

**ASSE International
Product (Seal) Listing Program**

**ASSE 1037-2015 / ASME A112.19.1037-2015 / CSA B125.37-15
Pressurized Flushing Devices for Plumbing Fixtures**

Manufacturer _____

Contact Person _____ **E-mail** _____

Address _____

Laboratory File Number _____

Model # Tested _____

Model Size _____

Additional Models Report Applies to _____

Additional Model Information (i.e. orientation, series, end connections, shut-off valves)

Date Models Received by Laboratory _____ **Date Testing Began** _____

Date Testing was Completed _____

If Models were Damaged During Shipment, Describe Damages

Prototype or Production _____

Were All Tests Performed at the Selected Laboratory? Yes No

If offsite, identify location and tests involved: _____

General information and instructions for the testing engineer:

The results within this report apply only to the models listed above.

There may be items for which the judgment of the test engineer will be involved. Should there be a question of compliance with that provision of the standard, a conference with the manufacturer should be arranged to enable a satisfactory solution of the question.

Should disagreement persist and compliance remain in question by the test agency, the agency shall, if the product is in compliance with all other requirements of the standard, file a complete report on the questionable items together with the test report, for evaluation by the ASSE Seal Board. The Seal Board will then review and rule on the question of compliance with the intent of the standard then involved.

Documentation of material compliance must be furnished by the manufacturer. The manufacturer shall furnish to the testing agency, a bill of material which clearly identifies the material of each part included in the product construction. This identification must include any standards which relate thereto.

Section I

1.0 Scope

- 1.1 Is the purpose of the device, as described by the manufacturer, as stated in this section?
 Yes No Questionable
- If questionable, explain _____

Section II

No data required

Section III

3.0 Design and general requirements

- 3.1 State the operating pressure range of the device:
Minimum: _____ kPa (_____ psi) Maximum: _____ kPa (_____ psi)

- 3.2 State the operating temperature range of the devices
Minimum: _____ °C (_____ °F) Maximum: _____ °C (_____ °F)

- 3.3 Does the device come with a backflow preventer?
 Yes
 No

If yes, what standard does the backflow preventer comply with? _____

If no, do the installation instructions identify the specific types of backflow protection required?

- Yes
 No

- 3.4 Is the device classified as an accessible design?
 Yes
 No

If it is classified as such, is it automatically controlled?

- Yes
 No

If it is not automatically controlled, does it meet the following requirements?

Operable with one hand	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Not requiring tight grasping, pinching, or twisting of the wrist	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Requiring an operating force no greater than 22N (5lbf)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

- 3.5 Does the device include a control stop?
 Yes No Questionable
- If questionable, explain _____

- 3.6 Do these features conform to the applicable standards?

Tapered pipe threads	ASME B1.20.1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Straight threads	ASME B1.1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Dimensions of solder-joint connections	ASME B16.18 or ASME B16.22	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Compression connections	SAE J512	<input type="checkbox"/> Yes	<input type="checkbox"/> No

3.6.1 What is the inlet supply connection specified as? _____

3.6.2 Does the outlet connection provide a pressure-tight connection as specified in ASME A112.19.2/CSA B45.1?

Yes No Questionable

If questionable, explain _____

3.7 Do coatings comply with ASME A112.18.1/CSA B125.1?

Yes No Questionable

If questionable, explain _____

3.8 Does the device incorporate any electrical features?

Yes

No

3.8.1 If yes, do the electrical features comply with ASME A112.18.1/CSA B125.1?

Yes No Questionable

If questionable, explain _____

Section IV

4.0 Performance requirements and test methods

4.1 General

4.1.1 How long were the samples at ambient laboratory conditions before testing?

hours at _____ °C (_____ °F)

4.1.3 Water temperature at start of test. _____ °C (_____ °F)

4.2 Pressure test

4.2.2(b) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.2(c) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.2(d) Static pressure set to _____ kPa (_____ psi).

4.2.2(e) Wait for _____ min.

4.2.2(f) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.3 Did the device complete all flushing cycles?

Yes No Questionable

If questionable, explain _____

Was there any leakage?

