

INDUSTRIAL PNEUMATIC ACTUATORS

SERIES VT

TECHNICAL BULLETIN

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DESIGN

The new VT series pneumatic actuator integrates the latest pneumatic actuator technology and materials, including an innovative rack and pinion drive mechanism. The series is designed based on extensive field mounting and application experience.

FEATURES AND BENEFITS

1. The integrated and compact design uses the same body and end caps for both double-acting and spring-return actuator models. This design reduces spare parts inventory and simplifies field conversions, making it easy to add or remove spring cartridges.

2. The VT Series is fully compliant with the latest international standards, including ISO 5211, DIN 3337, and VDI/ VDE 3845. It also meets NAMUR standards and offers interchangeability, making it convenient to replace or mount accessories such as solenoid valves and limit switches.

3. These actuators offer compact size, high cycle life, and smooth operation. The symmetrical mounting position design allows the rotation direction to be easily and conveniently switched in the field by inverting the pistons.

4. Dual independent open and close travel stops are adjustable to $\pm 5^\circ$ externally, allowing precise adjusting of the opening and closing positions of the valve.

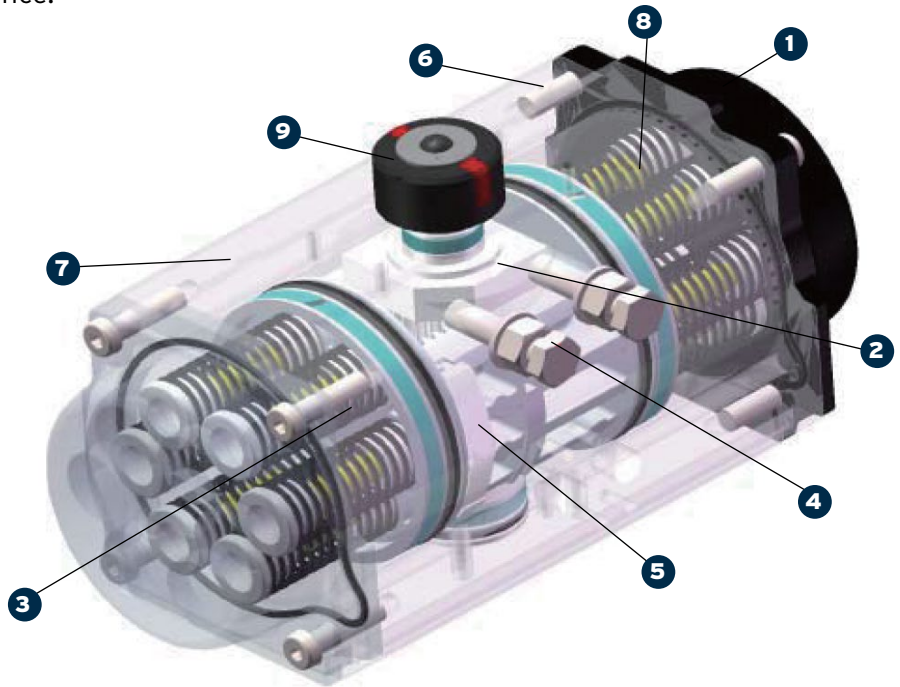
5. The composite bearings and guides on the pinion and piston ensure precise operation, low friction, and high cycle life, improving the output shaft reliability.

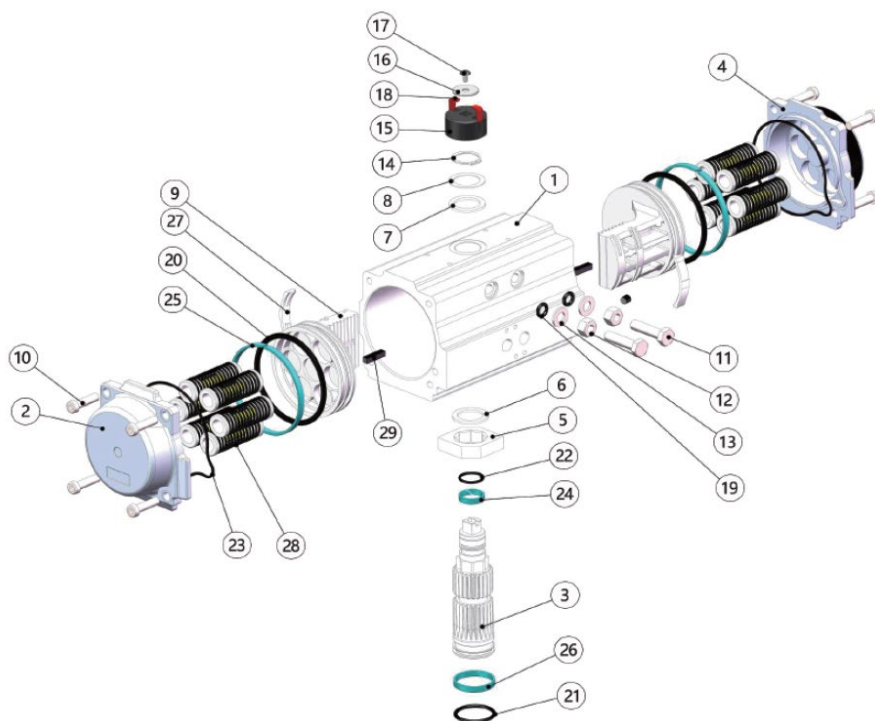
6. Internal and external fasteners are made of stainless steel, for corrosion resistance and long life.

