

SATK 60

recess mounted
heat interface unit



 **CALEFFI**
Hydronic Solutions



altecnic
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SATK 60 recess mounted heat interface unit



Introduction

The SATK 60 heat interface unit is part of 'intelligent' range of HIU from Altecnic.

The SATK 60 is the complete solution for instantaneous hot water production and space heating control.

Design

The twin plate design hydraulically separates both domestic and space heating from the central primary supply.

The internal electronic control unit ensures maximum efficiency and control but also incorporates other additional important features.

The unit can be set to hold a stable heating flow temperature, to suit the installation (radiators, UFH for example), but crucially, can also be set to vary the heating flow temperature automatically depending on the temperature of the heating return water.

This allows the unit to automatically compensate for changes due to external influences, such as outside temperature etc. thereby ensuring that the unit and the system operate at maximum efficiency

The unit also features a pump bypass, for a limited period of time, to protect the pump in case of complete radiator TRV shutdown.

The SATK60 is extremely compact in design and lightweight, benefitting both installers and architects.

The unit is also compatible with prepayment systems, allowing the heating and hot water to be shut down remotely (utilising an additional prepayment system).

This compatibility removes the need for additional motorised valves to be installed and is simply and easily retrofitable.

Note: Some prepayment system may need an additional relay (Altecnic 789835).

Operating Cycles

Domestic water cycle

This cycle always takes priority over the heating cycle.

When Domestic Hot Water (DHW) is requested, when a tap or shower is turned on (detected by the domestic water flow meter), the electronic controller opens the modulating valve, quickly adjusting the temperature detected by the domestic water probe to the selected set point value.

When the tap or shower is turned off, the modulating valve is fully closed.

The active domestic water cycle is signalled by the yellow DHW LED which illuminates.

The set point temperature value of the domestic water cycle can be set using the P1 trimmer to a value within the range of 42 to 60°C and shown on the display.

Heating cycle

Set point regulation.

When space heating is requested by the room thermostat, the circulation pump is powered while the related mixing valve is opened gradually until the set point temperature is reached.

At the end of the heating cycle, the circulation pump is switched off and the mixing valve is closed.

The active heating cycle is signalled by the yellow CH LED which illuminates.

The heating cycle temperature set point can be set using trimmer P2 and shown on the display.

Safety and alarms

Error codes associated with faults are signalled by the illumination of the FAULT LED also shown on the display (see instruction manual).

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Optional functions

Domestic water cycle

DHW preheating function

The function is enabled by setting DIP switch 5 to the ON position.

During periods when domestic hot water is not required, if the DHW probe detects a temperature 10°C below the SET value, the controller partially opens the domestic water modulating valve for the time required (max. 5 mins) to bring the temperature detected up to a value 5°C below the set point value.

The active domestic water cycle is signalled by the flashing yellow DHW LED. This function is less of a priority than any domestic water or heating cycles.

Heating cycle

Modulating temperature regulation with compensated set point.

The function is enabled by setting DIP switch 1 to the OFF position.

When the function is enabled, the flow temperature is modified according to the temperature detected by the compensation probe (located on the user return pipe).

This keeps the actual thermal output of the slab - and therefore the ambient thermal load - under control. The thermal response time of the system is thus minimised.

Floor slab heating function

This facilitates the laying of underfloor heating systems at low temperatures.

This function can only be activated and executed if there are no faults.

The function is activated by pressing and holding the RESET button for 8 seconds.

The yellow CH LED blinks while the floor slab heating function is in operation. The function has a duration of 240 hours, and is carried out by simulating a request to run in heating mode starting from a set point of 25°C and rising in regular intervals to a temperature of 45°C.

Once the maximum set point has been reached, the process is reversed following the same procedures (from the maximum set point to the minimum set point).

This function has priority over heating and hot water cycles, and can be suspended at any time by pressing and holding the RESET button for 8 seconds.

