



Life for Lives

Laboratory Products



- **Autoclaves/Sterilizers**



- **Autoclave Vertical**

APPLICATIONS

“BioRise” Autoclave Vertical is most ideal for critical applications requiring assured and reliable total destruction of all living micro- organisms. Autoclave Vertical is ideal tool for Laboratories, Hospitals, Nursing Homes, R&D labs etc.

CONSTRUCTIONAL AND SALIENT FEATURES

Inner made of Stainless Steel and outer made of Mild Steel duly painted.

Supporting Ring & Legs are made up of Mild Steel.

Heater cover stand and bucket are made of Stainless Steel Sheet.

Lid is made of thick machined Mild Steel plate lined with Stainless Steel from inside.

Lid is fitted with Pressure Gauge, Spring Loaded Safety Valve, Manual Exhaust Valve, and water level indicator.

Drain Valve facilitate easy cleaning of the chamber.

Fitted with neoprene rubber gasket.

All internal joints are argon arc welded.

Piezostat (Pressure Control Switch) and Low Water Level Cut-Off system for general safety of the element are available at an extra cost. (OPTIONS)

Operating range from 15psi to 20psi pressure.

To work on 220/230Volts, 50/60Hz AC supply.

Autoclave Vertical

TECHNICAL SPECIFICATIONS

Capacity	Heater Load	Gasket	Sterilizing pressure	Power Supply	Dimension of Basket (Dia x Height)	Inner Dimensions (Dia x Height)
22 ltrs	2.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	225x300mm	250x450mm
40 ltrs	2.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	275x350mm	300x500mm
50 ltrs	3.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	325x400mm	350x550mm
78 ltrs	4.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	375x450mm	400x600mm
98 ltrs	4.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	425x450mm	450x600mm
187 ltrs	4.0 KW	Made of Neoprene Rubber	1.2 kgf/cm (15psi)at 121°C	220/230V AC, 50/60Hz	525x600mm	550x750mm

Options

- Pressure Control Switch/ Pressure Cut Off (*PCO) device.
- Low Water Level Cut off (*WCO) device for safety of heating element.
- Analogue 0-60 minutes ON/OFF mechanical timer .
- Digital ON/OFF timer with LED display.
- Efficient steam condenser to eliminate steam exhaust into the lab.

▪ Autoclave Vertical Deluxe



APPLICATIONS

“BioRise” Vertical Autoclaves are most ideal for all applications requiring, routine total destruction of all living micro-organisms. Vertical Autoclaves ideal tool for Laboratories, Hospitals, Nursing Homes, R&D labs etc.

CONSTRUCTIONAL & SALIENT FEATURES

Inner chamber, outer chamber and support ring are fully made of stainless steel (SS-304 grade).

Heaters cover stand and carrier/bucket are made of Stainless Steel.

Lid made of thick machined Stainless Steel plate (SS-304).

Lid is fitted with Pressure Gauge, Spring Loaded Safety Valve, Manual Exhaust Valve, Vacuum Breaker-cum-Purge Valve as a safety device and water level indicator.

Drain Valve facilitates easy cleaning of the chamber.

Moulded jointless silicon rubber gasket.

All internal joints are argon arc welded, ground and polished to give crevice free internals.

Piezostat (Pressure Control Switch) and low water level cut-off system for general safety of the element. (OPTION)

To work on 220/230Volts, 50/60 Hz AC supply.

CONTROL PANEL AND SWITCHGEARS

Operating range from 15 to 22 psi pressure (adjustable).

Miniature Circuit Breaker for MAINS On/Off plus safety of control panel. (For units fitted with *PCO & *WCO only).
Industrial grade energy efficient heaters reduce power bills drastically.

▪ **Autoclave Vertical Fully Automatic Digital**



APPLICATIONS

“BioRise” Fully Automatic Vertical Autoclave are most ideal for critical applications requiring assured and reliable total destruction of all living micro-organisms.

These are Autoclaves fully automatic models requiring no human intervention till a full sterilization cycle is over.

CONSTRUCTIONAL & SALIENT FEATURES

Inner chamber, outer chamber, support ring and support legs are fully made of stainless steel (SS-304 grade).

Heaters cover stand and carrier/bucket are made of Stainless Steel (SS-304).

Lid made of thick machined Stainless Steel plate (SS-304).

Radial locking lid ensures user safety and safe locking

Lid is fitted with Pressure Gauge, Spring Loaded Safety Valve, extra Safety Valve, Manual Exhaust Valve, Vacuum Breaker-cum-Purge Valve as a safety device and water level indicator.

Drain Valve facilitates easy cleaning of the chamber.

Moulded jointless silicon rubber gasket.

All internal joints are argon arc welded, ground and polished to give crevice free internals.

CONTROL PANEL AND SWITCHGEARS

µProcessor based Controller with time and temperature settable by user.

Class 'A' Platinum (Pt-100) sensor, enabling precise and accurate monitoring.

Low water level alarm and cut off for safety of heater.

End of cycle buzzer to alert the user and auto reset.

Miniature Circuit Breaker for MAINS On/Off plus safety of control panel.

Industrial grade energy efficient heaters reduces power bills drastically.

▪ **Autoclave Vertical Semi Automatic Digital**



“BioRise” Semi Automatic Digital Autoclaves are most ideal for critical applications requiring assured and reliable total destruction of all living micro-organisms.

These are semi automatic autoclave models requiring tighter control of temperature and sterilizing time, thus eliminating any chances of under or over exposure of media /samples with respect to temperature and hold time.

CONSTRUCTIONAL AND SALIENT FEATURES

Inner chamber, outer chamber, support ring and support legs are fully made of stainless steel (SS-304 grade)

Heaters cover stand and carrier/bucket are made of Stainless Steel (SS-304).

Lid made of thick machined Stainless Steel Plate (SS-304).

Radial locking lid ensures user safety and safe locking.

Lid is fitted with Pressure Gauge, Spring Loaded Safety Valve, extra Safety Valve, Manual Exhaust Valve, Vacuum Breaker-cum-Purge Valve as a safety device and water level indicator.

Drain Valve facilitates easy cleaning of the chamber.

Moulded jointless silicon rubber gasket.

All internal joints are argon arc welded, ground and polished to give crevice free internals.

CONTROL PANEL AND SWITCHGEARS

µProcessor based Controller with time and temperature settable by user.

Operating range from 15 to 22 psi pressure (adjustable)

Class 'A' Platinum (Pt-100) sensor, enabling precise and accurate monitoring in 0.1°C resolution and ±1°C accuracy.

Low water level alarm and cut off for safety of heater.

End of cycle buzzer to alert the user.

Miniature Circuit Breaker for MAINS On/Off plus safety of control panel.

Industrial grade energy efficient heaters reduces power bills drastically

- **Autoclave Vertical High Pressure (FAD)**



APPLICATIONS

"MAC" Fully Automatic Vertical Autoclave High Pressure is most ideal for critical applications requiring assured and reliable total destruction of all living micro-organisms.

These are fully automatic models requiring no human intervention till a full sterilization cycle is over.

CONSTRUCTIONAL AND SALIENT FEATURES

Inner chamber, outer chamber and support ring are fully made of stainless steel (SS-304 grade).

Heaters cover stand and carrier/bucket are made of Stainless Steel.

Lid made of thick machined Stainless Steel plate (SS-304).

Radial locking lid ensures user safety and safe locking.

Lid is fitted with Pressure Gauge, Spring Loaded Safety Valve, extra Safety Valve, Manual Exhaust Valve, Vacuum Breaker-cum-Purge Valve as a safety device and water level indicator.

Drain Valve facilitates easy cleaning of the chamber.

Molded jointless silicon rubber gasket.

All internal joints are argon arc welded, ground and polished to give crevice free internals.

µProcessor based Controller with time and temperature programmable by user.

Class 'A' Platinum (Pt-100) sensor, enabling precise and accurate monitoring.

Low water level alarm and cut off for safety of heater.
Sensor open alarm and display.
End of cycle buzzer to alert the user and auto reset.
Miniature Circuit Breaker for MAINS On/Off plus safety of control panel.
Solenoid Valve for automatic purging and exhaust (user settable).
Industrial grade energy efficient heaters reduce power bills drastically.

▪ **Autoclave Horizontal (Cylindrical)**



APPLICATIONS

"BioRise" Horizontal Autoclave Double Walled are most ideal for critical applications requiring assured and reliable total destruction of all living micro-organisms.

Autoclave Horizontal (Cylindrical) is an ideal tool for Laboratories, Hospitals, Nursing Homes, R&D labs etc.

CONSTRUCTIONAL AND SALIENT FEATURES

Double walled unit horizontally mounted on a sturdy, heavy M.S. duly painted or stainless steel tubular stand.

Both inner chamber and outer wall made of S.S.

Pressure is adjustable from 10-20psi.

Fitted with pressure gauge, safety valve and steam release valve.

Available with separate boiler.

For units fitted with S.S. Boiler, separate valves for injecting the steam into the main chamber and releasing the steam in atmosphere after use are provided.

Automatic Vacuum Breaker is provided to break the vacuum in case of formation of vacuum due to steam condensation.

Automatic Low Water Level Cut-off Device fitted for general safety of the element.

Fitted with Automatic Pressure Control Switch.

Fitted with Dial thermometer to indicate the inner chamber temperature.

Lid is made of S.S. plate provided with radial locking system.

Supplied without jacket (Double walled chamber with separate boiler).

Industrial grade energy efficient heaters reduce power bills drastically.

- **Steam Sterilizer Horizontal High Pressure**



APPLICATIONS

“BioRise” Horizontal Autoclave Triple Walled is most ideal for critical applications requiring assured and reliable total destruction of all living micro-organisms.

Steam Sterilizer is an ideal tool for Laboratories, hospitals, nursing homes, R&D labs etc.

CONSTRUCTION AND FEATURES

The inner chamber, steam jacket, outer chamber and boiler are made of heavy gauge stainless steel with leak proof argon arc welding.

The radial locking lid is made of thick S.S. plate.

The space between the outer chamber and steam jacket is filled with glass wool to minimize thermal losses.

Hydraulically tested to withstand 2.5 times the working pressure.

Steam boiler is fitted with water level indicator, pressure gauge, low water cut-off device and automatic pressure control device.

Fitted with safety valve as a safety device.

Drain valve is fitted at the side bottom for easy draining/cleaning.

The unit is provided with a positive self-locking safety door which cannot be opened while the chamber is under pressure and disengages automatically when chamber is exhausted.

This affords complete safety to the working personnel against explosive opening.

Two separate valves are provided for evacuating steam from inner chamber and jacket as and when desired.

Sterilization Cycle is controlled by SINGLE POINT MULTIPOINT Valve.

The chamber discharge line is fitted with a moisture trap to absorb the condensate automatically thus preventing moistening of the loaded material to be sterilized.

An automatic vacuum breaker is fitted to all “MAC” units as a standard accessory, in order to break vacuum in case of steam condensation.

The flanged immersion type heating element made from very high grade material provides fast formation of pressure in the system and are protected through a electric low water level cut-off device.

All “BioRise” Sterilizers are provided with triple safety features, through a “PIEZOSTAT” (Automatic Pressure Control System) and a spring loaded safety valve fitted to the boiler/steam generator. The chamber is fitted with spring loaded safety valve and a dead weight release valve.

Highly accurate temperature indicator is fitted for monitoring temperature.

In addition to vacuum dry provided in the MPV an extra injector can be provided in the autoclave for better drying of the load.

POP type safety valve can be installed in lieu of spring load safety valve, for more accurate & better performance. (OPTION)

To work on 440Volts, 3phase, 50Hz AC supply.

- **Steam Sterilizer Horizontal H.P. Rectangular**



APPLICATIONS

“BioRise” Sterilizers are most ideal for critical applications requiring assured and reliable total destruction of all living micro-organism.

CONSTRUCTION AND FEATURES

Inner Chamber is made up of thick non-magnetic steel of 304/316 quality and jacket is made out of rolled steel.

Single door made of rolled steel lined with S.S. sheet has radial locking system.

All units are hydraulically tested upto 40psi.

The space between outer cover made of thick rolled steel sheet and the steam jacket is filled with asbestos sheet or glass wool to minimize thermal losses.

Boiler is made of thick stainless steel sheet and is located under the sterilizer.

Unit is fitted with water level indicator, safety valve, pressure gauge, water inlet and drain valves.

Unit is also fitted with Low-Water Level Cut-Off device and automatic pressure control device.

All “BioRise” rectangular sterilizers are fitted with SELF LOCKING SAFETY DOOR device.

The door cannot be opened when chamber is under pressure.

Two separate valves are provided for evacuating steam from inner chamber and jacket, as and when desired.

Fitted with safety valves as a safety device.

Drain valve is fitted at the side bottom for easy draining/cleaning.

Fitted with vacuum breaker to break vacuum in case of formation of vacuum due to steam condensation.

Triple walled with Steam Jacket and Separate Boiler. Sterilization cycle is controlled by Multiport Valve. The unit is fitted with all standard accessories.

To work on 440volts, 3 Phase, A.C. Supply.

▪ **Autoclave Portable**



APPLICATIONS

Our portable Autoclaves are most ideal for doctors, nursing homes, laboratories, dentists etc.

Portable Autoclave is most ideal for general laboratory requirement where samples in small batches are required to be sterilized.

