



## **LIFE Integrated Projects 2016**

### **Optimising the implementation of the 2<sup>nd</sup> RBMP in the Malta River Basin District**

**LIFE 16 IPE MT 000008**



#### **Action C.2:**

#### ***Water Eco-label Scheme***

**Deliverable 2A.1: Analysis of European Directives, Regulations and Guidance/Technical Documents on Eco-labels**

***August 2023***



19<sup>th</sup> July 2023

## **Deliverable 2A.2**

**Development and establishment of a national voluntary water Eco-Labeling Scheme for Water Efficient Devices and Appliances**

Energy and Water Agency

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## Activity 2A: Analysis of Eco-labels at European and International level

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## Introduction

The purpose of this report is to satisfy the requirements of Deliverable 2A.2 for the contract Development and establishment of a national voluntary water Eco-Labeling Scheme for Water Efficient Devices and Appliances. In line with contract requirements, this report seeks to:

- locate and investigate the most recent European directives, regulations and guidance/technical documents related to water eco-design.
- determine whether the current ecolabels and standards included in Deliverable 2A.1 are established at voluntary or mandatory level.
- determine the present water eco-labels' conformity with existing directives, regulations, and guidance/technical documents.
- identify the major regulatory/technical requirements that will lead the development of a Maltese water eco-label.

## Identification and analysis of the European directives, regulations and guidance/technical documents in relation to water eco-design

A short introduction to the main regulations and technical documents identified related to water eco-design is included hereunder. Each one identified is then described in more detail in the following section.

- A. Directive EU 2013/250/EU on **EU EcoLabel for sanitary tapware products**: The directive specifies the ecological standards while considering resource efficiency, energy efficiency, water efficiency, emissions, and dangerous substances. Through the adoption of these standards, tapware products are promoted as being as ecologically benign as possible during all stages of its lifecycle—production, usage, and disposal.
- B. Directive 2009/125/EC on **Eco-design for Energy-related products**: This directive establishes a framework for setting requirements for the environmental performance of energy-related products, including those related to water use (water use is intended as an environmental aspect during the manufacturing processes of the products). It aims to promote the design of products that are more energy-efficient and have lower environmental impacts.<sup>i</sup>

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- C. Regulation (EU) 2017/1369 on **Energy Labelling**: This regulation provides a framework for the energy labelling of energy-related products, including water-using products. It requires manufacturers to provide energy efficiency information on product labels to help consumers make informed choices.
- D. Regulation (EC) No 66/2010: This regulation was established in 2009 and is currently still in force. It establishes the **framework for the EU Ecolabel Regulation** which is a European Union legislation that defines the foundation for the EU Ecolabel scheme. The EU Ecolabel is a voluntary environmental labelling scheme designed to promote environmentally friendly products and services throughout the European Union. This label is identified throughout this report. As outlined in Deliverable 2A.1, while this regulation is still active and the EU Ecolabel is in operation for several product types, it is no longer active for water related products. It was not possible to get a clear answer as to why the sanitary tapware group was removed from the EU Ecolabel, however we know that at the same time that this regulation was revoked, the UWLA came into force, which the EU Commission requested to the European Bathroom Forum to unify their label with other European water efficiency labels, the result of which was the UWLA. Please refer to report for deliverable 2A.1 for further details.
- E. Commission Recommendation (EU) 2016/2125: These recommendations have the objective to **create a framework of guidelines to ensure that an ecodesign self-regulation measure will be considered by the Commission**.
- F. ISO 31600:2022: This document specifies **requirements for a water efficiency labelling programme for plumbing products and water using appliances** along with guidance for their implementation. This document applies to the following products: showers; tap (faucet) equipment; flow regulators (flow controllers); water closet (toilet) equipment; urinal equipment; dishwashers; clothes washing machines; the dryer function of combination washer/dryers, where they use water to dry a load.
- G. ISO 14024 type 1: ISO 14024 is an international standard that defines the **standards for environmental labelling programmes of Type I**. The latter are environmental labels which are voluntary, third-party certified, and that provide information about a product's or service's environmental performance. This

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standard covers voluntary, third-party environmental labels of any kind of good or service.

H. AS/NZS 6400:2016: This Australian and New Zealand Standard is titled "**Water efficient products—Rating and labelling.**" It establishes standards and requirements for water-efficient product rating and labelling in Australia and New Zealand. The ISO 31600:2022 international standard is based along others on the Australian WELS Scheme Standard.

These are described in more detail in the following pages.

### A. Directive EU 2013/250/EU

**Title:** Establishing the ecological criteria for the award of the EU Ecolabel for sanitary tapware.

**Product Group:** The product group 'sanitary tapware' comprises of household taps, showerheads and showers which are mainly used to derive water for personal hygiene, cleaning, cooking and drinking, including when they are marketed for non-domestic use. The following products shall be excluded from the product group 'sanitary tapware':

- a) bathtub taps;
- b) double lever/handle showers;
- c) non-domestic special purpose sanitary tapware.

**Status of the Directive:** Revoked on 31/12/2020<sup>ii</sup>. It was not possible to get a clear answer as to why the sanitary tapware group was removed from the EU Ecolabel, however we know that at the same time that this regulation was revoked, the UWLA came into force, which the EU Commission requested to the European Bathroom Forum to unify their label with other European water efficiency labels, the result of which was the UWLA. Please refer to report for deliverable 2A.1 for further details.

**Details of the Directive:** Established on 21st of May 2013 and further amended on 31st of May 2013.

**Description of the Directive:** The European Economic Area (EEA) was affected by this regulation. It laid down the requirements that sanitary tapware had to fulfil in order to qualify for the EU Ecolabel (currently ceased – reference to Deliverable 2A.1.<sup>iii</sup>).

According to a life cycle perspective, the directive specified the ecological standards while taking into account things like resource efficiency, energy efficiency, water efficiency, emissions, and dangerous substances.

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Manufacturers could apply for and use the EU Ecolabel on their sanitary tapware goods by meeting the ecological requirements listed below:

1. Water consumption and related energy saving
2. Materials in contact with drinking water
3. Excluded or limited substances and mixtures
4. Product quality and longevity
5. Packaging
6. User information
7. Information appearing on the EU Ecolabel

Each criteria's requirements and verification methodology are outlined within the regulation. It is advised to visit the regulation's website for full details of each<sup>iv</sup>. Consumers were given a trustworthy indication of a product's environmental performance by the EU Ecolabel, enabling them to make more environmentally friendly purchase decisions.

This Directive was created to establish the ecological criteria for the award of the EU Ecolabel for sanitary tapware<sup>v</sup>. There are no existing eco-labels that declare conformity with this Directive. The Directive was repealed at the end of 2020.

## B. Directive 2009/125/EC

**Title:** Establishing a framework for the setting of eco-design requirements for energy-related products

**Product Group:** No particular products listed within the Directive. The latter refers to all energy-using products.

**Specific Consideration:** Although this Directive refers to Energy-related products in Point (4) of the Directive also refers to water-using products such as shower heads or taps, in terms of energy savings - details as follows:

*"(4) Many energy-related products have a significant potential for being improved to reduce environmental impacts and to achieve energy savings through better design which also leads to economic savings for businesses and end-users. In addition to products which use, generate, transfer, or measure energy, certain energy-related products, including products used in construction such as windows, insulation materials, or some water-using products such as shower heads or taps could also contribute to significant energy savings during use."*

**Status of the Directive:** In force.



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**Details of the Directive:** Established on 21st of October 2009 and further amended eight times<sup>1 vi</sup>.

