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Air separators AAS 260, 280, 281, 282, 283

NOTE!

The product may only be used if you have fully read and understood these operating instructions. The manual is also available on the AFRISO websites in the Internet.

WARNING!

AAS air separators may only be installed, commissioned, and dismantled by trained personnel.

Changes and modifications carried out by unauthorised persons may cause danger and are prohibited for safety reasons.

Risk of burns from hot medium - see the MAINTENANCE section.

APPLICATION

AAS air separator is installed in central heating and cooling systems. It is used to remove air dissolved in the medium.

PREDICTABLE INCORRECT APPLICATION

The AAS air separator is not intended for use in the following cases and with the following media:

- mixtures of water and glycol with a glycol concentration exceeding 50%, steam, oil, petrol, drinking water;
- for safety-related purposes;
- under conditions exceeding the maximum permissible pressure and temperature parameters of the medium

OPERATION

As the fluid passes through the cartridge with the filter instert, it undergoes swirling motion, which promotes the release of gas micro-bubbles from the fluid. The microbubbles then settle in the space around the float, and when they reach the appropriate volume, they move upward, causing the float to lower and open the discharge of air through the automatic air vent.

CONSTRUCTION

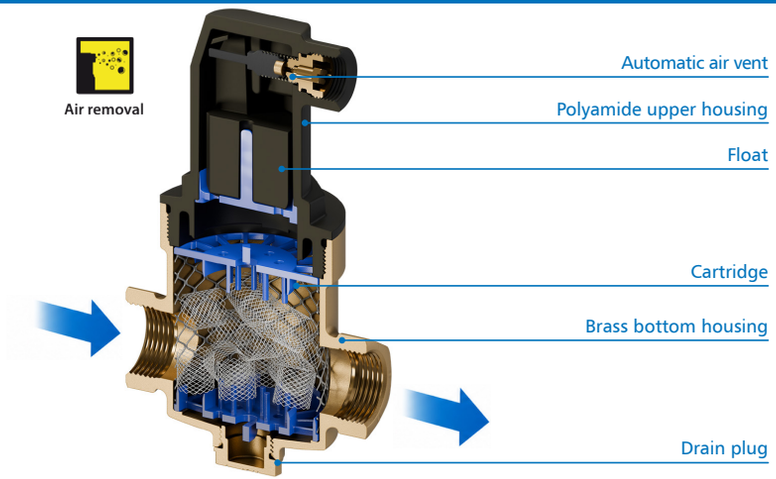
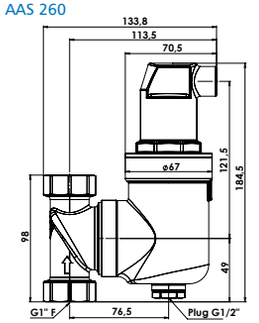


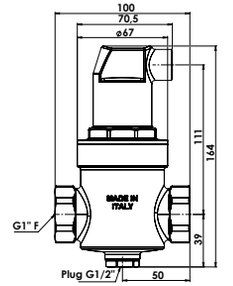
Fig. 1. Construction of the AAS air separator

DIMENSIONS [mm]

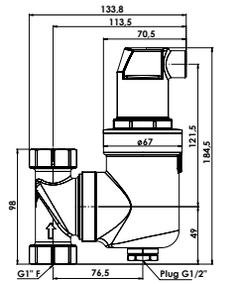
AAS 260



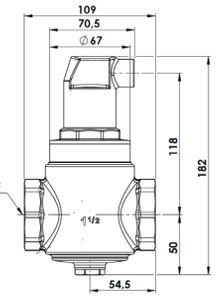
AAS 280



AAS 281



AAS 282



AAS 283

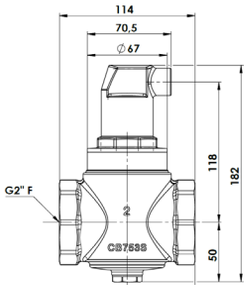


Fig. 2. Dimensions of air separators AAS

MOUNTING

Before installing the separator, the installation should be thoroughly flushed out, paying special attention to the removal of residues from soldering, pipe cutting, etc. For additional protection of the heat source and other components of the installation from contamination and corrosion, it is recommended to install a magnetic dirt separator ADS AFRISO and use corrosion inhibitor BCI AFRISO. In the case of heating installations, AAS air separators should be installed at the point where the medium reaches the highest temperature. As a rule, this is the supply pipe, just after the heat source. In cooling installations, the separator should be mounted on the return pipe, where the medium reaches a higher temperature. Shut-off valves must be installed before and after the separator, necessary during separator maintenance. Always ensure that the air vent plug is slightly loosened. This allows for automatic venting. Tightening the plug disables the valve's automatic venting function.

AAS 280, 281, 282 and 283 separators can only be mounted on horizontal pipes, and their polyamide housing part should always face upward (Fig. 4). The direction of flow in versions with a fixed connection does not matter. In the case of the AAS 260 separator with a movable connection (Fig. 5), installation can be carried out on horizontal and vertical pipes with the polyamide part of the housing pointing upward (Fig. 4), and the direction of flow does matter and is marked with an arrowhead on the brass housing (Fig. 6).

