

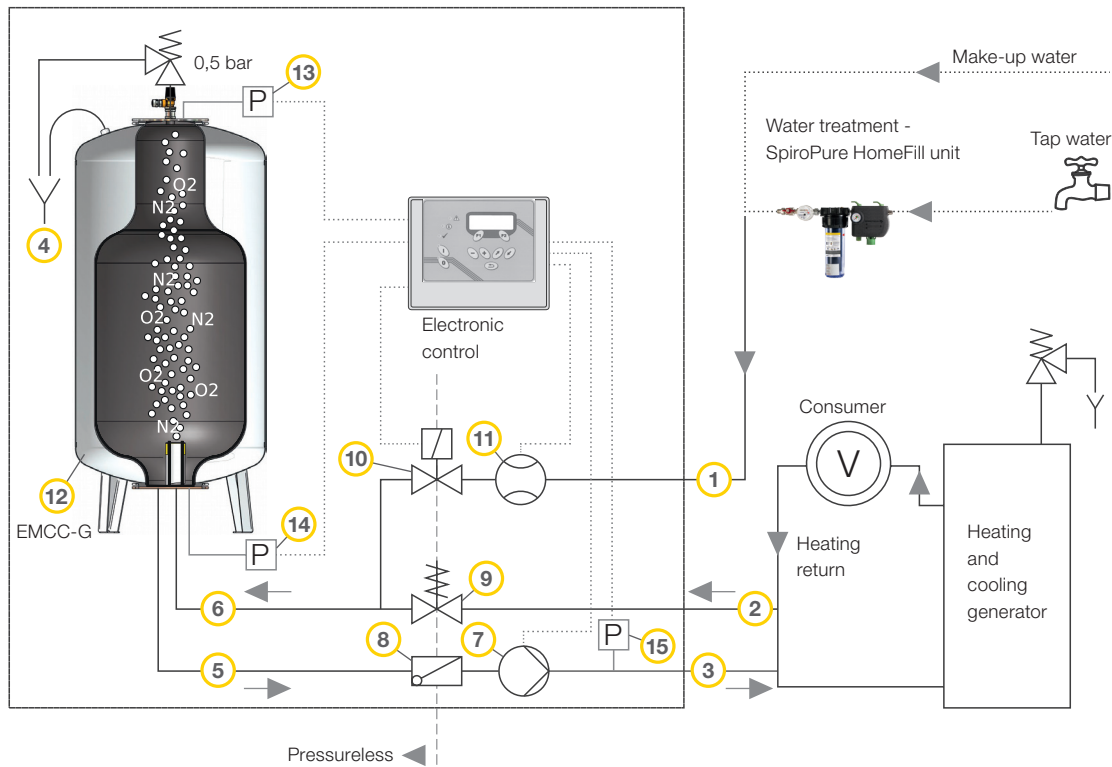
# MULTICONTROL COOL

## PRESSURE MAINTENANCE



Pressure maintenance  
Replenishment  
Monitoring

# TECHNICAL DATA FOR **MULTICONTROL** **COOL**



- |  |   |                               |
|--|---|-------------------------------|
| ① Fresh water supply                               | ⑤ Suction line from expansion vessel    | ⑩ Magnetic valve              |
| ② Expansion overflow line (from the system return) | ⑥ Overflow line to the expansion vessel | ⑪ Water meter                 |
| ③ Expansion pressure line (to the system return)   | ⑦ Pressure maintenance pump             | ⑫ Expansion vessel            |
| ④ Drain funnel container safety valve              | ⑧ check valve                           | ⑬ Pressure transmitter above  |
|  | ⑨ Overflow valve                        | ⑭ Pressure transmitter below  |
|  |   | ⑮ System pressure transmitter |

## ADVANTAGES OF SPIROEXPAND MULTICONTROL COOL

Spirotech's MultiControl Cool versions are suitable for equipping cooling and cold-water systems in buildings and can be combined with air removal and dirt separation solutions. They cover the areas of pressure maintenance, replenishment and monitoring. Operators and owners benefit from the following advantages:

- Higher efficiency resulting from corrosion resistance.
- Lowest temperature at the connection point as standard up to 10° C, solutions for higher requirements on request.
- Considerable reduction in maintenance costs and operating costs for pumps, control valves, cold.
- Exchangers in cold distribution systems.
- Longer life span for piping and components in the building.

# THE PRINCIPLES BEHIND THE MULTICONTROL COOL SYSTEM

The SpiroExpand MultiControl Cool is a special pressure maintenance unit for loss-free absorption of the expansion volume and to keep the pressure constant in closed cold-water and cooling systems.

