



JFC Series

Namur/ISO Mounted Pneumatic SR and DA Actuators

Features & Benefits

- Extruded aluminum ASTM 6005 body with both internal and external corrosion protection
- Dual piston rack and pinion design for compact construction
- High cycle life and fast operation
- In field reverse rotation
- Multiple bearings and guides on racks and pistons for low friction
- Modular pre-loaded spring cartridge design with coated spring for simple versatile range, greater safety, corrosion resistance, and longer life cycle
- Fully machined teeth on piston and pinion for accurate low backlash rack and pinion engagement
- Stainless steel end cap and travel stop fasteners
- Conformance to ISO 5211, DIN 3337 and Namur or product interchangeability and easy mounting of solenoids, limit switches and other accessories
- Highly visible beacon indicator for 2 and 3 way operation



Ordering Schematic

□
Series
JFC

□
Size
050 160
065 190
075 210
085 250
095 280
110 300
125 350
140

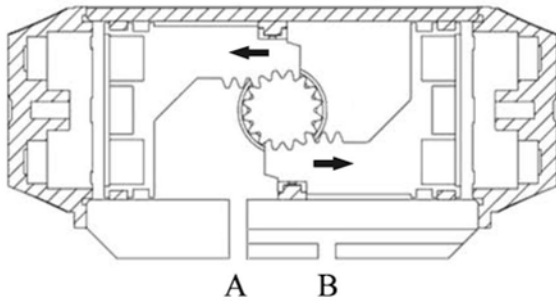
□
Design
DA Double Acting
SR Spring Return



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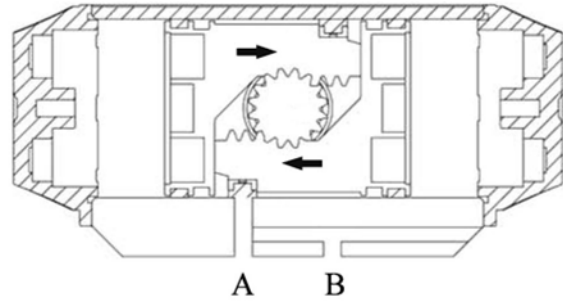
Operating Principle - Standard Rotation

Double Acting



CCW

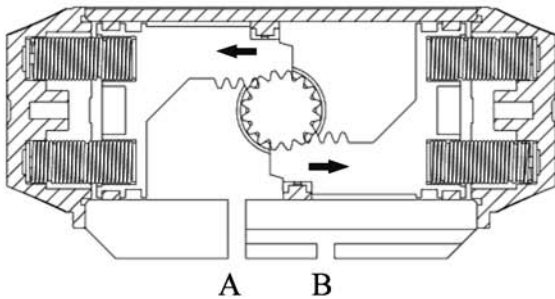
Air to Port A forces the pistons outwards, causing the pinion to turn counter-clockwise while air is being exhausted from Port B.



CW

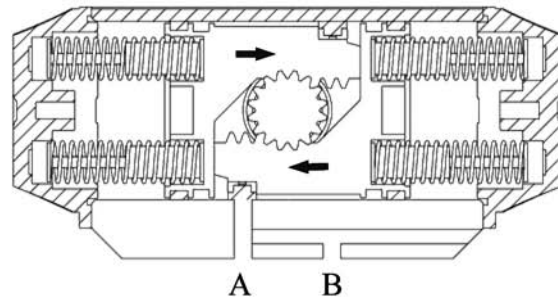
Air to Port B forces the pistons inwards, causing the pinion to turn clockwise while air is being exhausted from Port A.

