

TOTO®

EcoPower® Urinal Flush Valve

TEU1LN – 0.5gpf
TEU1UN – 0.125gpf

Planet-friendly, superior flushing performance is easy to achieve with the EcoPower High Efficiency Urinal Flushometer Valve. Engineered to require no electricity or routine battery replacement, the EcoPowerFlushometer Valve saves energy and water while providing maximum performance in even the most demanding commercial spaces. Urinal flush valves are available in 0.5gpf and 0.125gpf.



Performance Dashboard

Features & functionality

- EcoPower® High-Efficiency Urinal (HEU) flushometer valve
 - Hydropower self-generating system
 - Automatic sensor activated
 - 12 hour automatic flush for trap seal protection
 - Neutral rough-in, complete with angle stop vacuum breaker set
 - Manual override button
 - ADA compliant
- [Visit TOTO for more product specifications](#)



ECO-POWER® VALVES

- Powered by water to create an electrical current that is stored in rechargeable cells to power the Smart Sensor System of the faucet or valve.
- Replenishes its charge with as few as five uses a day and is optimized at 10 uses per day.
- Reduces electricity use, lower maintenance costs and hands-free, automatic-shut-off functionality.

Environmental performance

- Powered by the sheer force of running water
- Metal parts and electric components are recyclable at the end of service
- [ecoScorecard™ listed](#)

Total impacts = 36.98 mPts/per 10 years of service

[Learn about SM Single Score results](#)

[See LCA results & interpretation](#)



SM Transparency Report™

VERIFICATION Report

Certified

Self-declared

LCA

3rd party verified

Self-declared

Validity: 10/18/14 – 10/18/17
TOT – 10/18/14 – 002

LCA SCOPE

Cradle to grave

Cradle to gate with options

Cradle to gate

The LCA was independently verified in accordance with ISO 14040-44 and the Sustainable Minds Transparency Report™ Framework (Draft version 2.0).

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LCA results & interpretation

TEU1LN & TEU1UN

Scope and summary

Cradle to grave Cradle to gate with options Cradle to gate

Functional unit

One average flush valve for urinals in an average U.S. commercial environment for 10 years.

The period of 10 years is modeled as the period of application based on the average technical lifespan for commercial applications. The economical lifespan of commercial applications can be longer or lower due to aesthetic replacements or more intense use. The implication is that the LCA model assumes that the application ends at year 10 and that the materials will be treated in an end-of-life scenario.

Default use phase scenario

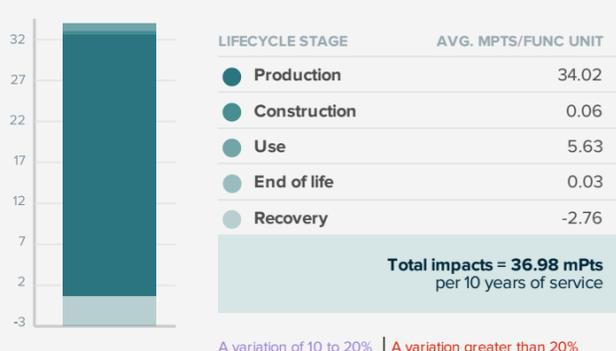
TEU1LN - 10 years of service in an average U.S. commercial environment in combination with a urinal with 0.5 gallon/use and 18 uses/day resulting in 23,400 gallons of water.

TEU1UN - 10 years of service in an average U.S. commercial environment in combination with a urinal with 0.125 gallon/use and 18 uses/day resulting in 5,850 gallons of water.

Material composition greater than 1% by weight

PART	MATERIAL	AVG. % WT.
Valve body	Bronze (C836000)	29%
Housing top cover	Zinc Die cast	15%
Packaging	Cardboard	14%
Housing bottom cover #1	Zinc Die cast	9%
Housing bottom cover #2	Zinc Die cast	8%
Valve tailpiece	Bronze (C836000)	4%
Manuals	Paper	3%
Valve tailpiece nut	Brass	1%
Generator coil	Copper	1%
	Other	16%

Total impacts by life cycle stages [MPTS/FUNC UNIT]



What's causing the greatest impacts

All lifecycle stages

The production stage dominates the results for all impact categories.

The production and use stages have significant contributions to all impact categories. The production has the most significant contributions to eutrophication (mostly from emissions from copper mining), non carcinogens (emissions from the production of copper and zinc) and ecotoxicity (mostly from emissions during mining of copper, gold and zinc). The use stage is less dominant but it is still significant in most of the impact categories. The impact of the use stage is mostly due to the embedded energy arising from acquisition, treatment and distribution of the water used during the use of the product (i.e. a toilet or a urinal) to which the valves are installed (60-90%). The recovery stage includes recycling processes and benefits by preventing the need to produce primary materials. Recycling is a relevant factor for some of the impact categories, offsetting a portion of the impacts caused by production. Additionally, the delivery of the product to the construction/installation site, the construction/installation processes, the processes for dismantling the product and final waste treatment during the end of life stage do not have a significant impact.

