



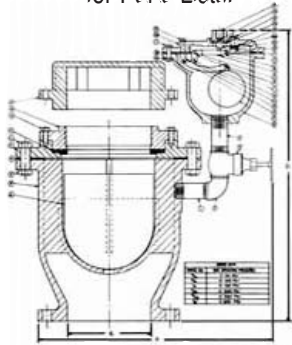
AL/PL SERIES

Dual Air Valves

AL/PL Series Dual Air Valves

- Valve Function**
- **Single pipeline location when both Air & Vacuum and Pressure Valves are required at one point on a pipeline**
 - **Meets AWWA C-512**

Please Refer to Air & Vacuum and Pressure Air Release Valve for Parts Lists.



Customize Your Air Release Requirements

The sizing of a Dual or Combination Valve requires the same data and parameters of the Air & Vacuum Valve and Pressure Air Release Valve. Subsequently, if the required pressure orifice size varies from the standard pressure orifice offered with each Combination, then a Dual Valve, with its flexibility, can be applied to accommodate specific orifice requirements.

The flexibility of the Dual Valve allows a wide variety of conditions to be addressed. For example: if the system pump capacity were to dictate the air and vacuum sizing of 2" for air release, then that same capacity would normally require a Pressure Air Release Valve in the Midget size.

However, if a greater amount of air was expected to be entrained in the liquid, because of siphoning through leaky joints or packing, or because of turbulence, etc..., then a larger Pressure Valve with a greater orifice size could be provided.

Also, should vacuum relief be the deciding Air and Vacuum sizing parameter, because of pipe slope, size, and/or materials of construction, then the corresponding Universal or Combination Pressure Air Release orifice could be larger than would actually be required for the system.

In this case, the flexibility of the Dual Valve would accommodate the system performance requirements.

Dimensions and Weights*

Model	Valve Size (C)	Height (B)	Width (A)	Weight
AL10/M5	1"	13 1/4"	9 3/4"	24lbs
AL20/M5	2"	14 3/4"	12 1/4"	53
*AL21/M5	2"	18 1/4"	12 1/4"	59
*AL22/M5	2"	18 1/2"	12 1/4"	61
AL30/M5	3"	16"	16"	103
AL31/M5	3"	19 3/4"	16"	120
AL32/M5	3"	20 1/4"	16"	128
AL40/PL10	4"	20 1/4"	20"	178
AL41/PL10	4"	23 3/4"	20"	194
AL42/PL10	4"	24 1/4"	20"	205
AL61/PL10	6"	22 1/4"	21"	198
AL62/PL10	6"	22 1/2"	21"	221
AL81/PL10	8"	25 1/2"	24 1/2"	289
AL82/PL10	8"	26"	24 1/2"	319
AL101/PL10	10"	29"	33 3/4"	524
AL102/PL10	10"	29 3/4"	33 3/4"	574
AL121/PL20	12"	32 1/2"	34 1/2"	775
AL122/PL20	12"	33 1/4"	34 1/2"	828
AL141/PL20	14"	34 1/4"	36 1/2"	1023
AL142/PL20	14"	35"	36 1/2"	1210
AL161/PL20	16"	36 1/2"	39 1/4"	1143
AL162/PL20	16"	37 1/2"	39 1/4"	1326

* Available up through 24". Please contact factory for sizes 18" and larger.

Submittal Sheet for Crispin A/M Series



1/2" Dual Body Combination Air Release

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001

Specifications

The combination air valve(s) shall be installed at high points in the system or at points selected by the engineer. This will permit discharging the surge of air from an empty line when filling and relieve the vacuum when the line is draining, or is under negative pressure. The valve(s) shall also release the accumulation of air when the system is under pressure.

The Air and Vacuum Valve shall operate by sealing the BUNA-N rubber outlet seat with a peripherally guided float as the liquid enters the valve chamber to raise the float. All Crispin Valves are hydrostatically tested to 150% of their maximum working pressure.

