

## QUIFER KP/KPM

## PNEUMATIC ACTUATOR

## Key features:

- Rack and pinion actuator
- Extruded aluminium body with hard anodised surfaces and cast aluminium end caps
- Nickel plated steel driveshaft
- Dual travel stops for both open and closed positions
- Working pressure range: 1 to 8 bar (double acting) and 3 to 8 bar (single acting)
- Working temperature range: -20°C to +100°C
- Opens with 90° ACW rotation



## DETAILS

The Quifer KP/KPM rack and pinion Pneumatic Actuators is a high-quality European made actuator that is popular for high resistance and durability that will remain fully operational under even the most severe temperatures & environments.

These high-quality models provide a very reliable and cost-effective means of valve operation, ensuring a longer service life and lower overhead costs.

The actuator features an extruded aluminium body with hard anodised internal and external surfaces. The end caps are cast aluminium and the drive shaft is nickel plated steel.

All actuators have dual travel stops for both the open and closed position.

The actuator require a supply of air or non-corrosive gas such as nitrogen.

Working pressure is 1 to 8 bar for the double acting version, and 3 to 8 bar for the single acting version.

The actuators are lubricated for the normal working life.

The actuator opens with a 90° anti-clockwise rotation but this can be reversed by inverting the pistons.

The linking surfaces of the actuators are designed according to ISO 5211 and VDI/VDE 3845.

The actuators can be supplied with ATEX & GOST certification and is suitable for use with SIL3 applications.

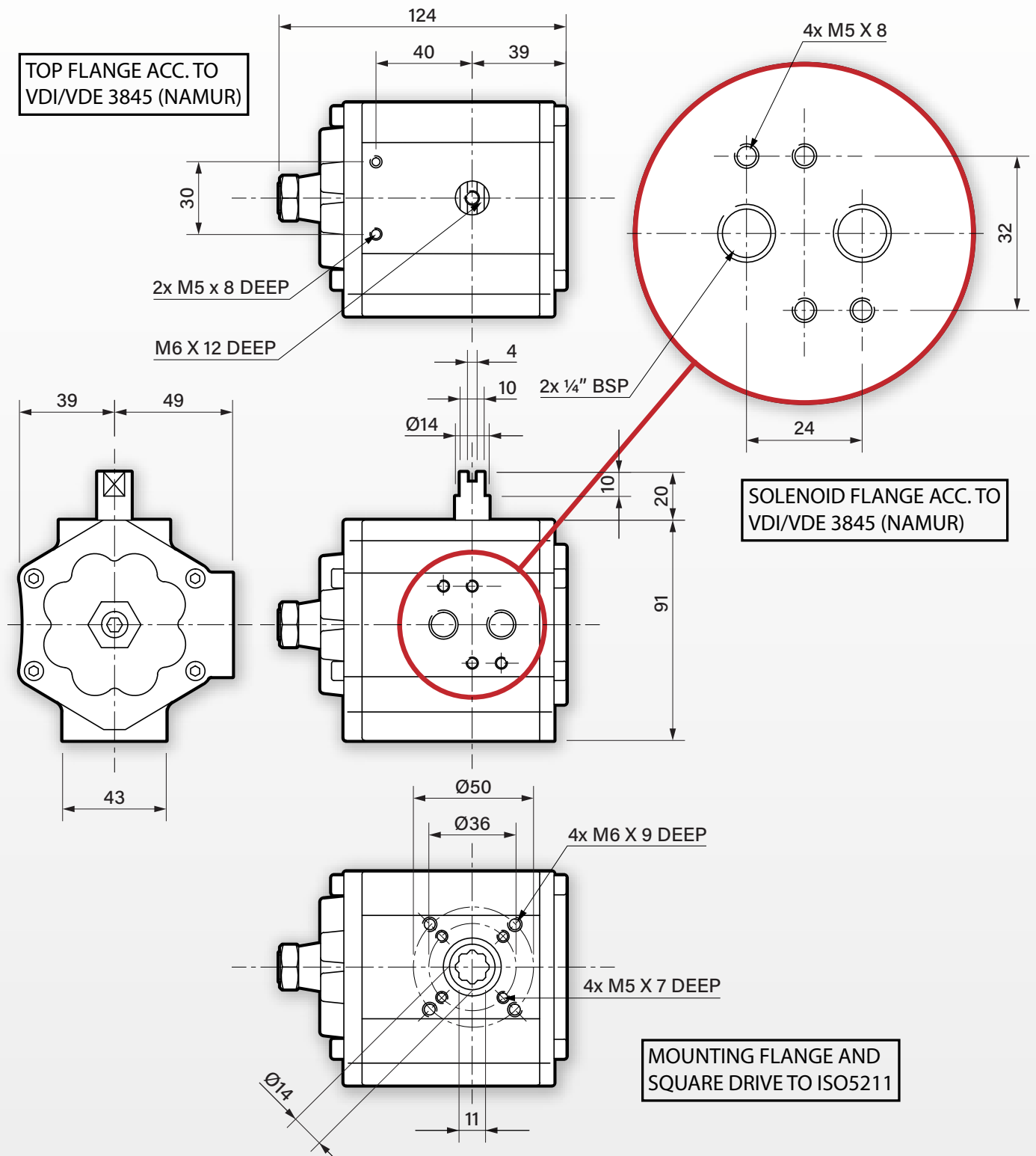
The actuator is designed in accordance with ISO9001:2008, IEC 61508:2010, LOM 05ATEX6032 and European Pressure Equipments Directive 97/23/EC 3.10.

