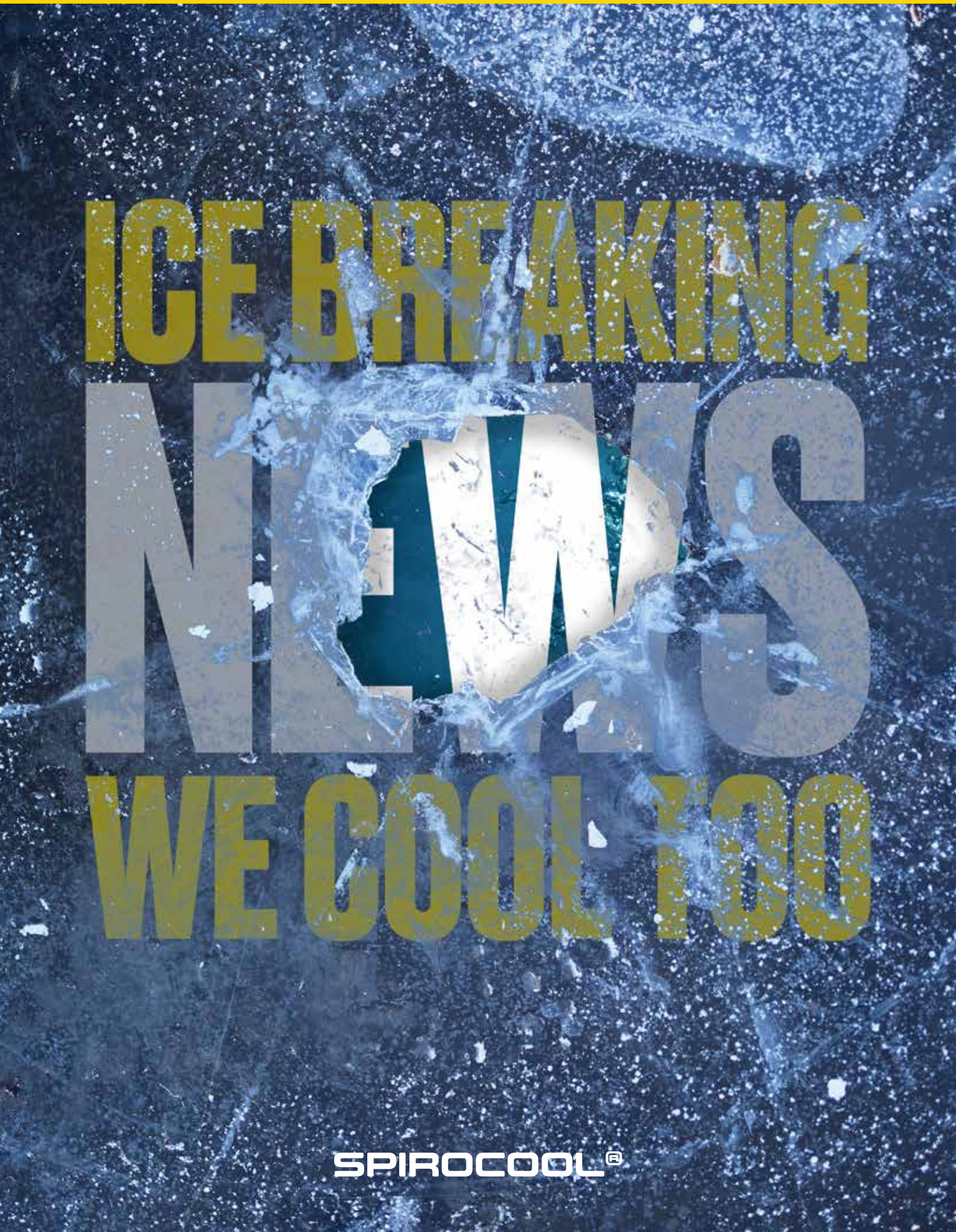
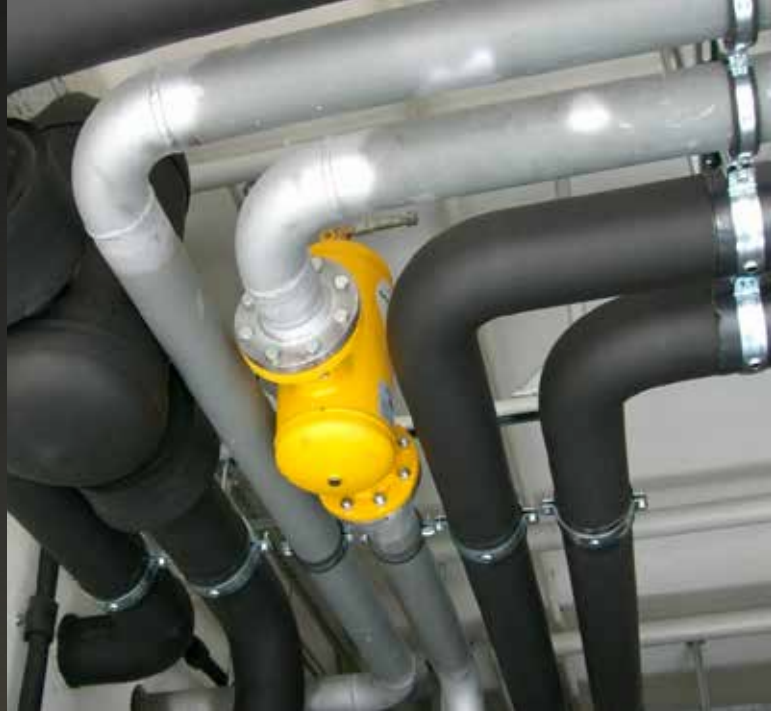
SPIROTECH