Production stage

Brass parts, zinc parts, the printed wiring board, and polishing and potting processes have significant contributions to the impact categories. The remaining parts and processes do not have a significant contribution to the overall impacts in the rest of the categories

Sensitivity analysis

The only deviation above 10% in the reported life cycle stages is in the use stage. The product TEU1LN consumes four times more water than TEU1UN over the same use stage of 10 years (23,400 gallons vs. 5,850 gallons). The variations due to averaging between the products in the production stage are less than 10% in any category.

Multi-product weighted average

Results represent the weighted average using production volumes for the products covered. Variations of specific products for differences of 10-20% against the average are indicated in purple; differences greater than 20% are indicated in red. A difference greater than 10% is considered significant.

TOTO PeoplePlanetWater. programs improving environmental performance

- TOTO's EcoPower® products are powered by the force of running water.
- The electronic and mechanical components are programmed and designed to allow water flow and accurate flush volume only when needed.
- Water consumption is reduced in the use phase due to superior flushing performance.

[See how we make it greener](#)

LCA results

LIFECYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE	RECOVERY
Information modules: Included Excluded*	A1 Raw Materials	A4 Transportation/ Delivery	B1 Use	C1 Deconstruction/ Demolition	D1 Recycling
*Installation and deconstruction/demolition are mostly manual. The sanitary fittings should not need repair, maintenance or replacement during the modeled life time.	A2 Transportation	A5 Construction/ Installation	B2 Maintenance	C2 Transportation	D2 Recovery
Operational energy use is irrelevant to the life cycle of the modeled product.	A3 Manufacturing		B3 Repair	C3 Waste processing	D3 Reuse
Reuse and energy recovery are not modeled for sanitary fittings.			B4 Replacement	C4 Disposal	
			B5 Refurbishment		
			B6 Operational energy use		
			B7 Operational water use		
SM 2013					
Impacts per 10 years of service	34.02 mPts	0.06 mPts	5.63	0.03	-2.76
Materials or processes contributing >20% to total impacts in each lifecycle stage	Brass and zinc parts together with the printed wiring board together with manufacturing processes such as polishing and potting.	Disposal of packaging and transportation of the product to installation site or consumer.	Volume of water use during the operation of the product and the embedded energy use (such as electricity) in the water used.	Transport to waste processing, waste processing and disposal of material flows transported to a landfill.	Plastic and metal components' recycling processes.
Learn about SM Single Score results					

TRACI

A variation of 10 to 20% | A variation greater than 20%

LIFECYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE	RECOVERY	
Ecological damage						
Impact Category	Unit					
Acidification	SO₂ eq	1.66E+00	3.98E-03	5.07E-01	2.03E-03	-9.50E-02
Ecotoxicity	CTU_e	5.14E+02	1.62E+00	4.17E+01	3.23E-01	-4.12E+01
Eutrophication	N eq	9.73E-01	6.37E-04	1.06E-02	2.16E-04	-3.01E-02
Global warming	CO₂ eq	9.63E+01	9.88E-01	7.60E+01	6.30E-01	-4.82E+00
Ozone depletion	CFC-11 eq	6.90E-06	1.15E-08	3.63E-06	2.34E-08	-3.98E-07
Human health damage						
Impact Category	Unit					
Carcinogenics	CTU_h	2.44E-06	8.89E-09	1.58E-06	3.33E-09	-1.61E-07
Non-carcinogenics	CTU_h	3.24E-04	8.50E-08	7.10E-06	3.08E-08	-3.17E-05
Respiratory effects	kg PM_{2.5} eq	2.13E-01	7.55E-05	3.47E-02	2.20E-04	-1.07E-02
Smog	kg O₃ eq	1.13E+01	1.08E-01	3.79E+00	4.00E-02	-1.22E+00
Resources depletion						
Impact Category	Unit					
Fossil fuel depletion	MJ surplus	5.46E+011	1.16E+00	4.46E+01	4.15E-01	-4.97E+00

References

LCA Background Report

TOTO Sanitary Fittings Products LCA Background Report (public version), August 2014

SM Transparency Report Framework

Part A: Part A: LCA Calculation Rules and Background Report Requirements (Draft V2) (compliant with ISO14040-44, ISO14025 and EN15804)

Part B: Product Group Definition – [Commercial Flush Valves](#)

SM Transparency Reports enable purchasers and users to compare the environmental performance of products on a life cycle basis. They are designed to present information transparently to make the limitations of comparability more understandable. SM Transparency Reports of products that comply with the same Product Group Definition (PGD) and include the same life cycle stages, but are made by different manufacturers, may not sufficiently align to support direct comparisons. They therefore, cannot be used as comparative assertions unless the conditions defined in ISO 14025 Section 6.7.2. 'Requirements for Comparability' are satisfied.

Rating systems

The intent is to reward project teams for selecting products from manufacturers who have verified improved life-cycle environmental performance.

