Title	Regulations for Management of Water Efficiency Label
Date	2023.07.07
Legislative	1. A Total of 22 articles were promulgated on June 7, 2017 by the ordinance of the Ministry of Economic Affairs Ref. No. Ching-Shui-Tzu 10604602300 2. Amendment to Articles 10, 13, 14, 18 & Annex on May 20, 2020 by the ordinance of the Ministry of Economic Affairs No. Ching-Shui-Tzu 10904602220 3. Amendment to Articles 3, 4, 16, 18, 22 and Annex of Article 3, addition of Article 21-1 and deletion of Article 21 by order of the Ministry of Economic Affairs Jing-Shui-Zi No. 11260201830 on July 7, 2023; except the Annex of Article 3 with respect to the Electronic Control Unit, which shall satisfy the electromagnetic compatibility quality requirements under CNS13783-1 and CNS13783-2 and be enforced as of January 1, 2024, said provisions shall be enforced as of the date of promulgation.

Article 1 These regulations are formulated in accordance with the provisions of Paragraph 2 of Article 95-1 of the Water Supply Act (hereinafter referred to as this Act for short).

Article 2 The term "water efficiency label" as mentioned in the first paragraph of Article 95-1 of this Act means the pattern used by the central competent authority to mark the product conforming to the water consumption standard or the water saving quantity ratio.
Water efficiency label design and the use provisions are as the attached figures.

Article 3 Legal persons, organizations, individuals who produce or sell accessories for water use equipment, sanitary equipment or other equipment shall apply to the central competent authority for the issuance of licenses for the use of water efficiency label.
Please refer to Annex : product item and specifications standard of the Water Efficiency Labeling for the sanitary equipment or other equipment referred to in the preceding paragraph.
Applicants who are the product sales agents should attach the document to prove that the product manufacturer has authorized them to apply for water efficiency label.
After applicants in the first paragraph obtain the license to use the water efficiency label, they are the users.

Article 4 An applicant who is an individual shall be at least 18 years of age and shall have the nationality of the Republic of China. For legal persons, they shall be corporate juridical persons or other legal persons established by law. For a group, it shall be a professional body or social group established according to the Civil Organizations Act.

Article 5 To apply for the issuance of water efficiency label, the applicant shall fill in the application form and submit each of the following application documents in duplicate. After paying the review fee, apply to the central competent authority: 1. The applicant and the product information table.
2. The applicant qualification proof documents.
3. The test report of the product specification s project in the annex within three years before the application date.
4. The payment receipt of the review fee.
5. Other documents that are relevant or designated by the central competent authority.
It is acceptable to use photocopies for the application documents of the preceding paragraph and they shall be noted that these photocopies are the same as the original version.
For a natural per son, the applicant certificate of qualifications in subparagraph 2, paragraph 1 is a national identity card issued by the Ministry of the Interior or a passport issued by the Ministry of Foreign Affairs; for a legal person, or group, it is the proof documents registered according to the law.
The test report of subparagraph 3, paragraph 1 shall be handled in accordance with

the following provisions:
1. If domestically there is no test unit that is certified and verified to be able to practice that test item for the annex products by the Taiwan Accreditation Foundation (TAF), the test item can be drawn up by the certification institution noticed by the central competent authority.
2. When selling the product, or selling the product as agent for which other users have obtained a water efficiency label use license, the two parties swear an affidavit on the product, the applicant can take the test report on the product that has obtained the water efficiency label use license for each test. But if the central competent authority considers there is doubt, it shall be re-examined.
3. For a series of product models in line with the accessory product specifications, after swearing an affidavit that the products are for the series of products and their models, applicants may attach a water efficiency label use license for a series of products and all or part of the test report for obtaining the water efficiency label according to the accessory regulations in the original validity period. But if the central competent authority considers that there is doubt, it shall be re-examined.
4. For products outside the previous three paragraphs, the test items should be tested by the test unit that is verified by the Taiwan Accreditation Foundation (TAF).

