

ES2V/2,65S AL-CU and ES2V/2,65B AL-CU – flat solar collector with meander absorber, made of copper and aluminum, designed for vertical mounting.

ENSOL Solar collector ES2V/2,65S AL-CU and ES2V/2,65B AL-CU is designed for changing energy of solar radiation into useful thermal energy used for providing warm service water, heating swimming pools or supporting a heat source in a heating system.

Collector's housing construction is based on a rigid frame bent from a special aluminum profile patented by ENSOL company. At the bottom the housing is closed with an aluminum sheet, whereas the cover is made of special, high-transmission solar glass. The manner of fixing the glass ensures tightness of housing and minimizes thermal tensions.

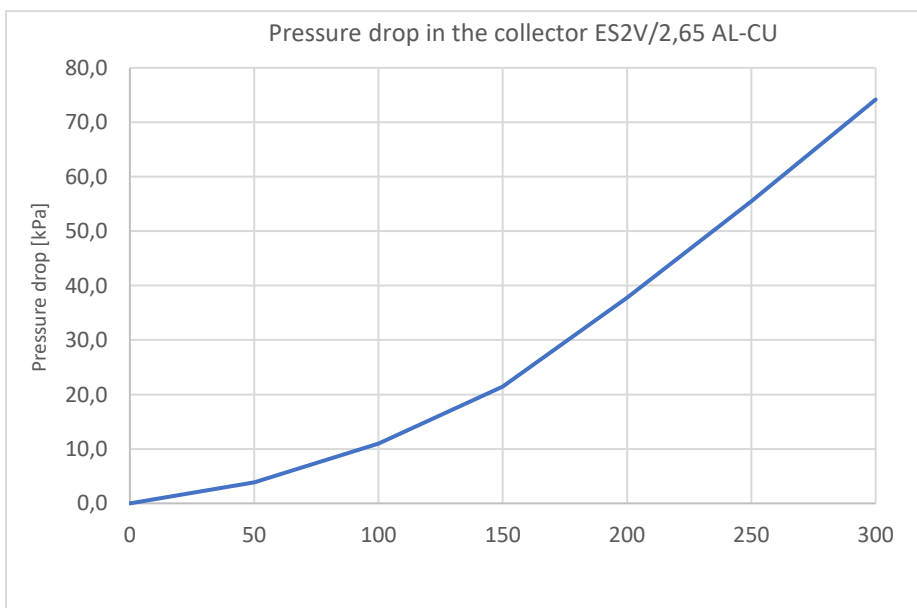
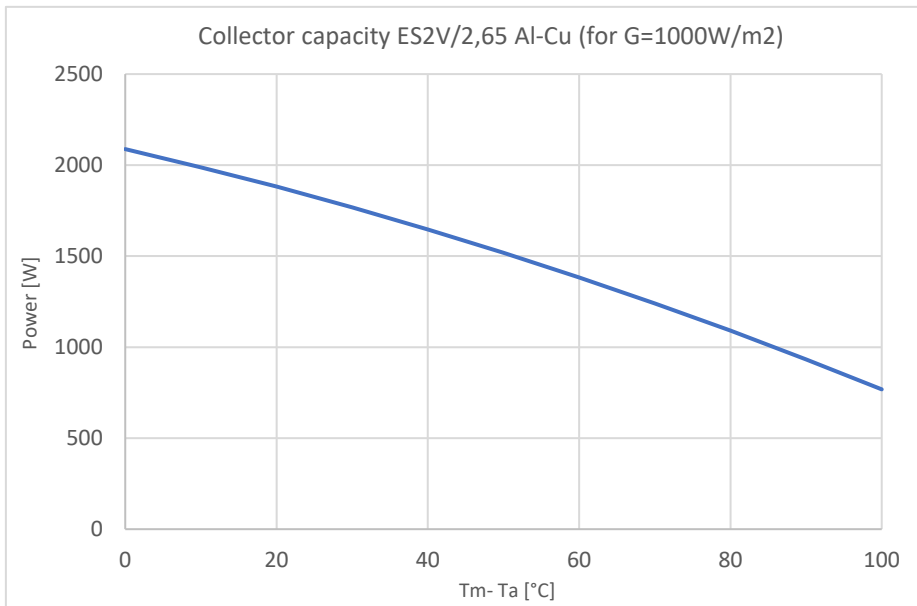
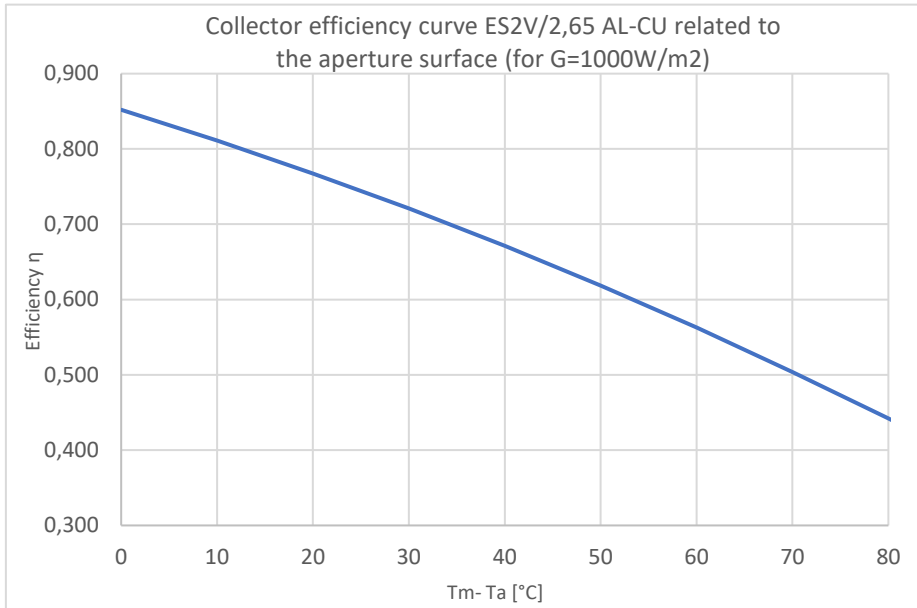
The main part of the collector is an absorber, the plate of which is made of aluminium sheet covered with the high selective coat in order to ensure high level of solar radiation absorption, which results in obtaining high efficiency of the energy conversion process. Absorber's plate is welded by means of laser welding with the system of copper tubes, in which the medium circulates. Meander absorber ensures steady heat removal through the circulating medium.