Maximising Performance for You




SPIROCOOL®

# RELIABLE COOLING SYSTEMS



In general, cooling systems are used for internal climate control of living and workspaces, temperature control of products, computers, or machines. Stable cooling cycles are important to create comfortable indoor climates but also to ensure efficient production processes and consistent product quality. However, in our experience problems arise when the characteristics of cooling systems are overlooked or when they are treated merely as heating systems. This starts with the design or installation: for example, condensation must be considered in the choice of materials or the insulation. Higher flow rates of the system water or in the case of glycol also higher fluid viscosities have an impact on the selection of the right components. But there are also additional requirements on operation or maintenance: the lower water temperature leads to increased hydraulic problems due to air, but even more attention needs to be paid to, for example, corrosion or microbiological growth and the resulting consequences in a cooling system.

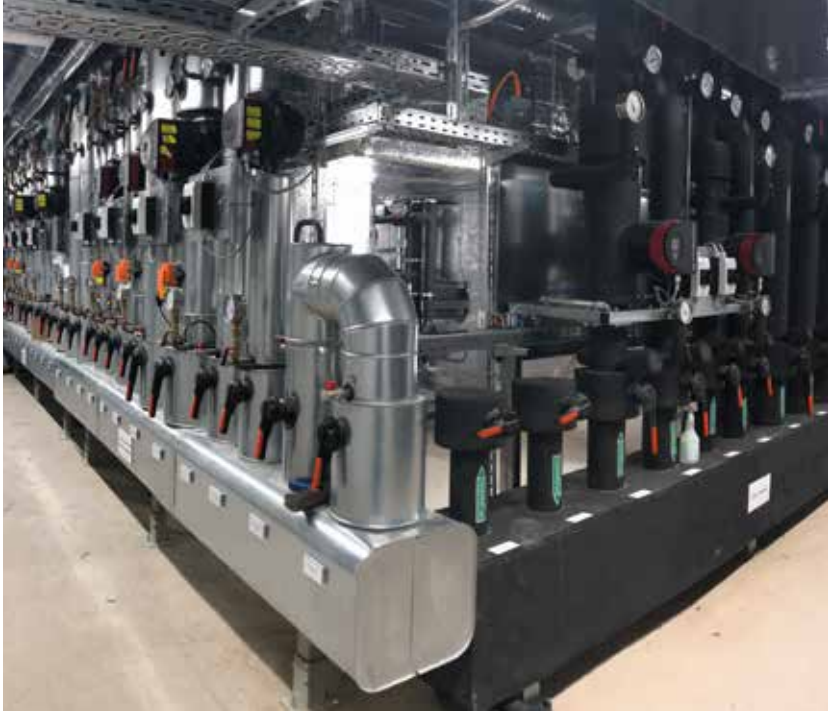
If these points are not taken into account, this usually has a direct impact on the system performance, and the risk of system failures, malfunctions, and downtimes is increased. Often it ends up in high operating costs or replacement of parts. But far worse, and often difficult to quantify, are the costs of lost production or annoying inconveniences for the end-user.

Combined systems that need to provide both efficient and reliable heating and cooling add to the complexity of their engineering: especially pressurization is a challenge. Furthermore, HVAC installations today are expected to be energy efficient. Governments worldwide, through regulations and subsidies, encourage compliance with industry standards and energy-efficient performance.

So, you want to secure your investment with a system that is both designed and operates as it is supposed to during its functional life. This is good possible.

## SPIROCOOL - SPIROTECH COOLING SOLUTIONS

# BALANCING AND OPTIMIZING THE QUALITY OF SYSTEM WATER IN CLOSED COOLING SYSTEMS



We, at Spirotech, have been working with our customers for decades to optimize the design or performance of their cooling systems with solutions that have proven their (cost) efficiency over time.

Spirotech provides a service to quickly identify the water quality problems in your system, consisting of water testing kits that can be used onsite, or extensive analysis in our laboratory. Based on test results we discuss the cause(s) of the problems and provide you with advice on how to condition and maintain the water quality. Our local colleagues can also support you with the implementation of the required improvements that will quickly boost the performance of your cooling system.

