

# TOTO®

## EcoPower® Ultra-HE Concealed Toilet Flush Valve

### TET2UB(X) - 1.0gpf

Planet-friendly, superior flushing performance is easy to achieve with the EcoPower Ultra High Efficiency Toilet 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.



### Performance dashboard

#### Features & functionality

- 1.0gpf EcoPower® Ultra High-Efficiency Toilet 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

#### Environment & materials

- Improved by:**
- Powered by the sheer force of running water
  - Saves 37.5% more water than standard 1.6gpf valve
  - Metal parts and electric components are recyclable at the end of service
- Certifications, rating systems & disclosures:**
- Contributes to earning credits in LEED®
  - Declare™ Label, LBC Compliant

Visit TOTO for more product specifications:

[TET2UB\(X\)](#)

#### MasterFormat® #22 42 43



- 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.

[See LCA, interpretation & rating systems](#)

[See materials, interpretation & rating systems](#)



Declare™

## SM Transparency Report (EPD)™ + Material Health Overview™

### EPD LCA

3rd-party reviewed

Transparency Report (EPD)

3rd-party verified

Validity: 09/01/2024 – 08/31/2029  
TOTO – 20240901 – 013

### MATERIAL HEALTH Material evaluation

Self-declared

This environmental product declaration (EPD) was externally verified by Jack Geibig (Ecoform) on behalf of NSF according to ISO 14044; ISO 21930:2017; SM Part A: LCA calculation rules and report requirements, 2023; the reference PCR; and ISO 14025:2006.

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**Certified Environmental Product Declaration**  
[www.nsf.org](http://www.nsf.org)

### SUMMARY

**Reference PCR**  
SM Part B: Commercial flushometer valves, v3.0

**Regions; system boundaries**  
North America; Cradle-to-grave

**Functional unit**  
One flushometer valve for single flush toilets in an average commercial environment over the estimated service life of the building of the building

**LCIA methodology; LCA software; LCI database**  
TRACI 2.1; SimaPro Analyst 9.5; ecoinvent and USLCI databases

In accordance with ISO 14044 and the referenced PCR, the life cycle assessment was conducted by Sustainable Minds and critically reviewed by Jack Geibig (Ecoform) on behalf of NSF.

**Public LCA**  
LCA background report of TOTO Faucets, Flush Valves, and Residential Toilets, 2024

### TOTO USA

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

Contact us

LCA results & interpretation

EcoPower® Ultra-HE Concealed Toilet Flush Valve

LCA results & interpretation

EPD additional content

Material health

Scope and summary

- Cradle to gate, Cradle to gate with options, Cradle to grave

Functional unit

One flushometer valve for single flush toilets used in an average commercial environment over the estimated service life of the building...

Maintenance

Regular cleaning is assumed to use 10mL of a 1% sodium lauryl sulfate (SLS) solution daily in a commercial setting for 75 years...

Replacement

At the end of its RSL, the flush valve is assumed to be replaced. Therefore, an additional 6.5 products are included as replacements...

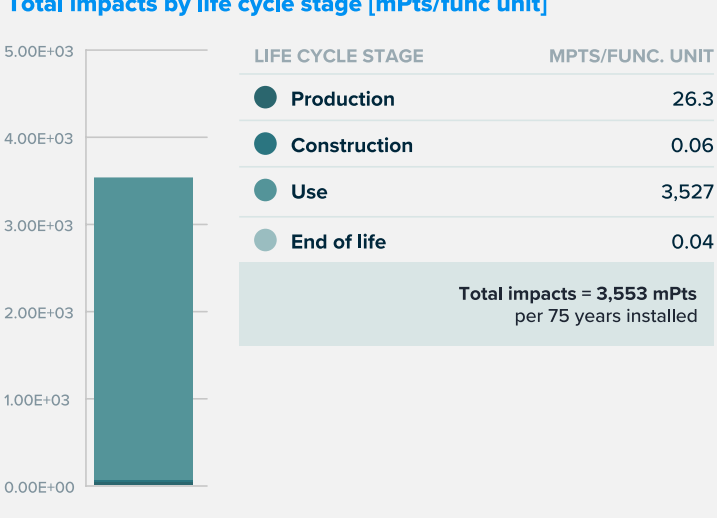
Manufacturing data

Manufacturing data has been collected and compiled for TOTO Vietnam. Data reporting period: 2023.

Material composition by wt%

Table with 4 columns: Part, Material, and Avg. % wt. Rows include Valve body, cap & tailpiece (Bronze, 37.9%), Bottom and top covers (Stainless steel, 20.4%), etc.

Total impacts by life cycle stage [mPts/func unit]



What's causing the greatest impacts

All life cycle stages

The use stage [B1-B7] dominates the results for all impact categories. The replacements module [B4] is highly dominant in all categories...

Production stage [A1-A3]

Brass and stainless steel parts, together with the printed wiring board, have significant material contributions to the production stage...

Construction stage [A4-A5]

Installation of the product dominates impacts in the construction stage. Transportation by truck for delivery to the installation site contributes the most...

