SPIROTRAP®

DIRT SEPARATORS FOR HEATING, COOLING AND PROCESS SYSTEMS

SPIRO life EXCEPTIONAL GUARANTEE

DOMESTIC | COMMERCIAL | INDUSTRY

SPIRTECH FOR BETTER PERFORMANCE

The smallest particle of dirt can cause the biggest problems

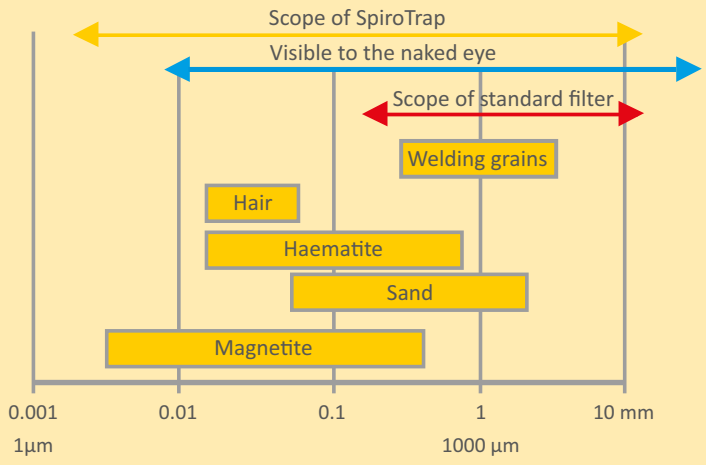
Dirt in system water can cause problems and heavy wear to components. This dirt largely consists of corrosion particles which seek out the magnetic fields in pumps, valves and control valves. Other dirt particles will be pumped round by the system and will eventually collect in critical components. The 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.

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.

Just how small are dirt particles?



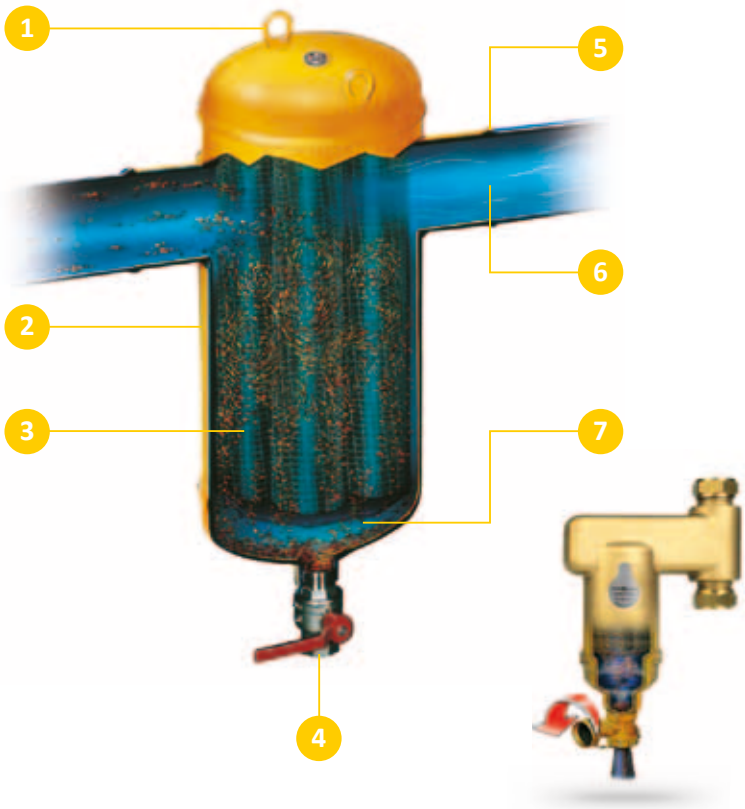
Especially the smallest dirt particles (5-10 µm) cause problems.

"The presence of dirt causes un-necessary 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 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, since it is collected outside the main flow.