**Of course, we help to fight the symptoms, but we also want to prevent problems.**

## IT MAKES PERFECT SENSE… COVERING EVERY EVENTUALITY

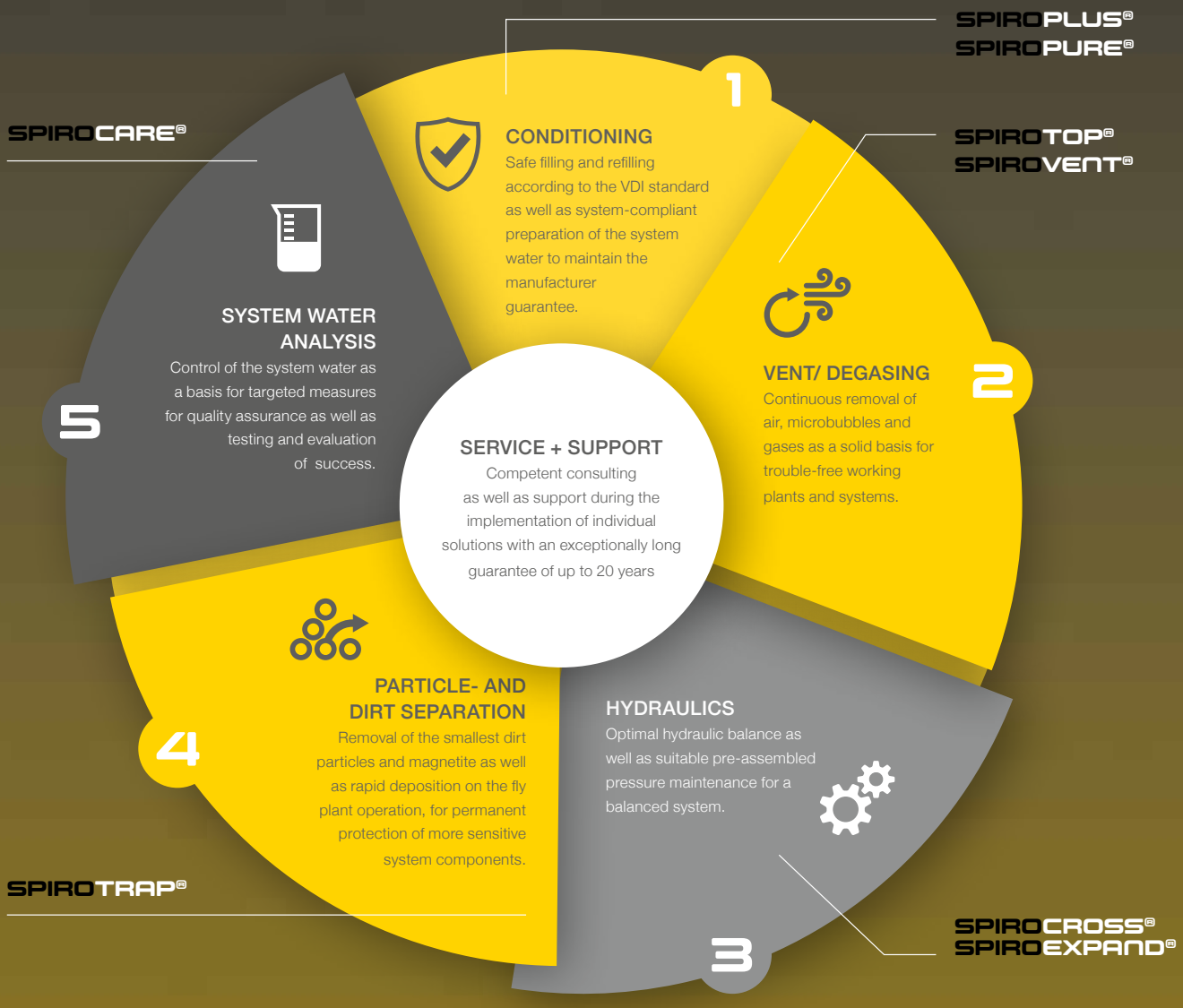
Over time, pressure loss, corrosion, air, and dirt will reduce the system water quality in your cooling system. The following symptoms may then present themselves:

- **Hydraulic issues**
- **System failure or downtime**
- **Increased energy consumption**
- **Reduction of system life**
- **Increased service costs**

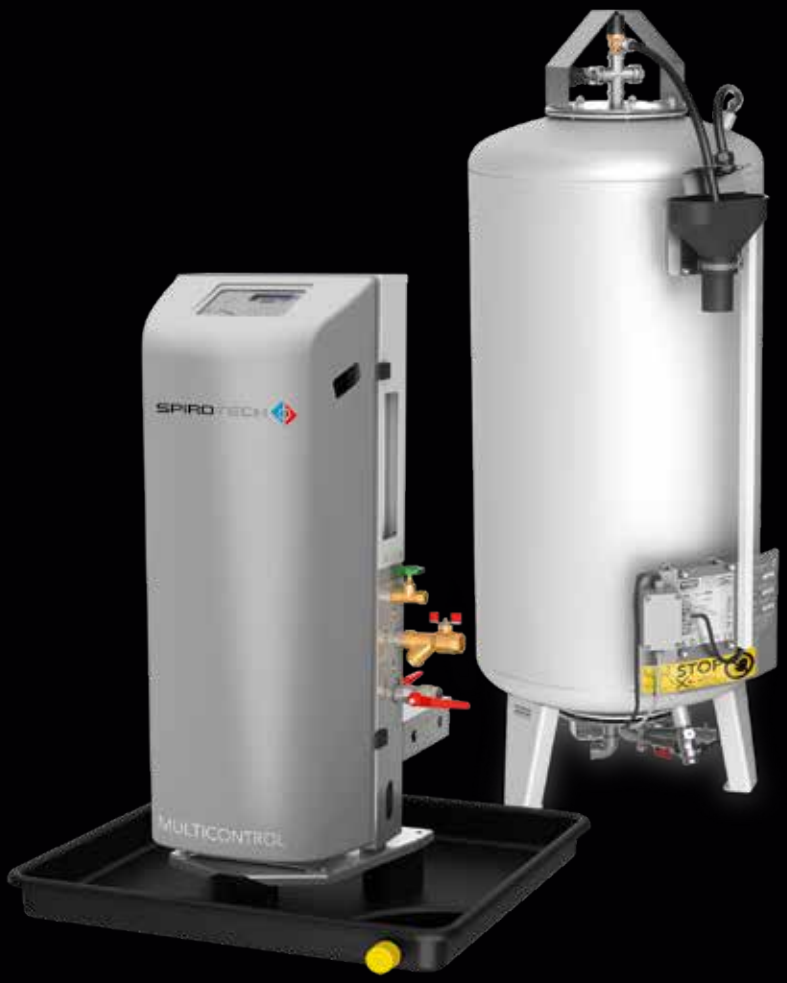
# OPTIMIZE THE PERFORMANCE OF YOUR COOLING SYSTEM

## THE PILLARS OF SYSTEM WATER QUALITY

- **PRESSURIZATION**
- **DIRT SEPARATION**
  With or without magnet
- **ADDITIVES**
- **DEAERATION**
  Microbubble deaerators and vacuum degassers
- **HYDRAULICS**
- **FULL-SERVICE LABORATORY FOR WATER ANALYSIS**




Spirotech also offers additional support to engineers and consultants, providing them with technical advice, specification and calculation services.



