

**PVMS OF PATHOLOGY AND BLOOD
BANK**

DRAFT

Contents

Anaerobic Jar Polycarbonate	5
Anaerobic Jar SS Large	6
Anaerobic Jar SS Small	7
APHRESIS SYSTEM.....	8
Automatic Tissue Processor.....	9
AUTOMATED COAGULOMETER	11
AUTOMATED SPERM COUNTER/ANALYZER	12
AUTOMATIC MEDIA PREPARATION SYSTEM.....	13
Automatic Microtome	13
Automatic Slide Stainer	15
Automatic Tissue Micro Array Machine With TMA Software.....	16
Bench Top Cryostat Machine	18
Bilirubinometer Invasive with Centrifuge Machine	19
BIOLOGICAL SAFETY CABINET Class II Type A2	20
BIOLOGICAL SAFETY CABINET Class II B1 Type	21
BIOLOGICAL SAFETY CABINET Class II B2 Type.....	22
BIOLOGICAL SAFETY CABINET Class III.....	23
BLOOD BAG SHAKER	24
BLOOD BAG TUBE SEALER	25
BLOOD CELL COUNTER.....	26
BLOOD CULTURE SYSTEM	26
BLOOD GAS ANALYZER.....	27
BLOOD STORAGE CABINETS.....	28
THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION LARGE SIZE	29
THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION MEDIUM SIZE	30
THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION SMALL SIZE	30
THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION LARGE SIZE IN VEHICLES	31
THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION MEDIUM SIZE IN VEHICLES	32
.....	32
CENTRIFUGE MACHINE	32
CO2 Incubator.....	33
COLONY COUNTER.....	34

COMPACT WATER PURIFICATION SYSTEM	35
Automatic Slide Cytosedimentation Machine	36
DEEP FREEZER (LOCAL).....	37
DE-IONIZER	38
Digital Hot Air Oven	39
Digital Pathology Image Capturing Integration, Analysis and Collaboration System	40
DIGITAL WEIGHING BALANCE.....	41
ELECTRIC PLATE SHAKER.....	41
ELETROLYTE ANALYZER	42
ELECTRONIC BLOOD COLLECTION MONITOR	43
ELECTROPHORESIS EQUIPMENT WITH ACCESSORIES.....	44
EMBEDDING STATION.....	46
HIGH END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER.....	47
LOW END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER.....	48
MEDIUM END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER.....	49
FULLY AUTOMATIC MULTI WASH AND ELISA TEST READER	50
HAEMATOLOGY ANALYZER (3 Part)	51
HAEMATOLOGY ANALYZER (5 Part)	52
Hybridization System	53
IMMUNOASAY ANALYZER	54
Inoculation Hood.....	55
Laboratory Incubator.....	56
LABORTARY STERLIZER LARGE	57
LABORTARY STERLIZER SMALL.....	58
MEDICAL REFRIGERATOR WITH FREEZER.....	59
Bi-Head MICROSCOPE.....	59
BINOCULAR MICROSCOPE	61
MICROSCOPE Multi-Head.....	62
TRINOCULAR MICROSCOPE	63
Laboratory Microwave Oven General Purpose	64
Laboratory Microwave Oven for Histology	65
Mycobacterial Detection System	66
PH Meter.....	67

Pharmaceutical Refrigerator or Laboratory Refrigerator Large Size.....	68
Pharmaceutical Refrigerator or Laboratory Refrigerator Small Size.....	69
Plasma Storage Freezer	70
PLATELET SHAKER.....	71
PLATELET INCUBATOR WITH AGITATOR.....	72
REAL TIME PCR MACHINE	73
REFRIGERATED CENTRIFUGE MACHINE (FOR BLOOD PRODUCTS PREPARATION)	74
Refrigerator Large Size	75
Refrigerator Medium Size	76
ROLLER MIXER.....	77
SEMI -AUTOMATIC CLINICAL CHEMISTRY ANALYZER.....	77
SEMI AUTOMATIC COAGULOMETER.....	78
SEMI-AUTOMATAIC WASH AND ELISA TEST READER.....	79
SPECTROPHOTE METER	81
THERMOSTATIC WATER BATH.....	82
Ultra Low Freezer.....	82
High Tech URINE ANALYZER.....	83
STANDARD URINE ANALYZER.....	84
VORTEX MIXER.....	85
WATER DISTILLATION PLANT	86
WATER PURIFICATION SYSTEM	87

Clinical Specialty	Microbiology
Generic Name	Anaerobic Jar Polycarbonate
Clinical Purpose	Anaerobic jar is an instrument used in the production of an anaerobic environment. This method of <i>anaerobiosis</i> as others is used to culture bacteria which die or fail to grow in presence of oxygen
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> No catalyst required Polycarbonate base which is secured to the lid by 4 clips. These clips are designed to allow venting in the unlikely event of a positive pressure build-up occurring i.e. by allowing lid to lift and reseal to maintain correct conditions. A carrying handle for the safe transportation of the jar from bench to incubator Vacuum Relief Screw to overcome any vacuum which may occasionally occur Separate plate carriers available</p> <p><u>User Adjustable Settings:</u> Capacity: 2-3 Liters or more Capacity (Petri Dishes): 10-12 plates</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • 10 Plate Petri Dish Rack • Operating Manual with a Soft Copy 	
<p><u>Optional:</u> Pair of Chuck and Clips Dial Manometer Mounted on Chuck</p>	

