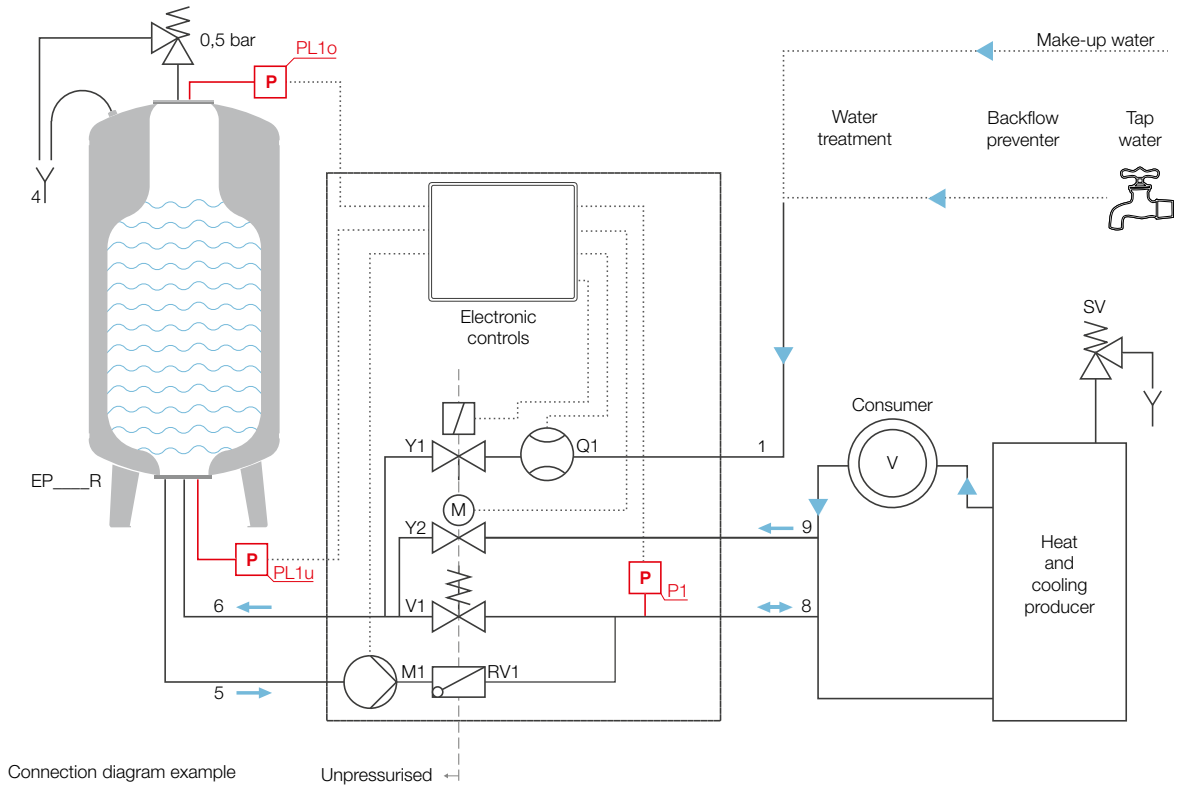
MULTICONTROL MODULAR

PRESSURE MAINTENANCE

SPIROEXPAND®

Pressure maintenance
Replenishment
Monitoring

CONNECTION DIAGRAM FOR THE SYSTEM



LEGEND

1	Fresh water supply	**6**	Drain funnel tank safety valve
4	Expansion overflow pipe (from the system return)	**8**	Expansion pipe
5	Expansion pressure line (to the system return)	**9**	Pressure step degassing pipe
M1	Pressure maintenance pump	**EP___R**	Expansion vessel
RV1	Non-return valve	**PL1o**	Tank pressure transmitter top
V1	Overflow valve	**PL1u**	Tank pressure transmitter bottom
Y1	Solenoid valve	**P1**	System pressure transmitter
Y2	Pressure step degassing valve	**Q1**	Water meter
V1	Water meter	**SV**	System safety valve

THE PRINCIPLES BEHIND THE MULTICONTROL MODULAR SYSTEM

PRESSURE MAINTENANCE AND EXPANSION

SpiroExpand MultiControl Modular is our range of pressure maintenance units designed for larger systems. These units enable all of the expansion storage volume to be used and keep the pressure at a constant level in closed loop heating and cooling systems. They are manufactured in accordance with the regulations set out in EN12828 and SWKI 93-1. In a modular system, the pressure maintenance units are used in combination with additional external, unpressurized tanks from the product series EP____R(S) (with 0.5 bar safety valve). The number of modules varies according to the size of the system. The painted tanks are made of steel and the volume can be used to its full capacity. For the optimal separation of system water and the atmosphere, the tanks feature special high-quality membranes, which are flanged at both ends and can be replaced when necessary. The control unit utilises compact hydraulics and 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 external hydraulic connection 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 isolation from the rest of the system. The temperature of the water entering the system is monitored. For heating and cooling systems, two expansions (Volumina) can be easily operated using automatic levelling.

