Neles Easyflow™ compact rack and pinion pneumatic actuators

Series RNP



The Neles Easyflow™ RNP series double-opposed piston rack and pinion actuators combine the benefits of high cycle life, a rugged construction, and an extremely compact and symmetrical design with a unique range of features and options. They are specifically designed for fast efficient operation of ball, butterfly, and other rotary type valves.

Versatility

- Modular designs with same body and end caps for double-acting and spring-return. Springs can be added in the field to convert double-acting to spring-return or for changes in supply pressure.
- Failure direction can be easily reversed from spring-to-open or spring-to-close orientation simply by inverting the pistons.
- Actuator to valve attachments comply with ISO 5211.
- Solenoid valve and accessory attachments comply with NAMUR VDI/VDE 3845.
- A wide range of optional accessories and control devices that include limit switches and solenoid valves are available to satisfy virtually all automated valve requirements.

High cycle life

- Bearings on all sliding and rotating moving parts to ensure long life.
- Dual piston rack-and-pinion mechanism for simple construction, high cycle life, and constant torque.
- Hard-anodized extruded aluminum body with honed internal surface for strength and lower coefficient of friction.
- Mechanically multi-guided aluminum pistons for precise movement, low friction, and high cycle life.
- Excellent rack and pinion engagement and maximum efficiency.

Corrosion resistant

- Hard anodized body providing high corrosion resistance. Optional epoxy painting by the spray technique. This epoxy coating helps in protecting the actuator from extremely corrosive environments.

Reliability

- Safety-contained multi-spring design with preloaded and heavy-duty coated springs for simpler range versatility, greater safety, and corrosion resistance.
- External adjustable stops in both directions assure flexibility and accuracy when setting the valve in the open and closed positions.
- As an added safety feature, the external adjustment screws are designed to start venting internal pneumatic pressure in the actuator before the screw is fully backed out. The sound of escaping pressure indicates an unsafe condition.

Specifications

- Pneumatic piston type quarter turn actuator
- Spring return and double acting models
- Supply medium: Air, nitrogen
- Design pressure: 12 barg
- Maximum operating pressure: 8 barg
- Torque output range
- Spring return model:
  - Spring nominal: 4 Nm to 2694 Nm
  - Air break @ 4 Barg 4 Nm to 2132 Nm
- Double acting model:
- Air break @ 4.0 barg: 14 Nm - 3080 Nm
- Temperature range:
  - -20 °C ... +80 °C (normal)
  - -20 °C ... +125 °C (high temp)
  - -55 °C ... +80 °C (arctic)

Standards

- Actuator to valve mounting: ISO 5211
- Actuator to solenoid mounting: Namur, VDI/VDE3845
- Actuator to accessory mounting: Namur, VDI/VDE3845
- External corrosion protection in compliance with ISO 12944-2 and EN 15714-3 class C2

Approvals and certificates

- Approved to ATEX 94/9/EC
- SIL3 capable
- CE, EAC, TR CU 012/11
- IP67M, IP68M

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Actuator selection

To select an actuator for a particular valve and service, first determine the maximum operating torque that will be required from the applicable valve bulletin. Then refer to the appropriate torque output table and select an actuator that will, at the available supply pressure, provide a torque output no less than the required operating torque for the valve.

For spring-return units, both the spring torque and the air torque must exceed the required operating torque for the valve. If you have any question that the actuator selected meets your intended service requirement, contact Valmet. Contact information is located on last page of this technical bulletin.

Actuator model		Cyl. Volume (litres)		Ref. Stroke speed (sec.)	Weight (kg)
		Open	Close	Open / Close	kg
RNP40	DA	0.10	0.20	0.2 / 0.2	1.3
	SR		–	0.2 / 0.2	1.5
RNP50	DA	0.15	0.26	0.2 / 0.2	1.7
	SR		–	0.4 / 0.4	2.0
RNP63	DA	0.27	0.43	0.2 / 0.2	2.3
	SR		–	0.7 / 0.4	2.8
RNP80	DA	0.44	0.69	0.3 / 0.3	3.1
	SR		–	0.7 / 0.5	3.9
RNP90	DA	0.72	1.15	0.4 / 0.4	5.1
	SR		–	1.0 / 0.6	6.5
RNP100	DA	1.02	1.64	0.6 / 0.6	7.3
	SR		–	1.5 / 0.7	9.1
RNP110	DA	1.24	1.94	0.6 / 0.6	8.3
	SR		–	1.6 / 0.9	10.6
RNP125	DA	1.71	3.44	0.8 / 0.8	11.7
	SR		–	1.8 / 0.9	15.4
RNP150	DA	2.88	5.18	1.2 / 1.2	17
	SR		–	3.8 / 1.6	25.7
RNP175	DA	4.12	6.70	1.2 / 1.2	22.1
	SR		–	5.0 / 2.0	28
RNP200	DA	7.24	11.76	2.5 / 2.5	33
	SR		–	5.5 / 1.3	51
RNP250	DA	11.04	14.41	4.0 / 4.0	48
	SR		–	7.1 / 2.0	69
RNP300	DA	17.37	38.56	1.5 / 1.5	60
	SR		–	7.2 / 2.3	111
RNP350	DA	23.70	42.63	1.6 / 1.6	77
	SR		–	8.0 / 3.2	133

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NOTES:

1. The above times are based on following conditions:

A) Solenoid valve orifice of 1/4 in. for sizes RNP40 to RNP250 and 1/2 in. for sizes RNP300 to RNP350
B) Minumum inner piping diameter of 6mm for sizes RNP40 to RNP250 and 10mm for sizes RNP300 to RNP350
C) 4 bar air supply pressure
D) Without valve loading

2. SR model mentioned in above table is SR55 model considering full set of springs.

Actuator selection

Table 2. Single acting actuator torque table

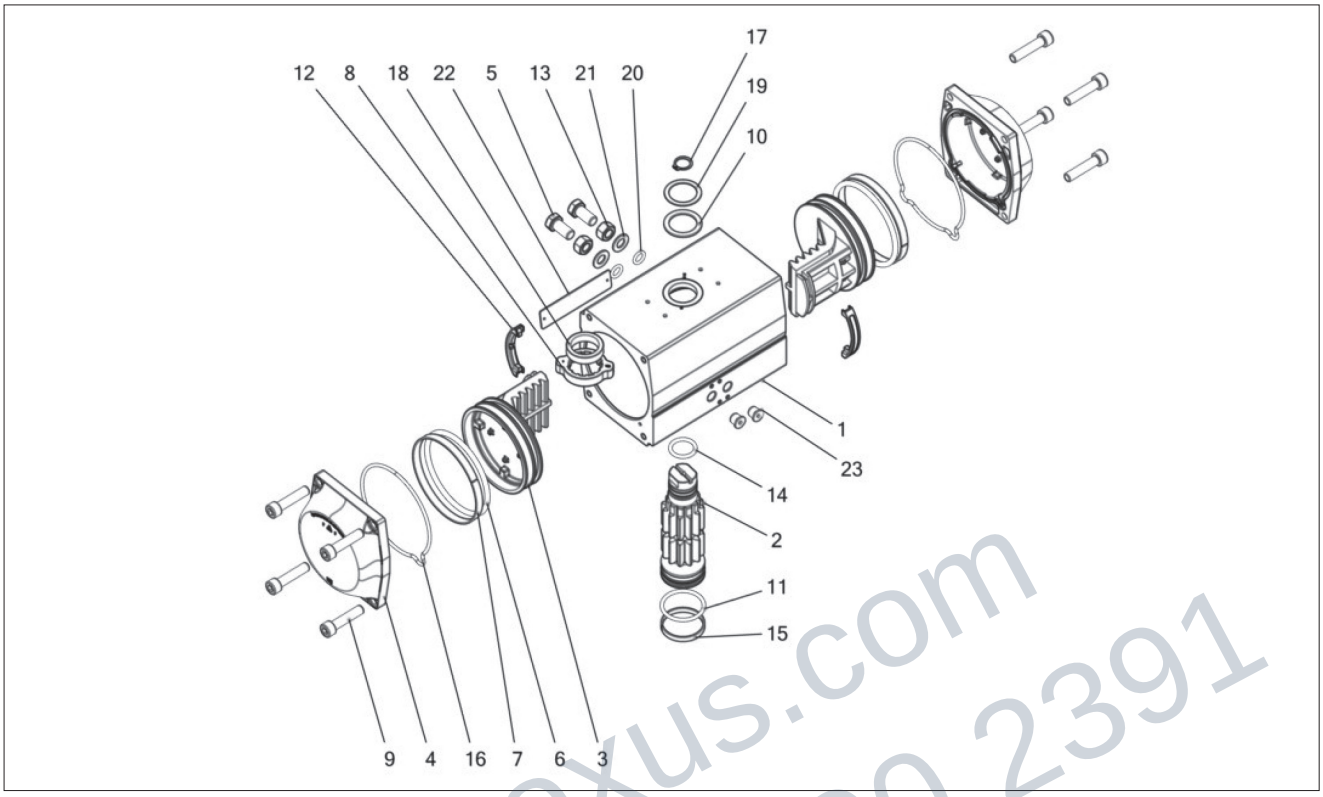
Actuator model			SPRING		3 bar		3.5 bar		4 bar		4.5 bar		5 bar		5.5 bar		6 bar		6.5 bar	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
040	SR	30	4	6	4	6	6	8	8	10	10	12	11	13	13	15	15	17	16	19
040	SR	40	5	8	2	5	4	7	6	8	7	10	9	12	11	14	12	15	14	17
040	SR	55	8	12	-	-	-	-	2	6	3	8	5	9	7	11	9	13	10	15
050	SR	30	6	10	7	10	10	13	12	16	15	18	18	21	20	24	23	26	26	29
050	SR	40	9	13	3	8	6	11	9	13	12	16	14	19	17	21	20	24	22	27
050	SR	55	13	19	-	-	-	-	3	9	5	12	8	15	11	17	14	20	16	23
063	SR	30	11	17	12	18	17	23	22	28	27	33	32	38	37	43	42	48	47	53
063	SR	40	15	24	-	-	11	19	16	24	21	29	26	34	31	39	36	44	41	49
063	SR	55	23	35	-	-	-	-	5	17	10	22	15	27	20	32	25	37	30	42
080	SR	30	18	28	20	29	28	37	36	45	44	53	52	61	60	69	68	77	76	85
080	SR	40	24	37	11	24	19	32	27	40	35	47	43	55	51	63	59	71	67	79
080	SR	55	37	56	-	-	-	-	8	27	16	35	24	43	32	51	40	59	48	67
090	SR	30	29	44	32	47	45	60	57	72	70	85	83	98	95	111	108	123	121	136
090	SR	40	39	59	18	38	30	50	43	63	56	76	68	89	81	101	94	114	107	127
090	SR	55	58	89	-	-	-	-	-	-	25	56	38	69	51	81	64	94	76	107
100	SR	30	42	64	45	67	64	85	82	104	100	122	118	140	136	158	155	176	173	195
100	SR	40	55	84	25	54	43	72	61	90	80	108	98	127	116	145	134	163	152	181
100	SR	55	84	127	-	-	-	-	-	-	36	80	55	98	73	116	91	135	109	153
110	SR	30	52	79	56	83	79	106	101	128	124	151	146	173	169	196	192	219	214	241
110	SR	40	68	104	31	67	54	89	76	112	99	134	121	157	144	179	166	202	189	225
110	SR	55	104	158	-	-	0	54	23	77	45	99	68	122	90	144	113	167	135	189
125	SR	30	72	113	74	115	106	146	137	178	168	209	199	240	231	271	262	303	293	334
125	SR	40	97	151	37	91	68	122	99	153	131	185	162	216	193	247	224	278	256	310
125	SR	55	135	211	-	-	8	84	39	115	70	146	102	177	133	209	164	240	195	271
150	SR	30	121	195	117	191	169	242	221	294	273	346	325	398	377	450	429	502	480	554
150	SR	40	162	260	52	150	104	202	156	254	208	306	260	358	312	410	364	462	416	514
150	SR	55	226	363	-	-	0	137	52	189	104	241	156	293	208	345	260	397	312	449
175	SR	30	168	274	176	283	251	358	326	433	401	508	476	583	551	658	626	733	701	808
175	SR	40	223	366	85	227	160	302	235	377	310	452	385	527	460	602	535	677	610	752
175	SR	55	313	512	-	-	13	212	88	287	163	362	239	438	314	513	389	588	464	663
200	SR	30	235	425	259	448	373	562	487	676	601	790	715	904	829	1018	943	1132	1057	1246
200	SR	40	314	566	118	370	231	484	345	598	459	712	573	826	687	940	801	1054	915	1168
200	SR	55	439	793	-	-	5	358	119	472	233	586	347	700	461	814	575	928	689	1042
250	SR	30	383	690	421	729	606	914	791	1099	977	1284	1162	1469	1347	1655	1532	1840	1717	2025
250	SR	40	510	920	191	601	376	786	561	971	747	1157	932	1342	1117	1527	1302	1712	1487	1897
250	SR	55	714	1288	-	-	8	582	193	767	378	953	564	1138	749	1323	934	1508	1119	1693
300	SR	30	693	1055	634	995	915	1277	1196	1558	1478	1839	1759	2121	2040	2402	2322	2683	2603	2965
300	SR	40	924	1406	282	764	563	1046	845	1327	1126	1608	1408	1890	1689	2171	1970	2452	2252	2734
300	SR	55	1294	1969	-	-	1	676	282	957	564	1239	845	1520	1126	1801	1408	2083	1689	2364
350	SR	30	948	1443	867	1362	1252	1747	1637	2132	2022	2517	2407	2902	2792	3287	3177	3672	3562	4057
350	SR	40	1264	1924	386	1046	771	1431	1156	1816	1541	2201	1926	2586	2311	2971	2696	3356	3081	3741
350	SR	55	1770	2694	-	-	1	925	386	1310	771	1695	1156	2080	1541	2465	1926	2850	2311	3235