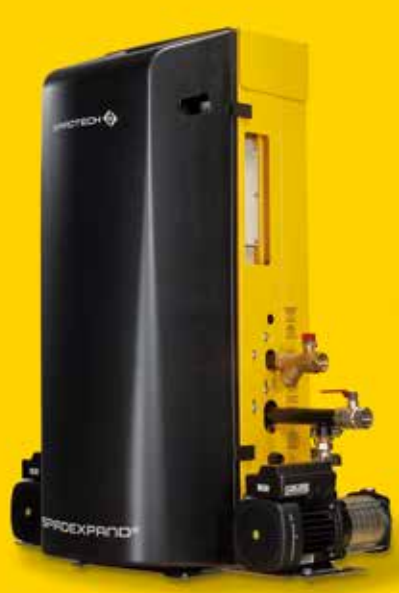

# SPIROEXPAND

SpiroExpand enables automatic pressure monitoring and control and provides degassed makeup water. Adding a pressurization solution to our established degassing products makes it possible to provide a total, integrated system care solution. A special variation of the SpiroExpand MultiControl systems is the MultiControl COOL EMCC. This pressure control unit is specially designed for **cooling and refrigeration** systems. As the pressure controllers and expansion vessels have been manufactured in stainless steel, corrosion from condensation that is common for cooling systems is effectively a thing of the past.

SPIROEXPAND®

# MULTICONTROL AUTOFILL

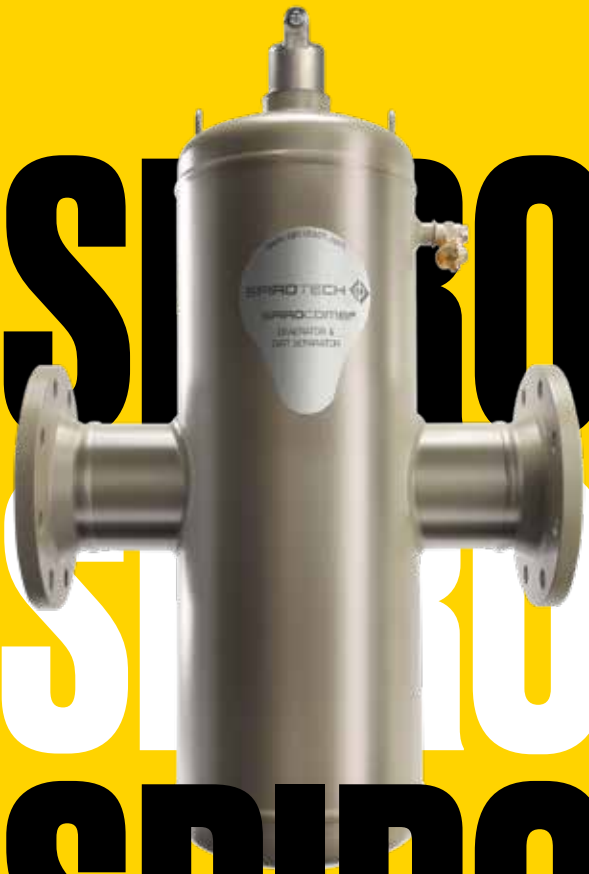
The MultiControl Autofill is a unique solution in case a simple refill of fresh water is not possible due to the use of special medium mixtures like glycol. The device enables an automatic amount-controlled refill from any pressureless storage tank. A circulation function is also included and ensures optimal mixing of the liquids even over a long period of time.