Article 6 If any of the following circumstances arises, the central competent authority shall not accept the application and shall return one half of the review fee:
1. The applicant does not match the qualifications.
2. The application documents are not complete. After the applicant is noticed for correction, it is overdue and correction is not done or correction is not complete within the time limit.
For subparagraph 2 of the preceding paragraph, the central competent authority shall list matters or documents to be corrected by items, notifying the applicant to correct within one month.

Article 7 To When accepting the application, the central competent authority shall complete the review within one month from the date of receipt of the application. If necessary, it may be extended once, but not more than one month, and the applicant shall be notified.
During the preceding period under review, if the applicant is notified for the correction according to the subparagraph 2, paragraph 1 of the preceding article, it is counted from the next day following the date of correction. If the correction is not made or the correction is not complete in the time limit, it is counted from the next day following the expiry date of the correction.

Article 8 The examination of the preceding article shall be made by the central competent authority in writing and, if necessary, on-site inspection or sampling inspection on the product may be done.

Article 9 If the examination of the water efficiency label use license application results in one of the following situations, it shall be rejected and the paid review fee shall not be returned:
1. The product does not meet the criteria listed in the Annex.
2. The application documents are false, forged, altered or incomplete.
Before rejecting an application in accordance with the preceding paragraph, the applicants shall be notified in writing of the reasons for refusal, and to express their views before deadline.

Article 10 When the water efficiency label use license application is examined as complying with the provisions of the regulations, the central competent authority shall issue licenses for the use of the water efficiency label.
For the product specifications of an annex that have a classified grading, the gold grade or the general grade of the water efficiency label use license shall be issued accordingly. In case of no grading, the general grade of the water efficiency label use

license shall be issued.
Where one identical user re-applies for the water efficiency label use license for the same model number of the same product item, the original water efficiency label use license shall become invalid starting from the effective date of the license.

Article 11 The water efficiency label use license shall be recorded separately with the user, address, product item and model number, license number and effective date of commencement and expiry.
The central competent authority shall, in accordance with the way provided in Article 8 of the Freedom of Government Information Law, externally disclose the contents of the use license for the water efficiency label in the preceding paragraph.

Article 12 The valid period for the water efficiency label use license shall be three years from the date of license approval.

Article 13 The license for the use of the water efficiency label shall expire at the expiry of the time limit. After the expiry of the time limit, those who still need to continue to use it shall apply for an extension within one month from the first three months of the expiry. If it expires, the application shall be remade.
Regarding the application for an extension of the preceding paragraph, besides the relevant documents in duplicate provided in Subparagraph 5, Paragraph 1, Article 5, if the documents to be submitted are the same as those for the original application case, the documents may be exempted, and after the users submit the application forms and pay the review fees, they shall be handled according to the provisions of Article 5 to Article 10. However, when the product test report within six years before the expiry date for the original water efficiency label use license time limit complies with the current regulations, it may replace the product test report within three years before the application date as provided in Subparagraph 3, Paragraph 1, Article 5.
Where a user has no need to continue to use the license before the expiry of the time limit of the license, he or she may apply for the cancellation of the license with the central competent authority.

Article 14 If the user or address specified on the water efficiency label use license is changed, the user shall submit the application form and the relevant supporting documents within ninety days from the date of occurrence of the event. After paying the change fee, the applicant shall apply to the central competent authority for the change of water efficiency label use license.

Article 15 The user shall count the number of water efficiency labels used from January to June and July to December each year, and the statistical data shall be sent to the central competent authority for future reference on July 31 and January 31 of each year respectively.

Article 16 The central competent authority may carry out sample checks or product inspection on the product using the water efficiency label by the user from time to time in the place of the business or the factory of the production; the result shall be made into a report and delivered to the user.
If there is any inconsistency between the water efficiency label products in the random inspection or product inspection mentioned in the preceding paragraph and the original application documents, the user shall provide the explanation within one month. Where the random inspection or product inspection result shows non-conformance with the attached specifications and standards, the relevant improvements shall be made within six months, and the central competent authority shall be notified for re-examination.
The expenses of the foregoing review shall be borne by the user.

