

# The C & AL/PL Series Combination & Dual Air Valves

Offering Single Unit Integrity When Both Air & Vacuum  
and Pressure Valves Are Required On An Installation



**Crispin**  
Since 1905

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# C SERIES

## Combination Air Valves

# “C” Series Combination Air Valves

Valve Function
<ul style="list-style-type: none"> <li>• <b>Single unit integrity when both Air &amp; Vacuum and Pressure Valves are required at one point on a pipeline</b></li> <li>• <b>Meets AWWA C-512</b></li> </ul>

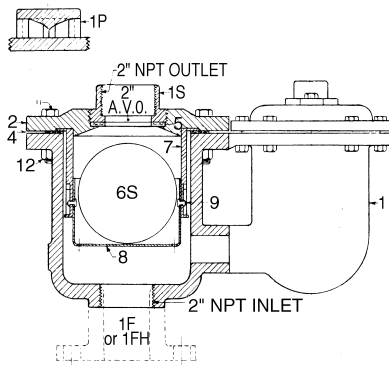
*Please Refer to Air & Vacuum and Pressure Air Release Valve for Parts Lists.*

The Crispin Combination Air Valve is a combination of an Air and Vacuum Unit and a Pressure Unit, designed with single unit integrity when both types of valves are required at one point. The air and vacuum unit operates the same as the standard air and vacuum valve. It releases a large quantity of air during the filling of the pipeline, and also permits a large quantity of air to reenter the pipeline to break the vacuum and eliminate any danger of collapse should the liquid suddenly leave the pipeline. The pressure unit operates independently and releases small accumulations of air which may collect while the line is in operation and under pressure. For further operating information, refer to Crispin Air and Vacuum Valve, Crispin Pressure Air Valve or Crispin Midget Air Valve literature.

*All Crispin Valves are hydrostatically tested to 150% of their maximum working pressure. For pressures above 300 PSIG, steel, stainless steel or ductile iron may be used.*

### Dimensions and Weights

Size of Valve	1/2"	1"	2"	3"	4"	6"	8"	10"
Width	5"	6 1/4"	9 7/8"	11 1/2"	14"	15"	17 3/4"	21"
Length	8 3/4"	10 1/4"	15 5/8"	20"	22 1/8"	23"	25 5/8"	29"
Height Scwd. Connection	5 5/8"	6"	9 5/8"	13 1/2"	15 1/8"	—	—	—
Height Flgd. Connection	—	—	13 1/4"	17 1/2"	18"	16"	18 1/8"	22 1/8"
Weight Scwd. Connection	13lbs	21lbs	68lbs	120lbs	179lbs	—	—	—
Weight Flgd. Connection	—	—	73lbs	140lbs	195lbs	198lbs	290lbs	525lbs
Pressure Unit Size	Midget	Midget	1"	1"	1"	1"	1"	1"
Pressure Unit Outlet Connection	3/8" NPT	3/8" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT	1/2" NPT
Air & Vacuum Unit Size	1/2"	1"	2"	3"	4"	6"	8"	10"
Air & Vacuum Unit Outlet Connection	1/2" NPT	1" NPT	2" NPT	3" NPT	4" NPT	6" NPT	8" NPT	10" NPT



### Model Information

Size of Valve	1/2"	1"	2"	3"	4"	6"	8"	10"
Model No. Screwed Inlet	C5	C10	C20	C30	C40			
125# Flanged Inlet			C21	C31	C41	C61	C81	C101
250# Flanged Inlet			C22	C32	C42	C62	C82	C102

