

# Flo-Tite, Inc.

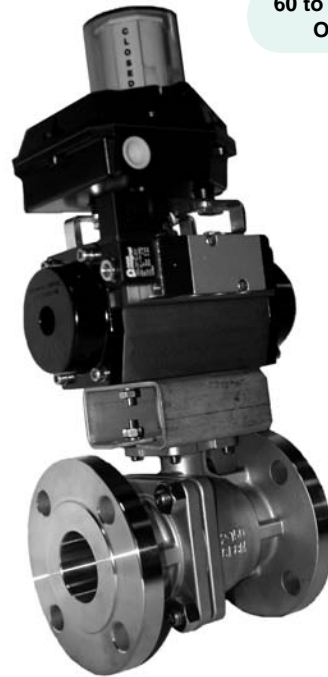
## Valves & Controls

### AIR-CON PNEUMATIC ACTUATORS

## Double Acting and Spring Return Pneumatic Actuators Dual Opposed Rack and Pinion Design



Picture shown with optional high visual travel indicator



60 to 26478 In-Lbs Torque  
Output @ 80 PSIG

picture shown with Full Automation Package

## FEATURES

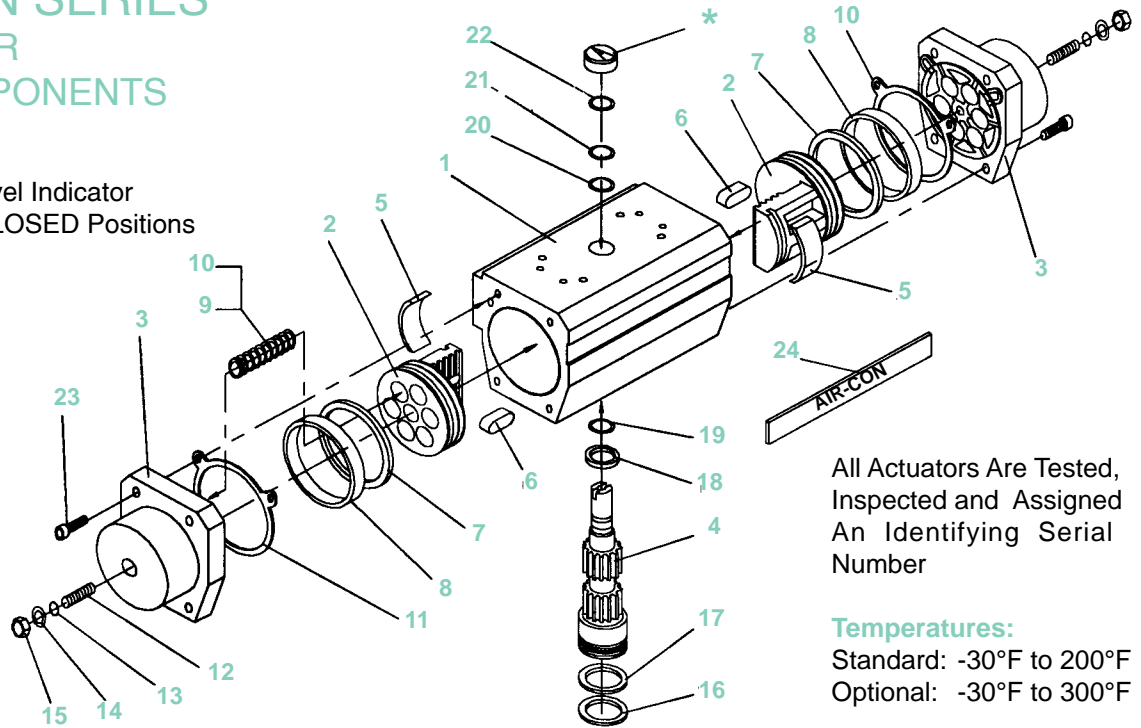
- **Hard Anodized Aluminum Body** with Epoxy coated end caps. Optional: Electroless Nickel
- **ISO 5211 Mounting:** Conform to ISO/NAMUR dimensions for valve and accessory mounting
- **Same Body and End Caps for Double Acting and Spring Return:** Double Acting can be easily converted to spring return by adding pre-loaded spring
- **Extruded Aluminum Body** with polished internal surfaces provides low friction and exact piston fit and high cycle life
- **Pistons Have Low Friction Bearing and Guides** to eliminate metal to metal contact
- **Independent Travel Stop Adjustments of 4 Degrees in Both Directions** at 0 and 90 degrees allow for exact valve alignment in both Open and Closed positions
- **Pinion Manufactured in One Piece Using Nickel-Plated Steel** allowing for added strength and precision alignment. The pinion is blowout proof for safety and can be used as a manual override
- **Epoxy Coated Springs Allow for Greater Safety and Longer Spring Life**
- **Travel Indicator Available for Visual Check of Valve in Both OPEN and CLOSED Positions**

