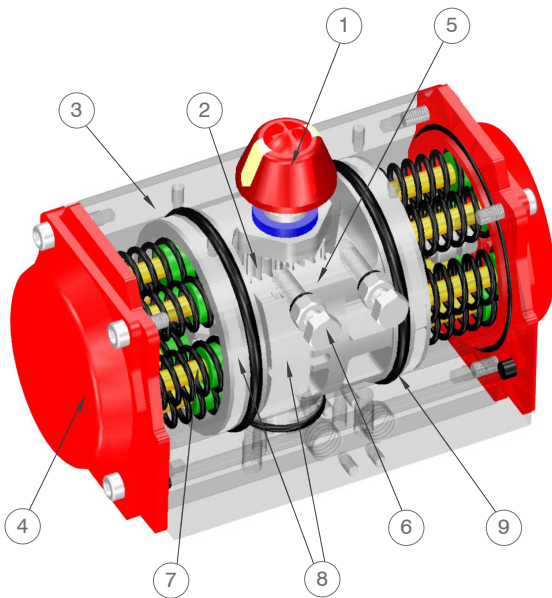




Our newly designed D Series Pneumatic Actuator is available in double-acting and spring-return based on our innovative and patented technology. Features a top mount multi-function indicator and open-close stop adjustment as standard. In addition, state-of-the-art engineering has allowed us to reduce the size of the actuator without losing any torque. The features and characteristics of the actuator have kept pace with 4th generation pneumatic actuators of the world.

FIGURE1. APD SERIES



FACTORY ACCREDITED:



FEATURES

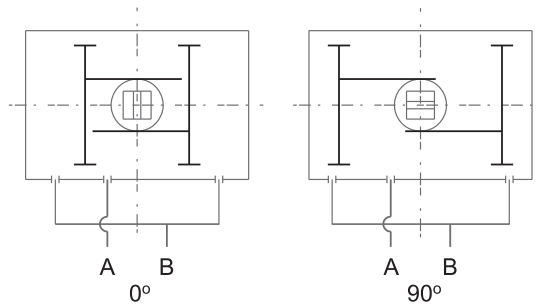
1. **Indicator**
The position indicator Namur is convenient for mounting accessories such as limit switch box, positioner etc.
2. **Pinion**
The pinion is high-precision made from nickel alloy steel, fully conforming to the latest standards of ISO5211, DIN3337 and Namur. The dimensions can be customized and stainless steel option is available.
3. **Actuator Body**
According to the different requirements, the extruded aluminium alloy ASTM6005 body is treated with hard anodized, powder polyester painted (different colors are available such as blue, orange, yellow etc) PTFE or nickel plated is available on request.
4. **End Caps**
Die-casting aluminium powder polyester painted in different colors, PTFE or nickel plated option.
5. **Pistons**
The twin rack pistons are made from die-casting aluminium treated with hard anodization or can be made from cast steel with galvanization. The symmetrical mounting position, long life-cycle and fast operation allows you to reverse the rotation simply by inverting the pistons.
6. **Travel Adjustments**
The two independent external travel stop adjustment bolts can adjust $\pm 5^\circ$ at both open and close directions easily and precisely. (APD Series only)
7. **High Performance Springs**
Pre-loaded coated springs are made from high quality material for resistance to corrosion and longer life-cycle which can be demounted safely and conveniently to satisfy different requirements of torque by changing the number of springs.
8. **Bearings & guides**
Made from low friction, long-life compound material to avoid the direct contact between metals. The maintenance and replacements are easy and convenient.
9. **O-Rings**
NBR rubber o-rings provide trouble-free operation at standard temperature. Viton or silicone is used on high temperature applications..

BASIC OPERATING PRINCIPLE

DOUBLE ACTING

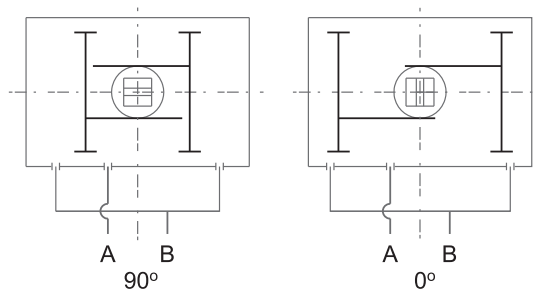
Standard Rotation:

Air to port A forces the pistons outwards, causing the pinion to turn counterclockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from port A.



Reverse Rotation:

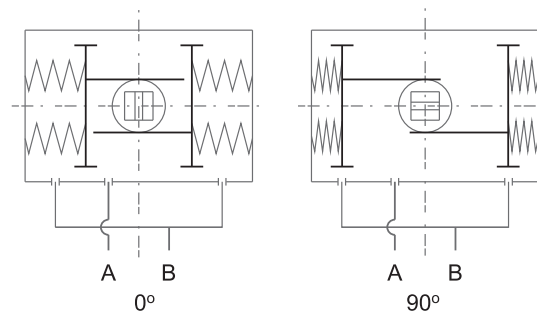
Air to port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from port B. Air to port B forces the pistons inwards, causing the pinion to turn counterclockwise while the air is being exhausted from port A.



