

 		Page 1 of 18																		
Summary of		EN12976-2	SOLAR SYSTEM test results	Licence Number	SKM 10109.4.3															
Annex to Solar KEYMARK Certificate				Issued	2025-10-30															
Company		CLIMART S.R.L		Country	ITALIA															
Brand (optional)		SMART SOL		Website	www.smart-sol.it															
Street		VIALE DELLA REPUBBLICA 43		E-mail	info@smart-sol.it															
Postal Code		73100	LECCE LE	Tel. / Fax	+39 832 240041															
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)			Electric																	
If other auxiliary/internal back-up heating, please specify:																				
Solar+supplementary OR Solar-only / Solar pre-heat			Solar + supplementary																	
Collector(s)			Heat store(s)																	
Company		CLIMART S.R.L		Company		CLIMART S.R.L														
Keymark lic.no. if available		OEM 10109.1.1		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		litres	mm	mm	mm	litres	kW										
SMA 2 MQ VT 4 CONN	1,90	1970	965	150L	136	1250	500													
SMA 2.5 MQ VT 4 CONN	2,40	1970	1220	200L	190	1250	580													
				250L	230	1550	580													
				300L	276	1785	580													
Solar loop controller				Solar loop fluid																
Keymark lic.no. if available		-		Recommended/required		No recommend./requirements														
Company		-		Company		FluidCompany														
Name		-		Name		FluidName														
Solar loop pump - power range		W	to	W	Freezing point	-4 °C														
System family overview																				
Collector name	Number of collectors in each configuration for each store																			
	Store name																			
	150L		200L		250L		300L													
SMA 2 MQ VT 4 CONN	1				1	2			1	2	3									
SMA 2.5 MQ VT 4 CONN	1				1	2			1	2	3									
Testing Laboratory				NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB																
Website				www.solar.demokritos.gr																
Test report id. number				6110 DE2, 6113 DE2, 6113 F2																
Date of test report				2020-11-04																
Comments of test lab				Stamp & signature of test lab																
				Version 4.5, 2017-10-24																
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com , e-mail: i.alexou@dqs.gr																				

											Page 2 of 18																
Summary of		EN12976-2		test results						Certification No.		SKM 10109.4.3															
Annex to Solar KEYMARK Certificate										Issued		2025-10-30															
Company		CLIMART S.R.L						Country		ITALIA																	
Brand (optional)		SMART SOL						Website		www.smart-sol.it																	
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it																	
Postal Code		73100		LECCE LE				Tel. / Fax		+39		832 240041															
System family overview																											
Collector name		For each storage and collector size, give number of collectors																									
		150L				200L				250L				300L													
SMA 2 MQ VT 4 CONN		1						1	2							1	2	3									
SMA 2.5 MQ VT 4 COI		1						1	2							1	2	3									
Name of system configuration										SMA.151.20.150/2 MQ																	
Collector name		SMA 2 MQ VT 4 CONN		No. Collectors		1		Storage name		150L																	
Calculated annual results for "solar-only / preheat system"																											
Location	Qd,sh	Daily drawoff				110	I	Daily drawoff				140	I	Daily drawoff				170	I								
		Qd,hw	QL	Qpar	fsol	Qd,hw		QL	Qpar	fsol	Qd,hw	QL		Qpar	fsol												
	MJ/y	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%														
Stockholm SE	-	6150	3154	0	51	7821	3658	0	47	9492	3942	0	42														
WürzburgDE	-	5897	3185	0	54	7506	3753	0	50	9114	4131	0	45														
Davos CH	-	6654	4636	0	70	8483	5330	0	63	10281	5676	0	55														
Athens GR	-	4573	3847	0	84	5834	4636	0	80	7064	5235	0	74														
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																						
	T _{a,ave}	7,5	9,0	3,2	18,5																						
	T _{c,ave}	8,5	10,0	5,4	17,8																						
	± ΔT _c	6,4	3,0	0,8	7,4																						
G	kWh/m ²	Annual irradiation South, 45°																									
T _{a,ave}	°C	Annual average outdoor air temperature																									
T _{c,ave}	°C	Annual average mains cold water temp.																									
ΔT _c	K	Seasonal variation of T _c																									
Th	45 °C	Desired hot water temperature (mixing valve temperature).																									
Max. operating press. - collector side				250	kPa	Max. operating press. - tank side				1000	kPa																
Testing Laboratory				NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB																							
Website				www.solar.demokritos.gr																							
Test report id. number				6110 DE2, 6113 DE2, 6113 F2																							
Date of test report				2020-11-04																							
Test method				ISO 9459-5 (DST)																							
Comments of test lab																											
Extrapolated																											
																											
