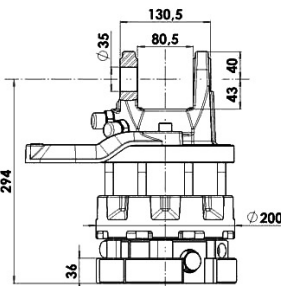
FR 50



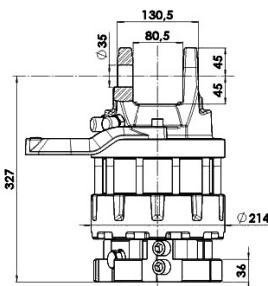
FR 50F



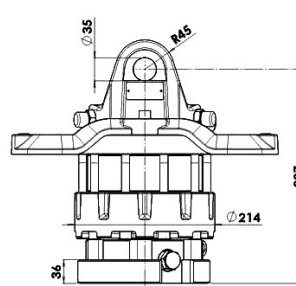
FR 65



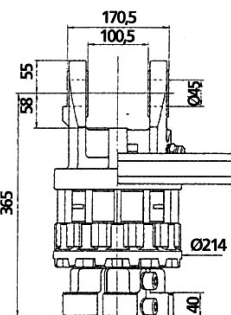
FR 65F



FR 110F SH



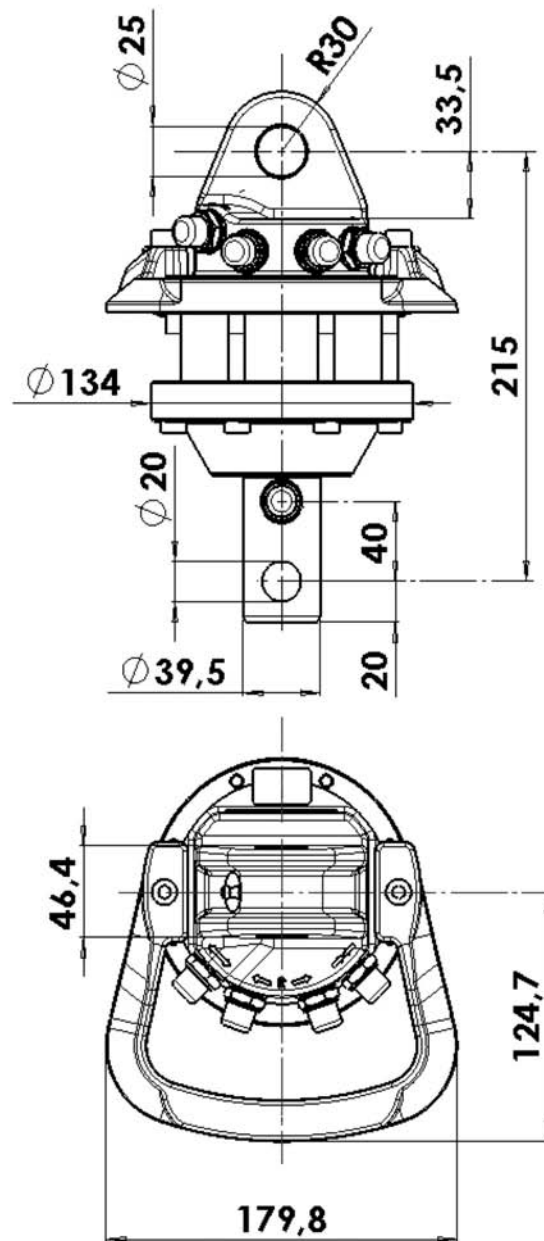
FR 110F DH



FR 160FS

HYDRAULIC ROTATOR FR 15

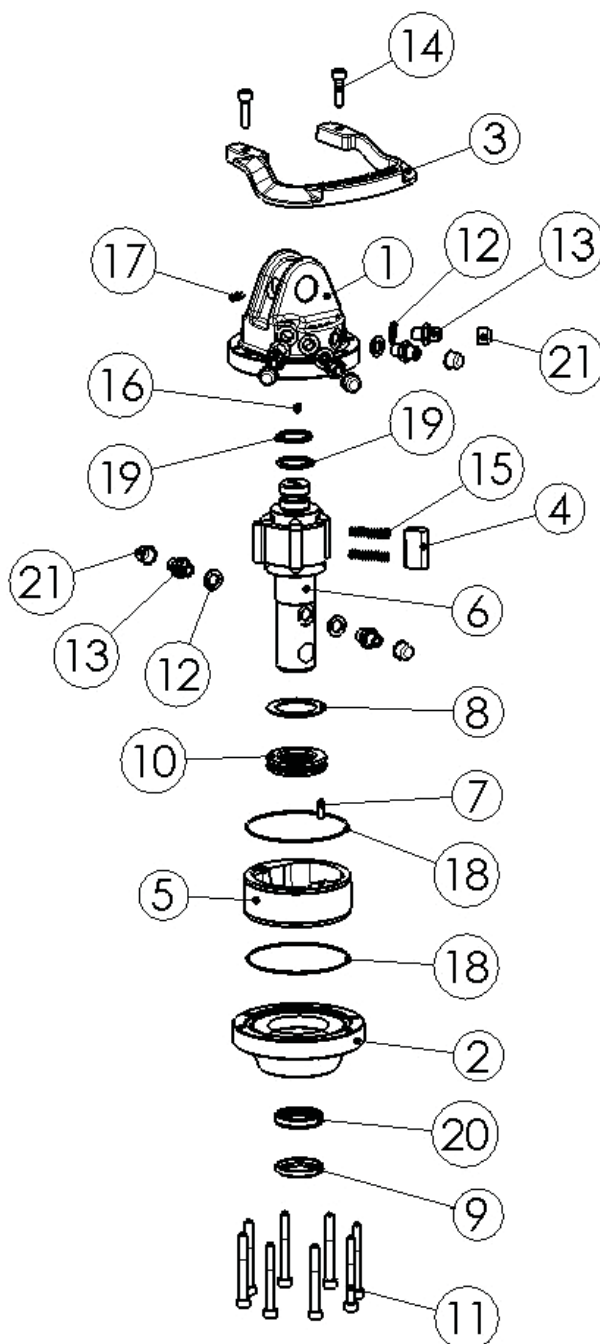
Technical Characteristics



Technical Data	
Torque at 250 bar	500 Nm
Static max. Axial Load	12 kN
Dynamic max. Axial Load	0,6 kN
Weight	10 kg
Connection	1/4" BSP
Oil Flow	10 lt/min.
Continuous Rotation	360°

