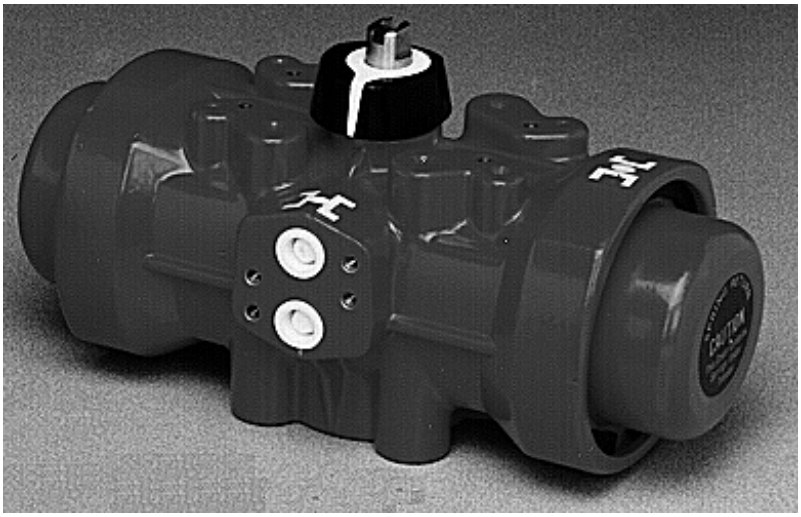
Pneumatic
Series 79P Actuator



Installation, Operation and Maintenance Manual

ASAHI/AMERICA®

USER INFORMATION

Description

The Series 79P Pneumatic Actuator is a double-opposed piston, double rack and pinion, quarter turn operator.

Piston, piston guides, racks and pinion are molded from Nylon 66 resin for high impact resistance and durability.

Body and end caps are 316SS polyester glass filled or aluminum castings, coated with Nylon 11 on inside and outside. It provides a smooth, low friction scratchproof surface, which is wear resistant and withstands corrosion. This style actuator 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.

Actuator shaft is Stainless Steel (Series 300) Sizes A, B, C, D and Phosphatized Steel Sizes E, F and G.

Actuator may be used with liquid as the power source as long as liquid is compatible with actuator internals, and contains no suspended particles.

Air Requirement

The condition and quality of the compressed air supply to an actuator will affect the efficiency and the life of the seals, bearings 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.
Clean, instrument quality dry air or gas is recommended for satisfactory operation. Lubricated air is acceptable, but is not necessary.

Caution: If air lubricators are used, the lubricant selected must be compatible with Nylon 66, Nylon 11 polyester glass filled and Nitrile (Buna-N).

Factory assembled units are sized for operating air pressures of 80 PSI minimum to 120 PSI maximum. If lower air supply pressures are available, actuator/valve combination may need to be resized. Contact your Asahi/America representative for information.

The actuator environment temperature limits are -25°F and 195°F.

Installation

1. 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.

   A. **Multi Port Ball Valves: (See Drawing #0139BV, sizes 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.

   B. **Type 21 Ball Valves (See Drawing #0114BV sizes 1/2" – 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.

   C. **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.

2. Butterfly Valves

A. Butterfly Valves (sizes 1-1/2" thru 6"): (See drawing # 0204BF)

All Type 56 butterfly valves as a standard feature conform to an ISO 5211/I-5211/II-DIN-3.337 specification standard. Butterfly valves sizes 1-1/2" thru 4" conform to an F07 bolt pattern. Butterfly valves sizes 5" thru 8" are classified as having an F10 bolt pattern. 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 F07 or F10 bolt pattern.

CAUTION: If valve is in line, system must be shut down and have no line pressure before removing throttle plate and retaining washer.

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)

B. Butterfly Valves (sizes 8" thru 16") (See Drawing # 0167BF)

Type 56 butterfly valves conform to an ISO 5211/1-5211/11-DIN3.337 specification standard. Remove gear operator by removing 4 thru bolts in body of valve to gear operator and lift off, exposing existing F10 or F14 bolt pattern. No specially machined stem or valve body drilling required. 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.

C. Butterfly Valves (sizes 18" thru 24") (See Drawing # 1230)

Butterfly valves sizes 18" thru 24" are Type 75.
The bolt pattern of the valve does not conform to an ISO standard.
Remove gear operator by first removing position indicator, second remove Phillips head screws from metal plate over hand wheel shaft, third remove socket head cap screws from gear operator cover and lift off, fourth remove bolt for position indicator from valve stem, fifth remove gear, and finally remove 4 thru bolts in body of valve to gear operator and lift off.
No specially machined stem or valve body drilling required. Same concept as outlined above is used to assemble actuator onto valve keeping in mind

Disc Orientation should be indicated by line scribed in valve stem 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.

NOTE: When ordering replacement actuator parts and/or options specify model # and voltage.

Operation

1. Actuated valves supplied with factory installed solenoid, the cycling is accomplished by energizing the coil for one valve position and de-energizing the solenoid coil for the opposite valve position. The unit is electrically fail safe. It will return to its de-energized position on electrical failure. This applies to air to air and air to spring models provided air supply is not interrupted.

   Note: On electrical failure unit can be manually cycled by one of the following:

   a. Depressing and rotating red slotted screw on solenoid block 180° providing air supply is not interrupted.

   b. Engaging wrench on flats of actuator shaft extension. This will be difficult on spring return models. On larger models where excessive torque is required to compress springs, a declutchable manual override is recommended.

Speed Control

   c. Solenoid is equipped with speed controls, slotted screws on each end of the valve body. By turning clockwise, this will reduce the C_V value or increase the cycle time. Speed controls are independent for open and close.

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

      Note: All actuators supplied without solenoids require 1/4" NPT air connections. (See sequence of operations).

Maintenance

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.