Trapped dirt can be discharged while the system is in operation. This saves a great deal of time and represents a major advantage over filters, as with standard filters the system would need 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. When the drain valve is opened, the collected dirt is discharged quickly and effectively. This action - opening and closing the valve - only takes a few seconds.



1. Lifting eyes make installation of bigger units 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 collected dirt.
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 collected dirt.
7. Large capacity dirt collection chamber reduces the need for frequent draining.

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 ¾" to DN 600 and above.
- A complete range, suitable for various pressures and temperatures.
- Exceptional guarantee.

SpiroPlus
Protect and optimize the system and its efficiency with SpiroPlus flushing agents and additives.

An extensive range of SpiroTrap dirt separators

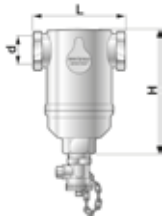
Optimum system and process water quality is achieved when air and dirt is kept to a minimum. If air and dirt is not removed, or is not removed sufficiently, numerous complaints and problems can arise such as annoying noises, frequent manual venting, deteriorating pump performance, an imbalance in the 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 SpiroTrap MB2 can even be fitted in diagonal pipes. The steel models are available in standard and hi-flow designs.

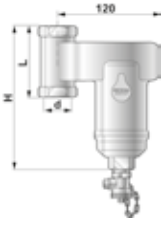
Connection	H [mm]	L [mm]	Max. flow [m³/h]	Max. flow [l/s]	Δp at max. flow [kPa]	Article number
22 mm. comp.	118	106	1.3	0.35	1.3	AE022
22 mm. comp. V	182	104	1.3	0.35	1.5	AE022V
G ¾	116	85	1.3	0.35	1.3	AE075
G ¾V	172	84	1.3	0.35	1.5	AE075V
G1	143	88	2.0	0.55	1.3	AE100
G1V	172	84	2.0	0.55	2.4	AE100V
G1¼	161	88	3.6	1.0	1.3	AE125
G1½	197	88	5.0	1.4	1.3	AE150
G2	238	132	7.5	2.1	1.4	AE200

V= Vertical connection
Operating pressure 0 - 10 bar
Flow velocity ≤ 1m/s
Fluid temperature 0 - 110°C

Other sizes, materials, pressures and temperatures are available on request.



Brass, horizontal: 22 mm up to 2”



Brass, vertical: 22 mm up to 1”

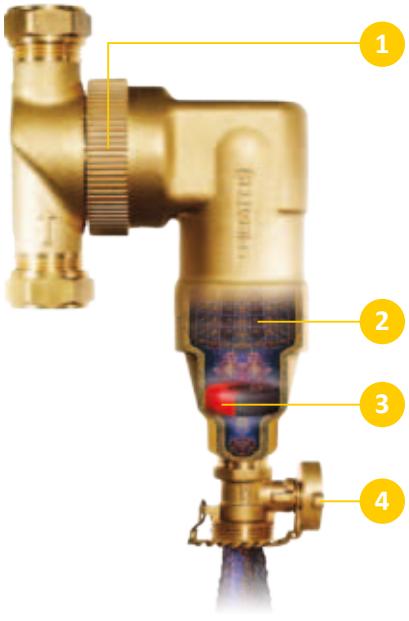
The flexible SpiroTrap MB2 operates in any position

The SpiroTrap MB2 is a completely universal unit. Just like other SpiroTrap models it simply and efficiently removes both magnetic and non-magnetic dirt particles from the system fluid. Thanks to the built-in magnet, magnetic parts will be removed more quickly. The universal 'twist-release' ring is suitable for vertical, horizontal or even diagonal installations.

Suitable for vertical, horizontal and even diagonal piping work

How does the SpiroTrap MB2 work?

The SpiroTrap MB2 has got a unique dual action separation system which continuously filters out all the dirt; the Spirotube and the self-cleaning magnet. The Spirotube traps all dirt particles (from 0,005 mm!) that are heavier than water. The magnet instantly boosts the separation of magnetic dirt (mainly magnetite).