The Pressure Valve shall operate through a compound lever system and shall have a _____ orifice with valve sealing faces, of an adjustable BUNA-N rubber valve and (stainless steel or PVC) and shall operate at _____ PSIG and be capable of passing _____ SCFM of air. Valves which use a needle valve to seal the orifice will not be acceptable.

Valve construction shall be _____ NPT screwed or ANSI Class (125,250)

flanged inlet connection and shall be cast iron body, top, and inlet flange (where required), stainless steel float with bronze and (brass or stainless steel) trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

The valve(s) shall be CRISPIN Model _____ Dual Air Valve(s), Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve(s) as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa. The valve(s) shall include a Crispin Pressure Air Release Valve.

Option: A protectop shall be supplied to prevent debris from entering the outlet of the Air and Vacuum Valve.

Option: (Where pressures are greater than 300 psig), the valve(s) shall be ANSI Class _____ flanged inlet connection and shall have a (steel, stainless steel, or ductile iron) body, top and inlet flange.

Standard operating pressure for Crispin Air Valves is 20 to 150 PSIG. Please check one of the following if your operating needs differ:

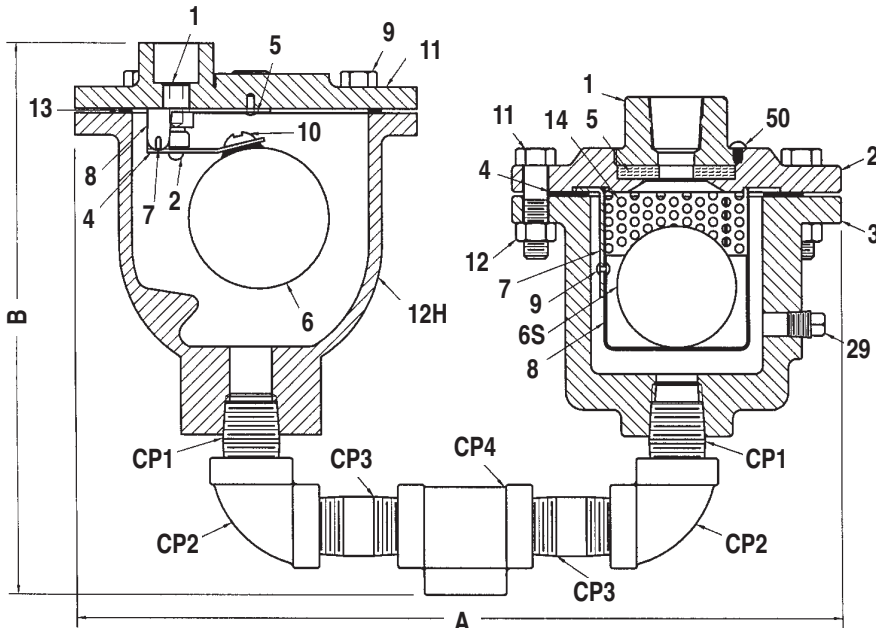
_____ 2 to 40 PSIG _____ 151 to 300 PSIG

Orifice Options

DIAMETER	MAX. PRESSURE	DISCHARGE RATE
5/32	40 PSIG	12.6 SCFM
1/8	50 PSIG	9.6 SCFM
3/32	85 PSIG	8.3 SCFM
1/16	150 PSIG	6.1 SCFM
3/64	200 PSIG	4.5 SCFM
1/32	300 PSIG	3.2 SCFM

Size Specifications

MODEL	INLET SIZE	OUTLET SIZE	A	B	WT.
A5/M5	1/2" NPT	1/2" NPT	12.00	9.00	20



PARTS LIST FOR AIR & VACUUM

ITEM	DESCRIPTION	MATERIAL	ASTM
1	TOP	CAST IRON	A126 CL. B
2	FLANGE	CAST IRON	A126 CL. B
3	BODY	CAST IRON	A126 CL. B
4	GASKET	ARMSTRONG N-8092	N/A
5	SEAT	BUNA-N RUBBER	D2000
6S	FLOAT	STAINLESS STEEL	A240
7	HANGER	STAINLESS STEEL	A240
8	CUP	STAINLESS STEEL	A240
9	RIVET	STAINLESS STEEL	A582
11	BOLT	STEEL	A307
12	NUT	STEEL	A563
14	DIFFUSER	STAINLESS STEEL	A240
29	PLUG	BRASS	B505
50	INTERFERENCE PIN	STAINLESS STEEL	A582

