

CERTIFICATE OF CONFORMITY

Certificate No SKM 10093.2

DQS Hellas grants the present certificate to the enterprise:

CICERO HELLAS S.A.

for the product/ type:

Flat plate Solar Collector type: PRISMA 2.0, PRISMA 2.5

which is produced in conformity with the normative document:

EN 12975-1:2011 EN ISO 9806:2017

at the following location:

Kyra Vrissi Korinthias P.O.Box.25, Korinthos



The present certificate is granted in accordance with:

the DQS Hellas General Rules for the Certification of Products, the Specific Rule for Certification EKIIII.001 «Specific Rule for Certification of Solar Collectors, and Thermal Solar Heating Systems for Domestic Hot Water»,

and is ruled by the terms of the relevant contract between DQS Hellas and the enterprise.

Date of issue: Date of valid: 2020-09-10 2023-05-30

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Panagiotis Giannoutsos Director of Certification **Dr. Emmanuel Deliyannakis**Managing Director



Products Certification Accreditation No 735



CERTIFICATION LICENCE TO USE KEYMARK

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- the DQS Hellas General Rules for the Certification of Products,
- the Specific Rule for Certification EKIIII.001 «Specific Rule for Certification of Solar Collectors, and Thermal Solar Heating Systems for Domestic Hot Water».
- the Specific CEN Keymark Scheme Rules for Solar Thermal Products,

and is ruled by the terms of the relevant contract between DQS Hellas and the enterprise.

Date of issue: 2020-09-10

Date of valid: 2023-05-30

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Panagiotis Giannoutsos Director of Certification Dr. Emmanuel Deliyannakis Managing Director

