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Magnetic dirt separator ADS 160/164

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!

Dirt separator ADS 160/164 may only be mounted, commissioned and dismantled by qualified, specially trained staff.



Changes and modifications carried out by unauthorized persons may result in danger and are prohibited for safety reasons.

The dirt separator is equipped with a magnetic element. People with pacemakers are advised to maintain a safe distance from the device. Attention should also be paid to electronic equipment installed near the device. The magnetic element of the separator may cause interference.

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

APPLICATION

Used in heating and cooling systems where the medium circulates continuously. Fitted on the return pipe from the system to the heat/cooling source. It protects the system against dirt that may cause damage or malfunction.

PREDICTABLE INCORRECT APPLICATION

The ADS 160/164 dirt separator is not intended for use in the following cases or 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 for the medium.

CONSTRUCTION AND SCOPE OF DELIVERY

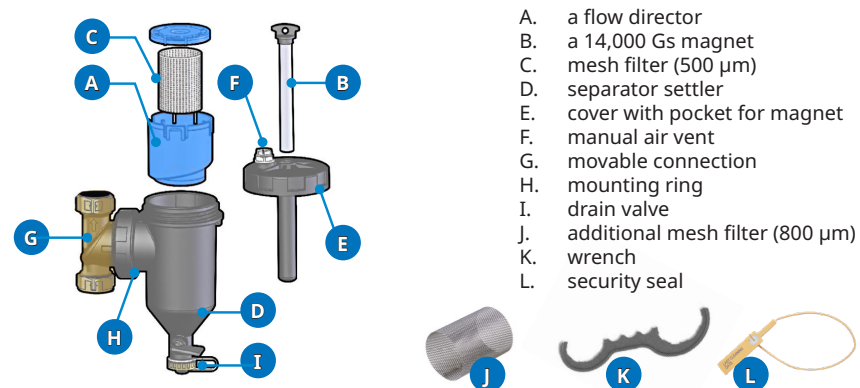


Fig. 1. Construction of the magnetic dirt separator ADS 160

MOUNTING

Danger! Leave at least 150 mm of free space from the top edge of the separator to allow maintenance.

The ADS dirt separator should be mounted on the return line to the heat/cold source, to intercept solid contaminants that can cause damage to the heat/cold source, as well as to the circulation pumps. The separator can be mounted on vertical pipes (Fig. 2), horizontal pipes, (Fig. 3), as well as on diagonal sections (Fig. 4). The separator's drain valve should always face downward. The arrow on the connection housing indicates the direction of flow from the system to the heat/cold source. Use the included wrench to change the position of the connection. To simplify maintenance, we recommend installing a shut-off valve before and after the separator. After installing the separator and opening the shut-off valves, unscrew the manual air vent, using a flathead screwdriver, to get rid of the accumulated air.

The separator is factory-equipped with a mesh filter with a mesh size of 500 µm.

Such filter accuracy is recommended for new installations. For modernized installations, 2-stage filtration is recommended. The first stage is to filter the installation with a mesh filter with 500 µm mesh size for about one month. After this time, unscrew the lid (using the wrench included in the kit) and replace the existing filter with a 800 µm mesh filter supplied in the kit.

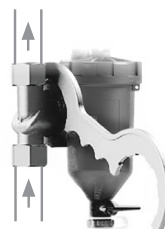


Fig. 2. Installation of the separator ADS on the vertical line

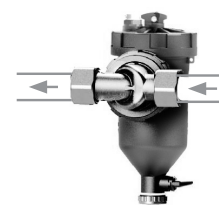


Fig. 3. Installation of the separator ADS on the horizontal line



Fig. 4. Installation of the separator ADS on the diagonal line

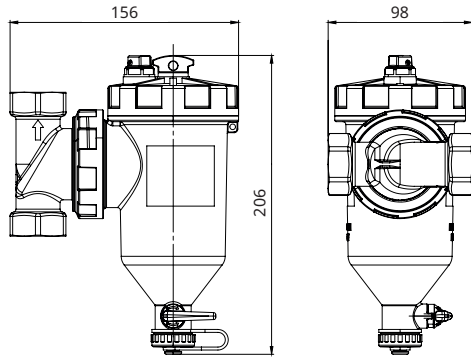
SECURITY SEAL

The seal protects the magnet from unauthorized removal. It also allows to record the date of the last maintenance work.



