

ModuSat® Single Plate Cooling (SP-C)

The Evinox ModuSat® SP cooling interface unit has been designed to provide cooling for dwellings served by a communal or district system. The unit is supplied via primary chilled water, which is provided by centralised plant.

The unit consists of a single plate heat exchanger, combined with electronic PID control using Pressure Independent Control Valve (PICV) for differential pressure control and flow rate regulation.

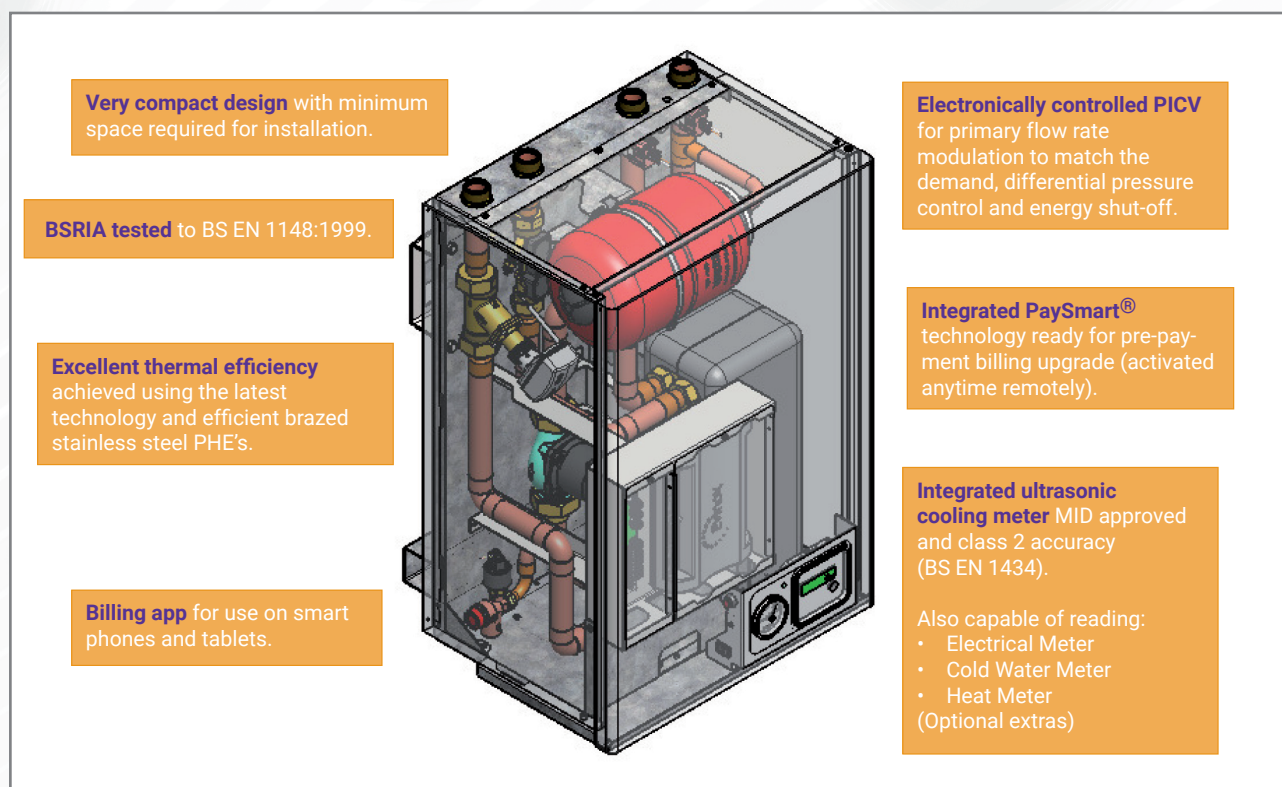
Available in a range of plate sizes and connection configurations, the SP Cooling Interface Unit is suitable for many different types of installation.

Application

The ModuSat® SP Cooling unit is designed to operate with Evinox SmartTalk® two-way communication system for remote metering and diagnostics.

Cooling

The Cooling circuit consists of a plate heat exchanger (PHE), safety relief valve, manometer, flow and return temperature sensors, Wilo PWM circulation pump and expansion vessel. The cooling circuit flow temperature is controlled by the modulation of the primary flow rate with the integrated PICV actuator.



