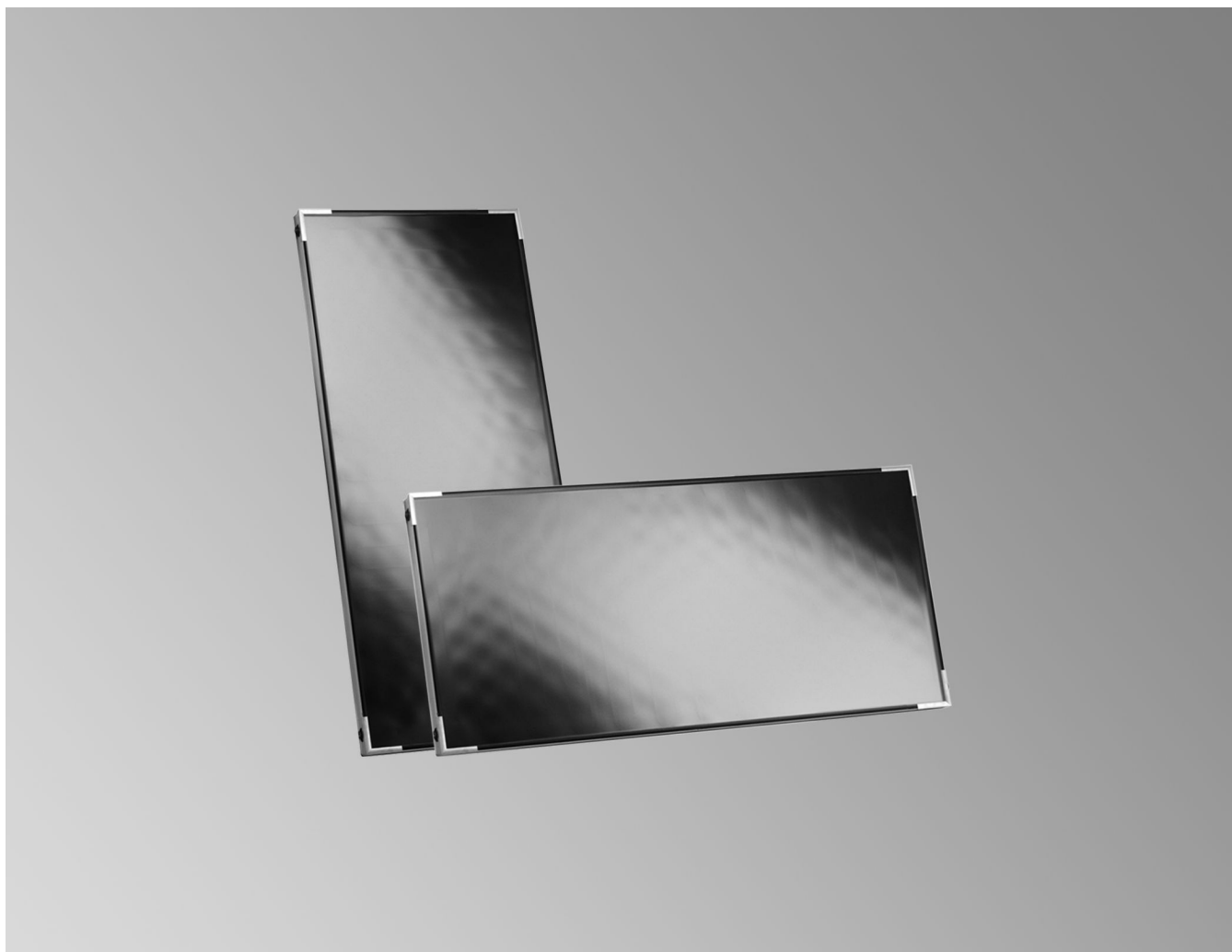


## Datasheet

Part no. and prices: See pricelist



### **VITOSOL 100-FM/-F** Type SV1F/SH1F and SV1B/SH1B

Flat-plate collector for vertical or horizontal installation,  
for installation on flat and pitched roofs, and for freestanding  
installation.  
Type SH also on façades.

## Product description – Vitosol 100-FM, type SV1F/SH1F and Vitosol 100-F, type SV1B/SH1B

The absorbers of the Vitosol 100-F and Vitosol 100-FM collectors, with their selective coating, ensure a high level of absorption of insolation. The copper pipe shaped like a meander ensures an even heat transfer at the absorber.

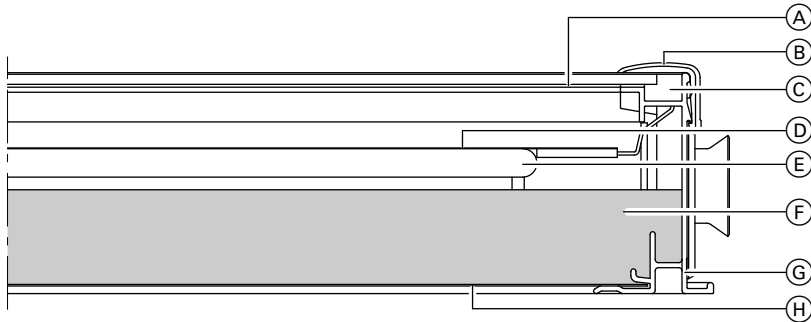
The collector casing features heat-resistant thermal insulation and a cover made from low ferrous solar glass.

