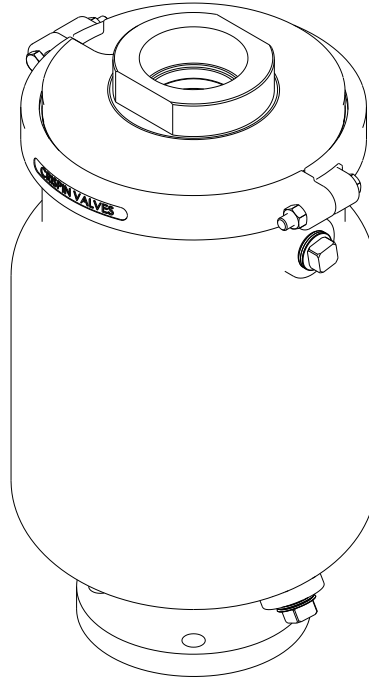


**“AX31 Series” Vacuum Priming Valve  
for Extreme Service**



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# AX31 Series: Installation, Operation & Maintenance Manual

## INTRODUCTION

The AX31 Series is part of Crispin Valve's X Series line, which is available in Air & Vacuum, Pressure Air Release and Universal Combinations for Water and Wastewater applications. The valves feature our exclusive Head Exchange System, with its head-fixed stainless steel internals that are replaceable in-line and on-site. To clean, simply loosen the head assembly, which is sealed in place by a sanitary clamp fitting. Pull out the original head, weighing less than 10lbs, and pop in a spare so that the original head can be cleaned at your leisure. All 316 stainless construction makes the X Series impervious to rust, and all Crispin Valves are tested to the latest ANSI/AWWA C512 Standards. This manual will provide you with the information to properly install and maintain the AX31 Series Air & Vacuum Valve to ensure a long service life. The AX31 is heavy-duty valve designed to stand up to the toughest industrial applications for years of trouble-free operation.



## INSTALLATION

Please read this entire IOM Manual prior to proceeding with the installation. The installation of the valve is important for its proper operation. The valve must be installed in the vertical position. Next, lower the valve over the mating nipple or flange. Align and apply the flange gasket on the flange, and lower the valve onto the mating flange. Then tighten the flange bolts. If leakage occurs, check the connections and recheck the flange gasket coverage area, if necessary.

## OPERATION

When the line is 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 the 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 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 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.



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## 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.

1. Remove Top (1S) from Flange (2) by turning counter-clockwise. This gives access to the Valve Seat (6). Inspect the seat and replace if damaged.
2. Remove the Flange Clamp (29) by turning the nuts counterclockwise. 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 damage.
4. Inspect the Float Rod Guide (8). Replace if severely worn.
5. Inspect the Flange O-Ring (28). Replae if needed.

## REASSEMBLY

Prior to reassembly, all parts must be cleaned and gasket surfaces should be cleaned with a stiff wire brush in the direction of the serations or machine marks. Worn parts, gaskets and seals should be replaced during reassembly.

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-Riing (28) to the Valve Body (26).
5. Gently lower the Top Flange (2) on to the Valve Body (26). Once aligned, use the Flange Clamp (29) around the two part, then tighten the Nuts (32).

## MAINTENANCE

Although Crispin “AX31 Series” Air & Vacuum Valve with Surge Check valves does not require back flushing, it is recommended that a spare valve head assembly be kept 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 a fresh head assembly is needed. Depending on each specific system, Crispin recommends that head assemblies be changed every 6-12 months.

## SERVICE

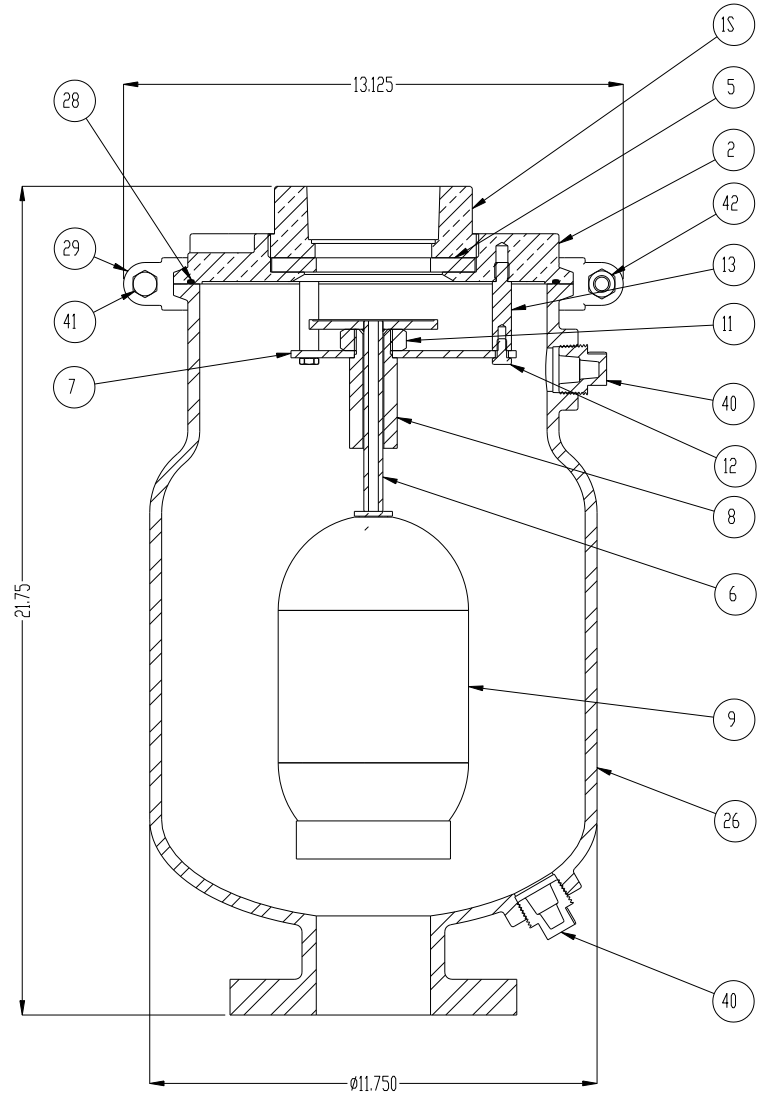
Parts and service are available from your local representative or distributor. Make note of the Valve size, operating pressure and model number as located on the valve tag.



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ITEM	DESCRIPTION	QUANTITY
1S	TOP	1
2	FLANGE	1
5	SEAT	1
6	VALVE AND FLOAT ROD	1
7	ROD GUIDE STAND	1
8	FLOAT ROD GUIDE	1
9	FLOAT ROD GUIDE	1
11	ROD GUIDE NUT	1
12	STANDARD 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



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