

Datasheet

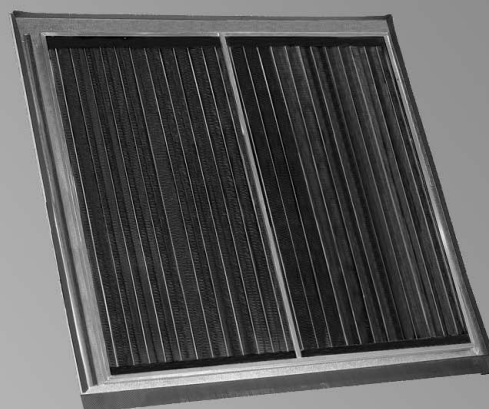
Part numbers and prices: see pricelist



File in:
Vitotec folder, register 13



Vitosol 100, SV1



Vitosol 100, 5DI

VITOSOL 100 Type SV1 and SH1

Flat-plate collector for vertical or horizontal installation, for installation on flat and pitched roofs as well as integration into roofs and freestanding installation

VITOSOL 100 Type 5DI

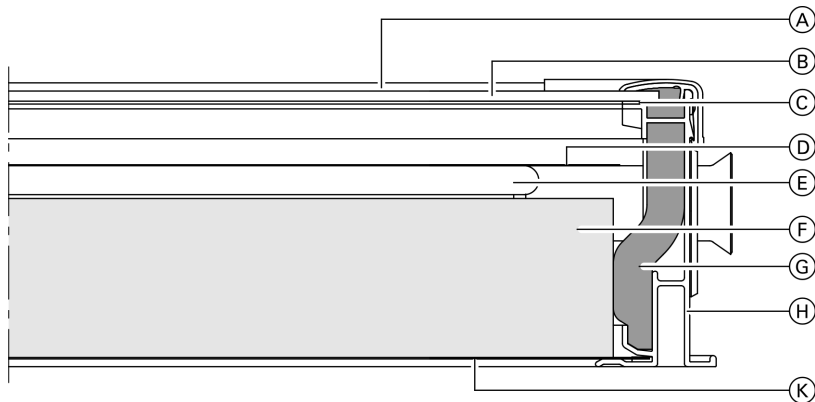
Large area flat-plate collectors for integration into pitched tiled roofs.

For DHW, swimming pool water and central heating via a heat exchanger.

Product description Vitosol 100, type SV1 and SH1

The main component of the Vitosoll 100 is the Sol-titanium coated copper absorber. It ensures high absorption of solar radiation and low emission of thermal radiation. A meander-shaped copper pipe through which the process medium flows is fitted to the absorber. The process medium channels the absorber heat through the copper pipe. The absorber is encased in a highly insulated collector housing, which minimises the thermal losses of the collector. The high quality thermal insulation provides temperature stability and is free from gas emissions. The cover comprises a solar glass panel. The glass has a very low iron content, thereby reducing reflection losses.

Up to 12 collectors can be combined to make one collector array. Flexible, insulated connecting pipes sealed with O-rings are supplied for this purpose. A connection kit with locking ring fittings enables the collector array to be readily connected to the pipes of the solar circuit. The collector temperature sensor is mounted in a sensor well set in the flow of the solar circuit.

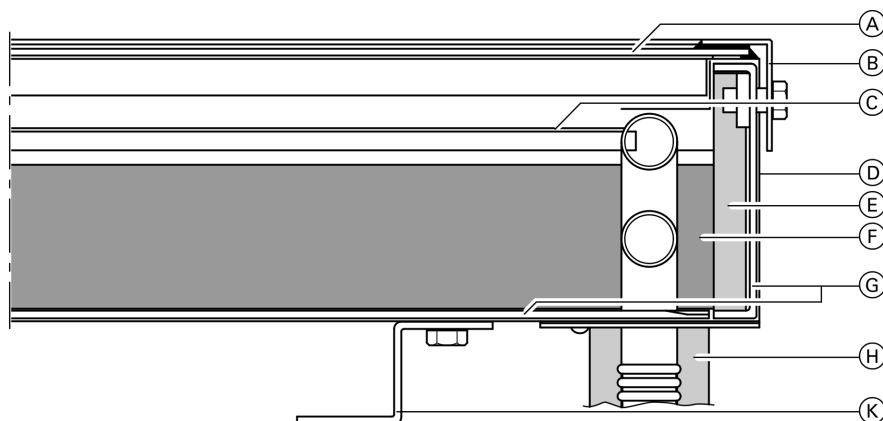


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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Ⓐ Aluminium cover strip Ⓑ Solar glass cover, 3.2 mm Ⓒ Flexible endless gasket Ⓓ Copper absorber Ⓔ Meander-shaped copper pipe | <ul style="list-style-type: none"> Ⓕ Mineral fibre insulating mat Ⓖ Melamine epoxy foam insulation Ⓗ Aluminium frame in RAL 8019 Ⓚ Aluminium-zinc bottom plate |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Product description - Vitosol 100, type 5DI