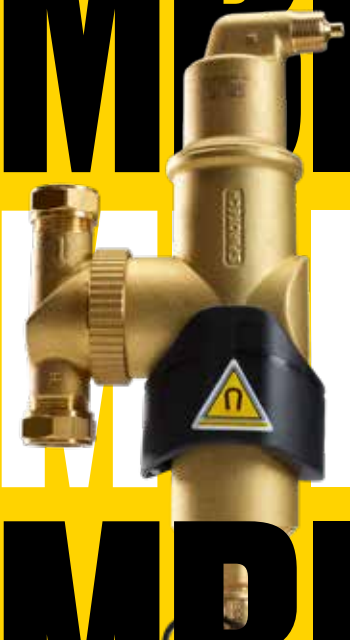


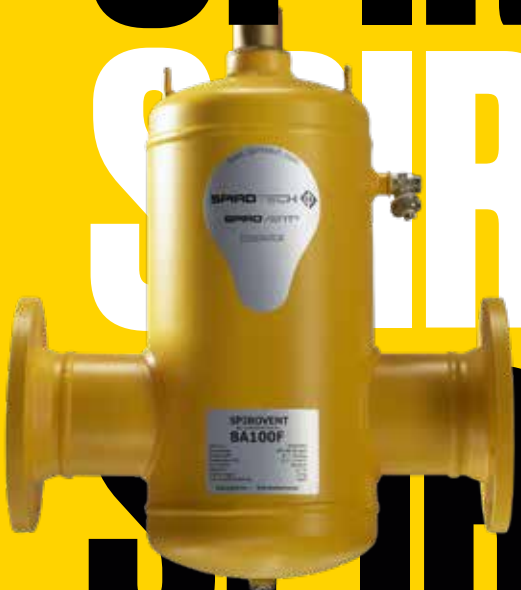

SPIROEXPAND®

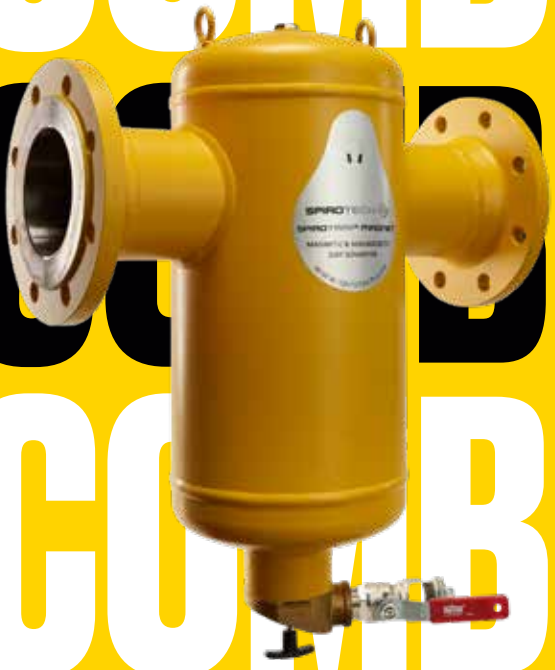
TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROEXPAND**

# SPIROCOMBI







SPIROCOMBI®

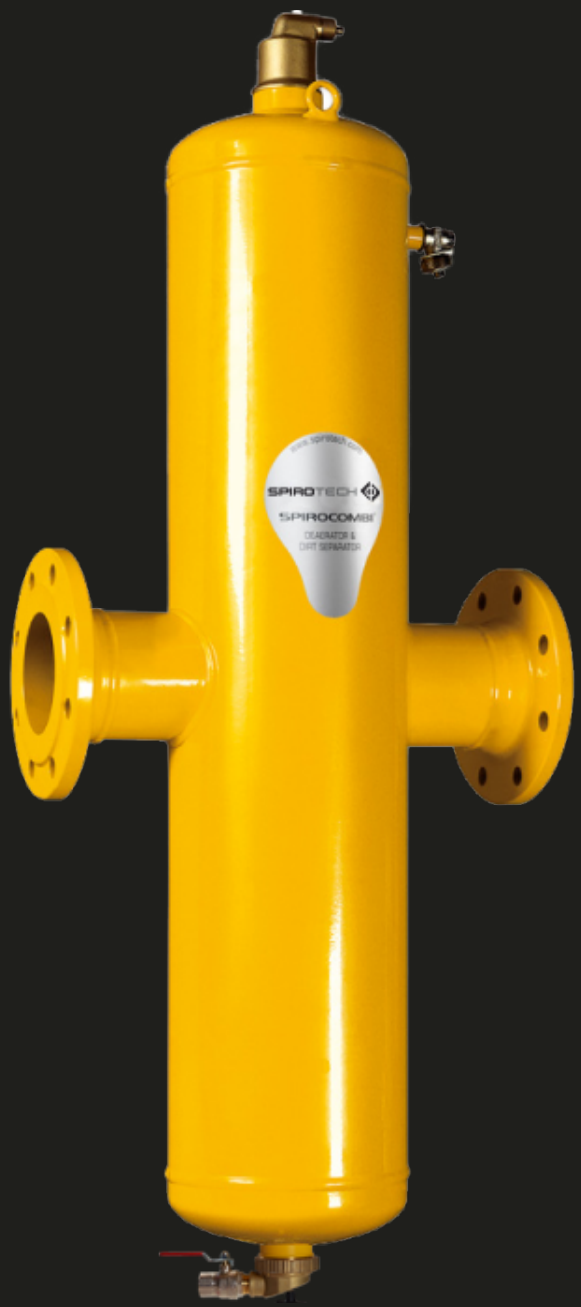
# SPIROVENT + SPIROTRAP = SPIROCOMBI

Cooling systems are used to climatise commercial buildings and to cool processes, machines, and products. Precise temperature control is particularly important in many areas. Heat must be reliably removed. If the heat transfer is disturbed, processes are impaired. This leads to painful damages to products and machines. Air as an insulator can disturb the cooling process significantly. Dirt impedes the flow. The most effective protection against these disruptive factors in cold water systems is achieved by effective deaerators and dirt separators that are integrated into the main flow.

SpiroVent microbubble deaerators remove the microbubbles and circulating air left behind by automatic air vents, or after bleeding valves.

SpiroTrap ensures quick and efficient dirt separation. Very small particles, from 5 µm (= 0.005 mm) are separated and removed.

