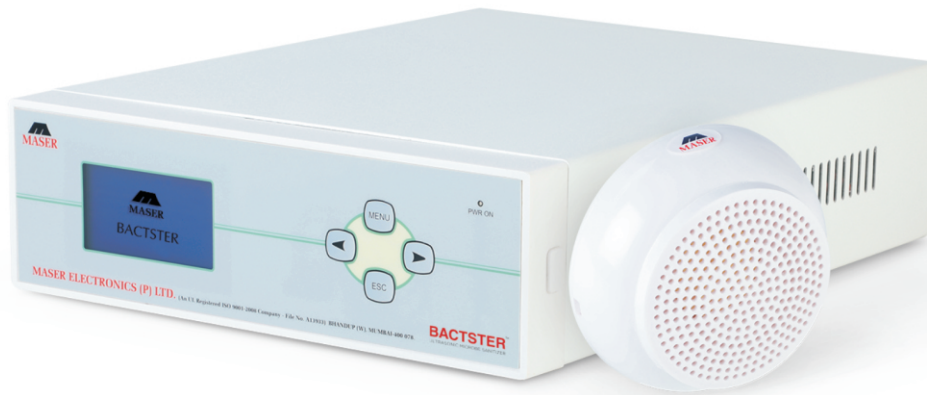




# BACTSTER™

ULTRASONIC MICROBE SANITIZER



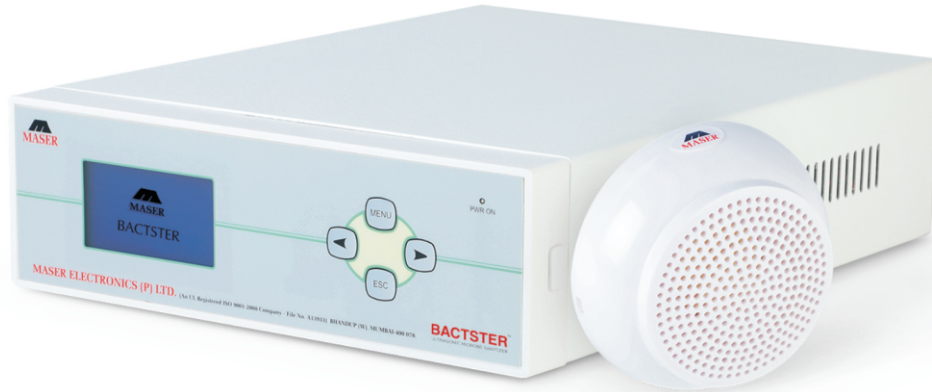
**24/7**  
**GERMS FREE**  
**ENVIRONMENT**  
Antibacterial & Antifungal



Introducing

# BACTSTER™

ULTRASONIC MICROBE SANITIZER



Airborne Low Intensity Multi Frequency Ultrasound **ALIMFUS™** Microbe Sanitizer

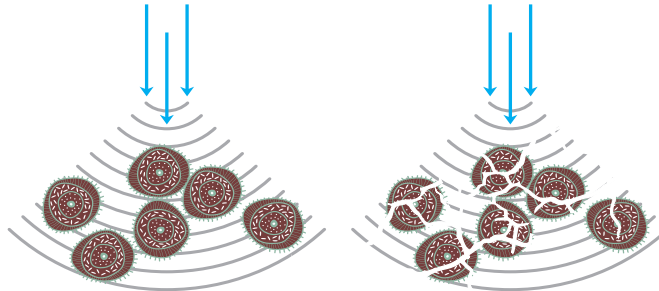
How does **BACTSTER™** work?

Bacteria are a group of single-celled microorganisms that reproduce through cell division. Since the main form of reproduction in bacteria is through cell division, any alteration in the structure or segment of the cell can influence the cell division process.

**BACTSTER™** uses patented **ALIMFUS™** (Airborne Low Intensity Multiple Frequency Ultrasound) technology which destroys bacteria by engulfing them from all directions, penetrating their cell, and disrupting their DNA. When this happens, the bacteria's DNA can't duplicate itself; thereby leaving them unable to perform vital cellular functions. Subsequently, since the bacteria can't reproduce, it dies.

**BACTSTER™** is a paradigm shift from the conventional methods and approaches to microbial sanitation.

- **BACTSTER™** uses specially designed **ALIMFUS™** technology (Airborne Low Intensity Multi Frequency Ultrasound) which engulfs bacteria from all directions and destroys them.