Over Ten Years of Proven Performance

# DESIGN AND TECHNICAL DATA

## AIR-CON SERIES ACTUATOR COMPONENTS

\*Optional  
Visual Travel Indicator  
OPEN - CLOSED Positions



All Actuators Are Tested, Inspected and Assigned An Identifying Serial Number

**Temperatures:**  
Standard: -30°F to 200°F  
Optional: -30°F to 300°F

### BILL OF MATERIALS:

ITEM	NAME	MATERIAL	QTY.	ITEM	NAME	MATERIAL	QTY.
1	BODY	A1 ALLOY ASTM 6063-T6	1	*13	O-RING	NITRILE (NBR)	2
2	PISTON	AL ALLOY ASTM B179	2	14	WASHER	18-8 STAINLESS STEEL	2
3	END COVER	AL ALLOY ASTM B179	2	15	NUT	18-8 STAINLESS STEEL	2
4	PINION	FORGED STEEL ASTM A105	1	*16	PINION BOTTOM O-RING	NITRILE (NBR)	1
5	PISTON PAD	NYLON	2	*17	PINION TOP O-RING	NYLON	1
*6	PISTON PILOT KEY	NYLON	2	18	PINION BOTTOM BEARING	NYLON	1
*7	PISTON O-RING	NITRILE (NBR)	2	19	PINION TOP BEARING	NITRILE (NBR)	1
*8	PISTON BEARING	NYLON	2	*20	THRUST WASHER	NYLON	1
9	SPRING GROUP	ALLOY SPRING STEEL	*	21	WASHER	18-8 STAINLESS STEEL	1
10	SPRING CARTRIDGE	18-8 STAINLESS STEEL	*	22	SNAP RING	SPRING STEEL	1
*11	COVER GASKET	NITRILE (NBR)	2	23	COVER SCREW	18-8 STAINLESS STEEL	8
12	SCREW	18-8 STAINLESS STEEL	2	24	NAME PLATE	ALUMINUM	1

\*Recommended Spare Parts

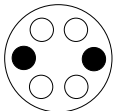
### Modular Design Housing

Both SR and DA models use the same housing. Either unit can easily be converted by adding or removing springs. Our Spring Cartridges provide for complete safety of handling.

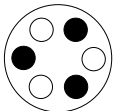
### INSTALLATION OF SPRINGS

Springs Arrangement for Each End of Actuator to Assure Balanced Loading

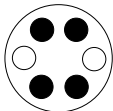
2 Springs



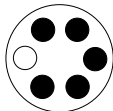
3 Springs



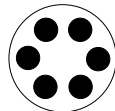
4 Springs



5 Springs



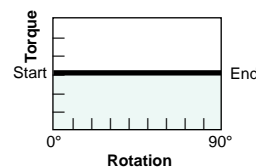
6 Springs



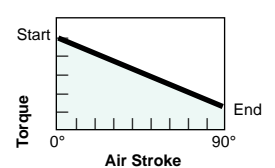
It is also feasible to insert an odd number of springs per side. If by doing so, more efficient actuator sizing can be achieved.

### TORQUE CURVES

DOUBLE ACTNG

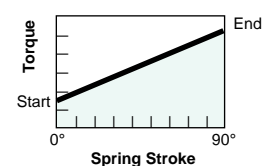


SPRING RETURN



Rotation:  
90° Travel

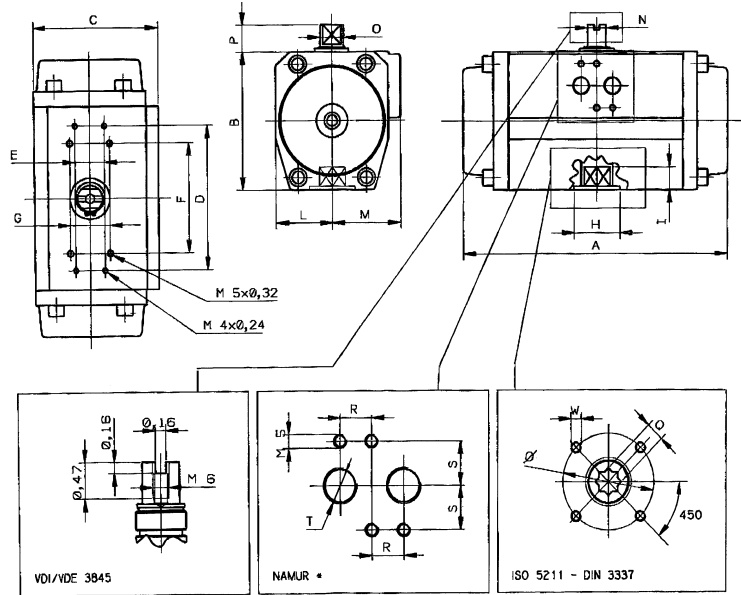
Maximum Working  
Pressure: 150 psig



# DIMENSIONS AND WEIGHTS

## Service Data:

Actuators shall be designed for pneumatic operation up to a maximum pressure of 140° PSIG (10+200°F (+95°C)). Filtered air is recommended but not required. All double acting and spring return units shall be suitable for both on-off and throttling applications. Optional units shall be able to operate with other media such as hydraulic oil or water, consult factory for further information.



