



**Summary of Substantive Changes
between the 2015 edition of
ASSE 1037/ASME A112.1037/CSA B125.37,
“Performance Requirements for
Pressurized Flushing Devices for Plumbing Fixtures”
and the 1990 edition of
ASSE 1037, “Pressurized Flushing Devices (Flushometers) for Plumbing Fixtures”
and the 2012 edition of
CSA B125.3, “Plumbing fittings”**

Presented to the IAPMO Standards Review Committee on April 13, 2015

**Prepared on April 7, 2015, Revised on April 24, 2015 and November 6, 2015
The revisions are highlighted and a symbol [Δ] notes deleted text.**

General: Publication of the new harmonized ASSE 1037/ASME A112.1037/CSA B125.37 standard will affect currently listed products. Multiple tests and requirements were changed from the previous standards, including pressure and temperature changes.

The new joint standard is a harmonization between ASSE 1037-1990 and the requirements for pressurized flushing devices (i.e., flushometer tanks and flushometer valves) from CSA B125.3-2012, and it is also an update of the current requirements in those two standards.

Note: Other plumbing fittings are still covered by CSA B125.3, e.g., anti-siphon fill valves, automatic compensating valves other than those for individual wall-mounted showering systems, supply line stops, temperature-actuated in-line mixing valves, thermal expansion relief valves, and trap primers.

The sequence of test procedures specified by the new joint harmonized edition cannot be properly applied to tank-type pressurized flushing devices (flushometer tanks). Therefore, currently listed (flushometer tanks) will continue to be listed to the previous edition of the standards ASSE 1037-1990 and CSA B123.3-2012. Until the standard developer issues a revised edition of the harmonized standard with testing procedure corrections to allow complete testing of flushometer tanks.

[Δ]

ASSE 1037

Section 3.2, Temperatures: Added a requirement for the operating temperature as follows:
PFDs shall be designed to function with water temperature between 4 °C and 30 °C (40°F and 85°F).

CSA B125.3

Section 3.2, Temperatures: Revised the required operating temperature as follows:
PFDs shall be designed to function with water temperature between 4 °C and 30 °C (40°F and 85°F).
Plumbing fittings shall be designed for rated supply temperatures from 5 to 71 °C (40 to 160°F)



ASSE 1037 and CSA B125.3

Section 3.3, Backflow prevention: Included requirements for PFDs that do not include backflow prevention as follows:

When a backflow preventer is not incorporated in the PFD, installation instructions shall identify the specific types of backflow prevention required.

ASSE 1037

Section 3.4, Accessible designs: Added the following requirements for accessible designs:

Operating controls intended for use in accessible designs shall

(a) be automatically controlled; or

(b) meet the following requirements:

(i) be operable with one hand;

(ii) not require tight grasping, pinching, or twisting of the wrist; and

(iii) require an operating force not greater than 22N (5 lbf).

CSA B125.3

[A]

ASSE 1037

Section 3.7, Coatings: **Changed the requirement for coatings to specify compliance** with ASME A112.18.1/CSA B125.1, as follows:

Coatings shall comply with the applicable requirements of ASME A112.18.1/CSA B125.1.

ASSE 1037

Section 3.8, PFDs incorporating electrical features: Added requirements for PFDs incorporating electrical features.

ASSE 1037

Section 4.1, General: Added general requirements for the order of testing, test conditions, installation for testing, and preconditioning requirements.

CSA B125.3

Section 4.1, General: Added general requirements for the order of testing, and test conditions and clarified the installation for testing.

ASSE 1037

Section 4.2, Pressure test: **Added the test procedure.**

CSA B125.3

Section 4.2, Pressure test: Changed from testing at temperatures of 10 °C and 66 °C (50°F and 150°F) to testing within the temperature range of 4 °C and 30 °C (40°F and 85°F) and removed requirement to hold for 5 min between each step of the pressure cycle.

