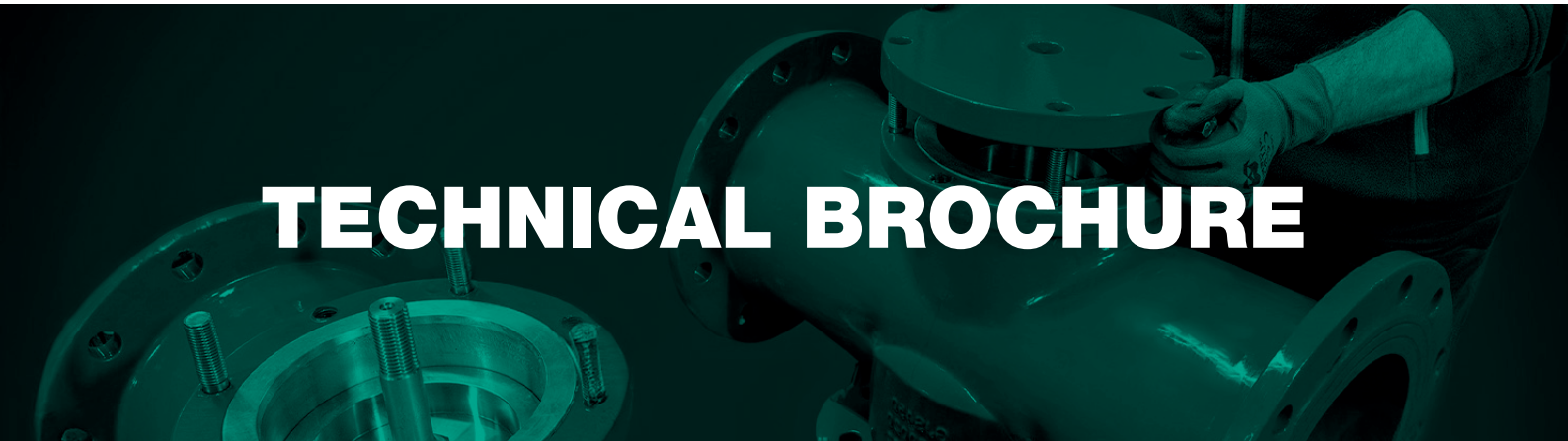
Pietro Fiorentini

SWV SUBWAY

Underground sewer air valve



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Combined air valve for underground sewerage **SWV SUBWAY**

The SWV SUBWAY is an automatic air valve designed for underground installations where building a well is impossible or too expensive.
It does not require any shut-off devices on the pipe. It ensures degassing during operation, and the entrance and discharge of large volumes of air when draining and filling sewer pipelines.

Constructive features and advantages

- The great advantage of the SWV SUBWAY over traditional air valves is that it is positioned directly on the pipeline, and therefore buried at the sides, without the need for excavations, manholes or other works. A simple manhole cover is sufficient to complete the installation.
- The PVC extension pipe, firmly secured to the base, protects the internal air valve. Its lower part includes a drain that disposes of any water that may be present inside.
- Flanges with various sizes and bores.
- Automatic sewer air valve, available in various versions, removable from above by means of a handle attached to the top.
- Maintenance operations are possible without interrupting the flow of the pipeline or resorting to excavation or other interventions. This is made possible by the pipe with drainage connection and by the shut off device with a manoeuvring rod operated from above; both included in the air valve.

Main applications

- At high points and slope changes of sewer pipelines
- Pressure sewerage networks
- In frost-prone areas, roads and buildings

Operating principle

Discharge of large volumes of air

During pipe filling, it is necessary to release a volume of air equal to that of the liquid entering.

Pressurised air degassing

During operation, air inside the pipeline accumulates at the top of the air valve at the same pressure as the liquid. As it increases in volume, it pushes the float down, causing the degassing nozzle to open.

Entrance of large volumes of air

During the pipe draining or in the event of pipe burst, it is necessary to draw in as much air as there is liquid coming out to avoid depressions and serious damage to the network.

