

# **Voluntary Water Efficiency Labelling Scheme on Water Taps**

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## 1. Purpose

This document is intended to give a detailed description on the Voluntary Water Efficiency Labelling Scheme (WELS) on Water Taps.

## 2. Background

2.1 The voluntary WELS is one of the water conservation initiatives that the Government of the Hong Kong Special Administrative Region (HKSAR) has adopted. The WELS would cover common types of plumbing fixtures and water-consuming appliances. Products participating in the WELS will incorporate a water efficiency label that serves to inform consumers the water consumption level and efficiency rating. Consumers should then be able to take these factors into account in making their purchasing decision.

2.2 In overseas countries, the WELS is in different stages of development and implemented in several forms. In some countries, it is a compulsory requirement to provide water efficiency labels for certain kinds of plumbing fixtures and appliances before they can be put on sale in the market. For others, the WELS is implemented on a voluntary basis so as to allow a lead time for the market to transform towards more water efficient products. The implementation of WELS in Hong Kong adopts the latter approach and aims to achieve the following:

- (a) To provide consumers with information on the levels of water consumption and efficiency ratings of plumbing fixtures and water-consuming appliances;
- (b) To facilitate consumers to select water efficient plumbing fixtures and water-consuming appliances;
- (c) To promote public awareness on water conservation and efficiency issues; and
- (d) To achieve actual water savings.

2.3 The voluntary WELS in Hong Kong is being implemented in phases for different groups of plumbing fixtures and water-consuming appliances. The first group of products for implementation of the WELS is showers for bathing which had been launched in September 2009. The second group of products for implementation of the WELS is water taps.

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### 3. Scope

- 3.1 The Scheme will apply to the manufacturers, importers, or other related parties participating in the Scheme.
- 3.2 The Scheme commenced from **2 September 2010**. **The revision of the Scheme has been implemented from 1 January 2019 and will be reviewed tentatively on 31 December 2024** when registration may be necessary subject to the result of the periodic review of the Scheme.
- 3.3 The Scheme only covers new water taps imported to or manufactured in Hong Kong but does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, etc.
- 3.4 The Scheme is operated as a ‘Grading Type’ labelling system. Under this Scheme, participating water taps will be rated to different grades according to their nominal flow rates provided that they have met the performance requirements specified in the Scheme.
- 3.5 The provisions of this Scheme shall apply to the water taps of hot and cold water mixing (mixing) or non-mixing type installed at bathroom/toilet washing basins and pantry/kitchen sinks. Those water taps equipped with automatic sensing open/close device or automatic closing mechanism are also included in this Scheme. However, the water taps installed at bath tub/shower, any system, machinery and devices such as irrigation system, washing machines, water dispensers, etc. which serve for bathing/operational use, are excluded from this Scheme.

### 4. Definitions

Unless otherwise specified, the following definitions shall apply throughout this document:

*Department* means the Water Supplies Department, the Government of HKSAR.

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<i>Water tap</i>	means a tap that is designed to turn on and off the flow of water into a basin or bowl or sink that is primarily for washing/rinsing purposes, which may include a fixed or pivot arm or a built-in flexible hose or automatic sensing open/close device or automatic closing mechanism or hot and cold water mixing chamber.
<i>Director</i>	means the Director of the Water Supplies Department, the Government of HKSAR.
<i>Government</i>	means the Government of HKSAR.
<i>ISO</i>	means the International Organization for Standardization.
<i>IEC</i>	means the International Electrotechnical Commission.
<i>Inspecting Officer</i>	means the officer authorized by the Director to carry out the inspection as described in Section 11 of this document.
<i>Label</i>	means the water efficiency label (both full version and simplified version) as described in Section 7 of this document.
<i>participant</i>	means a manufacturer, an importer or other related party of the water tap registered in the Scheme.
<i>recognized laboratory</i>	means a laboratory that complies with the requirements as stated in Section 8 of this document and is acceptable to the Department for carrying out tests (including re-tests) and issuing test reports on Water Taps.
<i>Scheme</i>	means the Voluntary Water Efficiency Labelling Scheme on Water Taps.
<i>Water Authority</i>	means the Water Authority as defined in the Waterworks Ordinance, Chapter 102, Section 2.

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## 5. Testing Methodology and Standard

### Statutory Requirements

- 5.1 The water taps and the associated flow controllers (if applicable) installed shall be tested in accordance with the requirements as specified in relevant Waterworks Regulations and comply with the standards specified for the water taps and the flow controllers by the Water Authority. Upon the completion and compliance with the test(s), the approval for the water taps shall also be obtained from the Water Authority.

### Scheme Requirements

- 5.2 The testing methodology is described in Annex 1 with reference to the testing conditions and requirements specified in the Australian/New Zealand Standard No. AS/NZS 3718:2005 (R2016) – Water Supply – Tap Ware with Amendment Nos. 1 and 2 or other equivalent international standards approved by the Department.

### Flow Rate Test

- 5.3 The nominal flow rates of the water taps shall be determined in accordance with Annex 1. The water efficiencies of the water taps will be rated to different grades according to the type of the water taps and the nominal flow rate test results subject to the compliance with other performance requirements mentioned in Section 5.4 below.

### Other Performance Requirements

- 5.4 The water taps shall also be tested in accordance with Annex 1 for conformity with the performance requirements as shown in Table 1.

Table 1: Performance Requirements for Water Taps

Performance Property	Performance Requirements
Difference between the highest and lowest average flow rates in the flow rate test	The maximum difference between the highest and lowest average flow rates is not to exceed 2.0 litres/min.

<p>Endurance of the flow controller (if incorporated in a water tap or being a component of a water tap)</p>	<p>The flow rate which is re-measured after the endurance test of the flow controller shall be within <math>\pm 1.0</math> litre/min of the nominal flow rate, as determined in the flow rate test.</p>
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### Quality Requirement

5.5 The water taps shall be manufactured under a design (if applicable) and production system operating according to a recognized international quality system<sup>†</sup> (such as ISO 9001).

5.6 The original concept of certification of production system by a recognised international quality system is to cover the whole production system, which should include any add-on/assembly process. As such, in case of a water tap is installed with a flow controller as the “combined” water saving devices after the manufacturing process of the water tap, the applicant shall confirm in writing whether the add-on/assembly process is already covered by its submitted documentary proof according to a recognised international quality system<sup>†</sup> (such as ISO 9001) as stipulated in Section 5.5, i.e. whether the procedure of add-on/assembly process is done before the fabrication of the water tap. If not, the applicant shall confirm in writing that the concerned assembly process has been carried out by a competent person in strict accordance with the installation procedures and requirements as specified by the manufacturers of the associated water tap installed with a flow controller.

