

# **The Voluntary Water Efficiency Labelling Scheme on Urinal Equipment**

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水務署

Water Supplies Department

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## **1. Purpose**

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

## **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. Product participating in the WELS will incorporate a water efficiency label that serves to inform consumers of the water consumption level and efficiency rating. Consumers could 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 suitable 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 three groups of products for implementation of the WELS are showers for bathing, water taps and washing machines which had been launched in September 2009,

September 2010 and March 2011 respectively. The next group of products for implementation of the WELS is urinal equipment.

### **3. Scope**

- 3.1 The Scheme will apply to the manufacturers, importers, or other related parties participating in the Scheme.
- 3.2 The Scheme registration commences from XX April **2012** and will expire on YY December **2014** when re-registration is necessary.
- 3.3 The Scheme only covers new urinal equipment imported to or manufactured in Hong Kong. It does not cover second-hand products, products already in existing use, under trans-shipment or manufactured for export, and etc.
- 3.4 The Scheme is operated on a ‘Grading Type’ labelling system. Under this Scheme, participating urinals will be rated to different grades according to their minimum water flush volumes per cycle required to fulfill performance. For urinal flushing valves, the rating is according to their total water flush volumes per cycle provided that they have met the statutory requirements and performance requirements specified in the Scheme.
- 3.5 The provisions of this Scheme shall apply to the urinals with traps and automatic/manual urinal flushing valves. Those urinals with traps coupled with urinal flushing valves to form a combination or urinal suites (urinals with traps equipped with integrated sensing type flushing valves) are also included in this Scheme. However, urinals without integral or external traps, trough urinals, flushing cistern as well as waterless urinals are excluded from this Scheme at this stage.

### **4. Definitions**

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

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

<i>Director</i>	means the Director of the Water Supplies Department, the Government of HKSAR.
<i>Government</i>	means the Government of HKSAR.
<i>HKAS</i>	means the Hong Kong Accreditation Service.
<i>HOKLAS</i>	means Hong Kong Laboratory Accreditation Scheme.
<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>ISO</i>	means the International Organization for Standardization.
<i>Label</i>	means the water efficiency label (both full version and simplified version) as described in Section 7 of this document.
<i>low pressure application</i>	means urinal equipment operating in low water supply pressure on or higher than 0.40 bar but below 1.75 bar.
<i>MRA</i>	means a mutual recognition agreement/arrangement.
<i>normal pressure application</i>	means urinal equipment operating in a water supply pressure on or higher than 1.75 bar.
<i>participant</i>	means a manufacturer, an importer or other related party of the urinal equipment registered in the Scheme.
<i>recognized laboratory</i>	means a laboratory that complies with the requirements for testing laboratory as stated in Section 8.
<i>Scheme</i>	means the Voluntary Water Efficiency Labelling Scheme on Urinal Equipment.
<i>trough urinals</i>	means the sanitary fitting, comprising a floor channel and a slab or sheet fixed to a wall, for receiving urine and water used for flushing and directing both into a drainage system.

<i>urinal(s)</i>	means the sanitary fitting, either wall or floor mounted, used by men for urination. Water is used for flushing.
<i>urinal equipment</i>	means urinals, urinal flushing valves either automatically or manually operated, urinals equipped with urinal flushing valve to form a combination or urinal suites.
<i>urinal flushing valve</i>	means a device that controls the release of water to flush a urinal.
<i>urinal suite</i>	means urinal with trap equipped with an integrated sensing type flushing valve.
<i>Water Authority</i>	means the Director of Water Supplies.
<i>waterless urinals</i>	means the sanitary fitting, either wall or floor mounted, used by men for urination and no water is needed for operation.

## 5. Testing Methodology and Standard

### **Statutory Requirement**

- 5.1 The flushing valve of urinal equipment shall be tested in accordance with the requirements as specified in relevant Waterworks Regulations and comply with the standards specified for the flushing valve by the Water Authority. Upon the completion and compliance with the test(s), the approval for the urinal flushing valve shall also be obtained from the Water Authority prior to the WELS application.

### **Scheme Participation Requirement**

- 5.2 The testing methodology is described in Annex 1 with reference to testing conditions and requirements specified in the American Standard No. ASME A112.19.2:2008 – Ceramic Plumbing Fixtures, Appendix D of Australian/New Zealand Standard No. AS/NZS 3982:1996 – Urinals and requirements in relevant Waterworks Regulations or other equivalent international standards approved by the Department.

### **Water Flush Volume per Cycle**

- 5.3 The minimum water flush volume per cycle and the total water flush volume per cycle shall be determined in accordance with Annex 1. The water efficiencies of the urinal equipment will be rated to different grades according to Section 6.