Due to the special design of the pressure maintenance and stainless steel expansion vessels, corrosion due to frequent condensation is effectively being prevented. Every unit is self-contained, with a self-supporting and sound-absorbing construction. The units are used in combination with external, unpressurised expansion tanks from the product series EMCC-Z and EMCC-G, with max. 0.5 bar. The volume in the tank can be used to its full capacity. They are manufactured in accordance with the regulations set out in EN12828 and SWKI 93-1. For the optimal separation of system water and the atmosphere, special high-quality container membranes are used, which are flanged on both sides and can be replaced when necessary. The level gauge works with two pressure transmitters fixed to the flanges, with a 0.5 bar safety valve as a safeguard.

The control unit utilises compact hydraulics. A centrifugal pump uses one or two low-noise pressure maintenance pumps, featuring both the highest quality mechanical shaft sealing and one or two pressure-relief valves, which constantly regulate the pressure and can be mechanically adjusted. The ex-works hydraulic connections are fitted on the right-hand side, and can be switched to the left if needed. The shut-off device is located here, and there is a possibility for separation from the rest of the system. The temperature of the water entering the system is monitored.

## DEGASSING

An automatic basic low-pressure degassing is built in as standard. It works according to the principle of partial pressure (Henry's law).

Considering the VDI4708 and VDI2035-2 guidelines, Spirotech recommends the use of a separate vacuum degasser, which ensures the best possible degassing performance in heating and cooling systems.

## WATER REPLENISHMENT

A refill module to control the exact level of the make-up water can be supplied as an option. This can be combined with water treatment to conform to the official standards for replenishment water (the SpiroPure range for water treatment). The maximum pressure of water entering the system is 5.0 bar, and the maximum temperature for this water is 70°C.

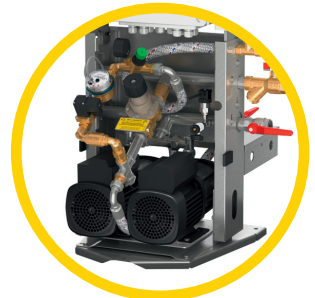
## CONTROL AND MONITORING

Microprocessors are utilised for the electronic control of all operational processes. The control panel is ergonomically designed, with an illuminated and easily-legible 4-line display. The easy-to-follow instructions are available in many languages. The compact measuring and switch unit has its own casing and is supplied with connection wiring. In the basic version, two status messages (malfunction and warning) are available. Remote monitoring is possible using the MultiControl text message module, the MultiControl bus module or the MultiControl web module. Other possibilities for monitoring and checking are also available.

## System variants for SpiroExpand MultiControl Cool.



Single pump system



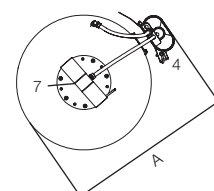
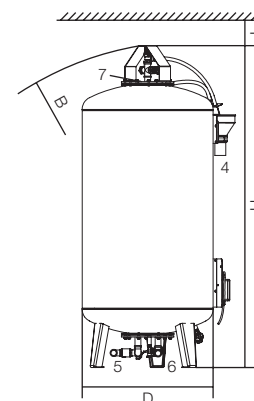
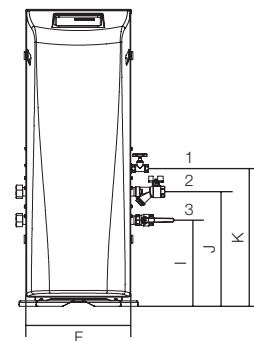
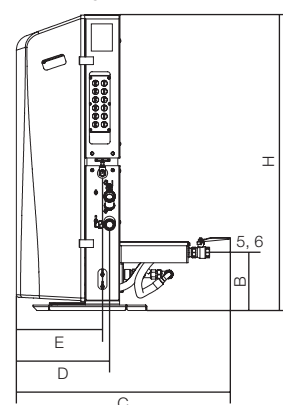
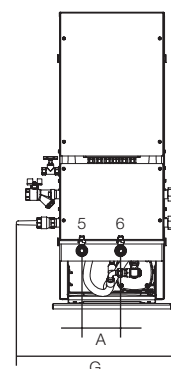
Double pump system

The **MultiControl Cool** comes in six versions and 8 tank volumes of 125 (x2), 200 (x2), 300 (x2), or 500 (x2) liters.

- Operational pressure range: 1,0 – 5,6 bar.
- Minimum temperature at point of connection: to -10 °C.
- Maximum safety temperature in the system: 110 °C (with auxiliary vessel).
- Maximum temperature at point of connection: 70 °C.
- Maximum operating pressure (PN): 10 bar.
- Maximum expansion volume: 125 – 1.000 liters.
- Corrosion-resistant materials.
- Replenishment optional.
- Corrosion-resistant collecting trays.

