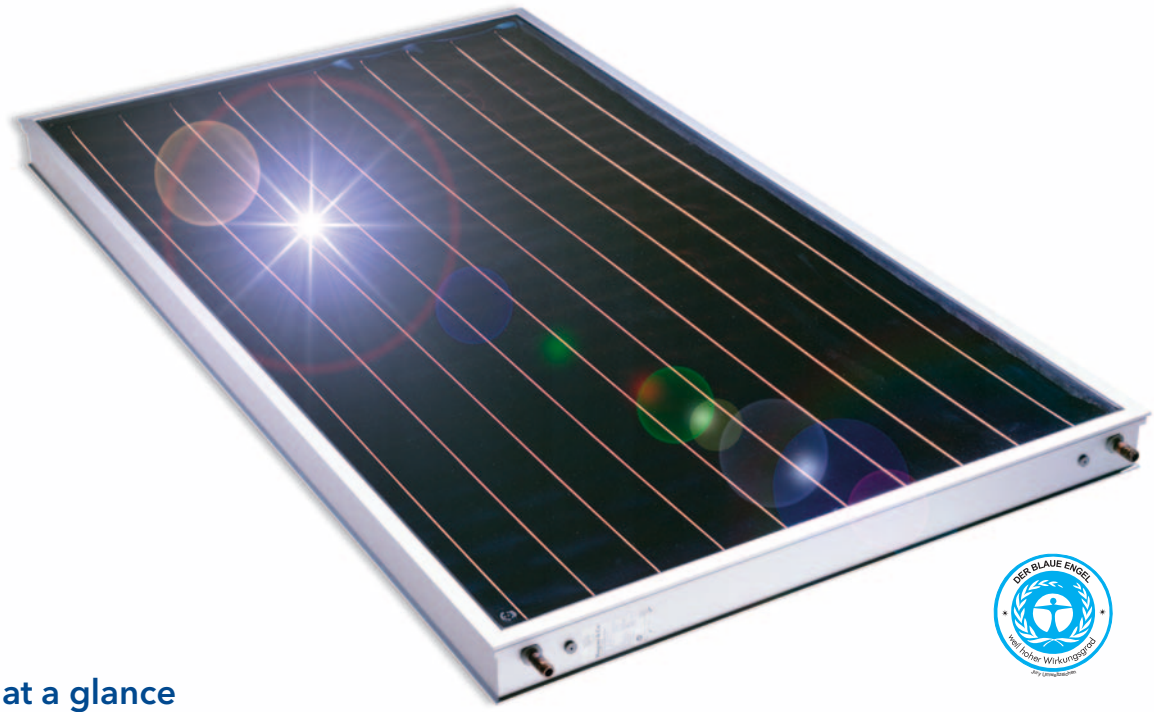
EURO C20 AR
Flat Plate Collector

Top Performance with Anti-Reflex Glass featuring Nano-Technology!

