1. 气源压力范围 Pressure Ranges

2 bar(29 psig) to 8 bar(116 psig) double acting 双作动气缸
3 bar(44 psig) to 8 bar(116 psig) spring return 单作动气缸

2. 工作温度 Temperature Ranges

标准(丁氰橡胶)Std.(NBR O-rings): -20°C(-4°F) to +80°C(+176°F)
低温(氢化丁腈橡胶)Lower Temp. (HNBR O-rings):-40°C(-40°F) to +80°C(+176°F)
高温(氟橡胶)High Temp. (Viton O-rings): -15°C(+5°F) to +150°C(+300°F)

3. 宽大的气缸范围 Wide Range Available

The actuator range consists of 15 sizes, with torques from 8Nm(70in.ibs) to 4583Nm(65184in.lbs)at 5bar(70pisg)

共有15款不同的气缸型号，在5bar气源下扭矩范围从8Nm到4583Nm

4. 工作介质 Operating Media

Filtered dry or lubricated air for non-corrosive gas, water or lighthydraulic oil. The maximum particle size must not exceed 30 microns.

已过滤干燥或润滑空气,无腐蚀性气体,水,轻质液压油,最大容许颗粒大小不超过30um

5. 连接方式 Connections

Bottom drilling complies with ISO 5211/DIN 3337 to match valve. Interface for solenoid valve, shaft top end and top drilling for assembling accessories are in accordance with VDI/VDE-3845, NAMUR standard.

气缸底部连接依照ISO5211/DIN3337标准,电磁阀接口及气缸顶部连接依照VDI/VDE - 3845,NAMUR标准.

6. 检测 Inspection

Every actuator is hydraulically tested, certified and guaranteed for a minimum of 500,000 cycles.

每一个气缸出厂前皆压力测试并标示制造编号及保证动作次数500,000 次以上.

气动执行器 - 特性 Pneumatic Actuator - Features

1. 指示器 Indicator

A position indicator with Namur mounting is standard on all VESON pneumatic actuators for mounting accessories.

位置指示器及Namur标准于所有VESON气动执行器便于安装相关配件。

2. 输出轴 Pinion

The hardened alloy steel pinion is precision ground and Nickel plated (over 15um) in order to reduce friction, provide maximum wear resistance. Full conformance with the newest standards of ISO5211 & DIN3337. The dimensions can be customized and as options, stainless steel and aluminium alloy are also available.

高精密,镀镍硬质合金(15um以上)输出轴提供低磨擦高耐磨的严苛,工况条件,并符合ISO5211及DIN3337标准.可提供客户定制尺寸及不锈钢或硬铝合金材料。

3. 缸体 Actuator Body

The aluminum extrusion is hard anodized(over 30um) to protect against wear and corrosion while reducing piston friction to the absolute minimum. Other options such as Nickel, Ceramic, PTFE, Polyester coated are available.

挤压铝合金缸体采用硬质氧化处理(30um以上),提供抗磨蚀并最小化活塞与缸体摩擦.亦可提供镀镍处理,PTFE(聚四氟乙烯)涂层及环氧树脂喷涂不同处理。

4. 端盖 End Caps

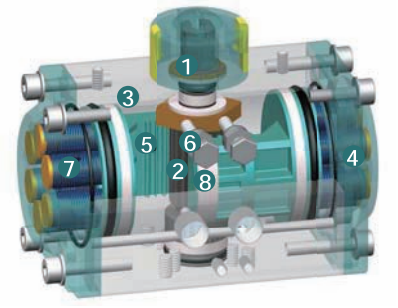
Epoxy coated(over 80um) die cast aluminum end caps provide maximum resistance against potentially corrosive elements. Other treatments such as Nickel,Ceramic, PTFE,Polyester coated are available.

环氧树脂喷涂处理(80um 以上)压铸铝合金端盖提供抗腐蚀性,并可提供镀镍处理及PTFE(聚四氟乙烯)涂层不同处理。

镀镍涂层
Nickel Coated

PTFE涂层
PTFE Coated

聚脂烤漆
Polyester Coated



5. 活塞 Pistons

The precisely-balanced and hard anodized treatment (over 30um)die cast aluminum pistons are fitted with high quality rings and guides. The twin rack and piston design creates a constant torque output on all actuators.

高精密平衡及硬质氧化处理(30um以上)压铸铝合金活塞配套高质量, 密封圈及导向板齿排齿轮式设计提供稳定性扭矩输出.

6. 行程调节 Travel Adjustment

The standard adjustment is ± 5°in both the open and closed positions through easily accessible external adjustment bolts.

标准行程调节± 5°开及关位置可轻易经由两只独立外部行程螺栓达成。

7. 高性能弹簧 High Performance Springs

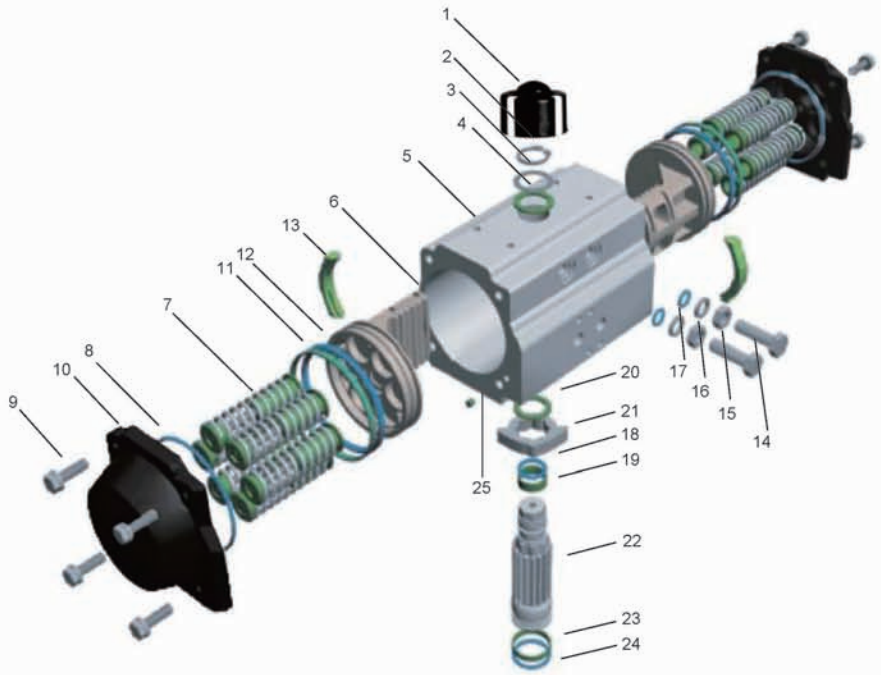
The high tensile steel springs are coated with Epoxy coated for corrosion resistance and longer service. The pre-loaded springs can be safely & rapidly disassembled.

