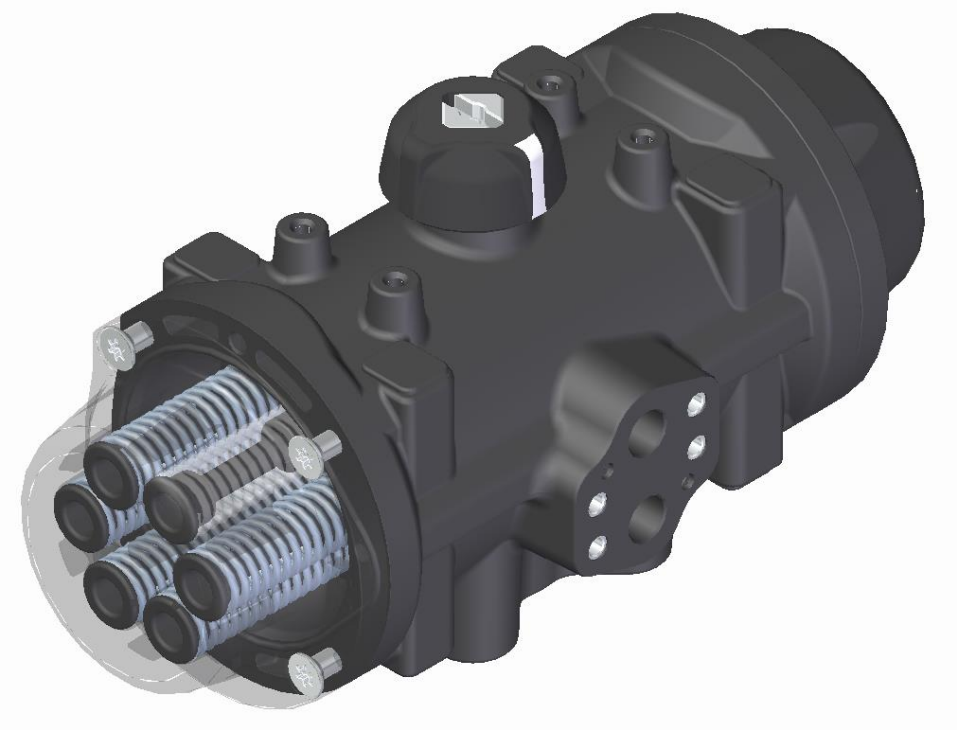
Pneumatic
Series 79P Actuator



Installation, Operation and Maintenance Manual

ASAHI/AMERICA®

USER INFORMATION

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Series 79P Pneumatic Actuator Introduction

Description

The Series 79P Pneumatic Actuator is a quarter turn operator, that has two opposed pistons with racks engaging with a single pinion on the actuator shaft. Racks and pinion engage with massive teeth over full length of pinion, resulting in balanced forces with minimal backlash.

Pistons and racks are molded polyarilamide for the PAG version, and Aluminum Alloy for the 316SS and Cataphoresis/Rilsan version. Piston guides are Polyacetal for sizes A through D5, and PTFE Bronze for sizes E through M. Pinion gears are Aluminum Alloy. Body and end caps are 316SS, Polyamide glass filled, or cast Aluminum Alloy Cataphoresis and Rilsan coated inside and outside. Actuator shaft is Stainless Steel or Cataphoresis coated steel. O-Rings are self-Lubricating BUNA-N. Air connections are ¼" FNPT.

Actuator shaft can be used for manual override. Remove position indicator, and insert wrench on to shaft square and rotate. A de-clutchable gear override is required for air to air valve sizes 8" and above, and all air to sprig models.

Air Requirement

The condition and quality of the compressed air supply to an actuator will affect the efficiency and the life of the seals, guides, and actuator in general. We recommend installing a shutoff valve ahead of actuator to allow shutoff of air to allow removal of valve and actuator for maintenence.

80psi, clean, instrument quality dry air or gas is recommended for satisfactory operation. Lubricated air is acceptable, but is not necessary as the o-ring material is self-lubricating BUNA-N.

If air lubricators are used, the lubricant selected must be compatible with actuator internals!

Actuator may be used with liquid as the power source as long as liquid is compatible with actuator internals, and contains no suspended particles. The actuator environment temperature limits are -25°F and 195°F.

Installation

Type 21 Ball Valves

Position the valve and the actuator to corresponding positions (either OPEN or CLOSED). The flats on the actuator shaft extension and the indicator knob should indicate valve position

Type 21 Ball Valves (See Drawing #0114BV sizes ½" – 2")
Install mounting bracket #3 to actuator #2 using bolts #8 and washers #9. Insert coupling #4 on stem of valve #1 and then bolt valve #1 to mounting bracket #3 using bolts #5, nuts #6, and washers #7.

Note: All bolts should be snug and not excessively over tightened.

Type 21 Ball Valves (See Drawing #0115BV sizes 2-1/2" - 4")
Install mounting bracket #3 to actuator #2 using bolts #8 and washers #9. Insert coupling #4 on stem of valve #1 and then bolt valve #1 to mounting bracket #3 using bolts #5, nuts #6, and washers #7.

Note: All bolts should be snug and not excessively over tightened.

Type 23 Ball Valve (3-way)

Position the valve and the actuator to corresponding positions (either OPEN or CLOSED). The flats on the actuator shaft extension and the indicator knob should indicate valve position

Type 23 Ball Valves (3-way): (See Drawing #0139BV, sizes ½" - 4")
Install mounting bracket #3 to actuator #2 using bolts #8 and washers #9. Insert coupling #4 on stem of valve #1 and then bolt valve #1 to mounting bracket #3 using bolts #5, nuts #6, and washers #7.

Type 56/57 Butterfly Valves

Position the valve and the actuator to corresponding positions (either OPEN or CLOSED). The flats on the actuator shaft extension and the indicator knob should indicate valve position

CAUTION: If valve is in line, system must be shut down and have no line pressure before removing throttle plate and retaining washer.
Butterfly Valves (See Drawing # 0204BF sizes 1-1/2" - 6")

No specially machined stem or valve body drilling required. Remove handle (remove handle cap and hex head bolt) to expose throttle plate screws. Remove throttle plate and retaining washer to expose existing bolt pattern. Insert actuator shaft adapter #9 into actuator.Mount bracket #2 to actuator with bolts #7 and tighten evenly. Install valve #1 onto mounting bracket and align stem of valve to engage with actuator shaft adapter. (Line scribed on top of stem indicates disc orientation). Install bolts and nuts #3 thru #6 and tighten evenly. Flats on actuator shaft indicate valve position. (Disc Orientation)

Butterfly Valves (See Drawing #0167BF sizes 8" - 16")

No specially machined stem or valve body drilling required. Remove gear operator by removing 4 thru bolts in body of valve to gear operator and lift off. Insert actuator shaft adapter #9 into actuator. Mount bracket #2 to actuator #10 using bolts #7 and washers #8. Install valve #1 to mounting bracket #2 using bolts #3, nuts #6, and washers #4, keeping in mind line scribed in valve stem indicates disc orientation before mounting and by flats on actuator shaft after mounting.

Type 75 Butterfly Valves

Butterfly Valves (See Drawing #1230 sizes 18" - 24")

No specially machined stem or valve body drilling required. Remove gear operator by removing 4 thru bolts in body of valve to gear operator and lift off. Insert actuator shaft adapter #9 into actuator. Mount bracket #2 to actuator #10 using bolts #7 and washers #8. Install valve #1 to mounting bracket #2 using bolts #3, nuts #6, and washers #4, keeping in mind line scribed in valve stem indicates disc orientation before mounting and by flats on actuator shaft after mounting.

CAUTION: If mounted unit is installed other than straight up, the actuator should be supported individually in order to prevent side loading and loosening up of fasteners.

Operation

Single and Double Acting:

Pressurized air is introduced via the bottom, or right, port and displaces two opposed pistons. When the pistons are displaced, they in turn rotate the actuator output shaft counterclockwise, which opens the valve. This action is the same for single acting and double acting actuators.

Single Acting:

When the pressurized air is removed from the bottom, or right, port, the compressed springs located at the opposite side of the pistons extend. As the spring extend, they in turn rotate the actuator output shaft in a clockwise rotation, which closes the valve. The springs are ALWAYS under tension, so caution must be exercised.

Double Acting:

When the pressurized air is removed from the bottom, or right, port, the unit remains in the same position until pressurized air is applied to the top, or left, port (unlike the single acting actuator). When the pressurized air is introduced to the top port, it is channeled to the opposite side of the pistons, driving them to their original position, which in turn rotates the actuator output shaft in a clockwise direction, closing the valve.

Optional Solenoid Valve (See drawing #004PNU)

An optional solenoid valve (ASCO 8401 NAMUR mount) can be supplied mounted directly to the actuator. The cycling is accomplished by energizing the solenoid coil for one valve position (typically open), and de-energizing for the opposite valve position (typically closed). The unit is electrically fail safe; so it will return to its de-energized position on electrical failure, provided the air supply is not interrupted.

The 8401 solenoid is equipped with mufflers, speed controls, a manual override, and 18 inch long #18 AWG lead wire.

The speed controls are needle valves that will reduce the C_V value or increase the cycle time by creating back pressure within the actuator. Speed control adjustments are independent for the opening and closing strokes.

Caution: If speed control adjustments are screwed in too far, actuator can not exhaust properly and will not cycle!!

The manual override is engaged by pressing and rotating the red slotted screw clockwise 90 for the open position. Once the valve is open, simply rotate the red screw counter-clockwise 90 for the closed position.
Caution: Manual override will not work without air supply!!

Maintenance

The Series 79P double rack and pinion actuators do not need any preventative maintenance.

Periodic checks should be performed to ensure proper tightness of all fasteners.

Caution: Isolate actuator from electrical power supply and compressed air supply before any maintenance is performed. Make sure both sides of pistons have been bled off.

CAUTION --- DANGER!!!!!!!

Failure to use proper tools can result in SERIOUS INJURY!

The actuator springs are very strong and are compressed when actuator is assembled.

Dis-assembly of Actuator

1. Remove end cap by slowly loosening end cap screws, in a crossing pattern
2. Remove springs
3. Repeat steps 1 and 2 for opposite end cap
4. Rotate shaft counter-clockwise to remove pistons.
5. Remove snap ring from shaft.
6. Slide shaft through actuator body and out the bottom.

Assembly of Actuator

1. Install shaft, washer, and secure with snap ring; making sure that the snap ring is seated
2. With the air inlet ports facing you, install pistons into actuator body with the rack of the right piston facing the air inlet ports.
3. Rotate shaft CCW (beyond open position) to engage both racks. Next, rotate shaft CW to pull pistons to the closed fully position (actuator shaft should not be cocked, and there should be equal distance between the actuator body and the pistons).
4. Install desired number of springs and end cap to actuator body.
5. Set end cap into position, and tighten screws, in a crossing pattern
6. Repeat steps 5 & 6 for other end.

