INSTALLATION, OPERATION AND MAINTENANCE MANUAL

6” FIGURE 923

SUPER HIGH-CAPACITY AIR RELEASE VALVES FOR WATER

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a +GF+ brand

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WARNING: Cancer and Reproductive Harm – www.Prop65Warnings.ca.gov

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INSTALLATION, OPERATION and MAINTENANCE
Figure 923 Super High-Capacity Air Release Valves

INTRODUCTION
This manual will provide the information to properly install, operate and maintain the valve to ensure a long service life. The Air Release Valve is ruggedly constructed to provide years of trouble-free operation with minimal maintenance.

CAUTION
The valve is NOT recommended for use with toxic fluids, fuels or fluids containing hazardous gases

CAUTION
The valve will not function if used at a pressure higher than the maximum working pressure indicated on the nameplate.

The Shop Order (SO) Number, Figure Number, size, and pressure rating are stamped on a nameplate attached to the valve. Please refer to the SO number when ordering parts.

DESCRIPTION OF OPERATION
The Figure 923 Super High-Capacity Air Release Valve is designed to automatically vent air that has accumulated within the valve. These valves are usually installed at high points in the system where air tends to collect. The valve as shipped is ”normally open” and will vent air through its orifice at the top of the valve. The float rises when water enters the valve and closes the orifice. Air from the system accumulates in the valve forcing the water level down until the float drops and opens the venting orifice. As air is released the water level rises lifting the float and re-closing the valve.

This sequence occurs as often as necessary to release air that has collected in the valve.

RECEIVING AND STORAGE
Inspect the valve upon receipt for damage during shipment. Carefully unload all valves to the ground without dropping.

The valves should remain in a clean, dry, and weather protected area until installed. For long term storage (greater than 6 months) the rubber surfaces of the seat should be coated with a non-toxic lubricant such as "SuperLube" made by Synco Chemical. Do not expose the rubber parts to sunlight or ozone.

INSTALLATION
The Figure 923 is standard with 6” Class 125 or 250 flanged pipeline connection and a 1” NPT outlet connection.

Consult the drawings of record to verify the configuration supplied and installed.

The valve must be installed in an upright vertical orientation, normally at a high point in the system.

If installed outdoors, below ground in a vault or in an unheated area, adequate freeze protection must be provided.

An isolating valve should be installed between the valve and the pipeline or system to facilitate maintenance.

Carefully screw threaded end valves onto pipe nipple using compatible thread sealant. Tighten valve using wrench flats. DO NOT OVER-TIGHTEN.

Flat-faced flanged valves should be mated with flat-faced flanges and full-face gaskets. If ring gaskets are used the bolt material shall be ASTM A307 Grade B (or equivalent). Higher strength bolting should only be used with full-face gaskets.

Lower heavy valves over the mating flange using slings or chains around the valve body. Lubricate the bolts or studs and insert around flange. Lightly tighten bolts until gaps are eliminated. Torque bolts in an alternating pattern in graduated steps. If leakage occurs

wait 24 hours and re-torque the bolts but do not compress the gasket more than 50% or exceed bolt maximum torque rating.

VALVE CONSTRUCTION

The standard Figure 923 Super High-Capacity Air Release Valve has a cast iron body, stainless steel float and linkage mechanism and a rubber seat. Optional materials such as ductile iron body can be provided for higher working pressures. Refer to the List of Materials submitted for the order if non-standard materials were provided.

Refer to Page 5 for details of construction and parts location.

The Figure 923 has a 10 to 150 PSI working pressure range while the Figure 923H has a 10 to 300 PSI working pressure range.

The valve has an inlet connection at the bottom where the valve attaches to the system and a smaller outlet connection at the top through which air leaves the valve.

WARNING

Removing the valve from the line or disassembling the valve while there is pressure in the valve body may result in injury or damage to the valve

PREVENTIVE MAINTENANCE

Figure 923 Super High-Capacity Air Release Valves require no scheduled lubrication or adjustment.

