

**TOTO®**

## EcoPower® Ultra-HE Urinal Flush Valve

TEU1UN - Exposed Valve 0.125gpf  
TEU2UN - Concealed Valve 0.125gpf

Planet-friendly, superior flushing performance is easy to achieve with the EcoPower Ultra High Efficiency Urinal Flushometer Valve. Engineered to require no electricity or routine battery replacement, the EcoPower Flushometer Valve saves energy and water while providing maximum performance in even the most demanding commercial spaces. Available as an exposed unit or choose the concealed option for a sleeker look.



### Performance Dashboard

#### Features & functionality

- 0.125gpf EcoPower® Ultra High-Efficiency Urinal (HEU) electronic flushometer valve
- Hydropower self-generating system
- Automatic sensor activated
- 12 hour automatic flush for trap seal protection
- Piston valve technology
- Manual override button
- ADA compliant

Visit TOTO for more product specifications for:

- [TEU1UN](#)
- [TEU2UN](#)

CSI MasterFormat® #22 42 43

#### Environmental performance

##### Improved by:

- Powered by the sheer force of running water
- Saves 88% more water than standard 1.0gpf valve
- Metal parts and electric components are recyclable at the end of service

##### Certifications & rating systems:

- WaterSense® certified
- CALGreen® compliant
- Contributes to earning credits in LEED®

[See LCA results & interpretation](#)



#### 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.
- Reduces electricity use, lower maintenance costs and hands-free, automatic-shut-off functionality.



## SM Transparency Report™

#### VERIFICATION

Report

Certified



Self-declared

LCA

3rd party verified



Self-declared

Validity: 10/30/15 – 10/30/18  
TOT – 10/18/15 – 014

#### LCA SCOPE

Cradle to grave

Cradle to gate with options

Cradle to gate

The LCA and Report are independently verified and certified to the SM Transparency Report Framework and ISO 14025.

#### NSF International

P.O. Box 130140  
789 N. Dixboro Road  
Ann Arbor, MI 48105, USA  
[www.nsf.org](http://www.nsf.org)  
+1 734 769 8010



#### TOTO USA

1155 Southern Road  
Morrow, GA 30260  
[www.totousa.com](http://www.totousa.com)

Contact us

## LCA results & interpretation

TEU1UN & TEU2UN

### Scope

- 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.

#### Reference service life

The RSL is 10 years.

#### Reporting period

The manufacturer's data represents 2013.

#### Default use phase scenario

10 years of service in an average U.S. commercial environment in combination with a urinal with 0.125 gallon/use, 18 uses/day, and 260 days/year resulting in 5,850 gallons of water.

### 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.

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

Bronze and zinc parts, together with the printed wiring board, have significant contributions to the impact categories. The stainless steel material is relevant to the carcinogenics category. The electroplating process is a major contributor to the ozone depletion category while the die casting process is relevant to the ecotoxicity and non-carcinogenics categories. Additionally, polishing and potting have somewhat significant processing contribution to the results. Transport via oceanic freighter appears as a relevant contributor to the fossil fuel depletion and smog categories. The remaining parts and processes contribute between 2% and 13% to the overall impacts in the rest of the categories.

#### Sensitivity analysis

The TEU1UN and TEU2UN versions are equal in the use phase; therefore, variations in the life cycle are driven by materials and processes that are used in one version of the product but not in the other. Examples are electroplating and zinc die casting, which are only used in the TEU1UN version. The TEU2UN version does not use zinc, and therefore no zinc die casting and electroplating of the zinc alloy are required.

#### 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.

#### Material composition greater than 1% by weight

PART	MATERIAL	AVG. % WT.
Valve body	Bronze (C836000)	31.0%
Packaging	Cardboard	16.2%
Bottom cover	Zinc die cast	14.3%
Top cover	Zinc die cast	12.7%
Tailpiece	Bronze (C836000)	3.7%
Cover plate	Stainless steel	3.5%
Paper	Paper	3.3%
Tailpiece nut	Brass	1.4%
Coil	Copper	1.2%
	Other	12.7%

#### Total impacts by life cycle stages [mPts/func unit]



### LCA results

LIFECYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE	RECOVERY
Information modules: Included   Excluded*	<b>A1 Raw Materials</b>	<b>A4 Transportation/Delivery</b>	<b>B1 Use</b>	<b>C1 Deconstruction/Demolition</b>	<b>D1 Recycling</b>
*Installation and deconstruction/demolition are mostly manual. The sanitary fittings should not need repair, maintenance or replacement during the modeled life time.	<b>A2 Transportation</b>	<b>A5 Construction/Installation</b>	<b>B2 Maintenance</b>	<b>C2 Transportation</b>	D2 Recovery
Reuse and energy recovery are not modeled for sanitary fittings.	<b>A3 Manufacturing</b>		<b>B3 Repair</b>	<b>C3 Waste processing</b>	D3 Reuse
			<b>B4 Replacement</b>	<b>C4 Disposal</b>	
			<b>B5 Refurbishment</b>		
			<b>B6 Operational energy use</b>		
			<b>B7 Operational water use</b>		

### SM 2013 Learn about SM Single Score results

Impacts per 10 years of service	32.39 mPts	0.06 mPts	1.54 mPts	0.05 mPts	-3.24 mPts
Materials or processes contributing >20% to total impacts in each lifecycle stage	Brass and zinc parts together to the printed wiring board together with manufacturing processes such as polishing and electroplating.	Transportation of the product to installation site or consumer and disposal of packaging.	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.