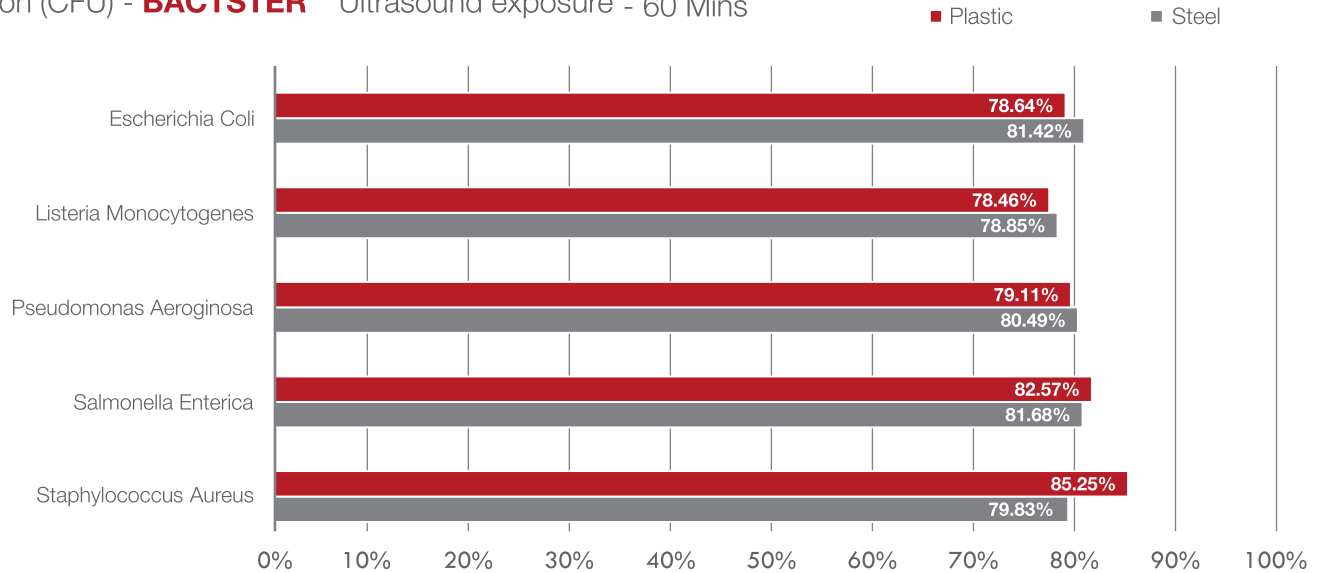
## Advantages of **BACTSTER™**- Ultrasonic Microbe Sanitizer

- A novel method for microbial sanitation
- Safe to use and environment friendly
- Non-hazardous and chemical free
- 24/7 operation in human presence
- No recurring cost
- Simple to use and install

**ALIMFUS™** is the registered trademark of Maser. Maser has patented this technology under patent application numbers (Patent Ref No. 201821021401/201821021402). It also has design registrations for the product ultrasonic microbe sanitizer under design registration numbers (Design Application Ref. Nos. 306408/306409). Maser Electronics has sole rights to **ALIMFUS™** technology and its related product designs.

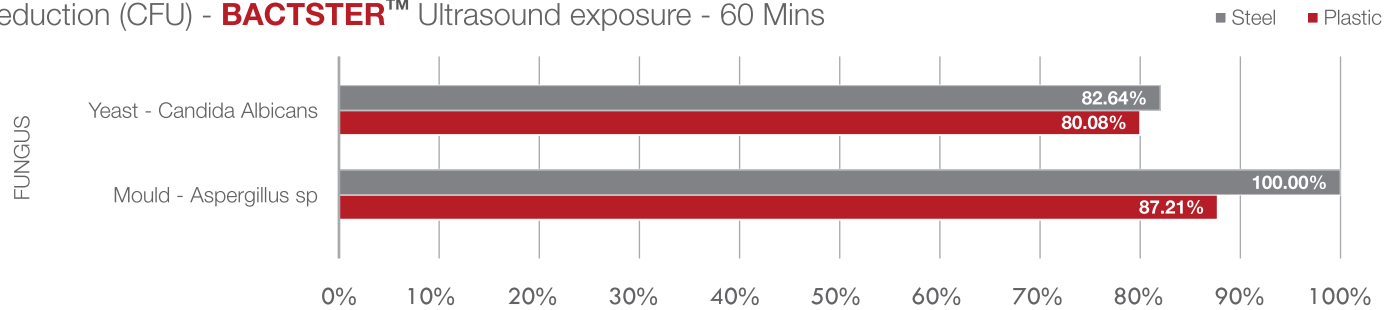
## \*Surface Test Efficacy – Various Bacteria