SPRING RETURN

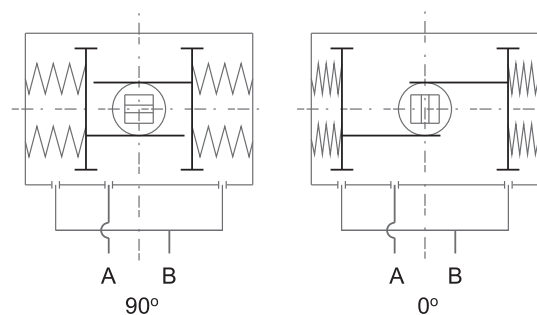
Standard Rotation:

Air to port A forces the pistons outwards, causing the springs to compress, the pinion turns counterclockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns clockwise while air is being exhausted from port A.



Reverse Rotation:

Air to port A forces the pistons outwards, causing the springs to compress, the pinion turns clockwise while air is being exhausted from port B. Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns counterclockwise while air is being exhausted from port A.

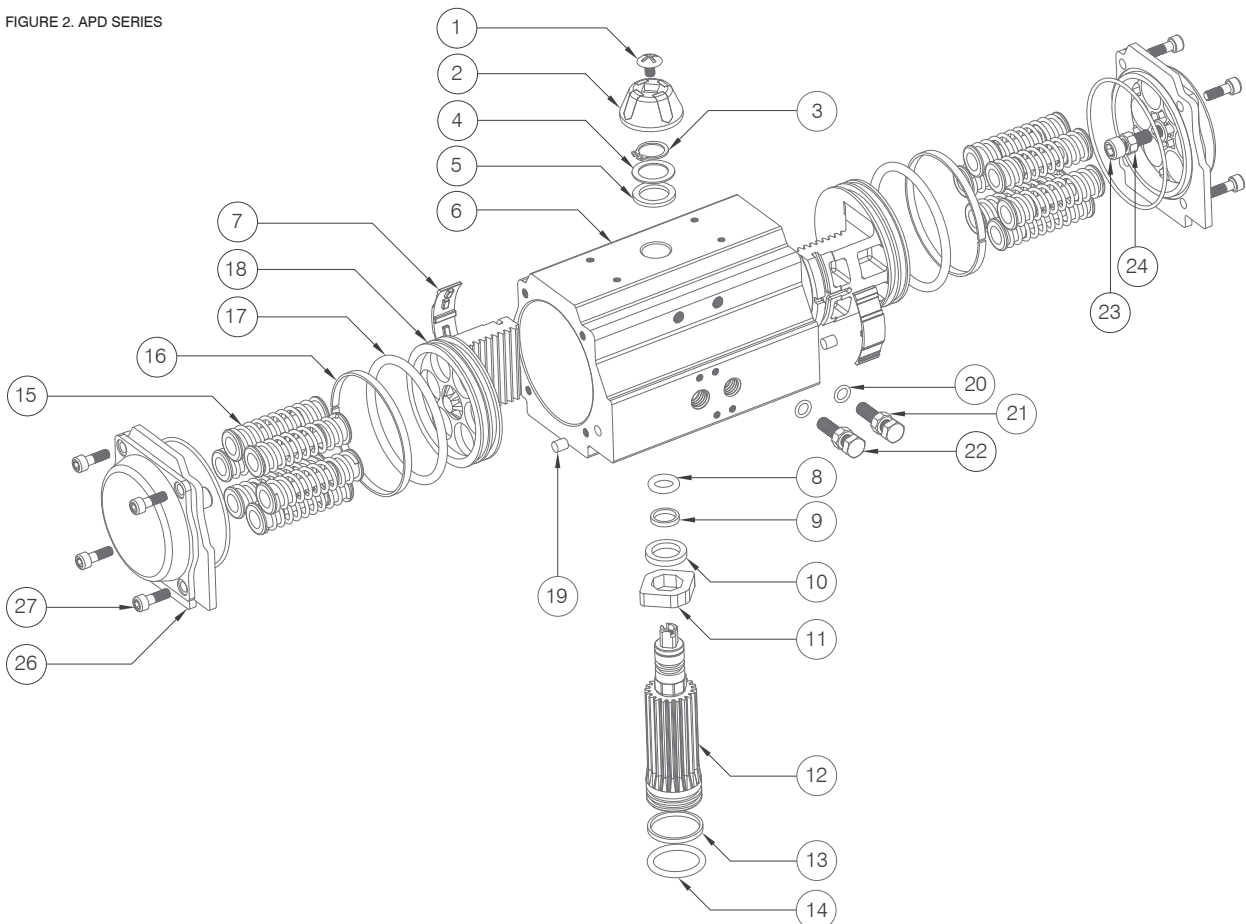


MATERIAL SPECIFICATIONS & PARTS LIST

NO.	DESCRIPTION	MATERIAL	QTY
1	Indicator screw	SS304	1
2	Indicator	Plastic (ABS)	1
3	Circlip	SS304	1
4	Trust washer	SS304	1
5	Outside washer	Polyoxymethylene	1
6	Body	Anodized, Extruded, Aluminum Alloy (6005-T5)	1
7	Guide (Piston)	Polyoxymethylene	2
8	O-Ring (Pinion top)	NBR	1
9	Bearing (Pinion top)	Polyoxymethylene	1
10	Inside washer	Polyoxymethylene	1
11	Cam	Alloy Steel (#45)	1
12	Pinion	Alloy Steel (#45)	1
13	Bearing (Pinion bottom)	NBR	1
14	O-Ring (Pinion bottom)	Polyoxymethylene	1