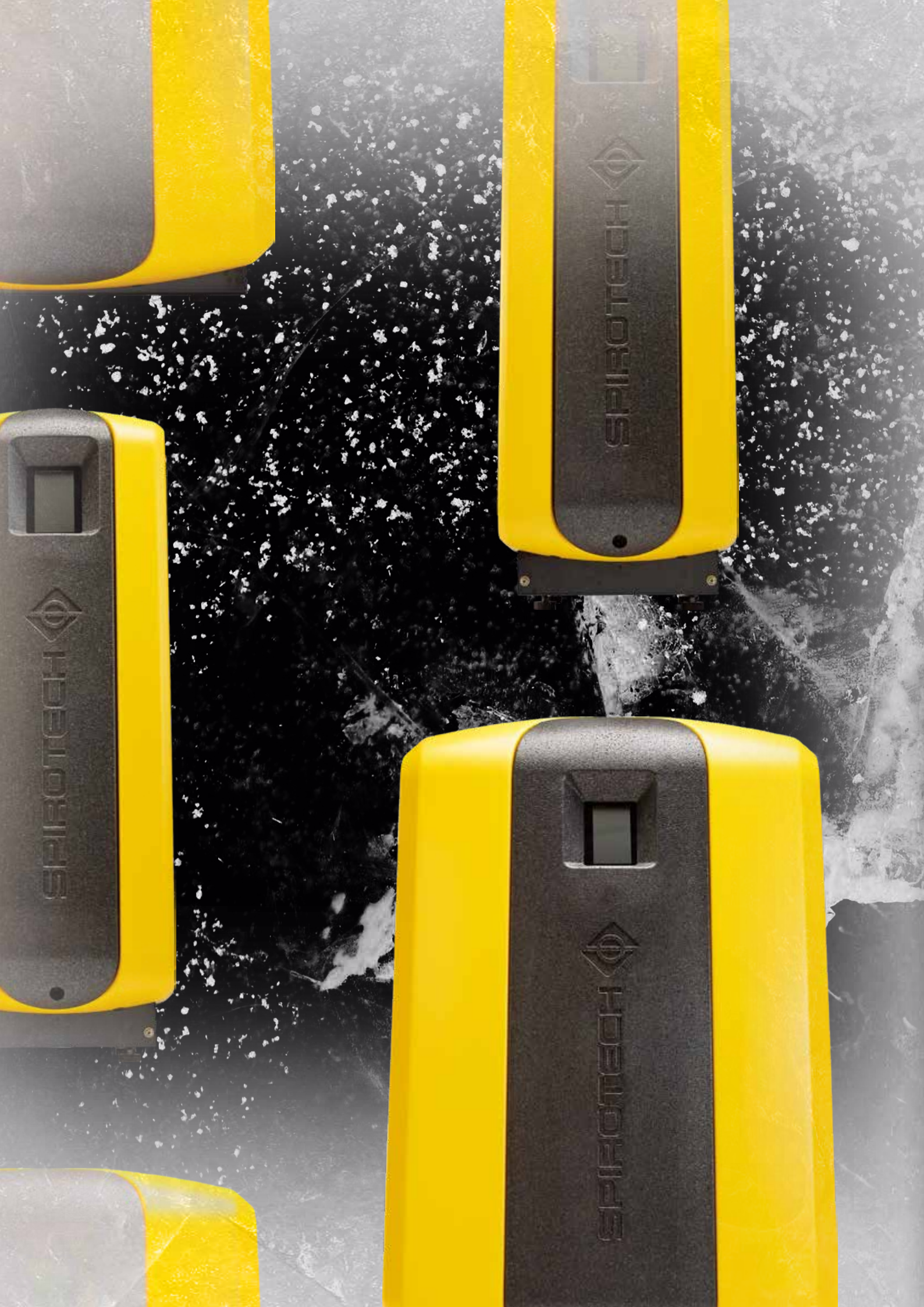
SpiroCombi deaerators/dirt separators are designed for the simultaneous removal of air, microbubbles, and dirt particles from cooling water systems. For high flow rates in cooling circuits, we design these as high-flow versions. For many of our customers, we also manufacture them in stainless steel.




## EFFECTIVE, SAFE, COMPACT, AND EASE OF USE:

- ✓ **The Spirotube separation element ensures effective separation of air and dirt with a minimal pressure drop.**
- ✓ **The reliable venting mechanism is leak-free and guarantees effective deaeration.**
- ✓ **The magnet increases the magnetite removal substantially and features an excellent first-pass efficiency**
- ✓ **Collected dirt can be removed quickly, easily and without the mess using a drag mechanism, during cleaning the systems stays operational.**
- ✓ **The robust device's compact design means that minimal height is required for installation.**

TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROCOMBI**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SPIROVENT®

# SPIROVENT SUPERIOR

(with insulation)

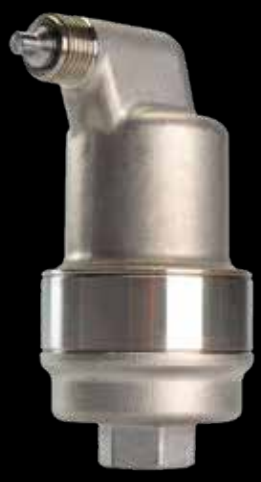
Degassing is far more important in a cooling system, as cold water can absorb significantly more gases compared to warm or hot water. The SpiroVent Superior is a fully automatic vacuum degasser for closed systems. It offers a range of insulated versions that prevent condensation on the water-carrying components an important aspect at low water temperatures of cooling systems.

TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SUPERIOR**

- As there are various reasons why gas will always be able to enter a system, vacuum degassing is not a one-time process but a continuous requirement.
- As soon as any gases are removed, it is registered by the integrated SmartSwitch, the degassing process will stop automatically and start again at the next pre-set time, so the device is only operated when necessary.
- As a result, energy consumption is kept to a minimum, and the life of costly components is extended significantly.

