



Certification body  
empowered by CEN n°016

**KEYMARK LICENSE**  
CERTIFICAT  
**SK 0005**



**SOLAR THERMAL PRODUCTS**  
PRODUITS SOLAIRES THERMIQUES

**Granted to / Délivré à**

**SONNENKRAFT FRANCE**  
16, rue de Saint Exupéry – ZA de l'Aérodrome  
67 500 HAGUENAU

**For the following products / Pour les produits suivants**

**DOMESTIC SOLAR WATER HEATERS**  
CHAUFFE-EAU SOLAIRES INDIVIDUELS

**SONNENKRAFT – COMPACT E EHP & SKR 500**

(References and characteristics given in attached appendix / Références et caractéristiques données en annexe)

**Manufactured in the production plant / Fabriqués dans le(s) site(s) :**

**SANKT VEIT AN DER GLAN (AUTRICHE)**

**This certificate is issued by CERTITA according to the specific CEN Keymark Scheme Rules for Solar Thermal Products in respect of the following standard(s):**  
EN 12 976-1

**It authorizes the licensee to use the Keymark for the listed products.**

Ce certificat est délivré par CERTITA dans les conditions fixées par le référentiel de certification Keymark s'appliquant aux produits solaires thermiques et en référence à la (aux) norme(s) ci-dessous :  
EN 12 976-1.

Il autorise l'entreprise à utiliser la Keymark pour les produits visés.

**Effective date : 2013-04-19**  
Date de début de validité

**Expiry date : 2013-12-31**  
Date de fin de validité

Issued at Courbevoie, on 2013-04-19

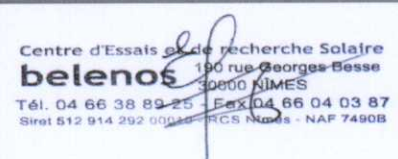
For CERTITA

**François-Xavier BALL**  
Président

Certificate n° SK 0005

CERTITA S.A.S. Société par actions simplifiée au capital de 40 000 € - 513 133 637 RCS Nanterre – www.certita.fr  
39-41, rue Louis Blanc – 92400 COURBEVOIE – Téléphone +33 (0)1 47 17 64 85 – Télécopie +33 (0)1 47 17 62 45

CERTITA 09/2012

Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate					Licence Number		SK 0005			
					Issued		2013-04-19			
Company			SONNENKRAFT France		Country		France			
Street			16, rue de Saint Exupéry – ZA de l'Aérodrome		Website		www.sonnenkraft.fr			
Postal Code			67 500 HAGUENAU (France)		E-mail		france@sonnenkraft.com			
					Tel. / Fax		00 33 (0)3 90 59 05 20			
System classification / Systemeigenschaften / Caractéristiques du système										
Flow principle					Forced					
Direct/indirect					Indirect					
Press. principle					Closed					
Drain back/down					Always filled (no drain)					
Storage location					Indoor					
Storage position					Vertical					
Internal back-up					Electric					
If other internal back-up, please specify:										
EN12976 type					Solar + supplementary					
Collector(s)				Storage(s)						
Company				General Solar Systems Gmbh		Company				General Solar Systems Gmbh
Keymark reg, no (if available)				011-7S1277 F		Keymark reg, no. (if available)				/
Model	Per module/			Number of modules	Model	Total volume	Gross diameter/width	Gross length	Back-up heated volume	El. back-up power
	Aperture area (Aa)	Gross length	Gross width							
	m <sup>2</sup>	m	m	min - max						
SKR 500	2,26	2,08	1,24	1 - 3	DHW 300 – PR1 EHP	291,5	600	1794	168	2
					DHW 400 – PR1 EHP	373,4	700	1591	190	2,5
Controller				Fluid						
Company				Sonnenkraft		Company				TYFOROP Chemie GmbH
Model				SKSC2		Model				TYFOCOR L
Functions				/		Freezing point				-50 °C
System family overview										
Collector name	Number of collectors in each configuration for each storage									
	Storage model									
	DHW 300 – PR1 EHP	DHW 400 – PR1 EHP								
SKR 500	2	2 3								
Testing Laboratory				BELENOS						
Website				www.belenos.pro						
Test report id. number				R11L1009/002, R11L1009/004, R11L1009/007, R11L1009/008						
Date of test report				21/12/2012, 21/12/2012, 10/04/2013, 10/04/2013						
Comments of test lab										
No Comment				 <p>Centre d'Essais et de recherche Solaire 190 rue Georges Besse 92000 NIMES Tél. 04 66 38 89 25 - Fax 04 66 04 03 87 Siret 512 914 292 00009 - RCS Nanterre - NAF 7490B</p>						