Clinical Specialty	Microbiology
Generic Name	Anaerobic Jar SS Large
Clinical Purpose	Anaerobic jar is an instrument used in the production of an anaerobic environment. This method of <i>anaerobiosis</i> as others is used to culture bacteria which die or fail to grow in presence of oxygen
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> For simple culture of anaerobic and microaerophilic organisms Material: Stainless steel anaerobic jars are robust and easy to use Jar can be fitted with a conversion kit to link to the Jar Gassing System for growing anaerobes and microaerophiles They have a positively located lid fitted with the unique Valve System and carrier clips for Oxoid Low Temperature Catalyst Sachets. They can be used with either gas generating envelopes or cylinders of anaerobic gas mixture and will vent automatically if excess pressure is applied.</p> <p><u>User Adjustable Settings:</u> Capacity: 10 Liters or more Capacity (Petri Dishes): 48</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • 48 Plate Petri Dish Rack • Oxoid Low Temperature Catalyst Sachet (pack of 5) • Operating Manual with a Soft Copy 	
<p><u>Optional:</u> Pair of Chuck and Clips Dial Manometer Mounted on Chuck</p>	

Clinical Specialty	Microbiology
Generic Name	Anaerobic Jar SS Small
Clinical Purpose	Anaerobic jar is an instrument used in the production of an anaerobic environment. This method of <i>anaerobiosis</i> as others is used to culture bacteria which die or fail to grow in presence of oxygen
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> For simple culture of anaerobic and microaerophilic organisms Material: Stainless steel anaerobic jars are robust and easy to use Jar can be fitted with a conversion kit to link to the Jar Gassing System for growing anaerobes and microaerophiles They have a positively located lid fitted with the unique Valve System and carrier clips for Oxoid Low Temperature Catalyst Sachets. They can be used with either gas generating envelopes or cylinders of anaerobic gas mixture and will vent automatically if excess pressure is applied.</p> <p><u>User Adjustable Settings:</u> Capacity: 3 Liters or more Capacity (Petri Dishes): 9-10</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • 10 Plate Petri Dish Rack • Oxoid Low Temperature Catalyst Sachet (pack of 5) • Operating Manual with a Soft Copy 	
<p><u>Optional:</u> Pair of Chuck and Clips Dial Manometer Mounted on Chuck</p>	

Clinical Specialty	Blood Bank
Generic Name	APHRESIS SYSTEM
Clinical Purpose	Apheresis (aphairesis “a taking away”) is a medical technology in which the blood of a donor or patient is passed through an apparatus that separates out one particular constituent and returns the remainder to the circulation. It is thus an extracorporeal therapy.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Apheresis system for cell therapy, therapeutic apheresis, stem cells and transfusion medicine Microprocessor controlled Both for adults and paediatric applications Continuous flow centrifuge system with low extracorporeal volume Dual and single needle platelet collection system Dual and single needle therapeutic plasma exchange system Red blood cell exchange capability White blood cell collection and depletion, lymphoplasma exchange Automatic regulation of platelets and plasma volume RS 232/USB port for data output 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> programmable Control of infusion rate of anti-coagulant Control of patient fluid balance, volume of replacement and remove RBC volume, patient HCT Control procedure run time Selectable adjustable reference range for all parameters Safety for automatic centrifuge shut down between any pause Platelet concentration monitor</p> <p><u>Displayed Parameters:</u> Monitoring of infusion rate of anti-coagulant Digital display of patient fluid balance, volume of replacement and remove RBC volume, patient HCT Digital display of procedure run time Alarm for low donor platelet</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories</p> <ul style="list-style-type: none"> • Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	

Clinical Specialty	Histopathology
Generic Name	Automatic Tissue Processor
Clinical Purpose	Tissue processing of biological biopsies and samples for histopathology

TECHNICAL SPECIFICATIONS

Detailed Requirements:

Tissue Processor for use in histopathology
 Bench top unit, moveable on rollers
 One basket operation/ standard tissue basket without vacuum/without fume control
 Carousel-type construction with 12 processing stations: 10 reagent stations, 2 wax baths.
 Connection for optional third wax bath. Glass beakers, solvent resistant and dishwasher proof, with beaker carriers and minimum/maximum filling marks.
 Aluminum standard tissue basket.
 Locking key to prevent inadvertent changing of programmed parameters.
 Permanent tissue basket movement (can be switched ON/OFF) at 3 second intervals in both manual and automatic operation.
 Appropriate drain time between stations for reduced carry-over.
 Automatic reheating of wax before basket transfer to a wax bath.
 Crank for manual raising and rotation of carousel-for immediate tissue basket removal or transfer to the next stations.
 Automated in-process reagent rotation
 Quality of first reagent alcohol automatically monitored
 Three distinct fill levels in processing chamber
 Circular chamber design with continuous agitation
 Downdraft ventilation system and Potassium permanganate and charcoal filters to protect operator from fumes.
 100-240V, 50/60Hz
 Remote alarms and LIMS interfacing
 USB data transfer system for faster transfer of logs and protocols
 Should have RS232 and RJ45 connectivity options

