



Keymark Certificate



078/000147

AENOR certifies that the organization

BDR THERMEA GROUP B.V.

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

supplies **Solar collectors**

in compliance with UNE-EN 12975-1:2006+A1:2011 (EN 12975-1:2006+A1:2010)

Trade Mark BAXI SB 21 +
Technical information Specified in Annexes to the Certificate

Production site CL MANGANÈS, 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 078/000147, dated 2022-09-26

First issued on 2012-09-26
Modified on 2023-11-28
Validity 2027-09-26

Rafael GARCÍA MEIRO
CEO





Annex to Solar Keymark Certificate Supplementary Information	Licence Number	078/000147
	Issued	2023-11-28

Gross Thermal Yield in kWh/collector at mean fluid temperature ϑ_m													
Collector name	ϑ_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
BAXI SB 21 +		2.333	1.606	1.024	1.730	1.162	717	1.280	810	480	1.399	876	511
Gross Thermal Yield per m ² gross area													
Annual efficiency, η_a													
Fixed or tracking collector													
Annual irradiation on collector plane													
Mean annual ambient air temperature													
Collector orientation or tracking mode													

The collector is operated at constant temperature ϑ_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. 6.2 (13.01.2022). A detailed description of the calculations is available at <http://www.estif.org/solarkeymarknew/>

Additional Information					
Collector heat transfer medium	Water-Glycole				
The collector is deemed to be suitable for roof integration	No				
The collector was tested successfully under the following conditions:					
Climate class (A+, A, B or C)	A+		--		
G (W/m ²) >	1100	ϑ_a (°C) >	40	H_x (MJ/m ²) >	700
Maximum tested positive load	3500		Pa		
Maximum tested negative load	2400		Pa		
Hail resistance using ice balls (diameter)	35		mm		

Additional collector attribute(s)			
Using external power source(s) for normal operation	No	Active or passive measure(s) for self-protection	No
Co-generating thermal and electrical power	No	Façade collector(s)	Yes

Energy Labelling Information		Additional Informative Technical Data	
	Reference Area, A_{sol} (m ²)	Hydraulic Designation Code	Aperture Area, A_a (m ²)
BAXI SB 21 +	2,01	10-H-12345-A:7.3,1588-C:20.6,1227	1,89

Data required for CDR (EU) No 811/2013 - Reference Area		Data required for CDR (EU) No 812/2013 - Reference Area A_{sol}	
Collector efficiency (η_{col})	56%	Zero-loss efficiency (η_0)	0,73
Remark: Collector efficiency (η_{col}) 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 ² , expressed in % and rounded to the nearest integer. Deviating from the regulation η_{col} is based on reference area (A_{sol}) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806:2017.		First-order coefficient (a_1)	3,97
		Second-order coefficient (a_2)	0,008
		Incidence angle modifier IAM (50°)	0,91
		Remark: The data given in this section are related to collector reference area (A_{sol}) 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.	