DEGASSING

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 maintain a minimum water level in the expansion tank(s) can be supplied as an option. Once the water level falls below the minimum setting, pressureless expansion tank(s) are automatically topped up with replenishment water. Optionally, the products in the SpiroPure range can be used to treat the replenishment water according to the standards set out in VDI 2035. Water mixed with fluids like glycol has to be treated specially to ensure it can be used safely. This can be achieved by using the solutions from our MultiControl Autofill EMCA range.

CONTROL AND MONITORING

Microprocessors are utilised for the electronic control of all operational processes. The control panel is ergonomically designed, with an illuminated and capacative touchscreen 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, four status messages are available: malfunction, warning, top-up in operation and system running.

Remote monitoring is possible using the MultiControl binary and analog modules, the MultiControl bus modules or the MultiControl web module. The wide-ranging monitoring features also enable the system to be shut down should too much replenishment water enter the system, until a physical check is made. In addition, the capacity of a desalination unit can be measured, enabling it to be replaced at the right moment.

The MultiControl Modular comes in 78 possible versions, with twelve possible tank volumes ranging from 200 to 10,000 litres. A number of extensions are possible to increase the volumes.

- Operational pressure range: 2.0 – 16 bar.
- Maximum operating pressure (PN): 16 bar.
- Maximum expansion volume: 200 – 50,000 litres.
- Maximum thermal output: 450 – 100,000 kW.
- Maximum temperature at point of connection: 70 °C (over 70°C possible with intermediate / cooling vessel).
- Maximum safety temperature in the system: 110 °C.

Further variations and system possibilities are available on request.

FEATURES OF MULTICONTROL MODULAR

Simple component installation:
just put it in position - connect it - start it up

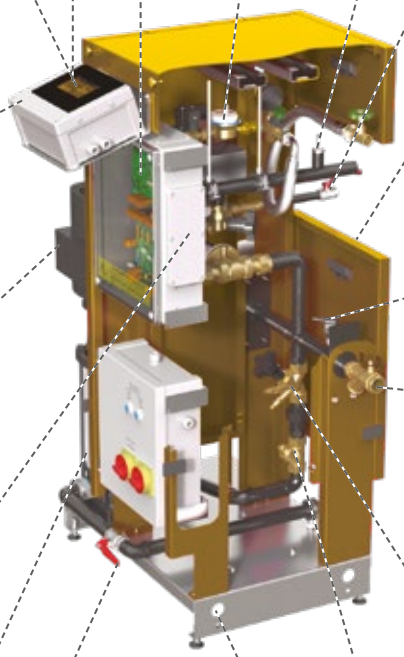
Mounting space for the various MultiControl remote monitoring modules. Simple to add later.

Mounting space for EMCF replenishment module (already installed in this picture), exact measurement with accuracy to the litre, can be combined with water softening.

The control panel is ergonomically designed, with an illuminated and capacative touchscreen display.

Temperature measurement of the water flowing to the expansion vessel is included as standard. This can have a number of uses and helps protect against situations harmful for the unit.

Mounting space for EMAE pressure step degassing module (already installed in this picture).



Separate electronic unit for optimal safety.

Pressure relief valve, constantly regulating the pressure.

In the basic version: 4 status messages are available (“top-up in operation”, “warning”, “malfunction”, “system running”). Possibility of a remote activation of the system using a pre-installed system.

Precise measurement of system pressure.

Expansion pipe to the system, with a generous size and fitted as standard with the necessary shut-off possibilities. The connections are fitted on the left-hand side, and can be switched to the right if needed (as shown in the picture).

Ideal access to all cable connection points – these can be easily positioned on the other side.

Shut-off and regulation valve for hydraulic calibration on the pressure side of the pump.

Electrical cable unit for all models with 3 x 400 V mains connection, including main switch (or switches), contactor and pump motor protection.

Soft-sealing angle seat check valve. The check element can be accessed without having to dismantle the entire valve.

Shutoff for easy maintenance on the suction side of the pump.

Holes for transport aids e.g. for carrying rods.

