

**Qatar Standards Authority  
QS .....: 2014**

**Energy Labeling and Minimum Energy Performance for  
storage type water heaters**

# **ENERGY LABELLING AND MINIMUM ENERGY PERFORMANCE REQUIREMENTS FOR STORAGE TYPE WATER HEATERS**

ICS:

## **Introduction**

Water heaters are one of common appliance used in residential buildings, mosques and office buildings. The most common type of water heater used in Qatar is storage type electric water heater. Solar water heaters are gaining importance in recent days. Studies have shown that water heaters consume around 5% of annual consumption in residential buildings. This standard is developed to ensure that the energy efficiency aspects of storage water heaters are monitored and controlled.

This standard is set to take effect fully six (6) months following its publication in the Official Gazette of the State of Qatar

## 1. SCOPE & OBJECTIVE

### 1.1 Scope:

This standard establishes requirements for energy efficiency labeling of storage type electric water heater up to capacity of 500 liters. This standard does not apply to safety requirements of water heaters. This standard does not apply to instantaneous water heaters and water heaters that use gas, solid or liquid fuels, solar water heaters and water heaters designed for making hot drinks only.

### 1.2 Objective:

The objective of this standard is to:

- a) Provide detailed information on the performance and energy labeling requirements which an storage type water heater has to meet in order to carry a valid energy efficiency label; and
- b) Provide detailed information on the performance requirements which a storage type water heater has to meet in order to meet minimum energy performance standard requirements.

## 2. NORMATIVE REFERENCES

Updated editions of the following normative references are applied (Including any changes on these normative references).

- 2.1 **2.1 GSO IEC 60379:2014** – Methods for measuring the performance of electric storage water-heaters for household purposes

## 3. TERMS AND DEFINITIONS

For the purpose of this standard, the following terms shall apply:

- 3.1 **Authorized representative** – means any natural or legal person established in the QATAR, having a valid trade license, who has received a written mandate from the manufacturer or from the Own Brand Labeler to perform on his behalf all or part of the obligations and formalities connected with this standard.
- 3.2 **End-user** – means a natural person buying or expected to buy a product for purposes which are outside his trade, business, craft or profession.
- 3.3 **QS – Qatar General organization for standardization**, the national authority mandated to implement this standard.
- 3.4 **IEC CB Test Report and Certificate** – is a type of test report and certificate issued by an IEC Recognized Laboratory under the CB Scheme of International Electro technical Commission (IEC).

- 3.5 IEC Recognized Laboratory** – a competent third party laboratory capable of performing tests and issues an IEC CB Test Report and Certificate based on applicable IEC standards.
- 3.6 Importer** – means any natural or legal person established in the QATAR who places a product from another country on the QATAR market in the course of his business.
- 3.7 Manufacturer** – means the natural or legal person who manufactures products covered by this Regulation and is responsible for their conformity with this Regulation in view of their being placed on the market and/or put into service under the manufacturer’s own name or trademark or for the manufacturer’s own use. In the absence of a manufacturer as defined in the first sentence of this point or of an importer, any natural or legal person who places on the market and/or puts into service products covered by this Regulation shall be considered a manufacturer.
- 3.8 Own Brand Labeler (Private Labeler)** – an own brand labeler (OBL) purchases a finished (or component parts of a) product from the Original Equipment Manufacturer (OEM) which he then places on the market under his own name or trade mark (brand label). This Own Brand Labeler may not be the person who actually designs, manufactures, packages or labels the device.
- 3.9 Placing on the Market** – means making a product available for the first time on the Qatar market with a view to its distribution or use within the Qatar, whether for reward or free of charge and irrespective of the selling technique.
- 3.10 Point of Sale or Vendor** – means a physical location where the product is displayed or offered for sale, hire or hire-purchase to the end-user. Showrooms are also included under this definition.
- 3.11 Product** – an equipment, system or part which is included in the list of regulated products under this regulation.
- 3.12 Retailer** – means an entity or a person who sells, hires, offers for hire-purchase or displays products to end-users.
- 3.13 Supplier** – a manufacturer and/or trader responsible for the product covered by this specific Requirement.

Other terms and definitions, details listed normative references in section 2 shall also apply

#### **4. REGISTRATION REQUIREMENTS**

- 4.1** The information about registration requirement for energy labeling and MEPS will be available in [Qatar General Organization For Standardization](#).