PARTS LIST FOR PRESSURE RELEASE UNIT

1	VALVE SEAT	STAINLESS STEEL	A276
2	PLUNGER BUTTON	VITON	D2000
4	VALVE LEVER	STAINLESS STEEL	A240
5	SCREW (DRIVE)	STAINLESS STEEL	A193
6	BALL FLOAT	STAINLESS STEEL	A240
7	HINGE PIN	STAINLESS STEEL	A580
8	HINGE BUTT	STAINLESS STEEL	A240
9	BOLT	STEEL	A307
10	SCREW	STAINLESS STEEL	A193
11	FLANGE	CAST IRON	A126 CL.B
12H	BODY	CAST IRON	A126 CL.B
13	GASKET	ARMSTRONG N-8092	N/A
29	PLUG (NOT SHOWN)	BRASS	B505

PARTS LIST FOR CONNECTING PARTS

1	NIPPLE	STEEL	A53
2	ELBOW	MALLEABLE IRON	A338
4	NIPPLE	STEEL	A53
5	TEE	MALLEABLE IRON	A338

SUBMITTAL SHEET FOR A/M SERIES



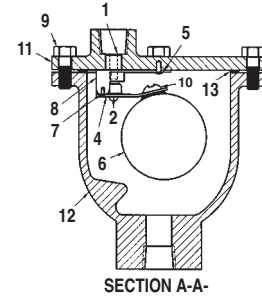
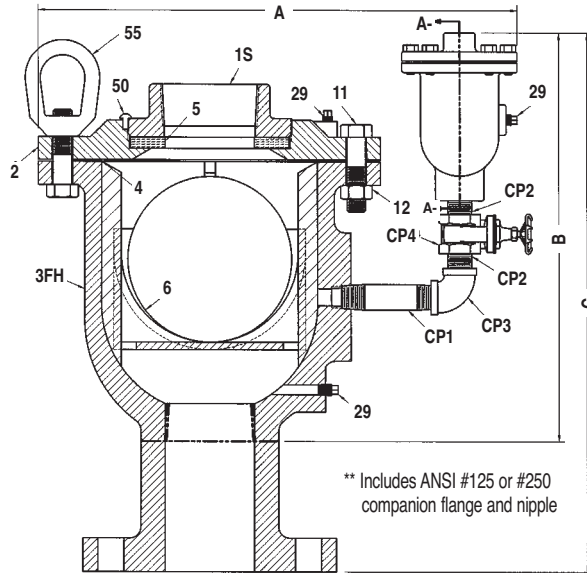
SUBMITTAL SHEET FOR AL/M SERIES

Submittal Sheet for Crispin AL/M Series

1"-3" Dual Body Combination Air Release

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001



Orifice Options

DIAMETER	MAX. PRESSURE	DISCHARGE RATE
5/32	40 PSIG	12.6 SCFM
1/8	50 PSIG	9.6 SCFM
3/32	85 PSIG	8.3 SCFM
1/16	150 PSIG	6.1 SCFM
3/64	200 PSIG	4.5 SCFM
1/32	300 PSIG	3.2 SCFM

Specifications

The combination air valve(s) shall be installed at high points in the system or at points selected by the engineer. This will permit discharging the surge of air from an empty line when filling and relieve the vacuum when the line is draining, or is under negative pressure. The valve(s) shall also release the accumulation of air when the system is under pressure.