A periodic visual inspection should be performed to ensure the outlet piping is not obstructed and to verify there is no fluid leakage.

TESTING

Valve operation can be easily tested. Close the inlet isolation valve and remove or loosen the pipe plug nearest the inlet to drain the water from the valve. The float should drop as the water leaves the valve. NOTE: Manual valves can be installed in place of the pipe plugs to facilitate testing.

Replace or tighten the pipe plug and slowly open the inlet isolating valve. After expelling air, the valve should close and seal tightly.

TROUBLESHOOTING

- Valve Does Not Close / Fluid Leakage

  Verify debris has not collected on the seat preventing tight closure

  Verify rubber orifice button and/or orifice seating surfaces are not damaged

  Verify float has buoyancy

  Verify linkage mechanism operates freely without binding or sticking

  Verify the pressure at the valve inlet it at least 10 PSI

- Valve Does Not Open

  Verify debris in the valve is not preventing the float from freely falling when fluid is drained from valve

  Verify linkage mechanism operates freely without binding or sticking

  Verify the pressure at the valve inlet does not exceed the valve's maximum working pressure

DISASSEMBLY

The valve can be serviced while the body remains connected to the pipeline. A skilled technician with proper tools should perform all work. No special tools are required.

Disassemble the valve only as far as needed to replace damaged or worn parts.

First ensure there is no pressure within the valve. Remove the cover bolts (24) and lift off cover (2) with float and linkage attached. It may be necessary to pry the cover off. Be careful not to damage or lose the O-ring (17) unless it's being replaced.

Remove the two spring pins (10) connecting the lever arm (11) and float arm (12) to the bracket (3). The float and linkage will be free from the cover.

Remove the orifice button screw (7), washer (25) and the orifice seal (6). Before removing the orifice button (23) note the distance between it and the lever arm for re-assembly. Remove the lock nut (8) and lock washer (9) and unscrew the orifice button (23).

Loosen the lock nut (8) and unscrew the float ball (16) being careful not to lose the lock washer (9). Remove the spring pins (10) from the universal coupling (14). Remove the float screw (22) and float hood (21).

Remove the bracket screw (4) and lock washer (9) to remove the leverage bracket (3). Using a hex socket remove the orifice (5) from the cover.

It may be necessary to apply slight heat to threaded connections as they are secured with Loctite.

Inspect all parts for wear and damage. Minor scratches and dents in the float are normal. Some floats may contain sand for added weight but if water is detected replace the float. Carefully clean the orifice of scale. Replace damaged parts.

ASSEMBLY

Clean all parts especially seating and sealing surfaces before reassembling valve. Worn parts should be replaced during re-assembly.

Apply Loctite© PST thread sealant to orifice (4) and thread into cover. Torque to 35 ft-lbs (maximum).

Install bracket (3), bracket screws (4) and lock washers (9) and tighten.

Install new orifice button seal (6) in the orifice button (23), install orifice button washer (25) and secure with orifice button screw (7). Tighten screw but do not deform seal.

Thread orifice button (23) into lever arm (11) and install hex nut (8) and lock washer (9). Tighten hex nut (8) after adjusting to distance noted during disassembly.

Install valve links (13) and spring pins (10) to connect the float arm (12) to the lever arm (11).

Place float hood (21) and install lock washer (9) and float hood screw (22) and tighten.

Thread lock nut (8) all the way onto the float rod 15). Apply Loctite 263 to the float rod threads. Place lock washer (9) on end of float rod (15) and thread into float ball (16) and tighten lock nut.

Install universal coupling (14) on float rod (15) and float arm (12) using spring pins (10). Connect the lever arm (11) and float arm (12) to the bracket (3) using two spring pins (10).

Verify free movement of linkage mechanism and that the orifice button seal (6) presses against the orifice (6) when the float rises and pulls away when allowed to fall.

