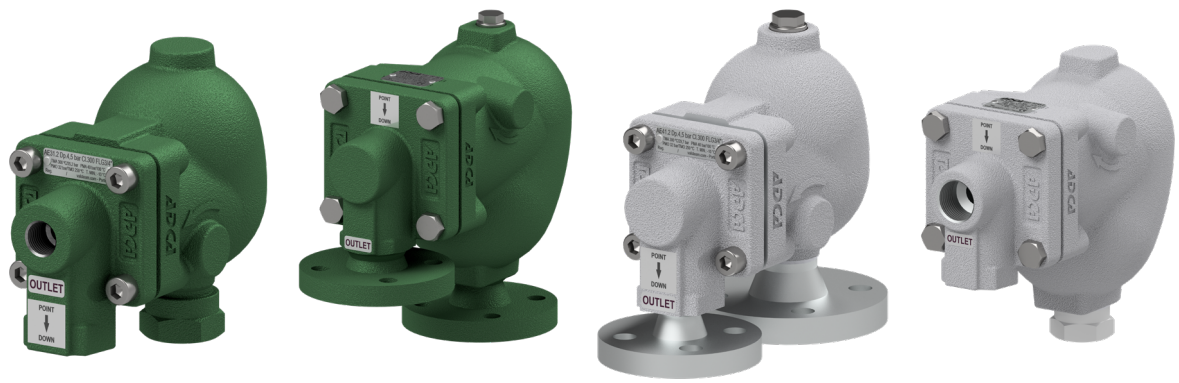
AE AUTOMATIC AIR AND GAS VENTS FOR LIQUID SYSTEMS

INSTALLATION AND MAINTENANCE INSTRUCTIONS



AE31.2 / AE35.2

AE41.2 / AE45.2

IMI AE312.025 E 00.25

GENERAL INFORMATION

- These instructions must be carefully read before performing any work involving VALSTEAM ADCA products. Failure to observe these instructions may result in hazardous situations.
- These instructions describe the entire life cycle of the product. Keep them in a location that is accessible to every user and make these instructions available to every new owner of the product.
- Current regional and plant safety regulations must be considered and followed during installation, operation, and maintenance work.
- The images shown in these instructions are for illustration purposes only.
- For problems that cannot be solved with the help of these instructions, please contact VALSTEAM ADCA or its representative.

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CONTENT

1. SAFETY INFORMATION

1.1. Explanation of symbols

DANGER

Hazardous situation which, if not avoided by applying the correct preventive measures, will result in fatal or serious injury and/or considerable damage to property.

WARNING

Hazardous situation which, if not avoided by applying the correct preventive measures, could result in fatal or serious injury and/or considerable damage to property.

CAUTION

Hazardous situation which, if not avoided by applying the correct preventive measures, could result in moderately severe or minor injury.

NOTICE

Situation which, if not avoided, can result in property damage or product malfunction.

NOTE

Indicates additional information, tips and recommendations.

1.2. Intended use

Refer to the markings on the device, such as nameplate and laser markings, Information Sheet (IS) and these Installation and Maintenance Instructions (IMI) to check that the product was designed for the intended use and meets the specifications used for sizing and selection. This includes checking application, material suitability, process medium, pressure and temperature as well as their respective limiting values.

VALSTEAM ADCA does not assume any responsibility for damage resulting from inappropriate use of the product, damage caused by external stresses or any other external factors. Correct installation of the product is the full responsibility of the contractor.

Inappropriate use of the product is any use other than the one described in this chapter. Inappropriate use also includes:

- Use of spare parts which are not genuine;
- Performance of maintenance work not described in these instructions;
- Use outside the limits defined by the accessories connected to the product.
- Unauthorized modifications to the product.

If the product is to be used for an application or with a fluid other than the one it was designed for, contact VALSTEAM ADCA.

1.3. Qualification of personnel

Handling, installation, operation and maintenance work must be carried out by fully trained and qualified personnel, capable of judging the work which they are assigned to perform and recognizing potentially hazardous situations. They should be trained to properly use this product according to these Installation and Maintenance Instructions.

Where a formal “Permits to Work” system is implemented in the plant it must be complied with.

1.4. Personal protective equipment

Personal protective equipment should always be worn during work in order to protect against hazards posed by e.g. the process medium, dangerous temperatures, noise, falling or projected objects and working at height. These equipment includes a helmet, safety glasses, safety harness, protective clothes, safety shoes, hearing protection, etc.

NOTE

Always assess whether you or others in your vicinity require any protective equipment. When in doubt check with the plant’s health & safety responsible personnel for details on required protective equipment.