The Air and Vacuum Valve shall operate by sealing the BUNA-N rubber outlet seat with a peripherally guided float as the liquid enters the valve chamber to raise the float. All Crispin Valves are hydrostatically tested at 150% of their maximum working pressure.

The Pressure Valve shall operate through a compound lever system and shall have a _____" orifice with valve sealing faces, of an adjustable BUNA-N rubber valve and (stainless steel or PVC) and shall operate at _____ PSIG and be capable of passing _____ SCFM of air. Valves which use a needle valve to seal the orifice will not be acceptable.

Valve construction shall be _____" NPT screwed or ANSI Class (125,250) flanged inlet connection and shall be cast iron body, top, and inlet flange (where required), stainless steel float with bronze and (brass or stainless steel) trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

The valve(s) shall be CRISPIN Model _____ Dual Air Valve(s), Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve(s) as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa. The valve(s) shall include a Crispin Pressure Air Release Valve.

Option: A protectop shall be supplied to prevent debris from entering the outlet of the Air and Vacuum Valve.

Option: (Where pressures are greater than 300 psig), the valve(s) shall be ANSI Class _____ flanged inlet connection and shall have a (steel, stainless steel, or ductile iron) body, top and inlet flange.

Standard operating pressure for Crispin Air Valves is 20 to 150 PSIG. Please check one of the following if your operating needs differ: _____ 2 to 40 PSIG _____ 151 to 300 PSIG

SIZE SPECIFICATIONS

MODEL	INLET SIZE	OUTLET SIZE	A	B	C	WHT.
AL10/M5	1" NPT	1" NPT	9.75	13.25		24
AL20/M5	2" NPT	2" NPT	12.25	14.75		53
**AL21/M5	2" 125# FLG	2" NPT	12.25		18.25	59
*AL22/M5	2" 250# FLG	2" NPT	12.25		18.50	61
AL30/M5	3" NPT	3" NPT	16.00	16.00		103
AL31/M5	3" 125# FLG	3" NPT	16.00		19.75	120
AL32/M5	3" 250# FLG	3" NPT	16.00		20.25	128

PARTS LIST FOR AIR & VACUUM

ITEM	DESCRIPTION	MATERIAL	ASTM
1S	TOP	CAST IRON	A126 CL. B
2	FLANGE	CAST IRON	A126 CL. B
3	BODY	CAST IRON	A126 CL. B
4	GASKET	ARMSTRONG N-8092	N/A
5	SEAT	BUNA-N RUBBER	D2000
6	FLOAT	STAINLESS-STEEL	A240
11	BOLT	STEEL	A307
12	NUT	STEEL	A563
29	PLUG	BRASS	B505
50	INTERFERENCE PIN	STAINLESS STEEL	A58
55	EYE NUT	FORGED STEEL	A563

PARTS LIST FOR PRESSURE RELEASE UNIT

ITEM	DESCRIPTION	MATERIAL	ASTM
1	VALVE SEAT	STAINLESS STEEL	A276
2	PLUNGER BUTTON	VITON	D2000
4	VALVE LEVER	STAINLESS STEEL	A240
5	SCREW (DRIVE)	STAINLESS STEEL	A193
6	BALL FLOAT	STAINLESS STEEL	A240
7	HINGE PIN	STAINLESS STEEL	A580
8	HINGE BUTT	STAINLESS STEEL	A240
9	BOLT	STEEL	A307
10	SCREW	STAINLESS STEEL	A193
11	FLANGE	CAST IRON	A126 CL. B
12	BODY	CAST IRON	A126 CL. B
13	FLANGE GASKET	ARMSTRONG N-8092	N/A
29	PLUG (NOT SHOWN)	BRASS	B505

PARTS LIST FOR CONNECTING PARTS

ITEM	DESCRIPTION	MATERIAL	ASTM
CP1	NIPPLE	STEEL	A53
CP2	NIPPLE	STEEL	A53
CP3	ELBOW	MALLEABLE IRON	A338
CP4	1/2" GATE VALVE	BRASS	N/A

