ModuSat® Single Plate Heating (SP-H)

The ModuSat® SP Heating interface unit has been designed to provide heating for dwellings or commercial areas served by a communal or district system. The unit is supplied via primary LTHW water, which is provided by centralised plant.

Consisting of a plate heat exchanger, combined with electronic PID control using Pressure Independent Control Valve (PICV) with modulating actuator achieving a low primary return temperature as well as providing differential pressure control and flow rate regulation.

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

Heating
The heating 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 heating circuit flow temperature is controlled by the modulation of the primary flow rate with the integrated PICV actuator. Weather compensation is applied to the set heating temperature using SmartTalk® 2-way communication. Suitable for radiators, underfloor heating or fan coil units.
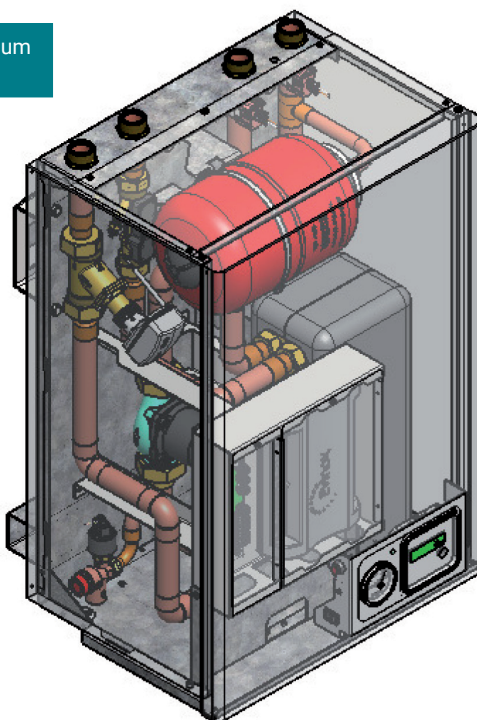

Very compact design with minimum space required for installation.

BSRIA tested to BS EN 1148:1999.

Excellent thermal efficiency achieved using the latest technology and efficient brazed stainless steel PHE's.

Integrated PaySmart® technology ready for pre-payment billing upgrade (activated anytime remotely).

Billing app for use on smart phones and tablets.

ViewSmart room controller with optional upgrade to provide ENE3 compliant smart metering.

Electronically controlled PICV for primary flow rate modulation to match the demand, differential pressure control and energy shut-off.

Integrated ultrasonic heat meter MID approved and class 2 accuracy (BS EN 1434).

Also capable of reading:
- Electrical Meter
- Cold Water Meter
- Cooling Meter
(Optional extras)

Features & Benefits

- Pipe & case insulation (Optional)
- 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 with out damage to the unit

