

Aero² Pneumatic Actuator

High Performance Compact Pneumatic Actuator



The pneumatic rack & pinion actuator is manufactured using the latest materials and methods to provide dependable and smooth operation in demanding process control conditions.

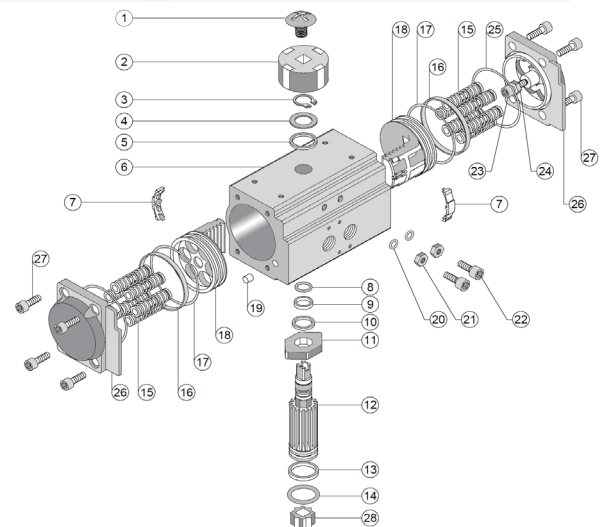
AERO² DESIGN FEATURES

- ✓ Hard Anodized aluminum housing
- ✓ "Versa-View" Continuous mechanical position indicator
- ✓ Nickel Plated Alloy drive shaft
- ✓ ISO/NAMUR design for universal mounting and accessory attachment
- ✓ Bi-Directional Stroke Adjustment
- ✓ 1/4"NPT air inlet manifold
- ✓ Optional 304 SS / 316 SS material available
- ✓ Optional nickel infused or epoxy coated housing for corrosive applications



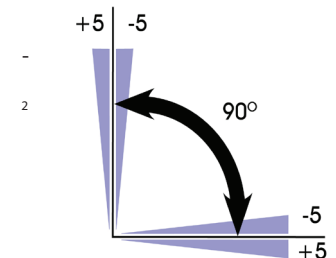
MATERIALS OF CONSTRUCTION

ITEM	DESCRIPTION	MATERIALS SPECIFICATIONS
1	Indicator Cap Screw	Plastic/Stainless Steel
2	Position Indicator	Plastic (ABS)
3	Pinion Snap Ring	Stainless Steel 300 Series
4	Thrust Washer	Stainless Steel 300 Series
5	Thrust Nearing	Polyoxymethylene (Delrin)
6	Body	Extruded Aluminum Alloy
7	Piston Guide	Polyoxymethylene (Delrin)
8	O-Ring (Pinion Top)	Buna "N" / Viton
9	Bearing (Pinion Top)	Polyoxymethylene (Delrin)
10	Inside Washer	Polyoxymethylene (Delrin)
11	Stroke Adjustment Stop	Alloy Steel
12	Pinion (Drive Shaft)	Nickel Plated Alloy Steel
13	Bearing (Pinion Bottom)	Polyoxymethylene (Delrin)
14	O-Ring (Pinion Bottom)	Buna "N" / Viton
15	Spring (Cartridge)	Spring Steel (Corrosion Resistant)
16	Bearing (Piston)	Polyoxymethylene (Delrin)
17	O-Ring (Piston)	Buna "N" / Viton
18	Piston	Aluminum
19	Plug	NBR
20	O-Ring (Adjust Screw)	Stainless Steel 300 Series
21	Stop Nut (Adjust Screw)	Stainless Steel 300 Series
22	Adjust Screw	Stainless Steel 300 Series
23	Stop Screw	Stainless Steel 300 Series
24	Nut (Stop Screw)	Stainless Steel 300 Series
25	O-Ring (End Cap)	Buna "N" / Viton
26	End Cap	Aluminum
27	End Cap Screw	Stainless Steel 300 Series



BI-DIRECTIONAL STROKE ADJUSTMENT

Aero² actuators feature bi-directional pinion travel stops. These stops allow for true $\pm 5^\circ$ for valve travel adjustment to ensure precise positioning in all flow control services. The aero travel stops are designed to absorb the maximum rated torque of the actuator and the maximum impact loads associated with the recommended stroke speed.