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															
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr																											

 		Page 3 of 18												
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3				
Annex to Solar KEYMARK Certificate								Issued		2025-10-30				
Company		CLIMART S.R.L						Country		ITALIA				
Brand (optional)		SMART SOL						Website		www.smart-sol.it				
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it				
Postal Code		73100		LECCE LE		Tel. / Fax		+39		832 240041				
System family overview														
For each storage and collector size, give number of collectors														
Collector name		150L			200L			250L			300L			
SMA 2 MQ VT 4 CONN		1			1	2		1	2	3	1	2	3	
SMA 2.5 MQ VT 4 CONN		1			1	2		1	2		1	2	3	
Name of system configuration								SMA.151.25.150/2.5 MQ						
Collector name		MA 2.5 MQ VT 4 CONN		No. Collectors		1		Storage name		150L				
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 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		-	6150	3469	0	56	7821	4068	0	52	9492	4478	0	47
Würzburg DE		-	5897	3437	0	59	7506	4131	0	55	9114	4604	0	51
Davos CH		-	6654	5140	0	77	8483	6023	0	71	10281	6591	0	64
Athens GR		-	4573	4068	0	89	5834	4951	0	85	7064	5676	0	80
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								
		T _{a,ave}	7,5	9,0	3,2	18,5								
		T _{c,ave}	8,5	10,0	5,4	17,8								
		± ΔT _c	6,4	3,0	0,8	7,4								
G	kWh/m ²	Annual irradiation South, 45°												
T _{a,ave}	°C	Annual average outdoor air temperature												
T _{c,ave}	°C	Annual average mains cold water temp.												
ΔT _c	K	Seasonal variation of T _c												
Th	45 °C	Desired hot water temperature (mixing valve temperature).												
Max. operating press. - collector side			250		kPa		Max. operating press. - tank side			1000		kPa		
Testing Laboratory			NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB											
Website			www.solar.demokritos.gr											
Test report id. number			6110 DE2, 6113 DE2, 6113 F2											
Date of test report			2020-11-04											
Test method			ISO 9459-5 (DST)											
Comments of test lab			Stamp & signature of test lab											
Extrapolated														
All values are subject to some uncertainty; e.g. the uncertainty on system output is typically in the range of ± 5 % to ± 15 %														
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr														

 		Page 4 of 18																	
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3									
Annex to Solar KEYMARK Certificate								Issued		2025-10-30									
Company		CLIMART S.R.L						Country		ITALIA									
Brand (optional)		SMART SOL						Website		www.smart-sol.it									
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it									
Postal Code		73100		LECCE LE				Tel. / Fax		+39 832 240041									
System family overview																			
For each storage and collector size, give number of collectors																			
Collector name	150L			200L			250L			300L									
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3							
SMA 2.5 MQ VT 4 CO	1			1	2		1	2		1	2	3							
Name of system configuration																			
SMA.201.20.200/2 MQ																			
Collector name	SMA 2 MQ VT 4 CONN			No. Collectors			1			Storage name									
200L																			
Calculated annual results for "solar-only / preheat system"																			
Location	Q _{d,sh}	Daily drawoff				170	l	Daily drawoff				200	l	Daily drawoff				250	l
		Q _{d,hw}	Q _L	Q _{par}	f _{sol}			Q _{d,hw}	Q _L	Q _{par}	f _{sol}			Q _{d,hw}	Q _L	Q _{par}	f _{sol}		
		MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%		
Stockholm SE	-	9492	4005	0	42	11164	4289	0	38	13939	4478	0	32						
WürzburgDE	-	9114	4163	0	46	10691	4510	0	42	13371	4762	0	36						
Davos CH	-	10281	5740	0	56	12110	6086	0	50	15137	6307	0	42						
Athens GR	-	7064	5298	0	75	8326	5866	0	70	10407	6465	0	62						
Perf. indicators for the table above																			
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system																	
Q _d	MJ/y	Annual heat demand for domestic hot water																	
Q _L	MJ/y	Annual heat energy delivered by the solar system																	
Q _{par}	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														
	T _{a,ave}	7,5	9,0	3,2	18,5														
	T _{c,ave}	8,5	10,0	5,4	17,8														
	± ΔT _c	6,4	3,0	0,8	7,4														
G	kWh/m ²	Annual irradiation South, 45°																	
T _{a,ave}	°C	Annual average outdoor air temperature																	
T _{c,ave}	°C	Annual average mains cold water temp.																	
ΔT _c	K	Seasonal variation of T _c																	
Th	45 °C	Desired hot water temperature (mixing valve temperature).																	
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa									
Testing Laboratory		NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB																	
Website		www.solar.demokritos.gr																	
Test report id. number		6110 DE2, 6113 DE2, 6113 F2																	
Date of test report		2020-11-04																	
Test method		ISO 9459-5 (DST)																	
Comments of test lab																			
Extrapolated																			
Stamp & signature of test lab																			
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																			
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr																			

