



INDUSTRIAL FLUID POWER COMPONENTS
AND SYSTEMS



APS SERIES

Air Pump Shut Off Valves



APS-D2BV-24FP

A20SR Standard Features

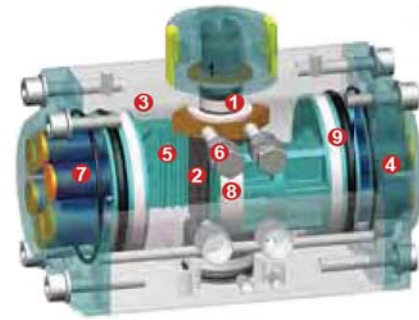
1 Indicator A position indicator with Namur mounting is standard on all pneumatic actuators for mounting accessories.

2 Pinion The hardened alloy steel pinion is precision ground and nickel plated (over 15um) in order to reduce friction, provide maximum wear resistance.

3 Actuator Body The aluminum extrusion is hard anodized (over 30um) to protect against wear and corrosion while reducing piston friction to the absolute minimum. Other options such as Nickel, Ceramic, PTFE, Polyester coated are available.

4 End Caps Epoxy coated (over 80um) die cast aluminum end caps provide maximum resistance against potentially corrosive elements.

5 Pistons The precisely-balanced and hard anodized treatment (over 30um) die cast aluminum pistons are fitted with high quality rings and guides. The twin rack and piston design creates a constant torque output on all actuators.



6 Travel Adjustment The standard adjustment is $\pm 5^\circ$ in both the open and closed positions through easily accessible external adjustment bolts.

7 High Performance Springs The high tensile steel springs Epoxy coated for corrosion resistance and longer service. The pre-loaded springs can be safely and rapidly disassembled.

8 Bearings and Guides The highly durable compound material provides high trust stability with minimum friction and long life.

