

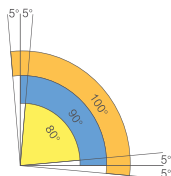
VALUE VALVES

- LEVER
- GEAR
- PNEUMATIC**
- HYDRAULIC
- ELECTRIC

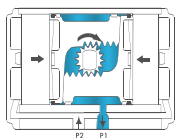
PNEUMATIC ACTUATOR

Operating conditions

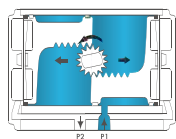
1. Compressor Air:
Dry or lubricated air, or the non-corrosive gasses.
The maximum particle diameter must less than 30 µm.
2. Air supply pressure:
The minimum supply pressure is 2.5Bar.
The maximum supply pressure is 8Bar.
3. Operating temperature:
Standard: -20°C ~+80°C
Low temperature: -35 °C ~+80°C
High temperature: -15°C ~+150°C
4. Travel adjustment: Have adjustment range of ±5° for the rotation at 0° and 90°
5. Application: Either indoor or outdoor.
6. Lubrication: Under normal operating condition, no add lubricant required.



Double-Acting (DA)



For clockwise output, apply pressure to P2, which force the pistons to move together. The volume between the pistons is exhausted at P1.



For counterclockwise output, apply pressure to P1, which force the pistons apart. The linear travel of the pistons is converted to a rotation of the drive shaft by the rack and pinion connection. The volume outside each piston is exhausted at P2.

** When required Reverse Rotation the pistons can be inverted in the housing resulting in a clockwise rotation when pressure is applied to P1.

Weight table/Air consumption/Cylinder

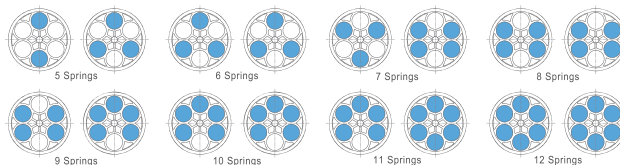
Model	Weight table		Air consumption		Mounting Standard
	Weight (DA)	Weight (SR)	Air Volume Opening	Air Volume Closing	Cylinder
VP0020	1.4 kg	1.5 kg	0.12	0.16	φ 52
VP0035	2 kg	2.1 kg	0.21	0.23	φ 63
VP0050	2.7 kg	2.9 kg	0.3	0.34	φ 75
VP0075	3.1 kg	3.6 kg	0.43	0.47	φ 83
VP0110	4.6 kg	5.2 kg	0.64	0.73	φ 92
VP0160	6.8 kg	6.9 kg	0.95	0.88	φ 105
VP0255	8.9 kg	10.1 kg	1.6	1.4	φ 125
VP0435	13 kg	15 kg	2.5	2.2	φ 140
VP0665	20 kg	24 kg	3.7	3.2	φ 160
VP1000	31 kg	35 kg	5.9	5.4	φ 190
VP1200	47 kg	55 kg	7.5	7.5	φ 210
VP1800	67 kg	80 kg	11	9	φ 240
VP2700	97 kg	118 kg	12.6	17.9	φ 270
VP3800	110 kg	130 kg	21.4	30	φ 300
VP5700	184 kg	234 kg	31.2	43.7	φ 350
VP8000	289 kg	360 kg	47.9	67.1	φ 400

VP Series

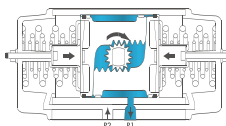


Spring mounting form for spring return actuators

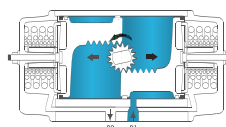
Please refer to the torque values of fully open and close of the valve.



Spring-Return(SR)



For clockwise output, the volume between the pistons is exhausted at P1, causing the springs to force the pistons together. The volume outside the pistons is vented at P2.



For counter clockwise output, apply pressure to P1, which force the pistons apart and compress the springs. The liner travel of the pistons is converted to a rotation of the drive shaft by the rack and pinion connection. The volume outside each piston is exhausted at P2.

