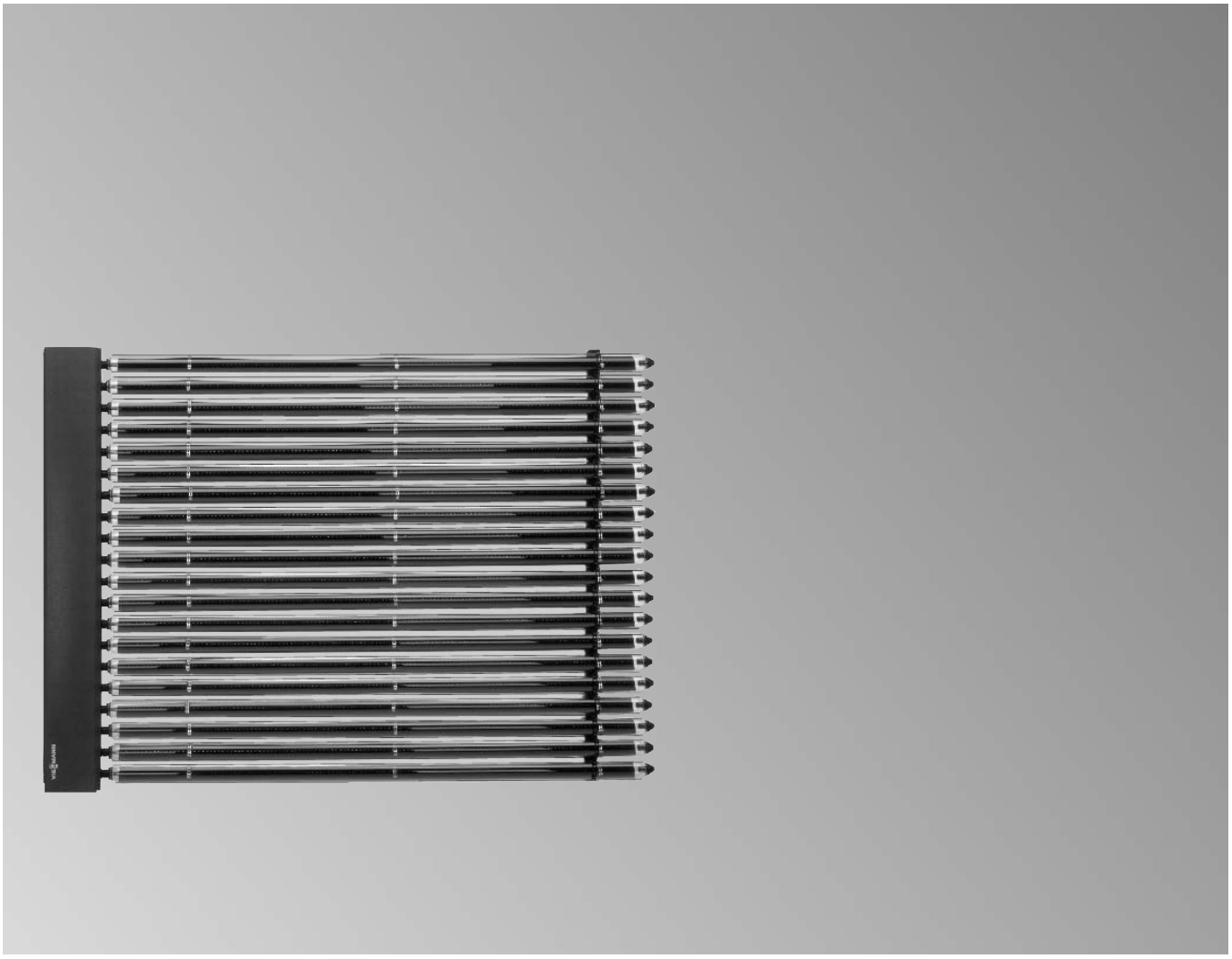
VIESMANN

VITOSOL 200

Vacuum tube collector – with direct flow
for the exploitation of solar energy

Datasheet

Part nos. and prices: see price list



File in:
Vitotec folder, register 13

Vitosol 200

Type D10, D20 and D30

Vacuum tube collector

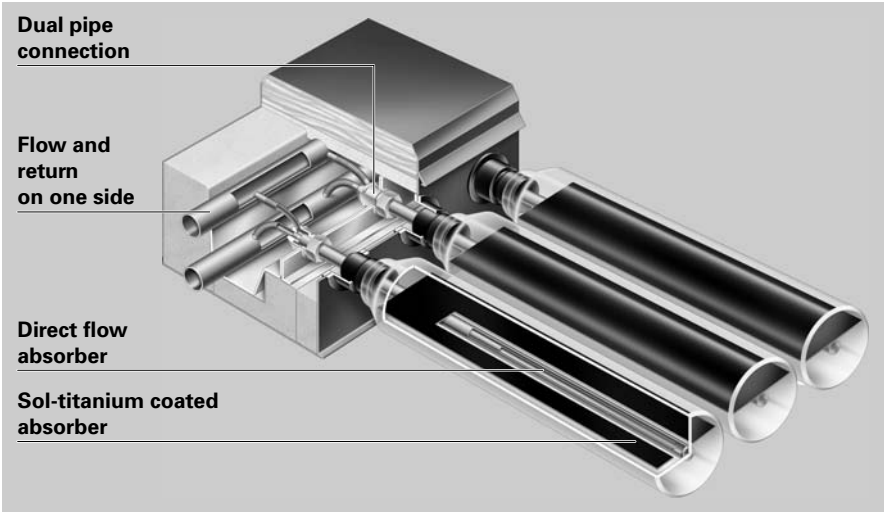
For heating DHW, low temperature heating systems and swimming pool water via a heat exchanger.

