



General Information

Air Release Valves & Air Release Valve Sets

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General Information

3.1 Air Release Valves

Air Release Valves

Water conveying systems have to be protected by appropriate means against accumulating air and the formation of negative pressure. Air pockets may lead to reduced flow, pressure variations, more pump capacity required, and pressure hammers in line systems.

The lack of air, too, leads to malfunctions. If water is drained too fast on emptying the line or in case of a pipe break, negative pressure will build up. The water flow will break. Air has to be admitted to limit the negative pressure and prevent damage to the line system.

In sewage pressure pipes, gas will also accumulate because of putrefaction and the systematic blowing in of air for aerating the sewage water.

Air valves are intended to perform the following tasks:

- Releasing major quantities of air (e.g. on filling a pipeline)
- Releasing minor quantities of air under operating pressure
- Admitting major quantities of air (e.g. on emptying a pipeline)

Air release takes place at high points, on long ascending and descending pipe sections, downstream of pumps, up- stream of restrictions, and at places where lower operating pressures occur than in the neighboring line sections.

Air intake takes place at each point where negative pressure may occur (e.g. downstream of quick-action stop valves). For more information on the proper choice of valve and the different installation situations please refer to our specialist information for air valves available for download at our website, www.h-tec.us.

Types of air release valves for sewage water



General Information

3.1 Air Release Valves

Types of Air Valves for potable water



Model: 996-00, 1" valve

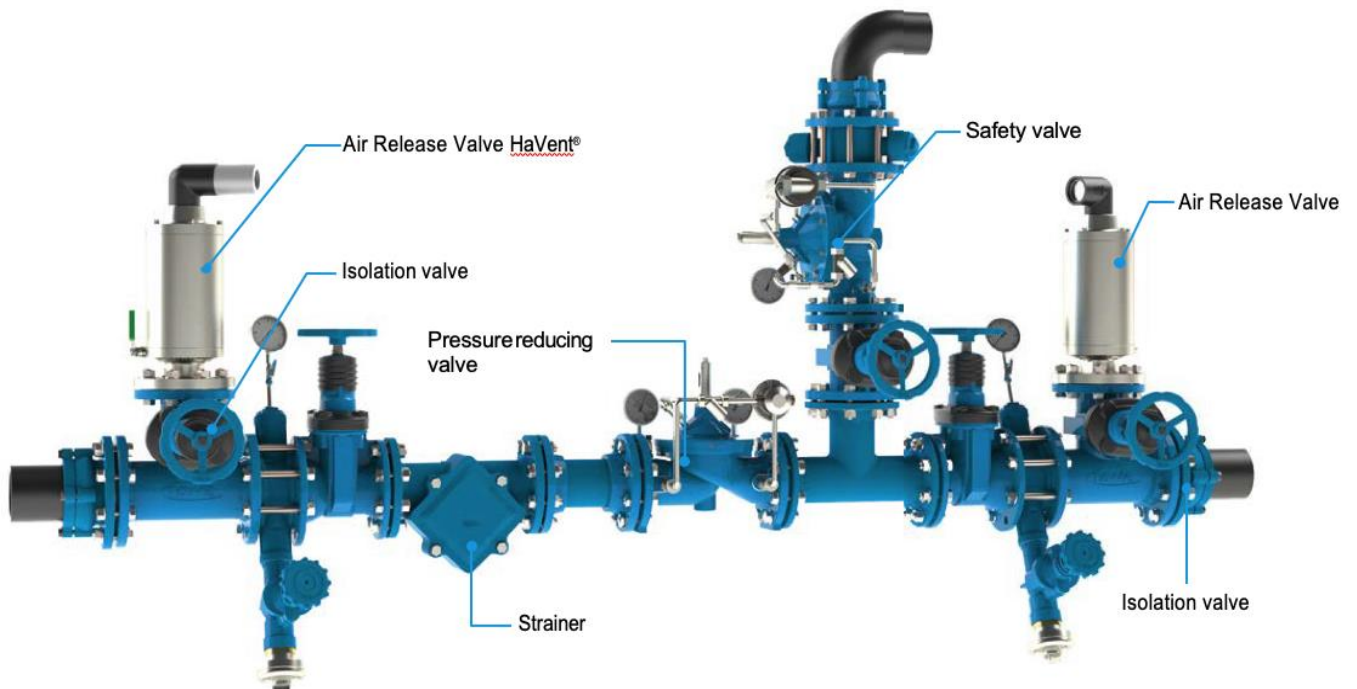


Model: 997-00, 2" valve



HaVent®, Model:
PSI 232: 993-00 | PSI 363: 993-01

