

UX Universal Combination Air Release Valve for Extreme Service (UX Series)

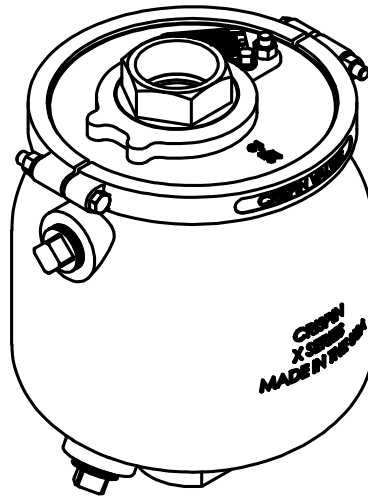


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UX Series: Installation, Operation & Maintenance Manual

INTRODUCTION

The UX 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 corrosion, 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 UX Series Universal Combination Air Release Valves to ensure a long service life. They are heavy-duty valves 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. If mounted on a nipple, using Teflon tape, apply tape to the mating pipe nipple. Lightly thread the valve of the pipe nipple until tight. If using a flanged connection, 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 re-tape the threaded connection if necessary.

OPERATION

Crispin UX Series Universal Combination Air Release Valves are 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 UX Series will also release accumulating air while the line is in operation and under pressure. Therefore, the Crispin UX Series provides the function of an Air and 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 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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WARNING! Servicing a UX Series valve while the pipeline is under pressure can cause personal injury and/or equipment damage. Always relieve pipeline pressure or shut off the inlet isolation valve before servicing a UX Series valve.

DISASSEMBLY (See drawing on pg 4)

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. Isolate the Crispin UX Air Release Valve from the pipeline by closing the inlet isolation valve between the main and Air Valve.
2. Depressurize the valve by loosening the Clamp Half (27).
3. Remove Clamp Half (27) by turning nuts counter clockwise. Remove Flange (2) from Valve Body (3) by lifting straight up.
4. Remove Fulcrum Nut (30) from Flange (2). Inspect the valve linkage assembly for bent parts.
5. Inspect the Valve Plunger (8) for wear. If worn, replace and reset.
6. Inspect the Flange O-Ring (4). Replace if needed.

REASSEMBLY (See drawing on pg 4)

Prior to 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.

1. Install the valve internals to the top Flange (2) using the Fulcrum Nut (30). Be sure to inspect, and if worn replace the Fulcrum O-Ring (26).
2. Install the Seat (5) into the Flange (2).
3. Install Top (1) into the Flange (2).
4. Turn top Flange (2) upside down, and move linkage into the closed position to be sure that the linkage is not toggled (overextended).
5. Apply talcum powder to the Plunger (8). Work the linkage back and forth so tha the contact between the Plunger (8) and Seat (5) is visible. If proper contact is not evident, adjust the Plunger (8) and Plunger Nut (9).
6. Apply Flange O-Ring (4) to the valve Body (3).
7. Gently lower the top Flange (2) on to the valve Body (3). Once aligned, place the Clamp Half (27) around the two parts, and then tighten Clamp Bolts (28).
8. When maintenance is complete and with the Air Release Valve back on the main, reopen the isolation valve.

MAINTENANCE

Although Crispin UX Series Universal Combination Air Release Valves do 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.