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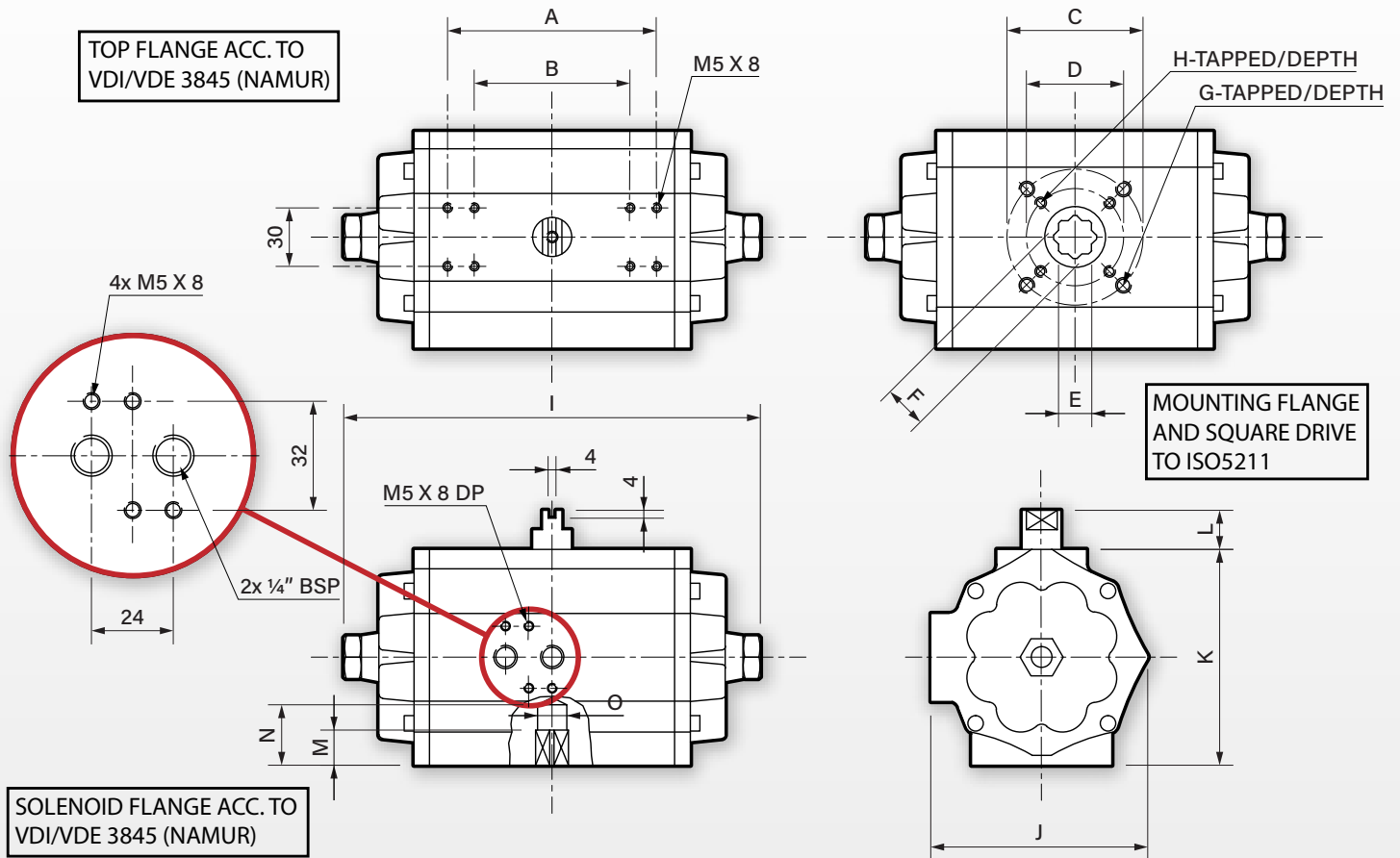
DIMENSIONS IN MM