Article 17 If the user has one of the following circumstances, the water efficiency label use license shall be revoked:
1. By fraud, coercion, or bribery, make the central competent authority issue a water

efficiency label use license.
2. By providing forgery, alteration of information or false, incomplete statements, make the central competent authority issue a water efficiency label use license in accordance with the information or statements.

Article 18 If the user has one of the following circumstances, the water efficiency label use license shall be abolished:
1. In case of the failure to correctly use the water efficiency label in line with the provisions of the attached figure, the central competent authority has informed that the user has to improve within the time limit; it is overdue and has not been improved.
2. In case where the user specified on the water efficiency label use license is changed, but such change fails to be handled according to the provision s of Article 14.
3. In case where the address specified on the water efficiency label use license is changed, but such change fails to be handled according to the provision s of Article 14 and no correction is made within the time limit informed by the central competent authority.
4. In case of the failure to deliver the quantitative statistics data for using the water efficiency label by products in accordance with the provisions of Article 15 within the time limit, or if they gather false statistics on the number of use, the central competent authority has notified them and it is not improved within the time limit.
5. The user avoids, hinders or refuses the implementation of spot checks or product inspection of the paragraph 1, Article 16.
6. Failure to provide explanation according to the provisions in the former section of Paragraph 2 of Article 16, or after providing the explanation, it is still impossible to confirm the consistency with the original application documents.
7.Failure to make improvement according to the provisions in the latter section of Paragraph 2 of Article 16, or after improvement, it is still found not in compliance with the provisions upon re-check.

Article 19 With the abolition or revocation of the water efficiency label use license, the user shall immediately cease the use of the water efficiency label and the central competent authority shall notice it.

Article 20 The account in the application form and its format in Paragraph 1 of Article 5, Paragraph 2 of Article 13, and Article 14 and the statistical format of Article 15 shall be prescribed by the central competent authority.

Article 21 (Deleted)

Article 21-1 When the person who already received the water efficiency label use license before January 1, 2024 applies for an extension of the water efficiency label use license in accordance with Paragraph 1 of Article 13, the person may still attach the electromagnetic compatibility test report that was attached to the original license, free from the restrictions referred to in the Annex to Article 3 of the Regulations amended on July 7, 2023 requiring that the products which have any electronically controlled device should satisfy the quality requirement about CNS 13783-1 and CNS 13783-2 electromagnetic compatibility.

Article 22 Except the provision herein requiring that the products which have any electronically controlled device referred to in the Annex to Article 3 of the Regulations amended and promulgated on July 7, 2023 shall comply with CNS 13783-1, and CNS 13783-2 electromagnetic compatibility shall be enforced as of January 1, 2024, the Regulations shall be enforced as of the date of promulgation.

Note: In case of any dispute, the Chinese version shall prevail.

Figure: the water efficiency labeling signs

The general grade Standard color.
(PANTONE: Color sample number 312C)

The gold grade Standard color.
(PANTONE: Color sample number 729M)

1. The water efficiency label signs are divided into the water efficiency label of gold grade and the water efficiency label of general grade. The general grade is printed in a monochrome blue standard color (PANTONE: color sample number 312C). The gold grade is printed in a monochrome golden standard color (PANTONE: color sample number 729M). But manufacturers may adjust to the monochrome printing of other colors, depending on the different product packaging, while it is subject to the approval of the central competent authorities.
2. The water efficiency label signs should be clearly marked on the product body or its packaging, and expose the user name, product model and manufacturing date. If it is not suitable to do product label on the product body or its packaging, it should be replaced by other significant way enough to cause consumer awareness instead.
3. The water efficiency label should be used in accordance with the pattern; deformation or filling words are not allowed. But you may zoom in or out in proportion.

Annex I: product item and specification standard of the Water Efficiency Labeling

1. Washing machine

   The product includes impeller, agitator, and drum types.

