

## AUTOMATIC AIR AND GAS VENTS FOR LIQUID SYSTEMS

### AE45.2

(Stainless steel ; 1" x 1/2", 1" x 1" – DN 25 x DN 15 and DN 25 x DN 25)

#### DESCRIPTION

The ADCA AE45.2 is a series of automatic vents designed to remove air or gases from water and other liquid systems, without requiring any external source of energy.

They are capable of handling significant loads during start-up while still being able to discharge smaller loads in continuous modulating operation with one single orifice.

These ball float type vents are manufactured in stainless steel, available with soft sealing, and can be used in combination with other air elimination and separation systems or directly applied at high points in the pipelines.

#### MAIN FEATURES

Suitable for start-up and continuous operation with one single orifice.

Allow fast and easy inline maintenance.

Corrosion resistant internal parts.

No balancing pipe required.

**OPTIONS:** Metal to metal sealing.  
Threaded connection on cover, closed with plug.  
HVV – Hand vent valve.

**USE:** Cold, hot and superheated water or other liquids compatible with the construction.

**AVAILABLE MODELS:** AE45.2-6, 14, 21 and 32 – stainless steel.

**SIZES:** 1" x 1/2" and 1" x 1";  
DN 25 x DN 15 and DN 25 x DN 25.

**CONNECTIONS:** Female threaded ISO 7 Rp or NPT.  
Flanged EN 1092-1 PN 40.  
Flanged ASME B16.5 Class 150 or 300.  
Socket weld (SW) ASME B16.11.

**INSTALLATION:** Vertical installation.  
It must be installed absolutely vertically at the points in the plant where the air tends to collect.  
See IMI – Installation and maintenance instructions.

**ΔPMX:** AE45.2-6 – 6 bar  
AE45.2-14 – 14 bar  
AE45.2-21 – 21 bar  
AE45.2-32 – 32 bar



#### CE MARKING – GROUP 2 (PED – European Directive)

| CLASS 150 | PN 40     | Category      |
|-----------|-----------|---------------|
| All sizes | –         | SEP           |
| –         | All sizes | 1 (CE marked) |

#### BODY LIMITING CONDITIONS

| FLANGED<br>PN 40 *    | FLANGED<br>CLASS 150 ** | FLANGED<br>CLASS 300 ** | RELATED<br>TEMP. |
|-----------------------|-------------------------|-------------------------|------------------|
| ALLOWABLE<br>PRESSURE | ALLOWABLE<br>PRESSURE   | ALLOWABLE<br>PRESSURE   |                  |
| 37,9 bar              | 13,3 bar                | 34,4 bar                | 100 °C           |
| 31,8 bar              | 11,1 bar                | 28,8 bar                | 200 °C           |
| 29,9 bar              | 10,2 bar                | 26,6 bar                | 250 °C           |
| 27,6 bar              | 9,7 bar                 | 25,2 bar                | 300 °C           |

PMO – Maximum operating pressure: 32 bar.

TMO – Maximum operating temperature:

FPM / Viton valve sealing: 200 °C.

Metal to metal sealing: 250 °C.

Minimum liquid specific weight: 0,75 kg/dm³.

\* Acc. to EN 1092-1:2018; \*\* Acc. to EN 1759-1:2004.

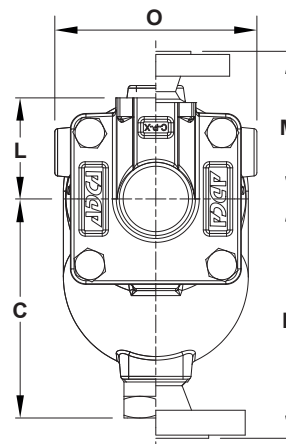
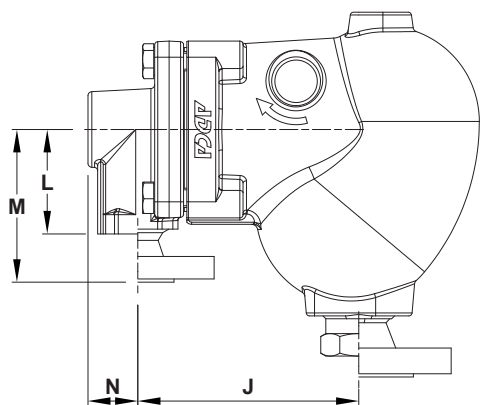
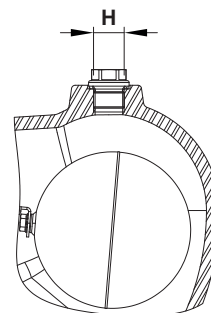
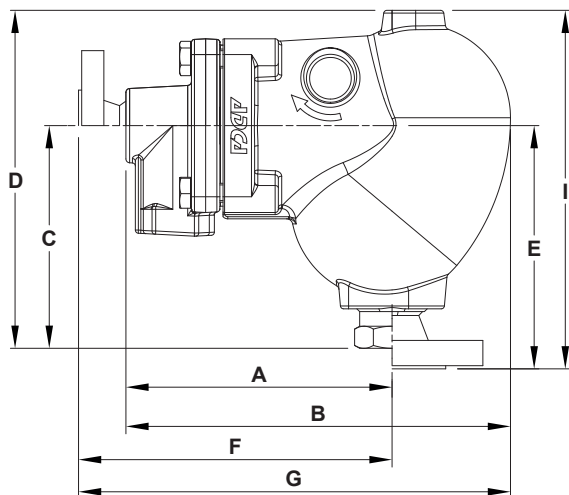
Body limiting conditions PN 40 or below, depending on the type of connection adopted. Rating PN 40 for threaded and SW versions.