BENEFITS & ADVANTAGES

Hydraulically tested upto 40 psi for user safety.

Spring loaded safety valve for pressure adjustment and a dead weight valve works as a safety device.

Economy at your fingertips with low power consumptions.

A seamless (joint less) body for single walled units provides a sturdy and safe operation for the user.

Low sterilization process time accounts for higher number of batches accounting for economy and faster results.

CONTROL PANEL AND SWITCHGEARS

Body, lid & heater cover stand of stainless steel (SS-304).

Simple and easy “Press & turn” system of closing lid for single walled units.

Digitally controlled units are fitted with Microprocessor Based Digital Temperature Indicator cum Controller for auto control with respect to temperature and time with IN - BUILT BUZZER TIMER for AUTO TIME CONTROL to indicate cycle end.

Lid is fitted with pressure gauge, safety valve and manual exhaust valve.

Vacuum breaker-cum-purge valve works as a safety device.

Moulded neoprene rubber gasket.
Heater cover stand made of stainless steel (SS-304).
Industrial grade energy efficient heaters reduce power bills drastically.

■ **Tabletop Autoclave**



APPLICATIONS

Table Top Vacuum High Speed Sterilizers are ideal for all applications requiring rapid, reliable and total destruction of all living micro-organisms.

Ideal for Agricultural Institutes Veterinary Institutes, Ophthalmic Surgeons, Dental Surgeons, Surgical Doctors, Polyclinics & Hospitals, Operation Theaters, QC/Micro as a stand by unit.

BENEFITS & ADVANTAGES

Table Top Vacuum High Speed Sterilizers are ideal for all applications requiring rapid, reliable and total destruction of all living micro-organisms.

Ideal for Agricultural Institutes Veterinary Institutes, Ophthalmic Surgeons, Dental Surgeons, Surgical Doctors, Polyclinics & Hospitals, Operation Theatres, QC/Micro as a stand by unit.

With three pre-vacuum and depth of the pre-vacuum drying function.

Residual humidity is <0.2; vacuum ability up to -0.85 bar.

Apply to sterilize various types of instruments like packaged, non-packaged, solid etc.

To be sure remove the internal air of Hollow instruments with high efficient and sure the higher temperature steam reach every corner .

There have BOWIE & DICK test and Helix tests for detection of steam penetration.

FEATURES

It adopts European Class 'B' Standard.

With pulse pre-vacuum essential for sterilizing all wrapped (single/double) or unwrapped items including porous items that do not exceed the specifications of Hollow load type 'A'.

A pre defined program list for easy operational settings: Reproducible sterilization cycles are accomplished through the defined programs.

Electronic Control Module offers Microprocessor controls & LED Display of operating parameters, where temperature, pressure and sterilization time are constantly displayed.

A drying cycle helps prevent rusting of delicate instruments & helps dry clothing or absorbent materials.

Safer and more reliable door structure. A heat insulated with locking feature prevents opening while the chamber is under pressure to help minimize dangers to operate.

Exhaust steam is discharged to an inbuilt water collection tank thus keeping the room steam free.

Sterilization: 3-times pulse vacuuming.

No. of Programmes: for nude, package, cotton, plastic

Timing of B-Cycle, Flash Cycle & S. Process. Nude Program (fast) need around 25-27 minutes. Cotton Program (slow) need around 70 minutes.

Steam generator and boiler heating separated

We adopt the steam generator to produce steam, for let the steam generation and boiler heating separated, so that we can manipulate the speed and volume of steam generated the water consumption and also improved the lifetime of heating circle because of the lower temperature of boiler.

The material of Lid safe & reliable

Adopt the SS-304 stainless steel. It will be safe when the inside chamber have a higher pressure and also there will avoid the second times pollution which caused by the corrosion from the lid.

Advantages of the control system

The company research & developed the new temperature and pressure control technology to ensure the Positive and negative temperature of every two points inside chamber less than 0.5°C guarantee complete sterilization.

The safety of double-control lock structure

Use the newest Machinery and electronic double-control lock structure, to be sure the safety during the operation time.

Low enough vacuum ability

Use the double-head vacuum pump, let the each pulse vacuum process achieve low enough vacuum, guarantee complete sterilization.

Automatically & manual adjust of the parameters of temperature sensor

The adjust of parameters is automatically, and manual adjust is also available on your will this way can be sure the machine can work in different atmospheric environments.

Broad ventilation window design for convenience of fast heat radiation

- **Freezers/Refrigerators**
 - **Ice Flaking Machine**



APPLICATIONS

Fitted with PRESSURE DIE CASTED HEAVY DUTY GEAR BOX.

SINGLE PHASE PREVENTER fitted to the unit as a standard feature.

Complete body and storage bin made of Stainless Steel (SS-304 grade).

Fitted with a heavy duty three phase motor for higher torque.

PRECISE TEMPERATURE CONTROL

Outer body, inner chamber and lid of storage bin are made of STAINLESS STEEL SHEET (304 grade), buffed to mirror finish.

The unit is insulated with PUF for minimal thermal losses.

It requires plain tap water connection.

Ice flakes coming out from the crushing assembly only within 25 minutes and are collected in a collecting bin for ready use.

Continuous availability of Ice Flakes till the machine is on.

Unit gets automatically cut off when the collecting bin is full of ice flakes thereby saving the power consumption.

Collecting bin is fully insulated with 'PUF' which prevents melting of ice flakes.

Indigenously designed and manufactured unit with INDIAN components which are readily available for replacement.

Well balanced refrigeration system with hermetically sealed compressor, condenser, fan motor assembly & NON-CFC refrigerant gas to cool the crusher assembly for producing ice.

Crusher assembly is made of Stainless Steel and is driven by heavy duty induction motor coupled to reduction gear.

Crusher assembly is supplied with water from in-built water collecting tank, which is fitted with a float valve for regulating water supply.

Drain at the bottom of the collecting tank is also provided.

CFC FREE ECO-FRIENDLY COMPRESSOR.

- **Deep Freezer Vertical**



APPLICATIONS

Cooling coils are placed between foamed-in-place PUF insulation and inner side of stainless steel chamber eliminating any chances of FROST FORMATION on the evaporator which leads to choking of COMPRESSOR/CONDENSING UNIT.

Deep Freezers are useful for low temperature quick freezing and storing of Vaccines, Biological and Medical Specimens, Blood Components and general laboratory freezing applications.

High density foamed-in-place polyurethane foam (PUF) insulation for minimal cooling losses.

KEY FEATURES

Deep Freezer Vertical Upright is useful for low temperature quick freezing and storing of Vaccines, Biological and Medical Specimens, Blood Components and general laboratory freezing applications.

High density foamed-in-place polyurethane foam (PUF) insulation for minimal cooling losses.

Evenly spread evaporator accounts for higher temperature uniformities throughout the cooling chamber.

Specially designed Deep Freezer Upright Latches to keep the door tightly locked eliminating chances of any cooling loss.

Outer made of powder coated CRC Steel Sheet.

Inner chamber and trays made of Stainless Steel (SS-304).

Caster wheel mounted for easy mobility.

ECO FRIENDLY COMPRESSOR with CFC-FREE refrigerant.

Fitted with Microprocessor Based Digital Temperature Indicator-cum-Controller.

Caster wheel mounted for easy mobility.

ECO FRIENDLY COMPRESSOR with CFC-FREE refrigerant.

Fitted with Microprocessor Based Digital Temperature Indicator-cum-Controller.

▪ **Low Cost Chest-Vertical Freezers**



APPLICATIONS

Low Cost Chest/Vertical Freezer High Quality & Effective Compressor.

Super Strong Freezing Capacity.

CONSTRUCTION AND FEATURES

Low Cost Vertical Freezer High Quality & Effective Compressor.

Super Strong Freezing Capacity.

High Grade PUF INSULATED between outer & inner chamber for minimal thermal losses adjustable thermostat.

Available for freezing & refrigerating.

Automatic orientation top open door for easy storage.

Temperature range -18 °C to -20 °C (depending upon ambient conditions).

▪ Ultra Low Bio-Freezer



APPLICATIONS

“BioRise” Ultra-low temperature Freezer offers a economical solution to wide variety of research and storage applications, such as low temperature scientific experiments, preservation of red blood cell, white blood cell, skin, bone bacteria, semen, biomedical product, ocean product, electronic devices and low temperature testing of special materials. It is suitable for blood banks, hospitals, sanitation and antiepidemic stations, electronic industries, university laboratories, military industries, pelagic fishery companies.

Features

Available in chest / Upright models.

Outer body is made of mild steel dult painted or Stainless Steel Sheet. (Option)

Inside chamber is made os Stainless Steel. The advance referigraton system of two compressors. (Cascading Technique used)

Extra thick insulation effectively reduces loss of cold air.

Fitted with Microprocessor Based Digital Indicator - cum - Controller.

Inside Temperature ranging -10° C ~86° C can be set freely.

Digital temperature display.

Adjustable shelves are convenient to place articles.

Casters wheel mounted for easy mobility.

Cooling coils are plced between foamed -in - plac PUF insulated and inner side of Stainless Steel Chamber eliminating any chances of Frost Formation on the eveporator which lead to choking of Compressor / Condensing Unit.

Useful for low temperature quick freezing and string of Vaccines.

Biological and Medical specimens, Blood Componenet and general laboratory freezing applications.

Evenly spread evaporator account for higher temperature uniformities throughout the cooling chamber.

Eco-Friendly Compressor with CFC - FREE referigrant.

Power supply: 220V / 50Hz, Single Phase.

Microprocessor-based temperature control system platinum resistance sensors.

Inside temperature ranging from -10°C ~ 86°C can be set freely.

Digital temperature display.

Keyboard lock and password protect configuration page.

Perfect audible and visual alarm systems (high or low temperature alarm, no battery alarm, door open alarm, filter blocking alarm, system failure alarm)

ensure the safety of stored articles.

The safety lock can prevent random opening.

Rotatable assistant door handle, easy opening.

Adjustable shelves are convenient to place articles.

Separated inner and outer doors prevent cold air leakage and promote excellent heat insulation.

Casters wheel mounted for easy handling.

■ Ultra Low Temperature Freezer



ULTIMATE REFRIGERATION TECHNIQUE

The two-time foaming technique is used and it can protect isolation layer from being damaged by low temperature, which is in the world's lead in the aspect of temperature conservation.

The advanced refrigeration system of two compressors work, Own the independent knowledge property.

155mm extra thick insulation effectively reduces loss of cold air.

Imported famous brand compressor with high efficiency.

Germany fan electro motor with internationally famous brand of EBM is used.

ADVANCE CONTROLLING TECHNOLOGY

Microprocessor-based temperature control system platinum resistance sensors.

Inside temperature ranging from -10°C ~ -86°C can be set freely.

Digital temperature display.

Keyboard lock and password protect configuration page.

Perfect audible and visual alarm systems (high or low temperature alarm, no battery alarm, door open alarm, filter blocking alarm, system failure alarm) ensure the safety of stored articles.

DESIGNED FOR USER CONVENIENCE

The safety lock can prevent random opening.

Rotatable assistant door handle, easy opening.

Adjustable shelves are convenient to place articles.

Separated inner and outer doors prevent cold air leakage and promote excellent heat insulation.

Casters wheel mounted for easy handling.

CO₂ BACKUP SYSTEMS (OPTION)

CO₂ back systems are available for those who require additional security for their valuable samples.

In operation, addition of CO₂ is PULSED rather than continuous, ensuring even distribution of the cooling effect while avoiding excessive consumption of coolant.

Using CO₂, temperature can be maintained between -55°C to -70°C, subject to chamber load and environmental conditions.

LN₂ BACKUP SYSTEMS (OPTION)

LN₂ back systems are available for those who require additional security for their valuable samples.

In operation, addition of LN₂ is PULSED rather than continuous, ensuring even distribution of the cooling effect while avoiding excessive consumption of coolant.

Using LN₂, temperature can be maintained upto -85°C, subject to chamber load and environmental conditions.

INVENTORY RACKING (OPTION)

Exclusively designed and manufactured our storage racks/bones are light weight, durable and provides maximum storage capacity.

Following table shows how many racks and bones each freezer can hold.

- **Refri Freezer**



PRECISE TEMPERATURE CONTROL

A TWO-IN-ONE/COMBO unit of a refrigerator and freezer.

Minimal foot- print required, a genuine space saving concept.

“BioRise” Refri Freezer offers a wide variety of research and storage applications, such as low temperature scientific experiments, preservation of plasma, biomaterial, vaccine, biomedical product.

Most ideal for small blood banks/ laboratories where the upper refrigerator section can be used for storing blood bags vaccines, costly chemicals etc. as a Laboratory Refrigerator.

The lower LOW TEMPERATURE SECTION can be used to store plasma bags, testing of low temperature resistant properties of military products and has a wide applications for research institutes, electronic industries, chemical engineering industries, hospital, sanitation and antiepidemic stations, university laboratories, military industries.

PRECISE TEMPERATURE CONTROL

The high-efficiency compressor with internationally famous brand of Danfoss, accounts for faster and uniform cooling;

Unique refrigerating technique of refrigeration circulation is used for uniform cooling;

100mm puff insulation effectively reduces loss of cold air;

German fan electromotor with internationally famous brand of Ebm is used.