### Other Performance Requirements

- 5.4 The urinal equipment shall also be tested in accordance with Annex 1 for conformity with all the performance requirements as shown in Table 1 and/or Table 2.

Table 1: Performance Requirements for Urinals with Traps

<b>Performance Property</b>	<b>Performance Requirements</b>
Trap seal depth determination	The full trap seal depth shall be at least 51 mm (2.0 inches).
Surface wash test	The total length of the ink line segments remaining on the flushing surface after each flush cycle shall not exceed 25 mm (1.0 inch) when averaged over three test runs. In addition, no individual segment shall be longer than 13 mm (0.5 inch).
Dye test	The colour of the test sample shall be lighter than or equal to that of the control sample.
Splash test	The urinals shall not splash water onto the floor.

Table 2: Performance Requirements for Urinal Flushing Valves

<b>Performance Property</b>	<b>Performance Requirements</b>
Physical endurance and leakage test	There shall be no leakage from 1, 2, 5, 10, 50, 100, 500, 1000, 10000 cycles and then every 10000 up to 200000 cycles for the duration of test.

### Quality Requirement

- 5.5 The urinal equipment shall be manufactured under a design (if applicable) and production system operating according to a recognized international quality system (such as ISO 9001).

## 6. Water Efficiency Grading

**Classification of Urinal Equipment**

- 6.1 For the purpose of water efficiency rating assessment, all urinal equipment to be registered under the Scheme are classified based on the category or categories submitted by the participants in accordance with Table 3. The urinal equipment will be registered and labelled with either one Label for the corresponding category or two Labels, i.e. one Label for category 1 and the other Label for category 2.

Table 3: Classification of Urinal Equipment

Category	Description
1	Urinal Equipment in normal pressure application
2	Urinal Equipment in low pressure application

**Water Efficiency Grading**

- 6.2 The water efficiencies of the urinals with traps rated to different grades according to their minimum water flush volumes per cycle required to fulfill performance while the water efficiencies of the urinal flushing valves rated to different grades according to their total water flush volumes per cycle as shown in Table 4 respectively. Grade 1 is the most water efficient whereas grade 4 is the least water efficient.
- 6.3 For a product of combination or an urinal suite, the water efficiency grade of the product will be rated to different grades according to the total water flush volume of the urinal flushing valve per cycle provided that the accompanied urinal shall also fulfil all the performance requirements as specified in Section 5.4 when tested using the total water flush volume per cycle of the urinal flushing valve.

Table 4: Conversion of Water Flush Volume per Cycle to Water Efficiency Grades for Urinal Equipment under normal or low pressure application

Water flush volume per cycle* : <i>f</i> (litres/cycle)	Water Efficiency Grade	Symbolic Presentation on the Water Efficiency Label
$f \leq 1.5$	Grade 1	1 water droplet 

Water flush volume per cycle* : <i>f</i> (litres/cycle)	Water Efficiency Grade	Symbolic Presentation on the Water Efficiency Label
$1.5 < f \leq 2.5$	Grade 2	2 water droplets 
$2.5 < f \leq 4.5$	Grade 3	3 water droplets 
$4.5 < f$	Grade 4	4 water droplets 

Note : \* water flush volume per cycle means minimum water flush volume per cycle for an urinal with trap or total water flush volume per cycle for an urinal flushing valve, a product of combination or an urinal suite.

- 6.4 If the total water flush volume per cycle of an urinal flushing valve is 1.0 litre or less, it shall be tested together with the recommended urinal to form a combination. The valve and the urinal will be registered as a combination.
- 6.5 An urinal with an external trap shall be tested together and both will be registered as a combination.
- 6.6 In order to sustain the performance requirements, an urinal and an urinal flushing valve registered under WELS on urinal equipment can be connected to form a combination provided that
- (a) The water efficiency grading of the urinal and the urinal flushing valve must be the same; and
  - (b) The total water flush volume per cycle of the urinal flushing valve should not be less than the minimum water flush volume per cycle of the urinal.
- 6.7 If the urinal equipment is operated with a smart demand operation to achieve additional water saving and have already verified by the testing laboratories or certification bodies as specified in Annex 1 and Section 8.1 respectively, a '+' sign will be specified on the water efficiency label for indication and description of the merited function will be referred from the registration certificate.

