



Summary of EN 12975 Test Results, annex to Solar KEYMARK Certificate						Licence Number		011-7S2656 R			
						Issued		2016-08-17			
Company holding the		Millionsun Energy Co.,Ltd.				Country		China			
Brand (optional)		Millionsun				Website		www.millionsun.com			
Street, street number		No.2-10, Jinglong Avenue South, Shahu Community Pingshan, Pingshan New District				E-mail		curro@millionsun.com			
Postal Code / City, province		518118		Shenzhen, Guangdong Province		Tel/Fax		86 769-21682567/22020366			
Collector Type (flat plate glazed/un-glazed; evacuate tubular)						Flat plate collector - glazed					
Thermal / photo voltaic hybrid collector? (PVT collector)						No					
Integration in the roof possible ? (manufacturers declaration)						Yes					
Collector name	Aperture area (Aa) m ²	Gross length mm	Gross width mm	Gross height mm	Gross area (AG) m ²	Power output per collector module					
						Gb = 850 W/m ² ; Gd = 150 W/m ²					
						Tm-Ta					
						0 K	10 K	30 K	50 K	70 K	
						W	W	W	W	W	
M-SBC/2.0(balck)	1.84	2 001	1 000	81	2.00	1 320	1 244	1 064	852	605	
Performance test method						Liquid heating collector - quasi-dynamic - outdoor					
Performance parameters related to aperture		η _{0b}	c1	c2	c3	c4	c6	Kθd			
Units		-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)	-	s/m	-			
Test results - Flow rate and fluid see note 1		0.731	3.957	0.023	0.000	0.000	0.000	0.892			
Bi-directional incidence angle		No <i>Kθ values are obligatory for 50°.</i>									
Incidence angle modifiers Kθ(θ)		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
		Kθ(θ)	1.000	0.990	0.990	0.970	0.950	0.910	0.830	0.00	0.00
Incidence angle modifier not bi-directional - leave fields blank											
Stagnation temperature - Weather conditions see note 2						Tstg		152 °C			
Effective thermal capacity						ceff = C/Ag		9.45 kJ/(m ² K)			
Max. intended operation temperature - see note 3						Tmax,op		100 °C			
Max. operation pressure - see note 3						pmax,op		1200 kPa			
Pressure drop table - for a collector family, the values shall be for the module with highest ΔP per m ² aperture area											
Flow rate	kg/(s m ²)	-	-	-	-	-	-	-	-	-	
Pressure drop, ΔP	Pa	-	-	-	-	-	-	-	-	-	
Optional weather data		Location			Link						
Testing Laboratory		TÜV Rheinland (Shanghai) Co., Ltd.									
Website		www.tuv.com									
Test report id. number		154156932b_Millionsun_FPC_EN_Report_zhao				Date of test report		2016/08/16			
During the test GDIF/GTOT was always between		0.09	and	0.91							
Comments of testing laboratory:											
Note 1	Flow rate	0.020 kg/(s m ²)	Fluid	Water							
Note 2	Irradiance, G = 1000 W/m ² ; Ambient temperature, Ta=30 °C										
Note 3	Given by manufacturer										
Datasheet version: 4.06, 2014-01-15											
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