What do you need today?™



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AERO² WEIGHT

Model	Double Acting		Spring Return	
	lbs	kg	lbs	kg
10	2	1	-	-
20	3	1	3	1
35	4	2	4	2
50	6	2	6	2
75	7	3	7	3
110	10	4	12	5
160	13	5	14	6
255	19	9	22	10
400	25	14	29	16
500	36	22	44	26
550	70	31	78	35
600	76	35	85	39
650	106	48	135	61
700	163	74	216	98

How To Order Guide

Series	Model	Springs	Seals	Options
A2D = Double Acting	10*	9	B = Buna (Standard - 5°F to 176°F / -15°C to 80°C)	Blank = Standard 90° Turn Operation
A2S = Spring Return	20	11		
	35		V = Viton	180 = 180° Turn Operation
A2DNI = Double Acting (Nickel Infused Housing)	50		(High Temperature -5°F to 300°F / -15°C to 150°C)	
	75			
	110			
	160			
A2SNI = Spring Return (Nickel Infused Housing)	255			
	400			
	500			
A2DEP = Double Acting (Epoxy Coated Housing)	550			
	600			
	650			
A2SEP = Spring Return (Epoxy Coated Housing)	700			

* Model 10 is only available as double acting

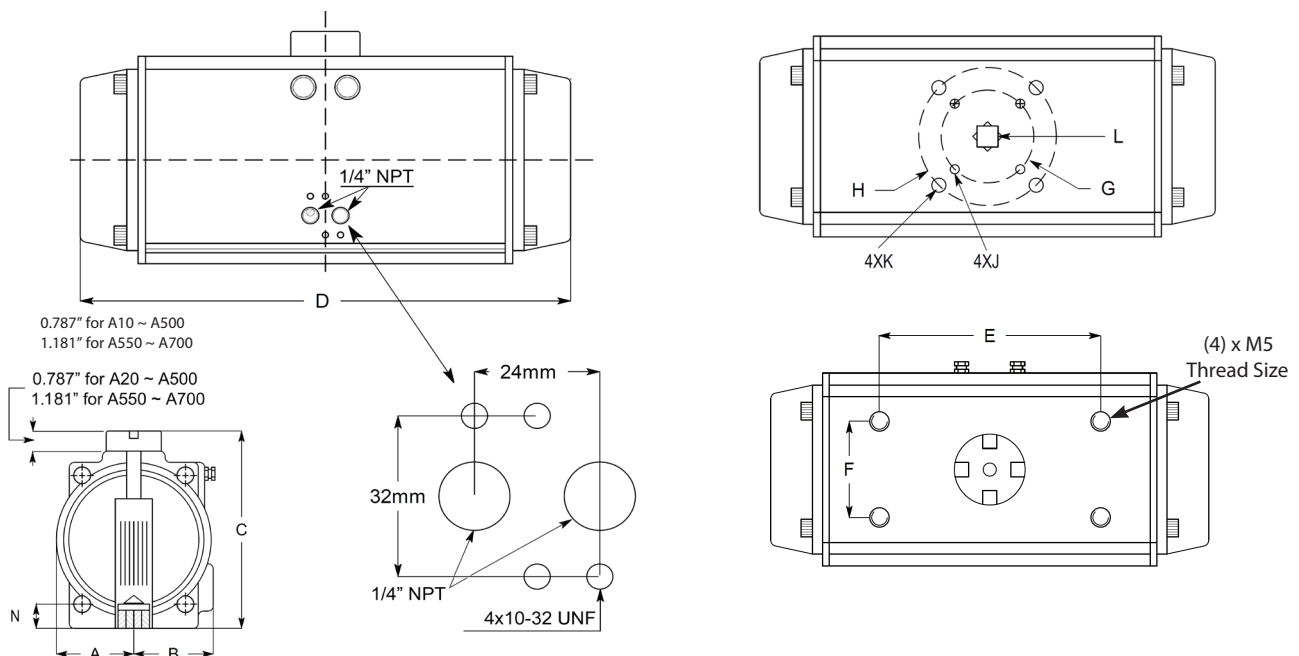
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AERO² DIMENSIONS (INCHES)