1.5. The system

The complete system should be assessed as well as every action (e.g. closing of shut-off valves, disconnection of the power supply) to ensure this will not bring additional risk to personnel or property.

Dangerous actions that can result in a hazardous situation include isolation of protective devices such as safety valves, vents, vacuum relief valves, disconnection of electric safety devices, sensors and alarms.

1.6. ATEX

If the product is in the scope of the ATEX 2014/34/EU directive and as such bears the Ex marking, consult its specific Additional Instructions for use in Potentially Explosive Areas (IMI EX). In such cases, handling, installation, operation and maintenance work must only be performed by personnel qualified and authorized to work in potentially explosive areas.

1.7. General safety notes

DANGER

RISK OF BURSTING OR IMPLOSION IN PRESSURE EQUIPMENT

Valves, ancillaries and pipelines are pressure equipment. Working outside their operating limits, improper opening, malfunction, or system operation failure may result in component bursting or implosion.

- Observe the maximum and minimum operating limits of the product and check if they are within those of the system in which it is being installed. If not, ensure a safety device is included in the system to prevent operation outside those limits. Check the product Information Sheet (IS).
- In case the malfunction of any equipment installed on the system or a system operation failure may result in a dangerous overpressure, overtemperature or vacuum condition, ensure a safety device is included in the system to prevent such situation.
- Before starting any work on the product, depressurize it and cool or heat it up to ambient temperature. This also applies to the line in which it is fitted.
- Drain the process medium from the product and all the relevant plant sections.

WARNING

RISK OF BURNS

Depending on the operating conditions, products and pipelines may get very hot or cold and cause burn injuries.

- Do not touch the product while it is hot or cold, allowing it firstly to cool down or heat up.
- Wear protective clothing and safety gloves during working operation.
- Thermally insulate tubes and product's as a preventive measure.

WARNING

RISK OF INJURY CAUSED BY FLUID ATTACK ON PRODUCTS MATERIALS

The product must only be used with mediums that do not attack the materials of the product (body, gaskets, seals). Otherwise, leaks may occur, and hot and/or hazardous fluid can escape.

- Do not use the product with mediums other than the ones it was designed for. Check section 1.2 - Intended Use.
- Prevent medium contamination.

RISK OF INJURY CAUSED BY UNDER TIGHTENED PRODUCT OR ITS COMPONENTS

Excessively low tightening torques may cause medium to escape and/or components to be projected at high speed, which may result in a hazardous situation depending on the medium, chemical properties and/or its operating conditions.

- Do not loosen any screws while the equipment is pressurized.
- Observe the specified tightening torques on these Installation and Maintenance Instructions. If the relevant torque value is not mentioned contact VALSTEAM ADCA.

RISK OF HEARING LOSS

Depending on the operating conditions, the product may generate loud noises.

- Wear hearing protection when in the vicinity of the product.

RISK OF INJURY AS A RESULT OF ILLEGIBLE INFORMATION

Important information written in the product nameplate, markings and warning signs may wear overtime or get illegible due to e.g. dirt accumulation, resulting in hazardous situations and personal injury or property damage.

- Keep nameplates, markings and warning signs in a legible state, replacing when illegible, missing or damaged.

CAUTION

RISK OF INJURY DUE TO RESIDUAL PROCESS MEDIUM

Direct contact with dangerous process medium may lead to personal injury, e.g. smoke inhalation and chemical burns.

- Drain the process medium from the product and all the relevant plant sections.
- Wear protective clothing, safety gloves, mask, and eye protection.

CAUTION

RISK OF INJURY DUE TO IMPROPER HANDLING

Manual handling (e.g. lifting, carrying, pushing, pulling) of large and/or heavy products may result in personal injury.

- Assess the risk associated with the handling task.
- Use adequate handling methods and appropriate auxiliary handling equipment.

NOTICE

RISK OF PRODUCT DAMAGE DUE TO EXCESSIVELY HIGH TIGHTENING TORQUES

High tightening torques may lead to premature wearing of product components.

- Observe the specified tightening torques on these Installation and Maintenance Instructions. If the relevant torque value is not mentioned contact VALSTEAM ADCA.

2. PRODUCT INFORMATION

The ADCA AE31.2 and AE35.2 (carbon steel), AE41.2 and AE45.2 (stainless steel) are a series of automatic vents designed to remove air or gases from water and other liquid systems, without requiring any external source of energy.

Typical applications include unit heaters, heat exchangers, dryers, jacketed vessels and other applications where continuous discharge is essential.

These automatic air and gas vents can be installed in horizontal or vertical pipelines and are available in different configurations and variants to suit system design.