Repair Kits

NOTE: When ordering replacement actuator parts and/or options specify model #, serial number (and voltage, if applicable).

P/PA-Series

Actuator Model	Part Number	Actuator Model	Part Number
A79PA	2385001	D579PA	2385025
B79PA	2385000	E79PA	2385030
B579PA	2385005	F79P	2398040
C79PA	2385010	G79P	2398050
C579PA	2385015	L79P	2398060
D79PA	2385020	M79P	2398070

PAG-Series

Actuator Model	Part Number	Actuator Model	Part Number
AP79P	2386001	CP79P	2386010
BP79P	2386000	DP79P	2386020

316SS-Series

Actuator Model	Part Number	Actuator Model	Part Number
BS79P	2381000	DS79P	2381020
CS79P	2381010	ES79P	2381030

Each repair kit includes the following (Please reference exploded views)

Description	Item Number
1 set of piston o-rings	11
1 set of piston guides	9
1 set of guide rings	10
1 set of end cap o-rings	3
1 set of upper shaft o-rings	12
1 set of lower shaft o-rings	13
1 shaft washer	6
1 shaft snap ring	7

Engineering Data

Actuators

AIR CONSUMPTION
(CUBIC INCHES)

Model No.	Air to Air		Air to Spring	
	Open Port A	Close Port B	Open Port A	Close 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	-
L79P	1189.89	1263.11	1189.89	-
M79P	1891.62	1830.60	1891.62	-

Cycle Time
(Seconds)

Model No.	Air to Air		Air to Spring	
	Open Port A	Close Port B	Open Port A	Close 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	0.60	0.60	1.20	1.20
F79P	1.20	1.20	2.00	2.00
G79P	2.00	2.00	6.00	6.00
L79P	3.00	3.00	6.00	5.00
M79P	4.00	4.00	8.00	6.00

Solenoids

All solenoid coils may be used at +10% to -10% of rated voltages. Coils are 50/60 Hertz and are rated for continuous duty if operated at 60 Hertz.

Note: Consult factory for non-standard voltages and for continuous duty at 50 Hertz.

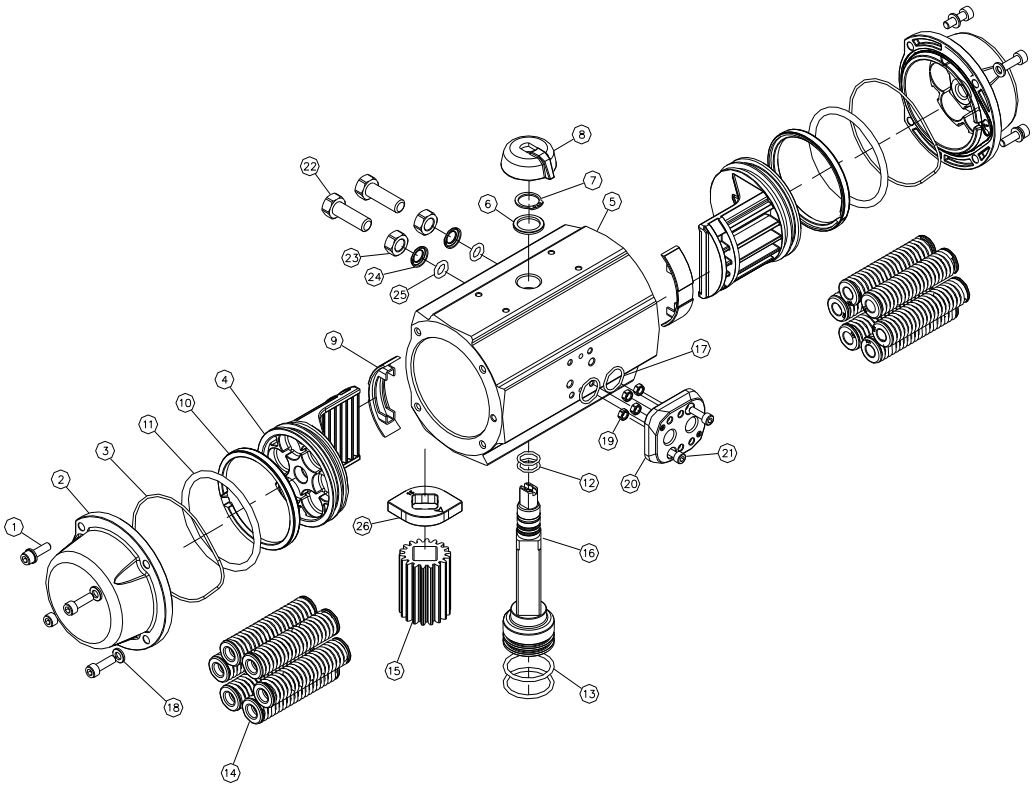
Rated Voltage	In Rush Current Milliamp @ 60 Hz	Holding Current Milliamp @ 60 Hz	Watts @ Rated Voltages
120 VAC	113	71	6.2
24 VAC	566	360	6.2
240 VAC	56	35	6.2
12 VDC	---	583	7
24 VDC	---	292	7

Solenoids are furnished with 18 inch long #18 AWG lead wire.

Attachments: 8 drawings:
0114BV, 0115BV, 0139BV, 0167BF, 0167BF57, 0204BF, 1230, 0004PNU

Exploded Views

Typical PA-Series

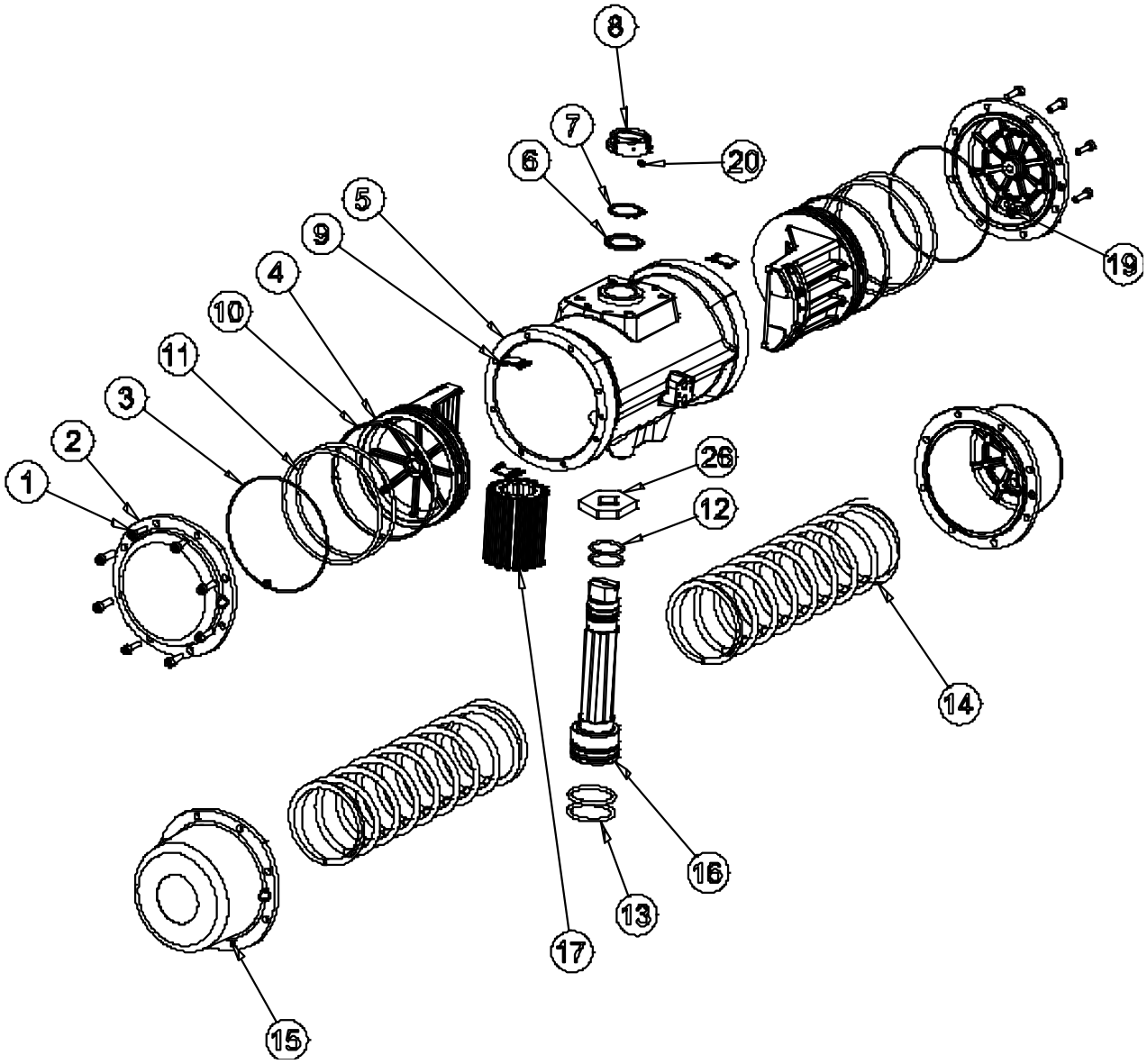


No	Description	Material
1	End Cap Bolt	304 Stainless Steel
2	End Cap	Cataphoresis and Polyurethane coated Aluminum Alloy
3	End Cap O-Ring	NBR
4	Piston	Cataphoresis Coated Aluminum Alloy
5	Actuator Body	Cataphoresis and Rilsan Coated Aluminum Alloy
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Nickel PTFE 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