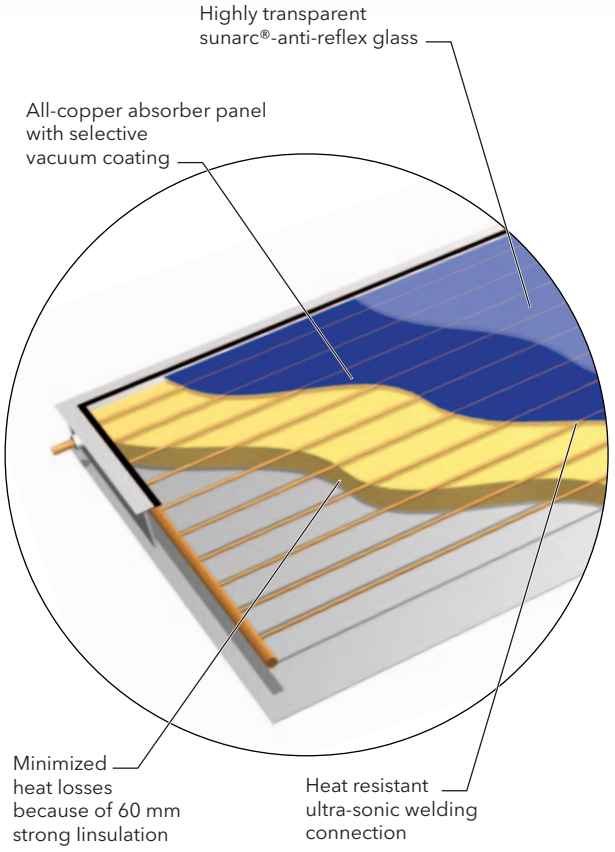
Wagner & Co
SOLAR TECHNOLOGY



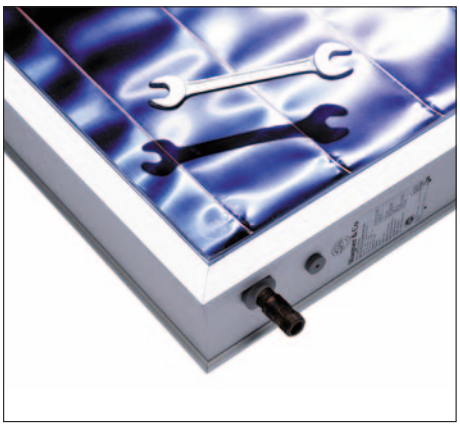
Advantages at a glance

TOP-Performance based upon decades of experience, high-tech-Production and high quality materials

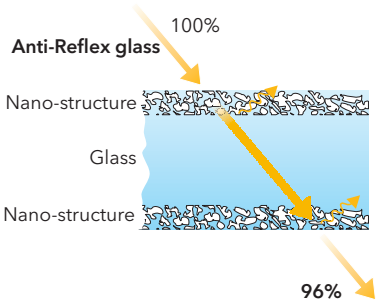
- Thanks to its ultra-fine nano surface structure the sunarc® anti-reflex glass increases the light transmissivity from 91 to 96 %. The heat harvest this way increases between 6 to 10 %!
- The highly selective vacuum coating of the absorber captures a maximum of solar heat and reduces the re-emmission of the absorbed heat to a minimum.
- An all-copper absorber panel with a pipe register attached by ultra-sonic welding minimises the heat losses. It's high grade material guarantees decades of operation.
- The all-around insulation of the collector casing and the 60 mm strong insulation of the back side minimize heat losses and assure high temperatures.
- The EURO-Collector can be installed vertically or horizontally as roof-prallel, in-roof or free-standing setup.

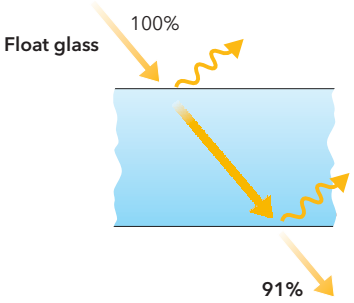


sunarc®-Antireflex Glass – the defining performance plus!



More vista, more solar power with sunarc®-anti-reflex glass





sunarc®-anti-reflex glass allows 5 % more light to get to the absorber – at an angle even up to 9 %!

Standard solar glass allows 91 % of light to pass through.
The glass cover of solar collectors nowadays is made from glass of highest purity that only absorbes approx.1% of the solar light. At the same time considerable energy losses still occur during the energy transmission. On both sides of the glass surface about 4 % are reflected to the outside, so that in combination with the actual glass absorption only 91 % of solar light enter the collector.

sunarc®-anti-reflex glass lets 96 % of the light pass through.
The sunarc®-anti-reflex glass reduces the reflection so significantly that the transmissivity for sunlight is increased from 91 % to 96 %.This physical effect is made possible by an etching process that imprints a special ultrafine nano-structure into the surface of the glass pane. Hereby reflection is reduced to such an extent, that the total transmission increases by 5 %.
Additionally the transmissivity for incoming light at low angles is increased by up to 9 %, depending on the angle.
The higher optical transmissivity also increases the collectors efficiency: depending on the operation by 10 % and more.

sunarc®-glass: long term durability
Since the anti reflex coating itself consists of glass and is an integral component of the glass pane, it is scratch proof and durable.
Already in the early 90s, first specimens of the anti-reflex glass were produced in Sweden and tested on solar collectors.
Even after 7 years there were no signs of aging in comparison to conventional Solar glasses. The ultra-fine porous layer of the sunarc®-glass therefore stands for many years of increases yield.

EURO C20 AR / Collector Characteristics	
Collector area	total area 2,61 m² / aperture area 2,39 m²
Dimensions	2151 x 1215 x 110 mm (LxWxH)
Casing	Aluminium featuring 60mm side and back insulation without gaps
Glass cover	4-mm-solar safety glass with sunarc® anti-reflex coating, τ = 96%
Absorber	All copper absorber panel with highly selective vacuum coating, α = 95%; ε = 5%,
Efficiency*	η_0 = 0,85, k_1 = 3,37 w/(m²K), k_2 = 0,01 w/(m²K²), angular correct. factors: $k_{dir50°}$ = 0,97; k_{diff} = 0,94 * ISFH solar testing facility: Test 15/01/D accord. to DIN 4757/EN12975
Idle Temperature	232° C
Annual yield of collector	546 kWh/m²a (ITW 5 m²)