Notified Body: 4, Kalavriton Street, 14564 Kifisia - Athens, Greece

EEK.001-07 - 10/11/2011





Brand (optional) CA Street, Number 9, S Postcode, City 11: Collector Type Collector name	CERO HELLI LPAK Sygrou Ave. 743, 'Athens	SS.A. SS to be a mm 1,625 2,020	a Gross width	Gross height	Date is Issued Country Web E-mail Tel	Greece www.cal export@ 30 e collecto	pak.gr calpak.gi 2109247 r er outpu	2020-0 DQS H	ellas 09231616						
Licence holder Brand (optional) Street, Number Postcode, City Collector Type	CERO HELL/ LPAK Sygrou Ave. 743, 'Athens "" "" "" "" "" "" "" "" ""	mm 1,625	mm	Gross height	Issued Country Web E-mail Tel Flat plat	Greece www.cal export@ 30 e collecto	calpak.gi 2109247 r er outpu	DQS H	ellas 09231616	<u> </u>					
Brand (optional) CA Street, Number 9, S Postcode, City 11 Collector Type Collector name	LPAK Sygrou Ave. 743, 'Athens	mm 1,625	mm	Gross height	Country Web E-mail Tel	Greece www.cal export@ 30 e collecto	calpak.gi 2109247 r er outpu	r 7250 / 21 t per coll	09231616						
Brand (optional) CA Street, Number 9, S Postcode, City 11 Collector Type Collector name	LPAK Sygrou Ave. 743, 'Athens	mm 1,625	mm	Gross height	Web E-mail Tel Flat plat	www.cal export@ 30 e collecto	calpak.gi 2109247 r er outpu	7250 / 21 t per coll							
Street, Number 9, 9 Postcode, City 11 Collector Type Collector name	Sygrou Ave. 743, 'Athens guage guag	mm 1,625	mm	Gross height	E-mail Tel Flat plat	export@ 30 e collecto	calpak.gi 2109247 r er outpu	7250 / 21 t per coll		,					
Postcode, City 111 Collector Type Collector name	743, 'Athens Rooss Brown area (Ag) Control of the control of th	mm 1,625	mm	Gross height	Tel Flat plat	30 e collecto Pow e	2109247 r er outpu	7250 / 21 t per coll							
Collector Type Collector name PRISMA 2.0	Brooss m ² 2.00	mm 1,625	mm	Gross height	Flat plat	e collecto	r er outpu	t per coll							
Collector name PRISMA 2.0	m² 2.00	mm 1,625	mm	Gross height	<u> </u>	Powe	er outpu								
PRISMA 2.0	m² 2.00	mm 1,625	mm	Gross height	Gb =										
PRISMA 2.0	m² 2.00	mm 1,625	mm	Gross height	Gb =	850 W/m	2, Gd = 1	SERVICE PROPERTY.	Power output per collector						
PRISMA 2.0	m² 2.00	mm 1,625	mm	Gross				Gb = 850 W/m2, Gd = 150 W/m2 & u = 1.3 m/s							
	m² 2.00	mm 1,625	mm	P e			ზ _ო	, - მ _a							
	2.00	1,625		P. Gr	0 K	10 K	30 K	50 K	70 K	85 K					
			and the same of th	mm	W	W	W	W	W	W					
PRISMA 2.5	2.50	2,020	1,235	85	1,524	1,459	1,296	1,090	841	624					
			1,235	85	1,905	1,823	1,620	1,363	1,052	780					
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							242			(120)					
Power output per m² gross area					762	729	648	545	421	312					
Performance parameters test method	-	tate - out	tdoor												
Performance parameters (related to A	(_G) η0, b	a1	a2	a3	a4	a5	a6	a7	a8	Kd					
Units		W/(m²K)	$W/(m^2K^2)$	J/(m³K)	=	J/(m²K)	s/m	W/(m ² K ⁴)	W/(m²K⁴)	150					
Test results	0.777	2.99	0.027	0.000	0.00	0	0.000	0.00	0.0E+00	0.87					
Incidence angle modifier test method		Steady s	tate - out	door											
Incidence angle modifier	Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°					
Transversal	$K_{\ThetaT.coll}$	1.00	1.00	0.98	0.96	0.91	0.82	0.68	0.43	0.00					
Longitudinal	$K_{\Theta L,coll}$	1.00	1.00	0.98	0.96	0.91	0.82	0.68	0.43	0.00					
Heat transfer medium for testing						Water									
Flow rate for testing (per gross area, A		dm/dt 0.020 kg/(s			kg/(sm²)									
Maximum temperature difference dur			$(\vartheta_{\rm m} - \vartheta_{\rm a})_{\rm n}$	nax	55.14 K										
Standard stagnation temperature (G =		ϑ_{stg}	- IMA	180 °C											
Maximum operating temperature		ϑ _{max op}		- °C											
Maximum operating pressure		p _{max,op}		1000 kPa											
The control of the co	SR Demokrito	s / Solar	& other F	nergy Syst	tem	www.solar.demokritos.gr									
Test report(s) 421		Dated		20/7/20	20										
	73 DE1					Dutcu			20/7/2020						
1 both A	74 DQ1							6/8/202							
Comments of testing laboratory						Da	atasheet v		l, 2019-09-2	26					
domination testing insorted.					S	N.C.S.	R. "DEM	OKRITOS	S" ,	. 7					
						SOLAF	RENERGY	LADODATO	W/ 1111	1					

Central Offices: Kalavriton 4, 145 64 kifisia, Athens, Tel: +301 6233493-4 , Fax: +301 6233495, http://www.dqshellas.gr, e-mail: ioannisalexiou@dqshellas.gr

