

# Pneumatic Actuators

## Specifications

**Series 79 P:Type:** Double Piston, Double Rack and Pinion

**Bodies:** Aluminum, Glass-filled Polyamide, and 316 ss

**Torque:** 59 to 40,710 in-lbs.  
Models– Air-to-Air  
Spring Return (Fail Open)  
Spring Return (Fail Closed)

**Air Supply:** 60psi – 120psi

**Air Connections:** 1/4" NPT

**Mounting Dim.:** ISO and NAMUR



**Series 79P (Aluminum)**



**Series 79P (Glass-filled Polyamide)  
with solenoid valve**



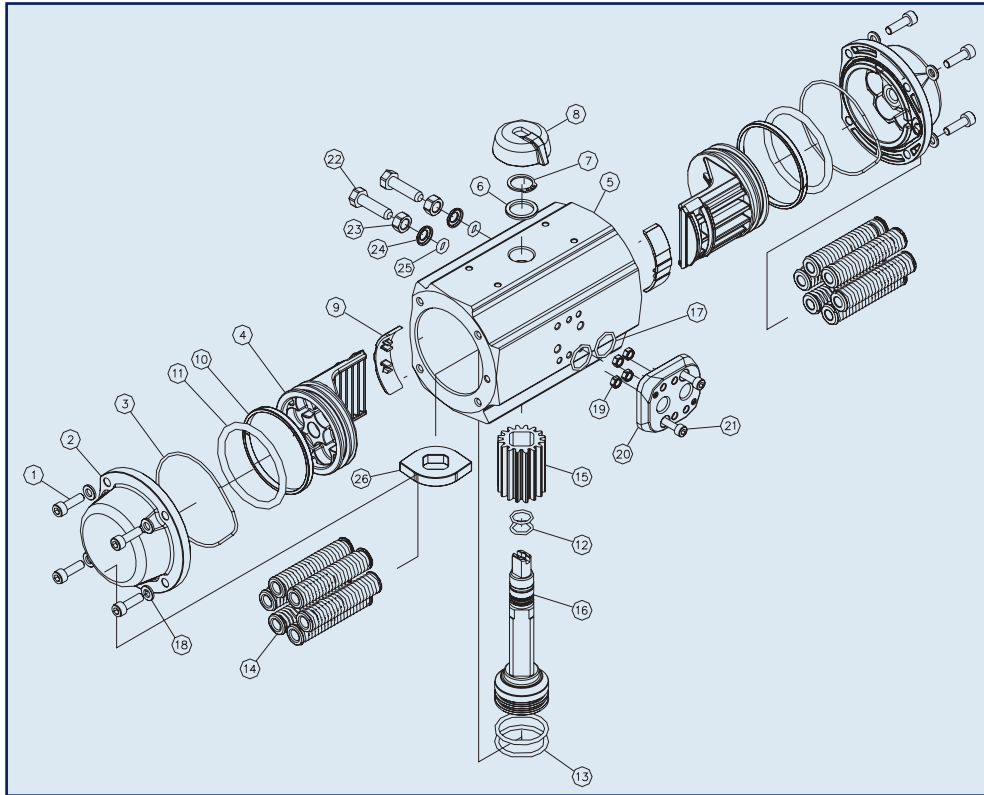
**Series 79P (316 Stainless Steel)**

## Standard Features

- Actuator body and end caps constructed of glass-filled polyamide (PAG), aluminum encompassed in a two-part cathaphoresis and Rilsan finish, or 316 stainless steel
- Double piston, double rack and pinion
- ISO valve mounting pattern
- ISO Female star output drive
- NAMUR accessory mounting pattern
- 80psi (recommended) to 120psi (maximum) filtered air supply
- Spring return models have cathaphoresis coating, or chromium passivation for spring protection
- Available in air-to-air (double acting) and air-to-spring (single acting, or spring return fail safe) models
- Position indication through visible indicator knob
- Actuator shaft constructed of cathaphoresis coated steel or stainless steel with double O-ring seals top and bottom
- End position adjustable travel stops (aluminum and 316 stainless steel models only)
- Polyacetal or PTFE/bronze piston guides
- Self-lubricating BUNA-N O-ring seals
- -25° F – 195° F temperature range
- 1/4" NPT air connections