# TECHNICAL DATA FOR MULTICONTROL COOL

		EMCC MultiControl Cool						EMCC-G/EMCC-Z Main and auxiliary vessels			
		Cool EMCC-S1-4,0	Cool EMCC-S1-5,6	Cool EMCC-M1-4,0	Cool EMCC-M1-5,6	Cool EMCC-D1-4,0	Cool EMCC-D1-5,6	EMCC-G 125 EMCC-Z 125	EMCC-G 200 EMCC-Z 200	EMCC-G 300 EMCC-Z 300	EMCC-G 500 EMCC-Z 500
Nominal capacity [l]		–						125	200	300	500
Max. operating pressure for the tank (PN) [bar]		–						0,5			
Top working pressure [bar]		4,0	5,6	4,0	5,6	4,0	5,6				
Nominal pressure [bar]		10									
Max. temperature at the connection point [°C]		70									
Min. temperature at the connection point [°C]		- 10									
Voltage [V/Hz]		230/50									
Max. performance [kW]		0,8		1,5							
Dimensions [mm]	A	150						642	642	745	745
	B	225						1.200	1.430	1.500	2.150
	C	830						–			
	D	362						500	500	600	600
	E	334						–			
	F	406						–			
	G	612						–			
	H	1.149						1.167	1.407	1.475	2.130
	I	333						min. 500			
	J	443						–			
	K	533						–			
Weight [kg]		85	85	98	98	99	99	46	66	80	95
Connections											
Replenishment water	1	Rp ½"						–			
Pressure relief pipe	2	Rp 1"						–			
Expansion pressure pipe	3	Rp 1"						–			
Tank overflow	4	–						Geberit DN 50			
Suction pipe	5	Rp 1"						Rp ¾"			
Pressure release pipe	6	Rp 1"						Rp ¾"			
Gas connection point	7	–						Rp ¾"			



Technical data subject to change

Expansion Tank



# FUNCTIONS OF MULTICONTROL COOL

## Simple component installation:

just put it in position - connect it - start it up

Cable glands easily accessible and can also be fitted on the left if required

Control panel with 4-line, illuminated plain text display

Closed electronics unit, optimally protected

4 potential-free signal contacts always included:

- Malfunction
- Warning
- Make-up water is running
- Device function enabled

Connection for make-up module EMCC-N1

Collecting tray with plastic spacers to catch the condensation water (accessory)

Thermal housing separation to avoid thermal bridges

On-site connections can be converted to „left“ if necessary

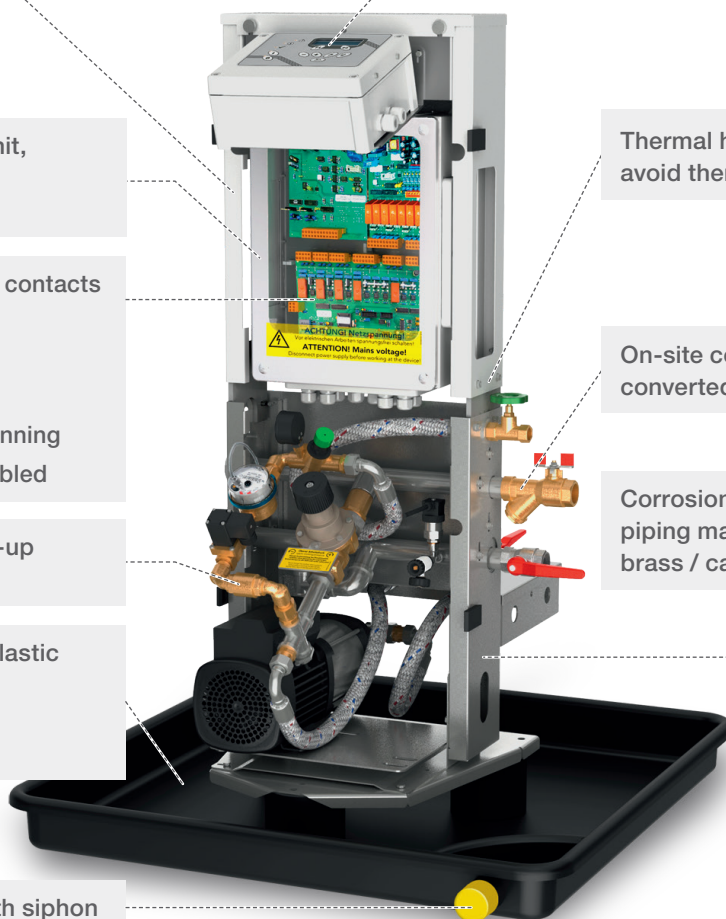
Corrosion resistance: Housing and piping made of stainless steel, brass / cast bronze

Sewer connection with siphon

Corrosion resistance: housing and piping made of stainless steel, brass/cast bronze

Connections to the expansion vessel can optionally be mounted at the side or at the rear