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Annex to Solar Keymark Certific Supplementary Information			Liceno Issue	ce Nun d	nber		SKM 10093.2 2020-09-10					
Annual collector output in kWh/co	llector	at mea	an fluic	l tempe	erature	e მ _ო						
Standard Locations		Athens			Davos		St	tockhol	m	V	Vürzbur	g
Collector name	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°(
PRISMA 2.0	2,393	1,723	1,068	1,845	1,248	714	1,355	878	492	1,470	947	522
PRISMA 2.5	2,991	2,154	1,335	2,306	1,560	893	1,694	1,097	615	1,837	1,184	652
A manual antiquet = -= = 2 ==	1.407	0.00	F2.4	022	C2.1	257	C7-	420	246	725	674	20
Annual output per m² gross area	1,197	862	534	923	624	357	677	439	246	735	474	26:
Annual efficiency, η _a	68%	49%	30%	57%	38%	22%	58%	38%	21%	59%	38%	219
Fixed or tracking collector							5°; roun					
Annual irradiation on collector plane	176	55 kWh,	/m²	163	30 kWh	/m²	116	66 kWh	/m²	124	44 kWh/	m²
Mean annual ambient air temperature		18.5°C			3.2°C			7.5°C				
Collector orientation or tracking mode	S	outh, 25	5°	S	outh, 30	0°	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 with	h the of	ficial So	lar Keyr	nark spr	eadshe	et tool	Scenoca	lc Ver. 6	5.1 (Sep	tember	2019). <i>A</i>	١
detailed description of the calculations											,	
		Add	aitiona	al Infor	matio	n			T			
Collector heat transfer medium										Water-	Glycole	
The collector is deemed to be suitable for	or roof i	ntegrat	ion							N	lo	
The collector was tested successfully un	der the	followir	ng cond	itions:								
Climate class (A+, A, B or C)										4		-
$G(W/m^2) > 1000$	ϑ_{a}	(°C) >			20			H _X (MJ	/m²) >		60	00
Maximum tested positive load									20			а
Maximum tested negative load									30	00	P	<u> </u>
Hail resistance using steel ball (maximus	m drop l	height)								000	P P	
									30			a
	A		nal col	llector	attrib	ute(s)			30	00	Р	a
Using external power source(s) fo		dditio		_			e measu	re(s) fo	30	2	P n	a
Using external power source(s) fo Co-generating thermal and electr	r norma	dditio il opera			ctive o			re(s) fo	30	2	P n	a
Co-generating thermal and electr	r norma ical pow	dditio I opera er			ctive o açade o	r passiv	r(s)		30 r self-pr	ooo otection	P n	a
	r norma ical pow matio	dditio Il opera er n	tion	A	açade o Ado	r passive collector litiona	r(s) I Infor	mative	r self-pr	otection	n Data	a n
Co-generating thermal and electr Energy Labelling Infor	r norma ical pow matio	dditional operations o	tion	Hy	açade d Add draulic	r passivo collector litiona Designa	r(s) I Infor ation Co	mative de	r self-pr	rotection nical C	P n n Data Area, A _a	a n
Co-generating thermal and electr Energy Labelling Infor	r norma ical pow matio	dditio Il opera er n	tion	Hy	açade d Add draulic	r passivo collector litiona Designa	r(s) I Infor	mative de	r self-pr	rotection nical C	n Data	a n
Co-generating thermal and electr	r norma ical pow matio	dditional operations o	tion	A F Hy	Active o açade o Ado draulic 2-VH-12	r passive collector litiona Designa 234S-A:	r(s) I Infor ation Co	mative de 5-	r self-pr	rotection nical E rature A	P n n Data Area, A _a	a n
Co-generating thermal and electr Energy Labelling Infor PRISMA 2.0	r norma ical pow matio	dditional operations o	tion	A F Hy	Active o açade o Ado draulic 2-VH-12	r passive collector litiona Designa 234S-A:	r(s) I Infor ation Co 7.2,1525	mative de 5-	r self-pr	rotection nical E rature A	P n Data Area, A _a	a n
Co-generating thermal and electr Energy Labelling Infor PRISMA 2.0	r norma ical pow matio	dditional operations o	tion	A F Hy	Active o açade o Ado draulic 2-VH-12	r passive collector litiona Designa 234S-A:	r(s) I Infor ation Co 7.2,1525	mative de 5-	r self-pr	rotection nical E rature A	P n Data Area, A _a	a n
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Co-generating thermal and electr Energy Labelling Infor PRISMA 2.0	r norma ical pow matio	dditional operations o	tion	A F Hy	Active o açade o Ado draulic 2-VH-12	r passive collector litiona Designa 234S-A:	r(s) I Information Co 7.2,1525	mative de 5-	r self-pr	rotection nical E rature A	P n Data Area, A _a	a n
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Co-generating thermal and electr Energy Labelling Infor	r norma ical pow matio	dditional operations o	tion	A F Hy	Active o açade o Ado draulic 2-VH-12	r passive collector litiona Designa 234S-A:	r(s) I Information Co 7.2,1525	mative de 5-	r self-pr	rotection nical E rature A	P n Data Area, A _a	a n
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Co-generating thermal and electr Energy Labelling Infor PRISMA 2.0 PRISMA 2.5 Data required for CDR (EU) No 811/201	r norma ical pow matio Referen	dditional properties of the control	A _{sol} (m ²)	Hy 1.	Adc Adc Adc draulic 2-VH-12 2-VH-12	r passivicollector litiona Designa 234S-A: 234S-A:	r(s) I Information Co 7.2,1525 7.2,1920	mative de 5-)-	r self-pr Tech Ape	nical E rature A 1.:	P n Data Area, A _a	(m²)
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ioannisalexiou@dqshellas.gr