



**MESCOLI**  
C A L D A I E D A L 1 9 6 2

CONFORMITÀ AI REQUISITI  
D.M. 16 FEBBRAIO 2016 (CONTO TERMICO 2.0)

La sottoscritta Società, rivenditrice in Italia dei collettori solari della ditta  
"GASOKOL GmbH - Austria" attesta che i seguenti modelli di collettori solari:

- **SUNNYSOL UP-V**
- **SUNNYSOL UP-H**

Rispondono ai requisiti minimi richiesti per l'accesso all'incentivo riportati nelle Regole Applicative del D.M. 16/02/2016 al capitolo 5, paragrafo 10.2.

Più precisamente:

- i collettori solari sono in possesso della certificazione Solar Keymark (vedere certificato in allegato n. **011-7S019 F**);
- i collettori solari hanno valori di producibilità specifica, espressa in termini di energia solare annua prodotta per unità di superficie lorda  $A_G$  calcolata a partire dal dato contenuto nella certificazione Solar Keymark per una temperatura media di funzionamento di  $50^\circ\text{C}$ , **superiore a  $300 \text{ kWh/m}^2$  anno, con riferimento alla località Würzburg** (vedere risultati test in allegato n. **011-7S019 F** secondo EN ISO 9806).

Valori di energia solare annua prodotta per singolo collettore riferita a Würzburg:

MODELLO COLLETTORE	SUPERFICIE LORDA $A_G$ [m <sup>2</sup> ]	ENERGIA TERMICA ANNUA $Q_{col}$ [kWh]	ENERGIA SOLARE ANNUA PER UNITÀ DI SUPERFICIE LORDA $Q_U$ [kWh/m <sup>2</sup> ]
SUNNYSOL UP-V	2,25	1.020	453,3
SUNNYSOL UP-H	2,25	1.020	453,3

- I collettori solari, e le serie di bollitori e puffer sotto elencate hanno garanzia 5 anni solo in abbinamento a sistemi solari:
  - Bollitori per A.C.S. serie FIX, FAR e FAT;
  - Puffer serie GEA;
  - Puffer combinati per A.C.S. serie TRIGENIO e GAMMA.
- Accessori e componenti elettrici/elettronici sono garantiti 2 anni.



Si rilascia la presente dichiarazione anche per l'utilizzo alternativo ai fini dell'**ottenimento alla detrazione di imposta** per interventi di risparmio energetico Art. 1, **comma 346** della legge finanziaria 2007 e Legge di bilancio 2017 (legge 11 dicembre 2016, n. 232).

Vignola, lì 27 maggio 2019

MESCOLI CALDAIE SRL

Il Legale Rappresentante  
Mescoli Dott. Ing. Gianni

# ZERTIFIKAT

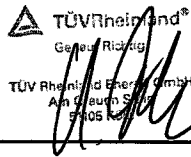
<b>Zertifikatinhaber</b>	<b>GASOKOL GmbH</b> <b>Solarpark 1</b> <b>4351 Saxen</b> <b>ÖSTERREICH</b>
<b>Herstellwerk</b>	Saxen
<b>Produkt</b>	Sonnenkollektoren
<b>Typ, Modell</b>	sunnySol UP-V, sunnySol UP-H
<b>Prüfgrundlage(n)</b>	DIN EN 12975-1:2011-01 DIN EN 12975-2:2006-06 DIN EN ISO 9806:2018-04 CEN-KEYMARK-Programmregeln Solarthermische Produkte Version 31 (2018-03)
<b>Konformitätszeichen</b>	 
<b>Registernummer</b>	011-7S019 F
<b>Gültig bis</b>	2023-07-31
<b>Nutzungsrecht</b>	Dieses Zertifikat berechtigt zum Führen des oben stehenden Konformitätszeichens in Verbindung mit der genannten Registernummer.  Weitere Angaben siehe Anhang.