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

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

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. A machine press (not a vise) and proper fixtures are required to disassemble actuator.

Sandwich end caps in a hydraulic press. Only open one end at a time. Remove end cap snap ring or bolts and gradually release hydraulic pressure until springs are fully relaxed.

Repair Kits

MODEL	PART#
A79P	2398001
B79PS	2398000
C79PS	2398010
D79PS	2398020
E79PS	2398030
F79PS	2398040
G79PS	2398050

Each kit includes
(See exploded view drawings)

1.	One set of Piston “O” rings	P/N 7
2.	One set of End Cap “O” rings	P/N 6
3.	Output shaft “O” rings	P/N 8 & 9
4.	Lock washer (shaft)	P/N 10
5.	Washer	P/N 11

Engineering Data

A. Solenoid Coil: All 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.

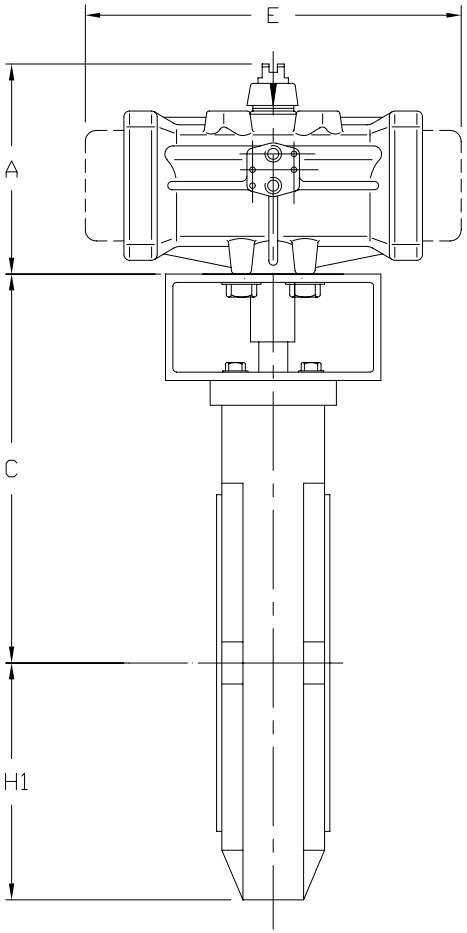
Attachments:
7 drawings: 0114BV, 0115BV, 0139BV, 0167BF, 0204BF, 1230, 1233.

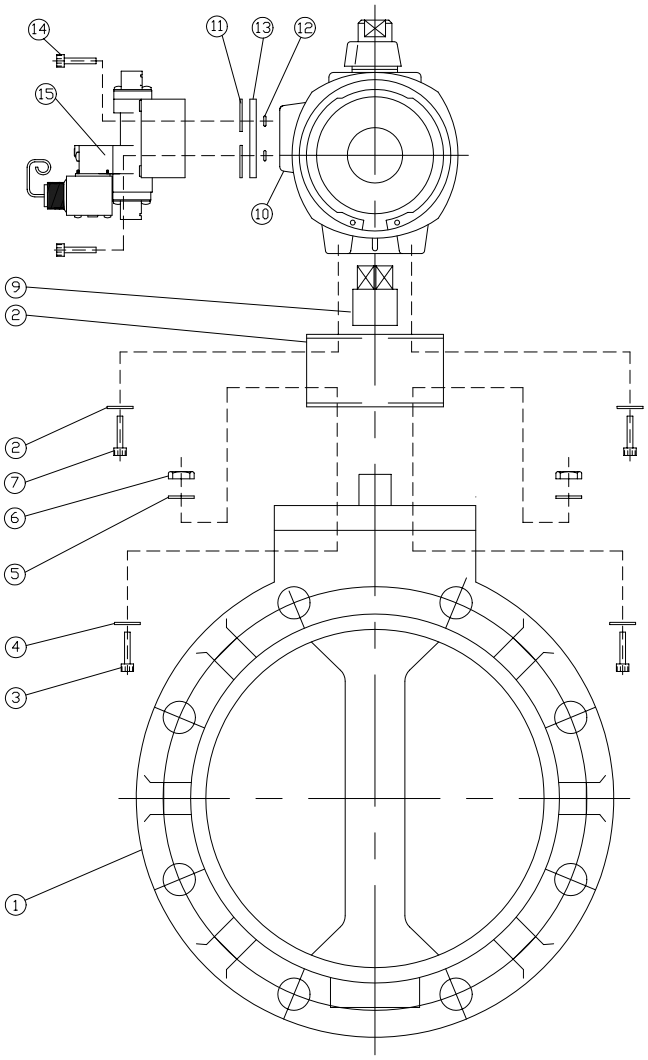


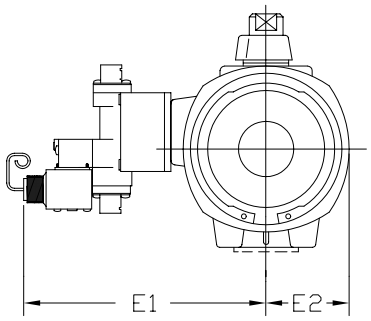
Asahi/America
35 Green Street
Malden, MA 02148

Phone: 800-343-3618
Fax: 800-426-7058

Internet: http://www.asahi-america.com







NOTE: ACTUATOR BODY IS CAST ALUMINUM WITH RILSAN (POLYAMIDE NYLON II) COATING FOR VALVE SIZES 18 THROUGH 24 AIR-AIR AND 12 AIR-SPRING.