 		Page 5 of 18																	
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3									
Annex to Solar KEYMARK Certificate								Issued		2025-10-30									
Company		CLIMART S.R.L						Country		ITALIA									
Brand (optional)		SMART SOL						Website		www.smart-sol.it									
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it									
Postal Code		73100		LECCE LE				Tel. / Fax		+39 832 240041									
System family overview																			
For each storage and collector size, give number of collectors																			
Collector name	150L			200L			250L			300L									
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3							
SMA 2.5 MQ VT 4 CO	1			1	2		1	2		1	2	3							
Name of system configuration																			
SMA.202.20.200/4 MQ																			
Collector name	SMA 2 MQ VT 4 CONN			No. Collectors			2			Storage name									
200L																			
Calculated annual results for "solar-only / preheat system"																			
Location	Qd,sh	Daily drawoff				170	l	Daily drawoff				200	l	Daily drawoff				250	l
		Qd,hw	QL	Qpar	fsol			Qd,hw	QL	Qpar	fsol			Qd,hw	QL	Qpar	fsol		
		MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%		
Stockholm SE	-	9492	5424	0	57	11164	6055	0	54	13939	6749	0	48						
WürzburgDE	-	9114	5424	0	60	10691	6118	0	57	13371	6938	0	52						
Davos CH	-	10281	8105	0	79	12110	9019	0	74	15137	9997	0	66						
Athens GR	-	7064	6339	0	90	8326	7222	0	87	10407	8452	0	81						
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														
	T _{a,ave}	7,5	9,0	3,2	18,5														
	T _{c,ave}	8,5	10,0	5,4	17,8														
	± ΔT _c	6,4	3,0	0,8	7,4														
G	kWh/m ²	Annual irradiation South, 45°																	
T _{a,ave}	°C	Annual average outdoor air temperature																	
T _{c,ave}	°C	Annual average mains cold water temp.																	
ΔT _c	K	Seasonal variation of T _c																	
Th	45 °C	Desired hot water temperature (mixing valve temperature).																	
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa									
Testing Laboratory		NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB																	
Website		www.solar.demokritos.gr																	
Test report id. number		6110 DE2, 6113 DE2, 6113 F2																	
Date of test report		2020-11-04																	
Test method		ISO 9459-5 (DST)																	
Comments of test lab																			
Extrapolated																			
Stamp & signature of test lab																			
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																			
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr																			



System family overview																											
Collector name	For each storage and collector size, give number of collectors																										
	150L					200L					250L					300L											
SMA 2 MQ VT 4 CONT	1					1	2				1	2	3				1	2	3								
SMA 2.5 MQ VT 4 CONT	1					1	2				1	2					1	2	3								

[illegible]

Ref. conditions		Stockholm SE	Würzburg DE	Davos CH	Athens GR			
	G	1.157	1.230	1.684	1.736			
	T _{a,ave}	7,5	9,0	3,2	18,5			
	T _{c,ave}	8,5	10,0	5,4	17,8			
	± ΔT _c	6,4	3,0	0,8	7,4			
G	kWh/m ²	Annual irradiation South, 45°						
T _{a,ave}	°C	Annual average outdoor air temperature						
T _{c,ave}	°C	Annual average mains cold water temp.						
ΔT _c	K	Seasonal variation of T _c						
T _h	45 °C	Desired hot water temperature (mixing valve temperature).						

