



Pneumatic Actuator

Spring Return • Double Acting Rotary



Alpha Series Actuators

Drawing, dimensions and torques on next two pages

Description

The Jomar Alpha Series rotary pneumatic actuators are designed for use with quarter-turn ball, butterfly and plug valves as well as damper applications. The Alpha Series actuator incorporates the latest technology in design and engineering. It is designed for high-cycle applications and can be utilized in hazardous and corrosive environments.

Features

- Hard anodized extruded aluminum body construction with both internal and external corrosion protection, having precision honed cylinder surfaces for longer life and low coefficient of friction
- Dual rack and piston design with multiple bearings and guides resulting in low friction and high cycle life, including blow-out proof output shaft design
- Modular type, epoxy coated spring design offers a

wide torque range, greater safety, corrosion resistance and an extended life cycle

- Precisely machined pistons and pinions to provide for extremely precise rack and pinion engagement resulting in greater efficiency
- Completely O-ring sealed to prevent outside contamination
- Stainless steel fasteners for long term corrosion resistance
- Manufactured to fully conform to ISO5211 and DIN3337
- Namur interface mounting of solenoid valves, limit switches and positioners
- Travel stops are standard on all models
- Manufactured with silicone-free lubricants
- Torque ranges - Double Acting: up to 388,762 in/lb; Spring Return: up to 257,836 in/lb
- 180° Actuators are also available from stock

Model	Double Acting Supply Pressure - PSI			
	40	60	80	100
50	90	135	180	225
60	183	274	365	457
70	284	426	567	709
80	416	625	833	1041
90	585	878	1170	1483
100	785	1177	1589	1961
120	1351	2026	2702	3377
140	1695	2542	3389	4236
160	2767	4150	5533	6917
190	4552	6827	9103	11379
200	5719	8579	11438	14298
240	1132	15197	20263	25329
270	12709	19064	25418	31773
300	17832	26747	35663	44579
350	27282	40923	54563	68204

