DAVINCI TECHNICAL DATA GUIDE

# AUTOMATIC CONTROL VALVES

## AIR RELEASE VALVES FOR SEWAGE WATER

**Ref. 175B-VI / PN 10-16-25**

**Application**
Waste water treatment plants
Pumping stations
Irrigation systems

**Approvals/Standards**
Mounting flange: PN10/16/25 EN 1092-2, ISO 7005-2.
Thread of ball valve: BSP / ISO 228-1.
Pressure Tests acc. to EN 12266-1 Rate A. GB/T13927-1992
Pressure Tests: Seat: 1,1 x PN.
EU directive 2014/68/EU.
Products excluded, article 1, § 2b up to DN200.

**Certifications**
CE

**Range**
DN50-200, PN10-16-25

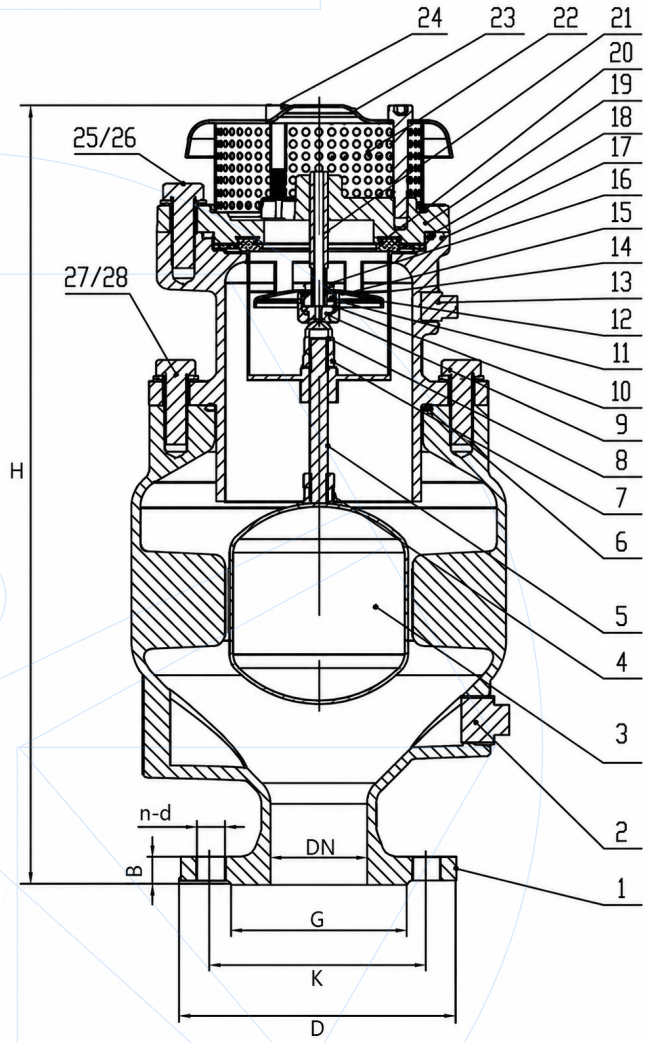
## GENERAL CHARACTERISTICS

Sizes DN50 to DN200.
Tripple effect air release valves.
Spill free, the valve will not spill before shutting off.
Epoxy paint 300 microns.
Optional AISI 316 floats and internals.

## WORKING CONDITIONS

Pressure ratings: 1.0 Mpa, 1.6 Mpa, 2.5 Mpa.
Working temperature: -20ºC + 70ºC.
Flow media: Sewage water.