FOR REFERENCE ONLY
ASAHI/AMERICA

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	11.26	16.53	16.46	32.83	8.42	12.52	3.78	7.16
20	18.75	13.78	13.07	16.53	17.09	32.83	9.41	12.52	4.76	7.16
24	21.31	16.02	13.07	16.53	17.09	32.83	9.41	12.52	4.76	7.16

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

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APPD	DAVE HURLEY	9/6/01
PROD	LEO LESTER	9/6/01
WO#/CO#		
FILE		

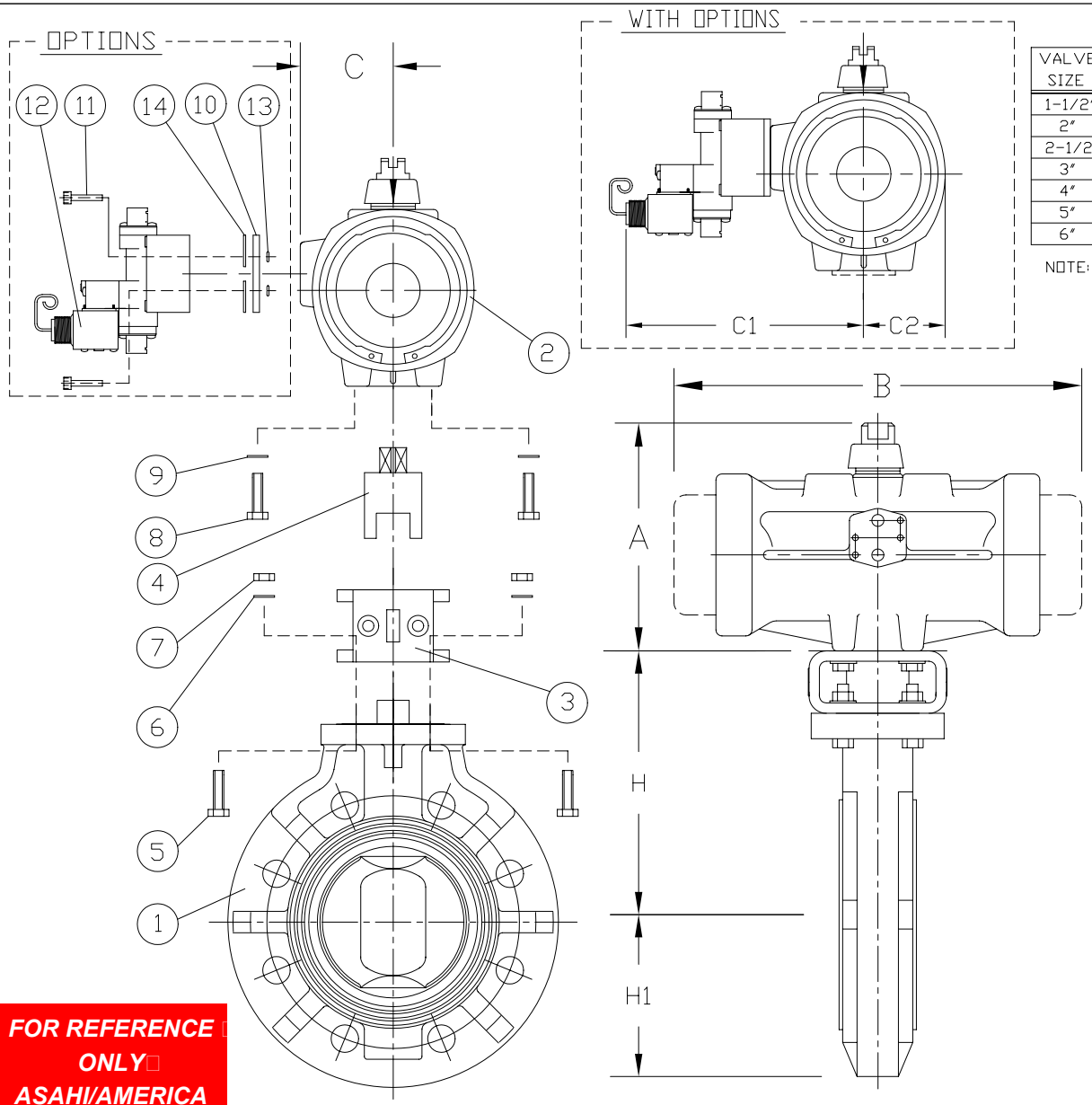
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

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

SIZE	DWG. NO.	REV
A	1230	A

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
1-1/2″	BP79PN	CP79PSN	4.40	5.00	4.92	8.74	1.73	1.73	5.66	5.89	1.41	1.85
2″	BP79PN	CP79PSN	4.40	5.00	4.92	8.74	1.73	1.73	5.66	5.89	1.41	1.85
2-1/2″	BP79PN	CP79PSN	4.40	5.00	4.92	8.74	1.73	1.73	5.66	5.89	1.41	1.85
3″	CP79PN	DP79PSN	5.00	6.49	7.00	11.50	1.96	1.96	5.89	6.48	1.85	2.36
4″	CP79PN	DP79PSN	5.00	6.49	7.00	11.50	1.96	1.96	5.89	6.48	1.85	2.36
5″	CP79PN	E79PSN	5.00	8.54	7.00	17.04	1.96	1.96	5.89	7.47	1.85	3.23
6″	DP79PN	E79PSN	6.49	8.54	9.21	17.04	2.55	2.55	6.48	7.47	2.36	3.23

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 56	PVC,PP,PVDF	1

FOR REFERENCE ONLY
ASAHI/AMERICA

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

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	NAME	DATE
DR	KENICHI MIYAZAKI	10/1/01
APPD	DAVE HURLEY	10/1/01
PROD	LEO LESTER	10/1/01
WO#/CO#		
FILE		

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

BUTTERFLY VALVE TYPE56 SERIES79 PNEUMATIC ACT. 1-1/2" THRU 6"