USER FRIENDLY DESIGN

Adjustable shelves in the refrigeration section are convenient to place articles;

Door with chromatic mirror inset, Alloy door knob with latent frame, Beautiful appearance, luxurious and elegant;

Foaming insulation heat plate inside and two-double sealed, prevent cold air leakage and promote excellent heat insulation.

PRESICE TEMPERATURE CONTROL

Both the upper refrigerator and lower freezer sections have individual separate doors respectively;

Microprocessor- based temperature controls system precisely maintains the temperature level you select, The temperature inside the refrigeration section can be set freely at a certain point within 2°C-8°C, and the temperature ranging from- 25°C~-40°C inside the freezer section can be set freely;

LCD display of temperature.

Fan circulation system promotes the air circulation inside the refrigeration section.

▪ **Low Temperature Freezer**



APPLICATIONS & KEY FEATURES

Precise Temperature Control

Microprocessor- based temperature controller, Freely set the inside temperature within a range of $-10^{\circ}\text{C} \sim -40^{\circ}\text{C}$;
Digital temperature display.
User Friendly Design
Convenient storage drawers.
The safety lock can prevent random opening.
Refrigeration System
Imported famous brand compressor with high efficiency.
Fan electromotor with internationally famous brand of Ebm is used.
Safe Controlling System
Delayed start and safe stop interval between restart and being terminated, ensure reliable running.

- **Blood Bank Refrigerators**
 - **Medical Refrigerator**



CONSTRUCTIONAL AND SALIENT FEATURES
Specially designed for storing blood bags/bottles.

Outer chamber is made of CRC Sheet duly powder coated and mounted on caster wheels for easy movability.

Inner chamber and holding trays are made up of Stainless Steel Sheet.

High Grade PUF insulated between outer and inner chamber for minimal thermal loses.

Temperature can be set/ maintained from 2 °C to 15 °C with an accuracy of +0.5 C.

Unit is fitted with specially designed CFC Free hermetically sealed refrigeration system for uniform and effective cooling of the chamber.

Flush fitting insulated double walled door has magnetic gasket and plexi glass inner door for easy view of inside chamber without disturbing the set temperature.

Inside door operated illumination is provided for visibility inside the chamber.

Temperature is controlled by Digital Temperature Indicator-cum-Controller.

Unit is provided with AUDIO VISUAL ALARM which triggers in the event of fluctuation exceeding permitted tolerance.

CFC Free ECO FRIENDLY COMPRESSOR.

To work on 220/230 volts A.C. Supply.

- **Blood Bank Refrigerator**



CONSTRUCTION AND SALIENT FEATURES

Interior of chamber is stainless steel (SS-304).

The exterior is powder coated mild steel and the door has a magnetic gasket with a keyed door lock.

STAINLESS STEEL TRAYS are provided for storage inside.

Foamed - in - place CFC Free PUF insulation ensure temperature stability and reduced energy consumption.

Micro - controller controls the internal temperature between 4°C to 6°C with an accuracy of +0.5°C, for storing blood bottles or blood bags.

Specially designed controller for deviation alarm from the preset temperature, door open alarm and power failure alarm , in lieu of standard controller (OPTION).

The cooling is effected by a hermetically sealed CFC FREE ECO FRIENDLY COMPRESSOR.

To work on 220/230 volts A.C

■ **Blood Bank Refrigerator Deluxe**



PRECISE TEMPERATURE CONTROL

Interior of chamber is stainless steel (SS-304).

Inner and outer chamber both made of Stainless Steel (SS-304). Door , panel, base plate and top cover made of C.R.C. duly powder coated.

Fitted with specially designed deviation alarm from the preset temperature, door open alarm and power failure alarm.

STAINLESS STEEL BASKETS are provided for storage inside.

Foamed - in - place CFC Free PUF insulation ensure temperature stability and reduced energy temperature.

Stainless steel heavy duty basket ensures even temperature distribution

Micro - controller controls the internal temperature between 4°C to 6°C with an accuracy of $\pm 0.5^{\circ}\text{C}$, for storing blood bottles or blood bags.

The cooling is effected by a hermetically sealed CFC FREE ECO FRIENDLY COMPRESSOR.

To work on 220/230 volts A.C

USER FRIENDLY DESIGN

Exterior made from high quality structural steel plate, painted by advanced coating technology after the anti corrosion treatment of phosphorization, the superficial luster is gentle, interior made from ABS engineering plastics.

Double deck glass door, inert gas, equipped with special lock, four casters are mounted under the bottom.

Interior fluorescent lighting provides a clear view of stored items.

Shelves made of quality steel wire soaked with plastic provide convenient access to the stored articles and easy cleaning.

REFRIGERATION SYSTEM

Efficient compressor, high efficiency, silence and energy saving.

Highly effective condenser and expansile evaporator provide quick freeziong.

- **Plasma Freezer Vertical**



CONSTRUCTIONAL AND SALIENT FEATURES

Inner chamber made of stainless steel (SS-304) and outer chamber made of mild steel duly powder coated.

Foamed in place CFC Free PUF insulation ensure temperature stability and reduced energy temperature.

Keyed door lock for improved security with magnetic door gasket.

Stainless Steel plasma basket.

The cooling is effected by hermetically sealed CFC FREE ECO FRIENDLY COMPRESSOR.

Precise control of temperature by using micro controller based temperature controller

Audio visual alarm if the temperature deviates from the pre set temperature.

Caster wheels for ease of mobility.

■ **Platelet Incubator**



CONSTRUCTION FEATURES

"BioRise" Platelet Incubator is designed to store platelet concentrates in continuous motion at controlled temperature.

Double walled construction.

External chamber is made up of a mild steel sheet duly powder coated.

Inner chamber is made of Stainless Steel (SS-304) grade.

Plexi glass door is provided to enable inspection of the inner chamber without disturbing the chamber temperature.

CFC free ECO FRIENDLY COMPRESSOR.

Preset temperature 22°C (FDA recommended).

Specially designed to accommodate Platelet Agitator.

▪ Platelet Agitator



CONSTRUCTION FEATURES

Flat bed agitator maintains donor platelets in an even suspension throughout the blood plasma.

No damage to blood cells.

Fixed speed of 70 to 80 strokes/minute.

Can be accommodate in platelet incubator

Stores 32 standard platelet bags.

Pull out trays for easy access to platelets.

- **Biological Safety Cabinets**
 - **Biological Safety Cabinets**



It is used for various works that require maintenance of the cleanliness and purity like plant tissue culture, examination and experimentation of precision electronic parts, medical science, pharmacy, agriculture sector and the like.

The highly efficient HEPA filter maintains the optimum cleanliness and purity. Being equipped with the prefilter, it can extend the life of HEPA filter.

Microprocessor Based Filter replacement Warning Alarm (option).

The contaminated air is drawn by the blower through the plenum of the cabinet , where approximately 70% of the air is recirculated through the HEPA filter back to the work area 30% of the air is exhausted from a common plenum at top through a **HEPA FILTER .**

HEPA filtered exhaust air exhausted through the top plenum is recirculated into the room or can be exhausted to the outdoors through a special canopy exhaust system (option) through the exhaust duct (OPTION-available pre running feet) FOR **PRODUCT AND PERSONNEL PROTECTION.**

A Virus burn-out unit (OPTION) to be ordered essentially with special canopy exhaust system accounts for **ENVIRONMENT PROTECTION.**

Silent Vibration-Free Blower ensure noiseless operation and anti-vibration construction provides efficient working environment. Air is drawn through Pre-Filter and is made to pass through highly effective HEPA (High Efficiency Particular Air) filters having efficiency retaining all air-borne particles of size 0.3 micron and larger.

- **Conventional HEPA Filters**

This is a unique family of HEPA Filters specially designed to arrest submicronic airborne particles, bacteria & radio active debris. They have excellent resistance to chemicals, most acids and organic solvents.

These filters are made with anodised aluminium with 100 % submicronic glass media formed into accordion pleats separated by aluminium separators and sealed with suitable adhesive.

These filters have been successfully used over years in aerospace, biological, nuclear, electronic, computer, food, operating theatres, pharmaceutical, semi conductor, synthetic fibre, laser/ optics and plastic industries .

- **Clean Air Benches**

- **Glass Bead Sterilizer**



FEATURES & SPECIFICATIONS

An alternative to traditional methods of sterilizing, sterilizes with in 15-20 seconds.

Once switched 'ON' the units are ready to use within 30 minutes.

Ensure total destruction of all micro-organism within seconds.

Incorporated with temperature control system to control temperature from 50°C to 240°C.
Compact enough to be placed on any Laminar Air Flow Bench or any other work side table in a clean room.
To work on 220Volts A.C. supply

- **Laminar Flow Bench (Horizontal)**



Features

Horizontal Laminar Air Flow Bench is used for various works that require maintenance of the cleanliness and purity like plant tissue culture, examination and experimentation of precision electr-onic parts, medical science, pharmacy, agriculture sector and the like.

Designed so as to meet the requirement of US Federal Standard 209 B (BS 5295) providing particle free air to meet class 100 conditions.

Cabinet is fabricated of Wooden board laminated with sunmica OR Cold rolled steel duly powder coated OR Stainless Steel (SS-304) (as ordered)

Working table is made of Stainless Steel Sheet (SS-304 grade).

Side panels and front door are made out of thick transparent plexi glass.

Air drawn through pre-filter is made to pass through highly effective HEPA (High Efficiency Particular Air) filters having efficiency rating as high as 99.99% with cold DOP and 99.97% with hot DOP, thus retaining all air-borne particles of size 0.3 micron and larger.

Heavy Duty Motor operates with minimum noise level.

Working area is illuminated by fluorescent lighting fitted to the unit.

Supplied complete with S.S. Table Top, Transparent front door, Static Pressure Manometer. Built in U.V. Germicidal Light and Cock for gas, air or vacuum line, HEPA filters and pre-filter.

The highly efficient HEPA filter maintains the optimum cleanliness and purity.

The prefilter fitted extends the life of HEPA filter drastically.

Silent Vibration-Free Blower ensure noiseless operation and anti-vibration construction provides efficient working environment.

To work on 220/230 volts A.C. supply.

▪ **Laminar Flow Bench (Vertical)**



Features

Vertical Laminar Air Flow Benches are used for various works that require maintenance of the cleanliness and purity like plant tissue culture, examination and experimentation of precision electronic parts, medical science, pharmacy, agriculture sector and the like.

Designed so as to meet the requirement of US Federal Standard 209 B (BS 5295) providing particle free air to meet class 100 conditions.

Cabinet is fabricated of Wooden board laminated with sunmica OR Cold rolled steel duly powder coated OR Stainless Steel (SS-304) (as ordered).

Working table is made of Stainless Steel Sheet (SS-304 grade).

Side panels and front door are made out of thick transparent plexi glass.

Air drawn through pre-filter is made to pass through highly effective HEPA (High Efficiency Particular Air) filters having efficiency rating as high as 99.99% with cold DOP and 99.97% with hot DOP, thus retaining air-borne particles of size 0.3 micron and larger.

Heavy Duty Motor operates with minimum noise level.

Using a dynamic machine, the blower and motor assembly is statically & dynamically balanced.

Working area is illuminated by fluorescent lighting fitted to the unit.

Supplied complete with S.S. Table Top, Transparent front door, Static Pressure Manometer Built in U.V. Germicidal Light and Cock for gas, air or vacuum line, HEPA filters and pre filter.

The highly efficient HEPA filter maintains the optimum cleanliness and purity.

The prefilter fitted extends the life of HEPA filter drastically.

Silent Vibration-Free Blower ensure noiseless operation and anti-vibration construction provides efficient working environment.

To work on 220/230 volts A.C. supply.

- **Fume Hood**



Highly recommended for exhaust of toxic gases, acidic/alkaline fumes, chemical vapors, removal of odour etc from the hood working area.

Fume Hoods are very useful for product and personal protection, reducing odour levels in laboratories and protects costly lab equipment.

Complete exhaust motor blower assembly generates a negative pressure inside the hood thus facilitating removal of all contaminants from the work area, into the atmosphere.

Main cabinet/body is fabricated out of wooden board, laminated with high quality laminates from outside.

Work table is made of Stainless Steel (SS-304) and is fitted with a small S.S. sink with water tap connections.

The front door moves vertically up and down with concealed counter balanced weight.

The unit is fitted with fluorescent light and a gas cock for gas/air supply.

The front facing panel is fitted with 15/5 Amp socket with switches for exhaust system and fluorescent light.

To work on 220 / 230 volts A.C. Supply.

- **Tissue Culture Rack**



Made out of mild steel pipe frame.

Distance between shelves to shelves is 16".

Size of each shelf is 48" x 18".

Platform surface will be of 3mm thick hylem Sheet.

Four 40-watt fluorescent light (With Electronic Ballast).

Minimum heating effect/heat dissipation.

No Flickering effect.

Energy saver with individual switching arrangement in each shelf.

4x25 Watt incandescent lamps in each shelf with switching arrangement.

Frame with MS square pipe duly powder coated.

Wheel/Castor-4No.s for each trolley.

Provision for connecting the Trolley to photoperiodic Timer/Controller output.

▪ Air Curtain



Features

A must for every laboratory, clean rooms, industries etc.

all “BioRise” Air Curtains when installed on a door forms an invisible curtain/barrier of continuous air and thus prevents escape of conditioned/treated air and entry of contaminated hot, humid, dirty and unwanted polluted air inside the room.

