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Annex to Solar	Keymark Certifica	te - Sun	nmary o	of EN IS	0	THE RESERVE OF THE STATE OF THE	e Numb	er	SKM 1	300 1 300 C 800 C 20 T P		
9806:2013 Test	100	Date is	sued		2016-11-24							
3600.2013 Test	Issued	by		DQS HELLAS								
Licence holder COSMOSOLAR LTD							Greece					
Brand (optional)	Blue Solar, Cosmoso	Web	http://www.cosmosolar.com/									
Street, Number	Ntrei Road, Dervenochorion Gate					E-mail	info@cosmosolar.com					
Postcode, City	SENSON CONTROL OF THE						+30	210 347	8897 / 23	LO 34794	84	
· · · ·						Tara tra	44 22		,			
Collector Type						Flat plat	e collecto	r, glazed				
		(240)				Power output per collector						
		A _G)	_	26747		$Gb = 850 \text{ W/m}^2$; $Gd = 150 \text{ W/m}^2$						
		Gross area (A _G)	Gross length	Gross width	Gross height			ϑm	- ਪ ੈa		(5)30 (5)	
		Gr	g a	ַ פֿ פֿ	g. he	0 K	10 K	30 K	50 K	70 K	50 K	
Collector name		m²	mm	mm	mm	·W	W	W	W	W	W	
EPI20 NV		1.51	1,501	1,009	85	1,113	1,060	932	774	586	774	
EPI12 NV		1.95	1,500	1,300	85	1,433	1,365	1,200	997	755	997	
EPI25 NV		2.00	2,000	1,000	85	1,470	1,400	1,231	1,023	774	1,023	
EPI16 NV		2.24	1,900	1,180	85	1,648	1,570	1,380	1,146	868	1,146	
EPI54 NV		2.53	2,009	1,258	85	1,857	1,769	1,556	1,292	978	1,292	
				ļ								
	-									2		
		,										
Power output per	m² gross area		5.5			735	700	616	511	387	511	
Performance parar	neters test method		Steady s	tate - out	door							
Performance parar	neters (related to AG)		η0,hem	a1	a2							
Units			ise.	W/(m²K)	W/(m ² K ²)							
Test results			0.735	3.240	0.025						2	
Incidence angle mo	odifier test method		Steady s	tate - out	door							
		No										
Incidence angle mo		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°	
Transversal	99450.4 (0.4 a.m.	$K_{\theta T,coll}$	44000	100000	500,500		0.93	00000	ACD419	0.0000	0.00	
Longitudinal		$K_{\Theta L,coll}$		İ			0.93				0.00	
Heat transfer medi	ium for testing	OL.COII				4.	Water		ili e	- This		
	ng (per gross area, A _G)						dm/dt		0.021	kg/(sm	²)	
Maximum temperature difference for thermal performance calculations							$(\vartheta_{\rm m} - \vartheta_{\rm a})_{\rm r}$		50	Kg/(3111 /		
Standard stagnation temperature {G = 1000 W/m ² ; ϑ_a = 30 °C}							ϑ_{stg}	Пах	146	°C		
Effective thermal capacity, incl. fluid (per gross area, A _G)							C/m ²		10.7	kJ/(Km ²)		
Maximum operating temperature							ϑ _{max_op}		100	°C		
Maximum operating pressure							p _{max,op}		1000	kPa		
70 20							www.solar.demokritos.gr					
Test report(s)	ing laboratory NCSR "DEMOKRITOS" report(s) 4191DE1, 4192DE1					Dated 11/10/2016						
rear rehords)	4191DE1, 4192DE1 4193DE1						Dated		25/10/2			
	1247DE1								8/5/201			
Commonts of to -t'	Contract to a problem of						D-4-	choot			22 04	
Comments of testi	ng laboratory						Data I	sпее t ve	rsion: 5.C	1, 2016-0	J3-U1	
							N.C.S SOLAI Head: Tel: +21 153 10	R "DEM R ENERGY Dr Vassill 0 6503815 - F Ag. Paraskevi	O K RIT O LABORATO S Belessie ax: +210 6544 - Attiki - Grei	S" RY HIS/M/ ALXXX		





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Annex to Solar Keymark Certific	ate					Licen	e Nun	nber		SKM 1	10003	