There are mounting holes in the base plate for fixing the device



# MULTICONTROL COOL – ADDITIONAL VESSELS

Stainless steel tank with enlarged connection distances to facilitate any on-site insulation

Tank emptying for any maintenance

Tank pressure transmitter for differential pressure measurement

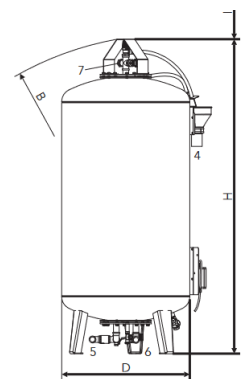
Tank overflow including sewer connection

Removable retaining plates to facilitate on-site insulation

Tank pressure transmitter for differential pressure measurement



		EMCC-G 125 EMCC-Z 125	EMCC-G 200 EMCC-Z 200	EMCC-G 300 EMCC-Z 300	EMCC-G 500 EMCC-Z 500
Nominal capacity [l]		125	200	300	500
Max. operating pressure container [bar]		0,5			
Max. temperature at point of connection [°C]		70			
Min. temperature at point of connection [°C]		-10			
Depth A [mm]		642	642	745	745
Dimensions D [mm]		500	500	600	600
Total height H [mm]		1.167	1.407	1.475	2.130
Clear height L (over tank)		500			
Weight [kg]		46	66	80	95
Connections					
Connection to drain	4	Rp ¾"			
Pump suction side connection	5	Rp ¾"			
Overflow connection	6	Rp ½"			
Air-side connection	7	Geberit DN 50			



# ACCESSORIES

	Type	Article number
	<b>Replenishment water module</b>	
	MultiControl ½"	EMCF-1
	<b>Backflow preventer</b>	
	MultiControl ½"	TMA05
	<b>MultiControl Kompakt bypass set</b> The MultiControl Kompakt bypass set is for use with MultiControl units <b>without</b> an automatic low-pressure degassing function. Integration in the system is only possible with a connection to the system's return flow. In addition, it is recommended to use the bypass set during maintenance, in order to adjust the pressure without having a connection to the system. <b>Technical details:</b> connection size: R 1", PN10.	EMCB-ZB
	<b>MultiControl Kompakt connection set</b> The MultiControl Kompakt connection set is used to join the EMCB-Z additional tanks with the main unit EMCK, providing the pressure release pipe and gas connection. It can also be used to link a series of EMCB-Z additional tanks with the one before it. <b>Connection sizes:</b> Overflow line: R ¾", L=900 mm, gas connection: R ½", L=1.700 mm.	EMCB-Z
	<b>SpiroPure Homefill</b> Filling unit for the complete desalination of the replenishment water.	G61.556
	<b>Bus modules</b>	
	To connect the pressure maintenance unit with an external control unit and enable the exchange of data.	
	MultiControl Busmodul Profibus	Profibus-Standard DP-V0
	MultiControl Busmodul Modbus	RTU RS485
	MultiControl Busmodul Profinet	Profinet IO-Device
	<b>MultiControl text message module</b>	
	Notification of malfunctions and warnings by text message to as many as five telephone numbers. It is also possible to choose the type of operation programme, and to get a record of malfunction and warning notifications.	EMCSM
	<b>MultiControl web module</b>	
	Web-based control and monitoring of pressure levels. Email notifications of system information, malfunctions and warnings.	EMCWB
	<b>Auxiliary tanks in various sizes</b>	
	To regulate the temperature and to protect the system from unacceptable temperature ranges (> 70 °C to 110 °C).	
	<b>Tank sizes from 100 to 3,000 litres, depending on requirements.</b>	
	<b>Custom tanks also possible.</b>	Depends upon size
	<b>MultiControl contact temperature sensor</b>	
	including tightening strap (diameter 15 – 40mm).	E51950
	<b>MultiControl cable temperature sensor</b>	
	Cable 10 m, including immersion sleeve G ½", PN10.	E51951



## MAXIMISING PERFORMANCE FOR YOU

Spirotech is a leading expert in improving the quality of water in heating and cooling systems. Our family business has over 60 years of experience in the development of solutions for removing and avoiding air and sludge deposits in energy equipment. Our products save energy, increase comfort, avoid wear and tear and maximise operating periods. Reliable and customer-oriented, we help enable top performance and the protection of capital assets. Together with our partners, suppliers and investors, we develop high-value solutions with products that add value to residential and commercial buildings, as well as industrial processes. With a comprehensive network of selected importers, Spirotech is present in over 70 countries.

## YOU CAN FIND OUT MORE ABOUT OUR SPIROVENT PRODUCTS ON OUR WEBSITE.

Heating, cooling and air-conditioning 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.

# MAXIMISING PERFORMANCE FOR YOU