Most effective insulation for energy conservation and preventing temperature loss in controlled atmospheric areas, thus maintaining very high levels of cleanliness by forming a very strong barrier to prevent movement of dust particles across it.

An air Curtain is a modern device which, when installed on a door, forms an invisible curtain of continuous air and thus prevents escape of conditioned air and entry of outside hot, humid, dirty and unwanted polluted air. The cabinets of Air Curtain are made of cold rolled mild steel sheets.

The blowers are made of high quality Aluminum sheets.

Blowers are duly balanced both statically and dynamically on computerized digital balancing machines.

Blowers are designed to provide uniform air with minimum noise and no vibration.

The motors used are of continuous rating with sealed ball bearings.

These units are available in HIGH VELOCITY MODELS (Approx 10 meters/second).

- **Ovens**

- **Hot Air Oven**



- **Features**

- Forced convection system ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber.

- Oven Universal is most ideal for various experiments in microbiology, cell cultivation of animals and plants and food for various laboratories, industries, R&D labs etc.

- Synthetic door gasket made of neoprene on the double walled door.

- User oriented design of shelves makes you adjust each space of shelves without difficulty.

- Adjustable two ventilation slides control inner air / vapour circulation.

- Beaded heating elements are placed in ribs, at bottom and sides for uniform heat distribution

- **Oven High Temperature**



Outer body made of mild steel sheet duly powder coated.

Inner chamber and perforated trays made of stainless steel (SS-304).

Space between inner chamber and outer wall is filled with high grade mineral wool for minimal heat dissipation.

Air ventilators are also provided on the sides of the unit.

Bigger sized units mounted on caster wheels for easy portability.

Door fitted with heavy duty hinges and door handle ensuring there are no leakages through the door gasket.

Fitted with Air Circulation fan as a standard feature.

To work on 220/230Volts AC.

- **Vacuum Oven Cylindrical**



Suitable for Vacuum Drying, Baking, Conditioning, Curing, Out-Gassing Solids and Liquids, Vacuum Embedding, Moisture Testing, Plating, Aging Test.

Microprocessor Controlled System Implementing Superior Temperature Accuracy.

Superior uniformity and stability.

Very easy and convenient Vacuuming and Venting ports.

Easy to read vacuum gauge.

High Quality door sealing made of silicone.

Highly Safe Viewing Window made of tempered safety glass or thick polycarbonate.

Over Temperature Protection.

Prevent oxidation, decarburization due to inert atmosphere.

Heat Transfer from concealed heaters for temperature uniformity.

Easy to use - sliding stainless steel shelf.

▪ **Oven and Incubator Combined**



Features

Outer body made of mild steel sheet duly powder coated.

Inner chamber and perforated trays made of stainless steel (SS-304).

Space between inner chamber and outer wall is filled with high grade mineral wool for minimal heat dissipation.

Mounted on caster wheels for easy portability.

Door fitted with heavy duty hinges and door handle ensuring there are no leakages through the door gasket.

To work on 220/230V AC, 50/60 Hz supply.

- **Incubators**
 - **Orbital Shaking Incubator**



Features

Useful for life sciences applications, Fermentation Studies, Ageing Tests, Growth Studies and biological cultures under various controlled temperature conditions.

Advanced shaking mechanism provides quiet shaking and precise speed control with digital display.

Minimum noise, no vibration and minimal footprint.

Automatic stop of shaking system when door is opened.

Stabilized orbital motion under uneven load distribution.

Various configurations of stainless steel lotus clamps available for erlenmeyer flasks.

Interior made of Stainless Steel (304 grade) with a drain-off facility for spill overs.

One set of lotus clamp holders with one shaking platform of stainless steel (SS-304) supplied with the unit as a standard accessory.

Stationery shelves made of Stainless Steel (SS-304) for use of the unit as a standard B.O.D. Incubator, can be supplied at extra cost.

Automatic restart at preset speed in case of power failure.

▪ **Orbital Shaking Incubator(Heated)**



Features

Useful for life sciences applications, Fermentation Studies, Ageing Tests, Growth Studies and biological cultures under various controlled temperature conditions.

Advanced shaking mechanism provides quiet shaking and precise speed control with digital display.

Minimum noise, no vibration and minimal footprint.

Automatic stop of shaking system when door is opened.

Stabilized orbital motion under uneven load distribution.

Various configurations of stainless steel lotus clamps available for erlenmeyer flasks.

Interior made of Stainless Steel (304 grade) with a drain-off facility for spill overs.

One set of lotus clamp holders with one shaking platform of stainless steel (SS-304) supplied with the unit as a standard accessory.

Stationery shelves made of Stainless Steel (SS-304) for use of the unit as a standard B.O.D. Incubator, can be supplied at extra cost.

Automatic restart at preset speed in case of power failure.

▪ Incubator & Oven Combined



Features

Forced convection system ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber.

Most ideal for various experiments in microbiology, cell cultivation of animals and plants and food for various laboratories, industries, R & D labs etc.

Synthetic door gasket made of neoprene on the double walled door .

User oriented design of shelves makes you adjust each space of shelves without difficulty.

Adjustable two ventilation slides control inner air / vapour circulation.

Beaded heating elements are placed in ribs, at bottom and sides for uniform heat distribution

Outer body made of mild steel sheet duly powder coated.

Inner chamber and perforated trays made of stainless steel (SS-304).

Space between inner chamber and outer wall is filled with high grade mineral wool for minimal heat dissipation.

Mounted on caster wheels for easy portability.

Door fitted with heavy duty hinges and door handle ensuring there are no leakages through the door gasket.

To work on 220/230V AC, 50/60 Hz supply.

▪ **Bacteriological Incubator Memmert Type**



Forced convection system ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber.

Bacteriological Incubator is most ideal for various experiments in microbiology, Institutes, industries, R & D labs etc.

Synthetic door gasket made of neoprene on the double walled door.

User oriented design of shelves makes you adjust each space of shelves without difficulty.

Adjustable two ventilation slides control inner air/vapour circulation.

Beaded heating elements are placed in ribs, at bottom and sides for uniform heat distribution

Bacteriological Incubators outer body made of mild steel sheet duly powder coated. Inner chamber and perforated trays made of stainless steel (SS-304).

Space between inner chamber and outer wall is filled with high grade mineral wool for minimal heat dissipation.

Bigger sized units mounted on caster wheels for easy portability.

Door fitted with heavy duty hinges and door handle ensuring there are no leakages through the door gasket.

Beaded heating elements are placed in ribs, at bottom and sides, for uniform heat distribution.

Synthetic door gasket made of neoprene rubber is fitted to all "MAC" units instead of asbestos.

Air ventilators are also provided on the sides of the unit.

To work on 220/230V AC, 50/60 Hz supply.

- **Orbital Shaking Incubator (Refrigerated)**



Specification

Type: Forced Convection Type

Temperature Range: 5°C to 60°C

Temperature Accuracy: $\pm 0.5^{\circ}\text{C}$

MOC Outer: Powder coated CRC Steel Sheet

MOC Inner: Chamber and trays made of Stainless Steel (SS-304)

Safety: Over temperature limiter switch prevents overheating
Insulation: High density PUF insulation for tighter temperature controls

Temperature Control: Microprocessor based Digital Temperature Indicator-cum-Controller with LED display for Set Value (SV) & Process Value (PV)

Shaking Motion: Permanent Magnet DC Drive for continuous operations.

Light Bank: Consisting of fluorescent lamps to provide illumination for photosynthetic applications.

Cyclic Timer: Fitted with cyclic programmable timer

- **BOD Incubators**

- **B.O.D Incubator Low Temperature**



Most suitable for experiments requiring low temperature conditions like microorganism or activation, cell culture process of animals and plants, good storage and desalting process of enzyme extracts etc.

With a solid double walled door, a full view inner plexi-glass door enables inspection and monitoring of inner chamber specimens without disturbing the process temperature.

Excellent quality magnetic gum packing door gasket for external door.

User- oriented design of shelves makes you adjust each space of shelves without difficulty.

Forced air circulation at triple walled back by durable coaxial blower, maintains optimum temperature uniformity and homogeneity.

High grade PUF INSULATION between outer and inner chamber for minimal thermal losses.

Caster wheel mounted for easy portability.

Front double walled door is provided with lock and key arrangement.

Door operated illumination lamp is fitted inside the chamber for easy visibility.

Finned tube evaporator facilitates uniform and faster cooling effects.

Besides B.O.D. Incubator, it can be used as a low temperature cooling chamber for general laboratory requirements.

- **B.OD. Incubator Humidity Controlled**



Most suitable for experiments requiring low temperature conditions like microorganism or activation, cell culture process of animals and plants, good storage and desalting process of enzyme extracts etc.

With a solid see thru double walled door and a full view inner plexi-glass door enables inspection and monitoring of inner chamber specimens without disturbing the process temperature.

Excellent quality magnetic gum packing door gasket for external door.

User- oriented design of shelves makes you adjust each space of shelves without difficulty.

Forced air circulation at triple walled back by durable coaxial blower, maintains optimum temperature uniformity and homogeneity.

High grade PUF INSULATION between outer and inner chamber for minimal thermal losses.

Caster wheel mounted for easy portability.

Front double walled door is provided with lock and key arrangement.

Door operated illumination lamp is fitted inside the chamber for easy visibility.

Finned tube evaporator facilitates uniform and faster cooling effects.

Besides B.O.D. Incubator, it can be used as a low temperature cooling chamber for general laboratory requirements.

▪ **Orbital Shaking Incubator-cum-B.O.D Incubator**



Orbital Shaking Incubator is useful for life sciences applications, Fermentation Studies, Ageing Tests, Growth Studies and biological cultures under various controlled temperature conditions.

Advanced shaking mechanism provides quiet shaking and precise speed control with digital display.

Minimum noise, no vibration and minimal footprint.

Automatic stop of shaking system when door is opened.

Stabilized orbital motion under uneven load distribution.

Various configurations of stainless steel lotus clamps available for erlenmeyer flasks.

Interior made of Stainless Steel (304 grade) with a drain-off facility for spill overs.

One set of lotus clamp holders with one shaking platform of stainless steel (SS-304) supplied with the unit as a standard accessory.

Stationery shelves made of Stainless Steel (SS-304) for use of the unit as a standard B.O.D. Incubator, can be supplied at extra cost.

Automatic restart at preset speed in case of power failure.

- **Water Still/Distillation Plants**
 - **Rotary Vacuum Evaporator**



The apparatus consists of an evaporating flask rotated by heavy duty motor in a heating water bath.

Fitted with speed regulator for minor speed adjustable.

Vacuum distillation of solvent at high and low temperature is achieved quickly and efficiently by use of a heavy duty motor, which prevents foaming and bumping of the liquid (solvent) into the evaporating flask and also distillation under controlled atmosphere.

The evaporating flask is pear shaped to give a large surface area of evaporation.

Evaporating flask is clamped to a glass duct which goes through the drive unit protrudes about 120mm into the condenser.

Condenser is fitted with standard joint at the top and the bottom for receiver flask.

Unit is fitted with a quick action jack.

- **Distillation Apparatus All Glass**



The assembly consists of a corning glass flask with embedded heating elements fused in spiral type glass coil internally at bottom.

A double wall coiled condenser has standard ground glass joints.

Complete with glass fitting, metallic stand, rings clamps and electrical fittings.

The unit is as per NPL patent design.

Supplied with or without LOW WATER LEVEL CUT-OFF DEVICE (as ordered) for general safety of the heating element.

To work on 220/230 volts A.C. Supply.

- **Quartz Distillation Apparatus**



The water distillate from Quartz Single Distillation Apparatus is beyond compare with water distillate obtained from other types/method of distillation apparatus.

Pyrogen free distillate obtained which is free of heavy metals.

Instant distilled water flow.

Quartz Boiler (SiO_2) is chemically inert to most solvents and acids, hence purer distillate.

No heat loss in the boiler, hence saves electrical power.

High performance with low maintenance.

Compact design with all contact of water with High Pure Electronic Grade Transparent Quartz Only.

The main unit has got a bottom boiler and top boiler with condenser, which can be easily separated (Demountable), for necessary cleaning or maintenance. A bottom vent is provided in bottom boiler for general cleaning and maintenance.

The main constituent of Quartz is $\text{SiO}_2 > 99.9\%$, which makes the apparatus highly resistant to any thermal shock, devitrification and resistant to water and acids.

The electrical heaters are so designed, they do not come into contact with water, because they are embedded inside a quartz tube, hence nullifying the possibility of metal contamination by the heater.

The distillate obtained from this apparatus is PYROGEN FREE, it is also free from metal ions.

Demountable ball joint.

Spiral heaters has better life span than tubular sheathed heater.

- **Water Still (wall mounting)**



The unit is recommended for making pyrogen free distilled water for routine laboratory requirements.

Made out of Stainless Steel (SS-304 grade) sheet.

The cock fitted to the unit is brass C.P.

A wall- mounting clamp is provided with the unit and is supplied with the rubber tubing coil of 5 meters.

S.S.-304 grade Argon Arc Welded joints.

Supplied with cord and plug to work on 220/230 volts A.C. supply.