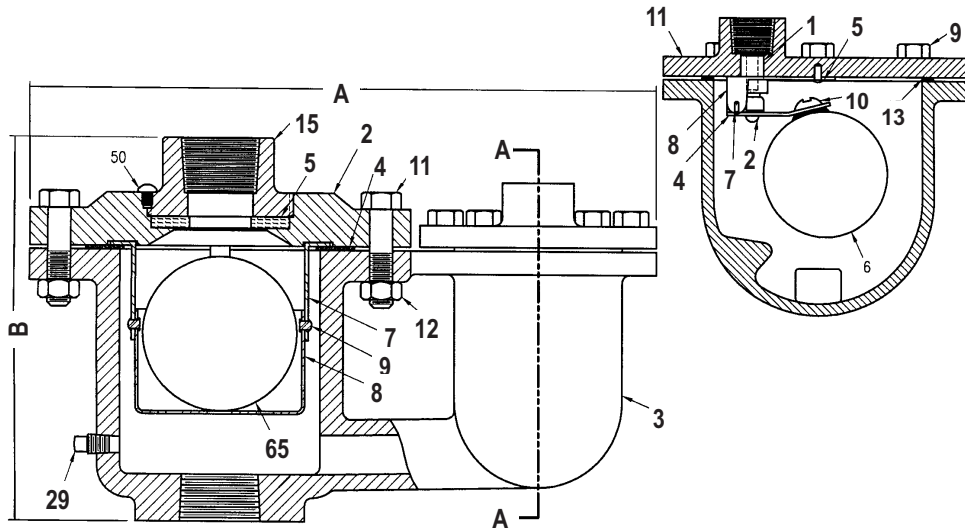
**For sizes above 10", please contact the factory.**

# Submittal Sheet for Crispin C Series

## 1/2"–1" Combo. Air Release (1 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: 2016



SUBMITTAL SHEET FOR C SERIES

### 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 draining, and also to release an accumulation of air when the system is under pressure.

The body of the valve shall be one integral casting or 2 valve bodies flange bolted together containing an air and vacuum valve and a separate pressure valve mechanism.

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 air release valve shall operate through simple or compound levers to permit air to be released under operating conditions. The valve shall have a \_\_\_\_\_" orifice with valve sealing faces of an adjustable BUNA-N valve and (stainless steel or PVC) and shall operate at \_\_\_\_\_ PSIG and be capable of passing \_\_\_\_\_ SCFM of air.

The valve(s) shall be CRISPIN Model \_\_\_\_\_ Combination Air Valve, Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa.

The valve(s) 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 floats with bronze and brass or stainless steel trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

**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



## Submittal Sheet for Crispin C Series

# 1/2"–1" Combo. Air Release (2 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: 2016

### Orifice Options

DIAMETER	MAX. PRES.	DISCHARGE RATE
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	WHT.
C5	1/2" NPT	1/2" NPT	8.75	5.75	13
C10	1" NPT	1" NPT	10.25	6.00	21



### Air & Vacuum Valve Parts List

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
6S	FLOAT	STAINLESS STEEL	A240
7	HANGER	STAINLESS STEEL	A240
8	CUP	STAINLESS STEEL	A312
9	RIVET	STAINLESS STEEL	A582
9A	FLOAT ROD	STAINLESS STEEL	A582
11	BOLT	STEEL	A307
12	NUT	STEEL	A563
29	PLUG	BRASS	B505
50	INTERFERENCE PIN	STAINLESS STEEL	A582

### Pressure Air Release Parts List

ITEM	DESCRIPTION	MATERIAL	ASTM
1	VALVE SEAT	STAINLESS STEEL	A240
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
13	FLANGE GASKET	ARMSTRONG N-8092	N/A

SUBMITTAL SHEET FOR C SERIES

# Submittal Sheet for Crispin C Series

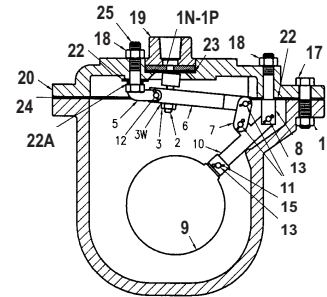
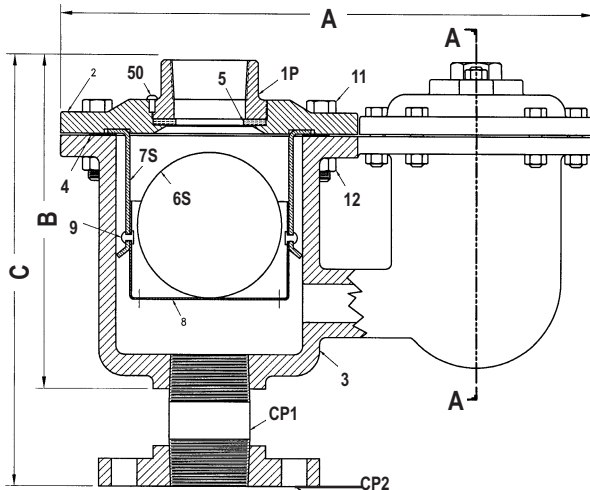
## 2" Combination Air Release Valve