Spring Return



CCW

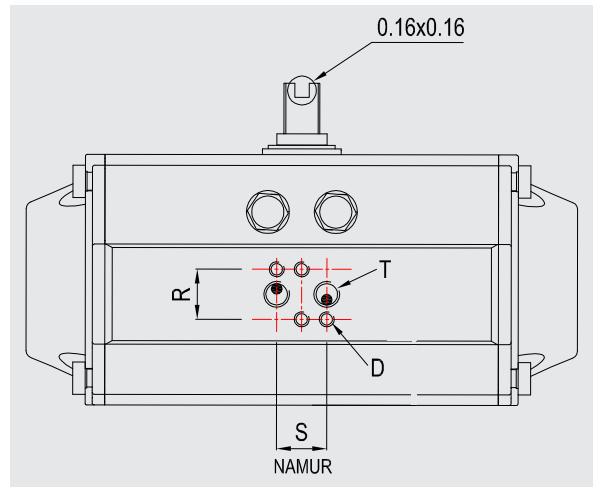
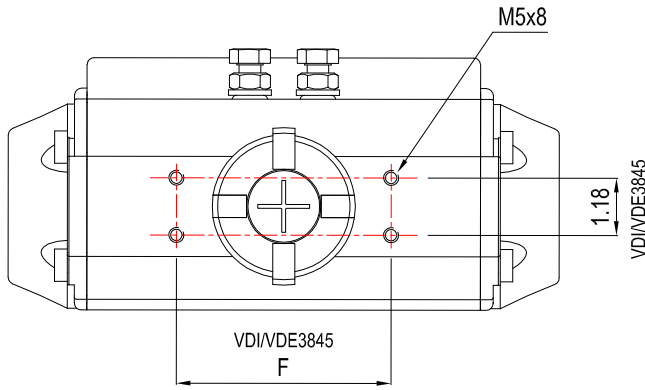
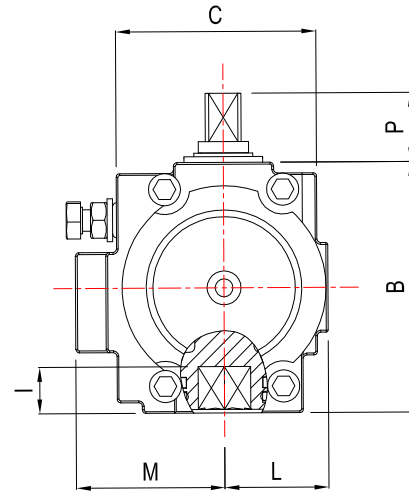
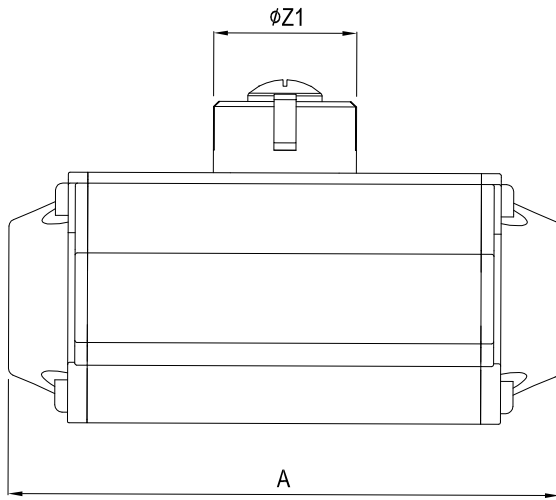
Air to Port A forces the pistons outwards, causing the springs to compress. The pinion turns counter-clockwise while air is being exhausted from Port B.



CW

During loss of air pressure, the stored energy in the spring forces the pistons inwards, the pinion turns clockwise while air is being exhausted from Port A.