Yes No Questionable

If questionable, explain _____

Is the PFD in compliance with section 4.2?

Yes No Questionable

If questionable, explain _____

4.3 Back-siphonage test for Non-tank type PFD's

4.3.2 Does the back siphonage performance of the device comply with any of the following standards?

ASME A112.18.3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ASSE 1001	<input type="checkbox"/> Yes	<input type="checkbox"/> No
CSA B64.1.1	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is the PFD in compliance with section 4.3?

Yes No Questionable

If questionable, explain _____

4.4 Backflow test for Tank type PFD's

4.4.2(b) Size of fouling wire: _____ mm (_____ in)

4.4.2(d) Pressure set to: _____ kPa (_____ psi)

4.4.2(e) Vacuum set to: _____ kPag (_____ psig) for _____ min

4.4.2(f) Vacuum increased to _____ kPag (_____ psig) over _____ sec

4.4.2(g) Vacuum decreased to _____ kPag (_____ psig) over _____ sec

4.4.2(h) Peak vacuum: _____ kPag (_____ psig)

4.4.3 Was there any colored water in the sight glass? Yes No

ASSE has given guidance regarding performing section 4.4 that is not part of the 2015 revision of this standard. Was a separate sample used to perform section 4.4?

Yes No Questionable

If questionable, explain _____

Is the PFD in compliance with section 4.4?

Yes No Questionable

If questionable, explain _____

4.5 Hydraulic performance tests

4.5.2(a) Is this device designed to be coupled with a water closet fixture that conforms to ASME A112.19.2/CSA B45.1?

Yes No Questionable

If questionable, explain _____

Is this device designed to be coupled with a urinal fixture that conforms to ASME A112.19.2/CSA B45.1?

Yes No Questionable

If questionable, explain _____

4.5.2(b) Is this device designed to be coupled with a dual-flush fixture that conforms to ASME A112.19.14?

Yes No Questionable

If questionable, explain _____

4.5.2(c) Name the (3) fixture models and their manufacturers that are used for the hydraulic performance tests:

Fixture #1: _____

Fixture #2: _____

Fixture #3: _____

Does each fixture conform to ASME A112.19.2/CSA B45.1 and/or ASME A112.19.14?

Yes No Questionable

If questionable, explain _____

4.5.3 For water closet PFD's coupled to water closet fixtures, perform these tests:

Trap seal depth determination

Fixture	Full trap seal depth, mm (in)
#1	
#2	
#3	

Water consumption

Fixture	Static pressure, kPa (psi)	Run no.	Flush volume, L (gal)			Trap seal restored? (yes/no)	Residual trap seal depth, H _r , mm (in)	Cycle time, s
			Main flush	Total Flush	Afterflow (total minus main flush)			
#1		1						
		2						
		3						
		Average total flush volume, L (gal)					Average cycle time, s	
#2		1						
		2						
		3						
		Average total flush volume, L (gal)					Average cycle time, s	
#3		1						
		2						
		3						
		Average total flush volume, L (gal)					Average cycle time, s	

Granule and ball

Fixture	Run no.	Number of granules in bowl after flushing	Number of balls in bowl after flushing	Trap seal restored? (yes/no)	Residual trap seal depth, H _r , mm (in)
#1	1				
	2				
	3				
#2	1				
	2				
	3				
#3	1				
	2				
	3				

Surface wash

Fixture	Run no.	Longest segment length, mm (in)	Total segment lengths, mm (in)
#1	1		
	2		
	3		
#2	1		
	2		
	3		
#3	1		
	2		
	3		

Mixed media

Fixture	Run no.	Initial flush				Second flush			
		Number flushed out			Trap seal restored? (yes/no)	Number flushed out			Trap seal restored? (yes/no)
		Sponges	Paper balls	Total		Sponges	Paper balls	Total	
#1	1								
	2								
	3								
	4								
#2	1								
	2								
	3								
	4								
#3	1								
	2								
	3								
	4								

Drain line transport characterization

Travel distance, m (ft)	Weighted average carry distance (total balls x avg distance), m (ft)		
	Fixture #1	Fixture #2	Fixture #3
In bowl or trap	0	0	0
<3 (<10)			
3 to <6 (10 to <20)			
6 to <9 (20 to <30)			
9 to <12 (30 to <40)			
12 to <15 (40 to <50)			
15 to <18 (50 to <60)			
≥18 (≥60)			
Sum of average carry distances, m (ft)			
Average carry distance per ball (sum of average carry distances / 300), m (ft)			

Is the water closet PFD in compliance with section 4.5?