### TRACI v2.1

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

LIFECYCLE STAGE	PRODUCTION	CONSTRUCTION	USE	END OF LIFE	RECOVERY	
<b>Ecological damage</b>						
Impact Category	Unit					
<b>Acidification</b>	SO <sub>2</sub> eq	1.62E+00	3.70E-03	1.34E-01	3.94E-03	-9.81E-02
<b>Ecotoxicity</b>	CTU <sub>e</sub>	4.79E+02	1.48E+00	1.23E+01	5.88E-01	-4.57E+01
<b>Eutrophication</b>	N eq	9.85E-01	6.71E-04	1.13E-02	4.75E-04	-3.13E-02
<b>Global warming</b>	CO <sub>2</sub> eq	9.20E+01	8.86E-01	2.01E+01	4.91E-01	-6.69E+00
<b>Ozone depletion</b>	CFC-11 eq	5.96E-06	1.23E-09	8.39E-07	6.05E-08	-4.13E-07
<b>Human health damage</b>						
Impact Category	Unit					
<b>Carcinogenics</b>	CTU <sub>h</sub>	2.91E-06	8.09E-09	4.21E-07	7.09E-09	-3.03E-07
<b>Non-carcinogenics</b>	CTU <sub>h</sub>	2.86E-04	7.78E-08	1.87E-06	2.75E-07	-3.40E-05
<b>Respiratory effects</b>	kg PM <sub>2.5</sub> eq	2.11E-01	7.11E-05	8.88E-03	4.71E-04	-1.17E-02
<b>Smog</b>	kg O <sub>3</sub> eq	1.08E+01	1.01E-01	9.27E-01	9.39E-02	-1.21E+00
<b>Resources depletion</b>						
Impact Category	Unit					
<b>Fossil fuel depletion</b>	MJ surplus	5.25E+01	1.06E+00	1.35E+01	7.62E-01	-5.33E+00

### References

**LCA Background Report**  
TOTO Sanitary Fittings Products LCA Background Report (public version), August 2015

#### SM Transparency Report Framework

**Part A:** LCA Calculation Rules and Background Report Requirements | Version 2015 (Based on EN15804+A1; in compliance with ISO 14040-44, 14025)

**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 lifecycle environmental performance.

#### LEED BD+C: New Construction | v4 - LEED v4

#### MR Building product disclosure and optimization

Environmental product declarations

#### SM Transparency Report product credit values:

<input type="radio"/> LCA self-declared, Report self-declared	0 product
<input type="radio"/> LCA verified, Report self-declared	1/4 product
<input checked="" type="radio"/> LCA verified, Report certified	1 product

#### Green Globes for New Construction and Sustainable Interiors

NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell  
C 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs

## SM Transparency Report™

#### VERIFICATION Report

Certified  NSF

Self-declared  LCA

3rd party verified  NSF

Self-declared

Validity: 10/30/15 – 10/30/18  
TOT – 10/18/15 – 014

#### LCA SCOPE

Cradle to grave

Cradle to gate with options

Cradle to gate

The LCA and Report are independently verified and certified to the SM Transparency Report Framework and ISO 14025.

NSF International  
P.O. Box 130140  
789 N. Dixboro Road  
Ann Arbor, MI 48105, USA  
www.nsf.org  
+1 734 769 8010