Dimensions



Size	A	B	C	D	F	I	L	M	P	R	S	T NPT	Z1	Double Acting			Spring Return		
														t _o	t _c	lbs	t _o	t _c	lbs
050	6.06	2.76	2.32	M5X8	3.15	0.47	1.14	1.63	0.79	1.26	0.94	1/4"	1.57	0.20	0.25	2.53	0.25	0.30	2.79
065	7.44	3.50	2.87	M5X8	3.15	0.63	1.50	2.03	0.79	1.26	0.94	1/4"	1.57	0.25	0.30	3.74	0.30	0.35	4.18
075	8.27	3.94	3.37	M5X8	3.15	0.63	1.71	2.32	0.79	1.26	0.94	1/4"	1.57	0.30	0.40	6.38	0.35	0.50	7.26
085	8.86	4.45	3.78	M5X8	3.15	0.67	1.93	2.50	0.79	1.26	0.94	1/4"	1.57	0.40	0.50	9.02	0.50	0.60	10.34
095	10.39	4.84	4.25	M5X8	3.15	0.75	2.17	2.80	0.79	1.26	0.94	1/4"	1.57	0.50	0.70	12.32	0.60	0.90	14.30
110	11.02	5.35	4.80	M5X8	3.15	0.83	2.44	3.01	0.79	1.26	0.94	1/4"	1.57	0.70	0.90	19.14	0.80	1.10	22.00
125	12.76	6.34	5.45	M5X8	5.12	0.87	2.83	3.35	1.18	1.26	0.94	1/4"	2.28	0.90	1.20	24.20	1.10	1.40	28.60
140	13.62	7.01	6.14	M5X8	5.12	1.06	3.19	3.82	1.18	1.26	0.94	1/4"	2.28	1.20	1.50	33.00	1.40	1.80	39.60
160	16.22	7.87	6.77	M5X8	5.12	1.06	3.54	4.17	1.18	1.26	0.94	1/4"	2.28	1.50	1.80	39.60	1.70	2.10	50.60
190	20.08	9.13	7.91	M6X10	5.12	1.50	3.50	4.41	1.18	1.77	1.57	1/4"	2.28	2.00	2.40	59.40	2.20	2.80	72.60
210	21.65	10.04	8.94	M5X8	5.12	1.50	4.55	4.61	1.18	1.77	1.57	1/4"	3.35	2.70	3.50	77.00	3.20	4.00	96.80
250	26.77	12.01	9.94	M6X10	5.12	1.97	5.51	6.10	1.18	1.77	1.57	1/2"	3.35	3.50	4.10	158.40	3.70	3.90	176.00
280	29.06	12.99	11.97	M6X10	5.12	1.97	5.98	6.57	1.18	1.77	1.57	1/2"	3.35	3.70	4.20	193.60	3.90	4.00	215.60
300	31.97	13.94	12.76	M6X10	5.12	1.97	5.94	6.81	1.18	1.77	1.57	1/2"	3.35	4.00	4.00	242.00	4.00	5.00	275.00
350	34.53	16.14	14.96	M6X10	5.12	1.97	7.28	7.68	1.18	1.77	1.57	1/2"	3.35	8.00	8.00	453.20	6.00	10.00	523.40

t_o = opening time, in seconds

t_c = closing time, in seconds

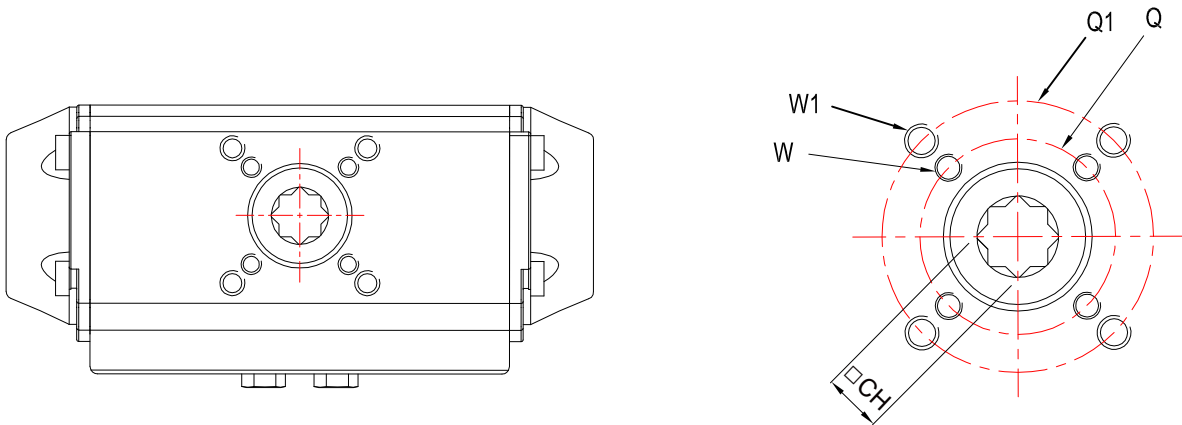
lbs = weight in pounds

* = available on request

The above mentioned operating times are obtained under the following conditions:

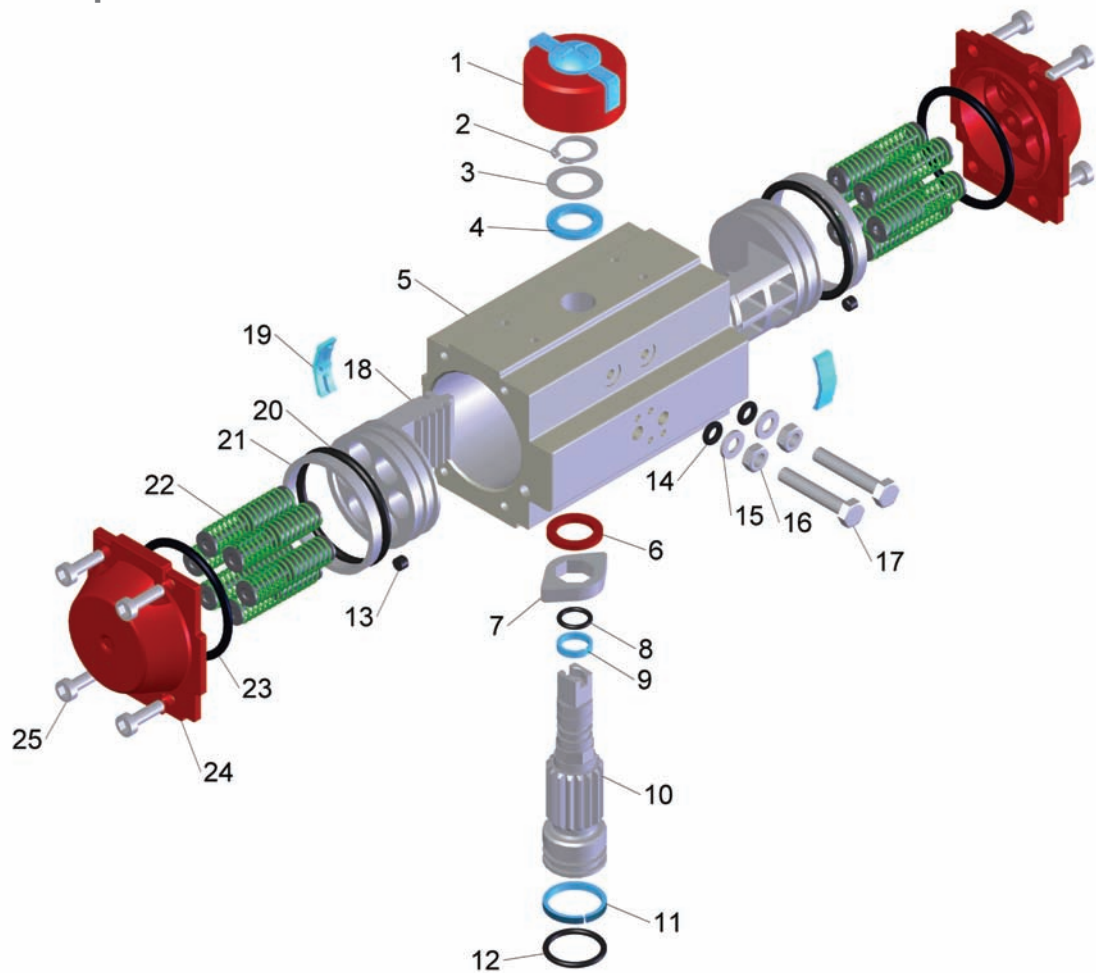
Air supply pressure minimum 80 psi, at room temperature, medium clean air, actuator stroke 90°, actuator without resistance load