| Nº | ITEM | MATERIAL |
|---|---|---|
| 1 | Body | GJS500-7 |
| 2 | Plug | AISI 304 / 316 |
| 3 | Float | AISI 304 / 316 |
| 4 | Hex nut | AISI 304 / 316 |
| 5 | Float guide | AISI 304 / 316 |
| 6 | O-ring | NBR |
| 7 | Hex nut | AISI 304 / 316 |
| 8 | Cap nut | AISI 304 / 316 |
| 9 | Seal plug | Silicone |
| 10 | Seal sleeve | Brass |
| 11 | Lock nut | Brass |
| 12 | O-ring | NBR |
| 13 | Plug | AISI 304 / 316 |
| 14 | Bucker float | AISI 304 / 316 |
| 15 | Disc | AISI 304 / 316 |
| 16 | Hex nut | AISI 304 / 316 |
| 17 | Mid body | GJS500-7 |
| 18 | O-ring | NBR |
| 19 | Bonnet | GJS500-7 |
| 20 | Seal gasket | NBR |
| 21 | Disc guide | Brass |
| 22 | Screen | AISI 304 / 316 |
| 23 | Dust cover | Q235 |
| 24 | Hex socket bolt | AISI 304 / 316 |
| 25 | Hex bolt | AISI 304 / 316 |
| 26 | Flat washer | AISI 304 / 316 |
| 27 | Hex bolt | AISI 304 / 316 |
| 28 | Flat washer | AISI 304 / 316 |
| | RAL 5015 Painting | Epoxy 300 µm |




*Components may be replaced with materials of equivalent or superior grade without prior notice, in accordance with our continuous improvement policy.*

| DN | H | D | | K | | G | | n-d | | B | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PN10 | PN16 | PN10 | PN16 | PN10 | PN16 | PN10 | PN16 | | |
| 50 | 521 | 165 | | 125 | | 99 | | 4-19 | | 19 | 30 |
| 65 | 521 | 185 | | 145 | | 118 | | 4-19 | | 19 | 38 |
| 80 | 588 | 200 | | 160 | | 132 | | 8-19 | | 19 | 48 |
| 100 | 631 | 220 | | 180 | | 156 | | 8-19 | | 19 | 57 |
| 150 | 719 | 285 | | 240 | | 211 | | 8-23 | | 19 | 98 |
| 200 | 631 | 340 | | 295 | | 266 | | 8-23 | 12-23 | 20 | 146 |

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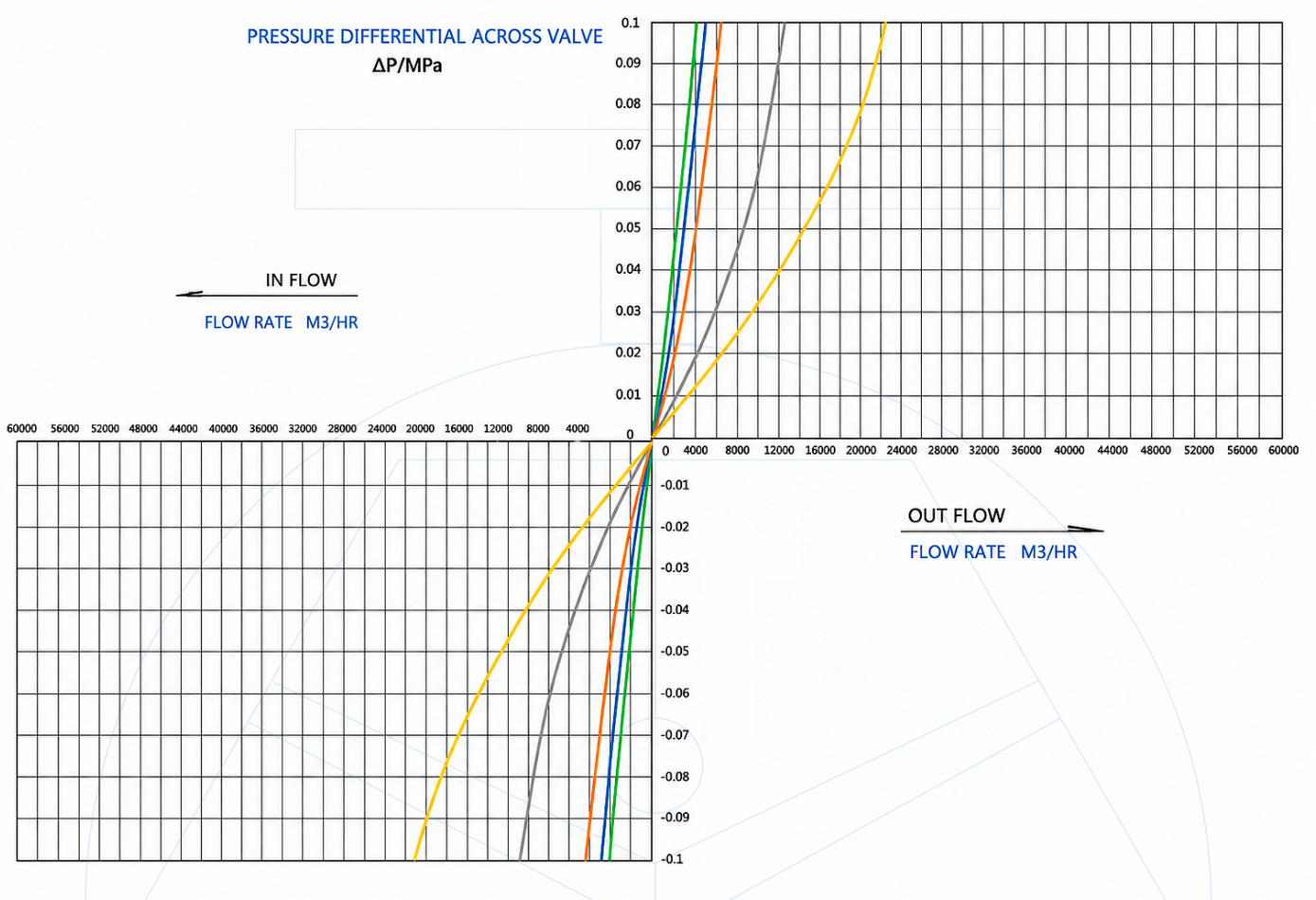
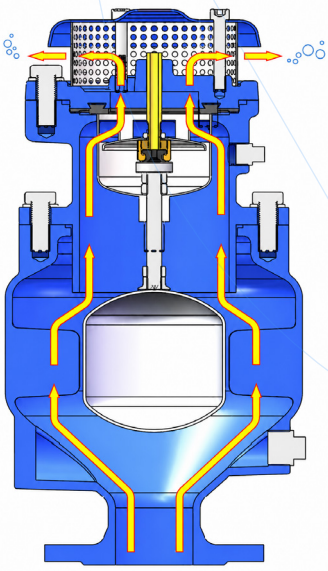
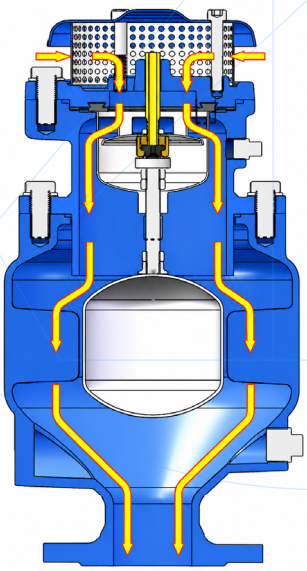
## FLOW CAPACITY DIAGRAM



