

Annex to Solar Keymark Certificate		Licence Number		011-7S2916 F									
Supplementary Information		Issued		2019-03-28									
Annual collector output in kWh/collector at mean fluid temperature ϑ_m													
	Standard Locations	Athens			Davos			Stockholm			Würzburg		
Collector name	ϑ_m	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
Reflex FK 2.7		3.117	2.180	1.363	2.343	1.570	927	1.731	1.100	630	1.888	1.191	670
Annual output per m ² gross area		1.159	810	507	871	583	345	644	409	234	702	443	249
Fixed or tracking collector		Fixed (slope = latitude - 15°; rounded to nearest 5°)											
Annual irradiation on collector plane		1765 kWh/m ²			1714 kWh/m ²			1166 kWh/m ²			1244 kWh/m ²		
Mean annual ambient air temperature		18,5°C			3,2°C			7,5°C			9,0°C		
Collector orientation or tracking mode		South, 25°			South, 30°			South, 45°			South, 35°		
The collector is operated at constant temperature ϑ_m (mean of in- and outlet temperatures). The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool Scenocalc Ver. 6.0 (October 2018). A detailed description of the calculations is available at www.solarkeymark.org/scenocalc													
Additional Information													
Collector heat transfer medium										Water-Glycole			
The collector is deemed to be suitable for roof integration										No			
The collector was tested successfully under the following conditions:													
Climate class (A+, A, B or C)										C		--	
G (W/m ²) >		850		ϑ_a (°C) >		10		H _x (MJ/m ²) >		420			
Maximum tested positive load										2000		Pa	
Maximum tested negative load										2000		Pa	
Hail resistance using ice balls (diameter)										25		mm	
Additional collector attribute(s)													
<input type="checkbox"/> Using external power source(s) for normal operation				<input type="checkbox"/> Active or passive measure(s) for self-protection									
<input type="checkbox"/> Co-generating thermal and electrical power				<input type="checkbox"/> Wind and/or infrared sensitive collector(s) (WISC)									
<input type="checkbox"/> Façade collector(s)													
Energy Labelling Information													
	Reference Area, A _{sol} (m ²)	Hydraulic Designation Code											
FK 2.7	2,69	{F}-{O}-{CL}-{A:Ø,L}-{C:Ø,L}-{D}											
		{F}-{O}-{CL}-{A:Ø,L}-{C:Ø,L}-{D}											
Data required for CDR (EU) No 811/2013 - Reference Area A _{sol}													
Collector efficiency (η_{col})		56%				Zero-loss efficiency (η_0)				0,73		--	
Remark: Collector efficiency (η_{col}) is defined in CDR (EU) No 811/2013 as collector efficiency of the solar collector at a temperature difference between the solar collector and the surrounding air of 40 K and a global solar irradiance of 1000 W/m ² , expressed in % and rounded to the nearest integer. Deviating from the regulation η_{col} is based on reference area (A _{sol}) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806:2017.		First-order coefficient (a ₁)				3,53				W/(m ² K)			
		Second-order coefficient (a ₂)				0,016				W/(m ² K ²)			
		Incidence angle modifier IAM (50°)				0,92				--			
Remark: The data given in this section are related to collector reference area (A _{sol}) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806. Consistent data sets for either aperture or gross area can be used in calculations like in the regulation 811 and 812 and simulation programs.													
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