5.7 If the documentary proof according to a recognised international quality system submitted covers the procedure of add-on/assembly process, the documentary proof submitted shall be accepted, otherwise, an additional valid documentary proof covering the procedure of add-on/assembly process shall be submitted.

## 6. Water Efficiency Grading

6.1 The water efficiencies of the water taps are rated to different grades according to their types and nominal flow rates as shown in Tables 2 and 3. Grade 1 is the most water efficient whereas grade 4 is the least water efficient.

<sup>†</sup> The details of a recognized international quality system may change from time to time and the up-to-date list is available from the HKAS website of <http://www.itc.gov.hk/en/quality/psis/standard.htm>.

Table 2: Conversion of Nominal Flow Rates to Water Efficiency Grades for **Non-mixing Type** Water Taps









Nominal Flow Rate : $f$ (litres/minute)	Water Efficiency Grade	Symbolic Presentation on the Water Efficiency Label
$f \leq 2.0$	Grade 1	1 water droplet 
$2.0 < f \leq 4.0$	Grade 2	2 water droplets 
$4.0 < f \leq 6.0$	Grade 3	3 water droplets 
$f > 6.0$	Grade 4	4 water droplets 

Table 3: Conversion of Nominal Flow Rates to Water Efficiency Grades for **Mixing Type** Water Taps

Nominal Flow Rate : $f$ (litres/minute)	Water Efficiency Grade	Symbolic Presentation on the Water Efficiency Label
$f \leq 5.0$	Grade 1	1 water droplet 
$5.0 < f \leq 7.0$	Grade 2	2 water droplets 
$7.0 < f \leq 9.0$	Grade 3	3 water droplets 
$f > 9.0$	Grade 4	4 water droplets 

- 6.2 Additional merit is given to the water taps equipped with automatic open/close device or automatic closing mechanism and to the mixing type water taps achieving a nominal flow rate of not more than 2 litres/minute. The merit(s) is/are shown on the Label for public information.
- 6.3 If the water tap cannot fulfil the statutory requirements and the performance requirements specified in Sections 5.1 and 5.4 respectively, application for registration under the Scheme will not be accepted.



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## 7. Water Efficiency Label

### Label Versions and Location

- 7.1 The Label should be self-adhesive or pre-printed onto the packing. There are two versions of the Label - full and simplified versions. It is a compulsory requirement for the participant to affix/print the full version Label to his/her registered water tap or its packing at a prominent location. The participant should also ensure that the registered water tap shall be displayed for sale with the full version Label. **In order to enhance the awareness of water efficient plumbing fixtures being installed**, the simplified version Label is designed to facilitate the participant to affix it to the water tap in case the full version Label is too large to do so. However, the affixation of the simplified version Label to the water tap is optional.

### Colour Scheme and Dimensions

- 7.2 The Label should be printed on white-coloured self-adhesive sheet material (for self-adhesive type) in accordance with the figures, dimensions, **Pantone Colour Codes, font sizes and styles** as shown in Annex 2. **It should be printed in English and in Chinese. Soft copies of WELS labels will be transmitted by the WSD to successful applicants for WELS soon after the approval of the respective application.**

### Paper Quality

- 7.3 The paper used for the Label should be durable and possess good wear and tear characteristics. It should stick tightly on the water taps or its packing.

### Information on the Label

- 7.4 The information that appears on the Label shall accord with the Label format as indicated in Annex 2 and shall tally with the information listed on the registration certificate issued by the Department.

## 8. Testing Laboratories and Accreditation Bodies

- 8.1 The testing specified in Sections 5.3 and 5.4 is to be carried out either by an independent testing laboratory or by the manufacturers or the importers or other related parties themselves at their own testing laboratories. The Department will accept the results and certificates issued by the testing

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laboratories which fulfil one of the criteria as specified in Sections 8.2, 8.3 or 8.4.

8.2 The testing laboratory is accredited by the Hong Kong Accreditation Service (HKAS) under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) or a testing laboratory accredited by the mutual recognition arrangements partners for HKAS<sup>#</sup> for carrying out the tests stipulated in Sections 5.3 and 5.4 of this document, and the test results are issued in an endorsed test report or test certificate bearing the accreditation mark as having the same technical validity as certificate endorsed by HOKLAS.

8.3 A laboratory which achieves HOKLAS accreditation (or is accredited by a scheme with which HKAS has concluded a mutual recognition agreement<sup>#</sup>) for laboratory testing of plumbing fixtures and water-consuming appliances other than the tests stipulated in the Scheme, and the laboratory can demonstrate its capability of carrying out tests on water taps in accordance with Annex 1.

8.4 An in-house laboratory fulfils the criteria listed below:-

- (a) Self-declaration by the manufacturer or importer or other related parties that the operations of their in-house laboratory follow the requirements of ISO/IEC 17025; **and**
- (b) The manufacturer or importer or other related parties is currently operating according to a recognised international quality system<sup>†</sup> (such as ISO 9001); **and**
- (c) The manufacturer's or importer's or other related parties' in-house laboratory has been successful in carrying out tests on water taps and where these tests have been evaluated and certified by internationally recognised third party certification organisations.

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<sup>#</sup> HKAS has concluded mutual recognition arrangements with overseas accreditation bodies for testing laboratory accreditation. The list of mutual recognition arrangement partners may change from time to time and the up-to-date list is available from the HKAS website of [http://www.itc.gov.hk/en/quality/hkas/doc/common/mramla/MRA\\_HOKLAS\\_en\\_ch.pdf](http://www.itc.gov.hk/en/quality/hkas/doc/common/mramla/MRA_HOKLAS_en_ch.pdf). Partners of these arrangements recognise the accreditations granted by one another as equivalent. An up-to-date APLAC MRA list is available from [https://www.aplac.org/index.php?q=aplac\\_mra.html](https://www.aplac.org/index.php?q=aplac_mra.html). An up-to-date ILAC MRA is available from <https://ilac.org/?download=3322>.

<sup>†</sup> The details of a recognised international quality system may change from time to time and the up-to-date list is available from the HKAS website of <http://www.itc.gov.hk/en/quality/psis/standard.htm>.