SIZE	DWG. NO.	REV
A	0204BF	A

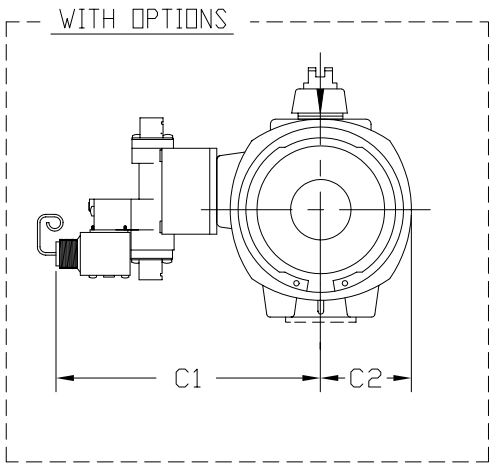
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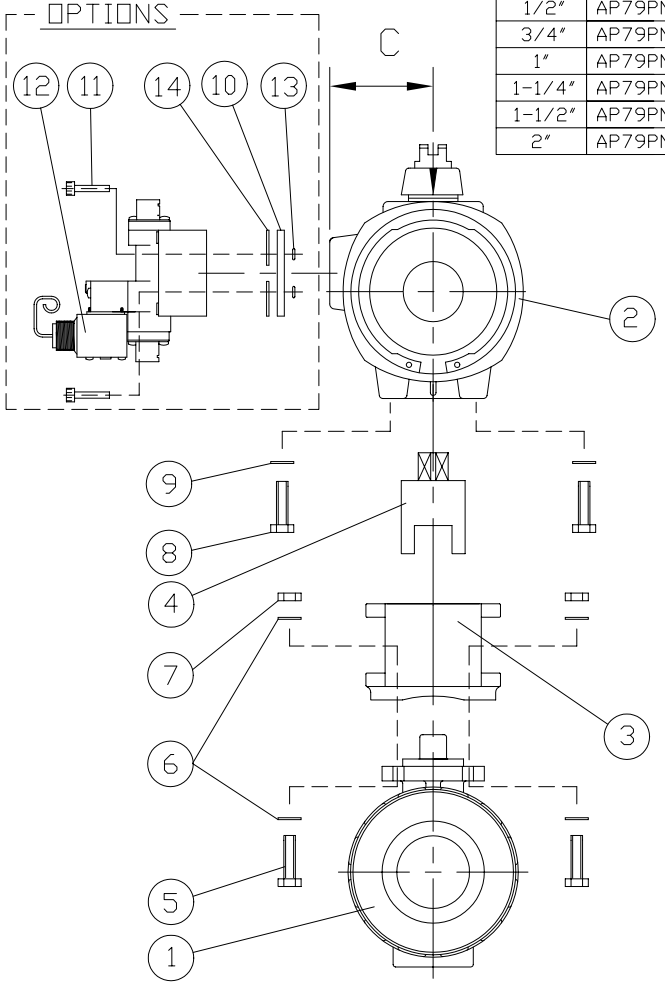
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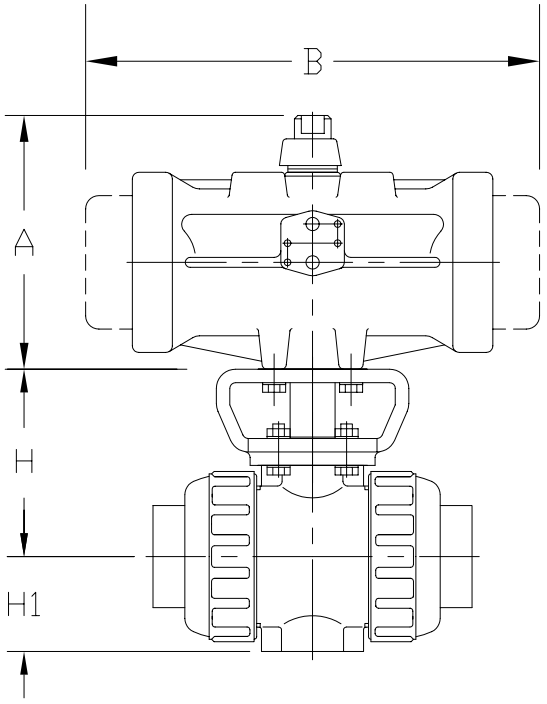
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UNIT: INCH

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	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
3/4"	AP79PN	AP79PSN	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
1"	AP79PN	AP79PSN	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
1-1/4"	AP79PN	AP79PSN	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
1-1/2"	AP79PN	BP79PSN	3.34	4.40	4.22	5.86	1.47	1.73	5.41	5.66	1.21	1.41
2"	AP79PN	CP79PSN	3.34	5.00	4.22	7.64	1.47	1.97	5.41	5.89	1.21	1.85







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.

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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