DESCRIPTION	MATERIAL	QTY	
15	Spring	Spring Steel	0-12
16	Bearing (Piston)	Polyoxymethylene	2
17	O-Ring (Piston)	NBR	2
18	Piston	Cast Aluminum/Casting (A380)	2
19	Plug	NBR	2
20	O-Ring (Adjust Screw)	NBR	2
21	Nut (Adjust Screw)	SS304	2
22	Adjust Screw	SS304	2
23	Stop Screw	SS304	2
24	Nut (Stop screw)	SS304	2
25	O-Ring (End cap)	NBR	2
26	End Cap	Polyester Coated Cast Aluminum (A380)	2
27	Cap Screw	SS304	8

FIGURE 2. APD SERIES



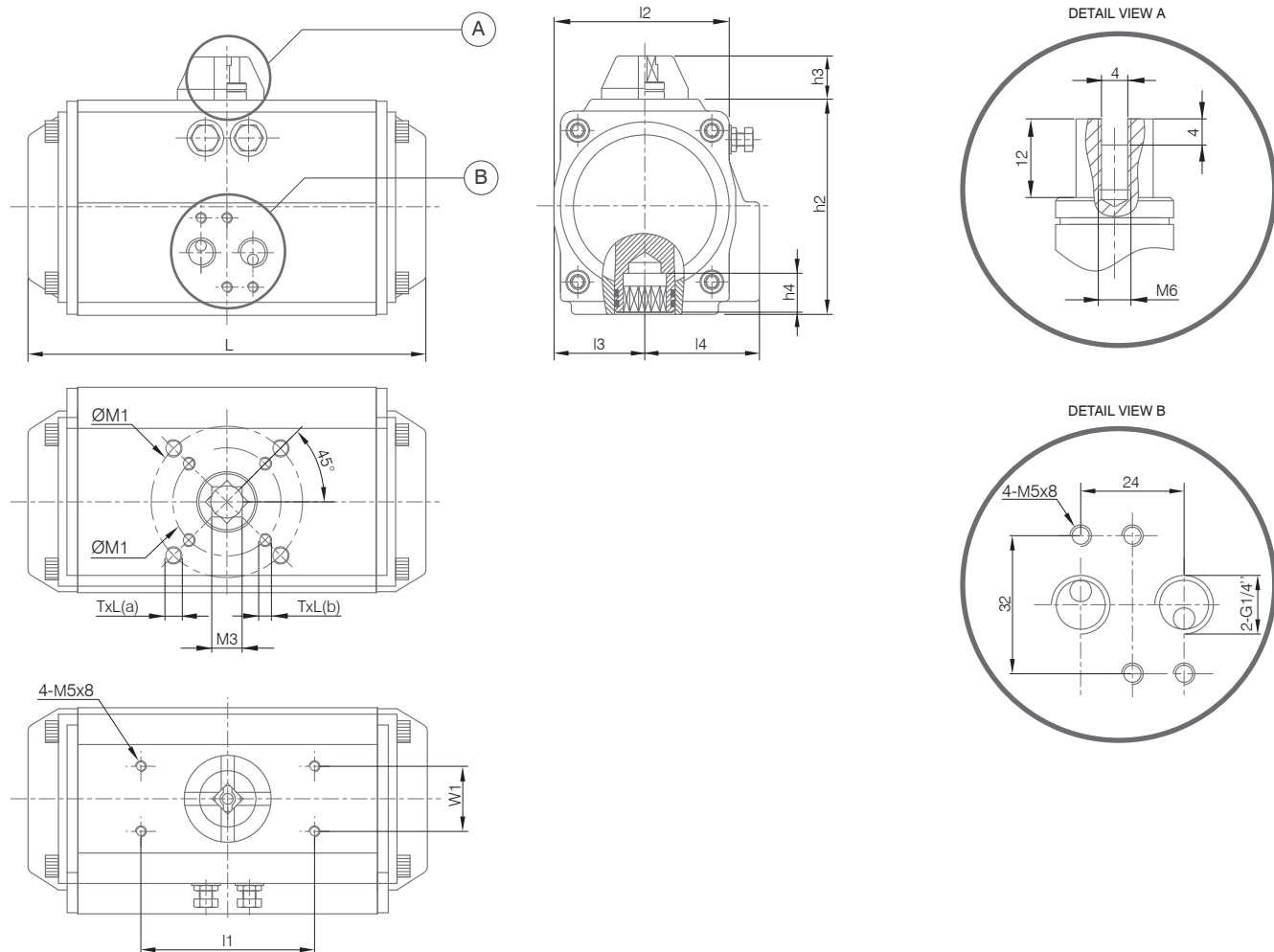
AP SERIES

AIRPOWER PNEUMATIC ACTUATOR

DIMENSIONS (MM)