   According to the Japanese Industrial Standard JIS C9606 standard test conditions and method, under the washing capacity, high water level, and standard washing stroke of the maximum load, the product's washing performance should be up to more than 1.00; rinsing performance for impeller-type and agitator-type should be up to 0.80 or more, in drum-type should be up to more than 0.60; water extraction performance should reach more than 45%.

   According the water consumption amount to do the wash per kilogram of clothes, it is divided into a gold grade and general grade.

   (1) Types of series products: Where the structure, parts and washing process of the washing products are the same, and the washing ratio, cleaning ratio, dehydration degree, water consumption and other performances are not affected, and the test report can be shared.

   (2) For impeller-type and agitator-type products, the water consumption per wash set the gold grade should be 15.0 liters or less per kilogram of clothes, and at the general grade should be 20.0 liters or less per kilogram of clothes.

   (3) For drum-type products, the water consumption per wash at the gold grade should be 8.0 liters or less per kilogram of clothes, and the general grade should be 13.0 liters or less per kilogram of clothes.

2. Single flushing Water Closet

   Products include the toilet seat, water tank, flush tank parts or toilet flush valve.

   (1) Series of products:

      (a) Only the color, toilet up cover modeling, or the water tank cover modeling are different among the products; can use a common test report.

      (b) The products differ from each other only in whether a product has a nano coating or not, need to comply with the flushing performance test, and other test items can use a common test report.

      (c) If the products only have different outfall distances from the wall, they can share the testing report of drainage test, water leakage test, and gas leakage test.

   (2) Single flushing water closet can be divided into a gold grade and general grade by water consumptions which tested in the water consumption test:

      (a) Flushing amount at the gold grade shall be below 4.8 liters each time.

      (b) Flushing amount at the general grade shall be below 6.0 liters each time.

(3) Dilution factor for residual urine testing of toilets shall be a hundred times or more.
(4) It shall comply with CNS 3221 performance requirements on flushing, drainage, gas leakage and water leakage.
(5) It shall comply with CNS 3220-1 connection tightness quality requirements.
(6) It shall comply with the drain line transport characterization test; the average floating distance of each flush ball is up to 13.0 meters or more.
(7) The flush tank parts valve should be consistent with the drain valve seal and durability test, and should pass 100,000 times of testing. The toilet flushing valve should pass 200,000 times operates test. Comply to CNS 8088, the flush tank parts and the flush valve should pass the water seal performance test after durability test.
(8) After the flush tank parts inlet device operates 100,000 times in accordance with CNS 8088 durability performance test method of the flush ball valve, it is required to pass the sealing performance test and shall comply with the inlet valve anti-siphon test.
(9) If the structures of toilet flushing part have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

3. Dual flushing water closet

Refers to a flushing amount being divided into two or more stages, but does not contain a non-stage; the product include the toilet seat, water tanks, flush tank parts or toilet flush valve.

(1) Series of products:
   (a) Only the color, toilet up cover modeling or the water tank cover modeling are different among products; can use a common test report.
   (b) The products differ from each other only in whether a product has a nano coating or not, need to comply with the flushing performance test, and other test items can use a common test report.
   (c) If the products only have different outfall distances from the wall, they can share the testing report of drainage test, water leakage test and gas leakage test.
(2) Dual flushing water closet can be divided into a gold grade and general grade by water consumptions which tested in the water consumption test.
   (a) The flushing for defecation at the gold grade shall be below 4.8 liters and for urination shall be below 3.0 liters.
   (b) The flushing for defecation at the general grade shall be below 6.0 liters and for urination shall be below 3.0 liters.

