

AENOR

Keymark Certificate Solar thermal energy



078/000276

AENOR certifies that the organization

BDR THERMEA GROUP B.V

registered office MERCHANTSTRAAT, 55 7300 AA APELDOORN (Holanda - Países Bajos)

supplies Solar collectors

in compliance with UNE-EN 12975-1:2006 (EN 12975-1:2006)

Trade Mark REMEHA DH200 SL
Technical information Specified in Annexes to the Certificate

Production site CL MANGANÉS, 2 08755 CASTELLBISBAL (Barcelona - España)

Certification scheme In order to grant this Certificate, AENOR has tested the product and has verified the quality system implemented for its manufacture. AENOR performs these tasks periodically while the Certificate has not been cancelled, in accordance with Specific Rules RP 078.01.

This certificate supersedes 078/000276, dated 2016-04-25

First issued on 2016-04-25
Modified on 2017-11-23
Validity date 2021-04-25


Rafael GARCÍA MEIRO
Chief Executive Officer

Original Electronic Certificate

AENOR INTERNACIONAL S.A.U.
Génova, 6. 28004 Madrid. España
Tel. 91 432 60 00.- www.aenor.com

Product certification body accredited by ENAC, number 01/C-PR002.078



Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Licence Number		078/000276			
						Issued		2017-11-23			
Company holding the		BDR THERMEA GROUP B.V.				Country		NETHERLANDS			
Brand (optional)		--				Website		www.bdrthermea.com			
Street, street number		MARCHANSTRAAT 55				E-mail		oleguer.fuertes@baxi.es			
Postal Code / City, province		7300 AA		APPELDOORN		Tel/Fax		+34 902898989			
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)						No					
						Power output per collector module					
						G = 1000 W/m ²					
						T _m -T _a					
Collector name		Aperture area (A_a)	Gross length	Gross width	Gross height	Gross area (A_G)	0 K	10 K	30 K	50 K	70 K
		m ²	mm	mm	mm	m ²	W	W	W	W	W
REMEHA DH200 SL		1,92	1.757	1.151	46	2,02	1.405	1.328	1.154	953	727
Performance test method						Glazed liquid heating collector - steady state - indoor					
Performance parameters related to aperture			η_0	a1	a2						
Units			-	W/(m ² K)	W/(m ² K ²)						
Test results - Flow rate and fluid see note 1			0,732	3,860	0,017						
Bi-directional incidence angle modifiers?		No <i>Kθ values are obligatory for 50°.</i>									
Incidence angle modifiers Kθ(θ)		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		K θ (θ)					0,95				0,00
Incidence angle modifier not bi-directional - leave fields blank											
Stagnation temperature - Weather conditions see note 2							T _{stg}	212,3	°C		
Effective thermal capacity							ceff = C/Ag	3,79	kJ/(m ² K)		
Max. intended operation temperature - see note 3							T _{max,op}	180	°C		
Max. operation pressure - see note 3							p _{max,op}	1000	kPa		
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m² aperture area											
Flow rate	kg/(s m ²)	0,000	0,010	0,023	0,035	0,047	0,060				
Pressure drop, ΔP	Pa	0	56	161	283	432	636				
Optional weather data		Location				Link					
Testing Laboratory		Fundación CENER-CIEMAT, LEST									
Website		www.cener.com									
Test report id. number		30.2755.0-1-1 R					Date of test report		04/02/2016		
		30.2755.0-2-1 / 30.2755.0							28/12/2015		
During the test GDIF/GTOT was always between			0,08	and	0,09						
Comments of testing laboratory:											
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Note 1	Flow rate	0,020	kg/(s m ²)	Fluid	Water						
Note 2	Irradiance, G = 1000 W/m²; Ambient temperature, T_a=30 °C										
Note 3	Given by manufacturer										
											
							Datasheet version: 4.06, 2014-01-15				
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Annual collector output based on EN 12975 Test Results, annex to Solar KEYMARK Certificate	Licence Number	078/00276
	Issued	2017-11-23

Annual collector output kWh/module														
Collector name	Location and collector temperature (Tm)													
	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		
REMEHA DH200 SL	2.253	1.532	916	1.667	1.082	604	1.239	760	412	1.350	822	439		

Collector mounting: Fixed or tracking Fixed; slope = latitude - 15° (rounded to nearest 5°)

Overview of locations				
Location	Latitude °	Gtot kWh/m ²	Ta °C	Collector orientation or tracking mode
Athens	38	1.765	18,5	South, 25°
Davos	47	1.714	3,2	South, 30°
Stockholm	59	1.166	7,5	South, 45°
Würzburg	50	1.244	9,0	South, 35°

Gtot	Annual total irradiation on collector plane	kWh/m ²
Ta	Mean annual ambient air temperature	°C
Tm	Constant collector operating temperature (mean of in- and outlet temperatures)	°C

The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool ScenoCalc. The collector output is calculated hour by hour according to the efficiency parameters from the Keymark test using constant collector operating temperature (Tm). A detailed description of the calculations is available at <http://www.sp.se/en/index/services/solar/ScenoCalc/Sidor/default.aspx>.

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	4.06, 2014-01-15
	ScenoCalc version:
	Ver. 4.06 (Jan, 2014)