**Description of the Directive:** The Directive creates a framework for the eco-design of energy-related products. By establishing minimum standards for energy efficiency and other environmental criteria (including raw material selection and use, which may include water use efficiency) during the design phase, it seeks to improve the environmental performance of products over the course of their entire life cycles.

The directive is applicable to a wide range of energy-related products, including industrial machinery, home appliances, heating and cooling systems, lighting products, and more. Both products that directly consume energy and those that indirectly affect energy usage are included.

**Eco-design Requirements:** The directive outlines eco-design requirements, laying out minimum energy efficiency benchmarks, product performance, and environmental standards. These specifications are developed through a thorough analysis of the product's life cycle, taking into account elements like energy use, resource use, emissions, and waste generation.

**Implementing Measures:** The European Commission adopts implementing measures to establish particular eco-design requirements for various product classes. Such requirements are listed within Annex 1 of the Directive<sup>vi</sup>. Some of the eco-design requirements which can be found within Annex 1 of the regulation refer to: Ecodesign parameters for products. The latter are listed within the Directive as follows:

"In so far as they relate to product design, significant environmental aspects must be identified with reference to the following phases of the life cycle of the product:

- (a) raw material selection and use;
- (b) manufacturing;
- (c) packaging, transport, and distribution;
- (d) installation and maintenance;

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<sup>1</sup> Council Directive 2013/12/EU of 13 May 2013

Directive (EU) 2018/844 of the European Parliament and of the Council of 30 May 2018

Directive (EU) 2018/2002 of the European Parliament and of the Council of 11 December 2018

Directive 2018/1999 of the European Parliament and of the council of 11 December 2019

Decision (EU) 2918/504 of the European Parliament and of the Council of 19 March 2019

Commission Delegated Regulation (EU) 2019/826 of 4 March 2019

Directive (EU) 2019/944 of the European Parliament and of the Council of 5 June 2019

Commission Delegated Regulation (EU) 2023/807 of 15 December 2022

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(e) use; and end-of-life, meaning the state of a product having reached the end of its first use until its final disposal.”

The objectives of the directive must be met by manufacturers who must adhere to these measures' comprehensive technical specifications, testing procedures, and other pertinent requirements.

**Conformity Evaluation and CE Marking:** It is the duty of manufacturers to make sure that their products adhere to the relevant eco-design standards. Before putting goods on the European market, they must conduct conformity assessments, declare conformity, and apply the CE label.

**Regular Review and Revision:** The directive is periodically reviewed and revised to reflect changes in the market, the growth of technology, and environmental objectives. As a result, the requirements for eco-design may change or grow over time.

**Interaction with Other Regulations:** To ensure coherence and complementarity in promoting energy efficiency and environmental performance, this Directive interacts with other EU regulations and directives such as the energy labelling regulation (e.g., Regulation (EU) 2017/1369).

By promoting the design and manufacture of more energy-efficient, resource-efficient (this refers to all types of “resources” such as petroleum substances, energy, water and particularly raw materials), and environmentally friendly products, this Directive seeks to lessen the environmental effect of energy-related products. It aims to support the EU's environmental and energy goals, including lowering greenhouse gas emissions and fostering sustainable production and consumption of all types of resources.

### C. Regulation (EU) 2017/1369

**Title:** Setting a framework for energy labelling

**Status of the Regulation:** In Force

**Product Group:**

The regulation applies to a variety of product categories, including<sup>vii</sup>:

- Refrigerators, washing machines, dishwashers, ovens, air conditioners, and vacuum cleaners are examples of household appliances.
- a wide range of lighting sources, such as lamps, luminaires, and light sources such as LED bulbs.
- Heating and cooling appliances including boilers, heat pumps, heaters, and air conditioning systems.
- water heating products such as electric, gas and solar water heaters.
- Televisions and electronic displays

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- Ventilation and air conditioning systems, and fans

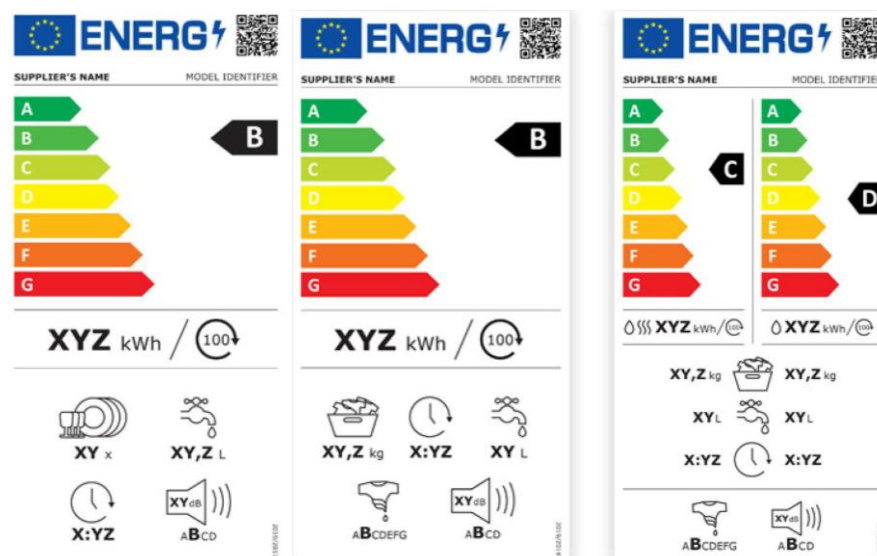
**Details of the Regulation:** Established on 4th July 2017 and amended on 01/05/2021 by the Legislation Regulation (EU) 2020/740 of the European Parliament and the Council of 25 May 2020<sup>viii</sup>

### Description of the Regulation:

This Regulation promotes the development, customer acceptance, and market adoption of energy smart products that can be activated to interact with other appliances and systems, including the energy grid itself, to improve energy efficiency or the uptake of renewable energies, reduce energy consumption, and foster innovation in industry within the European Union.

Under the Regulation, a standardized system for energy efficiency labelling has been established. This system includes an energy label with a range from A to G, with A being the most energy-efficient. The labels include details on a product's energy usage and other performance parameters. Water consumption per cycle is included for washing machines and driers and dishwashers, as mentioned below. However the regulation itself only refers to energy.

The most recent version of the label was established on 1<sup>st</sup> September 2021. It has a QR code that customers can use to access more product details from the European Product Registry for Energy Labelling (EPREL) database. Figure 1 shows the Label's layout/visual. This Regulation aims to enable consumers to make knowledgeable purchasing decisions. Consumers can choose products that are more energy-efficient and environmentally friendly by taking the energy label and related information into consideration.



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*Figure 1: (Left to right) Latest EU Energy Labels for dishwashers, washing machines and washer-driers<sup>ix</sup>,*

The designs displayed in Figure 1 are the template for the design of the product. "XYZ" represents the placeholder where the data would be entered when making a label for a specific product. Eg: 15.2 litres.

It is noted that the EU Energy Label this label *can* include some points related to water efficiency. Indeed, the labelling for dishwashers, and washing machines & washer-driers shows the amount of water used per cycle (expressed in litres). However, this is the only point related to water efficiency included in the label and water efficiency is not mentioned in the regulation itself.

## **D. Regulation (EC) No 66/2010**

**Title:** Regulation (EC) No 66/2010 of the European Parliament and Council on the EU Ecolabel

**Status of the Regulation:** In Force

**Products covered:** The legislation establishes the eligibility criteria and regulations for obtaining and using the EU Ecolabel. It includes, but is not limited to, the following product categories:

- Cleaning supplies and detergents
- Cosmetics and personal care
- Clothing and textiles
- Furniture
- Electronic and electrical equipment
- Products made from paper
- Services for tourist lodging

**Details of the Regulation:** Established on 25<sup>th</sup> November 2009 and its latest amendment was carried out on 14/11/2017<sup>x</sup>. The regulation was amended to include an application fee and to add some specifics to the visual label.