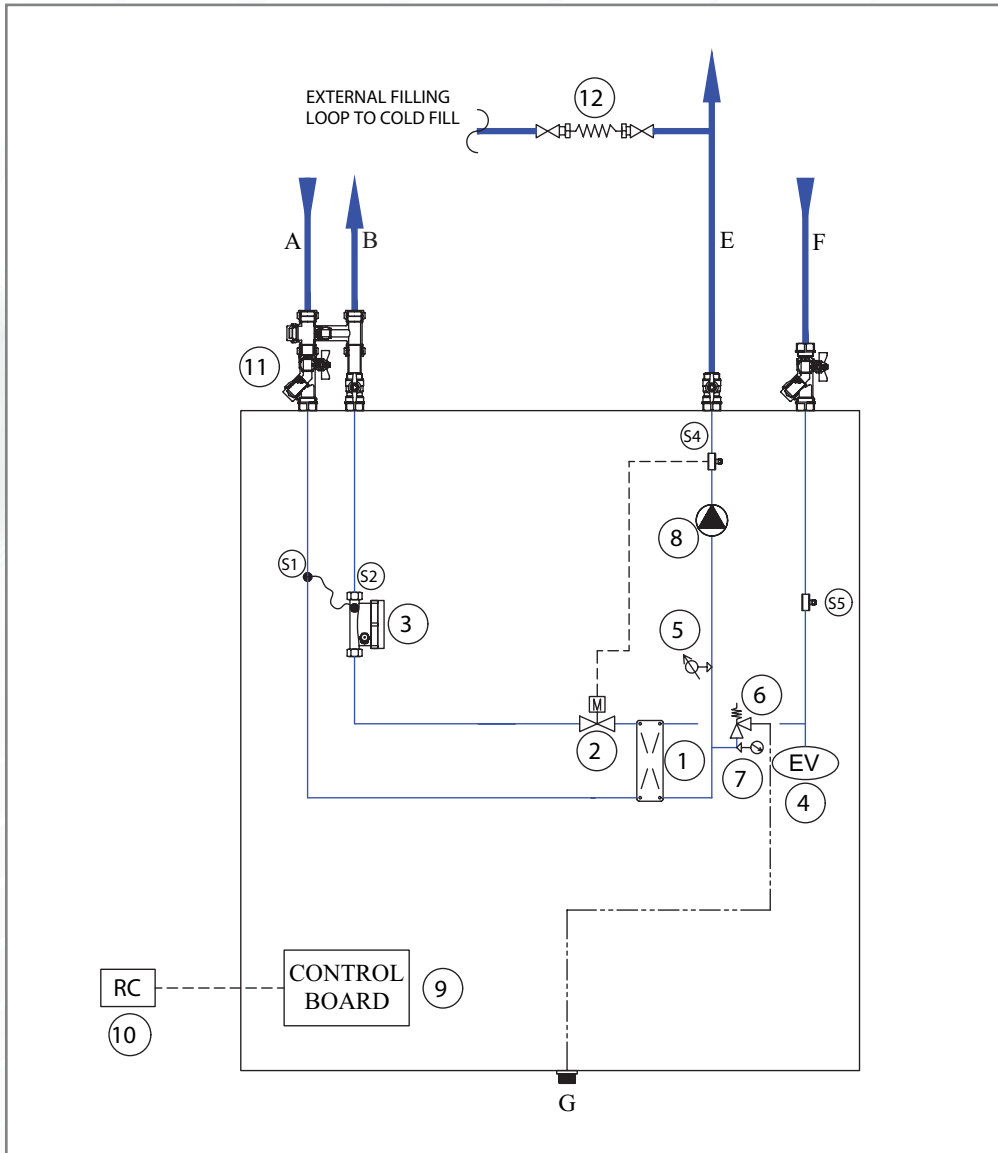
Features & Benefits

- Each component is fully insulated including pipework and case
- Pipework constructed from copper
- External filling loop (Optional)
- SmartTalk two-way communication
- Remote monitoring, alarms, and diagnostics
- Wilo PWM Pump – Provides compliance with EU ErP Directive 2015
- Includes inbuilt TCP/IP technology to operate on an Ethernet network if required
- Capable of reading an electricity meter (Option for ENE3)
- Flushing bypass kit enables the primary side of the system to be flushed and cleaned without damage to the unit