Manufactured in compliance with ANSI/AWWA C512

Date: 2016



SUBMITTAL SHEET FOR C SERIES



### Orifice Options

DIAMETER	MAX. PRESSURE	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

### Size Specifications

MODEL	INLET SIZE	OUTLET SIZE	A	B	C	WHT.
C20	2" NPT	2" NPT	15.75	9.50		64
**C21	2" 125" FLG	2" NPT	15.75		13.25	70
**C22	2" 250# FLG	2" NPT	15.75		14.00	72

\*\*Includes ANSI CL. 125 or 250 Companion FLG. & NPL.

### 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 draining, and also to release accumulated air when the system is under pressure. The valve body shall be one integral casting or 2 valve bodies flange bolted together containing an air and vacuum valve and a separate pressure valve mechanism.

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 air release valve shall operate through simple or compound levers to permit air to be released under operating conditions. The valve shall have a \_\_\_\_\_" orifice with valve sealing faces of an adjustable BUNA-N valve and (stainless steel or PVC) and shall operate at \_\_\_\_\_ PSIG and be capable of passing \_\_\_\_\_ SCFM of air.

The valve(s) shall be Crispin Model \_\_\_\_\_ Combination Air Valve, Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa.

The valve(s) 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 floats with bronze and brass or stainless steel trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

**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

#### 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
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	N UT	STEEL	A563
29	PLUG	BRASS	B505
50	INTERFERENCE PIN	STAINLESS STEEL	A582

#### PARTS LIST FOR PRESSURE UNIT

*1 N	VALVE SEAT	PVC	1784
*1 P	VALVE SEAT	STAINLESS STEEL	A582
2	VALVE PLUNGER	BUNA-N RUBBER	D2000
3	PLUNGER NUT	STAINLESS STEEL	A563
3W	LOCK WASHER	STAINLESS STEEL	A240
5	VALVE FULCRUM	STAINLESS STEEL	A240
6	VALVE LEVER	STAINLESS STEEL	A582
7	LINK	STAINLESS 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
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 FLANGE CONNECTION

CP1	NIPPLE	STEEL	A53
CP2	COMPANION FLANGE	CAST IRON	A126 CL.B

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





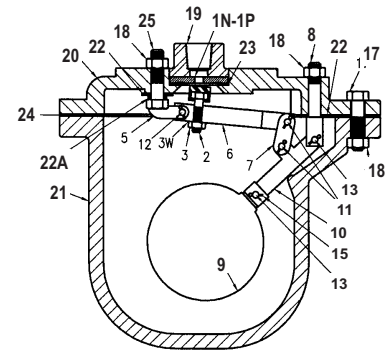
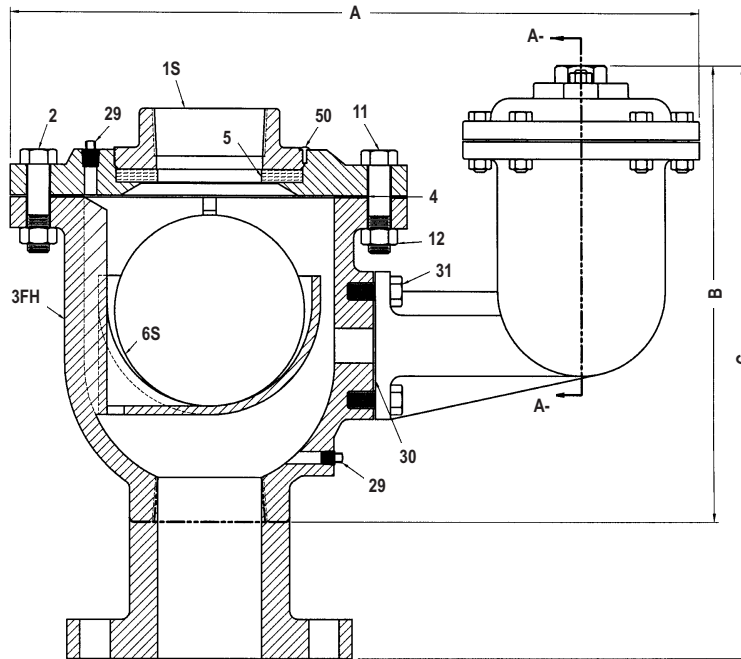
# Submittal Sheet for Crispin C Series

## 3"–4" Combo. Air Release (1 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: 2016

SUBMITTAL SHEET FOR C SERIES



SECTION A-A-

### 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 draining, and also to release an accumulation of air when the system is under pressure.