DOUBLE ACTING TORQUE (Nm)

Actuator model	2.5 bar	3 bar	3.5 bar	4 bar	4.5 bar	5 bar	5.5 bar	6 bar	6.5 bar
40	9	10	12	14	16	17	19	21	23
50	14	16	19	22	24	27	30	33	35
63	25	30	35	40	45	50	54	59	64
80	40	48	56	64	72	80	88	96	104
90	64	76	89	102	114	127	140	153	165
100	91	109	127	145	164	182	200	218	236
110	113	135	158	180	203	225	248	270	293
125	156	188	219	250	281	313	344	375	406
150	260	312	364	415	467	519	571	623	675
175	375	450	525	600	675	750	825	900	975
200	570	684	798	912	1026	1140	1254	1368	1574
250	926	1111	1296	1482	1667	1852	2037	2222	2500
300	1407	1688	1970	2251	2532	2814	3095	3376	3658
350	1925	2310	2695	3080	3465	3850	4235	4620	5005

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RNP 40...110 DA



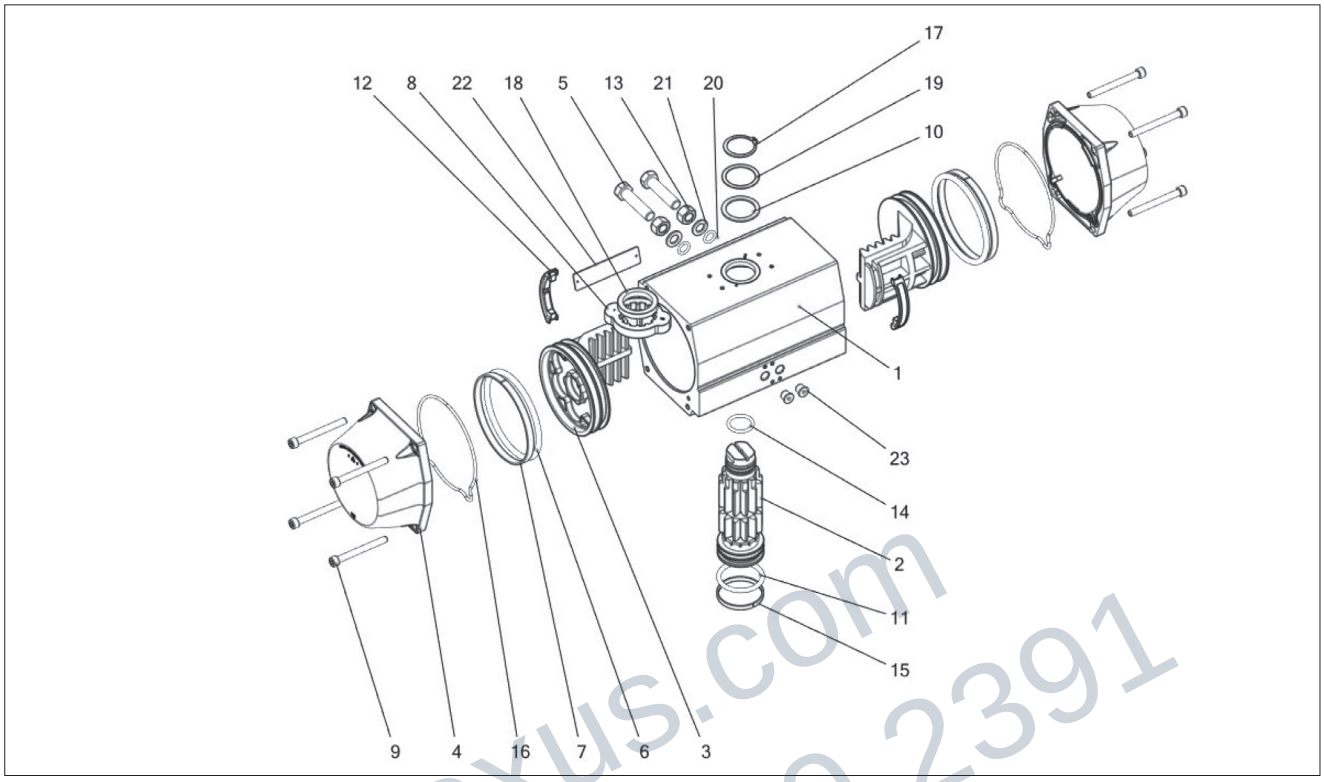
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	

NOTE
1 * Marked components are the parts of the seal kit
2 # Marked components are the parts of bearing kit.
3 ♦ Marked components are critical components.

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RNP 125 - 175 DA



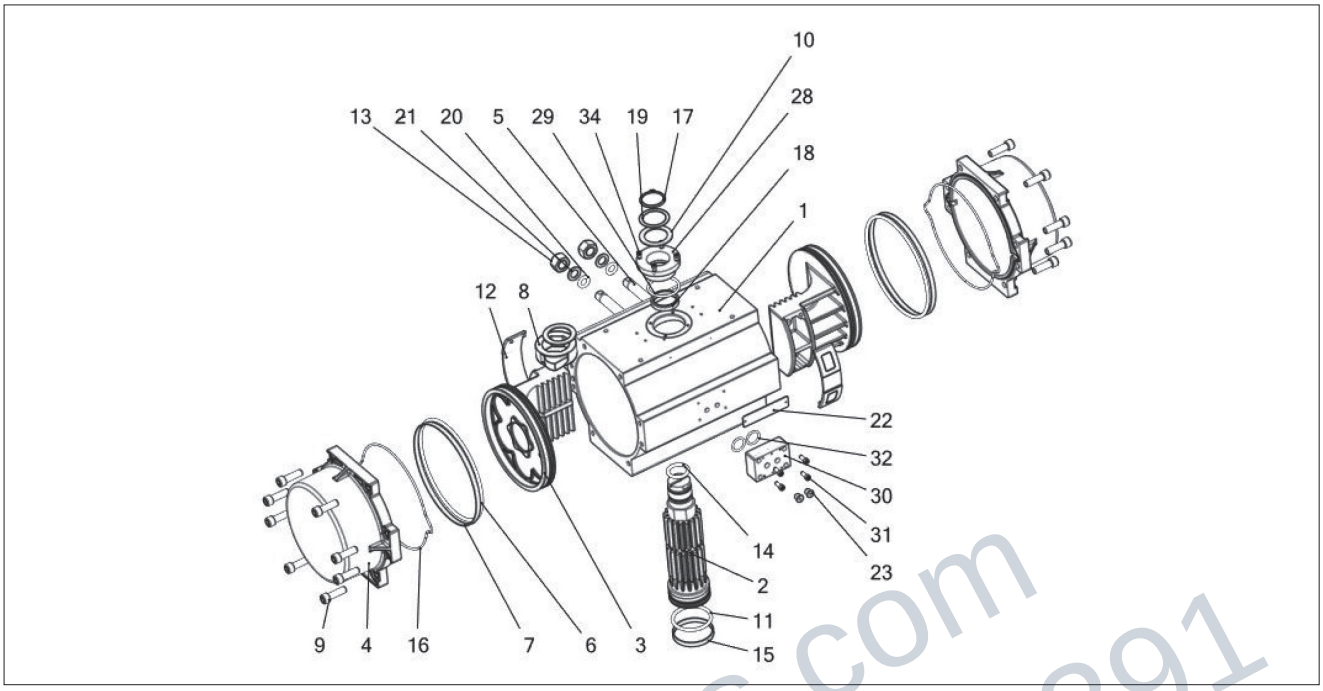
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	