Installation

In order to completely bury the SWV SUBWAY unit, which is also equipped with a drain, the following are required: a branch from the main line with equal DN and PN, and a manhole cover at the top of the location point. Generally, gravel or river pebbles are placed at the ends: at the bottom, near the outlet of the retaining pipe; at the top, near the outlet of the manhole. At the base of the air valve there is also a shut-off valve, which is equipped with a key to allow it to be shut off before maintenance.

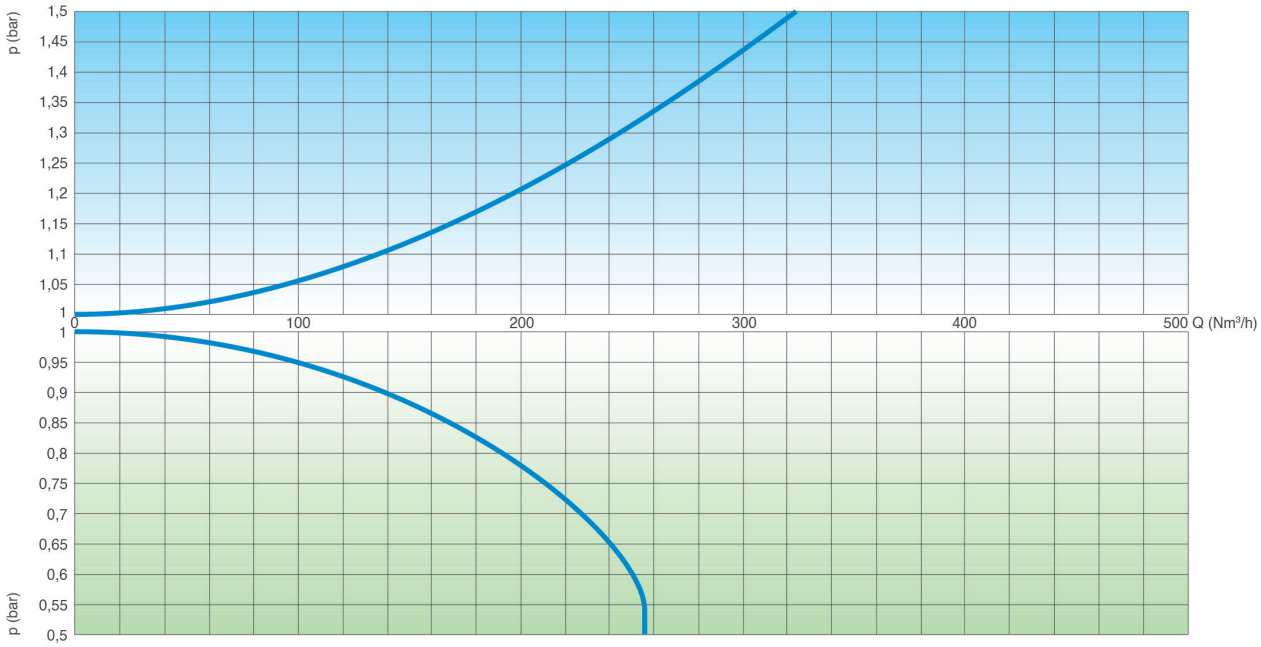
Maintenance

Before conducting the maintenance operation, it is necessary to isolate the air valve from the pipeline by closing the appropriate shut-off device (ref. image 1). Once isolated, by acting on the lever at the top of the air valve, it can be removed with a simple twist. This ingenious and intuitive mechanism allows maintenance operations to be performed without the need for excavation or the use of special equipment, in compliance with current safety regulations. To reposition the valve, simply follow the process backwards.

Technical data

Air flow characteristic charts

AIR INFLOW RATE FOR PIPELINE FILLING



AIR INFLOW RATE FOR DUCT DRAINING

The air flow rate charts were obtained in Kg/s, from laboratory tests and numerical analysis, and converted to Nm/h by applying a safety factor.

