



## WATER-EFFICIENT INDOOR PRODUCTS & SYSTEMS - U.S. GREEN STANDARDS, CODES, & VOLUNTARY INITIATIVES



Standard/Guideline	ANSI Apprvd	Application	Maximum Water Pressure (PSI)	Water Closets - Toilets (Maximum gpf)	Urinals (Maximum gpf)	Private Lavatory Faucet (Maximum flow rate-gpm) See definition below	Public Lavatory Faucet (Maximum flow rate-gpm) See definition below	Metering Faucet self-closing (Gallons per cycle)	Residential Kitchen Faucet (Maximum flow rate-gpm)	Residential Showerhead (Maximum flow rate-gpm)	Residential Showering Compartment (Maximum flow rate-gpm)	Residential Dish-washer (Gallons Per Full Wash & Rinse Cycle)	Residential Clothes Washer (Water Factor - WF = gal per cu.ft. of capacity)	Comm'l Pre-Rinse Spray Valve (Max flow rate-gpm)	Comments
				Plumbing Fixtures and Fittings						Residential-type Fixtures, Fittings, & Appliances					
Primary Organization Authoring U.S. National Product or Federal Standards (if any) >>>>			None	ASME/CSA	ASME/CSA (vitreous china) and IAPMO (plastic)	ASME/CSA	ASME/CSA	ASME/CSA	ASME /CSA	ASME/CSA	None	U.S. DOE	U.S. DOE	ASME /CSA	
U.S. National Product Standard	Voluntary until enacted into law, code, or other regulation		NR	1.6 (1.28 for those designated "high efficiency")	1.0 (0.5 for those designated "high efficiency")	2.2 (1.5 for those designated "high efficiency")	0.5	0.25 (NOTE: no flow rate maximum)	2.2 (classified as "sink" faucet in the std.)	2.5 (2.0 for those designated "high efficiency")	Not covered	5.0 (std size)	Top load: 8.4 Front load: 4.7	1.6 (1.28 for designated "high efficiency")	
U.S. Energy Policy Act(s) (EPAct - various dates) AND Energy Independence and Security Act of 2007	Mandatory - all installations		NR	Conventional =1.6 Blowout = 3.5	1.0	2.2 @ 60 psi	≤2.2 @ 60 psi; National std & model plumbing codes set at 0.5-gpm maximum	0.25 (no flow rate maximum)	2.2	2.5	Not covered	5.0 (std size)	Top: 6.5 Front: 4.7	1.0, 1.2, and 1.28 depending upon "product class"	
Green Globes - Green Building Initiative (GBI) - (Points-based system)	YES	Voluntary points-based system - Covers all but low-rise residential (1 to 3 stories)	NR	GBI provides <u>no water pre-requisites</u> , thereby allowing up to the 1992 Federal maximums for toilets, urinals, faucets and showerheads.								GBI provides <u>no pre-requisites</u> , thereby only requiring compliance with the prevailing Federal standard as shown in the line above.		A point-based ANSI standard with no 'green' efficiency prerequisites.	
USGBC - LEED Version 4 New Construction Rating System (Points-based system)	NO	Voluntary - (single family residences covered in another LEED product)	NR	Water Efficiency Pre-Requisite: <i>"Employ strategies that in aggregate use 20% less water than the water use fixtures and fittings baseline calculated for the building (not including irrigation or process water)."</i>								Energy Star or equivalent		1.3	LEED mandates a 20% water use reduction threshold (from a calculated baseline). Points may be earned for reductions in excess of 20%.
NAHB National Green Building Standard™ (NGBS) ICC 700-2015 (Points-based system)	YES	Voluntary - Residential: new homes, renovations, and additions	NR	WaterSense HET (1.28 or 1.2) OR waterless toilet	≤ 0.5, including waterless	1.5; Self-closing, motion sensor, metering, or pedal-activated	NA	Included as part of private lavatory faucet provisions	NR	≤1.6 to 2.5 with varying points depending upon flow rate. Provides for matching automatic compensating valve.	Maximum of 2.5-gpm per compartment	Energy Star	Energy Star	NA	Requires humidifiers to be recirculating type. Standard finalized, approved by ANSI, and published in 2016.
USGBC - LEED for Homes V.4	NO	Voluntary - new homes	60 inside	WaterSense HET - average flush volume of all toilets ≤ 1.1	NR	WaterSense Faucet ≤ 1.5	NA	Pre-requisite	NR	WaterSense and ≤ 1.75	Maximum of 1.75-gpm per compartment	Energy Star	Energy Star	NA	