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RNP 200 - 250 DA



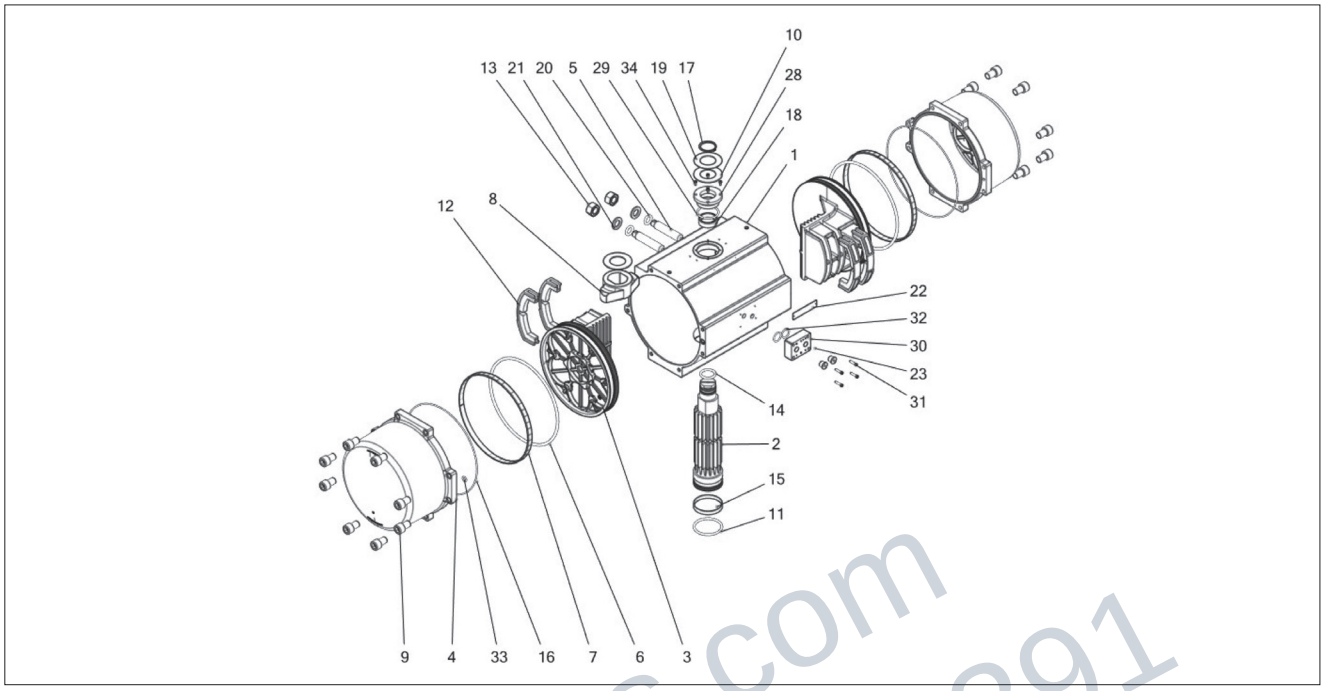
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	16	COVER BOLT	STAINLESS STEEL	AISI304	
10#	2	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (BOTTOM PINION)	NITRILE RUBBER	NBR 70SHORE A	
12#	4	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (TOP PINION)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
28	1	BEARING BUSH HOUSING	ALUMINIUM	6063T5/T6; 6005-T6/T5	
29*	1	O-RING (BEARING BUSH HOUSING)	NITRILE RUBBER	-	
30	1	MANIFOLD	ALUMINIUM	6351-T6	
31	4	MANIFOLD BOLT	STAINLESS STEEL	AISI304	
32*	2	MANIFOLD O-RING	NITRILE RUBBER	-	
34	4	BEARING BUSH HOUSING BOLT	STAINLESS STEEL	AISI304	

NOTE
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RNP 300 - 350 DA



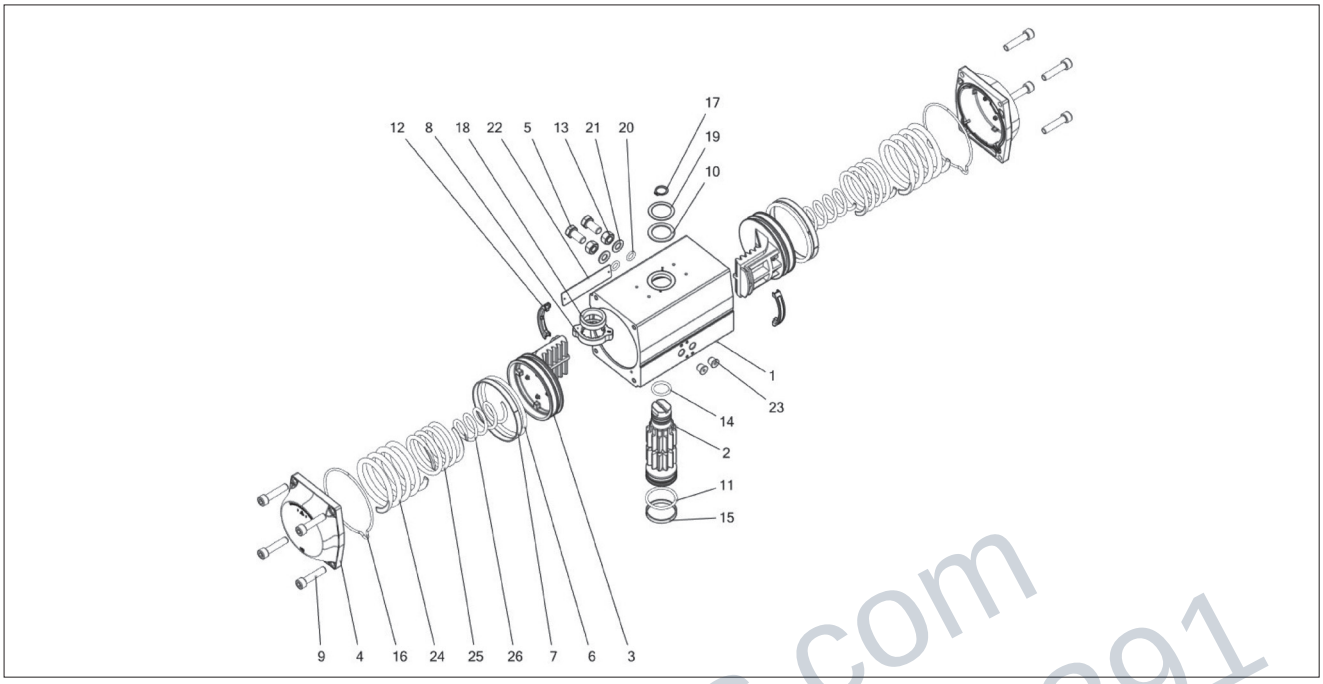
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	16	COVER BOLT	STAINLESS STEEL	AISI304	
10#	2	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (BOTTOM PINION)	NITRILE RUBBER	NBR 70SHORE A	
12#	4	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (TOP PINION)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
28	1	BEARING BUSH HOUSING	ALUMINIUM	6063T5/T6; 6005-T6/T5	
29*	1	O-RING (BEARING BUSH HOUSING)	NITRILE RUBBER	-	
30	1	MANIFOLD	ALUMINIUM	6351-T6	
31	4	MANIFOLD BOLT	STAINLESS STEEL	AISI304	
32*	2	MANIFOLD O-RING	NITRILE RUBBER	-	
33*	2	O-RING SMALL (BODY)	NITRILE RUBBER	-	
34	4	BEARING BUSH HOUSING BOLT	STAINLESS STEEL	AISI304	

NOTE
1 * Marked components are the parts of the seal kit
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RNP 40 - 110 SA



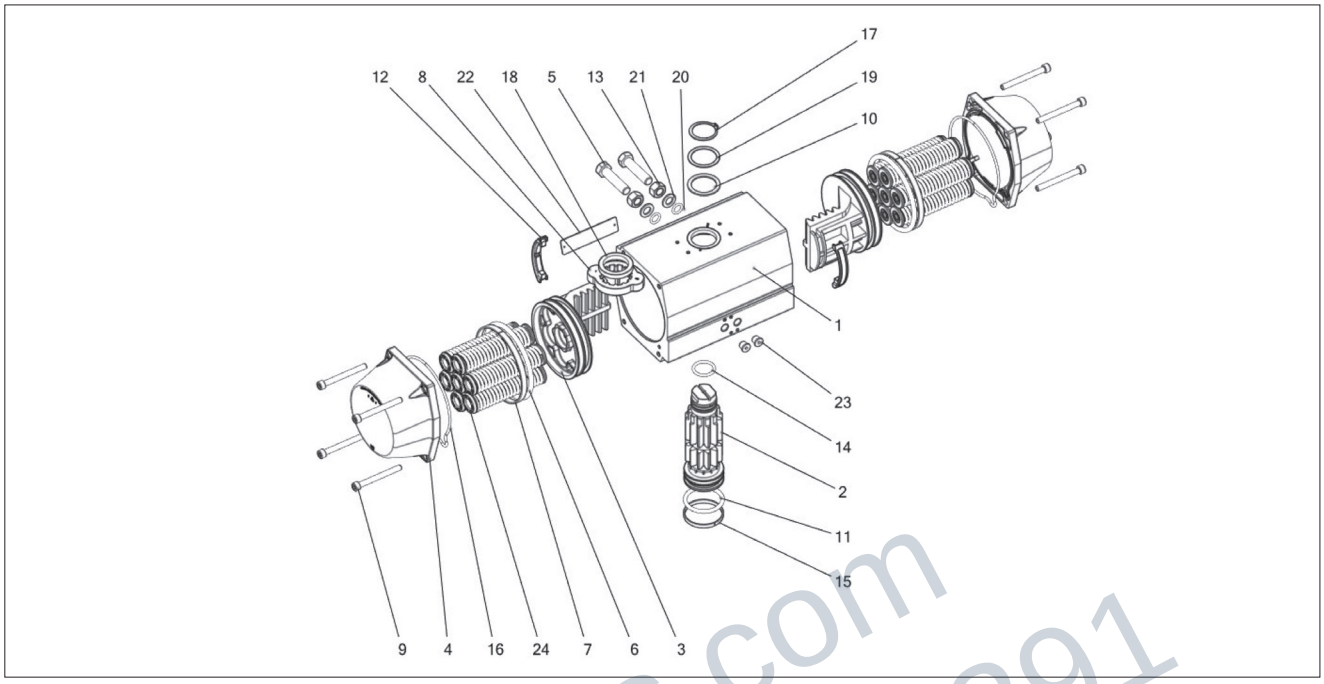
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN. 1 / MAX. 2	OUTER SPRING	SPRING STEEL	-	EPOXY POWDER COATED
25	MIN. 1 / MAX. 2	MIDDLE SPRING	SPRING STEEL	-	EPOXY POWDER COATED
26	MIN. 1 / MAX. 2	INNER SPRING	SPRING STEEL	-	EPOXY POWDER COATED