The body of the valve shall be one integral casting or 2 valve bodies flange bolted together containing an air and vacuum valve and a separate pressure valve mechanism.

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 air release valve shall operate through simple or compound levers to permit air to be released under operating conditions. The valve shall have a \_\_\_\_\_" orifice with valve sealing faces of an adjustable BUNA-N valve (stainless steel or PVC) and shall operate at \_\_\_\_\_ PSIG and be capable of passing \_\_\_\_\_ SCFM of air.

The valve(s) shall be CRISPIN Model \_\_\_\_\_ Combination Air Valve, Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve as manufactured by Crispin-Multiplex Manufacturing Co., Berwick, Pa.

The valve(s) 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 floats with bronze and brass or stainless steel trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

**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

# Submittal Sheet for Crispin C Series



SUBMITTAL SHEET FOR C SERIES

## 3"–4" Combo. Air Release (2 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: 2016

### PARTS LIST FOR AIR & VACUUM

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

### PARTS LIST FOR AIR RELEASE UNIT

*1N	VALVE SEAT	PVC	1784
*1P	VALVE SEAT	STAINLESS STEEL	A582
2	VALVE PLUNGER	BUNA—N RUBBER	D2000
3	PLUNGER NUT	STAINLESS STEEL	A563
3W	LOCK WASHER	STAINLESS STEEL	A240
5	VALVE FULCRUM	STAINLESS STEEL	A240
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 (NOT SHOWN)	BRASS	B505
30	GASKET	ARMSTRONG N-8092	N/A
31	BOLT	STEEL	A307

### SIZE SPECIFICATIONS

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

MODEL	INLET SIZE	OUTLET SIZE	A	B	C	WEIGHT
C30	3" NPT	3" NPT	20.00	13.50		120
C31	3" 125# FLG	3" NPT	20.00		17.50	140
C32	3" 250# FLG	3" NPT	20.00		17.50	148
C40	4" NPT	4" NPT	22.25	15.25		182
C41	4" 125# FLG	4" NPT	22.25		18.00	198
C42	4" 250# FLG	4" NPT	22.25		18.25	209



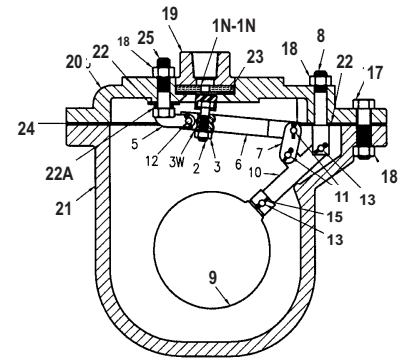
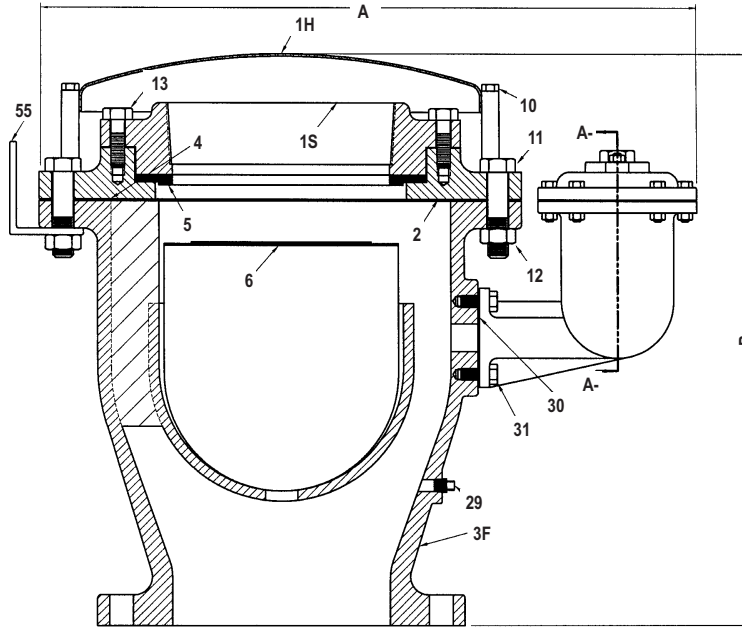
# Submittal Sheet for Crispin C Series

## 6"-10" Combo. Air Release (1 of 2)

Manufactured in compliance with ANSI/AWWA C512

Date: 2016

SUBMITTAL SHEET FOR C SERIES



SECTION A-A-

### 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 draining, and also to release an accumulation of air when the system is under pressure.