9 O-Rings NBR O-rings provide trouble-free operation at standard temperature ranges.

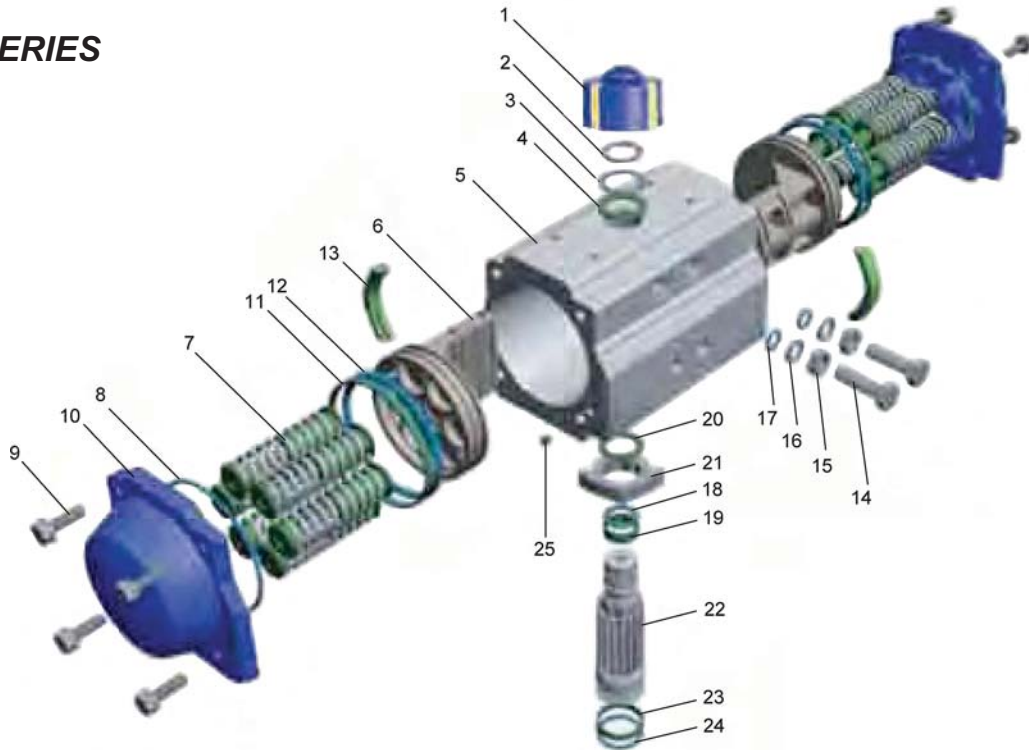
A20SR Specifications

Standard Operating Conditions

- **Pressure Ranges**.....Double Acting - 29 psig (2 bar) to 116 psig (8 bar)
Spring Return - 44 psig (3 bar) to 116 psig (8 bar)
- **Temp. Ranges**.....-4° to 176°F (-20° to 80°C)
- **Operating Media**.....Filtered dry or lubricated air for non-corrosive gas, water or light hydraulic oil. The maximum particle size must not exceed 30 microns.
- **Stroke Adjustment**....0° and 90° with standard adjustment $\pm 5^\circ$.
- **Lubrication**.....All moving parts are factory lubricated for the entire life cycle of actuator.
- **Construction**.....Twin piston rack & pinion actuator design, suitable for indoor & outdoor installation.
- **Connections**.....Bottom drilling complies with ISO 5211/DIN 3337 to match valve. Interface for solenoid valve, shaft top end and top drilling for assembling accessories are in accordance with VDI/ VDE-3845, NAMUR standard.
- **Inspection**Every actuator is hydraulically tested, certified and guaranteed for a minimum of 1,000,000 cycles.

Parts List

A20SR SERIES

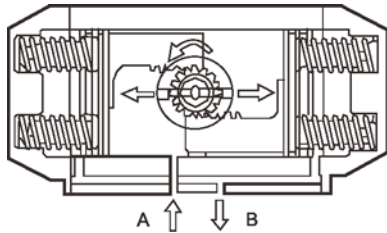


Item	Description	Material	Protection	Qty
1	Indicator	Plastic		1
2	Spring Clip	Stainless Steel		1
3	Thrust Washer (Pinion)	Stainless Steel		1
4	Thrust Bearing (Pinion)	Nylon 66		1
5	Actuator Body	Extruded Aluminum Alloy	Hard Anodized (over 30um)	1
6	Piston	Die Cast Aluminum Alloy	Hard Anodized (over 30um)	2
7	Spring (Cartridge)	High Performance Spring Steel	Epoxy Coated	8 or 10
8	End Cap Seals	NBR		2
9	End Cap Bolts	Stainless Steel		8
10	End Cap	Die Cast Aluminum	Epoxy Coated (over 80um)	2
11	Piston Bearing	Nylon 66		2
12	Piston Seal	NBR		2
13	Piston Guide	Nylon 66		2
14	Stroke Bolt	Stainless Steel		2
15	Stroke Bolt Retaining Nut	Stainless Steel		2
16	Stroke Bolt Washer	Stainless Steel		2
17	Stroke Bolt O-Ring	NBR		2
18	O-Ring (Top Pinion)	NBR		1
19	Bearing (Top Pinion)	Nylon 66		1
20	Thrust Bearing (Pinion)	Nylon 66		1
21	Stroke Cam	Stainless Steel		1
22	Pinion	Alloy Steel	Nickel Plated (over 15um)	1
23	Bearing (Lower Pinion)	Nylon 66		1
24	O-Ring (Lower Pinion)	NBR		1
25	Plug	NBR		2

Operating Principles

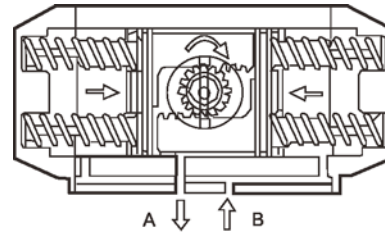
SPRING RETURN

CCW Counter-Clockwise



Air to port A forces the pistons outward, causing the springs to compress. The pinion turns counter-clockwise while air is being exhausted through port B.

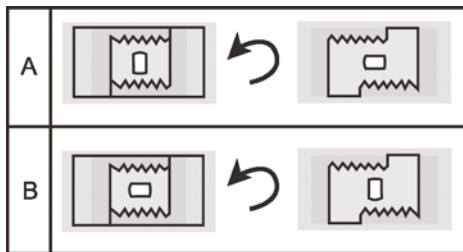
CW Clockwise



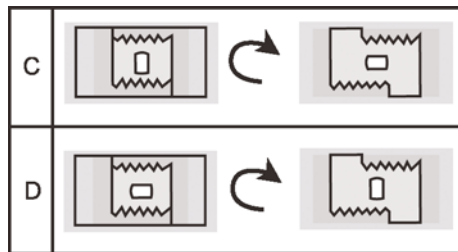
Loss of air pressure through port A allows the stored energy in the springs to force the pistons inward. The pinion turns clockwise while air is being exhausted through port A.