HYDRAULIC ROTATOR FR 15

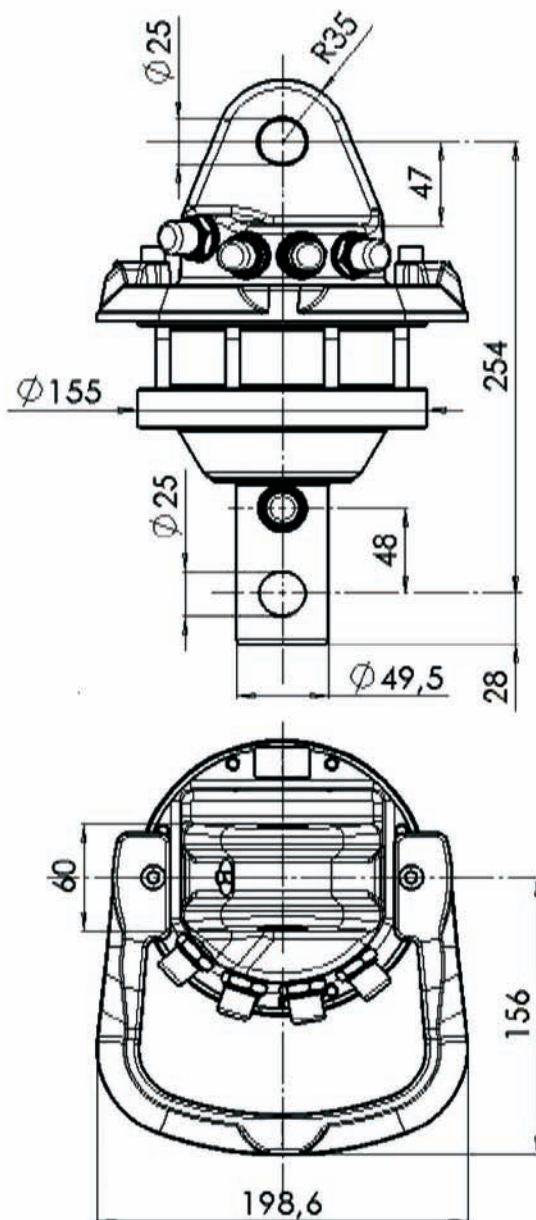
Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Hoses guard	1
4	Vane	5
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	6
14	Screw	2
15	Spring	10
16	Slotted grub screw	1
17	Grease nipple	1
18	O-Ring	2
19	Seal	2
20	Seal	1
21	Plastic tap	6

HYDRAULIC ROTATOR FR 35

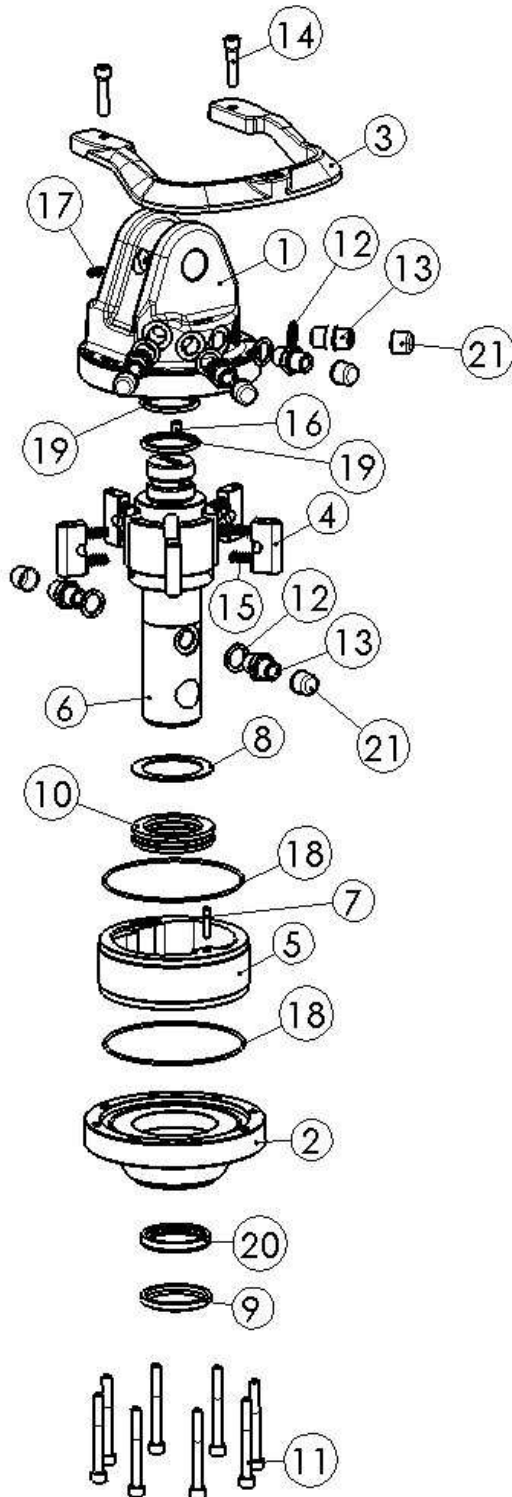
Technical Characteristics



Technical Data	
Torque at 250 bar	700 Nm
Static max. Axial Load	35,00 kN
Dynamic max. Axial Load	17,50 kN
Weight	17 kg
Connection	3/8" BSP
Oil Flow	20 lt/min.
Continuous Rotation	360°

HYDRAULIC ROTATOR FR 35

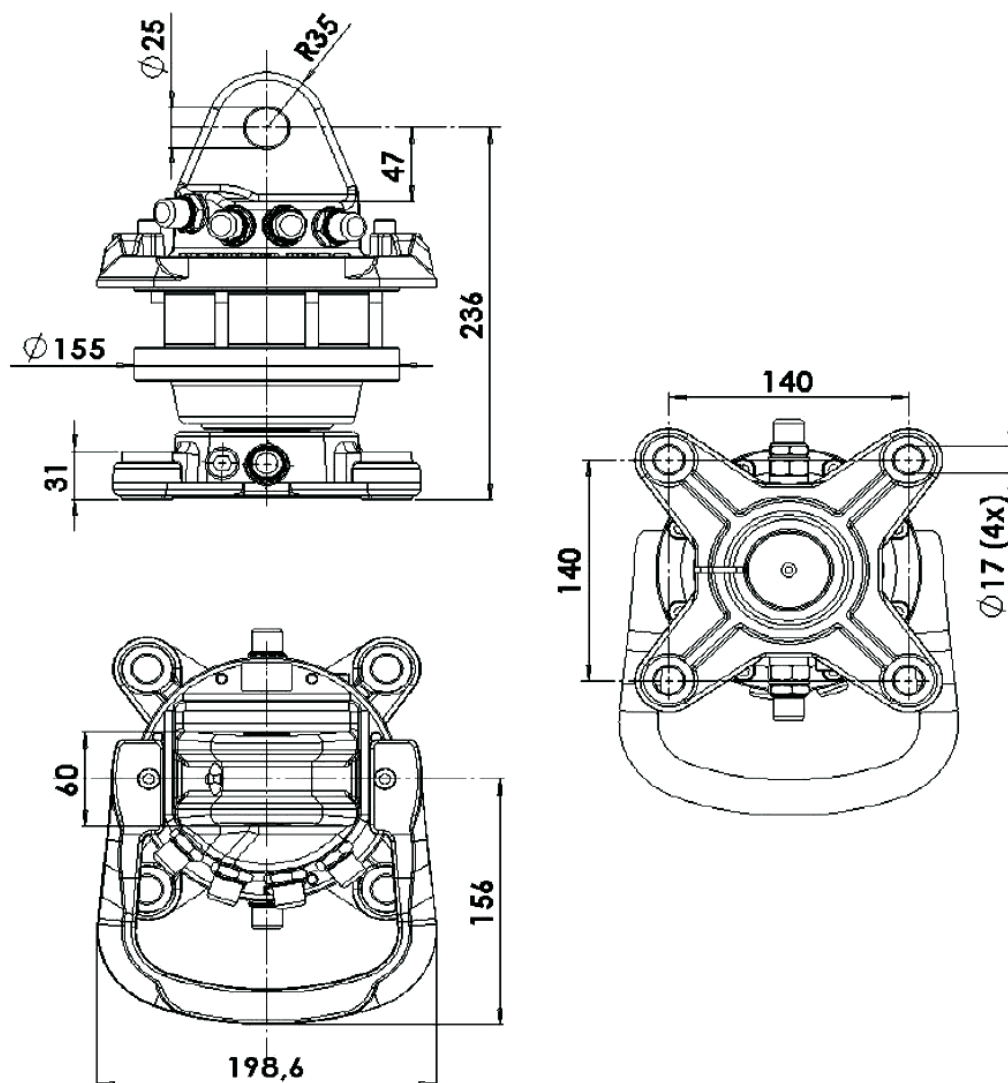
Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Hoses guard	1
4	Vane	5
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	6
14	Screw	2
15	Spring	10
16	Slotted grub screw	1
17	Grease nipple	1
18	O-Ring	2
19	Seal kit	2
20	Seal	1
21	Plastic tap	6

