

CERTIFICATE

Certificate holder

Daikin Europe N.V.
Zandvoordestraat 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 ISO 9806:2018-04
SOLAR KEYMARK Scheme Rules (2019-03)

Mark of conformity**Registration No.**

011-7S1016 F

Valid until

2024-11-30

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

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Certificate

011-7S1016 F dated 2020-01-07

Technical Data

See data sheet, part of the test report of 2019-11-27

Note(s):

- The freeze resistance test according to DIN EN ISO 9806, clause 15 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 or with appropriate frost protection controller.


**Testing laboratory/
Inspection body**

Institut für Solartechnik SPF
Hochschule für Technik
Oberseestraße 10
8640 Rapperswil
SWITZERLAND

Test report(s)

No. C1796ISO, No. C1797ISO, No. C1798ISO dated 2019-11-27



Annex to Solar Keymark Certificate					Licence Number		011-7S1016 F				
					Date issued		2019-12-20				
					Issued by		DIN CERTCO				
Licence holder		Daikin Europe N.V.			Country		Belgium				
Brand (optional)		-			Web		www.daikin.eu				
Street, Number		Zandvoordestraat 300			E-mail		-				
Postcode, City		BE-8400 Oostende			Tel		+32 59 55 81 11				
Collector Type					Flat plate collector						
Collector name	Gross area (A _G) m ²	Gross length mm	Gross width mm	Gross height mm	Power output per collector G _b = 850 W/m ² , G _d = 150 W/m ² & u = 1.3 m/s θ _m - θ _a						
					0 K W	10 K W	30 K	50 K	70 K	120 K	
V21P	2.01	2'000	1'006	85	1'426	1'338	1'156	963	762	215	
V26P	2.60	2'000	1'300	85	1'844	1'731	1'495	1'246	985	278	
H26P	2.60	1'300	2'000	85	1'844	1'731	1'495	1'246	985	278	
Power output per m ² gross area					709	666	575	479	379	107	
Performance parameters test method		Steady state - outdoor									
Performance parameters (related to A _G)		η ₀ , b	a1	a2	a3	a4	a5	a6	a7	a8	K _d
Units		-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)	-	J/(m ² K)	s/m	W/(m ² K ⁴)	W/(m ² K ⁴)	-
Test results		0.719	4.30	0.006	0.000	0.00	0	0.000	0.00	0.0E+00	0.91
Incidence angle modifier test method		Steady state - outdoor									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		K _{θT, coll}	1.00	0.99	0.99	0.98	0.95	0.89	0.69	0.37	0.00
Longitudinal		K _{θL, coll}	1.00	1.00	1.00	0.99	0.97	0.93	0.82	0.57	0.00
Heat transfer medium for testing					Water-Glycole						
Flow rate for testing (per gross area, A _G)					dm/dt	0.023	kg/(sm ²)				
Maximum temperature difference during thermal performance test					(θ _m -θ _a) _{max}	90	K				
Standard stagnation temperature (G = 1000 W/m ² ; θ _a = 30 °C)					θ _{stg}	200	°C				
Maximum operating temperature					θ _{max, op}	98	°C				
Maximum operating pressure					p _{max, op}	600	kPa				
Testing laboratory		SPF Testing, CH-8640 Rapperswil, Switzerland				www.spf.ch					
Test report(s)		C1796ISO C1797ISO C1798ISO				Dated		27.11.2019 27.11.2019 27.11.2019			
Comments of testing laboratory					Datasheet version: 6.1, 2019-09-26						
											
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Annex to Solar Keymark Certificate Supplementary Information							Licence Number			011-7S1016 F			
							Issued			2019-12-20			
Annual collector output in kWh/collector at mean fluid temperature ϑ_m													
Standard Locations		Athens			Davos			Stockholm			Würzburg		
Collector name	ϑ_m	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
V21P		2'264	1'505	922	1'653	1'080	643	1'222	747	426	1'336	805	453
V26P		2'929	1'946	1'193	2'139	1'396	832	1'581	966	551	1'729	1'042	586
H26P		2'929	1'946	1'193	2'139	1'396	832	1'581	966	551	1'729	1'042	586