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## 9. Application for Registration

### Application Procedures

- 9.1 All manufacturers, importers and other related parties in the water taps business are welcome and encouraged to participate in the Scheme. For known manufacturers and importers, invitation letters will be issued to them. However, any manufacturers, importers and other related parties in the water taps business may submit applications for registration no matter whether they are invited or not.
- 9.2 The application for registration shall be submitted by means of an application letter **together with “Proforma Letter of Application” in Annex 3** by hand, or through post, facsimile or electronic mail to the Water Supplies Department:

Address: 47/F, Immigration Tower  
7 Gloucester Road, Wanchai, Hong Kong  
Fax number: 2824 0578  
Email: [wsdinfo@wsd.gov.hk](mailto:wsdinfo@wsd.gov.hk)

A proforma letter of application is attached in Annex 3. In order to ensure effective implementation of the Scheme, the participant must be committed to full compliance with the obligations set out in the Scheme. The proforma letter of application in Annex 3 details the obligations. The proforma application letter is also available at the Water Supplies Department’s website ([https://www.wsd.gov.hk/filemanager/en/share/wels/proforma\\_letter\\_of\\_application\\_water\\_taps.pdf](https://www.wsd.gov.hk/filemanager/en/share/wels/proforma_letter_of_application_water_taps.pdf)) for downloading. The application submission can be made in either English or Chinese.

### Information/Documents/Materials to be Submitted for Application

- 9.3 The information/material to be submitted with the application are listed as follows **and also listed in Annex 4**:
- (a) Information of the company, i.e. name, address, telephone number, fax number, e-mail address, website address, contact person, and sale distribution network (e.g. names and addresses of the distributor(s), etc.);
  - (b) Information of the water tap being applied for registration in the Scheme, i.e. brand name, model no. and/or name, catalogue (if available), **country/region of origin and** two photos clearly showing the front and side views of the water tap;

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- (c) Parties which will be responsible for making and affixing the water efficiency label (Label);
  - (d) Proposed commencement date to affix the Label to water tap (Year \_\_\_\_\_, Month \_\_\_\_\_);
  - (e) Documentary proof of the approval for water tap issued by the Water Authority;
  - (f) Documentary proof that the design (if any) and production system for the water tap is operating according to a recognised international quality system<sup>†</sup> (such as ISO 9001). The submission of product drawings extracted from the product manual or design manual, and international quality system certificate on the manufacturer can be considered as documentary proof of recognition of the quality system. Failure to renew the recognised international quality system may render the model registration null and void;
  - (g) For registration in WELS under the recognition mechanism\*, valid test report used for application for registration of the water tap under the overseas water efficiency labelling scheme. The test report shall include the required information requested in Section A5 and B6 of Annex 1 of the Scheme Document. Documentation showing valid registration status of the water tap in the respective overseas water efficiency labelling scheme (e.g. Certified true copy of the registration document, website link, i.e. URL, to the register in respective scheme);
  - (h) Detailed test report in accordance with the reporting requirements specified in Annex 1. The test report shall be issued by a recognised laboratory complying with the requirements in Section 8. The required information requested in Sections A5 and B6 of Annex 1 of the scheme document have to be provided in a single section of the test report;
  - (i) Documentary proof that the testing laboratory appointed by the participant has satisfied the requirement of Section 8.2, 8.3 or 8.4. The submission of certificate of accreditation, self-declaration statement that the operation of the testing laboratory meets the requirements of ISO/IEC 17025 can be considered as documentary proof,
  - (j) For the case of water taps of same design but with the variation in

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<sup>†</sup> The details of a recognised international quality system may change from time to time and the up-to-date list is available from the HKAS website of <http://www.itc.gov.hk/en/quality/psis/standard.htm>.

\* The water taps registered under the Water Efficiency Scheme in Australia and New Zealand can be recognised under WELS. In applying for registration in WELS under the recognition mechanism for water taps registered in Australia and New Zealand, the applicant shall follow the procedures and requirements as stipulated under Section 9 of the Scheme Document of the respective water taps in submitting the application, except the need for local laboratory test is replaced by submission of valid test report used for the original registration overseas as stated in Section 9.3 (f).

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dimension, colour, coating and finishing, the applicant should consult with the testing laboratory and confirm in writing that such variation will not affect the flow rate performance and other performance requirements stipulated in Section 5.3 and Section 5.4;

(k) Should any other flow controller to be installed to the same water tap registered under the approval from the Water Authority, the applicant shall specify the details of such flow controller and provide substantiation that it has been tested to be safe for potable water use; and

(l) Participant shall submit a reference sample for each water taps successfully registered under the Scheme upon the request of the Department.

9.4 Company's chop should be stamped on the Proforma Letter of Application and all the document front covers provided by hand, or through post, facsimile or electronic mail to the Water Supplies Department. All photocopy test reports submitted to the Department shall be certified as true copy issued by the testing laboratory appointed by the participant. Upon the request of the Department, the participant is required to provide the original copy of the test reports.

#### **Acceptance/Rejection of Application**

9.5 On receipt of the application, the Department will verify whether the water tap meets the statutory and performance requirements based on the submitted information and will rate the water tap with a water efficiency grade according to the water tap's nominal flow rate.

9.6 If the application is accepted, the participant will be notified of the result within 17 working days upon the receipt of all necessary information requested. A registration certificate listing the information to be displayed on the Label will be issued to the participant by the Department. Soft copies of WELS labels will be transmitted by the WSD to successful applicants for WELS soon after the approval of the respective application. The participant will then be allowed to affix the Label to the 'registered' water tap or print the Label onto its packing. The participant should ensure that the Label is correctly printed and affixed to the water tap or its packing in accordance with Section 7.

9.7 If the application is rejected, a notification letter with reason(s) of rejection will also be given to the participant within 17 working days upon receipt of all necessary information requested.

9.8 To ensure a more efficient processing of applications of products for registration under WELS, the deadline for submitting all necessary supporting information will be set at six months from the date of receipt of the application. Upon receipt of application, the Department will vet and, if found necessary, require the applicant to submit outstanding information. For any application that could not be completed in five months due to incomplete information, the Department will issue a final reminder requesting the submission of outstanding application/clarification within one month from the date of such reminder. The application concerned will be rejected automatically without further notification if the required information/clarification is still outstanding after the deadline specified in the reminder.