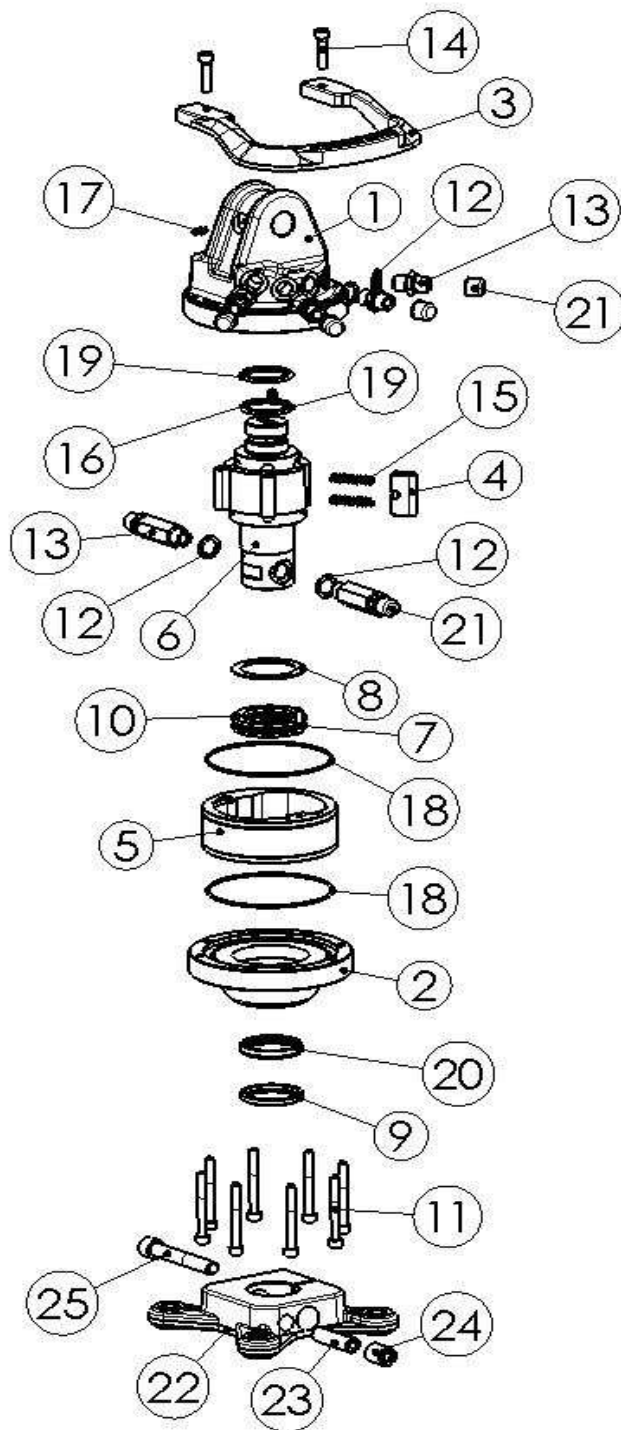
HYDRAULIC ROTATOR FR 35 F

Technical Characteristics



Technical Data	
Torque at 250 bar	700 Nm
Static max. Axial Load	35,00 kN
Dynamic max. Axial Load	17,50 kN
Weight	22 kg
Connection	3/8" BSP
Oil Flow	20 lt/min.
Continuous Rotation	360°

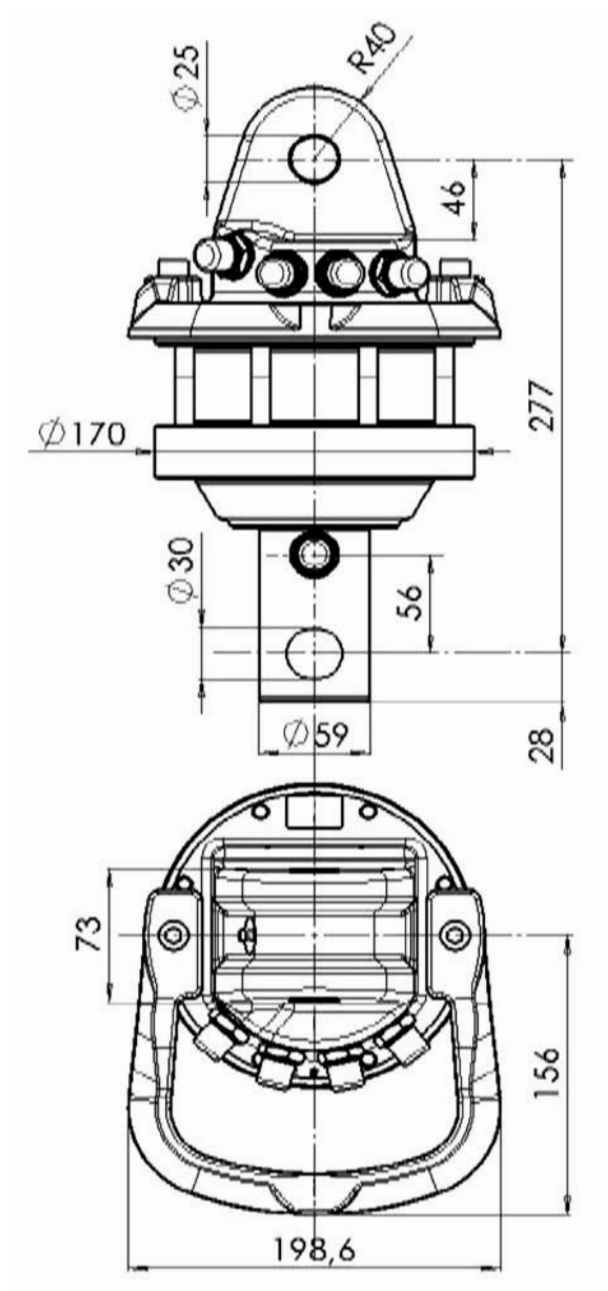
HYDRAULIC ROTATOR FR 35 F Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Nipple guard	1
4	Vane	5
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	2
14	Screw	2
15	Spring	10
16	Slotted grub screw	1
17	Grease nipple	1
18	O-Ring	2
19	Seal kit	2
20	Seal	1
21	Plastic tap	6
22	Flange	1
23	Feather key	1
24	Slotted grub screw	1
25	Screw	1

