

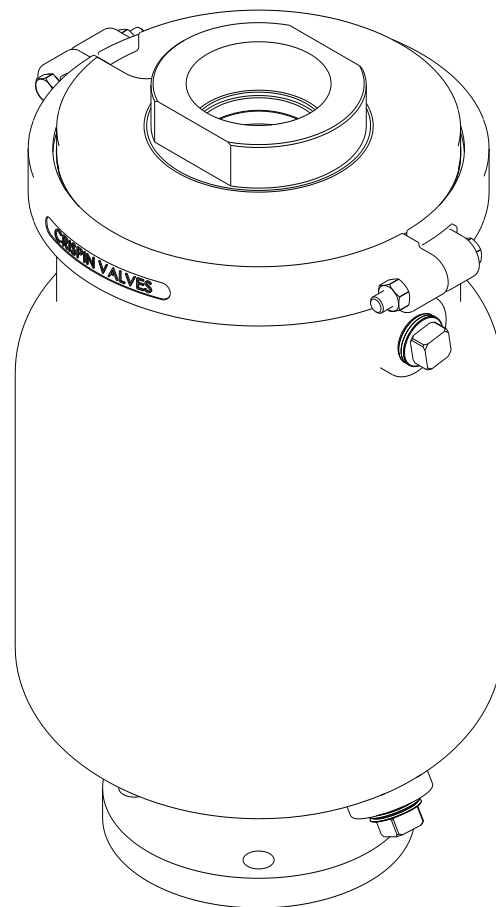
## **“AX Series” Air & Vacuum Valve for Extreme Service**

AX REV. 0

### **INSTALLATION, OPERATION And MAINTENANCE MANUAL**

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Also available in Pressure Air release and Combination, the “X Series” valve features our exclusive head exchange system, with its head-fixed stainless steel valve internals. To clean, simply loosen the head assembly, which is sealed in place by a sanitary stainless clamp fitting. Pull out the original head, and pop in a spare. Then clean the origi-

**Introduction**

This manual will provide you with the information to properly install and maintain the Air & Vacuum valve to ensure a long service life. The "AX31" Air & Vacuum valve is ruggedly constructed with 316 Stainless Steel body and trim to give years of trouble-free operation.

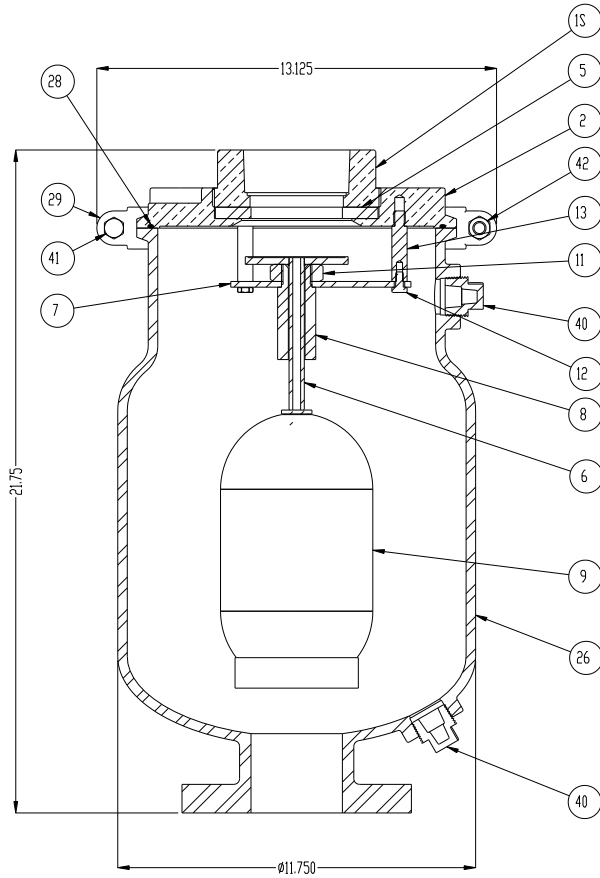
**Installation**

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 flange. 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 recheck the flange gasket coverage area, if necessary

**Operation**

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.

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 (Air/Vacuum Valve)

1. Remove Top (1S) from Flange (2) by turning counter-clockwise. This gives access to the Valve Seat (5). Inspect the seat and replace if damaged.
2. Remove Flange Clamp (29) by turning nuts counter clockwise. Remove Flange (2) From Valve Body (26) by lifting straight up.
3. Remove Stand Screws (12) from Top Flange (2). Inspect the items and Float (9) for any bends or damages.
4. Inspect the Float Rod Guide (8). Replace if severely worn.
5. Inspect Flange O-Ring (28). Replace if needed.

### Reassembly (Air/Vacuum Valve)

1. Install the valve internals to the top flange (2) using Stand Screws (12).
2. Install seat (5) into flange (2).
3. Install top (1S) into flange (2).
4. Apply O-Ring (28) to the valve body (26).
5. Gently lower the top flange (2) on to the valve body (26). Once aligned, use flange clamp (29) around the two parts, then tighten nuts (32).

*Note: During routine maintenance, it is advised to replace the valve seat.*

Item	Description	Qty
1S	TOP	1
2	FLANGE	1
5	SEAT	1
6	VALVE & FLOAT ROD	1
7	ROD GUIDE STAND	1
8	FLOAT ROD GUIDE	1
9	FLOAT ROD GUIDE	1
11	ROD GUIDE NUT	1
12	STAND ROD SCREW	3
13	STAND ROD	3
26	BODY	1
28	FLANGE O-RING	1
29	FLANGE CLAMP	2
40	FLUSH PLUG	2
41	BOLT	2
42	NUT	2

**NOTE:** 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.

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.

## **Maintenance**

Although Crispin AX31 Air & Vacuum with Surge Check valves does not require back flushing, it is recommended to have a spare valve head assembly on hand to “swap out” in the field. The head assembly removed from the valve can then be cleaned and put into stock, to be used the next time around. Depending on each specific system, Crispin recommends to swap head assemblies every 6-12 months.

## **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.



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