NOTE
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RNP 125 - 175 SA



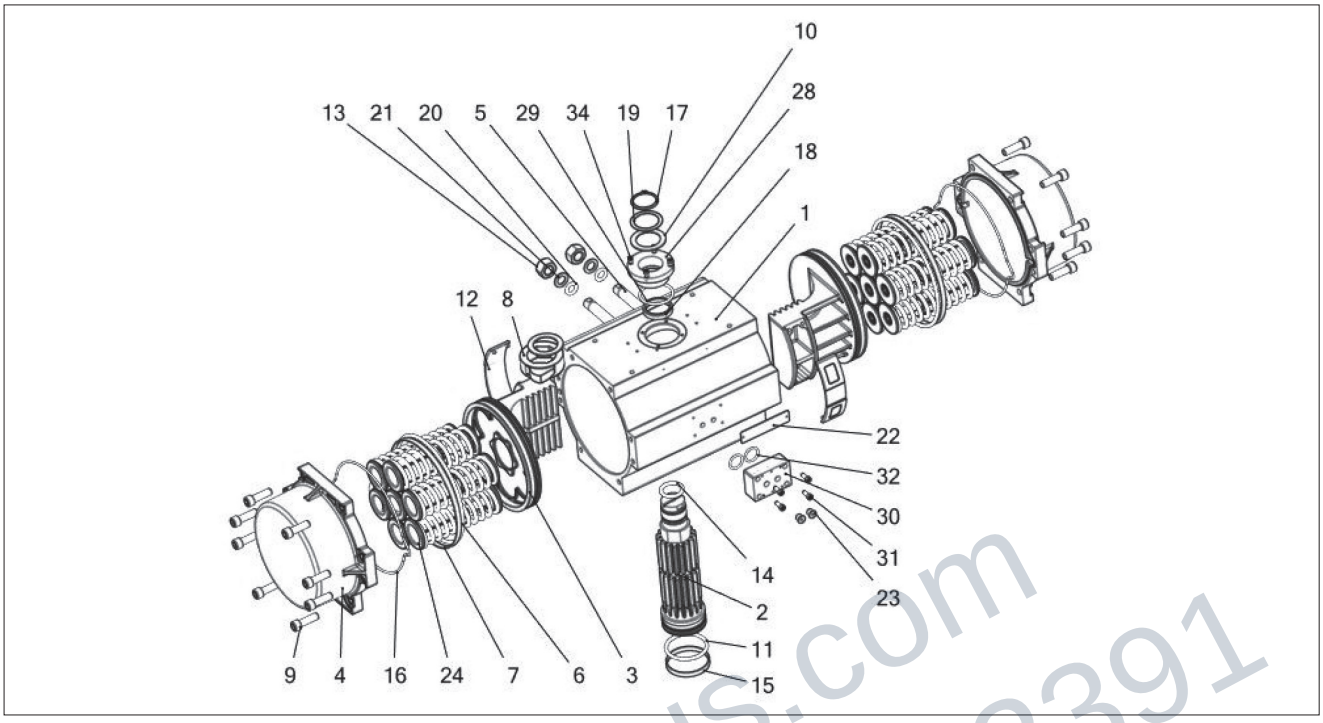
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 14	SPRING (CARTRIDGE)	SPRING STEEL	-	EPOXY POWDER COATED

NOTE
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RNP 200 - 250 SA



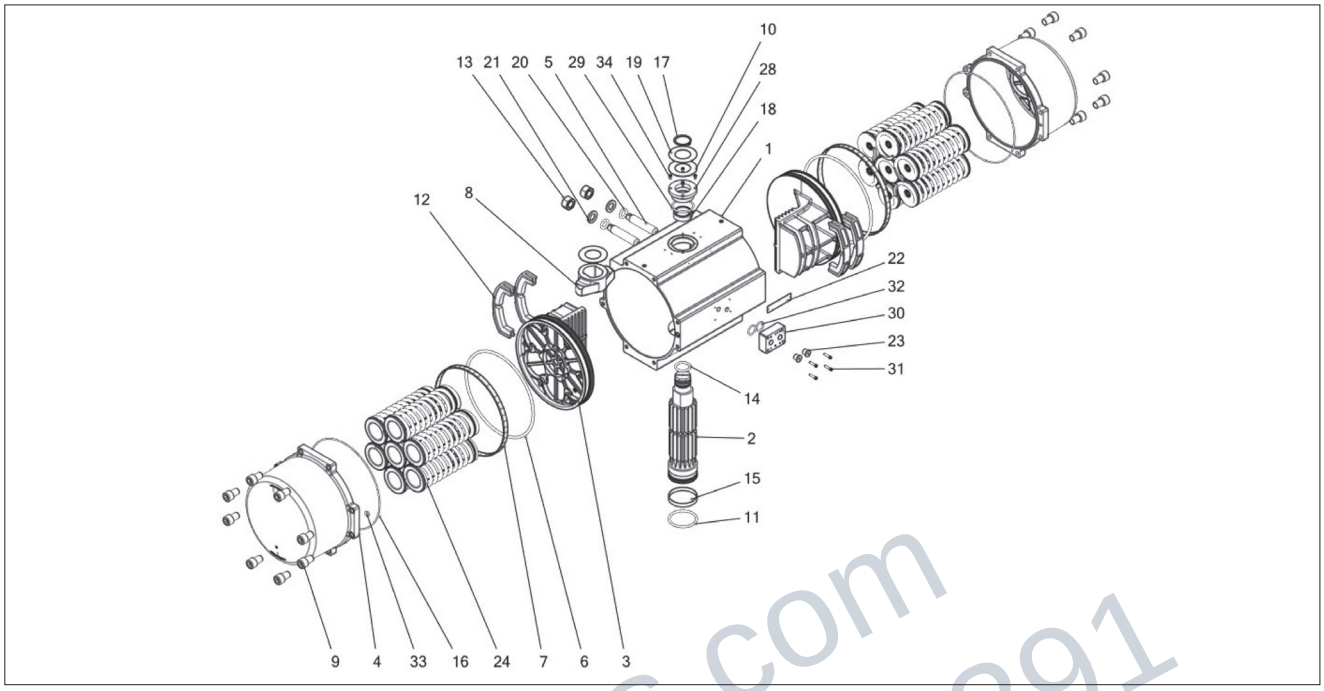
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	16	COVER BOLT	STAINLESS STEEL	AISI304	
10#	2	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (BOTTOM PINION)	NITRILE RUBBER	NBR 70SHORE A	
12#	4	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (TOP PINION)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 14	SPRING (CARTRIDGE)	SPRING STEEL	-	EPOXY POWDER COATED
28	1	BEARING BUSH HOUSING	ALUMINIUM	6063T5/T6; 6005-T6/T5	
29*	1	O-RING (BEARING BUSH HOUSING)	NITRILE RUBBER	-	
30	1	MANIFOLD	ALUMINIUM	6351-T6	
31	4	MANIFOLD BOLT	STAINLESS STEEL	AISI304	
32*	2	MANIFOLD O-RING	NITRILE RUBBER	-	
34	4	BEARING BUSH HOUSING BOLT	STAINLESS STEEL	AISI304	