Installation situation - plant installation of air valve (potable water)



Installation:

For optimum operation, the air release valves have to be installed vertically on the line. There must be an isolation valve (gate valve, etc.) upstream of each air release valve to be able to perform maintenance work.

Pressure testing:

Before pressure-testing a pipeline, the air valves should be put out of operation.

Maintenance:

Air release valves have to be inspected at regular intervals and maintained as necessary.

Please note: Air release valves contain compressed air. Prior to any maintenance work air release valves shall be put out of operation and depressurized via a ball valve! For maintenance information please refer to the respective operating and maintenance instructions.

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3.2 Air Release Valve Sets

Air Release Valve Sets

Air release valves are mainly installed in manholes. These are not only expensive to make but also expensive to maintain. Moreover, manholes require additional safety measures for entering, which are not necessary with air valve sets, as the latter can be serviced and maintained from ground level. The valve, the manhole, and the integral isolation valve are one unit.

Installation

For optimum operation, the air release valve sets have to be installed vertically on the line.

Pressure testing

Before pressure-testing a pipeline, the air release valves of the air release valve assemblies should be put out of operation.

Maintenance

Air valves have to be inspected at regular intervals and maintained as necessary.

Please note: Air valves contain compressed air. Prior to any maintenance work, air valves shall be put out of operation and depressurized. For maintenance information please refer to the respective operating and maintenance instructions.

Types of air valve assemblies:



HaVent®
Model: 992-00
(Potable water)

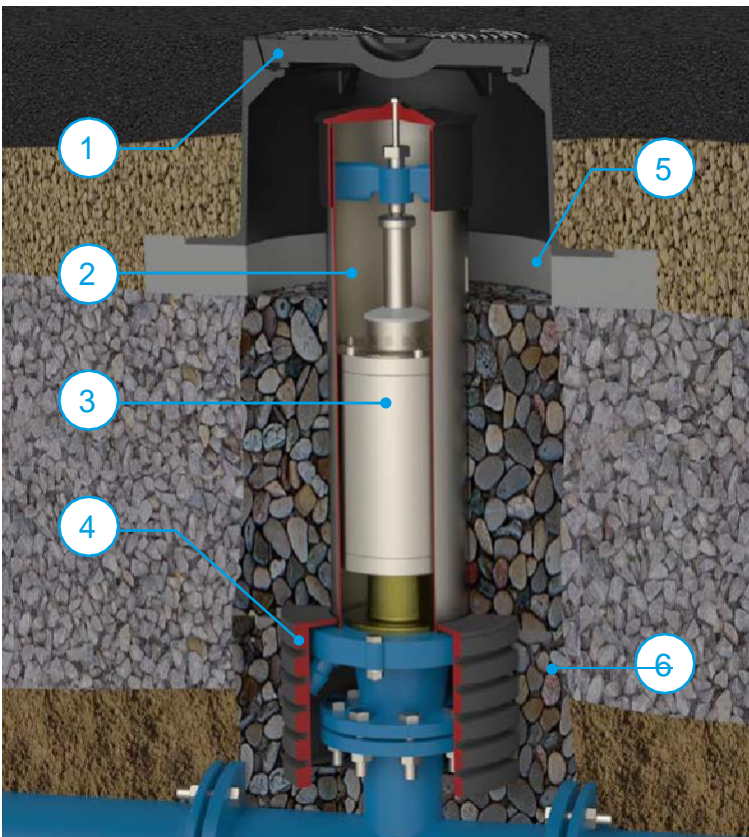


Model: 986-04
(Sewage water)