The body of the valve shall be one integral casting or 2 valve bodies flange bolted together containing an air and vacuum valve and a separate pressure valve mechanism.

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 air release valve shall operate through simple or compound levers to permit air to be released under operating conditions. The valve shall have a \_\_\_\_\_" orifice with valve sealing faces of an adjustable BUNA-N valve and (stainless steel or PVC) and shall operate at \_\_\_\_\_ PSIG and be capable of passing \_\_\_\_\_ SCFM of air.

The valve(s) shall be CRISPIN Model \_\_\_\_\_ Combination Air Valve, Type N, (PVC seat and BUNA-N rubber valve) or Type P (stainless steel seat and BUNA-N rubber valve) pressure valve as manufactured by Multiplex Manufacturing Co., Berwick, Pa.

The valve(s) 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 floats with bronze and brass or stainless steel trim. Refer to Air & Vacuum and Pressure Air Release specifications for Valve description.

**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	WEIGHT
C61	6" 125# FLG	6" NPT	23.00	16.00	202
C62	6" 250# FLG	6" NPT	23.00	16.25	225
C81	8" 125# FLG	8" NPT	25.75	18.25	293
C82	8" 250# FLG	8" NPT	25.75	18.75	323
C101	10" 125# FLG	10" NPT	29.00	22.25	528
C102	10" 250# FLG	10" NPT	29.00	23.00	578



# Submittal Sheet for Crispin C Series

## 6"–10" Combo. Air Release (2 of 2)



Manufactured in compliance with ANSI/AWWA C512

Date: 2016

### 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
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
**10	BOLT	STEEL	A307
11	BOLT	STEEL	A307
12	NUT	STEEL	A563
13	BOLT	STEEL	A307
29	PLUG	BRASS	B505
55	LIFTING LUG	STEEL	A36

### PARTS LIST FOR AIR RELEASE UNIT

*1N	VALVE SEAT	PVC	1784
*1P	VALVE SEAT	STAINLESS STEEL	A582
2	VALVE PLUNGER	BUNA—N RUBBER & S/S	D2000
3	PLUNGER NUT	STAINLESS STEEL	A563
3W	LOCK WASHER	STAINLESS STEEL	A240
5	VALVE FULCRUM	STAINLESS STEEL	A240
6	VALVE LEVER	STAINLESS STEEL	A582
7	LINK	STAINLESS 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 (NOT SHOWN)	BRASS	B505
30	GASKET	ARMSTRONG N-8092	N/A
31	BOLT	STEEL	A307