9.9 The flow chart for registration is shown in Annex 5.

### **Participant's Obligations**

9.10 The participant is obliged to:

- (a) submit application, the information/material required in Section 9.3 and the test results which follow the format set out in Sections I and II of Annex 1;
- (b) at his/her own costs, produce the Label and affix/print the full version Label either to the water tap or its packing at a prominent location in accordance with Section 7;
- (c) ensure that the registered water tap shall be displayed for sale with the full version Label;
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in the participant's sale distribution network once the water tap is registered under this Scheme and notify them that the Department may request to enter their premises to carry out the compliance monitoring and inspections in Section 11;
- (e) allow annual/ad-hoc inspection/re-inspection to be conducted by Inspecting Officers authorized by the Director on the registered water tap at his/her premises such as the warehouse and/or its retailing spots;
- (f) allow the tested flow rates and performance data of the registered water tap to be uploaded to the Department's website for public information;
- (g) conduct re-test(s) at his/her own costs at a recognised laboratory if non-compliance is found on the registered water tap. The result of re-test(s) shall reach the Department within the time specified by the Department;
- (h) submit a reference sample of each water tap successfully registered

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under the Scheme upon the request of the Department;

- (i) provide additional supporting information/material upon request of the Department within the time prescribed. Failure to comply may render rejection of the Application for Registration (see Section 9);
- (j) notify the Department by means of a notification letter (in either English or Chinese with the company's chop stamped on the Proforma Letter of Application and all submitted documents front covers) through post, facsimile or electronic mail of any changes of the company information (e.g. company name). The notification should be made not less than 14 working days before the change. Failure to comply may render the model registration null and void. Changes of water tap information (e.g. brand name, model no.) will be considered as major changes that require new applications for registration in the Scheme;
- (k) remove within three months all Labels from the water tap and its packing if it has been de-registered; and
- (l) return the corresponding registration certificate to the Department within one month upon receipt of the notification letter of de-registration.

9.11 The details of water taps registered under this Scheme will be kept in a register maintained by the Department. The registration records will be regularly uploaded to the Department's website for public information.

### **Termination**

9.12 Under circumstances of poor performance such as:

- (a) the participant failing to fulfil the obligations set out in the Scheme; or
- (b) the water tap failing to perform in accordance with rated water efficiency grade and/or the performance requirements of the Scheme and the participant not being able to rectify the non-compliance within the time frame specified by the Department; or
- (c) where the Director is of the opinion that registration of a water tap is contrary to the public interest. The Department may de-register a water tap from the Scheme with immediate effect by giving the participant notice in writing. Once a water tap is de-registered, it is not allowed to affix a Label to it. The participant shall remove all Labels from the de-registered water tap and its packing within three months from the notice.

9.13 Participant who decides to discontinue participating in the Scheme or to

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withdraw any registered water tap from the Scheme shall give at least three months' advance notice to the Department, in writing with the reason(s) for de-registration.

9.14 Participant should return the corresponding registration certificate to the Department within one month after de-registration under the Scheme.

#### **Arrangement and Procedures upon expiry of the General Acceptance (GA) Approval**

9.15 The water taps shall be tested in accordance with the requirements as specified in relevant Waterworks Regulations and comply with the standards specified for the water taps by the Water Authority. If applicable, the WELS registration record will expire on the expiry date of the General Acceptance (GA) of the water tap.

9.16 The detailed arrangement and procedures for handling WELS registered water tap upon expiry of its GA is described as below:

- (a) The WELS registration record will expire instantly on the expiry date of the GA of water taps;
- (b) The WELS on water taps register in the Water Supplies Department's website (<https://www.wsd.gov.hk/en/plumbing-engineering/water-efficiency-labelling-scheme/wels-on-water-taps/register-water-taps/index.html>) will be updated accordingly;
- (c) A notification letter will be given to the participant upon the expiry of the WELS registration;
- (d) Participant who decides to discontinue participating in the Scheme should inform the Department with written notice and return the corresponding registration certificate to the Department within one month upon receipt of the notification letter;
- (e) Once the WELS registration record of a water tap is expired, it is not allowed to affix a Label to it;
- (f) The participant shall remove all Labels from the water tap expired under WELS registration as well as its packing and/or the swing tag securely fastened to the product/packing within three months from the notice;
- (g) Participant who decides to continue registering a water tap (of expired GA) with the Scheme shall submit a notification letter through post, facsimile or electronic mail within one month of the date of the corresponding letter of the renewed GA. The notification letter shall include its WELS registration number, manufacturer, brand and model number, together with the documentary proof of the renewed GA issued



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by the Water Authority with the new validity period. If the application is accepted, the participant will be notified of the result within 17 working days upon the receipt of all necessary information requested.

## 10. Legal Provisions

- 10.1 Without prejudice to any remedy a purchaser may have against the party under the **Laws** of Hong Kong, a culpable party may be subject to the following sanctions.
- 10.2 This Scheme is a voluntary scheme. However, a participant who abuses the Scheme by giving false information on the Label may constitute an offence under the Trade Descriptions Ordinance, Cap 362.
- 10.3 Unauthorized use of the Label may constitute an offence under the Copyright Ordinance, Cap. 528.

## 11. Compliance Monitoring and Inspection

### Purpose

- 11.1 To uphold credibility of the Scheme and to maintain continuous confidence of the consumers, compliance check on the Labels on those water taps registered in the Scheme is necessary. In addition, to avoid the unsatisfactory situation that unauthorized Labels are used on non-registered water taps, the Department may also carry out suitable form of inspection on those water taps which have not been registered under the Scheme.

### Scope

- 11.2 The scope of inspection includes, but not limited to, sample checking and testing for the following items:
- (a) whether the Label is affixed to registered water taps as required in Section 7;
  - (b) whether the Label being displayed is of correct format in accordance with Section 7;
  - (c) whether the water efficiency grade rated by the Department based on the data submitted by the participant is in line with the grade rated from the results of testing conducted by the Department **in compliance monitoring**

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and inspection;

- (d) whether the data shown on the Label tally with the information listed on the registration certificate; and
- (e) whether unregistered water taps display unauthorized Labels.

11.3 The participants will be requested to take immediate remedial action and report the follow-up action taken if non-compliance is found on their registered water taps such as incorrect information shown on the Label.

11.4 The Department will periodically appoint a recognised laboratory to conduct annual testing on the registered water taps in accordance with the requirements specified in Sections I and II of Annex 1. For a registered water tap which is found to fall within either one of the following cases, the Department may request the participant to conduct separate test at his/her own cost on the registered water taps, in accordance with the testing methodology as stated in Annex 1 in a recognized laboratory agreed by the Department:

- (a) The water tap is found not meeting the performance requirements specified in Section 5.4; or
- (b) The water tap is found not meeting the water efficiency grade rated based on the data of the water tap samples previously submitted by the participant in the application; or
- (c) The measured flow rate of water tap is found deviated from the registered flow rate by more/less than 20% in Section 5.3.