% Reduction (CFU) - **BACTSTER™** Ultrasound exposure - 60 Mins



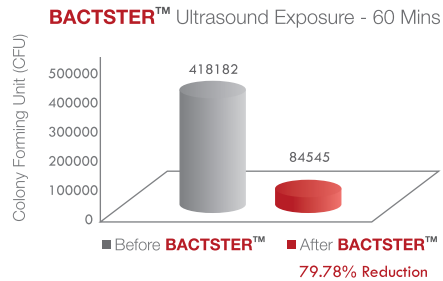
## Surface Test Efficacy – Fungus

% Reduction (CFU) - **BACTSTER™** Ultrasound exposure - 60 Mins

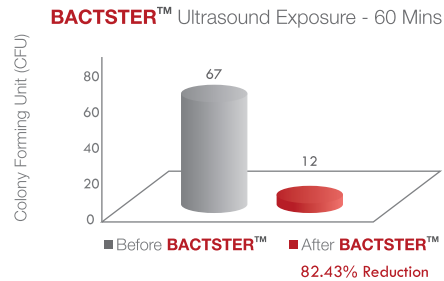


\*All tests conducted at Bureau Veritas. The results may vary subject to environmental conditions of your site.

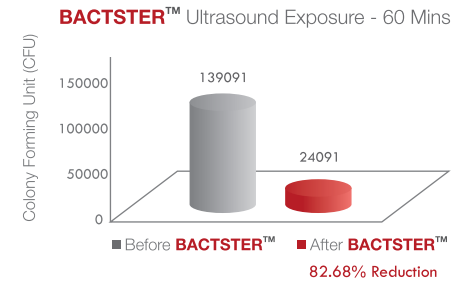
## Plastic Surface - Bacteria Test



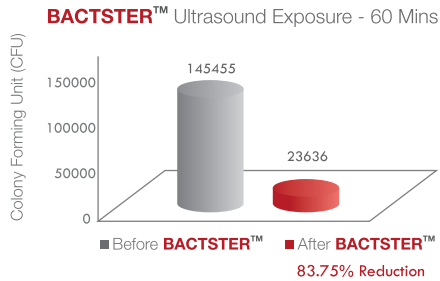
## Cloth Surface - Bacteria Test



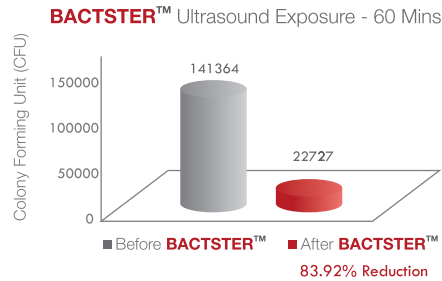
## Food (Apple) - Bacteria Test



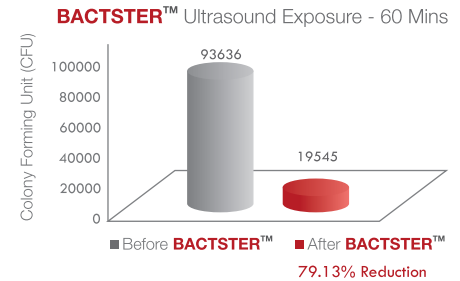
## Glass Surface - Bacteria Test



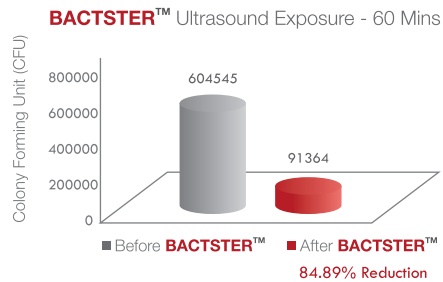
## Steel Surface - Bacteria Test



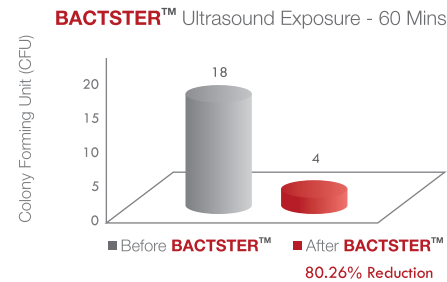
## Metal Surface - Bacteria Test



## Wooden Surface - Bacteria Test



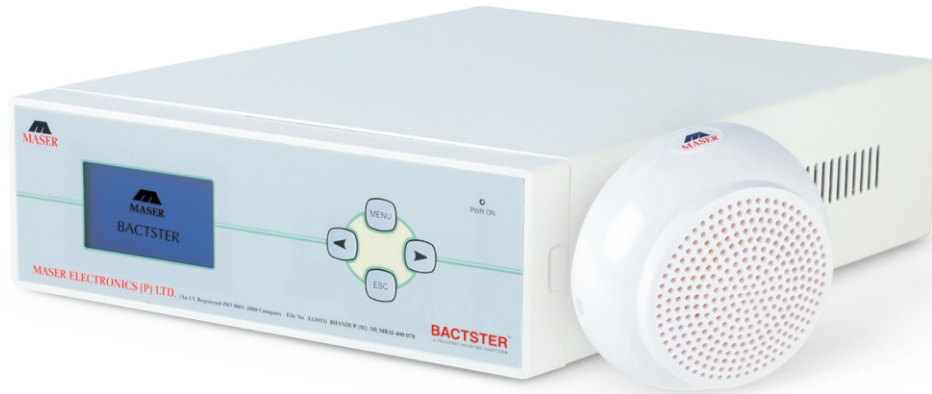
## Painted Wall Surface - Bacteria Test



\*All tests conducted at Bureau Veritas. The results may vary subject to environmental conditions of your site.

# BACTSTER™

ULTRASONIC MICROBE SANITIZER



Airborne Low Intensity Multi Frequency Ultrasound **ALIMFUS™** Microbe Sanitizer