Heat losses were minimized by application of lower and lateral insulation. Specially designed assembly sets made of aluminium and stainless steel are used for trouble-free and secure mounting of collectors to roof constructions with different angles inclination.

Flat collectors **ES2V/2,65S AL-CU and ES2V/2,65B AL-CU B** have certificate of compatibility with norm **DIN EN 9806:2014-03 and DIN EN 12975-1:2011-01** conducted by TÜV Rheinland Immissionsschutz und Energiesysteme GmbH and **Solar Keymark certificate**.



| Flat collector: | | Symbol | Unit | Value | |
|---|---------------------------------|------------------------------------|----------------|--------|--------|
| Width | | A | mm | 1120 | |
| Height | | B | mm | 2356 | |
| Depth | | C | mm | 85 | |
| Weight | | m | kg | 49 | |
| Surface | | S | m ² | 2,65 | |
| Collector efficiency ES2V/2,65 Al-Cu (for G=1000W/m2) | | | | | |
| Tm-Ta | 0 K | 10 K | 30 K | 50 K | 70 K |
| Power | 2087 W | 1988 W | 1766 W | 1515 W | 1235 W |
| Parameters relative to the area of the aperture | | | | | |
| Optical efficiency | η _{o,hem} | % | 85,2 | | |
| Coefficient | a1 | W/(m ² K) | 3,922 | | |
| Coefficient | a2 | W/(m ² K ²) | 0,015 | | |
| Parameters relative to the gross area | | | | | |
| Optical efficiency | η _{o,hem} | % | 79,1 | | |
| Coefficient | a1 | W/(m ² K) | 3,641 | | |
| Coefficient | A2 | W/(m ² K ²) | 0,014 | | |
| | | | | | |
| Coefficient of angle of incidence | IAM (K _d =50°) | - | 0,87 | | |
| Connection: copper tube | ∅ | mm | 22 | | |
| Housing | Aluminum profile | | | | |
| Cover | Tempered solar glass, 4mm thick | | | | |
| Absorber: | | | | | |
| Absorber's type | Hydraulic system Cu - Al sheet | | | | |
| Absorber sheet coating | High selective layer | | | | |
| Technologia wykonania | Laser welding | | | | |
| Absorption coefficient | α | % | 95 | | |
| Emission coefficient | ε | % | 5 | | |
| Width | a | mm | 1066 | | |
| Height | b | mm | 2303 | | |
| Absorber's surface | S _b | m ² | 2,45 | | |
| Aperture surface | S _a | m ² | 2,45 | | |
| Liquid content | V | dm ³ | 2,2 | | |
| Stagnation temperature | T _s | °C | 192 | | |
| Flow: | | | | ok. | |
| Recommended | l/h | | | 75-105 | |
| Permissible | l/h | | | 50-150 | |
| Lower insulation : | Mineral wool 40 mm thick | | | | |
| Lateral insulation | Melamine foam 8 mm thick | | | | |
| Guarantee | 10 years | | | | |
| Solar Keymark | 011-7S2637 F (do 2026-03-31) | | | | |



The key:

t_m – average liquid temperature;

t_a – environment temperature;

G – intensity of solar radiation