(3) During defecation, the dilution factor for a residual urine test shall be a hundred times or more. During urination, the dilution factor for a residual urine test shall be more than 20 times.
(4) It shall comply with CNS 3221 performance relevant requirements on flushing, drainage, gas leakage and water leakage.
(5) It shall comply with CNS 3220-1 connection tightness quality requirements.
(6) Defecation shall comply with the drain line transport characterization test; the average floating distance of each flush ball is up to 13.0 meters or more.
(7) The flush tank parts valve should be consistent with the drain valve seal and durability test, and should pass 50,000 times of testing for defecation and urination respectively. The toilet flushing valve should pass 100,000 times operates tests. Comply to CNS 8088, the flush tank parts and the flush valve should pass the water seal performance test after durability test.
(8) After the flush tank parts inlet device operates 100,000 times in accordance with CNS 8088 durability performance test method of the flush ball valve, it is required to pass the sealing performance test and comply with the inlet valve anti-siphon test.
(9) If the structures of toilet flushing part have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

4. General faucet

Products include vertical, long neck, hot and cold hybrid type and other faucets.

(1) Series Product Patterns
  (a) If only the product's handle appearance, base height, etc., are different, the test report can be shared.
  (b) If only the shapes of water outlet of the products are different, the durability property test report can be shared.
  (c) If the same axis is used for the products, the durability property test report can be shared, but each product must meet the water output performance test and water stop performance test.
(2) In line with CNS 8088 water-saving faucet water output performance test, the maximum flow per minute shall not exceed 9.0 liters, nor shall the flow be less than 0.5 liters.
(3) According to CNS 8088 faucet durability performance test, after operation of 500,000 times for the product during the precision ceramic axis, and operation of 200,000 times for other non-precision ceramic axes, it is necessary to pass the water stop performance test.

(4) If the products have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

5. Induction faucet
   (1) Series Product Patterns
      (a) If the appearances of the products are identical but only the heights of their bases are different, test report can be shared.
      (b) If the same control components and circuit board design layout are used for products, the durability property test report can be shared, but each product must meet the water output performance test and water stop performance test.
   (2) In line with CNS 8088 water-saving faucet water output performance test, the maximum flow per minute shall not exceed 9.0 liters, nor shall the flow be less than 0.5 liters.
   (3) According to CNS 8088 faucet durability performance test, after operation of 500,000 times, it is necessary to pass the water stop performance test.
   (4) The products shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.
6. Auto-closing faucet
   (1) Series Product Patterns:
      (a) If only the product's handle appearance, base height, etc., are different, the test report can be shared.
      (b) If only the shapes of the water outlet of products are different, the durability property test report can be shared.
      (c) If the same axis is used for the products, the durability property test report can be shared, but each product must meet the water output performance test and water stop performance test.
   (2) In line with CNS 8088 water-saving faucet water output performance test, the maximum flow per minute shall not exceed 9.0 liters, nor shall the flow be less than 0.5 liters.
   (3) Each time the water supply time is 4.0 to 6.0 seconds.
   (4) According to CNS 8088 faucet durability performance test, after operation of 200,000 times, it is necessary to pass the water stop performance test.
7. Shower head
   (1) Series product patterns: if the products differ from each other only in colors, test report can be shared.
   (2) In line with CNS 15167 flow test, the minimum flow per minute shall not be less than 5.0 liters, and the maximum flow per minute, and the grades for maximum flow per minute are divided into gold grade and general grade:

(a) The flow per minute of products of gold grade shall be less than 7.0 liters.
(b) The flow per minute of products of general grade shall be less than 10.0 liters.

(3) The flow per minute of products of gold grade shall be water output force shall be no less than 0.55 N.

(4) In line with CNS 15167 leakage test.

(5) If the product has multiple water spraying functions, each of the item shall be tested for flow rate, leakage or water output force.

8. Flush urinals

The product contains flushers and urinals.

(1) Series of products:
(a) If the flushers of the product are only different in appearance panel shape or color, the test report can be shared.
(b) For the products using flushers with the same structure, the durability test report can be shared.

(2) According to the CNS 8088 the water output performance test of flush valve, including pre-flushing, it is classified into the grades of Gold and Regular.
(a) For Gold Grade, the flush quantity shall be below 1.5 liter per time of flush.
(b) For Regular Grade, the flush quantity shall be below 3.0 liter per time of flush.

(3) The dilution factor for Gold Grade residual urine test shall be more than 20 times.

(4) The ceramic or non-ceramic products must comply with CNS 3221 wash test.

