



# High vacuum tube collector DF 6

## High vacuum tubes

- ✓ Extremely durable
- ✓ Compact collector
- ✓ Highly efficient
- ✓ Does not require maintenance
- ✓ Easy to mount



## Direct flow vacuum tube collectors – convincing in function and efficiency

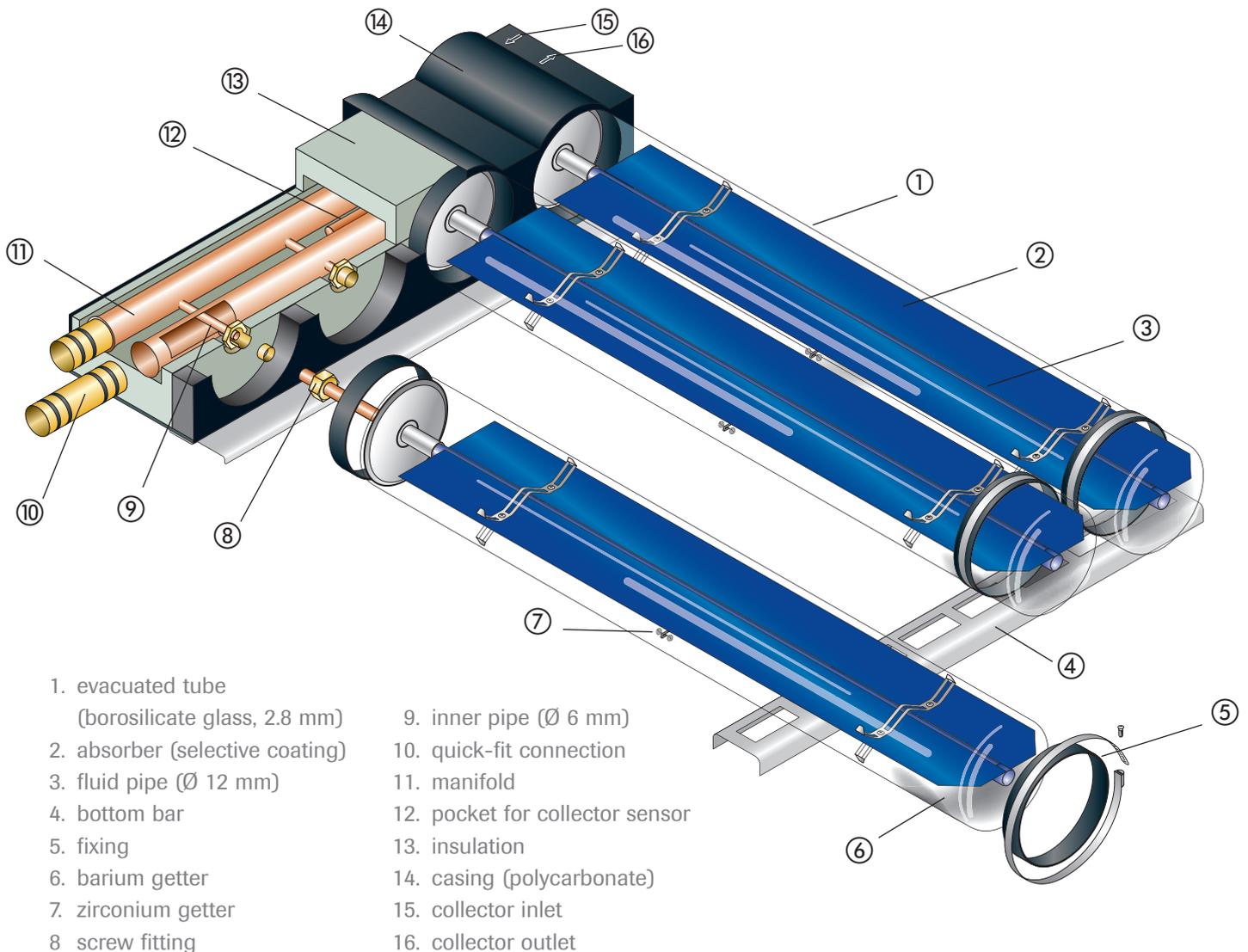
There is no better insulation against heat losses than high vacuum. It does not suffer from any aging process, is ecological and protects the solar absorber and its highly selective coating from corrosion and damage.