Circuit diagram

ModuSat®
Single Plate Cooling

Typical ModuSat® SP Cooling Unit



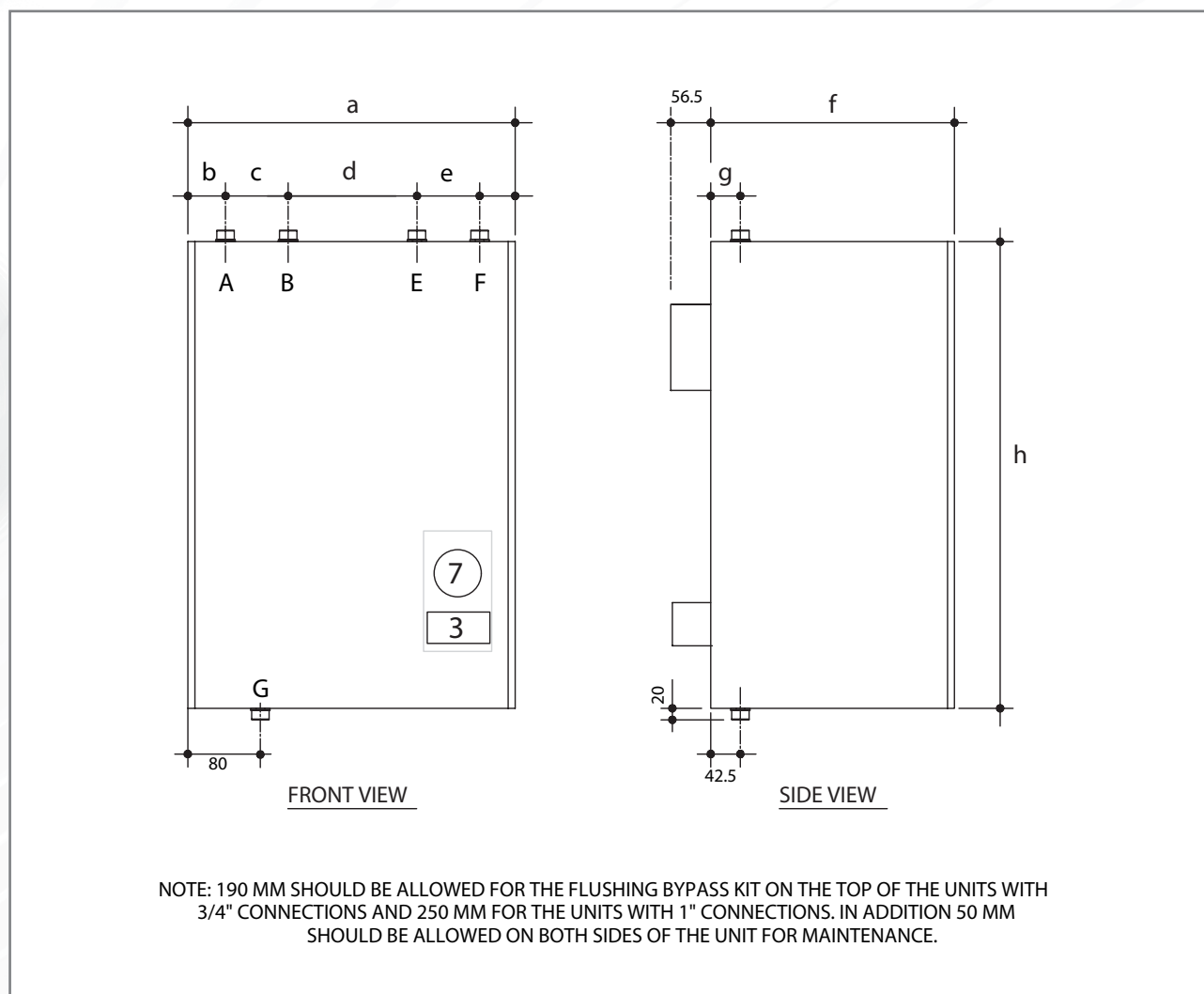
Components

A	Primary circuit flow	4	Cooling expansion vessel	S1	Primary flow temperature sensor
B	Primary circuit return	5	Low pressure switch	S2	Primary return temperature sensor
E	Dwelling cooling flow	6	Safety relief valve	S4	Dwelling flow temperature sensor
F	Dwelling cooling return	7	Pressure gauge	S5	Dwelling return temperature sensor
G	Connection for safety discharge	8	Cooling circulation pump		
		9	Control Board		
		10	Room controller		
		11	Flushing by-pass kit		
		12	Filling loop (External)		
1	Cooling plate heat exchanger				
2	Pressure Independent Control Valve with actuator				
3	Ultrasonic energy meter				

Dimensions

ModuSat®
Single Plate Cooling

Typical ModuSat® SP Cooling Unit



All Dimensions in mm

Dimensions

	a	b	c	d	e	f	g	h
SP-C-R40	467	53.5	60	165	60	335	42.5	675
SP-C-R70	467	53.5	90	185	90	335	42.5	675
