


Annex to Solar Keymark Certificate					Licence Number		011-7S2900 F				
					Date issued		2020-06-29				
					Issued by		DIN CERTCO				
Licence holder		Viessmann Deutschland GmbH			Country		Germany				
Brand (optional)		-			Web		https://www.viessmann.de				
Street, Number		Uhlandstraße 21			E-mail		kegt@viessmann.com				
Postcode, City		71638 Ludwigsburg			Tel		+49 07141 991700 20				
Collector Type					WISC (Wind and/or infrared sensitive collector)						
Collector name					Power output per collector						
					Gb = 850 W/m ² , Gd = 150 W/m ² & u = 1.3 m/s $\vartheta_m - \vartheta_a$						
					0 K	10 K	30 K	50 K	70 K	56 K	
					W	W	W	W	W	W	
SLK 600					7.20	6 000	1 200	350	2 693	0	0
Power output per m² gross area					374	0	0	0	--	0	
Performance parameters test method		Quasi dynamic									
Performance parameters (related to A_G)		η ₀ , b	a1	a2	a3	a4	a5	a6	a7	a8	Kd
Units		-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)	-	J/(m ² K)	s/m	W/(m ² K ⁴)	W/(m ² K ⁴)	-
Test results		0.494	110.60	0.000	19.270	2.41	135 600	0.023	0.00	0.0	2.11
Incidence angle modifier test method		Quasi dynamic - outdoor									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		K _{θT, coll}	1.13	1.25	1.37	1.49	2.24	2.47	3.19	1.60	0.00
Longitudinal		K _{θL, coll}	1.13	1.25	1.37	1.49	2.24	2.47	3.19	1.60	0.00
Heat transfer medium for testing					Water						
Flow rate for testing (per gross area, A_G)					dm/dt	0.020	kg/(sm ²)				
Maximum temperature difference during thermal performance test					($\vartheta_m - \vartheta_a$) _{max}	26	K				
Standard stagnation temperature (G = 1000 W/m²; $\vartheta_a = 30$ °C)					ϑ_{stg}	60	°C				
Maximum operating temperature					$\vartheta_{max, op}$	60	°C				
Maximum operating pressure					p _{max, op}	300	kPa				
Testing laboratory		Institut für Gebäudeenergetik, Thermotechnik und Energiespeicherung (IGTE)					http://www.igte.uni-stuttgart.de				
Test report(s)		18COL1449/1 18COL1449Q/1					Dated		04.05.2020 04.05.2020		
Comments of testing laboratory					Datasheet version: 6.1, 2019-09-26						
<p>This data sheet replaces the data sheet on 04.05.2020</p> <p>The collector type was changed from flat plate to WISC.</p> <p>Custom made collector: length and height can individually be chosen.</p>					 <p> TzS Forschungs- und Testzentrum für Solaranlagen Institut für Thermodynamik und Wärmetechnik Universität Stuttgart Pfaffenwaldring 6, 70550 Stuttgart (Vaihingen) </p>						
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Annex to Solar Keymark Certificate Supplementary Information	Licence Number	011-7S2900 F
	Issued	2020-06-29

Annual collector output in kWh/collector at mean fluid temperature ϑ_m													
Collector name	Standard Locations	Athens			Davos			Stockholm			Würzburg		
	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
SLK 600		7 108			74			676			1 005		
Annual output per m ² gross area		987		--	10		--	94		--	140		--
Annual efficiency, η_a		56%		--	1%		--	8%		--	11%		--
Fixed or tracking collector		Fixed (slope = latitude - 15°; rounded to nearest 5°)											
Annual irradiation on collector plane		1765 kWh/m ²			1630 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. 6.1 (September 2019). A detailed description of the calculations is available at <http://www.estif.org/solarkeymarknew/>

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)	A
G (W/m ²) >	1000
ϑ_a (°C) >	20
H_x (MJ/m ²) >	600
Maximum tested positive load	2500 Pa
Maximum tested negative load	1750 Pa
Hail resistance using steel ball (maximum drop height)	2 m

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"/> Façade collector(s)

Energy Labelling Information		Additional Informative Technical Data	
	Reference Area, A_{sol} (m ²)	Hydraulic Designation Code	Aperture Area, A_a (m ²)
SLK 600	7.20	10,10,10,10,10-HV-12V-AC:X-NoD	7.20

Data required for CDR (EU) No 811/2013 - Reference Area A_{sol}		Data required for CDR (EU) No 812/2013 - Reference Area A_{sol}	
Collector efficiency (η_{col})	-274%	Zero-loss efficiency (η_0)	0.37
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)	77.84 W/(m ² K)
		Second-order coefficient (a_2)	0.000 W/(m ² K ²)
		Incidence angle modifier IAM (50°)	2.20
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.			