Dimensions



Size	ISO 5211	Q1	Q	W	W1	□CH
050	F03/05	1.97	1.42	10-24 UNC	1/4-20 UNC	0.43
065	F05/07	2.76	1.97	1/4-20 UNC	5/16-18 UNC	0.55
075	F05/07	2.76	1.97	1/4-20 UNC	5/16-18 UNC	0.55
085	F05/07	2.76	1.97	1/4-20 UNC	5/16-18 UNC	0.67
095	F07/10	4.02	2.76	5/16-18 UNC	3/8-16 UNC	0.67
110	F07/10	4.02	2.76	5/16-18 UNC	3/8-16 UNC	0.67
125	F07/10	4.02	2.76	5/16-18 UNC	3/8-16 UNC	0.87
140	F10/12	4.92	4.02	3/8-16 UNC	1/2-13 UNC	1.06
160	F10/12	4.92	4.02	3/8-16 UNC	1/2-13 UNC	1.06
190	F10/14	5.51	4.02	1/2-13 UNC	5/8-11 UNC	1.42
210	F10/14	5.51	4.02	3/8-16 UNC	5/8-11 UNC	1.42
250	F16	6.50	-	-	3/4-10 UNC	1.81
280	F16	6.50	-	-	3/4-10 UNC	1.81
300	F16	6.50	-	-	3/4-10 UNC	1.81
350	F25	10.00	-	-	5/8-11 UNC	1.81