No	Description	Material
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

* End position travel adjustment is not available on the A79PA

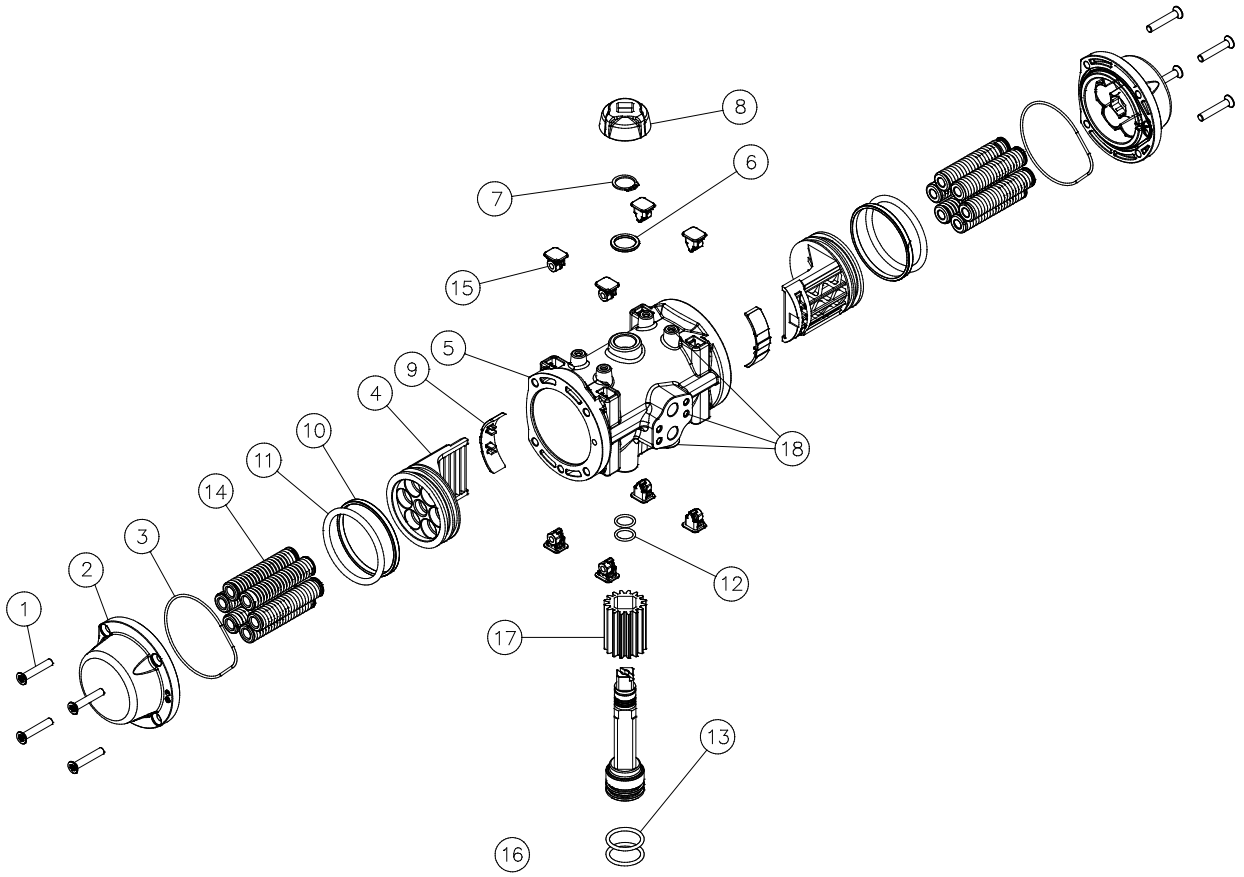
Typical P-Series



No	Description	Material
1	End Cap Bolt	304 Stainless Steel
2	Double Acting End Cap	Cataphoresis & Rilsan Coated Aluminum Alloy
3	End Cap O-Ring	NBR
4	Piston	Aluminum Alloy
5	Actuator Body	Cataphoresis & Rilsan Coated Aluminum Alloy
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Cataphoresis Coated Steel
8	Position Indicator	Polyamide
9	Piston Guide	PTFE + Bronze

No	Description	Material
10	Guide Ring	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	Cataphoresis & Rilsan Coated Aluminum Alloy
16	Shaft	Cataphoresis Coated Steel
17	Pinion Gear	Aluminum Alloy
19	End Cap Gasket	NBR

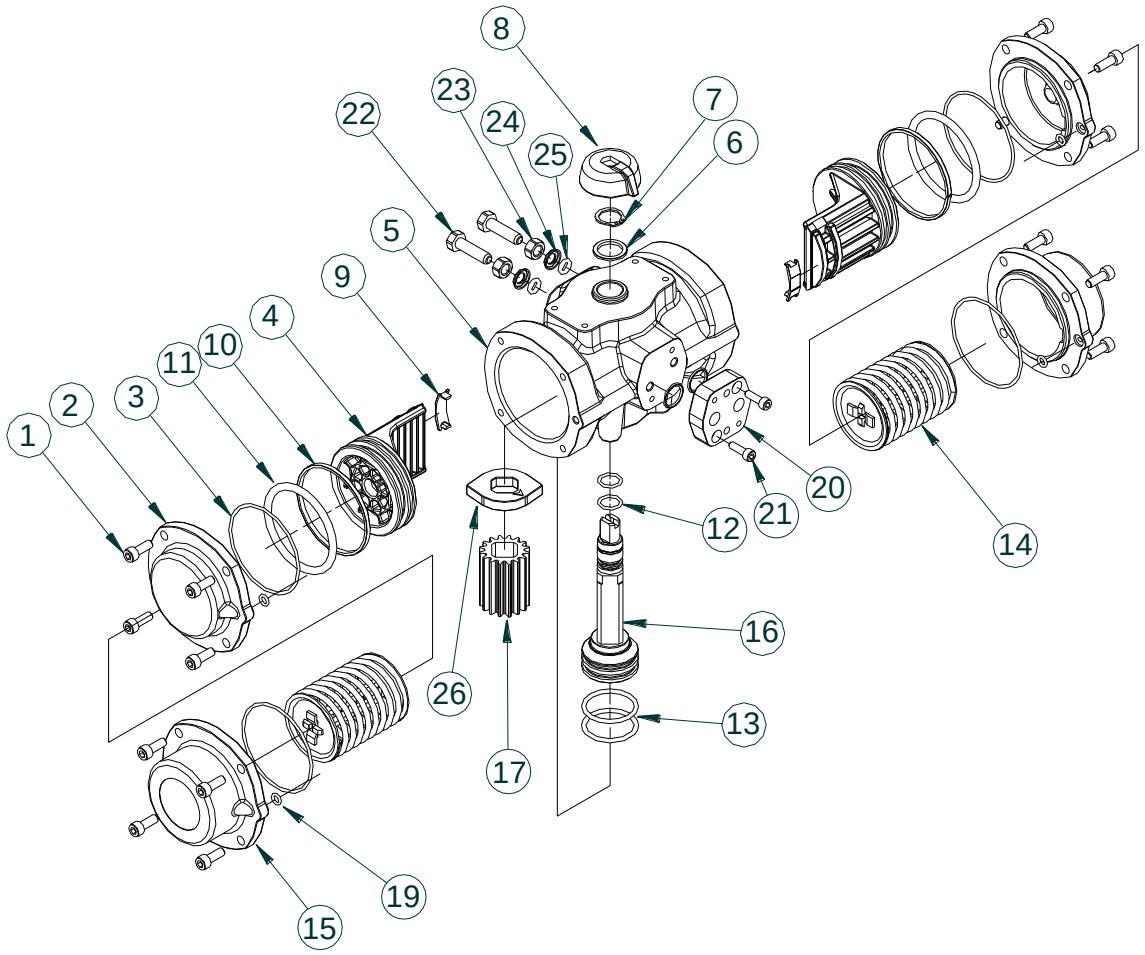
Typical Series P79P (PAG)



No	Description	Material
1	End Cap Bolt	304 SS
2	End Cap	Polyamide
3	End Cap O-Ring	NBR
4	Piston	Polyarilamide
5	Actuator Body	Polyamide
6	Washer	Polyacetal
7	Shaft Retaining Ring	Stainless Steel
8	Position Indicator	Polyamide
9	Piston Guide	Polyacetal

No	Description	Material
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
-	-	-

Typical Series S79P (316SS)



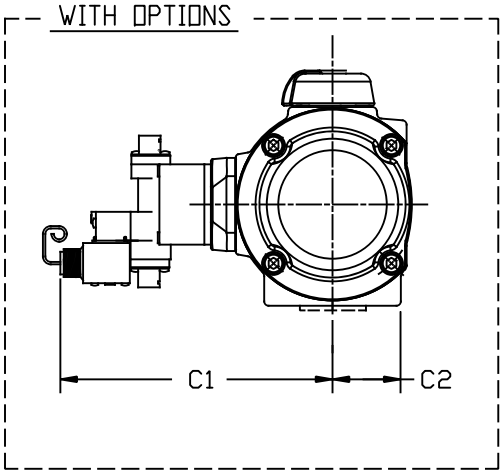
No	Description	Material
1	End Cap Bolt	316 Stainless Steel
2	Double Acting End Cap	316 Stainless Steel
3	End Cap O-Ring	NBR
4	Piston	Polyarilamide or Cataphoresis Coated Aluminum
5	Actuator Body	316 Stainless Steel
6	Washer	Polyamide 6
7	Shaft Retaining Ring	Stainless Steel
8	Position Indicator	Polyamide
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

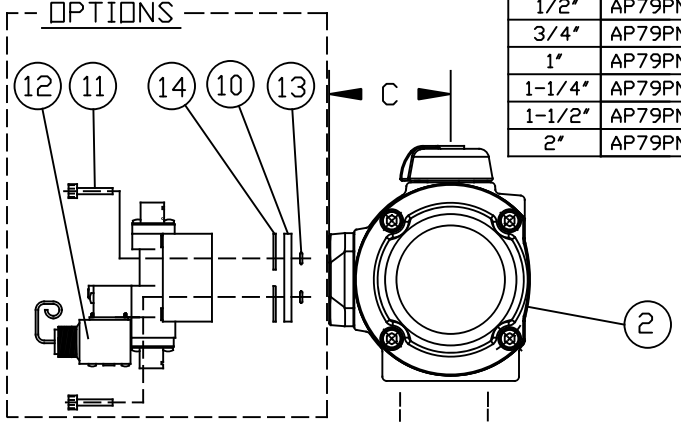
No	Description	Material
14	Spring Set	Cataphoresis Coated DIN-17223-C
15	Spring Return End Cap	316 Stainless Steel
16	Shaft	316 Stainless Steel
17	Pinion Gear	Aluminum Alloy
19	End Cap Gasket	NBR
20	Air Connection Plate	316 Stainless Steel
21	Bolt for Air Connection Plate	316 Stainless Steel
22	Adjustment 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
-	-	-

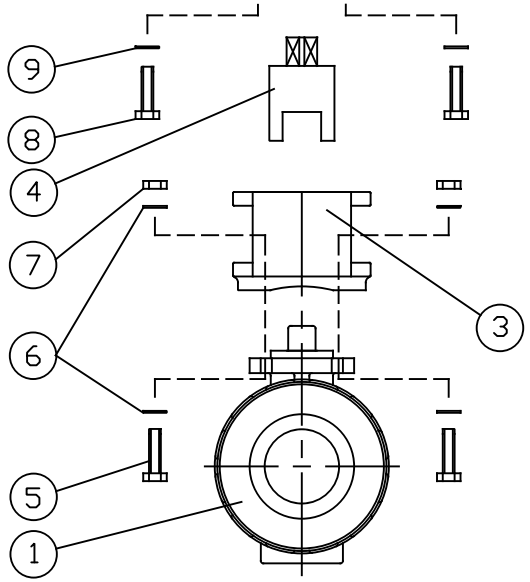
* End position travel adjustment is not available on the BS79P