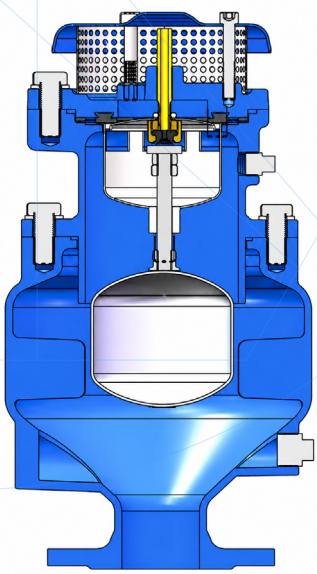

## TRIPLE FUNCTIONS



RELEASE OF LARGE VOLUME OF AIR:
During filling, the line will be ventilated via the large orifice with big volume.

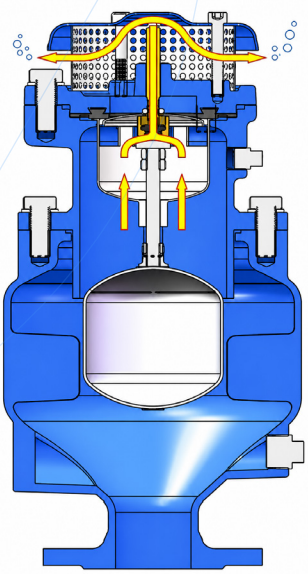


ENTRANCE OF LARGE VOLUME OF AIR:
During pipeline drainage bring in large volume of air to avoid negative pressure.



CLOSURE:

After ventilation the valve closes automatically.



RELEASE OF SMALL VOLUME OF AIR:
During operation of a line, ventilation is carried out via the top small orifice.