MOUNTING VARIATIONS

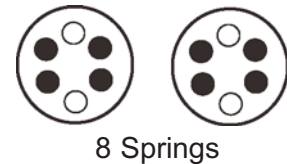
CCW Counter-Clockwise



CW Clockwise



SPRING ARRANGEMENT



Technical Data

AIR CONSUMPTION- Air Volume Opening & Closing

MODEL	Air Volume @ opening liter/ (cu. in.)	Air Volume @ closing liter/ (cu. in.)
A20 SR	0.14 (8.54)	0.20 (12.20)

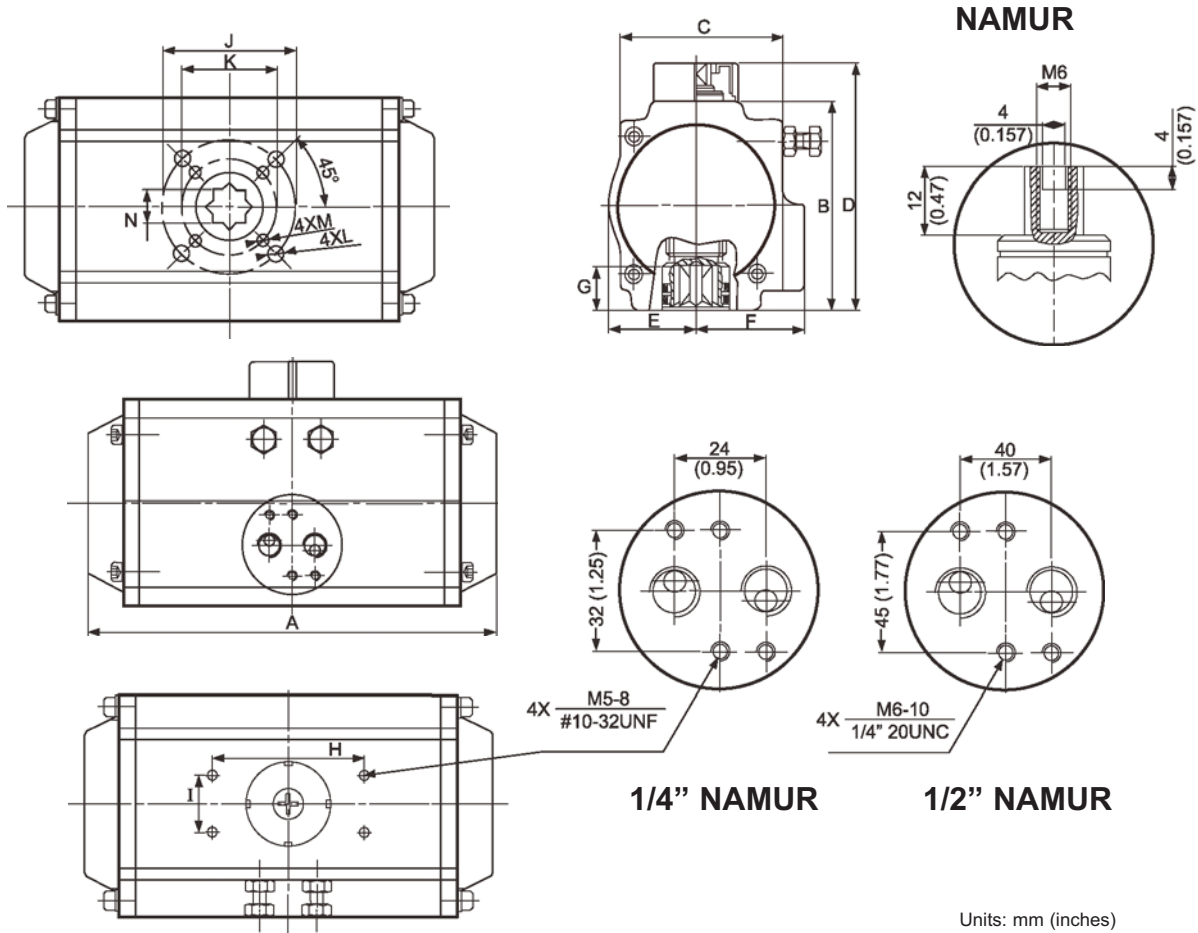
WEIGHT/ OPENING & CLOSING TIME

MODEL	A20SR
Screw Stroke adj. for 1" adj need	1/5 turn
Opening Time (Sec.)	0.30
Closing Time (Sec.)	0.35
Approximate Weight kg (lbs)	1.8 (4.0)

TORQUE RATINGS

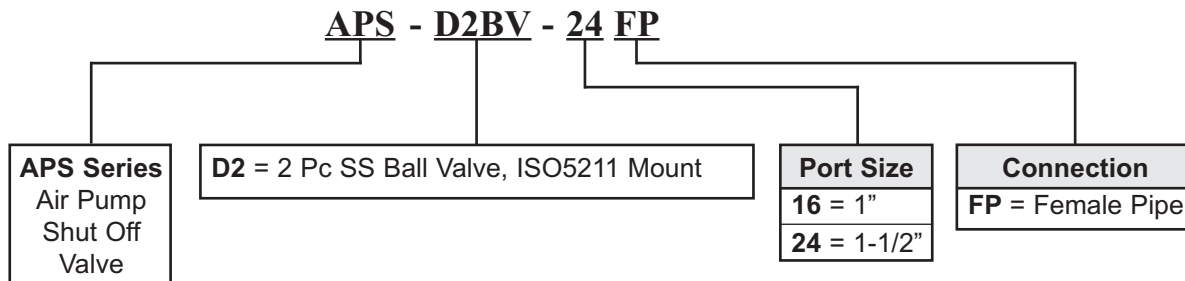
SPRING RETURN TORQUE RATINGS IN (in/ lbs)																	
Supply Pressure	40psi		50psi		60psi		70psi		80psi		90psi		100psi		Spring Torque		
	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	0° Start	90° End	
MODEL																	
