# Figure 9300

**1”-DN400 PN10-16-25**

# Bifunctional Air Vacuum Valve

## DESCRIPTION

The automatic bi-functional valve of clean water and full bore valves with only one body being the entry and the exit equal to the DN specifications. The valve should perform the following functions:

1. Exhausts large amounts of air during the filling process to ensure that the air can reach the outlet at the velocity of sound without the float ball being elevated and the mechanism shutting prematurely.

2. Admits large quantities of air during line breaks and draining operations to avoid vacuum in the pipe.

Closes watertight apart from 1 bar

Consult for lower working pressures

Fluid

Clean water, consult operations y materials for lower working pressure

## CONSTRUCTION MATERIALS / COATING

**Body and Cover**: Ductile Iron EN GJS-500-7
**Float ball and Internal Mechanisms**: Stainless Steel A304 (optional A316)
**Seat**: stainless steel A304 + NBR.EPDM of high durability
**Bolting**: Internal stainless steel A2 / External in galvanized steel
**Coating**: Non-toxic Epoxy for drinkable water. Internal and external 200 microns thickness

Other material and special coating available upon request

## TECHNICAL DATA / ENGINEERING

### AERATION CAPABILITIES

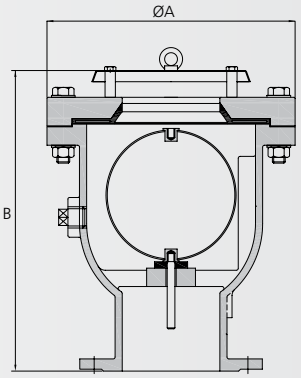
| BIG ORIFICE (FILLING / EMPTYING) |
|---|
| See tables for aeration capacities and curves in page 30. |

### TEST PRESSURE

| TEST PRESSURE | BODY | SEAT |
|---|---|---|
| PN 10 | 15 bar | 11 bar |
| PN 16 | 24 bar | 18 bar |
| PN 25 | 38 bar | 28 bar |

### GENERAL DIMENSIONS AND WEIGHTS

| DN | Connections | ØA | B | Weight |
|---|---|---|---|---|
| 1" | F Thread | 98 | 215 | 4 |
| 1" | Flange | 115 | 235 | 4 |
| 2" | F Thread | 138 | 245 | 9 |
| DN50 | Flange | 138 | 245 | 10 |
| DN60/65 | Flange | 138 | 250 | 11 |
| DN80 | Flange | 170 | 350 | 20 |
| DN100 | Flange | 210 | 379 | 31 |
| DN150 | Flange | 386 | 540 | 79 |
| DN200 | Flange | 483 | 650 | 151 |
| DN250 | Flange | 597 | 845 | 214 |
| DN300 | Flange | 699 | 1010 | 345 |
| DN350 | Flange | 778 | 1.105 | 460 |
| DN400 | Flange | 851 | 1.210 | 592 |




Dimensions in mm and weights in kgs Connections: PN10-16-25 s/EN -150# s/ANSI

### ORDERING OPTIONS

- Pipe away version
- Lateral drain valve
- Special closure for lower working pressure than 1 bar

### FULFILLED STANDARDS

- EN 1074-1 & EN 1074-4
- AWWA C512

## KINETIC DESIGN. SEQUENCE OF FUNCTIONS

The kinetic air/vacuum valves are specially designed so that the flow of air in evacuations reaches high speeds without the float ball ascending by the effect of this flow, thus allowing a complete air evacuation.

1. During expulsion, the air flow circling around the float ball causes a result of force which keeps the ball in an open position.

2. The flotation of the ball will block the air flow when the water lifts up the ball.

Evacuation of large quantities of air during the filling

The valve is permanently closed until there is a detection of depression.

Admission of large quantities of air during the emptying

# Figure 9350

**DN50-DN200** **PN10-16**

# Air Vacuum Valve for Wastewater

## DESCRIPTION

These valves are for wastewater services and allow :

1. Exhausts large amounts of air automatically during pipeline filling in a controlled way.

2. Permits the entrance of large amounts of air when negative pressures or emptying conditions exist.

The ball float is completely spherical and closes by floating against a soft rubber seat which is easily interchangeable. All of the internal metal parts are made in stainless steel.