7. The extruded aluminum body is treated for internal and external corrosion resistance. The finely machined cylinder surface ensures a low friction coefficient and a long cycle life.

8. Modularized, preloaded spring cartridges are field replaceable, field-retrofittable, and corrosion-resistant.

9. The multifunctional, NAMUR compliant position indicator offers a simple and clear visual indication. It also easily connects to a variety of accessories.





Item No.	Description	Materials	QTY
1	Body	Aluminum Alloy	1
2	Left End Cap	Aluminum Alloy	1
3	Pinion	45# Steel	1
4	Right End Cap	Aluminum Alloy	1
5	OCTI-AM	45# Steel	1
6	Upper Pinion Thrust Bearing	Advanced Polymer	1
7	Thrust Bearing	Advanced Polymer	1
8	Thrust Washer	Stainless Steel	1
9	Travel Stop Piston	Aluminum Alloy	5
10	End Cap Bolt	Stainless Steel	8
11	Travel Stop Piston	Stainless Steel	2
12	Travel Stop Nut	Stainless Steel	2
13	Travel Stop Washer	Stainless Steel	2
14	Retaining Ring	Spring Steel	1
15	Indicator	Advanced Polymer	1
16	Indicator Thrust Bearing	Stainless Steel	1
17	Flat Cross Bolt	Stainless Steel	1
18	Position Indication	Advanced Polymer	2
19	O-ring (Travel Stop)	NBR	2
20	O-ring (Piston)	NBR	2
21	O-ring (Lower Pinion)	NBR	1
22	O-ring (Upper Pinion)	NBR	1
23	O-ring (End Cap)	NBR	2
24	Upper Pinion Bearing	Advanced Polymer	1
25	Piston Wear Bearing	Advanced Polymer	2
26	Lower Pinion Bearing	Advanced Polymer	1
27	Piston Skate	Advanced Polymer	2
28	Spring Cartridge	Spring Steel	0-12
29	Guide Key	Advanced Polymer	2

Technical Data

Model	VT032		VT050		VT065		VT075		VT085		VT095		VT110		VT125		VT140		VT160		VT190		VT190		VT240		VT270		VT300		VT350		VT350	
	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR
Diameter	32		50		65		75		85		95		105		125		140		160		190		210		240		270		300		350		400	
Air Volume Opening (gal)	0.008		0.026		0.058		0.066		0.066		0.251		0.283		0.388		0.563		1.03		1.63		2.17		2.17		4.17		4.17		7.31		11.31	
Air Volume Closing (gal)	0.011		0.040		0.069		0.108		0.161		0.259		0.328		0.491		0.814		1.24		2.27		2.89		4.23		4.97		6.56		11.65		16.39	
Opening Time (sec)	0.3	0.3	0.9	0.4	0.9	0.4	0.9	0.9	1.0	0.9	1.4	0.9	1.4	1.3	2.4	1.3	2.8	2.0	4.8	2.2	2.4	3.0	3.4	3.2	3.8	4.4	5.0	5.0	6.0	6.2	7.4	7.5	9.6	
Closing Time (sec)	0.4	0.4	0.7	0.4	0.8	0.4	0.9	0.9	1.2	1.0	1.4	1.0	1.6	1.4	2.4	1.4	3.0	2.4	4.9	2.6	3.0	3.8	4.1	3.7	4.0	4.9	5.5	6.0	6.8	7.2	8.4	8.5	10.6	
Weight (lbs)	1.04	1.30	2.38	2.65	4.21	4.74	5.31	6.17	7.32	8.71	11.0	12.8	14.4	17.5	22.6	26.7	33.3	35.1	47.0	56.4	64.6	74.5	83.1	107	119	171	181	200	238	299	323	416	486	625

Notice: (A) The operation times above are measured in the following experimental conditions:

For model 32-160:

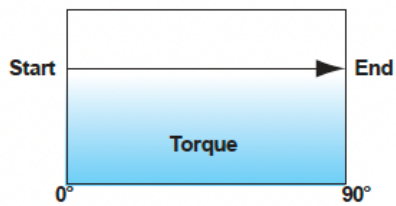
Room temperature, actuator stroke of 90°, solenoid valve with orifice of 4 mm and a flow capacity of Qn400L/min (14.156 cfm), inside pipe diameter of 6 mm (0.236 in), clean air, air supply pressure of 5.5 bar (80 psi), actuator without external resistance/load

For model 190-400:

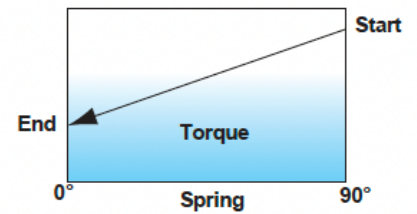
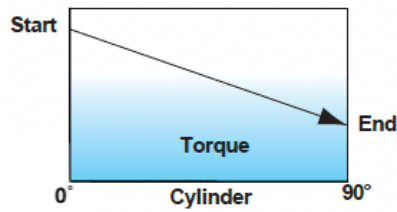
Room temperature, actuator stroke of 90°, solenoid valve with orifice of 12 mm and a flow capacity of Qn5100L/min (180.104 cfm), inside pipe diameter of 8 mm (0.315 in), neutral clean air, air supply pressure of 5.5 bar (80 psi), actuator without external resistance/load

Cautions: These values and times are tested in a laboratory environment. Field applications where one or more parameters are different from above may change the estimated stroke times and air volume values.