### **Description of the Regulation:**

The EU Ecolabel requirements use a life cycle approach, taking into account issues including raw material extraction, manufacture, distribution, usage, and disposal. Products that meet the environmental performance standards can be given the EU Ecolabel, allowing them to bear the label and be recognised as environmentally preferred

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options. As described in the report for Deliverable 2A.1, this label is still active for the categories of products outlined above (and is indeed also open to the inclusion of other products in the future) but it is no longer active for water related products.

## E. Recommendation (EU) 2016/2125

**Title:** Guidelines for self-regulation measures concluded by industry

**Status of the Recommendation:** It seems that such recommendations are still in force<sup>xixii</sup>

**Products covered:** These recommendations refer to the legislation identified above (Directive 2009/125/EC on Establishing a framework for the setting of eco-design requirements for energy-related products). Therefore, the product covered within these recommendations are related to all energy-using products.

**Details of the Recommendation:** These recommendations have been established on 30<sup>th</sup> November 2016

**Description of the Recommendation:** The purpose of these Guidelines is to ease the process to set up and implement self-regulation mechanisms in accordance with the Directive 2009/125/EC). They are intended to support industry and make uniform implementation of the self-regulation measures (as outlined in Directive 2009/125/EC) possible.

"Self-regulation" means that eco-design is led, implemented and certified by industry itself. If the requirements of this Recommendation (EU) 2016/2125 and the requirements outlined in Annex 1 of the Directive 2009/125/EC are met, the energy related products will be considered as eco-designed and acceptable under these regulations.

Therefore, following these Guidelines will help to ensure that the Commission will accept an eco-design self-regulation measure as a valid alternative to an implementing measure. The latter refer in these recommendations as "mandatory" (ie: required by law) measures. It is worth noting that this is only eco-design for energy-related products.

## F. ISO 31600:2022

ISO 31600:2022 is a recognised global standard which provides recommendations to develop and implement a water efficiency labelling system for plumbing goods and water-using appliances. This standard helps countries to establish criteria and technical

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recommendations for the creation of water labelling based on the specific need of the country.<sup>xiii</sup>

The ultimate objective of the Standard ISO 31600:2022 is to globally promote the creation of national standards for water efficiency labelling, with the aim that this will lead to increased development and marketing of water efficient products. Also, it will enable consumers to make an informed decision, and manufacturers will be influenced to enhance the performance of their products through consumer demand.

Figure 2 provides a visual displaying the steps to be compliant with the Standard.

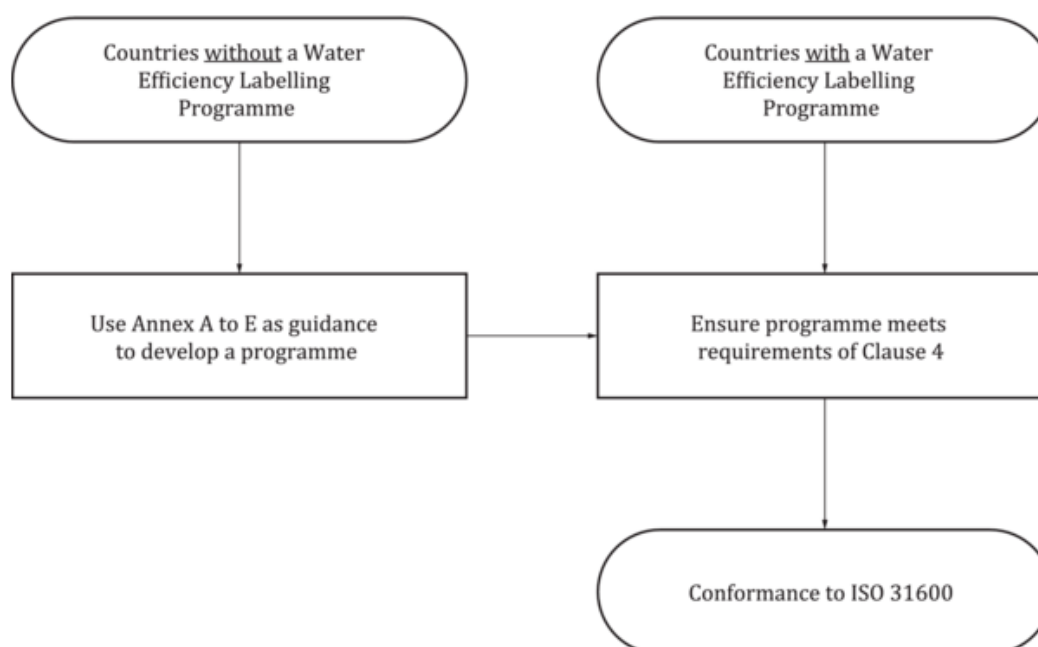


Figure 2: Pathway to ISO 31600 conformance

The main requirements for a water-efficiency labelling scheme are specified in Clause 4 of the Standard. The following is a list of the requirements of this clause:

- Conformance to national regulations and national standard(s) of plumbing products
- Determination of flow rate, spray coverage and testing requirements for showers
- Determination of flow rate, water consumption, spray coverage and testing requirements for taps
- Determination of flow rate and testing requirements for flow regulators
- Determination of components, water flush, water consumption and testing requirements for toilets and urinals

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The requirements for washing machines, dishwashers and combination of washers/dryers are included within clause 5 of the standard. The aforementioned clause has different requirements for each category of product. The table below shows the main requirement for the type of product:

Dishwashers	Clothes washers	Combination washers/dryers
Determination of specific water efficiency	Rating	A single load washed and dried in a continuous operation
Rating	Determination of Results	A single load washed in 1 operation and dried in 2 operations
Determination of Results		A single load washed only
		A single load dried only
		Rating
		Determination of Results

Moreover, Annex B and E of the standard, provides labelling programmes of some countries which were consulted prior the creation of this standard. The labels listed below are described as examples to adopt and consult when creating a Water-Efficiency Label scheme:

- Australia (WELS)
- China (CWEL)
- Europe (Unified Water Label)
- Singapore Water Efficiency Labelling Scheme (MWELS)
- United States ([EPA](#))

## G. ISO 14024:2018



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ISO 14024 specifies the criteria and concepts that should be followed by Type I environmental labelling programmes. These programmes often involve a thorough assessment of a product's life cycle, taking into account elements such as resource usage, energy consumption, emissions, waste generation, and other environmental implications.

Type I ecolabels take a comprehensive approach to environmental issues. Type I Ecolabelling establish requirements for products and service in respect to aspects of climate effect, biodiversity, hazardous chemicals, and the circular economy. Furthermore, the standard establishes criteria for general requirements of certification, compliance and monitoring of compliance with the Standard. These include:

- **Stakeholder Engagement:** The standard emphasizes the involvement of various stakeholders, including industry representatives, NGOs, consumers, and governmental bodies, in the development and review of the eco-labelling criteria. This ensures transparency, credibility, and broad acceptance of the labelling program.
- **Third-Party Certification:** ISO 14024 mandates that eco-labelling schemes must be certified by independent third-party bodies. These certification bodies assess products and services against the established criteria to determine if they meet the required environmental standards.
- **Ongoing Monitoring:** To maintain relevance and reliability, ISO 14024 requires continuous monitoring of eco-labelled products and services. This ensures compliance with the criteria and helps address any changes in environmental regulations or advancements in technologies.
- **Periodic Review:** The standard advocates for regular reviews and updates of the eco-labelling criteria to keep up with evolving environmental knowledge and best practices. This ensures that the label remains credible and reflects the most current environmental concerns.

