

Congratulations! With this product you have a product that will definitely improve the quality of your complete installation.

This instruction applies to product types starting with B or H, except for B*S and H*S (fig. 1A, 1B). Manufacturer: Spirotech bv, Helmond - The Netherlands

This product is designed and manufactured according to the Sound Engineering Practice as stated in the Pressure Equipment Directive (97/23/EC)

CAUTION

- This instruction must be given to the end user, who should keep it.
- Take into account local regulations.

Application

(Fully) automatic removal of air, gasses and / or dirt from water and water/glycol mixtures (max. 50%). Not suitable for demineralised water, drinking water, and dangerous or inflammable substances. Can be used in combination with chemicals / inhibitors approved according to local directives. Please check that it is compatible with the materials used to construct your installation. For more information contact your supplier.

Pressure and temperature range (fig. 1A, 1B)

Working pressure: 0 – 10 bar-g.

Working temperature: 0 – 110 °C.

Unless indicated otherwise on the product.

Quality

control *Leaktest:*

Test pressure	7+/- 1 bar-g	1,5 x working pressure
Test medium	Air	Water
Test time	60 s	60 min
Approval criterion	No leakage	No leakage

Standard and <=DN300 p > 10 bar or T>110 °C

or >DN300

Functional test of the de-aerating valve (not for BE/HE and BF/HF):

Valve opening test	Full bore venting
Valve closure test	Positive valve closure

Quality, safety and environmental aspects are managed within certified Management systems acc. to: - NEN-EN-ISO 9001

- NEN-EN-ISO 14001

- OHSAS 18001

CAUTION

- Installation and maintenance may only be carried out by a qualified installer.
- When working on the separator always ensure there is no pressure in the installation and let it cool down.
- Touching the product "in operation" may cause burns.
- Never use the drain valve for (re)filling.

Handling (fig. 1B)

Pay particular attention to the following safety procedures when lifting the separator from its packaging:

- Use approved lifting chains / straps with safety hooks.
- Make sure that the lifting chains / straps are tight before lifting the separator
- Do not stand under the load
- Make sure the separator can move freely.

Installing

For maximum deaeration both the deaerator and combined deaerator / dirt separator should be installed at the hottest point of the installation, e.g. in the main flow of a central heating installation or in the main return of a cooling installation. The dirt separator should be installed preferably directly before the components to be protected, e.g. in the main return.

- The separator should be installed stress free and with the body vertical.
- The separator should not be used to support pipework.

- The separator should not be modified in any way, nor should it be welded to, other than necessary for mounting the separator into the installation.
- The lifting lugs 1 may only be used for handling during installation.
- The unit operates independent of the flow direction 2.
- Required space for demounting the separation element according to table 1.
- Don't obstruct the vent valve 3/4 and keep the valves 5/6/7 accessible.
- Apply the separately supplied product labels if the labels on the product are not visible, e.g. after the separator has been insulated.
- It is advisable to fit shut off valves at both sides of the separator, especially for BD/HD, BF/HF.
- Fit the supplied drain valve 8 at the bottom of the separator, shut off the valve and fit the safety plug 9. (Not for BA/HA)
- A tube can be fitted to the air vent 10 to lead away the released (smelly) air. Excessive dirt particles or foam forming might cause a temporary leakage of the vent valve 10.
- Maximum allowable hydraulic test pressure: 1,5 x maximum working pressure (see product label 10).
- If the installation is tested with compressed air, the vent valve 10 should be shut off temporarily with a cap R½ (not supplied). Take care: cap R½ must be removed before commissioning the installation.
- For separators > DN300 valve j must be closed. Take care: valve j must be opened before commissioning the installation.
- The scum valve 11 and the manual vent valve 12 are designed to blow off / let in large quantities of air during filling / emptying of the installation.

CAUTION

Hot water or steam may escape!

- Open the manual vent valve 12 (max. 1 turn) or use the following procedure when using the scum valve 11:
- Remove the safety cap 13 or plug k.
- Fit a hose, resistant to the pressure and temperature concerned, to discharge the installation water into a suitable place.
- Use the back of the cap 13 to open the scum valve 11 gradually.
- When all air is released, close the scum valve 11.
- Fit the safety cap 13 or plug k.
- The remaining deaeration is done automatically by the separator (not for BE/HE and BF/HF).

Draining dirt and floating pollutants

After commissioning the separator must be drained off frequently by a qualified installer, to remove the collected dirt, according to the procedure below. Proper and regular draining will ensure correct functioning of the separator and maximize the life time expectancy as well as a trouble free operation of the unit and system. Regular analyses of the system fluid will help to take the right measures to maintain the correct fluid quality and consequently system performance.

CAUTION

- Water may be hot!
- Try to restrict the amount of water drained off as much as possible.
- Check the installation pressure after draining and refill if necessary.
- Remove the safety plug 13.
- Fit a hose or a permanent connection resistant to the pressure and temperature concerned. Release the collected debris from the unit to a suitable container to catch the debris. For disposal of the captured debris and fluid, please follow the local regulations.
- Open the drain valve 14 gradually for a short period.
- As soon as no dirt is drained off anymore, close the drain valve 14.
- Fit the safety plug 13.
- The scum valve 11 may be used to remove floating pollutants: - Remove the safety cap 13 or plug k.
- Fit a hose resistant to the pressure and temperature concerned, to discharge the installation water into a suitable place.
- Use the back of the cap 13 to open the scum valve 11 gradually for a short period.
- As no floating dirt is drained off anymore, close the scum valve 11.
- Fit the safety cap 13 or plug k.

Maintenance (For BD/HD and BF/HF only)

The separation element (Spirotube bundle) can be cleaned or replaced.



CAUTION

- Make sure there is no pressure in the separator and let it cool down .
- Tube bundles and bottoms of the separator may be considerably heavier from clogging dirt.
- The Spirotube bundle rests completely on the bottom. Support bottom and bundle with appropriate hoisting or lifting devices. In some situations the Spirotube bundle may be affected by, e.g. corrosion or fouling, which may reduce the mechanical strength.
- The tube bundle may tumble over.
- Never clean with corrosive chemicals.

For cleaning or replacing the Spirotube bundle proceed as follows:

- Drain the separator.
- Unscrew the drain valve ☐.
- Demount the bottom. (See table 2 for weight of bottom and Spirotube bundle)
- Clean the Spirotube bundle, e.g. with hot water or low pressure steam.
- Inspect the bundle and replace it if necessary. Contact your supplier for spare parts.
- Clean the flange faces and use a new flange gasket.
- Position the Spirotube bundle and bottom.
- Fit the Spirotube bundle in the correct position. With the demountable combined deaerator / dirt separator (BD/HD) you should take into account the position of the scum valve at the top of the device. Therefore the Spirotube bundle is provided with a cut-out.
- Mount the bolts and tighten them crosswise with torques according to table 3.
- Fit the drain valve ☐ and the safety plug ☐.
- Refill the installation and check for leakages.

Failures

- At initial use the vent valve ☐ might drip a little. (Not for BE/HE and BF/HF). This will stop after a short period of time.
- Always contact your installer in case of malfunction.
- In case of leakage of the vent valve ☐, the complete deaeration cap must be replaced. (Not for BE/HE and BF/HF)

Guarantee

- 5 years after the date of purchase.
- Incorrect installation or incompetent use or repairs may render the guarantee invalid.
- Damage or losses resulting from failures are not included in the guarantee.
- Normal tear and wear are excluded from guarantee. Alterations reserved.

Not suited for outdoor use.

