

AENOR

Keymark Certificate Solar thermal energy



078/000321

AENOR certifies that the organization

BDR THERMEA GROUP B.V

registered office	MERCHANTSTRAAT, 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 200 2.5 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 SA.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	078/000321						
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	078/000258		Keymark lic.no. if available							
Collector name	Per module			Store name	Total nominal volume	Gross height	Gross width	Gross depth	Auxiliary heated volume	Electrical aux. heating power
	Gross Area (Ag)	Gross length	Gross width							
	m ²	mm	mm							
BAXI MEDITERRANEO SLIM 250	2,52	2191	1151	STS LP 200	178	530	1145	--	--	--
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 200									
BAXI MEDITERRANEO SLIM 250	1									
Testing Laboratory	Fundación CENER-CIEMAT									
Website	www.cener.com									
Test report id. number	30.3452.7-1 Test report									
Date of test report	2019-05-23									
Comments of test lab										
					 CENER NATIONAL RENEWABLE ENERGY CENTRE ADitech <i>Stamp & signature of test lab</i>					



Summary of	EN12976-2	test results	Certification No.	078/000321									
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 902898989									
System family overview													
For each storage and collector size, give number of collectors													
Collector name	STS LP 200												
BAXI MEDITERRANEO SLIM 250	1												
Name of system configuration			BAXI STS 200 2.5 LP										
Collector name	BAXI MEDITERRANEO SLIM 250	No. Collectors	1	Storage name	STS LP 200								
Calculated annual results for "solar-only / preheat system"													
Location	Qd,sh MJ/y	Daily drawoff 140 l				Daily drawoff 170 l				Daily drawoff 200 l			
		Qd,hw MJ/y	QL MJ/y	Qpar MJ/y	fsol %	Qd,hw MJ/y	QL MJ/y	Qpar MJ/y	fsol %	Qd,hw MJ/y	QL MJ/y	Qpar MJ/y	fsol %
Stockholm SE	--	7814	3435	0	44,0	9489	3682	0	38,8	11163	3813	0	34,2
WürzburgDE	--	7494	3608	0	48,2	9099	3925	0	43,1	10705	4048	0	37,8
Davos CH	--	8479	5087	0	60,0	10295	5419	0	52,6	12112	5525	0	45,6
Athens GR	--	5823	4491	0	77,1	7071	5069	0	71,7	8319	5438	0	65,4
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								
	$\pm \Delta Tc$	6,4	3,0	0,8	7,4								
G	kWh/m ²	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		30.3452.7-1 Test report											
Date of test report		2019-05-23											
Test method		ISO 9459-5 (DST)											
Comments of test lab													
No comments													
										 CENER ADitech <small>NATIONAL RENEWABLE ENERGY CENTRE</small>			

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

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