

AENOR

Keymark Certificate Solar thermal energy



078/000320

AENOR certifies that the organization

BDR THERMEA GROUP B.V

registered office	MARCHANTSTRAAT, 55 7300 AA APELDOORN (Holanda - Países Bajos)
supplies	Factory made thermal solar heating systems
in compliance with	UNE-EN 12976-1:2006 (EN 12976-1:2006)
Trade Mark	BAXI STS 150 LP
Technical information	Specified in Annexes to the Certificate
Production site	CL MANGANÉS, 2 POLIG. INDUSTRIAL CAN ALBAREDA 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 078.02.
First issued on	2019-06-18
Validity date	2024-06-18


Rafael GARCÍA MEIRO
Chief Executive Officer

Original Electronic Certificate

AENOR INTERNACIONAL S.A.U.
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Product certification body accredited by ENAC, number 01/C-PR002.078



Summary of	EN12976-2	SOLAR SYSTEM test results		Licence Number	078/000320							
Annex to Solar KEYMARK Certificate				Issued	2019-06-18							
Company	BDR THERMEA GROUP B.V.			Country	NETHERLANDS							
Brand (optional)	BAXI			Website	www.bdrthermea.com							
Street	MARCHANSTRAAT 55			E-mail	oleguer.fuertes@BDRThermea.com							
Postal Code	7300 AA	APPELDOORN		Tel. / Fax	+34 902.898.989							
System classification												
Application(s)				Hot water								
Solar loop, circulation principle				Thermosyphon								
Direct solar loop / heat exchanger				Heat exchanger								
Open, vented or closed solar loop				Closed								
Drain back/down				Always filled (no drain)								
Store location				Outdoor								
Store orientation (of main axis)				Horizontal								
Type of auxiliary heating (internal back-up heat)				None								
If other auxiliary/internal back-up heating, please specify:												
Solar+supplementary OR Solar-only / Solar pre-heat				Solar only / Solar preheat								
Collector(s)				Heat store(s)								
Company		FABRISOLIA, S.L.U.		Company		SOLE S.A.						
Keymark lic.no. if available		078/000266		Keymark lic.no. if available								
Collector name	Per module			Store name	Total nominal volume litres	Gross height mm						
	Gross Area (Ag) m²	Gross length mm	Gross width mm				Gross width mm	Gross depth mm	Auxiliary heated volume litres	Electrical aux. heating power kW		
BAXI MEDITERRANEO SLIM 200	2,02	1757	1151	STS LP 150	144	500						
Solar loop controller				Solar loop fluid								
Keymark lic.no. if available		--		Recommended/required		Required						
Company		--		Company		BAXI						
Name		--		Name		FAC 10						
Solar loop pump - power range		W to W		Freezing point		-10 °C						
System family overview												
Collector name	Number of collectors in each configuration for each store											
	Store name											
	STS LP 150											
BAXI MEDITERRANEO SLIM 200	1											
Testing Laboratory				Fundación CENER-CIEMAT								
Website				www.cener.com								
Test report id. number				30.3452.6-1 Test report								
Date of test report				2019-05-23								
Comments of test lab												
				 CENER NATIONAL RENEWABLE ENERGY CENTRE ADitech Stamp & signature of test lab								



Summary of	EN12976-2	test results	Certification No.	078/000320									
Annex to Solar KEYMARK Certificate			Issued	2019-06-18									
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Brand (optional)	BAXI		Website	www.bdrthermea.com									
Street	MARCHANSTRAAT 55		E-mail	oleguer.fuertes@BDRThermea.com									
Postal Code	7300 AA	APPELDOORN	Tel. / Fax	+34 902898989									
System family overview													
For each storage and collector size, give number of collectors													
Collector name	STS LP 150												
BAXI MEDITERRANEO SLIM 200	1												
Name of system configuration													
			BAXI STS 150 LP										
Collector name	BAXI MEDITERRANEO SLIM 200	No. Collectors	1	Storage name									
				STS LP 150									
Calculated annual results for "solar-only / preheat system"													
Location	Qd,sh MJ/y	Daily drawoff 110 l				Daily drawoff 140 l				Daily drawoff 170 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
		MJ/y	MJ/y	2665	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y
Stockholm SE	--	6140	2665	0	43,4	7814	2894	0	37,0	9489	3021	0	31,8
Würzburg DE	--	5888	2758	0	46,8	7494	3096	0	41,3	9099	3190	0	35,1
Davos CH	--	6662	3886	0	58,3	8479	4254	0	50,2	10295	4350	0	42,3
Athens GR	--	4575	3481	0	76,1	5823	4053	0	69,6	7071	4385	0	62,0
Perf. indicators for the table above													
Qd,sh	MJ/y	Not relevant for solar domestic hot water system											
Qd	MJ/y	Annual heat demand for domestic hot water											
QL	MJ/y	Annual heat energy delivered by the solar system											
Qpar	MJ/y	Annual parasitic energy: (electricity for pumps/controllers)											
$f_{sol}=Q_L/Q_d$	-	Solar fraction											
Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR								
	G	1.157	1.230	1.684	1.736								
	Ta,ave	7,5	9,0	3,2	18,5								
	Tc,ave	8,5	10,0	5,4	17,8								
	± ΔTc	6,4	3,0	0,8	7,4								
G	kWh/m²	Annual irradiation South, 45°											
Ta,ave	°C	Annual average outdoor air temperature											
Tc,ave	°C	Annual average mains cold water temp.											
ΔTc	K	Seasonal variation of Tc											
Th	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		1000	kPa	Max. operating press. - tank side		8000	kPa						
Testing Laboratory		Fundación CENER-CIEMAT											
Website		www.cener.com											
Test report id. number		30.3452.6-1 Test report											
Date of test report		2019-05-23											
Test method		ISO 9459-5 (DST)											
Comments of test lab													
No comments													

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

Version 4.5, 2017-10-24

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