

Duplicate

# CERTIFICATE

**Certificate holder**           **DAIKIN EUROPE NV**  
**Zandervordestraat 300**  
**8400 Oostende**  
**BELGIUM**

**Production facility**       Güglingen

**Product**                   Solar collectors

**Type, Model**               EKS V21P, EKS V26P, EKS H26P

**Testing basis**             DIN EN 12975-1:2006-06  
DIN EN 12975-2:2006-06  
Specific CEN KEYMARK Scheme Rules for Solar Thermal Products version 21.00  
(2013-10)

**Mark of conformity****Registration No.**           011-7S1016 F**Valid until**               2019-11-30**Right of use**               This certificate entitles the holder to use the mark of conformity shown above in conjunction with the specified registration number.

See annex for further information.

# ANNEX

**Certificate** 011-7S1016 F dated 2014-09-23

**Technical Data** See data sheet, part of the test report of 2009-11-30

**Note(s):**

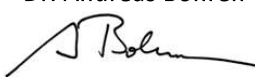
- The freeze resistance test according to DIN EN 12975-2, clause 5.8 was not necessary. According to the manufacturer's declaration, the certified solar collectors may be used in frost exposed areas only in combination with appropriate frost protection mixtures.

- The optional impact resistance test according to DIN EN 12975-2, clause 5.10 was not carried out.

**Testing laboratory/  
Inspection body** Institut für Solartechnik SPF  
Hochschule für Technik  
Rapperswil  
Oberseestrasse 10  
8640 Rapperswil  
SWITZERLAND

**Test report(s)** No. C1149LPEN, No. C1149QPEN, No. C1150LPEN,  
No. 1166QPEN-red dated 2009-11-30



Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Licence Number		011-7S924 F			
						Issued		2015-06-29			
Company holding the	ROTEX Heating Systems GmbH					Country	Germany				
Brand (optional)	-					Website	www.rotex.de				
Street, street number	Langwiesenstrasse 10					E-mail	info@rotex.de				
Postal Code / City, province	DE-74363	Güglingen				Tel/Fax	+49 7135 103 -0 / -200				
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)						Yes					
Collector name	Aperture area (Aa) m <sup>2</sup>	Gross length mm	Gross width mm	Gross height mm	Gross area (AG) m <sup>2</sup>	Power output per collector module					
						G = 1000 W/m <sup>2</sup>					
						Tm-Ta					
						0 K	10 K	30 K	50 K	70 K	
						W	W	W	W	W	
V26P	2.364	2'001	1'300	85	2.601	1'853	1'751	1'537	1'308	1'067	
H26P	2.364	1'300	2'000	85	2.601	1'853	1'751	1'537	1'308	1'067	
V21P	1.795	2'002	1'006	85	2.014	1'407	1'330	1'167	994	810	
Performance test method						Glazed liquid heating collector - steady state - outdoor					
Performance parameters related to aperture area		η <sub>0</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 - Flow rate and fluid see note 1		0.784	4.25	0.0072							
Bi-directional incidence angle modifiers?		Yes <i>Kθ values are obligatory for 50°.</i>									
Incidence angle modifiers Kθ(θT) transversal direction		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		Kθ(θT)	1.00	1.00	0.99	0.97	0.94	0.86	0.72	0.48	0.00
Incidence angle modifiers Kθ(θL) longitudinal direction		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		Kθ(θL)	1.00	1.00	0.99	0.97	0.94	0.86	0.72	0.48	0.00
Stagnation temperature - Weather conditions see note 2						Tstg	192 °C				
Effective thermal capacity						c <sub>eff</sub> = C/Ag	5.04 kJ/(m <sup>2</sup> K)				
Max. intended operation temperature - see note 3						T <sub>max,op</sub>	220 °C				
Max. operation pressure - see note 3						p <sub>max,op</sub>	600 kPa				
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m <sup>2</sup> aperture area											
Flow rate	kg/(s m <sup>2</sup> )	0.005	0.010	0.015	0.020	0.025	0.029	0.034	0.039	0.044	0.049
Pressure drop, ΔP	Pa	87	181	282	390	504	625	752	886	1027	1175
Optional weather data	Location				Link						
Testing Laboratory	SPF, CH-8640 Rapperswil										
Website	www.spf.ch										
Test report id. number	C1082LPEN/C1082QPEN/C1083LPEN/C1084QPEN-red					Date of test reports	23.09.2009				
During the test GDIF/GTOT was always between		0.06	and	0.17							
Comments of testing laboratory:											
-											
Note 1	Flow rate	0.025	kg/(s m <sup>2</sup> )	Fluid	Water-Glycole						
Note 2	Irradiance, G = 1000 W/m <sup>2</sup> ; Ambient temperature, Ta=30 °C										
Note 3	Given by manufacturer										
						Dr. Andreas Bohren					
											
						Datasheet version: 4.06, 2014-01-15					
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											