These labelling programs must be transparent, scientifically based, and independent of the entities being certified in order to meet ISO 14024:2018 criteria. They should also include a thorough certification process, which includes the formulation of particular product evaluation criteria as well as continual monitoring and verification. These labels are designed to help consumers and businesses make environmentally responsible



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decisions by providing reliable and credible information about the environmental performance of products or services<sup>xiv</sup>.

The EU Ecolabel is recognised with this international standard as well as many others<sup>xv</sup>.

## **H. AS/NZS 6400:2016**

The standard specifies the criteria and testing procedures for measuring the water efficiency of various goods such as toilets, urinals, showerheads, taps, and flow controllers *in Australia and New Zealand*. In these countries it is crucial to promote and encourage the use of water-efficient products and contributes to long-term water management improvements. The Standard defines the maximum permitted water consumption limitations as well as the performance standards that items must achieve in order to be designated water-efficient. It also specifies the rules for water-efficient product labelling. This includes the design and content of labels, which inform consumers about the water efficiency of items, allowing them to make informed purchasing decisions and promote water conservation.

The standard is organized into 10 sections. Sections 1 and 2 contain requirements that apply to all WELS products and Sections 3 to 10 contain requirements for each product type.

The products type covered and included within the Standard are showers, tap equipment, flow controllers, lavatory equipment, urinal equipment, dishwashers, clothes washing machines and combination of washer/dryers.

AS/NZS 6400:2016 includes specific test conditions to determine water efficiency in various types of products. In terms of water consumption measurement, these parameters assure uniformity and comparability among different products. The standard establishes maximum water usage limitations for each product category. To be eligible for a higher star rating, manufacturers must verify that their products do not exceed these limits.

The standard was firstly published in 2005. Then a second version of the standard was published in 2016<sup>xvi</sup>. With the main change being that instructions for labelling were streamlined and the label design was simplified, together with introducing requirements for 4-Star showers. There was further update in 2022 which set forth provisions for registering 5-star showers and new combination shower labels, set the minimal water efficiency measures for plumbing goods and dishwashers and required that the WELS registration numbers must be included in product's text advice.

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The Standard does not conflict with the WELS Label Act<sup>xvii</sup>.

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## Identification of the Governance, Conformity and technical criteria of the existing water eco-labels

The specifications of the identified existing labels covered by this report are as follows:

- Governance of the label
- Conformity of existing water eco-labels to the existing directives
- Key regulatory/technical criteria

### 1. EU Ecolabel

**Governance of the Label:** Voluntary – European – Ceased.

**Conformity of existing water eco-labels to the existing directives:** In respect to water-using products this label was regulated in accordance with Directive EU 2013/250/EU<sup>xviii</sup>. Since the label stopped operating, such compliance is not formally documented.

**Key regulatory/technical criteria:** These criteria are not available any more since the Label ceased its activity<sup>xix</sup>

### 2. The Unified Water Label Association (UWLA)

**Governance of the Label:** Voluntary – European.

**Conformity of existing water eco-labels to the existing directives:** The Unified Water Label (UWL) Scheme for water using bathroom products meet the criteria elaborated by the European Commission in the Eco-design Directive to recognise a self-regulatory/voluntary agreement measure. The label is compliant with the existing EU Directive of Eco-Design Directive 2009/125/EC<sup>xx</sup>.

The label criteria are based on existing European Product Standards such as the Eco-Design Directive 2009/125/EC. The industries that wish to register with UWLA submit a Declaration of Conformity that their registered products meet the label's criteria.

The Unified Water Label Association (UWLA) is in compliance with several articles of this Directive 2009/125/EC<sup>xxi</sup>.

**Key regulatory/technical criteria:** The Unified Water Label (UWL) lists the maximum flow or flush volume for registration into the scheme.

Therefore, product performance tolerances can be no more than the stated performance. Products submitted for approval will comply with all relevant National

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Regulatory requirements of the country of intended destination. Devices used to measure distance, flow rate, volume and pressure shall have calibration records that are traceable to National Standards. Measurement equipment must be calibrated to National Standards. For purposes of testing cold water recommended temp (10-15 degrees Celsius) (Hot water +50 degrees +/-1).

Figure 3 represents the main requirement for the products covered by this Label<sup>xx</sup>.

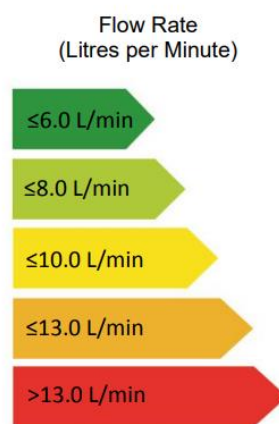


Figure 3: Flow Rate Criteria

### 3. Associaca Nacional Qualidade Instalces Prediais (Anqip)

**Governance of the Label:** Voluntary – Portugal.

**Conformity of existing water eco-labels to the existing directives:** Complies with European Standard for WC and urinal flushing cisterns (prEN 14055:2007); National association for quality in building facilities in Portugal; Meeting the requirements of the national plan for efficient water use in Portugal.

**Key regulatory/technical criteria:** The Key criteria of the label refer to the water flow rate. Such criteria are listed within Annex 1 of this report.<sup>xxii</sup>

### 4. The Water Technology List (WTL)

**Governance of the Label:** Voluntary – United Kingdom – ceased.

**Conformity of existing water eco-labels to the existing directives:** No information found.

**Key regulatory/technical criteria:** No information found.

### 5. Waterwise Checkmark

**Governance of the Label:** Voluntary – United Kingdom.

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**Conformity of existing water eco-labels to the existing directives:** Links with the EU. water certification label (UWLA) and the development of a smart approved watermark<sup>xxiii</sup>.

**Key regulatory/technical criteria:** The assessment will be conducted by waterwise staff or allocated checkmark reviewers from their partners. The auditing process of the suppliers/products will consist of reviewing the application form<sup>xxiv</sup> and supporting information. The application form requires certain information such as:

- Details of the product or service
- Water efficiency status
- Availability in UK market
- Performance
- Design
- Whether the product is provided with a Water-Efficient Label
- Whether the product saves energy and water
- Any other information of the product or service which ensures that it is environmentally friendly.

No other information was found on the technical criteria of the label.

## 6. Water Efficiency Labelling and Standards (WELS)

**Governance of the Label:** Mandatory - Australia and New Zealand.

**Conformity of existing water eco-labels to the existing directives:** This label is certified with ISO 31600:2022 and it does have an internal Standard AS/NZS 6400:2016.

**Key regulatory/technical criteria:**

The WELS standard is supported by a range of product-specific standards that set additional requirements for product testing, performance, labelling and display<sup>xxv</sup>. The Standards for the category of products listed below are specific to this label which only applies in Australia and New Zealand:

- Showers: AS/NZS 3662:2013 Performance of showers for bathing
- Tap equipment: AS 3718:2021 Water supply — Tapware
- Flow controllers: AS 5200.037.2-2008 - Plumbing and drainage products, Part 037.2: Flow controllers for use with heated or cold water systems
- Toilets: AS 1172.1:2014 Water closets (WC) Pans; AS 1172.2:2014 Water closet (WC) Flushing devices and cistern inlet and outlet valves; AS 5200.021-2004 Technical Specification for plumbing and drainage products, Part 021: Flushing valves for water closets and urinals-For use with break tank supply
- Urinal equipment: AS/NZS 3982:1996 Urinals

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- Clothes washers: AS/NZS 2040.1:2021 Performance of household electrical appliances — Clothes washing machines, Part 1: Methods for measuring performance, energy and water consumption; AS/NZS 2040.2:2021 Performance of household electrical appliances — Clothes washing machines, Part 2: Energy labelling requirements
- Dishwashers: AS/NZS 2007.1:2005 Performance of household electrical appliances — Dishwashers, Part 1: Methods for measuring performance, energy and water consumption; AS/NZS 2007.2:2005 Performance of household electrical appliances — Dishwashers, Part 2: Energy labelling requirements
- Combination Clothes Washer/Dryers (Dryer function): AS/NZS 2007.1:2005 Performance of household electrical appliances — Rotary clothes dryers, Part 1: Methods for measuring performance, energy and water consumption; AS/NZS 2007.2:2005 Performance of household electrical appliances — Rotary clothes dryers, Part 2: Energy efficiency labelling requirements (weblink to purchase standard)

It is to be noted that these standards are only applicable to Australia and New Zealand.

