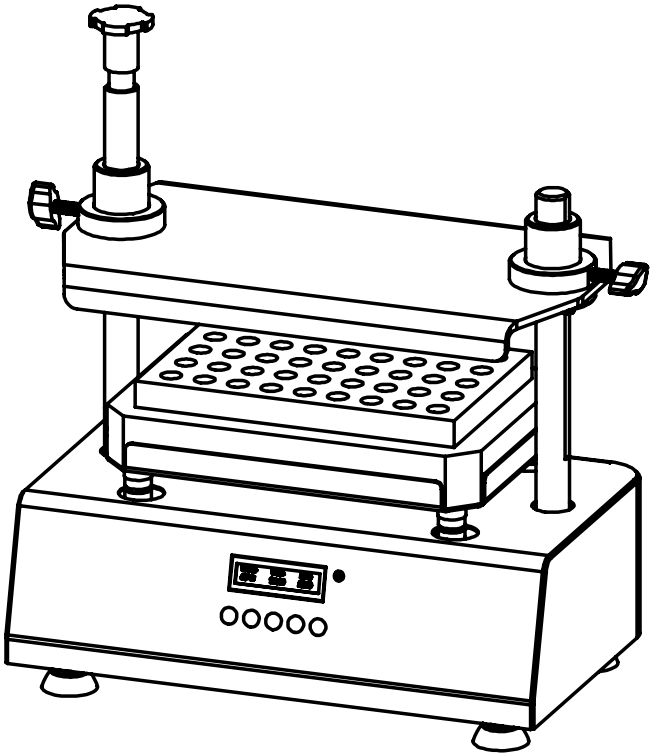
LABQUEST BY BOROSIL®

MULTI TUBE VORTEXER

OPERATING MANUAL
MTV012



DEALER :

THANK YOU NOTE

We Borosil, one of India's most customer oriented brands truly appreciate your business and express our gratitude for the trust you have placed on us.

We hope your choice serves you well in your scientific endeavors and aspire to have the pleasure of doing business with you for years to come.

INTRODUCTION

Thanks for choosing Labquest Multi-tube Vortexer. This operation manual describes the function and operation of the instrument. In order to use the instrument properly, please read this manual carefully.

TABLE OF CONTENTS

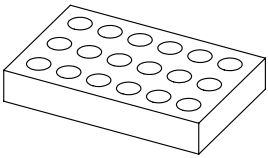
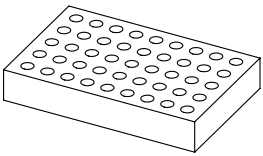
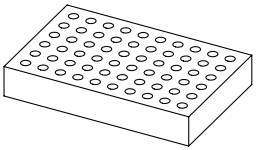
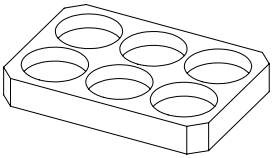
PACKING LIST OF MTV012

1. Multi Tube Vortexer unit ..... 1 No.
2. Operating manual ..... 1 No.
3. 50ml test tube foam ..... 1 No.
4. 15ml test tube foam ..... 1 No.
5. 7ml test tube foam ..... 1 No.
6. 24V DC adapter ..... 1 No.

PRODUCT SPECIFICATION

PARAMETERS	MTV012
Unit External Dimensions (WXDXH)	450mm X 245mm X 475mm
Mains Voltage	220V-240V
Current consumption	0.4 A
Power consumption	80W
RPM range	50-2200 RPM
Body material	SS 304
Display	Yes
Timer Display	Yes
RPM Display	Yes
Orbital diameter	6mm
Motor type	BLDC motor
Speed Accuracy	±50 Rpm
Modes	Pulse mode & continuous mode
Weight	24 Kg
Maximum Load	4 Kg
Digital time setting	1 min- 100 hrs & infinite
Operating temperature	4^0C- 45^0C
Speed controller using microcontroller	Yes

MAX RECOMMENDED SPEED TABLE

Attachment	Image	Recommended Speed
50 ml tube		With top cover 2200 Rpm
15 ml tube		With top cover 2200 Rpm
7 ml tube		With top cover 2200 Rpm
Conical flask		With top cover 1000 Rpm Without top cover 200 Rpm

SAFETY AND WARNING

Important operating and maintenance instructions.

Read the accompanying text carefully.