Model	A	B	C	D	E	F	G	H	J	K	L sq	N
	in	in	in	in	in	in	in	in	in	in	in	in
10	1.12	1.44	3.15	4.80	3.15	1.18	F03/1.42	F05/1.97	#10-32UNF	1/4"-20UNC	0.43	0.55
20	1.18	1.63	3.62	5.79	3.15	1.18	F03/1.42	F05/1.97	#10-32UNF	1/4"-20UNC	0.43	0.55
35	1.42	1.85	4.23	6.61	3.15	1.18	F05/1.97	F07/2.76	1/4"-20UNC	5/16"-18UNC	0.55	0.71
50	1.65	2.09	4.70	7.24	3.15	1.18	F05/1.97	F07/2.76	1/4"-20UNC	5/16"-18UNC	0.55	0.71
75	1.81	2.24	5.07	8.04	3.15	1.18	F05/1.97	F07/2.76	1/4"-20UNC	5/16"-18UNC	0.67	0.83
110	1.97	2.30	5.39	10.31	3.15	1.18	F05/1.97	F07/2.76	1/4"-20UNC	5/16"-18UNC	0.67	0.83
160	2.26	2.52	6.02	10.55	3.15	1.18	F07/2.75	F10/4.02	5/16"-18UNC	3/8"-16UNC	0.87	1.02
255	2.66	2.93	6.89	11.65	3.15	1.18	F07/2.75	F10/4.02	5/16"-18UNC	3/8"-16UNC	0.87	1.02
400	2.95	3.03	7.54	15.35	3.15	1.18	F10/4.02	F12/4.92	3/8"-16UNC	1/2"-13UNC	1.06	1.22
500	3.43	3.43	8.54	18.03	3.15	1.18	F10/4.02	F12/4.92	3/8"-16UNC	1/2"-13UNC	1.06	1.22
550	4.06	4.06	9.84	20.79	5.12	1.18	-	F14/5.51	-	5/8"-11UNC	1.42	1.57
600	4.45	4.45	11.22	22.20	5.12	1.18	-	F14/5.51	-	5/8"-11UNC	1.42	1.57
650	5.12	5.12	12.55	23.70	5.12	1.18	-	F16/6.49	-	3/4"-10UNC	1.81	1.97
700	5.79	5.79	14.01	27.80	5.12	1.18	-	F16/6.49	-	3/4"-10UNC	1.81	1.97



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AERO² SPRING RETURN TORQUE OUTPUT (in-lbf)

Model	Supply Pressure	
	60 PSI Torque	80 PSI Torque
A2S-20-9	44	82
A2S-35-9	95	133
A2S-50-9	129	168
A2S-75-9	195	308
A2S-110-9	260	454
A2S-160-9	400	616
A2S-255-9	541	1017
A2S-400-9	1009	1673
A2S-500-9	1435	2719
A2S-550-9	2696	3893
A2S-600-9	3479	5843
A2S-650-9	4957	7987
A2S-700-9	8453	10896

AERO² DOUBLE ACTING TORQUE OUTPUT (in-lbf)

Model	Supply Pressure	
	60 PSI Torque	80 PSI Torque
A2D-10	85	115
A2D-20	146	195
A2D-35	267	356
A2D-50	368	490
A2D-75	574	766
A2D-110	827	1,103
A2D-160	1,211	1,615
A2D-255	1,833	2,450
A2D-400	3,133	4,177
A2D-500	4,873	6,497
A2D-550	7,797	10,396
A2D-600	9,746	12,995
A2D-650	14,097	18,796
A2D-700	21,430	28,565