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3.2 Air Release Valve Sets

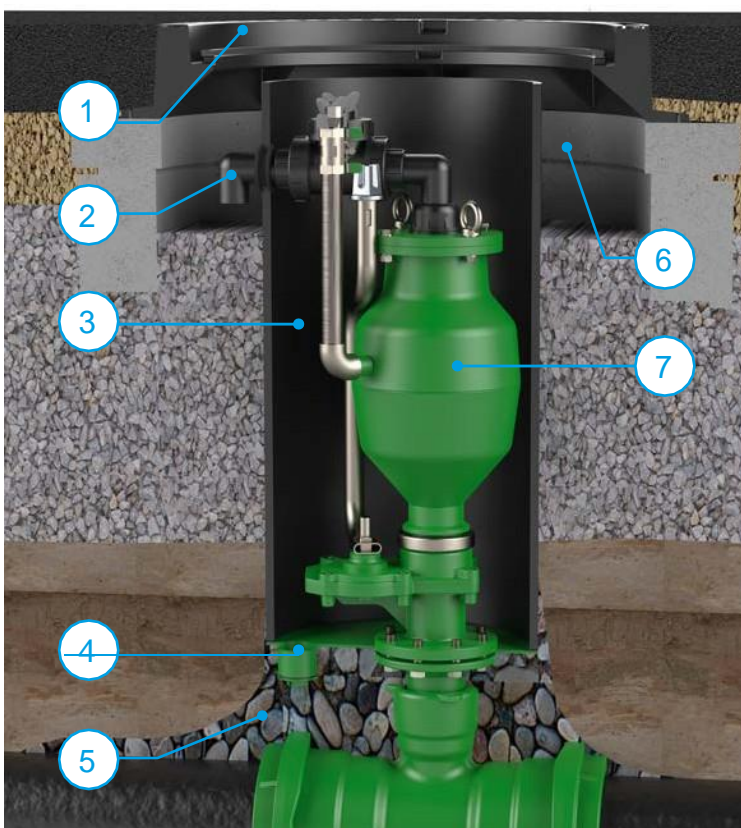
Installation situation - buried installation (potable water):



Caption

1. Surface box
2. Standpipe
3. Air Release Valve HaVent®
4. Drainage element
5. Base plate for surface box
6. Gravel layer suitable for drainage

Installation situation – buried installation (sewage):