TECHNICAL DATA
SYSTEM SOLO

SINGLE PUMP SYSTEM 1X100%

- One pressure maintenance pump, designed for 100% of the expansion volume flow
- One mechanical overflow valve, designed for 100% of the expansion volume flow

Example: **EMCM-S2-6.0** with **EMCF-3***

* Already installed in illustration:
1. EMCF-3, volume controlled make up module
2. Expansion line from/to the system return

MULTICONTROL MODULAR SOLO

Type	A	B	C	D	E	F	Connections ["]							W x H x D [mm]	Weight [kg]
							1*)	2	3	5	6	8	9**		
EMCM-S1-4.0 **EMCM-S1-5.6** **EMCM-S1-8.1**	1,0-4,0 2,0-5,6 4,0-8,1	10	70	1x 230V 50 Hz	0,6 0,6 0,8	10	Rp 1/2	Rp1	Rp1	Rp1	Rp1	-	-	575 x 1149 x 741	56 56 60
EMCM-S2-6.0 **EMCM-S2-7.8**	2,0-6,0 4,0-7,8	16		3x 400V 50 Hz	1,3		Rp 1/2 bzw. Rp 3/4	-	-	R1	R1	Rp1	Rp1/2	685 x 805 x 835	124 124
EMCM-S3-10.0	4,0-10,0	16			1,7					R5/4		Rp6/4		685 x 940 x 835	131
EMCM-S4-6.2	2,4-6,2	16												685 x 1360 x 835	140
EMCM-S5-6.2	2,4-6,2	16									R6/4			685 x 1360 x 1015	161
EMCM-S6-6.6 **EMCM-S6-10.1**	2,4-6,6 6,0-10,1	16			2,4						R1			685 x 1360 x 835	145 145
EMCM-S7-6.6	2,4-6,6	16									R6/4			685 x 1360 x 1015	167
EMCM-S0.3-16.0	8,0-16,0	25			1,3						R1			764 x 1370 x 888	140
EMCM-S8-16.0	8,0-16,0	25			4,2	16								685 x 1460 x 1015	194
EMCM-S9-6.6 **EMCM-S9-11.0**	2,4-6,6 6,0-11,0	16									R6/4			685 x 1460 x 1015	195 195

LEGEND

Technical changes reserved!

A max. upper working pressure (bar)
B max. operating pressure device (PN) (bar)
C max. temperature at connection point (°C)
D Voltage (V/Hz)
E Max. power (kW)
F Fuse protection (A)

1 Make-up line
2 Expansion overflow line
3 Expansion pressure line
5 Suction line
6 Overflow line
8 Expansion line from/to system return
9 Degassing connection

*) Make-up optional, dimension dependent on model (EMCF-1 = ½" EMCF-3 = ¾")
**) MultiControl low pressure degassing module EMAE-1 optional

TECHNICAL DATA
SYSTEM DUO

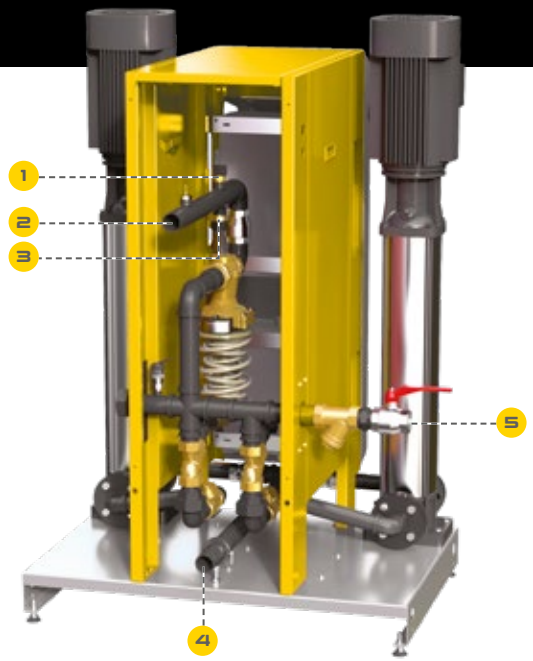
DOUBLE PUMP SYSTEM 2X50%

- Two pressure maintenance pumps, each designed for at least 50% of the expansion volume flow
- One mechanical overflow valve, designed for 100% of the expansion volume flow

„DUO“ stands for a huge range of applications thanks to staggered pump use. In operation energy-saving thanks to load sharing between two pumps.