** When required, Reverse Rotation the pistons can be inverted in the housing resulting in a clockwise rotation when pressure is applied to P1 is vented.

Output torque of double acting actuators(Nm)

Model	Air Supply Pressure(Unit:Bar)									
	2	2.5	3	4	4.5	5	5.5	6	7	8
VP0020DA	8	10	12	16	18	20	22	24	28	32
VP0035DA	15	18	22	29	33	36	40	44	51	58
VP0050DA	20	25	30	40	45	50	55	60	70	80
VP0075DA	31	39	47	63	70	78	86	94	110	125
VP0110DA	45	56	68	90	102	113	124	135	158	181
VP0160DA	66	83	99	132	149	165	182	198	231	264
VP0255DA	100	125	150	200	226	251	276	301	351	401
VP0435DA	171	214	256	342	385	427	470	513	598	684
VP0665DA	266	332	399	532	598	665	731	798	931	1064
VP1000DA	426	532	638	851	958	1064	1170	1277	1490	1702
VP1200DA	532	665	798	1064	1197	1330	1463	1596	1862	2128
VP1800DA	769	962	1154	1529	1731	1924	2116	2308	2693	3078
VP2700DA	1305	1631	1958	2610	2937	3263	3589	3916	4569	5221
VP3800DA	1602	2002	2403	3205	3605	4006	4406	4807	5608	6409
VP5700DA	2399	2998	3598	4798	5398	5998	6597	7197	8397	9596
VP8000DA	3418	4272	5127	6837	7691	8546	9400	10255	11964	13673

Output torque of spring return actuators(Nm)

