



# OptiMaser®

PATENTED | AFFORDABLE | PLUG-N-PLAY | MOBILE



## INTEGRATED END-TO-END INFECTION & EPIDEMIC CONTROL PROGRAM

Environmental Hygiene, Waste Management & Patient Safety solutions that achieve higher standards for Healthcare & Public Health



200+ INSTALLATIONS  
IN SE ASIA

90% IN ALL AIIMS  
PAN INDIA

10 LOG SUPER  
STERILIZATION

10% OF AUTOCLAVING  
COST PER KG!!!

14 MACS  
TECHNOLOGY  
SCIENTIFIC PAPERS

PATENTED  
PRODUCT

OptiMaser® complies to STATT (State and Territorial Association on Alternate Treatment Technologies) Level III\* & STATT Level IV\* set by USA.

\***Level III:** Inactivation of vegetative bacteria, fungi, lipophilic/hydrophilic viruses, parasites and mycobacteria at  $\geq 6 \log_{10}$  & inactivation of *B. stearothermophilus* or *B. atropaeus* spores at  $\geq 4 \log_{10}$ .

\***Level IV:** Inactivation of vegetative bacteria, fungi, lipophilic/hydrophilic viruses, parasites and mycobacteria and *B. stearothermophilus* spores at a  $\geq 6 \log_{10}$  reduction.



Co-Developed with  
**CSIR-IITR**

## Celebrating the Power of ZERO

- ★ Emission / Discharge
- ★ Cross-contamination
- ★ Medical Plastic
- ★ Misuse
- ★ Chemicals
- ★ Running Cost
- ★ Misuse of Technology
- ★ Maintenance
- ★ Pilferage
- ★ Spillage/Discharge
- ★ Equipment Support
- ★ Metal Corrosion
- ★ Skilled Labour

### Our International Recognitions:



## PATHOGENS DESTROYED

★ *E. coli* (ATCC-10148) ★ *P. aeruginosa* (immunotype IV) ★ *P. vulgaris* (Clinical isolate) ★ *S. flexneri* (Clinical isolate) ★ *S. pyogenes* (Clinical isolate) ★ *B. subtilis* ATCC 9372 (spores) ★ *A. niger* (ATCC 16404) ★ *Staphylococcus aureus* ★ *S. typhi* (NC TC – 786) ★ *S. aureus* (NC TC – 3750) ★ *K. aerogenes* (Clinical isolate) ★ *V. cholera* (569 inaba) ★ *B. cereus* (spores) ★ Japanese encephalitis ★ *M. tuberculosis* H 37 RV ★ *S. aureus* (NC TC – 3750) ★ Hepatitis B, C virus ★ SAARS virus ★ Ebola Virus ★ H1N1 Virus ★ HIV Virus ★ TCID ★ MERS ★ MRSA -Superbug'. Kills all virulent Micro organisms (Bacterial spores, Viruses of HIV, Hepatitis, AIDS, Vegetative germs, Fungi, Parasites etc.

## Mobile Medical Microwave Infection Control System

Based on Microbial Inactivation Through Uniform Internal Heating

- ✓ IOT enabled real-time audit
- ✓ E-cloud based Online Monitoring Display
- ✓ Green Technology
- ✓ Works on Domestic Power Line
- ✓ Overheating Protection System
- ✓ Reduces Waste Volume
- ✓ Microprocessor based operation
- ✓ Super Safety Locks
- ✓ No Chemicals for treatment
- ✓ Non infectious End Product
- ✓ Solar Power Option
- ✓ HIS / LIS Connectivity
- ✓ Automatic Process Recorder & Printer
- ✓ Compact & Zero Emissions
- ✓ Water : 300 ml per cycle
- ✓ Mobile
- ✓ Touch Screen PLC
- ✓ Compliant to all International regulations