Flexible connection pipes sealed with O-rings provide a secure parallel connection of up to 12 collectors.

A connection set with locking ring fittings enables the collector array to be readily connected to the solar circuit pipework. The collector temperature sensor is mounted in a sensor well set, located in the solar circuit flow.

The collector is available in 2 versions

- Vitosol 100-FM, type SV2F/SH2F with ThermProtect switching absorber coating
- Vitosol 100-F, type SV1B/SH1B with a special absorber coating is designed for coastal regions (see chapter "Specification").



- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>(A) Solar glass cover, 3.2 mm</li> <li>(B) Aluminium cover bracket at the collector corners</li> <li>(C) Pane seal</li> <li>(D) Absorber</li> </ul> | <ul style="list-style-type: none"> <li>(E) Meander-shaped copper pipe</li> <li>(F) Thermal insulation made from mineral fibre</li> <li>(G) Aluminium frame</li> <li>(H) Steel base plate with an aluminium-zinc coating</li> </ul> |
|--|--|

## Benefits

- High-performance flat-plate collectors for above roof and flat roof installation. Vitosol-FM version with ThermProtect temperature shutdown for a steam-free and fail-safe solar thermal system
- Absorber designed with meander layout with integral headers. Up to 12 collectors can be linked in parallel.
- Aluminium frame design
- High efficiency due to absorber with selective coating; stable, highly transparent cover made from special glass and highly effective thermal insulation
- Long-lasting impermeability and high stability thanks to all-round folded aluminium frame and seamless pane seal.
- Puncture-proof and corrosion-resistant back panel made from zinc-plated sheet steel
- Easy to assemble Viessmann fixing system with statically tested and corrosion-resistant components made from stainless steel and aluminium – standard for all Viessmann collectors
- Quick and reliable collector connection through flexible corrugated stainless steel pipe push-fit connectors



## Specification

The collectors are available with 2 different absorber coatings. Type SV1B/SH1B has a special absorber coating that allows these collectors to be used in coastal regions.

### Note

Viessmann accepts no liability if Vitosol 100-FM, type SV1F/SH1F is used in these regions.

Distance to the coast:

- Up to 100 m:  
Only use type SV1B/SH1B
- 100 to 1000 m:  
Type SV1B/SH1B is recommended