Potential Electrical Hazards

- Only qualified persons should perform procedures associated with this symbol.
- Equipment being maintained or serviced must be turned off and locked off to prevent possible injury.

SAFETY PRECAUTIONS

The following precautions should be taken when operating or working near the Multi Tube Vortexer:

- Do not use the product if there is an any electrical or mechanical damage.
- Always wear shatterproof eye protection.
- Do not use or mix solvents and flammables on or near the mixer.
- Liquid spillage may harm the unit. Do not fill microtubes, microplates or flasks while they are attached to the vortexer.
- Shake hazardous samples in appropriate containment vessels.
- Repair should be performed only by qualified individuals.
- Do not use accessories which are not recommended by the manufacturer as it may affect the performance.
- Do not use the vortexer in hazardous atmosphere or with hazardous material for which the unit is not designed.
- Always use the vortexer on a level & stable surface for best performance and maximum safety.
- The instrument is designed to be used in the laboratory environment.

- If liquid is spilled on the unit, first disconnect the unit from the external (main) power supply and then clean the unit with damp cloth.
- Do not lift the Multi Tube Vortexer by the support plate or bottom tray. The support plate is removable.

MAINTENANCE & SERVICING

- Routine cleaning can be accomplished by using warm water and a cloth.
- Wipe in the directions of the polish lines for the best results.
- For best cleaning results always use a non-abrasive cloth, 100% cotton or microfiber recommended for low residual lint.
- Dry with a similar cloth to prevent water spots.
- For more stubborn stains, try using the same process as above with a mild detergent soap.
- Fingerprints can be removed by wiping the stainless steel housing with a cloth dampened with common household glass cleaning products.
- Decontamination of the exterior can be accomplished by using routing biocides or alcohol applied with a cloth or wipe. Do not saturate.

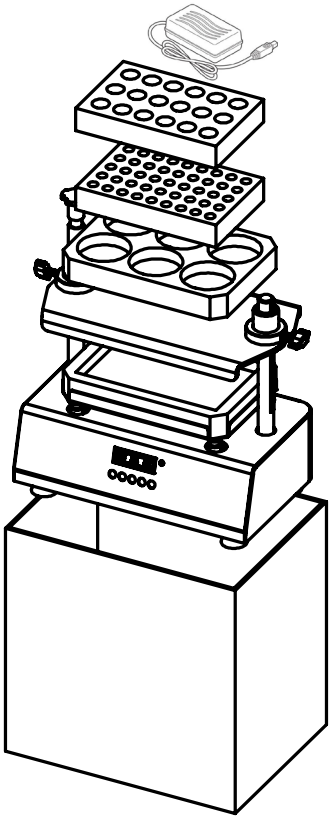
CAUTION

- Always use proper protective equipment. (Clothing, gloves, goggles, etc.)
- Always follow good hygiene practices.
- Each individual is responsible for his/her own safety.

WARNING

- Inadequate earthing at the installation facility can lead to hazardous electrical shocks.
- The manufacturer is not liable for any injury or death resulting from electrical hazards due to faulty earthing in the lab.