NOTE
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RNP 300 - 350 SA



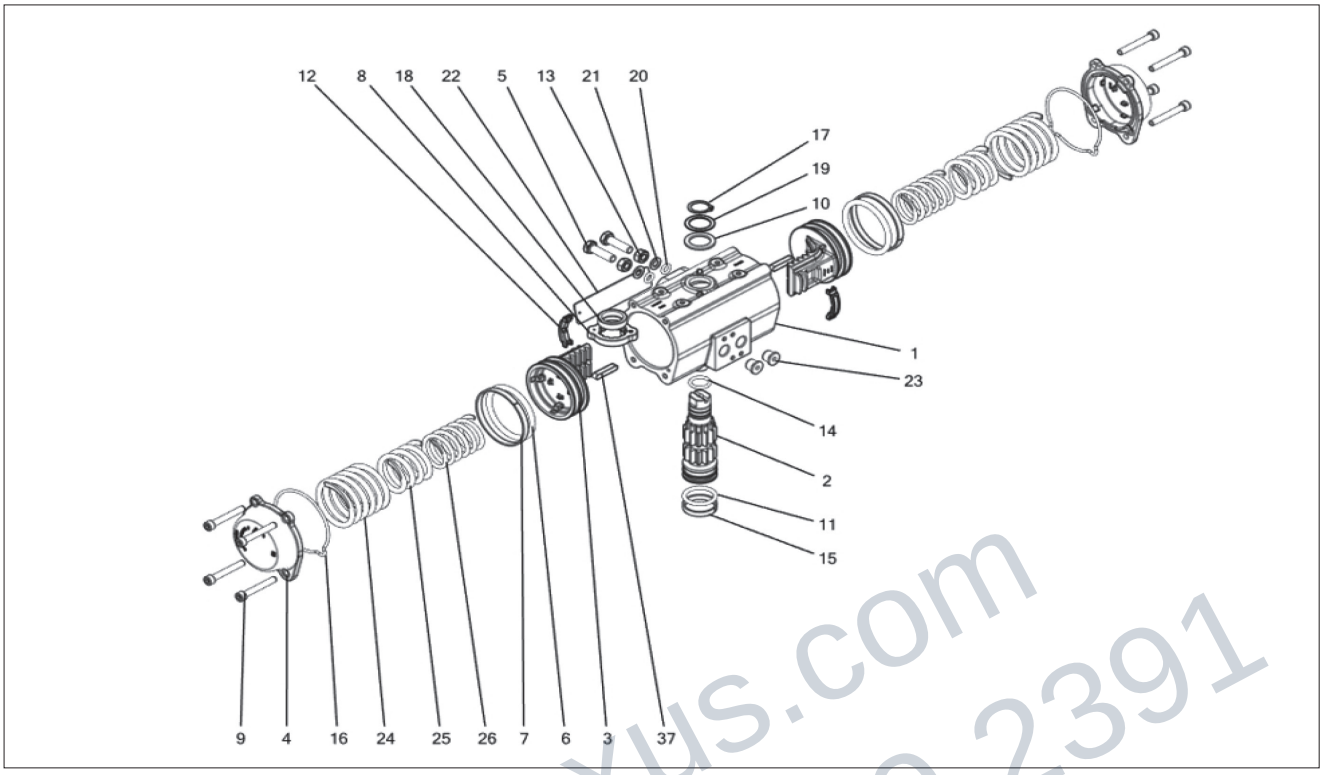
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	ALUMINIUM	6063T5/T6; 6005-T6/T5	HARD ANODISED
2♦	1	PINION	STEEL	EN8	ZINC FLACKING
3♦	2	PISTON WITH RACK	ALUMINIUM	LM13	HARD ANODISED
4♦	2	COVER	ALUMINIUM	LM6	EPOXY POWDER COATED
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	16	COVER BOLT	STAINLESS STEEL	AISI304	
10#	2	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (BOTTOM PINION)	NITRILE RUBBER	NBR 70SHORE A	
12#	4	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (TOP PINION)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 14	SPRING (CARTRIDGE)	SPRING STEEL	-	EPOXY POWDER COATED
28	1	BEARING BUSH HOUSING	ALUMINIUM	6063T5/T6; 6005-T6/T5	
29*	1	O-RING (BEARING BUSH HOUSING)	NITRILE RUBBER	-	
30	1	MANIFOLD	ALUMINIUM	6351-T6	
31	4	MANIFOLD BOLT	STAINLESS STEEL	AISI304	
32*	2	MANIFOLD O-RING	NITRILE RUBBER	-	
33*	2	O-RING SMALL (BODY)	NITRILE RUBBER	-	
34	4	BEARING BUSH HOUSING BOLT	STAINLESS STEEL	AISI304	

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SINGLE ACTING RNP 40, 63, 90, 110 SA STEEL VERSION



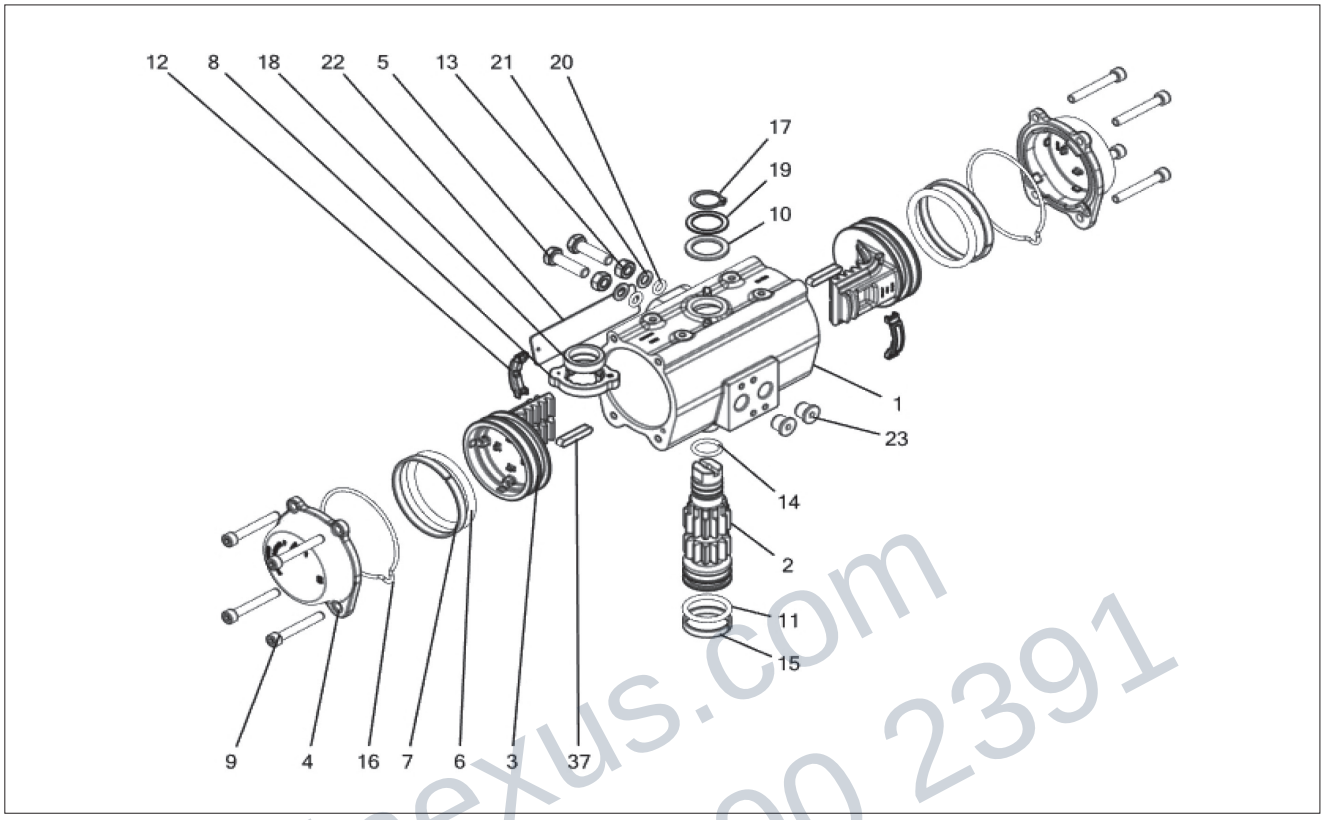
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 2	OUTER SPRING	SPRING STEEL	-	EPOXY POWDER COATED
25	MIN.1 / MAX. 2	MIDDLE SPRING	SPRING STEEL	-	EPOXY POWDER COATED
26	MIN.1 / MAX. 2	INNER SPRING	SPRING STEEL	-	EPOXY POWDER COATED
37	2	PISTON KEY	STEEL	EN8	

NOTE
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DOUBLE ACTING RNP 40, 63, 90, 110 DA STEEL VERSION



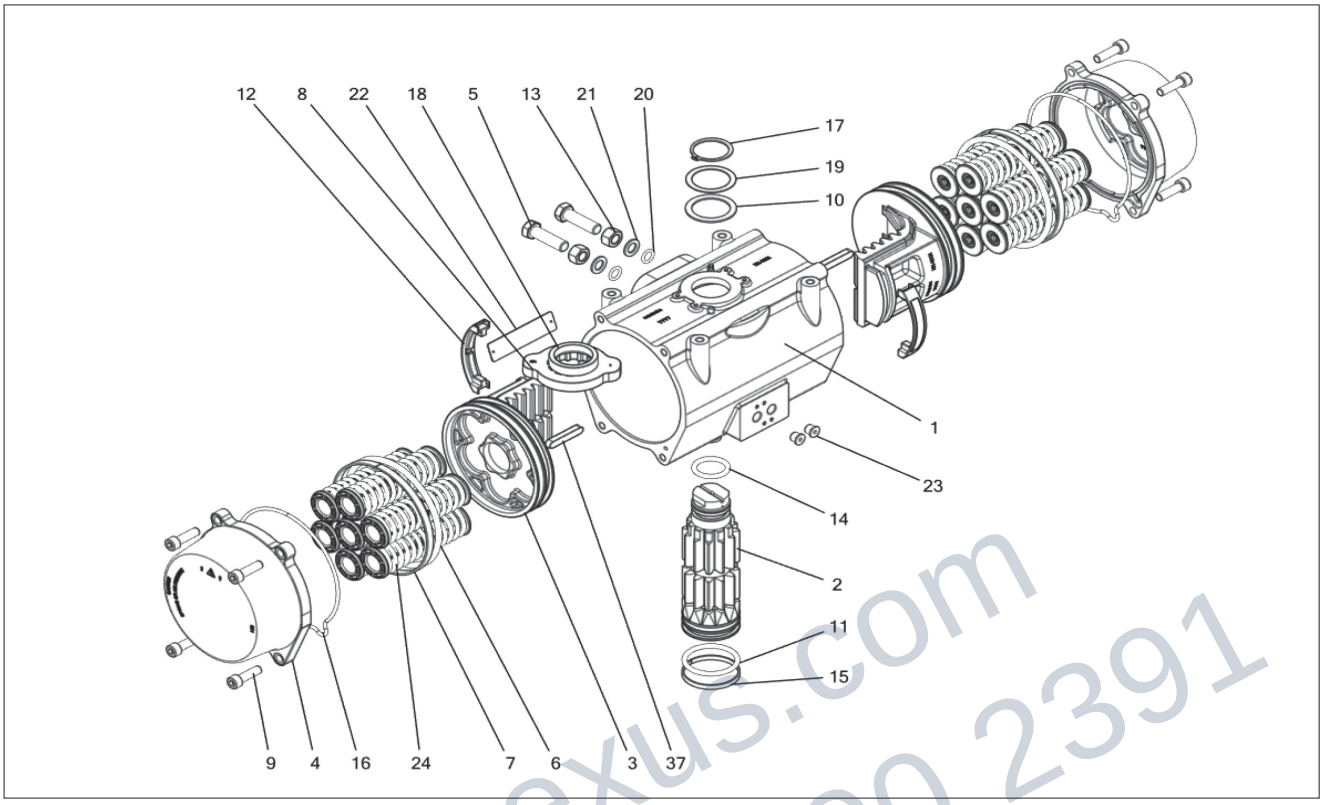
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
37	2	PISTON KEY	STEEL	EN8	

NOTE
* Marked components are the parts of the seal kit.
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SINGLE ACTING RNP 150,175 SA STEEL VERSION