Products

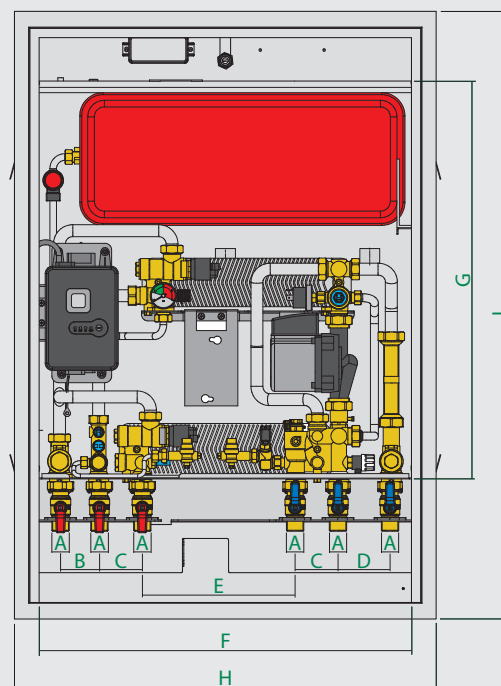
Product Code	Description
SATK 60103HE	Recess mounted, indirect twin plate heat interface unit for temperature heating and instantaneous domestic hot water.
794960	First fix jig
794540	Template for cold water meter

Technical Specification

Component

Component	Materials
Frame:	Painted steel RAL 9010
Components:	Brass EN12165 CW617N
Connecting pipework:	Steel
Heat exchanger:	Brazed stainless steel

Dimensions



Code	A	B	C	D	E
SATK 60	G ³ / ₄ B	59	65	79	232

Code	F	G	H	J	kg
SATK 60	570	590	625	890	22

Technical Specification

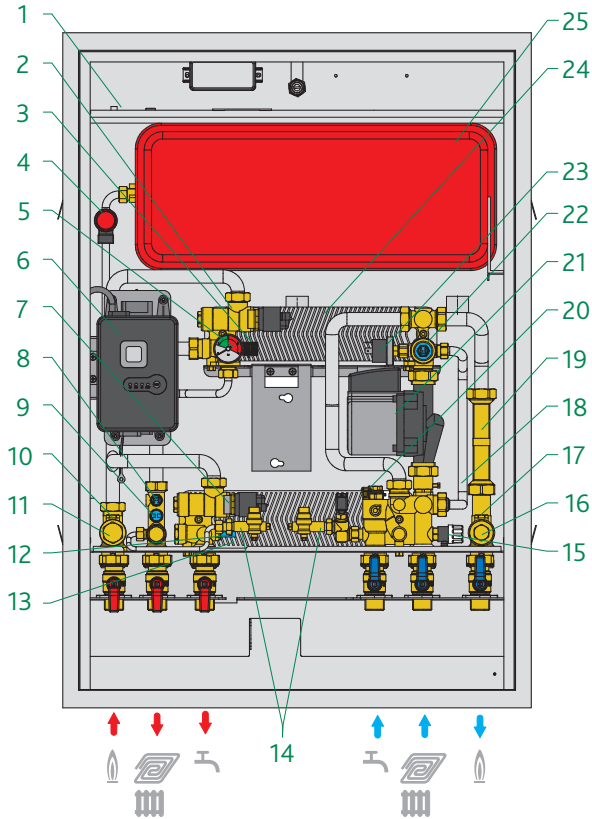
Performance

Medium:	Water
Max. percentage of glycol:	30%
Maximum temperature:	85°C
Maximum static working pressure:	16 bar - primary 3 bar - secondary 10 bar - domestic
Nom. heating exchanger capacity:	15 kW
Nom. DHW exchanger capacity:	50 kW (prim. 80°C)
Max. recommended primary flow rate:	0.9 m ³ /h
DHW circuit max. flow rate:	20 l/m (prim. 80°C)
Min. flow to activate domestic flow meter:	2.7 l/m ±0.3
Max. differential pressure on domestic water modulating valve (Δp):	0.9 bar
Min. differential pressure (Δp):	0.35 bar
Electrical supply:	230 V (ac) ±10% 50Hz
Pump:	UPM3 15-70
Max. Power consumption:	80W
Protection class:	IP 40
Pump bypass setting:	0.45 bar
Actuators:	stepper 24 V
Probes:	NTC 10 kΩ
Safety relief valve setting:	3 bar
Safety thermostat:	55°C ±3
Expansion vessel:	7 litre
Pressure switch:	opening 0.4 bar - closing 0.8 bar

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SATK 60103HE Indirect Heat Interface Unit

Components - SATK 60103HE



Components

Item	Component
1	Template box - code 794960
2	2-way modulating valve (primary heating)
3	Heating circuit (secondary) manual air vent
4	Safety relief valve
5	Pressure gauge
6	Electronic control unit
7	DHW modulating valve
8	Heating flow temperature probe (secondary)
9	Thermal safety thermostat
10	Heat meter flow temperature probe socket
11	Primary circuit strainer
12	DHW temperature probe
13	DHW heat exchanger
14	Filling loop ball valve
15	Heating circuit drain valve
16	Primary circuit drain valve
17	Heat meter return temperature probe pocket
18	Protective pump bypass
19	Heat meter spool
20	DHW priority flow meter
21	Pump
22	Flow temperature compensation return probe and strainer
23	Pressure switch
24	Heating heat exchanger
25	Expansion vessel