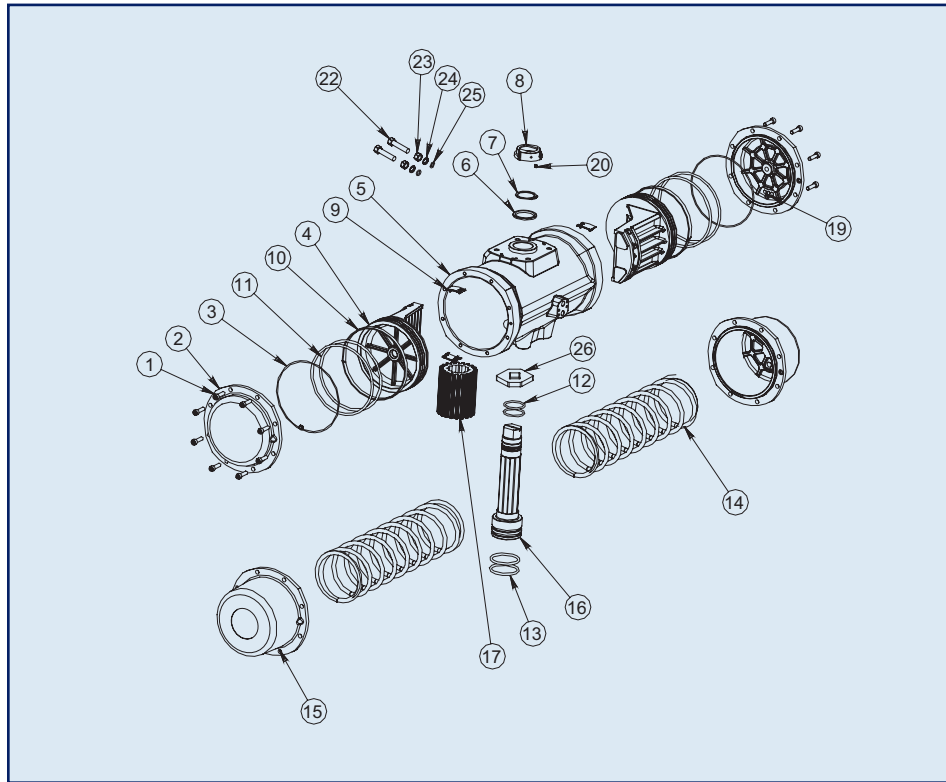
## Options

- Sizing for low air supply pressure (60psi)
- Direct mount NAMUR solenoids in various type and voltage ratings (solenoids piped in a closed loop design)
- NAMUR double limit switches in various type and voltage ratings
- NAMUR pneumatic positioners (3-15psi)
- NAMUR electro-pneumatic positioners (4-20mA)
- Limit switch or transmitter available for positioners
- Bus systems



**Parts List (Typical PA Series Actuator)**

PARTS		
NO.	DESCRIPTION	MATERIAL
1	End Cap Bolt	304 Stainless Steel
2	End Cap	Cataphoresis & Polyurethane Coated Aluminum Alloy
3	End Cap O-Ring	NBR
4	Piston	Cataphoresis Coated Aluminum Alloy
5	Actuator Body	Cataphoresis & Rilsan Coated Aluminum Alloy
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Nickel PTFE Coated Steel
8	Position Indicator	Polyamide
9	Piston Guide	Polyacetal
10	Guide Ring	Polyacetal
11	Piston O-Ring	NBR
12	Upper Shaft O-Ring	NBR
13	Lower Shaft O-Ring	NBR
14	Spring Set	DIN - 17223 - C with Chromium Passivation
15	Pinion Gear	Aluminum Alloy
16	Shaft	Cataphoresis Coated Steel
17	Air Connection Plate O-Ring	NBR
18	End Cap Washer	304 Stainless Steel
19	Nut for Air Connection Plate	304 Stainless Steel
20	Air Connection Plate	Polyamide GF
21	Bolt for Air Connection Plate	304 Stainless Steel
22	Adjustment Bolt	Steel
23	Adjustment Locknut	304 Stainless Steel
24	Bushing	304 Stainless Steel
25	Travel Stop O-Ring	NBR
26	Travel Stop Cam	Cataphoresis Coated Steel



**Parts List (Typical P Series Actuator)**

PARTS		
NO.	DESCRIPTION	MATERIAL
1	End Cap Bolt	304 Stainless Steel
2	Double Acting End Cap	Cataphoresis & Polyurethane Coated Aluminum Alloy
3	End Cap O-Ring	NBR
4	Piston	Cataphoresis Coated Aluminum Alloy
5	Actuator Body	Cataphoresis & Rilsan Coated Aluminum Alloy
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Nickel PTFE Coated Steel
8	Position Indicator	Polyamide
9	Piston Guide	Polyacetal
10	Guide Ring	Polyacetal
11	Piston O-Ring	NBR
12	Upper Shaft O-Ring	NBR
13	Lower Shaft O-Ring	NBR
14	Spring Set	DIN - 17223 - C with Chromium Passivation
15	Spring Return End Cap	Aluminum Alloy
16	Shaft	Cataphoresis Coated Steel
17	Pinion Gear	NBR
19	End Cap Gasket	
22	Adjustment Bolt	Steel
23	Adjustment Locknut*	304 Stainless Steel
24	Bushing*	304 Stainless Steel
25	Travel Stop O-Ring*	NBR
26	Cam*	Cataphoresis Coated Steel

\*Optional at time of order.

## Torque Air-to-Air (Inch-Pounds)

Model	Supply Pressure (psi)				
	40	60	80	100	120
A79PA	70	100	137	175	203
B79PA	103	142	201	261	300
B579PA	208	286	401	517	594
C79PA	291	404	575	741	853
C579PA	489	669	940	1212	1393
D79PA	688	947	1336	1724	1982
D579PA	1240	1682	2344	3008	3486
E79PA	2005	2720	3794	4868	5584
F79P	5155	6917	9558	12204	13965
G79P	8832	11983	16718	21452	24603
L79PA	14496	19868	27922	35975	41347
M79PA	21143	28966	40710	52454	60286

## Cycle Time (Seconds)

Model	Air to Air		Air to Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
A79PA	0.10	0.10	0.15	0.15
B79PA	0.15	0.15	0.20	0.20
B579PA	0.20	0.20	0.25	0.25
C79PA	0.25	0.25	0.30	0.30
C579PA	0.30	0.30	0.40	0.40
D79PA	0.40	0.40	0.50	0.50
D579PA	0.50	0.50	0.80	0.80
E79PA	1.20	1.20	2.00	1.20
F79P	1.20	1.20	2.00	2.00
G79P	3.00	3.00	6.00	5.00
L79PA	4.00	4.00	11.00	8.00
M79PA	4.00	4.00	8.00	6.00

## Air Consumption (Cubic Inches)

Model	Air to Air		Air to Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
A79PA	4.58	6.71	4.58	-
B79PA	9.15	10.98	9.15	-
B579PA	17.09	22.58	17.09	-
C79PA	21.36	27.46	21.36	-
C579PA	39.66	50.04	39.66	-
D79PA	48.82	70.17	48.82	-
D579PA	91.53	123.26	91.53	-
E79PA	125.09	183.06	125.09	-
F79P	323.41	323.41	323.41	-
G79P	640.71	427.14	640.71	-
L79PA	1189.89	1263.11	1189.89	-
M79PA	1891.62	1830.60	1891.62	-