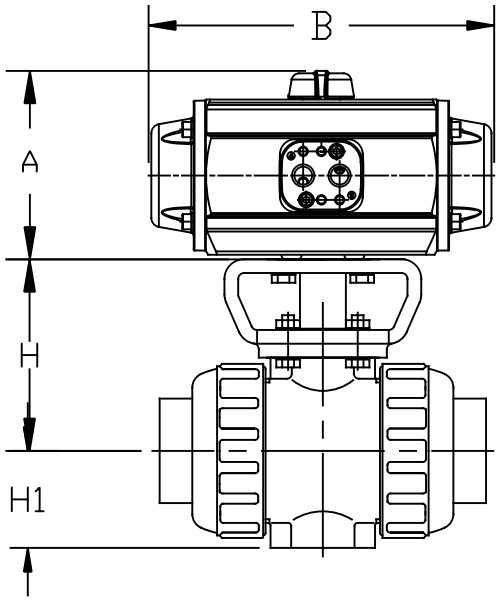
UNIT: INCH

VALVE SIZE	MODEL A-A	MODEL A-S	A		B		C		C1		C2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
1/2″	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
3/4″	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
1″	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
1-1/4″	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
1-1/2″	AP79PN	BP79PSN	3.50	4.02	5.67	6.18	1.65	1.89	5.59	5.82	1.10	1.22
2″	AP79PN	CP79PSN	3.50	4.84	5.67	9.06	1.65	2.20	5.59	6.12	1.10	1.61









ITEM	DESCRIPTION	MATERIAL	QTY
14	GASKET (OPTIONS)	NBR	2
13	O-RING (OPTIONS)	NBR	2
12	SOLENOID (ASCO) (OPTIONS)	ZYTEL	1
11	SCREW SOC HD (OPTIONS)	300SS	1
10	MOUNTING PLATE (OPTIONS)	ZYTEL	1
9	FLAT WASHER (M6.0)	STAINLESS STEEL	4
8	BOLT (FOR A79 (PW) USE M5.0x.8-16LG) (FOR B79 (P0) USE M6.0x1-16LG) (FOR C79 (P1) USE M8.0x1.25-16LG)	STAINLESS STEEL	4
7	NUT (FOR 1/2″ THRU 1-1/4″ : M5.0x.8) (FOR 1/2″ THRU 1-1/4″ : M6.0x1)	STAINLESS STEEL	4
6	FLAT WASHER (FOR 1/2″ THRU 1-1/4″ : M5.0) (FOR 1/2″ THRU 1-1/4″ : M6.0)	STAINLESS STEEL	8
5	BOLT (FOR 1/2″ THRU 1-1/4″ : M5.0x.8-16LG) (FOR 1/2″ THRU 1-1/4″ : M6.0x1-20LG)	STAINLESS STEEL	4
4	COUPLING	STAINLESS STEEL 303	1
3	MOUNTING BRACKET	PPG	1
2	ACTUATOR SERIES 79	☐ GLASS FILLED POLYAMIDE ☐ STAINLESS STEEL (OPTION) ☐ RILSAN COATED CAST ALUMINUM (OPTION)	1
1	BALL VALVE TYPE 21	PVC,CPVC,PP,PVDF	1

UNIT: INCH

VALVE SIZE	1/2″	3/4″	1″	1-1/4″	1-1/2″	2″
H	2.76	3.01	3.29	3.64	3.98	4.43
H1	1.14	1.38	1.54	1.85	2.17	2.60

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

	NAME	DATE
DR	KENICHI MIYAZAKI	8/14/01
APPD		
PROD		
WO#/CO#		
FILE		

ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

BALL VALVE TYPE21 SERIES79 PNEUMATIC ACT. 1/2″ THRU 2″

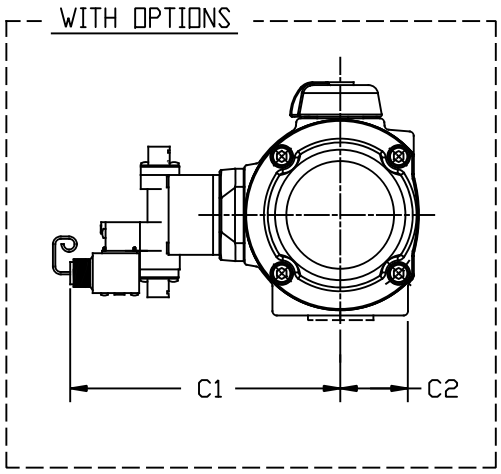
SIZE	DWG. NO.	REV
A	0114BV	C

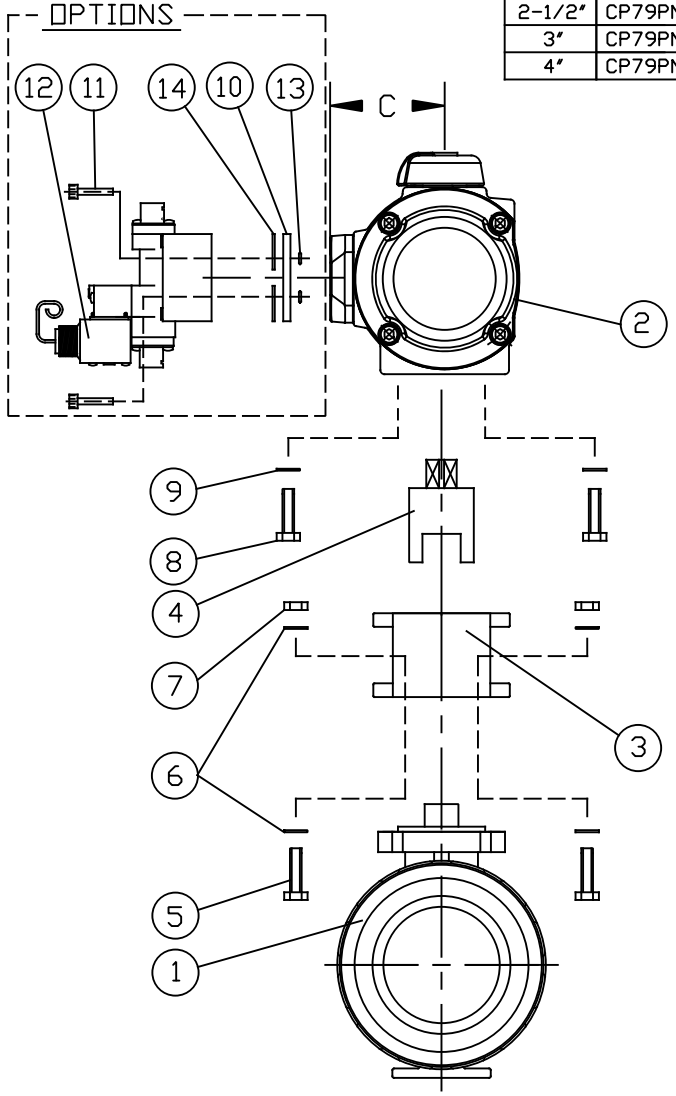
SCALE NTS

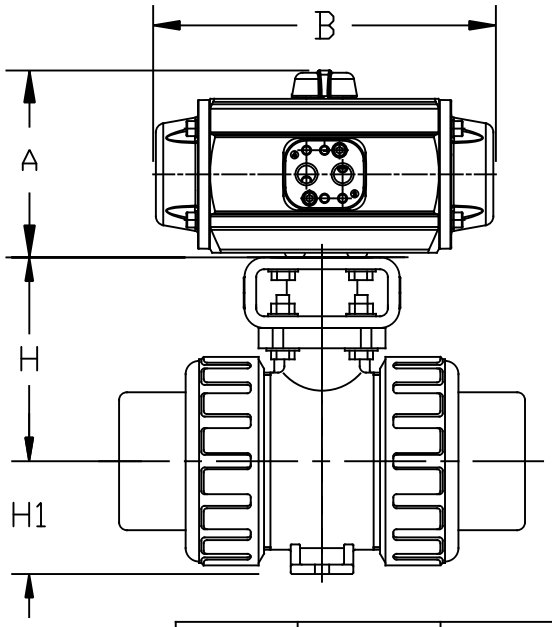
SHEET 1 OF 1

UNIT: INCH

VALVE SIZE	MODEL A-A	MODEL A-S	A		B		C		C1		C2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
2-1/2″	CP79PN	CP79PSN	4.84	4.84	9.07	9.07	2.20	2.20	6.12	6.12	1.22	1.22
3″	CP79PN	DP79PSN	4.84	5.79	9.07	12.32	2.20	2.68	6.12	6.60	1.22	2.20
4″	CP79PN	DP79PSN	4.84	5.79	9.07	12.32	2.20	2.68	6.12	6.60	1.22	2.20







ITEM	DESCRIPTION	MATERIAL	QTY
14	GASKET (OPTIONS)	NBR	2
13	O-RING (OPTIONS)	NBR	2
12	SOLENOID (ASCO) (OPTIONS)	ZYTEL	1
11	SCREW SOC HD (OPTIONS)	300SS	1
10	MOUNTING PLATE (OPTIONS)	ZYTEL	1
9	FLAT WASHER (M6.0)	STAINLESS STEEL	4
8	BOLT (FOR A79 (PW) USE M5.0x.8-16LG) (FOR B79 (P0) USE M6.0x1-16LG) (FOR C79 (P1) USE M8.0x1.25-16LG)	STAINLESS STEEL	4
7	NUT (FOR 2-1/2″ AND 3″ : M8.0x1.25) (FOR 4″ : M10.0x1.50)	STAINLESS STEEL	4
6	FLAT WASHER (FOR 2-1/2″ AND 3″ : M8.0) (FOR 4″ : M10.0)	STAINLESS STEEL	8
5	BOLT (FOR 2-1/2″ AND 3″ : M8.0x1.25-35LG) (FOR 4″ : M10.0x1.50-40LG)	STAINLESS STEEL	4
4	COUPLING	STAINLESS STEEL 303	1
3	MOUNTING BRACKET	PPG	1
2	ACTUATOR SERIES 79	☐ GLASS FILLED POLYAMIDE ☐ STAINLESS STEEL (OPTION) ☐ RILSAN COATED CAST ALUMINUM (OPTION)	1
1	BALL VALVE TYPE 21	PVC,CPVC,PP,PVDF	1

UNIT: INCH

VALVE SIZE	2-1/2″	3″	4″
H	5.12	5.47	6.97
H1	2.83	3.35	4.33

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

	NAME	DATE
DR	KENICHI MIYAZAKI	8/14/01
APPD		
PROD		
WO#/CO#		
FILE		

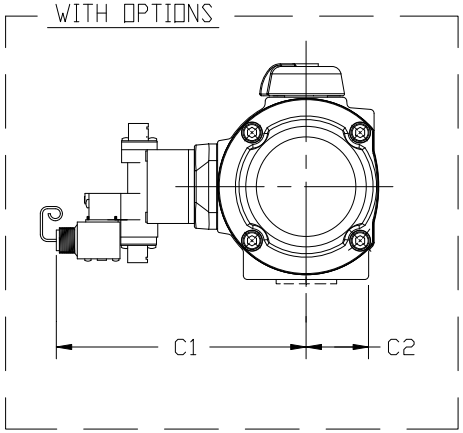
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

