



CSA products for industry/seawater

**Anti-slam/rapid filling prevention
combination air valve**

Mod. GOLIA 3F-RFP

Instructions

These instructions provide installation, operation and maintenance information for CSA Mod. GOLIA 3F RFP combination air valves. They are for use by personnel who are responsible for installation, operation and maintenance of CSA Air/Vacuum release valves.

Safety Messages

All safety messages in the instructions are flagged with an exclamation symbol and the word Caution, Warning or Danger. These messages indicate procedures that must be followed exactly to avoid equipment damage, personal injury or death. Safety label(s) on the product indicate hazards that can cause equipment damage, personal injury or death.

If a safety sign or symbol becomes difficult to see or read, please contact us.



WARNING!

Personnel involved in the installation or maintenance of valves should be constantly alert to potential emission of pipeline material and take appropriate safety precautions. Always wear suitable protection when dealing with hazardous pipeline materials. Handle valves, which have been removed from service, with suitable protection for any potential pipeline material in the valve.

Inspection

Your CSA GOLIA 3F-RFP combination air Valve has been packaged to provide protection during shipment; however, it can be damaged in transport. Carefully inspect the unit for damage upon arrival and file a claim with the carrier if damage is apparent.

Parts

Recommended spare parts are listed on the assembly drawing. These parts should be stocked to minimize downtime. When ordering parts, please include the model, type and numbers located on the data plate placed on the valve. Also include the part name, the assembly drawing number, and the quantity stated on the assembly drawing.

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Description

The CSA GOLIA 3F-RFP water combination air valve is designed perform under the following applications:

- to release air pockets in working conditions
- to allow the entrance or large volumes of air during pipe draining, or burst operations
- the controlled discharge to prevent water hammer caused by rapid pipeline filling and transients events, as a consequence of excessive outflow air speed. Please make reference to the technical data sheets and animations available for a better understanding of the operating principle, or contact us for further support.

This type of air valve should not be considered as a relief for shock conditions and water hammer events, developing elsewhere in the system, for which other and different CSA models and solutions are available.

The maximum and minimum pressure are stated in the order and according to technical literature. In general we recommend to ensure at least 0,3 bar acting on the air valve to ensure the perfect sealing during working conditions.

Handling and Storage

Lifting the valve improperly may damage it. Lift the valve with slings, chains or cables fastened around the valve body, eyebolts if present or using the studs already threaded to the flanges.

If installation will be delayed, place valve indoors in secure, weather tight storage. If temporary outside storage is unavoidable, make sure a vermin proof rain cover is secured around/over the valve to keep off rain and mud. Skid and set the assembly on a flat, solid, and well drained surface for protection from ground moisture, runoff and pooled rain water. Do not leave the valve exposed to high humidity and excessive temperature conditions.

Installation

The rapid filling prevention water combination air valve should always be installed in a vertical position. An isolation valve between this unit and the transmission (pipeline) system is necessary to allow maintenance and valve's inspection. Where to use:

- High points in pipelines where the hydraulic gradient and flow conditions are such that a negative pressure can possibly occur.
- Change in slope descending and ascending (for the latter air vacuum models are normally enough)
- This model **should not be** placed adjacent to pumps and/or any quick closing valve in a pipeline such as a check or gate valve where vacuum and column separation can occur upon closure. For such cases the CSA anti -hock models Golia 3F-AS are suitable.

Note to Engineer: If the air valve is to be installed inside a pump house, use threaded or flanged connections (to be supplied on request) and pipe back into the well or to outside obtained by CSA SUB kit. This will greatly muffle the high noise level caused by the air being discharged and provide for drainage of any small amount of water or water vapour that may accumulate. Same thing applies in case of possible flooding of the installation chamber to avoid the entrance of polluted water

CSA air valve Mod. GOLIA 3F-RFP

- Before installation, remove foreign material such as weld spatter, oil, grease, and dirt from the pipeline.
- Prepare pipe ends and install valves in accordance with the pipe manufacturer's instructions for the joint used.
- Tighten the flange bolts or studs in a crisscross pattern and minimum of four stages.

Maintenance

The GOLIA air valve is automatic in operation and requires very little maintenance. It should always be installed in a vertical position with a maximum tilt within 3°.

A semi-annual visual inspection for leakage is recommended. A malfunction of the air valve can be identified by the seepage of water through the air release nozzle and/or through the main seat. Should a malfunction occur, the following steps should be taken to repair the valve;

Disassembly Procedure

See Figures 1 on page 8 for part identification.

1. Relieve pipeline pressure or shut off isolation valve before servicing the Air Valve.



WARNING!

Servicing the Air/Vacuum Valve while the pipeline is under pressure can cause personal injury or equipment damage. Relieve pipeline pressure or shut off isolation valve before servicing the Air/Vacuum Valve.

2. Slowly open the drain port (13) to relieve internal pressure



WARNING!

Do not completely remove pipe plug or cover screws while the valve is under pressure.

3. Remove cover nuts (19) and cover (2).
4. Remove the strainer (15)
5. Remove the seat nuts (11),
6. Remove the seat (5) paying attention not to damage the o-rings (18) and (4)
7. Inspect sealing surface of the seat and gasket (3)
8. Inspect the o-rings (18) – (4) – (3) making sure they are not torn or damaged
9. Pull out the mobile block composed of the RFP flat (7) , upper flatf (8) , float (9) joined together by the air release system (6)
10. Inspect the o-ring (20) making sure it is not torn or damaged
11. Inspect the air release system (6) , clean it with some water and replace it if needed
12. Do not try to pull apart the air release system (6) without the support of our personnel
13. Inspect all connections of linkage for excessive wear.
14. Clean all surfaces before re-assembly.
15. Do not remove the body unless strictly necessary, in such case after removing it inspect the o-ring (7) paying attention to locate it properly back to the groove during reassembly
16. Check to see if foreign matter or dirt is preventing float (9) from seating properly on the air deflector/diffuser (12)
17. Clean as necessary.