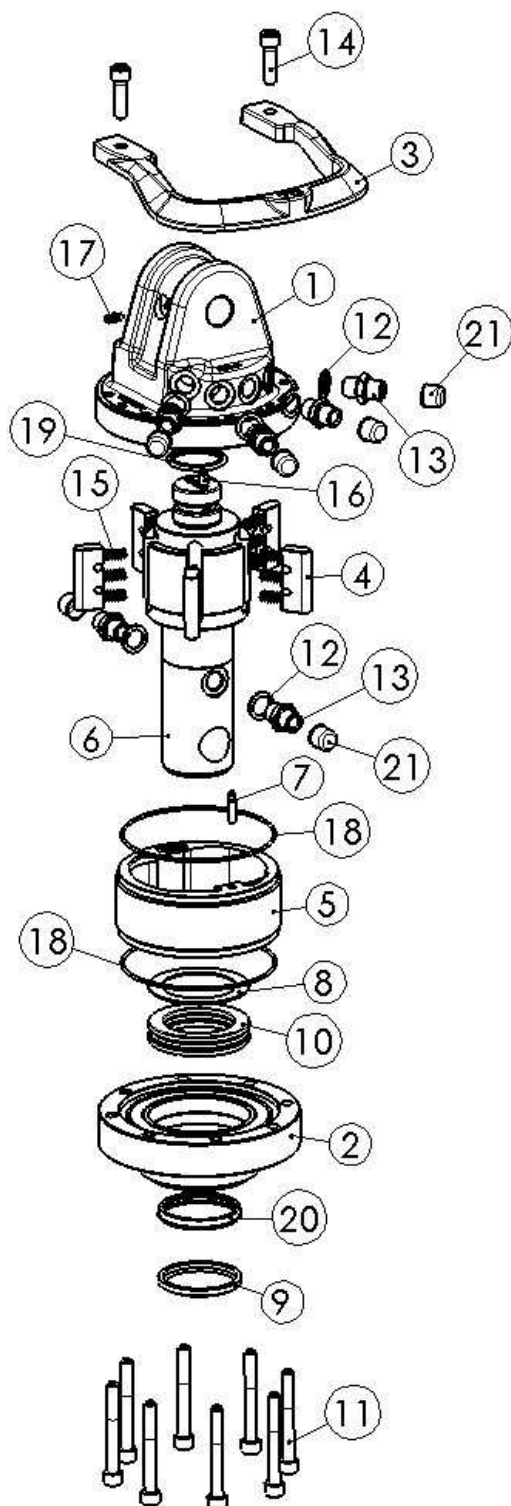
HYDRAULIC ROTATOR FR 50

Technical Characteristics



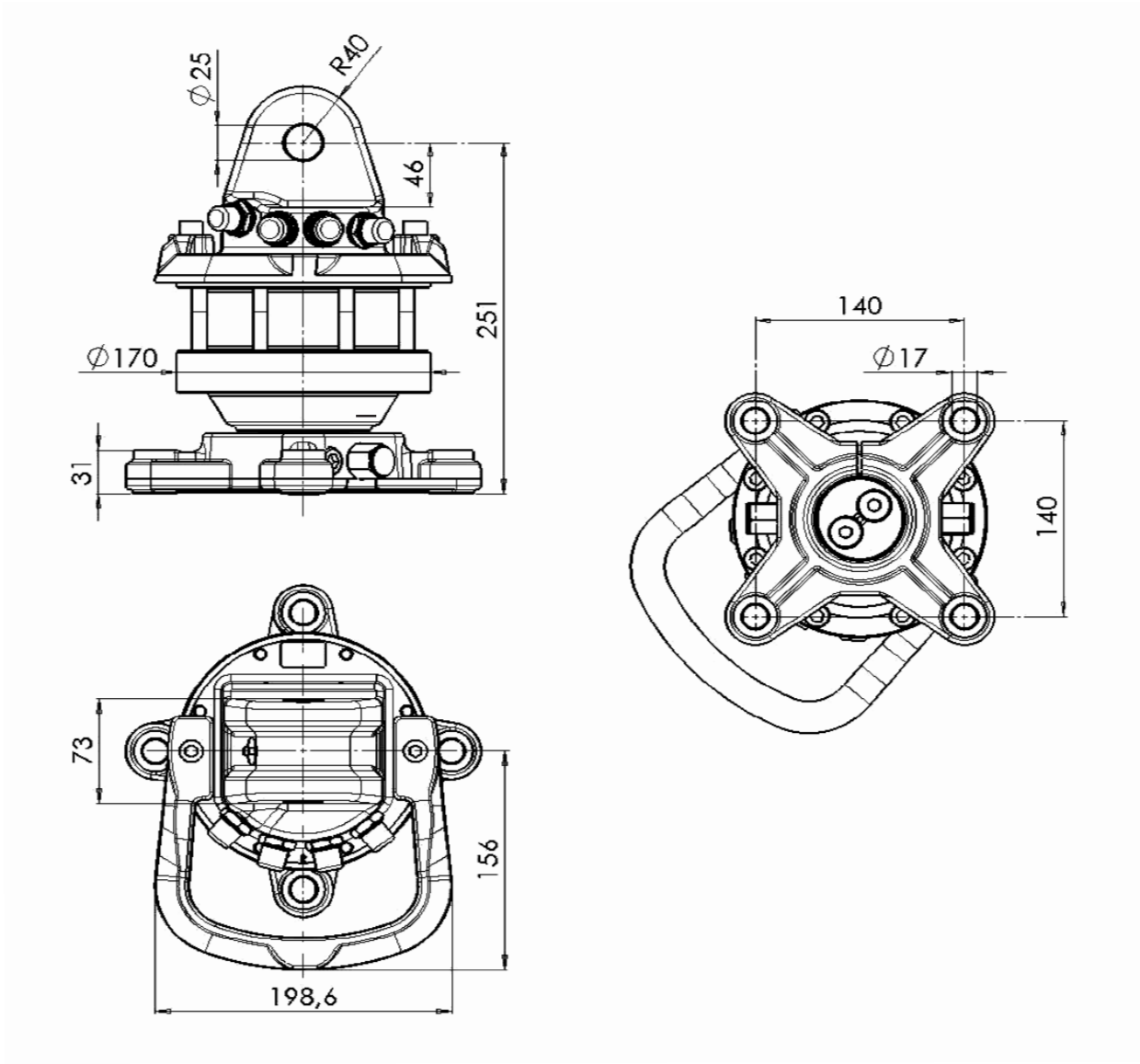
Technical Data	
Torque at 250 bar	1.000 Nm
Static max. Axial Load	50,00 kN
Dynamic max. Axial Load	25,00 kN
Weight	25 kg
Connection	3/8" BSP
Oil Flow	20 lt/min.
Continuous Rotation	360°