### KP-KPM-3 PNEUMATIC ACTUATOR



## QUIFER KP/KPM

## PNEUMATIC ACTUATOR

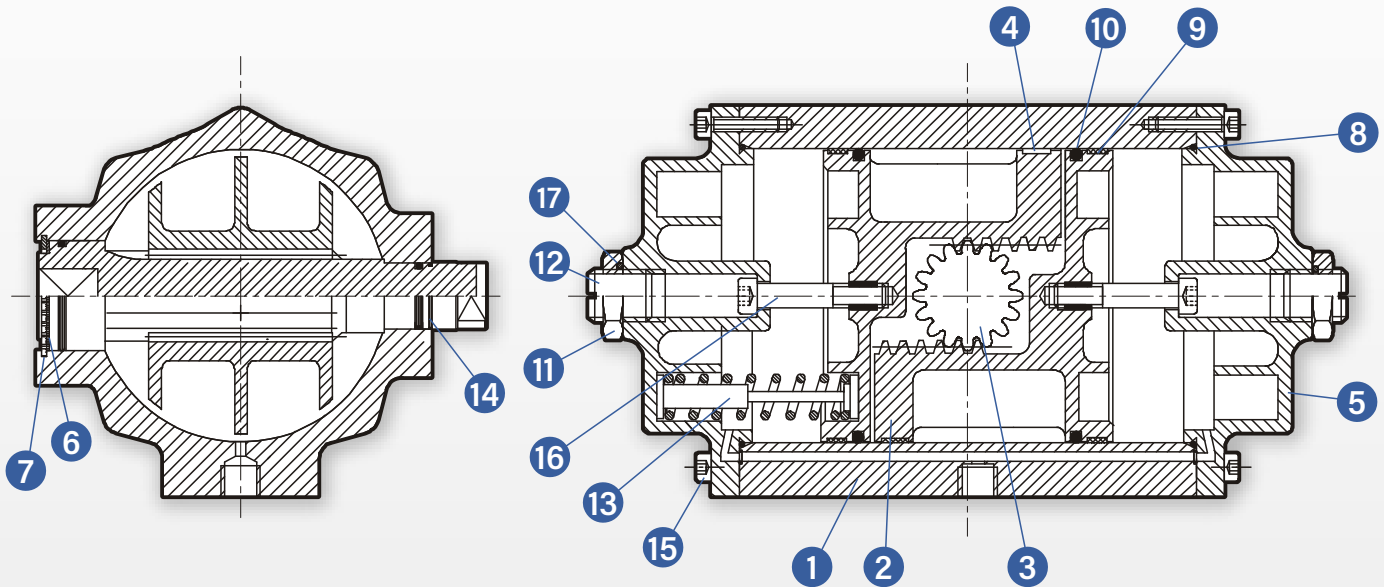


**TABLE 1: DIMENSIONS IN MM**  
**KP-KPM-5 TO KP-KPM-500 PNEUMATIC ACTUATOR**

KP/ KPM	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	-	80	50	36	11	14.2	M6/9	M5/8	180	89	91	20	16	16	-
8	-	80	70	50	17	22.2	M8/12	M6/9	233	112	111	20	18	31	15
12	-	80	70	50	17	22.2	M8/12	M6/9	280	112	111	20	20	33	16
20	-	80	70	-	22	28.2	M8/12	-	294	133	131	20	25	45	22
30	-	80	102	70	22	28.2	M10/15	M8/12	286	169	169	20	25	45	21
40	130	80	102	70	27	36.2	M10/15	M8/12	344	169	169	30	31	45	30
60	130	80	102	70	27	36.2	M10/15	M8/12	377	195	200	30	31	47	30
100	130	80	125	102	36	48.2	M12/18	M10/15	440	210	216	30	38	55	40
140	130	80	125	102	36	48.2	M12/18	M10/15	445	232	242	30	41	55	40
200	130	80	140	-	46	60.2	M16/24	-	537	232	242	30	53	80	51
250	130	80	140	-	36	48.2	M16/24	-	460	305	310	30	51	55	40
370	130	80	165	-	46	60.2	M20/30	-	670	305	310	30	66	66	-
500	130	80	165	-	55	72.2	M20/30	-	794	406	420	30	79	127	60

