

RACK & PINION ABZ ACTUATOR



ABZ VALVES & CONTROLS

A Division of ABZ Manufacturing, Inc.

P.O. BOX 157 • 224 WEST MAIN

MADISON, KS 66860

(316) 437-2440 • FAX (316) 437-2435

website: www.abzvalve.com • e-mail: abzvalve@madtel.net

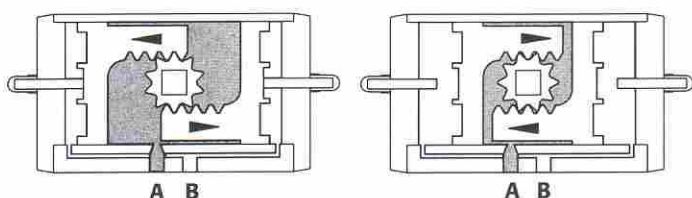
Full Line Actuator Accessories Available



General Technical Data

- Standard Working Temperature – 20°F to 175°F
- Maximum Working Pressure 150 psig
- Operating Media – Clean, Dry Air, Non-Corrosive Gas or Light Hydraulic Oil
- Air Supply 40 psi – 150 psi
- Rotation 90°
- Travel Stops Standard
- Permanently Lubricated Units

Operation



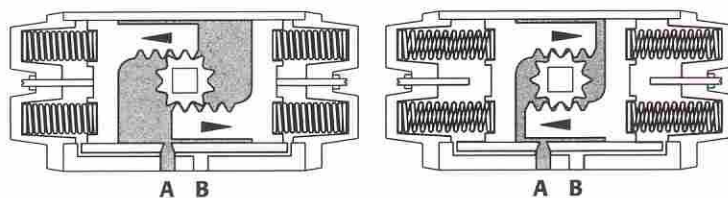
Double Acting Operation

CCW

Air is supplied to Port A forcing the pistons away from each other (toward ends), rotating drive pinion counterclockwise and exhausting air out of Port B.

CW

Air is supplied to Port B forcing the pistons toward each other (toward center), rotating drive pinion clockwise and exhausting air out of Port A.



Spring Return Operation

CCW

Air is supplied to Port A forcing the pistons away from each other (toward ends), rotating drive pinion counterclockwise, compressing springs and exhausting air out of Port B.

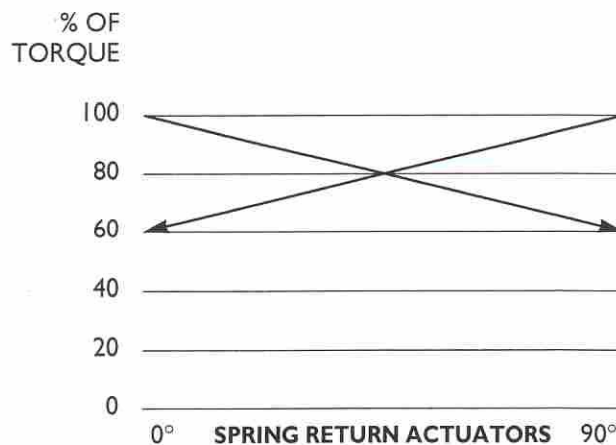
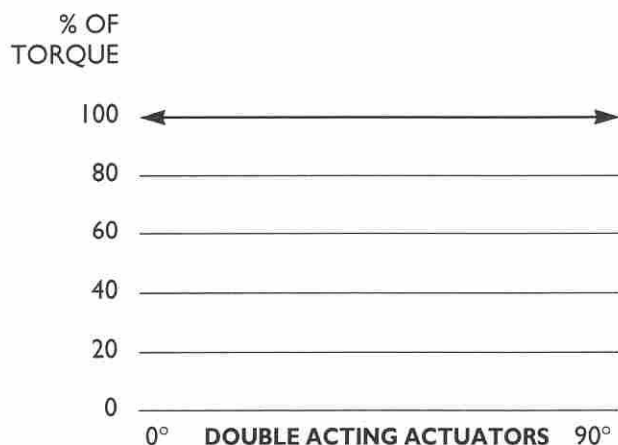
CW

Air is supplied to Port B forcing the pistons toward each other (toward center), rotating drive pinion clockwise and exhausting air out of Port A.

