



Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results					Licence Number		OEM 9999/1/1				
					Date issued		2017-02-10				
					Issued by		DQS Hellas				
Licence holder		ENVIROENERGY SOLUTIONS E.S. Ltd			Country		Cyprus				
Brand (optional)					Web		http://www.enviroenergy-solutions.com				
Street, Number		12, Th. Dervi Str.			E-mail		info@enviroenergy-solutions.com				
		1305 Nicosia			Tel		+30 6984 612259				
Flat plate collector, glazed											
Collector name	Gross area (A_G) m ²	Gross length mm	Gross width mm	Gross height mm	Power output per collector G _b = 850 W/m ² ; G _d = 150 W/m ² ϑ _m - ϑ _a						
					0 K W	10 K W	30 K W	50 K W	70 K W	50 K W	
EFM 150	1,50	1.480	1.010	86	1.142	1.085	961	819	661	819	
EFM 150H	1,50	1.010	1.480	86	1.142	1.085	961	819	661	819	
EFM 182	1,82	1.480	1.230	86	1.385	1.317	1.166	994	802	994	
EFM 182H	1,82	1.230	1.480	86	1.385	1.317	1.166	994	802	994	
EFM 200	2,00	1.980	1.010	86	1.522	1.447	1.281	1.092	881	1.092	
EFM 200H	2,00	1.010	1.980	86	1.522	1.447	1.281	1.092	881	1.092	
EFM 237	2,37	1.930	1.230	86	1.804	1.715	1.518	1.294	1.044	1.294	
EFM 237H	2,37	1.230	1.930	86	1.804	1.715	1.518	1.294	1.044	1.294	
EFM 272	2,72	2.160	1.260	86	2.070	1.968	1.742	1.485	1.198	1.485	
EFM 272H	2,72	1.260	2.160	86	2.070	1.968	1.742	1.485	1.198	1.485	
Power output per m² gross area					761	724	640	546	440	546	
Performance parameters test method		Steady state - outdoor									
Performance parameters (related to AG)		η _{0,hem}	a ₁	a ₂							
Units		-	W/(m ² K)	W/(m ² K ²)							
Test results		0,761	3,600	0,014							
Incidence angle modifier test method		Steady state - outdoor									
Bi-directional incidence angle modifiers		No									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		K _{θT, coll}					0,96				0,00
		K _{θL, coll}					0,96				0,00
Water - Glycole											
Flow rate for testing (per gross area, A_G)		dm/dt	0,021	kg/(sm ²)							
Maximum temperature difference for thermal performance calculations		(ϑ _m -ϑ _a) _{max}	50	K							
Standard stagnation temperature (G = 1000 W/m²; ϑ_a = 30 °C)		ϑ _{stg}	163,8	°C							
Effective thermal capacity, incl. fluid (per gross area, A_G)		C/m ²	10,85	kJ/(Km ²)							
Maximum operating temperature		ϑ _{max, op}	200	°C							
Maximum operating pressure		p _{max, op}	1000	kPa							
Testing laboratory		NCSR Demokritos			www.solar.demokritos.gr						
Test report(s)		4195 DE2 4196 DE2 4197 DQ1			Dated		16/11/2016 16/11/2016 30/10/2016				
Comments of testing laboratory						Datasheet version: 5.01, 2016-03-01					
<i>This data sheet was issued based on data appeared in the first SKM certificate.</i>											
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