HYDRAULIC ROTATOR FR 50 Spare Parts



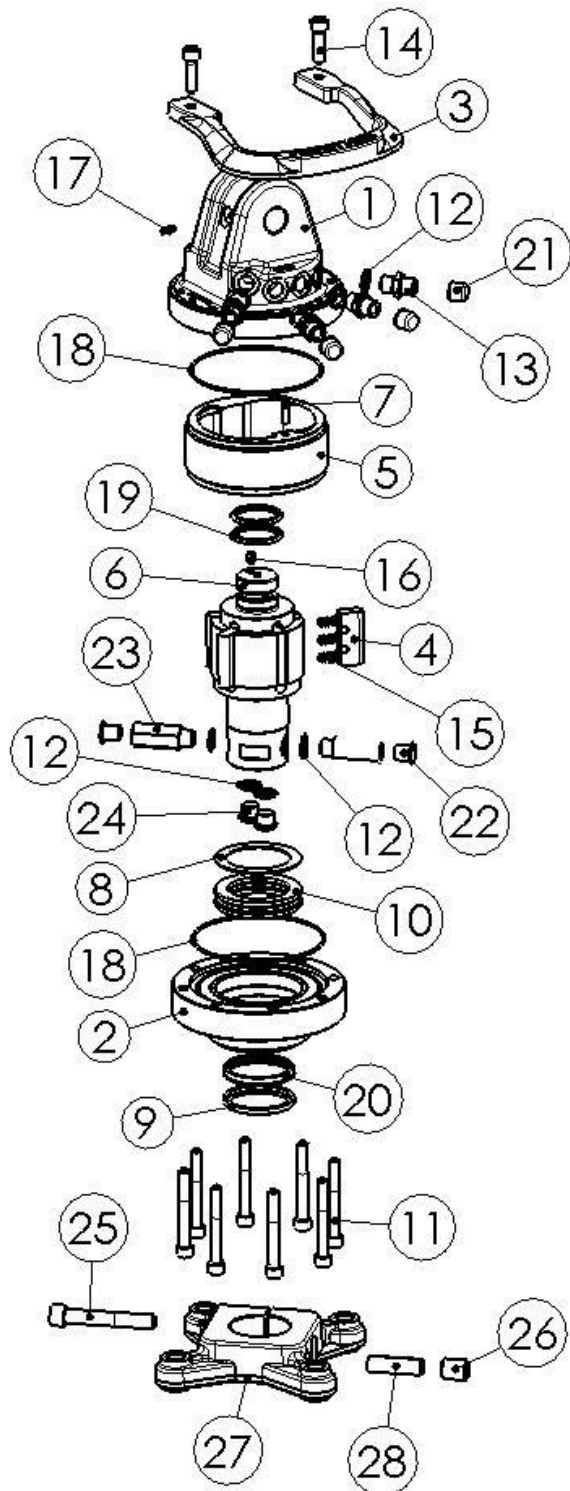
Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Nipple guard	1
4	Vane	5
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	6
14	Screw	2
15	Spring	15
16	Slotted grub screw	1
17	Grease nipple	1
18	O-Ring	2
19	Seal kit	2
20	Seal	1
21	Plastic tap	6

HYDRAULIC ROTATOR FR 50 F
Technical Characteristics



Technical Data	
Torque at 250 bar	1.000 Nm
Static max. Axial Load	50,00 kN
Dynamic max. Axial Load	25,00 kN
Weight	28 kg
Connection	3/8" BSP
Oil Flow	20 lt/min.
Continuous Rotation	360°

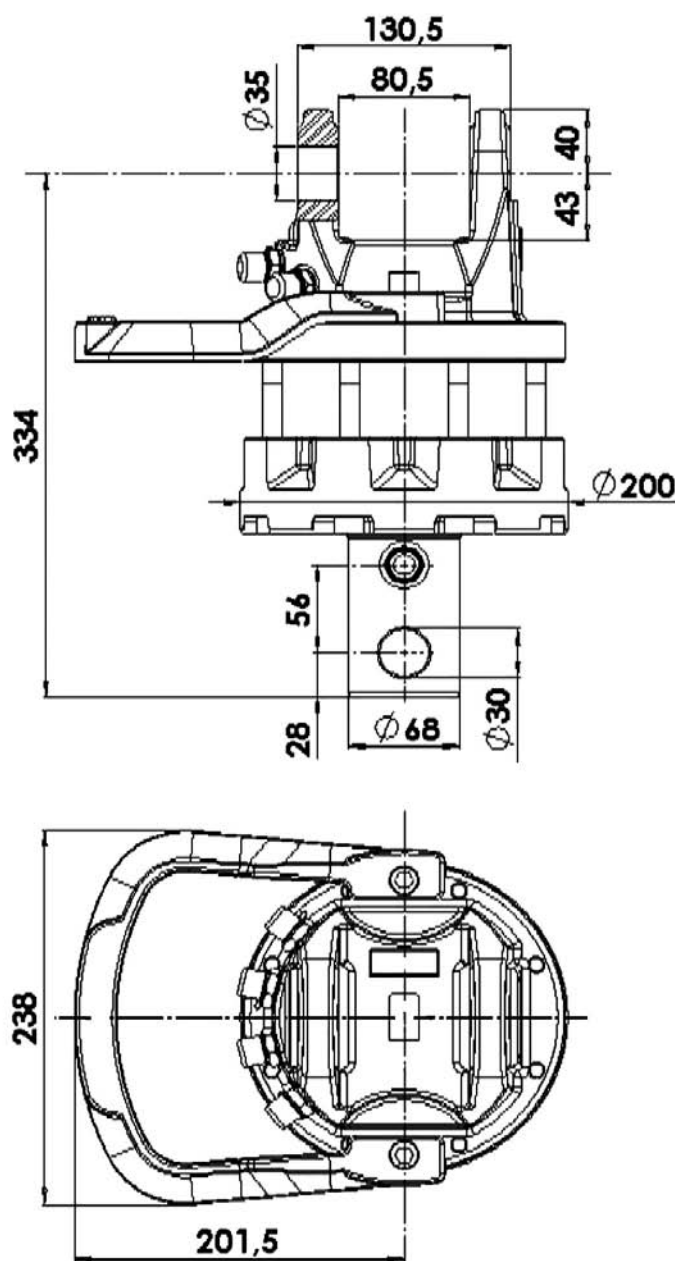
HYDRAULIC ROTATOR FR 50 F Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Nipple guard	1
4	Vane	5
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	6
14	Screw	2
15	Spring	15
16	Slotted grub screw	1
17	Grease nipple	1
18	O-Ring	2
19	Seal kit	2
20	Seal	1
21	Plastic tap F	4
22	Plastic tap M	2
23	Extension M/F	2
24	Plastic tap M	2
25	Screw	1
26	Slotted grub screw	1
27	Flange	1
28	Feather key	1