Typical ModuSat® SP Heating Unit
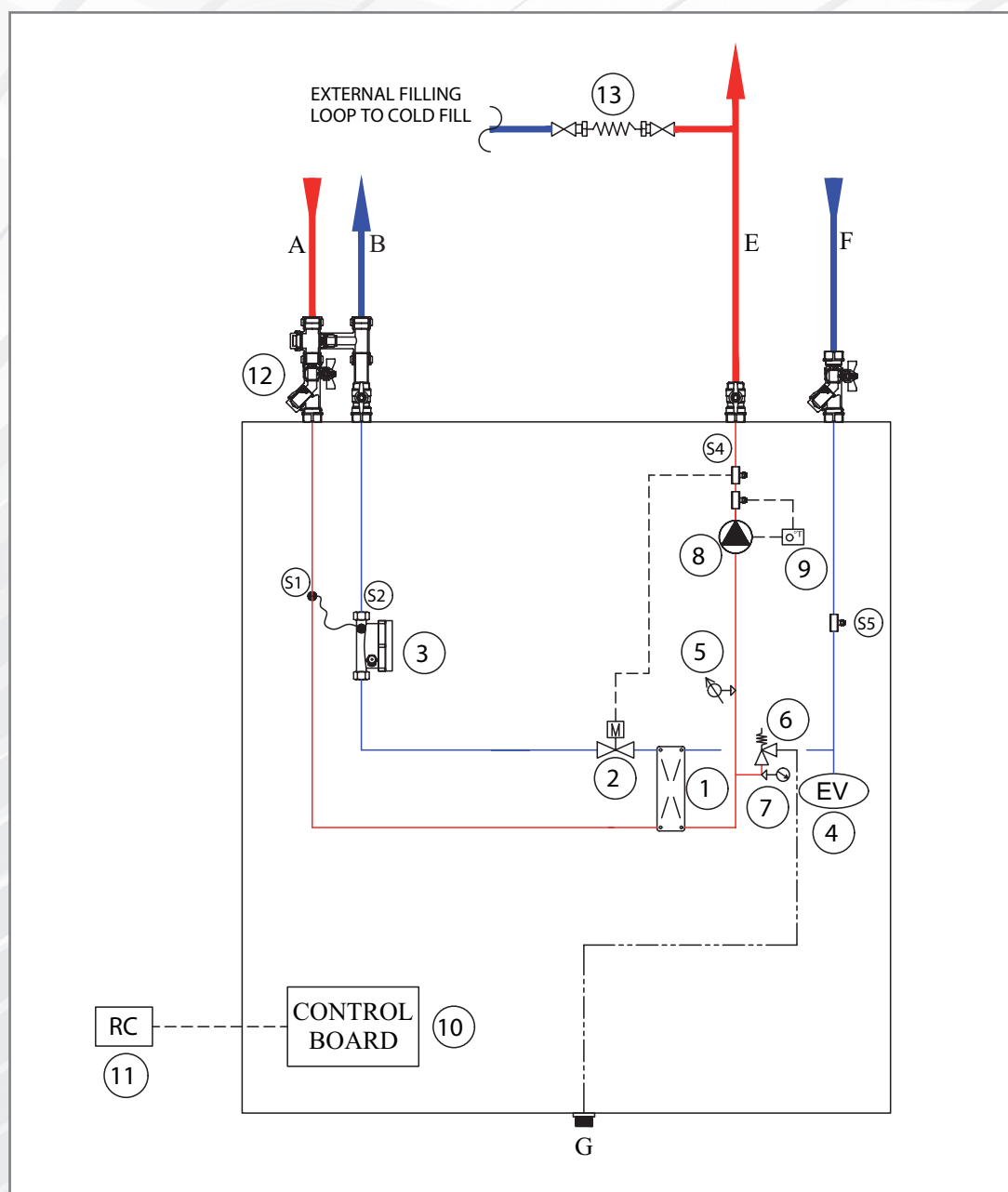
Components
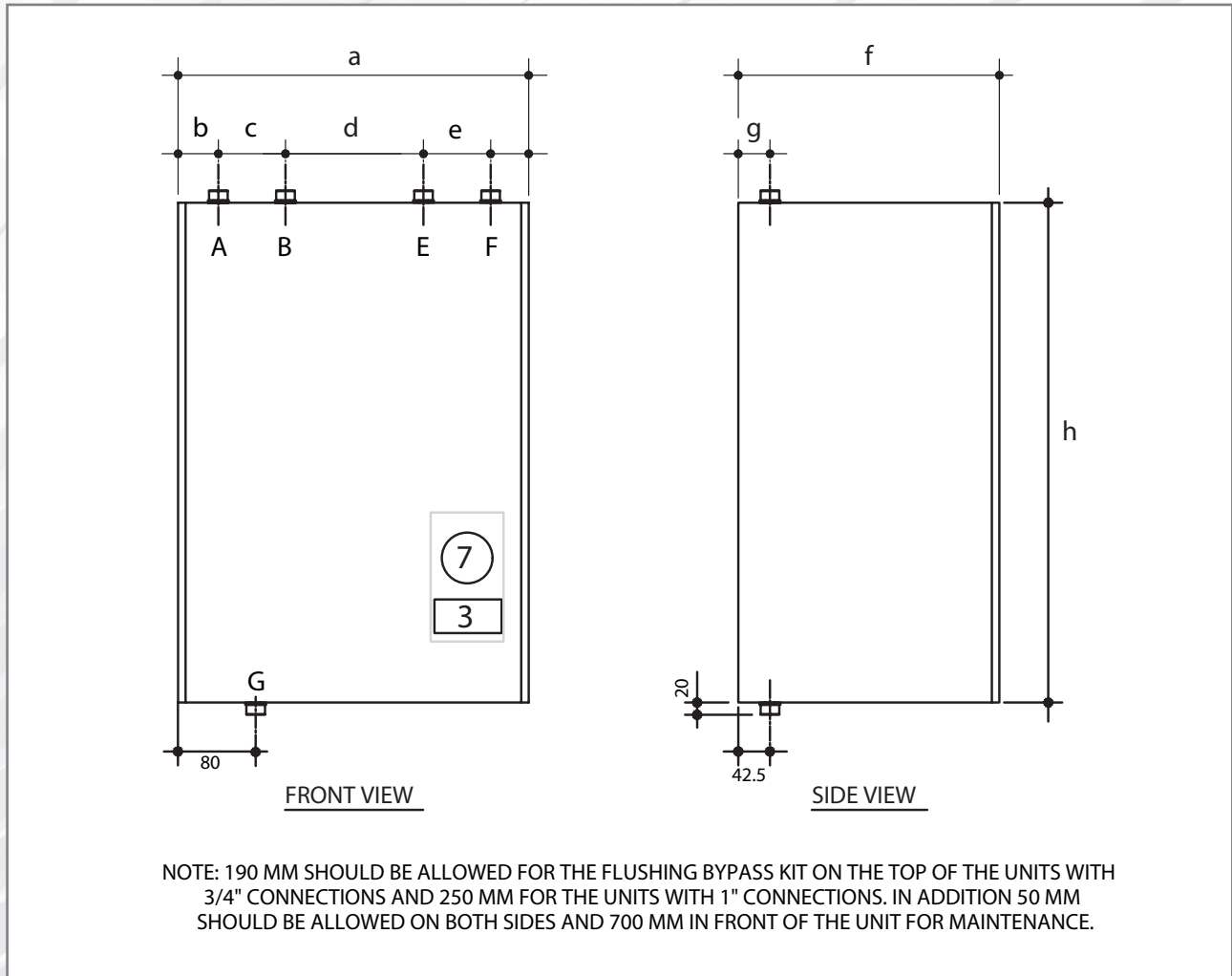
A	Primary circuit flow	4	Expansion vessel	S1	Primary flow temperature sensor
B	Primary circuit return	5	Low pressure switch	S2	Primary return temperature sensor
E	Dwelling heating flow	6	Safety relief valve	S4	Dwelling flow temperature sensor
F	Dwelling heating return	7	Pressure gauge		
G	Connection for safety discharge	8	Secondary circulation pump	S5	Dwelling return temperature sensor
		9	Safety thermostat (Optional)		
1	Plate heat exchanger	10	Control Board		
2	Pressure Independent Control Valve with actuator	11	Room controller		
		12	Flushing by-pass kit		
3	Ultrasonic energy meter	13	Filling loop (External)		

