

## ECO GREY WATER REUSE SYSTEM

### SUSTAINABLE WATER TECHNOLOGY – OUR CONTRIBUTION TO A CLEAN ENVIRONMENT



#### SUSTAINABLE FEATURES



WATER  
SAVING



WEIGHT  
SAVING



CO<sub>2</sub>  
SAVING

#### CHARACTERISTICS

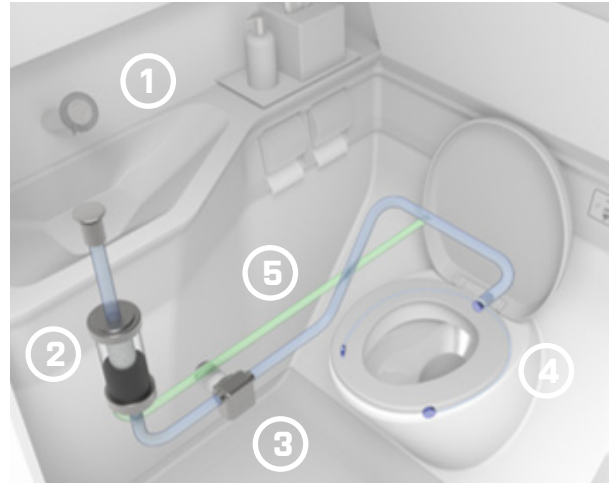
Future lavatories on board of an aircraft will be able to reduce the consumption of potable water and CO<sub>2</sub> emissions substantially. The *ECO* Grey Water Reuse System collects the hand wash water and utilizes it for flushing the toilet. In general, the system enables a potable water saving of up to 25%, for example at a Boeing 787, this relatively simple method can save up to 250 liters of potable water per flight. Thanks to this weight saving, the CO<sub>2</sub> emissions of a state-of-the-art widebody aircraft under typical operating conditions, can be reduced by up to 90 tons per year and thus reduced operating costs as well.

Diehl Aviation's innovative design stands for clean and future-proof lavatory solutions and has integrally taken all challenges of hygiene technology into consideration. The entire system has less than 3 kg in weight per lavatory and is very reliable along with the safety regarding bacteria and odors.

## TECHNICAL DATA

### FUNCTION

- 1 – Hand wash water will be reused for flushing the toilet
- 2 – The grey water will be collected in a small reservoir and filtered
- 3 – The medium transfer is performed by a pump
- 4 – The toilet assembly utilizes the gray water for flushing
- 5 – An overflow protection is part of the reservoir. If the maximum level is reached and no toilet flush was activated, the water will be drained automatically into the waste system.



Diehl Aviation aims to contribute to the industry's goal of achieving net-zero aviation by utilizing lightweight, recycled, or bio-based materials to optimize resource consumption and reduce CO<sub>2</sub> emissions. These initiatives are at the core of the ECO efficiency product range.

This project has received funding from the Clean Sky 2 Joint Undertaking under the European Union's Horizon 2020 research and innovation program under grant agreement N° 807081.

## BENEFITS

- Reduces CO<sub>2</sub> emissions, small ecological footprint
- Extended operational time between ground services
- Saves fuel through reduced weight
- Low maintenance
- Less potable water required

## SUSTAINABLE FEATURES\*



WATER  
SAVING

The **ECO** Grey Water Reuse System saves up to 250 liters of potable water per flight.\*\*



WEIGHT  
SAVING

When integrating the **ECO** Grey Water Reuse System, the operating take-off weight of an aircraft can be reduced by 220 kg.\*\*



CO<sub>2</sub>  
SAVING

With the reduced operating weight of 220 kg, we can estimate a fuel saving of 28 tons per aircraft per year.\*\*

This fuel saving can be converted into a CO<sub>2</sub> emission saving of 90 tons per aircraft and per year.\*\*

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\*More Infos about the Sustainability Features you can find here:  
<https://www.diehl.com/aviation-highlights/en/eco-efficiency/>

\*\* estimated for a state-of-the-art aircraft, e.g. Boeing 787, operating on long range missions, e.g. London-Los Angeles, with average operating hours of 4.100 h per year