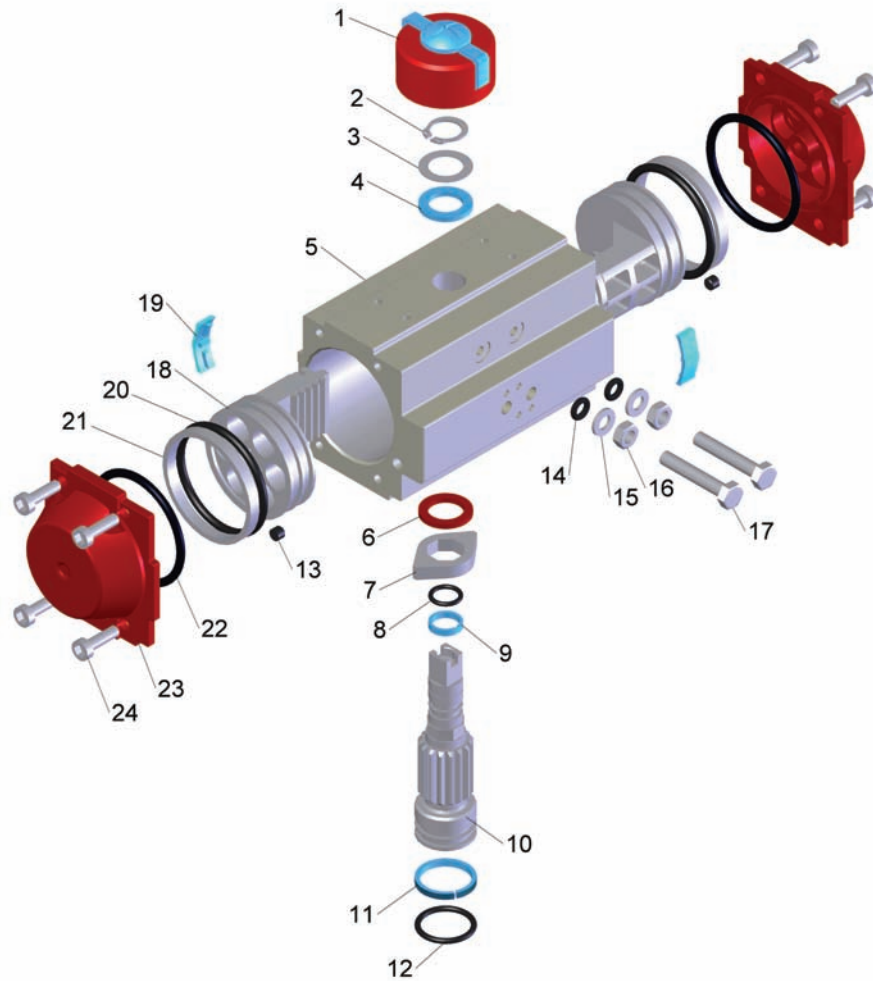
Spring Return Exploded View



Materials of Construction			
No.	Description	Quantity	Standard material
1	Indicator	1	Plastic/Stainless Steel
2	Spring Clip	1	Stainless Steel
3	Thrust Washer	1	Stainless Steel
4	Outside Washer	1	Engineering Plastics
5	Body	1	Extruded Aluminum Alloy
6	Inside Washer	1	Engineering Plastics
7	Cam	1	Stainless Steel
8	O-Ring (Pinion Top)	1	NBR *
9	Bearing (Pinion Top)	1	Engineering Plastics
10	Pinion	1	Alloy Steel
11	Bearing (Pinion Bottom)	1	Engineering Plastics
12	O-Ring (Pinion Bottom)	1	NBR *
13	Plug	2	NBR *
14	O-Ring (Adjusting Screw)	2	NBR *
15	Washer (Adjusting Screw)	2	Stainless Steel
16	Nut (Adjusting Screw)	2	Stainless Steel
17	Adjusting Screw	2	Stainless Steel
18	Piston	2	Cast Aluminum
19	Guide (Piston)	2	Engineering Plastics
20	O-Ring (Piston)	2	NBR *
21	Bearing (Piston)	2	Engineering Plastics
22	Spring	6-12	Spring Steel
23	O-Ring (End Cap)	2	NBR *
24	End Cap	2	Cast Aluminum
25	Cap Screw	8	Stainless Steel

* Available optional material: Viton or Silicone.

Double Acting Exploded View



Materials of Construction			
No.	Description	Quantity	Standard material
1	Indicator	1	Plastic/Stainless Steel
2	Spring Clip	1	Stainless Steel
3	Thrust Washer	1	Stainless Steel
4	Outside Washer	1	Engineering Plastics
5	Body	1	Extruded Aluminum Alloy
6	Inside Washer	1	Engineering Plastics
7	Cam	1	Stainless Steel
8	O-Ring (Pinion Top)	1	NBR *
9	Bearing (Pinion Top)	1	Engineering Plastics
10	Pinion	1	Alloy Steel
11	Bearing (Pinion Bottom)	1	Engineering Plastics
12	O-Ring (Pinion Bottom)	1	NBR *
13	Plug	2	NBR *
14	O-Ring (Adjusting Screw)	2	NBR *
15	Washer (Adjusting Screw)	2	Stainless Steel
16	Nut (Adjusting Screw)	2	Stainless Steel
17	Adjusting Screw	2	Stainless Steel
18	Piston	2	Cast Aluminum
19	Guide (Piston)	2	Engineering Plastics
20	O-Ring (Piston)	2	NBR *
21	Bearing (Piston)	2	Engineering Plastics
22	O-Ring (End Cap)	2	NBR *
23	End Cap	2	Cast Aluminum
24	Cap Screw	8	Stainless Steel

* Available optional material: Viton or Silicone.

Torque Rating

- Spring Return Actuators [lb-in]

