TÜVRheinland®
DIN CERTCO

Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence number	011-7S2089 F
	Date of issue	02-Feb-2012

Company holding the licence	Apricus Solar Co., Ltd.	**Country**		P.R. China
Brand (optional)	Apricus	**Website**		www.apricus.com
Street, number	No.19, Pusi Road, Pukou New&High Tech Development Zone,	**E-mail**		jasmine@apricus.com
Postal Code	210061	**Tel.**	+86	(0)25 58649129
City	Nanjing, Jiangsu Province	**Fax**	+86	(0)25 58648103

Collector Type (flat plate / evacuate tubular / un-glazed)	Flat plate collector
Integration in the roof possible ?	Yes

Collector name	Aperture area (Aa)	Gross length	Gross width	Gross height	Gross area (AG)	Power output per collector unit G = 1000 W/m² Tm-Ta : 0 K	10 K	30 K	50 K	70 K
	[m²]	[mm]	[mm]	[mm]	[m²]	[W]	[W]	[W]	[W]	[W]
FPC-A32	2.80	2 444	1 223	75	2.99	2 098	2 014	1 807	1 549	1 239

Collector efficiency parameters related to aperture area (Aa) Type of fluid and flow rate see note 1	η_{0a}	0.75	-
	a_{1a}	2.77	W/(m²K)
	a_{2a}	0.023	W/(m²K²)
Stagnation temperature - Weather conditions see note 2	t_{stg}	155.9	°C
Effective thermal capacity	c	13.301	kJ/(m²K)
Max. operation pressure - see note 3	pmax	800	kPa

Incidence angle modifiers $K_\theta(\theta)$	G_{DIF}/G_{TOT} min	max	θ_T / θ_L	50°	10°	20°	30°	40°	60°	70°
			$K_\theta()$	0.83	1.00	0.98	0.95	0.91	0.70	0.42
	0.062	0.542	$K_\theta()$							
G_{DIF}/G_{TOT}: min&max - while measuring					***Optional values***					

Testing Laboratory	TUV Rheinland (Shanghai) Co., Ltd.
Website	www.tuv.com
Test report id. number	154010288_EN_FPC-A32_Report_Gao
Date of test report	02-Feb-2013
Perf. test method	EN 12975-2 6.1.4 (outdoor)

Comments of testing laboratory :

Keine

none

aucune

Note 1	**Fluid**	Water	**Flow rate**	0.020	kg/s per m²
Note 2	**Irradiance, Gs=1000 W/m²; Ambient temperature , Ta=30 °C**				
Note 3	**Given by manufacturer**				

VERSION 3.7, 2012.03.22

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Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence number	011-7S2089 F
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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			
FPC-A32	3 066	2 222	1 419	2 532	1 743	1 040	1 739	1 156	682	1 877	1 234	714			

Collector mounting: Fixed or tracking	No tracking; 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)

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Datasheet version:
VERSION 3.7, 2012.03.22
Calculation program version:
3.07, October 2011 (SP)