### Specification

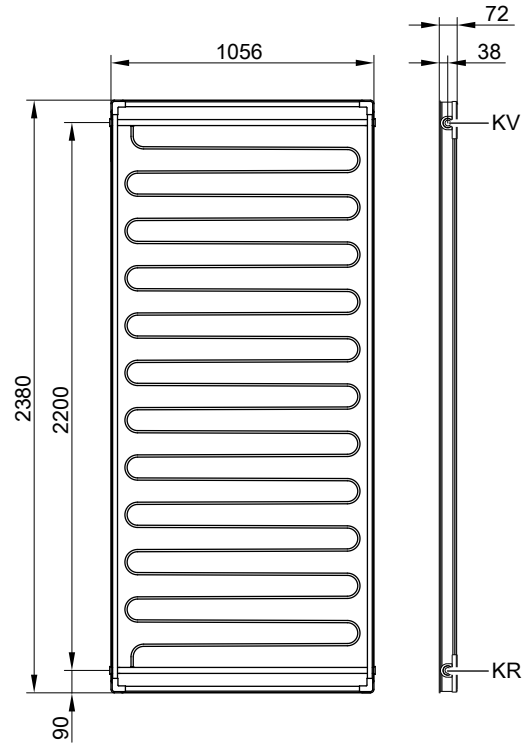
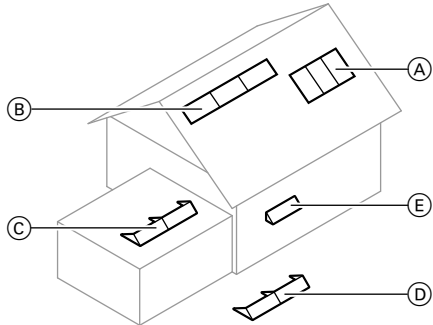
Type		SV1F	SH1F	SV1B	SH1B
<b>Gross area</b> (required when applying for subsidies)	m <sup>2</sup>	2.51	2.51	2.51	2.51
<b>Absorber area</b>	m <sup>2</sup>	2.31	2.31	2.32	2.32
<b>Aperture area</b>	m <sup>2</sup>	2.33	2.33	2.33	2.33
<b>Spacing between collectors</b>	mm	21	21	21	21
<b>Dimensions</b>					
Width	mm	1056	2380	1056	2380
Height	mm	2380	1056	2380	1056
Depth	mm	73	73	72	72
<b>Collector operating range output values</b>					
<b>Optical efficiency</b>					
– Absorber area	%	81.3	81.4		
– Gross area		74.9	74.9		
<b>Heat loss factor k<sub>1</sub></b>					
– Absorber area	W/(m <sup>2</sup> · K)	3.849	4.157		
– Gross area		3.542	3.826		
<b>Heat loss factor k<sub>2</sub></b>					
– Absorber area	W/(m <sup>2</sup> · K <sup>2</sup> )	0.045	0.036		
– Gross area		0.042	0.003		
<b>Theoretical output values across entire temperature range</b>					
<b>Optical efficiency</b>					
– Absorber area	%	82.1	81.7	75.4	75.4
– Gross area		75.5	75.2	69.2	69.2
<b>Heat loss factor k<sub>1</sub></b>					
– Absorber area	W/(m <sup>2</sup> · K)	4.854	4.640	4.15	4.15
– Gross area		4.468	4.270	3.81	3.81
<b>Heat loss factor k<sub>2</sub></b>					
– Absorber area	W/(m <sup>2</sup> · K <sup>2</sup> )	0.023	0.026	0.0114	0.0114
– Gross area		0.021	0.024	0.010	0.010
<b>Thermal capacity</b>	kJ/(m <sup>2</sup> · K)	4.7	4.7	4.5	4.5
<b>Weight</b>	kg	39	41	43.9	43.9
<b>Liquid content (heat transfer medium)</b>	Litre	1.83	2.4	1.67	2.33
<b>Permiss. operating pressure</b>	bar/MPa	6/0.6	6/0.6	6/0.6	6/0.6
With installation of an 8 bar safety valve (accessory)	bar/MPa	8/0.8	8/0.8	8/0.8	8/0.8
<b>Max. stagnation temperature</b>	°C	145	145	196	196
<b>Steam-producing power</b>					
– Favourable installation position	W/m <sup>2</sup>	0 <sup>*1</sup>	0 <sup>*1</sup>	60	60
– Unfavourable installation position	W/m <sup>2</sup>	0 <sup>*1</sup>	0 <sup>*1</sup>	100	100
<b>Connection</b>	Ø mm	22	22	22	22

### Specification for determining the energy efficiency class (ErP label)

Type		SV1F	SH1F	SV1B	SH1B
<b>Aperture area</b>	m <sup>2</sup>	2.33	2.33	2.33	2.33
The following values apply to the aperture area:					
– <b>Collector efficiency</b> $\eta_{col}$ , at a temperature differential of 40 K		59	59	57.0	57.0
– <b>Optical efficiency in the collector</b>	%	81	81	75.4	75.4
– <b>Heat loss factor k<sub>1</sub></b>	W/(m <sup>2</sup> · K)	4.81	4.6	4.14	4.14
– <b>Heat loss factor k<sub>2</sub></b>	W/(m <sup>2</sup> · K <sup>2</sup> )	0.022	0.025	0.0114	0.0114
<b>Incidence angle modifier IAM</b>		0.89	0.89	0.89	0.89

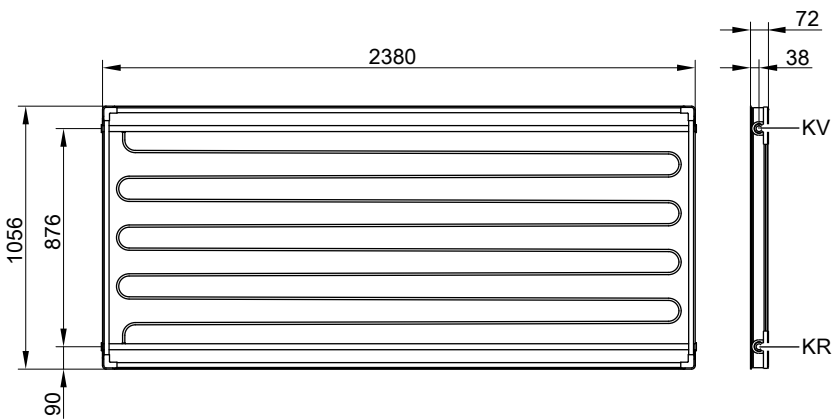
## Specification (cont.)

Type	SV1F	SH1F	SV1B	SH1B
Installation position (see following diagram)	(A), (C), (D)	(B), (C), (D), (E)	(A), (C), (D)	(B), (C), (D), (E)



Type SV1F/SV1B

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



Type SH1F/SH1B


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

## Tested quality

### Tested quality

These collectors meet the requirements of the "Blue Angel" eco-label to RAL UZ 73.

Tested in accordance with Solar KEYMARK to EN 12975 or ISO 9806.

 CE designation according to current EC Directives

Subject to technical modifications.

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