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

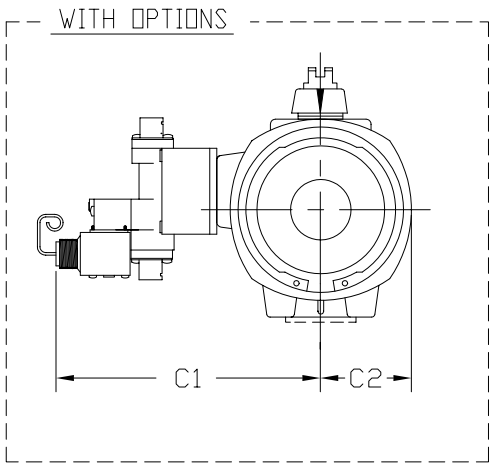
SIZE	DWG. NO.	REV
A	0114BV	A

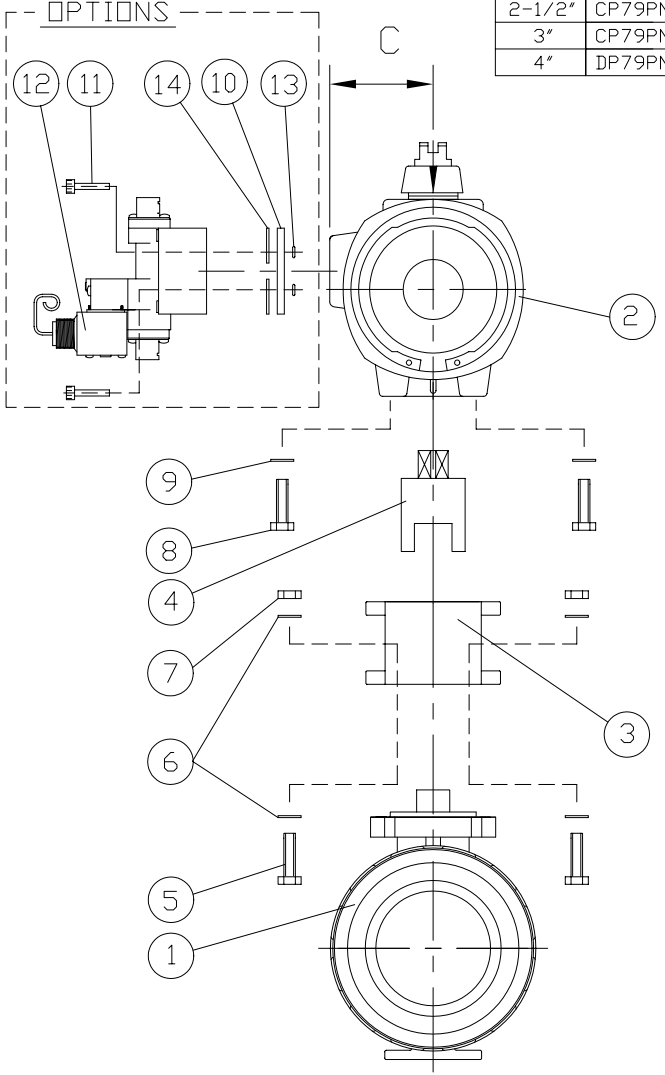
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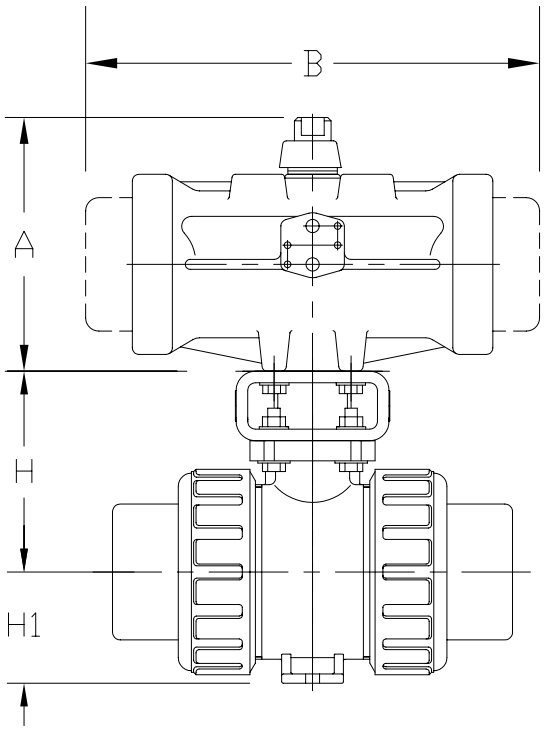
SHEET 1 OF 1

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	5.00	5.00	7.00	8.74	1.97	1.97	5.89	5.89	1.85	1.85
3"	CP79PN	DP79PSN	5.00	6.49	7.00	11.49	1.97	2.56	5.89	6.48	1.85	2.36
4"	DP79PN	DP79PSN	6.49	6.49	9.21	11.49	2.56	2.56	6.48	6.48	2.36	2.36







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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.

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WO#/CO#		
FILE		

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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

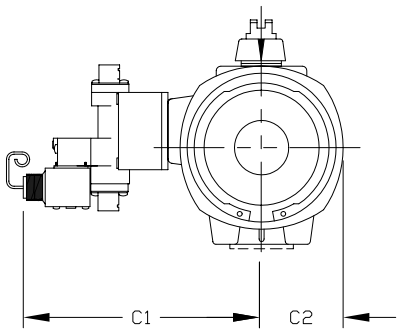
BALL VALVE TYPE21 SERIES79 PNEUMATIC ACT. 2-1/2" THRU 4"