For installation on sloping and flat roofs as well as on walls.

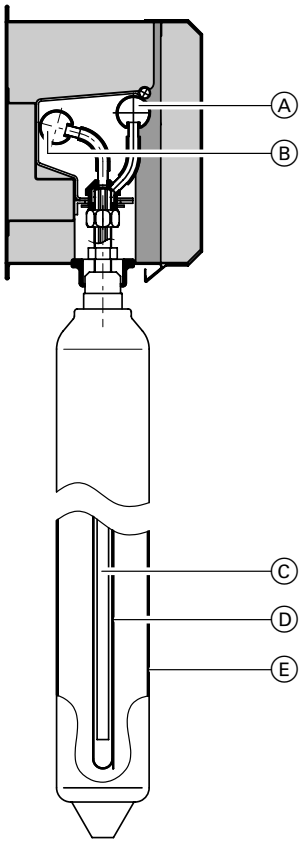
VITOSOL 200

Benefits at a glance

- High efficiency through vacuum collector tubes and Sol-titanium coated absorber.
- Direct flow through the collector tubes permits vertical and horizontal installation without a support frame.
- Suitable for universal applications on pitched and flat roofs as well as on walls.
  The tubes can be turned towards the sun for optimum yield.
- Individual tubes can be replaced.
- High levels of operational reliability and long service life, thanks to the use of high quality, corrosion-resistant materials such as borosilicate glass, copper and stainless steel.



Vitosol 200 – Vacuum tube collector with Sol-titanium coating



Ⓐ Return pipe (inlet)
Ⓑ Flow pipe (outlet)
Ⓒ Coaxial heat exchanger pipe
Ⓓ Absorber
Ⓔ Evacuated special glass tube

Function description

Vitosol 200 vacuum tube collectors are available in three versions:
Version D10 consists of 10 (≙ 1 m^2),
Version D20 consists of 20 (≙ 2 m^2),
Version D30 consists of 30 (≙ 3 m^2),
high-vacuum glass tubes.

Vitosol 200 can be installed on pitched roofs, flat roofs and on walls.

On pitched roofs, the collectors can be installed vertically (tubes at right angles to the roof ridge) or across the roof (tubes parallel to the roof ridge).

The vacuum in the glass tubes ensures optimum heat insulation. Convection losses between the glass tube and the absorber are almost completely eliminated. This enables the utilisation of even low radiation levels (diffused radiation).

Built into each vacuum tube is a Sol-Titanium coated copper absorber. This ensures high absorption of solar radiation and low emission of thermal radiation.

A coaxial heat exchanger pipe, through which the heat transfer medium passes directly, is fitted in the absorber.
The heat transfer medium picks up the heat from the absorber via the heat exchanger pipe.
The heat exchanger pipe feeds into a header.

In order to fully utilize the solar energy, every vacuum tube is able to pivot so that the absorber can be turned towards the sun for optimum yield.

Up to 6 m^2 collector surface can be connected in parallel, and a further 6 m^2 collector surface can be connected in series to form one collector array (collector arrays connected in series must be of identical size).
For this, the standard delivery includes flexible insulated connection pipes which are sealed with O-rings.

A connection kit with clamping ring fittings enables the collector array to be quickly connected to the pipes of the solar circuit.
The collector temperature sensor is installed inside a sensor mounting on the flow pipe in the collector connection housing.

Tested quality

CE designation in accordance with current EC Directives.

SPF quality seal (quality test by the Solarenergie Prüf- und Forschungsstelle, Rapperswil (Switzerland)).