- **Water Baths**

- **Refrigerated Circulating water Bath**



A compact refrigerated/heating circulator.

Eliminates the hassles of using a separate heating Bath & a separate Chiller.

Built in circulator pump for efficient circulating processes.

It offers highest level of performance, flexibility and control for the most demanding applications.

Low noise level.

Wide operating ranges and applications.

Inner bath chamber & lid made of stainless steel (SS-304 grade).

Outer body made of CRC sheet duly powder coated.

Space between inner and outer chamber filled with high grade PUF insulation for minimal thermal losses.

High Condensation efficiency.

Adjustable working temperature ranges available.

Environment friendly CFC FREE refrigerants and hermetically sealed compressor used.

Reduces tap water consumption thus reducing highcost of water and waste water.

Waste water does not contain hazardous substances thus eliminating danger to personnel and environment caused by solvents.

Various temperature ranges available to choose from depending upon varied requirements and applications.

Microprocessor based autotune PID TEMPERATURE CONTROLLER.

Tighter cooling control for reduced energy consumptions.

Temperature Control accuracy of $\pm 0.5^{\circ}\text{C}$ at -10°C .

Internal circulation enables precise temperature stability/uniformity in the bath better than $\pm 0.5^{\circ}\text{C}$.

Temperature Display Resolution 0.1°C.
Powerful stirring circulation pump with 15 Lpm capacity at zero head for water.
Do not use water below 5°C (use ethanol below 5°C).
Do not use water above 90°C (use silicone oils etc above 90°C).
To work on 220/230 volts, 50/60 Hz AC Supply.

■ Ultrasonic cleaning Bath



Indigenously manufactured with advanced MOSFET technology, with Auto-tuning facility.
Digital Tuning of Transducers with Generators to avoid any frequency shifted even during demanding applications.
Extensively protected electronic circuits means longer and safer operations.
High frequency electrical energy is converted into ultrasound waves by means of ULTRASONIC TRANSDUCERS.
Designed for rapid cleaning of small & large intricate parts and various instruments used in scientific and medical fields.
Compact, rugged and highly durable system.
Efficiency of 90% permits maximum cleaning action, low power consumption.
Extensively protected electronic circuits means longer and safer operations.
Automatic frequency tuning for maximum output.
Input range of 170VAC-270VAC, highest immunity to input supply variations.
Digital 99 min pre-settable timer.

Pre-Set Auto Degassing function.y.

- **Circulating water Bath (Heated)**



Compact space saving concept can be placed under or over the workbench.

Effective water/liquid heated circulator for tighter temperature controls.

Reduces tap water consumption thus reducing high cost of water and waste water.

Waste water does not contain hazardous substances thus eliminating danger to personnel and environment caused by solvents.

Built in circulator pump for efficient circulating processes. Offers highest level of performance, flexibility and control for most demanding applications.

Industrial grade energy efficient heaters reduces power bills drastically

Low noise level.

- **Water Bath Rectangular**



Water Bath Rectangular Single Walled is made of Heavy Gauge Stainless Steel with Concentric rings. Water Bath Rectangular Single Walled fitted with Heating Element for uniform heating throughout. To work on 220/230 Volts A.C. supply.

- **Serological Water Bath**



Ideal for Biotechnology, Clinical, Environmental, Medical, Petroleum, Pharmaceutical or Industrial Applications.
Microprocessor Based PID Digital Temperature Indicator-cum-Controller maintains maximum temperature accuracy.
User's Self-compensation function to control difference between real temperature and indicated temperature.
Stainless Steel Bath for superior Durability & High Thermal Efficiency.
Flat Stainless Steel Lid prevents Evaporation .
Offers highest level of performance, flexibility and control for most demanding applications.
Industrial grade energy efficient heaters reduces power bills drastically.
Double walled construction.
Space between the wall is fitted with special grade mineral wool in order to avoid thermal losses.
Drain plug is also fitted to the unit for user convenience.
Controls temperature within an accuracy of $\pm 0.5^{\circ}\text{C}$.
The unit can be supplied with or without stirring arrangement.
The stirring arrangement consists of a FHP motor with SS stirring shaft.
MOC (Inner) : Inner bath chamber & lid made of stainless steel (SS-304 grade).
MOC (Outer) : Outer chamber is made of mild steel duly powder coated.
To work on 220/230V AC supply.

■ High Precision water Bath



Ideal for Biotechnology, Clinical, Environmental, Medical, Petroleum, Pharmaceutical or Industrial Applications.

Offers highest level of performance, flexibility and control for most demanding applications.

Water Bath High Precisions are microprocessor based PID Digital Temperature Indicator-cum-Controller maintains maximum temperature accuracy.

User's Self-compensation function to control difference between real temperature and indicated temperature.

Stainless Steel Bath for superior Durability & High Thermal efficiency.

Flat Stainless Steel Lid prevents evaporation and keeps constant temperature.

Industrial grade energy efficient heaters reduces power bills drastically.

Double walled construction.

Space between the walls is fitted with special grade mineral wool in order to avoid thermal losses.

Drain plug is also fitted to the unit for user convenience.

Controls temperature within an accuracy of $\pm 0.5^{\circ}\text{C}$.

The unit is supplied with stirring arrangement.

The stirring arrangement consists of a FHP motor with SS stirring shaft for continuous stirring and thus maintaining a uniform temperature throughout.

Speed regulator is provided on the front panel to control the stirrer

MOC (Inner) : Inner bath chamber and lid made of Stainless Steel (SS-304 grade)

MOC (Outer) : Outer chamber is made of Mild Steel duly powder coated.

To work on 220/230V AC supply.

■ **Tissue Floating Bath**



Tissue Floatation water bath is most ideal for Histological, Chemical, Clinical and Bacteriological laboratories used to stretch and dry cut tissues.

Special bath reliably fulfills everyday task in laboratories. Its exact temperature regulation ensures evenly stretched cuttings which are clearly visible in the anodised bath. The cuttings are carefully dried on the warmed rim of the bath.

Offers highest level of performance, flexibility and control for most demanding applications.

Exact temperature constancy of $\pm 0.5^{\circ}\text{C}$.

Temperature range from ambient $+5^{\circ}\text{C}$ to 80°C .

The low 110mm depth of the bath allows comfortable and safe working.

Bath interior made of black anodized aluminium.

Housing made of powder coated aluminium.

Front panel consist of temperature regulator knob, mains switch and pilot lamp.

Digitally controlled units are fitted with Microprocessor Based PID Digital Temperature Indicator-cum-Controller for controlling the temperature instead of temperature regulator knob.

Supplied with Dust Guard Lid made of black anodized aluminium.

To work on 220/230V AC supply.

- **Hot Plates Warming Tables**

- **Hot Plate Rectangular**



Rectangular Hot Plate for Continuous Heating Upto 370°C
Body is made of specially designed CRC sheet duly powder coated.
Top made of Stainless Steel for longer life & temperature uniformity

- **Hot Plate Various**



Hot Plate Round Microprocessor Based PID Digital Temperature Indicator-cum-Controller.
Digital LED Display for Set Value (SV) and Process Value (PV).

- **Slide Warming Table**



Slide Warming Table is very useful for heating slides to a uniform constant temperature below the melting point of wax.
Top surface made of Stainless Steel (SS-304 grade)
The surface temperature is controlled from ambient to 70°C.
Supplied complete with pilot lamp, cord and plug but without thermometer.
To work on 220/230 Volts A.C. Supply.

- **Dry Block Digesters**
 - **Dry Bath Incubator Heating Block Incubator**



Designed for multi-function dry bath heating.

Ideal for Enzyme Reactions, Inactivation of Sera, Incubation and other laboratory procedures.

Precise temperature control from ambient +5 °C to 150 °C with ± 1 °C accuracy.

User's self compensation function for temperature to counter for difference between block temperature and sample temperature.

Fitted with Microprocessor Based Digital Temperature Indicator cum Controller for auto control with respect to time and temperature and is also fitted with IN-BUILT BUZZER TIMER for AUTO TIME CONTROL to indicate cycle end.

Microprocessor Based Digital Temperature Indicator cum Controller having individual display for set value and process value.

Heating cavity of 49mm carries two or one heating blocks of size 90mm (W) x 120mm (D) x 70mm (H) each.

Supplied with any one set of heating block of various configurations available.

Recessed well/cavity accommodates two interchangeable aluminium insert blocks.

Block extraction tool facilitates lifting of hot blocks for easy interchangeability.

“BioRise” Dry Heating Block Incubators are powerful, compact and accurate-everything you need for the precision heating of test tubes, cuvettes, microcentrifuge tubes and other small containers.

High performance and user friendly controls combine to produce a specification which offers exceptional efficiency and reliability. The benefit to you-convenient, no fuss heating!

Excellent temperature control.

Uniform and stable heating

New compact size

- **Cod Digester**



COD Digester is the most accepted Thermoreactor for Determination of Chemical Oxygen Demand in Various Substances. Chemical Oxygen Demand (COD) is a Measure of the Capacity of Water to Consume Oxygen During the Decomposition of Organic Matter and the Oxidation of Inorganic Chemicals such as Ammonia and Nitrite. COD Measurements are Commonly made on Samples of Waste Waters or of Natural Waters Contaminated by Domestic or Industrial Wastes. Chemical Oxygen Demand is Measured as a Standardized Laboratory assay in which a closed Water Sample is Incubated with a Strong Chemical Oxidant Under Specific Conditions of Temperature and for a Particular Period of Time.

High Performance and User Friendly Controls Combine to Produce a Specification Which Offers Exceptional Efficiency and Reliability. The Benefit to you-convenient, No Fuss Heating!

Excellent Temperature Control.

Uniform And Stable Heating

New Compact Size

- **Shaking Machines/Stirrers**
 - **Mini Rotary Flask Shaker**



The complete body is mounted on heavy mild steel angle iron frame making it rigid and sturdy for smooth operations.

Available in Mild Steel painted platform with rubber discs to hold flasks.

Fitted with heavy duty motor having variable speed.

Speed can be controlled through a continuously variable speed regulator knob.

Available in following configurations of platform size, capacity and number of flasks

- **Rotary Flask Shaker Variable Speed**



Rotary Flask Shaker Variable Speed is most ideal for mixing and development of cultures, chemicals, solvent, production of basic chemicals, pathological work and various other applications.

Rotary Flask Shakers Variable Speed are most suitable for shaking solutions in Erlenmeyer Flasks, thus promoting the mixing and dissolving the substances.

These can also be used for speeding up chemical reactions in general.

- **Rotary Flask Shaker Heavy Duty**



"BioRise" Rotary Flask Shakers are most ideal for mixing and development of cultures, chemicals, solvent, production of basic chemicals, pathological work and various other applications.

These are heavy duty shakers for applications demanding continuous operations.

Heavy Duty Rotary Flask Shakers are most suitable for shaking solutions in Erlenmeyer Flasks, thus promoting the mixing and dissolving the substances.

These can also be used for speeding up chemical reactions in general.

- **V.D.R.L Rotator**



Venereal Disease Research Laboratory (V.D.R.L) is most useful for serological, VDRL Test and other tuned clinical diagnostic procedures requiring gentle agitation.

Platform size : 300x300MM

Supplied with Cord & Plug

To work on 220/230 AC.

V.D.R.L Rotators fitted with variable speed heavy duty motor.

- **Mechanical Shaker Reciprocating Kahn's Type**



Kahn racks, bottles or conical flasks of different sizes can be shaken by adjusting the compartments provided on the shaking rack.

Speed range is from 140 rpm to 250 rpm

VARIABLE THROW with Reciprocal shaking variable from 1/2" to 1".

Fitted with PMDC heavy duty geared motor for continuous rating.

To work on 220/230 Volts A.C. supply.

- **Vortex Shaker (Test Tube Shaker)**



Vortex Shaker (Test Tube Shaker) are useful for stirring centrifugal tubes, test tubes or small flasks.

Fitted with a neoprene rubber cup mounted eccentrically on the shaft against at its is held the tube with its lower end pressing against the cup.

Vortex Shaker (Test Tube Shaker) Mixing action is controlled by varying the angle and pressure of the tube against the cup.

Vortex Shakers are fitted with speed control arrangement.

Useful for stirring centrifugal tubes, test tubes or small flasks.

Fitted with a neoprene rubber cup mounted eccentrically on the shaft against at its is held the tube with its lower end pressing against the cup.

Mixing action is controlled by varying the angle and pressure of the tube against the cup.

Fitted with speed control arrangement.

To work on 220 / 230 volts A.C. supply

- **Magnetic Stirrer**



Compact stirring device utilizing a rotating magnetic field.

Magnetic field is created by a PERMANENT MAGNET which induces variable speed stirring action.

Stirring is accomplished by means of small Teflon rotor, which when placed in the liquid to be stirred is capable of rotation by magnetic field applied from below the container.

With hot plate and energy regulator to control heat or fitted with Microprocessor Based Digital Temp. Indicator cum Controller.

Unit is fitted with Pilot Lamp.

- **Multi-Magnetic Stirrer**



Multi-Magnetic Stirrers has compact stirring device utilizing a rotating magnetic field.

Magnetic field is created by a PERMANENT MAGNET which induces variable speed stirring action.

Stirring is accomplished by means of small Teflon rotor, which when placed in the liquid to be stirred is capable of rotation by magnetic field applied from below the container.

