



# Combination air valve for industry

## Mod. GOLIA 3F

The CSA air valve Mod. Golia 3F will ensure the proper operation of the pipeline network allowing the release of air pockets during working conditions, the evacuation and entrance of large volumes of air during filling and draining operations.



### Technical features and benefits

- Entirely made in high resistant materials suitable for industrial and aggressive environments.
- Mobile block composed of a cylindrical float and upper disk in solid polypropylene, that are joined together by the CSA air release system. The solid cylindrical floats avoid deformations and ensure a great sliding precision.
- Nozzle and gasket holder, part of CSA air release system, entirely made in AISI 316/Duplex and designed with gasket compression control to prevent aging process and consequent leakage during working conditions.
- Connection between the stand pipe and the components without any welded parts.
- Maintenance can be easily performed from the top, without removing the air valve from the pipe.
- Mesh and cap in stainless steel.
- High flow design with reduced turbulence thanks to the single chamber design.
- Supplied with flanged or threaded outlets including studs.

### Applications

- Seawater main transmission lines.
- Desalination plants.
- Demineralized water.
- Mining.
- Refineries and petrochemical plants.

## Operating principle



### Discharge of large volumes of air

During the pipe filling it is necessary to discharge air as water flows in. The Golia 3F, thanks to an aerodynamic full port body and deflector, will make sure to avoid premature closures of the mobile block during this phase.



### Air release during working conditions

During operation the air produced by the pipeline is accumulated in the upper part of the air valve. Little by little it is compressed and the pressure arrives to water pressure, therefore its volume increases pushing the water level downwards allowing the air release through the nozzle.



### Entrance of large volumes of air

During pipeline draining, or pipe bursts, it is necessary to bring in as much air as the quantity of outflowing water to avoid negative pressure and serious damages to the pipeline, and to the entire system.

## Optional



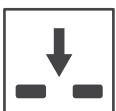
■ **Vacuum breaker version Mod. Golia 2F**, to allow the entrance and discharge of large volumes of air only. This model is normally recommended in changes in slope ascending, long ascending segments, dry fire systems, and wherever the air release won't be required.



■ **Version for submerged applications, SUB series**, available both for Golia 3F and 2F Models, with elbow for air conveyance. The design sprang from the necessity of having an air valve performing also in case of flood, without the risk of contaminated water entering the pipeline. Another benefit of SUB is to avoid the spray effect, conveying spurts coming from the rapid closure of the air valve.



■ **Version for air discharge only EO series**, available both for Golia 3F and 2F models. The most important application of EO is to allow the air valve installation in those locations of the system where HGL may drop below the pipe profile, and to any other node where for project requirements air entrance must be avoided.

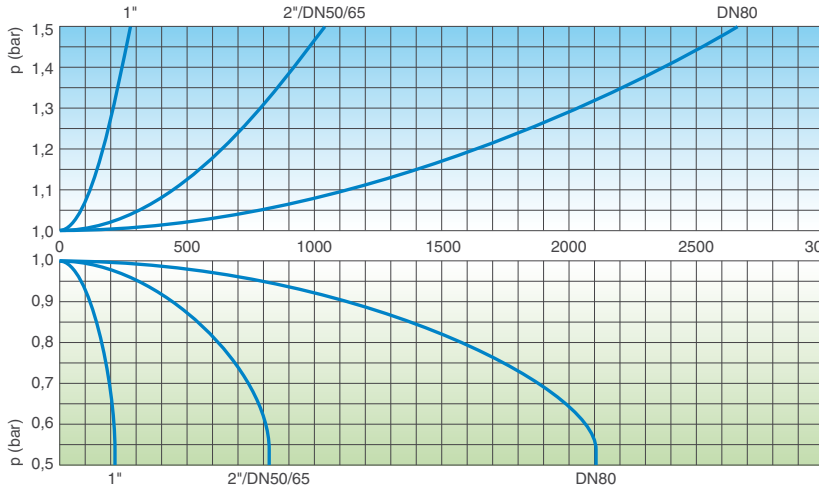


■ **Version for air entrance only IO series**, available for Golia 2F model only. The most important application of IO is to allow the air valve installation in those locations of the system where, for project requirements, air discharge and release must be avoided.

