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

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 scope of new harmonized includes requirements for dual-flush and non-tank type flushometer valves, which were not covered in ASSE 1037-1990.

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 ºC and 30 ºC (40ºF and 85ºF).

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 ºC and 30 ºC (40ºF and 85ºF).

Plumbing fittings shall be designed for rated supply temperatures from 5 to 71 ºC (40 to 160ºF).

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
Section 3.6.2, Outlet connections: Added the requirement for outlet connections to comply with ASME A112.18.1/CSA B125.1, as follows:

*Outlet connections shall provide pressure-tight connections to the fixture to which it is assembled, as specified in ASME A112.19.2/CSA B45.1.*

ASSE 1037
Section 3.7, Coatings: Added the requirement for coatings to comply 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 PDFs 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
The following tests were added:
4.2 Pressure test
4.3 Back siphonage test — Non-tank type PFDs
4.6 Operating requirements
4.9 Hydrostatic pressure test for non-tank type PFDs

CSA B125.3
The following tests were added:
4.3 Back siphonage test — Non-tank type PFDs
4.8 Integral control stop life cycle test
4.9 Hydrostatic pressure test for non-tank type PFDs
**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 and 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 PDFs in accordance with ASME A112.19.14.

**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**
Section 4.7 Life cycle test: Revised the test set-up, procedure and performance criteria and the required subsequent tests upon completion of the lifecycle test, increased the number of cycles to 250,000 from 150,000, and added a cycle sequence for dual flush PFDs and a new 2,500 cycle test for PDFs with an optional secondary control.

**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 PDFs with an optional secondary control, and revised the required subsequent tests upon completion of the lifecycle test.

**ASSE 1037**
Section 4.8, Integral control stop life cycle test: Added specifications for the test procedure and performance criteria.

**ASSE 1037**
Section 4.10, Hydrostatic pressure test for tank type PFDs: Added the allowance for the minimum relief valve opening pressure of 550 kPa (80 psi), and reduced the holding time to 1 min from 5 min.

**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*