	DA032	DA050	DA063	DA075	DA085	DA100	DA115	DA125	DA145	DA160	DA200	DA270
	SR032	SR050	SR063	SR075	SR085	SR100	SR115	SR125	SR145	SR160	SR200	SR270
A	4.61	5.43	6.12	8.27	8.97	11.04	12.2	14.25	15.35	18.19	22.63	26.97
B	1.77	2.63	3.27	3.94	4.33	4.92	5.60	6.10	6.98	7.72	9.45	13.07
C	1.77	2.68	3.38	3.70	4.90	4.72	5.27	5.55	6.41	6.93	8.66	13.86
D	-	-	-	4.13	4.13	4.13	5.47	5.47	5.47	5.47	5.47	-
E	-	-	-	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	-
F	1.97	3.15	3.15	3.15	3.15	3.15	5.12	5.12	5.12	5.12	5.12	5.12
G	0.98	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18	1.18
H		1.18	1.37	1.37	1.57	2.16	2.16	2.95	2.95	2.95	3.94	5.12
I	0.39	0.51	0.63	0.79	0.79	0.98	0.98	1.18	1.18	1.18	1.45	1.97
L	0.88	1.32	1.50	1.67	1.93	2.16	2.50	2.74	3.14	3.46	4.33	6.53
M	0.88	1.63	1.89	2.03	2.16	2.56	2.77	2.81	3.26	3.46	4.33	6.53
T-PORT	1/8"	1/8"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/2"
N	0.31	0.31	0.31	0.55	0.55	0.55	1.06	1.06	1.06	1.06	1.26	1.26
O	0.47	0.47	0.47	0.71	0.71	0.71	1.42	1.42	1.42	1.42	1.65	3.15
P	0.79	0.79	0.79	0.79	0.79	0.79	1.18	1.18	1.18	1.97	1.97	1.97
R	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
S	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	-
DIA	1.42	1.65	1.97	1.97-2.76	1.79-2.76	2.76-4.02	2.76-4.02	2.76-4.02	4.02-4.92	4.02-4.92	5.51	6.5
Q	0.35	0.43	0.55	0.67	0.67	0.87	0.87	1.06	1.06	1.06	1.42	1.81
W*	M5	M5	M6	M6-M8	M6-M8	M8-M10	M8-M10	M8-M10	M10-M12	M10-M12	M16	M20
ISO 5211*	F03	F04	F05	F05-F07	F05-F07	F07-F10	F07-F10	F07-F10	F10-F12	F10-F12	F14	F16
Weight lbs.	0.92	2.64	4.0	7.4	10.7	15.0	23.0	31.5	42.0	55.0	117	249

### AIR CONSUMPTION (cu. ines) AND SPEED (sec.)

ACTUATOR MODEL	Model 032	Model 050	Model 063	Model 075	Model 085	Model 100	Model 115	Model 125	Model 160	Model 200	Model 270										
DA VOLUME		13.4	26.8	36.6	55.5	97.6	87.0	219.7	482.1	854.3	678										
SR VOLUME		7.9	10.4	14.0	20.7	39.7		91.5	195.3	366.1											
Action Speed	Model	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR	DA	SR								
		OPEN	0.5	0.5	0.5	0.6	0.5	0.6	0.5	0.6	0.7	1.0	0.9	1.2	1.0	1.2	1.2	2.0	3.5	4.5	4.5
CLOSE		0.5	0.5	0.6	0.8	0.6	0.1	0.8	1.2	0.8	1.2	1.1	1.6	1.0	2.0	1.5	2.5	4.5	6.0	4.5	6.0