(5) According to CNS 8088 durability property test of the flush valve head, after operation of 200,000 times, it must pass the water stop performance test.

(6) If the products have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

9. Waterless urinals

Products include the urinal body and its related accessories.

(1) The product does not need to flush.

(2) The ceramic products are to meet the tests of ASME A112.19.19 of the American Society of Mechanical Engineers.

(3) The plastic material products are to meet the tests of the ANSI Z124.9 of American National Standards Institute.

(4) If the products have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

10. Dual flusher

It is used for the toilet, with a sub-flushing function, including the toilet tank drain valve and toilet flush valve.

(1) In line with the flush amount test, the amount of water used for urination shall be less than 50% of the amount of water used for defecation or less than 3.0 liters.

(2) Toilet water tank drain valve should be in line with the drainage valve flow test, the average defecation and urination flushing flow per second should be more than 1.6 liters separately.

(3) The toilet tank drain valve should be consistent with the drainage valve seal and durability test, passing the defecation and urination test of 50,000 times separately. According to CNS 8088 durability test method, after operation of 100,000 times for defecation and urination separately, toilet flushing valve should pass the water stop performance test.

(4) If product contains water inlet, after operation of 100,000 times for the water inlet, it shall pass the water stop performance test in accordance with CNS 8088 float valve durability property test method, and it should be consistent with the inlet valve anti-siphon test.

(5) If the products have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS13783-1, and CNS13783-2 electromagnetic compatibility.

11. Water saving accessories

Water saving accessories refer to the urinal flusher, and the accessories installed in the toilet water tank, faucet, toilet flushing valve, shower head and other water supply equipment, which can reduce the water amount used.

(1) Urinal flusher: divided into manual and automatic type.

(a) According to CNS 8088 water output performance test of the flush valve, each flush amount should be below 3.0 liters.

(b) According to CNS 8088 durability property test of the flush valve, after operation of 200,000 times, it must pass the water stop performance test.

(2) According to the test conditions of flushing amount test or CNS 8088, single-stage flushing toilet tank parts or toilet flushing valve accessories can save 30 percent to 50 percent (inclusive) after installation.

(3) For two-stage flushing toilet tank parts or toilet flushing valve accessories, after installation, the urination flushing water consumption shall be less than 50 percent of the defecation flushing water consumption or shall be less than 3.0 liter.

(4) After installation of the faucet or showerhead fittings, under the test conditions in CNS 8088 or CNS 15167, the flow per minute can save 20 percent to 90 percent (inclusive).

(5) If water-saving accessories have switches or buttons, according to CNS 8088 durability property test, after operating 50,000 times, they must pass the water stop performance test.

(6) After toilet water tank electronic flushing products operate 50,000 times, according to CNS 8088 flush valve durability test method, they should be able to normally operate and have no damage.

(7) After operating faucet electronic products 500,000 times, according to CNS 8088 faucet durability property test, they are to pass the water stop performance test.

(8) If the products have any electronically controlled device, they shall comply with CNS 12566 test on a combination of temperature and humidity, CNS 13783-1, and CNS 13783-2 electromagnetic compatibility.

XII. Household Dishwasher

Any dishwasher products that comply with the definition of IEC60436 Household Electric Dishwasher – Performance Measurement Method.

According to the test conditions and methods of IEC60436:2020 or EN60436:2020, the products shall have an index of cleaning of at least 1.12 under the rated dishwasher capacity and standard operating stroke.

According to the total water consumption of each cycle, the water consumption of tableware per person is divided into gold grade and general grade.

(1) Series of products: only the color, appearance / materials, door cover shape, control panel configuration or installation method are different among the products, a common test report can be used.

(2) The water consumption for washing tableware per person shall be less than 0.9 liters for the gold grade and less than 1.5 liters for the general grade.

Note: If the above specifications and standards have specified certain test methods, such regulations shall prevail, and there are no test methods, the appendix shall prevail.

