

# 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:

**VISSMANN WERKE GMBH&CO KG**  
**AVENUE ANDRE GOUY , 57380 FAULQUEMONT / FRANCE**

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: 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: CL15020249  
Valid Until: 29/09/2019



Current Issue Date: 30/09/2018  
Original Issue Date: 30/09/2015

DUBAI CENTRAL LABORATORY DEPARTMENT  
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

**SCOPE OF CERTIFICATION**  
**FOR CERTIFICATE NO. CL15020249**

<b>Certificate Issued To:</b>	<b>VISSMANN WERKE GMBH &amp; CO. KG (ALLENDORF)</b> Avenue André Gouy, 57380 Faulquemont, France
<b>Applicable Standard Specification:</b>	BS EN 12975-1:2006 +A1: 2010 – Thermal solar systems and components – Solar Collectors – Part 1: General requirements
<b>Applicable Specific Rules:</b>	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 DETAILS	BRAND NAME(S) / MODEL(S)	PRODUCT DESCRIPTION
1.	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber Materials: Aluminum Absorber Sheet, with 95% solar absorptance and 5% hemispherical emittance, laser welded into copper tubes</p> <p>Rockwool insulation 30mm thickness and with thermal conductivity of 0.035 w/(m- ° K) for 100-F</p> <p>Melamin thermal insulation 10mm thickness (main) and 15mm thickness (lateral) and with thermal conductivity of 0.033 w/(m- ° K) for 200-F</p> <p>Tempered solar clear 3.2 mm glass cover with 91.6% solar transmittance</p> <p>Aluminum profile frame with Galvanized Steel Back Cover</p> <p>Silicone based sealing materials</p> <p>Use with anti-freeze thermal fluid (propylene glycol for solar system)</p>	<p>“VISSMANN” Brand</p> <p>VITOSOL 100F (SV1A / SH1A)</p> <p>VITOSOL 200F (SV2C / SH2C)</p>	<p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm;</p> <p>Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.32 m<sup>2</sup>;</p> <p>Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness</p> <p>Serpentine Risers: copper tubes of 9 mm diameter x 0.35 mm thickness</p> <p>Maximum operational pressure: 6 bars;</p> <p>Maximum Stagnation Temperature: 196°C</p> <p>Liquid content: 1.48 &amp; 2.33 liters</p> <p>Empty Collector Weight: 41 kg</p> <p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm;</p> <p>Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.32 m<sup>2</sup>;</p> <p>Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness</p> <p>Serpentine Risers: copper tubes of 9 mm diameter x 0.35 mm thickness</p> <p>Maximum operational pressure: 6 bars;</p> <p>Maximum Stagnation Temperature: 186°C</p> <p>Liquid content: 1.83 &amp; 2.48 liters</p> <p>Empty Collector Weight: 41 kg</p>

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		VITOSOL 300F (SV3C / SH3C)	Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm; Gross Area: 2.51 m <sup>2</sup> ; Aperture area: 2.33 m <sup>2</sup> ; Total Absorber Area: 2.32 m <sup>2</sup> ; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Serpentine Risers: copper tubes of 9 mm diameter x 0.35 mm thickness Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 206°C Liquid content: 1.83 & 2.48 liters Empty Collector Weight: 41 kg
2.	<p>FLAT PANEL SOLAR TYPE COLLECTOR</p> <p>Absorber Materials: Copper Absorber Sheet laser welded into copper tubes</p> <p>Rockwool insulation 30 mm thickness and with thermal conductivity of 0.035 w/(m- ° K) for 100-F</p> <p>Melamin thermal insulation 10mm thickness (main) and 15mm thickness (lateral) and with thermal conductivity of 0.033 w/(m- ° K) for 200-F</p> <p>Solar clear 3.2 mm glass cover</p> <p>Aluminum profile frame</p> <p>Silicone based sealing materials</p> <p>Use with anti-freeze thermal fluid (propylene glycol for solar system)</p>	<p>“VIESSMANN” Brand</p> <p>VITOSOL 100F (SV1B / SH1B)</p> <p>VITOSOL 200F (SV2D / SH2D)</p>	<p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm; Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.32 m<sup>2</sup>; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Serpentine Risers: copper tubes of 9 mm diameter x 0.35 mm thickness Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 196°C Liquid content: 1.67 &amp; 2.33 liters Empty Collector Weight: 41 kg</p> <p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm; Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.32 m<sup>2</sup>; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Serpentine Risers: copper tubes of 9 mm diameter x 0.35 mm thickness Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 185°C Liquid content: 1.83 &amp; 2.48 liters Empty Collector Weight: 41 kg</p>