The main component of the Vitosoll 100 is the Sol-titanium coated copper absorber. It ensures high absorption of solar radiation and low emission of thermal radiation. A copper pipe through which the process medium flows is fitted to the absorber. The process medium channels the absorber heat through the copper pipe. The absorber is encased in a highly insulated collector housing, which minimises the thermal losses of the collector.

The high quality thermal insulation provides temperature stability and is free from gas emissions. The cover comprises a solar glass panel. The glass has a very low iron content, thereby reducing reflection losses. At the back of the collector are flexible, thermally insulated flow and return pipes as well as the sensor well for the collector temperature sensor.



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|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Ⓐ Solar glass cover, 4 mm Ⓑ Aluminium cover frame Ⓒ Harp absorber made from copper | <ul style="list-style-type: none"> Ⓓ Aluminium housing Ⓔ Mineral fibre insulating strips Ⓕ Mineral fibre insulating mat |
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Product description - Vitosol 100, type 5DI (cont.)

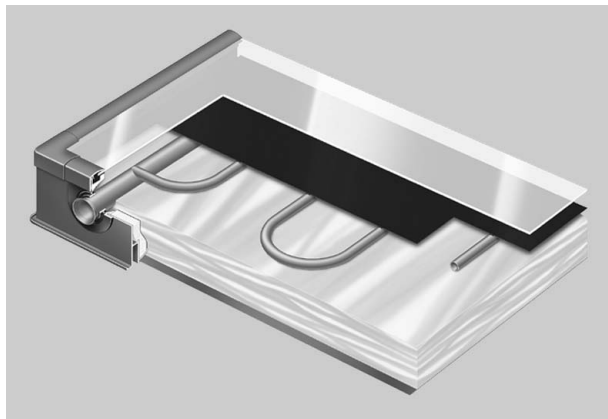
Ⓒ Reinforcement frame

Ⓗ Flexible connecting pipe with thermal insulation

Ⓚ Installation hooks

Benefits Vitosol 100, type SV1 and SH1

- Powerful flat-plate collector with copper absorber and highly efficient Sol-titanium coating.
- Copper absorber designed as meander layout with integral header. Up to 12 collectors can be linked in parallel.
- Universal application for rooftop, roof integration and freestanding installation – vertical or horizontal orientation.
- Attractive collector design, frames in RAL 8019 (brown). Upon request, the frame is also available in all other RAL colours.
- The selectively coated absorber, the cover made from low ferrous solar glass and the highly effective thermal insulation ensure high solar yields.
- Permanently sealed and high stability through all-round folded aluminium frame and seamless pane gasket.
- Puncture-proof and corrosion-resistant sheet aluminium back panel.
- Easy to assemble Viessmann fixing system with load tested and corrosion-resistant components made from stainless steel and aluminium – uniform for all Viessmann collectors.
- Quick and reliable collector connection through a flexible corrugated stainless steel pipe plug-in connector.



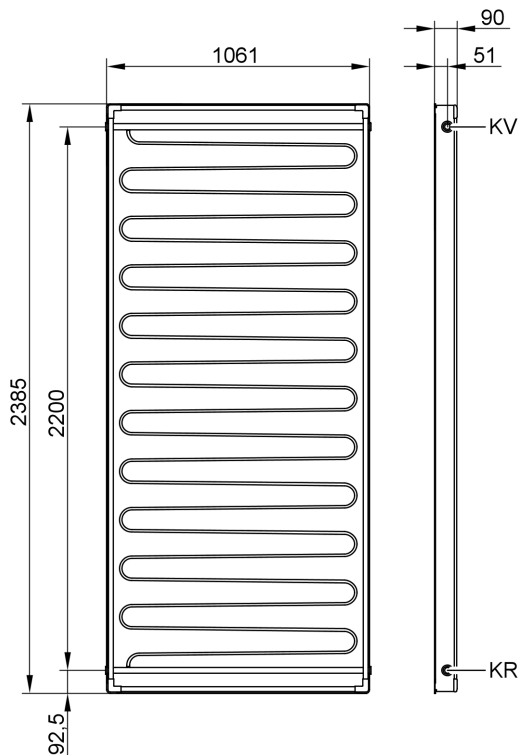
Benefits - Vitosol 100, type 5DI

- Flat-plate collector with a highly efficient Sol-titanium coating.
- High efficiency through a highly selectively coated absorber, integral piping and extremely effective insulation.
- Absorber area: 4.76 m²
- Quick installation due to the tiling frame fitted onto the collector, flexible connections and lifting eyes.