TOTO USA  
1155 Southern Road  
Morrow, GA 30260  
www.totousa.com

Contact us

## How we make it greener

## TEU1UN & TEU2UN

Collapse all

See LCA results by lifecycle stage

### CONSTRUCTION

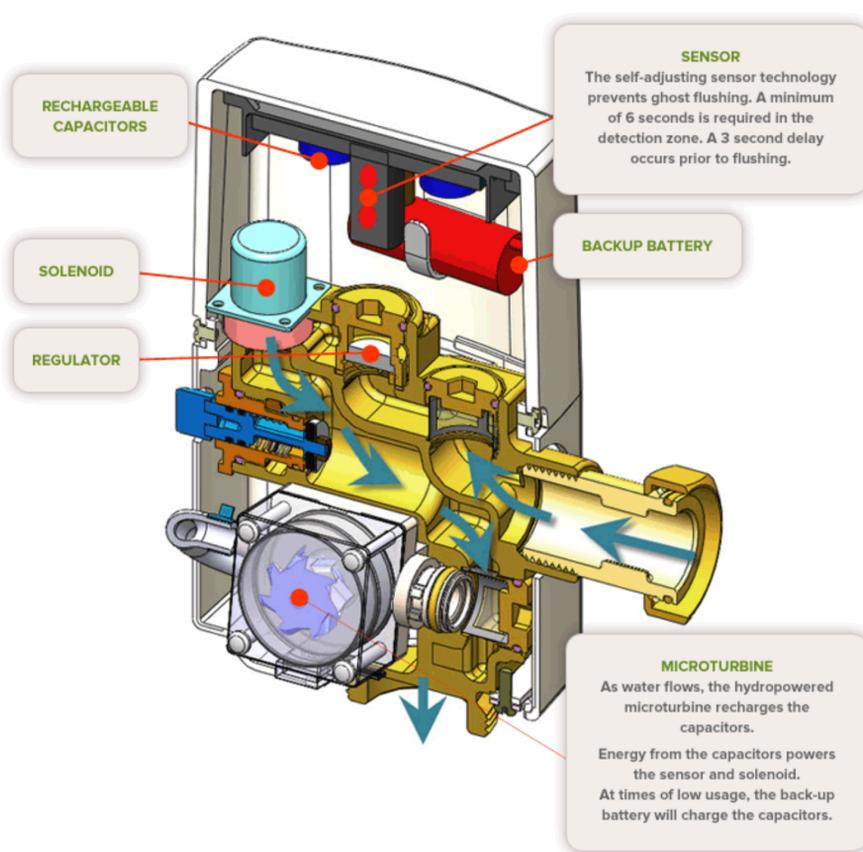


TOTO participates in the UPS Carbon Neutral program. TOTO is a certified SmartWay partner.

### 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.

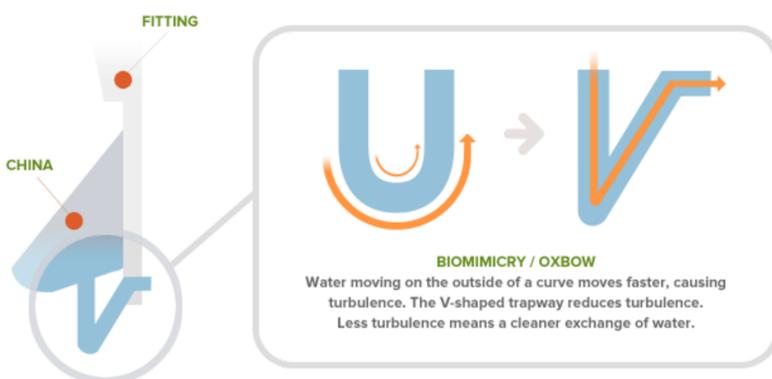


**SENSOR:**  
Ensuring that water flows only when needed, the self-adjusting EcoPower sensor eliminates "ghost" flushing that wastes water. A minimum of six seconds presence in front of the sensor is required to get its acknowledgement, and a three second flush delay after stepping away from the sensing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

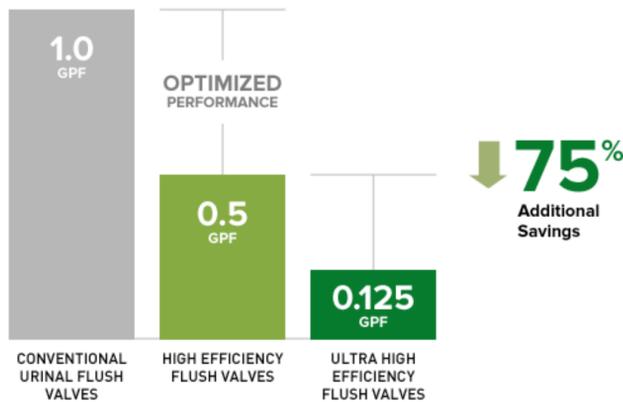
**MICROTURBINE:**  
TOTO's EcoPower technology enables the product to operate 100% off grid. As water flows, the microturbine recharges the capacitor for the sensor and solenoid. Less reliance on the back-up battery results in much less battery waste. With as little as 45 uses a day, the back-up battery 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 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 our proven EcoPower engineering, the 0.125 gallon per flush urinal flush valve reinforces TOTO's performance reputation while offering an additional water savings.



Metal and electronic parts can be recycled at the end of life.

## SM Transparency Report™

VERIFICATION	Report
Certified	<input checked="" type="checkbox"/>
Self-declared	<input type="checkbox"/>
	LCA
3rd party verified	<input checked="" type="checkbox"/>
Self-declared	<input type="checkbox"/>

Validity: 10/30/15 – 10/30/18  
TOT – 10/18/15 – 014

LCA SCOPE
<input checked="" type="checkbox"/> Cradle to grave
<input type="checkbox"/> Cradle to gate with options
<input type="checkbox"/> Cradle to gate

The LCA and Report are independently verified and certified to the SM Transparency Report Framework and ISO 14025.

NSF International  
P.O. Box 130140  
789 N. Dixboro Road  
Ann Arbor, MI 48105, USA  
www.nsf.org  
+1 734 769 8010



TOTO USA  
1155 Southern Road  
Morrow, GA 30260  
www.totousa.com

Contact us