高张力弹簧采用镀锌处理,提供抗腐蚀及较常使用寿命.预紧式弹簧提供安全及快速拆卸。

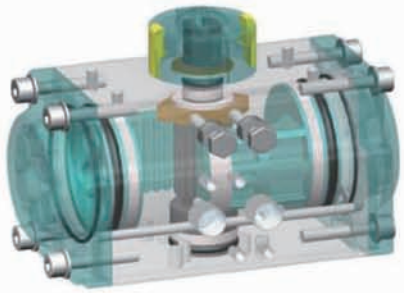
8. 轴承及导向板 Bearings & Guides

The highly durable compound material provides high trust stability with minimum friction and long life.

耐用复合材料提供低摩擦, 高稳定性及使用寿命



Item (项次)	Description (名称)	Material (材料)	Protection (外层处理)	Q´ty (数量)	Optional (其他选用材料)
1	Indicator/指示器	Plastic/塑料		1	
2	Spring Clip/卡簧	Stainless Steel/不锈钢		1	
3	Thrust Washer(Pinion)/垫圈	Stainless Steel/不锈钢		1	
4	Thrust Bearing(Pinion)/轴承	Nylon66/自润复合材料		1	
5	Actuator Body/缸体	Extruded Alluminum Alloy/铝型材	Hard Anodized(over 30um) 硬质氧化处理(30um以上)	1	Nickel or PTFE Plated (镀镍或聚四氟乙稀处理)
6	Piston/活塞	Die Cast Aluminum Alloy 压铸铝	Hard Anodized(over 30um) 硬质氧化处理(30um以上)	2	
7	Spring(Cartridge)/弹簧	High Performance Spring Steel/高性能弹簧钢	Zinc Phosphate Coated 镀锌处理	0-12	
8*	End Cap Seals/端盖密封圈	NBR/丁氰橡胶		2	Viton / HNBR (氟橡胶/氢化丁腈橡胶)
9	End Cap Bolts/端盖螺栓	Stainless Steel/不锈钢		8	
10	End Cap/端盖	Die Cast Aluminum/压铸铝	Epoxy Coated(over 80um) 环氧树脂烤漆(80um以上)	2	Nickel or PTFE Plated (镀镍或聚四氟乙稀处理)
11*	Piston Bearing/活塞轴承	Nylon 66/自润复合材料		2	
12*	Piston Seal/活塞密封圈	NBR/丁氰橡胶		2	Viton / HNBR (氟橡胶/氢化丁腈橡胶)
13*	Piston Guide/活塞导向板	Nylon 66/自润复合材料		2	
14	Stroke Bolt/调节螺栓	Stainless Steel/不锈钢		2	
15	Stroke Bolt Retaining Nut/调节螺栓螺母	Stainless Steel/不锈钢		2	
16	Stroke Bolt Washer/调节螺栓垫圈	Stainless Steel/不锈钢		2	
17*	Stroke Bolt O-Ring/调节螺栓密封圈	NBR/丁氰橡胶		2	Viton / HNBR (氟橡胶/氢化丁腈橡胶)
18*	O-Ring(Top Pinion)/上轴密封圈	NBR/丁氰橡胶		1	Viton / HNBR (氟橡胶/氢化丁腈橡胶)
19*	Bearing(Top Pinion)/上轴轴承	Nylon 66/自润复合材料		1	
20*	Thrust Bearing(Pinion)/轴承	Nylon 66/自润复合材料		1	
21	Stroke Cam/定位模块	Stainless Steel/不锈钢		1	
22	Pinion/齿轮	Alloy Steel/合金钢	Nickel Plated(over 15um) 镀镍处理(15um以上)	1	S.S. or Alu.Alloy (不锈钢或硬质铝合金)
23*	Bearing(Lower Pinion)/下轴轴承	Nylon 66/自润复合材料		1	
24*	O-Ring(Lower Pinion)/下轴密封圈	NBR/丁氰橡胶		1	Viton / HNBR (氟橡胶/氢化丁腈橡胶)
25*	Plug/ 塞头	NBR/丁氰橡胶		2	Viton / HNBR (氟橡胶胶/氢化丁腈橡胶)

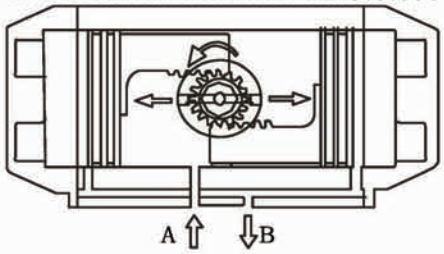


Sizing example of VESON double acting actuator:
Valve torque 100Nm plus 30% safety factor= 130Nm. Minimum operating pressure 5bar（70psig）. By reading down the 6bar (87psig) column the figure below 120Nm is 136.4Nm, The model number shown in the left hand column is therefore VS-105DA.

阀门扭矩为100Nm加上30%安全系数为130Nm,最小气源压力5bar（70pisg），双作用气缸扭矩表中5bar（70pisg）气源压力下大于130Nm的扭矩为163Nm，对应的最左栏气缸型号为VS-105DA.

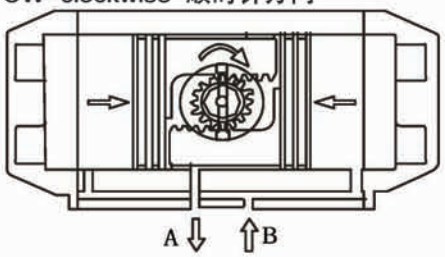
The operating principle of double acting actuator 双作动气缸工作原理

CCW-counter-clockwise 逆时针方向



Air to port A forces the pistons outwards, causing the piston to turn counter-clockwise while air is being exhausted from port B.
压缩空气由A口输入,使左右活塞向相反方向移动,输出轴逆时针方向转动,两活塞侧面的空气由B口排出。

CW-clockwise 顺时针方向

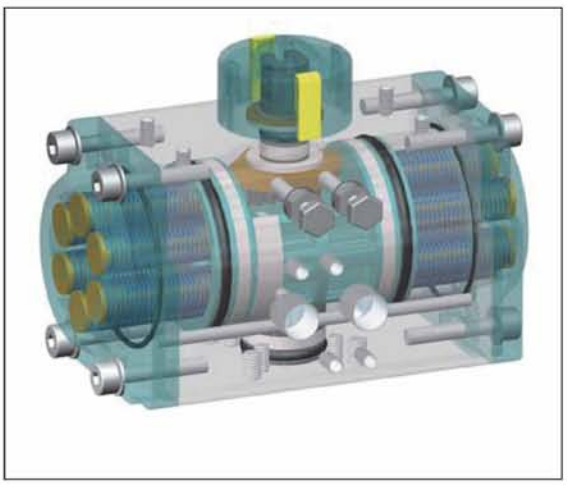


Air to port B forces the pistons inwards, causing the piston to turn clockwise while air is being exhausted from port A.
压缩空气由B口输入,使左右活塞向中心方向移动,输出轴顺时针方向转动,两活塞中间的空气由A口排出。

