



**SCHEDA PRODOTTO / PRODUCT FICHE**

Riferimenti / Reference: Directive 2010/30/EE, CDR812/2013, ANNEX V, POINT 2

Data/Date: 30/05/2024

Impianto solare termico / Solar water heater

Fornitore / Supplier: DianFlex S.r.l

Marchio / Brand: ATON

<b>Modello / Model:</b>	<b>Collettore / Collector:</b>	<b>Bollitore / Boiler</b>	<b>Certificato / Certificate</b>
415-KMN-160200	1 x 415-KC2000	415-KMB-160	OEM 9999.1.17
415-KMN-160237	1 x 415-KC2500	415-KMB-160	
415-KMN-200400	2 x 415-KC2000	415-KMB-200	
415-KMN-200474	2 x 415-KC2500	415-KMB-200	
415-KMN-250474	2 x 415-KC2500	415-KMB-250	
415-KMN-300474	2 x 415-KC2500	415-KMB-300	
415-KMN-500711	3 x 415-KC2500	415-KMB-500	



# CERTIFICATION LICENCE TO USE KEYMARK

Certificate No OEM 9999.1.17

*DQS Hellas grants the present certificate to the enterprise:*

**DIANFLEX SRL**

SS 19 KM 61, 84030 ATENA LUCANA (SA), Italy

*for the product:*

**Flat plate Solar Collectors with type**

ATON 415-KC1500, ATON 415-KC1500H, ATON 415-KC1800, ATON 415-KC1800H,  
ATON 415-KC2000, ATON 415-KC2000H, ATON 415-KC2500, ATON 415-KC2500H,  
ATON 415-KC2700, ATON 415-KC2700H

*which is produced in conformity with the normative document:*

**EN 12975-1:2011  
EN ISO 9806:2013**

*at the following location:*

**1o Km Inofyta – St. Thomas, Viotia**



**E 31**



*The present certificate is granted in accordance with:*

- *the DQS Hellas General Rules for the Certification of Products,*
- *the Specific Rule for Certification EKIII.001 «Specific Rule for Certification of Solar Collectors, and Thermal Solar Heating Systems for Domestic Hot Water»,*
- *the Specific CEN Keymark Scheme Rules for Solar Thermal Products,*

*and is ruled by the terms of the relevant contract between DQS Hellas and the enterprise.*