## 7. Water Efficient Products Labelling Scheme (WEPLS)

**Governance of the Label:** Voluntary – Malaysia.

**Conformity of existing water eco-labels to the existing directives:** The products covered by this label are required to adhere to certain standards which are specified within the tables listed in Annex 2 of this report. Such standards are specific to each category of products. They also have to conform with some prerequisites (except washing machines) as follow:

- the products comply with all the materials and performance standards required for its use as specified in the product standard in Annex 2 of this report.
- the supplier and the products have been listed with SPAN under the “SPAN Listing of Suppliers” and have a validity period of not less than one month before the expiry date of the registration.

**Key regulatory/technical criteria:** The main flowrates of the products covered by this Label have been listed in Annex 3 of this report<sup>xxvi</sup>.

## 8. WaterSense

**Governance of the Label:** Voluntary – USA & Canada.

**Conformity of existing water eco-labels to the existing directives:** No information found regarding compliance to Directive, Regulations or Standards.

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**Key regulatory/technical criteria:** Product must use ~20% less water than standard. The percentage depends on the category of the product.

Each product has its standard or specification. Within the specifications efficiency, performance and test protocol are required.

Licensed Certification Bodies (LCBs) conduct testing, maintain certification files and report certified products to EPA. These tests are conducted against the specifications of the products. A list of the product's specification is listed below<sup>xxvii</sup>:

- Tank-Type Toilets
- Lavatory Faucets
- Flushing Urinals
- Flushometer-Valve Toilets
- Showerheads
- Weather-Based Irrigation Controllers
- Soil Moisture-Based Irrigation Controllers
- Spray Sprinkler Bodies
- Commercial Pre-Rinse Spray Valves

## 9. Chinese Water Efficiency Label (CWEL)

**Governance of the Label:** Mandatory - China

**Conformity of existing water eco-labels to the existing directives:** No information. found regarding such compliance, except that they must be in line with Chinese National standard GB 25501-2010.

**Key regulatory/technical criteria:** The label includes National Standards based on the category of the products. A summary table of the standards is listed below<sup>xxviii</sup>:

National Standards-GB		
Code	Name	Implementation date
GB 25501-2019	Water faucet	2021-01-01
GB 28377-2019	Urinal	2021-01-01
GB 28378-2019	Shower	2021-01-01
GB 30717-2019	Squatting toilet	2021-01-01
GB 34914-2017	Reverse osmosis	2018-11-01
GB 25502-2017	Flushing toilet	2017-09-01

## 10. Water Efficient Products-India (WEP-I)

**Governance of the Label:** Voluntary – India.

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**Conformity of existing water eco-labels to the existing directives:** No information found regarding such compliance.

**Key regulatory/technical criteria:** Approved laboratories for testing as well as product specific requirements, 3 standards established by IAPMO India and Indian Plumbing Association underpin the testing:

- Complete functionality
- Proper design
- Water efficiency certification

More information about the regulatory standards of this label could not be found.

### 11. Mandatory Water Efficiency Labeling (MWELS)

**Governance of the Label:** Mandatory – Singapore.

**Conformity of existing water eco-labels to the existing directives:** Products are certified by bodies which have been accredited with Singaporean Accreditation Council CT 19 – Criteria for Certification Bodies (Water Efficiency Labelling Scheme) which is an ISO/IEC 17065 - Type 1a certification scheme.

**Key regulatory/technical criteria:** The label has set different water flow rates for different products. These data are included in Annex 4 of this Report.

### 12. The Green Labelling Scheme on water fixtures (UAE)

**Governance of the Label:** Mandatory – UAE.

**Conformity of existing water eco-labels to the existing directives:** No information regarding the Label's compliance to a specific Standard or Directive is available.

**Key regulatory/technical criteria:** The main criteria of this scheme refers to the water flow rate of the products covered. The information found refers to guidelines which are still shown as draft. The tables below show such criteria taken from the afore mentioned document<sup>xxix</sup>:



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**Table 2 – Water Efficiency Rating**

Product Type	Nominal Flow Rate, $Q_{nom}$ (l/min)	Water Efficiency Rating
Shower taps, mixers and heads	$9.5 \geq Q_{nom} > 8.0$	$e$
	$Q_{nom} \leq 8.0$	$e^+$
Bathroom basin faucets (public)	$1.9 \geq Q_{nom} > 1.7$	$e$
	$Q_{nom} \leq 1.7$	$e^+$
Bathroom basin faucets (private)	$6.0 \geq Q_{nom} > 5.0$	$e$
	$Q_{nom} \leq 5.0$	$e^+$
Water closet / toilet flush system	6.0 / 4.0 (dual flush)	$e$
	4.8 (single flush)	
	4.5 / 3.0 (dual flush)	$e^+$
	4.2 (single flush)	
Urinal flush system	1.0	$e$
	0.5 or Waterless	$e^+$
Kitchen faucet	$6.0 \geq Q_{nom} > 5.0$	$e$
	$Q_{nom} \leq 5.0$	$e^+$
Bidet faucet	$6.0 \geq Q_{nom} > 5.0$	$e$
	$Q_{nom} \leq 5.0$	$e^+$
Ablution spray	$6.0 \geq Q_{nom} > 5.0$	$e$
	$Q_{nom} \leq 5.0$	$e^+$

*The testing shall be conducted at a pressure of 1.5, 3.0 and 4.5 bar ( $\pm 0.2$  bar) for products claimed to be suitable for high pressure installations (typically 1.0 to 5.0 bar) or at a pressure of 0.2, 0.3 and 0.5 bar ( $\pm 0.02$  bar). A mean value of three measurements shall not exceed the maximum flow rate values indicated in Table 2.*

Figure 4: The Green Labelling Scheme on water fixtures Label Key Criteria

### 13. Eco Mark

**Governance of the Label:** Voluntary – Japan.

**Conformity of existing water eco-labels to the existing directives:** There was no information available on this label's level of compliance with existing Directives, however it was stated that management of this scheme is done in accordance with the standards and principles of ISO 14020 and 14024.

**Key regulatory/technical criteria:** Some of the criteria established by this label have been listed in Annex 5 of this report. The criteria established are based on the category product covered by the Label<sup>xxx</sup>.

### 14. Water Efficiency Label (WELL)

**Governance of the Label:** Voluntary – Germany.

**Conformity of existing water eco-labels to the existing directives:** No information was found regarding the conformity of this label to European directives.

