

## **Technical Specification of “Contactless Sanitizer Dispenser (CSD)”**

The dispenser is contactless and will spray alcohol based hand rub sanitizer for sanitization of hands while entering buildings like Hospitals, Office complexes, Malls etc.

This is a mist based dispenser, to optimize the consumption of sanitizer. Whereas in normal usage, we use 20-30 ml of sanitizer for one operation, this sanitizer does the same job by dispensing just 5-6ml of sanitizer in mist form over a longer period of time (10-12 s).

The specification of the unit is mentioned below:

- i) Sanitizer capacity of the unit: 5 litres
- ii) Mode of operation: Automatic Mist mode
- iii) Usage: Contactless
- iv) Weight : 5 kg (without sanitizer)
- v) Dimensions: 45 cm (H) X 30 cm (W) X 22 cm (D)
- vi) Electrical Input - 230V AC, 5 Amp
- vii) Power Consumption:
  - a) Idle Mode - < 3 VA
  - b) When Spraying - 25 VA approx.
- viii) Mounting Style - Wall mount

### **Main components:-**

#### **1. Outer Body -**

MoC - ABS

#### **2. Sanitizer Container -** This is the container where the sanitizer is stored/refilled.

MoC - ABS

Capacity - 5 Litres

#### **3. Solenoid Valve -** This valve prevents water to drip from the nozzle when the pump is not working

MoC - Polypropylene

Working voltage - 24V DC

#### **4. Diaphragm pump -** This pump is used to provide increased pressure to the inlet of the mist atomizer.

MoC - ABS

Make - Luxcru, India/Reputed make

Working Pressure	-	5-6 bar
IP Rating	-	IP 54
Working Voltage	-	24V DC

**5. Mist Atomizer** - This atomizer sprays sufficient amount of sanitizer at a cone angle of 60° to wet both the hands for 12 seconds

Material	-	Polypropylene/Brass
Sanitizer Discharge	-	5-6 ml for each operation

**6. Waterproof non contact ultrasonic sensor** - This module, with air as medium, is a non-contact target detection and distance measurement module. This sensor is not affected by color or other visual from the detected object. The ultrasonic sensor sends out high frequency sound waves in the direction of detection, and receives the reflection from nearby objects and gives distance reading by processing the echo time

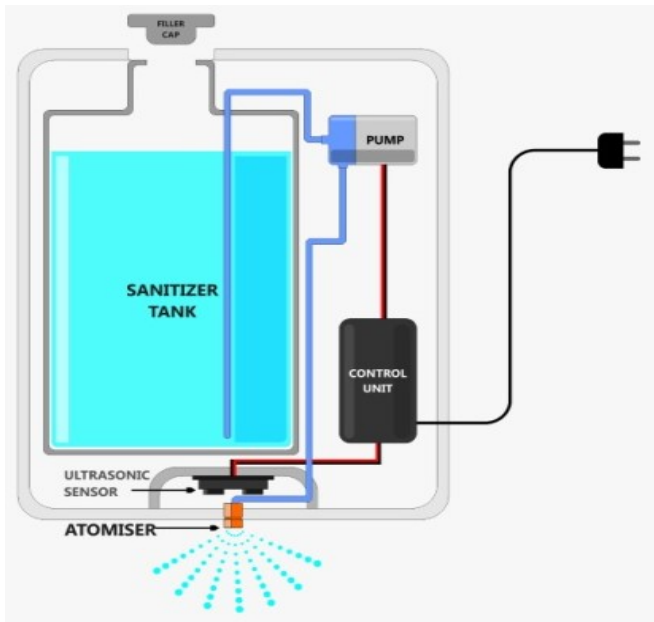
MoC	-	Epoxy filled ABS
IP Rating	-	IP 67
Min sensing distance	-	2 cm
Max hand distance	-	20 cm
Field of View	-	8-10°

**7. Switch Mode Power Supply (SMPS)**- The power supply unit (PSU) is used in the unit to convert the AC voltage into the acceptable range for working of the pump and solenoid valve. This device has the power handling electronic components that converts electrical power efficiently.

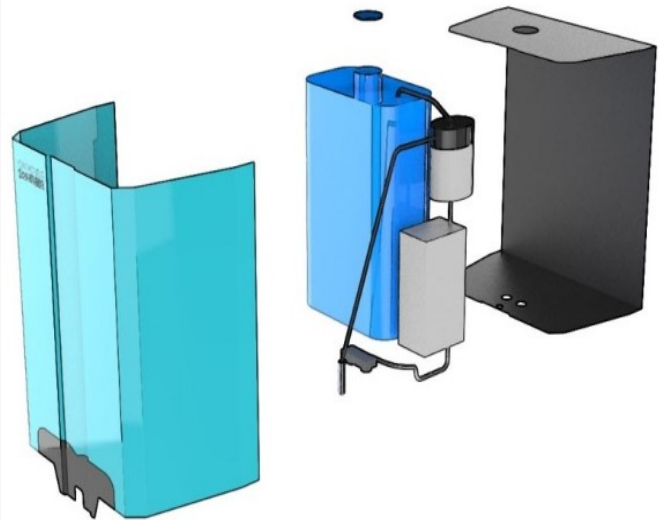
Material	-	ABS
Output	-	24VDC, 2Amp

## 8. Control Circuit –

- Type of Controller : ESP8266 controller
- Relay capacity : 30 amp, 230V
- Algorithm configuration: Once the hand is detected it switches on the dosing pump for a pre defined time.
- Firmware upgrade: Over the air i.e. by creating smart-phone WiFi hotspot



**Fig:1 P&I diagram**



**Exploded View of CSD**

**Automatic Contactless Sanitizer Dispenser**