

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:

SOLAHART INDUSTRIES PTY LTD with factory in RHEEM VIETNAM LIMITED
Lot A3., Road D5, Dong An 2 Industrial Park, Hoa Phu Ward, Thu Dau Mot, Binh Duong, Vietnam

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: CL17020508
Valid Until: 26/09/2021



Current Issue Date: 27/09/2020
Original Issue Date: 27/09/2017



The attached Scope of Certification bearing the same Certificate Number 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. CL17020508

Certificate Issued To:	SOLAHART INDUSTRIES PTY LTD with Factory in RHEEM VIETNAM LIMITED Lot A3., Road D5,Dong An 2 Industrial Park Hoa Phu Ward, Thu dau Mot, Binh Duong, Vietnam
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	Product Details
1	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Black polyester powder coated Aluminum, Laser welded with Copper pipes Tempered low Iron Glass 3.2mm thickness top cover. Black polyester thermal insulation with density of 14kg/m³, thermal conductivity of 0.05W/ (m.K) and thickness of 38mm for back insulation. Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 28mm for side insulation. Casing: Marine grade Aluminium Sealing Tape : Tesa</p>	SOLAHART L COLLECTOR FLAT PLATE	<p>Gross Area of 1.98m² Aperture Area of 1.86 m² Absorber Area of 1.80 m² Gross dimensions (without support frame): 1940 x 1020 x 83 mm Weight (empty) : 29 Kg Weight (full) : 31 kg Collector Fluid Volume : 1.5 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.91mm, Risers – Copper: 9.52 mm x 0.7mm Number of tubes : 7 risers Test Pressure : 21.5 bar Working Pressure : 10 bar Distance between risers: 133mm Maximum Stagnation Temperature: 137°C Maximum Working Pressure: 14 bar</p>

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S/N	Product Description	Brand Name	Product Details
2	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Sputtered Aluminum selective surface, Laser welded with Copper pipes Tempered low Iron Glass 3.2mm thickness top cover. Glass wool thermal insulation with density of 12kg/m³, thermal conductivity of 0.044W/(m.K) and thickness of 38mm for back insulation. Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 28mm for side insulation. Casing: Marine grade Aluminum Sealing Tape: Tesa</p>	SOLAHART LCS COLLECTOR FLAT PLATE	<p>Gross Area of 1.98m² Aperture Area of 1.86 m² Absorber Area of 1.86 m² Gross dimensions (without support frame): 1938 x 1022 x 80 mm Weight (empty) : 29 Kg Weight (full) : 31 kg Collector Fluid Volume : 1.5 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.91mm, Risers – Copper: 12.7 mm x 0.7mm Number of tubes : 6 risers Test Pressure : 21.0 bar Working Pressure : 14 bar Distance between risers: 133mm Maximum Stagnation Temperature: 180°C</p>
3	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Sputtered copper selective surface, Laser welded with Copper pipes Tempered low Iron Glass 3.2mm thickness top cover. Glass wool thermal insulation with density of 12kg/m³, thermal conductivity of 0.044W/(m.K) and thickness of 38mm for back insulation. Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 20mm for side insulation. Casing: Marine grade Aluminum, Sealing Tape: Tesa</p>	SOLAHART Bt COLLECTOR FLAT PLATE	<p>Gross Area of 2.0m² Aperture Area of 1.87 m² Absorber Area of 1.87 m² Gross dimensions (without support frame): 1942 x 1032 x 83 mm Weight : 31 kg Collector Fluid Volume : 2.1 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.35mm x 0.91mm, Risers – Copper: 9.52 mm x 0.7mm Number of tubes : 13 risers Test Pressure : 21.0 bar Maximum Operating Pressure : 14 bar Maximum Stagnation Temperature: 189°C</p>

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4	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Black polyester powder coated steel welded with fully flooded riser.</p> <p>Tempered low Iron Glass 3.2mm thickness top cover. Black polyester thermal insulation with density of 14kg/m³, thermal conductivity of 0.044W/(m.K) and thickness of 38mm for back insulation. Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 28mm for side insulation. Casing: Marine grade Aluminum Sealing Tape: Tesa</p>	SOLAHART J COLLECTOR FLAT PLATE	<p>Gross Area of 1.98m² Aperture Area of 1.86 m² Absorber Area of 1.86 m² Gross dimensions (without support frame): 1940 x 1020 x 83 mm Weight (empty) : 42 Kg Weight (full) : 49 kg Collector Fluid Volume : 3.8 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.8mm, Risers – Steel :fully flooded diamond shape, width 17.5 mm, inner height 4.5 mm, outer height 5.6 mm) Length of single absorber tube 1852 mm Number of risers : 35 Test Pressure : 21.0 bar Maximum Operating Pressure :2 bar Maximum Stagnation Temperature: 137°C</p>
5	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Tinox surface treated copper 0.2mm thickness, Laser welded with Copper pipes Matt Tempered Glass 3.2mm thickness top cover. Glasswool thermal insulation with density of 12kg/m³, thermal conductivity of 0.044W/(m.K) and thickness of 38mm for back insulation. Midnight black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 20mm for side insulation. Casing: Aluminum Frame fastening : Nylon corner blocks</p>	SOLAHART CSA2013 COLLECTOR FLAT PLATE	<p>Gross Area of 2.08m² Aperture Area of 1.88 m² Absorber Area of 1.88 m² Gross dimensions (without support frame): 1996 x 1043 x 82 mm Weight (empty) : 36 Kg Weight (full) : 38 kg Collector Fluid Volume : 2.1 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.91mm, Risers – Copper: 9.48mm x 0.71mm Length of single absorber tube 1850 mm Number of tubes : 13 Test Pressure : 22.0 bar Maximum Operating Pressure :14 bar Maximum Stagnation Temperature: 182°C</p>

