



High vacuum tube collector HP 8/12/16

High vacuum tubes

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



Heat Pipe vacuum tube collectors – convincing in function and efficiency

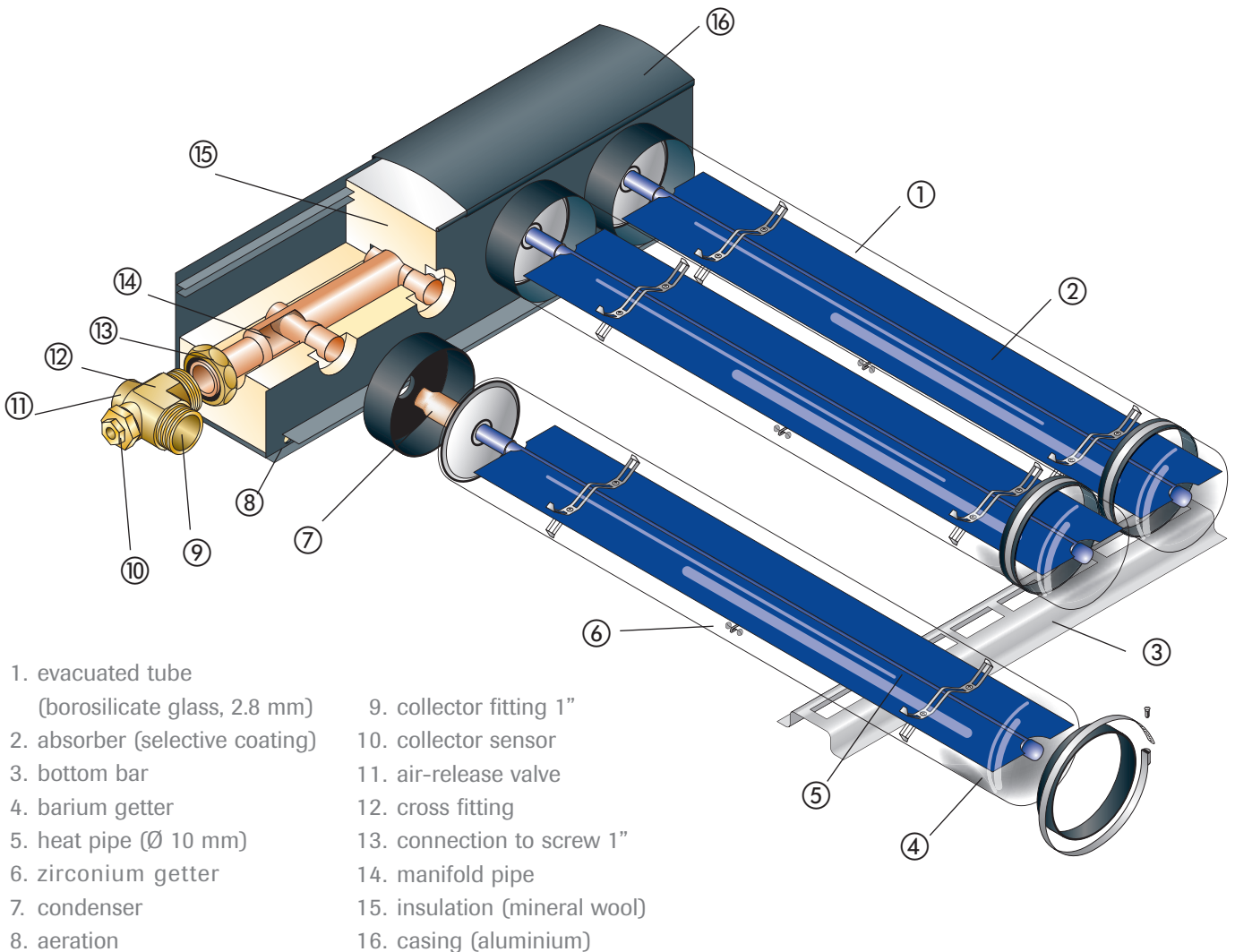
There is no better insulation against heat losses than high vacuum. It does not suffer from any aging process, is ecological and protects the solar absorber and its highly selective coating from corrosion and damage.