Lubricate and place O-ring (17) in cover (2) and carefully place cover (2) on body (1) ensuring o-ring is retained. Install the cover bolts (24) and tighten in an alternating pattern.

Carefully introduce pressure and check for leaks.

REPLACEMENT PARTS

Genuine replacement parts are available from your local VAG/GA Industries representative or from the factory:

VAG USA, LLC
234 Clay Avenue
Mars, PA 16046 USA
Telephone: 724-776-1020
Fax: 724-776-1254
E-mail: quotes-ga@vag-group.com

Please have the nameplate data available when ordering parts.

REPAIR KITS

The 6” Figure 923 use these repair kits:

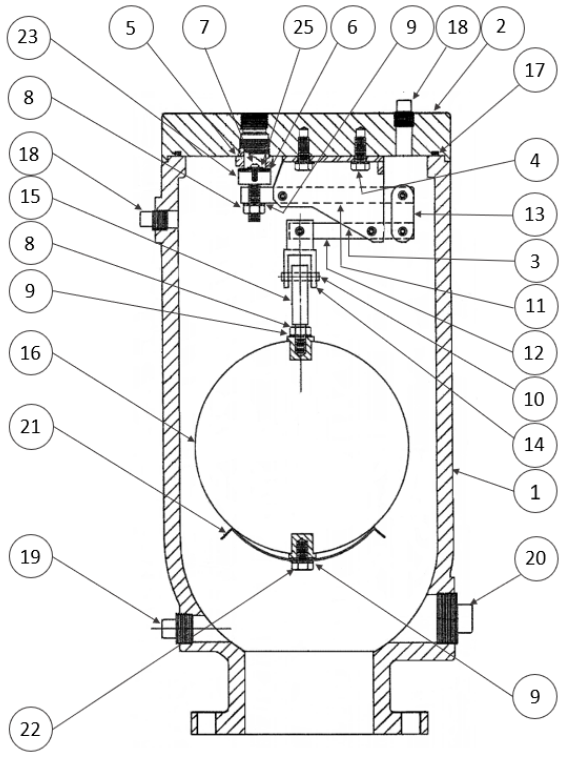
Soft Goods Kit A923-4 (Part Number 2-80-11000-007) contains Items 6 and 17

Linkage Kit AL923-4 (Part Number 2-80-11000-083) contains Items 3, 4, 10, 11, 12, 13, 14 and 15

Other parts are ordered individually.

WARRANTY

The Warranty for GA Industries valves is included in our Terms and Conditions which can be found here: https://gaindustries.com/terms



6" Figure 923
Parts List

Item	Description	Standard Material
1	Body	Cast Iron
2	Cover	Cast Iron
3	Leverage Bracket	316 Stainless Steel
4	Leverage Bracket Screws (2)	304 Stainless Steel
5	Orifice	316 Stainless Steel
6	Orifice Button Seal	Buna-N Rubber
7	Orifice Button Screw	304 Stainless Steel
8	Hex Nut	304 Stainless Steel
9	Lock Washer (5)	410 Stainless Steel
10	Spring Pin (6)	316 Stainless Steel
11	Lever Arm	316 Stainless Steel
12	Float Arm	316 Stainless Steel
13	Pivot Link (2)	316 Stainless Steel
14	Universal Coupling	316 Stainless Steel
15	Float Rod	316 Stainless Steel
16	Float Ball	316 Stainless Steel
17	Cover O-Ring	Buna-N Rubber
18	½" Pipe Plug (2)	Steel
19	1" Pipe Plug	Malleable Iron
20	2" Pipe Plug	Malleable Iron
20	Float Hood	316 Stainless Steel
22	Float Screw	304 Stainless Steel
23	Orifice Button	316 Stainless Steel
24	Cover Bolts (Not Shown)	Zinc Plated Steel or 316SS
25	Orifice Button Washer	316 Stainless Steel

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