

CERTIFICATE OF PRODUCT CONFORMITY

Dubai Central Laboratory Department (DCLD) of Dubai Municipality
hereby attests that the product(s)

Solar Collector

(Details as per the attached Scope of Certification)

manufactured by:

SAMMLER B. MICHALOPOULOS S.A.

18 Chiou STR-19300-Aspropygos Industrial Zone – Athens, Greece

have been assessed in accordance with DCLD Document Ref. No. DM-DCLD-RD-DP21-2001 (IC) "General Rules for DM third party product certification system through factory assessment" and the relevant Specific Rules, and were found in conformity with the standard specification:

BS EN 12975-1:2006 +A1: 2010

Accordingly, DCLD hereby authorizes the above manufacturer
to affix the DCL Product Conformity Mark on the above-mentioned product(s).



for / ENGR. AMIN AHMED AMIN
Director, Dubai Central Laboratory Department
Dubai Municipality



Certificate No: CL16020378
Valid Until: 13/07/2021



Current Issue Date: 14/07/2020
Original Issue Date: 14/07/2016



The attached Scope of Certification bearing the same Certificate Number forms an integral part of this Certificate.
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DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL16020378

Certificate Issued To:	SAMMLER B. MICHALOPOULOS S.A. 18 Chiou STR-19300-Aspropygos Industrial Zone – Athens, Greece
Applicable Standard Specification:	BS EN 12975-1:2006 +A1: 2010 – Thermal solar systems and components – Solar Collectors – Part 1: General requirements
Applicable Specific Rules:	DM-DCLD-RD-DP21-2178 (IC) – Specific Rules Certification of Solar Collectors as per BS EN 12975-1 through Factory Assessment DM-DCLD-RD-DP21-2084 (IC) – Guidelines for Factory Production control Plan for Solar Collector Manufacturers

S/N	PRODUCT DESCRIPTION	BRAND NAME(S) / MODEL(S)	PRODUCT DETAILS
1.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR ARIS BLACK PAINTED FAMILY</u></p> <p>Absorber Materials: Aluminum high selective ALANOD Mirosol TSS with 0.50mm thickness, 90% absorptance and 12% emittance, laser welded into 8mm riser copper tubes joint with 22mm header copper tubes;</p> <p>3.2mm thickness Solar Glass with 91.8% transmittance top cover; Rockwool thermal insulation with density of 40 kg/m³ and thickness of 40mm for bottom insulation and Glasswool thermal insulation with density of 40 kg/m³ and thickness of 20mm for side insulation;</p> <p>Frame structure made of Extruded Aluminum 1.3mm thickness-</p>	<p>(BRANDS)</p> <p>SAMMLER CRONIUS KALTECH REGULUS RENERGY SOLAR PLUS PRO</p> <p>(MODELS)</p> <p>ARIS 2003 CRONIUS P220 KALTECH KE 2.0E KPR1+ C RSTC 2003 SP/AR2003</p>	<p>Gross area of 2.09 m²; Aperture area of 1.92 m² and Absorber area of 1.91 m²;</p> <p>Gross dimensions: 2030 x 1030 x 89 mm;</p> <p>Weight (dry & packed): 42 kg;</p> <p>Vertical installation;</p> <p>Grid type of Absorber;</p> <p>Absorber capacity is 1.37 l;</p> <p>Absorber pipe dimensions: Header - 22mm x 0.45mm and Risers – 8mm x 0.45mm;</p> <p>Number of tubes: 9 pieces. risers & 4 exits headers;</p> <p>Maximum operating pressure is 10 bar;</p> <p>Stagnation temperature is 201 °C;</p>