# ANHANG

Seite 1 von 1

<b>Zertifikat</b>	011-7S019 F von 2018-08-02
<b>Technische Angaben</b>	siehe Datenblatt für den Prüfbericht von 2008-07-22, 2008-08-26, 2008-09-08, 2015-07-20  Bemerkung(en):  - Die Prüfung der Frostbeständigkeit nach DIN EN 12975-2, Abschnitt 5.8 ist nicht erforderlich. Laut Herstellerangabe dürfen die zertifizierten Kollektoren in frostgefährdeten Gebieten nur unter Verwendung geeigneter Frostschutzmittel oder geeigneter Frostschutz-Regeleinrichtungen betrieben werden.  - Die optionale Prüfung der Schlagfestigkeit nach DIN EN 12975-2, Abschnitt 5.10 wurde nicht durchgeführt.  Gilt für die Typen:  tecSol UP-V, tecSol UP-H, sunnySol XL UP-V, sunnySol XL UP-H  - Die Prüfung der Frostbeständigkeit nach DIN EN ISO 9806, Abschnitt 15 ist nicht erforderlich. Laut Herstellerangabe dürfen die zertifizierten Kollektoren in frostgefährdeten Gebieten nur unter Verwendung geeigneter Frostschutzmittel oder geeigneter Frostschutz-Regeleinrichtung betrieben werden.  Gilt für die Typen:  sunnySol UP-V, sunnySol UP-V(i), sunnySol UP-H, sunnySol UP-H(i)
<b>Prüflaboratorium/ Überwachungsstelle</b>	TÜV Rheinland Energy GmbH 51101 Köln
<b>Prüfbericht(e)</b>	Nr. 2.04.00575.1.0-1-LT von 2008-07-22, Nr. 2.04.00575.1.0-1-QT von 2008-09-08, Nr. 2.04.00575.1.0-3-LT von 2008-07-22, Nr. 2.04.00575.1.0-3-QT von 2008-08-26, Nr. 2.04.01243.1.0-3-LT und -QT von 2015-07-20



Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results					Licence Number		011-7S019 F																	
					Date issued		2018-07-31																	
					Issued by		TÜV Rheinland Energy GmbH																	
Licence holder		GASOKOL GmbH			Country		Austria																	
Brand (optional)					Web		www.gasokol.at																	
Street, Number		Solarpark 1			E-mail		office@gasokol.at																	
Postcode, City		A-4351 Saxon			Tel		+43 726 976 600																	
Collector Type					Flat plate collector, glazed																			
Collector name					Gross area (A <sub>G</sub> )		Gross length		Gross width		Gross height		Power output per collector G <sub>b</sub> = 850 W/m <sup>2</sup> ; G <sub>d</sub> = 150 W/m <sup>2</sup> θ <sub>m</sub> - θ <sub>a</sub>											
					m <sup>2</sup>		mm		mm		mm		0 K		10 K		30 K		50 K		70 K		100 K	
sunnySol UP-V					2.25		2 100		1 070		105		1 539		1 471		1 323		1 159		979		678	
sunnySol UP-H					2.25		1 070		2 100		105		1 539		1 471		1 323		1 159		979		678	
Power output per m <sup>2</sup> gross area					685		655		589		516		436		302									
Performance parameters test method					Steady state - indoor																			
Performance parameters (related to A <sub>G</sub> )					η <sub>0,hem</sub>		a <sub>1</sub>		a <sub>2</sub>															
Units					-		W/(m <sup>2</sup> K)		W/(m <sup>2</sup> K <sup>2</sup> )															
Test results					0.685		2.931		0.009															
Incidence angle modifier test method					Quasi dynamic - outdoor																			
Bi-directional incidence angle modifiers					No																			
Incidence angle modifier					Angle		10°		20°		30°		40°		50°		60°		70°		80°		90°	
Transversal					K <sub>θT, coll</sub>								0.93										0.00	
Longitudinal					K <sub>θL, coll</sub>								0.93										0.00	
Heat transfer medium for testing					Water-Glycole																			
Flow rate for testing (per gross area, A <sub>G</sub> )					dm/dt		0.050		kg/(sm <sup>2</sup> )															
Maximum temperature difference for thermal performance calculations					(θ <sub>m</sub> -θ <sub>a</sub> ) <sub>max</sub>		100		K															
Standard stagnation temperature (G = 1000 W/m <sup>2</sup> ; θ <sub>a</sub> = 30 °C)					θ <sub>stg</sub>		200		°C															
Effective thermal capacity, incl. fluid (per gross area, A <sub>G</sub> )					C/m <sup>2</sup>		15.69		kJ/(Km <sup>2</sup> )															
Maximum operating temperature					θ <sub>max, op</sub>		224		°C															
Maximum operating pressure					p <sub>max, op</sub>		1000		kPa															
Testing laboratory					TÜV Rheinland Energy GmbH							www.tuv.com/solarenergy												
Test report(s)					2.04.01243.1.0-3-LT (by AIT) 2.04.01243.1.0-3-QT (by AIT)							Dated		16.03.2015		16.03.2015								
Comments of testing laboratory					The collector tests had been performed according to EN ISO 9806:2013 by AIT Austrian Institute for Technology GmbH. According to an aperture area of 2.01 m <sup>2</sup> , the collector parameter would be η <sub>0,hem,a</sub> =0.765, a <sub>1a</sub> =3.277 and a <sub>2a</sub> =0.010							Datasheet version: 5.01, 2016-03-01												
												 TÜV Rheinland® General Rating TÜV Rheinland Energy GmbH Am Gleichen 5 51059 Köln												
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																								