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6	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Black polyester powder coated Aluminum, Laser welded with Copper pipes Matt Tempered Low Iron Glass 3.2mm thickness top cover. Black polyester thermal insulation with density of 14kg/m³, thermal conductivity of 0.05W/ (m.K) and thickness of 38mm for back insulation. Casing: Marine grade Aluminium</p>	<p>SOLAHART APA2007 COLLECTOR FLAT PLATE</p>	<p>Gross Area of 2.08m² Aperture Area of 1.88m² Absorber Area of 1.78 m² Gross dimensions (without support frame): 1996 x 1043 x 82 mm Weight (empty) : 32 Kg Weight (full) : 34 kg Collector Fluid Volume : 1.5 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.95mm, Risers – Copper: 9.5mm x 0.35mm Number of tubes : 7 risers Test Pressure : 21.5 bar Working Pressure : 10 bar Distance between risers: 133mm Maximum Stagnation Temperature: 137°C Maximum Working Pressure: 14 bar</p>
7	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: Black polyester powder coated Aluminum, Laser welded with Copper pipes Matt Tempered Low Iron Glass 3.2mm thickness top cover. Black polyester thermal insulation with density of 14kg/m³, thermal conductivity of 0.05W/ (m.K) and thickness of 38mm for back insulation. Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 28mm for side insulation. Casing: Marine grade Aluminium Sealing Material: PVC Closed Cell Foam</p>	<p>SOLAHART NPT200 COLLECTOR FLAT PLATE</p>	<p>Gross Area of 1.98m² Aperture Area of 1.86 m² Absorber Area of 1.85 m² Gross dimensions (without support frame): 1941 x 1023 x 80 mm Weight (empty) : 36 Kg Weight (full) : 38 Collector Fluid Volume : 1.5 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.91mm, Risers – Copper: 9.5mm x 0.7mm Number of tubes : 7 risers Test Pressure : 21 bar Working Pressure : 10 bar Distance between risers: 133mm Maximum Stagnation Temperature: 124°C Maximum Working Pressure: 14 bar</p>

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8	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber materials: TINOX ot equivalent coated copper with 0.93 solar absorptance and 0.07 emittance, Laser welded with Copper pipes</p> <p>Matt /Satin Tempered Low Iron Glass 3.2mm thickness with 0.90 transmittance top cover</p> <p>Glass wool thermal insulation with density of 12kg/m³, thermal conductivity of 0.044 W/ (m.K) and thickness of 38mm for back insulation.</p> <p>Midnight Black polyester thermal insulation with density of 32kg/m³, thermal conductivity of 0.038W/ (m.K) and thickness of 20mm for side insulation.</p> <p>Casing: Marine grade Aluminium side wall and zinc/aluminum alloy coated steel as back sheet</p> <p>Frame fastening methods is by using nylon corner clocks With 4 number of connections On roof and flat roof collector mounting</p>	<p>SOLAHART CSA2612 COLLECTOR FLAT PLATE</p>	<p>Gross Area of 2.58m² Aperture Area of 1.88 m² Absorber Area of 2.31 m² Gross dimensions (without support frame): 2285 x 1130 x 82 mm Weight (empty) : 45 Kg Weight (full) : 48 kg Collector Fluid Volume : 2.3 litres water, water/Propylene Glycol Absorber Pipe dimensions: Headers – Copper: 25.4mm x 0.91mm, Risers – Copper: 9.52mm x 0.71mm Length of single absorber tube: 2140 mm Number of tubes : 12 Test Pressure : 21.2 bar Maximum Operating Pressure :14 bar Maximum Stagnation Temperature: 186°C Effective specific thermal capacity: 10210/11209 J/(m²K)</p>
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NOTE1: This document forms part of the Certificate of Product Conformity bearing the same certificate number.

NOTE2: The above products shall bear the DCL Conformity Mark.

Original Issue Date : 27 September 2017

Current Issue Date : 27 September 2020

Valid Until : 26 September 2021



ARIF HUSAIN AL MARZOOQI

Products Conformity Assessment Section Manager
Dubai Central Laboratory Department