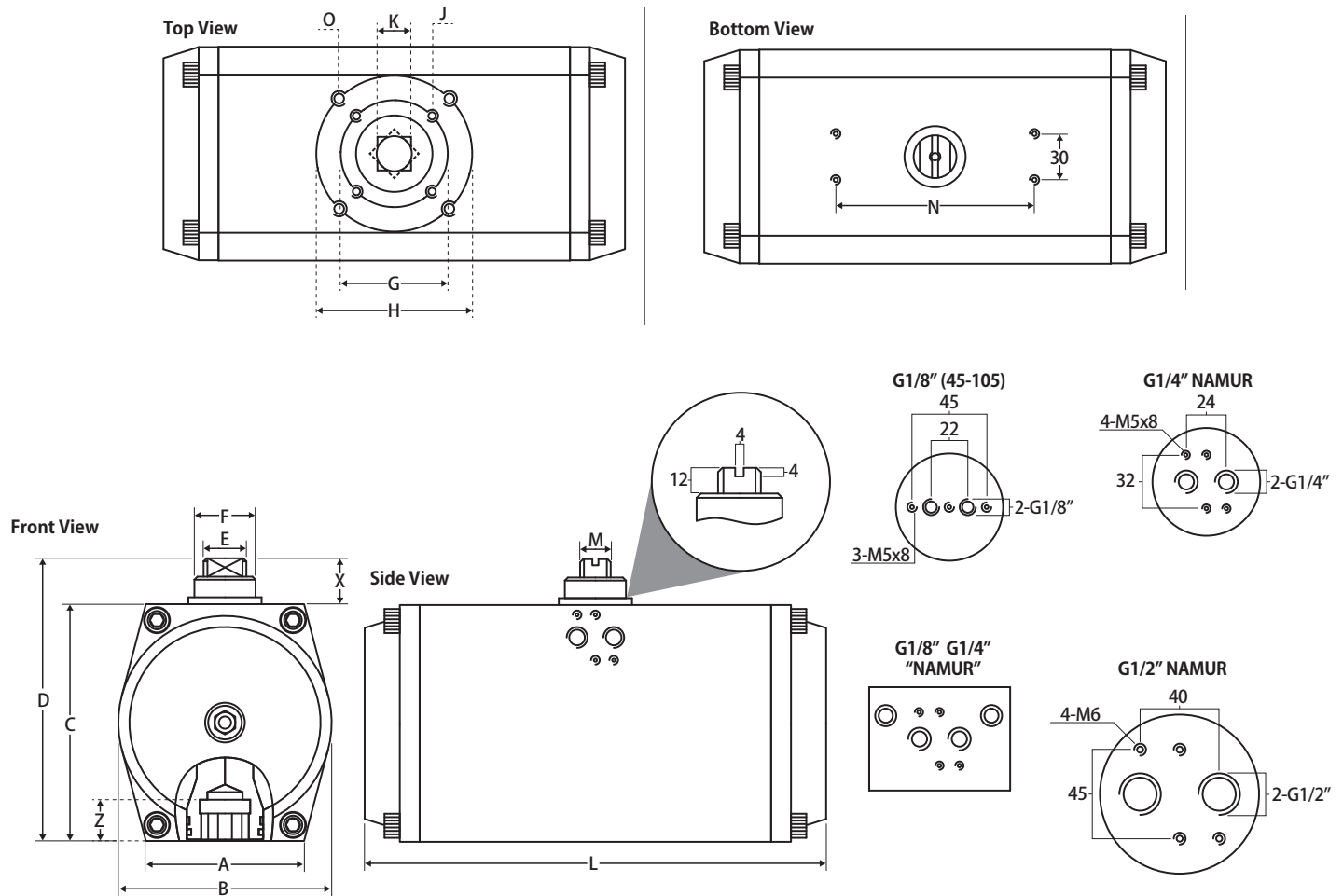
Model	SQ	ISO	Spring Start		Spring End	
			Max	11 Springs Per Actuator Figured Below	Max	11 Springs Per Actuator Figured Below
50	0.43	F03/05	109	71		
60	0.55	F05/07	221	144		
70	0.55	F05/07	344	223		
80	0.67	F05/07	505	328		
90	0.67	F05/07	709	461		
100	0.87	F07/10	951	618		
120	0.87	F07/10	1638	1064		
140	1.06	F10/12	2054	1335		
160	1.06	F10/12	3354	2179		
190	1.42	F14	5518	3585		
200	1.42	F14	6934	4504		
240	1.81	F16	12284	7979		
270	1.81	F16	15409	10009		
300	1.81	F16	21620	14043		
350	1.81	F16	21724	23523		