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	<p>painted RAL7038 and 0.50mm Aluminum Zinc sheet as back plate; EPDM, Silicone watertight sealed between the solar glass and the Aluminum Casing;</p>		
2.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR</u> <u>ARIS SELECTIVE FAMILY</u></p> <p>Absorber Materials: Aluminum High Selective ALANOD Mirotherm with 0.50mm thickness, 95% absorptance and 5% emittance, laser welded into 8mm riser copper tubes joint with 22mm header copper tubes ; Solar Glass 3.2mm thickness- prismatic – 91.8% efficiency top cover; Rockwool thermal insulation with density of 40 kg/m³and thickness of 40mm for bottom insulation and Glasswool thermal insulation with density of 40 kg/m³and thickness of 20mm for side insulation; Frame structure made of Extruded Aluminum Profile 1.3mm thickness - painted RAL7038 and 0.50mm thickness Aluminum Zinc Steel Sheet back plate; EPDM, Silicone sealant watertight sealed between the solar glass and the aluminum casing;</p>	<p>(BRANDS)</p> <p>SAMMLER CRONIUS KALTECH REGULUS RENERGY SOLAR PLUS PRO</p> <p>(MODELS)</p> <p>ARIS 2004 CRONIUS S220 KALTECH KE 2.0R KPR1+ RSTC 212 SP/AR2004</p>	<p>Gross area of 2.09 m²; Aperture area of 1.92 m² and Absorber area of 1.91 m²; Gross dimensions: 2030 x 1030 x 89 mm; Weight (dry & packed): 42 kg; Vertical installation; Grid type of Absorber; Absorber capacity is 1.37 l; Absorber pipe dimensions: Header - 22mm x 0.45mm and Risers – 8mm x 0.45mm; Number of tubes: 9 pieces. risers & 4 exits headers Maximum operating pressure is 10 bar; Stagnation temperature is 192 °C;</p>



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		<p>(MODELS)</p> <p>ARIS 2004H CRONIUS S220H KALTECH KE 2.0HR KPR1+ H RSTC 212H</p>	<p>Gross area of 2.09 m²; Aperture area of 1.92 m² and Absorber area of 1.91 m²; Gross dimensions: 1030 x 2030 x 89 mm; Weight (dry & packed): 42 kg; Horizontal installation; Grid type of Absorber; Absorber capacity is 2.04 l; Absorber pipe dimensions: Header - 22mm x 0.45mm and Risers - 8mm x 0.45mm; Number of tubes: 18 pieces. risers & 4 exits headers Maximum operating pressure is 10 bar; Stagnation temperature is 191 °C;</p>
		<p>(MODELS)</p> <p>ARIS 2504 CRONIUS S225 KALTECH KE 2.5R KPR11+ RSTC 253 SP/AR2504</p>	<p>Gross area of 2.49 m²; Aperture area of 2.32 m² and Absorber area of 2.29 m²; Gross dimensions: 2030 x 1230 x 89 mm; Weight (dry & packed): 45 kg; Vertical installation; Grid type of Absorber; Absorber capacity is 1.64 l; Absorber pipe dimensions: Header - 22mm x 0.45mm and Risers - 8mm x 0.45mm; Number of tubes: 9 pieces. risers & 4 exits headers Maximum operating pressure is 10 bar; Stagnation temperature is 193 °C;</p>