**4.2** For registration of an water heater energy labeling and MEPS with a test report in accordance with recent edition of **GSO IEC 60379:2014** An application shall be provided for each model, in accordance with Appendix A, and submitted to the registration body.

**4.3 Energy Label Validity (Check Testing)**

The energy label shall be accepted as valid when a single sample of an appliance or unit model, tested for an initial screening test, meets the performance as per the test certificate provided during the registration of the product.

**5. MEPS**

The minimum energy performance standard MEPS value for the water heater in the scope of this standard is defined by Standing Loss ( $\zeta_{24h}$ ) measured in W/24 hr. The standing loss per 24h ( $\zeta_{24h}$ ) shall be less than  $21 + 10.33V^{0.4}$  , Where V is the rated capacity of water heater in liters.

The standing loss per 24h ( $\zeta_{24h}$ ) shall be calculated as per accordance with recent edition of **GSO IEC 60379:2014**

**6. NAME PLATE AND INSTRUCTION SHEET OR MANUAL**

In addition to any information needed to be displayed on the water heater the following information shall be marked in Arabic or English or both. The marking shall not be on a detachable part of the unit and shall be indelible, durable and easily legible.

Any information related energy performance added showed in any part of the water heater or its package shall not have any ambiguity or lead to miss understanding of the performance of the heater.

**6.1** The information on the name plate in Arabic or English or both shall include at least:

- Manufacturer's name and/or trademark.
- Country of origin.
- Manufacturer's model or type reference and serial number of the unit.
- Rated voltage or rated voltage range (Volts) **as per Qatar Standard(QS GSO 1899)**.
- Rated frequency (Hz) **as per Qatar Standard(QS GSO 1899)**.
- .
- Rated current in Amperes.

- Rated Capacity
- Rated power input in watts or kilowatts.

**6.2** An instruction sheet or manual in both Arabic and English shall be delivered with each water heater, including the following information:

- The information specified in clause 6.1.
- Dimensions of the unit and its method of mounting.
- Minimum clearances between the various parts of the unit and the surrounding framework.
- Instructions necessary for the correct operation of the unit and any special precautions to be observed to ensure its safe use and maintenance.
- Instruction for packing and unpacking the unit.
- Weight of the unit.
- Any other additional information

## 7. ENERGY RATING CLASSIFICATION

**7.1** The energy efficiency class rating is used for storage type electric water heaters up to capacity of **500 Litres**

**7.2** The energy efficiency class is determined by standing loss (W)/24 hr. tested according to **GSO IEC 60379:2014**

Standing Loss W/24h	Star Rating	Status
$\zeta_{24h} < 5.5 + 3.16V^{0.4}$	5	Applied
$5.5 + 3.16 V^{0.4} \leq \zeta_{24h} < 12 + 5.93 V^{0.4}$	4	Applied
$12 + 5.93 V^{0.4} \leq \zeta_{24h} < 21 + 10.33 V^{0.4}$	3	Applied
$21 + 10.33 V^{0.4} \leq \zeta_{24h} < 31 + 16.66 V^{0.4}$	2	Not Applicable
$\zeta_{24h} > 31 + 16.66 V^{0.4}$	1	Not Applicable

**Star Rating Standing Loss ( $\zeta_{24h}$ ) in Watts, with Storage Volume in Liters**



## 8. ENERGY LABELLING REQUIREMENTS

### 8.1 Information and Values Contained in the Energy Labels

The More Stars The Lower Energy Consumption  
كلما زاد عدد النجوم قل استهلاك الطاقة الكهربائية

**5**

**بطاقة كفاءة الطاقة**  
**ENERGY EFFICIENCY LABEL**

استخدم هذه البطاقة للأشياء المختلفة من سخانات المياه الكهربائية  
Use this label to compare different types of electric storage water heaters

<b>This water heater:</b>	<b>هذا السخان :</b>
Model:	علامة تجارية :
Brand:	مطراز :
Liters:	لتر :
Annual Energy Consumption	الاستهلاك السنوي للطاقة
kwh/year*	كيلو واط ساعة / سنة

\*\*\*Energy consumption in test conditions\*\*\*  
"استهلاك الطاقة في ظروف الاختبار"

KAHRA MAA  
كهرماء

QATAR STANDARD

ترشييد  
Tarsheed

إزالة أو تغطية أو العبث بهذه البطاقة قبل البيع يعرضك للمساءلة القانونية  
The removal, covering or damaging of this label before sale is punishable by law