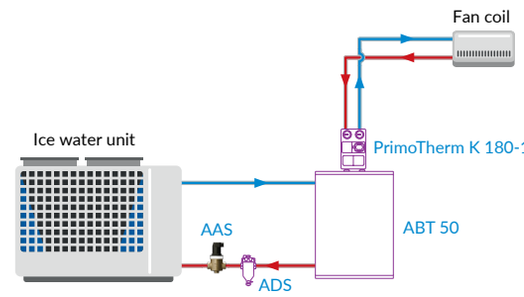


Fig. 3. Examples of installation diagrams with AAS air separator

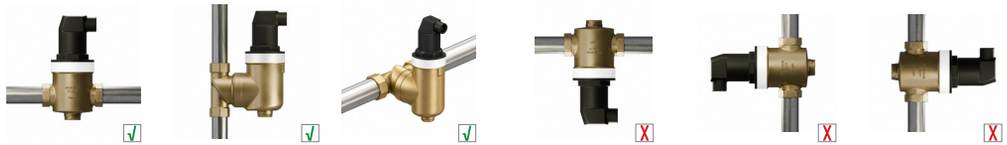


Fig. 4. Permissible installation position of the AAS air separator



Fig. 5. Air separator AAS 260 with movable connection



Fig. 6. Arrowhead indicating direction of flow in the air separator AAS 260

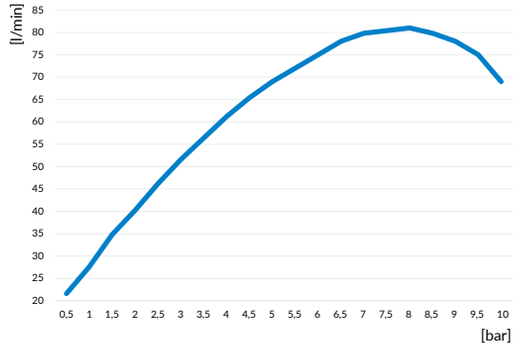


Fig. 7. Venting performance characteristics

MAINTENANCE

The air separator requires periodic maintenance at least every 12 months and whenever there is a marked decrease in the flow of the medium in the installation. The cartridge should be cleaned of accumulated impurities in it. Impurities precipitate during flow through the separator and settle inside.

Before performing maintenance, close the shut-off valves before and after the separator and cool down the system. Then unscrew the plug of the bottom connection. The impurities along with the water will be removed. Using an adjustable wrench with the possibility of setting the opening to 63 mm, unscrew the upper polyamide part of the housing (Fig. 8). From the dismantled polyamide part, unscrew the air vent plug with a flathead screwdriver (Fig. 9), and then, using a size 10 Allen key, unscrew the air vent screw (Fig. 10). A small amount of water should flow out of the automatic air vent. Proceed to clean the air vent or replace the vent components, if necessary.

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Fig. 8. Disassembly of the upper part of the housing



Fig. 9. Disassembly of the air vent plug



Fig. 10. Dissasembly of the air vent screw

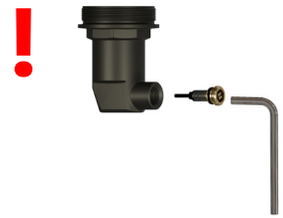

Fig. 11. Mounting of the air vent screw

When assembling the separator, first turn the polyamide upper housing upside down so that the vent hole is at the bottom, and then screw in the allen screw (Fig. 11). This is a prerequisite for further correct operation of the air separator! Then screw in the air vent plug in any position already, and carefully screw the two housing together. Always ensure that the air vent plug is slightly loosened. This allows for automatic venting. Tightening the plug disables the valve's automatic venting function. Make sure that the polyamide part of the housing is well screwed into the brass part and the connection is tight.

TECHNICAL DATA

Parameter	Value / description
Operating temperature	0-90°C
Operating pressure	max. 10 bar
Glycol concentration in the system	max. 50%
Kvs	AAS 260: 10.3 m³/h AAS 280: 20.4 m³/h AAS 281: 28.3 m³/h AAS 282: 44.6 m³/h AAS 283: 65.6 m³/h
Recommended flow	AAS 260: 2.3 m³/h AAS 280: 2.3 m³/h AAS 281: 3.6 m³/h AAS 282: 5.4 m³/h AAS 283: 8.5 m³/h
Connections	AAS 260: G1" F movable AAS 280: G1" F AAS 281: G1¼" F AAS 282: G1½" F AAS 283: G2" F
Housing material	polyamide PA66 brass CW617N
Float	polypropylene
Cartridge	AISI 302 stainless steel
O-ring seal	EPDM

APPROVALS AND CERTIFICATES

The product is subject to the Pressure Directive 2014/68/EU and is not CE marked in accordance with Article 4.3 (recognised engineering practice).

DECOMMISSIONING, DISPOSAL

1. Dismount the product.
2. Dispose of the product according to local directives and guidelines.

The product is built from recyclable materials. If you have any questions or problems with disposal, please contact the appropriate distributor or manufacturer's point.

WARRANTY

Product guarantee in accordance with the general conditions of sale and delivery.

CUSTOMER SATISFACTION

For AFRISO customer satisfaction is paramount. If you have any questions, suggestions or product problems, please contact us.