### Savings in times of energy price increases

The sun shines freely and supplies thermal energy gratis at home. This is why **augusta-solar** offers a system of highly efficient collectors, satisfying more than 70% of the annual energy demand for domestic hot water for single and bi-family homes. In summer the efficiency of the collector covers the entire energy needs for domestic hot water. In winter solar energy can be used for pre-heating domestic water and water for space heating, lessening the consumption of oil and gas and reducing the family budget.

### Our care in protecting the environment

The environment can be saved three-quarters of a ton of carbon dioxide (CO<sub>2</sub>) for every single-family home. Durability and extremely safe functioning is guaranteed by the exclusive use of materials resistant to corrosion. The above-average durability of our solar plants contributes to the safeguarding of raw material resources.

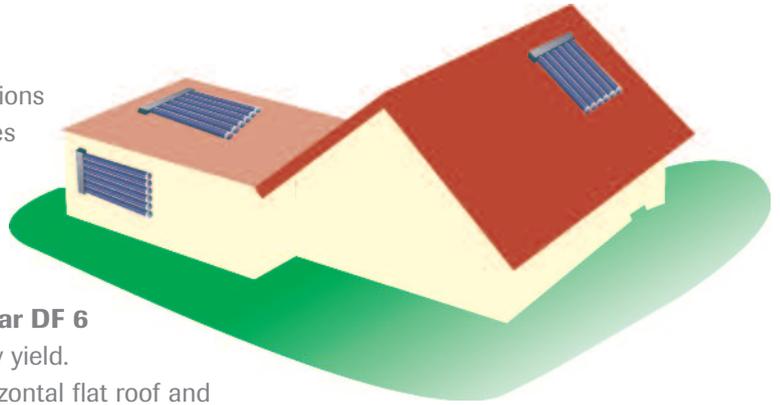


- |   |                                 |
|---|---------------------------------|
| 1. evacuated tube<br>(borosilicate glass, 2.8 mm) | 9. inner pipe (Ø 6 mm)          |
| 2. absorber (selective coating)                   | 10. quick-fit connection        |
| 3. fluid pipe (Ø 12 mm)                           | 11. manifold                    |
| 4. bottom bar                                     | 12. pocket for collector sensor |
| 5. fixing   | 13. insulation                  |
| 6. barium getter                                  | 14. casing (polycarbonate)      |
| 7. zirconium getter                               | 15. collector inlet             |
| 8. screw fitting                                  | 16. collector outlet            |

## For a sophisticated architecture

### augusta-solar DF 6

Appealing collector design and flexible mounting options enable to harmonically integrate the collector modules in a wide variety of buildings combining creative aspirations with the functionality of the solar energy supply concept. Depending on the building project and the correct alignment of the absorber to the sun the solar collectors **augusta-solar DF 6** are guaranteed to always provide an excellent energy yield. The solar collectors are suitable for pitched roof, horizontal flat roof and vertical façade installation maintaining at all times a constant level of efficiency.



## Main advantages:

### Installation variants

The **augusta-solar DF 6** vacuum tube collectors were designed to meet the installation requirements of each and every customer. Regardless of the type of installation (flat roof, pitched roof, façade or free standing installation) all variants are available. (tilt angle 0–90°).

### Assembly

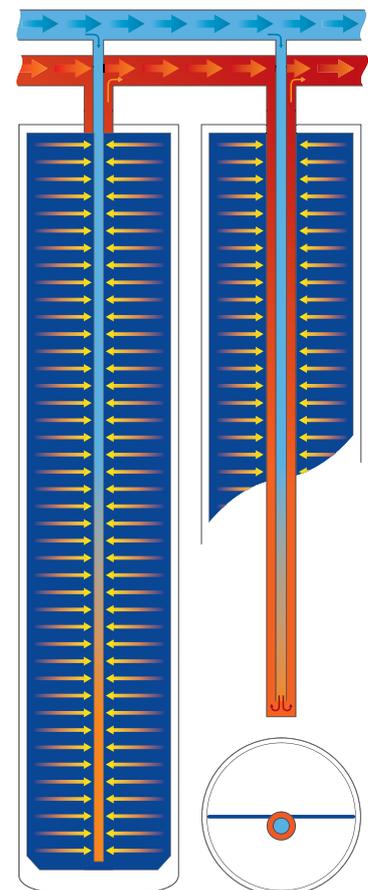
The factory-prefabricated modules with 6 tubes are easy to assemble. The different modules are fitted together using a patented quick-fit system. This patented push-in connection ensures a quick and easy assembly of the single collectors. Multiple modules may be assembled side by side in unbroken lines; the collector field may be extended at will after the installation providing thus your installation with an attractive overall appearance.