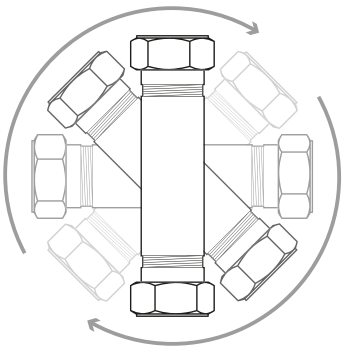


Extra SpiroTrap MB2 benefits:

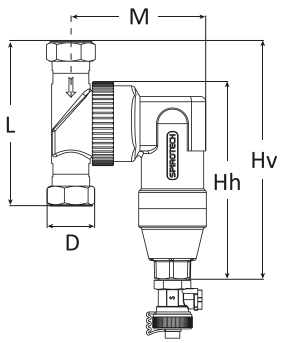
- Magentic parts will be removed more quickly due to the built-in magnet.
- Suitable for vertical, horizontal and even diagonal piping work.
- Even easier and quicker to install.

1. Twist-release ring to easily rotate fitting to desired angle.
2. The unique Spirotube is the heart. This component has been specially designed for optimum dirt separation and has a very low flow resistance.
3. Self-cleaning magnet which instantly boosts the separation of magnetic dirt particles.
4. Drain valve for removing collected dirt.

Technical specifications SpiroTrap MB2		
Connection [D]	22 mm comp.	28 mm comp.
Max. Flow rate [l/sec]	0.30	0.55
Volume [l]	0.18	0.25
Weight [kg]	1.44	1.63
Dimension (Hv)	167 mm	178 mm
Dimension (Hh)	149 mm	160 mm
Dimension (L)	100 mm	100 mm
Dimension (M)	102 mm	115 mm
Product code	UE022WM	UE028WM



Rotating fitting mechanism



Universal model

SPIROTECH FOR BETTER PERFORMANCE

Standard vs. Hi-flow

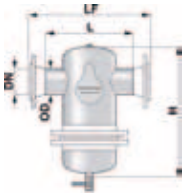
Standard steel SpiroTrap products are designed for a nominal flow velocity up to 1.5 m/s. At higher velocities the increased turbulence will not always leave sufficient separation zone in a standard unit for optimal separation. Exceeding the nominal flow will also lead to a substantially increased pressure drop. For structural higher flow velocities (up to 3 m/s) a Hi-flow type is recommended.

				Standard; nom. 1.5 m/s									Hi-flow; nom. 3 m/s					
					Nom. = 1,5 m/s			Max. = 3 m/s										
Connection [DN]	Connection OD [mm]	L [mm]	LF [mm]	H [mm]	Max. flow [l/s]	Max. flow [m³/h]	Δp at max. flow [kPa]	Max. flow [l/s]	Max. Connection [m³/h]	Δp bij max. Connection [kPa]	Article number*	Article number demountable*	H [mm]	Max. flow [l/s]	Max. flow [m³/h]	Δp at max. flow [kPa]	Article number*	Article number demountable*
050	60	260	350	395	3.5	12.5	3.0	7	25	11.8	BE050	BF050	555	7	25	11.8	HE050	HF050
065	76	260	350	395	5.5	20	2.7	11	40	11.6	BE065	BF065	555	11	40	11.6	HE065	HF065
080	89	370	470	515	7.5	27	2.9	15	54	12.4	BE080	BF080	710	15	54	12.4	HE080	HF080
100	114	370	475	515	13	47	3.7	26	94	14.6	BE100	BF100	710	26	94	14.6	HE100	HF100
125	140	525	635	690	20	72	4.2	40	144	16.8	BE125	BF125	970	40	144	16.8	HE125	HF125
150	168	525	635	690	30	108	4.9	60	215	19.4	BE150	BF150	970	60	215	19.4	HE150	HF150
200	219	650	775	900	50	180	5.8	100	360	23.1	BE200	BF200	1240	100	360	23.1	HE200	HF200
250	273	750	890	1145	80	288	6.9	160	575	27.7	BE250	BF250	1645	160	575	27.7	HE250	HF250
300	324	850	1005	1360	113	405	7.7	225	810	31.0	BE300	BF300	1955	225	810	31.0	HE300	HF300
350	356	n/a	1128	1610	140	500	7.8	280	1000	31.0	BE350	BF350	2100	280	1000	31.0	HE350	HF350
400	406	n/a	1226	1820	180	650	8.4	360	1300	34.0	BE400	BF400	2380	360	1300	34.0	HE400	HF400
450	457	n/a	1330	2020	235	850	10.0	470	1700	39.0	BE450	BF450	2660	470	1700	39.0	HE450	HF450
500	508	n/a	1430	2240	295	1060	11.0	590	2120	43.0	BE500	BF500	2950	590	2120	43.0	HE500	HF500
600	610	n/a	1630	2680	425	1530	12.0	835	3000	47.0	BE600	BF600	3530	835	3000	47.0	HE600	HF600