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**Key regulatory/technical criteria:** The label includes regulatory criteria for the various product categories. The criterion and label include consumption rate of water-efficiency as well as energy use. The main criteria of the product's label are listed below:

- Wash basin and bidet valves

Efficiency class	Energy consumption	Flow quantity*
I	$\leq 0.20$ kWh/min.	$\leq 6.0$ l/min.
II	$> 0.20 \leq 0.25$ kWh/min.	$> 6 \leq 7.5$ l/min.
III	$> 0.25 \leq 0.30$ kWh/min.	$> 7.5 \leq 9.0$ l/min.
IV	$> 0.30 \leq 0.39$ kWh/min.	$> 9.0 \leq 12$ l/min.
V	$> 0.39 \leq 0.49$ kWh/min.	$> 12 \leq 15$ l/min.
VI	$> 0.49$ kWh/min.	$> 15$ l/min.

Figure 5: Criteria of wash basin valves<sup>xxxi</sup>

- Shower valves, shower heads, combinations (sets)

Efficiency class	Energy consumption	Flow quantity*
I	$\leq 0.49$ kWh/min.	$\leq 15$ l/min
II	$> 0.49 \leq 0.65$ kWh/min.	$> 15 \leq 20$ l/min.
III	$> 0.65 \leq 0.80$ kWh/min.	$> 20 \leq 25$ l/min.
IV	$> 0.80 \leq 0.96$ kWh/min.	$> 25 \leq 30$ l/min.
V	$> 0.96 \leq 1.21$ kWh/min.	$> 30 \leq 38$ l/min.
VI	$> 1.21$ kWh/min.	$> 38$ l/min.

Figure 6: Criteria Shower valves, shower heads, combinations (sets)<sup>xxxii</sup>

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- Urinal flush systems

Rating criterion	Performed by	Rating
<b>Volume (flush volume)</b>	Flush volume (fixed or adjustable) ≤ 2.0 l	★
	Flush volume (fixed or adjustable) ≤ 1.0 l	★ ★
<b>Flush program</b>	Individual urinal flush control	★
	Flush programme, user-frequency control (does not apply for HOME)	★ ★
<b>Hygiene</b>	Contact-free actuation	★
	Contact-free actuation with stagnation flush (does not apply for HOME)	★ ★
		<b>TOTAL max. 6 stars</b>

Figure 7: Urinal flush systems<sup>xxxiii</sup>

- WC flush systems

Rating criterion	Performed by	Rating
<b>Volume / flush volume</b>	Flush volume (fixed or adjustable) 6.0 l	★
	Flush volume (fixed or adjustable) 5.0 l or 4.0 l	★ ★
<b>Flush program</b>	Undefined flush with minimum volumes	★
	Defined minimum volume flush	★ ★
<b>Hygiene (does not apply forHOME)</b>	Contact-free actuation	★
	Contact-free actuation with stagnation flush	★ ★
		<b>TOTAL max. 6 stars</b>

Figure 8: WC flush systems<sup>xxxiv</sup>

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## **Identification of the key regulatory/technical criteria that shall guide the development of a water eco-label in the local context.**

The availability of water has been always a fundamental aspect to the establishment of communities. Water scarcity occurs when there is inadequate water to meet both human and environmental water needs at the same time. Most commonly, this is due to a basic lack of water (i.e., physical water scarcity), but it can also be due to a lack of sufficient infrastructure to offer access to what would otherwise be deemed abundant available water resources (i.e., economic water scarcity). Physical water shortage can develop as a result of both natural occurrences (e.g., aridity, drought) and human impacts (e.g., desertification, water storage), however, these factors are frequently intertwined. Desertification, for example, frequently begins as a result of excessive water use during periods of short drought<sup>xxxv</sup>. Climate change's anthropogenic effects on the Earth are worsening the situation since it causes more frequent droughts, which increases the rate of desertification.

### **Local context of the Maltese Islands**

Due to its geographical position, water scarcity is almost a natural phenomenon in Malta. The Mediterranean climate, with low levels of rainfall and high temperatures, results in low natural water availabilities and heavy losses through evapotranspiration. Furthermore, the population density of 1400 persons per square kilometre in Malta exacerbates the situation.

Malta has been converting seawater to fresh water since 1982. The desalination system satisfies more than half of the total needs of Malta<sup>xxxvi</sup>. Through the years the technology has improved in efficiency while the water demand from this technology increased to 60%. Despite these measures, Malta continues to face significant water scarcity issues. Continued water conservation, sustainable water management practises, and additional investment in alternate water sources are required to address the island's persistent water scarcity concerns.

There were several nations with a high prevalence of water scarcity during the research on the current water efficiency label. UNICEF states that 11 out of the 17 most water-stressed countries in the world are in the Middle East and north Africa: Qatar, Israel, Lebanon, Iran, Jordan, Libya, Kuwait, Saudi Arabia, the United Arab Emirates, Bahrain and

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Oman<sup>xxxvii</sup>. The United Arab Emirates, where the ESMA Label was designed, serves as an example. When compared to the other conditions established by the other water labels evaluated, it appears that the requirements of the ESMA Scheme are not significantly different. Because of this, it can be assumed that Malta might not need any specific water-efficiency criteria that should be established beyond those already implemented by other labels. The technical criteria related to water efficiency mainly established by the other labels refer to the flow rate of water which is expressed by litres per minute. Frameworks, current test procedures, and test methods based on parameters are all included in ISO Standard 31600:2022. The standard enables a country to assess the criteria for its water efficiency labelling programmes that are most appropriate. The International Standard 31600:2022 can therefore serve as a useful tool in establishing the required criteria for the Maltese water eco-label.

### **Summary of the applicability of existing labels and technical criteria to the Maltese context for an eco-labelling scheme for water efficient devices and appliances**

As the EU Ecolabel is no longer active for water products, the Unified Water Label (UWLA) provides the most robust framework of all of the labels identified. Malta is already recognised by UWLA and can use the label. Indeed, many products are already available on the local market which adhere to the UWLA. In addition to this, the design of the label is already in line with the requirements indicated in the tender. It could simply be adopted “as is” for the products covered by this label. It is also clear from the data found regarding the quantity of products recognised by the label that update of the label is very good already. Nevertheless, white goods such as washing machines and dishwashers are not included in the label.

For such white goods that are not included in the UWLA, a separate label could be developed specifically for them and introduced in parallel to consumers. It would need to match visuals closely with the UWLA in order to provide a cohesive view to consumers for all water-related products.

It is worth noting that the Energy labelling for such white goods also includes information on the litres of water per cycle. While this is not focusing on water efficiency, it is already useful information for the consumer and may be seen as doubling in the eyes of the consumer if there is also a separate label with information about water consumption. This means that a consumer may see the information on water consumption already

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available on the current energy label and may see a separate label with further details about water consumption as excessive, as the information about water consumption per cycle already provided could be seen as sufficient information. Therefore, a decision could be taken that it is not necessary to introduce another label related to white goods as it would not be value adding.

Alternatively, if there would be the decision to develop an entirely new label covering all requirements, a good basis to follow would be the WELS label as there are detailed criteria available for all different types of products covered (and this label does include white goods). In addition, an analysis of a study conducted in 2018 shows that the WELS scheme is having a significant impact on water usage across urban Australia and therefore can be seen as a successful example to emulate locally.

Any label implemented should be in line with ISO 31600:2022 and the requirements of the Eco-Design Directive 2009/125/EC. Other European legislation identified has limited applicability as they mostly focus on Energy related products or are no longer in force. It may also be decided to follow the requirements of ISO 14024 type 1.

Both the UWLA and the WELS label are recognised by ISO 31600 and the UWLA is also in line with the requirements of the Eco-Design Directive 2009/125/EC. It is for these reasons that it would make most sense to model any labels developed in Malta on these labels. Useful elements identified throughout this report from other labels could also be integrated within the label.