## TECHNICAL FEATURES

- 2000 Sq.ft. of area protection.
- Capable of supporting 20 transducers.
- Each transducer covers an area of 100 Sq.ft.
- Auto and Manual Modes of Operation.
- Individual Drivers for all transducers.
- 6 Wave Speeds, 7 Wave Densities and 3 Frequency Bands of Operation.
- Transducer Sound Output Verification and Analysis

## SAFETY AND VERIFICATION

- 100% Output Verification with the help of Maser Wave Analyzer Hardware and Software
- Safety Compliance as per IRPA (International Radiation Protection Association) Geneva.
- Record and Report 1/3rd Octave Band Frequencies thereby ensuring human safety as per IRPA Guidelines
- Record and Report Individual Frequencies along with corresponding sound pressure levels.

## MODBUS OUTPUT ON RS-485

- Networkable on RS-485 with support for Hardwired Third Party BMS Integration via Modbus & potential free NO-NC Contacts

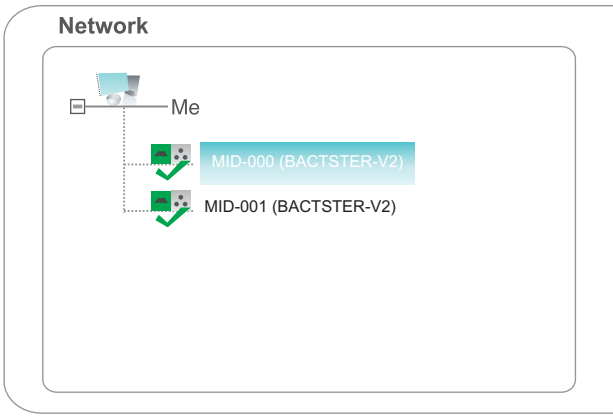
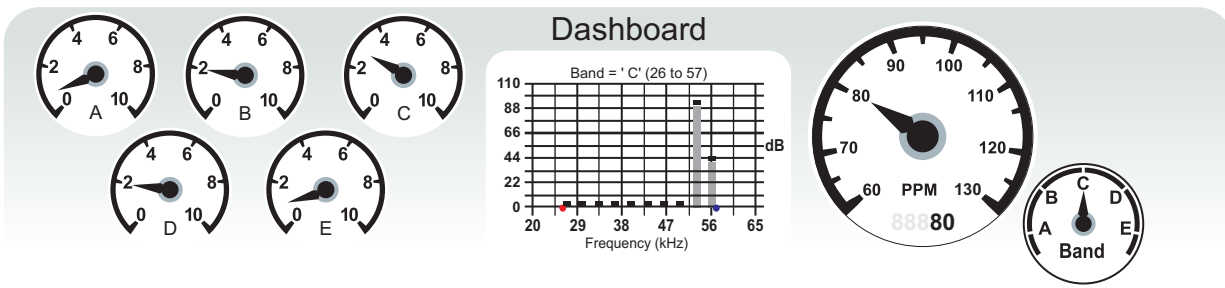
## SOFTWARE INTEGRATION

- Seamless Integration with All new Maser CRMS Software for system health monitoring and reporting in PDF format.