Testing Laboratory	NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB
Website	www.solar.demokritos.gr
Test report id. number	6110 DE2, 6113 DE2, 6113 F2
Date of test report	2020-11-04
Test method	ISO 9459-5 (DST)

Comments of test lab		Stamp & signature of test lab
Extrapolated		

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

 		Page 7 of 18											
Summary of		EN12976-2		test results		Certification No.		SKM 10109.4.3					
Annex to Solar KEYMARK Certificate						Issued		2025-10-30					
Company		CLIMART S.R.L				Country		ITALIA					
Brand (optional)		SMART SOL				Website		www.smart-sol.it					
Street		VIALE DELLA REPUBBLICA 43				E-mail		info@smart-sol.it					
Postal Code		73100		LECCE LE		Tel. / Fax		+39 832 240041					
System family overview													
For each storage and collector size, give number of collectors													
Collector name	150L		200L		250L		300L						
SMA 2 MQ VT 4 CONN	1		1	2	1	2	3	1	2				
SMA 2.5 MQ VT 4 CO	1		1	2	1	2		1	2				
Name of system configuration													
MA 2.5 MQ VT 4 CON						SMA.202.25.200/5 MQ							
Collector name		No. Collectors		2		Storage name		200L					
Calculated annual results for "solar-only / preheat system"													
Location	Q _{d,sh}	Daily drawoff 170 l				Daily drawoff 200 l				Daily drawoff 250 l			
		Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}
		MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	9492	5803	0	61	11164	6528	0	58	13939	7411	0	53
WürzburgDE	-	9114	5740	0	63	10691	6496	0	61	13371	7506	0	56
Davos CH	-	10281	8641	0	84	12110	9745	0	80	15137	11038	0	73
Athens GR	-	7064	6559	0	93	8326	7506	0	90	10407	8925	0	86
Perf. indicators for the table above													
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system											
Q _d	MJ/y	Annual heat demand for domestic hot water											
Q _L	MJ/y	Annual heat energy delivered by the solar system											
Q _{par}	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								
	T _{a,ave}	7,5	9,0	3,2	18,5								
	T _{c,ave}	8,5	10,0	5,4	17,8								
	± ΔT _c	6,4	3,0	0,8	7,4								
G	kWh/m ²	Annual irradiation South, 45°											
T _{a,ave}	°C	Annual average outdoor air temperature											
T _{c,ave}	°C	Annual average mains cold water temp.											
ΔT _c	K	Seasonal variation of T _c											
T _h	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000					
Testing Laboratory		NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB											
Website		www.solar.demokritos.gr											
Test report id. number		6110 DE2, 6113 DE2, 6113 F2											
Date of test report		2020-11-04											
Test method		ISO 9459-5 (DST)											
Comments of test lab													
Extrapolated													
Stamp & signature of test lab													
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													
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4, Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr													

 		Page 8 of 18																	
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3									
Annex to Solar KEYMARK Certificate								Issued		2025-10-30									
Company		CLIMART S.R.L						Country		ITALIA									
Brand (optional)		SMART SOL						Website		www.smart-sol.it									
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it									
Postal Code		73100		LECCE LE		Tel. / Fax		+39		832 240041									
System family overview																			
For each storage and collector size, give number of collectors																			
Collector name	150L			200L			250L			300L									
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3							
SMA 2.5 MQ VT 4 CO	1			1	2		1	2		1	2	3							
Name of system configuration																			
SMA.251.20.250/2 MQ																			
Collector name	SMA 2 MQ VT 4 CONN			No. Collectors			1			Storage name									
250L																			
Calculated annual results for "solar-only / preheat system"																			
Location	Q _{d,sh}	Daily drawoff				200	l	Daily drawoff				250	l	Daily drawoff				300	l
		Q _{d,hw}	Q _L	Q _{par}	f _{sol}			Q _{d,hw}	Q _L	Q _{par}	f _{sol}			Q _{d,hw}	Q _L	Q _{par}	f _{sol}		
		MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%			MJ/y	MJ/y	MJ/y	%		
Stockholm SE	-	11164	4226	0	38	13939	4573	0	33	16746	4699	0	28						
WürzburgDE	-	10691	4478	0	42	13371	4857	0	36	16052	5014	0	31						
Davos CH	-	12110	5992	0	49	15137	6433	0	43	18165	6559	0	36						
Athens GR	-	8326	5834	0	70	10407	6591	0	63	12488	7033	0	56						
Perf. indicators for the table above																			
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system																	
Q _d	MJ/y	Annual heat demand for domestic hot water																	
Q _L	MJ/y	Annual heat energy delivered by the solar system																	
Q _{par}	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														
	T _{a,ave}	7,5	9,0	3,2	18,5														
	T _{c,ave}	8,5	10,0	5,4	17,8														
	± ΔT _c	6,4	3,0	0,8	7,4														
G	kWh/m ²	Annual irradiation South, 45°																	
T _{a,ave}	°C	Annual average outdoor air temperature																	
T _{c,ave}	°C	Annual average mains cold water temp.																	
ΔT _c	K	Seasonal variation of T _c																	
Th	45 °C	Desired hot water temperature (mixing valve temperature).																	
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa									
Testing Laboratory		NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB																	
Website		www.solar.demokritos.gr																	
Test report id. number		6110 DE2, 6113 DE2, 6113 F2																	
Date of test report		2020-11-04																	
Test method		ISO 9459-5 (DST)																	
Comments of test lab																			
Extrapolated																			
Stamp & signature of test lab																			
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																			
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr																			

DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495,
<http://www.dqsglobal.com>, e-mail: i.alexiou@dqs.gr

 		Page 10 of 18											
Summary of		EN12976-2		test results		Certification No.		SKM 10109.4.3					
Annex to Solar KEYMARK Certificate						Issued		2025-10-30					
Company		CLIMART S.R.L				Country		ITALIA					
Brand (optional)		SMART SOL				Website		www.smart-sol.it					
Street		VIALE DELLA REPUBBLICA 43				E-mail		info@smart-sol.it					
Postal Code		73100		LECCE LE		Tel. / Fax		+39 832 240041					
System family overview													
For each storage and collector size, give number of collectors													
Collector name	150L		200L		250L		300L						
SMA 2 MQ VT 4 CONN	1		1	2	1	2	3	1	2				
SMA 2.5 MQ VT 4 CO	1		1	2	1	2	3	1	2				
Name of system configuration													
MA 2.5 MQ VT 4 CON						SMA.251.25.250/2.5 MQ							
Collector name		No. Collectors		1		Storage name		250L					
Calculated annual results for "solar-only / preheat system"													
Location	Qd,sh	Daily drawoff 200 l				Daily drawoff 250 l				Daily drawoff 300 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
		MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	11164	4983	0	45	13939	5456	0	39	16746	5676	0	34
WürzburgDE	-	10691	5140	0	48	13371	5771	0	43	16052	6023	0	38
Davos CH	-	12110	7159	0	59	15137	7789	0	52	18165	8010	0	44
Athens GR	-	8326	6433	0	77	10407	7411	0	71	12488	8073	0	65
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	G	Stockholm SE	Würzburg DE	Davos CH	Athens GR								
	T _{a,ave}	7,5	9,0	3,2	18,5								
	T _{c,ave}	8,5	10,0	5,4	17,8								
	± ΔT _c	6,4	3,0	0,8	7,4								
	G	kWh/m ²	Annual irradiation South, 45°										
T _{a,ave}	°C	Annual average outdoor air temperature											
T _{c,ave}	°C	Annual average mains cold water temp.											
ΔT _c	K	Seasonal variation of T _c											
Th	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000					
Testing Laboratory		NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB											
Website		www.solar.demokritos.gr											
Test report id. number		6110 DE2, 6113 DE2, 6113 F2											
Date of test report		2020-11-04											
Test method		ISO 9459-5 (DST)											
Comments of test lab		Extrapolated 											
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				
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com , e-mail: i.alexiou@dqs.gr													

 		Page 11 of 18																
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3								
Annex to Solar KEYMARK Certificate								Issued		2025-10-30								
Company		CLIMART S.R.L						Country		ITALIA								
Brand (optional)		SMART SOL						Website		www.smart-sol.it								
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it								
Postal Code		73100		LECCE LE				Tel. / Fax		+39 832 240041								
System family overview																		
For each storage and collector size, give number of collectors																		
Collector name	150L			200L			250L			300L								
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3						
SMA 2.5 MQ VT 4 CO	1			1	2		1	2	3	1	2	3						
Name of system configuration																		
MA 2.5 MQ VT 4 CON								SMA.252.25.250/5 MQ										
Collector name		No. Collectors				2		Storage name		250L								
Calculated annual results for "solar-only / preheat system"																		
Location	Q _{d,sh}	Daily drawoff				I	Daily drawoff				I	Daily drawoff						
		Q _{d,hw}		QL	Q _{par}		fsol	Q _{d,hw}		QL		Q _{par}	fsol	Q _{d,hw}		QL	Q _{par}	fsol
		MJ/y	MJ/y	MJ/y	MJ/y		%	MJ/y	MJ/y	MJ/y		%	MJ/y	MJ/y	MJ/y	%		
Stockholm SE	-	11164	6591	0	59	13939	7632	0	55	16746	8389	0	50					
WürzburgDE	-	10691	6528	0	61	13371	7695	0	58	16052	8578	0	53					
Davos CH	-	12110	9808	0	81	15137	11384	0	75	18165	12425	0	68					
Athens GR	-	8326	7569	0	91	10407	9082	0	87	12488	10344	0	83					
Perf. indicators for the table above																		
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system																
Q _d	MJ/y	Annual heat demand for domestic hot water																
QL	MJ/y	Annual heat energy delivered by the solar system																
Q _{par}	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													
	T _{a,ave}	7,5	9,0	3,2	18,5													
	T _{c,ave}	8,5	10,0	5,4	17,8													
	± ΔT _c	6,4	3,0	0,8	7,4													
G	kWh/m ²	Annual irradiation South, 45°																
T _{a,ave}	°C	Annual average outdoor air temperature																
T _{c,ave}	°C	Annual average mains cold water temp.																
ΔT _c	K	Seasonal variation of T _c																
Th	45 °C	Desired hot water temperature (mixing valve temperature).																
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa								
Testing Laboratory		NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB																
Website		www.solar.demokritos.gr																
Test report id. number		6110 DE2, 6113 DE2, 6113 F2																
Date of test report		2020-11-04																
Test method		ISO 9459-5 (DST)																
Comments of test lab		Extrapolated Stamp & signature of test lab																
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								
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr																		