SP-C-B40	467	53.5	90	185	90	335	42.5	800
SP-C-B70	560	75	140	140	140	400	82.5	825

Connections

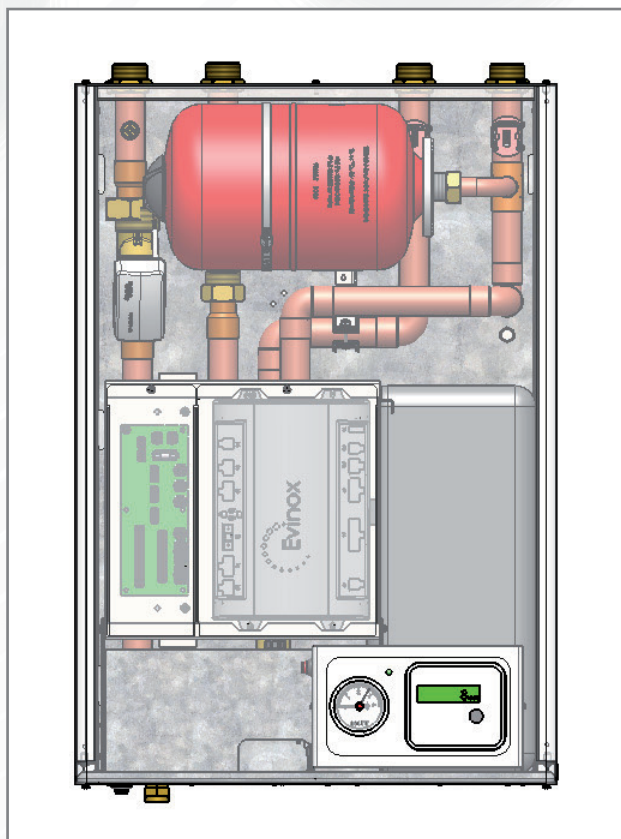
	A, B, E, F	G
SP-C-R40	3/4"	1/2"
SP-C-R70	1"	1/2"
SP-C-B40	1"	1/2"
SP-C-B70	1 1/4"	1/2"

Technical Details

ModuSat®
Single Plate Cooling

Typical Cooling Performances

	ModuSat® SP-C R40	ModuSat® SP-C R70	ModuSat® SP-C B40	ModuSat® SP-C B70
Cooling performance (kW)	4	9	14	23
Cooling flow rate (kg/s)	0.16	0.36	0.56	0.92
Cooling flow/return (°C)	8 / 14	8 / 14	8 / 14	8 / 14
Primary flow/return (°C)	6 / 12.9	6 / 12.7	6 / 12.5	6 / 12.6
Primary flow (kg/s)	0.14	0.32	0.52	0.83
Residual pump head (kPa)	55	53	51	90
Primary pressure drop (kPa)	50	50	50	50



Technical features

- Nominal pressure: 16 bar
- Power supply voltage: 220/240 Volt (AC) 50 Hz
- Max supply temperature (Primary): 95 °C
- Min supply temperature: 4 °C
- Brazing material: Copper
- Cooling expansion vessel: 5L to 8L
- Max allowable primary pressure drop: 4 bar