Example: **EMCM-D8-16.0**

1. Connection for make-up module EMCF-1 or EMCF-3
2. Transfer line to the expansion vessels
3. Connection for degassing module EMAE-1
4. Suction line from the expansion vessel
5. Expansion line from/to the system return



TECHNICAL DATA
SYSTEM DUO TWIN

DOUBLE PUMP/DOUBLE VALVE SYSTEM 2X 50%/2X 100%

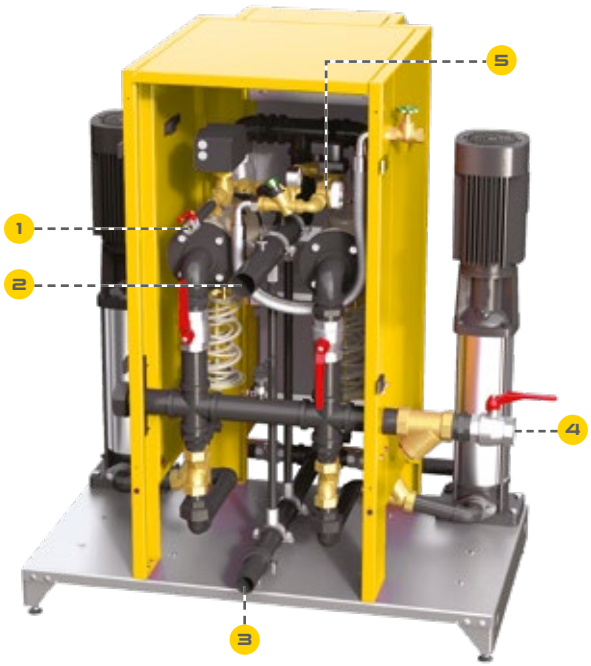
- Two pressure maintenance pumps, each designed for at least 50% of the expansion volume flow
- Two mechanical overflow valves, designed for 100% of the expansion volume flow each

„Twin“ also extends the full failure reserve to the overflow valve, which can be switched manually if required.

E.g.: **EMCM-D4-6.2-twin** with **EMCF-3* and EMAE-1***

*Already installed in illustration:

1. Connection for degassing module EMAE-1*
2. Overflow line to the expansion vessels
3. Suction line from the expansion vessels
4. Expansion line from/to the system return
5. Connection for make-up module EMCF-3*



MULTICONTROL MODULAR DUO & DUO TWIN

Type	A	B	C	D	E	F	Connections ["]							W x H x D [mm]	Weight [kg]
							1*	2	3	5	6	8	9**		
EMCM-D1-4.0	1,0-4,0	10	70	1x 230V 50 Hz	1,1	13	Rp½	Rp1	Rp1	Rp1	Rp1	-	-	575 x 1149 x 741	79
EMCM-D1-5.6	2,0-5,6				1,1										79
EMCM-D1-6.6	4,0-6,6				1,5										82,4
EMCM-D1-8.1	6,0-8,1				1,5										85,8
EMCM-D1-4.0-twin	1,0-4,0				1,1									881 x 1149 x 824	84
EMCM-D1-5.6-twin	2,0-5,6				1,1										84
EMCM-D1-6.6-twin	4,0-6,6				1,5										91
EMCM-D1-8.1-twin	6,0-8,1				1,5										91
EMCM-D2-6.6	2,4-6,6	16		3x 400V 50 Hz	2,4	10	Rp ½ bzw. Rp ¾	-	-	R5/4	R1	Rp6/4	Rp½	1051 x 1370 x 888	170
EMCM-D2-7.8	6,0-7,8														
EMCM-D2-6.6-twin	2,4-6,6													1051 x 1370 x 888	180
EMCM-D2-7.8-twin	6,0-7,8														
EMCM-D3-10.4	6,0-10,4				3,2	13								1051 x 1370 x 888	180
EMCM-D3-10.4-twin	6,0-10,4													1051 x 1370 x 888	190
EMCM-D4-6.2	2,4-6,2									R6/4	R6/4			965 x 1360 x 1075	209
EMCM-D4-6.2-twin	2,4-6,2													1142 x 905 x 1075	248
EMCM-D5-6.2	2,4-6,2										R2	Rp2		1142 x 1360 x 1075	243
EMCM-D5-6.2-twin	2,4-6,2													1142 x 905 x 1075	275
EMCM-D6-6.6	2,4-6,6				4,6	16					R6/4	Rp6/4		965 x 1360 x 1075	220
EMCM-D6-10.1	6,0-10,1														
EMCM-D6-6.6-twin	2,4-6,6													1142 x 1110 x 1075	258
EMCM-D6-10.1-twin	6,0-10,1														
EMCM-D7-6.6	2,4-6,6										R2	Rp2		1142 x 1360 x 1075	253
EMCM-D7-6.6-twin	2,4-6,6													1142 x 1110 x 1075	285
EMCM-D8-16.0	8,0-16,0	25			8,2	25					R5/4	Rp6/4		1142 x 1460 x 1075	305
EMCM-D8-16.0-twin	8,0-16,0													1142 x 1460 x 1075	332
EMCM-D9-6.6	2,4-6,6	16									R2	Rp2		1142 x 1460 x 1075	304
EMCM-D9-11.0	6,0-11,0														
EMCM-D9-6.6-twin	2,4-6,6													1142 x 1460 x 1075	214
EMCM-D9-11.0-twin	6,0-11,0														

LEGEND

Technical changes reserved!