The test should be carried out on at least three further samples of the water tap. The WELS registrant shall submit the reference samples for testing within one month upon the request of the Department.

For case (a) above, the performance test results of the water tap samples should meet the requirements specified in Section 5.4. If the test results fail to meet such requirements, the Department may either require the participant to withdraw his/her registration or de-register the water tap from the Scheme.

For case (b) above, the water efficiency grading rated from the average nominal flow rate of the three water tap samples should be the same as the grading on the Label. Otherwise, the Department will require the participant to take appropriate remedial action including re-registering in the Scheme by replacing a Label with correct grading and flow rate for the registered water tap at his/her

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own cost.

For case (c) above, the nominal flow rates of the water tap samples shall be determined in accordance with Annex 1 and rated to the corresponding water efficiency grades as shown in Tables 2 and 3. If the water tap cannot fulfil the performance requirements specified in Section 5.3, the Department will require the participant to take appropriate remedial action including re-registering in the Scheme by replacing a Label with correct grading and low rate for the registered water tap at his/her own cost.

- 11.5 If no remedial action against the non-compliance is taken by the participant within the time prescribed by the Department, the Department may notify the participant of the de-registration of the concerned water tap from the Scheme. Once a water tap is de-registered, it is not allowed to affix a Label to it. The participant shall remove all Labels from the de-registered water tap and its packing within three months from the Department's notice. Failure to remove the Labels from the de-registered water tap may contravene the relevant ordinances as mentioned in Section 10 above. At the same time, the participant shall return the corresponding certificate to the Department within one month after de-registration under the Scheme.

#### **Inspecting Officers**

- 11.6 The Director will authorize Inspecting Officers to carry out water tap compliance monitoring and inspection. The officers will carry proper identification cards which will be produced during their inspection. However, the officers will not inform the participants in advance of their inspection.

- 11.7 It is the participants' obligation to allow the Inspecting Officers to gain access to their premises to carry out the inspection. Failure to comply may render the model registration null and void.

#### **Mode of Inspection**

- 11.8 Inspections will be carried out on registered water taps under the Scheme on an annual basis. Based on the record of the registration, annual inspection programmes will be developed. Inspection will also be conducted on the non-registered water taps with unauthorized Labels.

- 11.9 In addition to the annual inspections, the Inspecting Officers will carry out ad-hoc inspections in response to complaints. The items to be inspected in such a case will depend upon the nature of complaint and may include the items as

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stated in Section 11.2.

11.10 Inspections will normally be carried out at the retail outlets and water tap showrooms. Where necessary, inspection will also be done at warehouses.

11.11 Where necessary, re-inspection of non-compliance identified in water tap in the annual/ad-hoc inspection will be carried out.

11.12 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of the Scheme to provide information on the levels of water consumption and efficiency ratings, to facilitate consumers to select water efficient plumbing fixtures and water consuming appliances and to provide confidence on the registered products under the Scheme.

## **12. Complaints and Appeals**

12.1 The Department will be responsible for dealing with complaints from participants and other parties against matters related to the Scheme.

### **Complaints Handling Procedure**

12.2 The Department shall ensure that complaints are properly recorded and handled without undue delay.

12.3 The Department shall carry out investigation on complaints and reply to them within a reasonable time. For complaints that require site inspection and laboratory test, the complainant shall be notified through an interim reply.

12.4 The Department shall inform the complainant of the result or decision made on the complaint.

### **Appeal Procedure**

12.5 A participant may appeal against the decision or action taken by the Department in writing to the Director stating the reason for the appeal.

12.6 The Director may decide to suspend the decision or action taken by the Department from the day on which the appeal is made until such appeal is disposed of, withdrawn or abandoned unless such suspension would, in the opinion of the Director, be contrary to public interest.

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12.7 The Director may, by notice to the appellant, require the appellant to attend meeting(s) with him or his representatives and provide documents and give evidence relevant to the appeal.

12.8 The Director shall notify the appellant of his decision and reasons for it. The decision will be final.

### **13. Maintenance of Scheme**

13.1 To ensure that the Scheme can continue to operate effectively and efficiently, the Scheme will be maintained as follows:

- (a) Continuous updating of the lists of water taps registered in the Scheme as follows:
  - i) registered water taps with details such as registration numbers in the Scheme, dates of registration, flow rate data, performance data, makes, models and other related information; and
  - ii) manufacturers, importers or other related parties of the registered water taps with details such as addresses, telephone numbers, e-mail addresses, etc.
- (b) Periodic review of the **Scheme Document, including** testing methodologies, procedures for registration application and compliance monitoring etc.
- (c) Continuous evaluation of the effectiveness of the Scheme and assessment of what changes are necessary.

## **Testing Guidelines for Water Taps**

### **Condensed Testing Requirements**

**with reference to the**

**AS/NZS 3718:2005 (R2016) Standard with Amendment Nos.1 and 2**

- Note -

*This Annex is a guideline to facilitate the participant to grasp the context of water efficiency testing requirements. It makes reference to the Appendices G and Q of the captioned standard and focuses on the measurement of water flow rate and the endurance test for flow controllers. The participant should be able to obtain from the text a good appreciation of the testing requirements. On the other hand, the captioned standard is much more comprehensive and detailed and contains exact definitions. Due to condensed size, this Annex cannot replace the captioned standard nor is there any intention to do so. In case of doubt, the captioned standard should always be consulted.*

*Section I of this Annex describes the methodology for determination of Nominal Flow Rate for Water taps. The endurance test for flow controllers are elaborated in Section II.*

*The Department would like to acknowledge the assistance of the SAI Global Limited, Australia for granting permission to reprint the content of the above-mentioned Appendices under Licence 1003-C113.*

## Section I – Methodology for Determination of Nominal Flow Rate for Water Taps

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### A1. Scope

This section sets out the method for determining the nominal flow rate of a water tap.

Where a tap is supplied with an aerator and/or outlet device, the nominal flow rate shall be measured with the tap and the aerator and/or tap outlet device in the fully open position providing the maximum flow.