UNBOXING MTV012

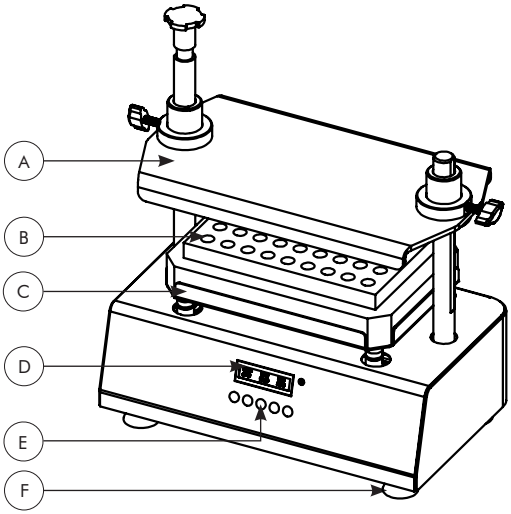


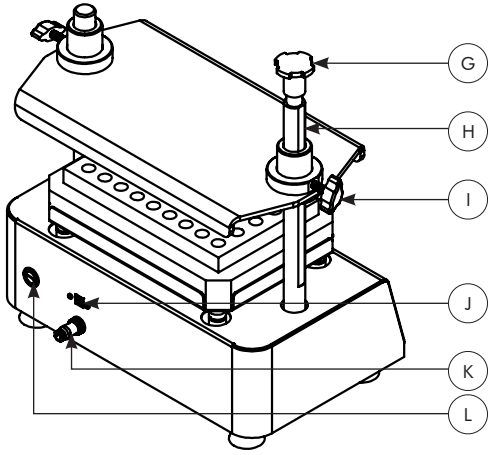
1. Place the carton box in the proper direction.
2. Check the box exterior for any damages.
3. Unbox the Ply box from the top. If there is any physical damage found on the product, report to the dealer/delivery agent.
4. Remove the accessories, adaptor and the unit from the box safely.
5. Compare the inbox items with the packaging list. If any of the items are missing, contact Labquest's Customer Service Department immediately.

(Read Manual before installation on the lab bench.)

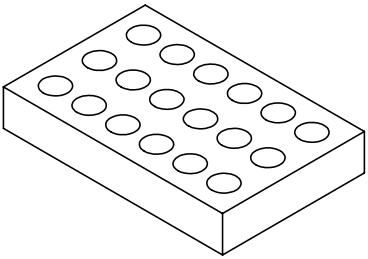
PRODUCT IDENTIFICATION

A. COVERING PLATE
B. TUBE HOLDING FOAM
C. FOAM HOLDER
D. LCD DISPLAY
E. CONTROL KEYS
F. SUCTION SHOES
G. Z-AXIS MOVEMENT STOPPER
H. GUIDE ROD
I. TIGHTENING KNOB
J. B-TYPE USB FOR DATA OUT
K. 24V DC POWER SUPPLY
L. POWER SWITCH