Torque Table of Double Acting Actuator 双作动气缸输出扭矩

Unit: Nm / in.lbs

Model	Air Supply Pressure 输入气源压力 (bar/psig)					
	3.0/42.6	4.0/56.9	5.0/71.1	6.0/85.3	7.0/99.6	8.0/113.8
VS-032DA	4.6	6.1	7.6	9.2	10.7	12.2
	40.7	54.0	67.3	81.4	94.7	108.0
VS-052DA	12.0	16.0	20.0	24.0	28.0	32.0
	106.2	141.6	177.0	212.4	247.8	283.2
VS-063DA	21.7	28.9	36.1	43.4	50.6	57.8
	191.8	255.8	319.7	383.6	447.6	511.5
VS-075DA	35.0	46.6	58.3	69.9	81.6	93.2
	309.3	412.4	515.5	618.6	721.7	824.8
VS-083DA	42.8	57.0	71.3	85.5	99.8	114.0
	378.3	504.5	630.6	756.7	882.8	1008.9
VS-092DA	67.6	90.1	112.6	135.2	157.7	180.2
	598.0	797.4	996.7	1196.1	1395.4	1594.8
VS-105DA	97.7	130.3	162.9	195.5	228.0	260.6
	864.9	1153.2	1441.4	1729.7	2018.0	2306.3
VS-125DA	173.3	231.0	288.8	346.5	404.3	462.0
	1533.3	2044.4	2555.4	3066.5	3577.6	4088.7
VS-140DA	260.7	347.6	434.5	521.4	608.3	695.2
	2307.2	3076.3	3845.3	4614.4	5383.5	6152.5
VS-160DA	397.2	529.6	662.0	794.4	926.8	1059.2
	3515.2	4687.0	5858.7	7030.4	8202.2	9373.9
VS-190DA	640.2	853.6	1067.0	1280.4	1493.8	1707.2
	5665.8	7554.4	9443.0	11331.5	13220.1	15108.7
VS-210DA	798.0	1064.0	1330.0	1596.0	1862.0	2128.0
	7062.3	9416.4	11770.5	14124.6	16478.7	18832.8
VS-240DA	1154.3	1539.0	1923.8	2308.5	2693.3	3078.0
	10215.1	13620.2	17025.2	20430.2	23835.3	27240.3
VS-270DA	1939.2	2585.6	3232.0	3878.4	4524.8	5171.2
	17161.9	22882.6	28603.2	34323.8	40044.5	45765.1
VS-300DA	2291.4	3055.2	3819.0	4582.8	5346.6	6110.4
	20278.9	27038.5	33798.2	40557.8	47317.4	54077.0

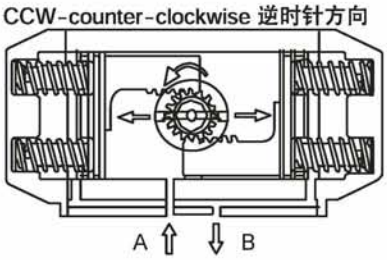


Sizing example of VESON spring return actuator:
Spring to close when air fails(air to open):
Valve torque 60Nm plus 20% safety factor = 72Nm. Minimum operating pressure: 6bar(87psig). The spring return VESON actuator selected is VS-105-SR12.The VS-105-SR12 has the following output torques:
1.air torque 0°(valve close) = 124Nm > 72Nm
2.air torque 90°(valve open) = 84Nm
3.spring torque 90°(valve open) = 120Nm
4.spring torque 0°(valve close) = 80Nm > 72Nm

失电或失气时,阀门关闭(通气时阀门打开):
阀门扭矩60Nm加上20%安全系数 = 72Nm. 最小气源压力6bar(87psig).
选型VS-105-SR12 单作动气缸. 输出扭矩如下说明:
1.气源起点扭矩(0°) = 124Nm 大于 72Nm
2.气源终点扭矩(90°) = 84Nm
3.弹簧起点扭矩(90°) = 120Nm
4.弹簧终点扭矩(0°) = 80Nm大于 72Nm

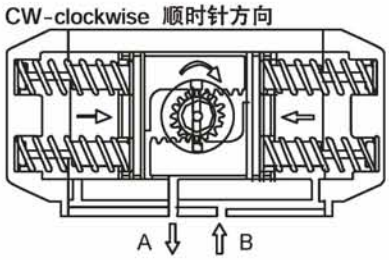
The operating principle of single acting spring return actuator 单作动气缸工作原理

CCW-counter-clockwise 逆时针方向



Air to port A forces the pistons outwards, causing the springs to compress. The pinion turns counter-clockwise while air is being exhausted through port B.
压缩空气由A 口输入, 使左右活塞向相反方向移动, 输出轴逆时针方向转动, 两活塞侧面的空气由B 口排出。

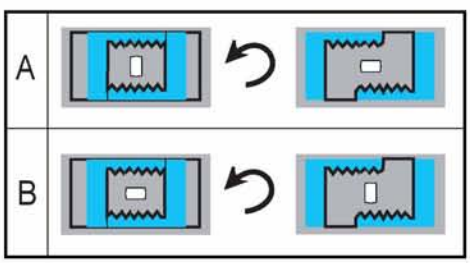
CW-clockwise 顺时针方向



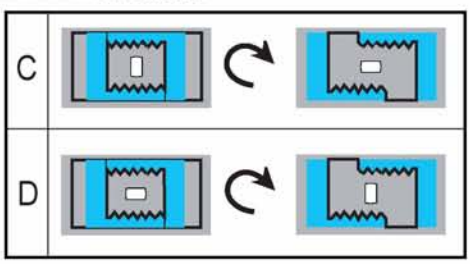
Loss of air pressure through port A allows the stored energy in the springs to force the pistons inwards. The pinion turns clockwise while air is being exhausted through port A.
失气或失电时, 由于弹簧的作用使活塞向中心移动, 输出轴顺时针方向转动, 空气由A 口排出。