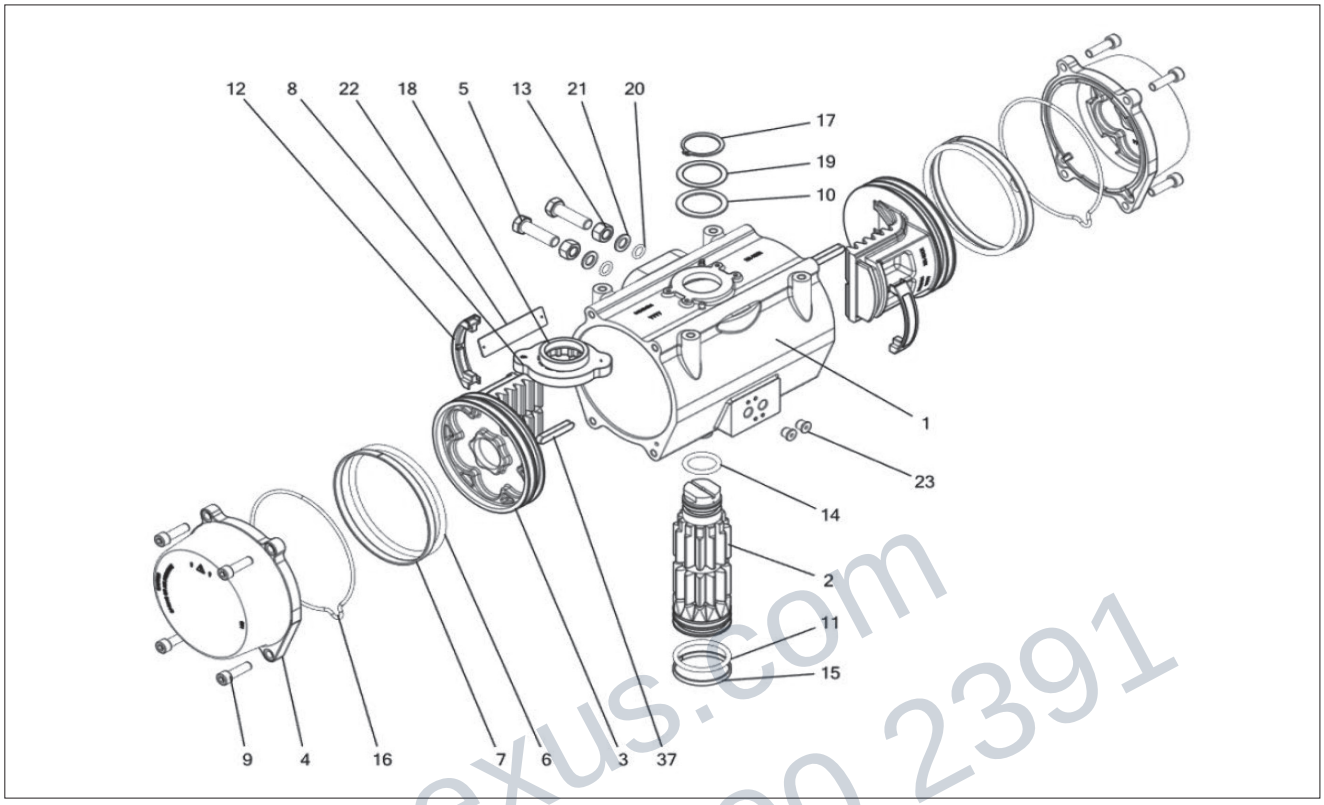
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 14	SPRING (CARTRIDGE)	SPRING STEEL	-	EPOXY POWDER COATED
37	2	PISTON KEY	STEEL	EN8	

NOTE
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DOUBLE ACTING RNP 150,175 DA STEEL VERSION



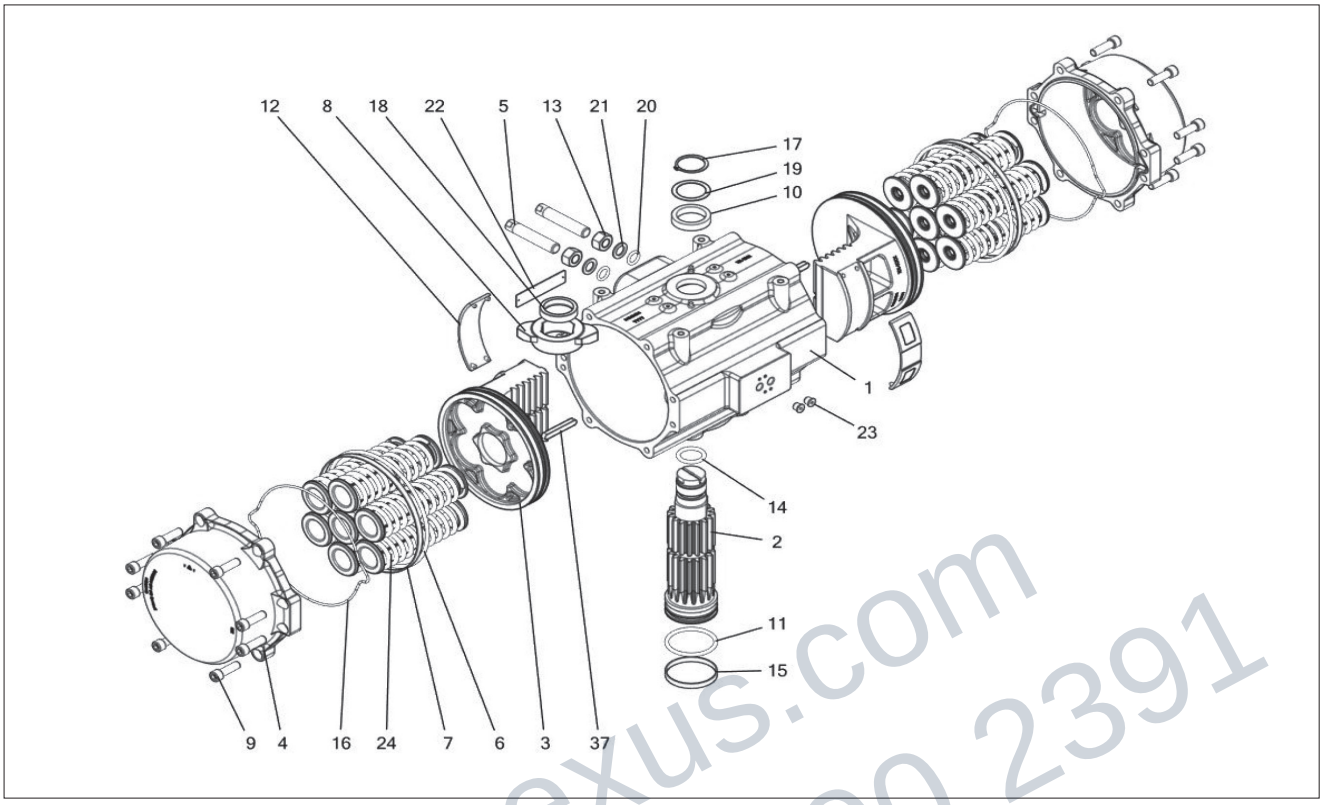
Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
37	2	PISTON KEY	STEEL	EN8	

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SINGLE ACTING RNP 200 SA STEEL VERSION



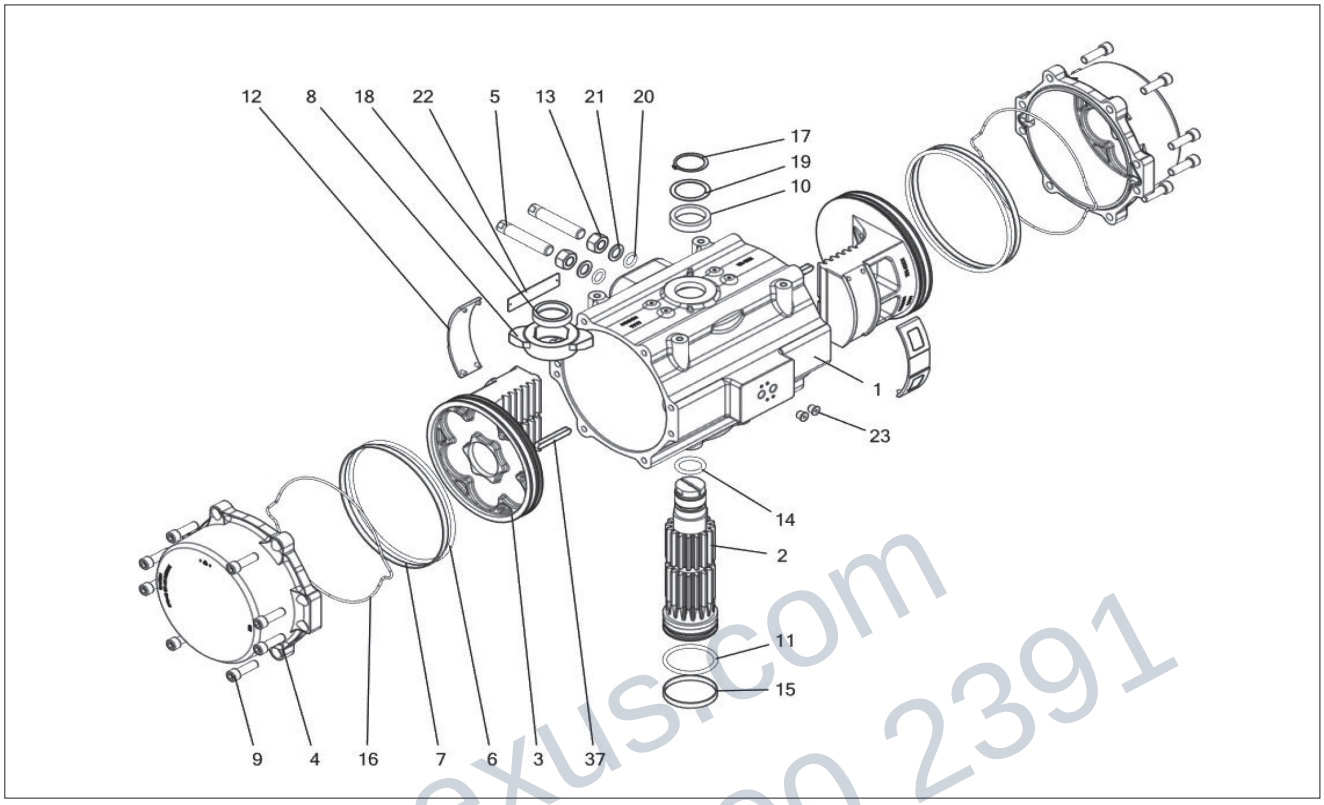
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Bill of materials and parts list

ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
24	MIN.1 / MAX. 14	SPRING (CARTRIDGE)	SPRING STEEL	-	EPOXY POWDER COATED
37	2	PISTON KEY	STEEL	EN8	

NOTE
1* Marked components are the parts of the seal kit.
2# Marked components are the parts of bearing kit.
3♦ Marked components are critical components.