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<p>3.</p>	<p align="center"><b>FLAT PANEL SOLAR TYPE COLLECTOR</b></p> <p>Absorber Materials: Aluminum Absorber Sheet with termprotect, with 95% solar absorptance and 5% hemispherical emittance, laser welded into copper tubes</p> <p>Rockwool insulation 30mm thickness and with thermal conductivity of 0.035 w/(m- ° K) for 100-F Melamin thermal insulation 10mm thickness (main) and 15mm thickness (lateral) and with thermal conductivity of 0.033 w/(m- ° K) for 200-F</p> <p>Tempered solar clear 3.2 mm glass cover with 91.6% solar transmittance</p> <p>Aluminum profile frame with Galvanized Steel Back Cover</p> <p>Silicone based sealing materials</p> <p>Use with anti-freeze thermal fluid (propylene glycol for solar system)</p>	<p>“VIESSMANN” Brand</p> <p>VITOSOL 100-FM (SV1F / SH1F)</p> <p>VITOSOL 200-FM (SV2F / SH2F)</p>	<p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 73 mm / 1056 x 2380 x 73 mm; Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.31 m<sup>2</sup>; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Serpentine Risers: 22 copper tubes of 9 mm diameter x 0.35 mm thickness Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 145°C Liquid content: 1.83 liters Empty Collector Weight: 39 kg</p> <p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 90 mm / 1056 x 2380 x 90 mm; Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.31 m<sup>2</sup>; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Serpentine Risers: 22 copper tubes of 9 mm diameter x 0.35 mm thickness Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 145°C Liquid content: 2.4 liters Empty Collector Weight: 40 kg</p>
<p>4.</p>	<p align="center"><b>FLAT PANEL SOLAR TYPE COLLECTOR</b></p> <p>Absorber Materials: Aluminum Absorber Sheet, sputtered Viessmann coating with 95% solar absorptance and 5% hemispherical emittance, laser welded into copper tubes</p> <p>Mineral wool insulation 30mm thickness and with thermal conductivity of 0.035 w/(m- ° K)</p> <p>Structural 3.2 mm glass cover with 91.7% solar transmittance</p> <p>Aluminum profile frame with Galvanized Steel Back Cover</p>	<p>“VIESSMANN” Brand</p> <p>VITOSOL 100-F SVT 2.18m<sup>2</sup></p>	<p><i>Gross dimensions of Length x Width x Depth: 2066 x 1056 x 73 mm;</i> <i>Gross Area: 2.182 m<sup>2</sup>; Aperture area: 2.016 m<sup>2</sup>; Total Absorber Area: 2.010 m<sup>2</sup>;</i> <i>Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness</i> <i>Harp Risers: 9 copper tubes of 9 mm diameter x 0.45 mm thickness</i> <i>Maximum Operating Temperature: 210°C</i> <i>Maximum operational pressure: 600 kPa (6 bar);</i> <i>Liquid content: 1.88 liters</i> <i>Empty Collector Weight: 42 kg</i> <i>Tilt Angle: 15° Minimum and 45°Maximum</i></p>