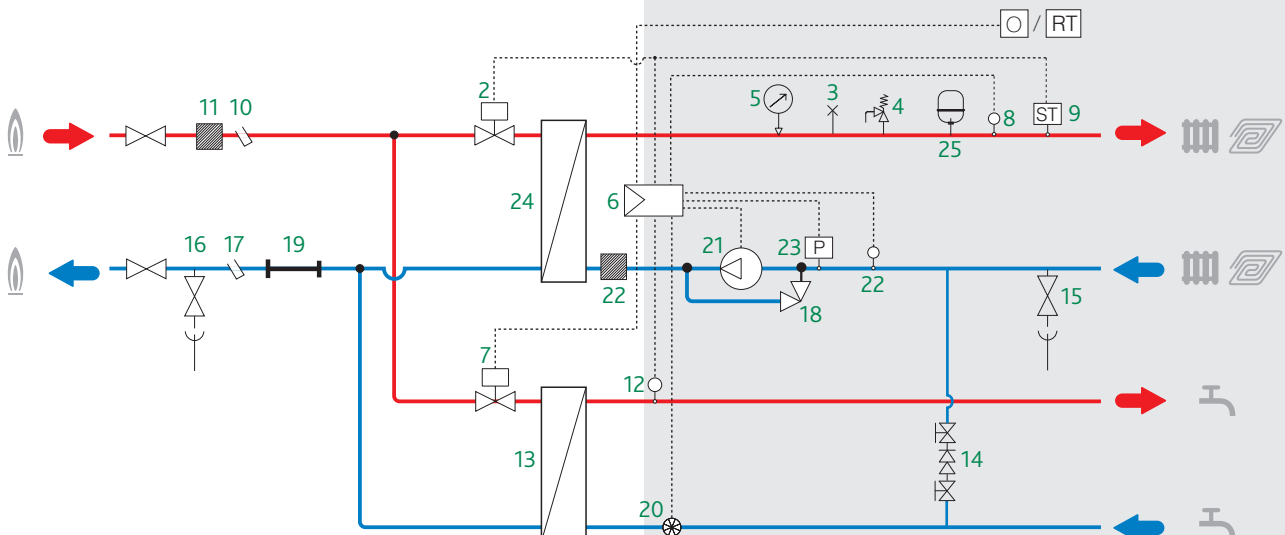
Performance

- Heating range
 - LOW temperature: 25 to 45°C
 - MEDIUM/HIGH temperature: 45 to 75°C
- Set point regulation: 42 to 60°C
- DHW range: 42 to 60°C

Settable Optional Functions

- Domestic water cycle: ~ DHW exchanger preheating
- Heating cycle at LOW temperature setting
 - ~ modulating temperature regulation with compensated set point
 - ~ floor slab heating function

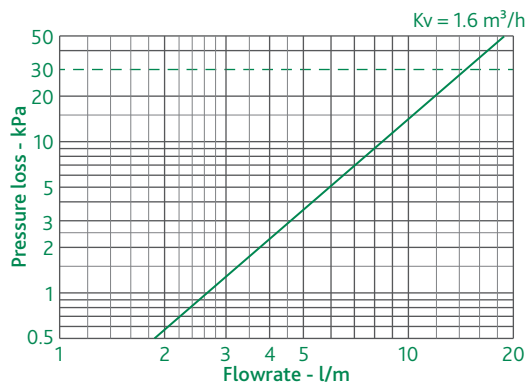
Schematic SATK 60103HE



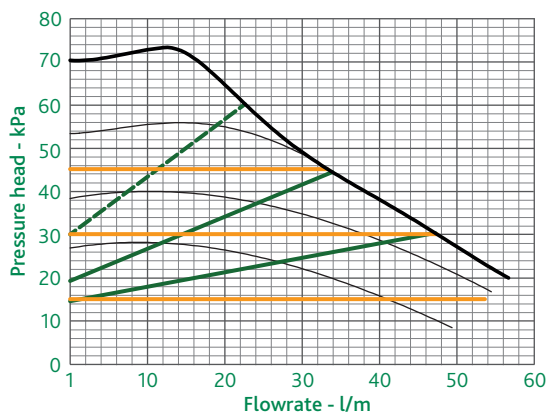
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SATK 60103HE Indirect Heat Interface Unit