Operating pressure 0 - 10 bar Fluid temperature 0 - 110°C

Other sizes, materials, pressures and temperatures are available on request.

* for weld ends add L (e.g. BE200L)
for flanges add F (e.g. BE200F)



Standard

Hi-flow

Select the correct SpiroTrap

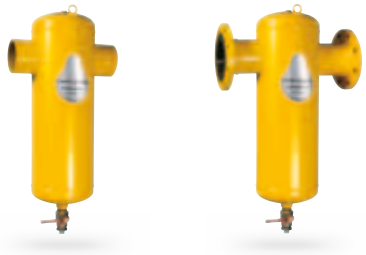
1. Determine the pipe diameter.
2. Determine the flow.
3. Determine the correct model using the table.

	Max. flow m³/h & l/s																												Applicable SpiroTrap	
m³/h	12.5	20	25	27	40	47	54	72	94	108	144	180	215	288	360	405	500	575	650	810	850	1000	1060	1300	1530	1700	2120	3000	Standard	Hi-flow
l/s ∅	3.5	5.5	7	7.5	11	13	15	20	26	30	40	50	60	80	100	113	140	160	180	225	235	280	295	360	425	470	590	835		
DN050																													BE/BF050	HE/HF050
DN065																													BE/BF065	HE/HF065
DN080																													BE/BF080	HE/HF080
DN100																													BE/BF100	HE/HF100
DN125																													BE/BF125	HE/HF125
DN150																													BE/BF150	HE/HF150
DN200																													BE/BF200	HE/HF200
DN250																													BE/BF250	HE/HF250
DN300																													BE/BF300	HE/HF300
DN350																													BE/BF350	HE/HF350
DN400																													BE/BF400	HE/HF400
DN450																													BE/BF450	HE/HF450
DN500																													BE/BF500	HE/HF500
DN600																													BE/BF600	HE/HF600

= standard model a nominal flow = standard model at maximum flow, hi-flow recommended = choose bigger ∅ or lower the flow

Other sizes, materials, pressures and temperatures are available on request.

Standard: DN50 to DN600



Hi-flow: DN50 to DN600

Demountable: DN50 to DN600
Hi-flow demountable: DN50 to DN600

By choosing a larger connection size the same flow rate will be achieved but with a lower flow velocity resulting in better separation efficiency and a lower pressure drop (less energy consumption).

