





<b>Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate</b>	<b>Certificate No.</b>	<b>011-7S1914 F</b>
	Issued	04-12-2015

Annual collector output kWh													
Collector name	Location and collector temperature (T <sub>m</sub> )												
	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	
FKF 200 V AlCu	2 235	1 510	909	1 775	1 145	647	1 223	755	419	1 331	810	442	
FKF 240 V AlCu	2 712	1 832	1 103	2 153	1 389	785	1 484	916	508	1 615	982	536	
FKF 270 V AlCu	3 078	2 079	1 252	2 444	1 577	891	1 685	1 040	577	1 833	1 115	608	
FKF 200 H AlCu	2 235	1 510	909	1 775	1 145	647	1 223	755	419	1 331	810	442	
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<b>Collector mounting: Fixed or tracking</b>	Fixed; slope = latitude - 15° (rounded to nearest 5°)
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Overview of locations				
Location	Latitude °	G <sub>tot</sub> kWh/m <sup>2</sup>	T <sub>a</sub> °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 <sub>tot</sub>	Annual total irradiation on collector plane	kWh/m <sup>2</sup>
T <sub>a</sub>	Mean annual ambient air temperature	°C
T <sub>m</sub>	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<sub>m</sub>). Detailed description with all equations used is available from the Solar Keymark web site (direct link: <http://www.estif.org/solarkeymark/annexb1.php>)

<b>DIN CERTCO • Alboinstraße 56 • 12103 Berlin</b> Tel: +49 30 7562-1131 • Fax: +49 30 7562-1141 • E-Mail: <a href="mailto:info@dincertco.de">info@dincertco.de</a> • <a href="http://www.dincertco.de">www.dincertco.de</a>	Datasheet version:
	VERSION 3.5, 2012.01.13
	Calculation program version: 3.07, October 2011 (SP)