

Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate		Licence Number	011-7S776 F								
		Issued	2015-11-13								
Company holding the	SIKO Energiesysteme Ges.mbH&CoKG		Country	Austria							
Brand (optional)			Website	www.solar.at							
Street, street number	Solarstraße 1		E-mail	info@siko.at							
Postal Code / City, province	6200 Jenbach		Tel/Fax	+43 (5244) 64466							
Collector Type (flat plate glazed/un-glazed; evacuate tubular)	Flat plate collector - glazed										
Thermal / photo voltaic hybrid collector? (PVT collector)	No										
Integration in the roof possible ? (manufacturers declaration)	Yes										
Collector name	Aperture area (Aa) m ²	Gross length mm	Gross width mm	Gross height mm	Gross area (AG) m ²	Power output per collector module					
						G = 1000 W/m ²					
						Tm-Ta					
						0 K	10 K	30 K	50 K	70 K	
						W	W	W	W	W	
CLASSIC 1,5H 2L	2,89	1.570	2.132	137	3,35	2.222	2.126	1.907	1.653	1.365	
CLASSIC 3H 1L	2,88	3.039	1.093	135	3,32	2.215	2.119	1.900	1.647	1.360	
Performance test method		Glazed liquid heating collector - steady state - indoor									
Performance parameters related to aperture area		η ₀	a ₁	a ₂							
Units		-	W/(m ² K)	W/(m ² K ²)							
Test results - Flow rate and fluid see note 1		0,769	3,190	0,015							
Bi-directional incidence angle modifiers?		No <i>Kθ values are obligatory for 50°.</i>									
Incidence angle modifiers Kθ(θ)		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		Kθ(θ)					0,93				0,00
Incidence angle modifier not bi-directional - leave fields blank											
Stagnation temperature - Weather conditions see note 2		T _{stg}		185,6 °C							
Effective thermal capacity		c _{eff} = C/Ag		5,74 kJ/(m ² K)							
Max. intended operation temperature - see note 3		T _{max,op}		- °C							
Max. operation pressure - see note 3		p _{max,op}		1000 kPa							
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m ² aperture area											
Flow rate	kg/(s m ²)										
Pressure drop, ΔP	Pa										
Optional weather data	Location					Link					
Testing Laboratory		AIT Austrian Institute of Technology GmbH									
Website		www.ait.ac.at									
Test report id. number		2.04.00600.1.0-1-LT 2.04.00600.1.0-1-QT				Date of test report		08.05.2009 08.05.2009			
During the test GDIF/GTOT was always between		0,1	and	0,2							
Comments of testing laboratory:											
The tested collector modules are exemplars of the collector series CLASSIC which is built in customer-specific dimensions. The former designation of this collector series was Integral.											
Note 1	Flow rate	0,020 kg/(s m ²)	Fluid	Water							
Note 2	Irradiance, G = 1000 W/m ² ; Ambient temperature, T _a =30 °C				AIT Austrian Institute of Technology GmbH Donau-City Straße 1 1220 Wien, Austria T +43 (0) 50550-0 F +43 (0) 50550-0 office@ait.ac.at www.ait.ac.at						
Note 3	Given by manufacturer				Datasheet version: 4.06, 2014-01-15						
DIN CERTCO • Alboinstraße 56 • 12103 Berlin, Germany Tel: +49 30 7562-1131 • Fax: +49 30 7562-1141 • E-Mail: info@dincertco.de • www.dincertco.de											

Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence Number	011-7S776 F
	Issued	13.11.2015

Annual collector output kWh/module												
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
CLASSIC 1,5H 2L	3.529	2.590	1.739	2.729	1.933	1.244	2.001	1.348	836	2.170	1.456	888
CLASSIC 3H 1L	3.517	2.582	1.733	2.720	1.927	1.239	1.995	1.343	833	2.163	1.451	885

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

The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool ScenoCalc. The collector output is calculated hour by hour according to the efficiency parameters from the Keymark test using constant collector operating temperature (T_m). A detailed description of the calculations is available at <http://www.sp.se/en/index/services/solar/ScenoCalc/Sidor/default.aspx>.