Double Acting Torque Output Diagram



Spring Return Torque Output Diagram



DOUBLE ACTING ACTUATOR TORQUE (FT LBS)

Model	Air Supply (psi (bar))									
	36 (2.5)	44 (3)	51 (3.5)	58 (4)	65 (4.5)	73 (5)	80 (5.5)	87 (6)	102 (7)	116 (8)
VT032DN	2.1	2.5	3.0	3.4	3.9	4.4	4.8	5.2	6.1	7.0
VT040DN	4.2	5.1	6.0	6.9	7.8	8.7	9.6	10.5	12.3	14.2
VT050DN	6.9	8.3	9.7	11.1	12.5	13.9	15.3	16.7	19.5	22.3
VT065DN	14.1	16.9	19.7	22.6	25.4	28.2	31.0	33.9	39.5	45.1
VT075DN	18.6	22.3	26.0	29.7	33.4	37.2	40.9	44.5	52.0	59.4
VT085DN	30.1	36.1	42.2	48.2	54.2	60.3	66.3	72.4	84.4	96.4
VT095DN	45.1	54.2	63.2	73.8	81.3	90.4	99.3	108	126	145
VT110DN	61.3	73.5	85.9	98.1	110	123	135	147	172	196
VT125DN	97.7	117	137	156	176	196	215	235	274	313
VT140DN	162	194	227	259	291	324	356	388	453	518
VT160DN	246	296	345	394	444	493	542	592	690	789
VT190DN	372	447	521	596	670	745	819	894	1043	1192
VT210DN	485	582	680	777	874	971	1068	1165	1359	1553
VT240DN	713	856	998	1141	1284	1426	1569	1712	1997	2282
VT270DN	1083	1300	152	1733	1950	2166	2383	2600	3033	3466
VT300DN	1238	1497	1755	2013	2271	253	2787	3045	3561	4077
VT350DN	1838	2221	2604	2987	3370	3753	4136	4519	5285	6051
VT400DN	2801	3385	3969	455	5136	5719	6303	6887	8054	9221

