

**UL Series Universal Air Release Valve for Clean Water
AWWA C-512 Compliant, Valve Sizes: 2-4”**



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UL Series Universal Air Release Valve Operation & Maintenance Manual

INTRODUCTION

This manual will provide you with the information to properly install and maintain the Crispin UL Series Universal Air Release Valve to ensure a long service life. The UL Series is ruggedly constructed with stainless steel trim to ensure a long service life. This valve is not intended for fluids containing suspended solids such as wastewater. It is intended for clean water applications.

INSTALLATION

The installation of the valve is important for its proper operation. It must be installed in the vertical position.

1. Lower the valve over the mating nipple.
2. If mounted on nipple, using Teflon tape, apply tape to the mating nipple. Lightly thread the valve to the pipe nipple until tight.
3. If using a flanged connection, align and apply the flange gasket on flange, and lower the valve onto the mating flange, then tighten the bolts.
4. If leakage occurs, check the connections and re-tape the threaded connection if necessary.

OPERATION

The Crispin UL Series Universal Air Release Valve is designed to permit automatic escape of large quantities of air from a pipeline when the line is being filled, and to permit air to enter the pipeline when the line is being emptied. The UL Series will also release accumulating air while the line is in operation and under pressure. Therefore, the UL Series provides the function of an Air & Vacuum Valve and an Air Release Valve in a single body.

When the line is being filled, liquid rises into the valve, and air escapes through the large orifice and into the atmosphere. Liquid entering the valve raises the float and lever mechanism, carrying with it the pressure plunger in the main valve. When the liquid has raised the float to its limit, the stainless steel main valve rests against the seat, and the pressure plunger also rests against its seat, which is the main valve. When this occurs, the valve is closed, and no liquid can escape.

If accumulating air rises into the valve while the line is in operation and under pressure, it will displace the liquid at the top of the valve body, and the float will begin to drop as the liquid level drops. As this occurs, the pressure valve will open, permitting escape of the accumulating air, after which the liquid level will rise and the valve will close.

Should a pipeline be drained for any reason, or if a large break develops within the pipeline, the float will drop all the way down as the liquid level lowers in the valve body. The valve will then be in full open position, permitting the entrance of air and eliminating the danger of pipeline collapse due to a vacuum. The cycles will repeat automatically as each condition presents itself.