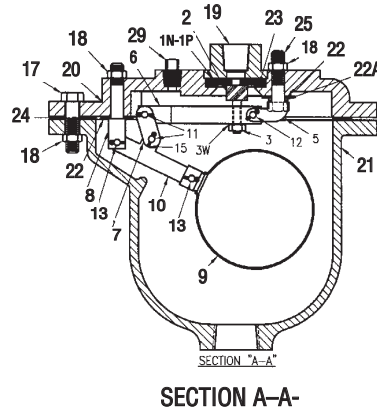
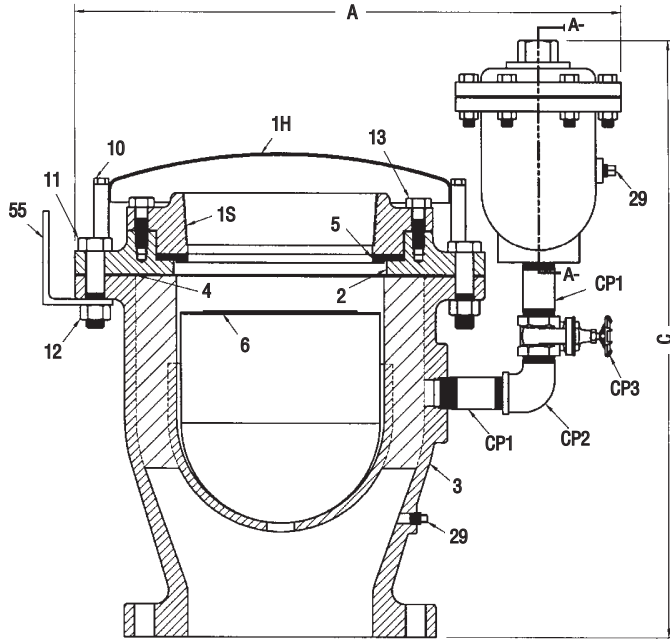
Submittal Sheet for Crispin AL/PL Series



4"-10" Dual Body Combo. Air Release (1 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001



Orifice Options

DIAMETER	MAX. PRES.	DISCHARGE RATE
5/16	100 PSIG	105 SCFM
1/4	150 PSIG	98 SCFM
3/16	200 PSIG	72 SCFM
5/32	250 PSIG	61.1 SCFM
1/8	300 PSIG	46.7 SCFM

Specifications

The combination air valve(s) shall be installed at high points in the system or at points selected by the engineer. This will permit discharging the surge of air from an empty line when filling and relieve the vacuum when the line is draining, or is under negative pressure. The valve(s) shall also release the accumulation of air when the system is under pressure.

The Air and Vacuum Valve shall operate by sealing the BUNA-N rubber outlet seat with a peripherally guided float as the liquid enters the valve chamber to raise the float. All Crispin Valves are hydrostatically tested at 150% of their maximum working pressure.

The Pressure Valve shall operate through a compound lever system and shall have a _____" orifice with valve sealing faces, of an adjustable BUNA-N rubber valve and (stainless steel or PVC) and shall operate at _____ PSIG and be capable of passing _____ SCFM of air. Valves which use a needle valve to seal the orifice will not be acceptable.

Valve construction shall be _____" NPT screwed or ANSI Class (125,250) flanged inlet connection and shall be cast iron body, top, and inlet flange (where required), stainless steel float with bronze and (brass or stainless steel) trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

The valve(s) shall be CRISPIN Model _____ Dual Air Valve(s), Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve(s) as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa. The valve(s) shall include a Crispin Pressure Air Release Valve.

Option: A protectop shall be supplied to prevent debris from entering the outlet of the Air and Vacuum Valve.