Assembly Procedure

Repeat the above explained steps backwards paying attention to:

If the body has been removed locate it properly on the groove, pay attention to the right position of the o-ring (17)

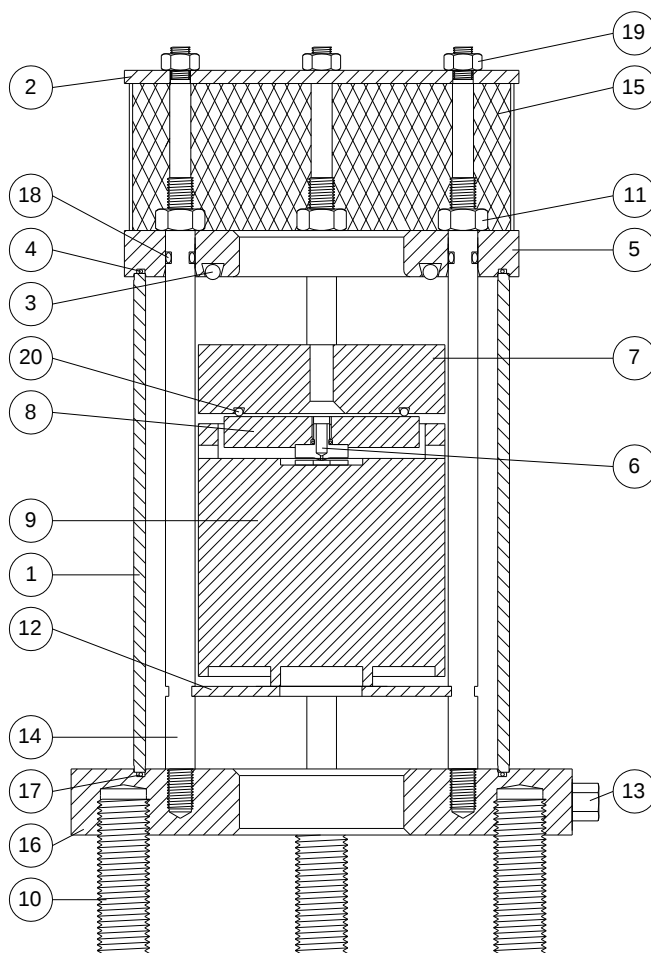
Place the seat inside the shafts carefully, do not damage the o-rings (18)

Do not exert too much torque during the setting of the nuts of the seat (11) and cover (19)

Contact us for any assistance of technical clarification you may be in need of

Drawings

Figure 1: GOLIA 3F-RFP



N.	Component	Material
1	Body	AISI 316/Duplex/Super Duplex
2	Cap	AISI 304/AISI 316
3	O-ring	NBR/EPDM/Viton/silicone
4	O-ring	NBR/EPDM/Viton/silicone
5	Seat	AISI 316/Duplex/Super Duplex
6	Nozzle subset	AISI 316/Duplex
7	RFP flat	PP
8	Upper flat	PP
9	Float	PP
10	Studs	AISI 304/AISI 316
11	Nuts	AISI 316
12	Diffuser	AISI 316/Duplex/Super Duplex
13	Drain valve	AISI 316
14	Spacers	AISI 316/Duplex/Super Duplex
15	Filter	AISI 304/AISI 316
16	Flange	AISI 316/Duplex/Super Duplex
17	O-ring	NBR/EPDM/Viton/silicone
18	O-ring	NBR/EPDM/Viton/silicone
19	Nuts	AISI 316
20	O-ring	NBR/EPDM/Viton/silicone
Spare parts: 3-4-6-7-8-9-17-18-20		

Troubleshooting (ref. picture 1 on page 8)

Condition	Possible Cause	Corrective Action
Valve leaks at flange joint.	Loose flange bolting.	Tighten flange bolting.
	Blown flange gasket.	Replace flange gasket.
	Miss-alignment or damage to field piping and supports.	Adjust miss-alignment or repair piping or supports.
	Damaged flange face/s or improper flange connections.	Repair flange, replace valve body or adjust flange connections.
Valve leaks out of the main sealing seat (5).	Valve is not vertical	Place the valve in a vertical position (max 3° tilt angle)
	Possible corrosion through the body and seat	Check the fluid chemicals parameters and contact us
	Dirt accumulation on the seat (5) and/or RFP flat (7)	Clean seat and/or RFP flat
	Worn seat (5) and/or RFP flat (7)	Replace seat and/or RFP flat
	Line pressure is under 0,3 bar	Contact us and replace seat o-ring (3) with softer material
	Worn seat o-ring (3)	Inspect and replace o-ring (3)
Valve leaks out of the air release subset (6)/RFP flat orifice	Valve is not vertical	Place the valve in a vertical position (max 3° tilt angle)
	Possible corrosion through the body and air release subset (6)	Check the fluid chemicals parameters and contact us
	Dirt accumulated on the air release subset (6)	Inspect and clean the air release subset (6), replace if necessary
	Worn RFP flat's o-ring (20)	Inspect and replace o-ring (20)
	Line pressure is extremely low	Check the pressure acting on the air valve, if possible by using the sensing port (13) and contact us



We reserve the right to incorporate our latest design and material changes without notice or obligation.

Design features, materials of construction and dimensional data, as described in this manual, are provided for your information only.

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