## 7. Water Efficiency Label

### Label Versions and Location

- 7.1 The Label should be self-adhesive or 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 Label(s) to his/her registered urinal equipment or its packing at a prominent location. The participant should also ensure that the registered urinal equipment shall be displayed for sale with the full version Label(s). The simplified version Label is designed to facilitate the participant to affix it to the urinal equipment in case the full version Label is too large to do so. However, the affixation of the simplified version Label to the urinal equipment is optional.

#### **Colour Scheme and Dimensions**

- 7.2 The Label should be printed on white-coloured self-adhesive sheet material (for self-adhesive type) and should have dimensions as shown in Annex 2. It should be printed in English and in Chinese in accordance with the colour codes specified in Annex 2. The soft copy of the Label can be obtained from the Department.

#### **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 urinal equipment 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 Certification Bodies**

- 8.1 The testing specified in Sections 5.3 & 5.4 is to be carried out either by an independent testing laboratory, the manufacturers, the importers or other related parties themselves at their own testing laboratories. The Department will accept the results and certificates issued by the testing laboratories which fulfill one of the criteria as specified in Sections 8.2, 8.3 or 8.4.
- 8.2 The laboratory is accredited by the Hong Kong Accreditation Service (HKAS) for carrying out the tests stipulated in this Scheme i.e. Section 5.3 & 5.4 of this document under the Hong Kong Laboratory Accreditation Scheme (HOKLAS). Alternatively, a scheme with which the HKAS has concluded a mutual

recognition agreement<sup>#</sup>; and the results are issued in a test report or certificate bearing the accreditation mark.

8.3 An in-house laboratory fulfilling the criteria listed below:-

- (a) Self-declaration by the manufacturer, importer or other related parties that the operations of their in-house laboratory follow the requirements of ISO/IEC 17025; **and**
- (b) The manufacturer is currently operating according to a recognized international quality system (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 urinal equipment and where these tests have been evaluated and certified by internationally recognised third party certification organisations.

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

8.5 The participant can utilise the testing report fulfilling the requirements in Annex 1 issued by an overseas laboratory with MRA with HKAS for application purpose. HKAS has concluded mutual recognition arrangements with sixty-six overseas accreditation bodies<sup>#</sup> for testing laboratory accreditation.

*<sup>#</sup> The overseas accreditation bodies are AAC of Analitica Russian Federation, OAA of Argentina, NATA of Australia, BMWFJ of Austria, BELAC of Belgium, INMETRO of Brazil, SCC and CALA of Canada, TAF of the Chinese Taipei, ECA of Costa Rica, ONARC of Cuba, CAI of Czech Republic, DANAK of Denmark, EGAC of Egypt, FINAS of Finland, EAK of Estonia, COFRAC of France, DAKKS of Germany, ESYD of Greece, OGA of Guatemala, NABL of India, KAN of Indonesia, INAB of Ireland, ISRAC of Israel, ACCREDIA of Italy, IAJapan, JAB and VLAC of Japan, KOLAS of Korea, LATAK of Latvia, LA of Lithuania, DSM of Malaysia, NAB-MALTA of Malta, IANZ of New Zealand, ema of Mexico, RvA of Netherlands, NA of Norway, PNAC of Pakistan, CNAS of People's Republic of China, PAO of the Philippines, PCA of Poland, IPAC of Portugal, RENAR of Romania, SAC of Singapore, SNAS of Slovakia, SA of Slovenia, SANAS of South Africa, ENAC of Spain, SLAB of Sri Lanka, SWEDAC of Sweden, SAS of Switzerland, DMSc and DSS of Thailand, TUNAC of Tunisia, TURKAK of Turkey, DAC of United Arab Emirates, UKAS of the United Kingdom, A2LA, ACLASS, ASCLD/LAB, NVLAP, L-A-B, PJLA and IAS of the United States, BoA of Viet Nam, NSC-ONAC, etc. 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/hoklas/agreement.htm>. Partners of these arrangements recognise the accreditations granted by one another as equivalent*

## 9. Application for Registration

### Application Procedures

- 9.1 All manufacturers, importers and other related parties in the urinal equipment business are welcome and encouraged to participate in the Scheme. For some known manufacturers and importers, invitation letters will be issued to them. However, any manufacturers, importers and other related parties in the urinal equipment business may submit applications for registration no matter whether they are invited or not.
- 9.2 The application for WELS registration can be submitted by means of an application letter 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 (<http://www.wsd.gov.hk/en/wels/index.html>) for downloading. The application submission can be made in either English or Chinese.