DOUBLE ACTING RNP 200 DA STEEL VERSION



Bill of materials and parts list

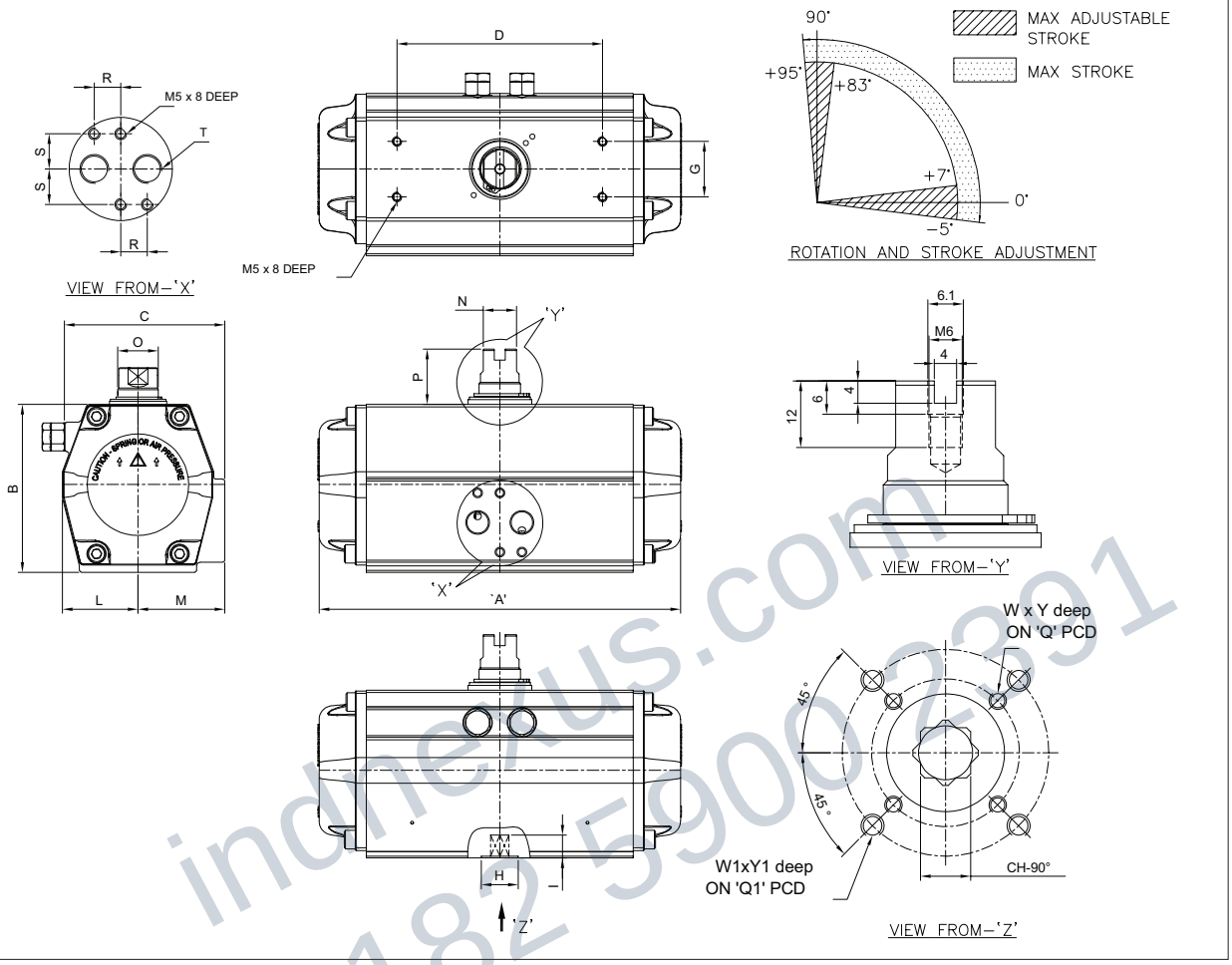
ITEM NO.	UNIT QTY.	PART DESCRIPTION	MATERIAL	SPECIFICATION	CORROSION PROTECTION
1	1	BODY	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	INSIDE BORE HARD CHROME PLATING & OUTSIDE PAINTING / POWDER COATING (WCB)
2♦	1	PINION	STEEL	EN8 (WCB) / SS316 (CF8M)	ZINC FLACKING EN8 (WCB)
3♦	2	PISTON WITH RACK	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB)
4♦	2	COVER	CARBON STEEL/ STAINLESS STEEL	ASTM A216 GR. WCB / ASTM A351 GR. CF8M	OLIVE PASSIVATION (WCB) EPOXY PAINTING/ POWDER COATING
5	2	STOPPER BOLT	STAINLESS STEEL	AISI304	
6*	2	O-RING (PISTON)	NITRILE RUBBER	NBR 70SHORE A	
7#	2	PISTON STRIP	POLYACETAL	-	
8♦	1	CAM	CAST CARBON STEEL	ASTM A216 GR WCB	OLIVE PASSIVATION
9	8	COVER BOLT	STAINLESS STEEL	AISI304	
10#	1	WASHER (PINION)	POLYACETAL	-	
11*	1	O-RING (PINION BOTTOM)	NITRILE RUBBER	NBR 70SHORE A	
12#	2	RACK BEARING	POLYACETAL	-	
13	2	NUT (STOPER BOLT)	STAINLESS STEEL	AISI304	
14*	1	O-RING (PINION TOP)	NITRILE RUBBER	NBR 70SHORE A	
15#	1	PINION STRIP	POLYACETAL	-	
16*	2	COVER SEAL	NITRILE RUBBER	NBR 70SHORE A	
17	1	CIRCLIP (PINION)	SPRING STEEL	EN47-GR.3	ZINC FLAKING
18#	1	BEARING BUSH (CAM)	POLYACETAL	-	
19	1	WASHER (PINION)	STAINLESS STEEL	AISI304	
20*	2	O-RING (STOPER BOLT)	NITRILE RUBBER	NBR 70SHORE A	
21	2	WASHER (STOPER BOLT)	STAINLESS STEEL	AISI304	
22	1	NAME PLATE	POLYESTER ALUMINIUM	-	
23	2	DUST CAP	PLASTIC	-	
37	2	PISTON KEY	STEEL	EN8	

NOTE 1* Marked components are the parts of the seal kit.
2# Marked components are the parts of bearing kit.
3♦ Marked components are critical components.