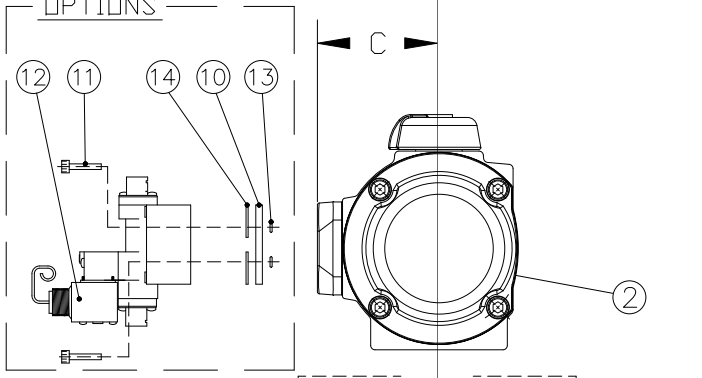
BALL VALVE TYPE21 SERIES79 PNEUMATIC ACT. 2-1/2″ THRU 4″

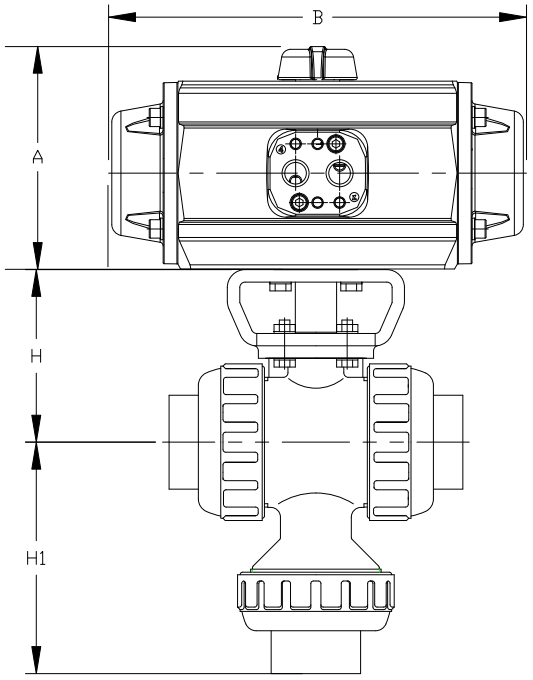
SIZE	DWG. NO.	REV
A	0115BV	C

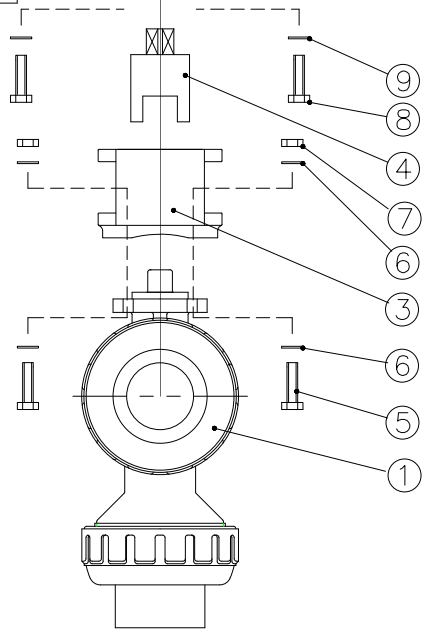
SCALE NTS

SHEET 1 OF 1

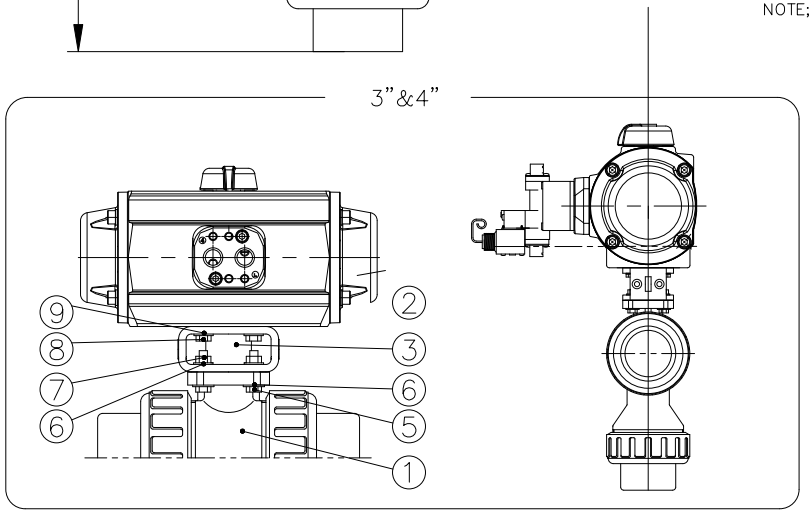








NOTE; 1) THE SHAPE AND APPEARANCE OF ASSEMBLY DIFFER A LITTLE WITH NOMINAL SIZE COMPARED TO THIS DRAWING.
2) FOR DETAILED VALVE DIMENSIONS, REFER TO DWG. NO. 0126BV, 0127BV, 0128BV.
L-PORT : DWG. NO. 0126BV
DOUBLE L-PORT : DWG. NO. 0127BV
CROSS PORT : DWG. NO. 0128BV



DIMENSIONS TABLE UNIT: inch

VALVE SIZE	MODEL A-A	MODEL A-S	A		B		C		C1		C2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
1/2"	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
3/4"	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
1"	AP79PN	AP79PSN	3.50	3.50	5.67	5.67	1.65	1.65	5.59	5.59	1.10	1.10
1-1/2"	AP79PN	BP79PSN	3.50	4.02	5.67	6.18	1.65	1.89	5.59	5.82	1.10	1.22
2"	AP79PN	CP79PSN	3.50	4.84	5.67	9.06	1.65	2.20	5.59	6.12	1.10	1.61
3"	CP79PN	DP79PSN	4.84	5.79	9.07	12.32	2.20	2.68	6.12	6.60	1.22	2.20
4"	CP79PN	DP79PSN	4.84	5.79	9.07	12.32	2.20	2.68	6.12	6.60	1.22	2.20

NOMINAL SIZE			FLANGED		THREADED		SOCKET						SPIGOT (BUTT END)	
							PVC,CPVC		PP,PVDF (DIN)		PP,PVDF (IPS)			
		H	H1	L	H1	L	H1	L	H1	L	H1	L	H1	L
½"	15mm	2.76	3.70	5.63	2.89	4.02	3.08	4.45	2.80	3.90	3.09	4.45	3.27	4.88
¾	20	3.01	4.50	6.77	3.48	4.72	3.56	5.08	3.27	4.49	3.61	5.08	3.90	5.67
1	25	3.29	5.24	7.36	4.13	5.16	4.32	5.75	3.94	4.84	4.37	5.75	4.53	6.06
1½	40	3.98	6.50	8.35	5.53	6.42	5.71	7.24	5.16	5.83	5.85	7.24	6.02	6.85
2	50	4.43	7.34	9.21	6.61	7.76	6.66	8.23	6.06	6.93	6.76	8.23	7.01	8.82
3	80	5.47	10.06	11.97	9.25	10.39	9.59	11.10	8.82	9.88	11.10	11.10	9.69	11.61
4	100	6.97	12.01	14.65	11.77	14.17	11.58	13.90	10.98	12.20	14.37	14.37	11.85	12.72

ITEM	DESCRIPTION	MATERIAL	QTY
14	GASKET (OPTIONS)	NBR	2
13	O-RING (OPTIONS)	NBR	2
12	SOLENOID (ASCO) (OPTIONS)	ZYTEL	1
11	SCREW SOC HD (OPTIONS)	STAINLESS STEEL	1
10	MOUNTING PLATE (OPTIONS)	ZYTEL	1
9	FLAT WASHER (M6.0)	STAINLESS STEEL	4
8	BOLT (FOR A79 (PW) USE M5.0x.8-16LG) (FOR B79 (PO) USE M6.0x1-16LG) (FOR C79 (P1) USE M8.0x1.25-16LG)	STAINLESS STEEL	4
7	NUT (FOR 1/2" THRU 1-1/4" : M5.0x.8) (FOR 1-1/2" THRU 2" : M6.0x1) (FOR 3" : M8.0x1.25) (FOR 4" : M10.0x1.50)	STAINLESS STEEL	4
6	FLAT WASHER (FOR 1/2" THRU 1-1/4" : M5.0) (FOR 1-1/2" THRU 2" : M6.0) (FOR 3" : M8.0) (FOR 4" : M10.0)	STAINLESS STEEL	8
5	BOLT (FOR 1/2" THRU 1" : M5.0x.8-16LG) (FOR 1-1/2" THRU 2" : M6.0x1-20LG) (FOR 3" : M8.0x1.25-35LG) (FOR 4" : M10.0x1.50-40LG)	STAINLESS STEEL	4
4	COUPLING	STAINLESS STEEL 303	1
3	MOUNTING BRACKET	PPG	1
2	ACTUATOR SERIES 79	☐ GLASS FILLED POLYAMIDE ☐ STAINLESS STEEL (OPTION) ☐ RILSAN COATED CAST ALUMINUM (OPTION)	1
1	MULTIPORT BALL VALVE TYPE23	PVC,CPVC,PP,PVDF	1

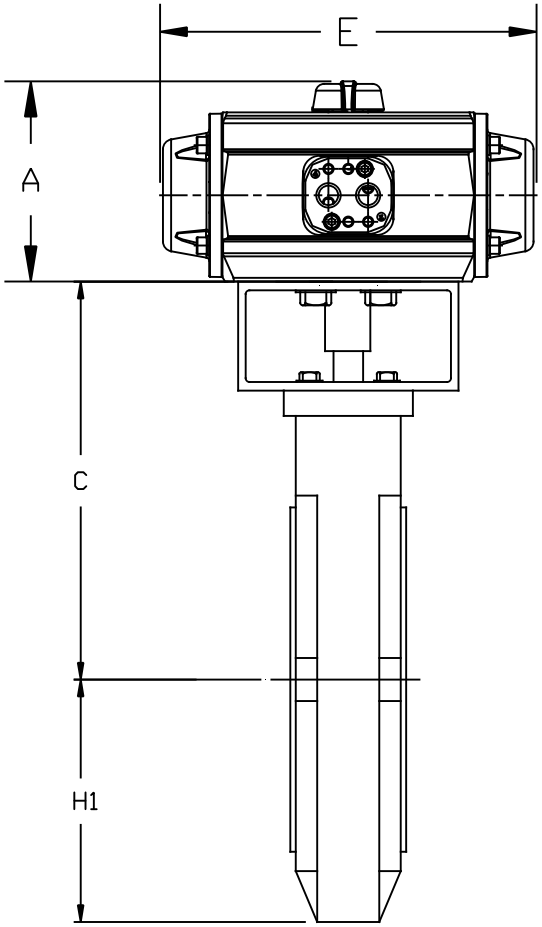
	NAME	DATE
DR	KENICHI MIYAZAKI	1/28/03
APPD		
PROD		
WO#/CO#		
FILE		