SIZE	DWG. NO.	REV
A	0115BV	A

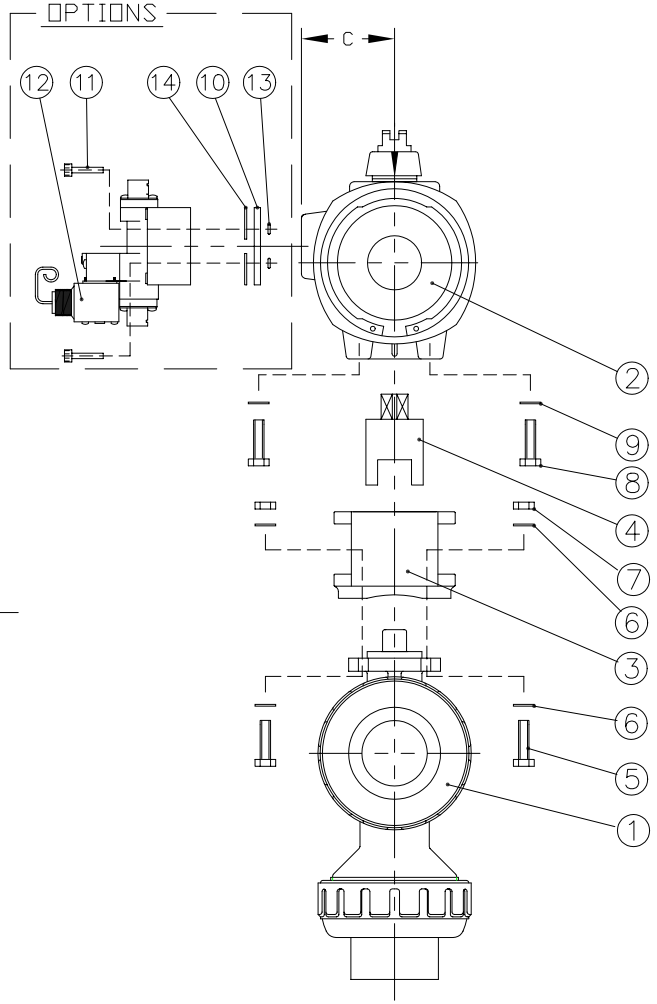
SCALE NTS

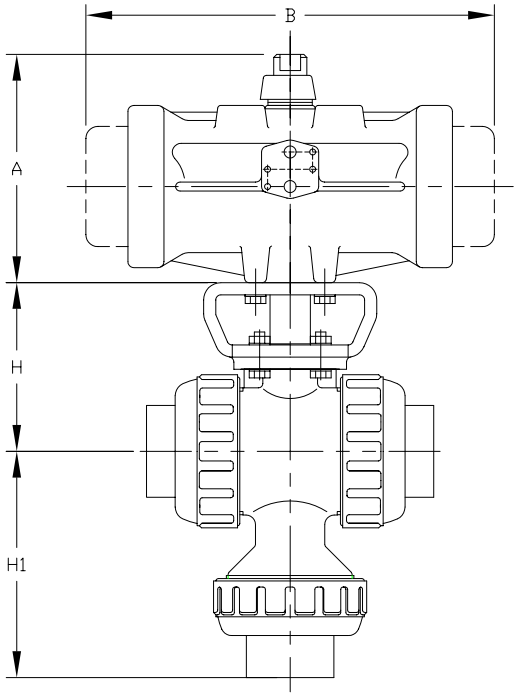
SHEET 1 OF 1

WITH OPTIONS

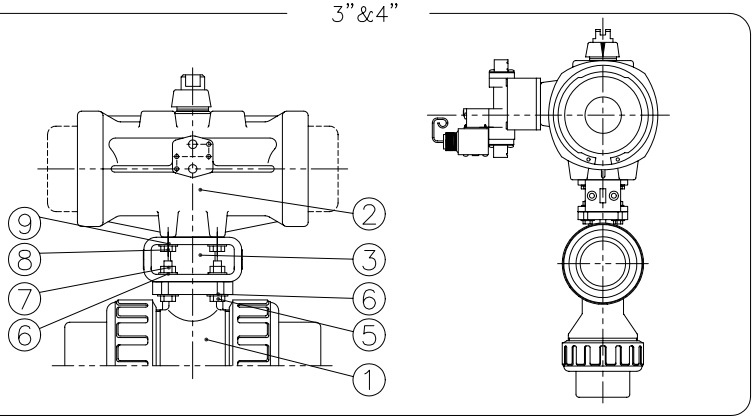


OPTIONS





3"&4"



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	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
3/4"	AP79PN	AP79PSN	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
1"	AP79PN	AP79PSN	3.34	3.34	4.22	5.55	1.47	1.47	5.41	5.41	1.21	1.21
1-1/2"	AP79PN	BP79PSN	3.34	4.40	4.22	5.86	1.47	1.73	5.41	5.66	1.21	1.41
2"	AP79PN	CP79PSN	3.34	5.00	4.22	7.64	1.47	1.97	5.41	5.89	1.21	1.85
3"	CP79PN	DP79PSN	5.00	6.49	7.00	11.49	1.97	2.56	5.89	6.48	1.85	2.36
4"	DP79PN	DP79PSN	6.49	6.49	9.21	11.49	2.56	2.56	6.48	6.48	2.36	2.36

NOMINAL SIZE		H	FLANGED H1	FLANGED L	THREADED H1	THREADED L	SOCKET PVC,CPVC H1	SOCKET PVC,CPVC L	SOCKET PP,PVDF (DIN) H1	SOCKET PP,PVDF (DIN) L	SOCKET PP,PVDF (IPS) H1	SOCKET PP,PVDF (IPS) L	SPIGOT (BUTT END) H1	SPIGOT (BUTT END) 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	1								0		9.69	11.61
4	100	6.97	1								7		11.85	12.72

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ITEM	DESCRIPTION	MATERIAL	QTY
14			2
13			2
12			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

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

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	NAME	DATE
DR	KENICHI MIYAZAKI	1/28/03
APPD	DAVE HURLEY	1/28/03
PROD	LEO LESTER	1/28/03
WO#/CO#		
FILE		

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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

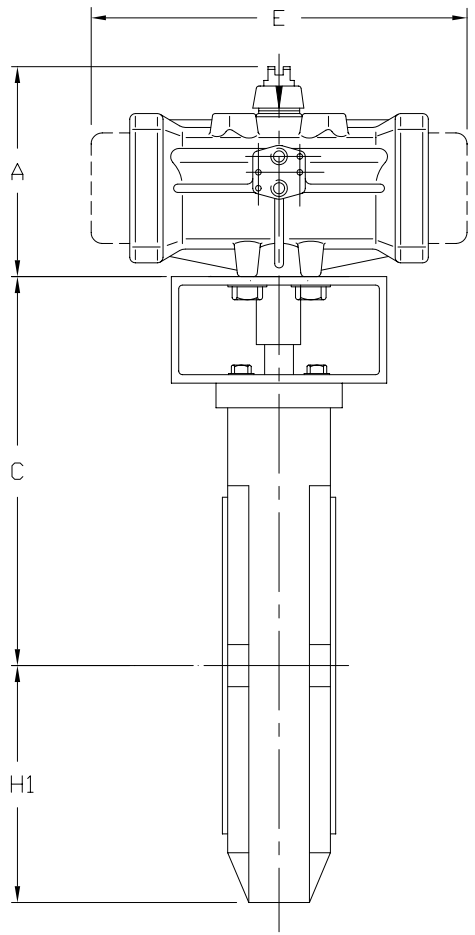
MULTI PORT BALL VALVE TYPE23 WITH SERIES79 ACT. 1/2" THRU 4"