LEVER
GEAR
PNEUMATIC
HYDRAULIC
ELECTRIC

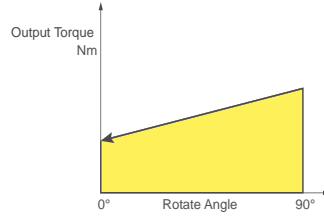
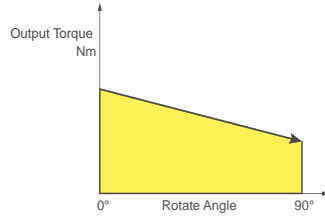
		Output torque of air to springs														Spring' Output		
Air pressure		2.5Bar		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar				
Model	Spring Qty	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	End	Start	
VP0020SR	K5	5.8	3.8	7.9	5.9												6.2	4.2
	K6	5.0	2.6	7.0	4.6	11.1	8.7										7.5	5.1
	K7	4.1	1.3	6.2	3.4	10.2	7.4	14.2	11.4								8.7	5.9
	K8			5.3	2.1	9.4	6.2	13.4	10.2	17.4	14.2						10.0	6.8
	K9			4.5	0.9	8.5	4.9	12.5	8.9	16.6	13.0	20.6	17.0				11.2	7.6
	K10					7.7	3.7	11.7	7.7	15.7	11.7	19.8	15.8				12.5	8.5
	K11					6.8	2.4	10.8	6.4	14.9	10.5	18.9	14.5	23	18.2		13.7	9.3
K12								10.0	5.2	14.0	9.2	18.1	13.3	22.1	17.3		15.0	10.2
VP0035SR	K5	10.9	7.2	14.5	10.7	21.6	17.8										10.6	6.9
	K6	9.6	5.0	13.1	8.6	20.2	15.7	27.3	22.8								12.7	8.2
	K7	8.2	2.9	11.7	6.5	18.9	13.6	26.0	20.7								14.9	9.6
	K8			10.4	4.4	17.5	11.5	24.6	18.6	31.7	25.7	38.8	32.8				17.0	11.0
	K9					16.1	9.4	23.2	16.5	23.2	23.6	37.5	30.7				19.1	12.3
	K10					14.7	7.2	21.9	14.3	29.0	21.5	36.1	28.6	43.2	35.7		21.2	13.7
	K11								20.5	12.2	27.6	19.3	34.7	26.4	41.8	33.6		23.3
K12								19.1	10.1	26.2	17.2	33.3	24.3	40.5	31.4		25.5	16.4
VP0050SR	K5	14.6	10.6	19.7	15.6	29.8	25.7										14.6	10.5
	K6	12.5	7.7	17.6	12.7	27.7	22.8	37.7	32.9								17.5	12.7
	K7	10.4	4.7	15.5	9.8	25.5	19.9	35.6	29.9								20.5	14.8
	K8			13.4	6.9	23.4	16.9	33.5	27.0	43.6	37.1	53.7	47.2				23.4	16.9
	K9					21.3	14.0	31.4	24.1	41.5	34.2	51.6	44.2				26.3	19.0
	K10					19.2	11.1	29.3	21.2	39.4	31.2	49.5	41.3	59.5	51.4		29.2	21.1
	K11								27.2	18.2	37.3	28.3	47.3	38.4	57.4	48.5		32.2
K12								25.1	15.3	35.2	25.4	45.2	35.5	55.3	45.6		35.1	25.3
VP0075SR	K5	22.8	15.3	30.5	23.0	45.9	38.5										23.3	15.8
	K6	19.6	10.7	27.3	18.4	42.8	33.8	58.2	49.2								27.9	19.0
	K7	16.5	6.0	24.2	13.7	39.6	29.2	55.0	44.6								32.6	22.1
	K8	13.3	1.4	21.0	9.1	36.4	24.5	51.9	39.9	67.3	55.4	82.7	70.8				37.2	25.3
	K9					33.3	19.9	48.7	35.3	64.1	50.7	79.6	66.1				41.9	28.4
	K10					30.1	15.2	45.5	30.6	61.0	46.1	76.4	61.5	91.8	76.9		46.5	31.6
	K11							42.4	26.0	57.8	41.4	73.2	56.8	88.7	72.3		51.2	34.8