Option: (Where pressures are greater than 300 psig), the valve(s) shall be ANSI Class _____ flanged inlet connection and shall have a (steel, stainless steel, or ductile iron) body, top and inlet flange. Standard operating pressure for Crispin Air Valves is 20 to 150 PSIG. Please check one of the following if your operating needs differ: _____ 2 to 40 PSIG _____ 151 to 300 PSIG

SIZE SPECIFICATIONS

MODEL	INLET SIZE	OUTLET SIZE	A	C	WHT.
*AL40/PL10	4" NPT	4" NPT	20.00	20.25	24
*AL41/PL10	4" 125# FLG	4" NPT	20.00	23.75	53
*AL42/PL10	4" 250# FLG	4" NPT	20.00	24.25	59
AL61/PL10	6" 125# NPT	6" NPT	21.00	22.25	198
AL62/PL10	6" 250# FLG	6" NPT	21.00	22.50	221
AL81/PL10	8" 125# FLG	8" NPT	24.50	25.50	289
AL82/PL10	8" 250# FLG	8" NPT	24.50	26.00	319
AL101/PL10	10" 125# FLG	10" NPT	33.75	29.00	524
AL102/PL10	10" 250# FLG	10" NPT	33.75	29.75	574

* 4" Valve also available with a 4" NPT inlet

SUBMITTAL SHEET FOR AL/PL SERIES





Submittal Sheet for Crispin AL/PL Series

4"-10" Dual Body Combo. Air Release (2 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001

PARTS LIST FOR AIR & VACUUM

ITEM	DESCRIPTION	MATERIAL	ASTM
**1H	HOOD	HRCQ STEEL	N/A
1S	TOP	CAST IRON	A126 CL.B
2	FLANGE	CAST IRON	A126 CL.B
3	BODY	CAST IRON	A126 CL.B
4	GASKET	ARMSTRONG N-8092	N/A
5	SEAT	BUNA-N RUBBER	D2000
6S	FLOAT	STAINLESS STEEL	A240
**10	BOLT	STEEL	A307
11	BOLT	STEEL	A307
12	NUT	STEEL	A563
13	BOLT	STEEL	A307
29	PLUG	BRASS	B505
55	LIFTING LUG	STEEL	A563

PARTS LIST FOR PRESSURE RELEASE UNIT

*1N	VALVE SEAT	PVC	1784
*1P	VALVE SEAT	STAINLESS STEEL	A582
2	VALVE PLUNGER	BUNA-N RUBBER & S/S	D2000/A193
3	PLUNGER NUT	STAINLESS STEEL	A194
3W	LOCK WASHER	STAINLESS STEEL	A240
5	VALVE FULCRUM	STAINLESS STEEL	A582
6	VALVE LEVER	STAINLESS STEEL	A582
7	LINK	STAIN LESS STEEL	A240
8	BALL FULCRUM	STAINLESS STEEL	A582
9	BALL FLOAT	STAINLESS STEEL	A240
10	BALL LEVER	STAINLESS STEEL	A240
11	BEARING PIN	STAINLESS STEEL	A582
12	BEARING PIN	STAINLESS STEEL	A582
13	BEARING PIN	STAINLESS STEEL	A582
15	COTTER PIN	STAINLESS STEEL	A493
17	BOLT	STEEL	A307
18	NUT	STEEL	A563
19	TOP	CAST IRON	A126 CL.B
20	FLANGE	CAST IRON	A126 CL.B
21	BODY	CAST IRON	A126 CL.B
22	FULCRUM WASHER	FIBER	D710
22A	FULCRUM WASHER	FIBER	D710
23	SEAT GASKET	BUNA-N RUBBER	D2000
24	FLANGE GASKET	ARMSTRONG N-8092	N/A
25	BOLT	STAINLESS STEEL	A193
29	PLUG	BRASS	B505

PARTS LIST FOR CONNECTING PARTS

CP1	NIPPLE	STEEL	A53
CP2	STREET ELBOW	MALLEABLE IRON	A338
CP3	1" GATE VALVE	BRASS	N/A

* Parts are interchangeable and optional at customer's request ** Optional at customer's request