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**Business Advisors**

*(sent electronically)*

**3<sup>rd</sup> August 2023**

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## Annex 1: Key technical criteria of the Anqip Label

7. A atribuição de autorização de rotulagem a um determinado produto será feita de acordo com as categorias estabelecidas no Quadro 1, para torneiras de lavatório, no Quadro 2, para torneiras de cozinha, e no Quadro 3, para fluxómetros de mictório.

CAUDAL (Q) (l/min)	Torneiras de lavatório	Torneiras de lavatório com eco-stop ou arejador (1)	Torneiras de lavatório com eco-stop ou arejador (1)
$Q \leq 2,0$	A+	A++ (2)	A++ (2)
$2,0 < Q \leq 4,0$	A	A+	A++
$4,0 < Q \leq 6,0$	B	A	A+
$6,0 < Q \leq 9,0$	C	B	A
$9,0 < Q \leq 12,0$	D	C	B
$12,0 < Q$	E	D	C

Quadro 1 – Condições para atribuição dos rótulos de eficiência hídrica a torneiras de lavatório

Notas (1) Entende-se como arejador uma ponteira que, através de emulsão de ar, permita uma utilização cómoda da torneira com baixo caudal. A utilização de ponteira pulverizadora (spray) ou de fluxo laminado, considera-se equivalente ao arejador.

(2) Não se considera de interesse a utilização de eco-stop nestes casos

CAUDAL (Q) (l/min)	Torneiras de cozinha	Torneiras de cozinha com eco-stop ou arejador (1)	Torneiras de cozinha com eco-stop ou arejador (1)
$Q \leq 4,0$	A+	A++ (2)	A++ (2)
$4,0 < Q \leq 6,0$	A	A+	A++
$6,0 < Q \leq 9,0$	B	A	A+
$9,0 < Q \leq 12,0$	C	B	A
$12,0 < Q \leq 15,0$	D	C	B
$15,0 < Q$	E	D	C

Quadro 2 – Condições para atribuição dos rótulos de eficiência hídrica a torneiras de cozinha

Notas (1) Entende-se como arejador uma ponteira que, através de emulsão de ar, permita uma utilização cómoda da torneira com baixo caudal. A utilização de ponteira pulverizadora (spray) ou de fluxo laminado, considera-se equivalente ao arejador.

(2) Não se considera de interesse a utilização de eco-stop nestes casos

VOLUME DE DESCARGA (V) (litros)	Categoria de Eficiência Hídrica
$V \leq 1,0$	A++
$1,0 < V \leq 2,0$	A+
$2,0 < V \leq 4,0$	A
$4,0 < V \leq 6,0$	B
$6,0 < V \leq 8,0$	C
$8,0 < V \leq 10,0$	D
$10,0 < V$	E

Quadro 3 – Fluxómetros de mictórios



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## Annex 2: Standards of the MPSEL Label

No.	Product	Standard	Flow Performance Requirements
1.	<b>Water taps</b> (either as a single tap, combination tap or mixer) that are produced with intended use as: <ul style="list-style-type: none"> <li>basin taps</li> <li>sink taps</li> <li>shower taps</li> <li>ablution taps</li> <li>electronic sensor taps</li> <li>automatic shut off taps</li> </ul>	a) <b>SPAN TS 3004:2021</b> for Water Taps-Single Taps and Combination Taps – Specification b) <b>Section 10 of BS EN 200: 2008</b> for basin taps, sink taps, shower taps and ablution taps. c) <b>Section 10 of BS EN 817: 2008</b> for mechanical basin/ sink/ shower mixers with a single or separate control device for adjusting	The following test requirements shall be followed in measuring and computing flow rates and nominal flow rates: a) The flow rates shall be measured in accordance with the standards stipulated above at each of the dynamic flow pressures of 50 kPa, 100 kPa, 150 kPa, 200 kPa, 250 kPa, 300kPa, 350 kPa, 400 kPa, 450 kPa, 500kPa and 550 kPa. b) The nominal flow rate shall be the mean of

No.	Product	Standard	Flow Performance Requirements
	<ul style="list-style-type: none"> <li>thermostatic mixer</li> </ul>	flow rate and temperature d) <b>Section 11.4.1 of BS EN 816:2017</b> for automatic shut off taps. e) <b>Section 13.2 of BS EN 1287:2017</b> for thermostatic mixer. f) <b>Section 5.3 of BS EN 15091:2013</b> for electronic sensor tap. g) <b>BS EN 1287:2017</b> for sanitary tapware, Low Pressure Thermostatic Mixing Valves, General Technical Specifications.	the average flow rates obtain at the following dynamic flow pressures of 100 kPa, 150 kPa, 250 kPa, 350 kPa and 500 kPa. c) The highest average flow rate determined in accordance with the standards stipulated above at each of the dynamic flow pressures of 100 kPa, 150 kPa, 250 kPa, 350 kPa and 500 kPa shall not exceed the upper limit of the flow range for the applicable rating for the determined nominal flow rate by more than 0.5 litres/min.

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No.	Product	Standard	Flow Performance Requirements
			in (c), (d) and (e) to be qualified for WEPLS.
2.	Water Closet (WC)	Clause 4.8 of MS 1522:2015 Vitreous China Water Closet Pans – Specification.	The WC shall pass the flushing test as required for clause 4.8 of MS 1522:2011.
3.	Urinal Equipment	MS 1799:2020 as follows:	The Urinal shall pass the flushing test in clause 4.4.1 and 4.4.2 of MS 1799:2008 for slab urinals

No.	Product	Standard	Flow Performance Requirements
		a) Annex A for slab and stall urinals. b) Annex B for wall-hung urinals.	and wall hung urinals, respectively.
4.	Showerhead	a) SPAN TS 3005:2021 for Shower Outlet for Sanitary Tapware For Water Supply System – Specification. b) Section 11.2 of BS EN 1112:2008.	The following test requirements shall be followed in measuring and computing flow rates and nominal flow rates: a) The flow rates shall be measured in accordance with the standards stipulated

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5.	Washing Machine	a) SPAN TS 3006:2021 for Washing Machines – Water Efficiency Performance and Related Testing Methods	The water consumption of washing machine shall be measured in accordance to Clause 9.5 of the above standards.
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## Annex 3: Key technical criteria of the MPSEL Label

**Table 1: Conversion of water consumption to water efficiency rating for basin taps and mixers**

Water Consumption nominal flow rates ( $f$ ) (l/min)	Water Efficiency Grade	Rating	Symbol on Label
$6.0 < f \leq 8.0$	Efficient	1★	★
$4.0 < f \leq 6.0$	Highly Efficient	2★	★★
$1.5 < f \leq 4.0$	Most Efficient	3★	★★★

**Table 2: Conversion of water consumption to water efficiency rating for sink taps and mixers**

Water Consumption nominal flow rates ( $f$ ) (l/min)	Water Efficiency Grade	Rating	Symbol on Label
$6.0 < f \leq 8.0$	Efficient	1★	★
$4.0 < f \leq 6.0$	Highly Efficient	2★	★★
$2.5 < f \leq 4.0$	Most Efficient	3★	★★★

**Table 3: Conversion of water consumption to water efficiency rating for shower taps and mixers**

Water Consumption nominal flow rates ( $f$ ) (l/min)	Water Efficiency Grade	Rating	Symbol on Label
$8.0 < f \leq 10.0$	Efficient	1★	★
$6.0 < f \leq 8.0$	Highly Efficient	2★	★★
$4.5 < f \leq 6.0$	Most Efficient	3★	★★★

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**Table 4: Conversion of water consumption to water efficiency rating for ablution taps and mixers**