K12							39.2	21.3	54.7	36.8	70.1	52.2	85.5	67.6		55.8	37.9	
VP0110SR	K5	33.5	22.2	44.9	33.6	67.7	56.3										34.7	23.3
	K6	28.9	15.3	40.2	26.7	63.0	49.4	85.7	72.2								41.6	28.0
	K7	24.2	8.4	35.6	19.7	58.3	42.5	81.1	65.2								48.5	32.7
	K8			30.9	12.8	53.6	35.5	76.4	58.3	99.1	81.0	121.9	103.8				55.4	37.4
	K9					49.0	28.6	71.7	51.4	94.5	74.1	117.2	96.9	140.0	119.6		62.4	42.0
	K10					44.3	21.7	67.1	44.4	89.8	67.2	112.6	89.9	135.3	112.7		69.3	46.7
	K11							62.4	37.5	85.1	60.3	107.9	83.0	130.6	105.8		76.2	51.4
K12							57.7	30.6	80.5	53.3	103.2	76.1	126.0	98.8		83.2	56.0	
VP0160SR	K5	51	33	67	49	100	82										50	32
	K6	44	23	61	39	94	72	127	105								60	38
	K7	38	13	54	29	87	62	120	95								70	44
	K8			48	19	81	52	114	85	147	118	180	151				80	51
	K9					75	42	108	75	141	108	173	141				90	57
	K10					68	32	101	65	134	98	167	131	200	164		99	63
	K11							95	55	128	88	161	121	194	154		109	70
K12							89	45	122	78	155	111	187	144		119	76	
VP0255SR	K5	75	48	98	71	149	122										79	52
	K6	63	30	88	56	138	106	188	156								95	63
	K7	52	15	77	40	128	90	178	140								111	73
	K8			67	24	117	74	167	124	218	175	268	225				127	84
	K9					107	58	157	109	207	159	257	209				143	94
	K10					96	42	146	93	197	143	247	193	297	244		159	105
	K11							136	77	186	127	236	177	287	228		175	115
K12							125	61	176	111	226	161	276	212		190	126	
VP0435SR	K5	129	85	172	128	258	214										130	86
	K6	112	59	155	102	241	188	327	274								156	103
	K7	95	33	138	76	224	162	310	248								182	120
	K8			120	50	206	136	292	222	378	308	464	394				208	138
	K9					189	110	275	196	361	282	447	368				234	155
	K10					172	84	258	170	344	256	430	342	516	428		260	172
	K11							241	144	327	230	413	316	499	402		286	189
K12							224	118	310	203	396	289	482	375		312	206	
VP0665SR	K5	193	122	260	188	393	322										211	139
	K6	165	80	232	146	365	279	498	412								253	167
	K7	137	38	204	104	337	237	470	370								295	195
	K8			176	62	309	195	442	328	575	461	709	594				337	223
	K9					281	153	414	286	548	419	681	552				380	251
	K10					253	111	387	244	520	377	653	510	786	643		422	279
	K11							359	202	492	335	625	468	758	601		464	307
K12							331	159	464	293	597	426	730	559		506	335	