SPRING RETURN ACTUATOR TORQUE																							
Model	Spring QTY	Air Supply																					
		36 (2.5)		44 (3)		51 (3.5)		58 (4)		65 (4.5)		73 (5)		80 (5.5)		87 (6)		102 (7)		116 (8)		Spring Return	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	0°
VT050S05N	5	5.8	3.7	7.7	5.6	9.6	7.5	11.5	9.4	13.4	11.3	15.2	13.1	17.1	15.0	19.0	16.9	22.8	20.7	26.6	24.5	5.7	3.6
VT050S06N	6	5.1	2.6	7.0	4.5	8.9	6.4	10.8	8.3	12.7	10.2	14.5	12.0	16.4	13.9	18.3	15.8	22.1	19.6	25.9	23.4	6.8	4.3
VT050S07N	7			6.3	1.4	8.2	5.2	10.1	7.1	12.0	9.0	13.8	10.8	15.7	12.7	17.6	14.6	21.4	18.4	25.2	22.2	8.0	5.0
VT050S08N	8					7.4	4.1	9.3	6.0	11.2	7.9	13.0	9.7	14.9	11.6	16.8	13.5	20.6	17.3	24.4	21.1	9.1	5.8
VT050S09N	9							8.6	4.8	10.5	6.7	12.3	8.5	14.2	10.4	16.1	12.3	19.9	16.1	23.7	19.9	10.3	6.5
VT050S10N	10									9.8	5.6	11.6	7.4	13.5	9.3	15.4	11.2	19.2	15.0	23.0	18.8	11.4	7.2
VT050S11N	11											10.9	6.3	12.8	8.2	14.7	10.1	18.5	13.9	22.3	17.7	12.5	7.9
VT050S12N	12													12.1	7.0	14.0	8.9	17.8	12.7	21.6	16.5	13.7	8.6
VT065S05N	5	11.9	7.9	15.7	11.7	19.5	15.5	23.4	19.4	27.2	23.2	31.0	27.0	34.8	30.8	38.7	34.7	46.3	42.3	54.0	50.0	11.2	7.2
VT065S06N	6	10.2	5.7	14.3	9.5	18.1	13.3	22.0	17.2	25.8	21.0	29.6	24.8	33.4	28.6	37.3	32.5	44.9	40.1	52.6	47.8	13.4	8.6
VT065S07N	7			12.8	7.2	16.6	11.0	20.5	14.9	24.3	18.7	28.1	22.5	31.9	26.3	35.8	30.2	43.4	37.8	51.1	45.5	15.7	10.1
VT065S08N	8					15.2	8.8	19.1	12.7	22.9	16.5	26.7	20.3	30.5	24.1	34.4	28.0	42.0	35.6	49.7	43.3	17.9	11.5
VT065S09N	9							17.6	10.4	21.4	14.2	25.2	18.0	29.0	21.8	32.9	25.7	40.5	33.3	48.2	41.0	20.2	13.0
VT065S10N	10									20.0	12.0	23.8	15.8	27.6	19.6	31.5	23.5	39.1	31.1	46.8	38.8	22.4	14.4
VT065S11N	11											22.4	13.6	26.2	17.4	30.1	21.3	37.7	28.9	45.4	36.6	24.6	15.8
VT065S12N	12													24.7	15.1	28.6	19.0	36.2	26.6	43.9	34.3	26.9	17.3
VT075S05N	5	16.0	9.1	21.0	14.1	26.1	19.2	31.1	24.2	36.1	29.2	41.2	34.3	46.2	39.3	51.2	44.3	61.3	54.4	71.4	64.5	16.1	9.2
VT075S06N	6	14.2	5.9	19.2	10.9	24.3	16.0	29.3	21.0	34.3	26.0	39.4	31.1	44.4	36.1	49.4	41.1	59.5	51.2	69.6	61.3	19.3	11.0
VT075S07N	7			17.3	7.7	22.4	12.8	27.4	17.8	32.4	22.8	37.5	27.9	42.5	32.9	47.5	37.9	57.6	48.0	67.7	58.1	22.5	12.9
VT075S08N	8					20.6	9.5	25.6	14.5	30.6	19.5	35.7	24.6	40.7	29.6	45.7	34.6	55.8	44.7	65.9	54.8	25.8	14.7
VT075S09N	9							23.7	11.3	28.7	16.3	33.8	21.4	38.8	26.4	43.8	31.4	53.9	41.5	64.0	51.6	29.0	16.6
VT075S10N	10									26.9	13.1	32.0	18.2	37.0	23.2	42.0	28.2	52.1	38.3	62.2	48.4	32.2	18.4
VT075S11N	11											30.2	15.0	35.2	20.0	40.2	25.0	50.3	35.1	60.4	45.2	35.4	20.2
VT075S12N	12													33.3	16.8	38.3	21.8	48.4	31.9	58.5	42.0	38.6	22.1
VT085S05N	5	25.8	14.8	34.0	23.0	42.2	31.2	50.4	39.4	58.5	47.5	66.7	55.7	74.9	63.9	83.1	72.1	99.4	88.4	116	105	26.0	15.0
VT085S06N	6	22.8	9.6	31.0	17.8	39.2	26.0	47.4	34.2	55.5	42.3	63.7	50.5	71.9	58.7	80.1	66.9	96.4	83.2	113	99.5	31.2	18.0
VT085S07N	7			28	12.6	36.2	20.8	44.4	29.0	52.5	37.1	60.7	45.3	68.9	53.5	77.1	61.7	93.4	78.0	110	94.3	36.4	21.0
VT085S08N	8					33.2	15.6	41.4	23.8	49.5	31.9	57.7	40.1	65.9	48.3	74.1	56.5	90.4	72.8	107	89.1	41.6	24.0
VT085S09N	9							38.4	18.6	46.5	26.7	54.7	34.9	62.9	43.1	71.1	51.3	87.4	67.6	104	83.9	46.8	27.0
VT085S10N	10									43.5	21.5	51.7	29.7	59.9	37.9	68.1	46.1	84.4	62.4	101	78.7	52.0	30.0
VT085S11N	11											48.7	24.5	56.9	32.7	65.1	40.9	81.4	57.2	97.7	73.5	57.2	33.0
VT085S12N	12													53.9	27.5	62.1	35.7	78.4	52.0	94.7	68.3	62.4	36.0
VT095S05N	5	36.7	24.5	49.0	36.8	61.2	49.0	75.5	63.3	85.7	73.5	98.0	85.8	110	98.0	123	110	147	135	172	159	36.7	24.5
VT095S06N	6	31.8	17.2	44.1	29.5	56.3	41.7	70.6	56.0	80.8	66.2	93.1	78.5	105	90.7	118	103	142	128	167	152	44.0	29.4
VT095S07N	7			39.2	22.1	51.4	34.3	65.7	48.6	75.9	58.8	88.2	71.1	100	83.3	113	95.6	137	120	162	145	51.4	34.3
VT095S08N	8					45.6	27.0	60.8	41.3	71.0	51.5	83.3	63.8	95.5	76.0	107.8	88.3	132	113	157	137	58.7	39.2
VT095S09N	9							55.9	33.9	66.1	44.1	78.4	56.4	90.6	68.6	102.9	80.9	127	105	152	130	66.1	44.1
VT095S10N	10									61.2	36.8	73.5	49.1	85.7	61.3	98.0	73.6	123	98.1	147	123	73.4	49.0
VT095S11N	11											68.6	41.8	80.8	54.0	93.1	66.3	118	90.8	142	115	80.7	53.9
VT095S12N	12													75.9	46.6	88.2	58.9	113	83.4	137	108	88.1	58.8
VT110S05N	5	48.5	28.3	65.1	44.9	81.8	61.6	98.4	78.2	115	94.8	132	111	148	128	165	145	198	178	231	211	54.8	34.6
VT110S06N	6	41.6	17.3	58.2	33.9	74.9	50.6	91.5	67.2	108	83.8	125	100	141	117	158	134	191	167	225	200	65.8	41.5
VT110S07N	7			51.3	23.0	68.0	39.7	84.6	56.3	101	72.9	118	89.5	135	106	151	123	184	156	218	189	76.7	48.4
VT110S08N	8					61	28.7	77.6	45.3	94.2	61.9	111	78.5	128	95.2	144	112	177	145	211	178	87.7	55.4
VT110S09N	9							70.7	34.4	87.3	51.0	104	67.6	121	84.3	137	101	170	134	204	167	98.6	62.3
VT110S10N	10									80.4	40.0	97.0	56.6	114	73.3	130	89.9	157	123	197	156	110	69.2
VT110S11N	11											90.1	45.6	107	62.3	123	78.9	157	112	190	145	121	76.1
VT110S12N	12													99.9	51.4	117	68.0	150	101	183	135	132	83.0