 		Page 12 of 18											
Summary of		EN12976-2		test results		Certification No.		SKM 10109.4.3					
Annex to Solar KEYMARK Certificate						Issued		2025-10-30					
Company		CLIMART S.R.L				Country		ITALIA					
Brand (optional)		SMART SOL				Website		www.smart-sol.it					
Street		VIALE DELLA REPUBBLICA 43				E-mail		info@smart-sol.it					
Postal Code		73100		LECCE LE		Tel. / Fax		+39 832 240041					
System family overview													
For each storage and collector size, give number of collectors													
Collector name	150L		200L		250L		300L						
SMA 2 MQ VT 4 CONN	1		1	2	1	2	3						
SMA 2.5 MQ VT 4 CO	1		1	2	1	2	3						
Name of system configuration						SMA.253.20.250/6 MQ							
Collector name		SMA 2 MQ VT 4 CONN		No. Collectors		3		Storage name		250L			
Calculated annual results for "solar-only / preheat system"													
Location	Qd,sh	Daily drawoff 200 l				Daily drawoff 250 l				Daily drawoff 300 l			
		Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol	Qd,hw	QL	Qpar	fsol
		MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	11164	6843	0	61	13939	8042	0	58	16746	8893	0	53
WürzburgDE	-	10691	6780	0	63	13371	8042	0	60	16052	9019	0	56
Davos CH	-	12110	10218	0	84	15137	12015	0	79	18165	13245	0	73
Athens GR	-	8326	7726	0	93	10407	9303	0	90	12488	10691	0	86
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								
	T _{a,ave}	7,5	9,0	3,2	18,5								
	T _{c,ave}	8,5	10,0	5,4	17,8								
	± ΔT _c	6,4	3,0	0,8	7,4								
G	kWh/m ²	Annual irradiation South, 45°											
T _{a,ave}	°C	Annual average outdoor air temperature											
T _{c,ave}	°C	Annual average mains cold water temp.											
ΔT _c	K	Seasonal variation of T _c											
Th	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa			
Testing Laboratory		NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB											
Website		www.solar.demokritos.gr											
Test report id. number		6110 DE2, 6113 DE2, 6113 F2											
Date of test report		2020-11-04											
Test method		ISO 9459-5 (DST)											
Comments of test lab						Stamp & signature of test lab							
Extrapolated													
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			
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr													



Summary of	EN12976-2	test results							Certification No.	SKM 10109.4.3
Annex to Solar KEYMARK Certificate									Issued	2025-10-30
Company	CLIMART S.R.L								Country	ITALIA
Brand (optional)	SMART SOL								Website	www.smart-sol.it
Street	VIALE DELLA REPUBBLICA 43								E-mail	info@smart-sol.it
Postal Code	73100	LECCE LE							Tel. / Fax	+39 832 240041

System family overview

[illegible]

Name of system configuration				SMA.301.20.300/2 MQ	
Collector name	SMA 2 MQ VT 4 CONN	No. Collectors	1	Storage name	300L

Calculated annual results for "solar-only / preheat system"

[illegible]

Perf. indicators for the table above

Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system
Q _d	MJ/y	Annual heat demand for domestic hot water
Q _L	MJ/y	Annual heat energy delivered by the solar system
Q _{par}	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			
	T _{a,ave}	7,5	9,0	3,2	18,5			
	T _{c,ave}	8,5	10,0	5,4	17,8			
	± ΔT _c	6,4	3,0	0,8	7,4			

G	kWh/m ²	Annual irradiation South, 45°
T _{a,ave}	°C	Annual average outdoor air temperature
T _{c,ave}	°C	Annual average mains cold water temp.
ΔT _c	K	Seasonal variation of T _c
T _h	45 °C	Desired hot water temperature (mixing valve temperature).