A max. upper working pressure (bar)
B max. operating pressure device (PN) (bar)
C max. temperature at connection point (°C)
D Voltage (V/Hz)
E Max. power (kW)
F Fuse protection (A)

1 Make-up line
2 Expansion overflow line
3 Expansion pressure line
5 Suction line
6 Overflow line
8 Expansion line from/to system return
9 Degassing connection

***)** Make-up optional, dimension dependent on model (EMCF-1 = ½" EMCF-3 = ¾")

****)** MultiControl low pressure degassing module EMAE-1 optional

TECHNICAL DATA
SYSTEM MAXI

DOUBLE PUMP SYSTEM 2X100%

- Two pressure maintenance pumps, each designed for 100% of the expansion volume flow
- One mechanical overflow valve, designed for 100% of the expansion volume flow

„MAXI“ means full performance and failure reserve, as each pump can provide the full volume flow.

Example: **EMCM-M8-16.0** with **EMCF-3**

1. EMCF-3, volume controlled make up module
2. Expansion line from/to the system return

TECHNICAL DATA
SYSTEM MAXI TWIN

DOUBLE PUMP/DOUBLE VALVE SYSTEM 2X100%/2X100%

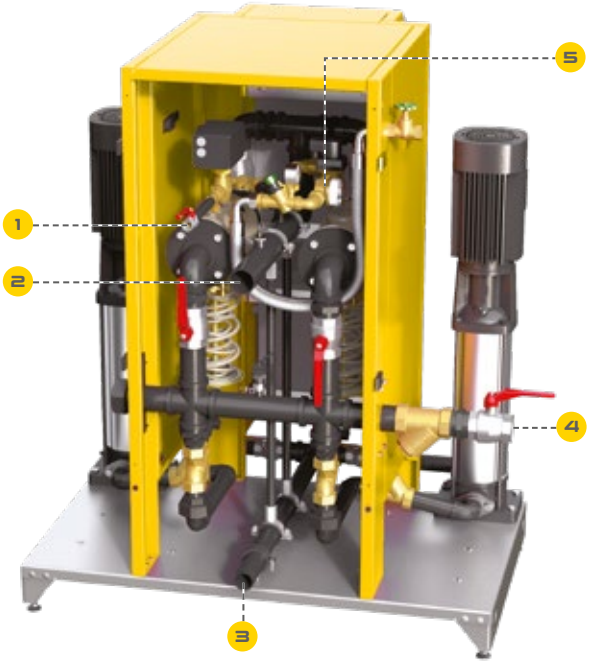
- Two pressure maintenance pumps, each designed for 100% of the expansion volume flow
- Two mechanical overflow valves, designed for 100% of the expansion volume flow each

„twin“ also extends the full failure reserve to the overflow valve, which can be switched manually if required.

E.g.: **EMCM-M4-6.2-twin** with **EMCF-3* and EMAE-1***

*Already installed in illustration:

1. Connection for degassing module EMAE-1*
2. Overflow line to the expansion vessels
3. Suction line from the expansion vessels
4. Expansion line from/to the system return
5. Connection for make-up module EMCF*