APD SERIES PNEUMATIC ACTUATOR														
MODEL	L	l1	w1	l2	l3	l4	h2	h3	h4	ØM1	M3	Thread x Length TxL(a)	Thread x Length TxL(b)	Air Connection
APD-40	120	80	30	65	28.5	36.5	60	20	14	36/50	11 x 11	M6 x 10	M5 x 8	G1/4"
APD-52	147	80	30	65	30	41.5	72	20	14	36/50	11 x 11	M6 x 10	M5 x 8	G1/4"
APD-63	168	80	30	72	36	47	87.5	20	18	50/70	14 x 14	M8 x 13	M6 x 10	G1/4"
APD-75	184	80	30	81	42	53	99.5	20	18	50/70	14 x 14	M8 x 13	M6 x 10	G1/4"
APD-83	204	80	30	92	46	57	108.8	20	21	50/70	17 x 17	M8 x 13	M6 x 10	G1/4"
APD-92	262	80	30	98	50	61	116.5	20	21	50/70	17 x 17	M8 x 13	M6 x 10	G1/4"
APD-105	268	80	30	109.5	57.5	64	133	20	26	70/102	22 x 22	M10 x 16	M8 x 13	G1/4"
APD-125	301	80	30	127.5	67.5	74.5	155	20	26	70/102	22 x 22	M10 x 16	M8 x 13	G1/4"
APD-140	390	80	30	137.5	75	77	172	20	31	102/125	27 x 27	M12 x 20	M10 x 16	G1/4"
APD-160	458	80	30	158	87	87	197	20	31	102/125	27 x 27	M12 x 20	M10 x 16	G1/4"
APD-190	528	130	30	189	103	103	230	30	40	140	36 x 36	M16 x 25		G1/4"
APD-210	532	130	30	211	114	114	255	30	40	140	36 x 36	M16 x 25		G1/4"
APD-240	602	130	30	245	130	130	289	30	50	165	36 x 36	M20 x 25		G1/4"
APD-270	722	130	30	211	114	114	255	30	50	165	36 x 36	M20 x 25		G1/2"

FIGURE 3. APD SERIES



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AP SERIES

AIRPOWER PNEUMATIC ACTUATOR



OUTPUT TORQUE OF DOUBLE ACTING ACTUATOR (NM)

APD & APB SERIES AIR PRESSURE (BAR)										
MODEL	2	2.5	3	4	4.5	5	5.5	6	7	8
APD40DA	4.8	6	7.2	9.5	10.7	11.9	13.1	14.3	16.7	19.1
APD52DA	8	10	12	16	18	20	21.9	23.9	27.9	31.9
APD63DA	14.6	18.2	21.9	29.2	32.8	36.5	40.1	43.8	51.1	58.4
APD75DA	20.1	25.1	30.1	40.1	45.1	50.2	55.2	60.2	70.2	80.3
APD83DA	31.4	39.2	47	62.7	70.5	78.4	86.2	94.1	109.7	125.4
APD92DA	45.1	56.4	67.7	90.3	101.6	112.9	124.1	135.4	158	180.6
APD105DA	66.1	82.7	99.2	132.2	148.8	165.3	181.8	198.4	231.4	264.5
APD125DA	100.3	125.4	150.5	200.6	225.7	250.8	275.9	301	351.1	401.3
APD140DA	171	213.8	256.5	342	384.8	427.5	470.3	513	598.5	684
APD160DA	266	332.5	399	532	598.5	665	731.5	798	931	1064
APD190DA	425.6	532	638.4	851.2	957.6	1064	1170.4	1276.8	1489.6	1702.4
APD210DA	532	665	798	1064	1197	1330	1463	1596	1862	2128
APD240DA	796.5	961.9	1154.3	1539	1731.4	1923.8	2116.1	2308.5	2693.3	3078
APD270DA	1169.6	1462.1	1754.5	2339.3	2631.7	2924.1	3216.5	3508.9	4093.7	4678.6
APB300DA	1526	1908	2289	3052	3434	3815	4197	4578	5341	6104
APB350DA	2285	2856	3427	4570	5141	5712	6283	6854	7997	9139
APB400DA	3256	4069	4883	6511	7325	8139	8953	9767	11394	13022
APB500DA	8478	10598	12717	16956	19076	21195	23315	25434	29673	33912
APB600DA	16278	20347	24417	32556	36625	40694	44764	48833	56972	65111
APB700DA	30787	38483	46181	61575	69271	76969	84664	92362	107756	123150
APB800DA	44211	55264	66316	88422	99475	110528	121580	132633	154739	176844

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Diagram 1. For double acting actuator

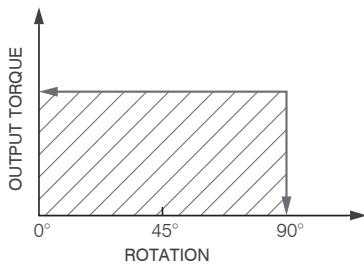
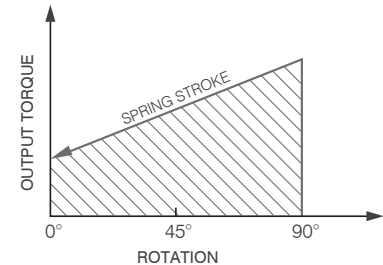
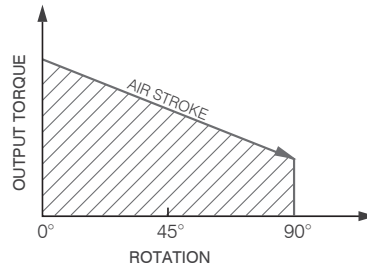


