

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:

FERROLI S.P.A.

Via Ritonda 78/A, I-37047 San Bonifacio (VR), Italy

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: CL17020459
Valid Until: 01/01/2022



Current Issue Date: 02/01/2021
Original Issue Date: 09/05/2017



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. CL17020459

Certificate Issued to:	FERROLI S.P.A. Via Ritonda 78/A, I-37047 San Bonifacio (VR), Italy
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 Model VHT 2.1</u></p> <p>Absorber Materials: BlueTec Eta Plus Aluminum Sheet with 0.40mm thickness, 95% absorptance and 5% emittance, laser welded into 6mm riser copper tubes joint with 18mm header copper tubes ;</p> <p>Clear Solar Glass 3.0mm thickness with 91.1% transmittance top cover; Mineral wool thermal insulation with thermal conductivity of 0.039 W/(m.K), density of 120 kg/m³, and thickness of 20mm for lateral insulation and density of 50 kg/m³ and thickness of 40mm for back insulation;</p> <p>Enclosure side material made of aluminum case and aluminum sheet for enclosure back material; Glue MS Polymer</p>	<p><u>ECOTOP Brand</u></p> <p>VHT 2.1</p>	<p>Gross area of 2.05 m²; Aperture area of 1.82 m² and Absorber area of 1.84 m²;</p> <p>Gross dimensions: 2018 x 1019 x 89 mm;</p> <p>Weight (dry & packed): 34.5 kg; Effective Thermal Capacity is 8.986 J/K;</p> <p>Fluid Content: 0.81 Liters;</p> <p>Absorber pipe dimensions: Header – 2 pcs. of 18 mm and Risers – 8 pcs. of 6mm;</p> <p>Distance between risers is 115mm; Maximum operating pressure is 10 bar;</p> <p>Maximum operating temperature is 250°;</p> <p>Maximum stagnation temperature is 204.2 °C;</p> <p>Vertical installation (max. 90°)</p>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL17020459

2.	<p><u>Glazed Flat Plate Solar Collector Model VHM 2.1</u></p> <p>Absorber Materials: BlueTec Eta Plus Aluminum Sheet with 0.40mm thickness, 95% absorptance and 5% emittance, laser welded into 6mm riser copper tubes joint with 18mm header copper tubes ;</p> <p>Matt Tempered Glass with low iron content 3.2mm thickness with 91.4% transmittance top cover;</p> <p>Mineral wool thermal insulation with thermal conductivity of 0.039 W/(m.K), density of 120 kg/m³, and thickness of 20mm for lateral insulation and density of 50 kg/m³ and thickness of 40mm for back insulation;</p> <p>Enclosure side material made of Aluminum Case and Aluminum sheet for enclosure back material;</p> <p>Glue MS Polymer</p>	<p><u>ECOTOP Brand</u></p> <p>VHM 2.1</p>	<p>Gross area of 2.09 m²; Aperture area of 1.82 m² and Absorber area of 1.83 m²;</p> <p>Gross dimensions: 2018 x 1036 x 89 mm;</p> <p>Weight (dry & packed): 34.5 kg;</p> <p>Effective Thermal Capacity is 8.986 J/K;</p> <p>Fluid Content: 0.85 Liters;</p> <p>Absorber pipe dimensions: Header – 2 pcs. of 18 mm and Risers – 10 pcs. of 6mm;</p> <p>Distance between risers is 92mm;</p> <p>Maximum operating pressure is 10 bar;</p> <p>Maximum operating temperature is 250°;</p> <p>Maximum stagnation temperature is 212.8 °C;</p> <p>Vertical installation (max. 90°)</p>
3.	<p><u>Glazed Flat Plate Solar Collector Model VHM 2.7</u></p> <p>Absorber Materials: BlueTec Eta Plus Aluminum Sheet with 0.40mm thickness, 95% absorptance and 5% emittance, laser welded into 6mm riser copper tubes joint with 18mm header copper tubes;</p> <p>Matt Tempered Glass with low iron content 3.2mm thickness with 91.4% transmittance top cover;</p> <p>Mineral wool thermal insulation with thermal conductivity of 0.039 W/(m.K), density of 120 kg/m³, and</p>	<p><u>ECOTOP Brand</u></p> <p>VHM 2.7</p>	<p>Gross area of 2.65 m²; Aperture area of 2.36 m² and Absorber area of 2.37 m²;</p> <p>Gross dimensions: 2018 x 1314 x 89 mm;</p> <p>Weight (dry & packed): 42.4 kg;</p> <p>Effective Thermal Capacity is 8.986 J/K;</p> <p>Fluid Content: 1.09 Liters;</p> <p>Absorber pipe dimensions: Header – 2 pcs. of 18 mm and Risers – 13 pcs. of 6mm;</p> <p>Distance between risers is 92mm;</p> <p>Maximum operating pressure is 10</p>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL17020459