2.1. Principle of operation

During system start-up a float (8) is suspended on its lower position due to its weight and maintains the vent valve open to allow air and/or other gases to pass through the valve seat (4). Once the liquid level reaches the unit, the float raises and the lever mechanism (7) closes the valve by moving the ball (6) against the seat (4).

As air and/or other gases accumulate and reach the vent, the liquid inside is displaced lowering its level and allowing the float to fall thus opening the valve. Once the noncondensables have been discharged, the liquid level rises once again and the valve closes.

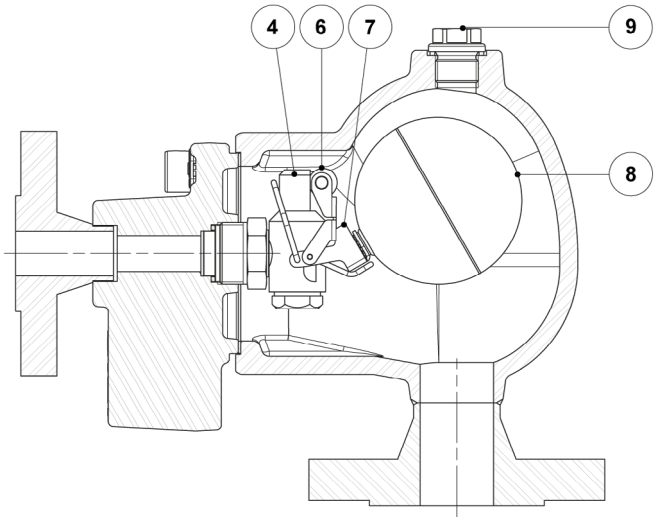


Fig. 1

The hand vent valve (HVV) is a retrofittable option which can be installed on the top cover connection. It is used for manual venting and/or depressurization.

2.2. Certification

This product has been specifically designed for use with liquids and gases which are in Group 2 of the European PED – 2014/68/EU Pressure Equipment Directive and it complies with its requirements.

AE31.2 and AE41.2 CE MARKING – GROUP 2 (PED – European Directive)	
PN 40	**Category**
All sizes	SEP

AE35.2 and AE45.2 CE MARKING – GROUP 2 (PED – European Directive)		
CLASS 150	**PN 40**	**Category**
All sizes	–	SEP
–	All sizes	1 (CE marked)

NOTE

If the product falls within category SEP it must not be CE marked, unless other directives are applicable.

This product is not in the scope of the ATEX 2014/34/EU directive as it does not have its own potential ignition source. Personnel responsible for the plant installation must assess

the risks caused by static electricity and take the necessary precautionary measures to prevent static charge. These measures include e.g. connection of the product to the equipotential bonding system.

2.3. Product identification

The following items are indicated on the product nameplate or directly on its body:

- Manufacturer
- Product model (e.g. AE35.2-6)
- Pressure rating (e.g. PN 40)
- Nominal size (e.g. NPS 1" x 1/2")
- Max. differential pressure (e.g. DP: 6 bar)
- Max. operating temperature (e.g. TMO: 200 ºC)
- Max. operating pressure (e.g. PMO: 32 bar)
- Min. admissible temperature (e.g. -10 ºC)
- Max. admissible temperature (e.g. TMA: 300 ºC @ 27,6 bar)
- Max. admissible pressure (e.g. PMA: 37,1 bar @ 100 ºC)
- Flow direction (indicated by an arrow)
- Serial number and year of manufacturing (e.g. Reg.:17483/19)
- CE Marking (when applicable – see section 2.2 – Certification)
- EX Marking (when applicable e.g. EX h IIB T6…T3 Gb – see section 2.2 – Certification)

2.4. Technical data

For technical data including dimensions, materials, limiting conditions and versions refer to the product's respective Information Sheet (IS).

3. TRANSPORT, STORAGE AND PACKAGING

WARNING

RISK DUE TO FALLING LOADS

Loads may tip or fall over resulting in demage to property, serious injury or death.

- Use suitable equipment when moving or lifting suspended loads.
- Make sure no one is standing below the suspended load.

CAUTION

RISK OF INJURY DUE TO IMPROPER HANDLING

Manual handling (e.g. lifting, carrying, pushing, pulling) of large and/or heavy products may result in personal injury such as back injury.

- Assess the risk associated with the handling task.
- Use adequate handling methods and appropriate auxiliary handling equipment.

NOTICE

RISK OF PRODUCT DAMAGE DUE TO IMPROPER STORAGE

- Do not remove any packaging or protective covers until immediately before installation at the site.
- Store the product in a solid base in a dry, cool and dust-free environment.
- Until its installation, protect it from the weather, dirt, corrosive atmospheres and other harmful influences.