## GENERAL FEATURES

- Transformer Rating : 25 V.A. UL & CE Approved
- Power Supply : 230 V AC/50 HZ or 14 Volts AC
- Operating Frequency : Above 20 KHz and below 60 KHz
- Dimensions (Width x Depth x Height) : 260 mm x 355 mm x 80 mm
- Weight : 4.9 Kgs Approximately
- Mounting : Wall/ Table Mounting
- Power Consumption : 15 Watts Approximately

# CRMS Software V2 Dashboard



**Nodes**

BACTSTER-V2

Type - Controller

Machine ID: MID-000  
Root Network: Me

Wave Speed: 80 PPM  
Wave Density: 95 Freqs.  
Current Band: 'C'-26 to 57 KHz  
Current Mode: 'Auto'

Brand A(mins): 1 Mins  
Brand B(mins): 2 Mins  
Brand C(mins): 3 Mins  
Brand D(mins): -- Mins  
Brand E(mins): -- Mins

Total Transducers: 20  
Faulty Transducers: 0

OK.. ✓

Info Transducers PCB View

**Report**

All Selected PCB View

**Setup**

Service CRMS

**Connect**

Connect

Seamless integration with All new Maser CRMS V2 proprietary software that enables real time monitoring and reporting of system health.

**USB Reporting**

**PDF Reports**

PDF Reports showing Safety Compliance, Transducer Sound Output Verification and Controller Health Status for System Commissioning and Audit Purposes.

**Modbus Integration (Hardwired)**

**Modbus®**

Support for Third Party BMS Integration via Modbus.





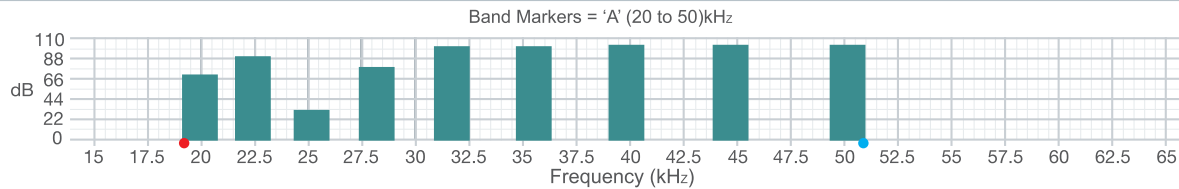
# Safety First

Visual Representation of Adherence to Safety Standards for continuous exposure to one third octave band airborne ultrasound frequencies as per IRPA Guidelines (International Radiation Protection Association) Geneva

USFR-V2



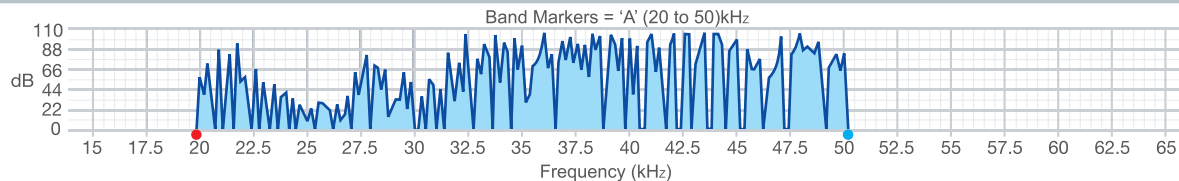
FFT (1/3rd Octave):



# Verifiable

Document and Verify ultrasound output from the transducer whereby you can record individual frequency peaks along with corresponding sound pressure levels.