Multi-Magnetic Stirrer hot plate and energy regulator to control heat or fitted with Microprocessor Based Digital Temp. Indicator cum Controller.

Unit is fitted with Pilot Lamp.

Unit is available in manifolds of 3/6 units with individual controls.

- **Muffle Furnace**

- **Muffle Furnace-Deluxe**



High Density ceramic fiber insulation. Hard abrasion resistant chamber designed to support heavy loads.

Autotune Microprocessor based PID Digital Temperature Indicator-cum-Controller for higher temperature accuracy.

Available in three different working ranges with temperature range upto 1150°C :

Temperature range upto 900°C. (Maximum 1000°C)

Temperature range upto 1000°C. (Maximum 1050°C)

Temperature range upto 1150°C. (Maximum 1200°C)

Overload safety cut-off provided as a standard feature.

Triple Walled unit for better thermal safety.

Outer and intermittent walls are made of thick P.C.R.C. sheet, duly powder coated.

Heating elements are made of KANTHAL “A-1” grade wire.

Very suitable for various purposes like gravimetric analysis for organic substance and measurement of quantity for coal and lime.

With the distinguished Autotune Digital P.I.D. controller, it provides precise control of temperature.

By the highly efficient heater installed in the chamber, it heats the materials uniformly.

With this excellent feature, it surely reduces time of temperature climb.

By using the high density ceramic wool as a insulator, it maintains consistent temperature and minimal heat dissipation.

■ **Muffle Furnace-Economy**



Light weight with ceramic fibre wool insulation (instead of Brick insulation).

Outer casing is made of double walled thick P.C.R.C. sheet, duly painted.

Heating elements are made of KANTHAL “A-1” wire.

Backed by high temperature cerwool insulation, which avoids loss of energy.

Temperature is controlled through Microprocessor Based PID Temperature Indicator-cum-Controller.

Maximum Temp. is 1000°C and working temp. 900°C.

For models of higher temperature the maximum temp. is 1200°C and working temp. 1150°C

Units with maximum working range upto 900°C are fitted with wound muffle.

Units with maximum working range upto 1150°C are fitted with coil type heaters embedded in grooved refractory for supporting the heating elements on four sides.

To work on 220/230 volts or 400/440 volts A.C.

- **General Laboratory Equipment**

- **Aerosol Disinfector**



Portable, easy to operate and fully corrosion resistant.

Eliminates the cumbersome process involved in the conventional method of fumigation.

Shortens the duration of sterilization.

It is 100% effective even on dreadful spores.

This ensures greater penetration & continues exposure, activates the faster rate of disinfection, thus 100% sterilisation is assured.

Instantly Converts liquid formalin/disinfecting liquid into true aerosol particles.

Due to high aerodynamic stability the formalin droplets remain, suspended for longer duration and thus ensure 100% sterile germ free and zero bacteria environment.

A single unit can sterilize 250 cu. meters (9000cu.ft.) in just 30-60 minutes

To work on 220/230 volts A.C. Supply

- **Automatic Pipette Washer**



Recommended for serological, bacteriological or clinical laboratories.

It operates on siphoning principle through continuous flow of water.

Consists of stainless steel washing cylinder removable pipette holder to accommodate pipettes upto 375mm. in length.

Consists of Stainless Steel (SS-304) washing Cylinder and a removable pipette holder for easy cleaning.

Complete body and holder made of Stainless Steel (SS-304).

- **Bomb Calorimeter Digital**



For determination of heat combustion of organic matter and calorific value and sulphur content of coal, solid and liquid fuels.

The Bomb has a capacity of 300ml approximately.

The bomb is provided with a high-pressure schrader valve, which opens and allows filling of bomb, by oxygen because of oxygen pressure from the cylinder.

Each bomb is tested as per the requirement of Institute of petroleum (IP 12/63T).

Supplied with Bomb Calorimeter Vessel with Bomb Support, Water Jacket, and Combined Lid for Calorimeter Vessel.
Supplied with water Jacket, Stirrer, Connecting leads, connecting tube to connect bomb and pressure gauge.
Connecting tube with fine adjustment valve to connect pressure gauge and oxygen cylinder.
With pressure gauge on stand, spanner for oxygen tube connection, ignition wire (2 meters) Nichrome.
With Cotton Reel, stand for Bomb Lid, Hook for lifting Bomb, Stainless Steel Crucible.
With Gelatine Capsules, Gas Release Valve, Jacket Thermometer.
With Bomb Firing Unit, and Pellet Press.
With Digital Beckman Thermometer, Benzoic Acid of known calorific value 'O' Ring Small, 'O' Ring for stirrer.
With Valve for Bomb and Valve Key.

▪ **Bottle Top Dispenser**



Simple design clubbed with variety of useful features make MAC Bottle Top Dispensers an obvious choice for all dispensing needs.

High precision and accuracy is ensured through careful selection of component raw material and several stages of strict quality checks during manufacturing process.

Easy to use simple construction and smooth, effortless plunger

Both Economy and Research models have Four / Five adjustable volume sizes :

- I. 0.5 - 5.0 ml
- II. 1- 10 ml

- III. 2.5 - 30.0 ml
- IV. 5.0 - 60.0 ml
- V. 10.0 - 100.0 ml

Piston : Specially designed PTFE Piston with Silicone O-ring ensures wiper-like smooth, effortless piston movement and high accuracy.

Each instrument comes with five adaptors to fit in most of the laboratory reagent bottles.

Standard threads : 30mm

Adaptors : 28mm, 32mm, 36mm, 40mm and 45mm

Nozzle cap prevents any unwanted drop on the work space.

Valve Manifold : Specially designed, springless, single piece PTFE valve manifold in the Research Model ensures excellent chemical compatibility, leak proof valve functioning and excellent reproducibility.

Instrument is fully autoclavable at 121 C , 15psi. No Need for dis-assembling the instrument for autoclaving.

Screw type volume adjustment knob with large pointer ensures precise, easy and quick volume adjustment.

Calibration : Specially designed universal calibration tool is provided for convenient and quick In-lab user re-calibration.

This is in compliance with GLO/ISO Norms.

■ **Colony counter Digital**



Fitted with automatic 3 digits LED Digital Display.

Counting plate with illuminated standard wolffhugel ruling ensures clearly differentiated and sharply defined colonies.

Each touch of marking Pencil in the Petri dish increments the colony count by '1' and the flowing LED Digital depicts the total colony count.

Maximum colony Count possible upto 9999 (4 digital display). Provided with a manual reset of digital display, ON / OFF Switch, counting plate, 100 m.m. dia lens, cord and plug.

To work on 220 V A.C. supply.

- **De Humidifier**



The DE-HUMIDIFIER has an INDIVIDUAL FUNCTION to condense the moisture. The tendency of moisture always is to flow from higher moisture zone to the lower moisture zone. Thus the moisture flows between the substances in the room and the space. The function of the DE-HUMIDIFIER is to reduce the moisture content in the space. During the process of Dehumidification the space becomes gradually dry and accordingly moisture flows from the materials to the space. At the same time moisture infiltrates to the space through structure, crevices around doors, windows, ceiling, partitions and while opening the entry doors as the vapour pressure is higher outside than inside the room. Further moisture will also be added to the space by hygroscopic substances and persons working in the space.

CAPACITY

The DE-HUMIDIFIER offered is suitable for a volume of upto 1500 cuft to control humidity of upto 30%RH +3% (Depending upon the ambient temperature and humidity conditions) with an occupance of maximum three people in the air conditioned room and the structure vapour sealed. In case if the area is larger and the human occupancy is more than three, it will be necessary to install sufficient number of DE-HUMIDIFIER equipment to match up with the moisture load in the space to be Dehumidified. We advise you to apply vapour proof or glossy oil paint on the walls and ceiling to minimise the permeation of moisture in to the room.

The DE-HUMIDIFIER equipment draws air from the room and puts it back into the room duly dehumidified. The outlet air from the room will be warm and dry. The room temperature will rise due to addition of latent heat on account of moisture removal. Hence it is necessary to have a window type air conditioning unit to compensate for the dehumidifier heat load in the room.

Dehumidifier equipment is required to bring down relative humidity levels while the air conditioner is required to control the temperature in the room.

- **Ice Flaking Machine**



Outer body, inner chamber and lid of storage bin are made of STAINLESS STEEL SHEET (304 grade), buffed to mirror finish. The unit is insulated with PUF for minimal thermal losses.

It requires plain tap water connection.

Ice flakes coming out from the crushing assembly only within 25 minutes and are collected in a collecting bin for ready use.

Continuous availability of Ice Flakes till the machine is on.

Unit gets automatically cut off when the collecting bin is full of ice flakes thereby saving the power consumption.

Collecting bin is fully insulated with 'PUF' which prevents melting of ice flakes.

Indigenously designed and manufactured unit with INDIAN components which are readily available for replacement.

Well balanced refrigeration system with hermetically sealed compressor, condenser, fan motor assembly & NON-CFC refrigerant gas to cool the crusher assembly for producing ice.

Crusher assembly is made of Stainless Steel and is driven by heavy duty induction motor coupled to reduction gear.

Crusher assembly is supplied with water from in-built water collecting tank, which is fitted with a float valve for regulating water supply.

Drain at the bottom of the collecting tank is also provided.

CFC FREE ECO-FRIENDLY COMPRESSOR.

- **Lyophilizer Free dryer**



Freeze Drying is the process of removing the moisture from a biological product while maintaining the integrity of the biological products, chemical structure and activities. Freeze Drying technology is used in particular for removal of moisture from the products usually of biological origin without causing any noticeable change in the original characteristics. Freeze Drying is also the preferred process in the field of Pharmacy, Chemistry and in conservation of Food.

HOW FREEZE DRYER WORKS:

All "BioRise" units are provided with following basic requirements:-

A Drying Chamber or Manifold on/in which the containers with pre-frozen samples are connected/placed.

A high Vacuum double stage pumping system with gas ballast with ultimate vacuum of less than 50 microns in the system and 10 microns on pump head to facilitate the vapour flow to the condenser for speedy drying.

A low temp. condenser to trap the moisture vapour and allow the non- condensable vapours to go to the pump for release to the atmosphere.

Housed in a super structure steel frame it is mounted on swivel casters.

Complete with Perspex see through lid, gasket and control instruments i.e. Microprocessor Based Digital Temperature Controller for measurement of Temp. & Electronic digital Vacuum Indicator.

The unit made out of hermetically sealed compressor and can be optionally fitted with 100 liters/ min direct motor drive rotary vane type vacuum pump of double stage with Air ballast having ultimate vacuum of 1×10^{-3} torr on pump head.

High grade PUF INSULATED between outer and inner chamber for minimal thermal losses.

Condenser Trap: All non-magnetic stainless steel fabricated, argon welded, dished-bottom for complete effluent removal.

Refrigeration coils made of copper bonded to outside of condenser heavily insulated. Temp. up to (-)400 C at ambient temperature of 200 C is maintained through a MICROPROCESSOR BASED DIGITAL TEMPERATURE INDICATOR - CUM - CONTROLLER.

Vacuum Drum has 6 or 12 port manifold (Main drying chamber) made of stainless steel non-magnetic grade with Perspex top cover. (CFC FREE AND PUFF INSULATED).

- **Electronic Filling Device**



“BioRise” Electronic Pipette Filling Device is a friendly, efficient and reliable electronic pipette filling instrument. Designed for ease and comfort to suit all types of liquid handling needs in every Laboratory.

Two LEDs

- I. Red - low charging
- II. Green - Charging status

Continuous adjustment of pump speed during operation.

An universal Silicon collet is provided to accept all standard pipettes up to 100ml.

Internal knurling on the collet holds the pipette firmly.

In-line membrane filter (0.2 micron) prevents

- I. Aerosol Contamination
- II. Liquid from entering the equipment by accident.

Comfortable grip.

Ni-MH 3.6V rechargeable batteries are used in combination with low power consumption circuit and vacuum/pressure pump.

Allows eight hours of continuous operation.

- **Electronic Micropipettes**



Portable, easy to operate and fully corrosion resistant.

Eliminates the cumbersome process involved in the conventional method of fumigation.

Shortens the duration of sterilization.

It is 100% effective even on dreadful spores.

This ensures greater penetration & continues exposure, activates the faster rate of disinfection, thus 100% sterilisation is assured.

Instantly Converts liquid formalin/disinfecting liquid into true aerosol particles.

Due to high aerodynamic stability the formalin droplets remain, suspended for longer duration and thus ensure 100% sterile germ free and zero bacteria environment.

A single unit can sterilize 250 cu. meters (9000cu.ft.) in just 30-60 minutes

To work on 220/230 volts A.C. Supply

- **Heating Mantle**



Heating Mantle Withstands high temperature upto 350°C

The body of the mantle is spun one piece from non-rusting Aluminium.

All heating mantles made from glass yarn are lagged with special grade mineral wool To work 220/230 Volts A.C.

- **Humidifier**



Based on the rotating disc-splash plate principal.

Unit produces only super fine particles of micron size, which become part of the atmosphere.

Produced particles thereby reaching every corner of the room, resulting in uniform humidity.

Due to the upward thrust imparted to the micron sized water droplets, by high speed motorized unit, they remain suspended in the atmosphere for longer duration of time.

Unit is capable of atomizing upto 3 liters of water in an hour at full evaporation in the driest possible ambient conditions.