## FLOW RATE CAPACITY (NL/min)

| MODEL     | SIZE (INLET) | DIFFERENTIAL PRESSURE (bar) |     |     |     |      |      |      |      |      |      |      |      |      |      |      |
|-----------|--------------|-----------------------------|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
|           |              | 0,1                         | 0,5 | 1   | 2   | 4    | 6    | 8    | 10   | 12   | 14   | 16   | 18   | 21   | 25   | 32   |
| AE45.2-6  | 1" – DN 25   | 201                         | 440 | 550 | 803 | 1340 | 1875 | –    | –    | –    | –    | –    | –    | –    | –    | –    |
| AE45.2-14 | 1" – DN 25   | 127                         | 279 | 349 | 510 | 851  | 1191 | 1530 | 1870 | 2210 | 2550 | –    | –    | –    | –    | –    |
| AE45.2-21 | 1" – DN 25   | 97                          | 212 | 266 | 388 | 648  | 907  | 1166 | 1425 | 1683 | 1942 | 2201 | 2460 | 2848 | –    | –    |
| AE45.2-32 | 1" – DN 25   | 38                          | 82  | 104 | 151 | 252  | 354  | 455  | 556  | 657  | 758  | 859  | 960  | 1112 | 1314 | 1668 |

Values shown refer to capacities of air discharge at 15 °C, under average atmospheric pressure (1013 mbar).

If the air temperature differs from 15 °C, the discharge capacity can be corrected by multiplying it by:  $\frac{288}{273 + T}$ , where T is the actual temperature in °C. It may be assumed that the temperature of the air is equal to the temperature of the water.