Yes

No

Questionable

If questionable, explain _____

4.5.3 cont. For urinal PFD's coupled to urinal fixtures, perform these tests:

Trap seal depth determination

Fixture	Full trap seal depth, mm (in)
#1	
#2	
#3	

Water consumption

Fixture	Static pressure, kPa (psi)	Run no.	Flush volume, L (gal)			Trap seal restored? (yes/no)
			Main flush	Total Flush	Afterflow (total minus main flush)	
#1		1				
		2				
		3				
		Average total flush volume, L (gal)				
#2		1				
		2				
		3				
		Average total flush volume, L (gal)				
#3		1				
		2				
		3				
		Average total flush volume, L (gal)				

Surface Wash

Fixture	Run no.	Longest segment length, mm (in)	Total segment lengths, mm (in)
#1	1		
	2		
	3		
#2	1		
	2		
	3		
#3	1		
	2		
	3		

Dye

Fixture	Run no.	Was the diluted sample lighter than the control?	
#1	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
#2	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
#3	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Is the urinal PFD in compliance with section 4.5?

Yes No Questionable

If questionable, explain _____

4.5.3 cont. For dual flush PFD's coupled to dual flush water closets, complete in full flush mode the first section for water closet PFD's coupled to water closet fixtures.

In addition for dual flush PFD's perform these tests, in reduced flush mode:

Trap seal depth restoration

Run no.	Trap seal depth, mm (in)		
	Fixture #1	Fixture #2	Fixture #3
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Surface Wash

Fixture	Run no.	Longest segment length, mm (in)	Total segment lengths, mm (in)
#1	1		
	2		
	3		
#2	1		
	2		
	3		
#3	1		
	2		
	3		

Dye

Fixture	Run no.	Was the diluted sample lighter than the control?	
#1	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
#2	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
#3	1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	2	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	3	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Toilet paper

Fixture	Run no.	# of paper balls flushed	Any paper left in the bowl?
#1	1		
	2		
	3		
#2	1		
	2		
	3		
#3	1		
	2		
	3		

Is the dual flush water closet PFD in compliance with section 4.5?

Yes No Questionable

If questionable, explain _____

4.6 Operating requirements

4.6.2 Temperature of environment: °C (°F)

4.6.2(c) Force to open, operate, and close

Pressure	Temperature	Linear Force
kPa (psi)	°C (°F)	N (lbf)
kPa (psi)	°C (°F)	N (lbf)

Is this an accessible or non-accessible design PFD?

Accessible Non-accessible

Is the PFD in compliance with section 4.6?

Yes No Questionable

If questionable, explain _____

4.7 Life Cycle Test

4.7.2 Procedure

4.7.2.1. Test setup

4.7.2.1(b) Flowing supply set to _____ kPa (_____ psi) at _____ °C (_____ °F)

4.7.2.1(c) PFD flushed _____ times.

4.7.2.1(d)

Flush	Flush volume
1	L/flush (gal/flush)
2	L/flush (gal/flush)
3	L/flush (gal/flush)
4	L/flush (gal/flush)
5	L/flush (gal/flush)
Avg	L/flush (gal/flush)

If PFD is a dual flush device, measure the flush volume of the reduced flush as well

Flush	Reduced Flush volume
1	L/flush (gal/flush)
2	L/flush (gal/flush)
3	L/flush (gal/flush)
4	L/flush (gal/flush)
5	L/flush (gal/flush)
Avg	L/flush (gal/flush)

4.7.2.2. PFD's with primary control

4.7.2.2(a) Primary control flushed _____ times.