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## PNEUMATIC ACTUATOR

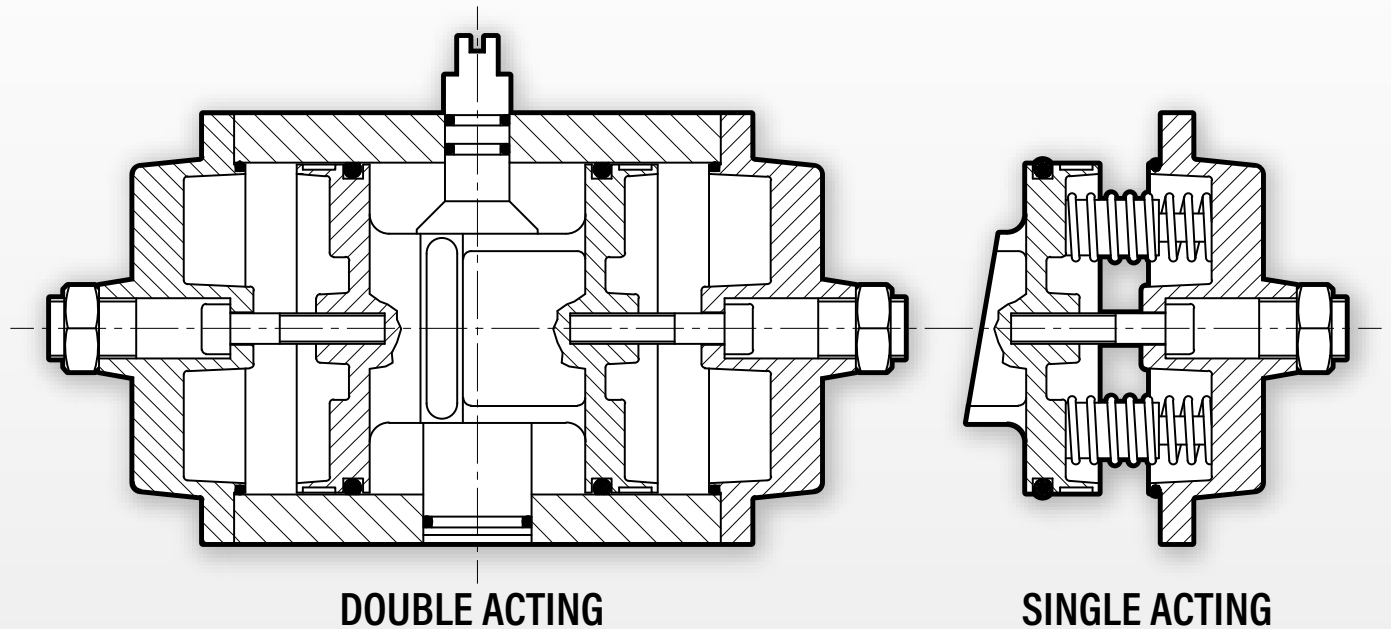


**TABLE 2: PARTS**

Item	Part
1	Body
2	Pistons
3	Drive shaft
4	Bearings
5	End caps
6	Thrust washer
7	Retaining ring
8	Seal
9	Bearings
10	Seal
11	Travel stop nut
12	Travel stop stud
13	Springs (Only for spring return versions)
14	Seal
15	End cap bolts
16	Inner travel stop bolts
17	O-ring

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**TABLE 3: TECHNICAL DETAILS**  
**KP3/KPM3-KP500/KPM500 PNEUMATIC ACTUATOR**

KP/ KPM	Air Volume/Stroke (litres)		Operating Time at 6 bar (seconds)			Weight	
	Opening	Closing	Double Acting	Single Acting		Double Acting	Single Acting
3	0.11	0.10	<1	<1	<1	1.2 kg	1.3 kg
5	0.17	0.19	<1	<1	<1	1.5 kg	1.8 kg
8	0.36	0.45	<1	<1	<1	2.5 kg	3.0 kg
12	0.53	0.66	<1	1	<1	3.6 kg	4.3 kg
20	0.81	0.91	<1	2	1	4.7 kg	5.5 kg
30	1.12	1.37	1	2	1	7.1 kg	8.0 kg
40	1.72	1.90	2	2	1	9.2 kg	10.6 kg
60	2.64	3.19	2	5	2	13.3 kg	15.0 kg
100	3.94	4.41	3	5	3	18.0 kg	21.0 kg
140	4.13	4.71	4	7	4	23.0 kg	26.5 kg