Specification - Vitosol 100, type SV1 and SH1

Specification

Type		SV1	SH1
Gross area*1	m ²	2.53	2.53
Absorber area	m ²	2.30	2.30
Aperture area*2	m ²	2.32	2.32
Dimensions			
Width	mm	1061	2385
Height	mm	2385	1061
Depth	mm	90	90
Optical efficiency*3	%	81	81
Thermal loss value k ₁ *3	W/(m ² · K)	3.48	3.48
Thermal loss value k ₂ *3	W/(m ² · K ²)	0,0164	0,0164
Thermal capacity	kJ/(m ² · K)	6.4	6.4
Weight	kg	45	45
Liquid content (heat transfer medium)	litres	1.83	2.48
Permissible operating pressure*4	bar	6	6
Max. idle temperature*5	°C	221	221
Connection	Ø mm	22	22
Installation area on flat roofs	m ²	approx. 1.95	approx. 2.24
Requirements of base structure and fixings	with sufficient ballast to counteract prevailing wind forces		



Type SV1

KR Collector return (inlet)
KV Collector flow (outlet)

*1 Decisive when applying for subsidies.

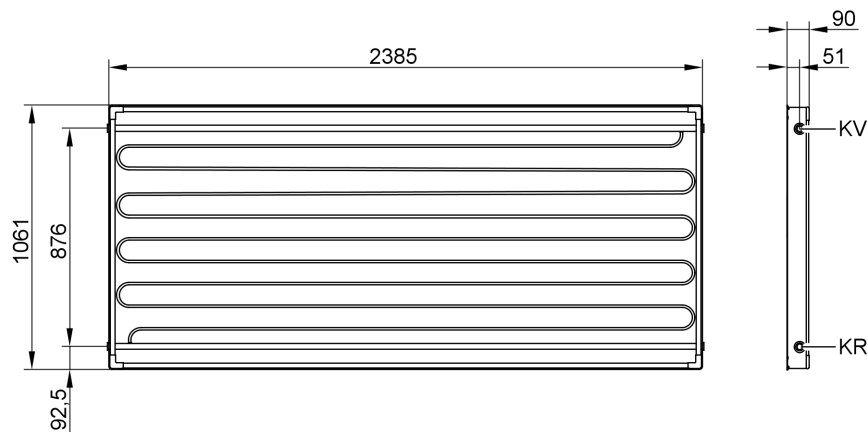
*2 Decisive when sizing the system.

*3 Relates to the absorber area.

*4 The collectors must be pressurised in cold, sealed systems with a pressure of at least 1.5 bar.

*5 The idle temperature is the temperature which occurs at the hottest part of the collector at 1000 W global radiation strength if no heat is drawn off.

Specification - Vitosol 100, type SV1 and SH1 (cont.)



Type SH1

KR Collector return (inlet)
KV Collector flow (outlet)

Specification - Vitosol 100, type 5DI

Specification

Gross area *1	m ²	5.25
Absorber area	m ²	4.76
Aperture area *2	m ²	4.92
Dimensions		
Width	mm	2570
Height	mm	2040
Depth	mm	116
Optical efficiency *3	%	84
Thermal loss value k₁ *3	W/(m ² · K)	4.16
Thermal loss value k₂ *3	W/(m ² · K ²)	0,0073
Thermal capacity	kJ/(m ² · K)	6.4
Weight	kg	105
Liquid content (heat transfer medium)	litres	4.2
Permissible operating pressure *4	bar	6
Max. idle temperature *5	°C	185
Connection	Ø mm	22
Requirements of base structure and fixings	with sufficient ballast to counteract prevailing wind forces	

*1 Decisive when applying for subsidies.