<b>Annex to Solar Keymark Certificate Supplementary Information</b>	<b>Licence Number</b>	<b>011-7S019 F</b>
	<b>Issued</b>	<b>2018-07-31</b>

<b>Annual collector output in kWh/collector at mean fluid temperature <math>\vartheta_m</math>, based on EN ISO 9806:2013 test results</b>													
Collector name	Standard Locations $\vartheta_m$	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
sunnySol UP-V		2 444	1 802	1 243	1 890	1 360	913	1 385	944	609	1 501	1 020	646
sunnySol UP-H		2 444	1 802	1 243	1 890	1 360	913	1 385	944	609	1 501	1 020	646
Annual output per m <sup>2</sup> gross area		1 088	802	553	841	605	406	616	420	271	668	454	288
Fixed or tracking collector		Fixed (slope = latitude - 15°; rounded to nearest 5°)											
Annual irradiation on collector plane		1765 kWh/m <sup>2</sup>			1714 kWh/m <sup>2</sup>			1166 kWh/m <sup>2</sup>			1244 kWh/m <sup>2</sup>		
Mean annual ambient air temperature		18.5°C			3.2°C			7.5°C			9.0°C		
Collector orientation or tracking mode		South, 25°			South, 30°			South, 45°			South, 35°		
The collector is operated at constant temperature $\vartheta_m$ (mean of in- and outlet temperatures). The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool Scenocalc Ver. 5.01 (March 2016). A detailed description of the calculations is available at <a href="http://www.solarkeymark.org/scenocalc">www.solarkeymark.org/scenocalc</a>													

<b>Additional Information</b>		
Collector heat transfer medium	Water-Glycole	
Hybrid Thermal and Photo Voltaic collector	No	
The collector is deemed to be suitable for roof integration	No	
The collector was tested successfully according to EN ISO 9806:2013 under the following conditions:		
Climate class (A, B or C)	A	--
Maximum tested positive load	2045	Pa
Maximum tested negative load	1521	Pa
Hail resistance using steel ball (maximum drop height)	-	m

<b>Energy Labelling Information</b>			
	Reference Area, $A_{sol}$ (m <sup>2</sup> )	Data required for CDR (EU) No 811/2013 - Reference Area $A_{sol}$	
sunnySol UP-V	2.25	Collector efficiency ( $\eta_{col}$ )	55 %
sunnySol UP-H	2.25	<i>Remark: Collector efficiency (<math>\eta_{col}</math>) is defined in CDR (EU) No 811/2013 as collector efficiency of the solar collector at a temperature difference between the solar collector and the surrounding air of 40 K and a global solar irradiance of 1000 W/m<sup>2</sup>, expressed in % and rounded to the nearest integer. Deviating from the regulation <math>\eta_{col}</math> is based on reference area (<math>A_{sol}</math>) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806:2013.</i>	
		<b>Data required for CDR (EU) No 812/2013 - Reference Area <math>A_{sol}</math></b>	
		Zero-loss efficiency ( $\eta_0$ )	0.685 --
		First-order coefficient ( $a_1$ )	2.93 W/(m <sup>2</sup> K)
		Second-order coefficient ( $a_2$ )	0.009 W/(m <sup>2</sup> K <sup>2</sup> )
		Incidence angle modifier IAM (50°)	0.93 --
		<i>Remark: The data given in this section are related to collector reference area (<math>A_{sol}</math>) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806. Consistent data sets for either aperture or gross area can be used in calculations like in the regulation 811 and 812 and simulation programs.</i>	