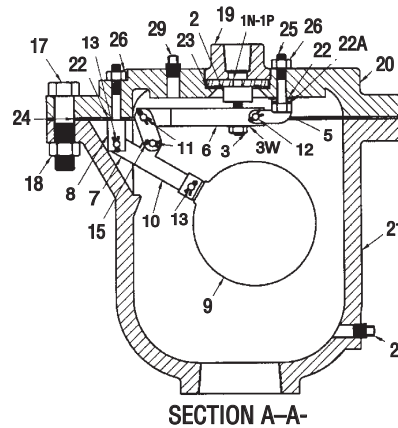
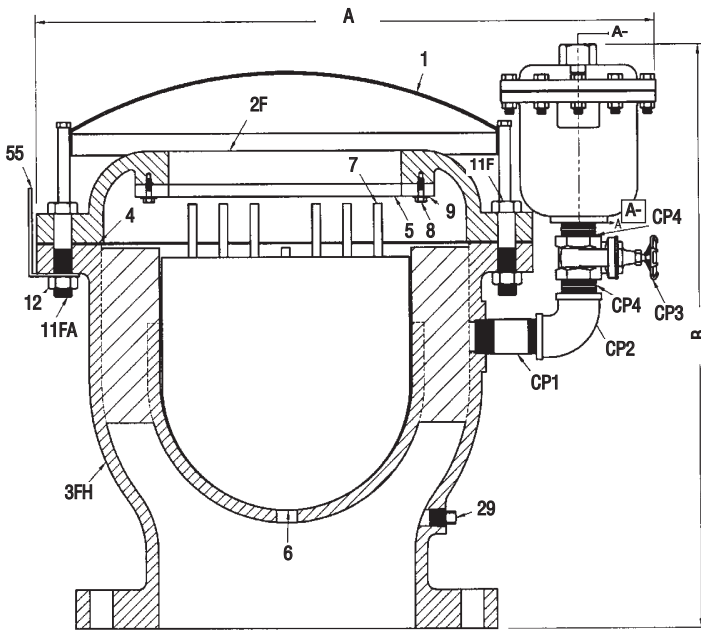
SUBMITTAL SHEET FOR AL/PL SERIES

Submittal Sheet for Crispin AL/PL Series

12"-16" Dual Body Combo. Air Release (1 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001



Orifice Options

DIAMETER	MAX. PRES.	DISCHARGE RATE
3/8	100 PSIG	152 SCFM
5/16	150 PSIG	152 SCFM
1/4	200 PSIG	127 SCFM
3/16	250 PSIG	88 SCFM
5/32	300 PSIG	73 SCFM

Specifications

The Combination Air Valve(s) shall be installed at high points in the system or at points selected by the engineer. This will permit discharging the surge of air from an empty line when filling and relieve the vacuum when the line is draining, or is under negative pressure. The valve(s) shall also release the accumulation of air when the system is under pressure.

The Air and Vacuum Valve shall operate by sealing the BUNA-N rubber outlet seat with a peripherally guided float as the liquid enters the valve chamber to raise the float. All Crispin Valves are hydrostatically tested to 150% of their maximum working pressure.

The Pressure Valve shall operate through a compound lever system and shall have a _____" orifice with valve sealing faces, of an adjustable BUNA-N rubber valve and (stainless steel or PVC) and shall operate at _____ PSIG and be capable of passing _____ SCFM of air. Valves which use a needle valve to seal the orifice will not be acceptable.

Valve construction shall be ANSI Class (125,250) flanged inlet connection and shall be cast iron body, top, and inlet flange (where required), stainless steel float with bronze and (brass or stainless steel) trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

The valve(s) shall be CRISPIN Model _____ Dual Air Valve(s), Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve(s) as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa. The valve(s) shall include a Crispin Pressure Air Release Valve.

Option: A hood shall be supplied to prevent debris from entering the outlet of the Air and Vacuum Valve.

Option: (Where pressures are greater than 300 psig), the valve(s) shall be ANSI Class _____ flanged inlet connection and shall have a (steel, stainless steel, or ductile iron) body, top and inlet flange.