MULTICONTROL MODULAR MAXI & MAXI TWIN

Type	A	B	C	D	E	F	Connections ["]							W x H x D [mm]	Weight [kg]
							1*	2	3	5	6	8	9**		
EMCM-M1-4.0	1,0-4,0	10	70	1x 230V 50 Hz	1,1	13	Rp 1/2	Rp1	Rp1	Rp1	Rp1	-	-	575 x 1149 x 741	75
EMCM-M1-5.6	2,0-5,6				1,1										75
EMCM-M1-8.1	4,0-8,1				1,5										81,8
EMCM-M1-4.0-twin	1,0-4,0				1,1									881 x 1149 x 824	82
EMCM-M1-5.6-twin	2,0-5,6				1,1										82
EMCM-M1-8.1-twin	4,0-8,1				1,5										89
EMCM-M2-6.0	2,0-6,0	16		3x 400V 50 Hz	2,4	10	Rp ½ bzw. Rp ¾	-	-	R5/4	R1	Rp6/4	Rp½	1051 x 1370 x 888	170
EMCM-M2-7.8	4,0-7,8														
EMCM-M2-6.0-twin	2,0-6,0													1051 x 1370 x 888	180
EMCM-M2-7.8-twin	4,0-7,8														
EMCM-M3-10.0	4,0-10,0				3,2	13								1051 x 1370 x 888	180
EMCM-M3-10.0-twin	4,0-10,0													1051 x 1370 x 888	190
EMCM-M4-6.2	2,4-6,2									R6/4				965 x 1360 x 835	184
EMCM-M4-6.2-twin	2,4-6,2													1145 x 1360 x 1075	228
EMCM-M5-6.2	2,4-6,2										R6/4			965 x 1360 x 1075	209
EMCM-M5-6.2-twin	2,4-6,2													1145 x 1360 x 1075	248
EMCM-M6-6.6	2,4-6,6				4,6	16					R1			965 x 1360 x 835	194
EMCM-M6-10.1	6,0-10,1														
EMCM-M6-6.6-twin	2,4-6,6													1145 x 1360 x 1075	187
EMCM-M6-10.1-twin	6,0-10,1														
EMCM-M7-6.6	2,4-6,6										R6/4			965 x 1360 x 1075	219
EMCM-M7-6.6-twin	2,4-6,6													1145 x 1360 x 1075	258
EMCM-M0.3-16.0	8,0-16,0	25			2,4	10				R5/4	R1			1142 x 1360 x 1075	170
EMCM-M0.3-16.0-twin	8,0-16,0													1142 x 1360 x 1075	180
EMCM-M8-16.0	8,0-16,0				8,2	25				R6/4				1142 x 1360 x 1075	297
EMCM-M8-16.0-twin	8,0-16,0													1145 x 1360 x 1075	318
EMCM-M9-6.6	2,4-6,6	16									R6/4			965 x 1360 x 1075	270
EMCM-M9-11.0	6,0-11,0														
EMCM-M9-6.6-twin	2,4-6,6													1145 x 1360 x 1075	308
EMCM-M9-11.0-twin	6,0-11,0														

LEGEND

Technical changes reserved!

- **A** max. upper working pressure (bar)
- **B** max. operating pressure device (PN) (bar)
- **C** max. temperature at connection point (°C)
- **D** Voltage (V/Hz)
- **E** Max. power (kW)
- **F** Fuse protection (A)

- **1** Make-up line
- **2** Expansion overflow line
- **3** Expansion pressure line
- **5** Suction line
- **6** Overflow line
- **8** Expansion line from/to system return
- **9** Degassing connection

***)** Make-up optional, dimension dependent on model (EMCF-1 = ½" EMCF-3 = ¾")

****)** MultiControl low pressure degassing module EMAE-1 optional

TECHNICAL DATA
SYSTEM MCM-_1

SINGLE PUMP SYSTEM / DOUBLE PUMP SYSTEM
SOLO 1 x 100% / DUO 2 x 50% / MAXI 2 x 100%

- One or two pressure maintenance pumps, each designed for at least 50% (DUO) or 100% (SOLO/ MAXI) of the expansion volume flow
- One mechanical overflow valve, designed for 100% of the expansion volume flow

„maxi“ means full performance and failure reserve, as each pump can provide the full volume flow.

Example: **EMCM-M1-5.6** with **EMCF-1***

*Already installed in illustration:
1. EMCF-1, volume controlled make up module
2. Expansion overflow pipe from the system return
3. Expansion pressure line to the system return

TECHNICAL DATA
SYSTEM MCM-_1 TWIN

DOUBLE PUMP SYTEM DUO 2x50% / MAXI 2x100%
DOUBLE VALVE SYTEM TWIN 2x100% / MAXI TWIN 2x100%

- Two pressure maintenance pumps, each designed for at least 50% (DUO) or 100% (MAXI) of the expansion volume flow
- Two mechanical overflow valves, each designed for 100% of the expansion volume flow

„twin“ extends the full failure reserve, also towards the overflow valve, which can be switched manually if required.

Example: **EMCM-D1-4.0 twin** with **EMCF-1***

*Already installed in illustration:
1. EMCF-1, volume controlled make up module
2. Expansion overflow pipe from the system return
3. Expansion pressure line to the system return

A FULL RANGE OF SOLUTIONS

TECHNICAL DATA
ADDITIONAL EXPANSION VESSELS EP____R, EP____

Additional primary vessels with article numbers EP____R and additional secondary vessels with article number EP____RS for pressureless absorption of the expansion volume.
The built-in high-quality membrane ensures consistent separation of the system and atmosphere.
EP____R expansion vessels are equipped with differential pressure measurement, which allows the current vessel level to be read off the multicontrol control unit at any time. multicontrol devices also offer the option of using 2 level measurements (2x EG-M), e.g. for fail-safe operation

1. Lifting lugs from EP0800R(S) and up
2. Pre-assembled drain funnel for optimum connection of the container safety valve drain line and vessel air side
3. Drains for maintenance purposes
4. Connection to the control unit and other expansion