### Information/Documents to be Submitted for Application

- 9.3 The information/material to be submitted with the application are listed as follows:
- (a) Information of the company, i.e. name, address, telephone number, fax number, e-mail address, website address, contact person, and sale distribution network (names and addresses of the distributor(s), etc.);
  - (b) Information of the urinal equipment being applied for registration in the Scheme, i.e. brand name, model no. and/or name, urinal equipment category (or categories), catalogue (if available), three photos clearly showing the front, side and bottom views of the urinal equipment, and country of origin;
  - (c) Proposed commencement date to affix the Label to urinal equipment (Year

- \_\_\_\_\_, Month \_\_\_\_);
- (d) Documentary proof of the approval for the urinal equipment issued by the Water Authority;
  - (e) Documentary proof that the design (if any) and production system for the urinal equipment is operating according to a recognized international quality system (such as ISO 9001);
  - (f) Detailed test report in accordance with the reporting requirements specified in Annex 1. The test report shall be issued by a recognized laboratory complying with the requirements in Section 8. The required information requested in Sections A5, A6.2, A7.2, A8.2 and A9.2 for urinals and Section B5 for urinal flushing valves of Annex 1 and Section C3 for merited function (if any) of the scheme document have to be provided in a single section of the test report; and
  - (g) Statement on whether the testing laboratory has satisfied the requirement of Section 8.2, 8.3 or 8.4.

The above information is also listed in Annex 4. Upon the request of the Department, a reference sample for each urinal equipment to be participated in the Scheme shall be submitted by the participant at his/her own cost.

- 9.4 Company's chop should be stamped on all the document front covers/pages provided. All photocopy test reports submitted to the Department shall be certified as true copy. 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 urinal equipment meets the requirements based on the submitted information and will rate the urinal equipment with a water efficiency grade according to the urinal equipment's water flush volume per cycle and performance test results.
- 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. The participant will then be allowed to affix/print the Label to the 'registered' urinal equipment or its packing. The participant should ensure that the Label is correctly printed and affixed to the urinal equipment 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 The flow chart for registration is shown in Annex 5.

### **Participant's Obligations**

9.9 In order to ensure effective implementation of the Scheme, the participant must understand and be committed to full compliance with the obligations set out in the Scheme. 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, II and III of Annex 1;
- (b) at his/her own costs, produce the Label(s) and affix/print the Label(s) either to the urinal equipment or its packing at a prominent location in accordance with Section 7;
- (c) ensure that the registered urinal equipment shall be displayed for sale with the Label(s);
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in the participant's sale distribution network once the urinal equipment is registered under this Scheme and notify them that the Department may request to enter their premises to carry out the random/ad-hoc inspections in Section 11;
- (e) allow random/ad-hoc inspection to be conducted by Inspecting Officers authorized by the Director on the registered urinal equipment at his/her premises;
- (f) allow the tested and performance data of the registered urinal equipment to be uploaded to the Department's website for public information;
- (g) conduct re-test(s) at his/her own costs at a recognized laboratory if non-compliance is found on the registered urinal equipment. The result of re-test(s) shall reach the Department within the time specified by the Department;
- (h) inform the Department of any change in the technical information and data submitted in the application; and
- (i) remove within three months all Labels from the urinal equipment and its packing if it has been de-registered.

- 9.10 The details of urinal equipment 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**

- 9.11 Under circumstances of poor performance such as:
- (a) the participant failing to fulfil the obligations set out in the Scheme; or
  - (b) the urinal equipment 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 urinal equipment is contrary to the public interest,

the Department may de-register an urinal equipment from the Scheme with immediate effect by giving the participant notice in writing. Once the urinal equipment is de-registered, it is not allowed to affix Label(s) to it. The participant shall remove all Labels from the de-registered urinal equipment and its packing within three months from the notice.

- 9.12 Participant who decides to discontinue participating in the Scheme or to withdraw any registered urinal equipment from the Scheme shall give at least three months' advance notice to the Department.

## **10. Legal Provisions**

- 10.1 Without prejudice to any remedy a purchaser may have against the party under the law 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(s) 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 urinal equipment registered in the Scheme is necessary. In addition, to avoid the unsatisfactory situation that unauthorized Labels are used on non-registered urinal equipment, the Department may also carry out suitable form of inspection on those urinal equipment 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(s) is/are affixed to registered urinal equipment as required in Section 7;
  - (b) whether the Label(s) being displayed is/are 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 random testing conducted by the Department;
  - (d) whether the data shown on the Label(s) tally with the information listed on the registration certificate; and
  - (e) whether unregistered urinal equipment 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 urinal equipment such as incorrect information shown on the Label(s).
- 11.4 The Department will periodically appoint a recognized laboratory to conduct random testing on the registered urinal equipment in accordance with the requirements specified in Sections I, II and III of Annex 1. For a registered urinal equipment 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 urinal equipment, in accordance with the testing methodology as stated in Annex 1 in a recognized laboratory agreed by the Department.