Appendix : Test methods

1. The water consumption test
   (1) Test conditions
      (a) The water closet must be kept in the factory state or assembled by the manufacturer at their own discretion.
      (b) When using the tank for water closet, adjust the supply water to the stop state.
      (c) While using the toilet flush valve, there should be 1.0kgf/cm^2 dynamic pressure inflow conditions.
      (d) The temperature of the water used should be room temperature.
   (2) Test operation
      (a) When using the tank for the water closet, the water level is in the automatic stop state of the supply water.
      (b) The water closet bowl is filled with water.
      (c) Place the cylinder in the bottom of the sewage pipe to receive the flushing water, and then flush and measure the flush volume.
      (d) If the designated sample is a dual flushing or multiple flushing water closet, the flush volume for each stage shall be tested separately.
2. The water closet urine residue test
   (1) Test conditions
      (a) The temperature of the water used should be room temperature.
      (b) The supply water is in the stop state.
      (c) With the conductivity meter to measure the dilution factor, the conductivity meter must contain an automatic temperature correction function.
   (2) Test operation
      (a) Dispense the concentration of 5.00%, 0.05% (diluted 100 times) and 0.25% (diluted 20 times) saline with tap water, and measure the conductivity.
      (b) The water seal is filled with concentration of 5.00% saline, press the defecation or urination flush button, and wait for flushing complete.
      (c) After the water closet bowl is stable, fill the water closet bowl by tap water, when the saline mix with tap water , measure the conductivity and compare to the dilution factor.
3. Drain line transport characterization test
   (1) Test conditions
      (a) Refer to the ASME A112.19.2 test standard of the American Society of Mechanical Engineers.

(b) The test medium shall consist of 100 polypropylene balls with the following characteristics:
(i) weight: 3.0 ± 0.2 g; and
(ii) diameter: 19 ± 0.4 mm.
(c) The assembly shall have an NPS-4 rigid pipe that
(i) is at least 18 m (60 ft) long;
(ii) runs from the water closet and provides a straight run with a 2% slope.
(d) The temperature of the water used should be room temperature.

(2) Test operation
(a) The water seal is filled with water.
(b) Place 100 balls in the water closet bowl, press the defecation flush button, and let the water stop naturally.
(c) Confirm and record the number of balls in the water closet bowl and the number of balls in each 3 m (10 ft) of pipe. Those discharged from pipe are calculated as 18 m (60 ft). Calculate the weighted carry distance.

4. The drainage valve seal and durability test
(1) Test conditions
(a) A flush valve should be installed in the standard water tank. If not feasible, it will be tested in the original water tank.
(b) The volume of water per flush is 6.0 liters. If the volume of the largest flush is less than 6.0 liters, that maximum volume will be used as the test volume.
(c) The temperature of the water used should be room temperature.

(2) Test operation
(a) Check the flush valve for leaks after installing it in the standard water tank.
(b) The action of turning the flush valve on and off per time will be counted together as one operation. The single flush will be operated 100,000 times. The dual flush for urination and defecation will be operated 50,000 times apiece.
(c) Check the flush valve for leaks or malfunctions after the operation has been complete.

5. The fill valve anti-siphon test
(1) Test conditions
(a) Refer to the ASSE 1002 Anti-Siphon Test standard of the American Society of Hygiene Engineering.
(b) The temperature of the water used should be room temperature.

(2) Test operation
(a) The fill valve and related parts should be installed in the standard water tank and the water injection pipe should be placed outside the overflow pipe.

(b) Insert a wire with a diameter of 0.8mm into the fill valve hole to confirm that the fill valve can be fully opened.
(c) Pour water into the water tank until the critical level, and add some dyes to dye it.
(d) Turn on the vacuum motor. When reaching the 10, 15, 20, 25 inch mercury vacuum each time, keep it for a minute.
(e) Observe whether there is any staining in the transparent tube.

6. The standard water tank
The inner dimension of the length, width and height of standard water tank are 400 mm × 175 mm × 300 mm.