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

\*\* Optional at customer's request

**For sizes above 10", please contact the factory.**

SUBMITTAL SHEET FOR C SERIES



# AL/PL SERIES

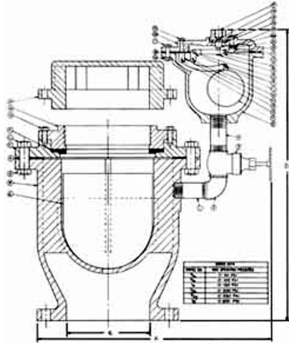
## Dual Air Valves

# 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: 2016



### 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 (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:

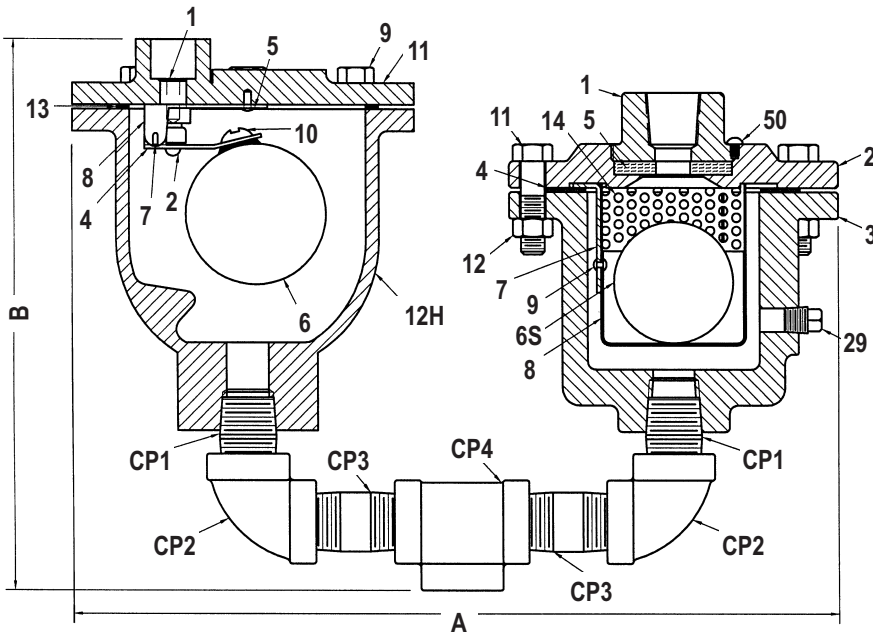
\_\_\_\_ 2 to 40 PSIG    \_\_\_\_ 151 to 300 PSIG

### 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



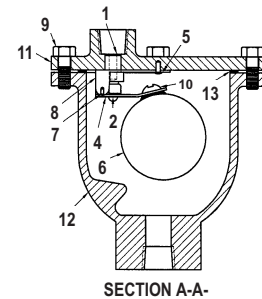
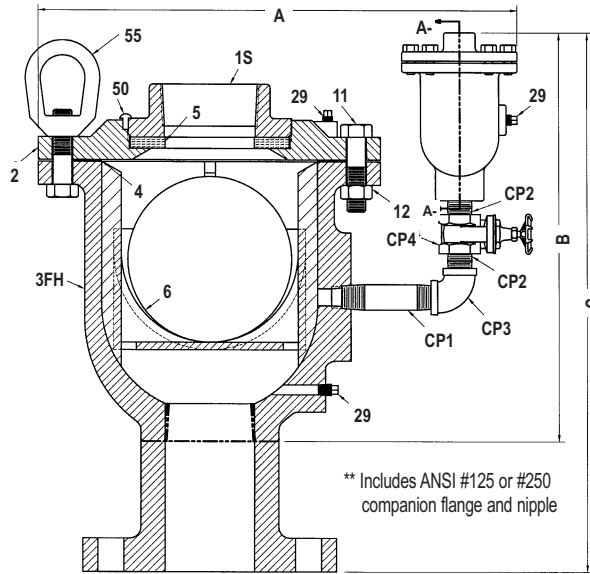
SUBMITTAL SHEET FOR AL/M SERIES

# Submittal Sheet for Crispin AL/M Series

## 1"-3" Dual Body Combination Air Release

Manufactured in compliance with ANSI/AWWA C512

Date: 2016



### 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 (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

### PARTS LIST FOR CONNECTING PARTS

ITEM	DESCRIPTION	MATERIAL	ASTM
29	PLUG (NOT SHOWN)	BRASS	B505
CP1	NIPPLE	STEEL	A53
CP2	NIPPLE	STEEL	A53
CP3	ELBOW	MALLEABLE IRON	A338
CP4	1/2" GATE VALVE	BRASS	N/A



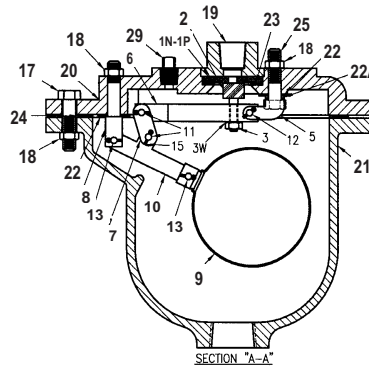
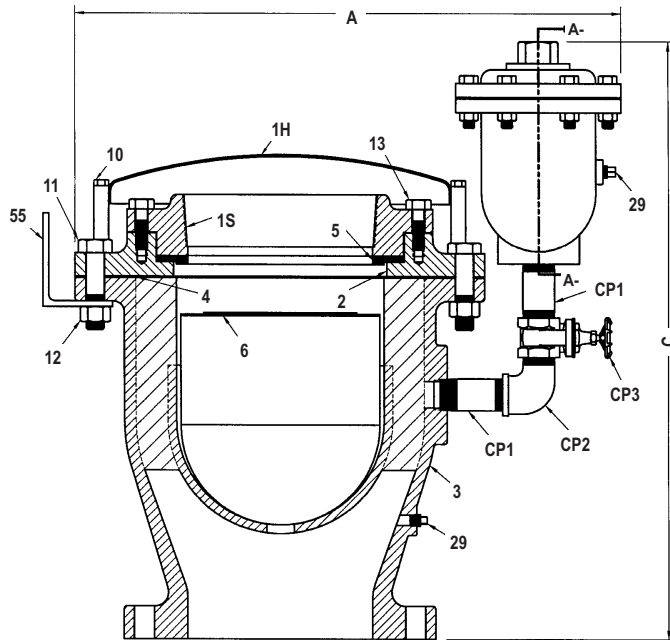
# Submittal Sheet for Crispin AL/PL Series