## 8.2 Sample Labels

### Sample Label – 3 Star

The More Stars The Lower Energy Consumption  
كلما زاد عدد النجوم قل استهلاك الطاقة الكهربائية

**3**

**بطاقة كفاءة الطاقة**  
**ENERGY EFFICIENCY LABEL**

استخدم هذه البطاقة للأغراض المختلفة من سخانات المياه الكهربائية  
Use this label to compare different types of electric storage water heaters

**This water heater:** هذا السخان:

Model:	علامة تجارية:
Brand:	مرايز:
Liters:	لتر:
Annual Energy Consumption	الاستهلاك السنوي للطاقة
kwh/year*	كيلوواط ساعة / سنة

\*"استهلاك الطاقة في ظروف الاختبار"  
\*\*Energy consumption in test conditions

KAHRA MAA  
QATAR STANDARD  
ترشييد  
Tarsheed

إزالة أو تغطية أو العبث بهذه البطاقة قبل البيع يعرضك للمساءلة القانونية  
The removal, covering or tampering with this label before sale is punishable by law

Sample Label – 4 Star

The More Stars The Lower Energy Consumption  
كلما زاد عدد النجوم قل استهلاك الطاقة الكهربائية

**4**

**بطاقة كفاءة الطاقة**  
**ENERGY EFFICIENCY LABEL**

استخدم هذه البطاقة لأنواع المختلفة من سخانات المياه الكهر بائية  
Use this label to compare different types of electric storage water heaters

This water heater: هذا السخان ،

Model: علامة تجارية ،

Brand: طراز ،

Liters: لتر ،

Annual Energy Consumption الاستهلاك السنوي للطاقة

kwh/year\* كيلو واط ساعة / سنة

\*\*\*Energy consumption in test conditions\*\*\*  
"استهلاك الطاقة في ظروف الاختبار"

KAHRRA MAA  
QATAR STANDARD  
Tarsheed

إزالة أو تغطية أو العبث بهند البطاقة قبل البيع يمرضك للمساءلة القانونية  
The removal, covering damaging of this label before sale is punishable by law

Sample Label – 5 Star

The label is a purple arch-shaped sticker with a large yellow star in the center containing the number '5'. The star is surrounded by a ring of smaller yellow stars. The text 'The More Stars The Lower Energy Consumption' is written in English on the left and in Arabic on the right. Below the star, the text 'بطاقة كفاءة الطاقة' and 'ENERGY EFFICIENCY LABEL' is displayed. The main body of the label contains instructions in Arabic and English, followed by a table for recording product details and energy consumption. At the bottom, there are logos for KAHRRA, MAA, QATAR STANDARD, and Tarsheed, along with a legal disclaimer in Arabic and English.

استخدم هذه البطاقة للأغراض المختلفة من سخانات المياه الكهربية  
Use this label to compare different types of electric storage water heaters

This water heater:	هذا السخان:
Model:	علامة تجارية:
Brand:	طرز:
Liters:	لتر:
Annual Energy Consumption	الاستهلاك السنوي للطاقة
kwh/year*	كيلو واط ساعة / سنة

\*Energy consumption in test conditions  
\*استهلاك الطاقة في ظروف الاختبار

إزالة أو تغطية أو العبث بهذه البطاقة قبل البيع يعرضك للمساءلة القانونية  
The removal, covering, damaging of this label before sale is punishable by law

Sample Label – 6 Star

The More Stars The Lower Energy Consumption  
كلما زاد عدد النجوم قل استهلاك الطاقة الكهربائية

**6**

**بطاقة كفاءة الطاقة**  
**ENERGY EFFICIENCY LABEL**

استخدم هذه البطاقة للأشكال المختلفة من سخانات المياه الكهربائية  
Use this label to compare different types of electric storage water heaters

<b>This water heater:</b>	<b>هذا السخان:</b>
Model: <input type="text"/>	علامة تجارية، <input type="text"/>
Brand: <input type="text"/>	طراز، <input type="text"/>
Liters: <input type="text"/>	لتر، <input type="text"/>
Annual Energy Consumption <input type="text"/> <b>kwh/year*</b>	الاستهلاك السنوي للطاقة كيلو واط ساعة / سنة <input type="text"/>