Compliant to PMO Flagship Initiatives



## TECHNICAL SPECIFICATIONS

Particulars	OptiMaser® 10	OptiMaser® 30	OptiMaser® 60
<b>Application site</b>	Medical practitioner's clinic, Laboratories, OPDs, isolation wards upto 75 bedded hospitals	Laboratories, Genetic Research Labs, Blood Banks, Dialysis Centers, Research Facilities upto 250 bedded Hospitals	Medical Colleges, Tertiary Care & Multi O.T. Hospitals and CBWTs upto 500 bedded Hospitals
<b>Load capacity (volume) (Based on load type)</b>	up to 25 Litres	up to 45 Litres	up to 75 Litres
<b>Efficacy</b>	Log 10 <sup>7</sup> - Log 10 <sup>9</sup>	Log 10 <sup>7</sup> - Log 10 <sup>9</sup>	Log 10 <sup>7</sup> - Log 10 <sup>9</sup>
<b>Cycle Time</b>	7 -30 Minutes	7 -30 Minutes	7 -30 Minutes
<b>Load handling capacity (8 hours shift)</b>	> 90 kg / day	> 240 kg / day	> 500 kg / day
<b>Electricity Requirements Domestic Power line (1φ, 230 V, 50 Hz)</b>	Current : 10 Amp Energy Consumption : 1.5 kW Protected with resettable MCB	Current : 16 Amp Energy Consumption : 1.5 kW Protected with resettable MCB	Current : 25 Amp Energy Consumption : 3 kW Protected with resettable MCB
<b>Frequency of Microwave Generator</b>	2450 MHz	2450 MHz	2450 MHz
<b>Power Consumption</b>	1500 Watts / hr.	1500 Watts / hr.	1500 Watts / hr.
<b>Safety Alarms Electronically displayed on PLC</b>	Door OPEN/CLOSE, Presence of bucket, No/Low weight in bucket, No water or low water level, Excess temperature of magnetron, Excess current in Magnetron circuit, Turn table not rotating, Emergency switch pressed, Water not flowing through pump etc	Door OPEN/CLOSE, Presence of bucket, No/Low weight in bucket, No water or low water level, Excess temperature of magnetron, Excess current in Magnetron circuit, Turn table not rotating, Emergency switch pressed, Water not flowing through pump etc	Door OPEN/CLOSE, Presence of bucket, No/Low weight in bucket, No water or low water level, Excess temperature of magnetron, Excess current in Magnetron circuit, Turn table not rotating, Emergency switch pressed, Water not flowing through pump etc
<b>Turntable</b>	Precisely balanced slow speed turn table with concealed drive mechanism for 360 degree uniform microwave heating	Precisely balanced slow speed turn table with concealed drive mechanism for 360 degree uniform microwave heating	Precisely balanced slow speed turn table with concealed drive mechanism for 360 degree uniform microwave heating
<b>Funnel Movement (Motorised)</b>	Automatic funnel movement to reduce infection spread & ensure Operator Safety	Automatic funnel movement to reduce infection spread & ensure Operator Safety	Automatic funnel movement to reduce infection spread & ensure Operator Safety
<b>Outer Body - MoC</b>	Epoxy coated Mild Steel with SS microwave leak proof front cover	Epoxy coated Mild Steel with SS microwave leak proof front cover	Epoxy coated Mild Steel with SS microwave leak proof front cover
<b>Loading Chamber - MoC</b>	SS 304	SS 304	SS 304
<b>Water Consumption</b>	8 Ltrs/Day (300ml / cycle)	8 Ltrs/Day (300ml / cycle)	8 Ltrs/Day (300ml / cycle)
<b>Working Temp.</b>	70° C to 100° C	70° C to 100° C	70° C to 100° C
<b>Servo Stabilizer</b>	3 kVA Servo Stabilizer	3 kVA Servo Stabilizer	5 kVA Servo Stabilizer
<b>Dimension of packed unit (mm)</b>	905 (H) x 1065 (W) x 680 (D)	1450 (H) x 1065 (W) x 680 (D)	1650 (H) x 1050 (W) x 630 (D) mm
<b>Weight of unit</b>	170 Kg	220 Kg	250 Kg

## TRAINING : Centre of Excellence (COE)



Training programme aimed at supporting hospitals to attain quality care standards & reducing HAI with programmes similar to NABH onsite SAFE-I certification programme.

## BIOLOGICAL INDICATORS

Self-contained Microwave biological indicators (SCBI) are intended for monitoring sterilization processes. Each SCBI unit consists of a plastic vial, a crushable glass ampule with recovery media, and a paper disc inoculated with Bacillus atrophaeus spores. SCBI developed for dedicated use with Microwave Disinfection System. Patent filed for Self Containing Biological Indicator (SCBI).



## ICMR VALIDATED DEDICATED APPLICATION CYCLES (OPTIONAL)

**RECYCLE**

- ❖ Medical Waste Disinfection
- ❖ Blood Bag Disinfection
- ❖ Lab Waste Disinfection
- ❖ Bactec (BD) Bottle Disinfection

**REUSE**

- ❖ Dialyzer Disinfection
- ❖ Linen & Hospital Ware Disinfection
- ❖ Re-usable Plastic Disinfection
- ❖ Re-usable Glassware Disinfection

- ❖ Rice Husk & Corn Cob Disinfection
- ❖ PPE Kit Sterilization
- ❖ N95 Face Mask Sterilization

## INNOVATION AWARDS



CSIR-IITR Joint Venture



Gol Technology Transfer



Healthcare Excellence Award



Electronic Industries Association  
Award for R&D



Excellence in Innovation in the  
Medical Devices Sector in India



Best Biomedical Waste  
Management Device

## DEDICATED PATENTS & SCIENTIFIC PAPERS

CSIR - IITR : Blood Bags  
CSIR - IITR : MRSA

CSIR - IITR : Linen  
Bharat Serum : Lab Waste

CSIR - IITR : BD Bottles  
SGPGI : Viral Contaminants

CSIR - IITR : Rice Husk  
AIIMS New Delhi

CSIR - IITR : Corn Cob  
NITRD

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