Mounting Variations 不同安装配置方式

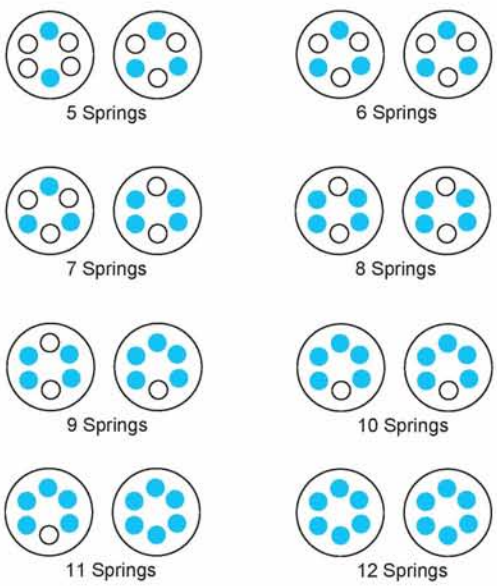
CCW-counter-clockwise 逆时针方向



CW-clockwise 顺时针方向



Spring Arrangement 不同数量弹簧配置方式



型号 Model	弹簧数量 Spring Set	弹簧输出扭矩 Spring Torque (in.lbs)		Air Supply Pressure 输入气源压力(unit:psig)													
				40		50		60		70		80		90		100	
				Air Torque Output 气源输出扭矩(in.lbs)													
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90	0°	90°	0°	90°
VS-052SR	5	35	55	65	45	-	-	-	-	-	-	-	-	-	-	-	-
	6	42	66	58	34	83	59	-	-	-	-	-	-	-	-	-	-
	7	49	77	51	23	76	48	100	72	-	-	-	-	-	-	-	-
	8	56	88	-	-	69	37	93	61	118	86	-	-	-	-	-	-
	9	63	98	-	-	-	-	86	51	111	76	-	-	-	-	-	-
	10	70	110	-	-	-	-	79	39	104	64	129	89	154	114	179	139
	11	77	120	-	-	-	-	-	-	97	53	122	79	147	104	172	129
	12	84	131	-	-	-	-	-	-	-	-	115	68	140	92	165	117
VS-063SR	5	63	72	117	108	-	-	-	-	-	--	-	-	-	-	-	-
	6	75	115	105	65	150	110	-	-	-	-	-	-	-	-	-	-
	7	88	134	92	46	137	91	181	135	-	-	-	-	-	-	-	-
	8	100	153	-	-	125	72	169	116	214	161	-	-	-	-	-	-
	9	112	173	-	-	-	-	157	97	202	142	-	-	-	-	-	-
	10	125	191	-	-	-	-	144	78	189	123	234	168	279	213	324	258
	11	137	211	-	-	-	-	-	-	177	103	222	149	267	194	312	239
	12	150	230	-	-	-	-	-	-	-	-	209	129	254	174	299	219
VS-075SR	5	96	130	194	159	-	-	-	-	-	-	-	-	-	-	-	-
	6	114	156	176	134	249	207	-	-	-	-	-	-	-	-	-	-
	7	134	182	157	108	229	180	301	252	-	-	-	-	-	-	-	-
	8	152	208	-	-	211	155	283	227	355	300	-	-	-	-	-	-
	9	172	234	-	-	-	-	263	201	336	274	-	-	-	-	-	-
	10	190	260	-	-	-	-	244	175	318	248	390	320	462	393	535	465
	11	210	286	-	-	-	-	-	-	299	222	370	294	443	367	516	439
	12	228	312	-	-	-	-	-	-	-	-	352	268	425	341	497	413
VS-083SR	5	131	182	223	172	-	-	-	-	-	-	-	-	-	-	-	-
	6	157	218	197	135	286	224	-	-	-	-	-	-	-	-	-	-
	7	183	255	170	99	260	188	349	277	-	-	-	-	-	-	-	-
	8	209	291	-	-	234	152	323	241	412	329	-	-	-	-	-	-
	9	235	327	-	-	-	-	297	205	385	239	-	-	-	-	-	-
	10	264	364	-	-	-	-	271	168	359	256	448	345	718	615	625	522
	11	288	400	-	-	-	-	-	-	332	220	421	309	691	579	599	486
	12	313	437	-	-	-	-	-	-	-	-	396	273	484	361	573	450
VS-092SR	5	204	292	356	267	-	-	-	-	-	-	-	-	-	-	-	-
	6	244	350	316	210	457	351	-	-	-	-	-	-	-	-	-	-
	7	286	408	274	152	415	293	555	433	-	-	-	-	-	-	-	-
	8	326	466	-	-	375	234	515	374	656	515	-	-	-	-	-	-
	9	366	525	-	-	-	-	475	317	615	457	-	-	-	-	-	-
	10	407	583	-	-	-	-	434	258	574	398	714	538	854	678	993	818
	11	448	642	-	-	-	-	-	-	533	339	673	479	813	619	953	759
	12	489	700	-	-	-	-	-	-	-	-	632	421	772	561	912	701
VS-105SR	5	281	436	530	375	-	-	-	-	-	-	-	-	-	-	-	-
	6	337	524	474	287	677	490	-	-	-	-	-	-	-	-	-	-
	7	394	611	417	201	620	403	822	605	-	-	-	-	-	-	-	-
	8	450	698	-	-	564	315	766	517	970	721	-	-	-	-	-	-
	9	506	786	-	-	-	-	710	430	913	633	-	-	-	-	-	-
	10	562	873	-	-	-	-	654	343	857	546	1060	749	1262	951	1465	1155
	11	619	960	-	-	-	-	-	-	800	459	1003	661	1205	863	1409	1067
	12	674	1048	-	-	-	-	-	-	-	-	947	574	1150	777	1353	980
VS-125SR	5	509	764	928	673	-	-	-	-	-	-	-	-	-	-	-	-
	6	611	916	826	521	1186	881	-	-	-	-	-	-	-	-	-	-
	7	672	1008	765	429	1125	789	1481	1148	-	-	-	-	-	-	-	-
	8	814	1221	-	-	983	576	1342	935	1701	1294	-	-	-	-	-	-
	9	916	1375	-	-	-	-	1240	782	1599	1141	-	-	-	-	-	-
	10	1018	1527	-	-	-	-	1138	629	1497	988	1856	1347	2216	1707	2576	2067
	11	1120	1681	-	-	-	-	-	-	1395	834	1754	1193	2114	1553	2474	1913
	12	1221	1832	-	-	-	-	-	-	-	-	1652	1041	2013	1402	2372	1761