LEED BD+C: New Construction | v4 - LEED v4 MR Building product disclosure and optimization

Environmental product declarations

Green Globes for New Construction and Sustainable Interiors

NC 3.5.1.2 Path B: Prescriptive Path from Building Core | NC 3.5.2.2 and SI 4.1.1 Path B: Prescriptive Path for Interior Fit-outs

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How we make it greener

TEU1LN & TEU1UN

CONSTRUCTION



TOTO participates in the UPS Carbon Neutral program. TOTO is a certified SmartWay partner.

USE



TOTO's EcoPower® Urinal Flush Valves feature the highly regarded EcoPower technology. Engineered to reduce environmental impacts, TOTO's EcoPower products offer water and energy savings without sacrificing performance. Below are some of the features of TOTO's EcoPower technology.

TEU1LN



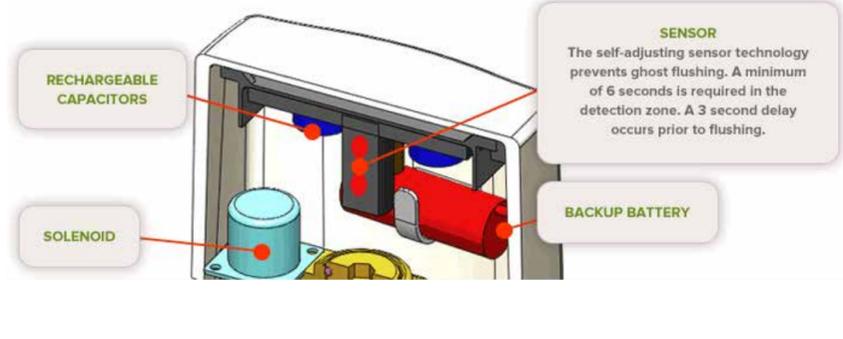
SENSOR:
Ensuring that water flows only when needed, the self-adjusting EcoPower sensor eliminates "ghost" flushing that wastes water. A minimum of six seconds presence in front of the sensor is required to get its acknowledgement, and a three second flush delay after stepping away from the sensing zone prevents excessive flushing.

MICROTURBINE:
TOTO's EcoPower technology enables the product to operate 100% off grid. As water flows, the microturbine recharges the capacitor for the sensor and solenoid. Less reliance on the back-up battery results in much less battery waste. With as little as 30 uses a day for the TEU1LN and 45 uses a day for the TEU1UN, the back-up battery can last up to 10 years.

COURTESY FLUSH:
A 12-hr courtesy flush maintains trap seal during periods of low use, preventing the need for unnecessary cleaning.

SOLENOID AND PISTON:
The piston and solenoid mechanism, a marked improvement over traditional rubber diaphragm type valves, maintains consistent flush volume under a range of supply pressures.

TEU1UN

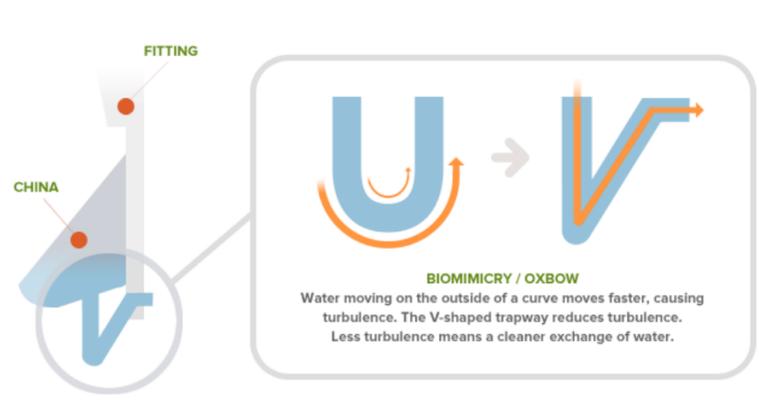


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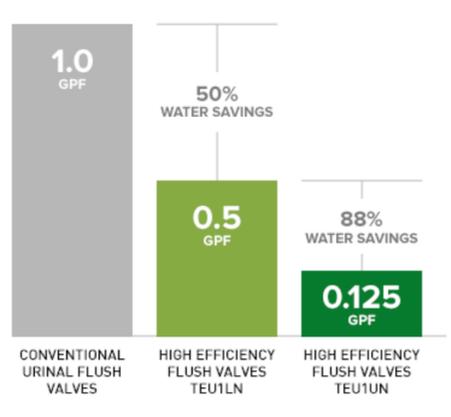
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COURTESY FLUSH:
A 12-hr courtesy flush maintains trap seal during periods of low use, preventing the need for unnecessary cleaning.

SOLENOID AND REGULATOR:
The pressure compensating regulator and solenoid assembly with self-cleaning 360 degree screen maintains consistent flush volume under a range of supply pressures.



Designed to work in combination with the 0.125gpf urinal, the flush valve is engineered to utilize biomimicry, modeled after the oxbow affect found in nature. Water moving on the outside of a curve will move faster, causing turbulence. The 0.125gpf urinal utilizes a V-shaped trap to reduce turbulent flow, resulting in lower water use without compromising performance.



Using the same proven EcoPower engineering, the 0.5 gallon per flush and the 0.125 gallon per flush urinal flush valves reinforce TOTO's performance reputation while offering an additional water savings.