Diagram 2. For spring return actuator



OUTPUT TORQUE OF SPRING RETURN ACTUATOR (NM)

APD SERIES AIR PRESSURE (BAR)																
	2.5		3		4		5		6		7		8		SPRING'S OUTPUT	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
QTY	START	END	START	END	START	END	START	END	START	END	START	END	START	END		
APD52SR	5	5.7	3.8	7.6	5.7										6.2	4.3
	6	4.9	2.5	6.9	4.5	10.9	8.5								7.4	5
	7	4	1.3	6	3.3	9.8	7.3	14	10.4						8.6	5.9
	8			5.2	2	9.2	6	13.2	9.1	17.2	14.1				9.9	6.7
	9			4.3	0.8	8.3	4.8	12.3	7.9	16.3	12.8	20.3	16.8		11.1	7.6
	10					7.4	3.6	11.5	6.7	15.5	11.6	19.5	15.6		12.4	8.5
	11					6.6	2.3	10.6	5.4	14.6	10.4	18.6	14.3	22.6	18.3	13.6
12							9.7	4.2	13.8	9.1	17.8	12.2	21.8	17.1	14.8	10.2

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APD SERIES AIR PRESSURE (BAR)																		
	2.5		3		4		5		6		7		8		SPRING'S OUTPUT			
	SPRING	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			
	QTY	START	END	START	END	START	END	START	END	START	END	START	END	START	END			
APD63SR	5	11.4	7.7	15	11.4	22.3	14.9									10.4	6.8	
	6	10.1	5.7	13.6	9.3	20.9	16.6	28.3	23.9							12.5	8.2	
	7	8.6	3.6	12.5	7.2	19.5	14.5	26.8	21.9							14.6	9.6	
	8			10.9	5.1	18.2	12.4	25.5	19.8	32.8	27	40.1	34.3			16.7	10.9	
	9					16.8	10.4	24.1	17.7	31.4	24.9	38.7	32.2			18.8	12.3	
	10					1.4	8.2	22.8	15.6	30	22.8	37.3	30.1	44.7	37.4	20.9	13.7	
	11							21.5	13.5	28.7	20.7	36	28	43.3	35.3	22.9	15	
	12							20	11.4	27.3	18.6	34.6	25.9	41.9	33.3	25	16.4	
	APD75SR	5	14.5	10.6	19.4	15.5	29.5	25.7									14.5	10.5
		6	12.4	7.6	17.3	12.6	27.4	22.7	37.5	32.8							17.4	12.7
		7	10.4	4.8	15.2	9.7	25.3	19.9	35.4	29.9							20.3	14.8
		8			13.1	6.8	23.1	16.9	33.3	27	43.2	37	53.3	47			23.2	16.9
9						21	14.1	31.2	24.1	41.1	34.1	51.2	44.2			26.1	19	
10						19	11.1	28.8	21.2	39	31.2	49.1	41.2	59.1	51.2	29	21.1	
11								27	18.3	37	28.3	47	38.4	57	48.4	31.9	23.2	
12								24.9	15.4	34.9	25.4	44.9	35.4	54.9	45.4	34.7	25.3	
APD83SR	5	23.3	16.1	31.1	24	46.8	39.7									23	15.8	
	6	20.1	11.5	28	19.3	43.7	35.1	59.4	50.7							27.6	19	
	7	17	6.9	24.8	14.8	40.5	30.5	56.2	46.2							32.2	22.1	
	8			21.7	10.1	37.4	25.8	53.1	41.5	68.8	57.2	84.5	72.9			36.8	25.3	
	9					34.2	21.3	49.9	37	65.6	52.6	81.2	68.3			41.4	28.5	
	10					31	16.6	46.7	32.3	62.4	48	78.1	63.7	93.8	79.3	46	31.6	
	11							43.6	27.7	59.3	43.4	75	59.1	90.6	74.8	50.6	34.8	
	12							40.4	23.2	56.1	38.9	71.7	54.5	87.4	70.2	55.2	38	
APD92SR	5	33.1	22	44.2	33.2	66.8	55.9									34.4	23.3	
	6	28.4	15.2	39.6	26.4	62.2	49	84.8	71.6							41.2	28	
	7	23.8	8.2	34.9	19.4	57.5	42.1	80.2	64.7							48.1	32.7	
	8			31.3	12.6	52.9	35.2	75.5	57.9	98.1	80.5	120.7	103			55	37.3	
	9					48.2	28.4	70.9	51	93.5	73.6	116	96.1			61.9	42	
	10					43.6	21.5	66.2	44.1	88.8	66.7	111.3	89.2	134.0	111.8	68.7	46.7	
	11							61.5	37.2	84.1	59.9	106.6	82.4	129.2	105	75.6	51.4	
	12							56.8	30.4	79.4	53	101.9	75.5	124.5	98.1	82.5	56	
APD105SR	5	51	33.4	67.5	49.9	100.6	83									49.2	31.6	
	6	44.7	23.5	61.1	40	94.2	73.2	127.3	106.2							59.1	38	
	7	38.4	13.7	54.9	30.3	87.9	63.4	121	96.4							68.9	44.3	
	8			48.5	20.4	81.6	53.5	114.7	86.5	147.7	119.6	180.8	152.7			78.7	50.6	
	9					75.3	43.7	108.4	76.8	141.5	109.8	174.5	142.9			88.6	56.9	
	10					68.9	33.4	102	66.5	135.1	99.6	168.2	132.6	201.2	165.7	98.4	63.3	
	11							95.7	57	128.7	90.1	161.8	123.1	194.8	156.2	108.3	69.6	
	12							89.4	47.5	122.5	80.6	155.5	113.6	188.6	146.7	118.1	75.9	
APD125SR	5	73	47	98	72	148	122									79	52	
	6	63	31	88	56	138	107	188	157							94	63	
	7	52	15	77	40	127	90	178	141							110	73	
	8			67	25	117	75	167	125	217	176	268	226			125	84	
	9					107	59	157	109	207	159	257	210			141	94	
	10					96	44	146	94	196	144	247	194	297	245	157	105	
	11							136	78	186	128	236	178	286	228	173	115	
	12							125	63	176	113	226	163	276	213	188	125	

