



Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Certificate No.		011-7S2125 F			
						Date of issue		20.06.2013			
Company			DAK INDUSTRIES			Country			Ile de la Réunion		
Brand (optional)						Website			www.dakindustries.fr		
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Postal Code			97410			Tel.		+262		262 717 202	
City			Saint Pierre			Fax					
Collector Type (flat plate / evacuate tubular / un-glazed)						Flat plate collector					
Integration in the roof possible ?						Yes					
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 [W]	10 K [W]	30 K [W]	50 K [W]	70 K [W]	
FOX AL 18	1.62	1929	933	91	1.80	1272	1209	1073	922	754	
FOX AL 21*	1.92	1988	1041	90	2.07	1507	1433	1272	1092	894	
FOX AL 25	2.23	1990	1222	91	2.43	1751	1665	1477	1269	1038	
Collector efficiency parameters related to aperture area (A_a)						η _{0a}		0.785		-	
Type of fluid and flow rate see note 1						a _{1a}		3.722		W/(m ² K)	
						a _{2a}		0.012		W/(m ² K ²)	
Stagnation temperature - Weather conditions see note 2						t _{stg}		203		°C	
Effective thermal capacity						c _{eff} = C/A _a		9.54		kJ/(m ² K)	
Max. operation pressure - see note 3						p _{max}		1000		kPa	
Incidence angle modifiers K _θ (θ)	G _{DIF} /G _{TOT}		θ _T / θ _L	50°	10°	20°	30°	40°	60°	70°	
	min	max									K _θ (θ _T)
G _{DIF} /G _{TOT} : min&max - while measuring			K _θ (θ _L)	0.94	1.00	0.99	0.98	0.97	0.90	0.80	
						Optional values					
Testing Laboratory						TZS, ITW University of Stuttgart					
Website						www.tzs.uni-stuttgart.de					
Test report id. number						13COL1163,13COL1164,13COL1164Q					
Date of test report						20.06.02013					
Perf. test method						EN 12975-2 6.1.4 (outdoor)					
Comments of testing laboratory :											
* dimensions according to manufacturer											
Note 1	Fluid		Water	Flow rate	0.020 kg/s per m ²						
Note 2	Irradiance, G _s =1000 W/m ²										
Note 2	Ambient temperature , T _a =30 °C										
Note 3	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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Issued

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Annual collector output kWh

Location and collector temperature (T_m)

Collector name	Location and collector temperature (T _m)											
	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
FOX AL 18	2061	1476	974	1678	1158	725	1154	757	461	1256	821	492
FOX AL 21*	2443	1749	1154	1989	1372	859	1368	897	546	1489	973	583
FOX AL 25	2837	2032	1341	2310	1594	998	1589	1042	635	1729	1130	677

Collector mounting: Fixed or tracking

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

Overview of locations

Location	Latitude °	G _{tot} kWh/m ²	T _a °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°

G _{tot}	Annual total irradiation on collector plane	kWh/m ²
T _a	Mean annual ambient air temperature	°C
T _m	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 (T_m). Detailed description with all equations used is available from the Solar Keymark web site (direct link: <http://www.estif.org/solarkeymark/annexb1.php>)

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Datasheet version:

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Calculation program version:

3.07, October 2011 (SP)