VALUE VALVES

- LEVER
- GEAR
- PNEUMATIC
- HYDRAULIC
- ELECTRIC

PNEUMATIC ACTUATOR

VP Series



Output torque of spring return actuators(Nm)

		Output torque of air to springs														Spring' Output	
Air pressure		2.5Bar		3Bar		4Bar		5Bar		6Bar		7Bar		8Bar		90°	0°
Model	Spring Qty	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	End	Start
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End	Start	End		
VP1000SR	K5	333	221	440	328	654	541									313	200
	K6	293	158	400	265	614	479	827	692							375	240
	K7	253	96	360	203	574	416	787	629							438	280
	K8			320	140	534	354	747	567	960	780	1174	994			500	320
	K9					494	291	707	504	920	718	1134	931			563	360
	K10					454	229	667	442	880	655	1094	869	1307	1082	625	400
	K11							627	379	840	593	1054	806	1267	1020	688	440
K12							587	317	800	530	1014	744	1227	957	750	480	
VP1200SR	K5	390	281	523	414	789	680									384	275
	K6	335	204	468	337	734	603	1001	869	1157	982	1423	1248			461	330
	K7	280	127	413	260	679	526	946	792	1102	905	1368	1171			538	385
	K8			358	183	624	449	891	716	1047	828	1313	1094	1579	1360	615	440
	K9					569	373	836	639	992	751	1258	1017	1524	1283	692	495
	K10					514	296	781	562	937	674	1203	940	1469	1206	769	550
	K11							726	485							846	605
K12							671	408							922	660	
VP1800SR	K5	552	409	744	600	1129	985									554	410
	K6	470	297	662	489	1047	874	1432	1259							665	492
	K7	388	187	580	379	964	764	1349	1149							775	575
	K8			498	268	883	653	1267	1037	1652	1422	2037	1807			886	656
	K9					800	542	1185	926	1569	1311	1954	1696			998	739
	K10					718	431	1103	816	1488	1201	1872	1586	2257	1970	1108	821
	K11							1021	705	1406	1090	1791	1474	2176	1859	1219	903
K12							939	594	1323	979	1708	1363	2093	1748	1330	985	
VP2700SR	K5	957	628	1280	951	1926	1597									987	658
	K6	825	431	1148	754	1794	1400	2440	2046							1184	790
	K7			1016	556	1662	1202	2308	1849							1381	921
	K8					1531	1005	2177	1651	2823	2297	3469	2943			1579	1053
	K9					1399	808	2045	1454	2691	2100	3337	2746			1776	1185
	K10					1267	610	1913	1256	2559	1902	3205	2548	3852	3195	1974	1317
	K11							1782	1059	2428	1705	3074	2351	3720	2997	2171	1448
K12							1650	862	2296	1508	2942	2154	3588	2800	2368	1580	
VP3800SR	K5	1228	880	1626	1279	2424	2076									1114	766
	K6	1074	657	1473	1056	2271	1854	3068	2651							1336	919
	K7			1320	833	2117	1631	2915	2428							1559	1073
	K8					1964	1408	2762	2206	3559	3003	4357	3801			1782	1226
	K9					1811	1185	2608	1983	3406	2780	4204	3578			2005	1379
	K10					1657	962	2497	1802	3253	2558	4050	3355	4848	4153	2228	1533
	K11							2302	1537	3099	2335	3897	3132	4695	3930	2450	1686
K12							2148	1314	2946	2112	3744	2910	4541	3707	2673	1839	
VP5700SR	K5	1754	1198	2351	1795	3545	2989									1788	1232
	K6	1508	840	2105	1438	3299	2632	4493	3826							2145	1478
	K7			1858	1080	3053	2274	4247	3468							2503	1724
	K8					2806	1917	4001	3111	5195	4305	6389	5499			2860	1970
	K9					2560	1559	3754	2753	4948	3948	6143	5142			3218	2217
	K10					2314	1202	3508	2396	4702	3590	5896	4784	7091	5979	3575	2463
	K11							3262	2038	4456	3233	5650	4427	6844	5621	3933	2709
K12							3015	1681	4210	2875	5404	4069	6598	5264	4290	2956	
VP8000SR	K5	2601	1661	3452	2512	5153	4214									2592	1653
	K6	2270	1143	3121	1994	4823	3695	6524	5397							3111	1983
	K7			2791	1475	4492	3177	6194	4878							3629	2314
	K8					4161	2658	5863	4360	7565	6061	9266	7763			4148	2644
	K9					3831	2140	5532	3841	7234	5543	8936	7244			4666	2975
	K10					3500	1621	5202	3323	6903	5024	8605	6726	10307	8428	5185	3306
	K11							4871	2804	6573	4506	8274	6207	9976	7909	5703	3636
K12							4541	2286	6242	3987	7944	5689	9645	7391	6222	3967	