## Weight (lbs.)

Model	Air to Air	Air to Spring
A79PA	2.03	2.20
B79PA	3.09	3.53
B579PA	5.66	6.48
C79PA	6.79	7.67
C579PA	9.26	11.11
D79PA	12.36	14.61
D579PA	20.50	24.91
E79PA	25.57	33.72
F79P	38.79	80.23
G79P	67.66	128.71
L79PA	106.45	183.37
M79PA	171.69	260.51

# Pneumatic Actuators

# P/PA Series

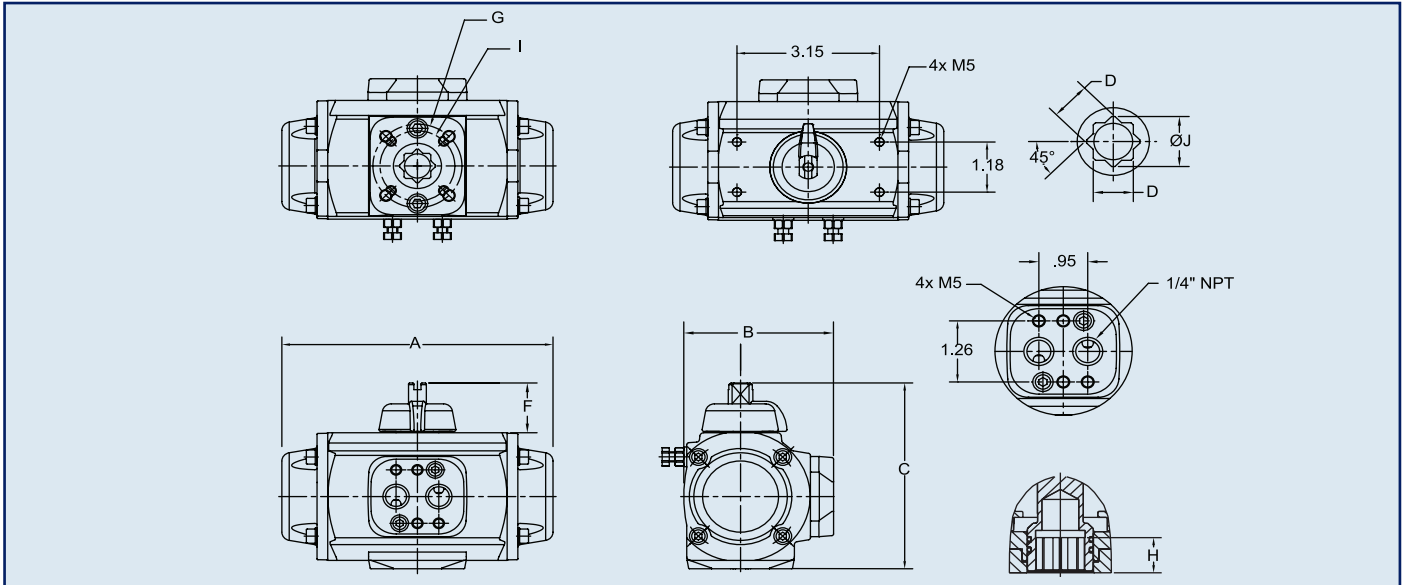
## Torque Air-to-Spring (Inch-Pounds)