AP SERIES

AIRPOWER PNEUMATIC ACTUATOR



OUTPUT TORQUE OF SPRING RETURN ACTUATOR (NM)

		APD SERIES AIR PRESSURE (BAR)															
		2.5		3		4		5		6		7		8		SPRING'S OUTPUT	
SPRING		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
QTY		START	END	START	END	START	END	START	END	START	END	START	END	START	END		
APD140SR	5	128	85	171	127	256	213									129	86
	6	111	59	154	102	239	187	325	273							155	103
	7	94	33	137	76	222	162	308	247							181	120
	8			120	50	205	136	291	221	376	307	462	392			206	137
	9					187	110	273	196	358	281	444	367			232	155
	10					170	84	256	169	341	255	427	340	512	426	258	172
	11							238	143	324	229	409	314	495	400	284	189
	12							221	118	307	203	392	289	478	374	310	206
APD160SR	5	193	124	259	191	392	324									208	140
	6	165	83	232	149	365	282	498	415							250	168
	7	137	41	203	107	336	240	469	373							292	196
	8			176	66	309	199	442	237	575	465	708	598			333	223
	9					280	157	413	290	546	423	679	556			375	251
	10					253	115	386	248	519	381	652	514	785	647	417	279
	11							358	207	491	340	624	473	757	606	458	307
	12							330	165	463	298	596	431	729	564	500	335
APD190SR	5	332	222	438	329	651	542									309	200
	6	292	161	398	267	611	480	824	693							371	240
	7	252	99	358	205	571	418	784	631							433	280
	8			318	143	531	356	744	569	957	782	1169	995			495	320
	9					491	295	704	507	917	720	1130	933			557	360
	10					451	233	664	446	877	658	1090	871	1302	1084	618	400
	11							624	384	837	597	1050	809	1263	1022	680	440
	12							584	322	797	535	1010	748	1223	960	742	480
APD210SR	5	390	285	523	418	789	684									380	275
	6	335	209	468	342	734	608	1000	874							456	330
	7	280	133	413	266	679	532	945	798							532	385
	8			358	190	624	456	890	722	1156	988	1422	1254			608	440
	9					569	380	835	646	1101	912	1367	1178			684	495
	10					514	304	780	570	1046	836	1312	1102	1578	1368	760	550
	11							725	494	991	760	1257	1026	1523	1292	836	605
	12							670	418	936	684	1202	950	1468	1216	912	660
APD240SR	5	552	409	744	600	1129	985									554	410
	6	470	297	662	489	1047	874	1432	1259							665	492
	7	388	187	580	379	964	764	1349	1149							775	575
	8			498	268	883	653	1267	1037	1652	1422	2037	1807			886	656
	9					800	542	1185	926	1569	1311	1954	1696			998	739
	10					718	431	1103	816	1488	1201	1872	1586	2257	1970	1108	821
	11							1021	705	1406	1090	1791	1474	2176	1859	1219	903
	12							939	594	1323	979	1708	1363	2093	1748	1330	985
APD270SR	5	903	675	1195	968	1779	1552									787	560
	6	790	519	1083	811	1667	1396	2252	1981							943	672
	7	679	361	972	654	1556	1238	2141	1823							1101	783
	8			860	497	1444	1081	2029	1666	2614	2252	3199	2836			1258	895
	9					1332	923	1917	1509	2502	2094	3087	2678			1416	1007
	10					1220	767	1805	1352	2390	1937	2974	2521	3560	3107	1572	1119
	11							1693	1194	2278	1779	2862	2364	3448	2949	1730	1231
	12							1582	1037	2167	1623	2751	2207	3336	2792	1887	1342