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 (CO₂) 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.



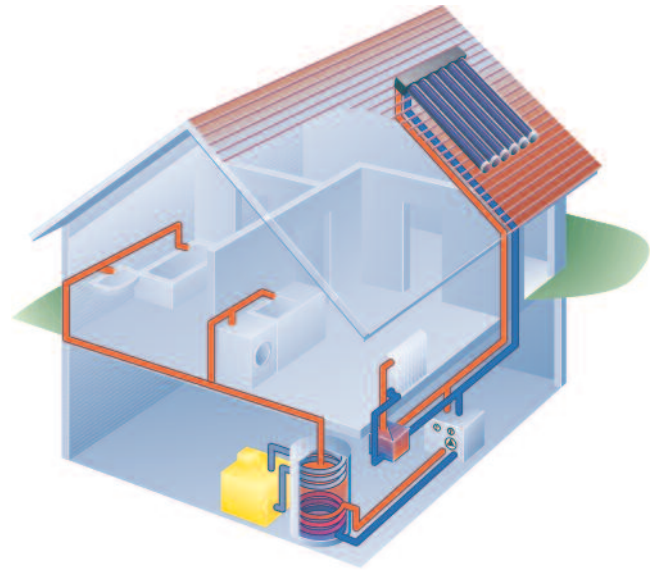
- | | |
|---|-------------------------------|
| 1. evacuated tube
(borosilicate glass, 2.8 mm) | 9. collector fitting 1" |
| 2. absorber (selective coating) | 10. collector sensor |
| 3. bottom bar | 11. air-release valve |
| 4. barium getter | 12. cross fitting |
| 5. heat pipe (Ø 10 mm) | 13. connection to screw 1" |
| 6. zirconium getter | 14. manifold pipe |
| 7. condenser | 15. insulation (mineral wool) |
| 8. aeration | 16. casing (aluminium) |

Economic solar technology for domestic hot water, heating and solar air-conditioning – augusta-solar offers you the solar collector that you need.

augusta-solar highly efficient Heat Pipe collector with plug-in connection system for extremely easy mounting.

augusta-solar high vacuum tubes with highly selective vacuum sputter coating for high efficiency throughout the year.

augusta-solar multifunctional collector with high vacuum tubes for heating domestic water and support for heating and air-conditioning of buildings.



Main advantages:

Perfect connection

The single Heat Pipe tubes are connected to the heating circuit through a dry coupler. This simplifies installation and allows easy substitution of single tubes in case of necessity. The ideal plug-in connection guarantees an optimum exchange of heat between the Heat Pipe and the fluid in the manifold pipe with extremely brief mounting times.

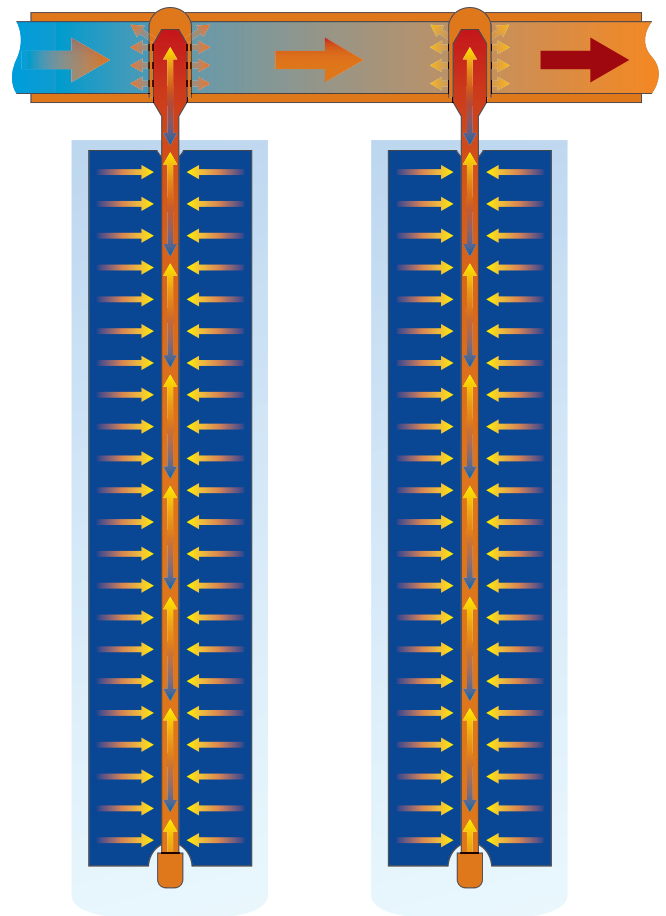
The complete system is supplied pre-mounted and ready for use. Its air-tightness is checked on site. Only the high vacuum tubes have to be inserted into the manifold casing before making the solar system function. From this moment on the **augusta-solar** system captures solar energy optimally every day of the year.