ASSE 1037

Section 4.3 Back siphonage test — **Non-tank type PFDs: Clarified the applicable standards for the back siphonage test for non-tank type PFDs.**



ASSE 1037

Section 4.5, Hydraulic performance tests: **Removed the allowance for manufacturer testing**, added a new table specifying the specific hydraulic performance tests to conduct and sequence of the testing (see Table 1), and added the requirement to test dual-flush PFDs in accordance with ASME A112.19.14.

CSA B125.3

Section 4.5, Hydraulic performance tests: Added a new table specifying the specific hydraulic performance tests to conduct and sequence of the testing (see Table 1), and added the requirement to test dual-flush PFDs in accordance with ASME A112.19.14.

ASSE 1037

[Δ]

The following test was added:

[4.6 Operating requirements](#)

CSA B125.3

Section 4.6 Operating requirements: Revised the test procedure and changed the pressure and temperature requirements from 140 kPa and 10 °C (20 psi and 50°F) and 860 kPa and 66 °C (125 psi and 150°F) to 140 kPa and 15 °C (20 psi and 59°F) and 550 kPa and 15 °C (80 psi and 59°F).

ASSE 1037

[Δ]

Section 4.7 Life cycle test: Revised the test set-up, procedure and the required subsequent tests upon completion of the lifecycle test, increased the number of cycles to 250,000 from 150,000, added a cycle sequence for dual flush PFDs and a new 2,500 cycle test for PFDs with an optional secondary control, and **reduced the allowable variation in the flush volumes specified by the performance criteria from 0.6 L (0.15 gal) to no more than 10% variation for flush volume greater than 2 L (0.5 gal), or 20% for flush volumes equal to or less than 2 L (0.5 gal).**

CSA B125.3

Section 4.7 Life cycle test: Added specifications for the test set-up, a requirement to record the average flush volume every 25,000 cycles, the cycle sequence for dual flush PFDs and a new 2,500 cycle test for PFDs with an optional secondary control. Revised the required subsequent tests upon completion of the lifecycle test and **added the performance criteria limiting the allowable variation in the flush volumes to no more than 10% or 20% depending on the flush volume.**

ASSE 1037

Section 4.8, Integral control stop life cycle test: Added specifications for the test procedure and performance criteria.

CSA B125.3

[Δ]

The following test was added:

[4.8 Integral control stop life cycle test](#)

ASSE 1037

Section 4.9, Hydrostatic pressure test for non-tank type PFDs: **Added the test procedure and reduced the required holding time to 1 min from 5 min.**



ASSE 1037

[A]

Section 4.10, Hydrostatic pressure test for tank type PFDs: Clarified that the allowance for the minimum relief valve opening pressure is 550 kPa (80 psi).

CSA B125.3

Section 4.10, Hydrostatic pressure test for tank type PFDs: Reduced the allowance for the minimum relief valve opening pressure to 550 kPa (80 psi) from 1030 kPa (150 psi) and added the test procedure.

ASSE 1037

Section 5, Markings, packaging, and installation instructions: Added requirements to mark the critical level on PFDs with vacuum breakers, the dual-flush mode option on the actuator when applicable, and the average water consumption, and added additional installation instruction requirements when a backflow preventer is not incorporated in the PFD.

CSA B125.3

Section 5, Markings, packaging, and installation instructions: Added requirements to mark the dual-flush mode option on the actuator when applicable, and the average water consumption, and added additional installation instruction requirements when a backflow preventer is not incorporated in the PFD.

ASSE 1037 and CSA B125.3

The following table was added specifying the hydraulic performance tests to conduct for the different types of PFDs and the required sequence of testing:

[Table 1 Sequence for hydraulic performance tests:](#)

CSA B125.3

The following figures, which were part of ASSE 1037-1990 but not of CSA B125.3-2012, were added:

[Figure 1 Backflow test set up for tank type PFDs](#)

[Figure 2 Swing check](#)

[Figure 3 Poppet type check nozzle type body](#)

[Figure 4 Poppet type flat or level seat body](#)