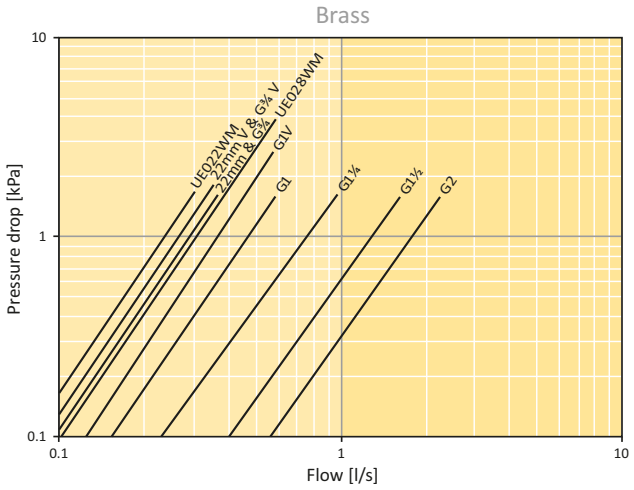
Demountable

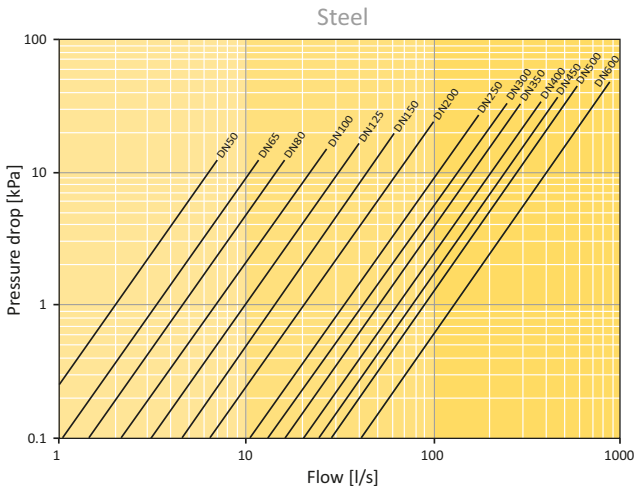
If the level of contamination is such that it needs to be possible to replace or clean the separating element (Spirotube assembly), the demountable model can be chosen.

A SpiroTrap dirt separator is preferably to be installed in the main return pipe.

Flow resistance graph for SpiroTrap

Unlike filters, SpiroTrap dirt separators have a minimal constant pressure drop.

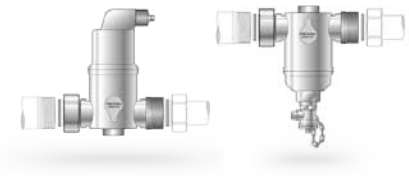




Measured values according to Spirotech standard. Values shown are maximum values. Please contact us for further information.

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.

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 050) 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.



Add-on sets

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.

Insulation

Specially made insulation sets are available for most dirt separators.

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.

Digital support

Product data sheets, standard specification texts, line drawings, CAD symbols, project descriptions, etc. are available via our website.

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

SPIROLIFE
Guarantee of a lifetime

Spirotech's Exceptional Guarantee Terms!

- 20 Brass Products ≤ 110°C: 20 years
- 5 Steel Products and Brass Products > 110°C: 5 years
- 2 Vacuum Degassers: 2 years

Conditions:
Correct selection, installation, maintenance and use of the products, in accordance with our regulations, data sheets and user manuals. Our guarantee does not cover normal wear and tear. Please also see our general terms and conditions.

Spirotech: accessories, additives and advice

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.

Spirotech is a Spiro Enterprises company

SPIROTECH
FOR BETTER PERFORMANCE

Spirotech bv
PO Box 207
5700 AE Helmond, NL
T +31 (0)492 578 989
F +31 (0)492 541 245
info@spirotech.nl
www.spirotech.com

Spirotech UK Ltd
One Cranmore Drive Shirley
Solihull, B90 4RZ
T +44 (0)208 451 3344
F +44 (0)208 451 3366
info@spirotech.co.uk
www.spirotech.co.uk

The diagrams and situations presented in this brochure are only intended to serve as examples. We would be pleased to advise you on any specific circumstances. Modifications and printing/typographic errors reserved.
©Copyright Spirotech bv. no part of this publication may be used without prior written permission from Spirotech bv.

14.382_06

TÜV NORD ISO 9001 TÜV NORD ISO 14001 TÜV NORD OHSAS 18001