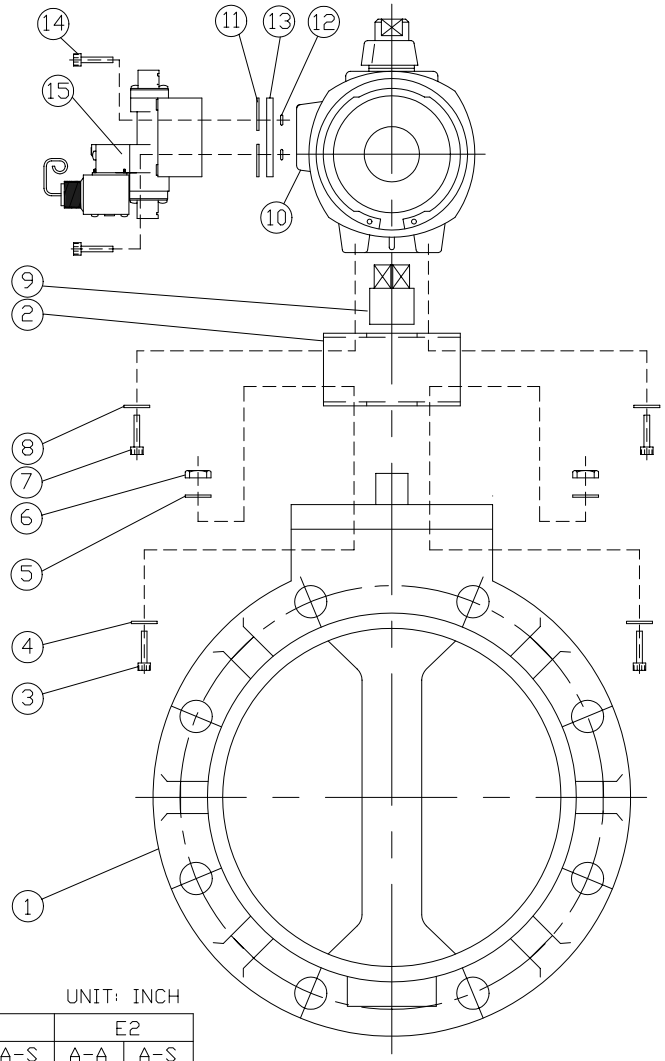
SIZE	DWG. NO.	REV
A	0139BV	A

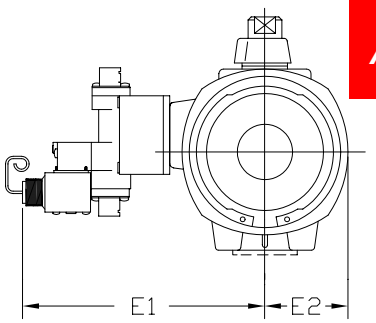
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SHEET 1 OF 1

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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 6 AIR-AIR AND 1 1/2 THROUGH 4 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	4.40	5.00	4.92	8.74	6.02	6.25	1.41	1.85
2	5.57	3.25	4.40	5.00	4.92	8.74	6.02	6.25	1.41	1.85
2 1/2	6.08	3.66	4.40	5.00	4.92	8.74	6.02	6.25	1.41	1.85
3	6.28	3.94	5.00	6.49	7.00	11.49	6.25	6.84	1.85	2.36
4	6.56	4.53	5.00	6.49	7.00	11.49	6.25	6.84	1.85	2.36
5	8.05	5.00	5.00	8.54	7.00	17.04	6.25	7.83	1.85	3.23
6	9.01	5.63	6.49	8.54	9.21	17.04	6.84	7.83	2.36	3.23
8	11.27	6.69	8.54	11.26	12.12	25.28	7.83	8.42	3.23	3.78
10	12.46	7.99	8.54	13.07	12.12	20.83	7.83	9.41	3.23	4.76
12	14.69	9.53	11.26	13.07	16.46	20.83	8.42	9.41	3.78	4.76
14	14.81	10.24	11.26	15.47	16.46	22.44	8.42	11.84	3.78	6.75
16	16.78	11.81	11.26	16.53	16.46	32.83	8.42	12.52	3.78	7.16

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

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	NAME	DATE
DR	KENICHI MIYAZAKI	9/6/01
APPD	DAVE HURLEY	9/6/01
PROD	LEO LESTER	9/6/01
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35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