4.7.2.2(b) For single flush PFD's, measure the flush volume after the given number of cycles.

4.7.2.2(c) For dual flush PFD's, measure the flush volume as indicated.

Cycles	Flush	Flush volume	Cycles	Flush	Flush volume
25k (full)	1	L/flush (gal/flush)	150k (full)	1	L/flush (gal/flush)
	2	L/flush (gal/flush)		2	L/flush (gal/flush)
	3	L/flush (gal/flush)		3	L/flush (gal/flush)
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)
50k (red.)	1	L/flush (gal/flush)	175k (red.)	1	L/flush (gal/flush)
	2	L/flush (gal/flush)		2	L/flush (gal/flush)
	3	L/flush (gal/flush)		3	L/flush (gal/flush)
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)
75k (red.)	1	L/flush (gal/flush)	200k (red.)	1	L/flush (gal/flush)
	2	L/flush (gal/flush)		2	L/flush (gal/flush)
	3	L/flush (gal/flush)		3	L/flush (gal/flush)
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)
100k (red.)	1	L/flush (gal/flush)	225k (red.)	1	L/flush (gal/flush)
	2	L/flush (gal/flush)		2	L/flush (gal/flush)
	3	L/flush (gal/flush)		3	L/flush (gal/flush)
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)
125k (red.)	1	L/flush (gal/flush)	250k (red.)	1	L/flush (gal/flush)
	2	L/flush (gal/flush)		2	L/flush (gal/flush)
	3	L/flush (gal/flush)		3	L/flush (gal/flush)
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)

4.7.2.3. PFD's with a secondary control

Secondary control flushed _____ times.

Using the secondary control,

Flush	Flush volume
1	L/flush (gal/flush)
2	L/flush (gal/flush)
3	L/flush (gal/flush)
Avg	L/flush (gal/flush)

Repeat section 4.2 for all PFD's:

4.2 Pressure test

4.2.2(b) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.2(c) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.2(d) Static pressure set to _____ kPa (_____ psi).

4.2.2(e) Wait for _____ min.

4.2.2(f) Static pressure set to _____ kPa (_____ psi). Flush.

4.2.3 Did the device complete all flushing cycles?

Yes

No

Questionable

If questionable, explain _____

Was there any leakage?

Yes No Questionable

If questionable, explain _____

Did the PFD pass section 4.2?

Yes No Questionable

If questionable, explain _____

Repeat section 4.3 for non-tank-type PFD's:

4.3 Back-siphonage test for Non-tank type PFD's

4.3.2 Does the back siphonage performance of the device comply with any of the following standards?

ASME A112.18.3	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ASSE 1001	<input type="checkbox"/> Yes	<input type="checkbox"/> No
CSA B64.1.1	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Did the PFD pass section 4.3?

Yes No Questionable

If questionable, explain _____

Repeat section 4.4 for tank-type PFD's:

4.4 Backflow test for Tank type PFD's

4.4.2(b) Size of fouling wire: _____ mm (_____ in)

4.4.2(d) Pressure set to: _____ kPa (_____ psi)

4.4.2(e) Vacuum set to: _____ kPag (_____ psig) for _____ min

4.4.2(f) Vacuum increased to _____ kPag (_____ psig) over _____ sec

4.4.2(g) Vacuum decreased to _____ kPag (_____ psig) over _____ sec

4.4.2(h) Peak vacuum: _____ kPag (_____ psig)

4.4.3 Was there any colored water in the sight glass? Yes No

Did the PFD pass section 4.4?

Yes No Questionable

If questionable, explain _____

Repeat section 4.6 for all PFD's:

4.6 Operating requirements

4.6.2 Temperature of environment: _____ °C (_____ °F)

4.6.2(c) Force to open, operate, and close

Pressure	Temperature	Linear Force
kPa (_____ psi)	°C (_____ °F)	N (_____ lbf)
kPa (_____ psi)	°C (_____ °F)	N (_____ lbf)

Is this an accessible or non-accessible design PFD?

Accessible Non-accessible

Did the PFD pass section 4.6?

Yes No Questionable

If questionable, explain _____

Is the PFD in compliance with section 4.7?