Operating conditions

Maximum treated water	60°C
Maximum pressure	16 bar
Minimum pressure	0.2 bar (lower on request)

Standard

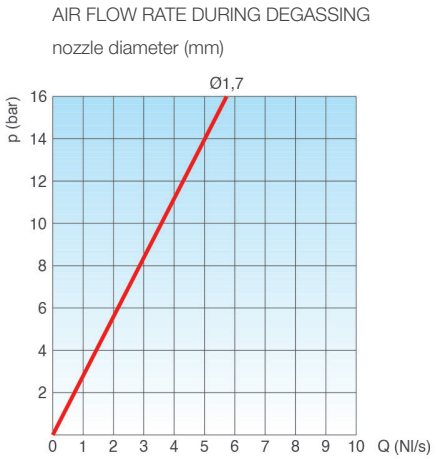
- Certification and testing according to EN 1074/4
- Provided with 2" threaded connection; supplied on request with EN 1092-2 or ANSI drilled flanges
- RAL 5005 blue epoxy paint applied on fluid bed

Modifications to painting and flanging standards on request

Choice of nozzle

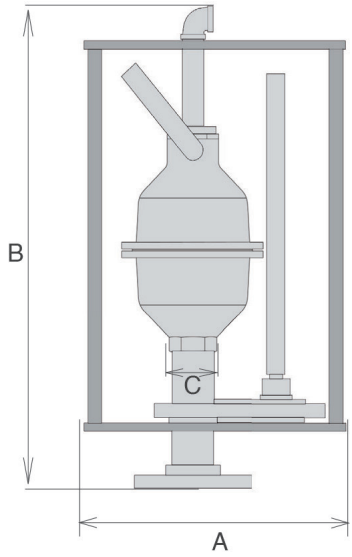
Nozzle diameter in mm depending on air valve size and PN.

PN 10	PN 16
1.7	1.7

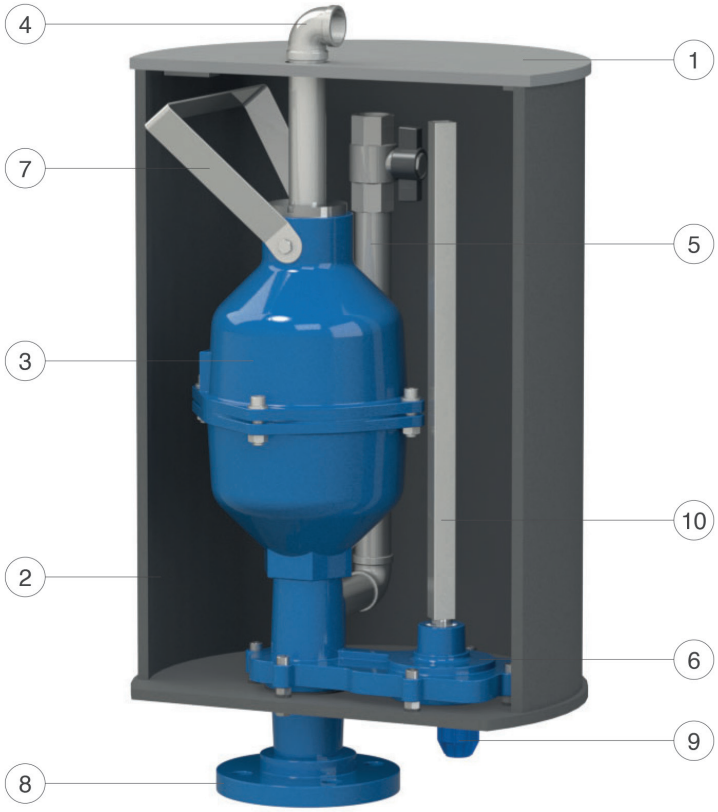


Dimensions and weights

C inches	A mm	B mm
2”	410	705



Construction details



No.	Component	Standard material
1	Cover	PVC
2	Protection pipe body	PVC
3	Air valve SWV 2"	different versions (see SWV TH data sheet)
4	Conveyance pipe	stainless steel or plastic
5	Drainage pipe	stainless steel or plastic
6	Shut-off device	ductile cast iron GJS 450-10 with epoxy coating, stainless steel.
7	Handle	stainless steel
8	Flange	steel with epoxy coating
9	Drainage	polypropylene
10	Manoeuvring rod	galvanised steel

The table of materials and components is subject to change without notice.

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Product designed and manufactured by **CSA S.r.l.** and distributed by **Pietro Fiorentini S.p.A.**

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