Chart continued on next page

SPRING RETURN ACTUATOR TORQUE																							
Model	Spring QTY	Air Supply																					
		36 (2.5)		44 (3)		51 (3.5)		58 (4)		65 (4.5)		73 (5)		80 (5.5)		87 (6)		102 (7)		116 (8)		Spring Return	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
VT125S05N	5	78.5	53.9	105	80.4	132	107	158	133	185	160	211	187	238	213	264	240	317	293	370	346	78.6	54.0
VT125S06N	6	67.7	38.2	94.2	64.7	121	91.2	147	118	174	144	200	171	227	197	253	224	306	277	359	330	94.3	64.8
VT125S07N	7			83.4	49.0	110	75.5	136	102	163	129	190	155	216	182	243	208	296	261	349	314	110	75.6
VT125S08N	8					99.1	59.7	126	86.2	152	113	179	139	205	166	232	192	285	245	338	298	126	86.4
VT125S09N	9							115	70.5	141	97.1	168	124	194	150	221	177	274	230	327	283	142	97.2
VT125S10N	10									131	81.4	157	108	184	134	210	161	263	214	316	267	157	108
VT125S11N	11											146	92.2	173	119	199	145	252	198	305	251	173	119
VT125S12N	12													162	103	189	130	242	183	295	236	189	130
VT140S05N	5	134	96.4	178	140	222	184	266	228	309	272	353	316	397	360	441	404	529	491	617	579	123	85.5
VT140S06N	6	117	71.8	161	116	205	160	248	204	292	247	336	291	380	335	424	379	512	467	599	555	148	103
VT140S07N	7			144	91.1	187	135	231	179	275	223	319	267	363	311	407	354	495	442	582	530	172	120
VT140S08N	8					170	111	214	154	258	198	302	242	346	286	390	330	477	418	565	505	197	137
VT140S09N	9							197	130	241	174	285	218	329	261	373	305	460	393	548	481	221	154
VT140S10N	10									224	149	268	193	312	237	355	281	443	368	531	456	246	171
VT140S11N	11											251	168	295	212	338	256	426	344	514	432	270	188
VT140S12N	12													277	188	321	231	409	319	497	407	295	205
VT160S05N	5	190	115	257	182	324	248	391	315	457	382	524	449	591	516	658	583	792	716	925	850	220	144
VT160S06N	6	161	70.7	228	138	295	205	362	271	429	338	495	405	562	472	629	539	763	672	896	806	264	173
VT160S07N	7			199	94	266	161	333	227	400	294	467	361	533	428	600	495	734	629	868	762	307	202
VT160S08N	8					237	117	304	183	371	250	438	317	505	384	571	451	705	585	839	718	351	231
VT160S09N	9							275	140	342	206	409	273	476	340	543	407	676	541	810	674	395	260
VT160S10N	10									313	163	380	229	447	296	514	363	647	497	781	630	439	289
VT160S11N	11											351	185	418	252	485	319	618	453	752	587	483	318
VT160S12N	12													389	208	456	275	590	409	723	543	527	346
VT190S05N	5	309	195	410	296	511	397	612	498	713	599	814	700	915	801	1016	902	1218	1104	1420	1306	310	196
VT190S06N	6	270	133	371	234	472	335	573	436	674	537	774	638	876	739	977	840	1179	1042	1381	1244	372	235
VT190S07N	7			332	172	433	273	534	374	635	475	736	576	837	677	938	778	1140	980	1342	1182	434	274
VT190S08N	8					393	211	494	312	595	413	696	514	797	615	898	716	1100	918	1303	1120	496	314
VT190S09N	9							455	250	556	351	657	452	758	553	859	654	1061	856	1263	1058	558	353
VT190S10N	10									517	289	618	390	719	491	820	592	1022	794	1224	996	620	392
VT190S11N	11											579	328	680	429	781	530	983	732	1185	934	682	431
VT190S12N	12													641	367	742	468	944	670	1146	872	744	470
VT210S05N	5	380	278	512	410	643	541	775	673	907	805	1038	936	1170	1068	1301	1199	1565	1463	1828	1726	380	278
VT210S06N	6	324	202	456	334	588	465	719	597	851	729	983	860	1114	992	1246	1123	1509	1387	1772	1650	456	334
VT210S07N	7			401	258	532	389	664	521	795	653	927	784	1059	916	1190	1047	1453	1311	1717	1574	532	389
VT210S08N	8					477	313	608	445	740	577	871	708	1003	840	1135	971	1398	1235	1661	1498	608	445
VT210S09N	9							553	369	684	501	816	632	947	764	1079	895	1342	1159	1605	1422	684	500
VT210S10N	10									629	425	760	556	892	688	1023	819	1287	1083	1550	1346	760	556
VT210S11N	11											705	480	836	612	968	743	1231	1007	1494	1270	836	612
VT210S12N	12													781	536	912	667	1175	931	1439	1194	912	667
VT240S05N	5	593	374	786	567	980	761	1173	954	1367	1147	1560	1341	1753	1534	1947	1728	2334	2114	2720	2501	593	374
VT240S06N	6	518	255	712	449	905	642	1098	835	1292	1029	1485	1222	1679	1416	1872	1609	2259	1996	2646	2383	712	449
VT240S07N	7			637	330	830	523	1024	717	1217	910	1410	1104	1604	1297	1797	1490	2184	1877	2571	2264	830	524
VT240S08N	8					755	405	949	598	1142	792	1336	985	1529	1178	1722	1372	2109	1759	2496	2145	949	598
VT240S09N	9							874	480	1067	673	1261	866	1454	1060	1648	1253	2034	1640	2421	2027	1068	673
VT240S10N	10									993	554	1186	748	1379	941	1573	1135	1960	1521	2346	1908	1186	748
VT240S11N	11											1111	629	1305	823	1498	1016	1885	1403	2272	1790	1305	823
VT240S12N	12													1230	704	1423	897	1810	1284	2197	1671	1423	898