7. Flush valve discharging test
(1) Test conditions
(a) The temperature of the water used should be room temperature.
(b) The flush valve should be installed in the standard water tank.
(c) Pour water into the water tank until the effective water amount of 6.0 liters, and mark on the standard water tank, open the flush valve to the natural closure and scale in the existing water level.
(2) Test operation
(a) Pour 2.5 liters of water into the water tank and mark (L2), then add 3.0 liters of water and mark (L1), finally add 0.5 liters of water and mark (L0).
(b) Push the button to flush, record the time from L1 to L2 and calculate the volume of flush per minute.

8. Self-closing faucet water supply time test for each time
(1) Test conditions
(a) The temperature of the water used should be room temperature.
(b) Self-closing faucet installation specimen is according to CNS 8088 water output performance test method.
(c) Setting the water pressure of water output as 0.1MPa (1.0kgf / cm^2).
(2) Test operation
(a) Install and secure the self-closing faucet.
(b) Measure and record the time required for 1 cycle from the start of the water output to stop.

9. Flush urinals residual urine test
(1) Test conditions
(a) The temperature of the water used should be room temperature.
(b) Setting the water pressure of water output as 0.1MPa (1.0kgf / cm^2).
(c) With the conductivity meter to measure the dilution factor, the conductivity meter must contain an automatic temperature correction function.
(2) Test operation

(a) Dispense the concentration of 5.00% and 0.25% (diluted 20 times) saline with tap water, and measure the conductivity.
(b) The water seal is filled with concentration of 5.00% saline, press the flush button or use the automatic sensing for flushing, and wait for flushing to complete.
(c) After the water closet saline mixture is stable, measure the conductivity and compare to the dilution factor.

10. Test for water output force of shower head

(1) Test conditions

(a) The JISB2061 small-flow water supply test shall serve as the reference.
(b) The surface of the water receiving panel shall be sufficiently large to receive all the water discharged, and the material shall be acrylic material with a thickness of at least 3 mm. The test device is shown in Fig. 1.
(c) The water receiving panel shall be installed vertically, and the center point of the water output plate of the sample shall be horizontally aligned with the center point of the water receiving panel, with a distance of 150 mm.
(d) During the test, the water output from the center of the water output panel shall be located at the center of the water receiving panel.
(e) The temperature of the water used should be room temperature.

(2) Test operation

(a) Set the water pressure in the discharged water to 0.1 MPa (1.0 kgf/cm^2).
(b) Start the water output, and have the water output panel face the water receiving panel to discharge water. In order to discharge the air remaining in the water pipe and the samples, and to stabilize the water output, the first 30 seconds of water out shall be the preparatory water output which will not be included in the measurement.
(c) After being ready for discharging the water, use instrument to measure the water output force for one second, and record the observed peak value as the water output force measurement value.
(d) The water output force shall be measured three times and the mean value shall be calculated.

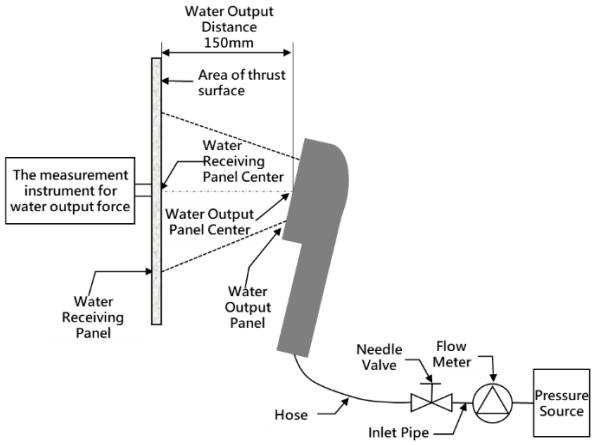
Water Output
Distance
150mm
Area of thrust
surface
Water
Receiving
Panel Center
The measurement
instrument for
water output force
Water Output
Panel Center
Water
Receiving
Panel
Water
Output
Panel
Needle
Valve
Flow
Meter
Pressure
Source
Hose
Inlet Pipe

Fig. 1