SATK series heat interface unit Instantaneous domestic hot water production

Code SATK16315





Function

The SATK series HIU allows independent control of heat regulation and domestic hot water production within centralised heating systems.

Product range

SATK16315

High-temperature heating HIU, instantaneous domestic hot water production, mechanical control, equipped with 30kPa differential pressure regulating valve, zone valve and thermostatic mixing valve.

Technical specifications

Materials	
Frame:	galvanised steel
Exchanger:	brazed stainless steel
Connection pipes:	copper
Components:	brass EN12165 CW617N
Performance	
Medium:	water, max. 30 % glycol
Maximum medium temperature:	85 °C
Max. working pressure: -	primary circuit: PN 10 bar
-	domestic circuit: PN 10 bar
Nominal DHW exchanger capac	ity: 40 kW
DHW circuit flow rate:	min. 1,8 ± 0,3 l/min
	max 18 l/min
Heat interface units connection	on:
primary circuit:	3/4"
heating circuit:	3/4"
DHW circuit:	3/4"

Size (mm)



Characteristic components



SATK16315 Primary flow rate pre-adjustment

SATK16315 provides mechanical proportional regulation, so the supply flow rate to the exchanger (primary) increases as the DHW draw-off flow rate (secondary) increases.

It is possible to vary the regulation characteristics according to the primary medium temperature in order to limit the return temperature as much as possible without affecting the performance on the utility side.



SATK16315 Hydraulic characteristics of the proportional regulation



DHW production

SATK16315 has a 5219 series thermostatic mixing valve with an adjustable set temperature from 35 to 65 $^\circ \rm C.$ This mixing valve also features a thermal shut-off function that operates if there is no cold water at the inlet.

DHW production performance

Primary T	DCW - DHW	Flow rate	DCW - DHW	Flow rate
°C	°C	l/min	°C	l/min
55		12,8	8,7	
60		15,9	10–50	12,1
65	10–45	18,5		15,0
70		20,3		17,6
75		22,2		19,3
80		24,1		20,9

Operating principle

The thermostatic mixing valve mixes the hot and cold water at the inlet so as to maintain the mixed water constantly at the set temperature at the outlet. A thermostatic element (1) is fully immersed in the mixed water flow (2). It contracts or expands, moving an obturator (3) which controls the passage of hot (4) or cold (5) water at the inlet. If the inlet temperature or pressure changes, the internal element automatically reacts to restore the set temperature at the outlet.

Construction details

Anti-scale materials

The materials used in constructing the mixing valve were selected to eliminate seizing due to limescale deposits. All functional parts have been made using a special anti-scale material with low friction coefficient, which ensures over time performance.

Thermal shut-off

In the event of accidental cold water supply failure, the obturator shuts off the hot water passage, thus preventing the delivery of mixed water. This is only guaranteed when there is a minimum temperature difference between the inlet hot water and the mixed water delivery of 15 °C.



Primary circuit return temperature

Primary temperature 60 °C - DCW 10 °C



Primary temperature 70 °C - DCW 10 °C



Primary temperature 80 °C - DCW 10 °C



Hydraulic characteristics

Domestic function / Exchanger primary



Domestic function / Exchanger secondary



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Pre-setting position

0,08

0,17

0,25

0,55

1,40

Heating function





Differential pressure regulating valve

SATK16315 has a differential pressure regulating valve with a fixed setting of 30 kPa. This device ensures that the satellite performance does not vary with the upstream differential pressure conditions. This parameter is nut fully under control in variable flow rate systems, and can sometimes cause discomfort, noise and excessively high flow rates.

The differential pressure regulating valve is a dynamic balancing device that "cuts" any excessive head that the product or downstream system do not require for operation.



Finishing accessories



789

painted sheet metal cover for SATK16 and closed-cell expanded PE-X insulation. Minimum insulation thickness: 10 mm. Reaction to fire (DIN 4102): class B2.

Code	Utilisation	
789 515	painted sheet metal cover (without insulation)	
789 516	painted sheet metal cover (with insulation)	

SPECIFICATION SUMMARY

Code SATK16315

Two-way satellite for high temperature, with instant domestic hot water production. Complete with: domestic priority valve, mechanical modulating valve with manual pre-set, plate exchanger, differential pressure regulating valve with fixed setting of 30 kPa, thermostatic mixing valve with adjustable thermal shut-off (35–65 °C), primary strainer, zone valves with ON/OFF thermo-electric head. Dimensions 420 x 450 x 200 mm. Medium: water, maximum percentage of glycol 30 %. Maximum medium temperature 85 °C. Maximum working pressure 10 bar, domestic circuit 10 bar. Nominal DHW exchanger capacity: 40 kW. Domestic circuit flow rate: min. 1,8 \pm 0,3 l/min. Maximum pressure difference: 2 bar. Materials: components made of brass EN 12165 CW617N; connection pipes made of copper

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice.