Max. operating press. - collector side	250	kPa	Max. operating press. - tank side	1000	kPa
--	-----	-----	-----------------------------------	------	-----

Testing Laboratory	NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB
Website	www.solar.demokritos.gr
Test report id. number	6110 DE2, 6113 DE2, 6113 F2
Date of test report	2020-11-04
Test method	ISO 9459-5 (DST)

Comments of test lab	Stamp & signature of test lab
Extrapolated	

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

Version 4.5, 2017-10-24

DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495,
<http://www.dqsglobal.com>. e-mail: j.alexjou@dqs.gr

DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495,
<http://www.dqsglobal.com>, e-mail: i.alexiou@dqs.gr



Summary of	EN12976-2	test results							Certification No.	SKM 10109.4.3
Annex to Solar KEYMARK Certificate									Issued	2025-10-30
Company	CLIMART S.R.L								Country	ITALIA
Brand (optional)	SMART SOL								Website	www.smart-sol.it
Street	VIALE DELLA REPUBBLICA 43								E-mail	info@smart-sol.it
Postal Code	73100	LECCE LE							Tel. / Fax	+39 832 240041

System family overview

[illegible]

Name of system configuration				SMA.301.25.300/2.5 MQ	
Collector name	MA 2.5 MQ VT 4 CON	No. Collectors	1	Storage name	300L

Calculated annual results for "solar-only / preheat system"

[illegible]

Perf. indicators for the table above

Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system
Q _d	MJ/y	Annual heat demand for domestic hot water
Q _L	MJ/y	Annual heat energy delivered by the solar system
Q _{par}	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			
	T _{a,ave}	7,5	9,0	3,2	18,5			
	T _{c,ave}	8,5	10,0	5,4	17,8			
	± ΔT _c	6,4	3,0	0,8	7,4			

G	kWh/m ²	Annual irradiation South, 45°
T _{a,ave}	°C	Annual average outdoor air temperature
T _{c,ave}	°C	Annual average mains cold water temp.
ΔT _c	K	Seasonal variation of T _c
T _h	45 °C	Desired hot water temperature (mixing valve temperature).

Max. operating press. - collector side	250	kPa	Max. operating press. - tank side	1000	kPa
--	-----	-----	-----------------------------------	------	-----

Testing Laboratory	NCSR "DEMOKRITOS"- SOLAR & ENERGY SYSTEMS LAB
Website	www.solar.demokritos.gr
Test report id. number	6110 DE2, 6113 DE2, 6113 F2
Date of test report	2020-11-04
Test method	ISO 9459-5 (DST)

Comments of test lab		Stamp & signature of test lab
Extrapolated		

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

Version 4.5, 2017-10-24

DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495,
<http://www.dqsglobal.com>, e-mail: i.alexiou@dqs.gr