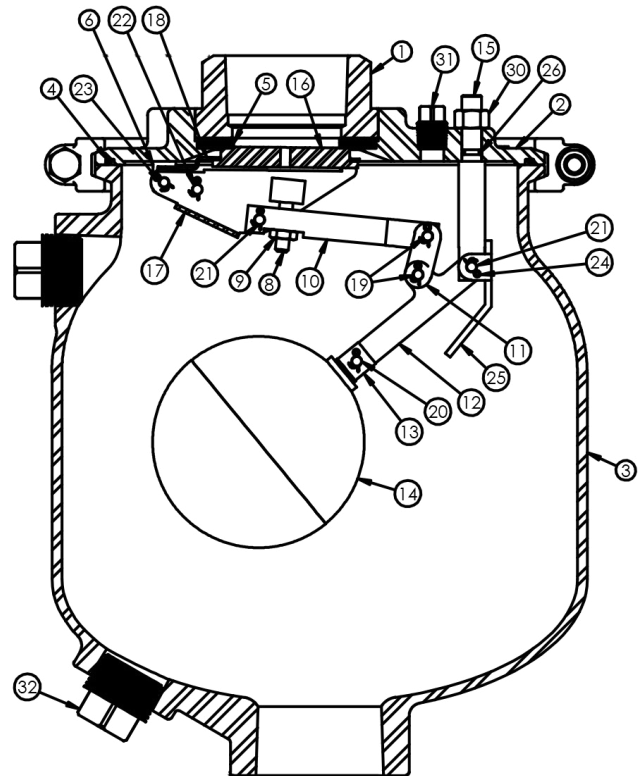
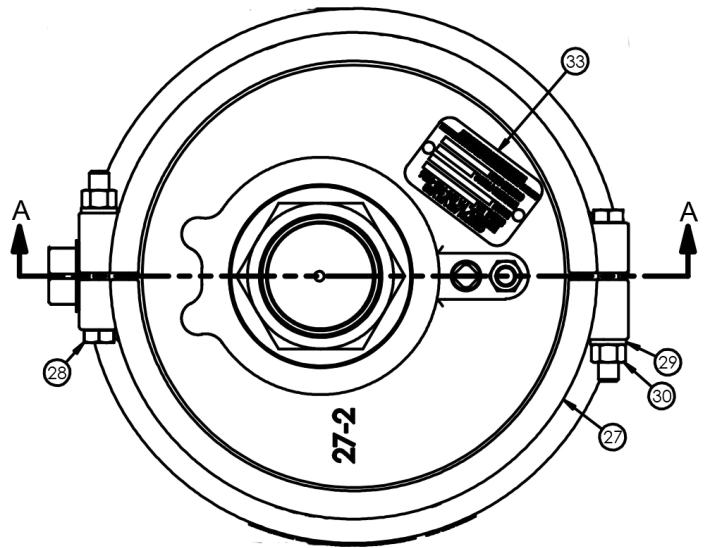
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UX Series Universal Combination Air Release Valves, Sizes 2"-6"

Parts List

ITEM	DESCRIPTION	MATERIAL
1	TOP	316 Stainless Steel
2	FLANGE	316 Stainless Steel
3	BODY	A351 GR CF8M
4	FLANGE O-RING	Buna-N Rubber
5	AIR/VAC SEAT	Buna-N Rubber
6	LEVER FULCRUM	316 Stainless Steel
7	FULCRUM SCREW	316 Stainless Steel
8	VALVE PLUNGER	Buna-N & 316 SS
9	PLUNGER NUT	316 Stainless Steel
10	VALVE LEVER	316 Stainless Steel
11	LINK	316 Stainless Steel
12	FLOAT LEVER	316 Stainless Steel
13	FLOAT ROD	316 Stainless Steel
14	FLOAT	316 Stainless Steel
15	FLOAT FULCRUM	316 Stainless Steel
16	PRESSURE SEAT	316 Stainless Steel
17	PRESSURE FULCRUM	316 Stainless Steel
18	SEAT CAGE	316 Stainless Steel
19	BEARING PIN	316 Stainless Steel
20	BEARING PIN	316 Stainless Steel
21	BEARING PIN	316 Stainless Steel
22	BEARING PIN	316 Stainless Steel
23	BEARING PIN	316 Stainless Steel
24	COTTER PIN	316 Stainless Steel
25	LIMIT STOP	316 Stainless Steel
26	FULCRUM O-RING	Buna-N Rubber
27	CLAMP HALF	A351 GR CF8M
28	CLAMP BOLT	316 Stainless Steel
29	LOCK WASHER	316 Stainless Steel
30	FULCRUM NUT	316 Stainless Steel
31	FLANGE PLUG	316 Stainless Steel
32	BODY PLUG	316 Stainless Steel
33	TAG	316 Stainless Steel



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