200	6.29	8.05	5	8	5	28.7 kg	35.4 kg
250	7.66	8.75	6	10	6	40.0 kg	46.0 kg
370	14.15	17.49	7	17	11	62.3 kg	77.0 kg
500	21.00	26.00	13	21	13	115.0 kg	139.0 kg

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### PNEUMATIC ACTUATOR

**TABLE 4: TORQUE VALUES**  
**KP3-KP500 DOUBLE ACTING PNEUMATIC ACTUATOR**

KP	40 PSI 2.7 bar	60 PSI 4.1 bar	72 PSI 5 bar	80 PSI 5.6 bar	88 PSI 6 bar	100 PSI 6.9 bar
3	7.5 Nm	11 Nm	14 Nm	15 Nm	16.5 Nm	19 Nm
5	15 Nm	23 Nm	28 Nm	30 Nm	33 Nm	38 Nm
8	32 Nm	48 Nm	59 Nm	64 Nm	70 Nm	80 Nm
12	48 Nm	72 Nm	89 Nm	96 Nm	105 Nm	119 Nm
20	72 Nm	109 Nm	133 Nm	146 Nm	160 Nm	182 Nm
30	99 Nm	150 Nm	183 Nm	201 Nm	219 Nm	250 Nm
40	149 Nm	225 Nm	276 Nm	302 Nm	329 Nm	376 Nm
60	227 Nm	348 Nm	420 Nm	469 Nm	512 Nm	588 Nm
100	345 Nm	519 Nm	639 Nm	696 Nm	759 Nm	866 Nm
140	435 Nm	663 Nm	806 Nm	889 Nm	970 Nm	1114 Nm
200	603 Nm	909 Nm	1117 Nm	1219 Nm	1330 Nm	1516 Nm
250	767 Nm	1151 Nm	1420 Nm	1550 Nm	1690 Nm	1928 Nm
370	1343 Nm	2014 Nm	2487 Nm	2713 Nm	2960 Nm	3374 Nm
500	2150 Nm	3265 Nm	3981 Nm	4380 Nm	4778 Nm	5495 Nm