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continued



Dimensions

Model	A	B	C	D	E	F	G	H	I	K	L	M	N	O	Z	Air Connection	Air Consumption Unit: in3	X
50	1.97	2.32	2.92	3.70	.47	.55	Φ1.42	Φ1.97	#10-32UNF	.43	5.75	.39	3.15	1/4"-20UNC	.55	1/4"	15.25	.787
60	2.36	2.83	3.45	4.25	.47	.71	Φ1.97	Φ2.75	1/4"-20UNC	.55	6.61	.39	3.15	5/16"-18UNC	.71	1/4"	26.85	.787
70	2.56	3.27	3.93	4.75	.47	.71	Φ1.97	Φ2.75	1/4"-20UNC	.55	7.24	.39	3.15	5/16"-18UNC	.71	1/4"	42.11	.787
80	2.64	3.54	4.30	5.10	.55	.71	Φ1.97	Φ2.75	1/4"-20UNC	.67	8.03	.39	3.15	5/16"-18UNC	.83	1/4"	60.41	.787
90	2.99	4.09	4.72	5.55	.71	.98	Φ1.97	Φ2.75	1/4"-20UNC	.67	10.24	.55	3.15	5/16"-18UNC	.83	1/4"	96.42	.787
100	3.54	4.53	5.23	6.11	.79	.98	Φ2.75	Φ4.02	5/16"-18UNC	.87	10.55	.55	3.15	3/8"-16UNC	1.02	1/4"	134.25	.787
120	4.09	5.51	6.09	6.81	1.10	1.57	Φ2.75	Φ4.02	5/16"-18UNC	.87	11.73	.79	5.12	3/8"-16UNC	1.02	1/4"	210.53	.787
140	4.21	5.98	6.75	7.43	1.10	1.57	Φ4.02	Φ4.92	3/8"-16UNC	1.06	15.35	.79	5.12	1/2"-13UNC	1.22	1/4"	356.99	.787
160	5.04	6.92	7.76	8.94	1.42	1.57	Φ4.02	Φ4.92	3/8"-16UNC	1.06	18.03	1.10	5.12	1/2"-13UNC	1.22	1/4"	548.60	1.18
190	5.31	8.11	9.00	10.25	1.77	2.36	-	Φ5.51	-	1.42	20.67	1.26	5.12	5/8"-11UNC	1.57	1/4"	875.08	1.18
210	5.31	8.90	10.04	11.22	1.77	2.36	-	Φ5.51	-	1.42	20.94	1.26	5.12	5/8"-11UNC	1.57	1/4"	1084.39	1.18
240	6.10	10.08	11.33	12.48	1.77	2.36	-	Φ6.50	-	1.81	23.70	1.26	5.12	3/4"-10UNC	1.97	1/4"	1585.40	1.18
270	7.48	11.57	12.60	13.78	1.77	2.36	-	Φ6.50	-	1.81	28.43	1.26	5.12	3/4"-10UNC	1.97	1/2"	2498.92	1.18
300	7.72	12.75	13.70	14.88	1.77	2.36	-	Φ6.50	-	1.81	29.21	1.26	5.12	3/4"-10UNC	2.36	1/2"	3393.53	1.18
350	8.66	14.96	15.83	17.00	1.77	2.36	-	Φ6.50	-	1.81	33.86	1.26	5.12	3/4"-10UNC	2.36	1/2"	5163.22	1.18



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continued

SPRING RETURN OUTPUT TORQUE (IN/LB)

AS Size	Spring No	40 PSI		60 PSI		80 PSI		100 PSI		Spring Torque	
		Air Start	Air End	Air Start	Air End	Air Start	Air End	Air Start	Air End	Spring 90	Spring End 0
50	6	51	33	96	78	141	123	186	168	57	39
	7	45	23	90	68	135	113	180	158	67	45
	8			83	58	128	103	173	148	77	52
	9			77	49	122	94	167	139	86	58
	10					116	84	161	129	96	64
	11					109	75	154	120	105	71
12								148	110	115	77
60	6	105	67	196	158	287	249	379	341	116	78
	7	91	47	182	138	273	229	365	321	136	92
	8			169	119	260	210	352	302	155	105
	9			156	99	247	190	339	282	175	118
	10					234	171	326	263	194	131
	11					221	152	313	244	213	144
12							300	224	233	157	
70	6	162	103	314	245	445	386	587	528	181	122
	7	142	73	294	215	425	356	567	498	211	142
	8			274	185	405	326	547	468	241	162
	9			253	155	384	296	526	438	271	183
	10					364	266	506	408	301	203
	11					344	236	486	378	331	223
12							465	347	362	244	
80	6	237	151	446	360	654	568	862	776	265	179
	7	207	106	416	315	624	523	832	731	310	209
	8			386	271	594	479	802	687	354	239
	9			357	227	565	435	773	643	398	268
	10					535	391	743	599	442	298
	11					505	347	713	555	486	328
12							683	510	531	358	
90	6	334	212	627	505	919	797	1212	1090	373	251
	7	292	150	585	443	877	735	1170	1028	435	293
	8			543	381	835	673	1128	966	497	335
	9			501	319	793	611	1086	904	559	377
	10					751	549	1044	842	621	419
	11					709	486	1002	779	684	461
12							960	717	746	503	
100	6	448	285	840	677	1232	1069	1624	1461	500	337
	7	392	202	784	594	1176	986	1568	1378	583	393
	8			728	510	1120	902	1512	1294	667	449
	9			671	427	1063	819	1455	1211	750	506
	10			615	344	1007	736	1399	1128	833	562
	11					951	652	1343	1044	917	618
12							1287	961	1000	674	
120	6	771	490	1446	1165	2122	1841	2797	2516	861	580
	7	674	347	1349	1022	2025	1698	2700	2373	1004	677
	8			1252	878	1928	1554	2603	2229	1148	774
	9			1156	735	1832	1411	2507	2086	1291	870
	10					1735	1267	2410	1942	1435	967
	11					1638	1124	2313	1799	1578	1064
12							2216	1656	1721	1161	