PNEUMATIC ACTUATOR

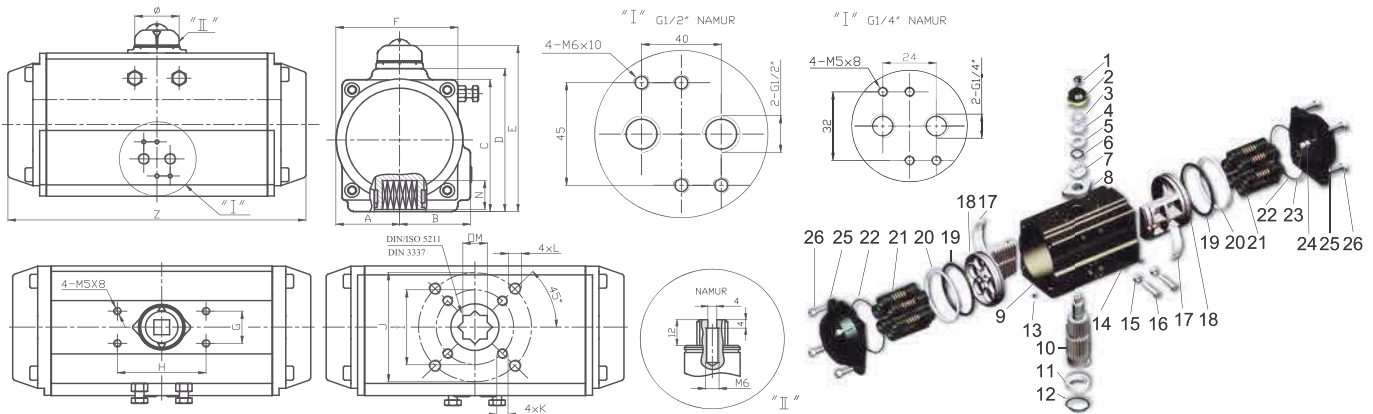
VP Series

LEVER
GEAR
PNEUMATIC
HYDRAULIC
ELECTRIC

DIMENSIONS

Unit:mm

modal	A	B	C	D	E	F	G	H	I	J	K	L	□M	N	Z	φ	Air Conection
VP0020	30	41.5	64.5	72	92	65	30	80	φ 36	φ 50	M5x8	M6x10	□11	14	150	φ 40	NAMUR G1/4'
VP0035	36.8	46.5	81	87.8	107.8	72.8	30	80	φ 50	φ 70	M6x10	M8x13	□14	18	172	φ 40	NAMUR G1/4'
VP0050	42	53	94	99.5	119.5	81	30	80	φ 50	φ 70	M6x10	M8x13	□14	18	202	φ 40	NAMUR G1/4'
VP0075	46	57	98.5	109	129	92	30	80	φ 50	φ 70	M6x10	M8x13	□17	23	214	φ 40	NAMUR G1/4'
VP0110	50	57.5	111	116.5	136.5	98	30	80	φ 50	φ 70	M6x10	M8x13	□17	23	260	φ 40	NAMUR G1/4'
VP0160	57.5	64	123	134	154	110	30	80	φ 70	φ 102	M8x13	M10x16	□22	29	270	φ 40	NAMUR G1/4'
VP0255	67.5	74.5	145.5	155.5	185.5	127.5	30	80	φ 70	φ 102	M8x13	M10x16	□22	29	300	φ 55	NAMUR G1/4'
VP0435	75	77	161.5	173	203	137.5	30	80	φ 102	φ 125	M10x16	M12x20	□27	35	392	φ 55	NAMUR G1/4'
VP0665	87	87	184.5	198	228	158	30	80	φ 102	φ 125	M10x16	M12x20	□27	35	460	φ 55	NAMUR G1/4'
VP1000	103	103	216	231	261	189	30	130		φ 140		M16x25	□36	40	525	φ 80	NAMUR G1/4'
VP1200	113	113	236	256	286	210	30	130		φ 140		M16x25	□36	40	532	φ 80	NAMUR G1/4'
VP1800	130	130	264	289	319	245	30	130		φ 165		M20x25	□46	50	602	φ 80	NAMUR G1/4'
VP2700	126	147	300	330	355.5	294	30	130		φ 165		M20x26	□46	50	766	φ 80	NAMUR G1/2'
VP3800	140	173	320	354	379.5	312	30	130		φ 165		M20x26	□46	57	794	φ 80	NAMUR G1/2'
VP5700	164	195	370	410	435.5	362	30	130		φ 165		M20x26	□46	60	880	φ 80	NAMUR G1/2'
VP8000	145	145	420	466	491.5	450	30	130		φ 254		M20x26	□55	60	1076	φ 80	NAMUR G1/2'



Part and Materials

No.	Description	Qty	Standard Material	Protection	Optional Material
1	Indicator Screw	1	Plastic		
2	Indicator	1	Plastic		
3	Spring Clip	1	Stainless Steel		
4	Thrust Washer	1	Stainless Steel		
5	Outside Washer	1	Engineering Plastics		
6	O-ring(pinion top)	1	NBR		Viton
7	Inside Washer	1	Engineering Plastics		
8	Cam	1	Alloy Steel	Nickel plated	Stainless Steel
9	Body	1	Extrud alluminum alloy	Hard anodized etc (Hard anodized etc+PTFE)	Stainless Steel
10	Pinion	1	Alloy Steel	Nickel plated	Stainless Steel
11	Bearing(pinion bottom)	1	Engineering Plastics		
12	O-ring(pinion bottom)	1	NBR		Viton
13	Plug	2	NBR		Viton
14	O-ring(Adjust screw)	2	NBR		Viton
15	NUT(Adujust screw)	2	Stainless Steel		
16	Adjust screw	2	Stainless Steel		
17	Guide(piston)	2	Engineering Plastics		
18	Piston	2	Castalluminum/casting	anodized/zinc galvanized	Stainless Steel
19	O-ring(piston)	2	NBR		Viton
20	Bearing(piston)	2	Engineering Plastics		
21	Spring	0~12	Spring steel	Dip coating	
22	O-ring(End cap)	2	NBR		Viton
23	Limiting screw	2	Stainless Steel		
24	Limiting nut	2	Stainless Steel		
25	End cap	2	Cast alluminum	Powder polyster painted etc	Stainless Steel
26	Cap screw	8	Stainless Steel		