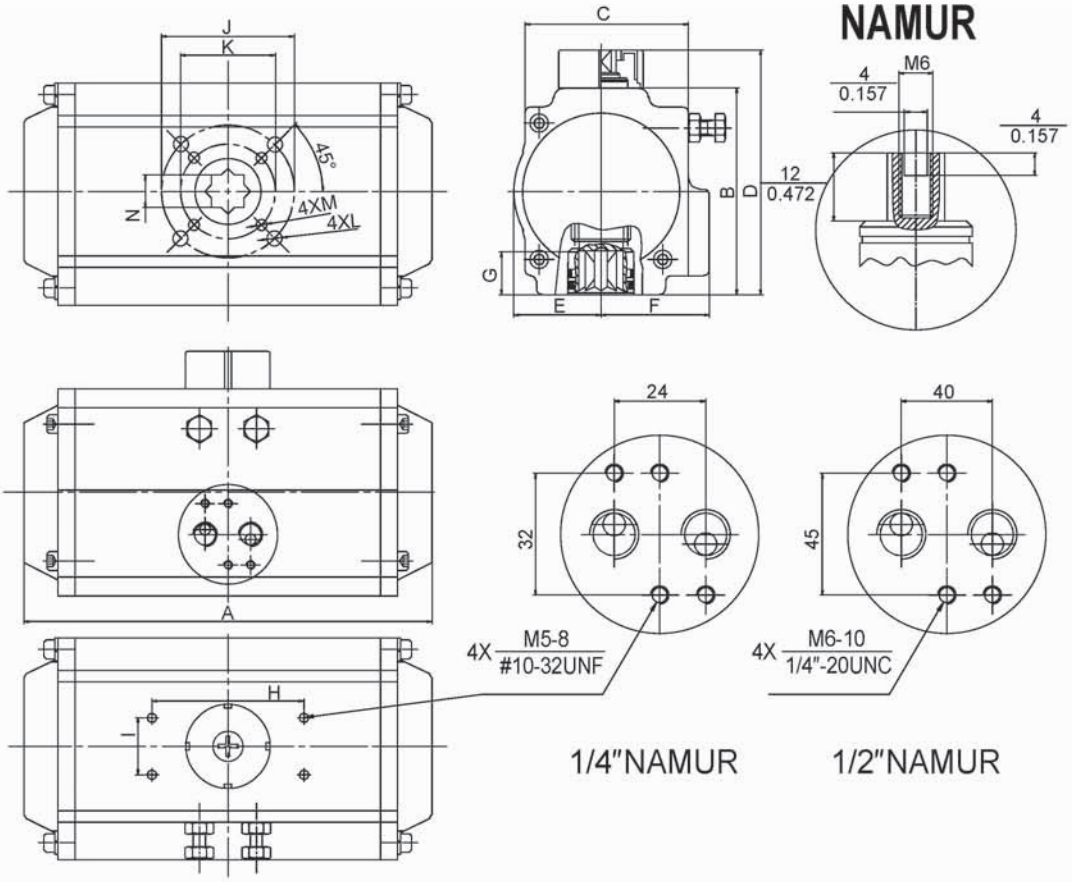
型号 Model	弹簧数量 Spring Set	弹簧输出扭矩 Spring Torque (in.lbs)		Air Supply Pressure 输入气源压力 (unit:psig)													
				40		50		60		70		80		90		100	
				Air Torque Output 气源输出扭矩 (in.lbs)													
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
VS-140SR	5	769	1151	1394	1013	-	-	-	-	-	-	-	-	-	-	-	-
	6	923	1381	1240	782	1781	1323	-	-	-	-	-	-	-	-	-	-
	7	1076	1611	1086	552	1628	1093	2168	1633	-	-	-	-	-	-	-	-
	8	1230	1841	-	-	1474	863	2014	1403	2555	1944	-	-	-	-	-	-
	9	1384	2071	-	-	-	-	1860	1173	2401	1714	-	-	-	-	-	-
	10	1538	2301	-	-	-	-	1706	943	2247	1484	2788	2025	3329	2565	3870	3106
	11	1691	2531	-	-	-	-	-	-	2093	1253	2635	1795	3175	2335	3716	2876
	12	1845	2762	-	-	-	-	-	-	-	-	2481	1565	3021	2105	3562	2646
VS-160SR	5	1190	1740	2106	1555	-	-	-	-	-	-	-	-	-	-	-	-
	6	1428	2088	1868	1207	2692	2031	-	-	-	-	-	-	-	-	-	-
	7	1665	2437	1631	859	2455	1683	3278	2506	-	-	-	-	-	-	-	-
	8	1903	2785	-	-	2217	1335	3040	2158	3864	2983	-	-	-	-	-	-
	9	2141	3132	-	-	-	-	2802	1811	3626	2635	-	-	-	-	-	-
	10	2379	3481	-	-	-	-	2564	1462	3388	2286	4212	3110	5036	3935	5860	4759
	11	2616	3829	-	-	-	-	-	-	3151	1938	3975	2762	4799	3586	5623	4411
	12	2854	4177	-	-	-	-	-	-	-	-	3737	2415	4561	3239	5385	4063
VS-190SR	5	1898	2819	3414	2493	-	-	-	-	-	-	-	-	-	-	-	-
	6	2277	3383	3035	1929	4364	3258	-	-	-	-	-	-	-	-	-	-
	7	2656	3947	2656	1365	3984	2694	5311	4021	-	-	-	-	-	-	-	-
	8	3036	4510	-	-	3604	2129	4931	3456	6259	4784	-	-	-	-	-	-
	9	3416	5074	-	-	-	-	4551	2892	5879	4220	-	-	-	-	-	-
	10	3795	5638	-	-	-	-	4172	2329	5500	3657	6828	4985	8156	6313	9484	7641
	11	4174	6202	-	-	-	-	-	-	5121	3093	6449	4421	7777	5749	9105	7077
	12	4554	6766	-	-	-	-	-	-	-	-	6069	3857	7397	5185	8725	6513
VS-210SR	5	2606	3884	5274	3996	-	-	-	-	-	-	-	-	-	-	-	-
	6	3127	4660	4173	2640	5998	4465	-	-	-	-	-	-	-	-	-	-
	7	3647	5437	3652	1862	5478	3688	7303	5513	-	-	-	-	-	-	-	-
	8	4169	6213	-	-	4956	2911	6781	4736	8606	6562	-	-	-	-	-	-
	9	4690	6991	-	-	-	-	6260	3960	8085	5785	-	-	-	-	-	-
	10	5211	7767	-	-	-	-	5739	3183	7564	5008	9389	6833	11214	8658	13039	10483
	11	5732	8544	-	-	-	-	-	-	7043	4231	8868	6056	10693	7881	12518	9706
	12	6253	9320	-	-	-	-	-	-	-	-	8347	5280	10172	7105	11997	8930
VS-240SR	5	4094	6072	7347	5369	-	-	-	-	-	-	-	-	-	-	-	-
	6	4912	7286	6529	4155	9390	7016	-	-	-	-	-	-	-	-	-	-
	7	5731	8501	5710	2941	8571	5802	11431	8662	-	-	-	-	-	-	-	-
	8	6550	9715	-	-	7752	4587	10612	7447	13203	10038	-	-	-	-	-	-
	9	7368	10929	-	-	-	-	9794	6233	12384	8823	-	-	-	-	-	-
	10	8187	12144	-	-	-	-	8975	5019	11835	7879	14695	10739	17556	13599	20415	16459
	11	9006	13358	-	-	-	-	-	-	11016	6664	13876	9524	16737	12385	19597	15245
	12	9825	14572	-	-	-	-	-	-	-	-	13057	8310	15918	11170	18778	14030
VS-270SR	5	5787	8511	10303	7579	-	-	-	-	-	-	-	-	-	-	-	-
	6	6944	10214	9146	5876	13169	9899	-	-	-	-	-	-	-	-	-	-
	7	8101	11916	7988	4174	12012	8197	16034	12219	-	-	-	-	-	-	-	-
	8	9258	13618	-	-	10855	6495	14877	10517	18900	14540	-	-	-	-	-	-
	9	10416	15321	-	-	-	-	13719	8814	17742	12837	-	-	-	-	-	-
	10	11573	17023	-	-	-	-	12562	7112	16585	11135	20607	15157	24631	19181	28653	23203
	11	12730	18725	-	-	-	-	-	-	15427	9433	19450	13455	23473	17478	27495	21500
	12	13887	20427	-	-	-	-	-	-	-	-	18293	11753	22316	15776	26338	19798