# DESIGN & TECHNICAL DATA

## Torque Rating - Spring Return Air-Con Actuators (Torque in Inch Lbs.)

Model	Springs ea. side	AIR SUPPLY IN PSI														spring start	spring end
		40		50		60		70		80		90		100			
		air start	air end	air start	air end	air start	air end	air start	air end	air start	air end	air start	air end	air start	air end		
SR 050	3	44	24	63	43	82	62	100	80	119	99	138	118	157	137	51	31
	4			53	26	72	45	90	63	109	82	128	101	147	120	68	41
	5					61	28	79	46	98	65	117	84	136	103	85	52
	6							69	29	88	48	107	67	126	86	102	62
SR 063	3	78	43	112	77	145	110	179	144	212	177	245	210	279	244	90	55
	4			93	46	126	79	160	113	193	146	226	179	260	213	121	74
	5					108	49	142	83	175	116	208	149	242	183	151	92
	6							125	55	158	88	191	121	225	155	179	109
SR 075	3	174	86	245	157	317	229	388	300	459	371	530	442	601	513	199	111
	4			208	91	280	163	351	234	422	305	493	376	564	447	265	148
	5					243	96	314	167	385	238	456	309	527	380	332	185
	6							101	347	172	418	243	489	314	398	223	
SR 085	3	267	128	375	236	483	344	592	453	700	561	808	669	917	778	306	167
	4			320	134	428	242	537	351	645	459	753	567	862	676	408	222
	5					372	141	481	250	589	358	697	466	806	575	509	278
	6							426	148	534	256	642	364	751	473	611	333
SR 100	3	410	203	579	372	748	541	917	710	1086	879	1255	1048	1424	1217	472	265
	4			490	215	659	384	828	553	997	722	1166	891	1335	1060	629	354
	5					570	227	739	396	908	565	1077	734	1246	903	786	443
	6							651	239	820	408	989	577	1158	746	943	531
SR 115	3	647	369	925	647	1204	926	1482	1204	1761	1483	2040	1762	2318	2040	746	468
	4			768	398	1047	677	1325	955	1604	1234	1883	1513	2161	1791	995	625
	5					890	428	1168	706	1447	985	1726	1264	2004	1542	1244	782
	6							1011	457	1290	736	1569	1015	1847	1293	1493	939
SR 125	3	903	432	1270	709	1636	1165	2002	1531	2369	1898	2736	2265	3102	2631	1034	563
	4			1082	455	1448	821	1814	1187	2181	1544	2548	1921	2914	2287	1378	751
	5					1259	476	1625	842	1992	1209	2359	1576	2725	1942	1723	940
	6							1436	497	1803	864	2170	1231	2536	1597	2068	1129
SR 145	3	1217	628	1750	1161	2282	1693	2814	2225	3346	2757	3878	3289	4410	3821	1500	911
	4			1447	661	1979	1193	2511	1725	3043	2257	3575	2789	4107	3321	2000	1214
	5					1675	693	2207	1225	2739	1757	3271	2289	3803	2821	2500	1518
	6							1903	725	2435	1257	2967	1789	3499	2321	3000	1822
SR 160	3	1709	913	2430	1634	3151	2355	3871	3075	4592	3796	5313	4517	6034	5238	1970	1174
	4			2038	978	2759	1699	3479	2419	4200	3140	4921	3961	5624	4582	2626	1566
	5					2368	1042	3088	1762	3809	2483	4530	3204	5251	3925	3283	1957
	6							2696	1106	3417	1827	4138	2548	4859	3269	3939	2349
SR 200	3	3261	1653	4312	3004	5964	4356	7315	5707	8667	7059	10019	8411	11370	9762	3753	2145
	4			3896	1753	5248	3105	6599	4456	7951	5808	9303	7160	10654	8511	5004	2861
	5					4534	1854	8558	3205	7237	4557	8589	5909	9940	7260	6255	3575
	6							5171	1954	6523	3306	7875	4658	9226	6009	7506	4289
SR 270	3	6943	5092	10252	8401	13562	11711	16872	15021	20182	18331	23492	21641	26802	24951	8147	6296
	4			8154	5685	11464	8995	14774	12305	18084	15615	21394	18925	24704	22255	10863	8394
	5					9366	6279	12676	9589	15986	12899	19296	16209	22606	19519	13579	10429
	6							10577	6873	13887	10183	17197	13493	20507	16803	16295	12591

## Torque Rating - Double Acting Design

Model	Air Supply in PSI							
	40	50	60	70	80	90	100	120
	Torque Value (in. - lbs.)							
DA 032	30	38	46	53	61	69	76	91
DA 050	75	94	113	131	150	169	188	225
DA 063	133	167	200	234	267	300	334	400
DA 075	285	356	428	499	570	641	712	855
DA 085	434	542	650	759	867	975	1084	1300
DA 100	675	844	1013	1182	1351	1520	1689	2027
DA 115	1115	1393	1672	1950	2229	2508	2786	3344
DA 125	1466	1833	2199	2565	2932	3299	3665	4398
DA 145	2128	2661	3193	3725	4257	4789	5321	6386
DA 160	2883	3604	4325	5045	5766	6487	7208	8649
DA 200	5406	6757	8109	9460	10812	12164	13515	16218
DA 270	13239	16548	19858	23168	26478	29788	33098	39717

This brochure is general in nature and manufacturer reserves the right to alter materials or to make design improvements.