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

ASSE 1037-2020/ASME A112.1037-2020/CSA B125.37:20

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 \Box 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 ☐Yes □ No Not requiring tight grasping, pinching, or twisting of the wrist Yes □No Requiring an operating force no greater than 22N (5lbf) □Yes ☐ 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 ☐Yes □No Straight threads ASME B1.1 □Yes ☐ No Dimensions of solder-joint connections ASME B16.18 or ASME B16.22 □Yes □ No

SAE J512

Compression connections

☐ No

☐Yes

	3.6.1	What is the inlet supply connection s	pecified as? _			
	3.6.2	Does the outlet connection provide a	pressure-tight	t connection a	as specified in ASME	
		A112.19.2/CSA B45.1?				
			☐ Yes	☐ No	☐ Questionab	le
		If questionable, explain				
3.7	Do coa	atings comply with ASME A112.18.1/C	SA B125.1?			
			☐ Yes	☐ No	Questionable	le
		If questionable, explain				
3.8	Does t	he device incorporate any electrical fea	atures?			
					☐ Yes	
					☐ No	
	3.8.1	If yes, do the electrical features comp			CSA B125.1?	
			☐ Yes	☐ No	☐ Questionab	le
		If questionable, explain				
	3.8.2	If solenoid valves control the PFD we	ere they tested	as part of the	e PFD?	
		If questionable, explain	☐ Yes	☐ No	Questionable	le

Section IV

4.0 Performance requirements and test methods

4.1	Genera	aı						
	4.1.1	How long we	re the samples at an	nbient laborat	tory condit	ions before	e testino	j ?
			hours ato	C (°F)				
	4.1.3	Water tempe	rature at start of test	°C (_	°F)			
4.2	Pressu	ıre test						
		4.2.2(b) Stat	c pressure set to	kPa (psi).	Flush.		
		4.2.2(c) Stati	c pressure set to	kPa (psi).	Flush.		
		4.2.2(d) Stat	c pressure set to	kPa (psi).			
		4.2.2(e) Wait	for min.					
		4.2.2(f) Station	pressure set to	kPa (psi).	Flush.		
	4.2.3	Did the device	e complete all flushir	ng cycles?				
				☐ Yes		No		Questionable
		If questionab	le, explain					
		Was there ar	ny leakage?					
				☐ Yes		No		Questionable
		If questionab	le, explain					
	Is the I	PFD in complia	ance with section 4.2					
				☐ Yes		No		Questionable
		If questionab	le, explain					
4.3	Back-s	siphonage test	for Non-tank type PF	:D's □ :	Section No	ot Applicab	le	
1.0	4.3.2		k siphonage perform					e followina
		standards?	p				,	- · · · · · · · · · · · · · · · · · · ·
			ASME A112.	18.3	□Yes	□No		
			ASSE 100		□Yes	□ No		
			CSA B64.1		□Yes	☐ No]	
	Is the I	PED in complia	ance with section 4.3	?				
	10 410 1			. 🗌 Yes		No		Questionable
		If questionab	le, explain					
4.4	Backflo	ow test for Tan	k type PFD's		Section No	ot Applicab	le	
		4.4.2(b) Size	of fouling wire:	_mm (in)			
		4.4.2(d) Pres	sure set to:k	:Pa (p	si)			
			uum set to:k			min		
		4.4.2(f) Vacu	um increased to	kPag (psig) c	ver	sec	
		4.4.2(g) Vac	uum decreased to	kPag (psig) c	ver	sec	
			k vacuum:					
	4.4.3	Was there ar	ny colored water in th	e sight glass	? Yes	□No		