Standard operating pressure for Crispin Air Valves is 20 to 150 PSIG. Please check one of the following if your operating needs differ:
 _____ 2 to 40 PSIG _____ 151 to 300 PSIG

SIZE SPECIFICATIONS

MODEL	INLET SIZE	OUTLET SIZE	A	B	WHT.
AL121/PL20	12" 125# FLG	12" NPT	34.5	32.5	775
AL122/PL20	12" 250# FLG	12" NPT	34.5	33.24	828
AL141/PL20	14" 125# FLG	14" NPT	36.5	34.24	1023
AL142/PL20	14" 250# FLG	14" NPT	36.5	35	1210
AL161/PL20	16" 125# FLG	16" NPT	39.25	36.5	1143
AL162/PL20	16" 250# FLG	16" NPT	39.25	37.5	1326

SUBMITTAL SHEET FOR AL/PL SERIES



Submittal Sheet for Crispin AL/PL Series

12"-16" Dual Body Combo. Air Release (2 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: October, 2001

PARTS LIST FOR AIR & VACUUM

ITEM	DESCRIPTION	MATERIAL	ASTM
1H	HOOD	HRCQ STEEL	N/A
2F	FLANGE	CAST IRON	A126 CL.B
3F	BODY	CAST IRON	A126 CL.B
4	GASKET	ARMSTRONG N-8092	N/A
5	SEAT	BUNA-N RUBBER	D2000
6	FLOAT	STAINLESS STEEL	A240
7	FLOAT ROD GUIDE	STAINLESS STEEL	A582
8	SEAT BOLTS	STAINLESS STEEL	A193
9	WASHER	STAINLESS STEEL	A240
10	BOLT	STEEL	A307
11F	BOLT	STEEL	A307
11FA	BOLT	STEEL	A307
12	NUT	STEEL	A563
29	PLUG	BRASS	B505
55	LIFTING LUG	STEEL	A240
*1N	VALVE SEAT	PVC	1784

PARTS LIST FOR PRESSURE RELEASE UNIT

*1 P	VALVE SEAT	STAINLESS STEEL	A582
2	VALVE PLUNGER	BUNA-N RUBBER & S/S	D2000/A193
3	NUT	STAINLESS STEEL	A307
3W	LOCK WASHER	STAINLESS STEEL	A240
5	VALVE FULCRUM	STAINLESS STEEL	A582
6	VALVE LEVER	STAINLESS STEEL	A582
7	LINK	STAIN LESS STEEL	A240
8	BALL FULCRUM	STAINLESS STEEL	A582
9	BALL FLOAT	STAINLESS STEEL	A240
10	BALL LEVER	STAINLESS STEEL	A240
11	BEARING PIN	STAINLESS STEEL	A582
12	BEARING PIN	STAINLESS STEEL	A582
13	BEARING PIN	STAINLESS STEEL	A582
15	COTTER PIN	STAINLESS STEEL	A493
17	BOLT	STEEL	A307
18	NUT	STEEL	A563
19	TOP	CAST IRON	A126 CL.B
20	FLANGE	CAST IRON	A126 CL.B
21	BODY	CAST IRON	A126 CL.B
22	FULCRUM WASHER	FIBER	D710
22A	FULCRUM WASHER	FIBER	D710
23	SEAT GASKET	BUNA-N RUBBER	D2000
24	FLANGE GASKET	ARMSTRONG N-8092	N/A
25	BOLT	STAINLESS STEEL	A193
26	NUT	STEEL	A563
29	PLUG	BRASS	B50

PARTS LIST FOR CONNECTING PARTS

CP1	NIPPLE	STEEL	A53
CP2	ELBOW	MALLEABLE IRON	A338
CP3	1" GATE VALVE	BRASS	N/A
CP4	NIPPLE	STEEL	A53

** Optional at customer's request * Parts are interchangeable and optional at customer's request

SUBMITTAL SHEET FOR AL/P SERIES