A20 SR			125	72	169	116	214	161							100	153	

Dimensional Data



MODEL	A	B	C	D	E	F	G	H	I	N	A120*	A180*	J	K	L	M	Air Connection
A20 SR	174 (6.86)	88 (3.46)	72 (2.83)	108 (4.25)	36 (1.42)	47 (1.85)	18 (0.71)	80 (3.15)	30 (1.18)	14 (0.55)	216 (8.50)	266 (10.47)	F07	F05	M8x13 5/16"-20UNC	M6x10 1/4"-20UNC	1/8" or 1/4" std.

Ordering Information



D2BV - 2 Piece Stainless Steel Ball Valves

FEATURES/ SPECIFICATIONS

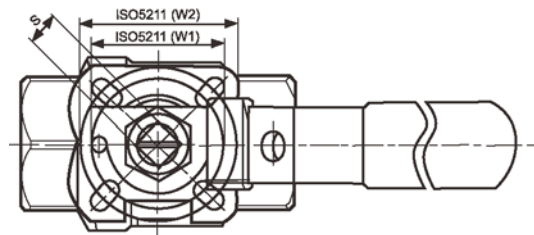
- 2 Piece, Full Ported Design
- 1/2" thru 2" Female NPT
- ISO5211 Direct Mounting Pad
- 1000 psi maximum
- Anti-Blowout Stem - Weep Hole
- Adjustable Vee Style Stem Packing
- Oil, Water, Air and General Chemical Service
- Temperature Rating: -20 to 350°F, (-25 to 175°C)



D2BV-24FP

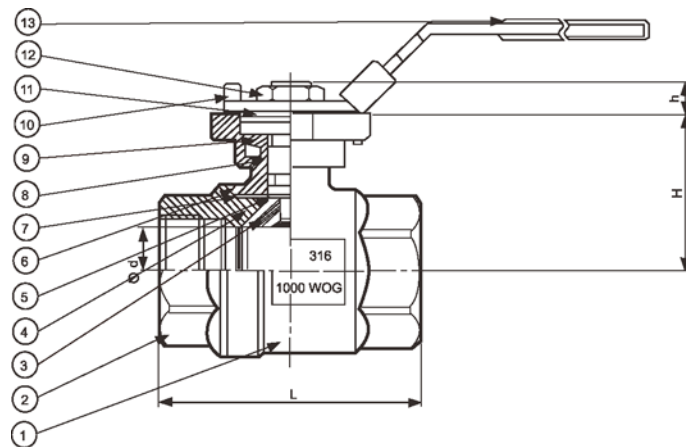
Dimensional Data

Units: mm (inches)