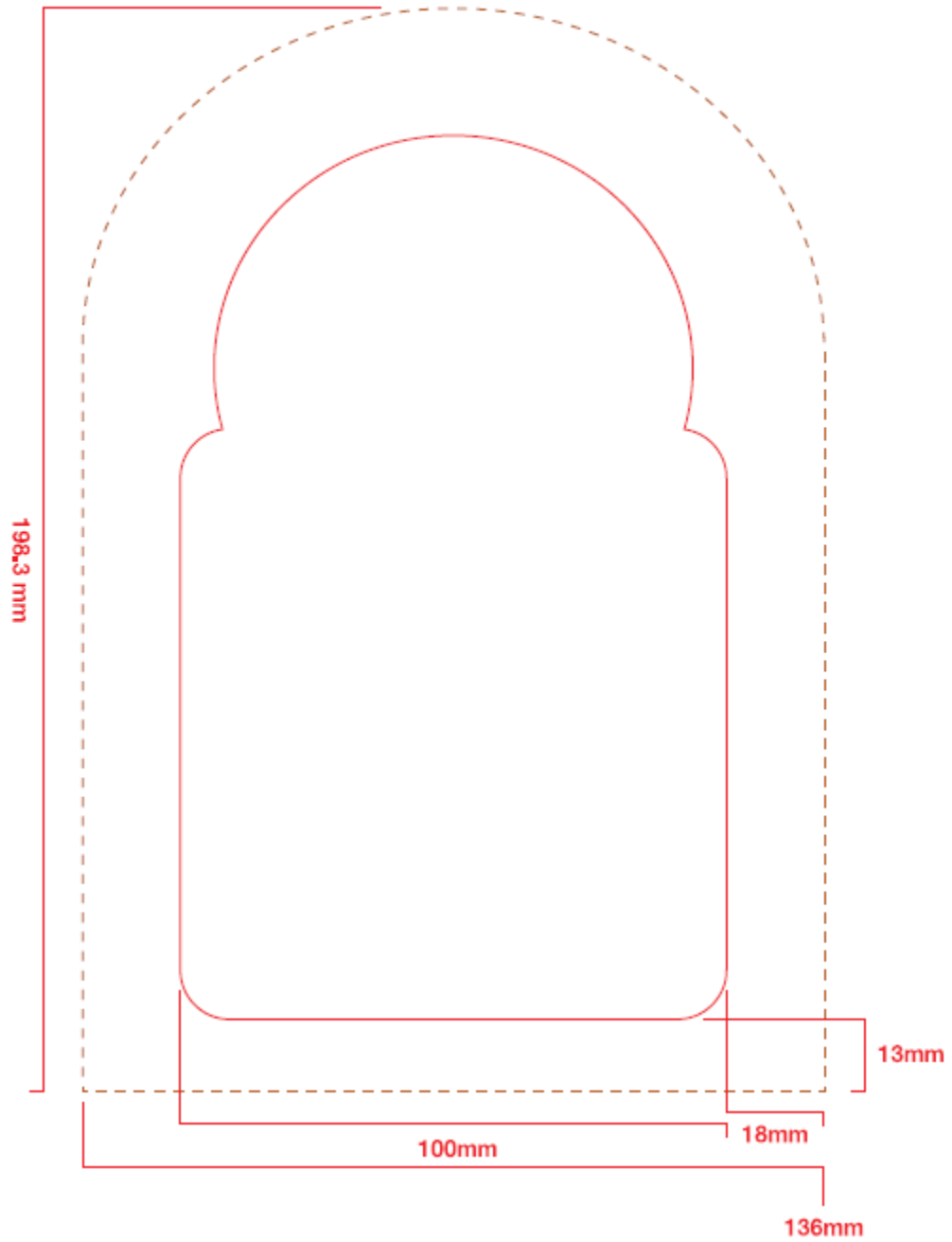
\*"استهلاك الطاقة في ظروف الاختبار"  
\*\*"Energy consumption in test conditions"

إزالة أو تغطية أو العبث بهذه البطاقة قبل البيع يعرضك للمساءلة القانونية  
The removal, covering damaging of this label before sale is punishable by law

### 8.3 Dimensions of Labels

Die Line ——— Crease Line - - - - -



#### **8.4 Placement of Energy Labels**

The label shall be adhered, or attached as a swing tag, on the front of the unit. Additional label may be attached to the exterior of the packaging. The label shall be existed on the unit when the unit is removed from its packaging for display purposes.