EP____R(S)
200-500L

EP____R(S)
800L-1500L

EP____R(S)
2000M - 5000M

EP____R(S)
10000M

SPIROEXPAND EXPANSION VESSELS FOR EMCM

Type	Liter	A	B	Connections ["]				Tilt dimension [mm]	Ø	Height [mm]	Clear height above container [mm]	Weight [kg]
				1	2	3	4					
EP0200R EP0200RS	200	0,5	70	Rp1	Rp1	Rp½"	Geberit DN 50	1600	500	1510	500	66
EP0300R EP0300RS	300							1700	600	1570		80
EP0500R EP0500RS	500							2300	600	2150		95
EP0800R EP0800RS	800							2300	800	2110		210
EP1000R EP1000RS	1000							2300	900	2100		250
EP1500R EP1500RS	1500			Rp5/4"	Rp5/4"			2500	1050	2220		350
EP2000R EP2000RS	2000					Rp3/4"		2600	1200	2265		500
EP2500R EP2500RS	2500							3400	1050	3200	700	550
EP3000R EP3000RS	3000							3500	1200	3275		575
EP4000R EP4000RS	4000			Rp6/4"	Rp6/4"			3800	1400	3500	1000	675
EP5000R EP5000RS	5000							3900	1500	3550		775
EPX100R EPX100RS	10000			DN50	DN50		Geberit DN 75	5600	1700	5310		1500

LEGEND

Technical changes reserved!

A max. operating pressure tank (PN) (bar)

B max. temperature at connection point (°C)

1 Transfer line from the control unit

2 Suction line to the control unit

3 Gas-side tank connection (under cover)

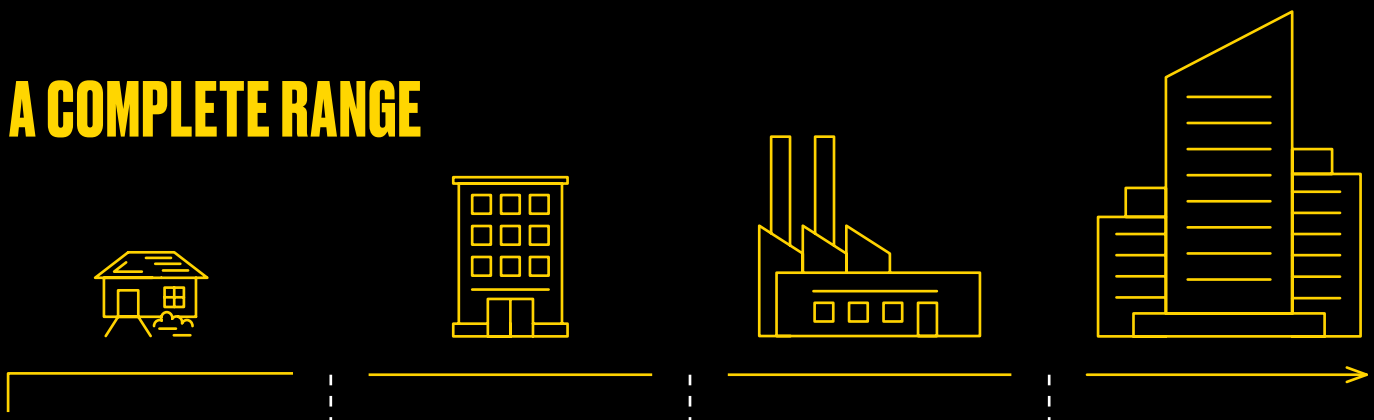
4 Container overflow funnel drain connection

ACCESSORIES

	Type	Article No.
	**Volume controlled make up module**	
	MultiControl ½"	EMCF-1
	MultiControl ¾"	EMCF-3
	**Backflow preventer**	
	½"	TMA05
	¾"	TMA06
	**MultiControl Kompakt bypass set** The MultiControl Kompakt bypass set is to use MultiControl units (EMCK, EMCM-_1, ETCM-_1 and EMCC-_1) without automatic pressure step 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. **Technical details:** connection size: R 1", PN10.	EMCB-ZB
	**Filling unit for the complete desalination of the replenishment water**	
	**Bus modules** To connect the pressure maintenance unit with an external control unit and enable the exchange of data.	
	MultiControl Busmodule Modbus TCP	G60.877
	MultiControl Busmodule Modbus RTU RS485	EMCMO
	MultiControl Busmodule Profibus-Standard DP-V0	EMCPB
	MultiControl Busmodule Profinet IO-Device	EMCPN
	**MultiControl web module** Web-based control and monitoring of pressure levels. Email notifications of system information, malfunctions and warnings.	EMCWB
	**Intermediate cooling vessels in various sizes** To regulate the temperature and to protect the system from unacceptable temperature ranges (> 70 °C to 110 °C). **Tank sizes from 100 to 3,000 litres, depending on requirements. Custom tanks also possible.**	depends upon the size
	**MultiControl contact temperature sensor** including tightening strap (diameter 15 – 40 mm).	E51950
	**MultiControl cable temperature sensor** Cable 10 m, including immersion sleeve G 1/2", PN10.	E51951