RISK OF PRODUCT DAMAGE DUE TO LONG TERM STORAGE

Some product components may deteriorate with time (e.g. valve packings, seals).

- Do not store the product for more than 12 months.
- If for any reason the product must be stored for longer periods of time contact VALSTEAM ADCA.

Products are individually wrapped in plastic film, thermo shrinkable plastic and/or stored in a cardboard box as they leave VALSTEAM ADCA. Avoid removing packaging and any protective cover until immediately before installing the product at the site.

NOTE

If the transport packaging has any shipping damage contact VALSTEAM ADCA or its representative.

Before storing and transporting the product protect it from impacts and mechanical damage, paying special care with sealing surfaces and other fragile parts.

NOTE

If the corrosion protection (paint and other surface coatings) of the product is damaged during transport or other handling procedures repair it immediately.

4. INSTALLATION

Before performing any installation work, refer to section 1 – Safety Information.

WARNING

RISK OF INJURY DUE TO INSUFFICIENT SUPPORT DURING INSTALLATION

Insufficient support of the product during installation may cause it to fall and cause personal injury.

- Ensure the product is safely held in place during installation.
- Wear protective safety shoes.

NOTICE

RISK OF PRODUCT DAMAGE DUE TO STRESS

The product is not intended to withstand external stresses that may be inducted by the system to which it is being connected to.

- Make sure that the connected pipe does not subject the body to any stress (forces or torques) during installation and operation.
- Do not use the product as an elevation point.

4.1. Preparation for installation

Before installation, make sure the following conditions are met:

- The installation area has easy access and the product is to be installed in a position where operation and maintenance work can be performed safely.
- The product will be installed with proper support and free of any stresses that can be induced by the system due to e.g. pipe expansions. The necessary precautions are recommended during system design.
- The pipeline where the product will be installed is designed in such a way that it takes into account the weight of the product. The pipeline may require support on both sides next to the product, particularly if its size and weight are considerable and especially if vibrations are to be expected in the system.
- The product is not damaged.
- Make sure all the necessary materials and tools are readily available during installation work.
- Referring to this Installation and Maintenance Instructions (IMI), Information Sheet (IS) and nameplate, check that the product is suitable for the intended installation: temperature, medium, pressure, temperature, etc. – see section 1.2 – Intended use.

- Check that there are no foreign bodies inside the pipelines and ancillaries, flushing may be necessary. These should be thoroughly cleaned.
- Check any mounted pressure gauges and make sure these function properly.
- An additional ADCA pipeline strainer or filter may be necessary to install upstream of the automatic vent in some applications, preventing damage caused by solid particles in the process medium.
- It is recommended to install an isolation valve upstream of the automatic vent to allow isolation of flow prior to performing maintenance procedures.
- In systems operating under negative head conditions it is recommended to install an ADCA check valve downstream of the automatic vent to prevent air from being drawn into the system.

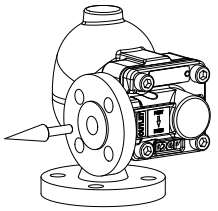
NOTE

Assembly Drawings (AD) with assembly details and parts lists are available on request.

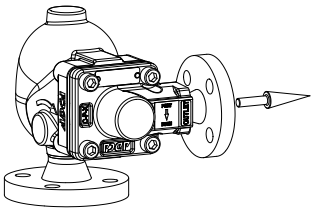
4.2. Changing flow direction

The automatic air vent flow direction can be easily changed by repositioning the body (1) in relation to the mechanism (4, 6, 7, 8) and cover (2).

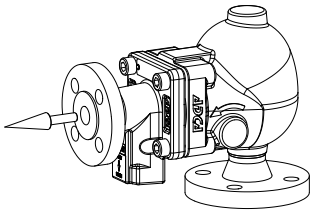
The following flow directions are possible for automatic air vents with angled connections:



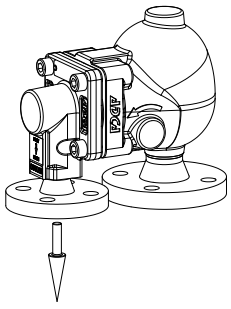
VF - Vertical inlet / straight front outlet



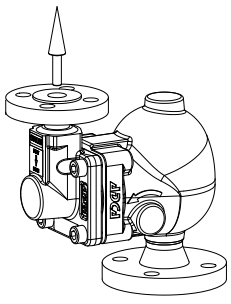
VR - Vertical inlet / right side outlet



VL - Vertical inlet / left side outlet



VB - Vertical inlet / top to bottom outlet



VT - Vertical from bottom to top

Fig. 2 - Flow direction options

To change flow direction proceed according to the following steps:

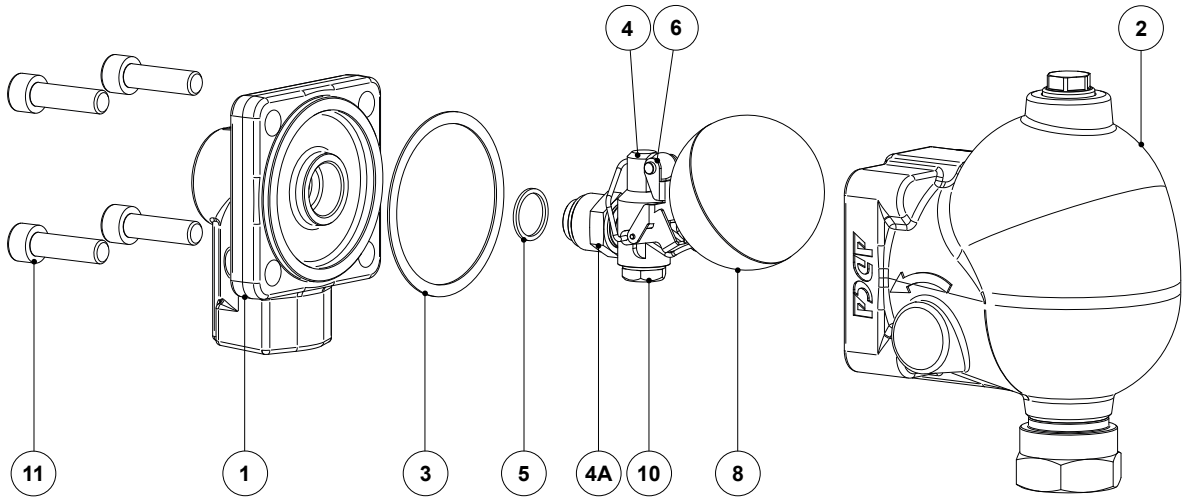


Fig. 3 - Flow direction change

1. Undo the bolts (11) gradually in a crisscross pattern and separate the cover (2) from the body (1).
2. Remove the body gasket (3) and clean surfaces thoroughly, leaving no remaining graphite leftovers.
3. Unscrew the seat nut (4A), inspect the gasket (5) and replace if necessary.
4. Screw the seat nut (4A) loosely once again.
5. Rotate the body (1) to meet the desired flow direction according to Fig. 2 and Fig. 3, keeping the mechanism assembly (4, 6, 7, 8) with the plug (10) pointing downwards. Replace the "POINT DOWN" sticker accordingly.
6. Secure the seat (4) and tighten the seat nut (4A) with the recommended torque – see section 9.6 – Tightening torques.
7. Fit a new body gasket (3) and install the cover (2) with the protruding section pointing upwards.
8. Apply a suitable lubricant to the threads of the bolts (11), and tighten gradually in a crisscross pattern until the recommended torque is acheived – see section 9.6 – Tightening torques.

4.3. Installation procedure

1. Remove plastic film and other packaging, as well as the protective covers which are placed on flanges or connection ends. Make sure the air vent is free from foreign matter.
2. The air vent can be installed in any of the positions shown in Fig. 2. The air vent has an arrow or inlet/outlet designations, be sure that it is installed in the appropriate direction according to fluid flow. The "POINT DOWN" sticker must have the arrow pointing downwards.

3. The outlet connection should be directed to a safe point.
4. Take care with jointing materials and sealing compounds to ensure that none may be permitted to block or enter the air vent and causing malfunction. In case of flanged connections use appropriate flange gaskets.
5. When a socket weld or butt weld version is being installed, the welding should be carried out by qualifed personnel following an appropriate welding procedure. Do not weld on top of the corrosion protection (paint, surface coatings). If there is corrosion protection on the welding ends remove it before welding. After welding the automatic air vent to the pipeline repair its corrosion protection.
6. When welding the automatic air vent to the pipeline make sure to restrict the heat-affected area to the weld seam, if not possible remove the mechanism assembly (4, 6, 7, 8) prior to welding.

5. START-UP

Before performing the start-up procedure, refer to section 1 – Safety Information.

The start-up procedure must be followed every time the product is put back into service.

5.1. Preparation for start-up

Before starting up, make sure the following conditions are met:

- All works on the system have been completed.
- All the necessary safety devices have been installed.
- When required, warning notices are used to alert others that the system is starting up.
- The product is correctly installed – see section 4 – Installation.
- Referring to these Installation and Maintenance Instructions (IMI), Information Sheet (IS) and nameplate, check that the product is suitable for the intended installation: temperature, medium, pressure, temperature, etc. – see section 1.2 – Intended use.
- A safety check was performed by qualified personnel. Checking for leaks, structural damage and integrity of system components.