Efficiency

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

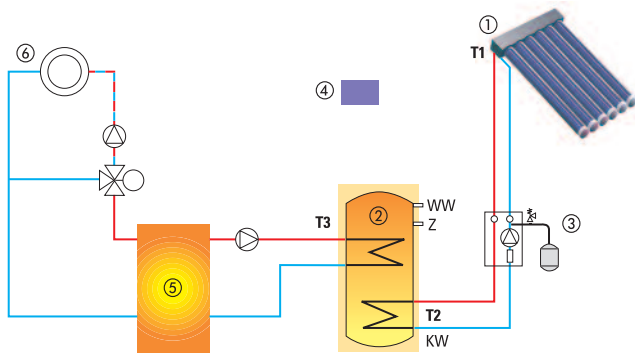
Quality

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 thermocompression 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 10⁻⁸ bar). All the internal components are protected from atmospheric influences and corrosion thanks to the vacuum.



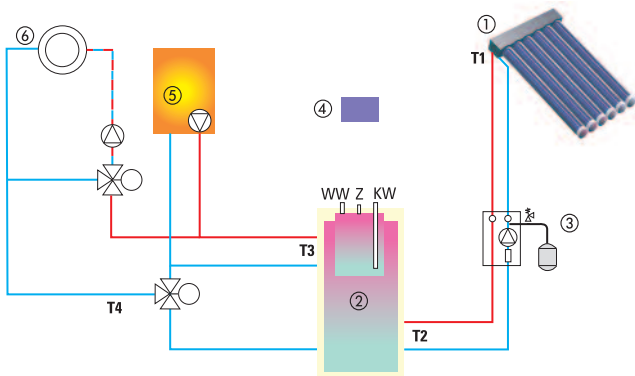
Flow diagram

augusta-solar collector HP 8 / 12 / 16



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

All the advantages at your fingertips:

- Excellent efficiency thanks to high vacuum technology
- Optimum yield in small spaces
- Perfect connection
- Extremely short mounting times thanks to plug-in connection
- **Individual orientation of the absorbers**
- 2.8 mm thick borosilicate glass

Technical data

Heat Pipe vacuum tube collector

Model		AS 100 HP-16	AS 100 HP-12	AS 100 HP-8
Number of tubes		16	12	8
Collector area (total)	m ²	4.20	3.15	2.10
Aperture area	m ²	3.00	2.25	1.50
Weight	kg	90	67	45
Length x width x depth		2150 x 1920 x 150	2150 x 1440 x 150	2150 x 960 x 150
Flow rate per module in l/h	(min./opt./max.)	150/250/350	120/190/270	75/125/175
Pressure loss	mbar	5	5	5
Fluid content	l	2.30	1.80	1.15
Maximum allowed working pressure	bar	6	6	6
Collector maximum stagnation temperature	°C	180	180	180
Glass	high quality borosilicate glass			
Absorber coating	highly selective vacuum sputter coating			
High vacuum stable over time	bar	10-8	10-8 10-8	
Recommended collector tilt angle		25° to 70°	25° to 70°	25° to 70°
Test pressure	bar	10	10	10
Warranty	years	5	5	5