



# VACUUM TOILET SYSTEM

## Summary:

Vacuum toilets are flush toilets that use suction for the removal of faeces and urine resulting in a minimal requirement of water (0.5 to 1.5 litres).

Vacuum toilets provide the same level of comfort as traditional flush toilets and they help saving costs due to the minimized amount of flush water.

Due to the fact that the effluent has a high organic matter content, vacuum toilets are specifically adapted for the use in combination with separate greywater and blackwater treatment; or aerobic digestion treatment for biogas production.

Vacuum toilet systems are applicable both in large and small buildings, trains, ships and airplanes





#### **Advantages of Vacuum Toilet**

- Large water savings
- No deposits in the toilet, reduced use of detergents
- Very hygienic
- Flexible and convenient
- No deposits in the pipes
- Odour-free
- Facilitates reuse of urine and faeces
- Applicable in many different constructions

#### **Disadvantages**

- Relatively high investment cost
- Depended on electric power supply
- Coarse materials can lead to blockage of collection system
- House service connection and vacuum station have to be maintained
- Need for a vacuum station (house-or community based)
- Requires space for connection
- Bulky material (i.e. sanitary napkins) can lead to clogging

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## **UTC VACUUM TOILET SYSTEM**

The vacuum toilet system is a type of hygienic toilet, which has Indian style and European style models, which collects the wastes at the storage in its body and prevents significantly the environmental pollution, which can clean itself with its economical water, which runs with vacuum and pressure system, and which is suitable for using in the rail, air, maritime and road sectors.

Applying the vacuum toilet system needs compressed air, 24V DC energy and water that are present in all possible transportation vehicles.

The system is formed by being combined the pneumatic and electronic systems.

Water consumption of average 10 liters for single use in the normal system falls to 0.5 liters in the system that we've created, including cleaning the toilet bowl.

For the hygienically reasons, all metal equipment's to be used was manufactured from AISI 304 or 316 quality stainless steel

Major Advantages of UTC Vacuum toilet

- 1-Low water consumption
- 2-Sensitivity to the human health and environmental pollution
- 3-To be the original design of the Project
- 4-Compliance with Indian rules with its bidet system
- 5-To be the only domestic production in our country and to prevent import
- 6-Easy availability of spare parts.

### **Main technical parameters**

Air Supply Pressure	- 5 to 10 bar
Working Water Pressure	- 0.1 to 1.5 bar (bidet function min. 1 bar)
Number of Release Nozzles	- 3
Vacuum	- 0.6 bar
Overpressure:	- 1.5 bar
Air Consumption:	- 20 liters / cycle
Water Consumption:	- 0.25 to 0.5 liter / cycle
Weight:	-21 -25 kg
Dimensions:	- 531x459x367
Interface Water:	- Ø8mm tube coupling
Air:	- Ø10mm tube coupling
Water outlet:	- Ø41mm
Electric Power Supply:	-16.8-32V DC
Electric Power:	- 20W (~5W standby)
Temperature:	-20°C to +60°C
Working Temperature:	- 2°C to +60°C
Valves:	- Pinch Valves (with mechanisms)
Casing:	- Seat and Cover Antiseptic Laminate
Control System:	- Dispersed Module + Main Controller
Intermediate Tank:	- AISI 304 or 316
Lavatory Pan:	-AISI 304 or 316