Model	Spring Set	40 psi		60 psi		80 psi		100 psi		120 psi		Spring Torque	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
A79PAS	2	48	34	79	65	116	102	-	-	-	-	35	21
	3	38	21	68	51	105	88	143	126	-	-	48	39
	4	29	8	59	38	96	75	134	113	162	141	62	40
	5	-	-	48	25	86	62	124	100	151	127	75	51
	6*	-	-	-	-	78	48	116	86	143	114	88	59
B79PAS	2	70	51	110	91	169	150	-	-	-	-	51	32
	3	51	27	91	67	150	125	210	186	-	-	75	51
	4	-	-	75	44	133	102	194	163	233	202	98	67
	5	-	-	59	20	117	78	178	139	217	178	122	83
	6*	-	-	-	-	102	55	163	115	202	154	146	98
B579PAS	2	139	100	217	178	332	293	-	-	-	-	108	69
	3	108	46	186	124	301	239	417	354	-	-	162	100
	4	85	15	163	93	278	208	394	324	471	401	193	123
	5	-	-	132	47	247	162	363	277	440	355	239	154
	6*	-	-	-	-	216	123	332	239	409	316	278	185
C79PAS	2	200	156	312	269	484	441	-	-	-	-	134	91
	3	155	89	267	201	439	373	604	539	-	-	202	136
	4	109	22	222	134	394	306	559	471	672	584	269	181
	5	-	-	176	67	347	239	513	404	625	517	336	227
	6*	-	-	-	-	302	171	468	337	580	450	403	272
C579PAS	2	344	278	525	458	795	729	-	-	-	-	210	144
	3	271	172	452	353	723	624	995	895	-	-	316	216
	4	199	66	379	247	650	518	922	789	1,104	971	422	289
	5	-	-	307	141	578	412	849	684	1,031	865	527	362
	6*	-	-	-	-	506	307	778	579	959	760	632	433
D79PAS	2	494	378	753	638	1,143	1,027	-	-	-	-	309	194
	3	396	225	655	484	743	1,045	1,433	1,261	-	-	463	291
	4	299	70	558	329	588	948	1,336	1,106	1,594	1,365	617	388
	5	-	-	462	175	851	564	1,239	952	1,497	1,211	772	485
	6*	-	-	-	-	754	410	1,142	797	1,400	1,056	926	582
D579PAS	2	887	703	1,330	1,146	1,992	1,808	-	-	-	-	536	352
	3	711	435	1,154	878	1,816	1,540	2,480	2,204	-	-	804	528
	4	535	167	978	610	1,640	1,272	2,304	1,936	2,782	2,414	1,072	704
	5	-	-	802	341	1,464	1,004	2,128	1,667	2,606	2,145	1,341	880
	6*	-	-	-	-	1,288	735	1,952	1,399	2,429	1,877	1,609	1,057
E79PS	2	1,322	1,296	2,038	2,011	3,112	3,085	-	-	-	-	709	682
	3	1,060	831	1,776	1,547	2,850	2,621	3,924	3,695	-	-	1,174	944
	4	797	365	1,513	1,082	2,587	2,155	3,661	3,230	4,378	3,946	1,639	1,207
	5	-	-	1,251	616	2,324	1,690	3,399	2,764	4,115	3,480	2,105	1,470
	6*	-	-	-	-	2,062	1,225	3,137	2,299	3,853	3,015	2,569	1,732
F79PS	1	3,589	2,718	5,351	4,481	7,995	7,125	-	-	-	-	2,436	1,566
	2	2,370	1,152	4,133	2,915	6,776	5,558	9,420	8,202	-	-	4,003	2,785
	3	-	-	3,089	1,348	5,732	3,992	8,376	6,635	10,138	8,398	5,569	3,829
	4*	-	-	-	-	5,207	2,773	7,854	5,417	9,616	7,180	6,787	4,351
G79PS	1	7,003	5,783	10,157	8,938	14,888	13,676	19,621	18,401	-	-	3,049	1,830
	2	5,783	3,649	8,938	6,803	13,676	11,534	18,401	16,267	21,556	19,421	5,184	3,049
	3	-	-	7,413	4,669	12,144	9,400	16,877	14,132	20,031	17,287	7,318	4,574
	4*	-	-	-	-	10,268	6,046	15,047	10,778	18,202	13,932	10,673	6,408
L79PS	2	10,408	8,373	15,781	13,745	23,835	21,799	-	-	-	-	6,125	4,089
	3	8,373	5,319	13,745	10,692	21,799	18,746	29,854	26,800	-	-	9,178	6,125
	4	-	-	11,710	7,629	19,764	15,683	27,818	23,738	33,190	29,110	12,241	8,160
	5	-	-	-	-	17,719	12,621	25,773	20,675	31,146	26,048	15,303	10,205
	6*	-	-	-	-	15,683	9,559	23,738	17,613	29,110	22,985	18,365	12,241
M79PS	2	15,921	10,701	23,751	18,531	35,496	30,276	-	-	-	-	10,440	5,220
	3	13,311	5,481	21,141	13,311	32,886	25,056	44,631	36,801	-	-	16,660	7,830
	4	-	-	18,531	8,091	30,276	19,836	42,021	31,581	49,851	39,411	20,880	10,440
	5	-	-	-	-	27,666	14,616	39,411	26,361	47,241	34,191	26,100	13,050
	6*	-	-	-	-	25,056	9,396	36,801	21,141	44,632	28,971	31,320	15,660

\* Number of springs in standard unit.

