



SUSTAINABLE E-TOILETS FUNCTIONAL BOOKLET



E L C I T A

**ELECTRONICS CITY INDUSTRIAL
TOWNSHIP AUTHORITY**

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1. Overview

ELCITA initiated e-toilets across Electronics city of 20 Nos. in the year 2015. The increase in use of e-Toilets is in support of **Swachh Bharat Abhiyan** based On “Clean India Mission Act” which intends to reduce the practice of **open defecation**.

E-Toilets were developed by a private company M/s. Eram Scientific Solutions.

2. FEATURES EATURES THE E-TOILET MODEL

1. Portable Compact and User friendly design
2. Durable materials
3. Less maintenance
4. Easy to Install and Service
5. Status Indications
6. Self-washing and Cleaning Mechanisms
7. Automatic Ceiling light
8. Manual Flushing System
9. Sensor enabled Energy/Water saving Design
10. Automatic Floor Cleaning Mechanism.

3. E-TOILET DESIGN SPECIFICATIONS

Particulars	Dimensions
Toilet Structure	50 X30X 2mm Thick MS Tube with Powder Coating
Panels	CRS with Powder Coating 1mm thick
Overall Size (in Mille Metres)	1710L x 1000B x 2650H
Base (in Mille Metres)	1600L x 800B x 300H

4. MAJOR CONCERNS IN SANITATION

A) Unavailability of Sewage facility

- Multiple options for Sewage Disposal / Sewage Treatment Plants are available.
- Sewage Treatment system include package based STP and DRDO Bio-digester.
- Sewage Disposal options include construction of sewage pit.

B) Lack of running water

- Proposed unit has an inbuilt overhead water tank
- Additional water tanks can be constructed at an extra cost
- Bore well facility can also be opted.

C) Lack of electricity

- Solar panels have been integrated to the unit.

5. E-TOILET PARAMETERS & ITS FUNCTION

1. LED(Light Emitting diode)Indicators

The main function of LED Indicator is to provide the status of e-toilet working condition

3 types are LED Light

- Yellow – Indicates water low
- Red – Indicates someone is using
- Green – Ready to Use & **Blank – off condition**

2. Status Display

The function of “Status display” indicates the control card panel status for both the inside & outside unit.

Inside Status Display – Indicates the condition in terms of words

Outside Status Display – Indicates the condition in terms of LED colour coding

3. Instruction boards

Instruction board helps to guide the Users regarding e-toilet functions and procedure of use.

4. Electric Striker working

An electric strike is an access control device used for door operations like locking & unlocking the system with the help of sensor.

5. Ceiling & Lighting

Ceiling - Light mounted on top wall

Lighting – Normal Tube light fixed inside the Unit

6. PIR Sensor

A PIR-based motion detector is worked based on movement of people, Body temperature & other objects. It helps for auto-activation of lighting & fan, floor flushing in the unit.

7. Exhaust fan

The function of exhaust fan is to moisture out the toilet and helps to control and eliminate the odour.

8. Manual flush & floor wash switch

This is used as and when the additional requirement of water for flushing / floor washes

9. Front inner poly roof

Covering top of the e-Toilet unit for safety purpose

10. Free entry Switch

It helps to open the toilet door.

11. Water Tap

The primary function of tap is to control and deliver water from syntax pipe to different points of use: sink, basin etc.

12. SS Closet alignment

The hand wash basin is nothing, but Closet alignment made up of Stainless steel used for hand wash purpose.

13. Usage Test

It gives the count of people used toilet with time & date

14. Floor rust

Identify the floor rust condition. It helps to clean and maintain the aesthetic view of the toilet

15. Main door Status

Main door status gives the open & closer condition of toilet door and it is labelled with instruction sticker

16. Tower Bolt lock (Inside the toilet)

This is an optional condition for users to lock the door in the absence of sensor/ auto lock

17 Pillar, Tower, Nut & Bolt

Pillar – To check 4 sides of angel condition

Tower – Vertical support body of e-toilet condition

Nut & Bolts – Fixing the pillar & tower

18 Electronic panel & Lock

This is the heart part of e-Toilet function. Assembled with operation program control equipment's.

- i. **Main Control Card** – Controls the main functional memory
- ii. **SMPS** – It converts the power of AC to DC
- iii. **Relay & Contractors** – Voltage flexibility (up & down)

19. Service Board & Interiors

The condition of inner & outer side of Toilet door and other interiors

20 Electrical wiring & connectors

Electrical wiring & connector assembled with the small pins (USB type connectors). The main function is to avoid the short-circuits and current supply fluctuations.

21 Welding & plumbing point check-ups

Status of e-toilet body corners condition such leakage, rust etc.,

22. Solenoid Valve

This valve helps to control the floor flushing quantity per flush