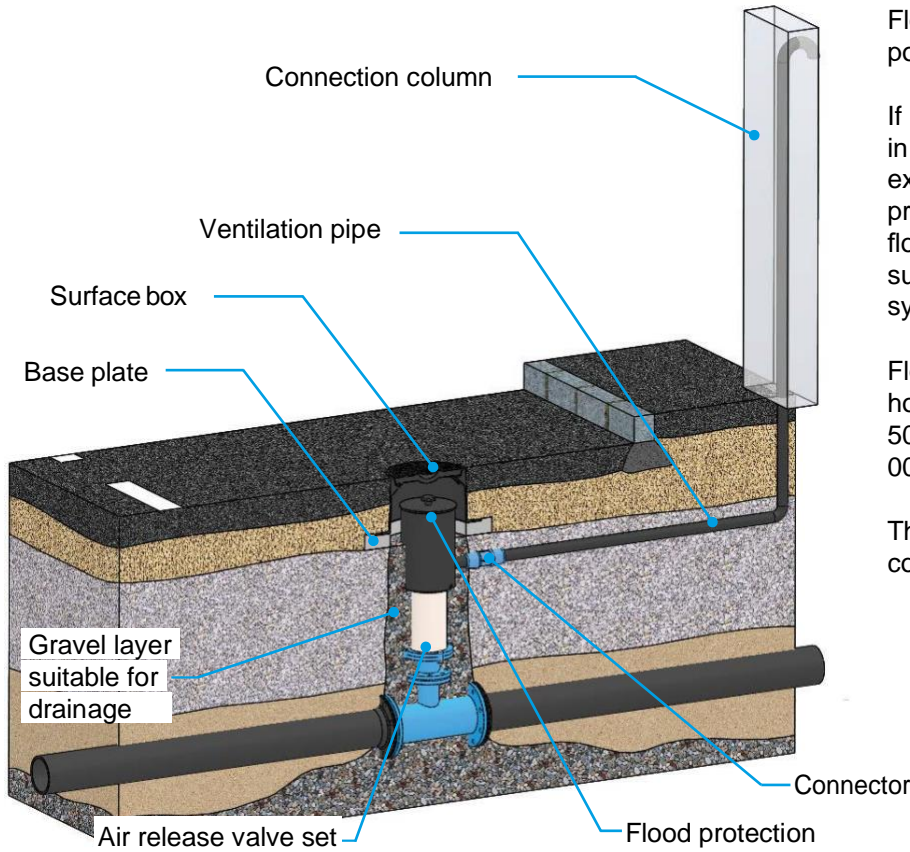
Legend

1. Surface box
2. Outlet elbow
3. PE shaft
4. ZAK® plug
5. Gravel layer suitable for drainage
6. Support ring for surface box
7. Air Release Valve 986-00

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3.3 Air Release Valve Sets Accessories

Flood protection for air release valve set for potable water (Model. 992-02)



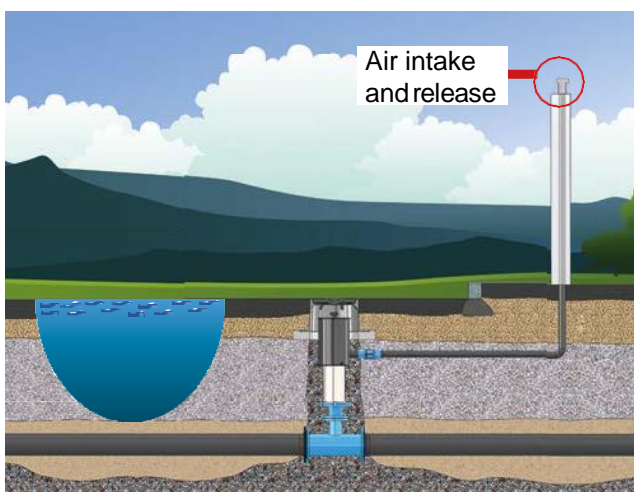
Flood protection for air valve sets for potable water (Model: 992-02)

If the air valve sets 992 is installed in areas where floods have to be expected, the installation of a flood protection can prevent dirty water from flowing back in via the air valve and subsequently into the potable water system.

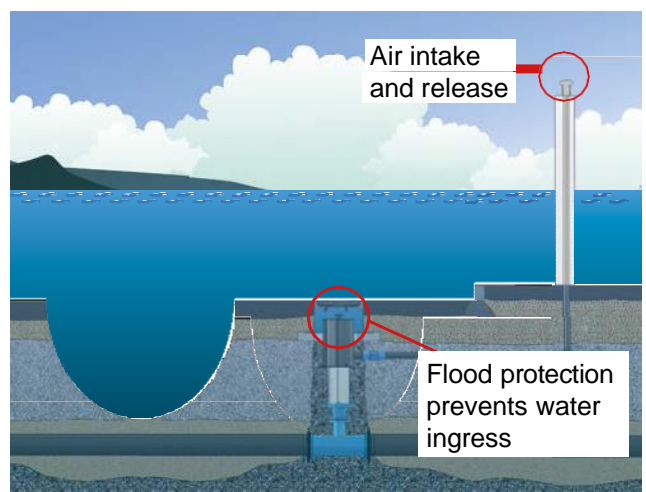
Flood protection, consisting of a flood hood with cover and outlet connection 50 mm for air valve sets (Model: 992-00, 992-01, 992-02).

The ventilation pipe and the connection column must be provided individually.