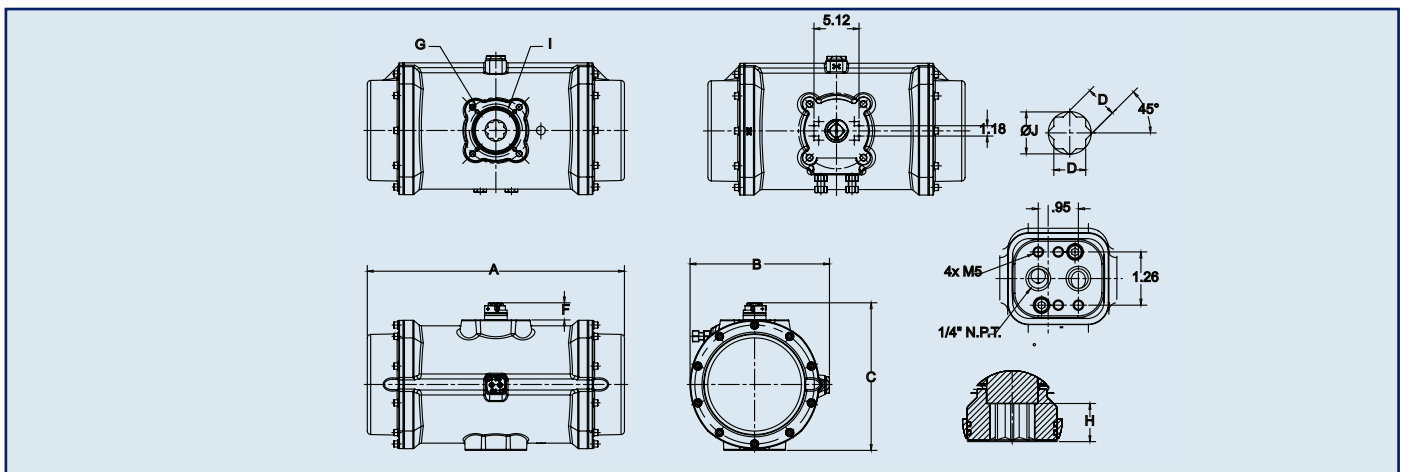
# Pneumatic Actuators

# P/PA Series



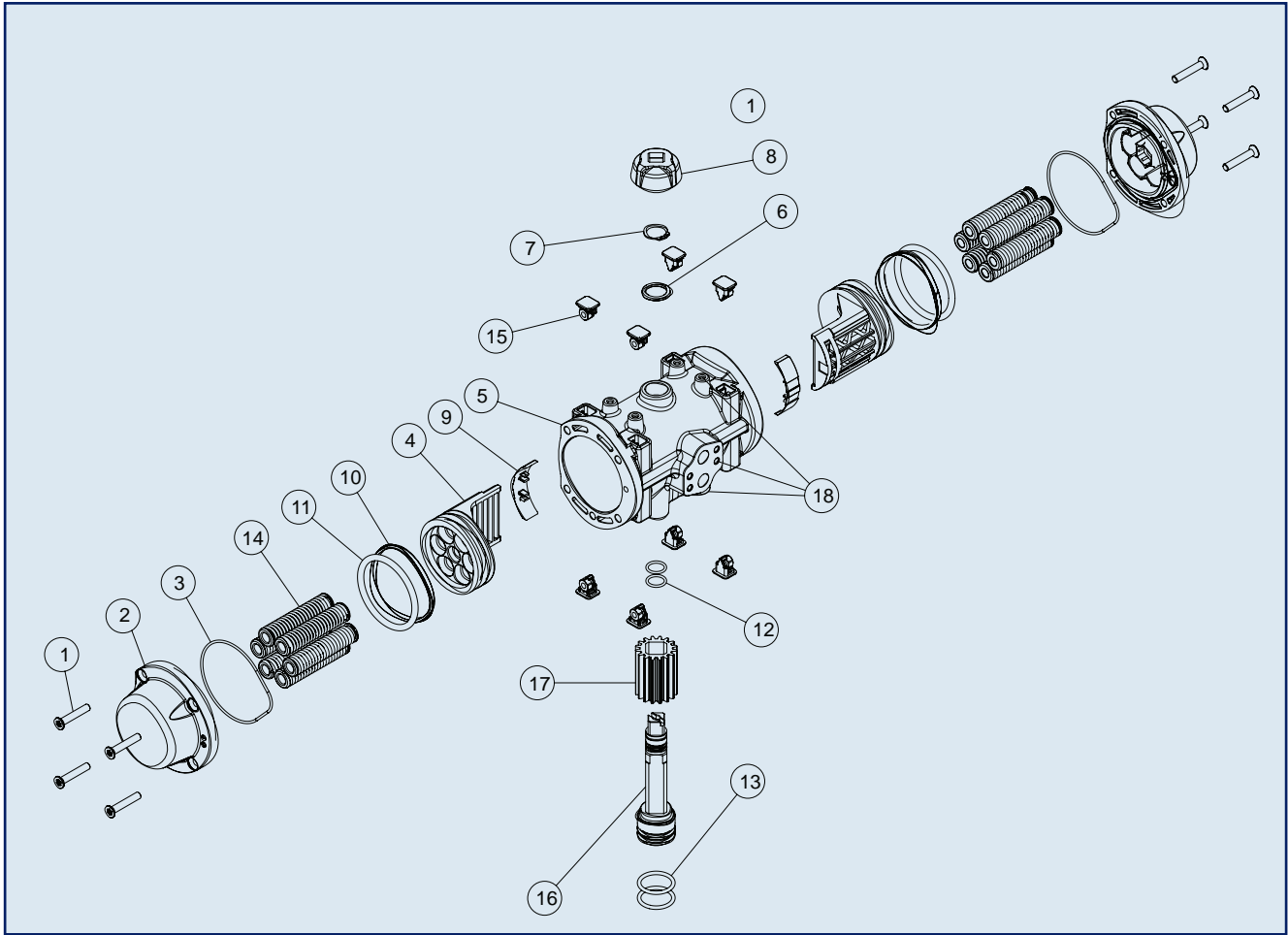
Conforming to standards: ISO 5211, DIN 3337, VDE 3845, NAMUR

Model	A		B	C	D	F	G	H	I	J		
	A-A	A-S										
A79PA	5.52		3.00	3.52	0.43	0.78	Φ 1.65	M5 X 8 DEEP	0.69	Φ 1.42	M5 X 8 DEEP	0.53
B79PA	6.00		3.31	4.38	0.55	1.18	Φ 1.97	M6 X 10 DEEP	0.70	Φ 1.65	M5 X 10 DEEP	0.71
B579PA	7.91		4.00	4.68	0.67	0.78	Φ 2.76	M8 X 14 DEEP	0.81	Φ 1.97	M6 X 9 DEEP	0.85
C79PA	8.83		4.08	4.85	0.67	0.78	Φ 2.76	M8 X 14 DEEP	0.81	Φ 1.97	M6 X 9 DEEP	0.85
C579PA	10.40		4.70	5.46	0.67	0.78	Φ 2.76	M8 X 14 DEEP	0.81	Φ 1.97	M6 X 9 DEEP	0.85
D79PA	12.19		5.02	6.15	0.87	0.78	Φ 2.76	M8 X 14 DEEP	0.81	Φ 1.97	M6 X 9 DEEP	1.12
D579PA	14.02		6.04	7.26	1.06	1.18	Φ 2.76	M8 X 14 DEEP	1.18	Φ 2.76	M8 X 14 DEEP	1.38
E79PA	16.83		6.65	7.91	1.06	1.18	Φ 4.02	M10 X 15 DEEP	1.18	-	-	1.38



Conforming to standards: ISO 5211, DIN 3337, VDE 3845, NAMUR

Model	A		B	C	D	F	G	H	J	
	A-A	A-S								
F79P	17.48	23.54	8.90	10.71	1.41	1.97	Φ 4.92	M12 X 18 DEEP	1.50	1.80
G79P	20.63	27.32	10.14	12.32	1.41	1.97	Φ 5.51	M16 X 25 DEEP	1.50	1.80
L79PA	26.40		13.57	14.49	1.81	1.97	Φ 6.50	M20 X 25 DEEP	1.97	2.32
M79PA	29.23		15.85	16.85	1.81	1.97	Φ 6.50	M20 X 25 DEEP	1.97	2.32