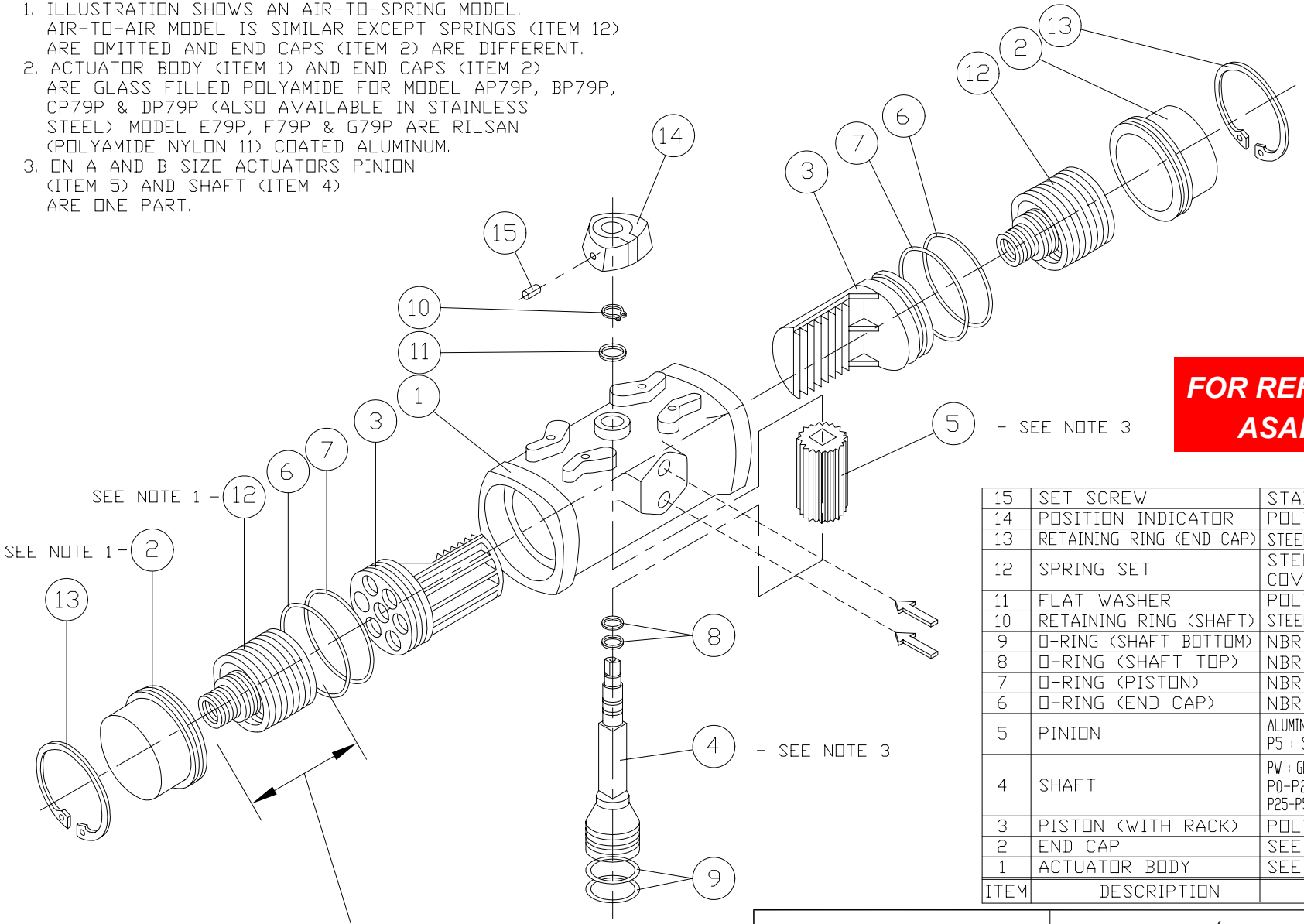
BUTTERFLY VALVE TYPE56 SERIES79P PNEUMATIC ACT. 1-1/2" THRU. 16"

SIZE	DWG. NO.	REV
A	0167BF	B

SCALE NTS

SHEET 1 OF 1

NOTE:
1. ILLUSTRATION SHOWS AN AIR-TO-SPRING MODEL. AIR-TO-AIR MODEL IS SIMILAR EXCEPT SPRINGS (ITEM 12) ARE OMITTED AND END CAPS (ITEM 2) ARE DIFFERENT.
2. ACTUATOR BODY (ITEM 1) AND END CAPS (ITEM 2) ARE GLASS FILLED POLYAMIDE FOR MODEL AP79P, BP79P, CP79P & DP79P (ALSO AVAILABLE IN STAINLESS STEEL). MODEL E79P, F79P & G79P ARE RILSAN (POLYAMIDE NYLON 11) COATED ALUMINUM.
3. ON A AND B SIZE ACTUATORS PINION (ITEM 5) AND SHAFT (ITEM 4) ARE ONE PART.



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ITEM	DESCRIPTION	MATERIAL	QTY
15	SET SCREW	STAINLESS STEEL 303	1
14	POSITION INDICATOR	POLYAMIDE	1
13	RETAINING RING (END CAP)	STEEL COVERED BY CATAPHORESIS	2
12	SPRING SET	STEEL DIN 17-223-6 COVERED BY CATAPHORESIS	1
11	FLAT WASHER	POLYAMIDE 6	1
10	RETAINING RING (SHAFT)	STEEL COVERED BY CATAPHORESIS	1
9	O-RING (SHAFT BOTTOM)	NBR	2
8	O-RING (SHAFT TOP)	NBR	2
7	O-RING (PISTON)	NBR	2
6	O-RING (END CAP)	NBR	2
5	PINION	ALUMINUM ALLOY COVERED BY CATAPHORESIS P5 : STEEL COVERED BY CATAPHORESIS	1
4	SHAFT	PW : GLASS FILLED POLYAMIDE WITH INOX NSERT P0-P2 : INOX STAINLESS STEEL 303 P25-P5 : COVERED STEEL BY CATAPHORESIS	1
3	PISTON (WITH RACK)	POLYAMIDE	2
2	END CAP	SEE NOTE 2	2
1	ACTUATOR BODY	SEE NOTE 2	1

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PNEUMATIC ACTUATOR SERIES 79P EXPLODED VIEW

SIZE	DWG. NO.	REV
A	1233	A

SCALE NTS

SHEET 1 OF 1