



Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate		Certificate No.	011-7S605 R
		Date of issue	06.11.2012
Company	augusta-solar GmbH	Country	Germany
Brand (optional)	--	Website	www.augusta-solar.de
Street, number	Zirbelstrasse 54	E-mail	info@augusta-solar.de
Postal Code	DE-86154	Tel.	+49 (0821) 419 020 10
City	Augsburg	Fax	+49 (0821) 419 020 20

Collector Type (flat plate / evacuate tubular / un-glazed) **Evacuated tubular collector**

Integration in the roof possible ? **No**

Collector name	Aperture area (A _a) [m ²]	Gross length [mm]	Gross width [mm]	Gross height [mm]	Gross area (A _G) [m ²]	Power output per collector unit G = 1000 W/m ² T _m -T _a :				
						0 K	10 K	30 K	50 K	70 K
						[W]	[W]	[W]	[W]	[W]
AS 100 DF6	1.112	2'097	721	126	1.512	837	821	783	739	688

Collector efficiency parameters related to aperture area (A_a)	η _{0a}	0.753	-
Type of fluid and flow rate see note 1	a _{1a}	1.42	W/(m ² K)
	a _{2a}	0.0071	W/(m ² K ²)

Stagnation temperature - Weather conditions see note 2 **t_{stg}** **271** °C

Effective thermal capacity **C_{eff} = C/A_a** **10.3** kJ/(m²K)

Max. operation pressure - see note 3 **p_{max}** **600** kPa

Incidence angle modifiers K _θ (θ)	G _{DIF} /G _{TOT}		θ _T / θ _L	50°	10°	20°	30°	40°	60°	70°
	min	max								
		0.15	0.20	K _θ (θ _L)	0.98	1.00	1.00	1.00	1.00	0.95

G_{DIF}/G_{TOT}: min&max - while measuring

Optional values

Testing Laboratory	SPF, CH-8640 Rapperswil
Website	www.solarenergy.ch
Test report id. number	C938LPEN, C938QPEN
Date of test report	06.12.2008 / 06.12.2008
Perf. test method	EN 12975-2 6.1.4 (outdoor)

Comments of testing laboratory :

Note 1	Fluid	Water-Glycole	Flow rate	0.026 kg/s per m ²	Dr. Andreas Bohren
Note 2	Irradiance, G_s=1000 W/m²				
Note 3	Ambient temperature, T_a=30 °C				
	Given by manufacturer				



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Annual collector output based on EN 12975 Test Results,
annex to Solar KEYMARK Certificate

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011-7S605 R

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Annual collector output kWh

Collector name	Location and collector temperature (Tm)											
	Athens			Davos			Stockholm			Würzburg		
	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
AS 100 DF6	1'447	1'266	1'074	1'312	1'132	945	885	738	598	955	797	646

Collector mounting: Fixed or tracking

Fixed; slope = latitude - 15° (rounded to nearest 5°)

Overview of locations

Location	Latitude °	Gtot kWh/m²	Ta °C	Collector orientation or tracking mode
Athens	38	1'765	18.5	South, 25°
Davos	47	1'714	3.2	South, 30°
Stockholm	59	1'166	7.5	South, 45°
Würzburg	50	1'244	9.0	South, 35°

Gtot	Annual total irradiation on collector plane	kWh/m²
Ta	Mean annual ambient air temperature	°C
Tm	Constant collector operating temperature (mean of in- and outlet temperatures)	°C

Calculation of the annual collector performance is done by the official Solar Keymark spreadsheet tool. Hour by hour the collector output is calculated according to the efficiency parameters from the Keymark test using constant collector operating temperature (Tm). Detailed description with all equations used is available from the Solar Keymark web site (direct link: <http://www.estif.org/solarkeymark/annexb1.php>)

DIN CERTCO • Alboinstraße 56 • 12103 Berlin

Tel: +49 30 7562-1131 • Fax: +49 30 7562-1141 • E-Mail: info@dincertco.de • www.dincertco.de

Datasheet version:

VERSION 3.5, 2012.01.13

Calculation program version:

3.07, October 2011 (SP)