Use stage [B1-B7]

Product replacements dominate impacts in the use stage. The use stage itself dominates all impact categories (>96%) due to the consideration of an additional 6.5 products as replacements...

End-of-life stage [C1-C4]

The transportation to landfill dominates impacts in the end-of-life stage. Transportation and the processes for dismantling the product contribute to a relatively low portion (<1%) of total results...

Operational energy and water use

The flush valve uses 1.0 gallons of water per flush and is assumed to be used 90 times per day in a commercial environment. With commercial use at 260 days per year over 75 years, the flush valve uses a total of 1,755,000 gallons of water over its lifetime...

How we're making it greener

TOTO PeoplePlanetWater™ programs improving environmental performance

- Dual-Max®, E-Max®, Tornado Flush™, 1G®, and EcoPower® reduce water consumption in the use phase. Energy efficiency programs optimize the firing process. Modular packing methods increase the fill rate of a trailer...

See how we make it greener

LCA results

Table with 5 columns: Life Cycle Stage, Production, Construction, Use, End of Life. Includes icons for each stage and information modules.

SM Single Score

Summary table showing impacts per flush valve: 26.3 mPts (Production), 0.06 mPts (Construction), 3,527 mPts (Use), 0.04 mPts (End of Life).

TRACI v2.1 results per functional unit

Table with 5 columns: Life Cycle Stage, Production, Construction, Use, End of Life. Rows include Ecological damage (Global warming, Ozone depletion, Eutrophication) and Human health damage (Smog, Respiratory effects).

References

- LCA Background Report. LCA background report of TOTO Faucets, Flush Valves, and Residential Toilets, 2024; Simapro Analyst 9.5;ecoinvent and USLCI databases; TRACI 2.1. ISO 14025, 'Sustainability in buildings and civil engineering works - Core rules for environmental product declarations of construction products and services'. ISO 21930:2017, 'Sustainability in Building Construction - Environmental Declaration of Building Products' serves as the core PCR along with Sustainable Minds Part A. SM Part A: LCA calculation rules and report requirements, version 2023. SM Part B: Commercial flushometer valves, v3.0.

Rating systems

- The intent is to reward project teams for selecting products for manufacturing who have verified improved life-cycle environmental performance. LEED BD+C: New Construction | v4 - LEED v4 Building product disclosure and optimization. Environmental product declarations: Industry-wide (generic) EPD (1/2 product), Product-specific Type III EPD (1 product). LEED BD+C: New Construction | v4.1 - LEED v4.1 Building product disclosure and optimization. Environmental product declarations: Industry-wide (generic) EPD (1 product), Product-specific Type III EPD (1.5 products). Collaborative for High Performance Schools National Criteria: MW C5.1 - Environmental Product Declarations: Third-party certified type III EPD (2 points). Green Globes for New Construction and Sustainable Interiors: Materials and resources: NC 3.5.1.2 Path B: Prescriptive Path for Building Core and Shell; NC 3.5.2.2 and SI 4.1.2 Path B: Prescriptive Path for Interior Fit-outs. BREEAM New Construction 2018: Mat 02 - Environmental impacts from construction products. Environmental Product Declarations (EPD): Industry-average EPD (.5 points), Multi-product specific EPD (.75 points), Product-specific EPD (1 point).

SM Transparency Report (EPD)™ + Material Health Overview™

Summary of EPD and Material Health. Includes NSF Environmental Product Declaration logo and details on the product declaration, manufacturing data, and maintenance.

Summary of TOTO USA contact information, SM Part B: Commercial flushometer valves, v3.0 regions, functional unit, LCA methodology, and public LCA background report.



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## SUMMARY

### Reference PCR

**SM Part B: Commercial flushometer valves, v3.0**

### Regions; system boundaries

North America; Cradle-to-grave

### Functional unit

One flushometer valve for single flush toilets in an average commercial environment over the estimated service life of the building of the building

### LCIA methodology; LCA software; LCI database

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## LCA & material health results & interpretation

## EcoPower® Ultra-HE Concealed Toilet Flush Valve

### LCA results & interpretation

### EPD additional content

### Material health

### Evaluation programs

#### Declare

**Declare labels are issued to products disclosing ingredient inventory, sourcing, and end of life options.** Declare labels are based on the Manufacturers Guide to Declare, administered by the International Living Future Institute.

#### How it works

Material ingredients are inventoried and screened against the [Living Building Challenge \(LBC\) Red List](#) which represents the 'worst in class' materials, chemicals, and elements known to pose serious risks to human health and the greater ecosystem.

The Declare product database and label are used to select products that meet the Living Building Challenge's stringent materials requirements, streamlining the materials specification and certification process.

### Assessment scope and results

#### Declare™

Inventory threshold: 100 ppm

#### Declare level:

The Declare product database and label are used to select products that meet the LBC's stringent materials requirements, streamlining the materials specification and certification process.