All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %

Version 2.3, 2013-03-04

<b>Summary of EN 12976 Test Results, annex to Solar KEYMARK Certificate</b>				<b>Certification No.</b>		<b>SK 0005</b>					
				<b>Issued</b>		2013-04-19					
<b>Company</b>	SONNENKRAFT France			<b>Country</b>	France						
<b>Street</b>	16, rue de Saint Exupéry – ZA de l'Aérodrome			<b>Website</b>	www.sonnenkraft.fr						
<b>Postal Code</b>	67500	HAGUENAU (France)		<b>E-mail</b>	france@sonnenkraft.com						
				<b>Tel. / Fax</b>	00 33	(0)3 90 59 05 20					
<b>System family overview</b>											
<b>For each storage and collector size, give number of collectors</b>											
<b>Collector name</b>	DHW 300 – PR1 EHP		DHW 400 – PR1 EHP								
SKR 500	2		2	3							
<b>Name of system configuration</b>				CPE300PR1-EHP/R2-O							
<b>Collector name</b>	SKR 500		<b>No. Collectors</b>	2		<b>Storage name</b>	DHW 300 – PR1 EHP				
<b>Calculated annual results</b>											
<b>Location</b> Standort Sites	<b>Daily draw-off (litres/day)</b>										
		170	200	250	170	200	250	170	200	250	
		l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	l/d	
		Qd kWh/y			Qaux,net kWh/y			Qpar kWh/y			
Stockholm SE	2 637	3 101	3 872	1 454	1 761	2 216	104	104	104		
Würzburg DE	2 532	2 970	3 714	1 253	1 533	1 953	104	104	104		
Davos CH	2 856	3 364	4 205	786	1 104	1 691	104	104	104		
Athens GR	1 962	2 313	2 891	387	533	824	104	104	104		
Nice FR	2 006	2 365	2 952	350	502	816	104	104	104		
<b>Perf. indicators for the table above</b>											
Qd	kWh/y	<b>Heat demand</b>									
Qaux,net	kWh/y	<b>Auxiliary heat (back-up heat needed)</b>									
Qpar	kWh/y	<b>Electricity for pumps/controllers</b>									
<b>Ref. conditions</b>		Stockholm SE	Würzburg DE	Davos CH	Athens GR	Nice FR					
	G	1 157	1 230	1 684	1 718	1 735					
	Ta	7,5	9,0	3,2	18,5	15,3					
	Tc	8,5	10,0	5,4	17,8	17,2					
	± ΔTc	6,4	3,0	0,8	7,4	7,4					
G	kWh/m <sup>2</sup>	<b>Annual irradiation South, 45°</b>									
Ta	°C	<b>Annual mean air temperature</b>									
Tc	°C	<b>Annual mean cold water temp.</b>									
ΔTc	°C	<b>Seasonal variation of Tc</b>									
Th	45 °C	<b>Desired hot water temperature (mixing valve temperature).</b>									
<b>Max. operating press. - collector side</b>				1 000	kPa	<b>Max. operating press. - tank side</b>				1 000	kPa
<b>Testing Laboratory</b>				BELENOS							
<b>Website</b>				www.belenos.pro							
<b>Test report id. number</b>				R11L1009/002, R11L1009/004, R11L1009/007, R11L1009/008							
<b>Date of test report</b>				21/12/2012, 21/12/2012, 10/04/2013, 10/04/2013							
<b>Test method</b>				ISO 9459-5 (DST)							
<b>Comments of test lab</b>											
No comment											
Centre d'Essais et de recherche Solaire <b>belenos</b> 190 rue Georges Besse 30000 NIMES Tél. 04 66 38 89 25 - Fax 04 66 04 03 87 Siret 512 914 292 00035 - RCS Nîmes - NAF 7490B											

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CERTITA 04/2013