Supplementary Information		Issued				2016-11-24						
Annual collector output in kWh/co	llector	at mea	an fluid	tempe	erature	მ _ო , ba	sed on	ISO 98	306:20	13 test	results	
Standard Locations		Davos			tockhol							
Collector name ϑ_n	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C
EPI20 NV	1,760	1,234	743	1,333	879	485	985	620	335	1,070	670	356
EPI12 NV	2,266		957	1,717	1,132	625	1,268	798	432	1,378	862	459
EPI25 NV	2,324		981	1,761	1,161	641	1,301	819	443	1,413	885	471
EPI16 NV		1,828	1,100		1,302	719	1,458	918	497	1,584	992	528
EPI54 NV	2,937	2,060	1,240	2,225	1,467	810	1,643	1,035	560	1,785	1,118	595
Annual output per m² gross area	1,162	815	491	881	581	321	650	409	221	707	442	235
Fixed or tracking collector				ed (slop								
Annual irradiation on collector plane	176	55 kWh,		17:	14 kWh	/m²	116	56 kWh,	/m²	124	44 kWh/	m²
Mean annual ambient air temperature	18.5°C			3.2°C				7.5°C		9.0°C		
Collector orientation or tracking mode	S	outh, 2!	5°	S	outh, 3	O°	S	outh, 45	5°	South, 35°		
The collector is operated at constant te	mperatu	ıre ϑm	(mean c	of in- an	d outlet	tempe	ratures)	. The ca	lculatio	n of the	annual	
collector performance is performed wit	h the off	ficial So	lar Keyr	nark spi	eadshe	et tool S	Scenoca	lc Ver. 5	5.01 (Ma	arch 201	16). A de	tailed
description of the calculations is availab	le at wv	vw.sola	rkeyma	rk.org/s	cenocal	С						
•												
		Add	aitiona	al Info	matio	n			1			
Collector heat transfer medium											Glycole	
Hybrid Thermal and Photo Voltaic colle											lo	
The collector is deemed to be suitable f										N	lo	
The collector was tested successfully ac	cording	to EN IS	SO 9806	:2013 u	nder th	e follow	ing con	ditions:				
Climate class (A, B or C)												
									/	4	_	-
Maximum tested positive load										A 100	P	- a
									24		 P P	
Maximum tested positive load	m drop l	height)							24 24	100		a
Maximum tested positive load Maximum tested negative load			v I aho	lling In	of or ma	ntion			24 24	100	Р	a
Maximum tested positive load Maximum tested negative load		Energ	•	lling Ir					24	100 100 2	P n	a 1
Maximum tested positive load Maximum tested negative load		Energ	•	Data re	quired	for CDF		o 811/2	24	100 100 2	e Area A	a n A _{sol}
Maximum tested positive load Maximum tested negative load		Energ	•	Data re	equired or effici	for CDF ency (η _ε	col)		24 24 2013 - R	eference	e Area &	a n A _{sol}
Maximum tested positive load Maximum tested negative load Hail resistance using steel ball (maximu		Energy ce Area,	•	Data re	equired or effici	for CDF ency (η _ε	col)		24 24 2013 - R	eference	e Area &	a n A _{sol}
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Maximum tested positive load Maximum tested negative load Hail resistance using steel ball (maximu EPI20 NV EPI30 NV EPI25 NV		ce Area, 1.51 1.95 2.00	•	Data re Collect Remark 811/20	equired or effici k: Colle 13 as co	for CDF ency (η _α ctor effi ollector	col) ciency (efficient	η _{col}) is α	24 24 2013 - R 5 defined	eference 7 in CDR (collector)	e Area A (EU) No	a n A _{sol}
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mail: ioannisalexiou@dqshellas.gr