MATERIALS

1. Body- ASTM A351 GR. CF8M
2. Cap- ASTM A351 GR. CF8M
3. Ball- ASTM A351 GR. CF8M
4. Stem- ASTM A276 GR. 316
5. Seat- PTFE
6. Gasket- PTFE
7. Thrust Washer- PTFE
8. Packing- PTFE
9. Gland- 304SS
10. Handle- 304SS
11. Spring Washer- 304SS
12. Handle Nut- 304SS
13. Handle Sleeve- Vinyl



SIZE	Model	Ø d	L	H	h	S	W1	W2	ISO5211	Wt kg(lb)
1/2"	D2-BV-8FP-V2	15.0(0.59)	60 (2.36)	38 (1.50)	7 (0.28)	9 (0.35)	36 (1.42)	42 (1.65)	F03/ F04	
3/4"	D2-BV-12FP-V2	20.0(0.79)	70 (2.75)	42.4(1.67)	9 (0.35)	9 (0.35)	36 (1.42)	42 (1.65)	F03/ F04	
1"	D2-BV-16FP-V2	25.0(0.98)	82 (3.23)	48.5(1.91)	12 (0.47)	11 (0.43)	42 (1.65)	50 (1.97)	F04/ F05	
1-1/4"	D2-BV-20FP-V2	32.0(1.26)	96 (3.78)	54 (2.13)	12 (0.47)	11 (0.43)	42 (1.65)	50 (1.97)	F04/ F05	
1-1/2"	D2-BV-24FP-V2	38.0(1.50)	112 (4.41)	66 (2.60)	16 (0.63)	14 (0.55)	50 (1.97)	70 (2.75)	F05/ F07	
2"	D2-BV-32FP-V2	50.0(1.97)	126 (4.96)	74 (2.91)	16 (0.63)	14 (0.55)	50 (1.97)	70 (2.75)	F05/ F07	

PS30M - Pressure Switch

STANDARD FEATURES

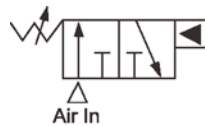
- Hydraulic Input - Pneumatic Output
- Stainless Wetted Parts
- Anodized Aluminum Body
- For Pilot Circuits Only
- CV = .15
- 5 to 10% Dead Band

OPERATING PRESSURE

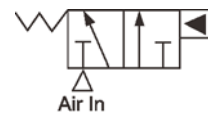
- Air Pressure: 150 psi
- Hydraulic Pressure: 150 - 3000 psi



PS30M-3K-NC



Normally Open

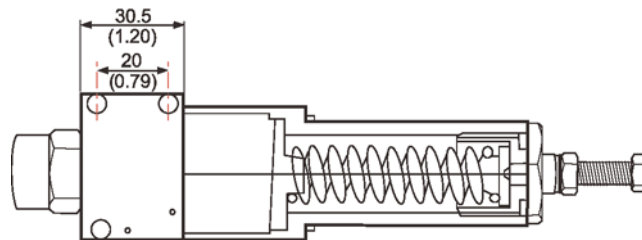
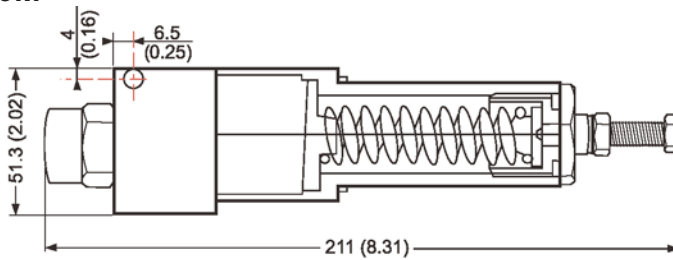


Normally Closed

Dimensional Data

Units: mm (inches)

PS30M



Parts Identification

APS-D2BV-24FP