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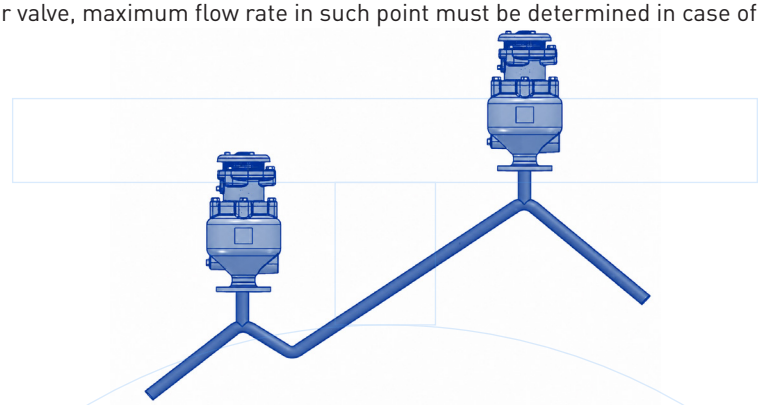
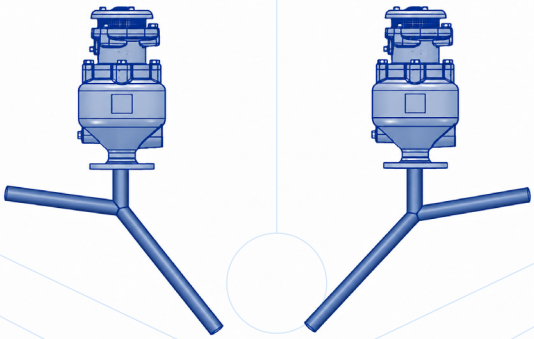
## APPLICATIONS

**Air inflow through the main orifice:**
They are normally dimensioned to protect pipeline from vacuum that may be caused by pipe bursting or by a sudden pump stop causing column separation; they must be placed as follows:

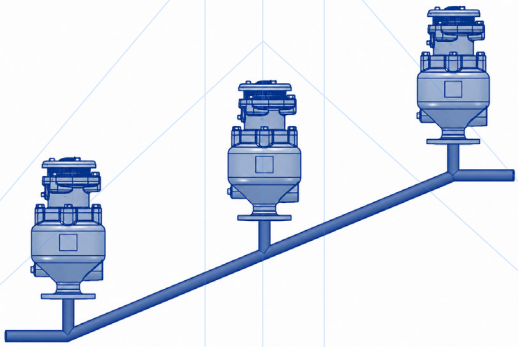
**High geometrical points:**
To size an air valve, maximum flow rate in such point must be determined in case of pipe bursting.



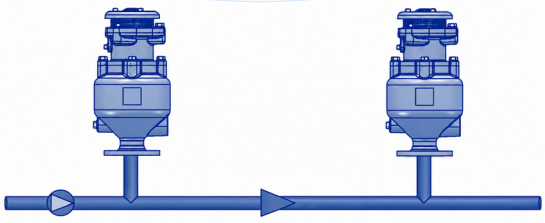
**Negative slope changes:**
They are identified as descending segment slope increase or ascending segment slope decrease.



**Long ascending / descending segments:**
If the ascending / descending segment is long, an air release valve should be placed at the top of the section and one every 600 m / 2000 feet, to guarantee air outflow and inflow during pipeline filling and draining operations. The same ratio of air valves must be installed in long horizontal runs.



**Pumping station - downstream check valve:**
Air valve flow rate must be equivalent to pump capacity. Let's suppose a pump suddenly stops causing column separation. Conventional air valves in this point are not able to control air discharge when the two waves fronts start to joint and thus they will cause a water hammer. Air vessels or special and controlled air outflow valves are used to prevent this phenomenon.



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CONTACT US

# DAVINCI VALVES
## ORDER REQUEST

**Ref. 175B-VI / PN10-16-25**


**Head Office CHENGDU**
Room 3208 Unit 1 Building 1,
No. 6 Zhiquan Section, Dongda Street
Jinjiang District, Chengdu, Sichuan
CHINA

+86 17340168233 +86 19302892712
valves@davincivalves.com

Europe Office MADRID
SPAIN
zuzana@davincivalves.com

**WEBSITE**
davincivalves.com


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