## Parts List (Typical PAG Series Actuator)

PARTS		
No	Description	Material
1	End Cap Bolt	304 Stainless Steel
2	End Cap	Polyamide
3	End Cap O-Ring	NBR
4	Piston	Polyaramide
5	Actuator Body	Polyamide
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Stainless Steel
8	Position Indicator	Polyamide
9	Piston Guide	Polyacetal
10	Guide Ring	Polyacetal
11	Piston O-Ring	NBR
12	Upper Shaft O-Ring	NBR
13	Lower Shaft O-Ring	NBR
14	Spring Set	DIN-17223-C with Chromium Passivation
15	Nut Protector	Polyamide
16	Shaft	303 Stainless Steel
17	Pinion Gear	Aluminum Alloy
18	Thread Inserts	304 Stainless Steel

## Torque Air to Spring (Inch-Pounds)

Model	Spring Set	40 psi		60 psi		80 psi		100 psi		120 psi		Spring Torque	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
AP79PAS	1	44	31	71	58	111	98	-	-	-	-	40	26
	2	32	12	59	40	100	80	140	120	-	-	58	38
	3	-	-	46	15	86	55	126	96	151	121	82	51
	4*	-	-	-	-	80	46	120	86	145	110	92	58
BP7PAS	2	81	59	126	103	194	171	261	239	306	284	58	36
	3	59	32	77	76	171	144	239	211	284	256	86	58
	4	-	-	85	50	153	118	220	186	265	231	111	77
	5	-	-	67	22	135	90	202	157	248	202	140	95
	6*	-	-	-	-	117	63	185	131	230	176	166	112
CP79PAS	2	200	156	312	269	484	441	-	-	-	-	134	91
	3	155	89	267	201	439	373	604	539	-	-	202	136
	4	109	22	222	134	394	306	559	471	672	584	269	181
	5	-	-	176	67	347	239	513	404	625	517	336	227
	6*	-	-	-	-	302	171	468	337	580	450	403	272
DP79PAS	2	494	378	753	638	1143	1027	-	-	-	-	309	194
	3	396	225	655	484	1045	873	1433	1261	-	-	463	291
	4	299	70	558	329	948	718	1336	1106	1594	1365	617	388
	5	-	-	462	175	851	564	1239	952	1497	1211	772	485
	6*	-	-	-	-	754	410	1142	797	1400	1056	926	582

\*Number of springs in standard unit.

## Torque Air-to-Air (Inch-Pounds)

Model	Supply Pressure (psi)				
	40	60	80	100	120
AP79P	70	100	137	175	203
BP79P	118	162	230	297	342
CP79P	291	404	575	741	853
DP79P	688	947	1336	1724	1982

## Cycle Time (Seconds)

Model	Air-to-Air		Air-to-Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
AP79P	0.10	0.10	0.15	0.15
BP79P	0.15	0.15	0.20	0.20
CP79P	0.25	0.25	0.30	0.30
DP79P	0.40	0.40	0.50	0.50

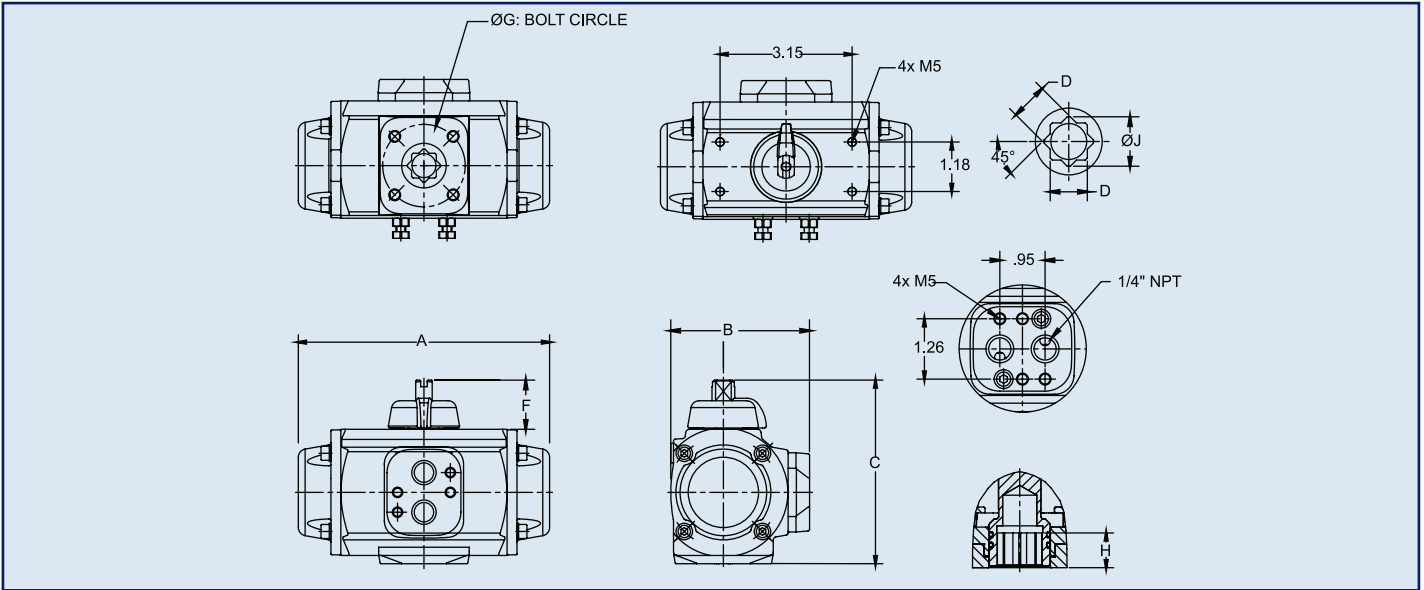
## Air Consumption (Cubic Inches)

Model	Air-to-Air		Air-to-Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
AP79P	4.58	3.05	4.58	-
BP79P	9.15	10.98	9.15	-
CP79P	21.36	27.46	21.36	-
DP79P	48.82	70.17	48.82	-

## Weight (lbs.)

Model	Air-to-Air	Air-to-Spring
AP79P	0.73	1.03
BP79P	1.83	2.20
CP79P	3.64	4.48
DP79P	7.10	9.30