**TABLE 5: TORQUE VALUES**  
**KPM3-KPM500 SPRING RETURN PNEUMATIC ACTUATOR**

KPM	No. of Springs	Actuation by Springs		Torque From Air Stroke (Nm)											
		End	Start	40 PSI - 2.7 bar		60 PSI - 4.1 bar		72 PSI - 5 bar		80 PSI - 5.6 bar		88 PSI - 6 bar		100 PSI - 6.9 bar	
				0	90	0	90	0	90	0	90	0	90	0	90
3	5	5.9	10.3	-	-	-	-	8	3.6	9	4.7	10.5	6.2	13	8.7
5	10	11.9	20.6	-	-	-	-	15.9	7.2	18.1	9.4	21.1	12.4	26.1	17.4
8	10	27	44	-	-	-	-	32	15	37	20	43	26	53	36
12	10	41	72	-	-	-	-	-	-	55	24	64	33	78	47
20	16	61	109	-	-	-	-	-	-	85	37	99	51	121	73
30	20	90	142	-	-	-	-	-	-	111	59	129	77	160	108
40	20	123	219	-	-	-	-	-	-	179	83	206	110	253	157
60	20	185	305	-	-	-	-	-	-	284	164	327	207	403	283
100	20	270	480	-	-	-	-	-	-	426	216	489	279	596	386
140	24	323	564	-	-	-	-	483	242	566	325	647	406	791	550
200	20	441	753	-	-	-	-	676	364	778	466	889	577	1075	763
250	40	535	930	-	-	-	-	885	491	1015	621	1155	761	1393	999
370	20	935	1776	-	-	-	-	1552	711	1778	937	2025	1184	2439	1598
500	40	1817	3429	-	-	-	-	-	-	2563	951	2961	1349	3678	2066

Note: Models with different number of springs are available as an option; please contact our sales team to discuss your requirements.

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TABLE 6: PART NUMBERS

## KP3-KP500 DOUBLE ACTING PNEUMATIC ACTUATOR

KP	Mounting Plate	Drive Square	SKU
3	F03/F05	11 mm	AP9015-990200
5	F03/F05	11 mm	AP9015-990201
8	F05/F07	17 mm	AP9015-990202
12	F05/F07	17 mm	AP9015-990203
20	F07	22 mm	AP9015-990204
30	F07/F10	22 mm	AP9015-990205
40	F07/F10	27 mm	AP9015-990206
60	F07/F10	27 mm	AP9015-990207
100	F10/F12	36 mm	AP9015-990208
140	F12	36 mm	AP9015-990209
200	F14	46 mm	AP9015-990210
250	F14	36 mm	AP9015-990211
370	F16	46 mm	AP9015-990212
500	F16	55 mm	AP9015-990213

TABLE 7: PART NUMBERS

## KPM3-KPM500 SPRING RETURN PNEUMATIC ACTUATOR

KPM	Mounting Plate	Drive Square	SKU
3	F03/F05	11 mm	AP9015-990214
5	F03/F05	11 mm	AP9015-990215
8	F05/F07	17 mm	AP9015-990216
12	F05/F07	17 mm	AP9015-990217
20	F07	22 mm	AP9015-990218
30	F07/F10	22 mm	AP9015-990219
40	F07/F10	27 mm	AP9015-990220
60	F07/F10	27 mm	AP9015-990221
100	F10/F12	36 mm	AP9015-990222
140	F12	36 mm	AP9015-990223
200	F14	46 mm	AP9015-990224
250	F14	36 mm	AP9015-990225
370	F16	46 mm	AP9015-990226
500	F16	55 mm	AP9015-990227