NOTICE

RISK OF PRODUCT DAMAGE DUE TO CONTAMINATION

The plant operator is responsible for cleaning the pipelines in the plant as well as keeping the product well maintained. At start-up, the presence of small particles in the medium (dirt, scale, weld splatters, etc.) may damage the product or cause malfunction.

- Flush pipelines before start-up.
- Clean protection varnishes from pipes and flanges, leftover paint, graphite, grease, etc.
- Use a pipeline strainer or a filter.

5.2. Start-up procedure

1. Open shut-off valves slowly, until normal operating conditions are achieved. This will prevent sudden surges of pressure that can damage the automatic vent, namely the float and lever assembly.
2. Depending on the medium this will also avoid thermal shocks by bringing the product slowly up to temperature.
3. Check for any leaks.
4. Check the automatic vent to ensure it is operating correctly.

NOTE

24 hours after system start-up, it is recommended to check pipe connection for leaks and retighten when necessary. Clean strainers/filters to avoid blocking.

6. OPERATION

Before operating the product refer to section 1 – Safety Information.

Immediately after completing the start-up procedure, the product is ready for operation.

6.1. Operating the HVV units

WARNING

RISK OF BURNS FROM HVV VALVE OPERATION

Operating the HVV valve discharges hot medium to the atmosphere which may cause burn injuries.

- Wear protective clothing, safety glasses and heat-resistant gloves during operation.
- When operating the valve stand to the side well clear of its outlet.

RISK OF INJURY DUE TO EXCESSIVELY LOOSENING THE HVV VALVE SCREW

Excessively loosening the valve screw while operating may cause the retainer to break or come loose. This may result in the screw blowing off leading to personal injury and product malfunction.

- Loosen the valve screw slowly and do not unscrew it excessively.

1. Open the HVV by slowly unscrewing the valve screw. Be careful to avoid contact with the hot medium which will be discharged through the valve whole as it opens.
2. Close the valve by tightening the valve screw to a torque of 20 to 25 Nm ensuring that there is no leakage.
3. Periodical valve operation is recommended to ensure correct functioning.

7. SHUTDOWN

Before performing the shutdown procedure, refer to section 1 – Safety Information.

7.1. Shutdown procedure

1. Switch off the system and secure it so it cannot be turned on by unauthorized personnel.
2. Fully close the upstream shut-off valve, to stop the process medium from flowing through the automatic air vent.
3. Make sure the pipeline and the automatic air vent are not under pressure and are at a safe temperature.
4. Allow medium to cool down and completely drain it from the pipeline and automatic air vent.
5. Fully close the downstream shut-off valve.
6. If the automatic air vent is to be removed from the pipeline – see section 3 - Transport, storage and packaging.

