

Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Licence Number		011-7S2480 F			
						Issued		2015-02-11			
Company holding the		EMMETI s.p.a.				Country		Italy			
Brand (optional)						Website		www.emmeti.com			
Street, street number		Via Brigata Osoppo 166				E-mail		alberto.fauzza@emmeti.com			
Postal Code / City, province		33074 Fontanafredda				Tel/Fax		39 0434 567830			
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)						No					
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/m²					
						Tm-Ta					
						0 K	10 K	30 K	50 K	70 K	
						W	W	W	W	W	
Arcobaleno SRTV	2,31	2.081	1.242	96	2,59	1.853	1.764	1.573	1.361	1.128	
Performance test method						Glazed liquid heating collector - steady state - indoor					
Performance parameters related to aperture		η₀	a₁	a₂							
Units		-	W/(m²K)	W/(m²K)							
Test results - Flow rate and fluid see note 1		0,803	3,715	0,011							
Bi-directional incidence angle		No									
Incidence angle modifiers Kθ(θ)		Kθ values are obligatory for 50°.									
		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		Kθ(θ)					0,94				0,00
Incidence angle modifier not bi-directional - leave fields blank											
Stagnation temperature - Weather conditions see note 2						Tstg	196	°C			
Effective thermal capacity						ceff = C/Ag	9,75	kJ/(m²K)			
Max. intended operation temperature - see note 3						Tmax,op		°C			
Max. operation pressure - see note 3						pmax,op	100	kPa			
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m² aperture area											
Flow rate	kg/(s m²)										
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		2.04.01123.1.0-1-LT(1) & -QT(1)				Date of test report		2015.02.11			
During the test GDIF/GTOT was always between		0,1	and	0,2							
Comments of testing laboratory:											
Note 1	Flow rate	0,020	kg/(s m²)	Fluid	Water						
Note 2	Irradiance, G = 1000 W/m²; Ambient temperature, Ta=30 °C										
Note 3	Given by manufacturer										
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						Donau-City-Strasse 1 1220 Wien, Austria					
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						Datasheet version: 4.06, 2014-01-15					
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Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence Number	011-7S2480 F
	Issued	11.02.2015

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
Arcobaleno SRTV	2.961	2.136	1.431	2.260	1.588	1.030	1.663	1.104	687	1.806	1.193	730

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>.

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	ScenoCalc version:
	Ver. 4.06 (Jan, 2014)