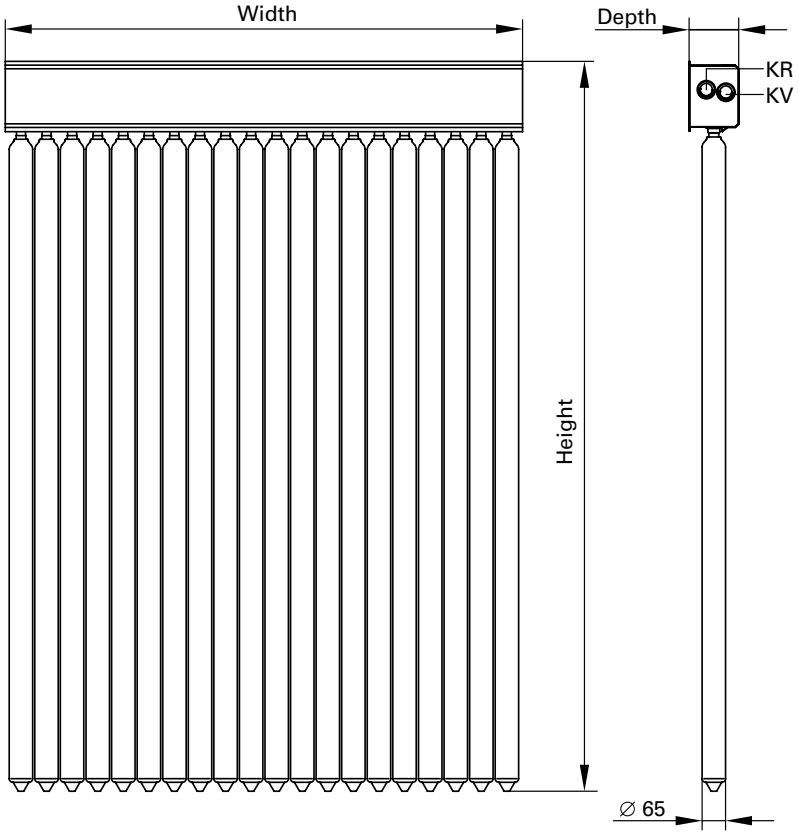
Meets the requirements of "Blue Angel" certificate of environmental excellence to RAL UZ 73.

5822 127 GB

Specification – solar panel Vitosol 200

Version		D10	D20	D30
Number of pipes		10	20	30
Gross area[*1]	m^2	1.50	2.94	4.38
Absorber surface area	m^2	1	2	3
Aperture area[*2]	m^2	1.07	2.14	3.21
Dimensions				
Width	mm	741	1450	2159
Height	mm	2028	2028	2028
Depth	mm	138	138	138
Optical efficiency[*3]	%	85	85	85
Heat loss coefficient k_1[*3]	$W/(m^2 \cdot K)$	1.61	1.61	1.61
k_2[*3]	$W/(m^2 \cdot K^2)$	0.008	0.008	0.008
Thermal capacity	$kJ/(m^2 \cdot K)$	25.5	25.5	25.5
Weight	kg	23	45	68
Liquid content (heat transfer medium)	litres	2	4	6
Permissible operating pressure[*4]	bar	6	6	6
Max. idle temperature[*5]	°C	300	300	300
Connection	∅ mm	22	22	22
Space requirement for flat roof installations	m^2	approx. 1.5	approx. 2.94	approx. 4.38
Requirements of base structure and fixings		Roof design with sufficient ballast to counteract prevailing wind forces		

*[*1]Required when applying for grants.*
*[*2]Defines the effective collector area, which is decisive when sizing the system.*
*[*3]Relative to the absorber surface area.*
*[*4]The collectors must be pressurised in cold, sealed systems with at least 1.5 bar.*
*[*5]The idle temperature is that temperature which occurs at the hottest point of the collector at 1000 W global radiation level if no heat is drawn off.*



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

Specification – heat transfer medium

Non-toxic liquid for solar heating systems with active anti-corrosion and anti-ageing protection.

Frost protection:	to –28 °C
Specific gravity at +20 °C:	1.032 to 1.035 g/cm^3 to ASTM D 1122
Viscosity at 20 °C:	4.5 to 5.5 mm^2/s to DIN 51562
pH value:	9.0 to 10.5 to ASTM D 1287
Colour:	Transparent, violet fluorescent
Container:	25 or 200 litres in a disposable container

As delivered condition

Packed in a separate carton are:
- Junction box with mounting rails and product documentation
- Vacuum tubes (per standard packing unit: 10 pieces)

Accessories, subject to order, packed separately:
Fixing accessories
Connection pipes with thermal insulation
Connection set
Solar-Divicon
(pump station for the collector circuit)
Solar pump line
(for a second pump circuit)
Air separator
Quick-acting air vent valve with tee and clamping ring fitting
Connection pipes
Installation kit for connection pipe to the DHW cylinder
Solar flow and return pipe
Locking ring connection
(with or without air vent valve)
Casing for water connections
Filling valve
Solar manual filling pump
Solar expansion vessel with shut-off valve
Heat transfer medium
Frost protection tester
Spare part set (assortment of small parts which can get lost during the collector installation)

Fixing sets

The fixing sets contain components required for the relevant method of installation, such as:
Battens, roof hooks, mounting plates, mounting rails, nuts, screws and solar support elements for higher snow loads.

Printed on environmentally friendly, chlorine-free bleached paper

Please note:

Viessmann offers complete solar heating systems with Vitosol 200 (type D30) for DHW heating and central heating backup (see price list register 13).

Subject to technical modifications.

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