SPIROTRAP® | AUTOMATIC DIRT SEPARATORS FOR HEATING, COOLING AND PROCESS SYSTEMS
The smallest particle of dirt can cause the biggest problems

Dirt in system water can cause problems and heavy wear to components. This dirt largely consists of corrosion particles which seek out the magnetic fields in pumps, valves and control valves. Other dirt particles will be pumped round by the system and will eventually collect in critical components. The result? Unnecessary energy consumption, recurring complaints, reduced efficiency, faults and failure.

A filter is often installed in order to rectify problems caused by dirt but this is not the optimal solution. Filters clog up and have to be cleaned and replaced on a regular basis, resulting in additional work and costs. Spirotech has developed the most effective solution: the SpiroTrap dirt separator. A SpiroTrap dirt separator is virtually maintenance-free and continuously removes all dirt particles. Independent tests have shown that even microscopic particles are removed from the fluid flow and the accumulated dirt does not affect the operation of the SpiroTrap. What is more, the SpiroTrap - unlike a filter - has a very low and constant flow resistance.

Just how small are dirt particles?

![Graph showing the size of dirt particles](image)

Especially small dirt particles (5-10 μm) cause problems.

Total solutions

Spirotech offers an extensive range of total solutions for HVAC and process systems: accessories, additives and advice to ensure optimum efficiency and guarantee the quality of the system fluid. These products and services reduce faults, wear and maintenance as well as improve system performance and lower energy consumption. And what is more, these total solutions provide major benefits and save time during the design, installation, start-up and commissioning of systems.

“... The presence of dirt causes unnecessary maintenance and costly callouts.”
SpiroTrap dirt separators: time-saving and effective

At the heart of the SpiroTrap is a spiral structure through which the fluid flows. This is the “Spirotube”, which ensures that dirt particles sink automatically. Although the Spirotube can trap the smallest micro bubbles and dirt particles, it has a very open structure which means that the SpiroTrap does not clog up. The flow and the low pressure drop are not affected by the accumulated dirt.

Dirt trapped can be discharged while the system is in operation. This saves a great deal of time and therefore represents a major advantage over filters since with standard filters, the system has to be switched off to enable cleaning to be carried out. If no additional shut-off valves are installed, the system will have to be partially drained before the filter can be cleaned or replaced.

1. Lifting eyes make installation very easy.
2. Solid construction guarantees a very long life.
3. The unique Spirotube is the heart. This component has been specially designed for optimum dirt separation and has a very low flow resistance.
4. Drain valve for removing dirt collected.
5. Many different connection options. Brass with compression fittings or female thread, horizontal and vertical. Steel with welded ends or flanges.
6. The flow is not obstructed by the dirt collected.
7. Large capacity dirt collection chamber reduces the need for frequent draining.

When the drain valve is opened, the dirt collected is discharged quickly and effectively. This action - opening and closing the valve - only takes a few seconds.

Benefits of SpiroTrap

- Very small particles, from 5 µm (= 0.005 mm) are separated and removed.
- Dirt can be discharged while the system is in operation.
- No shut-off valves or bypass required.
- Minimal constant pressure drop.
- Maintenance only takes a few seconds.
- No unnecessary shutdown.
- Connection diameters from ¼" to DN 600 and above.
- A complete range, suitable for various pressures and temperatures.
- Three-year guarantee.
An extensive range of SpiroTrap dirt separators

Optimum system and process water quality is achieved when air and dirt is kept to a minimum. If air and dirt is not removed, or is not removed sufficiently, numerous complaints and problems can arise such as annoying noises, frequent manual venting, deteriorating pump performance, an imbalance in the system, unnecessary disturbance and excessive wear. All these things result in higher energy consumption, complaints and failure and often require immediate action.

Spirotech offers an extensive range of SpiroTrap dirt separators specially for removing dirt. All products can be used for both new build projects and for renovating heating, cooling and process systems. SpiroTrap dirt separators are available in brass and in (stainless) steel. The brass separators, suitable for a flow velocity of up to 1 m/s, can be installed in horizontal and vertical pipes. The steel models are available in standard (flow velocity ≤ 1.5 m/s) and hi-flow designs (flow velocities ≤ 3 m/s).

<table>
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<tr>
<th>Connection</th>
<th>H (mm)</th>
<th>L (mm)</th>
<th>Max. flow [m³/h]</th>
<th>Max. flow [l/s]</th>
<th>Δp at max. flow [kPa]</th>
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<td>0.35</td>
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</table>

V = Vertical connection  
Flow velocity ≤ 1 m/s  
Operating pressure: 0 - 10 bar  
Fluid temperature 0 - 110 °C  
All sizes, materials, pressures and temperatures are available on request.
A SpiroTrap dirt separator is preferably to be installed in the main return pipe.

**Demountable**

If the level of contamination is such that it needs to be possible to replace or clean the separating element (Spirotube assembly), the demountable model can be chosen.
Spirotech provides complete add-on sets for vertical oil and gas boilers with distributors and mixing groups which are ready for use. These can be installed between the boiler and the mixing group.

Specially made insulation sets are available for most dirt separators.

Separate literature is available which contains detailed product information. You can also find this information on our website.

Flow resistance graph for SpiroTrap

Unlike filters, SpiroTrap dirt separators have a minimal constant pressure drop. Measured values according to Spirotech standard. Values shown are maximum values. Please contact us for further information.

SpiroTrap dirt separators are suitable for water and water/glycol mixtures (max. 50%). They can be used in combination with locally approved chemical additives and inhibitors that are compatible with the materials applied within the system. Not suitable for drinking water installations.

The standard SpiroTrap is suitable for a temperature range of 0 to 110 °C and for an operating pressure of 0 to 10 bar. The SpiroTrap housing (from DN 50) is made of unalloyed steel. The flange connection is PN 16. The housing of the SpiroTrap 22 mm compression, ¾”, 1”, 1¼”, 1½” and 2” is made of brass. Other sizes, materials, pressures and temperatures are available on request.

Digital support

Product data sheets, standard specification texts, line drawings, CAD symbols, project descriptions, etc. are available via our website.
Custom-made solutions and OEM applications

Spirotech offers not only standard products. If necessary, we work with customers to produce custom-made solutions. These are based on users’ specific requirements. If desired, these can also be supplied as OEM products.
Spirotech designs and produces innovative total solutions for conditioning fluids in HVAC and process systems. Our products and services reduce faults and wear, less maintenance is required, performance is improved and energy consumption is reduced.

Spirotech is deservedly regarded as the only real specialist in the world. Leading manufacturers of system components recommend Spirotech products on account of their high standard of quality and the company’s vision on product development and process improvement.

Thanks to a very extensive international network of suppliers, users all over the world enjoy the benefits of our products and services every day.

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