## DIMENSIONS (mm)

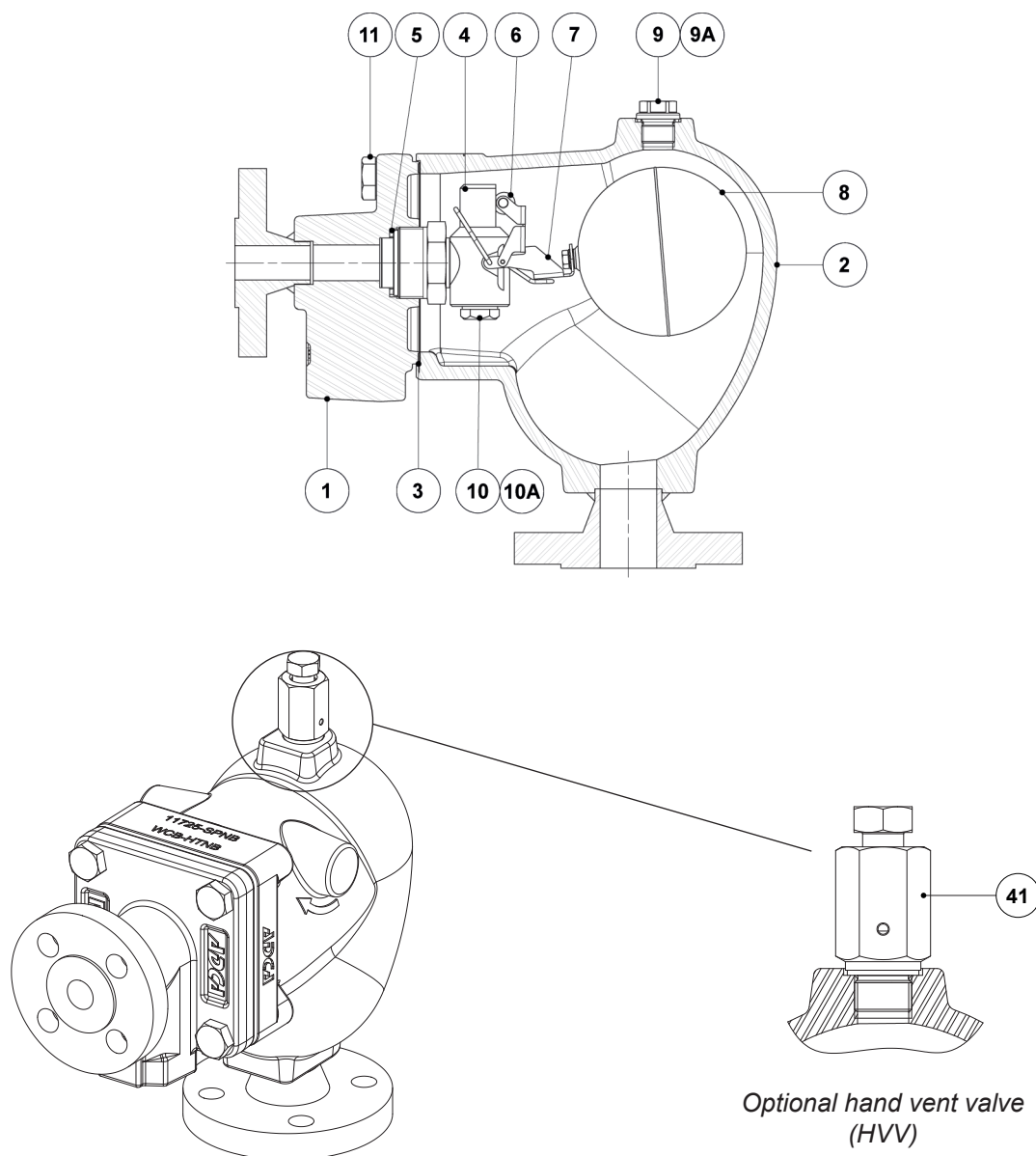
| SIZE                   | THREADED / SW |     |     |     |      |     |    |    |     |              | PN 40 |     |     |      |     |     |    |     |             |
|------------------------|---------------|-----|-----|-----|------|-----|----|----|-----|--------------|-------|-----|-----|------|-----|-----|----|-----|-------------|
|                        | A             | B   | C   | D   | H *  | J   | L  | N  | O   | WGT.<br>(kg) | E     | F   | G   | H *  | I   | J   | M  | O   | WGT<br>(kg) |
| 1" x 1/2" – DN 25 x 15 | 168           | 243 | 141 | 214 | 3/8" | 137 | 65 | 31 | 130 | 9,2          | 154   | 198 | 273 | 3/8" | 227 | 137 | 95 | 130 | 11,1        |
| 1" x 1" – DN 25 x 25   | 168           | 243 | 141 | 214 | 3/8" | 137 | 65 | 31 | 130 | 9,1          | 154   | 198 | 273 | 3/8" | 227 | 137 | 95 | 130 | 11,5        |

\* As standard, in versions with EN flanges or female ISO 7 Rp threads, these connections are female threaded ISO 228. In versions with ASME flanges, female NPT threads or SW, these connections are female threaded NPT.

## DIMENSIONS (mm)

| SIZE      | CLASS 150 |     |     |      |     |     |     |     |              | CLASS 300 |     |     |      |     |     |     |     |              |
|-----------|-----------|-----|-----|------|-----|-----|-----|-----|--------------|-----------|-----|-----|------|-----|-----|-----|-----|--------------|
|           | E         | F   | G   | H *  | I   | J   | M   | O   | WGT.<br>(kg) | E         | F   | G   | H *  | I   | J   | M   | O   | WGT.<br>(kg) |
| 1" x 1/2" | 169       | 203 | 278 | 3/8" | 242 | 137 | 100 | 130 | 10,4         | 176       | 213 | 288 | 3/8" | 249 | 137 | 110 | 130 | 11,3         |
| 1" x 1"   | 169       | 203 | 278 | 3/8" | 242 | 137 | 100 | 130 | 11           | 176       | 213 | 288 | 3/8" | 249 | 137 | 110 | 130 | 12,2         |

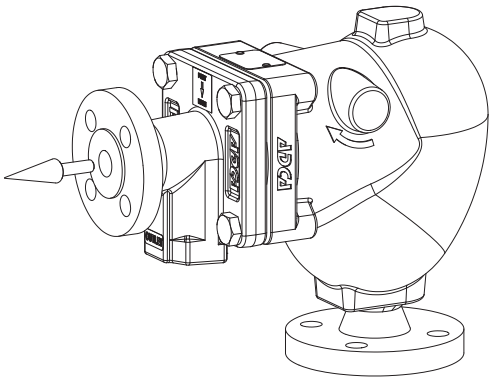
\* As standard, in versions with EN flanges or female ISO 7 Rp threads, these connections are female threaded ISO 228. In versions with ASME flanges, female NPT threads or SW, these connections are female threaded NPT.