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



Manufactured in compliance with ANSI/AWWA C512

Date: 2016



SECTION A-A-

### 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 (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
*AL40/PL10	4" NPT	4" NPT	20.00	20.25
*AL41/PL10	4" 125# FLG	4" NPT	20.00	23.75
*AL42/PL10	4" 250# FLG	4" NPT	20.00	24.25
AL61/PL10	6" 125# NPT	6" NPT	21.00	22.25
AL62/PL10	6" 250# FLG	6" NPT	21.00	22.50
AL81/PL10	8" 125# FLG	8" NPT	24.50	25.50
AL82/PL10	8" 250# FLG	8" NPT	24.50	26.00
AL101/PL10	10" 125# FLG	10" NPT	33.75	29.00
AL102/PL10	10" 250# FLG	10" NPT	33.75	29.75

\* 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: 2016

SUBMITTAL SHEET FOR AL/PL SERIES

### 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

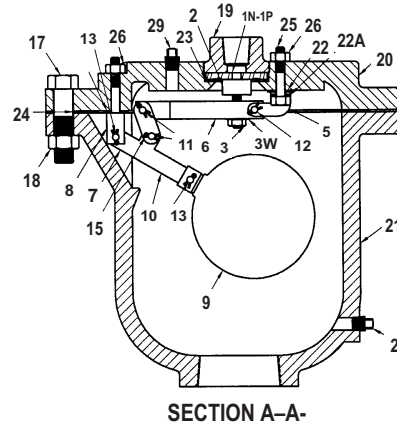
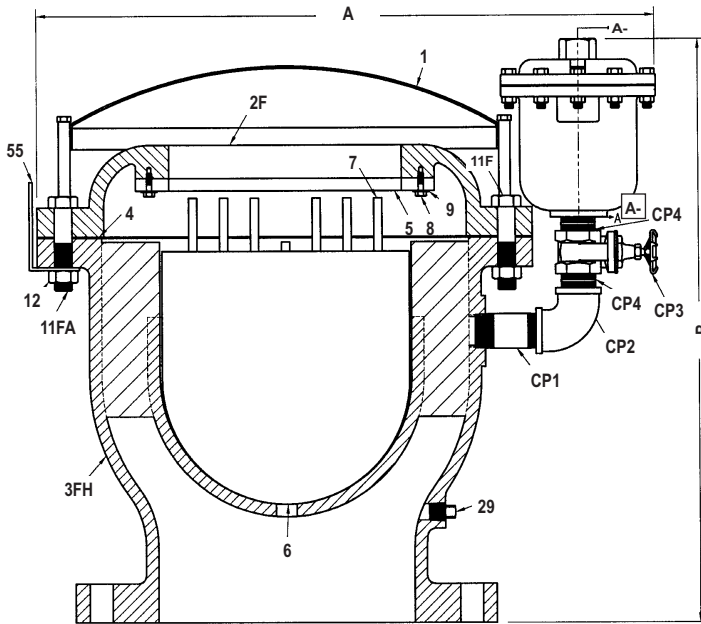
\* Parts are interchangeable and optional at customer's request \*\* Optional at customer's request

# Submittal Sheet for Crispin AL/PL Series

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

Manufactured in compliance with ANSI/AWWA C512

Date: 2016



### 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 (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: 2016

SUBMITTAL SHEET FOR AL/P SERIES

### 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

*1P	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

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