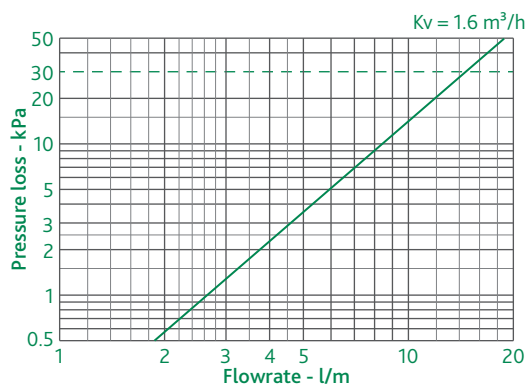
Hydraulic Characteristics
Heating function - primary



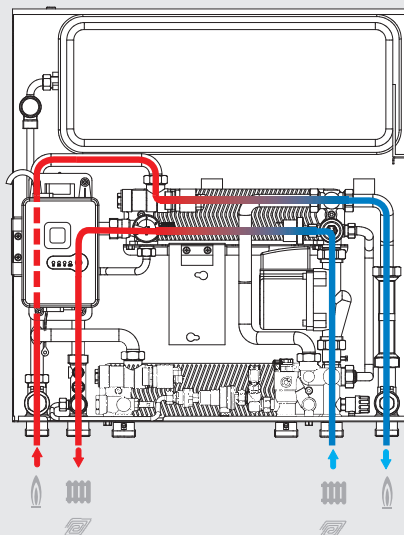
Pump characteristics - UPM3 15-70



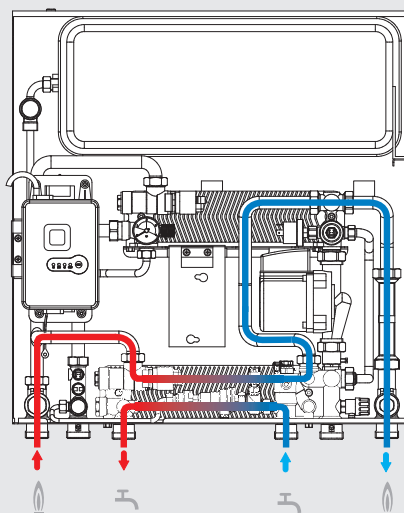
DHW - primary side



Flow Path
SATK 60103

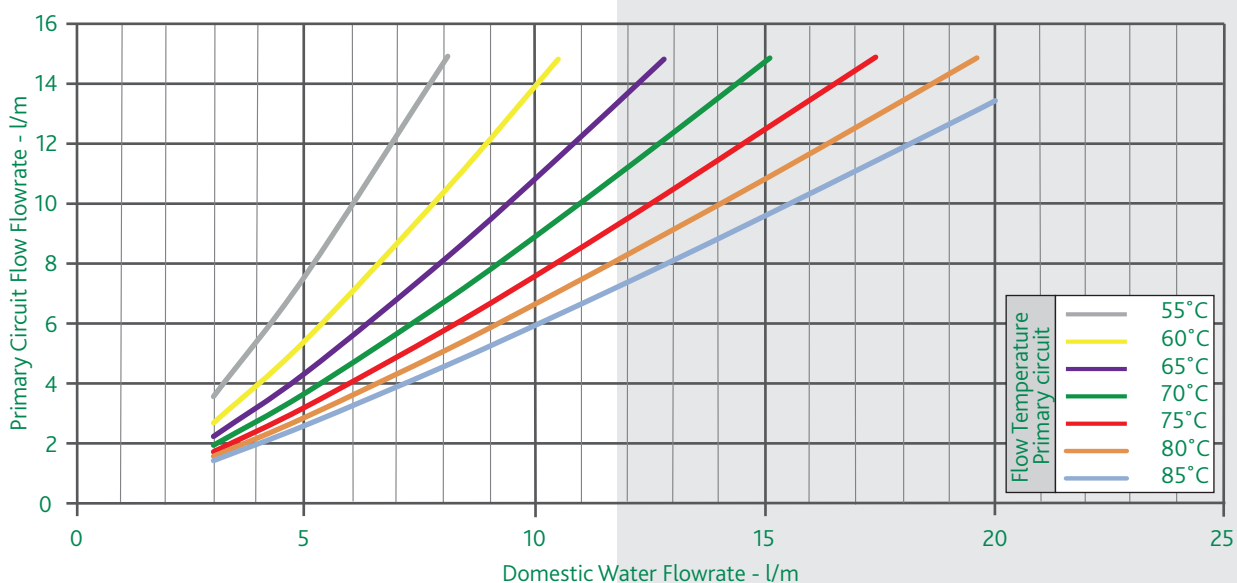
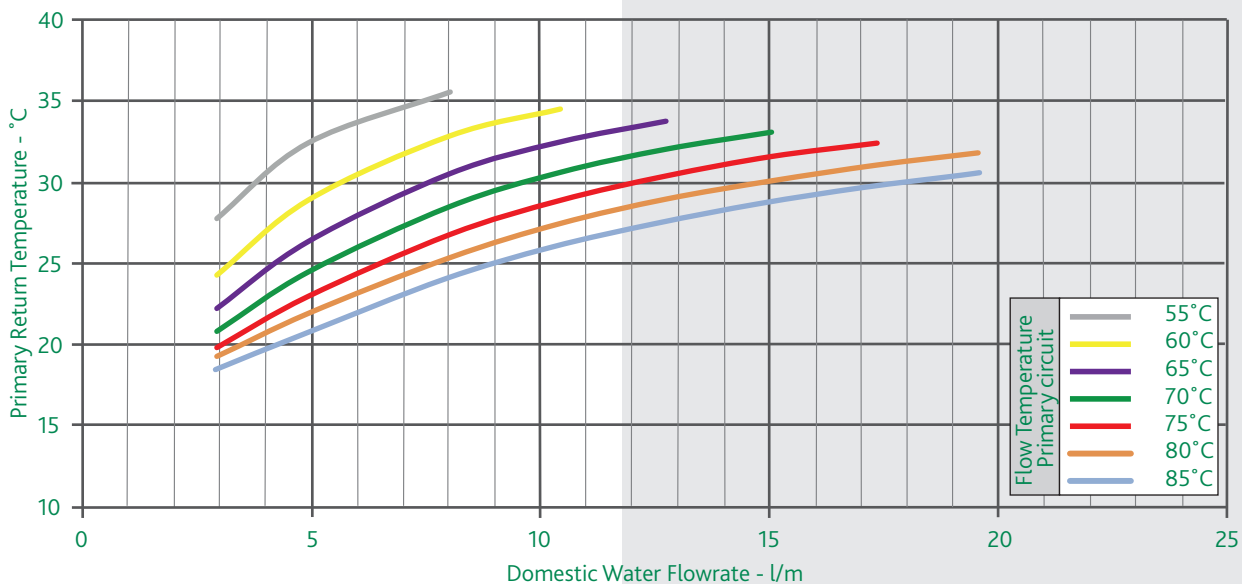


- Proportional head characteristics
- - - Factory setting
- Constant head characteristics
- Constant speed characteristics



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SATK 60 Series Domestic Hot Water Performance Charts
 DHW 10 to 48°C, maximum Δp 30 kPa



SATK 60 Series Domestic Hot Water Performance at 48°C
 DHW 10 to 48°C, maximum Δp 30 kPa

Primary circuit temperature °C	Domestic water flowrate l/m	Primary return temperature °C	Primary flowrate l/m	Power kW