unit:Nm

型号 Model	弹簧数量 Spring Set	弹簧输出扭矩 Spring Torque (Nm)		Air Supply Pressure(Unit:bar) / 输入气源压力（单位bar)									
				3.0		4.0		5.0		6.0		7.0	
				Air Torque Output(Nm) / 气源输出扭矩(Nm)									
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
VS-052SR	5	4.0	6.2	8.1	5.8	12.1	9.8	-	-	-	-	-	-
	6	4.7	7.4	7.3	4.6	11.3	8.6	-	-	-	-	-	-
	7	5.5	8.7	6.5	3.3	10.5	7.3	14.5	11.3	-	-	-	-
	8	6.3	9.9	-	-	9.7	6.1	13.7	10.1	-	-	-	-
	9	7.1	11.2	-	-	8.9	4.8	12.9	8.8	16.9	12.8	-	-
	10	7.9	12.4	-	-	8.1	3.6	12.1	7.6	16.1	11.6	20.1	15.6
	11	8.7	13.6	-	-	7.3	2.4	11.3	6.4	15.3	10.4	19.3	14.4
	12	9.5	14.9	-	-			10.5	5.1	14.5	9.1	18.5	13.1
VS-063SR	5	6.8	10.4	14.9	11.3	22.1	18.5	-	-	-	-	-	-
	6	8.2	12.5	13.5	9.2	20.7	16.4	-	-	-	-	-	-
	7	9.6	14.6	12.1	7.1	19.3	14.3	26.5	21.5	-	-	-	-
	8	10.9	16.7	-	-	18	12.2	25.2	19.4	-	-	-	-
	9	12.3	18.9	-	-	16.6	10.0	23.8	17.2	31.1	24.5	-	-
	10	13.7	20.9	-	-	15.2	8.0	22.4	15.2	29.7	22.5	36.9	29.7
	11	15.0	22.9	-	-	-	-	21.1	13.2	28.4	20.5	35.6	27.7
	12	16.4	25.0	-	-	-	-	19.7	11.1	27.0	18.4	34.2	25.6
VS-075SR	5	10.5	16.3	24.5	18.8	36.1	30.4	-	-	-	-	-	-
	6	12.7	19.5	22.3	15.5	33.9	27.1	-	-	-	-	-	-
	7	14.8	22.8	20.2	12.3	31.8	23.9	-	-	-	-	-	-
	8	16.9	26.0	-	-	29.7	20.6	41.4	32.3	-	-	-	-
	9	19.0	29.3	-	-	27.6	17.4	39.3	29.1	50.9	40.7	-	-
	10	21.1	32.5	-	-	25.5	14.1	37.2	25.8	48.8	37.4	60.5	49.1
	11	23.2	35.8	-	-	23.4	10.9	35.1	22.6	46.7	34.2	58.4	45.9
	12	25.3	39.0	-	-	-	-	33.0	19.3	44.6	30.9	56.3	42.6
VS-083SR	5	14.8	20.6	28.1	22.3	42.3	36.5	-	-	-	-	-	-
	6	17.7	24.7	25.1	18.1	39.3	32.3	-	-	-	-	-	-
	7	20.7	28.8	-	-	36.4	28.2	50.7	42.5	-	-	-	-
	8	23.6	32.9	-	-	33.4	24.1	47.7	38.4	-	-	-	-
	9	26.6	37.0	-	-	30.5	20.0	44.8	34.3	59	48.5	-	-
	10	29.5	41.1	-	-	27.5	15.9	41.8	30.2	56	44.4	70.3	58.7
	11	32.5	45.2	-	-	-	-	38.9	26.1	53.1	40.3	67.4	54.6
	12	35.4	49.3	-	-	-	-	35.9	22.0	50.1	36.2	64.4	50.5
VS-092SR	5	23	33.0	44.6	34.7	67.1	57.2	-	-	-	-	-	-
	6	27.6	39.5	40.0	28.1	62.5	50.6	-	-	-	-	-	-
	7	32.2	46.1	-	-	57.9	44.0	80.4	66.5	-	-	-	-
	8	36.8	52.7	-	-	53.3	37.4	75.8	59.9	-	-	-	-
	9	41.4	59.3	-	-	48.7	30.8	71.2	53.3	93.8	75.9	-	-
	10	46.0	65.9	-	-	44.1	24.2	66.6	46.7	89.2	69.3	111.7	91.8
	11	50.6	72.5	-	-	-	-	62.0	40.1	84.6	62.7	107.1	85.2
	12	55.2	79.1	-	-	-	-	57.4	33.5	80.0	56.1	102.5	78.6
VS-105SR	5	31.8	49.3	66.0	48.4	98.6	81	-	-	-	-	-	-
	6	38.1	59.2	59.6	38.5	92.2	71.1	-	-	-	-	-	-
	7	44.5	69.0	-	-	85.9	61.3	118.5	93.9	-	-	-	-
	8	50.8	78.9	-	-	79.5	51.4	112.1	84	-	-	-	-
	9	57.2	88.7	-	-	73.2	41.6	105.8	74.2	138.4	106.8	-	-
	10	63.5	98.6	-	-	66.8	31.7	99.4	64.3	132	96.9	164.5	129.4
	11	69.9	108.5	-	-	-	-	93.1	54.4	125.7	87	158.2	119.5
	12	76.2	118.3	-	-	-	-	86.7	44.6	119.3	77.2	151.8	109.7
VS-125SR	5	52.5	86.3	121	87.0	179	145	-	-	-	-	-	-
	6	63.0	103.5	110	70.0	168	128	-	-	-	-	-	-
	7	73.5	120.8	-	-	158	110	215	168	-	-	-	-
	8	84.0	138.0	-	-	147	93	205	151	-	--	-	-
	9	94.5	155.3	-	-	137	76	194	134	252	191	-	-
	10	105.0	172.5	-	-	126	59	184	116	242	174	299	232
	11	115.5	189.8	-	-	-	-	173	99	231	157	289	214
	12	126.0	207.0	-	-	-	-	163	82	221	140	278	197

unit:Nm.