	Was a	separate sampl	e used to perfori	n sectior	ı 4.4?				
					Yes		No		Questionable
		If questionable	, explain						
	Is the	PFD in complian	ce with section 4	1.4?					
		·		П	Yes		No		Questionable
		If questionable	e, explain						
4.5	Hydrai	ulic performance	tests						
	·	4.5.2(a) Is this	device designed		oupled v	vith a <u>wa</u>	ter cl	oset fixture th	at conforms to
		ASIVIE	A112.19.2/C3A	_	Vaa		NI.		Overtionable
		If guestionable	, explain		Yes		No		Questionable
		quodionabio	, oxpiaii						-
			device designed		upled w	vith a <u>urir</u>	nal fix	ture that conf	orms to ASME
		71112.	10.2/00/(B+0.1		Yes		No	П	Questionable
		If questionable	, explain					_	
		4000000	,						
			device designed A112.19.14?	d to be co	oupled v	vith a <u>dua</u>	al-flus	sh fixture that	conforms to
					Yes		No		Questionable
		If questionable	, explain						
				odels an	d their r	nanufact	urers	that are used	l for the hydraulid
		•	mance tests:						
		Fixture #1:							
		Fixture #2:							_
		Fixture #3:							
		Does each fixt	ure conform to A	SME A1				_	
		If questionable	ovolain	Ц	Yes	Ц	No		Questionable
		ii questionable	:, ехріані						
	4.5.3	For water close	et PFD's coupled	d to wate		fixtures, Section N	•		s:
Tran s	eal dan	th determinatio	'n			ection in	οι Αρ	phicable	
map s	eai dep	in determinatio	11	F. JI	tran sa	al danth			
			Fixture	Full	•	al depth, انما			
			#1		mm (.111)			
			#1						
			#2						
			#3						

Water consumption

Static pressure #1

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

Static pressure #2

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

Static pressure #3

☐ Siphonic or Blowout style bowl. Section Not Applicable Flush volume, L (gal) Afterflow Static Trap seal Residual trap Total (total minus restored? pressure, seal depth, H_r, Cycle Fixture kPa (psi) Run no. Main flush Flush main flush) (yes/no) mm (in) time, s 1 2 #1 3 Average total flush Average cycle time, s volume, L (gal) 1 2 #2 3 Average total flush Average cycle time, s volume, L (gal) 1 2 #3 3 Average total flush Average cycle time, s volume, L (gal)

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				
	1				
#2	2				
	3				
	1				
#3	2				
	3				

Surface wash

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

Mixed media

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

Drain li	ne transport characte	rization						_			
				Weighted average carry distance							
	·			(total ba	alls x avg	distanc	e), m (ft)				
	Travel distance, m (ft)		Fixture #1	Fixture	e #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 car	ry distances, m	(ft)								
	Average carry distar	•									
	Is the water closet PFD	·		☐ Yes	□ No		☐ Questid	onable			
4.5.3 co	If questionable, explain										
Trap se	al depth determinatio	n				7					
	Fixture			ull trap seal de mm (in)	epth,						
		#1									
		#2									

#3

Water consumption

Static Pressure #1

				Flush volum	e, L (gal)	
	Static pressure,				Afterflow (total	Trap seal restored?
Fixture	kPa (psi)	Run no.	Main flush	Total Flush	minus main flush)	(yes/no)
		1				
		2				
#1		3				
		_	e total flush lume, L (gal)			
		1				
		2				
#2		3				
		Averag	e total flush			
		vo	lume, L (gal)			
		1				
		2				
#3		3				
		Averag	e total flush			
		vo	lume, L (gal)			

Static Pressure #2

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

Surface Wash

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

Dye

Fixture	Run no.	Was the diluted sample lighter than the control?		
	1	□Yes	□No	
#1	2	□Yes	□No	
	3	□Yes	□No	
	1	∐Yes	□No	
#2	2	∐Yes	□No	
	3	□Yes	☐ No	
	1	□Yes	□No	
#3	2	□Yes	☐ No	
	3	□Yes	□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.					
	☐ Single flush bowl. Section Not Applicable.					
	In addition for dual flush PFD's perform these tests, in reduced flush mode:					

Trap seal depth restoration

i restoration						
	Trap seal depth, mm (in)					
Run no.	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		
	1		
#2	2		
	3		
	1		
#3	2		
	3		

Dye

Fixture	Run no.	Was the diluted sample lighter than the control?		
- ixeare	man no.	was the unuted sample lighter than the controls		
	1	□Yes	☐ No	
#1	2	□Yes	□No	
	3	□Yes	□No	
	1	□Yes	□No	
#2	2	□Yes	□No	
	3	□Yes	□No	
	1	□Yes	□No	
#3	2	□Yes	☐ No	
	3	□Yes	□No	

