



Kloben Sud S.r.l.
 Località Terzerie
 84061 Ogliastro Cilento (SA)
 Italia

ITW, Pfaffenwaldring 6
 70550 Stuttgart
 Telefon (0711) 685 - 635 36
 Telefax (0711) 685 - 635 03
 e-mail: fischer@itw.uni-stuttgart.de

Ihr Zeichen

Ihr Schreiben vom

Unser Zeichen

Tag

SF
 Tel.: 0711/685-63231
 Fax: 0711/685-63242

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confirmation

The following collector parameters are the result of the collector test according to EN 12975-2:2006 for the collector type SKY PRO 10 CPC 58 and the collector family SKY PRO xx consisting of SKY PRO 12 CPC 58, SKY PRO 14 CPC 58, SKY PRO 16 CPC 58, SKY PRO 18 CPC 58, SKY PRO 20 CPC 58 and SKY PRO 22 CPC 58 based on the absorber area of the collectors. The conversion of the data from aperture to absorber area was performed using the test results documented in the test reports 10COL942 (SKY PRO 10) and 10COL943 (SKY PRO xx), dated January 11th 2011.

Efficiency based on absorber area:
$$\eta = \eta_0 - a_1 \frac{(g_m - g_a)}{G^*} - a_2 \frac{(g_m - g_a)^2}{G^*}$$

	SKY PRO 10	SKY PRO xx
conversion factor η_0 [-]	0.54	0.54
heat transfer coefficient a_1 [W/(m ² K)]	0.74	0.78
temperature depending heat transfer coefficient a_2 [W/(m ² K ²)]	0.004	0.003

Figure 1 illustrates the determined efficiency curves of the collectors $\eta(\text{SKY PRO 10})$, $\eta(\text{SKY PRO xx})$ and the efficiency curve $\eta(\text{min})^1$.

Where:

$$\eta(\text{min}) = 0,55 - 2,0 * \frac{(g_m - g_a)}{G^*}$$

$$G^* = 800 \text{ W / m}^2$$

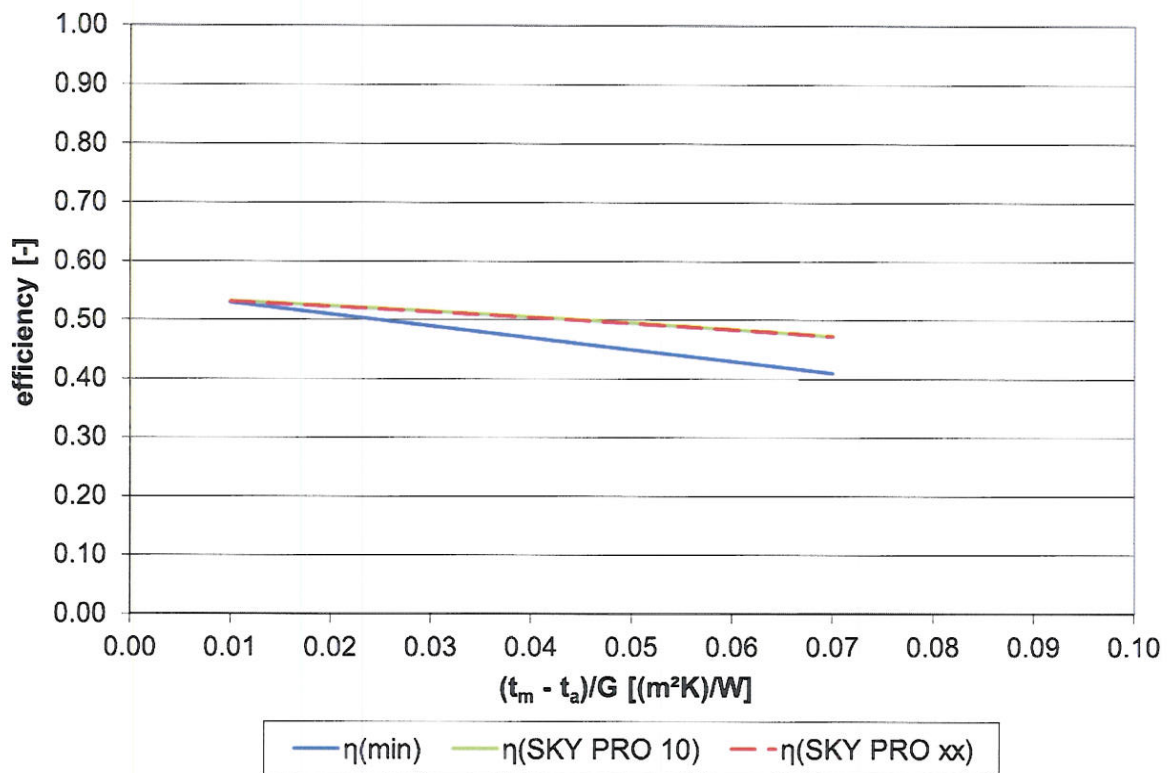


Figure 1: Efficiency curves of the tested collectors $\eta(\text{SKY PRO 10})$, $\eta(\text{SKY PRO xx})$ and $\eta(\text{min})$

Stephan Fischer
(Group leader testing TZS)

¹ Equation given by MINISTERO DELLO SVILUPPO ECONOMICO, „Decreto 28 dicembre 2012 – Incentivazione della produzione di energia termica da fonti rinnovabili ed interventi di efficienza energetica di piccole dimensioni”, page 21.