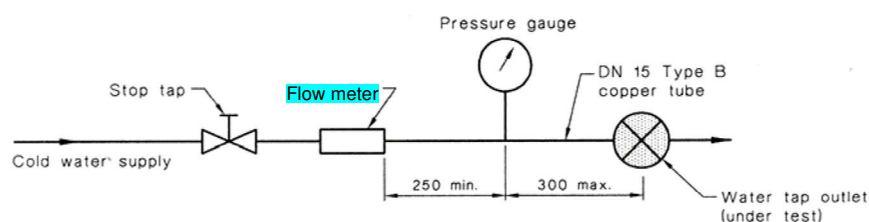
### A2. Principle

The water tap to be tested is supported in a test rig and water is passed through the water tap at dynamic flow pressures of 50 kPa, 150 kPa, 250 kPa, 350 kPa and 500 kPa; when the flow rate has stabilized it is recorded at each of these pressures at ambient water temperature.

### A3. Apparatus

The following apparatus is required:

- (a) A water supply capable of:
  - (i) delivering the required volumes at a temperature of  $20 \pm 5^{\circ}\text{C}$ ; and
  - (ii) at a dynamic flow pressure of at least 500 kPa.
- (b) Test apparatus made from Type B copper tube or equivalent of pipe diameter equal to the inlet size of the water tap. The branch for flow pressure measurements shall be located at least 250 mm downstream of any valve or fitting. The water tap connection shall be not more than 300 mm downstream of the flow pressure measurements. A typical test arrangement is shown in Figure A1 below.



DIMENSIONS IN MILLIMETRES

Figure A1 – Typical Test Arrangement

- (c) A pressure gauge having an accuracy of  $\pm 2\%$  of the true value.
- (d) A flow meter having an accuracy of  $\pm 2\%$  of the true value.

#### A4. Procedure

The procedure shall be as follows:

- (a) Mount the test sample (water tap and tap outlet) with other components (e.g. an arm, a flow controller, etc.) in the test rig with the inlet(s) connected to the water supply in accordance with the product manufacturer's intended method of installation.
- (b) The test sample operating mechanism or mechanisms or actuating valve(s) shall be adjusted to achieve the maximum flow at the outlet.
- (c) Condition the water tap by allowing the water to flow through and then adjust the control valve gradually until the dynamic flow pressure of 500 kPa is achieved for at least 1 minute.
- (d) Gradually adjust the control valve to turn off the flow of water.
- (e) Gradually turn on the flow of water until a stabilized flow at a dynamic flow pressure of 50 kPa is achieved.
- (f) Observe the flow meter and record the flow rate at that dynamic flow pressure.
- (g) Repeat steps (e) and (f) with the dynamic flow pressure increased to 150kPa, 250 kPa, 350 kPa and then to 500 kPa.
- (h) Gradually adjust the control valve to turn off the flow of water.
- (i) Repeat steps (e) to (g) to obtain a second reading of the flow rates at the range of pressures.
- (j) Calculate and record the average flow rates at each of the following dynamic pressures:
  - (i) 50 kPa
  - (ii) 150 kPa
  - (iii) 250 kPa
  - (iv) 350 kPa
  - (v) 500 kPa
- (k) Calculate the mean of the average flow rate obtained in Steps (j)(ii) to (j)(iv), and record this value as the nominal flow rate. Please note that although the water tap is tested from 50 kPa to 500 kPa, the recording of the average flow rate at the pressures of 50 kPa and 500 kPa is to facilitate consumers in



making their water tap selection.

- (l) From the averages obtained in Step (j)(ii) to (j)(iv), record the highest and lowest average flow rates.
- (m) Calculate and record the maximum differences between the highest and lowest average flow rates at Step(l).

**A5. Test Report**

The following shall be reported and attached:

- (a) Manufacturer, brand name, model name and model number (if these are applicable) of the water tap.
- (b) Provide a table showing the average flow rate through the test sample, at the dynamic flow pressures of:

Dynamic flow pressure (kPa)	50	150	250	350	500
Average flow rate (litres/minute)					

Note: The average flow rate as determined in paragraph A4 (j)

- (c) The nominal flow rate in 1 decimal place (e.g. 5.2 litres/minute).  
Note: As determined in paragraph A4 (k).
- (d) The difference between the highest and lowest average flow rates as determined at Step (m) of paragraph A4.
- (e) Three photos clearly showing the front view of the water tap, side view of the water tap and the connection hole/flow controller of the watertap.
- (f) Statement on the assembly of the water tap for testing as required in paragraph A4(a), e.g. test conducted with other components such as flow controller.
- (g) Combine the test report sections as specified in Section II to form a complete test report.

## Section II – Endurance Test for Flow Controllers (if incorporated in water taps or being components of water taps)

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### B1. Scope

This section sets out the method by which taps or non-integrated tap outlets containing flow controllers are tested for flow controller endurance. The test measures the ability of flow controllers to operate satisfactorily with normal heated and cold-water applications during the expected life of the device.

### B2. Principle

The test sample (flow controller) is installed in a test rig and connected to a temperature-controlled heated and cold water supply at a given pressure. A cyclic mechanism is used to open and close the valve providing water to the test sample. On completion of the pressure cycles, the test sample is retested in accordance with Section I of this Annex.

### B3. Application

The method is applicable to the following cycle range:

- (a) Where the flow controller is located upstream of the shut-off operating mechanism or forms part of the shut-off operating mechanism 50 000  $\pm$ 500 cycles.
- (b) For other flow controllers 10 000  $\pm$ 100 cycles.

To simulate temperature changes that occur in actual operation, the flow controller is also subjected to alternate supplies of heated and cold water every 55  $\pm$ 5 cycles between the manufacturer's maximum operating temperature  $\pm$ 3°C and at ambient water temperature.

### B4. Test Rig Apparatus

A test rig fitted with a counter to count complete cycles, and capable of –

## Annex 1

- (a) Operating the test sample through  $50\,000 \pm 500$  cycles from 0 kPa to 350 kPa;
- (b) Delivering heated water at a temperature of  $80 \pm 3^\circ\text{C}$ , or manufacturer's maximum operating temperature ;
- (c) Delivering a flow rate of 20 l/min at 350 kPa;
- (d) Providing  $12 \pm 1$  cycles per min; and
- (e) Alternating ambient and heated water every  $55 \pm 5$  cycles.

A typical test arrangement is shown in Figure B1 below.