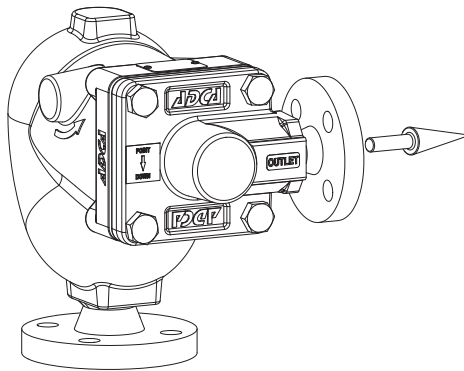
| MATERIALS |                 |                                        |
|-----------|-----------------|----------------------------------------|
| POS. N°   | DESIGNATION     | MATERIAL                               |
| 1         | Body            | AISI 316L / 1.4404                     |
| 2         | Cover           | A351 CF8M / 1.4408; AISI 316L / 1.4404 |
| 3         | * Gasket        | Stainless steel / Graphite             |
| 4         | * Seat          | AISI 303 / 1.4305                      |
| 5         | * Gasket        | Copper                                 |
| 6         | * Valve ball    | AISI 316 / 1.4401; Viton               |
| 7         | * Lever         | AISI 304 / 1.4301                      |
| 8         | * Float         | AISI 304 / 1.4301                      |
| 9         | Plug            | AISI 316L / 1.4404                     |
| 9A        | ** Gasket       | Copper                                 |
| 10        | Plug            | AISI 304 / 1.4301                      |
| 10A       | Gasket          | Copper                                 |
| 11        | Bolt            | Stainless steel A2-70                  |
| 41        | Hand vent valve | AISI 303 / 1.4305; AISI 316L / 1.4404  |

\* Available spare parts. \*\* Not applicable in NPT version.

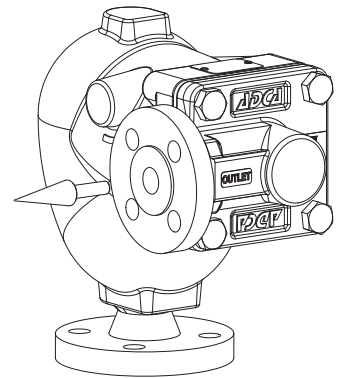
### FLOW DIRECTION



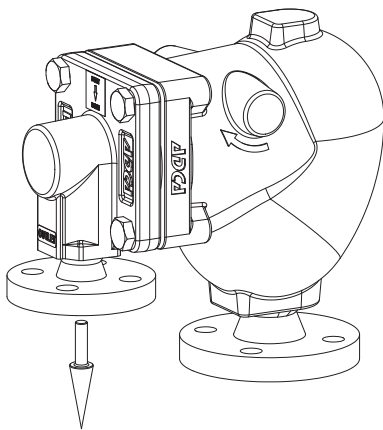
*VF - Vertical inlet / straight front outlet*



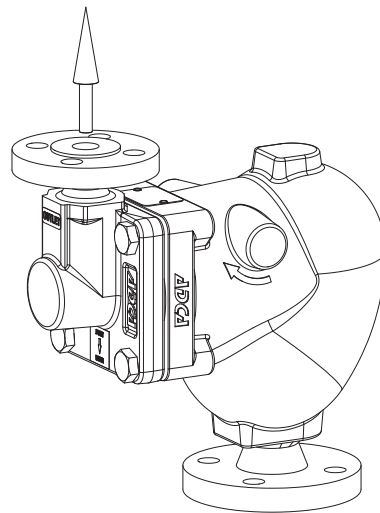
*VR - Vertical inlet / right side outlet*