If cleaning accesories are required they consist of a butterfly valve for insulation and quick connection in the body which links with a 1.5 flexible hose to carry out a cleaning with water.

Watertight seal up 0.1 bar.

Check for lower working pressures

Fluid

Wastewater

## CONSTRUCTION MATERIALS / COATING

**Body and Cover:** Ductile Iron EN GJS-500-7
**Float ball and Internal Mechanisms**: stainless steel. A316
**Seat**: stainless steal A316 + NBR/EPDM
**Bolting**: Internal stainless steel A2 / External en galvanized steel
**Coating**: Non-toxic Epoxy for drinkable water. Internal and external 200 µ

Other material and special coating available upon request

## TECHNICAL DATA / ENGINEERING

### AERATION CAPABILITIES

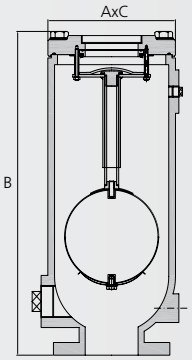
| BIG ORIFICE (FILLING / EMPTYING) |
|---|
| See tables for aeration capacity and curves in page 30. |

| TEST PRESSURE | BODY | SEAT |
|---|---|---|
| PN 10 | 15 bar | 11 bar |
| PN 16 | 24 bar | 18 bar |

### GENERAL DIMENSIONS AND WEIGHTS

| DN | Connections | A | C | B | Weight |
|---|---|---|---|---|---|
| 2" x 1" | F Thread | 185 | 185 | 537 | 36 |
| 2" x 2" | F Thread | 185 | 185 | 537 | 36 |
| DN50 | Flange | 185 | 185 | 537 | 40 |
| DN80 | Flange | 242 | 242 | 615 | 76 |
| DN100 | Flange | 242 | 242 | 615 | 85 |
| DN150 | Flange | 441 | 441 | 735 | 144 |
| DN200 | Flange | 441 | 441 | 748 | 155 |

Dimensions in mm and weights in kgs
Connections: PN10-16-25 s/EN -150# s/ANSI




### ORDERING OPTIONS

- Pipe away version
- Lateral drain valve
- Special closure for lower working pressure than 0,1 bar

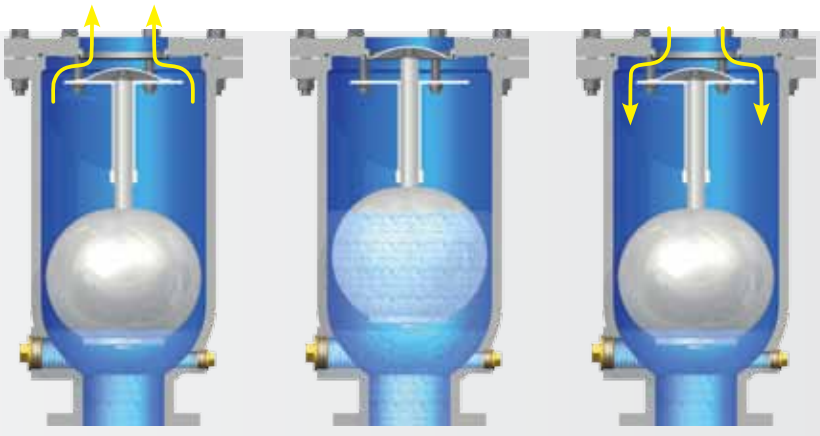
### FULFILLED STANDARDS

- EN 1074-1 & EN 1074-4
- AWWA C512

## KINETIC DESIGN. SEQUENCE OF FUNCTIONS

The kinetic valves are specially designed so that the air flow in evacuations reaches high velocity ( speed of sound) avoiding the float ball ascending for the effect of the current and stopping any premature closing of the ball float until the evacuation is complete.