Toilet paper_

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

Is the dual flush water closet PFD in compliance with section 4.5?					
	☐ Yes	☐ No	Questionable		
If questionable, explain					
,					

4.6		Derating require 1.6.2 Tempera	ements ature of environme	ent:	°C (°I	F)			
			Force to open, op			,			
	Pressure			Temperature		Linear	Linear Force		
		kPa	(psi)	°C	(°F)	N	(lbf)		
	1								
	2								
			ible or non-access	☐ A	PFD? .ccessible	☐ Non-acc	essible		
	I	s the PFD in cor	mpliance with sect		Yes	☐ No		stionable	
		If auestic	onable, explain				☐ Que:	suoriable	
4.7		Life Cycle Test 1.7.2 Procedu 4.7.2.1.	Test setup						
			4.7.2.1(b)		upply set to °C (ºl	kPa	ı (psi)	at	
			4.7.2.1(c)		nedt	•			
			4.7.2.1(d)	T T D Hasi		arrico.			
					Flush Vo	olume			
			Flush	I		(gal)			
			1						
			2						
			3						
			4						
			5						
	Avg								
	ľ	f PFD is a dual f	flush device, meas	sure the flus		the reduced flustion Not Applica			
			Fluck	F	Reduced Flu	sh Volume			
			Flush		_	(gal)			
			1						
			2						
			3						
			4						
			5						
			Δνα	1					

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		
	1	L/flush (gal/flush)		1	L/flush (gal/flush)		
25k	2	L/flush (gal/flush)	150k	2	L/flush (gal/flush)		
(full)	3	L/flush (gal/flush)	(full)	3	L/flush (gal/flush)		
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)		
	1	L/flush (gal/flush)		1	L/flush (gal/flush)		
50k	2	L/flush (<u>g</u> al/flush)	175k	2	L/flush (gal/flush)		
(red.)	3	L/flush (gal/flush)	(red.)	3	L/flush (gal/flush)		
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)		
	1	L/flush (gal/flush)		1	L/flush (gal/flush)		
75k	2	L/flush (gal/flush)	200k	2	L/flush (gal/flush)		
(red.)	3	L/flush (gal/flush)	(red.)	3	L/flush (gal/flush)		
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)		
	1	L/flush (gal/flush)		1	L/flush (gal/flush)		
100k	2	L/flush (gal/flush)	225k	2	L/flush (gal/flush)		
(red.)	3	L/flush (gal/flush)	(red.)	3	L/flush (gal/flush)		
	Avg	L/flush (gal/flush)		Avg	L/flush (gal/flush)		
	1	L/flush (gal/flush)		1	L/flush (gal/flush)		
125k	2	L/flush (gal/flush)	250k	2	L/flush (gal/flush)		
(red.)	3	L/flush (gal/flush)	(red.)	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		Section Not Applicable
Secondary control flushed	times.	
Using the secondary control,		

	<i>j</i>		
Flush		Flush volu	ume
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?

			If questio	nable, explain _] Yes		No		Ques	tionable
			40.00.00								_
			Was ther	e any leakage?] Yes		No		Ques	tionable
			If questio	nable, explain _							
	[Did the	PFD pass	s section 4.2?	Г] Yes	П	No		Oues	tionable
			If questio	nable, explain _						Quoo	
Repe	at s	ection	4.3 for no	n-tank-type PFD	's:		Section No	ot Applica	ble		
4.3				test for Non-tank		_		• • •			
		1.3.2		back-siphonage	• .	e of the	device cor	mply with	any of th	e follov	wing
					E A112.18.3		□Yes	□No			
				AS	SSE 1001		□Yes	□ No			
					SA B64.1.1		□Yes	☐ No			
	[Did the	·	s section 4.3?] Yes		No		Ques	tionable
			ii questio	паые, ехріаіп							
Repe	at s	ection	4.4 for tar	nk-type PFD's:			Section No	ot Applica	ble		
4.4	E	Backflo	w test for	Tank type PFD's	3						
			4.4.2(b) S	Size of fouling wi	re:mm	າ (_in)				
				Pressure set to: _	•	-					
				/acuum set to: _							
				acuum increase							
				/acuum decreas				over	_sec		
				Peak vacuum: _							
	4	1.4.3	Was ther	e any colored wa	ater in the sig	ht glass	s? ∐Yes	∐ No			
	[Did the	PFD pass	s section 4.4?	_] Yes		No		Oues	tionable
			If questio	nable, explain _	L] 162		INO		Ques	
Rene	at s	ection	4.6 for all	PFD's							
4.6			ing require								
1.5	4.6.2 Temperature of environment: °C (°F)										
			•	orce to open, op		•	,				
			Pres			erature		Linear	Force		
			kPa	(psi)	°C	(°F))	N	(lbf)	
	1			VI/		` `	,		(1.51	<i>,</i>	
									İ		