Typical ModuSat® SP Heating Unit

FRONT VIEW

SIDE VIEW

NOTE: 190 MM SHOULD BE ALLOWED FOR THE FLUSHING BYPASS KIT ON THE TOP OF THE UNITS WITH 3/4" CONNECTIONS AND 250 MM FOR THE UNITS WITH 1" CONNECTIONS. IN ADDITION 50 MM SHOULD BE ALLOWED ON BOTH SIDES AND 700 MM IN FRONT OF THE UNIT FOR MAINTENANCE.

All Dimensions in mm

Dimensions

	a	b	c	d	e	f	g	h
SPH-R20	467	53.5	60	165	60	335	42.5	675
SPH-R70	467	53.5	90	185	90	335	42.5	675
SPH-B40	467	53.5	90	185	90	335	42.5	800
SPH-B70	560	75	140	140	140	400	82.5	825

Connections

	A, B, E, F	G
SPH-R20	3/4"	1/2"
SPH-R70	1"	1/2
SPH-B40	1"	1/2
SPH-B70	1 1/4 "	1/2"

Typical Heating Performances

	ModuSat® SP-H R20	ModuSat® SP-H R20	ModuSat® SP-H R70	ModuSat® SP-H R70	ModuSat® SP-H B40	ModuSat® SP-H B70
Heating performance (kW)	10	7	35	20	60	95
Heating flow rate (kg/s)	0.12	0.17	0.42	0.48	0.72	1.14
Heating flow/return (°C)	60 / 40	45 / 35	60 / 40	45 / 35	60 / 40	60 / 40
Primary flow/return (°C)	70 / 43.1	70 / 36.7	70 / 42.7	70 / 36.7	70 / 43.1	70 / 42.9
Primary flow (kg/s)	0.09	0.05	0.31	0.14	0.53	0.84
Residual pump head (kPa)	52	40	40	40	46	88
Primary pressure drop (kPa)	50	50	50	50	50	50
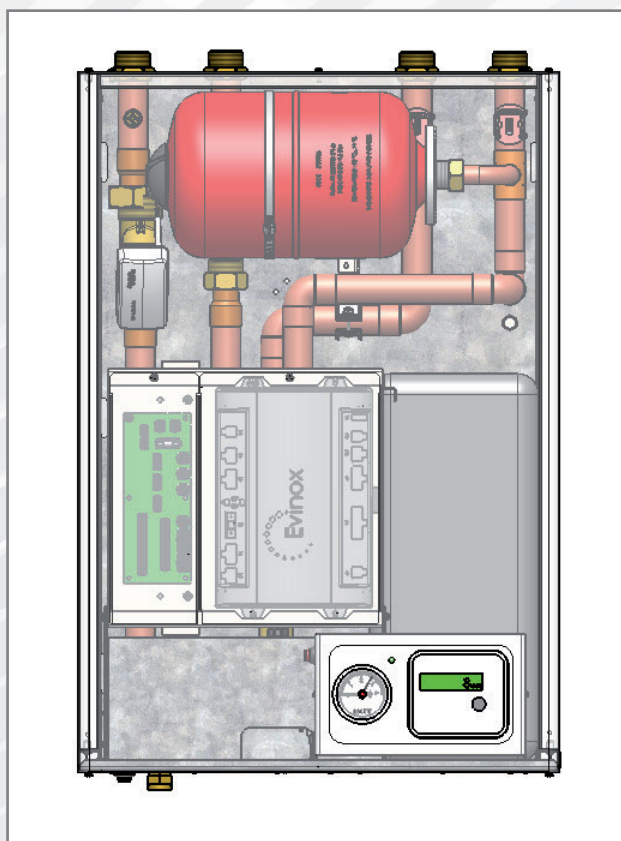
Technical features

- Nominal pressure: 16 bar
- Power supply voltage: 220/240 Volt (AC) 50 Hz
- Max supply temperature (Primary): 95 °C
- Min DCW static pressure: 1 bar
- Brazing material: Copper
- Heating expansion vessel: 8L
- Max allowable primary pressure drop: 4 bar