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	<p>Frame fastening method is drilling/bending /stamping Silicone based sealing Water – glycol mixture VERTICAL (HARP)</p>	<p>VITOSOL 100-F SVT 2.51m<sup>2</sup></p>	<p>Gross dimensions of Length x Width x Depth: 2380 x 1056 x 73 mm; Gross Area: 2.51 m<sup>2</sup>; Aperture area: 2.33 m<sup>2</sup>; Total Absorber Area: 2.32 m<sup>2</sup>; Headers: 2 horizontal copper tube of 22 mm diameter x 0.7 mm thickness Harp Risers: 9 copper tubes of 9 mm diameter x 0.45 mm thickness Maximum Operating Temperature: 210°C Maximum operational pressure: 600 kPa (6 bar); Liquid content: 2.06 liters Empty Collector Weight: 52 kg Tilt Angle: 15° Minimum and 45°Maximum</p>
5.	<p>VACUUM TUBE SOLAR COLLECTOR VITOSOL FAMILY</p> <p>Vacuum tube collector based on the heat pipe principle with thermprotect</p> <p>Absorber Materials: Aluminum Absorber Sheet with selective coating (TINOX) ultrasonic welded into copper heat pipe</p> <p>Glass Tube: outside diameter x thickness: 102 mm x 2.8 mm Copper header</p> <p>Rockwool insulation with thermal conductivity of 0.037 w/(m- ° K)</p> <p>Aluminum profile frame</p> <p>EPDM &amp; Silicone based sealing materials</p> <p>Use with anti-freeze thermal fluid (propylene glycol for solar system)</p>	<p>“VIESSMANN” Brand</p> <p>VITOSOL 200-T SPEA (3.26 m<sup>2</sup>)</p> <p>VITOSOL 200-T SPEA (1.63 m<sup>3</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2244 x 2343 x 160 mm; Gross Area: 5.3 m<sup>2</sup>; Aperture area: 3.46 m<sup>2</sup>; Total Absorber Area: 3.26 m<sup>2</sup>; No of evacuated tubes: 18 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 175°C Liquid content: 1.72 liter Empty Collector Weight: 102 kg</p> <p>Gross dimensions of Length x Width x Depth: 2244 x 1173 x 160 mm; Gross Area: 2.69 m<sup>2</sup>; Aperture area: 1.73 m<sup>2</sup>; Total Absorber Area: 1.63 m<sup>2</sup>; No of evacuated tubes: 9 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 175°C Liquid content: 0.86 liter Empty Collector Weight: 51 kg</p>
6.	<p>VACUUM TUBE SOLAR COLLECTOR VITOSOL FAMILY</p> <p>Vacuum tube collector based on the heat pipe principle</p> <p>Absorber Materials: Aluminum Absorber Sheet with</p>	<p>“VIESSMANN” Brand</p> <p>VITOSOL 200T SP2A (3.03 m<sup>2</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2241 x 2061 x 150 mm; Gross Area: 4.62 m<sup>2</sup>; Aperture area: 3.19 m<sup>2</sup>; Total Absorber Area: 3.03 m<sup>2</sup>; No of evacuated tubes: 24 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 273°C Liquid content: 1.55 liters Empty Collector Weight: 79 kg</p>

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<p>selective coating (TINOX) ultrasonic welded into copper heat pipe Glass Tube: outside diameter x thickness: 67 mm x 2.0 mm Melamin thermal insulation of 9.5 kg/m<sup>3</sup> density with thermal conductivity of 0.033 w/(m- ° K) Aluminum profile frame EPDM &amp; Silicone based sealing materials Use with anti-freeze thermal fluid (propylene glycol for solar system)</p>	<p>VITOSOL 200T SP2A (1.51 m<sup>2</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2241 x 1053 x 150 mm; Gross Area: 2.36 m<sup>2</sup>; Aperture area: 1.60 m<sup>2</sup>; Total Absorber Area: 1.51 m<sup>2</sup>; No of evacuated tubes: 12 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 273°C Liquid content: 0.87 liter Empty Collector Weight: 39 kg</p>
	<p>VITOSOL 200T SP2A (1.26 m<sup>2</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2241 x 885 x 150 mm; Gross Area: 1.98 m<sup>2</sup>; Aperture area: 1.33 m<sup>2</sup>; Total Absorber Area: 1.26 m<sup>2</sup>; No of evacuated tubes: 10 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 273°C Liquid content: 0.75 liter Empty Collector Weight: 33 kg</p>
	<p>VITOSOL 300T SP3B (3.03 m<sup>2</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2241 x 2061 x 150 mm; Gross Area: 4.62 m<sup>2</sup>; Aperture area: 3.19 m<sup>2</sup>; Total Absorber Area: 3.03 m<sup>2</sup>; No of evacuated tubes: 24 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 273°C Liquid content: 1.55 liters Empty Collector Weight: 79 kg</p>
	<p>VITOSOL 300T SP3B (1.51 m<sup>2</sup>)</p>	<p>Gross dimensions of Length x Width x Depth: 2241 x 1053 x 150 mm; Gross Area: 2.36 m<sup>2</sup>; Aperture area: 1.60 m<sup>2</sup>; Total Absorber Area: 1.51 m<sup>2</sup>; No of evacuated tubes: 12 pieces Maximum operational pressure: 6 bars; Maximum Stagnation Temperature: 273°C Liquid content: 0.87 liter Empty Collector Weight: 39 kg</p>



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*NOTE 1: The above products shall bear the DCL Conformity Mark applied on each individual product.*

*NOTE 2: This document forms part of the Certificate of Product Conformity bearing the same certificate number.*

*Original Issue Date : 30 September 2015*

*Current Issue Date : 30 September 2018*

*Valid Until : 29 September 2019*

ARIF HUSAIN AL MARZOOQI

Products Conformity Assessment Section Manager

Dubai Central Laboratory Department