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Dimensions

TECHNICAL SPECIFICATIONS FOR RNP SQUARE BORE ACTUATOR

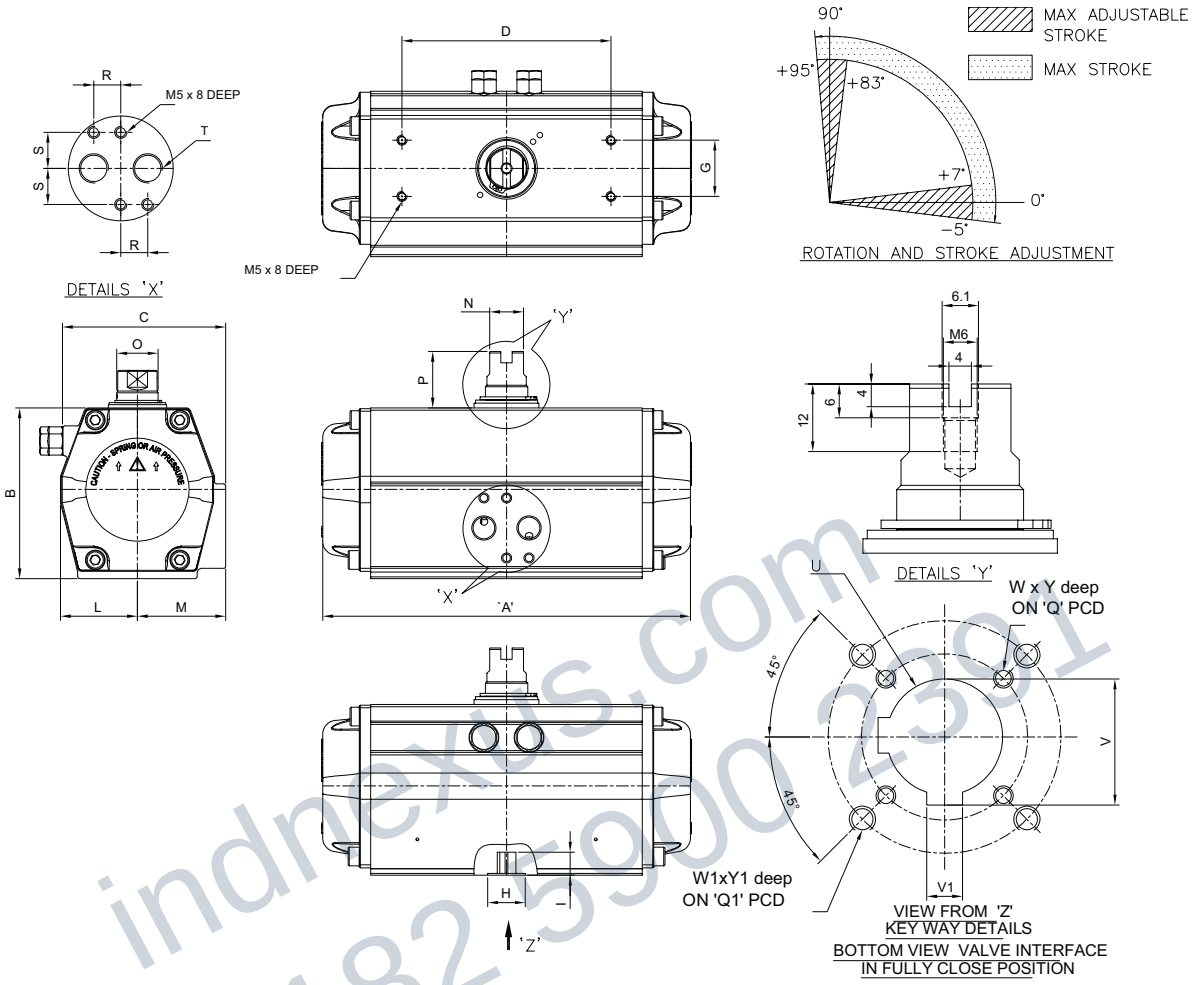


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ACTUATOR MODEL	RNP40	RNP50	RNP63	RNP80	RNP90	RNP100	RNP110	RNP125	RNP150	RNP175	RNP200	RNP250	RNP300	RNP350
A	162	175	196	208	238	274	284	395	412	511	528	684	775	882
B	72	81	91	106	126	139	146	161	191	199	253	253	360	360
C	68	76	88	99	113	125	132	145	168	180	267	267	344	344
D	80	80	80	80	80	80	80	80	80	80	130	130	130	130
G	30	30	30	30	30	30	30	30	30	30	30	30	30	30
H	30	30	40	42	43	55	58	70	70	91	90	122	102	127.18
I	12.5	12.5	17	19	19	25	25	25	33	46	45	63	57	57
L	30	34	41	49	58	62	66	73	88	93	132	132	180	180
M	38	42	47	53	57	63	67	76	88	96	157	157	209	209
N A/F	12	14	18	18	23	26	28	32	36	41	41	41	41	41
O	15	17	22	22	28	31	35	38	45	50	45	45	50	50
p	20	20	20	20	20	20	20	20	20	20	30	30	30	30
Q	36	36	50	50	50	70	70	102	102	102	102	-	-	-
Q1	50	50	70	70	70	102	102	125	125	125	140	140	165	165
FLANGE	F3	F3	F5	F5	F5	F7	F7	F10	F10	F10	F10	F14	F16	F16
FLANGE	F5	F5	F7	F7	F7	F10	F10	F12	F12	F12	F14	-	-	-
R	12	12	12	12	12	12	12	12	12	12	12	12	20	20
s	16	16	16	16	16	16	16	16	16	16	16	16	22.5	22.5
T	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"	1/2"
CH-90°	11	11	14	17	17	22	22	22	27	27	36	46	46	55
W	M5	M5	M6	M6	M6	M8	M8	M10	M10	M10	M10	-	-	-
Y	8	8	9	9	9	12	12	15	15	15	15	-	-	-
W1	M6	M6	M8	M8	M8	M10	M10	M12	M12	M12	M16	M16	M20	M20
Y1	9	9	12	12	12	15	15	18	18	18	24	24	30	30

NOTE. Tolerance details shown in document F102306, please consult factory

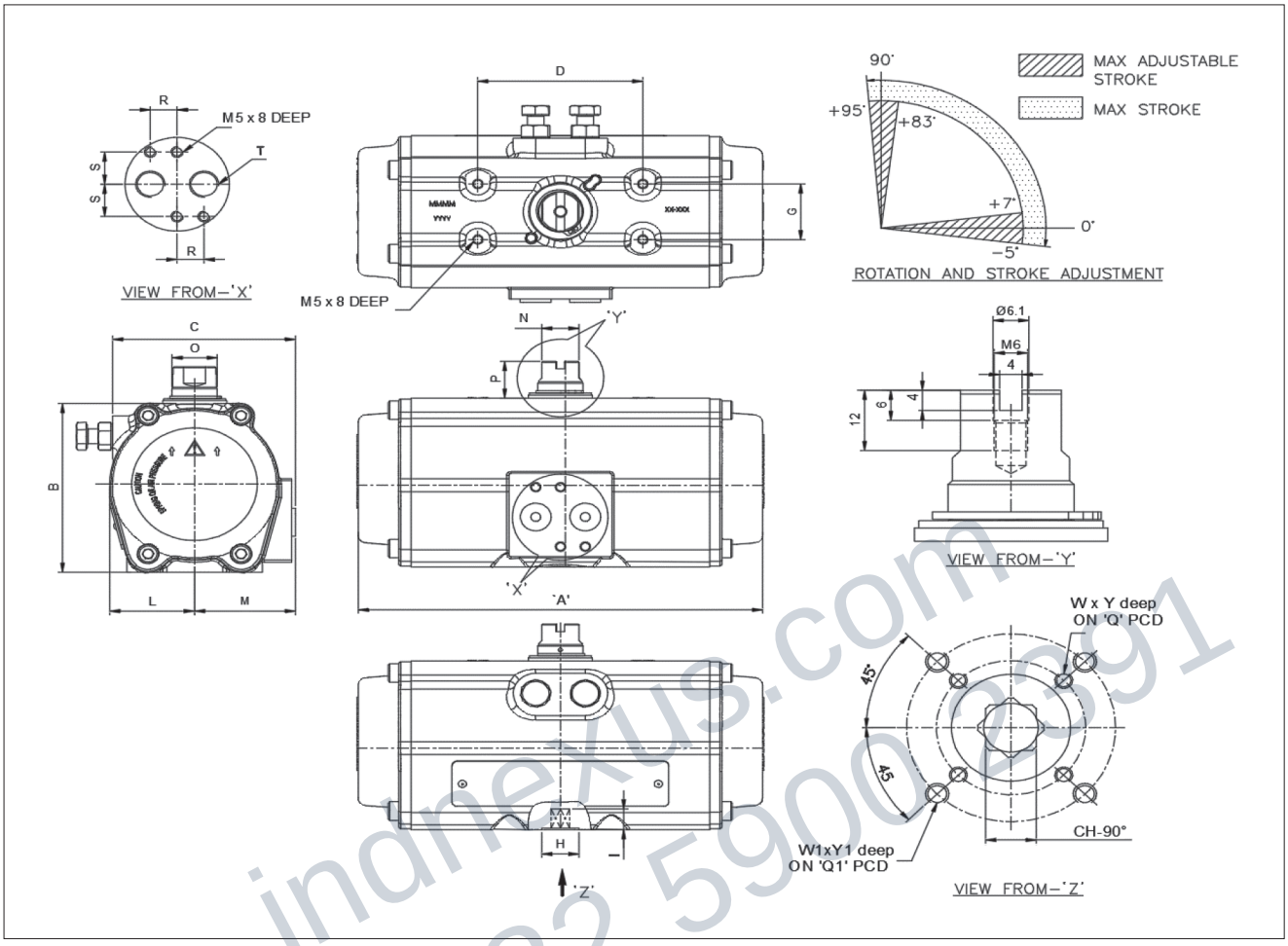
TECHNICAL SPECIFICATIONS FOR RNP NELES BORE ACTUATOR



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ACTUATOR	RNP80	RNP90	RNPl00	RNPll0	RNP125	RNP150
A	208	238	274	284	395	412
B	106	126	139	146	161	191
C	99	113	125	132	145	168
D	80	80	80	80	80	80
G	30	30	30	30	30	30
H	42	43	55	58	70	70
I	30	30	30	35	40	35
L	49	58	62	66	73	88
M	53	57	63	67	76	88
N A/F	18	23	26	28	32	36
O	22	28	31	35	38	45
P	20	20	20	20	20	20
Q	50	50	70	70	102	102
Q1	70	70	102	102	125	125
FLANGE	F5	F5	F7	F7	F10	F10
FLANGE	F7	F7	F10	F10	F12	F12
R	12	12	12	12	12	12
S	16	16	16	16	16	16
T	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
U	15	15	15	20	20	20
V	17	17	17	22.3	22.3	22.3
V1	4.763	4.763	4.763	4.763	4.763	4.763
W	M6	M6	M8	M8	M10	M10
Y	9	9	12	12	15	15
W1	M8	M8	M10	M10	M12	M12
Y1	12	12	15	15	18	18

RNP STEEL VERSION TECHNICAL DATA SHEET SQUARE DRIVE



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ACTUATOR MODEL	RNP40	RNP63	RNP90	RNP110	RNP150	RNP175	RNP200
A	162	196	238	284	412	513	528
B	72	91	126	146	191	199	253
C	68	87	113	132	172	182	269
D	80	80	80	80	80	80	130
G	30	30	30	30	30	30	30
H	30	40	43	58	70	91	90
I	13	17	19	25	33	46	45
L	30	41	58	66	88	93	132
M	38	47	57	67	88	96	159
N A/F	12	18	23	28	36	41	41
O	14	20	27	33	42	48	60
P	20	20	20	20	20	20	30
Q	36	50	50	70	102	102	102
Q1	50	70	70	102	125	125	140
FLANGE	F3	F5	F5	F7	F10	F10	F10
FLANGE	F5	F7	F7	F10	F12	F12	F14
R	12	12	12	12	12	12	12
S	16	16	16	16	16	16	16
T	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
CH-90°	11	14	17	22	27	27	36
W	M5	M6	M6	M8	M10	M10	M10
Y	8	9	9	12	15	15	15
W1	M6	M8	M8	M10	M12	M12	M16
Y1	9	12	12	15	18	18	24

How to order

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
RNP	150	SR40	C	A	1	G	D	/	* (NIL)

1.	Series
RNP	Rack and pinion actuator

2.	Cylinder size
150	040
	050
	063
	080
	090
	100
	110
	125
	150
	175
	200
	250
	300
	350

3.	Spring version
SR30	Spring set
SR40	Spring set
SR55	Spring set
DN00	Double acting

4.	Action
C	Spring to close (90°)
A	Spring to open (90°)
D	Double acting (90°)

5.	Material
A	Hard anodized aluminum + (Only end caps are powder coated)
B	Hard anodized aluminum + Epoxy paint (Body + end covers)
C	Hard anodized aluminum + Powder coating (Body + end covers)
D	Carbon steel + Epoxy paint
E	Non Anodized Aluminum + C5M Painting (Body + End Covers)
S	Stainless steel (CF8M)

Note 5. sign D and S only available with size 40, 63, 90, 110 AND 150, 175 and 200

6.	Pinion & piston material
1	Carbon steel pinion / aluminum piston (applicable with 5. sign A, B, C)
3	Carbon steel / carbon steel (applicable with CS bodies) 5. sign D
5	S316 / SS316 (applicable with SS bodies) 5. sign S

7.	Temperature range
A	-55 ...+80 °C
G	-20 ...+80 °C
H	-20 ...+125 °C

8.	Shaft bore-key type
D	According to ISO 5211 bi-square drive
N	Neles

Note: Sign 8 Shaft Bore Type N is only available 80, 90, 100, 110, 125 and 150

9.	Break
/	Type code break to be left blank if no options specified

10.	Options
	* (NIL)

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