THE RIGHT PRODUCT AT A GLANCE

A COMPLETE RANGE



EVN

PICOCONTROL KOMPAKT

MULTICONTROL KOMPAKT

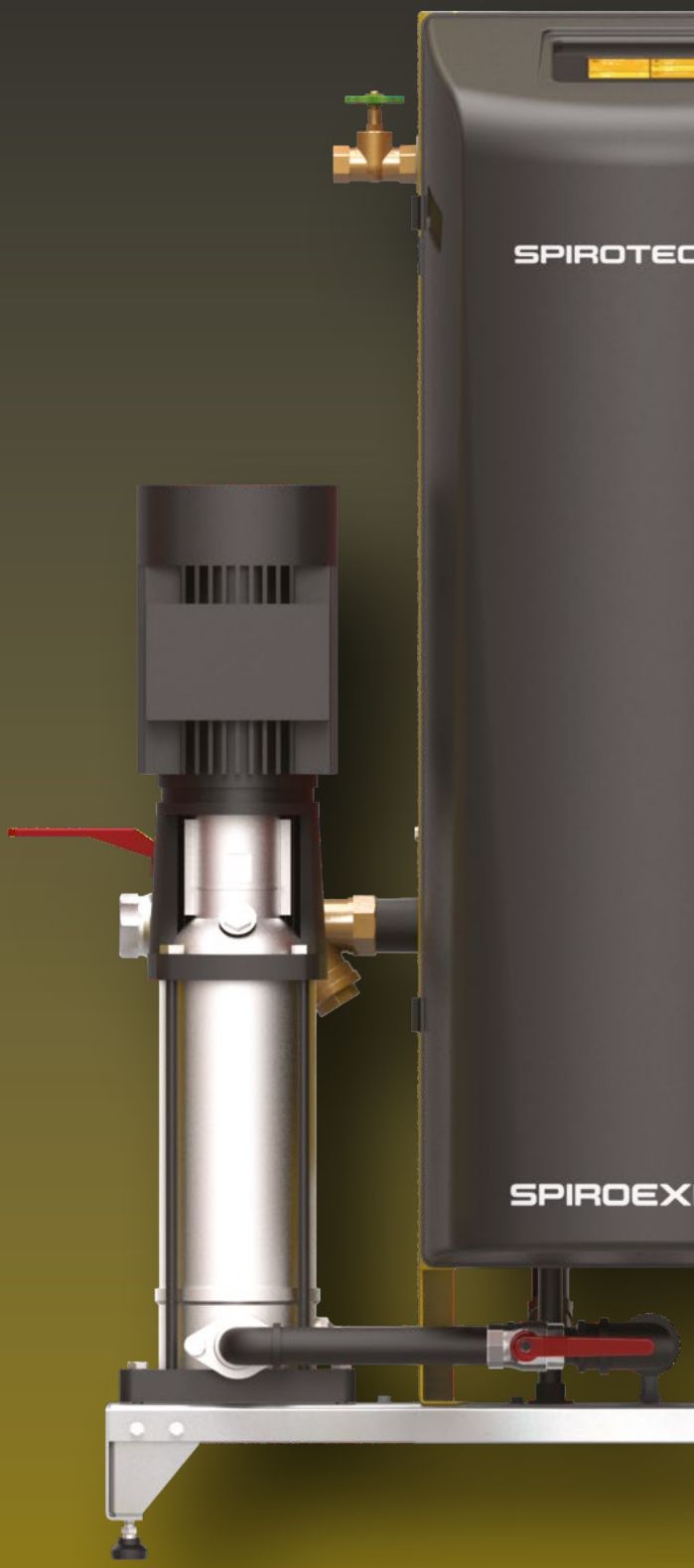
MULTICONTROL MODULAR

TOPCONTROL MODULAR

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 and suppliers that improve the operation of residential and commercial properties. Our comprehensive network of selected importers in over 70 countries means there is always a Spirotech expert near to you.

Heating and cooling systems are highly complex, particularly when they are run in conjunction with other systems and installations. So locating and analysing faults when they occur is never easy, especially with the clock ticking in the event of a system failure. Spirotech is here to support you with practical advice and solutions, helping you to pinpoint causes and rectify them. Please feel free to contact us.



IF YOU WOULD LIKE TO KNOW MORE ABOUT OUR SOLUTIONS, PLEASE VISIT OUR WEBSITE WWW.SPIROTECH.COM OR WWW.SPIROTECH.CO.UK

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