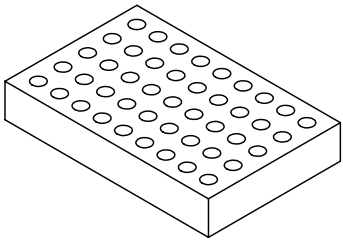




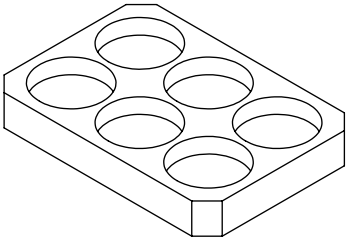
ACCESSORIES OF MTV012



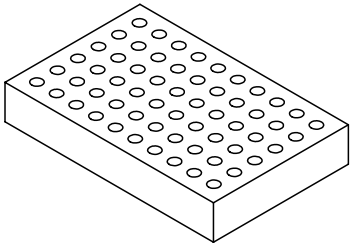
50 ml Test Tube holding foam



15 ml Test Tube holding foam

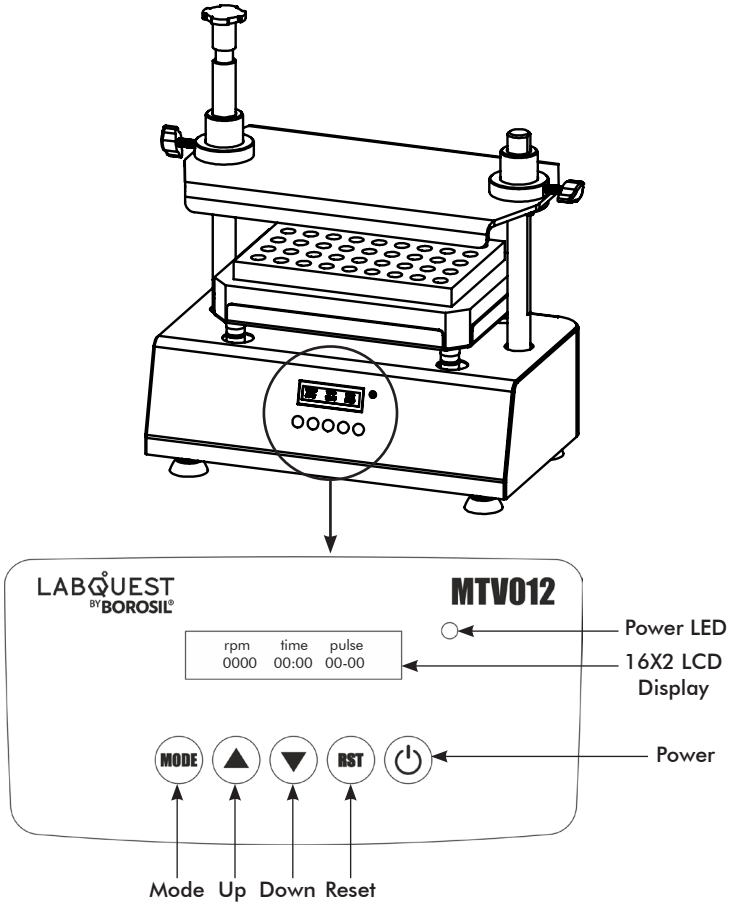


250 ml Conical flask holding foam

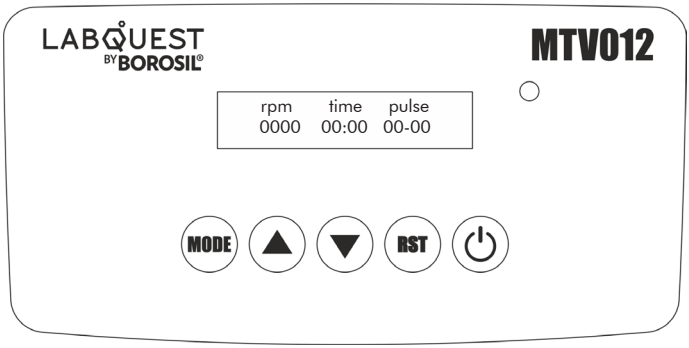


7 ml Test Tube holding foam

PRODUCT INTERFACE IDENTIFICATION



DESCRIPTION OF BUTTONS & FUNCTIONS



1. MODE :
   - Single press - It selects the parameter which needs to be set and also to start the process.
   - Long press - It is used to enter in to the setting mode.

2. UP (▲) :
   - It is used to increase the set point values and to scroll up the setting window.

3. DOWN (▼) :
   - It is used to decrease the set point values and to scroll down the setting window.

4. RESET (RST) :
   - Single press - It is used to go back to previous state (back function) also used to exit from settings mode.
   - Long press - It is used to exit from the settings mode and to stop the process.

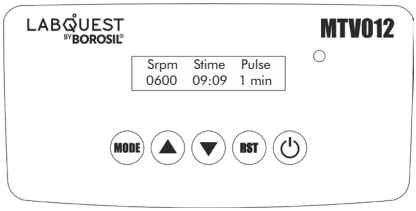
5. POWER (⏻) :
   - It is used to power ON and OFF the system.
     (The buzzer will beep each time when the buttons are operated.)

WORKING OF MTV012

There are two modes in MTV012:

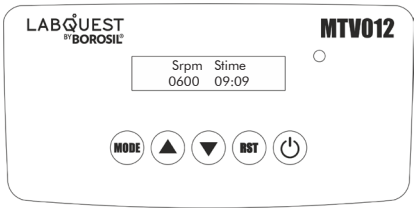
1. Pulse Mode
2. Continuous Mode

PULSE MODE



- To enable the Pulse Mode, long press the mode button.
- Select Pulse Mode by pressing MODE button.
- Enable it using up & down arrow keys.
- User can see 3 paramters to set Rpm, Time and Pulse.
- By pressing MODE, up & down keys, user can set the Rpm, Time and Pulse time.
- User can also set pulse time from 1 min to 5 min.

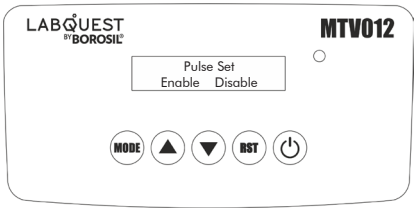
CONTINUOUS MODE



- Continuous mode is the default mode.
- To set RPM, press MODE button.
- Use up & down keys to increase & decrease the Rpm.
- Press MODE button to set the time and to start the process.
- If the time set to 00:00, it will go into the infinite process mode.