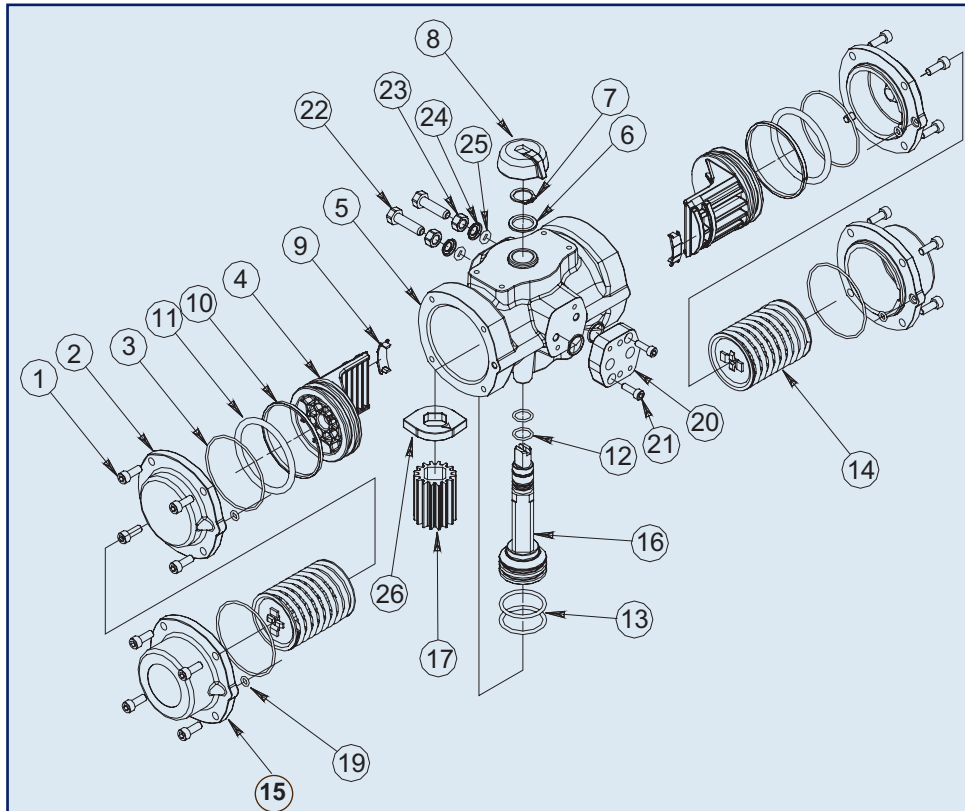




Conforming to standards: ISO 5211, DIN 3337, VDE 3845, NAMUR

## Dimensions (in.)

Model	A		B	C	D	F	G		H	J
	A-A	A-S								
AP79P	4.21	5.59	2.70	3.35	0.43	0.78	Φ 1.65	M5 X 7 DEEP	0.53	0.53
BP79P	4.41	6.10	3.15	4.33	0.55	1.18	Φ 1.97	M6 X 15 DEEP	0.63	0.71
CP79P	9.07	9.07	3.81	4.84	0.67	0.78	Φ 2.76	M8 X 18 DEEP	0.75	0.85
DP79P	12.32	12.32	4.75	5.76	0.87	0.78	Φ 2.76	M8 X 18 DEEP	0.75	1.12



**Parts List (Typical SS Series Actuator)**

PARTS		
NO.	DESCRIPTION	MATERIAL
1	End Cap Bolt	316 Stainless Steel
2	Double Acting End Cap	316 Stainless Steel
3	End Cap O-Ring	NBR
4	Piston	Polyarilamide or Cataphoresis Coated Aluminum
5	Actuator	316 Stainless Steel
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Stainless Steel
8	Position Indicator	Polyamide
9	Piston Guide	Polyacetal or PTFE/Bronze
10	Guide Ring	Polyacetal or PTFE/Bronze
11	Piston O-Ring	NBR
12	Upper Shaft O-Ring	NBR
13	Lower Shaft O-Ring	NBR
14	Spring Set	Cataphoresis Coated DIN-17223-C
15	Spring Return End Cap	316 Stainless Steel
16	Shaft	316 Stainless Steel
17	Pinion Gear	Aluminum Alloy
19	End Cap Gasket	NBR
20	Air Connection Plate	316 Stainless Steel
21	Bolt for Air Connection Plate	316 Stainless Steel
22	Adjustment Bolt	316 Stainless Steel
23	Adjustment Locknut	316 Stainless Steel
24	Bushing	316 Stainless Steel
25	Travel Stop O-Ring	NBR
26	Cam	316 Stainless Steel

## Torque Air-to-Spring (Inch-Pounds)

Model	Spring Set	40 psi		60 psi		80 psi		100 psi		120 psi		Spring Torque	
		Start	End	Start	End	Start	End	Start	End	Start	End	Start	End
BS79PS	1	60	42	100	81	159	140	-	-	-	-	62	42
	2	37	10	77	50	136	109	196	168	-	-	93	65
	3	-	-	51	27	111	86	170	144	209	284	116	91
	4*	-	-	-	-	102	61	160	119	200	159	141	100
CS7PS	1	176	126	289	238	458	407	-	-	-	-	165	115
	2	-	-	267	157	397	325	566	494	-	-	248	175
	3	-	-	-	-	319	215	488	383	600	496	358	253
	4*	-	-	-	-	287	160	455	328	567	441	412	286
DS79PS	1	466	317	725	577	1113	965	-	-	-	-	371	222
	2	342	95	601	354	989	743	1378	1131	-	-	593	346
	3	-	-	453	132	841	519	1230	908	1489	1167	816	495
	4*	-	-	-	-	767	421	1156	810	1414	1068	914	568
ES79PS	1	1520	1174	2236	1890	3311	2965	-	-	-	-	830	484
	2	1174	689	1890	1405	2965	2478	4038	3663	-	-	1315	830
	3	759	205	1474	921	2549	1996	3622	3069	4338	3785	1799	1246
	4*	-	-	1128	298	2203	1373	3276	2446	3992	3162	2422	1592

