

CERTIFICATE OF PRODUCT CONFORMITY

Dubai Central Laboratory Department (DCLD) of Dubai Municipality,

hereby attests that the product(s)

THERMAL SOLAR SYSTEMS AND COMPONENTS – SOLAR COLLECTORS

(Details as per the attached Scope of Certification)

Manufactured by:

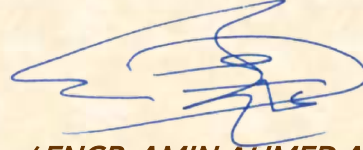
SAMMLER B. MICHALOPOULOS S.A.

18 Chiou STR-19300-Aspropyrgos 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 to the above-mentioned product(s).



for / **ENGR. AMIN AHMED AMIN**

Director, Dubai Central Laboratory Department

Dubai Municipality

Verify:



Certificate No: CL16020378

Valid Until: 13 July 2019



Current Issue Date: 14 July 2018

Original Issue Date: 14 July 2016

DM-DCLD-F-IC-2031 REV 13

The attached Scope of Certification bearing the same Certificate No. forms an integral part of this Certificate.

This Certificate is an electronic document, subject to the Terms and Conditions of the Product Certification System and shall not be reproduced except in full.

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-Aspropyrgos 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:	RD-DP21-2178 (IC) – Specific Rules Certification of Solar Collectors as per BS EN 12975-1 Through Factory Assessment 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 style="text-align: center;"><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; 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 style="text-align: center;">(BRANDS)</p> <p>SAMMLER CRONIUS KALTECH REGULUS RENERGY SOLAR PLUS PRO</p> <p style="text-align: center;">(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>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME
SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL16020378

	<p>Frame structure made of Extruded Aluminum 1.3mm thickness-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>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME
SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL16020378

		<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>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME
SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL16020378

3.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR</u></p> <p><u>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;</p> <p>Absorber capacity is 1.48 l;</p> <p>Optical Efficiency is 80.2%;</p> <p>Absorber pipe dimensions: Header - 22mmøx0.45mm and Risers – 8mmøx0.45;</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;</p> <p>Absorber capacity is 1.76 l;</p> <p>Optical Efficiency is 81.7%;</p> <p>Absorber pipe dimensions: Header - 22mmøx0.45mm and Risers – 8mmøx0.45;</p> <p>Headers-4 exits & Risers-11 pieces.</p> <p>Maximum operating pressure is 10 bar;</p> <p>Stagnation temperature is 201 °C;</p>
----	--	--	--

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME
SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL16020378

4.	<p><u>GLAZED FLAT PLATE SOLAR COLLECTOR</u> <u>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>
----	--	--	--

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 2018

Valid Until : 13 July 2019



ARIF HUSAIN AL MARZOOQI

Head of Products Conformity Assessment Section

Dubai Central Laboratory Department