8. PARTS LIST

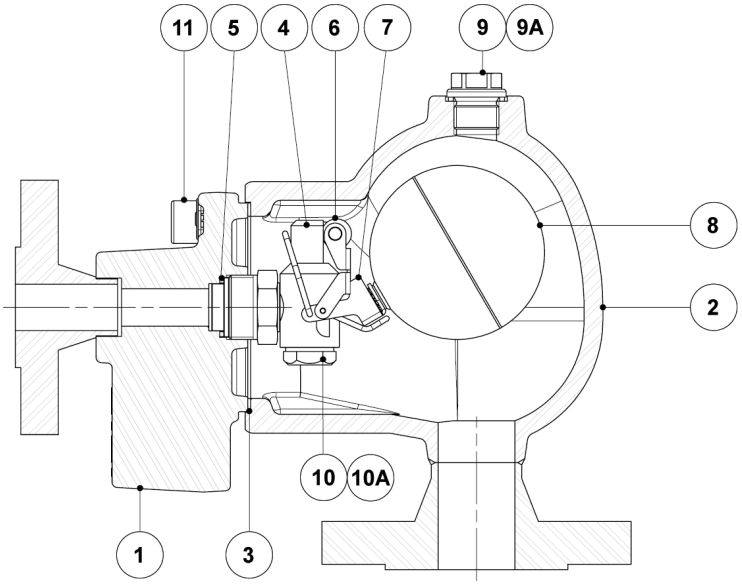


Fig. 4

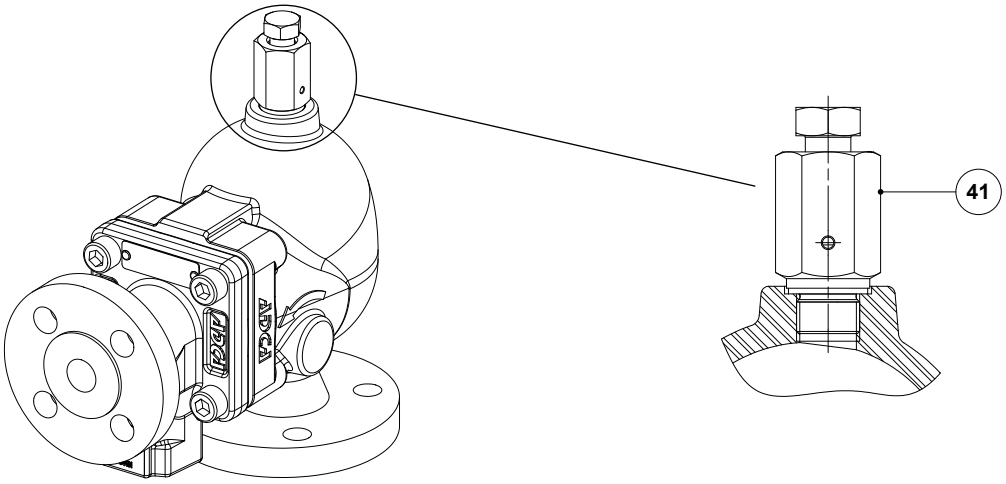


Fig. 5

POS. Nº	DESIGNATION	SPARE PARTS
1	Body	
2	Cover	
3	Gasket	X
4	Seat	X
5	Gasket	X
6	Valve ball	X
7	Lever	X

POS. Nº	DESIGNATION	SPARE PARTS
8	Float	X
9	Plug	
9A	Gasket	X
10	Plug	
10A	Gasket	
11	Bolt	
41	Hand vent valve	

9. MAINTENANCE

Before performing a maintenance procedure, refer to section 1 – Safety information.

The product requires maintenance to ensure that it operates correctly and safely throughout its lifetime. Maintenance work should be performed in a planned manner at periodic intervals. These intervals must be defined by the operator according to the service conditions.

9.1. Maintenance procedure

1. Make sure all the necessary materials and tools are readily available during maintenance work.
2. Perform the shutdown procedure – see section 7 – Shutdown.
3. Perform the maintenance procedure – see the following sections.
4. Put the product back into operation – see section 5 – Start-up.

9.2. Cleaning/replacing the mechanism assembly

1. Undo the bolts (11) gradually in a crisscross pattern and separate the cover (2) from the body (1).
2. Remove the body gasket (3) and clean surfaces thoroughly, leaving no remaining graphite leftovers.
3. Unscrew the seat nut (4A), remove gasket (5) and mechanism assembly (4, 6, 7, 8).
4. Clean or replace the mechanism assembly (4, 6, 7, 8). When cleaning use fresh water and a cloth.
5. Replace gasket (5) if necessary and screw the seat nut (4A) loosely onto the body (1).
6. Secure the seat (4) with the plug (10) pointing downwards and tighten the seat nut (4A) with the recommended torque – see section 9.6 – Tightening torques.

9.3. Replacing the float

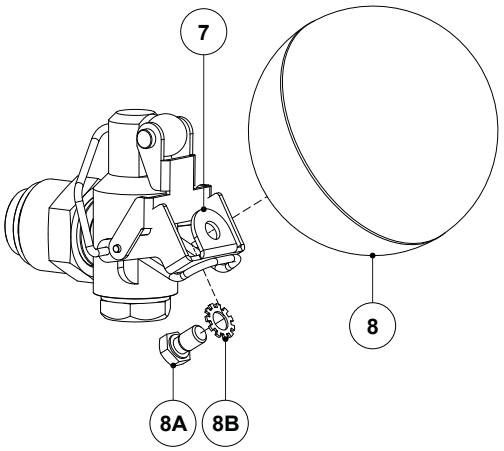


Fig. 6 - Replacing the float

1. Undo the bolts (11) gradually in a crisscross pattern and separate the cover (2) from the body (1).
2. Remove the body gasket (3) and clean surfaces thoroughly, leaving no remaining graphite leftovers.
3. Secure the float (8), unscrew the bolt (8A) and remove the serrated washer (8B).
4. Attach the new float to the lever (7) by screwing the bolt tightly (8) with a new serrated washer (8B) in place.
5. Fit a new body gasket (3) and install the cover (2) with the protruding section pointing upwards.
6. Apply a suitable lubricant to the threads of the bolts (11), and tighten gradually in a crisscross pattern until the recommended torque is acheived – see section 9.6 – Tightening torques.