Size	Springs per side	Air Supply in psi												Spring [lb-in]	
		45 psi		60 psi		75 psi		80 psi		90 psi		116 psi			
		0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
050	3	52	36	82	65	112	96	126	110	141	125	199	183	51	35
	4			70	49	99	78	114	93	129	107	188	166	69	48
	5					88	61	102	75	117	90	175	149	86	59
	6							90	58	105	73	164	132	104	72
065	3	96	66	149	118	201	170	227	196	252	222	356	326	89	50
	4			129	89	181	140	207	165	233	192	336	296	122	79
	5					161	110	187	136	213	162	317	266	150	118
	6							167	106	194	132	297	236	179	118
075	3	191	125	295	228	397	331	449	382	500	434	706	640	186	118
	4			255	166	358	270	410	321	461	373	667	579	245	157
	5					319	209	371	260	422	312	628	518	306	196
	6							332	198	383	250	589	456	367	235
085	3	291	180	453	342	615	504	696	548	777	666	1097	991	307	195
	4			389	239	550	401	631	482	712	563	1035	885	409	259
	5					485	299	566	380	647	461	974	788	512	325
	6							502	278	582	358	903	681	613	389
095	3	437	288	673	523	912	761	1027	876	1142	991	1611	1460	419	269
	4			582	383	818	610	938	736	1053	854	1522	1328	558	358
	5					728	480	846	597	965	715	1434	1186	697	449
	6							756	458	876	575	1345	1044	836	538
110	3	704	534	1089	826	1469	1204	1655	1398	1850	1584	2611	2345	696	435
	4			938	594	1319	974	1513	1168	1699	1354	2460	2115	929	580
	5					1177	743	1363	929	1558	1124	2319	1885	1159	726
	6							1221	699	1407	894	2168	1478	1389	871
125	3	912	596	1407	1089	1894	1575	2142	1823	2381	2062	3363	3044	876	558
	4			1221	794	1708	1283	1956	1531	2195	1779	3177	2752	1168	743
	5					1522	991	1770	1239	2009	1487	2991	2460	1460	929
	6							1584	947	1823	1195	2805	2168	1752	1115
140	3	1434	938	2204	1708	2974	2478	3354	2867	3744	3248	5283	4788	1372	874
	4			1912	1257	2682	2027	3071	2407	3452	2797	4991	4337	1823	1168
	5					2390	1566	2779	1956	3159	2336	4699	3876	2283	1460
	6							2487	1496	2867	1885	4381	3416	2735	1752
160	3	1823	1248	2823	2257	3832	3257	4328	3761	4832	4257	6841	6284	1761	1195
	4			2425	1664	3434	2673	3929	3168	4434	3673	6443	5691	2354	1593
	5					3036	2080	3540	2584	4036	3089	6045	5089	2938	1982
	6							3142	1991	3637	2496	5646	4505	3531	2381
190	3	2628	1708	4115	3204	5611	4691	6354	5434					2761	1850
	4			3505	2274	4991	3770	5735	4514	6487	5257			3690	2460
	5					4381	2841	5124	3593	5868	4337	8850	7319	4611	3080
	6							4505	2664	5257	3416	8239	6399	5531	3690
210	3	3726	3416	5806	4602	7868	6682	8912	7708					3682	2487
	4			4974	3381	7036	5452	8080	6487	9116	7514			4903	3310
	5					6213	4221	7257	5257	8284	6292	12434	10434	6133	4142
	6							6425	4027	7461	5062	11602	9213	7363	4965
250	3	6230	4354	9708	7823	13178	11310	14921	13045					6089	4213
	4			8301	5806	11779	9275	13523	11018	15266	12753			8115	5620
	5					10381	7257	12125	8983	13850	10726	20815	17691	10142	7018
	6							10717	6965	12452	8700	19408	15656	12178	8425
280	3	9177	6053	14496	11337	19727	16603	22364	19249					9779	6664
	4			12231	8071	17514	13346	20151	15983	22780	18629			13036	8885
	5					15293	10089	17930	12726	20567	15364	31125	25931	16302	11107
	6							15709	9470	18346	12107	28904	22656	19559	13319
300	3	12629	9611	19744	16727	26860	23842	30409	27391					11735	8717
	4			16833	12815	23948	19936	27506	23488	31064	27037			15647	11620
	5					21045	16019	24594	19576	28161	23125			19559	14523
	6							21700	15656	25258	19222			23461	17435
350	3	17426	11921	27019	21523	36621	31125							16868	11372
	4			23231	15895	32825	25497	37621	30294	42436	35099			22497	15160
	5			19443	10275	29037	19877	33834	24665	38639	29471	57835	48675	28116	18948
	6					25249	14249	30046	19045	34851	23851	54047	43046	33745	22745

Torque Rating

- Double Acting Actuators [lb-in]

Size	Air Supply in psi					
	45 psi	60 psi	75 psi	80 psi	90 psi	116 psi
032	32	42	53	58	64	85
050	89	118	147	162	176	235
065	156	208	259	285	312	415
075	309	412	515	566	618	824
085	486	648	810	894	974	1292
095	706	938	1177	1292	1416	1885
110	1142	1522	1903	2106	2283	3044
125	1469	1965	2451	2699	2938	3921
140	2310	3080	3850	4230	4620	6160
160	3009	4018	5018	5522	6027	8036
190	3018	6390	7098	8160	9585	12779
210	6018	8027	10036	11036	12213	16054
250	10664	14222	17780	19559	21329	28444
280	15833	20957	26400	29028	31665	42232
300	21382	19656	35639	39197	42763	57012
350	28798	38391	47994	52790	57569	76791



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