



INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS



Clean Water Universal Release Valve

Introduction

This manual will provide you with the information to properly install and maintain the Universal Air Release valve to ensure a long service life. The Universal Air Release Valve is ruggedly constructed with stainless steel trim to give years of trouble-free operation.

This valve is not intended for fluids containing suspended solids such as wastewater.

Installation

The installation of the valve is important for its proper operation. The valve must be installed in the vertical position. Next, lower valve over the mating nipple or flange. If mounted on nipple, using Teflon tape, apply tape to the mating pipe nipple. Lightly thread the valve to the pipe nipple until tight. If using a flanged connection, align and apply the flange gasket on flange and lower the valve onto the mating flange. Then tighten flange bolts. If leakage occurs, check the connections and re-tape the threaded connection if necessary.

Operation

The CRISPIN 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 CRISPIN Universal Air Release Valve will also release accumulating air while the line is in operation, and under pressure. Therefore, the CRISPIN Universal Air Release Valve provides the function of Air and Vacuum Valve and the 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 a large break develop 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 the 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.

Disassembly

The valve 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.

Remove Top (1S) from Flange (2) by turning counter-clockwise. This gives access to the Valve Seat (18).

Remove Flange Bolts (33) and Nuts (34). Remove Flange (2) From Valve Body (3).

Remove Fulcrum Nut (36) from Top Flange (2) and remove Cap Screw (4A) from the understand of the Flange (2). This separates the valve internals from the Top Flange (2).

Inspect the Float (9) for dents.

Inspect the valve linkage for bent parts.

Inspect the valve Plunger (11) for wear. If worn, replace.

Using a putty knife or razorblade, scrape off the flange Gasket (32) from the Valve Body (3) and clean the body and to flange gasket surfaces with a wire brush.

Reassembly

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.

Install the valve internals to the top flange (2) using Cap Screw (4A) and Fulcrum Nut (36). Be sure to inspect, & if worn replace the fulcrum washers (30).

Install seat (18) into flange (2).

Install top (1S) into flange (2).

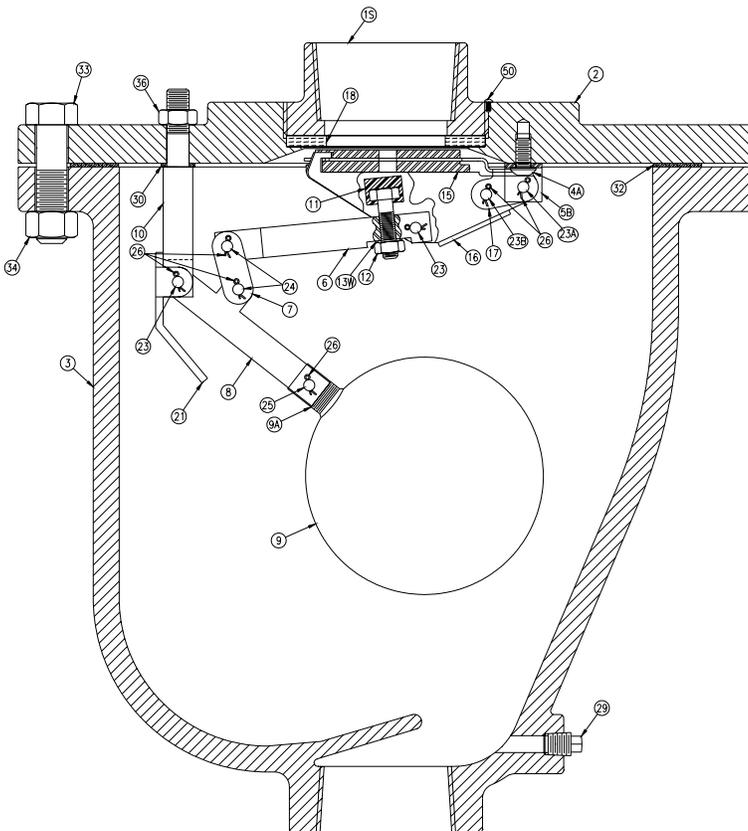
Turn top flange (2) upside down & move linkage into the closed position to be sure the linkage is not toggled (toggled-over extended).

Apply talcum powder to the plunger (11). Work the linkage back and forth so that the contact between the plunger (11) and seat (18) is visible. If proper contact is not evident, adjust the valve plunger (11) and plunger nut (12).

Apply 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.

Gently lower the valve body (3) onto the top flange (2). Once aligned, use flange bolts (33) and nuts (34) and tighten.

Note: During routine maintenance, it is advised to replace the valve seat (18).



PARTS LIST			
PART NO.	DESCRIPTION	MATERIAL	QTY.
1S	TOP	CAST IRON	1
2	FLANGE	CAST IRON	1
3	BODY	CAST IRON	1
4A	CAP SCREW	STAINLESS STEEL	2
5B	A/V FULCRUM	STAINLESS STEEL	2
6	VALVE LEVER	STAINLESS STEEL	1
7	LINK	STAINLESS STEEL	2
8	BALL LEVER	STAINLESS STEEL	1
9	FLOAT	STAINLESS STEEL	1
9A	FLOAT ROD	STAINLESS STEEL	1
10	BALL FULCRUM	STAINLESS STEEL	1
11	VALVE PLUNGER	BUNA-N RUBBER & S/S	1
12	PLUNGER NUT	STAINLESS STEEL	1
13W	LOCK WASHER	STAINLESS STEEL	1
15	PRESSURE SEAT	STAINLESS STEEL	1
16	PRESSURE FULCRUM	STAINLESS STEEL	1
17	SEAT CAGE	STAINLESS STEEL	1
18	A/V SEAT	BUNA-N RUBBER	1
21	PRESSURE LIMIT STOP	STAINLESS STEEL	1
23	BEARING PIN	STAINLESS STEEL	2
23A	BEARING PIN	STAINLESS STEEL	1
23B	BEARING PIN	STAINLESS STEEL	1
24	BEARING PIN	STAINLESS STEEL	2
25	BEARING PIN	STAINLESS STEEL	1
26	COTTER PIN	STAINLESS STEEL	7
29	DRAIN PLUG	BRASS	2
30	FULCRUM WASHER	FIBER	1
32	FLANGE GASKET	ARMSTRONG	1
33	FLANGE BOLT	STEEL	13
34	NUT	STEEL	13
36	BALL FULCRUM NUT	STEEL	1
50	INTERFERENCE PIN	STAINLESS STEEL	1

Maintenance

Crispin Universal Valves require no scheduled lubrication or maintenance.

Service

Parts and service are available from your local representative or distributor. Make note of the Valve size, operating pressure and model number located on the valve tag.