Torque Curves

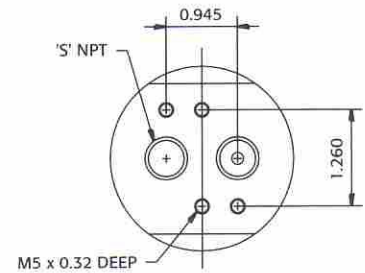
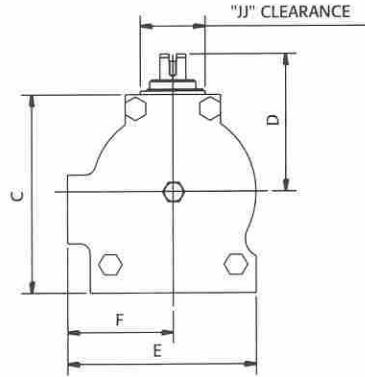
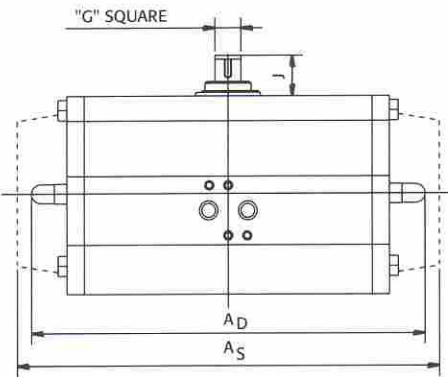
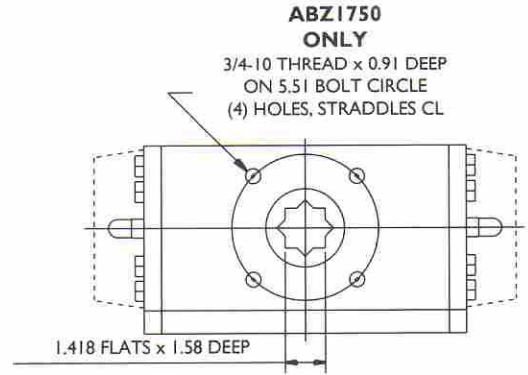
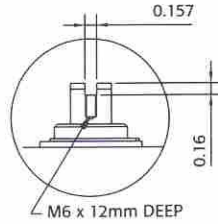
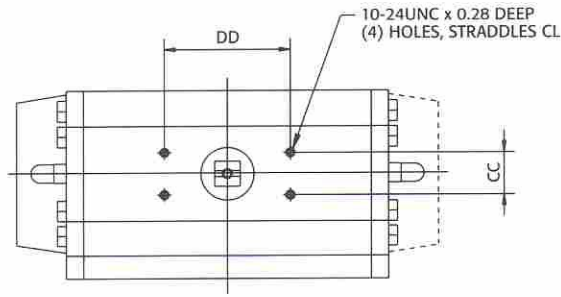
ABZ20-ABZ1750

Rack & Pinion Design





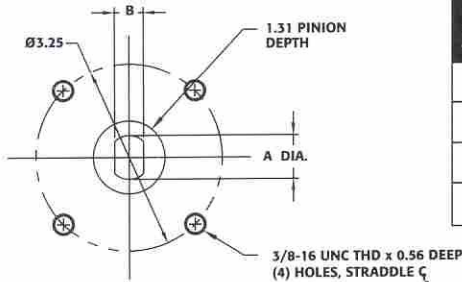
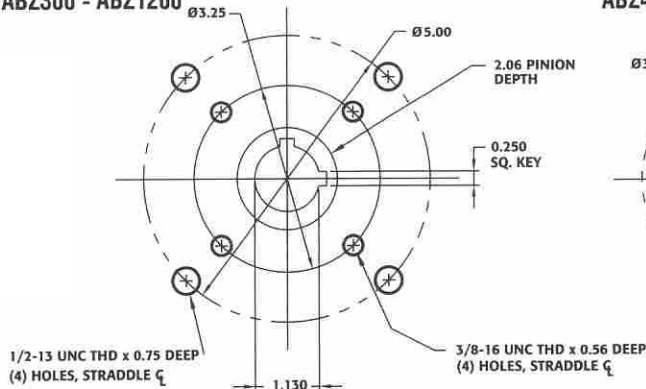
Dimensions