SPRING RETURN OUTPUT TORQUE (IN/LB)

AS Size	Spring No	40 PSI		60 PSI		80 PSI		100 PSI		Spring Torque	
		Air Start	Air End	Air Start	Air End	Air Start	Air End	Air Start	Air End	Spring 90	Spring End 0
140	6	967	615	1814	1462	2661	2309	3508	3156	1080	728
	7	846	435	1693	1282	2540	2129	3387	2976	1260	849
	8			1571	1102	2418	1949	3265	2796	1440	971
	9			1450	922	2297	1769	3144	2616	1620	1092
	10					2176	1589	3023	2436	1800	1213
	11					2054	1410	2901	2257	1979	1335
12							2780	2077	2159	1456	
160	6	1579	1004	2962	2387	4345	3770	5729	5154	1763	1188
	7	1380	710	2763	2093	4146	3476	5530	4860	2057	1387
	8			2565	1800	3948	3183	5332	4567	2350	1585
	9			2367	1506	3750	2889	5134	4273	2644	1783
	10					3552	2595	4936	3979	2938	1981
	11					3354	2301	4738	3685	3232	2179
12							4540	3391	3526	2377	
190	6	2597	1652	4872	3927	7148	6203	9424	8479	2900	1955
	7	2271	1169	4546	3444	6822	5720	9098	7996	3383	2281
	8			4220	2960	6496	5236	8772	7512	3867	2607
	9			3894	2477	6170	4753	8446	7029	4350	2933
	10					5844	4269	8120	6545	4834	3259
	11					5518	3786	7794	6062	5317	3585
12							7469	5579	5800	3910	
200	6	3262	2075	6122	4935	8981	7794	11841	10654	3644	2457
	7	2853	1468	5713	4328	8572	7187	11432	10047	4251	2866
	8			5303	3720	8162	6579	11022	9439	4859	3276
	9			4894	3113	7753	5972	10613	8832	5466	3685
	10					7343	5365	10203	8225	6073	4095
	11					6934	4757	9794	7617	6681	4504
12							9385	7010	7288	4913	
240	6	5780	3676	10845	8741	15911	13807	20977	18873	6456	4352
	7	5054	2601	10119	7666	15185	12732	20251	17798	7531	5078
	8			9394	6590	14460	11656	19526	16722	8607	5803
	9			8669	5514	13735	10580	18801	15646	9683	6528
	10					13009	9504	18075	14570	10759	7254
	11					12284	8428	17350	13494	11835	7979
12							16625	12418	12911	8704	
270	6	7250	4611	13605	10966	19959	17320	26314	23675	8098	5459
	7	6340	3262	12695	9617	19049	15971	25404	22326	9447	6369
	8			11785	8267	18139	14621	24494	20976	10797	7279
	9			10875	6917	17229	13271	23584	19626	12147	8189
	10					16319	11922	22674	18277	13496	9099
	11					15409	10572	21764	16927	14846	10009
12							20854	15577	16196	10919	
300	6	10172	6470	19087	15385	28003	24301	36919	33217	11362	7660
	7	8896	4577	17811	13492	26727	22408	35643	31324	13255	8936
	8			16534	11598	25450	20514	34366	29430	15149	10213
	9			15257	9704	24173	18620	33089	27536	17043	11490
	10					22897	16727	31813	25643	18936	12766
	11					21620	14833	30536	23749	20830	14043
12							29259	21856	22723	15320	