	<p>thickness of 20mm for lateral insulation and density of 50 kg/m³ and thickness of 40mm for back insulation;</p> <p>Enclosure side material made of Aluminum Case and Aluminum sheet for enclosure back material;</p> <p>Glue MS Polymer</p>		<p>bar;</p> <p>Maximum operating temperature is 250°;</p> <p>Maximum stagnation temperature is 204.9 °C;</p> <p>Vertical installation (max. 90°)</p>
4.	<p><u>Glazed Flat Plate Solar Collector Model VHM 2.1N</u></p> <p>Absorber Materials: BlueTec Eta Plus Aluminum Sheet with 0.40mm thickness, 95% absorptance and 5% emittance, laser welded into 6mm riser copper tubes joint with 18mm header copper tubes ;</p> <p>Tempered Glass with low iron content 3.2mm thickness with 91.4% transmittance top cover;</p> <p>Melamin foam thermal insulation with thickness of 10mm for lateral insulation and mineral wool thermal insulation thickness of 40mm for back insulation;</p> <p>Enclosure side material made of Aluminum Case and Aluminum sheet for enclosure back material with Air filtration;</p> <p>Sealing material: EPDM</p>	<p><u>ECOTOP Brand</u></p> <p>VHM 2.1N</p>	<p>Gross area of 2.06 m²; Aperture area of 1.93 m² and Absorber area of 1.93 m²;</p> <p>Gross dimensions: 2020 x 1019 x 90 mm;</p> <p>Weight (dry & packed): 33.7 kg;</p> <p>Effective Thermal Capacity is 8.740 J/K;</p> <p>Fluid Content: 0.87 Liters;</p> <p>Absorber pipe dimensions: Header – 2 pcs. of 18 mm and Risers – 11 pcs. of 6mm;</p> <p>Distance between risers is 88mm;</p> <p>Flow pattern: Vertical tube-grid</p> <p>Maximum operating pressure is 10 bar;</p> <p>Maximum operating temperature is 250°C;</p> <p>Maximum stagnation temperature is 201.2 °C;</p> <p>Vertical installation (max. 90°)</p>
5.	<p><u>Glazed Flat Plate Solar Collector Model VHM 2.7N</u></p> <p>Absorber Materials: BlueTec Eta Plus Aluminum Sheet with 0.40mm thickness, 95% absorptance and 5% emittance, laser welded into 6mm riser copper tubes joint with 18mm header copper tubes ;</p>	<p><u>ECOTOP Brand</u></p> <p>VHM 2.7N</p>	<p>Gross area of 2.62 m²; Aperture area of 2.47 m² and Absorber area of 2.47 m²;</p> <p>Gross dimensions: 2020 x 1297 x 90 mm;</p> <p>Weight (dry & packed): 41.8 kg;</p> <p>Effective Thermal Capacity is 11.123 J/K;</p> <p>Fluid Content: 1.1 Liters;</p> <p>Absorber pipe dimensions: Header – 2 pcs. of 18 mm and Risers – 14 pcs. of</p>

DUBAI CENTRAL LABORATORY DEPARTMENT
DCL PRODUCT CONFORMITY CERTIFICATION SCHEME

SCOPE OF CERTIFICATION
FOR CERTIFICATE NO. CL17020459

	Tempered Glass with low iron content 3.2mm thickness with 91.4% transmittance top cover; Melamin foam thermal insulation with thickness of 10mm for lateral insulation and mineral wool thermal insulation thickness of 40mm for back insulation; Enclosure side material made of Aluminum Case and Aluminum sheet for enclosure back material with Air filtration ; Sealing material: EPDM		6mm; Distance between risers is 88mm; Flow pattern: Vertical tube-grid Maximum operating pressure is 10 bar; Maximum operating temperature is 250°C; Maximum stagnation temperature is 187.7 °C ; Vertical installation (max. 90°)
--	---	--	---

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 : 09 May 2017
Current Issue Date : 02 January 2021
Valid Until : 01 January 2022



ARIF HUSAIN AL MARZOOQI
Products Conformity Assessment Section Manager
Dubai Central Laboratory Department