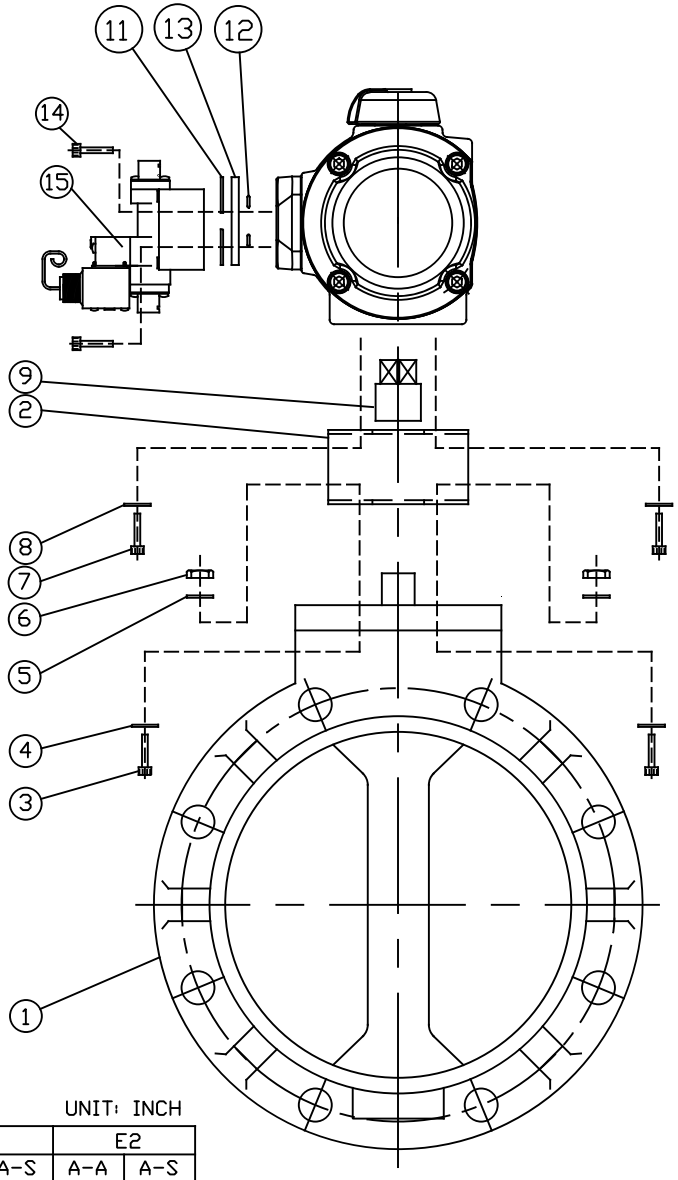
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

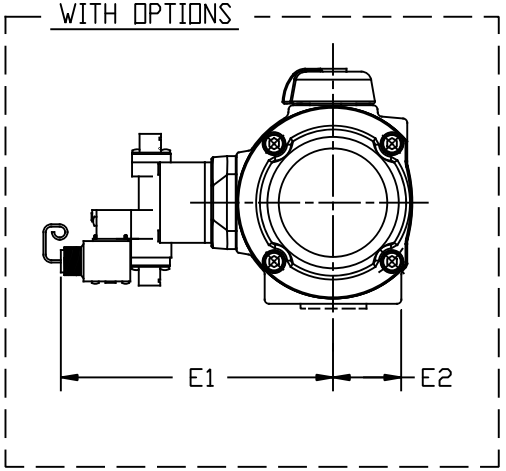
MULTI PORT BALL VALVE TYPE23 WITH SERIES79 ACT. 1/2" THRU 4"

SIZE	DWG. NO.	REV
A	0139BV	B

SCALE NTS SHEET 1 OF 1







NOTE: ACTUATOR BODY IS CAST ALUMINUM WITH RILSAN (POLYAMIDE NYLON II) COATING FOR VALVE SIZES 8 THROUGH 24 AIR-AIR AND 5 THROUGH 12 AIR-SPRING. ACTUATOR BODY IS AVAILABLE IN STAINLESS STEEL OR GLASS FILLED POLYAMIDE FOR VALVE SIZES 1 1/2 THROUGH 12 AIR-AIR AND 1 1/2 THROUGH 10 AIR-SPRING

No.	DESCRIPTION	MATERIAL	QTY
15	SOLENOID, ASCO (OPTIONS)	ZYTEL	1
14	SCREW, SOC HEAD (OPTIONS)	STAINLESS STEEL 303	2
13	PLATE MOUNTING (OPTIONS)	ZYTEL	1
12	O-RING (OPTIONS)	NBR	2
11	GASKET (OPTIONS)	NBR	2
10	ACTUATOR (SEE NOTE)	SERIES 79P	1
9	SHAFT ADAPTER	STAINLESS STEEL 303	1
8	FLAT WASHER	STAINLESS STEEL 303	4
7	SCREW	STAINLESS STEEL 303	4
6	NUT, HEX LOCKING	STAINLESS STEEL 303	4
5	WASHER, FLAT	STAINLESS STEEL 303	4
4	WASHER, FLAT	STAINLESS STEEL 303	4
3	SCREW	STAINLESS STEEL 303	4
2	MOUNTING BRACKET	STAINLESS STEEL 303	1
1	BUTTERFLY VALVE TYPE56	PVC, PP, PVDF	1

UNIT: INCH

VALVE SIZE	C	H1	A		E		E1		E2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
1 1/2	5.50	2.95	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
2	5.57	3.25	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
2 1/2	6.08	3.66	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
3	6.28	3.94	4.84	5.79	9.06	12.32	6.25	6.84	1.61	2.05
4	6.56	4.53	4.84	5.79	9.06	12.32	6.25	6.84	1.61	2.05
5	8.05	5.00	4.84	5.79	9.06	12.32	6.25	7.83	1.61	2.05
6	9.01	5.63	5.79	7.52	12.32	16.89	6.84	7.83	2.05	2.83
8	11.27	6.69	7.52	10.71	16.89	25.54	7.83	9.41	2.83	4.17
10	12.46	7.99	7.52	10.71	16.89	25.54	7.83	9.41	2.83	4.17
12	14.69	9.53	10.71	12.32	17.48	27.32	8.72	9.41	4.17	4.84
14	14.81	10.24	12.32	12.32	17.48	27.32	9.41	9.41	4.84	4.84
16	16.78	11.81	12.32	12.32	17.48	27.32	9.41	9.41	4.84	4.84

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

	NAME	DATE
DR	KENICHI MIYAZAKI	9/6/01
APPD	DAVE HURLEY	9/6/01
PROD	LEO LESTER	9/6/01
WO#/CO#		
FILE		

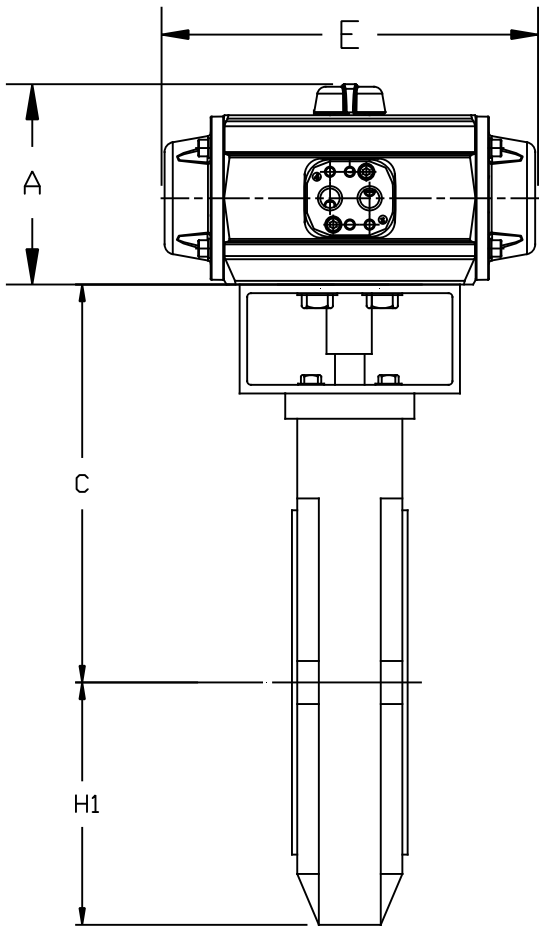
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

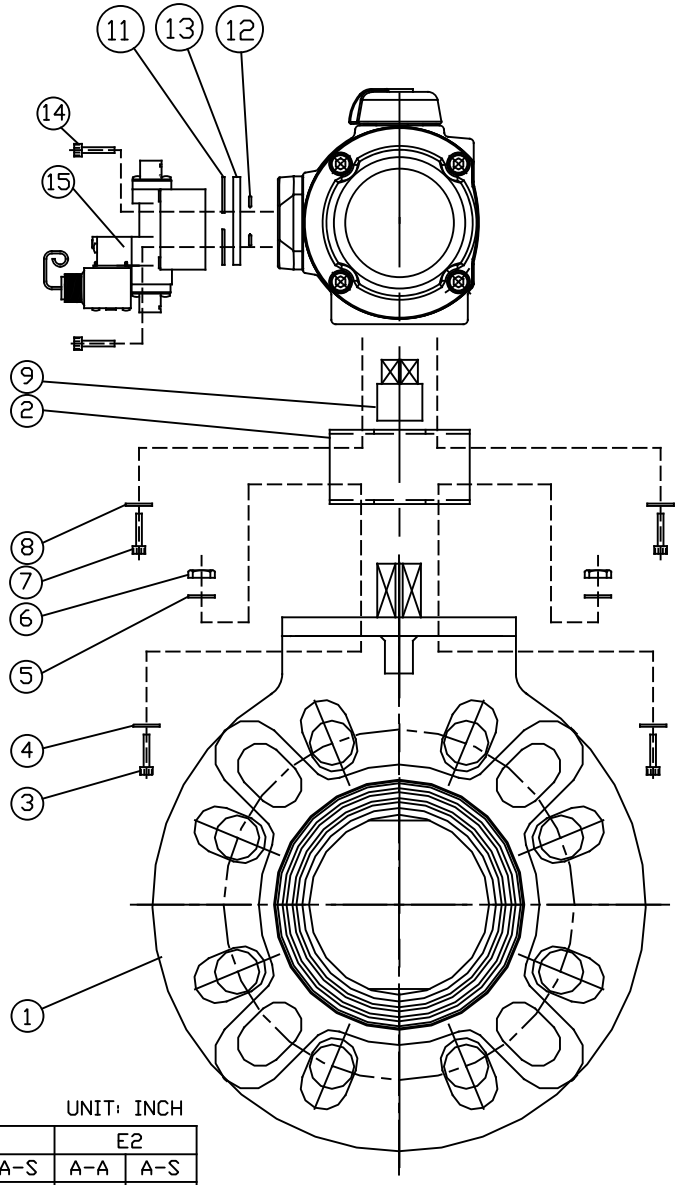
BUTTERFLY VALVE TYPE56 SERIES79P PNEUMATIC ACT. 1-1/2" THRU. 16"