Water Consumption <i>nominal flow rates (f)</i> (l/min)	Water Efficiency Grade	Rating	Symbol on Label
$6.0 < f \leq 8.0$	Efficient	1★	★
$4.0 < f \leq 6.0$	Highly Efficient	2★	★★
$1.5 < f \leq 4.0$	Most Efficient	3★	★★★

**Table 5: Conversion of water consumption to water efficiency rating for water closet**

Water Consumption <i>Flush volume per flush</i> (fv) (litre/flush)	Water Efficiency Grade	Rating	Symbol on Label
Full Flush $fv \leq 6.0$ Reduced Flush $fv \leq 3.0$	Efficient	1★	★
Full Flush $fv \leq 5.0$ Reduced Flush $fv \leq 3.0$	Highly Efficient	2★	★★
Full Flush $fv \leq 4.0$ Reduced Flush $fv \leq 3.0$	Most Efficient	3★	★★★

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**Table 6: Conversion of water consumption to water efficiency rating for urinal equipment**

Water Consumption Flush volume per flush (fv) (litre/flush)	Water Efficiency Grade	Rating	Symbol on Label
$1.5 < fv \leq 2.5$	Efficient	1★	★
$1.0 < fv \leq 1.5$	Highly Efficient	2★	★★
$fv \leq 1.0$	Most Efficient	3★	★★★

**Table 7: Conversion of water consumption to water efficiency rating for washing machine**

Water Consumption Volume per wash load v (litre/kg)	Water Efficiency Grade	Rating	Symbol on Label
$12 < v \leq 15$	Efficient	1★	★
$9 < v \leq 12$	Highly Efficient	2★	★★
$v \leq 9$	Most Efficient	3★	★★★

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## Annex 4: Key technical criteria of the MWELS label

### POTENTIAL WATER SAVINGS

*Note: The percentage savings indicated below are for reference only.*

#### Mandatory Water Efficiency Labelling Scheme (MWELS)

*From 1 Apr 2019, only 2-ticks and above MWELS fittings are allowed for supply and installation.*

Fittings	Flow rates/ Volume of discharge	
Water efficiency rating	2-tick ✓✓	3-tick ✓✓✓
Shower Taps & Mixers (L/min)	> 5 to 7	5 or less
% water savings*	25%	38%
Basin Taps & Mixers (L/min)	> 2 to 4	2 or less
% water savings*	40%	60%
Sink/Bib Taps & Mixers (L/min)	> 4 to 6	4 or less
% water savings*	29%	43%
Dual-flush flushing Cisterns (L/flush)	> 3.5 to 4.0 (full flush) > 2.5 to 3.0 (reduced flush)	3.5 or less (full flush) 2.5 or less (reduced flush)
% water savings*	12%	18%
Urinal Flush Valve & Waterless Urinals (L/flush)	> 0.5 to 1	0.5 or less or waterless urinals
% water savings*	40%	60%
Water closet flush valves (L/flush)	>3.5 to 4.0	3.5 or less
% water savings*	11%	22%

\*compared to 1-tick

Any innovative design of tap or mixer (i.e. basin, sink/bib and shower) which meet specific purposes is to be reviewed and cleared by PUB with specific conditions applied on a case-by-case basis.

Appliances	Water Consumption Requirements			
Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓	4-tick ✓✓✓✓
Clothes Washing Machines (Per Washload) (Litres/kg)	NA	> 9 to 12	> 6 to 9	6 or less
% water savings*	N.A.	N.A.	29%	43%
Dishwashers (Litres Per Place Setting)	>1.2 to 1.5	>0.9 to 1.2	>0.6 to 0.9	0.6 or less
% water savings*	N.A.	22%	44%	56%

\*compared to 2-tick

#### Voluntary Water Efficiency Labelling Scheme (VWELS)

Fittings	Flow Rate		
Water Efficiency Rating	1-tick ✓	2-tick ✓✓	3-tick ✓✓✓
Showerheads (L/min)	> 7 to 9	> 5 to 7	5 or less
% water savings*	N.A.	29%	43%

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## Annex 5: Key technical criteria of Eco Mark

### Attachment 2

Product		A. Water-saving type water closet (low tank type)
Environmental criteria: water-saving criteria per 4-1 (1)	Water saving criteria	(1) Washing water shall be 6.5 liters or less. Washing water shall be measured at water pressure of 0.2 MPa.
	Structural criteria	(1) The flushing and discharging performance per JIS A5207 shall be met.  (2) The transportation performance specified in the "Annex1-I" shall be met.
Points other than water saving		Stool and low tank are handled as a complete set.

Products		B. Water-saving type water closet (flush-valve type)
Environmental criteria: water-saving criteria per 4-1 (1)	Water-saving criteria	(1) Deviation in discharge volume at one flush action (in the condition that the lever is kept pressed) shall be within $\pm 15\%$ of the discharge volume set for a supply pressure of 0.2 MPa.  (2) Flush water volume shall be 6.5 liters or less. The measurement of flush water volume shall be conducted at the pressure of 0.2 MPa.
	Structural criteria	(1) The structure shall be easy to control discharge volume.  (2) The water-saving flush valve shall supply a fixed volume of water even when the lever is kept depressed.  (3) The spout performance shall meet the requirements of JIS B 2061.  (4) The washing and the discharge performance shall meet the requirements of JIS A5207.  (5) The transportation functions specified in the "Annex 1-I" shall be met by the set of the flush valve and the



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<b>Products</b>		<b>C. Water-saving type water closet (flush valve built-in type)</b>
<b>Environmental criteria: water-saving criteria per 4-1 (1)</b>	<b>Water-saving criteria</b>	(1) Flush water volume shall be 6.5 liters or less. The measurement of flush water volume shall be conducted at the pressure of 0.2 MPa.
	<b>Structural criteria</b>	(1) The washing and the discharge performance shall meet the requirements of JIS A5207. (2) The transportation functions specified in the "Annex 1-I" shall be met by the set of the flush valve and the stool.
<b>Points other than water saving</b>		Stool and flush valve are handled as a complete set.

<b>Products</b>		<b>D. Built-in urinal with automatic washing device with flow control</b>
<b>Environment-related criteria: water-saving criteria per 4-1 (1)</b>	<b>Water saving criteria</b>	(1) The flush water volume shall be 2.5 liters or less. The measurement of flush water volume shall be conducted at the pressure of 0.2 MPa. (2) The water volume shall be controlled depending on time of use and continual use. (Data shall be submitted at application.)
	<b>Structural criteria</b>	(1) It shall have washing/discharge performance according to JIS A 5207. (2) In case there is no use of urinal for a while, the structure shall be to conduct automatically washing for the purpose to protect sealing water of urinal trap.

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Points other than water saving and electric energy consumption	(1) The battery shall not employ cadmium, lead or mercury. This requirement may not be applied if a recover and recycling system for used batteries has been established.
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Products		E. Automatic washing device with flow control for urinal
Environment-related criteria: water-saving criteria per 4-1 (1)	Water saving criteria	(1) The flush water volume shall be 2.5 liters or less. The measurement of flush water volume shall be conducted at the pressure of 0.2 MPa.  (2) The water volume shall be controlled depending on time of use and continual use (Data shall be submitted at application.)
	Structural criteria	(1) It shall be set in the urinal which is corresponding to JIS A 5207, and shall have washing/discharge performance according to JIS A 5207.  (2) In case there is no use of urinal for a while, the structure shall be to conduct automatically washing for the purpose to protect sealing water of urinal trap.
Points other than water saving and electric energy consumption		(1) The battery shall not employ cadmium, lead or mercury. This requirement may not be applied if a recover and recycling system for used batteries has been established.

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