- (a) The urinal equipment is found not meeting the performance requirements specified in Section 5.4; or
- (b) The urinal equipment is found not meeting the water efficiency grade rated based on the data previously submitted by the participant in the application.

The re-test should be carried out on at least three further samples of the urinal equipment. For case (a) above, the performance test results of the three urinal equipment 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 urinal equipment rated from the Scheme. For case (b) above, the water efficiency grading rated from the average water flush volume per cycle of the three urinal equipment samples should be the same as the grading on the Label(s). Otherwise, the Department will require the participant to take appropriate remedial action including replacing a Label(s) with correct grading and water flush volume per cycle for the registered urinal equipment.

- 11.5 If non-compliance is confirmed and no remedial action is taken by the participant within the time prescribed by the Department, the Department may order it be de-registered from the Scheme. Once the urinal equipment is de-registered, it is not allowed to affix Label(s) to it. The participant shall remove all Labels from the de-registered urinal equipment and its packing within three months from the notice. Failure to remove the Labels from the de-registered urinal equipment may contravene the relevant ordinances as mentioned in Section 10 above.

#### **Inspecting Officers**

- 11.6 The Director will authorize Inspecting Officers to carry out urinal equipment 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.

#### **Mode of Inspection**

- 11.8 Inspections will be carried out on registered urinal equipment under the Scheme on a random basis. Based on the record of the registration, random inspection

programmes will be developed. Inspection will also be conducted on the non-registered urinal equipment with unauthorized Labels.

- 11.9 In addition to the random 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 stated in Section 11.2.
- 11.10 Inspections will normally be carried out at the retail outlets and urinal equipment showrooms. Where necessary, inspection will also be done at warehouses.
- 11.11 The inspection results will be properly recorded for future analysis as well as on evaluation of the effectiveness of 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.

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 urinal equipment registered in the Scheme as follows:
  - i) registered urinal equipment with details such as registration numbers in the Scheme, dates of registration, water flush volume per cycle data, performance data, makes, models and other related information; and
  - ii) manufacturers, importers or other related parties of the registered urinal equipment with details such as addresses, telephone numbers, e-mail addresses, etc.
- (b) Periodic review of the 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 Urinal Equipment**

### **Condensed Testing Requirements with reference to the ASME A112.19.2:2008 Standard, Appendix D of AS/NZS 3982:1996 Standard and Requirements in relevant Waterworks Regulations**

- Note -

*This Annex is a guideline to facilitate the participant to grasp the context of water efficiency testing requirements. It makes reference to the some of the chapters of the captioned standard and focuses on the surface wash test, trap seal depth determination, dye test and splash test for measurement of minimum water flush volume per cycle of urinal fixture and measurement of total water flush volume per cycle and physical endurance and leakage test for urinal flushing valves. 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 performance requirement of urinals. The tests for urinal flushing valves 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 Appendix under Licence I108-c064:JH:SS.*

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## Section I – Methodology for Performance Requirement for Urinals

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### A1. Scope

This section sets out the method for performing surface wash test, trap seal depth determination, dye test, splash test and determination of minimum water flush volume per cycle for urinals.

### A2. Principle

The tests are to determine the performance requirements for urinals with respect to rim wash, waste removal, and minimum water flush volume per cycle respectively. The minimum water flush volume per cycle is the minimum volume of water per cycle required for fulfilling all the performance requirements of surface wash test, dye test and splash test as specified in Section 5.4. The water efficiencies of the urinals in normal pressure application (Category 1) will be rated to different grades according to the minimum water flush volume per cycle under a test pressure of 1.75 bar. On the other hand, the water efficiencies of the urinals in low pressure application (Category 2) will be rated to different grades according to the minimum water flush volume per cycle under a test pressure of 0.40 bar.

### A3. Testing Apparatus

*Please refer to Figure 12 in ASME A112.19.2:2008.*

### A4. General Instructions

The procedure for standardizing the water supply system for testing flushometer valve urinals shall refer to *Section 8.2.1 in ASME A112.19.2:2008.*

### A5. Full Test Report

A full test report for urinals shall combine the test reports as specified in Section I below (i.e. surface wash test, trap seal depth determination, dye test and splash test). The following shall also be reported and attached:

- (a) Manufacturer, country of origin, brand name, model name, model number and type (if these are applicable) of urinals.
- (b) Three photos clearly showing the front, side and bottom views of urinal.
- (c) The minimum water flush volume per cycle under a test pressure of 1.75 bar for normal pressure application or the minimum water flush volume per cycle under

a test pressure of 0.40 bar for low pressure application.