Chart continued on next page

TORQUE OUTPUT/ORDERING INFORMATION



SPRING RETURN ACTUATOR TORQUE																							
Model	Spring QTY	Air Supply																					
		36 (2.5)		44 (3)		51 (3.5)		58 (4)		65 (4.5)		73 (5)		80 (5.5)		87 (6)		102 (7)		116 (8)		Spring Return	
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
VT125S05N	5	853	616	1147	910	1440	1203	1734	1497	2028	1791	2322	2084	2615	2378	2909	2672	3496	3259	4084	3847	853	616
VT125S06N	6	730	445	1024	739	1317	1033	1611	1326	1905	1620	2199	1914	2492	2208	2786	2501	3373	3089	3961	3676	1023	739
VT125S07N	7			901	568	1194	862	1488	1156	1782	1450	2075	1743	2369	2037	2663	2331	3250	2918	3838	3506	1194	862
VT125S08N	8					1071	692	1365	985	1658	1279	1952	1573	2246	1866	2540	2160	3127	2748	3715	3335	1365	985
VT125S09N	9							1242	815	1535	1108	1829	1402	2123	1696	2417	1990	3004	2577	3591	3165	1535	1108
VT125S10N	10									1412	938	1706	1232	2000	1525	2293	1819	2881	2406	3468	2994	1706	1231
VT125S11N	11											1583	1061	1877	1355	2170	1648	2758	2236	3345	2823	1876	1354
VT125S12N	12													1754	1184	2047	1478	2635	2065	3222	2653	2047	1477
VT140S05N	5	988	647	1338	998	1688	1347	2038	1697	2388	2047	2738	2397	3088	2747	3438	3097	4137	3797	4837	4496	1032	691
VT140S06N	6	849	440	1200	791	1550	1141	1900	1491	2250	1841	2600	2191	2950	2541	3300	2891	3999	3590	4699	4290	1238	829
VT140S07N	7			1062	585	1412	935	1762	1285	2112	1634	2462	1984	2811	2334	3161	2684	3861	3384	4561	4084	1445	968
VT140S08N	8					1274	728	1623	1078	1973	1428	2323	1778	2673	2128	3023	2478	3723	3178	4423	3877	1651	1106
VT140S09N	9							1485	872	1835	1222	2185	1572	2535	1922	2885	2271	3585	2971	4284	3671	1857	1244
VT140S10N	10									1697	1015	2047	1365	2397	1715	2747	2065	3446	2765	4146	3465	2064	1382
VT140S11N	11											1909	1159	2259	1509	2608	1859	3308	2558	4008	3258	2270	1520
VT140S12N	12													2120	1302	2470	1652	3170	2352	3870	3052	2477	1659
VT160S05N	5	1498	1017	2018	1536	2537	2056	3056	2575	3575	3094	4095	3613	4614	4133	5133	4652	6172	5691	7210	6729	1476	994
VT160S06N	6			1819	1241	2338	1761	2857	2280	3376	2799	3896	3318	4415	3838	4934	4357	5973	5396	7011	6434	1771	1193
VT160S07N	7			1620	946	2139	1466	2658	1985	3178	2504	3697	3023	4216	3543	4736	4062	5774	5100	6813	6139	2066	1392
VT160S08N	8					1940	1170	2460	1690	2979	2209	3498	2728	4017	3248	4537	3767	5575	4805	6614	5844	2361	1591
VT160S09N	9					1741	875	2261	1395	2780	1914	3299	2433	3819	2952	4338	3472	5376	4510	6415	5549	2656	1790
VT160S10N	10							2062	1100	2581	1619	3100	2138	3620	2657	4139	3177	5177	4215	6216	5254	2951	1989
VT160S11N	11							1863	804	2382	1324	2901	1843	3421	2362	3940	2882	4979	3920	6017	4959	3246	2188
VT160S12N	12									2183	1029	2703	1548	3222	2067	3741	2586	4780	3625	5818	4664	3541	2386
VT190S05N	5	2222	1497	3013	2288	3805	3080	4596	3871	5387	4662	6179	5454	6970	6245	7761	7036	9344	8619	10926	10201	2301	1576
VT190S06N	6			2698	1828	3490	2620	4281	3411	5072	4202	5864	4994	6655	5785	7446	6576	9029	8159	10611	9741	2761	1891
VT190S07N	7			2383	1368	3175	2160	3966	2951	4757	3742	5549	4534	6340	5325	7131	6116	8714	7699	10296	9281	3221	2206
VT190S08N	8					2859	1699	3650	2490	4441	3281	5233	4073	6024	4864	6815	5655	8398	7238	9980	8820	3682	2522
VT190S09N	9					2544	1239	3335	2030	4126	2821	4918	3613	5709	4404	6500	5195	8083	6778	9665	8360	4142	2837
VT190S10N	10							3020	1570	3811	2361	4603	3153	5394	3944	6185	4735	7768	6318	9350	7900	4602	3152
VT190S11N	11							2705	1110	3496	1901	4288	2693	5079	3484	5870	4275	7453	5858	9035	7440	5062	3467
VT190S12N	12									3181	1441	3973	2233	4764	3024	5555	3815	7138	5398	8720	6980	5522	3782