Yes No Questionable

If questionable, explain _____

4.8 Integral control stop life cycle test

4.8.2 Procedure

4.8.2(c) Control stop pressurized to _____ kPa (_____ psi)

4.8.2(d) Where there any leaks? Yes No

4.8.2(e) Pressure reduced to _____ kPa (_____ psi)

4.8.2(f) Control stop manually operated for _____ cycles

4.8.2(g) After cycle test,

4.8.2(g)(1) Control stop pressurized to _____ kPa (_____ psi) for _____ min

4.8.2(g)(2) Where there any leaks? Yes No

Is the PFD in compliance with section 4.8?

Yes No Questionable

If questionable, explain _____

4.9 Hydrostatic pressure test for non-tank type PFD's

4.9.2 PFD pressurized to _____ kPa (_____ psi) for _____ min

4.9.3 Were there any leaks? Yes No

Is the PFD in compliance with section 4.9?

Yes No Questionable

If questionable, explain _____

4.10 Hydrostatic pressure test for tank type PFD's

4.10.2 Procedure

4.10.2(a) Remove relief valve from PFD.

4.10.2(b) Minimum relief valve opening pressure _____ kPa (_____ psi) and flow rate _____ mL/min (_____ oz/min)

4.10.2(d) Reassemble relief valve to the PFD and block the relief outlet of the relief valve to prevent the assembly's pressure from reducing.

4.10.2(e) or (g) PFD pressurized to: _____ kPa (_____ psi)

4.10.2(f) or (h) Pressurized for _____ min

4.10.3 Where there any leaks? Yes No

Is the PFD in compliance with section 4.10?

Yes No Questionable

If questionable, explain _____

Section V

5.0 Markings, packaging, and installation instructions

5.1 Markings

5.1(a) Is the manufacturer's name, trademark, or other mark on the product?

Yes No Questionable

If questionable, explain _____

If this is a private label, is the name, trademark, or other mark of the customer for whom the PFD was manufactured on the product?

Yes No Questionable

If questionable, explain _____

5.1(b) Is the critical level marked with a line and the letters "CL"?

Yes No Questionable

If questionable, explain _____

5.1(c) If the PFD is a manually activated dual-flush PFD, is that identification shown by graphic display or lettering or intuitively apparent?

Yes No Questionable

If questionable, explain _____

5.2 Is the average water consumption visible in liters per flush and gallons per flush on the product?

Yes No Questionable

If questionable, explain _____

5.3 Are all markings permanent, legible, and visible after installation?

Yes No Questionable

If questionable, explain _____

5.4 Packaging

5.4(a) Is the manufacturer's name, trademark, or other mark on the packaging?

Yes No Questionable

If questionable, explain _____

If this is a private label, is the name, trademark, or other mark of the customer for whom the PFD was manufactured on the packaging?

Yes No Questionable

If questionable, explain _____

5.4(b) Is the model name or series number, and the water consumption in liters per flush and gallons per flush on the packaging?

Yes No Questionable

If questionable, explain _____

5.5 Are installation instructions included with the PFD?

Yes No Questionable

If questionable, explain _____

TESTING AGENCY _____

ADDRESS _____

PHONE: _____ FAX: _____

TEST ENGINEER(S) _____

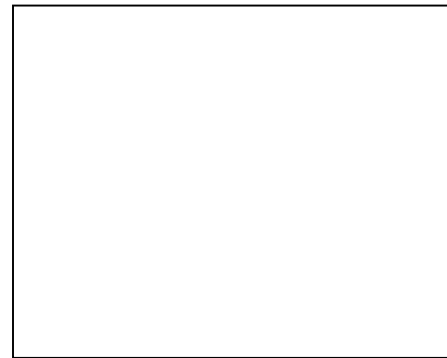
We certify that the evaluations are based on our best judgments and that the test data recorded is an accurate record of the performance of the device on test.

Signature of the official of the agency: _____

Title of the official: _____ Date: _____

Signature and seal of the Registered Professional Engineer
supervising the laboratory evaluation:

Signature



Seal