FFT (Full Spectrum):



## BACTSTER™ – Safe To Use

**BACTSTER™** is produced strictly keeping in mind all safety aspects.

**BACTSTER™** is made as per the guidelines / safety standards laid down by:

- American Conference of Governmental and Industrial Hygienists (ACGIH)
- International Commission on Non Ionizing Radiation Protection (ICNIRP)
- World Health Organization.
- Bureau of Radiation and Medical Devices, Canada and many others.
- International Radiation Protection Agency IRPA (Geneva)

These guidelines are published by INIRC on their website [www.icnirp.de/ documents/ ultrasound.pdf](http://www.icnirp.de/documents/ultrasound.pdf) detailing the exposure limits, frequencies, etc.

**APT TESTING AND RESEARCH PRIVATE LIMITED**  
APPROVED BY FDA - MAHARASHTRA STATE LIC NO. - 37-PD/TL/7  
ISO 9001:2015 CERTIFIED LABORATORY (Regd. No. 08AS/1/002/04/10)  
Regd. Office: S. No. 36/1/1, M.N. 109, Vadgaon Khurd, Pune-411 041, Maharashtra, India.  
• Tel.: 020 - 6533 9233 / 6530 4503 • E-mail: [ntc@aprt.com](mailto:ntc@aprt.com) • Web: [ntc-aprt.com](http://ntc-aprt.com)

**CIN-U74220PN2008PTC132043**

**STUDY CODE NO. MS167/1718/1275**  
Date: 30/March/2018

**C E R T I F I C A T E**

This is to certify that the test "ULTRASONIC AEROSTIMULATOR AN AIRBORNE LOW INTENSITY MULTI-FREQUENCY ULTRASONIC (ALIMFUS) AEROSTIMULATOR (TECHNOLOGY UNDER LICENSE FROM MASER ELECTRONICS PVT. LTD.)" supplied by CUSTOM LOGICS PVT LTD., A/5/24, Gurudatta Bldg, R. B. Mehta Marg, Patel chowk, Ghatkopar (E), Mumbai 400 077, Maharashtra, India, showed **DECREASE** in test room microbial count and **NO ADVERSE** effects in Rabbits after exposure for 28 Days.

The report of the toxicity test conducted has been submitted through Study Code No. "MS167/1718/1275".

As the test material "ULTRASONIC AEROSTIMULATOR AN AIRBORNE LOW INTENSITY MULTI-FREQUENCY ULTRASONIC (ALIMFUS) AEROSTIMULATOR (TECHNOLOGY UNDER LICENSE FROM MASER ELECTRONICS PVT. LTD.)" does not show any toxic effect in rabbits after 28 days continuous exposure, **it can be concluded that the test material is SAFE for use.**

ATR is approved by the Food & Drug Administration, Maharashtra State, Pune, through License No. 37-PD/TL/7.

*K. G. Apte*  
(Dr. K. G. Apte),  
Study Director.

विष विज्ञान केंद्र

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Clinical toxicity test report for **BACTSTER™** performed at "FDA APPROVED LAB" APT Testing and Research formerly known as National toxicology center, PUNE.

## BACTSTER™ Comparison With Existing Sanitization Methods

Features	UV / Fumigation	Chemical Treatment	BACTSTER™ Ultrasonic Microbe Sanitizer
Human Presence	✗	✗	✓
Non Hazardous	✗	✗	✓
Non Toxic	✗	✗	✓
24 X 7	✗	✗	✓
One Time Investment	✗	✗	✓
Control Air Bacteria	✓	✓	✓
Control Surface Bacteria	✓	✓	✓
Eco Friendly / Green	✗	✗	✓
Life	UV Lamp dependent / Routine Process for Fumigation	Routine Regular Process & Human Intervention	24 X 7 Active Protection

Please note that **BACTSTER™** is a standalone device for active protection against germs or it can be used as an adjunct method along with other germ control treatment for 24 X 7 protection against germs.



AN UL REGISTERED ISO 9001:2015 FIRM

Intertek  
ICMED 13485

QCI  
ICMED 9000

NABCB  
QM - 033

Designed, Developed & Manufactured in India by



**MASER ELECTRONICS (P) LTD.**

**Corporate Office**

Unit No. 307, Lodha Supremus, Road No. 22, Wagle Estate, Near Passport Office, Thane (W) - 400 604. (India)  
☎ +91-22-2158 3100 (30 Lines) ✉ support@bactster.com 🌐 www.maserindia.com

**Registered Office**

76, Vishal Industrial Estate, Opp. Ceat Tyres, Bhandup (W), Mumbai 400 078. (India) ☎ +91-22-4111 0000 (100 Lines)  
☎ +91-22-2566 5907 ✉ support@bactster.com 🌐 www.maserindia.com