ORDERING EXAMPLE

1	2	3	4	5	6	7	8
IBVPAV	065	D	04	N	F07	H	M

SIGN 1	TYPE
IBVPAV	Pneumatic

SIGN 3	TYPE
D	Double Acting
S	Spring Return (Fail Close)
F	Spring Return (Fail Open)

SIGN 5	CODE
N	Original Model

SIGN 7	TEMPERATURE
-	Standard 0°F to +176°F (Nitrile Rubber)
H	High Temp 0°F to +302°F (Fluororubber)
L	Low Temp -40°F to +176°F (LT Silastic)

SIGN 2	Model
065	VT065
075	VT075
085	VT085
095	VT095
110	VT110
125	VT125
140	VT140
160	VT160
190	VT190
210	VT210
240	VT240
270	VT270

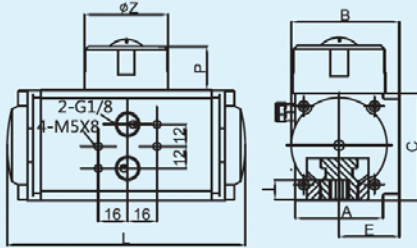
SIGN 4	SPRING COUNT
-	None (Direct Acting)
04	4 Springs
05	5 Springs
06	6 Springs
07	7 Springs
08	8 Springs
09	9 Springs
10	10 Springs
11	11 Springs
12	12 Springs

SIGN 6	F CONNECTION
F07	ISO 5211 F07 (VT065, 075, 085, 095, 110, 125)
F10	ISO 5211 F10 (VT110, 125, 140)
F12	ISO 5211 F12 (VT140, 160, 190)
F14	ISO 5211 F14 (VT190, 210)
F16	ISO 5211 F16 (VT240, 260)

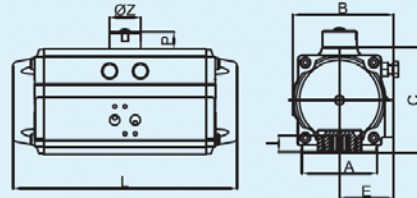
SIGN 8	OPTIONS
M	Mechanical Lockout
A	Adjustable Travel Stops
B	Mechanical Lockout & Adjustable Travel Stops

Sample Reference

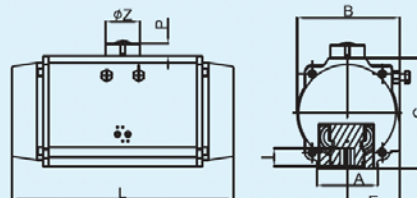
Applicable
Specification :032



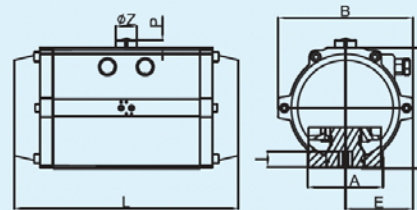
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Specification :050-270



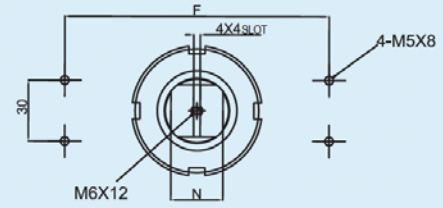
Applicable
Specification :300, 350



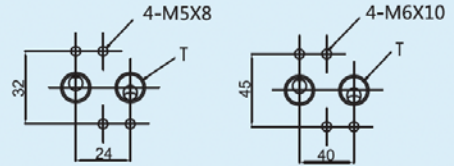
Applicable
Specification :400



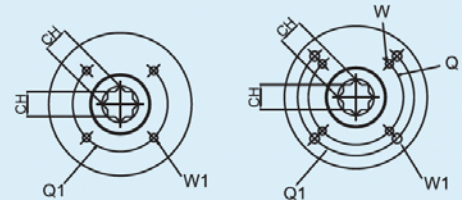
Top View



Air Supply Interface

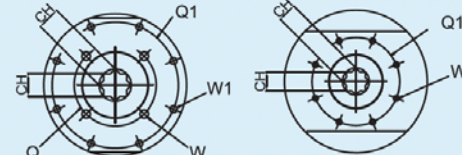


Bottom View



Applicable Specification :032/190-300

Applicable Specification :050-160



Applicable Specification :350

Applicable Specification :400

VT PNEUMATIC ACTUATOR DIMENSIONS TABLE (INCHES (MM))