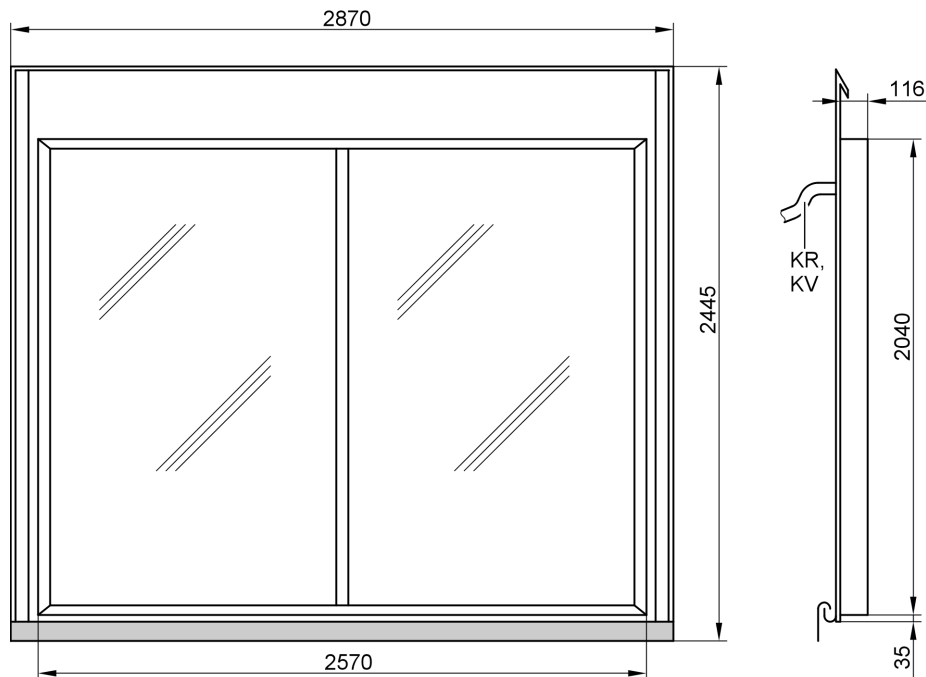
*2 Decisive when sizing the system.

*3 Relates to the absorber area.

*4 The collectors must be pressurised in cold, sealed systems with a pressure of at least 1.5 bar.

*5 The idle temperature is the temperature which occurs at the hottest part of the collector at 1000 W global radiation strength if no heat is drawn off.

Specification - Vitosol 100, type 5DI (cont.)



KR Collector return (inlet)
KV Collector flow (outlet)

Product description - Vitosol 100, type SV1 and SH1

Vitosol 100 is delivered fully assembled and fully wired.

Viessmann offers complete solar heating systems with Vitosol 100 (packet) for DHW heating and/or central heating backup (see price list register 13).

Delivered condition - Vitosol 100, type 5DI

The collector is delivered complete with roofing frame, connecting pipes and lifting eyes.

Accessories - Vitosol 100, type SV1 and SH1

Packed separately, subject to order:

- The fixing sets contain components required for the relevant method of installation, such as:
 - Timber
 - Roof hooks
 - Mounting plates
 - Mounting rails

- Connecting elements for mounting rails
- Clamping bolts, screws, nuts
- Roofing frames and sealing material for roof integration
- Connecting pipes
- Connection set
- Sensor well set
- Spare parts set (assortment of small parts which can get lost during the collector installation)

Accessories - Vitosol 100, type SV1, SH1 and 5DI

- Solar-Divicon (pump station for the collector circuit)
- Solar circuit pump line (for a second pump circuit)
- Connecting cable, 24 m long
- Installation set for connecting pipe to the DHW cylinder
- Air separator
- Quick-acting air vent valve with tee and locking ring fitting
- Locking ring fitting (with or without air vent valve)
- Connecting cables, 1.0 m long, 2 pieces
- Solar flow and return line
- Fill valve
- Filling station
- Manual solar fill pump
- Solar expansion vessel with shut-off valve
- Pre-cooling vessel
- Frost protection gauge
- Casing for water connections


- Cover strip for the area between collectors
- Heat transfer medium
Non-toxic liquid for solar heating systems with active anti-corrosion and anti-ageing protection.

Specification - heat transfer medium

Protection against cold:	to $-28\text{ }^{\circ}\text{C}$
Density at $20\text{ }^{\circ}\text{C}$:	$1.032\text{ to }1.035\text{ g/cm}^3$ according to ASTM D 1122
Viscosity at $20\text{ }^{\circ}\text{C}$:	$4.5\text{ to }5.5\text{ mm}^2/\text{s}$ to DIN 51562
pH value:	9.0 to 10.5 according to ASTM D 1287
Colour:	transparent, violet fluorescent
Container:	25 or 200 litres in a disposable container

Tested quality

The collector meets the requirements of the "Blue Angel" certificate of environmental excellence to RAL UZ 73.

 CE designation according to current EC Directives.

Printed on environmentally-friendly,
chlorine-free bleached paper



Subject to technical modifications.

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