	Is this	an accessible or non-accessible de	sign PFD?				
			Accessible		Non-acc	essible	
	Did the	PFD pass section 4.6?					
			☐ Yes		No		Questionable
		If questionable, explain					
		· · · · · · · · · · · · · · · · · · ·					
	Is the F	PFD in compliance with section 4.7	?				
			☐ Yes		No		Questionable
		If questionable, explain					
4.8	Integra	Il control stop life cycle test					
	4.8.2	Procedure					
		4.8.2(c) Control stop pressurized	to kPa	a (psi)		
		4.8.2(d) Where there any leaks?					
		4.8.2(e) Pressure reduced to					
		4.8.2(f) Control stop manually ope	=				
		4.8.2(g) After cycle test,		Cycles			
			ral atan nraaa	urizad ta		kDo (noi) for
		4.8.2(g)(1) Cont		urizea to		кРа (psi) for
		4.0.0(.)(0)	min				
		4.8.2(g)(2) When	re there any le	eaks?	☐ Yes	∐ No	
	la tha F	OFD in compliance with continu 4.00	0				
	is the F	PFD in compliance with section 4.8			NI.		0
			☐ Yes		No	Ш	Questionable
		If questionable, explain					
4.0	Lludros	static process to at for non-tank typ	o DEDio		Coation	Not Appli	aabla
4.9	•	static pressure test for non-tank type		_ 凵		Not Appli	Cable
	4.9.2	PFD pressurized tokPa (min		
	4.9.3	Were there any leaks?	☐ Yes	☐ No			
	I. 41 F	OFF in a constitution of the section A O	0				
	is the F	PFD in compliance with section 4.9					0 " 11
			☐ Yes	Ш	No	Ш	Questionable
		If questionable, explain					
4.40	l lyalan a	static processing took for took time DE	D'-		Continu	Nlat Ammli	a a la la
4.10	-	static pressure test for tank type PF	υs	Ш	Section	Not Appli	capie
	4.10.2	Procedure	DED				
		4.10.2(a) Remove relief valve from					
		4.10.2(b) Minimum relief valve op		re	_kPa (psi)	and flow rate
		mL/min (oz/min)				

	4.10.2(d) Reassemble relief valve to	the PFD ar	nd block t	the relief outl	et of t	he relief valve to
	prevent the assembly's pres	sure from re	educing.			
	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 F	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 □ N/A 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? ☐ No ☐ Yes Questionable If questionable, explain 5.2 Is the average water consumption visible in liters per flush and gallons per flush on the product? ☐ No ☐ Yes 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 □ N/A If questionable, explain _____

	5.4(b)	·					
		gallons per flush on the packaging?	∕ □ Yes	□ No		Questionable	
		If questionable, explain		_		· 	
5.5	Δre inc	tallation instructions included with the	a DED2				
0.0	AIC IIIS	taliation instructions included with the	Yes	☐ No		Questionable	
		If questionable, explain					
		RATORY:					
TEST E	ENGINE	ER(S):					
If appli	aabla:						
) LABORATORY:					
		ER(S):					
		urced testing:					
		the evaluations are based on our be		d that the test	data reco	orded is an	
accura	te record	d of the performance of the device or	n test.				
Signatu	ure of the	e official of the listed laboratory:		0:			
				Signature			
Title of	the offic	ial:		D	ate:		