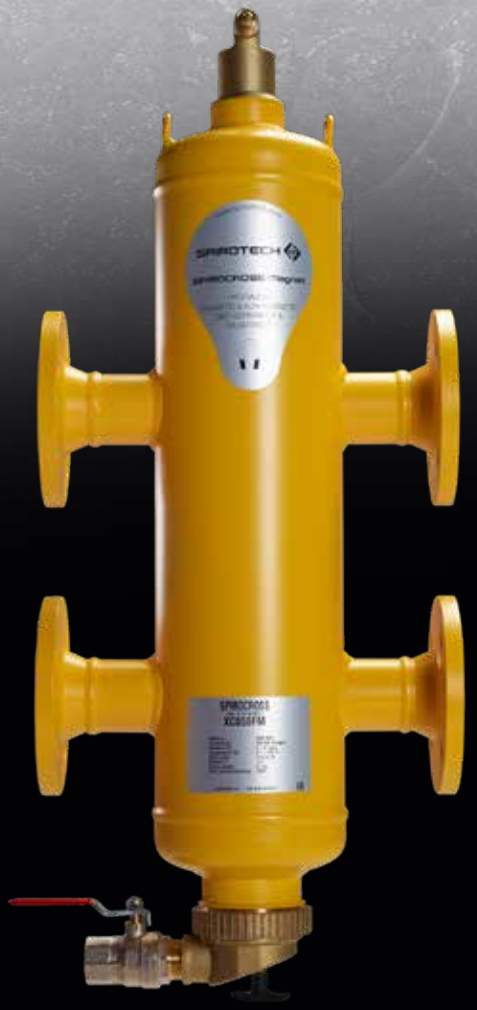
# SPIROTOP

Free air in a cooling system always raises to the highest point in the installation or components. SpiroTop automatic air vents effectively **remove free air** from the installation or buffer tanks without any manual intervention. Particularly in a new installation or after servicing when a larger quantity of water has been added to the system a quick removal of residual air is crucial. Otherwise, commissioning problems are inevitable. The special design of the SpiroTop prevents valve **contamination and leaks** which are often typical for air vents.



TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROTOP**

SPIROTOP®



# SPIROCROSS

In chilled water systems it is often necessary to hydraulically decouple the primary circuit (cooling supply) from the secondary circuit (cooling consumer). This means that the two circuits do not influence each other. This feature is necessary to maintain a constant volume flow via the chillers, whereas the volume flow via the consumers is variable due to changing load.

A SpiroCross hydraulic separator is the ideal solution to meet these requirements. The pressure drop is very low. It ensures a minimum volume flow via the chillers and helps to maintain minimum running time of the compressor. Primary chiller cascades thus become hydraulically balanced, primary and secondary pumps will no longer influence each other.

In addition, a SpiroCross combines 3 functions in 1: optimal hydraulic balancing as well as active deaeration and effective dirt separation.

SPIROCROSS®

TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROCROSS**

## TOPIC COOLING

### AIR

**Superior - I SpiroVent**
- Standard
- Highflow
- Stainless

**SpiroCombi**
- Standard
- Highflow
- Stainless

**SpiroTop**
- Standard
- Highflow
- Stainless

### PRESSURIZATION

**SpiroExpand Cool**

### HYDRAULIC

**SpiroCross**

### DIRT

**SpiroTrap**
- Standard
- Highflow
- Demountable
- Stainless
- With Magnet

**SpiroCombi**
- Standard
- Highflow
- Stainless

### SYSTEMWATER

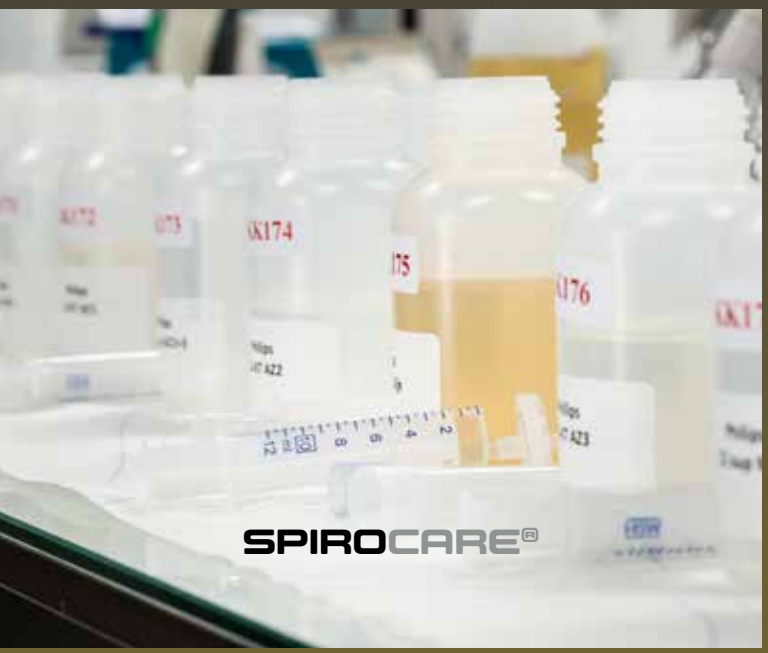
**SpiroPure**
**SpiroCare**
**SpiroPlus**

# SPIROCARE

(also for glycol systems)

**As the leading expert in system water quality, Spirotech offers an easy-to-use water sampling and analysis service – SpiroCare!**

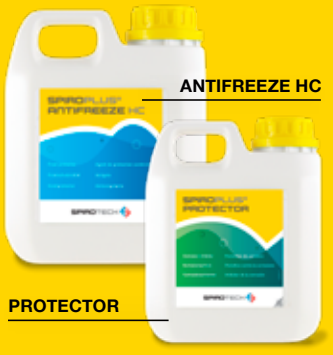
SpiroCare Pro-Lab Analysis and System Water Analysis can be used to check water quality after filling or commissioning, as a regular status checkup, or for problem assessment. Furthermore, SpiroCare Analysis makes guarantee application procedures easier, as an increasing number of manufacturers require water quality analysis to be carried out before issuing a guarantee.




TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROCARE**

# SPIROPLUS & SPIROPURE

Today's equipment is more sensitive to the quality of system and makeup water. Many manufacturers are even specifying water quality requirements as a precondition for their guarantees. Even if hardness deposits in a cooling system might be a minor problem, (partial) demineralisation with SpiroPure is often useful to reduce or even remove corrosion-promoting substances in the system water. In case glycol is used in a system demineralisation of the filling water is highly recommended. SpiroPlus flushing agents and additives are designed to bring and keep system fluid and the system itself in top condition. SpiroPlus Antifreeze and Protector are especially suitable for application in cooling systems. These products facilitate quality improvement, prevention of corrosion, and preservation of the fluid quality.




SPIROPLUS® SPIROPURE®

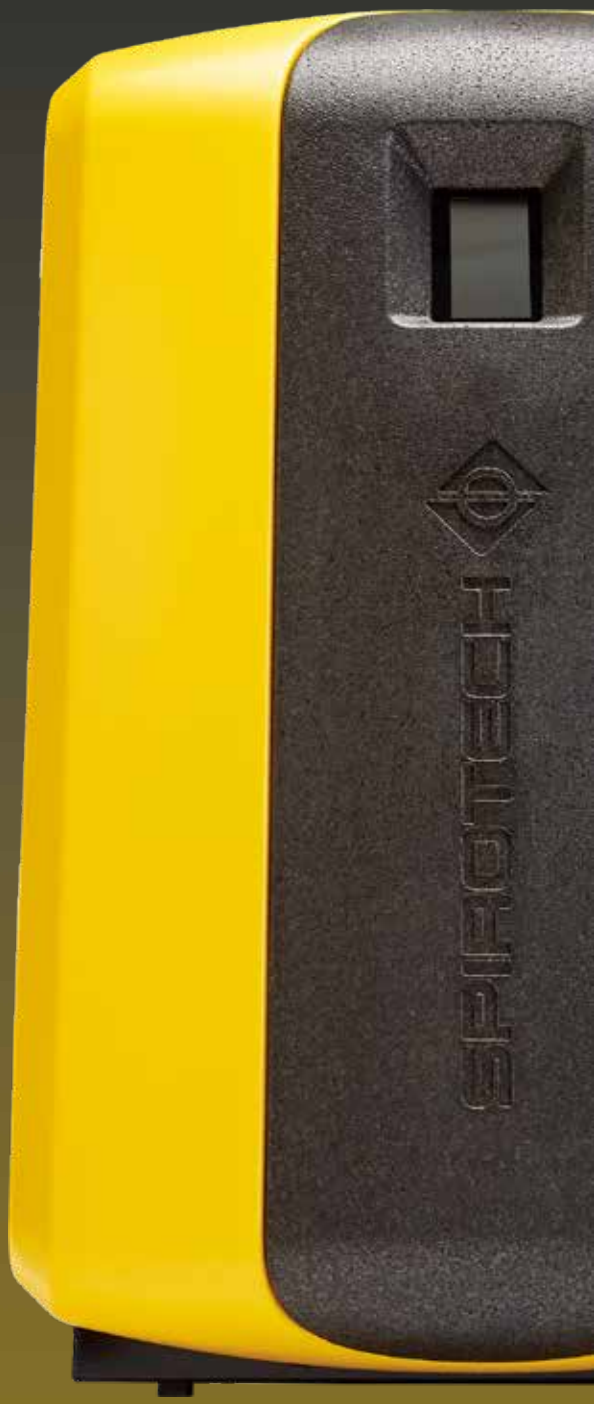
TO LEARN MORE, GO TO **SPIROTECH.CO.UK/SPIROPLUS**
OR **SPIROTECH.CO.UK/SPIROPURE**

# MAXIMISING PERFORMANCE FOR YOU

Spirotech is a leading expert in improving the efficiency of heating and cooling systems. Our family business has over 60 years of experience in developing solutions for removing and preventing the accumulation of air and sludge deposits in energy systems. Our products save energy, increase comfort, avoid wear and tear and maximise operating periods. Reliable and customer-oriented products that help you get top performance and protect investment in capital assets. We develop high-value solutions with our partners, suppliers and investors that improve the operation of residential and commercial properties, as well as industrial processes. Our comprehensive network of selected importers in over 70 countries means there is always a Spirotech expert near to you.

**YOU CAN FIND OUT MORE ABOUT OUR SPIROCOOL PRODUCTS ON OUR WEBSITE.**

Heating and cooling systems are complex, especially when they are operated in conjunction with other systems and installations. This makes fault location and analysis more difficult, especially in the event of a breakdown. Spirotech can offer you competent advice and solutions, making it possible to identify the causes and rectify any problems. Please feel free to contact us.



## FOR MORE INFORMATION ABOUT SPIROCOOL - SPIROTECH COOLING SOLUTIONS VISIT SPIROTECH.CO.UK/SPIROCOOL



*Not all listed products may be available in your region, please check with your local contact for more information.*

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