9.4. Fitting the HVV unit

NOTICE

The HVV units can only be installed in steam traps which have been supplied with the optional top and bottom cover connections.

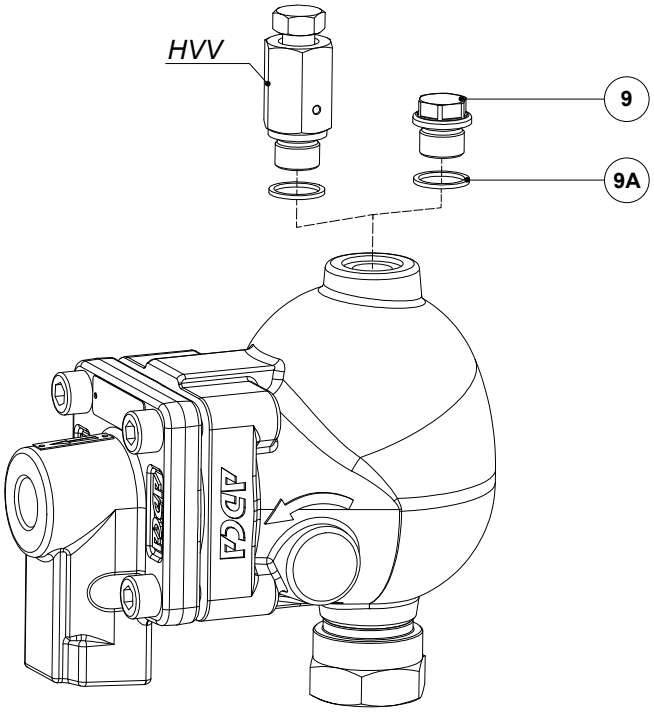


Fig. 7 - Fitting the HVV unit

1. Unscrew the plug (9) and remove the gasket (9A) if any.
2. Fit the gasket (9A) supplied with the retrofit kit (not applicable in NPT versions) and screw the unit to be installed (HVV), tightening with the recommended torque – see section 9.6 – Tightening torques.
3. In case a HVV unit is being fitted, ensure its respective valve is closed by tightening the valve screw to a torque of 20 to 25 Nm.

9.5. Tightening torques

POS. Nº	DESIGNATION	TORQUE (Nm)	
		AE31.2 and AE41.2	AE35.2 and AE45.2
4A	Seat nut	50 - 60	140 - 160
10	Bolts	35	50
9	Plug	75	75
41	Hand vent valve	75	75

10. TROUBLESHOOTING

Before applying any corrective measure, refer to section 1 – Safety information.

If the malfunction cannot be solved with the help of the following table, contact VALSTEAM ADCA or its representative.

Malfunction	Possible cause	Corrective measure
Air vent is leaking liquid.	Foreign matter is stuck between seat and plug.	• Open and clean the automatic air vent.
	The sealing surfaces are damaged/ worn.	• Replace mechanism.
	Seat gasket is damaged.	• Replace the seat gasket.
	Float is damaged (e.g. flooded).	• Relace the float.
Air vent is blocked (no air is discharging) or is discharging poorly.	The automatic air vent is undersized.	• Change to air vent with suitable capacity.
	Foreign matter is stuck between seat and plug.	• Open and clean the automatic air vent.

11. DISPOSAL

Once the product has reached the end of its working life, it should be sent for disposal in accordance with the prevailing national and local regulations.

Before disposal make sure that the product is clean and free from fluid residues.

During its disposal, pay special attention to rubbers, resins and polymer components (PVC, PTFE, PP, PVDF, FKM, NBR, etc.).

Do not dispose of components and hazardous substances together with household waste.

12. RETURNING PRODUCTS

Information regarding hazards and precautionary measures to be considered due to contaminating fluids and residues or mechanical damage that may represent a health, safety or environmental risk, must be provided in writing when returning products to VALSTEAM ADCA.

WARNING

RISK DUE TO PRESENCE OF HAZARDOUS RESIDUES ON RETURNED PRODUTS

Contaminated fluids and residues may represent an environmental risk, or risk to VALSTEAM ADCA personnel.

- Information regarding any hazards or precautionary measures to be considered must be provided in writing when returning products to VALSTEAM ADCA.
- Health and Safety information sheets relating to any substances identified as hazardous or potentially hazardous must be provided outside the packaging.
- Use Hazmat labels on the packaging.

IMPORTANT NOTE

Total or partial disregard of these Installation and Maintenance Instructions involves loss of any right to warranty.

The extent and warranty period are specified in the “General sales conditions”.