*VL - Vertical inlet / left side outlet*



*VB - Vertical inlet / top to bottom outlet*



*VT - Vertical from bottom to top*

| ORDERING CODES AE45.2                                                                              |       |   |   |    |    |   |    |   |    |  |   |
|----------------------------------------------------------------------------------------------------|-------|---|---|----|----|---|----|---|----|--|---|
| Model                                                                                              | AE452 | 2 | V | XX | VF | A | 15 | A | 25 |  |   |
| AE45.2 – AISI 316L / 1.4404 stainless steel                                                        | AE452 |   |   |    |    |   |    |   |    |  |   |
| Maximum allowable differential pressure ( $\Delta$ PMX)                                            |       |   |   |    |    |   |    |   |    |  |   |
| 6 bar                                                                                              |       | 2 |   |    |    |   |    |   |    |  |   |
| 14 bar                                                                                             |       | 4 |   |    |    |   |    |   |    |  |   |
| 21 bar                                                                                             |       | 5 |   |    |    |   |    |   |    |  |   |
| 32 bar                                                                                             |       | 7 |   |    |    |   |    |   |    |  |   |
| Valve sealing                                                                                      |       |   |   |    |    |   |    |   |    |  |   |
| FPM / Viton (standard)                                                                             |       |   | V |    |    |   |    |   |    |  |   |
| Metal to metal                                                                                     |       |   | M |    |    |   |    |   |    |  |   |
| Cover connections                                                                                  |       |   |   |    |    |   |    |   |    |  |   |
| None                                                                                               |       |   |   | XX |    |   |    |   |    |  |   |
| 3/8" threaded connections on top, closed with plug (mandatory if any options are considered)       |       |   |   | 10 |    |   |    |   |    |  |   |
| Options                                                                                            |       |   |   |    |    |   |    |   |    |  |   |
| If any, these have specific separate ordering codes, please refer to the appropriate documentation |       |   |   |    |    |   |    |   |    |  |   |
| Flow direction                                                                                     |       |   |   |    |    |   |    |   |    |  |   |
| Vertical inlet / straight front outlet                                                             |       |   |   |    | VF |   |    |   |    |  |   |
| Vertical inlet / top to bottom outlet                                                              |       |   |   |    | VB |   |    |   |    |  |   |
| Vertical inlet / right side outlet                                                                 |       |   |   |    | VR |   |    |   |    |  |   |
| Vertical inlet / left side outlet                                                                  |       |   |   |    | VL |   |    |   |    |  |   |
| Vertical from bottom to top                                                                        |       |   |   |    | VT |   |    |   |    |  |   |
| Outlet pipe connection                                                                             |       |   |   |    |    |   |    |   |    |  |   |
| Female threaded ISO 7 Rp                                                                           |       |   |   |    |    | A |    |   |    |  |   |
| Female threaded NPT                                                                                |       |   |   |    |    | C |    |   |    |  |   |
| Socket weld (SW) ASME B16.11                                                                       |       |   |   |    |    | H |    |   |    |  |   |
| Flanged EN 1092-1 PN 40                                                                            |       |   |   |    |    | N |    |   |    |  |   |
| Flanged ASME B16.5 Class 150                                                                       |       |   |   |    |    | U |    |   |    |  |   |
| Flanged ASME B16.5 Class 300                                                                       |       |   |   |    |    | V |    |   |    |  |   |
| Outlet size                                                                                        |       |   |   |    |    |   |    |   |    |  |   |
| 1/2" or DN 15                                                                                      |       |   |   |    |    |   | 15 |   |    |  |   |
| 1" or DN 25                                                                                        |       |   |   |    |    |   | 25 |   |    |  |   |
| Inlet pipe connection                                                                              |       |   |   |    |    |   |    |   |    |  |   |
| Female threaded ISO 7 Rp                                                                           |       |   |   |    |    |   |    | A |    |  |   |
| Female threaded NPT                                                                                |       |   |   |    |    |   |    | C |    |  |   |
| Socket weld (SW) ASME B16.11                                                                       |       |   |   |    |    |   |    | H |    |  |   |
| Flanged EN 1092-1 PN 40                                                                            |       |   |   |    |    |   |    | N |    |  |   |
| Flanged ASME B16.5 Class 150                                                                       |       |   |   |    |    |   |    | U |    |  |   |
| Flanged ASME B16.5 Class 300                                                                       |       |   |   |    |    |   |    | V |    |  |   |
| Inlet size                                                                                         |       |   |   |    |    |   |    |   |    |  |   |
| 1" or DN 25                                                                                        |       |   |   |    |    |   |    |   | 25 |  |   |
| Special construction / Additional options                                                          |       |   |   |    |    |   |    |   |    |  |   |
| Full description or additional codes have to be added in case of a non-standard combination        |       |   |   |    |    |   |    |   |    |  | E |