 		Page 16 of 18											
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3			
Annex to Solar KEYMARK Certificate								Issued		2025-10-30			
Company		CLIMART S.R.L						Country		ITALIA			
Brand (optional)		SMART SOL						Website		www.smart-sol.it			
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it			
Postal Code		73100		LECCE LE		Tel. / Fax		+39		832 240041			
System family overview													
For each storage and collector size, give number of collectors													
Collector name	150L			200L			250L			300L			
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3	
SMA 2.5 MQ VT 4 CO	1			1	2		1	2		1	2	3	
Name of system configuration													
MA 2.5 MQ VT 4 CON								2		SMA.302.25.300/5 MQ			
Collector name		MA 2.5 MQ VT 4 CON		No. Collectors		2		Storage name		300L			
Calculated annual results for "solar-only / preheat system"													
Location	Q _{d,sh}	Daily drawoff 250 l				Daily drawoff 300 l				Daily drawoff 400 l			
		Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}
		MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	13939	7821	0	56	16746	8735	0	52	22327	9776	0	44
WürzburgDE	-	13371	7821	0	59	16052	8862	0	55	21413	10155	0	48
Davos CH	-	15137	11605	0	77	18165	12961	0	71	24220	14254	0	59
Athens GR	-	10407	9209	0	88	12488	10596	0	85	16651	12709	0	76
Perf. indicators for the table above													
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system											
Q _d	MJ/y	Annual heat demand for domestic hot water											
Q _L	MJ/y	Annual heat energy delivered by the solar system											
Q _{par}	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								
	T _{a,ave}	7,5	9,0	3,2	18,5								
	T _{c,ave}	8,5	10,0	5,4	17,8								
	± ΔT _c	6,4	3,0	0,8	7,4								
G	kWh/m ²	Annual irradiation South, 45°											
T _{a,ave}	°C	Annual average outdoor air temperature											
T _{c,ave}	°C	Annual average mains cold water temp.											
ΔT _c	K	Seasonal variation of T _c											
Th	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa			
Testing Laboratory		NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB											
Website		www.solar.demokritos.gr											
Test report id. number		6110 DE2, 6113 DE2, 6113 F2											
Date of test report		2020-11-04											
Test method		ISO 9459-5 (DST)											
Comments of test lab		Extrapolated 											
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			
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4, Fax: +301 6233495, http://www.dqsglobal.com , e-mail: i.alexiou@dqs.gr													

 		Page 17 of 18											
Summary of		EN12976-2		test results				Certification No.		SKM 10109.4.3			
Annex to Solar KEYMARK Certificate								Issued		2025-10-30			
Company		CLIMART S.R.L						Country		ITALIA			
Brand (optional)		SMART SOL						Website		www.smart-sol.it			
Street		VIALE DELLA REPUBBLICA 43						E-mail		info@smart-sol.it			
Postal Code		73100		LECCE LE		Tel. / Fax		+39		832 240041			
System family overview													
For each storage and collector size, give number of collectors													
Collector name	150L			200L			250L			300L			
SMA 2 MQ VT 4 CONN	1			1	2		1	2	3	1	2	3	
SMA 2.5 MQ VT 4 COI	1			1	2		1	2		1	2	3	
Name of system configuration								SMA.303.20.300/6 MQ					
Collector name		SMA 2 MQ VT 4 CONN		No. Collectors		3		Storage name		300L			
Calculated annual results for "solar-only / preheat system"													
Location	Q _{d,sh}	Daily drawoff 250 l				Daily drawoff 300 l				Daily drawoff 400 l			
		Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}	Q _{d,hw}	Q _L	Q _{par}	f _{sol}
		MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%	MJ/y	MJ/y	MJ/y	%
Stockholm SE	-	13939	8199	0	59	16746	9240	0	55	22327	10596	0	47
Würzburg DE	-	13371	8168	0	61	16052	9303	0	58	21413	10880	0	51
Davos CH	-	15137	12236	0	81	18165	13813	0	76	24220	15579	0	64
Athens GR	-	10407	9429	0	91	12488	10943	0	88	16651	13340	0	80
Perf. indicators for the table above													
Q _{d,sh}	MJ/y	Not relevant for solar domestic hot water system											
Q _d	MJ/y	Annual heat demand for domestic hot water											
Q _L	MJ/y	Annual heat energy delivered by the solar system											
Q _{par}	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								
	T _{a,ave}	7,5	9,0	3,2	18,5								
	T _{c,ave}	8,5	10,0	5,4	17,8								
	± ΔT _c	6,4	3,0	0,8	7,4								
G	kWh/m ²	Annual irradiation South, 45°											
T _{a,ave}	°C	Annual average outdoor air temperature											
T _{c,ave}	°C	Annual average mains cold water temp.											
ΔT _c	K	Seasonal variation of T _c											
Th	45 °C	Desired hot water temperature (mixing valve temperature).											
Max. operating press. - collector side		250		kPa		Max. operating press. - tank side		1000		kPa			
Testing Laboratory		NCSR "DEMOKRITOS" - SOLAR & ENERGY SYSTEMS LAB											
Website		www.solar.demokritos.gr											
Test report id. number		6110 DE2, 6113 DE2, 6113 F2											
Date of test report		2020-11-04											
Test method		ISO 9459-5 (DST)											
Comments of test lab								Stamp & signature of test lab					
Extrapolated													
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													
DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqsglobal.com, e-mail: i.alexiou@dqs.gr													

DQS HELLAS Ltd, Central Offices: Kalavriton 2, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495,
<http://www.dqsglobal.com>, e-mail: i.alexiou@dqs.gr