\*Number of springs in standard unit

## Torque Air-to-Air (Inch-Pounds)

Model	Supply Pressure (psi)				
	40	60	80	100	120
BS79P	103	142	202	261	300
CS79P	291	404	573	741	853
DS79P	688	947	1335	1724	1982
ES79P	2005	2720	3795	4868	5584

## Cycle Time (Seconds)

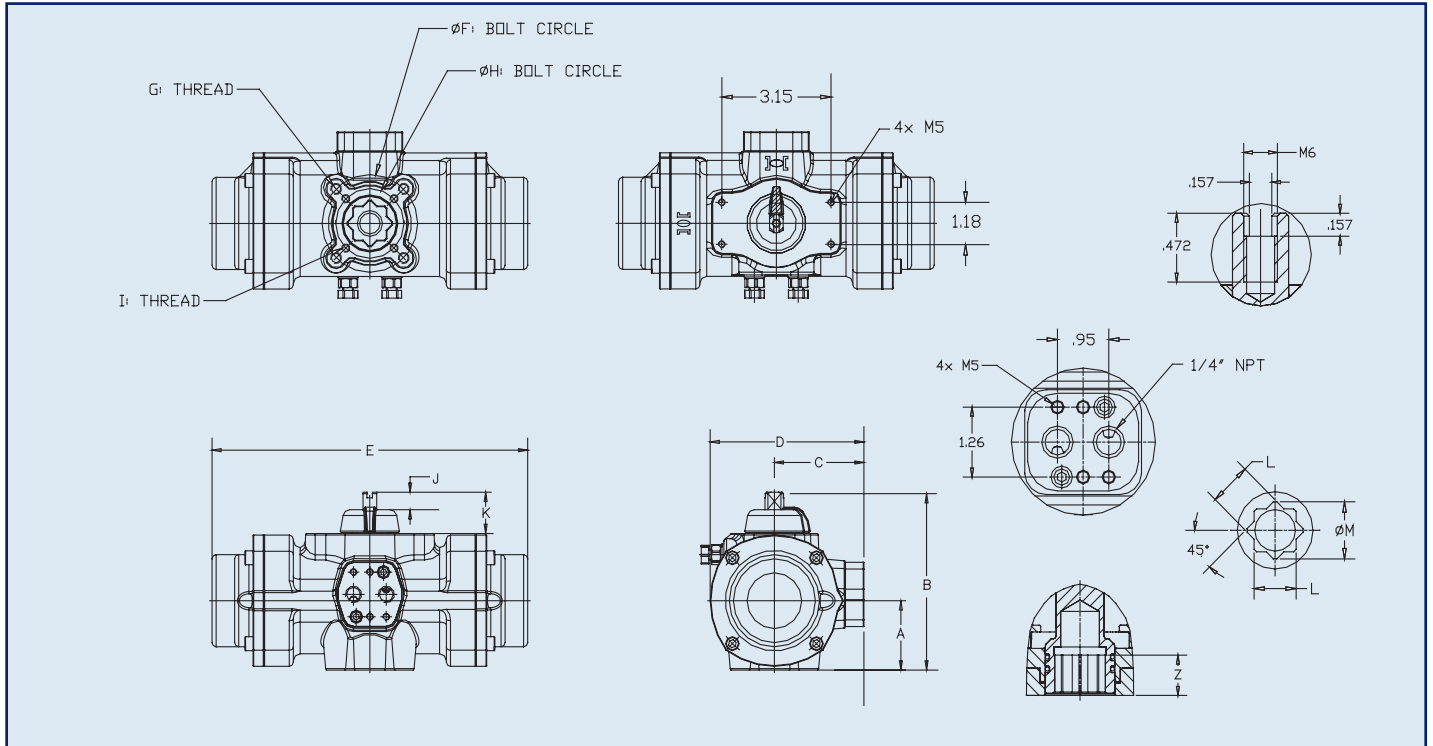
Model	Air to Air		Air to Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
BS79P	0.15	0.15	0.20	0.20
CS79P	0.25	0.25	0.30	0.30
DS79P	0.40	0.40	0.50	0.50
ES79P	0.60	0.60	1.20	1.20

## Air Consumption (Cubic Inches)

Model	Air to Air		Air to Spring	
	Open Port A	Closed Port B	Open Port A	Closed Port B
BS79P	9.15	6.10	9.15	-
CS79P	21.36	19.53	21.36	-
DS79P	48.82	42.71	48.82	-
ES79P	125.09	115.94	125.09	-

## Weight (lbs.)

Model	Air to Air	Air to Spring
BS79P	4.85	5.73
CS79P	10.36	12.34
DS79P	13.00	21.82
ES79P	39.45	55.98



## Dimensions (in.)

Model	A	B	C	D	E		F	G	H	I	J	K	L	M	Z
					AA	AS									
BD79P	1.77	4.37	2.17	3.58	5.47	6.30	-	-	1.97	M5 x 8mm DEEP	.43	1.18	0.78	1.03	0.59
CS79P	1.96	4.96	2.58	4.43	7.80	9.09	2.76	M8 x 12mm DEEP	1.97	M6 x 9mm DEEP	.43	1.18	0.95	1.27	0.59
DS79P	2.80	6.30	3.19	5.47	10.12	12.13	2.76	M8 x 12mm DEEP	1.97	M6 x 9mm DEEP	.43	1.18	0.95	1.27	0.75
ES79P	3.78	8.31	4.05	7.30	13.78	18.92	4.02	M10 x 15mm DEEP	1.97	M8 x 12mm DEEP	.43	1.18	1.06	1.44	1.18