## **A6. Surface Wash Test**

*Please refer to Section 8.4.1 in ASME A112.19.2:2008.*

### **A6.1 Procedure for Surface Wash Test**

- (a) *Please refer to Section 8.4.2 in ASME A112.19.2:2008.*
- (b) The test shall be conducted under a test pressure of 1.75 bar for normal pressure application or under a test pressure of 0.40 bar for low pressure application.

### **A6.2 Test Report**

The following shall be reported:

- (a) The lengths and locations of any ink line segments remaining on the flushing surface after each flush shall be reported in a format similar to that of the table in *Figure A.7 in ASME A112.19.2:2008.*
- (b) The minimum volume of water per cycle necessary for fulfilling the performance requirement of surface wash test as specified in Section 5.4. The measuring apparatus shall be calibrated by volume in increments not exceeding 0.1 L.

## **A7. Trap Seal Depth Determination**

*Please refer to Section 8.3.1 in ASME A112.19.2:2008.*

### **A7.1 Procedure for Trap Seal Depth Determination**

*Please refer to Section 8.3.2 in ASME A112.19.2:2008.*

### **A7.2 Test Report**

*Please refer to Section 8.3.3 in ASME A112.19.2: 2008.*

## **A8. Dye Test**

*Please refer to Section 8.5.1 in ASME A112.19.2:2008.*

### **A8.1 Procedure for Dye Test**

- (a) *Please refer to Section 8.5.2 in ASME A112.19.2:2008.*
- (b) The test shall be conducted under a test pressure of 1.75 bar for normal pressure

application or under a test pressure of 0.40 bar for low pressure application.

## **A8.2 Test Report**

The following shall be reported :

- (a) *Please refer to Section 8.5.3 in ASME A112.19.2: 2008.*
- (b) The minimum volume of water per cycle necessary for fulfilling the performance requirement of dye test as specified in Section 5.4. The measuring apparatus shall be calibrated by volume in increments not exceeding 0.1 L.

## **A9. Splash Test**

The urinal is set up for splash tests according to manufacturer's specification with flushing device. (Please refer to Appendix D in AS/NZS 3982:1996)

### **A9.1 Procedure for Splash Test**

The splash test shall be conducted as follows:

- (a) Connect the urinal to the flushing apparatus and supply pipe according to manufacturer's instructions.
- (b) Activate the flushing apparatus to discharge at a volume equal to the higher of the minimum volumes of water per cycle determined under Sections A6 and A8. The test shall be conducted under a test pressure of 1.75 bar for normal pressure application or under a test pressure of 0.40 bar for low pressure application.

### **A9.2 Test Report**

The following shall be reported:

- (a) The minimum water flush volume per cycle. The measuring apparatus shall be calibrated by volume in increments not exceeding 0.1 L.
- (b) Whether the flushing water splashed over the step, tread, platform grating or rim onto the floor.
- (c) Compliance or non-compliance with the test criteria.

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## Section II – Methodology for Performance Requirement for Urinal Flushing Valves

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### **B1. Scope**

This section sets out the method for performing physical endurance and leakage test and total water flush volume per cycle for urinal flushing valves.

### **B2. Principle**

The tests are to determine the performance requirements for urinal flushing valves with respect to physical endurance and leakage as well as total water flush volume per cycle respectively. The total water flush volume per cycle of urinal flushing valves is determined by the total water given out in one complete operation cycle provided that they fulfill all the performance requirements as specified in Section 5.4. The water efficiencies of the urinal flushing valves in normal pressure application will be rated to different grades according to the total water flush volume per cycle under a test pressure of 1.75 bar. The water efficiencies of the urinal flushing valves in low pressure application will be rated to different grades according to the total water flush volume per cycle under a test pressure of 0.40 bar.

### **B3. Procedure for physical endurance and leakage test**

*Please refer to the test requirements for urinal flushing valves in conformity with the Waterworks Ordinance and Regulations.*

### **B4. Procedure for total water flush volume per cycle**

- (a) *Please refer to the test requirements for urinal flushing valves in conformity with the Waterworks Ordinance and Regulations.*
- (b) Measure the total flush volume per cycle under a test pressure of 1.75 bar for normal pressure application or under a test pressure of 0.40 bar for low pressure application.

### **B5. Full Test Report**

The following shall be reported and formed part of the test report.

- (a) Manufacturer, country of origin, brand name, model name, model number and size (if these are applicable) of the urinal flushing valves.
- (b) Three photos clearly showing the front, side and bottom view of urinal flushing

valve.