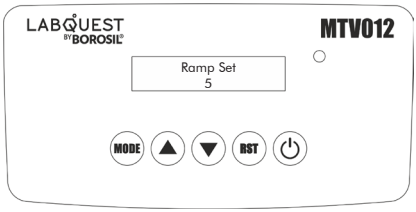
FEATURES

PULSE MODE



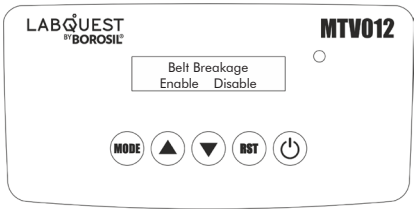
- Enable/Disable the Pulse Mode setting.
- Enable Mode: In Pulse Mode, user can set the Pulse mode from 1 min to 5 min. It rotates once clockwise and once counterclockwise as per the set Pulse time.
- Disable Mode: It disables the Pulse mode and removes pulse time from the main display.

RAMP SET



- User can set the ramp value from 0 to 6.
- When the ramp value is zero, the time taken to reach set value will be less.
- When the ramp value is maximum (6), the time taken to reach set value will be more (long).

BELT BREAKAGE



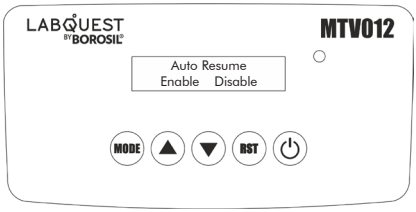
- Enable/Disable the belt breakage setting.
- Enable Mode: In detects belt breakage and notifies the user.
- Disable Mode: It will OFF the belt breakage mode.

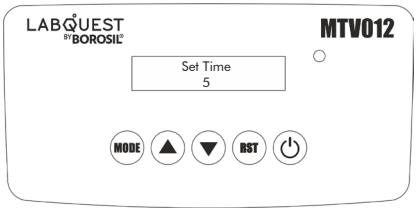
AUTO RESUME

- Enable/Disable the auto resume setting.
- Enable Mode:- It will ask the user to set auto resume time (5-10 min).
- Disable Mode:- It will disable auto resume mode.

Enable mode:- It need to set time and in every 5 or 10 minutes, then it will save data into memory.

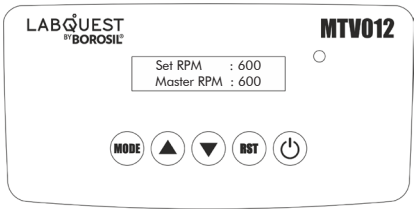
Note: Press MODE button to save changes.





CALIBRATE RPM

- The user can calibrate the RPM of the device with the master device by entering the value in Master RPM and the user needs to enter respective set RPM value in Set RPM.



PRODUCT INSTALLATION

- Locate the mixer on a level, stable surface near a grounded electrical outlet.
- The surface should be clean and free of dust, ensure that the feet grip are fixed with the surface firmly.
- Allow sufficient clearance on all sides of the unit for proper ventilation.
- Keep the power switch off the unit in OFF position, then plug the power cord into a grounded receptacle.
- Since it transmits low vibration to the floor. Do not keep any fragile material nearby.

INSTRUCTIONS TO REMOVE TOP COVER

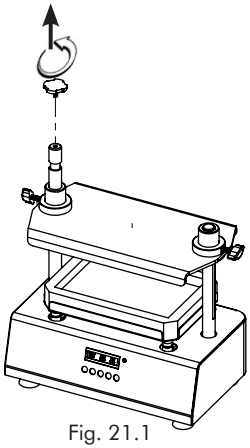


Fig. 21.1

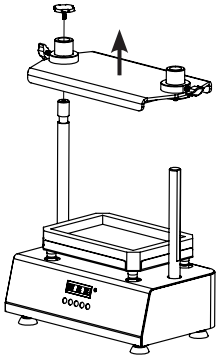


Fig. 21.2

- Remove the stopper by rotating counterclockwise as shown in the fig. 21.1
- Pull up the cover plate as shown in fig. 21.2

INSTRUCTIONS TO INSTALL ACCESSORIES

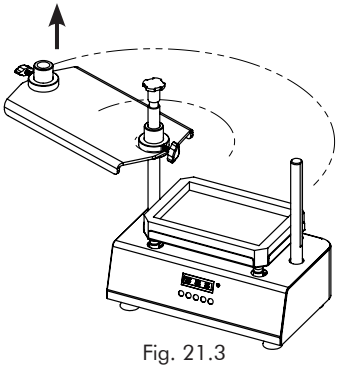


Fig. 21.3

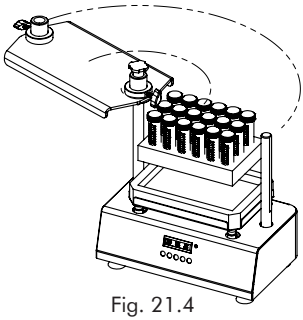


Fig. 21.4

- Pull up the top cover and rotate counterclockwise as shown in the fig.21.3
- Place the test tube on the test tube holder (fig. 21.4) then fix it on the foam holder as shown in the fig. 22.1