## 8.5 Text and Color Configuration

### Label for electric storage water heaters

TEXT & COLOR CONFIGURATION ELECTRIC STORAGE WATER HEATER  
ENERGY EFFICIENCY LABEL



- 1 AXtManalBLack 10.4 pt
- 2 Arial 7.75 pt
- 3 Helvetica Neue LT Pro (85 Heavy) 47.31 pt
- 4 AXtManalBLack 23.62 pt
- 5 Helvetica Neue LT Pro (65 Medium) 10.63 pt
- 6 AXtManalBLack 13.08 pt
- 7 Helvetica Neue LT Pro (65 Medium) 11.95 pt
- 8 AXtManalBLack 15 pt
- 9 Helvetica Neue LT Pro (65 Medium) 12 pt
- 10 AXtManalBLack 11 pt
- 11 Helvetica Neue LT Pro (65 Medium) 9 pt
- 12 Helvetica Neue LT Pro (65 Medium) 8.09 pt
- 13 Helvetica Neue LT Pro (65 Medium) 14.78 pt
- 14 AXtManalBLack 11 pt
- 15 Helvetica Neue LT Pro (65 Medium) 9 pt
- 16 Tarsheed Logo
- 17 Kahramaa Logo
- 18 Qatar Standards Logo
- 19 AXtManalBLack 10.63 pt
- 20 Arial 7.7 pt

**APPENDIX A**  
**APPLICATION FOR REGISTRATION OF**  
**WATER HEATER FOR ENERGY LABELLING AND MEPS**  
(Please type or print)

This Appendix sets out the required format for submitting an application for registration of storage water heater for energy efficiency label

**PART 1 APPLICANT INFORMATION**

Applicant Name : .....

Company Name: .....

Company Address: .....

P.O. Box : ..... Post Code:.....

Contact Person: (Name and Address and workplace in each sales country)

Job Title: .....

Phone: ..... Fax: ..... Electronic Mail: .....

Supplier or Vendor in **Qatar**:

No.	Supplier or Vendor Name	Contact Address (Mail Address, Phone, Fax, Electronic Mail)	License Number or Commercial Licenses (related to import and sale of goods in the kingdom)



**Part 2 DESCRIPTION OF THE APPLIANCE**

Model Name <i>(if available)</i>					
Model Number or Family Number:					
Model Number: (on indoor unit for split systems)					
Model Number on Outdoor Unit: (split systems only)					
Other Model Numbers to be included under this registration:					
Country of Origin:					
Year in which model first available in <b>Qatar</b> :					
Model Number(s) to appear on the Energy Label:					
Date of manufacture traceability: <b>Is the date of manufacture permanently marked on the rating plate in a non-encrypted format?</b>  If yes, provide an example of the date format.  If no, provide details on how to determine (from the serial number or other permanent markings for this model)	<table border="1"><tr><td>Yes</td><td>No Provide details:</td></tr><tr><td>Date format:</td><td></td></tr></table>	Yes	No Provide details:	Date format:	
Yes	No Provide details:				
Date format:					

<p>Does this model or family replace or supplement another model or family with identical energy consumption and energy efficiency rating?</p> <p><i>(indicate correct answer)</i></p>	Yes		No
<p>If yes, indicate relevant details:</p>	Model name	Model number	Registration number
<p>Information about the components used in the manufacturing:</p> <p>There must be complementary documents for the materials used in the Manufacturing including drawings and figures and technical specifications and product model accreditation (if any) for each of the components mentioned here.</p>			

<p><b>Part 3 TESTING AND TEST REPORT</b></p>	
<p>Test Laboratory Type:</p> <p>(put (√) inside the appropriate box)</p>	<p><input type="checkbox"/> Own 'in-house' laboratory:</p> <p><input type="checkbox"/> Independent laboratory:</p>
<p>Test Laboratory Name:</p>	
<p>Test Laboratory Address:</p>	
<p>Test Laboratory Location:</p>	<p><input type="checkbox"/> Qatar</p> <p><input type="checkbox"/> Other—<i>(please specify)</i>:</p>
<p>Test Laboratory Accreditation:</p>	<p><input type="checkbox"/> Accredited from a body member in (ILAC)</p>
<p>Test Standard Used:</p>	<p><input checked="" type="checkbox"/> GSO IEC 60379:2014</p>

Serial number of test units/s and date tested:	SERIAL NUMBER	Test date
	Rated voltage or Rated voltage range (V)	
	Rated frequency (Hz)	