THERMOROSSI

THERMOROSSI S.p.A. attesta che i prodotti:

-COLLETTORE SOLARE MODELLO THERMOSOLE® 2.0
-COLLETTORE SOLARE MODELLO THERMOSOLE® 2.6
-THERMOCELL® 400 -THERMOCELL® 500
-THERMOPUFFER 400 -THERMOPUFFER 500

Rientrano nelle tipologie di prodotto atte ad ottenere la detrazione fiscale del 65%, applicando il comma 346 della legge n.296 del 27/12/2006 (Finanziaria 2007) e Legge n.244 del 24/12/2007 (Finanziaria 2008) che ha prorogato tali agevolazioni fiscali fino al 31/12/2013.

Collettori solari e accumuli (Thermocell® e Thermopuffer) sono dotati di garanzia di 5 anni, e di 2 anni su accessori, componenti elettrici ed elettronici.

I collettori solari sono certificati secondo normativa EN 12975

Thermocell® e Thermopuffer possono concorrere alla detrazione fiscale del 65% solo se installati con collettori solari certificati secondo normativa EN 12975 o EN 12976, dotati di garanzia di almeno 5 anni.

Arsiero, 9 Giugno 2010

THERMOROSSI S.p.A.

Institut für Solarenergieforschung GmbH
Hameln / Emmerthal

Test Centre for Solar Thermal Components and Systems

Am Ohrberg 1 · D-31860 Emmerthal

1. Summary of the Results

Firma: Company:	**Thermorossi S.P.A.** Via Grumolo 4 -Z.I. I-36011 Arsiero (VI), Italy	Prüfbericht-Nr.: Report no.:	50-07/D
		Prüfbericht-Datum: Report date:	21.05.2007
Typ: Type:	**Thermosole 2.6**	Herstell-Nr.: Serial no.:	94275
		Herstell-Jahr: Year of producion:	2001

The following results were obtained from a test of the thermal performance of a solar collector according to **EN 12975-2:2006**. They apply to the collector described more precisely in the test report no. 50-07/D and to the tests and procedures described herein.

Description of the collector

Type	flat plate collector	Aperture area	2.373 m²
Length/Width/Height	2151 / 1231 / 110 mm	Absorber area	2.373 m²
Max. operation pressure	10 bar	Gross area	2.609 m²
Weight, empty	49.2 kg	Recommended flow rate	90 kg/m²h
Heat transfer fluid	water glycol mixture	Thickness of absorber sheet	0.2 mm
		Tube distance	114 mm

Test results

Coefficients of efficiency
(determined in the sun simulator SUSI I)

$$\eta = \eta_0 - a_1 \cdot (t_m - t_a)/G - a_2 \cdot (t_m - t_a)^2/G$$

Based on:	aperture area	absorber area
η_0 =	0.818	0.818
a_1 =	3.47 W/m²K	3.47 W/m²K
a_2 =	0.0101 W/m²K²	0.0101 W/m²K²

Incident angle modifier
(determined outdoor)

$$K_{\theta b}(\theta) = 1 - b_0\ (1/\cos\theta - 1)$$

$K_\theta(50°)$ = 0.94, for G_d/G = 0.2
b_0 = 0.0134
$K_{\theta d}$ = 0.88

Power output per collector unit

$T_m - T_a$	Irradiance 400 W/m²	700 W/m²	1000 W/m²
10 K	692 W	1274 W	1856 W
30 K	508 W	1090 W	1673 W
50 K	305 W	887 W	1469 W

Peak power per collector unit **1941 W_{peak}** at G = 1000 W/m² and $t_m - t_a$ = 0 K

Pressure drop (water, 20 °C) Δp = 3.0 mbar at $\dot{m}$ = 61.0 kg/h
Δp = 19.5 mbar at $\dot{m}$ =227.0 kg/h

Thermal capacity (calculated) c = 4.7 kJ/(m²K) C = 11.1 kJ/K

Stagnation temperature t_{stg} = 227 °C at G_S = 1000 W/m² and t_{as} = 30 °C

Emmerthal, 02.02.2010

Dipl-Ing. C. Lampe, Head of Test Centre EN