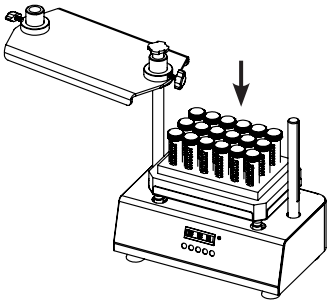


Fig. 22.1

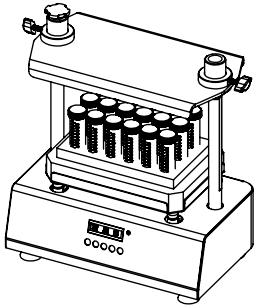


Fig. 22.2

- Place the top cover on the guide rode and push down as shown in fig 22.2.

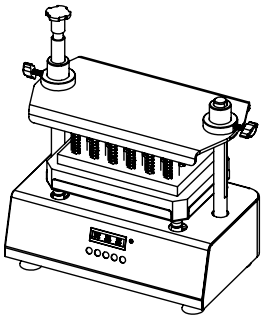


Fig. 22.3

- Then tighten the knob on both the sides.

TROUBLESHOOTING

1. The unit is not turning **ON**.
    - Check the power supply in AC mains.
    - Make sure power cable is inserted to the socket properly.
    - Check whether the main switch is **ON** or **OFF**.
    - Check if the unit is running or not. If not contact Borosil Service Centre.

WARRANTY REGISTRATION

Please handover this Registration form to the distributor from where you have purchased this product. The warranty is valid only when this warranty registration card is received by us within 30 days from the date of purchase.

Product: MULTI TUBE VORTEXER

Product Sr. No.: _____

Date of Invoice : _____

Invoice No.: _____

Customer name & address

Name : _____

_____

Address: _____

_____

_____

_____

Telephone: _____

E-mail: _____

Customer sign & seal

Dealer name & address

Name : _____

_____

Address: _____

_____

_____

_____

Telephone: _____

E-mail: _____

Dealer sign & seal

BOROSIL®
Scientific
STATEMENT OF WARRANTY

Borosil confirms that this product has been manufactured in accordance with our technical specifications and quality requirements.

- Borosil warrants the product from manufacturing and workmanship defects for a period of 12 months from the date of invoice.
- Warranty void if apparatus is not operated as prescribed in Multi Tube Vortexer operating manual.
- To be covered under warranty.
  - Units have to be connected to standard 230V, 50Hz, 5A wall sockets with proper earthing.
  - The units should never be run with wet or dripping glassware and tubes.
  - Warranty does not cover rust and physical damage to metal parts due to corrosive environment in the lab.

Terms:

- In the event of malfunction due to defect, the buyer will have to follow the Borosil's service process.
- Certain units can not be serviced/rectified at the buyer's place and the units may have to be brought to Borosil's service center as advised by Borosil's representatives.
- In no event shall Borosil be liable for consequential or incidental damages.

INVOICE DATE	BUYER	AFFIX SERIAL NUMBER
INVOICE#		

Dealer name & address	Dealer sign & seal

BOROSIL SCIENTIFIC LIMITED
Corporate Office : 1101, Crescenzo G-Block, Opp. MCA Club, Bandra Kurla Complex, Bandra (E), Mumbai-400051, India.

LABQUEST BY BOROSIL®

: MANUFACTURED BY :

Borosil Scientific Limited

Plot No.7, Sr. No. 234, 235 & 245,
Indialand Global Industrial Park,
Hinjewadi Phase 1, Pune - 411057
Write to us on above address.

: MARKETED BY :

Borosil Scientific Limited

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BKC, Bandra East, Mumbai - 51
Maharashtra, India

: CUSTOMER CARE CONTACT :

Phone : 1800 22 4551 | Email : lab.support@borosil.com

Website : www.borosilscientific.com