## Technical data

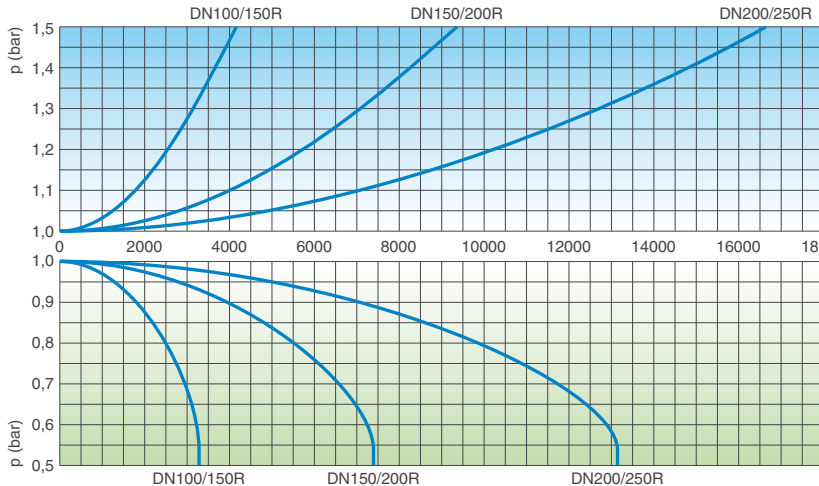
### Air flow performance charts

AIR DISCHARGE DURING PIPE FILLING

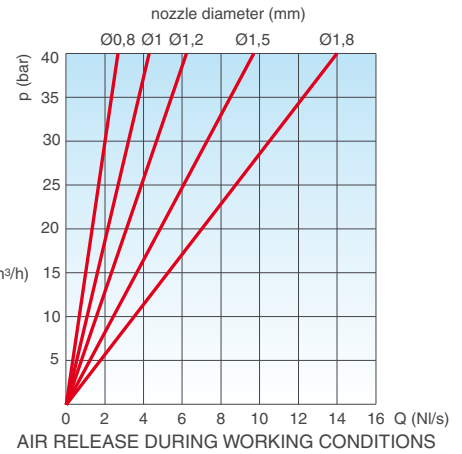


AIR ENTRANCE DURING PIPE DRAINING

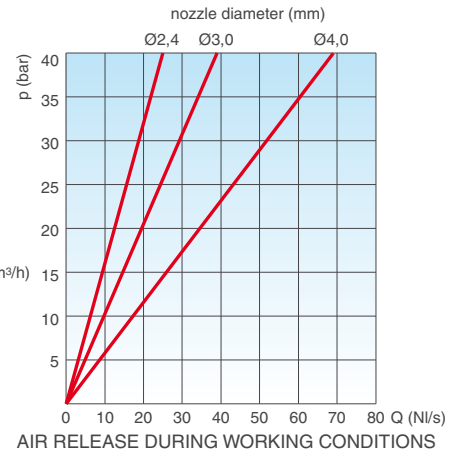
AIR DISCHARGE DURING PIPE FILLING



AIR ENTRANCE DURING PIPE DRAINING



AIR RELEASE DURING WORKING CONDITIONS



AIR RELEASE DURING WORKING CONDITIONS

The air flow charts were created in Kg/s from laboratory tests and numerical analysis without the screen, then converted in Nm<sup>3</sup>/h using a safety factor.

### Working conditions

- Treated water max. 60°C.
- Max. pressure 40 bar.
- Min. pressure 0,2 bar. Lower pressure on request.
- Version for high temperatures on request.

### Standard

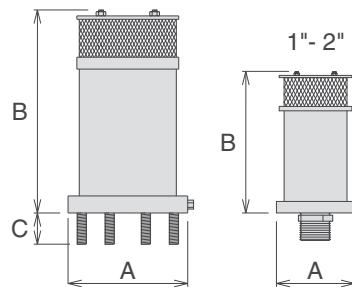
- Designed in compliance with EN-1074/4 and AWWA C-512.
- Flanges according to EN 1092/2 or ANSI.
- Gaskets in NBR, EPDM or Viton.
- Changes and variations on the flanges and gaskets on request.

### Weights and dimensions

| CONNECTION<br>inch/mm | A<br>mm | B<br>mm | C<br>mm | Weight<br>Kg |
|-----------------------|---------|---------|---------|--------------|
| Threaded 1"           | 95      | 200     | -       | 6,4          |
| Threaded 2"           | 165     | 255     | -       | 6,4          |
| Flanged 50            | 165     | 255     | 40      | 8,0          |
| Flanged 65            | 185     | 255     | 40      | 8,0          |
| Flanged 80            | 200     | 285     | 50      | 12,0         |
| Flanged 100           | 235     | 335     | 50      | 17,0         |
| Flanged 150R          | 235     | 385     | 50      | 27,0         |
| Flanged 150           | 300     | 445     | 70      | 45,0         |
| Flanged 200R          | 360     | 445     | 70      | 49,0         |
| Flanged 200           | 360     | 515     | 70      | 62,0         |
| Flanged 250R          | 405     | 515     | 70      | 72,0         |

R: reduced bore. Larger sizes available on request.

All values are approximate, consult CSA service for more details.