型号 Model	弹簧数量 Spring Set	弹簧输出扭矩 Spring Torque (Nm)		Air Supply Pressure(Unit:bar) / 输入气源压力 （单位bar）									
				3.0		4.0		5.0		6.0		7.0	
				Air Torque Output(Nm) / 气源输出扭矩(Nm)									
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°
VS-140SR	5	86.0	129.0	174	131	261	218	-	-	-	-	-	-
	6	103.2	154.8	157	105	244	192	-	-	-	-	-	-
	7	120.4	180.6	-	-	227	166	314	253	-	-	-	-
	8	137.6	206.4	-	-	209	141	296	228	-	-	-	-
	9	154.8	232.2	-	-	192	115	279	202	366	289	-	-
	10	172	258	-	-	175	89	262	176	349	263	436	350
	11	189.2	283.8	-	-	-	-	245	150	332	237	585	324
	12	206.4	309.6	-	-	-	-	228	124	315	211	402	298
VS-160SR	5	139.5	192.5	258	205	390	337	-	-	-	-	-	-
	6	167.4	231	230	166	362	298	-	-	-	-	-	-
	7	195.3	269.5	-	-	334	260	467	393	-	-	-	-
	8	223.2	308	-	-	306	221	439	354	-	-	-	-
	9	251.1	346.5	-	-	278	183	411	316	543	448	-	-
	10	279	385	-	-	250	144	383	277	515	409	647	541
	11	306.9	423.5	-	-	-	-	355	239	487	371	619	503
	12	334.8	462	-	-	-	-	327	200	459	332	591	464
VS-190SR	5	200	320	440	320	653	533	-	-	-	-	-	-
	6	240	384	400	256	613	469	-	-	-	-	-	-
	7	280	448	-	-	573	405	787	619	-	-	-	-
	8	320	512	-	-	533	341	747	555	-	-	-	-
	9	360	576	-	-	493	277	707	491	920	704	-	-
	10	400	640	-	-	453	213	667	427	880	640	1093	853
	11	440	704	-	-	-	-	627	363	840	576	1053	789
	12	480	768	-	-	-	-	578	982	800	512	1013	725
VS-210SR	5	275	440	604	439	897	732	-	-	-	-	-	-
	6	330	528	549	351	842	644	-	-	-	-	-	-
	7	385	616	-	-	787	556	1081	850	-	-	-	-
	8	440	704	-	-	732	468	1026	762	-	-	-	-
	9	495	792	-	-	677	380	971	674	1264	967	-	-
	10	550	880	-	-	622	292	916	586	1209	879	1502	1172
	11	605	968	-	-	-	-	861	498	1154	791	1447	1084
	12	660	1056	-	-	-	-	806	410	1099	703	1392	996
VS-240SR	5	410	685	969	694	1428	1153	-	-	-	-	-	-
	6	492	822	887	557	1346	1016	-	-	-	-	-	-
	7	574	959	-	-	1264	879	1724	1339	-	-	-	-
	8	656	1096	-	-	1182	742	1642	1202	-	-	-	-
	9	738	1233	-	-	1100	605	1560	1065	2019	1524		
	10	820	1370	-	-	1018	468	1478	928	1937	1387	2397	1847
	11	902	1507	-	-	-	-	1396	791	1855	1250	2315	1710
	12	984	1644	-	-	-	-	1314	654	1773	1113	2233	1573
VS-270SR	5	560	960	1379	787	2025	1625	-	-	-	-	-	-
	6	672	1152	1267	787	1913	1433	-	-	-	-	-	-
	7	784	1344	-	-	1801	1241	2446	1886	-	-	-	-
	8	896	1536	-	-	1689	1049	2334	1694	-	-	-	-
	9	1008	1728	-	-	1577	857	2222	1502	2868	2148	-	-
	10	1120	1920	-	-	1465	665	2110	1310	2756	1956	3403	2603
	11	1232	2112	-	-	-	-	1998	1118	2644	1764	3291	2411
	12	1344	2304	-	-	-	-	1886	926	2532	1572	3179	2219