- LBC Red List Free <sup>?</sup>
- LBC Red List Approved <sup>?</sup>
- Declared <sup>?</sup>

Click the label to see the full declaration.

#### ● EcoPower® Ultra-HE Concealed Toilet Flush Valve



### What's in this product and why

#### Declare level

'Living Building Challenge Compliant' is achieved when the product contains Red List ingredients that have been given a temporary exception by the Living Building Challenge due to current market limitations.

#### What's in the product and why

The electronics used for flush valve operation include circuit board components. The controller, battery, and sensor allow for a self-powered hydroelectric flush valve system while also maintaining a true mechanical flush override. The electronic components are contained within the flush valve body and do not represent any hazards to the user.

#### The TOTO facility in which the valve is manufactured is ISO 14001 certified.

This means that the facility has implemented an environmental management system as part of TOTO's commitment to the health of the environment.

#### Where it goes at the end of its life

TOTO encourages consumers to recycle their used lavatory and lavatory parts. Contact your local municipality for recycling programs.

### How we're making it healthier

The EcoPower technology enables the flush valve to operate off the energy grid and requires no routine battery replacement. This technology helps to reduce pollution and hazardous waste, thereby mitigating human health impacts.

[See how we make it greener](#)

### References

#### Declare

TOTO USA, Declare label for EcoPower® Toilet Flush Valve TET2UB(X) & TET2LB(X)

#### Manufacturer's Guide to Declare

A comprehensive guide providing information about the program, the assessment methodology, how to submit material data to obtain a Declare label and how they are used to meet the Health & Happiness and Materials Petals of the Living Building Challenge.

### Rating systems

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

Building product disclosure and optimization

#### Material Ingredients

Credit value options 1 product each

1. Reporting  2. Optimization  3. Supply Chain Optimization

#### LEED BD+C: New Construction | v4.1 - LEED v4.1

Materials and resources

#### Material Ingredients

Credit value options 1 product each

1. Reporting  2. Optimization  3. Supply Chain Optimization

#### Living Building Challenge

#### Materials petals imperatives

10. Red List Free  12. Responsible Industry  13. Living Economy Sourcing

#### WELL Building Standard®

#### Air and Mind Features

- X07 Materials Transparency

- X08 Materials Optimization

#### Collaborative for High Performance Schools National

#### Criteria

#### EQ C7.1 Material Health Disclosures

- Performance Approach 2 points

- Prescriptive Approach 2 points

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## How we make it greener

## EcoPower® Ultra-HE Concealed Toilet Flush Valve

Expand all

### CONSTRUCTION

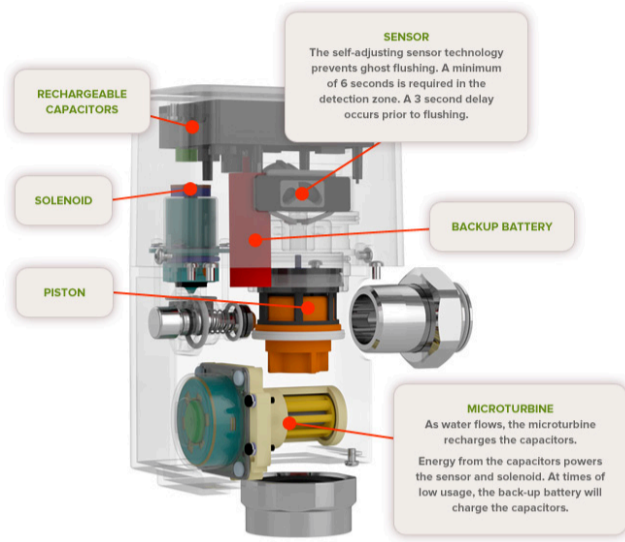


TOTO participates in the UPS Carbon Neutral program. TOTO is a certified SmartWay® Transport Partner.

### USE



TOTO's EcoPower® Toilet 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:

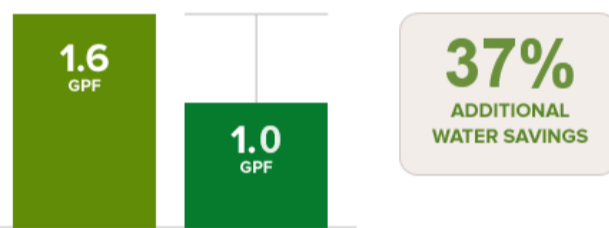
Ensuring that water flows only when needed, the self-adjusting EcoPower sensor eliminates "ghost" flushing that wastes water. A minimum of six seconds in front of the sensor is required to get its acknowledgement, and a three second flush delay after stepping away from the sensing zone prevents excessive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

#### MICROTURBINE:

TOTO's EcoPower technology enables the product to operate 100% off grid. As water flows, the microturbine recharges capacitors for the sensor and solenoid. Less reliance on the back-up battery results in much less battery waste.

#### PISTON AND SOLENOID:

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



Using the same proven EcoPower engineering, the high-efficiency toilet flush valve reinforces TOTO's performance reputation while offering additional water savings.



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

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