Unit has body made up of stainless steel.

Unit is effective for an enclosed space of volume upto 40 cu. mtrs.

Provided with high speed 2800 RPM, motor to run longer period, and the blades are aerodynamically balanced to ensure dropless fumigation.

To work on 220 / 230 volts A.C. supply.

- **Kjeldahl Digestion Unit**



Kjeldahl Digestion Units have Mantle Type heating system.

It is very useful for estimation of Nitrogen content in the substance by digestion for 300 & 500ml capacity flasks.

Provided with FUME DUCT and pair of hangers.

Rating of each test : 200 Watts.

Kjeldahl Digestion Units are supplied without Glass Parts & Clamps.

To work on 220/230 V A.C. supply

- **Kjeldahl Distillation Digestion**



Mantle Type heating system.

Supplied complete with two sets of Mantle type heating platforms, one for distillation and one for digestion.

Supplied complete with condenser rack, FUME DUCT and pair of hangers.

Complete set up is supplied a M.S. Tubular stand.

Both units are supplied with individual energy regulators.

Rating of each test : 200 Watts.

Supplied with or without Glass Parts & Clamps.

To work on 220/230 volts A.C. supply.

- **Kjeldahl Distillation Unit**



Mantle Type heating system.

Kjeldahl Distillation Units are very useful for distillation purpose for 300ml. and 500ml. Capacity flasks.

Provide with FUME DUCT and pair of hangers.

Rating of each test:200Watts.

Supplied without Glass Parts & Clamps.

To work on 220/230 A.C. supply.

- **Melting Point Apparatus**



For determination of melting points up to 350°C .
The mounted block is illuminated from below by a lamp fixed in its housing.
The aluminium block accepts three capillary tubes and mercury thermometer.
The temp is regulated by energy regulator fitted to the unit.
The lamp provides uniform and shadow less regulator fitted to the unit.
Supplied without capillary tubes and thermometer.

▪ **Micropipettes Fully Autoclavable**



Constructed of high quality plastic combined with Stainless Steel piston for many years of dependable service. Individually calibrated as per standards, a calibration report is provided with each pipette With better accuracy and Precision Values.

Eight volume ranges cover the complete pipetting range from 0.5ul to 10ml offering a wide choice to select the most suitable model for any application

- **Micropipettes Semi Autoclavable**



Constructed of high quality plastic combined with Stainless Steel piston for many years of dependable service. Individually calibrated as per standards, a calibration report is provided with each pipette With better accuracy and Precision Values.

Eight volume ranges cover the complete pipetting range from 0.5ul to 10ml offering a wide choice to select the most suitable model for any application

- **Multichannel Fully Autoclavable**



Recommended for ELISA, Molecular screening, Kinetic studies, DNA amplifications....

Available in both fully Autoclavable and Non Autoclavable versions.

Lower assembly rotates 360° for optimal working position.

Optimum piston-spring balance for soft plunger movement.

Easy volume setting.

Easy sequential tip ejection system.

Easy user calibration.

High accuracy and performance

▪ **Multichannel Non Autoclavable**



Recommended for ELISA, Molecular screening, Kinetic studies, DNA amplifications....

Available in both fully Autoclavable and Non Autoclavable versions.

Lower assembly rotates 360° for optimal working position.

Optimum piston-spring balance for soft plunger movement.

Easy volume setting.

Easy sequential tip ejection system.

Easy user calibration.

High accuracy and performance

▪ **Oven Universal Memmert Type**



Forced convection system ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber.

Most ideal for various experiments in microbiology, cell cultivation of animals and plants and food for various laboratories, industries, R&D labs etc.

Synthetic door gasket made of neoprene on the double walled door.

User oriented design of shelves makes you adjust each space of shelves without difficulty.

Adjustable two ventilation slides control inner air / vapour circulation.

Beaded heating elements are placed in ribs, at bottom and sides for uniform heat distribution

CONSTRUCTIONAL FEATURES

Forced convection system ensures good mixing, strong dispersion and maintains higher temperature uniformity inside the chamber.

Most ideal for various experiments in microbiology, cell cultivation of animals and plants and food for various laboratories, industries, R&D labs etc.

Synthetic door gasket made of neoprene on the double walled door.

User oriented design of shelves makes you adjust each space of shelves without difficulty.

Adjustable two ventilation slides control inner air / vapour circulation.

Beaded heating elements are placed in ribs, at bottom and sides for uniform heat distribution

▪ Soxhlet Extraction Unit



Soxhlet Extraction Unit Consists of mild steel sheet housing, two vertical & two horizontal rods with adopters and screws to hold the flasks.

Mantle type heating system.

Ideal heater for the extractors of Soxhlet and other types.

Suitable to heat soxhlet flasks of 50-500ml.

Consists of mild steel sheet housing, two vertical & two horizontal rods with adopters and screws to hold the flasks.

Rating of each test : 200 Watts.

Supplied without Glass Parts & Clamps.

To Work on 220/230 A.C. supply.

▪ Ultra Violet Flourescent Analysis



For visualization of test objects under U.V. tubes having long wavelength (365 n.m.) and short wavelength (254 n.m.) as desired.
A fluorescent tube is fitted to the unit for day light visualization.

Supplied with three tubes.

To work on 220/230 Volts A.C.

■ **Vacuum Pump oil free**



Most ideal for use with Rotary Vacuum Evaporators, Vacuum Ovens etc, for continuous operations without the fear of sample contaminations through oil vapours.

Useful for general laboratory applications where even a slightest environment/sample contamination through oil mist is forbidden.

100% Oil Less Vacuum Pump.

Exclusive Oil - less construction of diaphragm never requires lubrication.

Continuously rated with built-in rugged motor.

Most Versatile, Compact Vacuum Pump.

Permanently lubricated ball bearings.

Practically maintenance free.

Portable Light weight die-cast aluminium components keep overall weight minimal.

Low noise level.

Balanced eccentrics provide smooth, low vibration operation.

Built - in micro air filter.

Needle Valve provided with the unit as a standard accessory to work as a vacuum regulator, to control vacuum depending on the application or requirement.

The pump is housed in a CRC steel sheet cabinet, duly powder coated.
Cabinet / Enclosure is provided with a carrying handle for easy portability.
For protection against mild acidic/alkaline vapours, model with diaphragm as well as wetted parts are coated with PTFE Teflon are also available.
Digital Vacuum Indicator along with a vacuum transmitter (range in m bars) is also available (OPTION).
Cold Vacuum Trap (with support stand, rod and clamp) (OPTION)

- **Microscope**

- **Binocular Pathological**

- “BioRise-4” Binocular Pathological Research Microscopes**



Binocular Clinical Microscope ISI Marked

Viewing Head - Binocular tube, 30° inclined, 360° rotatable, Eyepiece - Wide Field eyepiece WF 10x, FOV 18mm , Nosepiece - Quadruple nosepiece (Ball bearing type), Objective - QVST Series PLAN DIN Objective 4X, 10X, 40X (S) and 100X Oil, (S), Mechanical Stage - Graduated Mechanical rectangular stage, size 140 x 140mm with cross travel 90 (X) x 65mm (Y) on ball bearing with co-axial controls, Focusing Movement - CO AXIAL coarse & fine focusing mechanism, with tension control ring. ergonomically designed for easy grip, esp. for tension control., Condenser - Moveable ABBE Condenser, centerable, NA 1.25 with aspheric lens. Iris diaphragm and special FROSTED white filter, Swing-in and swing-out filter holder ,Light Source -

Illumination system LED 3.3W 3V with intensity control regulator, Universal power supply 110V – 240V, CE approved., Carrying Case - Styrofoam Packing, Supplied with - User manual, Vinyl Dust cover, Cleaning cloth and 01 units Fuses, Optional Accessories - Wooden carrying case, Trinocular Head, QVST series DIN Plan objectives 20x, 60x SL, WF 15x, WF 20x, Pointers & Micrometer Reticules, Phase contrast, Polarizing, Fluorescence and Dark Field attachments, Digital USB Cameras (1.3MP, 3MP, 5MP, 14MP) with in-built adaptors, Digital Cameras and DSLR Cameras with adaptors, Illumination System Halogen 6V 20W.

SPECIFICATIONS of Binocular Pathological Research Microscopes :

Viewing Head

Binocular tube, 30° inclined, 360° rotatable

Eyepiece

Wide Field eyepiece WF 10x, FOV 18mm

Nosepiece

Quadruple nosepiece (Ball bearing type)

Objective

QVST Series PLAN DIN Objective 4X, 10X, 40X (S) and 100X Oil, (S)

Mechanical Stage

Graduated Mechanical rectangular stage, size 140 x 140mm with cross travel 90 (X) x 65mm (Y) on ball bearing with co-axial controls

Focusing Movement

CO AXIAL coarse & fine focusing mechanism, with tension control ring. Ergonomically designed for easy grip, esp. for tension control.

Condenser

Moveable ABBE Condenser, centerable, NA 1.25 with aspheric lens. Iris diaphragm and special FROSTED white filter, Swing-in and swing-out filter holder

Light Source

Illumination system LED 3.3W 3V with intensity control regulator, Universal power supply 110V – 240V, CE approved.

Carrying Case

Styrofoam Packing

Supplied with

User manual, Vinyl Dust cover, Cleaning cloth and 01 units Fuses

Optional Accessories

Wooden carrying case, Trinocular Head, QVST series DIN Plan objectives 20x, 60x SL, WF 15x, WF 20x, Pointers & Micrometer Reticules, Phase contrast, Polarizing, Fluorescence and Dark Field attachments, Digital USB Cameras (1.3MP, 3MP, 5MP, 14MP) with in-built adaptors, Digital Cameras and DSLR Cameras with adaptors, Illumination System Halogen 6V 20W.

“BioRise-5” Binocular Pathological Research Microscopes



SPECIFICATIONS of Binocular Pathological Research Microscopes :

Optical System:

Plan optical system.

Magnification:

40x-1000x for visual observation.

Eyepiece tubes:

Binocular tube, Sidentopf type

(Inclination 30° interpupillary distance 55-75mm, 360° rotatable).

Eyepieces:

WF 10x(F.O.V. 20mm).

Nosepiece:

Quadruple nosepiece, reversed type.

Stage:

Rectangular 190x 140mm surface stage mounted on the main body cross travel 90x55mm using low-positioned X/Y coaxial control knob.

Objectives:

Plan achromatic 4x N.A. 0.10,

Plan achromatic 10x N.A. 0.25,

Plan achromatic 40x N.A. 0.65,

Plan achromatic 100x N.A. 1.25.

Condenser:

Abbe condenser N.A. 1.25, Leaf-type aperture diaphragm with position guide.

Illumination:

6V/20W halogen bulb or 3W LED lighting system.

“BioRise-5 PID” Binocular Pathological Research Microscopes



SPECIFICATIONS of Binocular Pathological Research Microscope:

Optical System

Plan / Achromat optical system.

Magnification

100x-1000x for visual observation.

Eyepiece tubes

Binocular tube, Sidentopf type (30°, IP distance 55-75mm, 360° rotatable).

Eyepieces

WF 10x (F.O.V. 20mm) & Centering telescopic eye-piece.

Nosepiece

Quadruple nosepiece, reversed type.

Stage

Rectangular 142x 120 mm surface stage mounted on the main body cross travel 130x50mm using low-positioned X/Y coaxial control knob.

Objectives

QUPPH Series Phase Plan / Achromat 10x N.A.0.25, 20x N.A.0.4, 40x N.A.0.65, 100x N.A.1.25

Condenser

Phase contrast condenser, Annular diaphragm turn plate.

Illumination

3W LED lighting system with brightness controller.

Filters

Frosted White Filter & Green Filter

Digital PID Bio-Thermal Hot Plate:

Control Action

PID Reverse Action

Input

K type thermocouple

Output

Relay Output

Alarm

1 deviation High alarm (AL1)

Temperature Range

Room Temperature – 100° Celsius with auto cut facility.

“BioRise-7” Binocular Pathological Research Microscopes



SPECIFICATIONS of Binocular Pathological Research Microscopes :

Optical System:

Color-corrected infinity Plan optics.

Magnification:

40x-1000x for visual observation.

Eyepiece tubes:

Adjustable interpupillary distance:

48mm-75mm 30° viewing angle head.

Eyepieces:

WF 10x(F.O.V. 20mm).

All eyepieces anti-fungus treated

Nosepiece:

4x, inclined backwards.

Stage:

Right hand operational.

Objectives :

Infinity plan achromatic 4x/0.1,
Infinity plan achromatic 10x/0.25,
Infinity plan achromatic 40x/0.65,
Infinity plan achromatic 100x/1.25

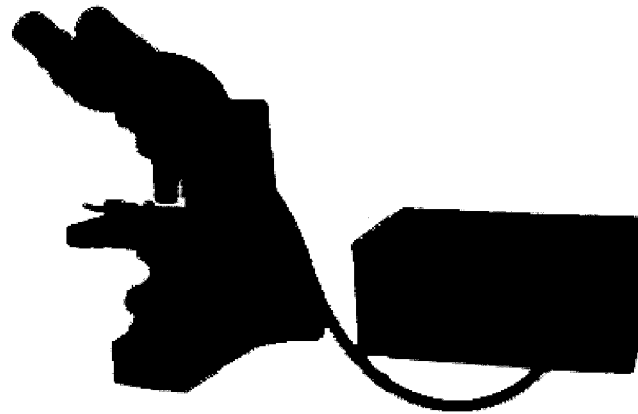
Condenser:

Abbe condenser N.A. 1.25,
Holder for phase contrast and darkfield.