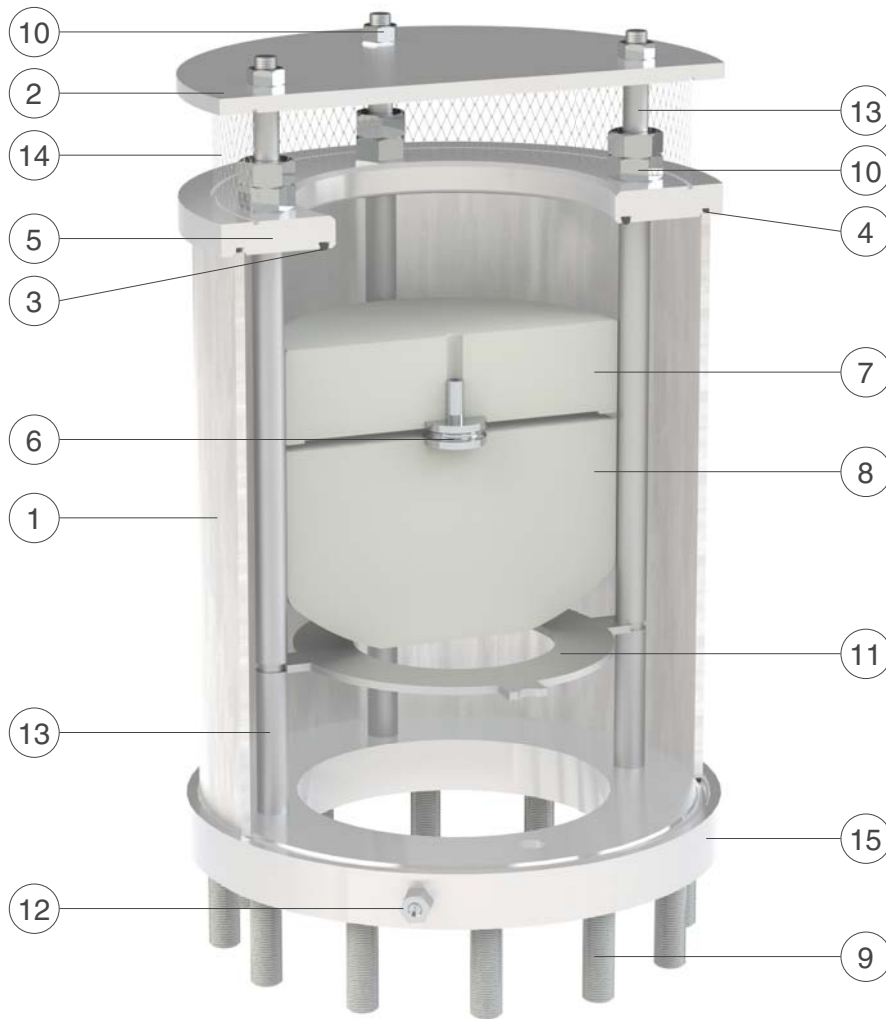


### Nozzle choice

|             | PN<br>10 | PN<br>16 | PN<br>25 | PN<br>40 |
|-------------|----------|----------|----------|----------|
| 1"          | 1,2      | 1,2      | 1        | 0,8      |
| 2"/DN 50/65 | 1,5      | 1,2      | 1        | 0,8      |
| DN 80       | 1,8      | 1,5      | 1,2      | 1        |
| DN 100/150R | 2,4      | 1,8      | 1,8      | 1,2      |
| DN 150/200R | 4        | 3        | 2,4      | 1,8      |
| DN 200/250R | 4        | 4        | 4        | 3        |

Nozzle diameter in mm according to the size of the air valve and the PN.

## Technical details



| N. | Component     | Standard material        | Optional                 |
|----|---------------|--------------------------|--------------------------|
| 1  | Body          | stainless steel AISI 316 | s.s. Duplex/Super Dupl.  |
| 2  | Cap           | stainless steel AISI 304 | stainless steel AISI 316 |
| 3  | O-ring        | NBR                      | EPDM/Viton/silicone      |
| 4  | O-ring        | NBR                      | EPDM/Viton/silicone      |
| 5  | Seat          | stainless steel AISI 316 | s.s. Duplex/Super Dupl.  |
| 6  | Nozzle Subset | stainless steel AISI 316 | stainless steel Duplex   |
| 7  | Upper flat    | polypropylene            |                          |
| 8  | Float         | polypropylene            |                          |
| 9  | Studs         | stainless steel AISI 304 | stainless steel AISI 316 |
| 10 | Bolts         | stainless steel AISI 316 |                          |
| 11 | Deflector     | stainless steel AISI 316 | s.s. Duplex/Super Dupl.  |
| 12 | Drain valve   | stainless steel AISI 316 |                          |
| 13 | Spacers       | stainless steel AISI 316 | s.s. Duplex/Super Dupl.  |
| 14 | Screen        | stainless steel AISI 304 | stainless steel AISI 316 |
| 15 | Flange        | stainless steel AISI 316 | s.s. Duplex/Super Dupl.  |

The list of materials and components is subject to changes without notice.