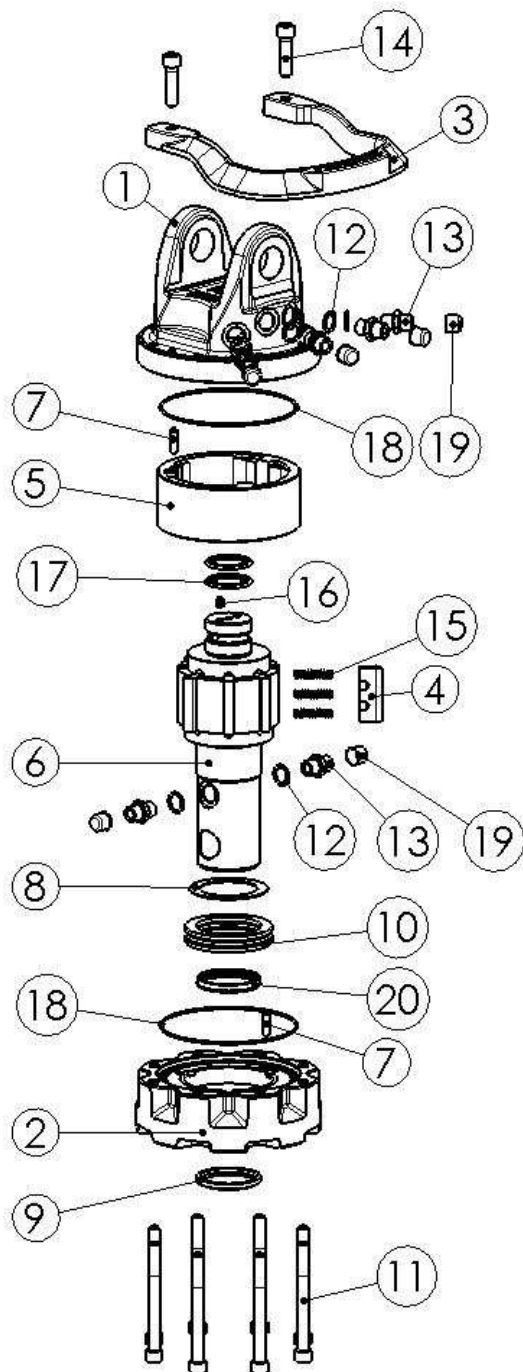
HYDRAULIC ROTATOR FR 65

Technical Characteristics



Technical Data	
Torque at 250 bar	1.750 Nm
Static max. Axial Load	65,00 kN
Dynamic max. Axial Load	32,50 kN
Weight	38 kg
Connection	1/2" BSP
Oil Flow	25 lt/min.
Continuous Rotation	360°

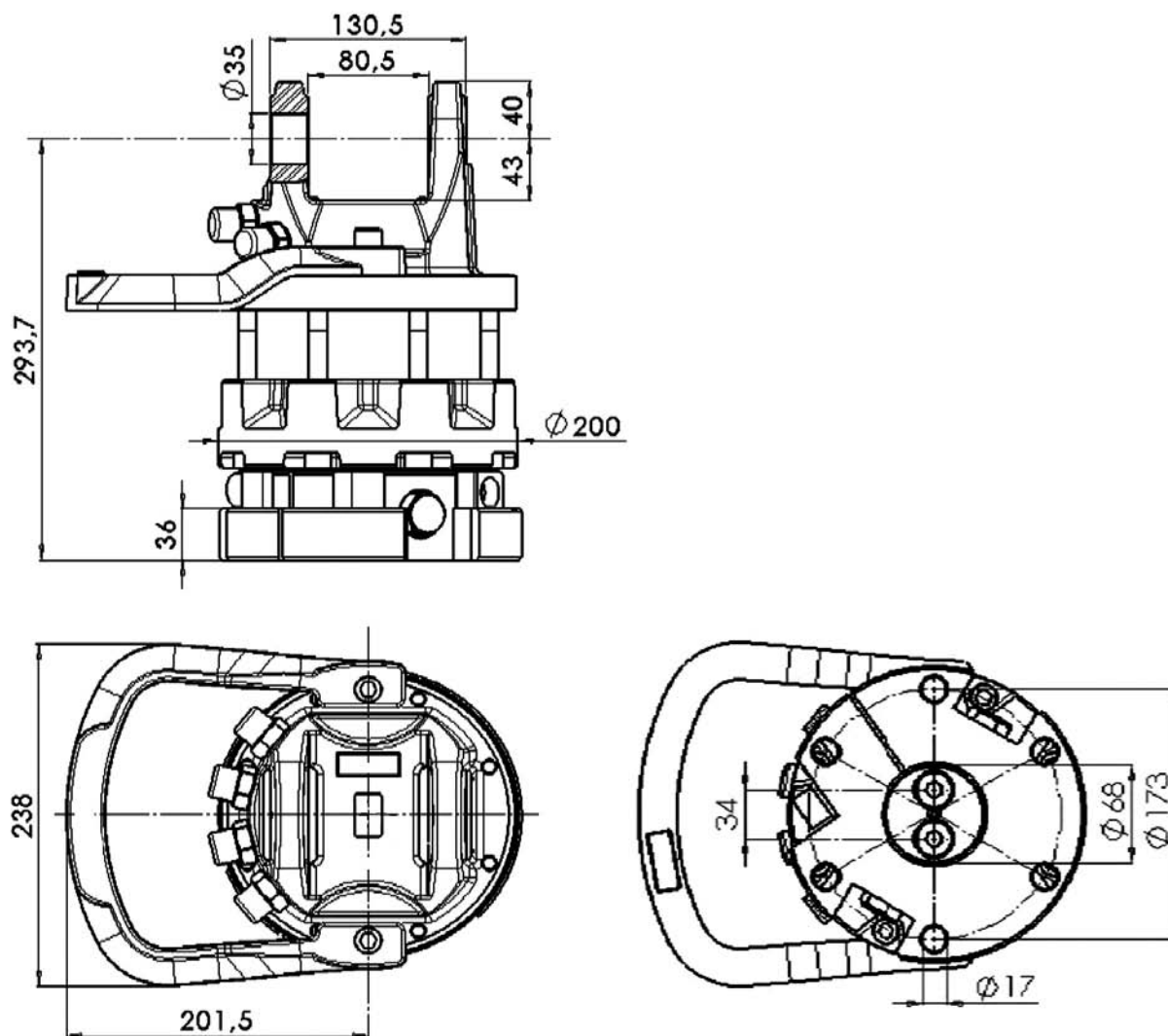
HYDRAULIC ROTATOR FR 65 Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Nipple guard	1
4	Vane	8
5	Housing	1
6	Rotor shaft	1
7	Pin	1
8	Plate	1
9	V-Seal	1
10	Axial bearing	1
11	Screw	8
12	Copper washer	6
13	Nipple	6
14	Screw	2
15	Spring	24
16	Slotted grub screw	1
17	Seal	2
18	O-Ring	2
19	Plastic plug	6
20	Seal	1
	Seal Kit FR 65-65 F (pos.9, 17, 18, 20)	1