- (c) The total flush volume per cycle under a test pressure of 1.75 bar for normal pressure application or under a test pressure of 0.40 bar for low pressure application.
- (d) A complete test report in conformity with the Waterworks Ordinance and Regulations.

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## **Section III – Verification of Smart Demand Operation for Urinal Equipment**

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### **C1. Scope**

This section sets out the procedure for verifying urinal equipment with smart demand operation.

### **C2. Principle**

If the participants claim that their urinal equipment are operated with a smart demand operation to achieve additional water saving, they are welcomed and encouraged to apply for the merited function of urinal equipment.

### **C3. Procedure for verification of smart demand operation for urinal equipment**

- (a) All the smart demand operation of the urinal equipment shall be verified by a testing laboratory or certification body as specified in Section 8.1.
- (b) Test report shall be attached as per information to be submitted in application as specified in Section 9.

### **C4. Assessment**

- (a) On receipt of the application, the Department will verify whether test result of the smart demand operation is valid and can actually achieve additional water saving.
- (b) If the application is accepted, a '+' sign will be specified on the water efficiency label for indication and description of the merited function will be specified in the registration certificate.
- (c) If the application is rejected, a notification letter with reason(s) of rejection will also be given to the participant accordingly.

### Water Efficiency Label



### Water Efficiency Label



**Notes:** (The above labels are for display only. Finalized label design and units will be shown in the finalized scheme document.)

## **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 Urinal Equipment**

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

We understand fully our obligations as stated in the scheme document and will comply with all relevant requirements, in particular those specified below:

- (a) submit application, the information/material required in Section 9.3 of the Scheme document and the test report in accordance with the reporting requirements specified in Annex 1;
- (b) at his/her own costs, produce the Label(s) and affix/print the Label(s) either to the urinal equipment or its packing at a prominent location in accordance with Section 7;
- (c) ensure that the registered urinal equipment shall be displayed for sale with the Label(s);
- (d) fully inform other related parties (such as sales agents, retailers, etc.) in the participant's sale distribution network once the urinal equipment is registered under this Scheme and notify them that the Water Supplies Department (Department) may request to enter their premises to carry out the random/ad-hoc inspections as stated in Section 11 of the Scheme

- document;
- (e) allow random/ad-hoc inspection to be conducted by Inspecting Officers authorized by the Director of Water Supplies on the registered urinal equipment at his/her premises;
  - (f) allow the tested and performance data of the registered urinal equipment to be uploaded to the Department's website for public information;
  - (g) conduct re-test(s) at his/her own costs at a recognized laboratory if non-compliance is found on the registered urinal equipment. The result of re-test(s) shall reach the Department within the time specified by the Department;
  - (h) inform the Department of any change in the technical information and data submitted in the application; and
  - (i) remove within three months all Labels from the urinal equipment and its packing if it has been de-registered.