Illumination:

Modular illumination concept
(3V/3W LED lighting system).

- **Malarial Detection**
"BioRise" Malaria Detection Microscopes



SPECIFICATIONS of Malaria Detection Microscopes:

Coaxial Binocular Microscope,

UV adapter

Excitation Filter D470/40x -- 8 mm dia, 3 mm thick (Excitation (x) filter should be positioned with the arrow pointing toward the specimen, toward the inside of the cube, and away from the light source.),

Dichroic Beam Splitter 500 DCLP, 7.8x10.95x0.75mm (Dichroic mirrors should be mounted with the coated surface towards the light source, excitation filters, and the specimen).

Barrier Filter E5151PV2, 9.90mm dia, 3mmthick (Emission (m) filters should be placed with the arrow pointing towards the specimen, towards the inside of the cube, and away from the detector / eye),

62x objective (gives sharp image of plasmodium vivax, phalciparum and shizhont etc),

Focusing lens Passes white light from illuminator to the excitation filter.(size 13mm or above),

Standard 36 TPI Threading Assures adaptability to all.

▪ **Fluorescent Research Microscope**



"BioRise" Fluorescent Research Microscopes

SPECIFICATIONS of Fluorescent Research Microscopes :

Microscope with Universal Infinity corrected system for BRIGHTFIELD, FLUORESCENCE APPLICATIONS AND should be useful to DIC Applications later, Built-in-Kholer 6V /20W Halogen illumination for transmitted light with light preset switch, Light intensity LED Indicator, built in filters (ND6, ND25 etc) & Hg HBO-100W Mercury lamp attachment for Reflected light Fluorescence application and filter set for Blue excitation. EX490nm (blue), EX545nm (Green) exciting light filter system, Ordinary light system, Interchangeable Trinocular with inclined 30 degree for observation, Ceramic coated scratch proof co-axial stage with left or right hand low drive X & Y control with torqued adjustment, Universal Abbes condenser for bright field, applications & UV Protection screen.

Objective:

FL4X0.25,

FL10X/0.40,

FL40X/0.65,

FL 100X/1.25

Eyepiece
WHB 10X (FOV.18)

Centrifuge

- **Mini Centrifuge - Max Speed 10000 rpm**

Technical Specification

R.P.M in step of 1000 rpm. Fitted with 0-15 minute electronic digital timer. Supply completed with 2 standard rotors means

(i) 6 micro centrifuge of 1.5ml capacity (BRI-01)

(ii) 12 micro centrifuge tubes of 0.5ml capacity (BRI-02)

To work on 220 volts 50 Hz AC.



Cat No.		Model	Packing	
BRI-1		Spin-Top	1	
Code		Capacity	Packing	
BRI-01		6 x 1.5 ml. tubes	1	
BRI-02		12 x 0.5 ml. tubes	1	
Technical Data				
Size	Weight		Size	Weight

R.P.M	RCF (xg)		R.P.M	RCF (xg)
1000	56		6000	2011
2000	223		7000	2737
3000	503		8000	3575
4000	894		9000	4524
5000	1396		10000	5585

• Clinical Doctor Centrifuge

The best model for clinical, pathological, Biochemistry and Pharmacy/ Pharmaceutical Labs and to separate blood serum
 It is also most suitable for infertility labs where low speed is recommended.

Technical Specification
 Bench Top Digital Centrifuge Machines.
 The body is made of CRC sheet, finished in powder coating.
 See thru acrylic lid.
 Digital Timer 0-99 minutes.
 Digital display of speed (rpm).
 Maximum speed 3000 r.p.m. (Without load) and 2850 rpm on load.
 Supply is completed with 8x15ml Swing out head, instruction manual, spare fuses, cord & plug to work on 220volts 50 Hz A.C
 Also supplied with 8 reduction adpater to accept test tubes of size 12x100mm of borosil means 5ml capacity
 Angle head of 8x15ml can also be supplied in place of swing out head.
 Dimension of Machines: L=325mm, W=375 mm, H=270mm
 Weight of Machines: 16 Kg. approx



- **Centrifuge Machine Digital,5200 r.p.m.**

General Purpose Laboratory Centrifuge Machine
 Microprocessor based (LCD Display)
 Heavy duty C.R.C construction finished with powder coating
 Fitted with well balanced universal motor
 Digital timer of range 0-59 minutes
 Digital Speed Indicator
 Programmable speed regulator
 Lid lock for safe drive



Technical Parameter

Max Speed	5200 rpm
Motor	Universal Motor
Power	AC 220V 50 Hz $\pm$ 10%
Dimension of machine	L=415MM, W=360mm, H=305mm
Dimension of outer box	510 x 510 x 390 mm
Weight of Machine	21kg.approx, WEight with box = 23.5Kg

Optional accessories at extra cost:

Electronic inter lid lock | Dynamic break | Imbalance detector

Price of above machines are without Rotor Head which can be selected by customer as per their

Specific requirement at extra cost as under

Rotor Capacity	Rotor Types
16X15ml.	Swing Out Head
12x15ml	Swing Out Head
8x15ml.	Swing Out Head
6x50ml.	Swing Out Head
4x50ml.	Swing Out Head
16x15ml.	Angle Head
12x15ml.	Angle Head
8x15ml.	Angle Head
6x50ml.	Angle Head
4x50ml.	Angle Head
4x100ml.	Angle Head
24x15ml.	Angle Head

The above mentioned rotor heads are completed with S.S. tube carriers, suitable Glass/PVC centrifugal tubes, head puller, spanner and rubber cushions. Complete machine is packed in Thermocol box further packed in corrugated box

Any Special Rotor Head can be manufactured on customer's demand Speed can be given up to 6000rpm if specific requirement by any customer

- **Bench Top Lab. Centrifuge 5000 r.p.m. (Brushless Motor)**

General Purpose Laboratory Centrifuge Machine
 Microprocessor based
 Heavy duty C.R.C construction finished with powder coating
 Fitted with brushless automatic balanced motor
 Digital timer of range 0-99minutes
 Digital Speed Indicator
 Programmable speed regulator
 Electronic Safety lid lock
 Imbalance detector



Rotor Type	Rotor Capacity	Speed on Rotor (r.p.m)	R.C.F. on Rotor
Swing Bucket Rotor	4 x 100 ml.	5000	4390xg
Swing Bucket Rotor	4 x 50 ml.	5000	4390xg
Swing Bucket Rotor	8 x 50 ml.	4000	2810xg

Swing Bucket Rotor	32 x 10 ml.	4000	2810xg
Swing Bucket Rotor	32 x 7 ml.	4000	2810xg
Swing Bucket Rotor	48 x 7 ml.	4000	2810xg
Swing Bucket Rotor	48 x 5 ml.	4000	2810xg
Swing Bucket Rotor	72 x 7 ml.	4000	2810xg
Swing Bucket Rotor	4 x 250 ml.	4000	3000xg

- **Micro Centrifuge 16000 r.p.m. (Microprocessor Based)**

High speed Micro Centrifuge Max R.P.M. 16000
Heavy duty plastic injection moulded body.
Stainless Steel protection bowl.
Fitted with well balance universal motor having long life with imported carbons.
Microprocessor based Digital Timer of range 0-15 min. with LCD display.
Preset speed controls thru microprocessor from 2000 to 16000r.p.m.
Digital display shows Set Time/Run Time/R.P.M.

Supply Completed with Following Accessories:

Rotor Head to accommodate 12 eppendorf (Centrifuge Tubes with cover) of 1.5ml/2ml (12 x 1.5/2ml)

Reduction adapters for 1.5ml eppendorf (Micro Centrifuge Tubes)

Head Puller, Spanner, Dust cover, Instruction manual, Cord & plug to work on 220 volts 50 Hz A.C.

Optional at extra cost:

Rotor head to accomodate 24 micro tubes.

Any other size of rotor to accommodate micro-centrifuge can be supplied at customer's requirements



- **Micro Centrifuge High Speed Brushless, 20000 r.p.m.**

High speed Micro Centrifuge, Max 20000 r.p.m
 Heavy duty C.R.C. construction
 Powder coated finish
 Fitted with brushless automatic balanced motor
 Digital Timer of range 0-99 minutes
 Digital Speed Indicator
 Digital R.C.F. Indicator
 Programmable Speed regulator
 Electronic Safety lid lock
 Imbalance detector



Rotor Type	Rotor Capacity	R.P.M. Speed Max.	RCF on Rotor
Angle Rotor	12 x 1.5/2 ml.	20000	27800 xg
Angle Rotor	24 x 1.5/2 ml.	16000	23200 xg
Angle Rotor	8 x 5 ml.	16000	23200 xg
Angle Rotor	6 x 15 ml.	13000	16800 xg

Angle Rotor	6 x 50 ml.	13000	16800 xg
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- **Haematocrite Centrifuge 13000 r.p.m. (Microprocessor Based)**

Haematocrite Centrifuge Machine, Max. speed 13000 r.p.m
 Compact body which is made of plastic injection moulded.
 Inner safety bowl made of stainless steel
 Fitted with well balance universal motor having long life with imported carbons
 Digital display shows Set time/ Run time /R.P.M.
 Microprocessor based Digital timer of range 0-15 min with LCD display.
 Preset speed controls thru microprocessor from 2000 to 13000 r.p.m.

Supply completed with following accessories:

Micro Hematocrite rotor to accommodate 24 capillaries of 75mm x 1mm or 12 capillaries.
 Heparinised capillary tubes 75mm long x 1mm bore (Pack of 100 Nos.)
 Non-Heparinised capillary tubes 75mm long x 1mm bore (Pack of 100 Nos.)
 Reading device
 Sealing wax- 1tray



Dimension of Machine:	L=290mm, W-270mm, H-240mm
Weight of Machine:	9.5kg. approx.
Dimension of box:	L-355mm x W355 x H-340mm
Weight of Box:	11kg. approx.

- Table Top Centrifuge Machine High Speed 20000 r.p.m.**

Bench Top high speed lab centrifuge with digital speedometer, digital timer in the range of 0-59 minutes, LED display and Speed Regulator. Maximum speed 20000 r.p.m. when rotor head of 1.5ml of 12 tubes is fitted
Heavy duty CRC construction furnished with powder coating.
Fitted with well balanced universal motor having long life with imported carbons
Supply completed with dust cover, instruction manual, cord & plug to work on 220 volts 50 Hz A.C.



Angle Rotor Head Capacity	Maximum Speed R.P.M. (on load)	Model No.
24 x 1.5/2 ml.	20000	T-242
12 x 1.5/2 ml.	20000	T-242A
8 x 15 ml.	18000	T-243
6 x 25 ml.	17000	T-244
6 x 50 ml.	14400	T-245
6 x 200 ml.	7000	T-246
8 x 100 ml.	7000	T-247
12 x 50 ml.	7000	T-248

- Refrigerator Micro Centrifuge, Digital-16000 r.p.m.**

Table Top refrigerated micro centrifuge machine. The temp from room temp up to minus 8°C is controlled by PID Electronic Digital Temp. Controller cum indicator. Microprocessor based Digital Timer of range 0-15 min. with LCD display. Preset speed controls thru microprocessor from 2000 to 16000 r.p.m. Digital display shows Set Time/Run Time /R.P.M. S.S. Bowl Size: 9" dia

Supply complete with following angle rotor heads to accommodate polypropylene micro centrifuge tubes (Eppendorf Tubes as well)



- **Refrigerated Centrifuge Machine all purpose 16000 r.p.m.**

Table Top, Excellent Design with Temp. range from room temperature to minus 8°C is controlled by digital temp. controller cum indicator. Maximum Speed 16000 R.P.M. approx. on load of 1.5ml/2ml head.

Heavy duty CRC construction furnished with powder coating.

Fitted with well balance universal motor having long life imported carbons.

Microprocessor based Digital Timer of range 0-15 min. with LCD display.

Preset speed controls thru microprocessor from 2000 to 16000 r.p.m. but speed of machine depends upon size of rotor, details is given in below mention table

Digital display shows Set Time/Run Time/R.P.M.

Supply is completed with instruction manual, cord & plug to work on 220 Volts 50Hz single phase A.C. The prices of mentioned size as per customer's requirement.

S.S. Bowl Size: 11" dia

Following rotors can be selected according to demand of customer



- **Refrigerator Centrifuge Brushless 20000 r.p.m.**

Bench Top Refrigerated Centrifuge Machine
Microprocessor based
Fitted with brushless automatic balanced motor
Digital Timer 0-99 minutes
Digital Speed Indicator
Programmable Speed Regulator
Electronic Safety lid lock
Imbalance detector
Digital temperature controller cum indicator
CFC free refrigerant



Max. Speed	20000r.p.m.
Max. RCF	27800xg
Timer	0-99 min.
Motor	Brushless Motor
Temp.Range	from room temperature- - to MInus 8°C
Temp. Accuracy	±2°C
Power	AC 220V 50 Hz 20 A
Weight	60 kg. approx.
Dimension	L-27' x W-21" x H-15" approx.