Dimension Table 尺寸表

Unit: mm / inch

Model	A	B	C	D	E	F	G	H	I	N	A120°	A180°	J	K	L	M	Air Connection
VS-032	110	45	45	65	22.5	22.5	12	50	25	9	---	---	F03	---	M5x7.5	---	1/8"
	4.33	1.77	1.77	2.56	0.89	0.89	0.47	1.97	0.98	0.35					#10-24UNF		
VS-052	153	72	65	92	30	41.5	14	80	30	11	182	225	F05	F03	M6x10	M5x7.5	1/8" or 1/4"(std.)
	6.03	2.83	2.56	3.62	1.18	1.63	0.55	3.15	1.18	0.43	7.16	8.86			1/4"-20UNC	#10-32UNF	
VS-063	174	88	72	108	36	47	18	80	30	14	216	266	F07	F05	M8x13	M6x10	1/8" or 1/4"(std.)
	6.86	3.46	2.83	4.25	1.42	1.85	0.71	3.15	1.18	0.55	8.50	10.47			5/16"-20UNC	1/4"-20UNC	
VS-075	196	100	81	120	42	53	20	80	30	14	232	282	F07	F05	M8x13	M6x10	1/8" or 1/4"(std.)
	7.72	3.94	3.19	4.72	1.65	2.09	0.79	3.15	1.18	0.55	9.13	11.10			5/16"-20UNC	1/4"-20UNC	
VS-083	208	109	92	129	46	57	21	80	30	17	245	304	F07	F05	M8x13	M6x10	1/8" or 1/4"(std.)
	8.20	4.29	3.62	5.08	1.81	2.24	0.83	3.15	1.18	0.67	9.65	12.0			5/16"-20UNC	1/4"-20UNC	
VS-092	249	117	98	137	50	58.5	22	80	30	17	303	386	F07	F05	M8x13	M6x10	1/8" or 1/4"(std.)
	9.81	4.61	3.86	5.39	1.97	2.30	0.87	3.15	1.18	0.67	12.0	15.2			5/16"-20UNC	1/4"-20UNC	
VS-105	278	133	110	153	58	62	26	80	30	22	330	414	F10	F07	M10x16	M8x13	1/4"
	10.95	5.24	4.33	6.02	2.28	2.44	1.02	3.15	1.18	0.87	13.0	16.3			3/8"-20UNC	5/16"-20UNC	
VS-125	326	155	125.5	175	67.5	75	27.5	80	30	22	392	497	F10	F07	M10x16	M8x13	1/4"
	12.84	6.10	4.94	6.89	2.66	2.95	1.08	3.15	1.18	0.87	15.4	19.6			3/8"-20UNC	5/16"-20UNC	
VS-140	396	173	137.5	193	75	77	32	80	30	27	475	601	F12	F10	M12x20	M10x16	1/4"
	15.60	6.81	5.41	7.60	2.95	3.03	1.26	3.15	1.18	1.06	18.7	23.7			1/2"-20UNC	3/8"-20UNC	
VS-160	457	198	158	218	87	87	34	80	30	27	553	700	F12	F10	M12x20	M10x16	1/4"
	18.01	7.80	6.22	8.58	3.43	3.43	1.34	3.15	1.18	1.06	21.8	27.6			1/2"-20UNC	3/8"-20UNC	
VS-190	538	232	189	262	103	103	40	130	30	36	623	790	F14	---	M16x24	---	1/4"
	21.18	9.13	7.44	10.3	4.06	4.06	1.57	3.15	1.18	1.42	24.5	31.1			5/8"-20UNC		
VS-210	568	257	210	287	113	113	40	130	30	36	662	851	F14	---	M16x24	---	1/4"
	22.36	10.12	8.27	11.30	4.45	4.45	1.57	5.12	1.18	1.42	26.1	33.5			5/8"-20UNC		
VS-240	660	291	245	321	130	130	50	130	30	46	828	1000	F16	---	M20x26	---	1/4" or 3/8"(std.)
	26.0	11.46	9.65	12.64	5.12	5.12	1.97	5.12	1.18	1.81	32.6	39.4			3/4"-20UNC		
VS-270	740	330	273	360	147	147	50	130	30	46	867	1119	F16	---	M20x26	---	1/4" or 1/2"(std.)
	29.13	13.0	10.75	14.17	5.79	5.79	1.97	5.12	1.18	1.81	34.1	44.1			3/4"-20UNC		
VS-300	798	354	290	384	90	173	50	130	30	46			F16	---	M20x26	---	1/2"(std)
	31.42	15.12	11.42	16.3	3.54	6.81	1.97	5.12	1.18	1.81					3/4"-20UNC		

* A120 & A180 are separately represented 120°and 180°operation.(A120 及A180 分别代表120°及180°角行程执行器长度)。
* Dimensions for reference only, subject to change. (上述尺寸仅供参考, 本公司保留改变权力)。

Air Consumption 空气消耗量 - Air Volume Opening & Closing 气缸开向容积及关向容积

型号 Model	Air Volume@opening开向容积 (liter/cu.in)	Air Volume@closinging关向容积 (liter/cu.in)	型号 Model	Air Volume@opening开向容积 (liter/cu.in)	Air Volume@closinging关向容积 (liter/cu.in)
VS-032	0.03	0.04	VS-125	1.20	1.60
	1.71	2.32		73.22	97.62
VS-052	0.09	0.12	VS-140	1.7	2.40
	5.49	7.32		103.72	146.43
VS-063	0.14	0.20	VS-160	2.60	3.70
	8.54	12.20		158.63	225.75
VS-075	0.21	0.30	VS-190	4.2	5.90
	12.81	18.30		256.25	359.98
VS-083	0.29	0.41	VS-210	5.70	8.20
	17.69	25.02		347.77	500.31
VS-092	0.49	0.71	VS-240	9.00	12.80
	29.90	43.32		549.12	780.97
VS-105	0.70	0.99	VS-270	12.60	17.90
	42.71	60.40		768.76	1092.13

The Table of Actuators Weight & Opening Closing Time 气缸重量表,开启及关闭时间

型号 Model	VS-032		VS-052		VS-063		VS-075		VS-083		VS-092		VS-105	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S
Screw stroke adj. for 1° adj. need 行程调节1°所需转数	-----		1/5 turn		1/5 turn		1/5 turn		1/5 turn		1/4 turn		1/4 turn	
Opening time (Sec.) 开启时间(Sec.)	0.03	---	0.2	0.25	0.25	0.3	0.3	0.35	0.4	0.5	0.5	0.6	0.7	0.8
Closing time (Sec.) 关闭时间(Sec.)	0.03	---	0.25	0.3	0.3	0.35	0.4	0.5	0.5	0.6	0.7	0.9	0.9	1.1
Approximate weight (Kg/Lbs) 大约重量(Kg/Lbs)	0.5/1.1	---	1.0/2.2	1.0/2.2	1.6/3.5	1.8/4.0	2.6/5.7	3.1/6.8	3.1/6.8	3.6/7.9	4.9/10.8	5.7/12.5	6.5/14.3	7.7/16.9

型号 Model	VS-125		VS-140		VS-160		VS-190		VS-210		VS-240		VS-270	
	D	S	D	S	D	S	D	S	D	S	D	S	D	S
Screw stroke adj. for 1° adj. need 行程调节1°所需转数	1/4 turn		1/4 turn		1/4 turn		1/3 turn		1/3 turn		1/3 turn		1/3 turn	
Opening time (Sec.) 开启时间(Sec.)	0.9	1.1	1.3	1.5	1.6	1.8	2.2	2.4	2.9	3.4	3.8	4.3	4.5	5.0
Closing time (Sec.) 关闭时间(Sec.)	1.2	1.4	1.6	1.9	1.9	2.2	2.6	3.0	3.8	4.1	4.4	5.0	5.0	5.5
Approximate weight (Kg/Lbs) 大约重量(Kg/Lbs)	9.9/21.8	11/24.2	13.8/30.4	16.3/35.9	19/41.8	24/52.8	28/61.6	34/74.8	37/81.4	45/99	52/114.4	64/140.8	85/187	104/228.8

Order Information 订购选型

Type 气缸型式	Model 型号	Spring Set 弹簧 数量	Seals 密封圈	Options 选用气缸型式
VS-052DA 双动作气缸	032	Blank 空白(双动作气缸)	Blank 空白(双动作气缸)	120(120°气缸)
Double Acting Actuator	052	(Double Acting Actuator)	(standard NBR seals)	120°operation
	063	05		180(180°气缸)
VS-052SR 单动作气缸	075	06	HT= Viton seals 氟橡胶	180°operation
	092	08		
	105	09	LT= HNBR(氢化丁腈橡胶)	
	140	11		
	160	12		
	190			
	210			
	240			
	270			
	300			

Note: The part numbers are represented as the following: Type-Model-Spring Set-Seals-Options
订购选型依照下列编号顺序:型号-气缸形式-弹簧数量-密封圈-选用气缸形式