*Date of issue:* **2024-05-30**

*Date of valid:* **2025-05-30**

**Ioannis Alexiou**  
*Head of Products Certification*

**Panagiotis Giannoutsos**  
*Director of Certification*





Annex to Solar Keymark Certificate		Licence Number			OEM 9999.1.18										
Supplementary Information		Issued			2023-11-30										
<b>Gross Thermal Yield in kWh/collector at mean fluid temperature <math>\vartheta_m</math></b>															
Standard Locations		Athens		Davos		Stockholm		Würzburg							
Collector name	$\vartheta_m$	25°C	50°C	75°C	25°C	50°C	75°C	25°C	50°C	75°C					
ATON 415-KC1500		1.848	1.320	859	1.405	970	605	1.034	675	405	1.125	731	431		
ATON 415-KC1500H		1.848	1.320	859	1.405	970	605	1.034	675	405	1.125	731	431		
ATON 415-KC1800		2.243	1.601	1.042	1.705	1.177	734	1.254	819	491	1.365	886	523		
ATON 415-KC1800H		2.243	1.601	1.042	1.705	1.177	734	1.254	819	491	1.365	886	523		
ATON 415-KC2000		2.464	1.759	1.145	1.874	1.293	806	1.379	900	540	1.500	974	575		
ATON 415-KC2000H		2.464	1.759	1.145	1.874	1.293	806	1.379	900	540	1.500	974	575		
ATON 415-KC2500		2.920	2.085	1.357	2.221	1.532	955	1.634	1.066	639	1.778	1.154	682		
ATON 415-KC2500H		2.920	2.085	1.357	2.221	1.532	955	1.634	1.066	639	1.778	1.154	682		
ATON 415-KC2700		3.352	2.393	1.558	2.549	1.759	1.097	1.875	1.223	734	2.040	1.325	782		
ATON 415-KC2700H		3.352	2.393	1.558	2.549	1.759	1.097	1.875	1.223	734	2.040	1.325	782		
Gross Thermal Yield per m <sup>2</sup> gross area		1.232	880	573	937	647	403	689	450	270	750	487	288		
Annual efficiency, $\eta_a$		70%	50%	32%	57%	40%	25%	59%	39%	23%	60%	39%	23%		
Fixed or tracking collector		Fixed (slope = latitude - 15°; rounded to nearest 5°)													
Annual irradiation on collector plane		1765 kWh/m <sup>2</sup>			1630 kWh/m <sup>2</sup>			1166 kWh/m <sup>2</sup>			1244 kWh/m <sup>2</sup>				
Mean annual ambient air temperature		18,5°C			3,2°C			7,5°C			9,0°C				
Collector orientation or tracking mode		South, 25°			South, 30°			South, 45°			South, 35°				
The collector is operated at constant temperature $\vartheta_m$ (mean of in- and outlet temperatures). The calculation of the annual collector performance is performed with the official Solar Keymark spreadsheet tool Scenocalc Ver. 6.2 (13.01.2022). A detailed description of the calculations is available at <a href="http://www.estif.org/solarkeymarknew/">http://www.estif.org/solarkeymarknew/</a>															
<b>Additional Information</b>															
Collector heat transfer medium										Water-Glycole					
The collector is deemed to be suitable for roof integration										No					
The collector was tested successfully under the following conditions:															
Climate class (A+, A, B or C)										A		--			
G (W/m <sup>2</sup> ) >		1000		$\vartheta_a$ (°C) >		20		H <sub>x</sub> (MJ/m <sup>2</sup> ) >		600					
Maximum tested positive load										3000		Pa			
Maximum tested negative load										3000		Pa			
Hail resistance using steel ball (maximum drop height)										2		m			
<b>Additional collector attribute(s)</b>															
Using external power source(s) for normal operation										No		Active or passive measure(s) for self-protection		No	
Co-generating thermal and electrical power										No		Façade collector(s)		No	
<b>Energy Labelling Information</b>						<b>Additional Informative Technical Data</b>									
		Reference Area, A <sub>sol</sub> (m <sup>2</sup> )		Hydraulic Designation Code				Aperture Area, A <sub>a</sub> (m <sup>2</sup> )							
ATON 415-KC1500		1,50		9-V-1234S-A:7.2,1380-C:20.6,1080-D				1,38							
ATON 415-KC1500H		1,50		14-V-1234S-A:7.2,908-C:20.6,1560-D				1,38							
ATON 415-KC1800		1,82		11-V-1234S-A:7.2,1378-C:20.6,1300-D				1,72							
ATON 415-KC1800H		1,82		14-V-1234S-A:7.2,1128-C:20.6,1560-D				1,72							
ATON 415-KC2000		2,00		9-V-1234S-A:7.2,1878-C:20.6,1080-D				1,86							
ATON 415-KC2000H		2,00		18-V-1234S-A:7.2,908-C:20.6,2060-D				1,86							
ATON 415-KC2500		2,37		11-V-1234S-A:7.2,1828-C:20.6,1300-D				2,23							
ATON 415-KC2500H		2,37		18-V-1234S-A:7.2,1128-C:20.6,2010-D				2,23							
ATON 415-KC2700		2,72		11-V-1234S-A:7.2,2060-C:20.6,1320-D				2,57							
ATON 415-KC2700H		2,72		18-V-1234S-A:7.2,1158-C:20.6,2240-D				2,57							
Data required for CDR (EU) No 811/2013 - Reference Area A <sub>sol</sub>						Data required for CDR (EU) No 812/2013 - Reference Area A <sub>sol</sub>									
Collector efficiency ( $\eta_{col}$ )		60%		Zero-loss efficiency ( $\eta_0$ )				0,76		--					
Remark: Collector efficiency ( $\eta_{col}$ ) is defined in CDR (EU) No 811/2013 as collector efficiency of the solar collector at a temperature difference between the solar collector and the surrounding air of 40 K and a global solar irradiance of 1000 W/m <sup>2</sup> , expressed in % and rounded to the nearest integer. Deviating from the regulation $\eta_{col}$ is based on reference area (A <sub>sol</sub> ) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806:2017.		First-order coefficient ( $a_1$ )				3,59		W/(m <sup>2</sup> K)							
		Second-order coefficient ( $a_2$ )				0,014		W/(m <sup>2</sup> K <sup>2</sup> )							
		Incidence angle modifier IAM (50°)				0,96		--							
		Remark: The data given in this section are related to collector reference area (A <sub>sol</sub> ) which is aperture area for values according to EN 12975-2 or gross area for ISO 9806. Consistent data sets for either aperture or gross area can be used in calculations like in the regulation 811 and 812 and simulation programs.													
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