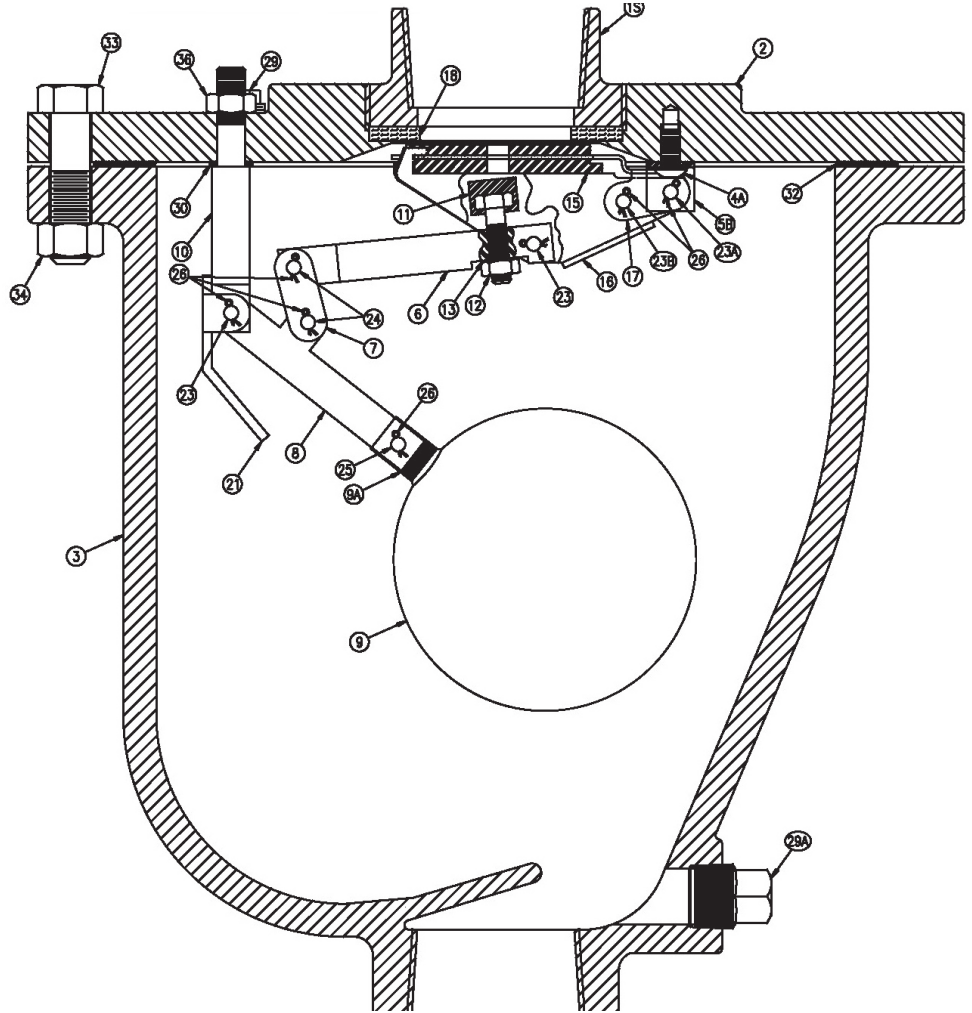


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PARTS LIST FOR DISASSEMBLY AND REASSEMBLY

ITEM	DESCRIPTION	QTY
1S	Top	1
2	Flange	1
3	Body	1
4A	Cap Screw	2
5B	A&V Fulcrum	2
6	Valve Lever	1
7	Link	2
8	Ball Lever	1
9	Float	1
9A	Float Rod	1
10	Ball Fulcrum	1
11	Valve Plunger	1
12	Plunger Nut	1
13W	Lock Washer	1
15	Pressure Seat	1
16	Pressure Fulcrum	1
17	Seat Cage	1
18	A/V Seat	1
21	Pressure Limit Stop	1
23	Bearing Pin	2
23A	Bearing Pin	1
23B	Bearing Pin	1
24	Bearing Pin	2
25	Bearing Pin	1
26	Cotter Pin	7
29	Drain Plug	2
30	Fulcrum Washer	1
32	Flange Gasket	1
33	Flange Bolt	13
34	Nut	13
36	Ball Fulcrum Nut	1
50	Interference Pin	1



DISASSEMBLY INSTRUCTIONS

The UL Series does not have to be removed from the pipeline for disassembly. All work on the valve should be performed by a skilled mechanic using the proper tools. Refer to the parts list and diagram for reference.

1. Remove Top (1S) from Flange (2) by turning counter-clockwise. This gives access to the Valve Seat (18).
2. Remove Flange Bolts (33) and Nuts (34). Remove Flange (2) from Valve Body (3). Remove Fulcrum Nut (36) from Top Flange (2). Remove Cap Screw (4A) from the underside of the Flange (2). This separates the valve internals from the Top Flange (2).
3. Inspect the Float (9) for dents. Inspect the valve linkage for bent parts. Inspect the Valve Plunger (11) for wear. If worn, replace.
4. Using a putty knife or razor blade, scrape off the Flange Gasket (32) from the Valve Body (3) and clean the body and the flange gasket surfaces with a wire brush.



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REASSEMBLY INSTRUCTIONS

All parts must be cleaned and gasket surfaces should be cleaned with a stiff wire brush in the direction of the serrations or machine marks. Worn parts, gaskets and seals should be replaced during reassembly. During routine maintenance, it is advised that the Valve Seat (18) also be replaced.

1. Install the valve internals to the Top Flange (2) using Cap Screw (4A) and Fulcrum Nut (36). Be sure to inspect the Fulcrum Washers (30), and if worn, replace them.
2. Install the Seat (18) in the Flange (2).
3. Install the Top (1S) in the Flange (2).
4. Turn the Top Flange (2) upside-down, and move the linkage into the closed position to be sure that the linkage is not toggled (over extended.)
5. Apply talcum powder to the Valve Plunger (11). Work the linkage back and forth so that the contact between the Valve Plunger (11) and Seat (18) is visible. If proper contact is not evident, adjust the Valve Plunger (11) and Plunger Nut (12).
6. Apply the top Flange Gasket (32) to the top Flange (2). Be sure to align the gasket so that the center holes are concentric with each other.
7. Gently lower the Valve Body (3) onto the top Flange (2), Once aligned, use the flange Bolts (33) and Nuts (34) to tighten.

MAINTENANCE

Crispin UL Series Universal Air Release Valves require no scheduled lubrication or maintenance.

SPARE PARTS

Crispin Valve recommends having a spare Air & Vacuum Seat (18), Valve Plunger (11) and Flange Gasket (32) on hand for general maintenance.

SERVICE

Parts and service for the Crispin UL Series Universal Air Release Valve are available from your local representative or distributor, as well as the factory. Make note of the valve size, operating pressure, and model number locate on the valve tag.



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