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APB SERIES AIR PRESSURE (BAR)																			
		2		2.5		3		4		5		6		7		8		SPRING'S OUTPUT	
SPRING		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
QTY		START	END	START	END	START	END	START	END	START	END	START	END	START	END	START	END	START	END
APB300SR	5	715	347	1097	729													1061	730
	6	553	112	935	494	1316	875											1273	876
	7			772	258	1153	639	1916	1402									1485	1022
	8					991	403	1754	1166	2517	1929							1697	1168
	9							1592	930	2355	1693	3118	2456					1909	1314
	10							1430	695	2193	1458	2956	2221	3719	2984	4482	3747	2122	1460
	11									2030	1222	2793	1985	3556	2748	4319	3511	2334	1606
	12									1868	986	2631	1749	3394	2512	4157	3275	2546	1752
APB350SR	5	982	393	1553	964													1702	1173
	6	721	15	1292	586	1863	1157											2043	1408
	7			1031	208	1602	779	2745	1922									2383	1642
	8					1341	401	2484	1544	3626	2686							2724	1877
	9							2224	1165	3366	2307	4508	3449					3064	2112
	10							1963	787	3105	1929	4247	3071	5390	4214	6532	5356	3405	2346
	11									2844	1551	3986	2693	5129	3836	6271	4978	3745	2581
	12									2584	1172	3726	2314	4869	3457	6011	4599	4086	2816
APB400SR	7	1215	56	2028	869													2880	1837
	8			1736	411	2550	1225											3292	2100
	9					2259	768	3887	2396									3703	2362
	10					1967	311	3595	1939	5223	3567							4115	2624
	11							3303	1482	4931	3110	6559	4738					4526	2887
	12							3012	1025	4640	2653	6268	4281	7895	5908	9523	7536	4938	3149
	13									4348	2195	5976	3823	7603	5450	9231	7078	5349	3412
	14									4057	1738	5685	3366	7312	4993	8940	6621	5761	3674
	15									3765	1281	5393	2909	7020	4536	8648	6164	6172	3937
16											5101	2452	6728	4079	8356	5707	6584	4199	
APB500SR	4			5116	1957													8741	5482
	5					5864	1791											10926	6853
	6							8733	3845									13111	8223
	7							7362	1659	11601	5898							15297	9594
	8									10230	3713	14469	7952	18708	12191	22947	16430	17482	10965
APB600SR	4			10497	3966													14743	8668
	5					12105	3940											18429	10835
	6							17782	7984									22115	13001
	7							15319	3888	23457	12026							25801	15168
	8									20995	7931	29134	16070	37273	24209	45412	32348	29487	17335
APB700SR	6					28205	12437											33744	17976
	7							40603	22207	55997	37601							39368	20972
	8									53001	31977	68394	47370	83788	62764	99182	78158	44992	23968

AP SERIES

AIRPOWER PNEUMATIC ACTUATOR



OPERATION TIME (SEC)

APD & APB SERIES AIR PRESSURE (5 BAR)																	
DOUBLE ACTING			SPRING RETURN														
			3+3		3+4		4+4		4+5		5+5		5+6		6+6		
MODEL	0°-90°	0°-90°	MODEL	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
APD52DA	0.6	0.53	APD52SR	2.46	0.48	2.48	0.46	2.5	0.44	2.52	0.42	2.54	0.4	2.56	0.38	2.58	0.36
APD63DA	0.66	0.58	APD63SR	2.54	0.56	2.56	0.54	2.58	0.52	2.6	0.5	2.62	0.48	2.64	0.46	2.66	0.44
APD75DA	0.72	0.64	APD75SR	2.62	0.64	2.64	0.62	2.66	0.6	2.68	0.58	2.7	0.56	2.72	0.54	2.74	0.52
APD83DA	0.83	0.73	APD83SR	2.71	0.73	2.73	0.71	2.75	0.69	2.77	0.67	2.79	0.65	2.81	0.63	2.83	0.61
APD92DA	1	0.86	APD92SR	2.89	0.86	2.91	0.84	2.93	0.82	2.95	0.8	2.97	0.78	2.99	0.76	3.01	0.74
APD105DA	1.35	1.3	APD105SR	3.14	0.91	3.16	0.89	3.18	0.87	3.2	0.85	3.22	0.83	3.24	0.81	3.26	0.79
APD125DA	2.4	1.79	APD125SR	4.24	1.2	4.26	1.18	4.28	1.16	4.3	1.14	4.32	1.12	4.34	1.1	4.36	1.08
APD140DA	2.5	2.1	APD140SR	4.4	1.35	4.4	1.33	4.62	1.31	4.64	1.29	4.66	1.27	4.68	1.25	4.68	1.22
APD160DA	3.93	2.6	APD160SR	4.74	1.77	4.76	1.75	4.78	1.73	4.8	1.71	4.82	1.69	4.82	1.67	4.84	1.65
APD190DA	4.55	3.45	APD190SR	5.75	3.7	5.77	3.5	5.75	3.48	5.77	3.46	5.79	3.44	5.8	3.42	5.83	3.4
APD210DA	5.5	4.35	APD210SR	8.25	4.8	8.4	4.6	8.42	4.58	8.44	4.56	8.46	4.54	8.48	4.52	8.5	4.5
APD240DA	8.4	8.33	APD240SR	16.2	5.14	16.4	5.12	16.42	5.1	16.44	4.9	16.6	4.98	16.8	4.86	17	4.84
APD270DA	10.9	8.53	APD270SR	17.6	6.28	17.8	6.26	17.6	6.24	17.8	6.2	18	6.18	18.2	6.16	18.4	6.14
APB300DA	15	14.9	APB300SR	31	17.3	31.5	17	31.3	16.8	31	16.6	31.2	16.58	31.4	16.56	31.6	16.54
APB350DA	23.7	18.6	APB350SR	45	27	51	27	51.3	26.8	51.5	26.8	51.7	26.6	51.9	26.4	52.1	26.2
APB400DA	31	29	APB400SR													85.9	35.86