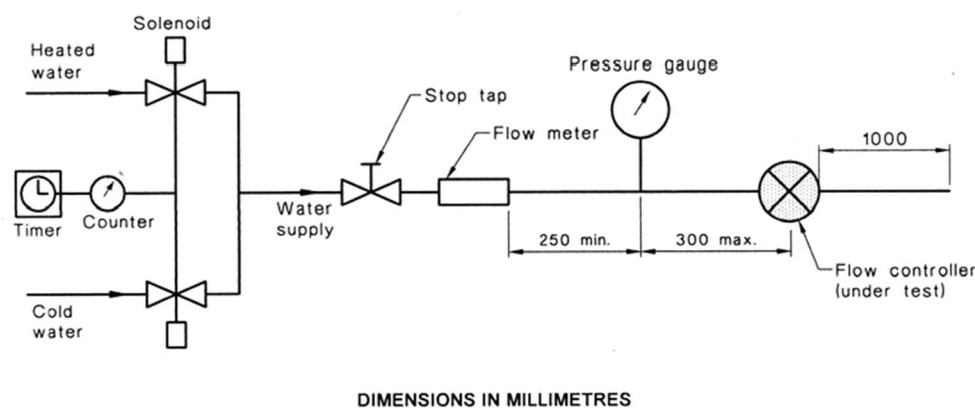


Figure B1 – Typical Test Arrangement for Endurance Test

### B5. Procedure

The procedure shall be as follows:

- (a) Test the sample in accordance with Section I of this Annex to determine and record the initial nominal flow rate and average flow rates at 150 kPa, 250 kPa, and 350 kPa of the test sample.
- (b) Connect the test sample to the test rig.
- (c) Adjust the supply pressures with each water supply and check that the pressures and water temperatures are as specified.
- (d) Commence the opening and closing operation of the valves supplying water to the test sample.
- (e) Reset the cycle counter to zero.
- (f) Operate the timing and control equipment to achieve the following complete cycle:
  - (i) Valve opens.
  - (ii) Valve remains open for a period of  $1 +5, -0$ s.
  - (iii) Valve fully closes.

(iv) Valve remains fully closed for 2 +5, -0s.

During each cycle, the test sample shall be supplied with water from either the hot supply or the cold supply. After every 55 ±5 cycles, the supply shall be switched from being cold to hot and vice versa.

- (g) Regular check that the prescribed limits are being met throughout the test. The test rig may be turned off to perform this test. Record the results and the number of cycles at which these checks occur.
- (h) At the completion of Step (g), retest the test sample in accordance with Section I of this Annex to determine and record the final nominal flow rate and average flow rates at 150 kPa, 250 kPa and 350 kPa of the test sample.
- (i) Calculate the difference between the nominal flow rates of the test sample determined in Step (a) and Step (h).

## **B6. Test Report**

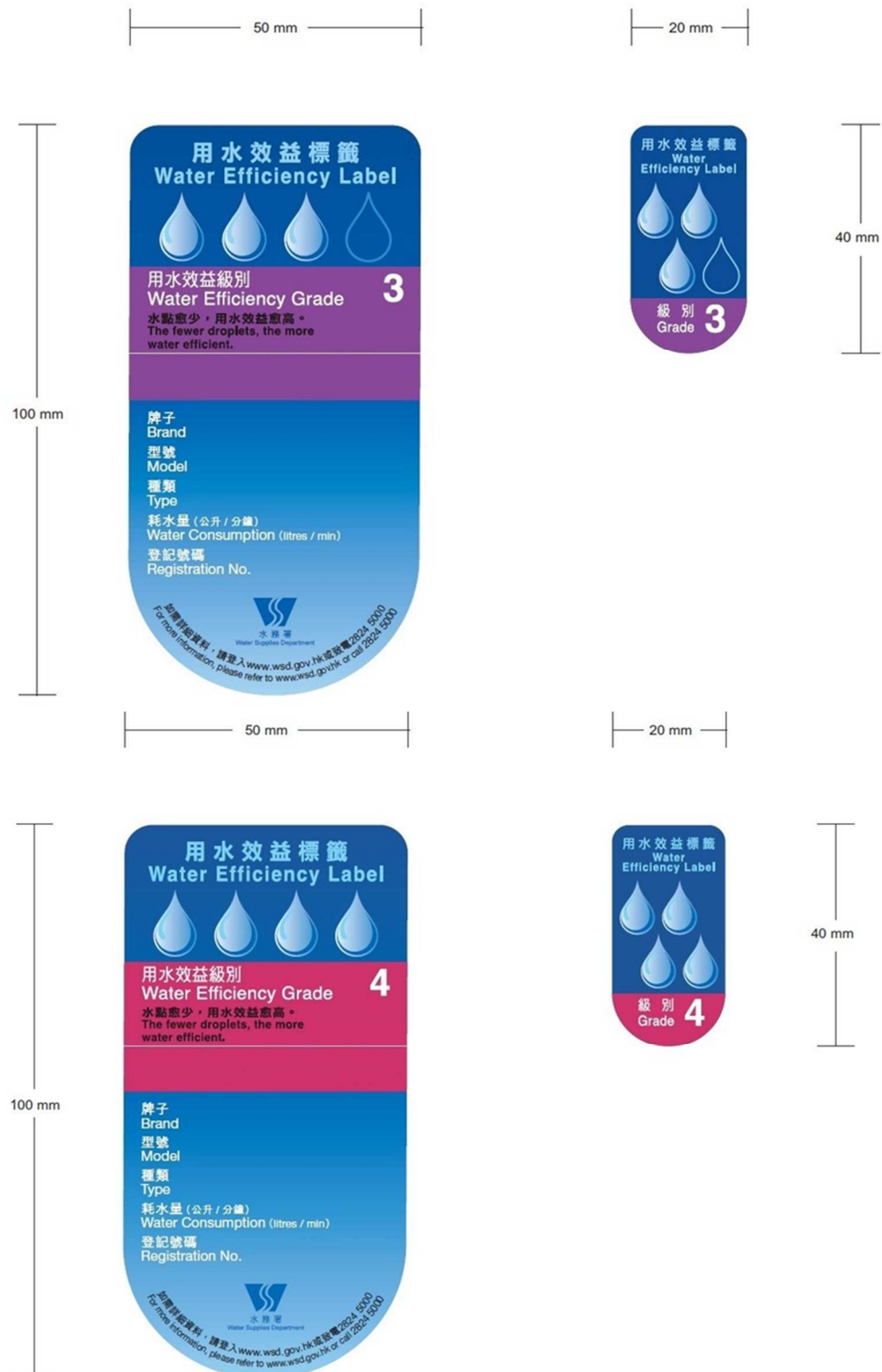
The following shall be reported and formed part of the test report specified in paragraph A5:

- (a) Manufacturer, model, size and type of the housing and flow controller
- (b) Number of cycles completed
- (c) Initial nominal flow rate and average flow rates of the test sample determined in paragraph B5 (a)
- (d) Final nominal flow rate and average flow rates of the test sample determined in paragraph B5 (h)
- (e) The difference between the nominal flow rates of the test sample determined in paragraph B5 (i)

# Water Efficiency Label



## Water Efficiency Label



### Notes:

1. Dimensions of the full and simplified versions of the water efficiency label are 100mm x 50mm and 40mm x 20mm respectively.
2. Pantone Color: Blue: 2945C; Green (Grade 1): 390C; Brown (Grade 2): 471C; Purple (Grade 3): 2583C; Red (Grade 4): 214C; WSD logo: 293C
3. The water consumption figure shown in the water efficiency label is the nominal flow rate of the shower as determined in accordance with the Scheme.