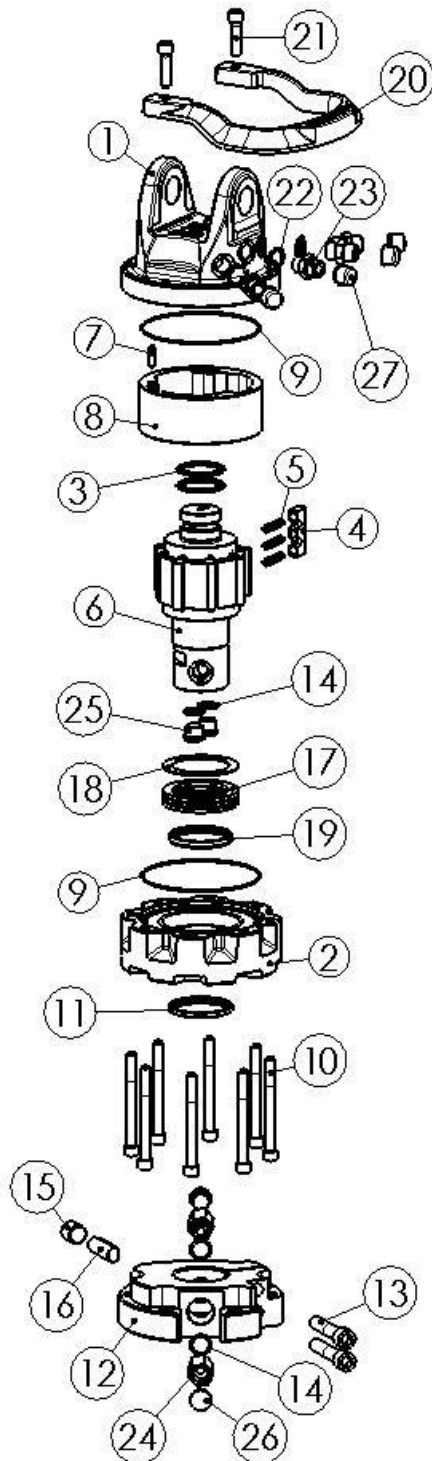
HYDRAULIC ROTATOR FR 65 F

Technical Characteristics



Technical Data	
Torque at 250 bar	1.750 Nm
Static max. Axial Load	65,00 kN
Dynamic max. Axial Load	32,50 kN
Weight	41 kg
Connection	1/2" BSP
Oil Flow	25 lt/min.
Continuous Rotation	360°

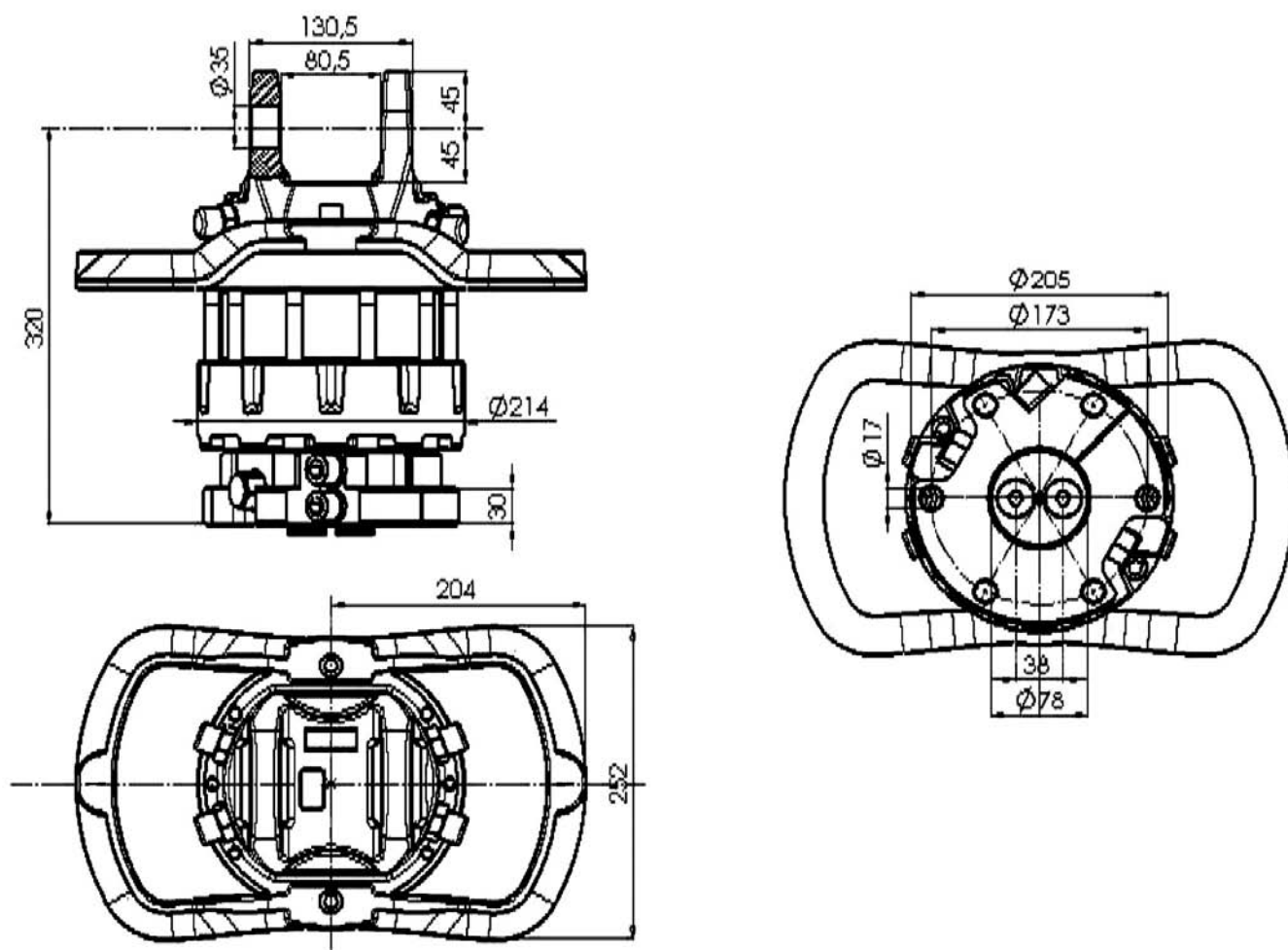
HYDRAULIC ROTATOR FR 65 F Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3*	Seal FR 65	2
4	Vane	8
5	Spring	24
6	Shaft FR 65 F	1
7	Pin Diam. 8	1
8	Housing	1
9*	O-Ring FR 65	2
10	Screw class 12.9	8
11*	Seal FR 65	1
12	Flange FR 65	1
13	Screw class 8.8	2
14	Bonded washer 1/2"	4
15	Grub screw M24	1
16	Feather key FR65-110	1
17	Axial bearing	1
18	Plate	1
19*	Seal	1
20	Hoses guard	1
21	Screw 8.8	2
22	Copper washer G 1/2"	6
23	Nipple M/M G 1/2"	4
24	Nipple M/F G 1/2"	2
25	Iron tap 1/2" M	2
26	Plastic tap 1/2" M Hex.H.	2
27	Plastic tap 1/2" F	4
	Seal kit FR 65-65 F (pos. 3, 9, 11, 19)	1