1. During expulsion, the air flow circling around the float ball causes a result of force which keeps the ball in an open position.
2. The flotation of the ball will block the air flow when the water reaches the Buoy.



Evacuation of large quantities of air during the filling

The valve is permanently closed until a depression is detected

Admission of large quantities of air during the emptying

# Figure 9440

**1"-DN300 PN40-64-100**

# High Pressure Air Vacuum Valve

## DESCRIPTION

The automatic bi-functional valve of clean water and full bore with only one body being the entry and the exit equal to the DN specifications. The valve should perform the following operations.

1. Exhausts large amounts of air during the filling process to ensure that the air can reach the outlet at the velocity of sound without the float ball being elevated and the mechanism shutting prematurely. The float ball will only rise and close by flotation.

2. Entrance and emissions of large quantities of air to avoid vacuum in the pipe or breaking.

Fluid

Clean water, consult operations and materials for ocean water, and processed crude water

## CONSTRUCTION MATERIALS / COATING

**Body and Cover**: Ductile Iron EN GJS-500-7 for PN40
Carbon steel A216-WCB in PN64/PN100.
**Float ball and Internal Mechanisms**: Stainless Steel A304 (optional A316)
**Seat**: Stainless steel A304 + Elastomer NBR/EPDM of high durability
**Bolting**: Internal stainless steel A2 / External in galvanized steel
**Coating**: Non-toxic Epoxy for drinkable water. Internal and external 200 microns thickness

Other material and special coating available upon request

## TECHNICAL DATA / ENGINEERING

### AERATION CAPABILITIES

| BIG ORIFICE (FILLING / EMPTYING) |
|---|
| See tables for aeration capacity and curves in page 30. |

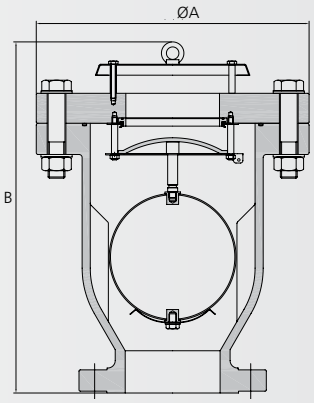
### TEST PRESSURE

| TEST PRESSURE | BODY | SEAT |
|---|---|---|
| PN 40 | 60 bar | 44 bar |
| PN 64 | 96 bar | 71 bar |
| PN 100 | 150 bar | 110 bar |

### GENERAL DIMENSIONS AND WEIGHTS

| DN | Connections | A | B | Weight |
|---|---|---|---|---|
| 1" | F Thread | 134 | 185 | 15 |
| DN50 | Flange | 225 | 350 | 47 |
| DN65 | Flange | 225 | 350 | 51 |
| DN80 | Flange | 282 | 370 | 65 |
| DN100 | Flange | 300 | 395 | 75 |
| DN150 | Flange | 437 | 632 | 172 |
| DN200 | Flange | 517 | 795 | 228 |
| DN250 | Flange | 626 | 920 | 350 |
| DN300 | Flange | 670 | 1000 | 470 |

Consult for bigger sizes
Dimensions in mm and weights in kg ( for PN40)
Connections: PN40-64 -100 s/EN-300 # -400# - 6-- # s/ANSI




### ORDERING OPTIONS

- Pipe away version
- Lateral drain valve

### FULFILLED STANDARDS

- EN 1074-1 & EN 1074-4
- AWWA C512

## KINETIC DESIGN. SEQUENCE OF FUNCTIONS

The kinetic air/vacuum valves are specially designed so that the flow of air in evacuations reaches high speeds without the float ball ascending by the effect of this flow, thus allowing a complete air evacuation.

1. During the exhausting sequence, the air flowing around the float ball causes a resultant downward force which keeps the ball in an open position.
2. The flotation of the ball will seal the exhaust orifice when water reaches the ball.

Evacuation of large quantities of air during the filling

The valve will keep close during the normal working installations.

Admission of large quantities of air during the emptying