AIR CONSUMPTION (L/MIN)

APD & APB SERIES		
MODEL	AIR VOLUME OPENING	AIR VOLUME CLOSING
APD-52	0.12	0.16
APD-63	0.21	0.23
APD-75	0.3	0.34
APD-83	0.43	0.47
APD-92	0.64	0.73
APD-105	0.95	0.88
APD-125	1.6	1.4
APD-140	2.5	2.2
APD-160	3.7	3.2
APD-190	5.9	5.4
APD-210	7.5	7.5
APD-240	11	9
APD-270	17	14
APB-300	23.8	29.7
APB-350	35.1	46.3
APB-400	52.6	36
APD-500	132.6	110
APB-600	252.5	210
APB-700	557	572
APB-800	717	727

WEIGHT (KG)

APD & APB SERIES		
MODEL	DOUBLE ACTING (DA)	SPRING RETURN (SR)
APD52	1.38	1.45
APD-63	2.03	2.05
APD-75	2.7	2.9
APD-83	3.13	3.6
APD-92	4.6	5.22
APD-105	6.77	6.85
APD-125	8.9	10.11
APD-140	13.25	15.55
APD-160	20.14	24
APD-190	31.3	35.25
APD-210	46.8	54.8
APD-240	67.28	80.2
APD-270	96.9	118
APB-300	110	130
APB-350	186.5	234.4
APB-400	289	360.4
APD-500	980.4	1110
APB-600	1975	2130

OPERATING CONDITIONS

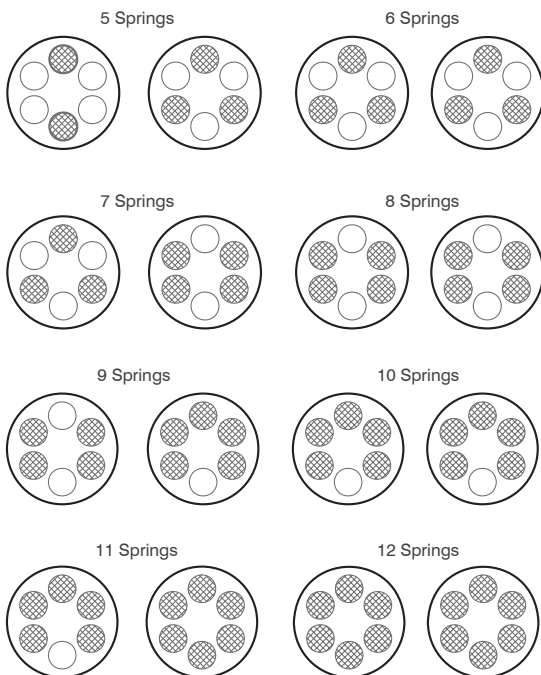
1. **Operating media**
Dry or lubricated air, or the non-corrosive gasses .
The maximum particle diameter must less than 30um.
2. **Air supply pressure**
The minimum supply pressure is 2.5 Bar.
The maximum supply pressure is 10 Bar.
3. **Operating temperature**
Standard (NBR O-ring: -20°C to +80°C).
Low temperature (Silicone O-ring: 35°C to +80°C).
High temperature (Viton O-ring: -15°C to +150°C).
4. **Travel adjustment**
Adjustment range of $\pm 5^\circ$ for the rotation at 0° and 90°.
5. **Application**
Either indoor or outdoor.

INSTALLATION OF ACTUATOR ONTO VALVE

Remove any manual opening device from the valve, leaving the valve stem clear. Make sure that the shape of the stem fits the actuator output and that the rotation is not hindered in any way. Mount the actuator onto the valve, centering it well on the stem.

Make sure the rotation direction is correct, do not insert your hands inside the valve. We strongly suggest checking the cleanliness of the air-supply pipes, especially when the plant is not provided with filters. A spacer between actuator and valve will be necessary with fluids at high temperature.

Diagram 3. Springs mounting for spring return actuator.



MAINTENANCE

1. It is recommended that periodic checks be performed to make sure that all fasteners remain tight.
2. The actuator is supplied ready-lubricated no further lubrication is required. If lubrication is deemed necessary, use EP-1 grease.
3. Under certain working conditions (heavy duty, non-compatible operating media or abnormal operating conditions) internal seals should be checked periodically and replaced when necessary.
4. On spring return actuators, spring fatigue may set in requiring the replacement of springs. Spring should always be replaced in full sets.

Note: If an actuator is properly assembled and used, it will be maintenance free as it has been lubricated to last a normal working life under normal working conditions.