Example of application (possible installation variant)



Normal installation situation

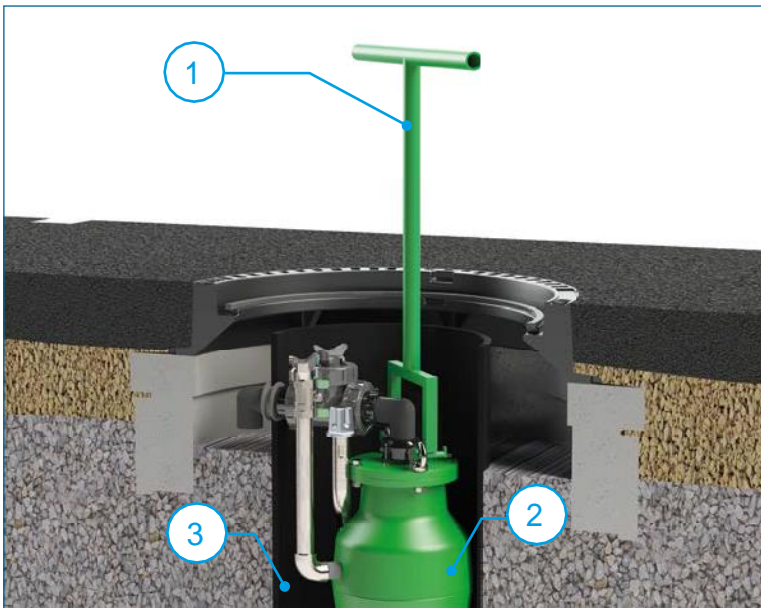


Installation situation when flooded

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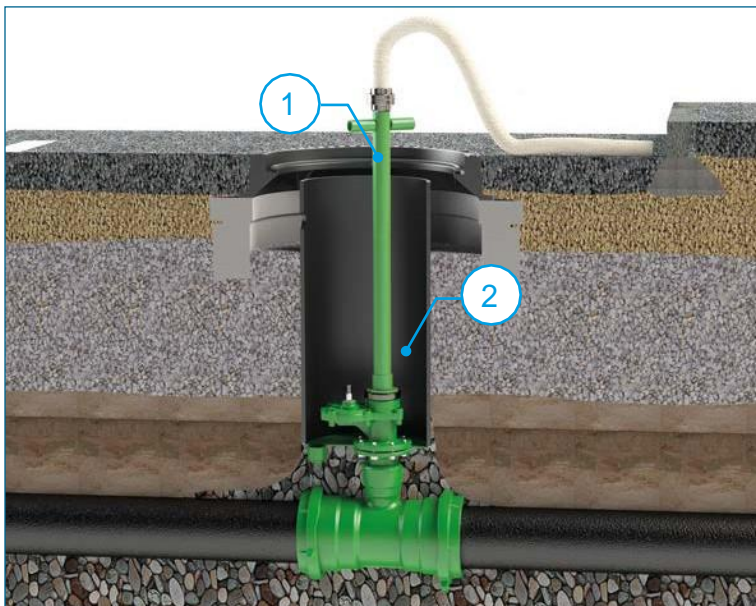
3.3 Air Release Valve Sets Accessories

The accessories for the air valve sets for sewage water Model: 986-04 facilitates the maintenance of air valves. The maintenance intervals for air release valves depend on the composition of the sewage water and the local conditions.



Valve lifting device (Model: 985-01)

The air valve lifting device Model: 985-01 (No. 1) serves as an aid for taking the air release valve Model: 986-00 (No. 2) out of the shaft of the air valve set Model: 986-04 (No. 3).



Flushing and water tapping set (Model: 985-00)

The flushing and water tapping set Model: 985-00 (No. 1) for the air valve set (Model: 986-04) allows an easy flushing of the sewage pipeline after taking the valve out of the PE shaft (No. 2).

Upper outlet: male thread 2"
Lower connection: bayonet spigot end for establishing a form-locked connection with the bayonet socket