### Efficiency

The highly selective coating guarantees the optimal energy use in different weather conditions, even with the sky clouded over.

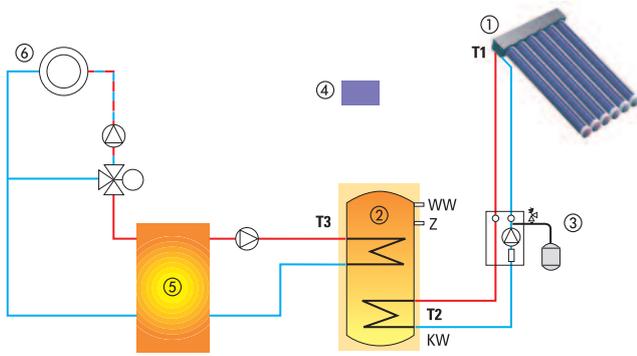
### Quality

The highly transparent 2.8 mm borosilicate glass tubes are resistant to hail. The resistant surface of the glass guarantees that transparency does not deteriorate over time. The form and the extremely smooth surface provide the tube with a self-cleaning effect. Connection to the thermo-compression glass-metal of the tube and the stainless steel plug closes the tubes vacuum tight in a permanent manner. The special getters are chemical action vacuum pumps and guarantee high vacuum insulation (about 10<sup>-8</sup> bar). All the internal components are protected from atmospheric influences and corrosion thanks to the vacuum.



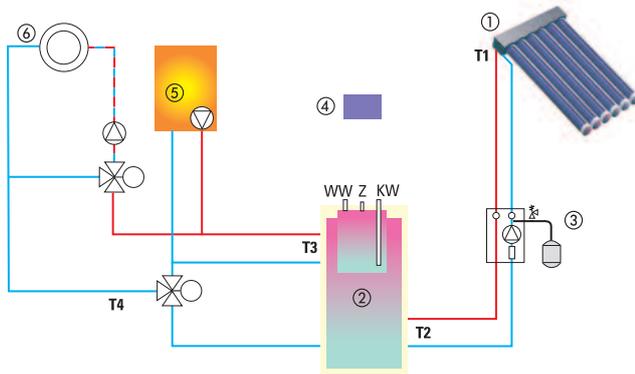
Flow diagram

**augusta-solar kollektor DF 6**



## augusta-solar components System for domestic hot water

- 1 Collectors with high vacuum tubes
- 2 Solar storage tank
- 3 Pump unit
- 4 Solar control unit
- 5 Condensing boiler
- 6 Heating circuit



## augusta-solar components System for domestic hot water and heating

- 1 Collectors with high vacuum tubes
- 2 Stratified storage tank
- 3 Pump unit
- 4 Solar control unit
- 5 Condensing boiler
- 6 Heating circuit

## Technical data

### Direct flow vacuum tube collector

Model	DF6
Number of tubes	6
Collector area (total)	m <sup>2</sup> 1.6
Aperture area	m <sup>2</sup> 1.10
Length x width x depth	2100 x 721 x 126
Weight	kg 35
Flow rate per module in	l/h 75
Pressure loss at 75 l/h	mbar < 30
Fluid content	l 0.98
Glass	high quality borosilicate glass
Glass tube diameter	mm 100
Glass thickness	mm 2.8
High vacuum stable over time	bar 10-8
Absorber coating	highly selective vacuum sputter coating
Absorption coefficient	% 95
Emission coefficient	% 5
Recommended collector tilt angle	0° to 90° (any)
Maximum allowed working pressure	bar 6
Collector maximum stagnation temperature	°C 190
Tube maximum stagnation temperature	°C 247
Warranty	years 5