The detailed information of the urinal equipment 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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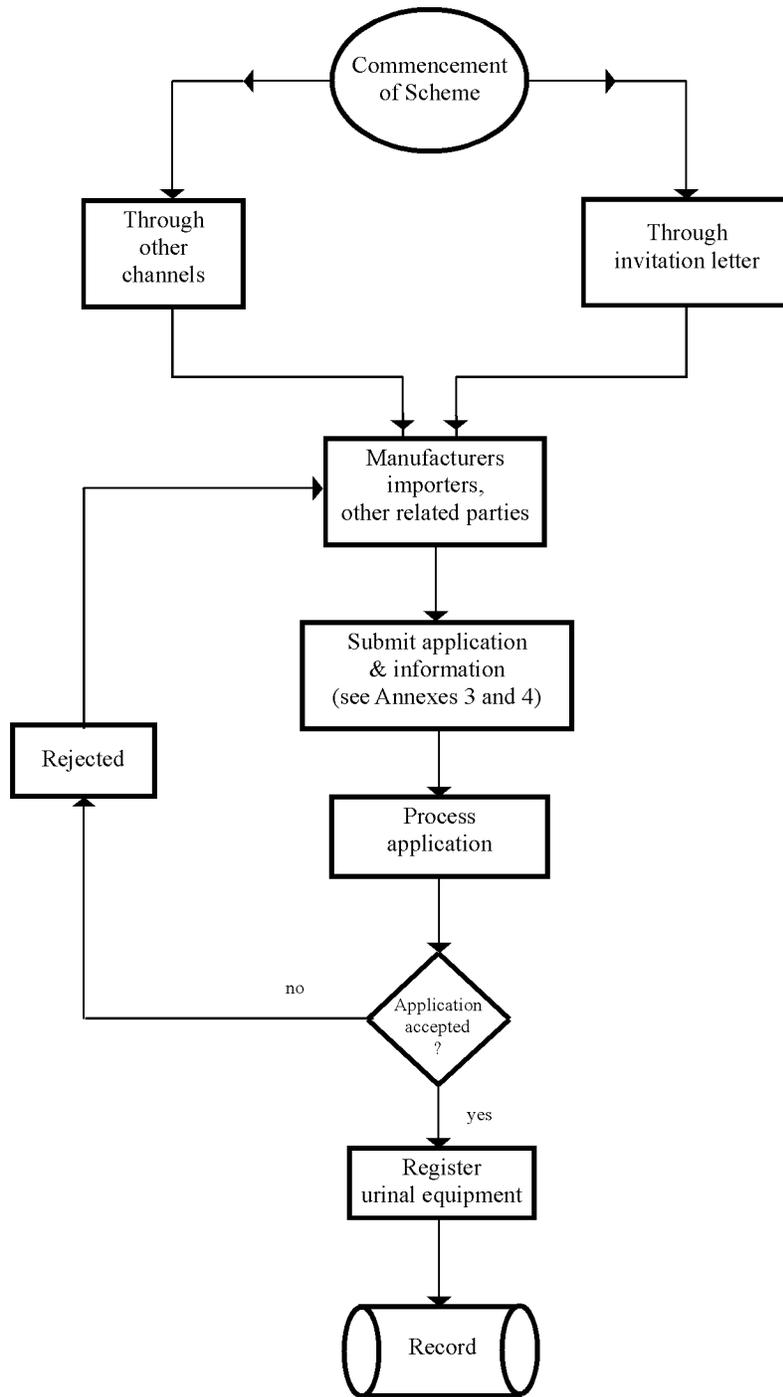
\* *delete as appropriate*

**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 (names and addresses of the distributor(s), etc.);
2. Information of the urinal equipment being applied for registration in the Scheme, i.e. brand name, model no. and/or name, urinal equipment category (or categories), catalogue (if available), three photos clearly showing the front, side and bottom views of the urinal equipment, and country of origin;
3. Proposed commencement date to affix the Label(s) to urinal equipment (Year \_\_\_\_\_, Month \_\_\_\_\_);
4. Documentary proof of the approval for the urinal equipment issued by the Water Authority;
5. Documentary proof that the design (if any) and production system for the urinal equipment is operating according to a recognized international quality system (such as ISO 9001);
6. Detailed test report in accordance with the reporting requirements specified in Annex 1. The test report shall be issued by a recognized laboratory complying with the requirements in Section 8. The required information requested in Sections A5, A6.2, A7.2, A8.2 and A9.2 for urinals and Section B5 for urinal flushing valves and Section C3 for merited function (if any) of Annex 1 of the scheme document have to be provided in a single section of the test report; and;
7. Statement on whether the testing laboratory has satisfied the requirement of Section 8.2, 8.3 or 8.4.

*Note: Company's chop should be stamped on all the document front covers/pages provided. All test reports submitted to the Department should be certified as true copy. Upon the request of the Department, the participant is required to provide the original copy of the test reports for perusal.*

### Flow Chart for Registration



## **Notes for Installation**

- (1) Installation of water filters before the urinal flushing valves is highly recommended. Without the filters, the flushing valves are liable to leak or flow reduction. The installed filters need frequent inspection and cleaning in order to maintain adequate flushing supply.
- (2) The gradient of a branch discharge pipe for single urinal is recommended to be at least 1 in 55. All urinal branches should be as short as possible and should not exceed 3 m to minimize the risk of blockage.
- (3) The common problems in the flushing water supply systems are usually water quality, flow reduction and seepage / leakage of water. The main causes of these problems are usually due to corroded / blocked pipes and / or uncleaned storage cisterns, choked pipes and leaking pipe or pipe burst respectively. In this respect, the management office or agent is recommended to :-
  - (a) thoroughly clean every flush water storage cistern and scrub with a solution of chloride of lime or bleaching powder regularly;
  - (b) conduct regular checks to the plumbing system to ensure that it conforms to the approved conditions;
  - (c) rectify any corroded / blocked pipes and irregularities in both supply and discharge of urinals immediately.
- (4) No system can be guaranteed forever but its service life can be greatly improved by proper maintenance and identify initial signs of defects before they have a chance of further propagation.
- (5) Different categories of urinal equipment should be used in locations matching the stated pressure on the Label to achieve the maximum water saving.