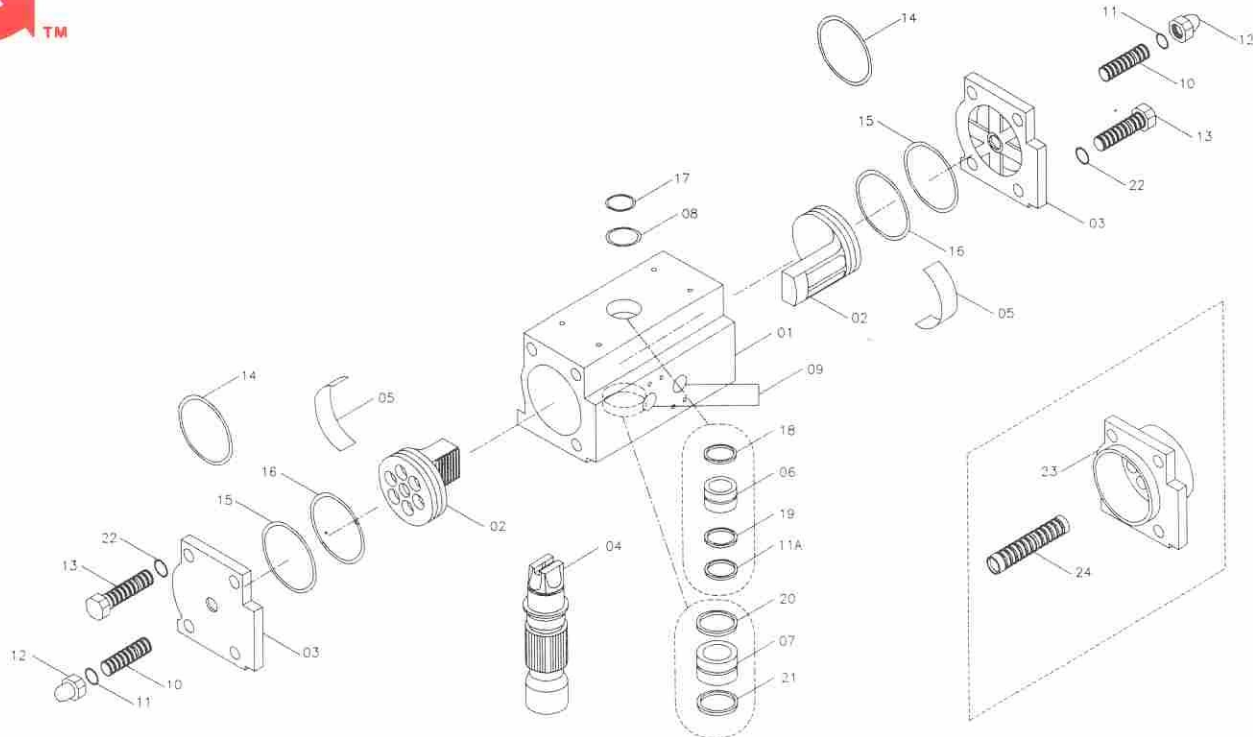
MODEL	ABZ40	ABZ80	ABZ130	ABZ200	ABZ300	ABZ500	ABZ850	ABZ1200	ABZ1750
AD	7.50	8.23	9.60	9.96	11.30	12.56	16.69	17.00	19.84
AS	7.56	8.94	10.39	11.50	13.23	16.26	20.24	22.50	28.15
C	3.39	4.45	4.88	5.28	6.18	6.93	8.27	9.17	10.08
E	3.25	4.33	4.76	5.22	5.98	6.69	7.64	7.83	9.29
F	1.60	2.39	2.69	2.89	3.25	3.60	3.90	4.20	4.75
G	0.63	0.63	0.63	0.63	0.79	0.79	0.79	1.26	1.26
J	0.79	0.79	0.79	0.79	0.79	1.18	1.18	1.18	1.18
S	1/8	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/4
CC	1.181	1.181	1.181	1.181	1.181	1.181	1.181	1.181	1.181
DD	3.150	3.150	3.150	3.150	3.150	5.118	5.118	5.118	5.118
JJ	1.23	1.23	1.41	1.61	1.88	2.10	2.44	2.67	2.92

ABZ300 - ABZ1200

ABZ40 - ABZ200



ACTUATOR	A. Dim.	B. Dim.
ABZ40	0.568	0.378
ABZ80	0.755	0.503
ABZ130	0.755	0.503
ABZ200	0.755	0.503



BILL OF MATERIALS

Part #	Description	Qty	Material	Protection
01	Body	1	Aluminum Alloy	Hard Anodized
02	Piston	2	Aluminum Alloy	Dichromate Dipped
03	End Caps	2	Aluminum Alloy	Epoxy Coated
04	Drive Shaft/Pinion	1	Carbon Steel	Electroless Nickel Plated
05	Guide Plate	2	Nylon 6	
06	Bushing - Top	1	Polyamid + PTFE	
07	Bushing - Bottom	1	Polyamid + PTFE	
08	Washer	1	Stainless Steel	
09	Dust Plug	2	PE	
10	Screw - Travel Stop	2	Stainless Steel	
11	O-Ring	2	Buna - N	
11A	Washer	1	Teflon	
12	Nut Cap	2	Stainless Steel	
13	End Cap Bolts	8	Stainless Steel	
14	O-Ring/End Caps	2	Buna - N	
15	O-Ring/Piston	2	Buna - N	
16	Bushing - Piston	2	Teflon	
17	Snap Ring	1	Stainless Steel	
18	O-Ring	1	Buna - N	
19	O-Ring	1	Buna - N	
20	O-Ring	1	Buna - N	
21	O-Ring	1	Buna - N	
22	O-Ring	2	Buna - N	
23	End Cap - Spring Return	2	Aluminum Alloy	Epoxy Coated
24	Spring Cartridge	Varies	Carbon steel/Nylon	Epoxy Coated

Sample Specification

Actuator shall be ABZ series rack and pinion design. Body to be hard anodized, extruded aluminum for corrosion protection and shall have a base wide enough for stable mounting to valve mounting pads. Internals to feature dual aluminum piston racks and a one-piece electroless nickel plated blow-out proof pinion. Pinion shall also have significant body housing bearings with O rings on the ID and OD. Unit to have adjustable travel stops. Standard accessory mounting to conform to NAMUR-VDI/VDE.