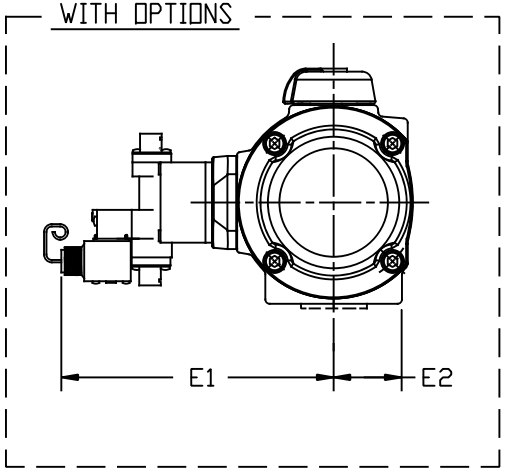
SIZE	DWG. NO.	REV
A	0167BF	C

SCALE NTS

SHEET 1 OF 1







NOTE: ACTUATOR BODY IS CAST ALUMINUM WITH RILSAN (POLYAMIDE NYLON II) COATING FOR VALVE SIZES 8 THROUGH 24 AIR-AIR AND 5 THROUGH 12 AIR-SPRING. ACTUATOR BODY IS AVAILABLE IN STAINLESS STEEL OR GLASS FILLED POLYAMIDE FOR VALVE SIZES 1 1/2 THROUGH 12 AIR-AIR AND 1 1/2 THROUGH 10 AIR-SPRING

No.	DESCRIPTION	MATERIAL	QTY
15	SOLENOID, ASCO (OPTIONS)	ZYTEL	1
14	SCREW, SOC HEAD (OPTIONS)	STAINLESS STEEL 303	2
13	PLATE MOUNTING (OPTIONS)	ZYTEL	1
12	O-RING (OPTIONS)	NBR	2
11	GASKET (OPTIONS)	NBR	2
10	ACTUATOR (SEE NOTE)	SERIES 79P	1
9	SHAFT ADAPTER	STAINLESS STEEL 303	1
8	FLAT WASHER	STAINLESS STEEL 303	4
7	SCREW	STAINLESS STEEL 303	4
6	NUT, HEX LOCKING	STAINLESS STEEL 303	4
5	WASHER, FLAT	STAINLESS STEEL 303	4
4	WASHER, FLAT	STAINLESS STEEL 303	4
3	SCREW	STAINLESS STEEL 303	4
2	MOUNTING BRACKET	STAINLESS STEEL 303	1
1	BUTTERFLY VALVE TYPE56	PVC, PP, PVDF	1

UNIT: INCH

VALVE SIZE	C	H1	A		E		E1		E2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
1 1/2	5.50	2.95	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
2	5.57	3.25	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
2 1/2	6.08	3.66	4.02	4.84	6.18	9.06	6.02	6.25	1.26	1.61
3	6.28	3.94	4.84	5.79	9.06	12.32	6.25	6.84	1.61	2.05
4	6.56	4.53	4.84	5.79	9.06	12.32	6.25	6.84	1.61	2.05
5	8.05	5.00	4.84	5.79	9.06	12.32	6.25	7.83	1.61	2.05
6	9.01	5.63	5.79	7.52	12.32	16.89	6.84	7.83	2.05	2.83
8	11.27	6.69	7.52	10.71	16.89	25.54	7.83	8.42	2.83	4.17
10	12.46	7.99	7.52	10.71	16.89	25.54	7.83	8.42	2.83	4.17
12	14.69	9.53	10.71	12.32	17.48	27.32	8.42	9.41	4.17	4.84
14	14.81	10.24	12.32	12.32	17.48	27.32	8.42	9.41	4.84	4.84

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

	NAME	DATE
DR	KENICHI MIYAZAKI	6/15/05
APPD	DAVE HURLEY	6/15/05
PROD	LEO LESTER	6/15/05
WO#/CO#		
FILE		

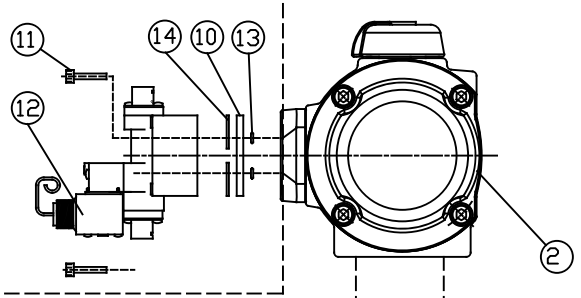
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

BUTTERFLY VALVE TYPE57 SERIES79P PNEUMATIC ACT. 1-1/2" THRU. 14"

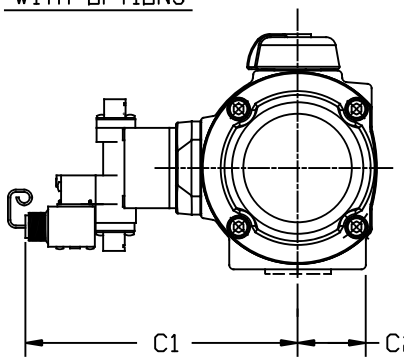
SIZE	DWG. NO.	REV
A	0167BF57	C

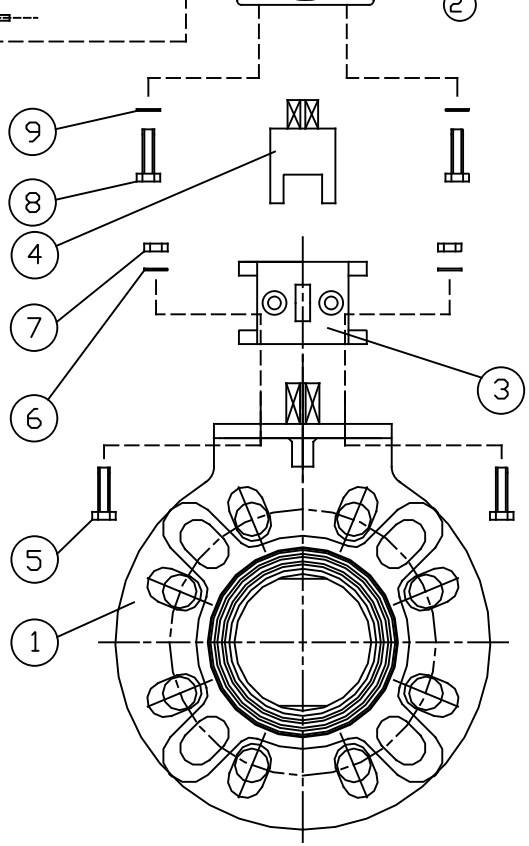
SCALE NTS SHEET 1 OF 1

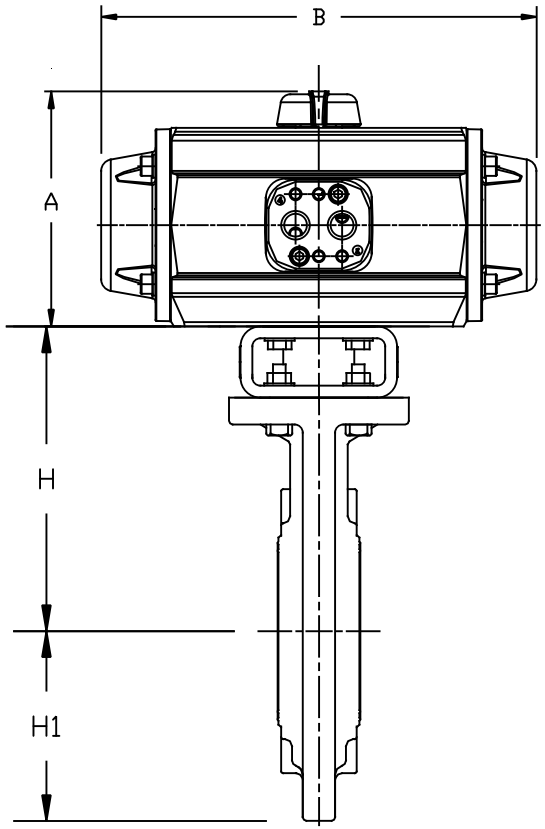
OPTIONS



WITH OPTIONS







UNIT: INCH

VALVE SIZE	MODEL A-A	MODEL A-S	A		B		C		C1		C2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
1-1/2"	BP79PN	CP79PSN	4.02	4.84	6.18	9.06	1.89	2.20	5.82	6.12	1.22	1.61
2"	BP79PN	CP79PSN	4.02	4.84	6.18	9.06	1.89	2.20	5.82	6.12	1.22	1.61
2-1/2"	BP79PN	CP79PSN	4.02	4.84	6.18	9.06	1.89	2.20	5.82	6.12	1.22	1.61
3"	CP79PN	DP79PSN	4.84	5.79	9.06	12.32	2.20	2.68	6.12	6.60	1.61	2.20
4"	CP79PN	DP79PSN	4.84	5.79	9.06	12.32	2.20	2.68	6.12	6.60	1.61	2.20
5"	CP79PN	E79PSN	4.84	7.52	9.06	16.89	2.20	3.82	6.12	7.74	1.61	2.83
6"	DP79PN	E79PSN	7.52	7.52	12.32	16.89	2.68	3.82	6.60	7.74	2.20	2.83

NOTE: E79 AVAILABLE RILSAN COATED CAST ALUMINUM ONLY

ITEM	DESCRIPTION	MATERIAL	QTY
14	GASKET (OPTIONS)	NBR	2
13	O-RING (OPTIONS)	NBR	2
12	SOLENOID (ASCO) (OPTIONS)	ZYTEL	1
11	SCREW SOC HD (OPTIONS)	STAINLESS STEEL 303	1
10	MOUNTING PLATE (OPTIONS)	ZYTEL	1
9	FLAT WASHER (FOR BP79 : M6.0) (FOR CP79 AND DP79 : M8.0) (FOR E79 : M10.0)	STAINLESS STEEL	4
8	BOLT (FOR BP79 : M6.0x1.00-16LG) (FOR CP79 AND DP79 : M8.0x1.25-16LG) (FOR E79 : M10.0x1.50-20LG)	STAINLESS STEEL	4
7	NUT (FOR 1-1/2" THRU. 4" : M8.0x1.25) (FOR 6" : M10.0x1.50)	STAINLESS STEEL	4
6	FLAT WASHER (FOR 1-1/2" THRU. 4" : M8.0) (FOR 6" : M10.0)	STAINLESS STEEL	8
5	BOLT (FOR 1-1/2" THRU. 4" : M8.0x1.25-35LG) (FOR 6" : M10.0x1.50-40LG)	STAINLESS STEEL	4
4	COUPLING	STAINLESS STEEL 303	1
3	MOUNTING BRACKET	PPG	1
2	ACTUATOR SERIES 79	☐ GLASS FILLED POLYAMIDE ☐ STAINLESS STEEL (OPTION) ☐ RILSAN COATED CAST ALUMINUM (OPTION)	1
1	BUTTERFLY VALVE TYPE 57	U-PVC,PP,PVDF	1

UNIT: INCH

VALVE SIZE	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
H	5.51	5.75	6.18	6.46	7.16	8.46	8.97
H1	2.95	3.27	3.66	3.94	4.53	5.00	5.63