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3.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR ALTER FAMILY</u></p> <p>Absorber Materials: Aluminum High Selective ALANOD Mirotherm Aluminum with 0.50mm thickness, 95% absorptance and 5% emittance, laser welded into 8mm riser copper tubes joint with 22mm header copper tubes ;</p> <p>3.2mm thickness Solar Glass - prismatic – 91.8% efficiency top cover;</p> <p>Rockwool thermal insulation with density of 40 kg/m³ and thickness of 40mm for bottom insulation and Rockwool thermal insulation with density of 40 kg/m³ and thickness of 20mm for side insulation;</p> <p>Frame structure made of Extruded Aluminum Profile 1.3mm thickness – painted RAL7038 and 0.50mm thickness Aluminum Zinc Steel Sheet back plate;</p> <p>EPDM, Silicone sealant watertight sealed between the solar glass and the aluminum casing</p>	<p>(BRANDS)</p> <p>SAMMLER CRONIUS KALTECH REGULUS RENERGY SOLAR PLUS PRO</p> <p>(MODELS)</p> <p>ALTER 2004 CRONIUS S320 KALTECH KE 2.0U KPR1+ M RSMC 215 SP/AL2004</p> <p>(MODELS)</p> <p>ALTER 2504 CRONIUS S325 KALTECH KE 2.5U KPR11+ M RSMC 255 SP/AL2504</p>	<p>Gross area of 2.15 m²; Aperture area of 1.92 m² and Absorber area of 1.91 m²;</p> <p>Gross dimensions: 2050 x 1050 x 89 mm;</p> <p>Weight (dry & packed): 42 kg;</p> <p>Vertical-Horizontal installation;</p> <p>Meander type of Absorber; Absorber capacity is 1.48 l;</p> <p>Optical Efficiency is 80.2%;</p> <p>Absorber pipe dimensions: Header - 22mm\times0.45mm and Risers – 8mm\times0.45;</p> <p>Headers-4 exits & Risers-9 pieces.</p> <p>Maximum operating pressure is 10 bar;</p> <p>Stagnation temperature is 201 °C;</p> <p>Gross area of 2.55 m²; Aperture area of 2.29 m² and Absorber area of 2.26 m²;</p> <p>Gross dimensions: 2050 x 1250 x 89 mm;</p> <p>Weight (dry & packed): 42 kg;</p> <p>Vertical-Horizontal installation;</p> <p>Meander type of Absorber; Absorber capacity is 1.76 l;</p> <p>Optical Efficiency is 81.7%;</p> <p>Absorber pipe dimensions: Header - 22mm\times0.45mm and Risers – 8mm\times0.45;</p> <p>Headers-4 exits & Risers-11 pieces.</p> <p>Maximum operating pressure is 10 bar;</p> <p>Stagnation temperature is 201 °C;</p>
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4.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR ARIS FAMILY</u></p> <p>Absorber Materials: Solar copper sheet with <u>0.2mm</u> thickness, Biolin coating, laser welded into 8mm riser copper tubes joint with 22mm header copper tubes ; 3.2mm thickness low iron tempered Solar Glass with high transmittance top cover; Rockwool thermal insulation with density of 40 kg/m³, thermal conductivity of 0.035 W/(m*K) and thickness of 40mm for insulation; Frame structure made from Aluminum coated painted 1.3mm thickness and 0.50mm Aluminum Zinc sheet as back plate; EPDM, Silicone watertight sealed between the solar glass and the Aluminum Casing;</p>	<p>(BRANDS)</p> <p>SAMMLER CRONIUS</p> <p>(MODELS)</p> <p>ARIS 2001 CRONIUS P221</p>	<p>Gross area of 2.11 m²; Aperture area of 1.91 m² and Absorber area of 1.81 m²; Gross dimensions: 2036 x 1037 x 89 mm; Weight (dry & packed): 38.5 kg; Vertical installation with mounting On roof-flat roof; Grid type of Absorber; Absorber capacity is 1.4 l; Absorber pipe dimensions: Header - 22mm x 0.7mm and Risers – 8mm x 0.45mm; Number of tubes: 8 pieces. risers with Tube Pitch of 105mm; Test Pressure is 15 bar; Nominal Flow Rate is 144 l/h; Maximum operating pressure is 10 bar; Stagnation temperature is 141 °C;</p>
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NOTE 1: This document forms part of the Certificate of Product Conformity bearing the same certificate number.

NOTE 2: The above products shall bear the DCL Conformity Mark applied on each individual product.

Original Issue Date : 14 July 2016

Current Issue Date : 14 July 2020

Valid Until : 13 July 2021

ARIF HUSAIN AL MARZOOQI

Products Conformity Assessment Section Manager
Dubai Central Laboratory Department