Fig. 5. ADS separator with installed security seal

DIMENSIONS [mm]



OPERATION

The medium, returning from the installation, is put into a vortex motion as it enters the separator. As a result, the medium flows along a cyclone-like path, which facilitates the separation and settlement of contaminants in the lower part of the device (Fig. 6). Metallic contaminants (e.g., rust particles, metal filings) are then attracted by the built-in magnet (Fig. 7). The remaining non-metallic particles are effectively retained by the filter mesh (Fig. 8). The cleaned medium is directed to the heat/cold source.

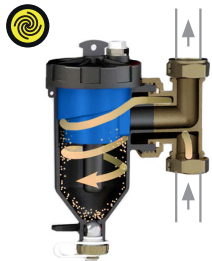


Fig. 6. Putting the medium in a vortex motion

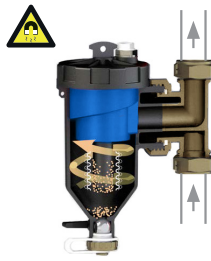


Fig. 7. Attraction of contaminants by the magnet

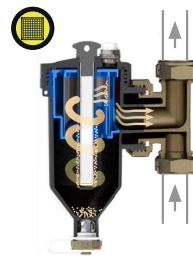


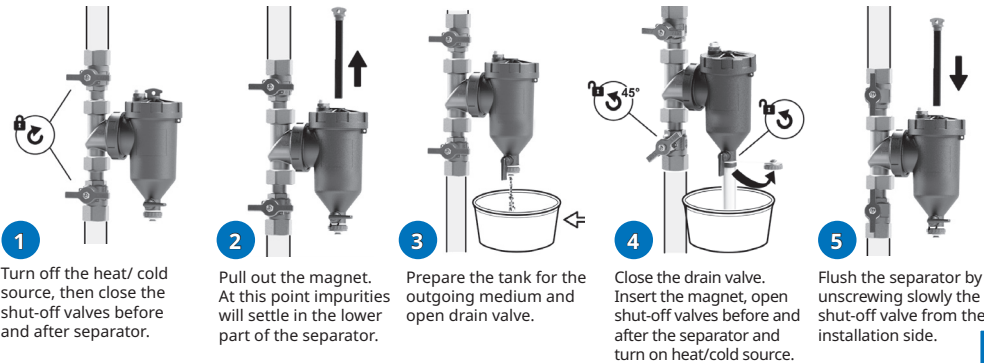
Fig. 8. Deposition of dirt on the filter mesh

MAINTENANCE

Danger! Maintenance operations should be carried out only after the system has cooled down completely. Otherwise, burns can occur with hot medium.

The frequency of routine removal of dirt from the separator depends on the degree of contamination of the medium. However, we recommend that a full cleaning of the separator, including a tightness check of the connections, be carried out at least once a year.

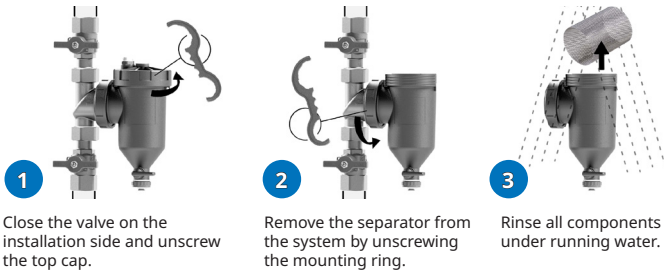
Routine removal of contaminants



MAINTENANCE

Full cleaning of the separator

Perform separator cleaning routine steps 1 through 4, then:



After each cleaning of the separator use the manual air vent to get rid of the accumulated air.

TECHNICAL DATA

Parameter	Value / description
Medium temperature	max. 90°C
Operating pressure	max. 3 bar
Glycol concentration in the system	max. 50%
Kvs (depending on the version selected)	6,9 m³/h for ADS 160 6,6 m³/h for ADS 164
Recommended flow rate (depending on the version selected)	max. 2.1 m³/h for ADS 160 max. 2.0 m³/h for ADS 164
Magnet power	14 000 Gs
Connections (depending on the version selected)	G1" F for ADS 160 G¾" for ADS 164
Housing material	glass fibre-reinforced polyamide PA66 + 30% GF
Connection material	brass
Filter mesh material	AISI 304 stainless steel
Filter mesh size	500 µm and 800 µm
Sealing material	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.