Model	A	B	C	L	E	F	P	Z	N	I	Flange	Q	Q1	W	W1	CH	T
032	1.46 (37)	1.85 (47)	1.97 (50)	4.33 (110)	1.06 (27)	1.97 (50)	0.79 (20)	1.57 (40)	0.39 (10)	0.39 (10)	F03	-	1.42 (36)	-	M5x8	9x9	G1/8"
050	1.81 (46)	2.8 (71)	2.76 (70)	5.94 (151)	1.63 (41.5)	3.15 (80)	0.79 (20)	1.57 (40)	0.39 (10)	0.47 (12)	F03/F05	1.42 (36)	1.97 (50)	M5x7.5	M6x9	11x11	G1/4"
065	2.52 (64)	3.33 (84.5)	3.5 (89)	6.61 (168)	1.83 (46.5)	3.15 (80)	0.79 (20)	1.57 (40)	0.39 (10)	0.63 (16)	F05/F07	1.97 (50)	2.76 (70)	M6x9	M8x12	14x14	G1/4"
075	2.68 (68)	3.89 (98.8)	3.94 (100)	7.17 (182)	2.17 (55)	3.15 (80)	0.79 (20)	1.57 (40)	0.55 (14)	0.63 (16)	F05/F07	1.97 (50)	2.76 (70)	M6x9	M8x12	14x14	G1/4"
085	2.68 (68)	4.27 (108.5)	4.45 (113)	8.27 (210)	2.34 (59.5)	3.15 (80)	0.79 (20)	1.57 (40)	0.55 (14)	0.75 (19)	F05/F07	1.97 (50)	2.76 (70)	M6x9	M8x12	17x17	G1/4"
095	3.46 (88)	4.63 (117.7)	4.84 (123)	10.31 (261.8)	2.48 (63)	3.15 (80)	0.79 (20)	1.57 (40)	0.55 (14)	0.75 (19)	F05/F07	1.97 (50)	2.76 (70)	M6x9	M8x12	17x17	G1/4"
110	3.66 (93)	5.2 (132)	5.35 (136)	11.23 (285.2)	2.87 (73)	3.15 (80)	0.79 (20)	1.57 (40)	0.55 (14)	0.75 (19)	F07/F10	2.76 (70)	4.02 (102)	M8x12	M10x15	17x17	G1/4"
125	3.78 (96)	5.98 (152)	6.26 (159)	12.6 (320)	3.19 (81)	3.15/5.12 (80/130)	1.18 (30)	0.87 (22)	2.2 (56)	0.98 (25)	F07/F10	2.76 (70)	4.02 (102)	M8x12	M10x15	22x22	G1/4"
140	4.33 (110)	6.77 (172)	7.01 (178)	15.79 (401)	3.58 (91)	3.15/5.12 (80/130)	1.18 (30)	0.87 (22)	2.2 (56)	1.22 (31)	F10/F12	4.02 (102)	4.92 (125)	M10x15	M12x18	27x27	G1/4"
160	4.41 (112)	7.44 (189)	7.87 (200)	18.07 (459)	3.94 (100)	3.15/5.12 (80/130)	1.18 (30)	2.2 (56)	0.87 (22)	1.22 (31)	F10/F12	4.02 (102)	4.92 (125)	M10x15	M12x18	27x27	G1/4"
190	5.35 (136)	8.54 (217)	9.13 (232)	19.49 (495)	4.41 (112)	5.12 (130)	1.18 (30)	2.2 (56)	0.87 (22)	1.61 (41)	F10/F14	4.02 (102)	5.51 (140)	M16x24	M16x24	36x36	G1/4"
210	5.51 (140)	9.29 (236)	10.04 (255)	20.83 (529)	4.8 (122)	5.12 (130)	1.18 (30)	2.2 (56)	1.28 (32.5)	1.57 (40)	F14	-	5.51 (140)	-	M16x24	36x36	G1/4"
240	6.3 (160)	10.57 (268.5)	11.5 (292)	24.33 (618)	5.47 (139)	5.12 (130)	1.18 (30)	3.15 (80)	1.28 (32.5)	1.97 (50)	F16	-	6.5 (165)	-	M20x25	46x46	G1/2"
270	6.3 (160)	11.65 (296)	13.03 (331)	29.02 (737)	5.94 (151)	5.12 (130)	1.18 (30)	3.15 (80)	1.28 (32.5)	1.97 (50)	F16	-	6.5 (165)	-	M20x25	46x46	G1/2"
300	7.09 (180)	13.19 (335)	13.94 (354)	30.87 (784)	6.81 (173)	5.12 (130)	1.18 (30)	3.15 (80)	1.28 (32.5)	1.97 (50)	F16	-	6.5 (165)	-	M20x25	46x46	G1/2"
350	10.63 (270)	15.16 (385)	16.14 (410)	33.27 (845)	7.68 (195)	5.12 (130)	1.18 (30)	3.15 (80)	1.28 (32.5)	1.97 (50)	F16/F25	6.5 (165)	10 (254)	M20x25	M16x24	46x46	G1/2"
400	11.42 (290)	20.47 (520)	18.35 (466)	37.64 (956)	10.24 (260)	5.12 (130)	1.18 (30)	3.15 (80)	1.28 (32.5)	2.36 (60)	F25	-	10 (254)	-	M16x24	55x55	G1/2"



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TB-PA-8
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