55°C	8.1	34.0	14.6	21.5
60°C	10.5	32.6	14.6	27.8
65°C	12.8	31.6	14.6	33.9
70°C	15.1	30.7	14.6	40.0
75°C	17.4	29.8	14.6	46.1
80°C	19.6	29.0	14.6	52.0
85°C	21.9	28.1	14.6	58.1

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Accessories

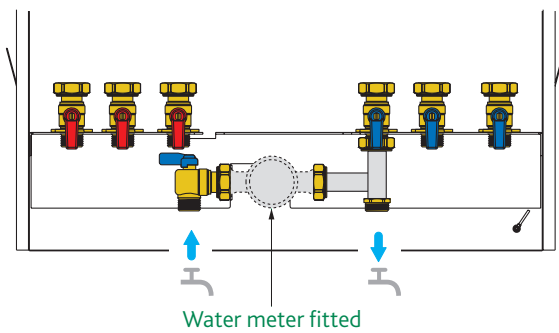
Template for Cold Water Meter



Code 794540 - 1/2"

Domestic hot water template consisting of a BALL STOP shut-off ball valve with check valve and flushing pipe.

Application Diagram



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Notes:

E & O.E
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Altecnic Ltd Mustang Drive, Stafford, Staffordshire ST16 1GW
T: +44 (0)1785 218200 E: sales@altecnic.co.uk
Registered in England No: 2095101

altecnic.co.uk

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altecnic
Caleffi group