## **Proforma Letter of Application**

Our ref.

Tel.

Fax.

Date

Water Supplies Department  
47/F, Immigration Tower  
7 Gloucester Road, Wanchai  
Hong Kong

Dear Sir/Madam,

### **Application for Registration in the Voluntary Water Efficiency Labelling Scheme on Water Taps**

Our company is the (manufacturer / importer / other related parties (please specify)\*) of \_\_\_\_\_ (brand name, model number and/or name of water tap) in Hong Kong. We would like to apply for registration of the water tap in the above scheme.

We understand fully our obligations as stated in the document of “Voluntary Water Efficiency Labelling Scheme on Water Taps” (Scheme Document) and will comply with all relevant requirements, in particular those specified below:

- (a) submit application for registration by means of an application letter together with “Proforma Letter of Application”, the information/material required in Section 9.3 of the Scheme Document and the test results which follow the format and procedures set out in Sections I and II of Annex 1 of the Scheme Document;
- (b) at our own costs, produce the water efficiency label and affix/print the full version water efficiency label either to the water tap or its packing at a prominent location in accordance with Section 7 of the Scheme Document;
- (c) ensure that the registered water tap shall be displayed for sale with the full version water efficiency label;
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in our sale distribution network once the water tap is registered under the above

### Annex 3

Scheme and notify them that the Water Supplies Department (WSD) may request to enter their premises to carry out random/ad-hoc inspections in Section 11 of the scheme document;

- (e) allow annual/ad-hoc inspection/re-inspection to be conducted by Inspecting Officers authorized by the Director of Water Supplies on the registered water tap at our premises such as the warehouse and/or its retailing spots;
- (f) allow the tested flow rates and performance data of the registered water tap to be uploaded to WSD's website for public information;
- (g) conduct re-test(s) at our own costs at a recognized laboratory complying with the requirements in Section 8 of the scheme document if non-compliance is found on the registered water tap. The result of re-test(s) shall reach WSD within the time specified by WSD.
- (h) submit a reference sample of the registered water tap for testing at his/her own cost upon the request from the Department;
- (i) provide additional supporting information/material upon request of the Department within the time prescribed. Failure to comply may render rejection of the Application for Registration;
- (j) notify the Department by means of a notification letter (in either English or Chinese with the company's chop stamped on the Proforma Letter of Application and all submitted documents front covers) through post, facsimile or electronic mail of any changes of the company information (e.g. company name). The notification should be made not less than 14 working days before the change. Failure to comply may render the model registration null and void. Changes of water tap information (e.g. brand name, model no.) will be considered as major changes that require new applications for registration in the Scheme;
- (k) remove within three months all water efficiency labels from the water tap and its packing if it has been de-registered; and
- (l) return the corresponding registration certificate to the Department within one month after de-registration under the Scheme.



**Annex 3**

The detailed information of the water tap which we apply for registration is shown in the attached documents (see Annex 4 for the list of information to be submitted) for your processing.

Yours faithfully,

(Manufacturer/Importer/Agent's Name and Company Chop)

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\* *delete as appropriate*

**Information/Material to be Submitted**  
**to the Water Supplies Department**

1. Information of the company, i.e. name, address, telephone number, fax number, e-mail address, website address, contact person, and sale distribution network (e.g. names and addresses of the distributor(s), etc.).
2. Information of the water tap being applied for registration in the Scheme, i.e. brand name, model no. and/or name, catalogue (if available), country/region of origin and two photos clearly showing the front and side views of the water tap.
3. Parties which will be responsible for making and affixing the water efficiency label (Label).
4. Proposed commencement date to affix the Label to water tap (Year , Month ).
5. Documentary proof of the approval for the water tap issued by the Water Authority.
6. Documentary proof that the design (if any) and production system for the water tap is operating according to a recognised international quality system (such as ISO 9001). The submission of product drawings extracted from the product manual or design manual, and international quality system certificate on the manufacturer can be considered as documentary proof of recognition of the quality system. Failure to renew the recognised international quality system may render the model registration null and void.
7. For registration in WELS under the recognition mechanism, valid test report used for application for registration of the water tap under the oversea water efficiency labeling scheme. The test report shall include the required information requested in Section A5 and B6 of Annex 1 of the Scheme Document. Documentation showing valid registration status of the water tap in the respective overseas water efficiency labelling scheme (e.g. Certified true copy of the registration document, website link, i.e. URL, to the register in respective scheme);
8. Detailed test report in accordance with the reporting requirements specified in Annex 1 of the Scheme Document. The test report shall be issued by a recognised laboratory complying with the requirement in Section 8 of the Scheme Document. The required information requested in Sections A5 and B6 of Annex 1 of the Scheme Document has to be provided in a single section of the test report.
9. Documentary proof the testing laboratory appointed by the participant has satisfied the requirement of Section 8.2, 8.3 and 8.4 of the Scheme Document.

The submission of certificate of accreditation, self-declaration statement that the operation of the testing laboratory meets the requirements of ISO/IEC 17025 can be considered as documentary proof;

10. For the case of water taps of same design but with the variation in dimension, colour, coating and finishing, the applicant should consult with the testing laboratory and confirm in writing that such variation will not affect the flow rate performance and other performance requirements stipulated in Section 5.3 and Section 5.4;
11. Should any other flow controller to be installed to the same water tap registered under the approval from the Water Authority, the applicant shall specify the details of such flow controller and provide substantiation that it has been tested to be safe for potable water use; and
12. The participant shall submit a reference sample for each water taps successfully registered under the Scheme upon the request of the Department;

*Note: Company's chop should be stamped on the Proforma Letter of Application and all the document front covers provided by hand, or through post, facsimile or electronic mail to the Water Supplies Department. All photocopy test reports submitted to the Department shall be certified as true copy issued by the testing laboratory appointed by the participant. Upon the request of the Department, the participant is required to provide the original copy of the test reports.*

## Flow Chart for Registration