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US EPA WaterSense Single-Family New Home Specification V.1.2 - 2014	NO	Voluntary - new homes	60	WaterSense HET (1.28 avg)	WaterSense HEU (0.5)	WaterSense Faucet (1.5; lower limit of 0.8 min.)	NA	NR	2.2	WaterSense 2.0	Maximum of 2.0-gpm per compartment of ≤ 2,160 sq.in.  NOTE: max flow provisions include both potable and recirculated water. Additional space increments must be served by separate controls.	Energy Star	Energy Star + WF of ≤ 6.0	NA	V.1.2 specification released 2014.
IAPMO Water Efficiency and Sanitation Standard (WE-Stand) - 2017	YES	Voluntary until enacted into law by local or state jurisdiction	NR	WaterSense +1.28	Flushing: WaterSense HEU (0.5). Non-water: Requires upstream drainage discharges.	WaterSense Faucet (1.5; lower limit of 0.8 min.)	0.5	0.25 (no flow rate maximum)	1.8 with an override allowing a temporary flow of 2.2	WaterSense 2.0	Total of 2.0-gpm per total compartment of ≤1,800 sq. in. Additional showerhead allowed for each addit space increment of 1,800 sq in. or part thereof. Exception for "accessible" compartment with a hand shower.	Energy Star	Energy Star	1.3 and comply with Water-Sense. Requires automatic shut-off	The WE-Stand replaced the earlier IAPMO Green Plumbing & Mechanical Supplement
ASHRAE Standard 189.1 AND ICC International Green Construction Code (IgCC)	ASHRAE std. 189.1 only	IgCC covers all construction EXCEPT that covered by the NGBS (ICC 700-2008 - see above). Voluntary until enacted into law by local or state jurisdiction	NR	Tank-type: WaterSense HET 1.28 Flushometer Valve/Bowl Combination: 1.28 NOTE: maximum full flush volume on dual flush: 1.28	Flushing: WaterSense HEU (0.5). Non-water: Requires upstream drainage discharges.	WaterSense Faucet 1.5; lower limit of 0.8 minimum	0.5	0.25 (no flow rate maximum)	1.8 with temporary override allowing a flow of 2.2	WaterSense 2.0	Total of 2.0-gpm per compartment of ≤2,600 sq. in. Additional 2.0-gpm allowed for each addit space increment of 2,600 sq in. or fraction thereof. Exception for "accessible" compartment in accordance with the IPC.	Energy Star + 3.8 for full size & 3.5 for compact size	Energy Star + WF of ≤ 5.4	1.28 and comply with Water-Sense. Requires automatic shut-off	Water bottle filling stations required adjacent to at least 50% of drinking fountains

- gpf Gallons per flush
- gpm Gallons per minute
- gpc Gallons per cycle
- psi Water pressure in pounds per square inch
- HET High-Efficiency Toilet
- HEU High-Efficiency Urinal
- CSA Canadian Standards Association
- DOE U.S. Department of Energy
- ASHRAE American Society of Heating, Refrigerating, and Air-Conditioning Engineers
- NAHB National Association of Home Builders
- USGBC - LEED United States Green Building Council - Leadership in Energy & Environmental Design
- IAPMO International Association of Plumbing & Mechanical Officials
- ASME American Society of Mechanical Engineers
- ICC International Code Council
- WF Water Factor - gallons per cycle per cubic foot of washer capacity
- NA Not applicable
- NR Not Required or Not Recognized

Lavatory faucet in "private" installation "Private" is defined by the Uniform Plumbing Code, the International Plumbing Code, and the National Standard Plumbing Code as inclusive of residences, hotel guest rooms, and hospital patient rooms.

Lavatory faucet in "public" installation "Public": All installations not otherwise defined as "private"