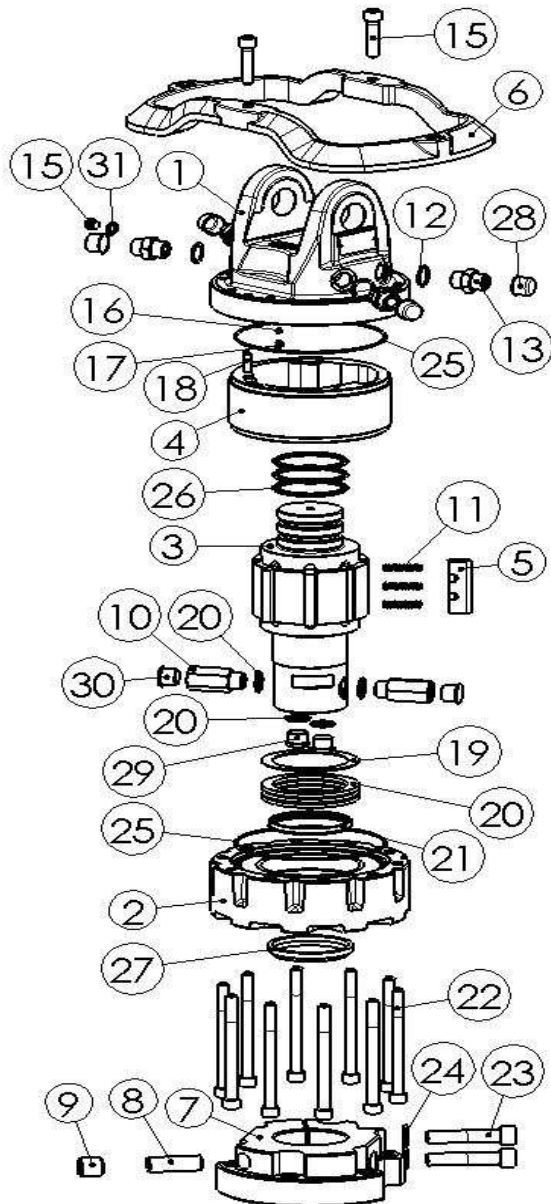
HYDRAULIC ROTATOR FR 110 F DH

Technical Characteristics



Technical Data	
Torque at 250 bar	2500 Nm
Static max. Axial Load	110,00 kN
Dynamic max. Axial Load	55,00 kN
Weight	59 kg
Connection	1/2" BSP
Oil Flow	30 lt/min.
Continuous Rotation	360°

HYDRAULIC ROTATOR FR 110 F DH Spare Parts



Pos.	Description	Q.ty
1	Top cover	1
2	Bottom cover	1
3	Rotator shaft	1
4	Housing	1
5	Vane	8
6	Hoses guard	1
7	Flange	1
8	Feather key	1
9	Grub screw length 20 M24x3	1
10	Nipple M/F G ½" L60	2
11	Spring	24
12	Copper washer	4
14	Nipple M/M MMG ½"	4
17	Screw TCEI 12.9 M12x140	10
18	Pin	1
19	Shim TH.1.5 (they can be different in ref.to the th.of the bearing)	1
20	O-Ring	2
21	Axial Bearing	1
22	Screw TCEI 8.8 M16 L80	2
23	Screw TCEI 12.9 M12x140	2
27	Glide ring	3
28	Seal	1

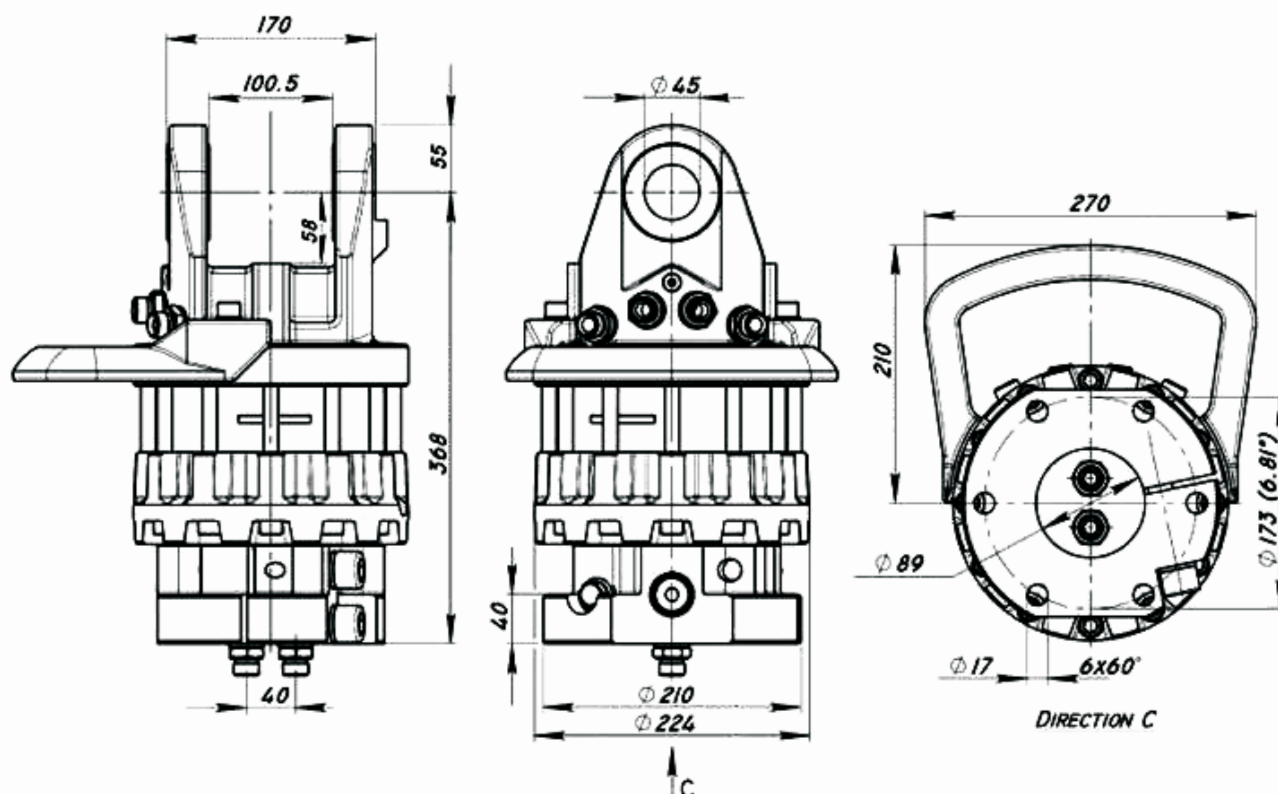
Note:

The hydraulic rotators FR 110 F are available also with single hoses guard, with same operating characteristics.

Order code FR 110 F SH.

HYDRAULIC ROTATOR FR 160 F S

Technical Characteristics



Technical Data	
Torque at 250 bar	3.400 Nm
Static max. Axial Load	160,00 kN
Dynamic max. Axial Load	80,00 kN
Weight	70 kg
Connection	1/2" BSP
Oil Flow	40 lt/min.
Continuous Rotation	360°

As HANSA-TMP has a very extensive range of products and some products have a variety of applications, the information supplied may often only apply to specific situations. If the catalogue does not supply all the information required, please contact HANSA-TMP.

In order to provide a comprehensive reply to queries we may require specific data regarding the proposed application.

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