



Annex to Solar Keymark Certificate					Licence Number		SKM 10135.1.3				
					Date issued		2025-12-31				
					Issued by		DQS Hellas				
Licence holder		IDROTIRRENA COMMERCIALE S.R.L.			Country		Italy				
Brand (optional)					Web						
Street, Number		Via di Vorno, 4			E-mail		info@zenithsolare.it				
Postcode, City		55060 Capannori (LU)			Tel		+390 0583 25028				
Collector Type					Flat plate collector						
Collector name	Gross area (A_G) m ²	Gross length mm	Gross width mm	Gross height mm	Power output per collector						
					Gb = 850 W/m ² , Gd = 150 W/m ² & u = 1.3 m/s						
					$\vartheta_m - \vartheta_a$						
					0 K	10 K	30 K	50 K	70 K	76 K	
					W	W	W	W	W	W	
STAR 1500	1,52	1.510	1.010	110	1.054	992	860	718	567	520	
STAR 1500 HOR	1,52	1.010	1.510	110	1.054	992	860	718	567	520	
STARCS 2000	2,03	2.010	1.010	110	1.408	1.325	1.148	959	757	694	
STARCS 2000 HOR	2,03	1.010	2.010	110	1.408	1.325	1.148	959	757	694	
STARCS 2600	2,53	2.010	1.270	110	1.755	1.651	1.431	1.196	944	865	
STARCS 2600 HOR	2,53	1.270	2.010	110	1.755	1.651	1.431	1.196	944	865	
Power output per m ² gross area					694	653	566	473	373	342	
Performance parameters test method		Steady state - outdoor									
Performance parameters (related to A_G)		η_0, b	a1	a2	a3	a4	a5	a6	a7	a8	Kd
Units		-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)	-	J/(m ² K)	s/m	W/(m ² K ⁴)	W/(m ² K ⁴)	-
Test results		0,704	4,02	0,008	0,000	0,00	7.860	0,000	0,00	0,0E+00	0,90
Incidence angle modifier test method		Steady state - outdoor									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		$K_{\theta T, coll}$	1,00	1,00	0,99	0,98	0,94	0,87	0,73	0,48	0,00
Longitudinal		$K_{\theta L, coll}$	1,00	1,00	0,99	0,98	0,94	0,87	0,73	0,48	0,00
Heat transfer medium for testing		Water									
Flow rate for testing (per gross area, A_G)							dm/dt	0,022	kg/(sm ²)		
Maximum temperature difference during thermal performance test							$(\vartheta_m - \vartheta_a)_{max}$	46	K		
Standard stagnation temperature ($G = 1000 \text{ W/m}^2$; $\vartheta_a = 30 \text{ }^\circ\text{C}$)							ϑ_{stg}	174	°C		
Maximum operating temperature							$\vartheta_{max, op}$	100	°C		
Maximum operating pressure							$p_{max, op}$	1000	kPa		
Testing laboratory		NCSR Demokritos					www.solar.demokritos.gr				
Test report(s)		4188DE1					Dated		27/7/2016		
		4189DE1							27/7/2016		
		4023DQ2, 4046DQ2							5/9/2013		
Comments of testing laboratory							Ver. 6.2 (13.01.2022)				

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