NOTE: 1. The shape and appearance of assembly differ a little with nominal size compared to this drawing.
2. For 1-1/2" thru. 4" Mounting Bracket : F7 x F05,F07
For 5" and 6" Mounting Bracket : F10 x F07,F10

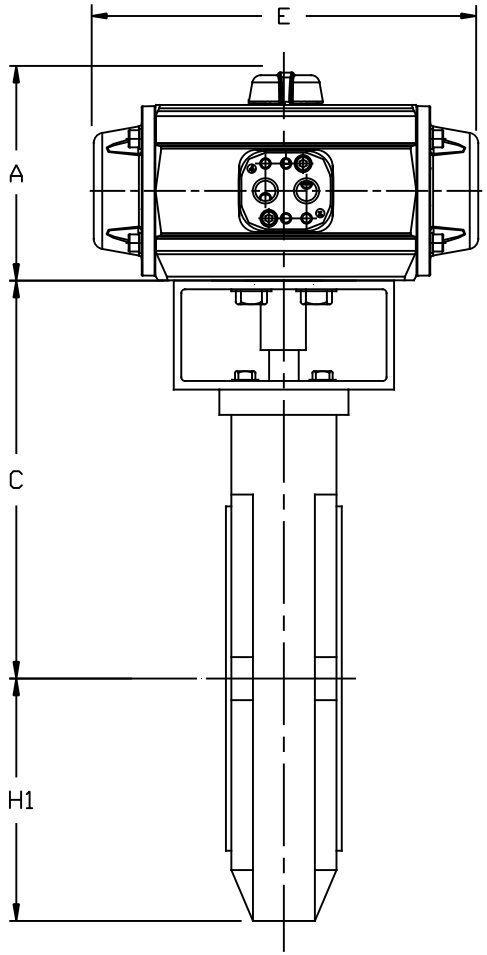
	NAME	DATE
DR	JOHN GLASSFORD	6/14/05
APPD	DAVE HURLEY	6/14/05
PROD	LEO LESTER	6/14/05
WO#/CO#		
FILE		

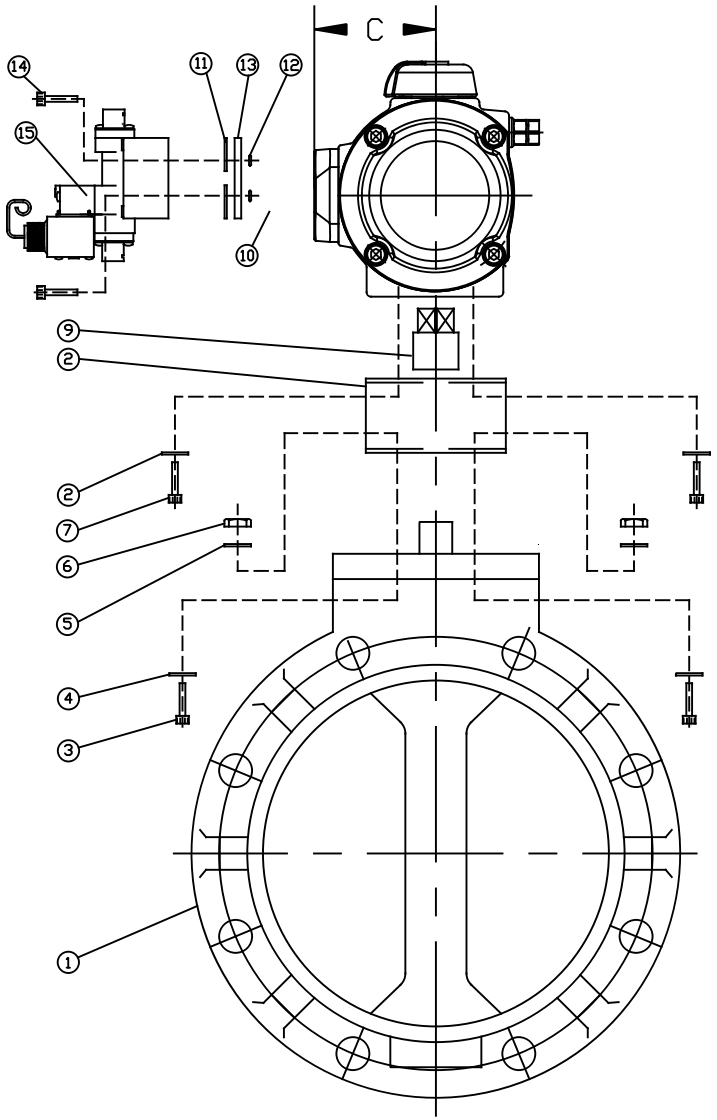
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

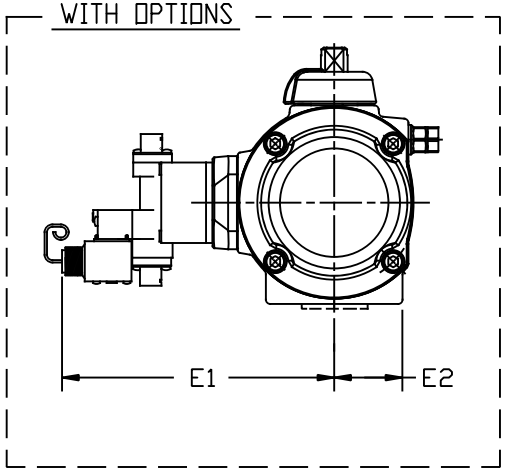
BUTTERFLY VALVE TYPE57 SERIES79 PNEUMATIC ACT. 1-1/2" THRU 6"

SIZE	DWG. NO.	REV
A	0204BF57	B

SCALE NTS SHEET 1 OF 1







NOTE: ACTUATOR BODY IS CAST ALUMINUM WITH RILSAN (POLYAMIDE NYLON II) COATING

No.	DESCRIPTION	MATERIAL	QTY
15	SOLENOID, ASCO (OPTIONS)	ZYTEL	1
14	SCREW, SOC HEAD (OPTIONS)	300SS	2
13	PLATE MOUNTING (OPTIONS)	ZYTEL	1
12	O-RING (OPTIONS)	NBR	2
11	GASKET (OPTIONS)	NBR	2
10	ACTUATOR (SEE NOTE)	SERIES 79P	1
9	SHAFT ADAPTER	300SS	1
8	WASHER, LOCK	300SS	4
7	SCREW	300SS	4
6	NUT, HEX LOCKING	300SS	4
5	WASHER, FLAT	300SS	4
4	WASHER, FLAT	300SS	4
3	SCREW	300SS	4
2	MOUNTING BRACKET	300SS	1
1	BUTTERFLY VALVE TYPE75	PVC, PP, PVDF	1

UNIT: INCH

VALVE SIZE	C	H1	A		E		E1		E2	
			A-A	A-S	A-A	A-S	A-A	A-S	A-A	A-S
18	17.57	12.40	12.32	16.85	20.63	29.25	9.39	11.87	5.31	8.54
20	18.75	13.78	12.32	16.85	20.63	29.25	9.39	11.87	5.31	8.54
24	21.31	16.02	12.32	16.85	20.63	2925	9.39	11.87	5.31	8.54

NOTE. The shape and appearance of assembly differ a little with nominal size compared to this drawing.

	NAME	DATE
DR	KENICHI MIYAZAKI	9/6/01
APPD		
PROD		
WO#/CO#		
FILE		

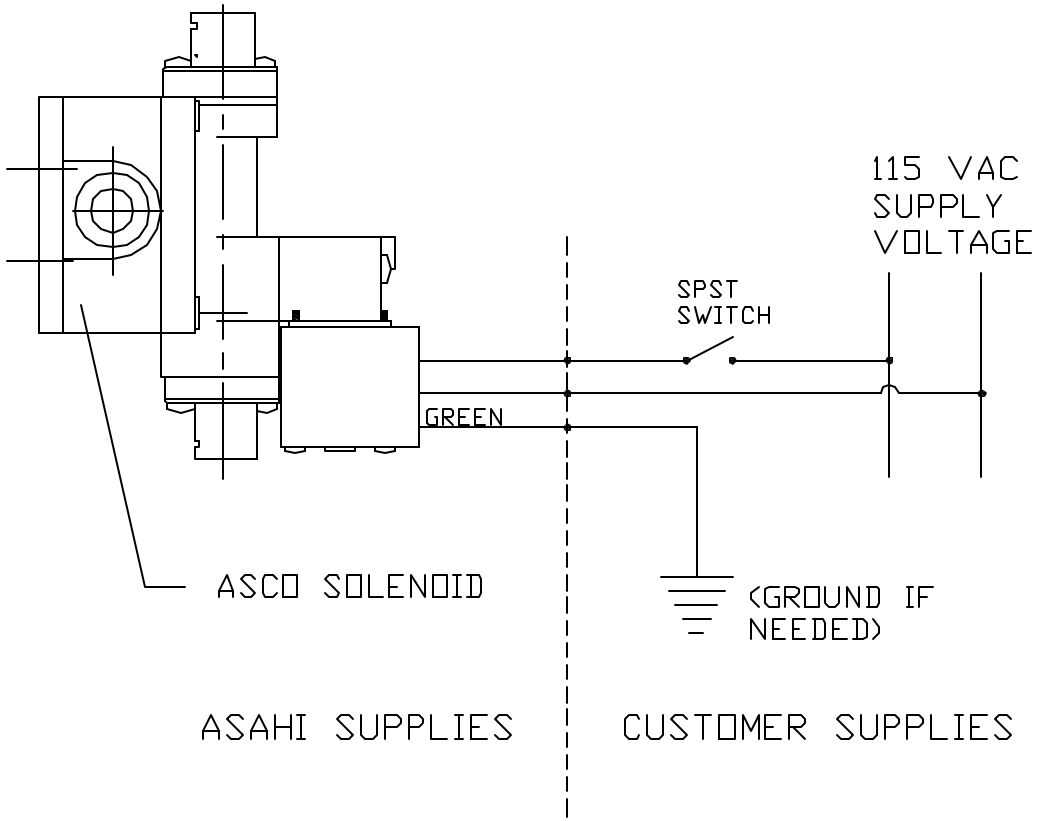
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

BUTTERFLY VALVE TYPE75 SERIES79P PNEUMATIC ACT. 18" THRU. 24"

SIZE	DWG. NO.	REV
A	1230	B

SCALE NTS

SHEET 1 OF 1



UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES

TOLERANCES: 2 PL DECIMALS ± .01
3 PL DECIMALS ± .005
ANGULAR ± 1/2°
FRACTIONAL ± 1/64

MATERIAL

FINISH

	NAME	DATE
DR	A.SELEZNEV	2/24/98
CHK		
APPD		
PATH	C:\ACT	

ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

ASCO SOLENOID
GENERAL WIRING SCHEMATIC

SIZE	DWG. NO.	REV
A	0004PNU	0

SCALE NTS

SHEET 1 OF 1