User Adjustable Settings:

Cassette capacity: up to 300 cassettes
 Storage temp of reagents should be Ambient to 35deg C
 Reagent temperature in processing chamber from Ambient to 55 deg C

Processing Chamber fill time should be less than 70 seconds

Processing Chamber drain time should be less than 180 Seconds

Paraffin processed in chamber at a temperature of 45 deg C to 65 deg C

Paraffin melt time from pellets should not be more than 4 hours

Battery back-up with up to four hours operation

Displayed Parameters:

Indication of station and program parameters such as number of tissue baskets, remaining infiltration time, real time, start time (delayed start time), Overall run time and end of runtime.

Audible alarms, error messages and warning codes
Manual and automatic mode of operation.

Variety of freely selectable programs, Individually programmable for each station.

In case of main power failure, power failure indication including station number and time lapsed in excess of programmed infiltration time.

It should have a touch screen interface for easy check of status

Reaction chamber viewing window for visual verification of samples

Systematic logging and reporting of quality control data

At least Eight customized programs and eight flush options

Suitable for xylene-free processing

Access code protection to secure settings from unauthorized access

Accessories:

- Up to 15 glass beakers (1.8 Liters)
- Up to 15 beaker carriers
- Up to 5 replacement glass beakers
- 2 wax baths, 1.8 Liters
- Up to 5 standard tissue basket
- 1 set of replacement fuses 2 x T 10.0 A
- 1 set of Power cords
- 1 crank handle size 4
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a soft copy
- Service manual with a soft copy

Optional:

Clinical Specialty	Haematology
Generic Name	AUTOMATED COAGULOMETER
Clinical Purpose	Blood clotting tests are the tests used for diagnostics of the hemostasis system. Coagulometer is the medical laboratory analyzer used for testing of the hemostasis system. Modern coagulometers realize different methods of activation and observation of development of blood clots in blood or in blood plasma

TECHNICAL SPECIFICATIONS

Detailed Requirement:
Throughput: 50 Tests /hr
Random access system fully automated
RS 232 or USB Interface
220V 50 Hz, AC

User Adjustable Settings:
Up to 8 Reagent Positions on board
Minimum 30 Samples Positions on board for tubes and cups
On Board storage capacity of cuvettes with auto refill without stopping the operation

Displayed Parameters:
Digital display for results

Accessories:
Complete with standard and operation accessories;

1. Built-in or External Laser Printer
2. Compatible Computer, LCD Monitor
3. Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
4. Operating Manual with a Soft Copy
5. Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	AUTOMATED SPERM COUNTER/ANALYZER
Clinical Purpose	Automated Sperm Counter and Analyzer System is used for accurate, repetitive and automatic assessment of the following sperm parameters: motility, concentration, morphology, DNA fragmentation and vitality.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Parameters:

According to WHO 5th Edition

Measurement Chamber:

Sources of Radiant energy

Two LEDs for motility and spectrophotometry channels

Detector System:

1-3 photo detectors

Motility and Optical Density

Sample Type: Fresh, washed, frozen & post-vasectomy

Signal output: PAL (Standard) with Zoom System

Interface Video output (RCA), RS-232 cable plug in

Power Supply: 220 V AC, 50Hz

User Adjustable Settings:

Specificity:

Concentration : 83-87% motility: 78 – 82 % normal

Morphology (WHO 5th): 90% post vasectomy: 95% of motile cells

Sensitivity:

Concentration: 90%, motility: 85% normal morphology

(WHO 4th): 65%

Displayed Parameters:

Display: LCD (16 lines x 40 characters) or better

Memory: 400 – 600 tests

Visualization Chamber:

White LED illumination system

CCD, 325- 335 TV lines

Objective: 20x (Standard)

Accessories:

Complete with standard and operation accessories;

- All required accessories for sample testing,
- Capillary tubes, slides, cover slips and plastic
- Built In, Dot matrix or Compatible laser Printer
- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

<u>Optional:</u>

Clinical Specialty	Microbiology
Generic Name	AUTOMATIC MEDIA PREPARATION SYSTEM
Clinical Purpose	An automated culture media preparation system. The range of solutions places automation at the heart of your laboratory and improves your workflow, from media to sample preparation.

TECHNICAL SPECIFICATIONS

<p><u>Detailed Requirement:</u> Microprocessor control, 8 Preset programs RS 232 or USB Interface 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Programmable Peristaltic Pump, Accuracy +/- 1% Auto preparator for sterilizing culture media from 1 to 9 liters</p> <p><u>Displayed Parameters:</u> Digital display for the results Selectable adjustable reference range for all parameters</p>

<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Built-in or External Laser Printer • Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Service Manual with a Soft Copy

<u>Optional:</u>

Clinical Specialty	Histopathology
Generic Name	Automatic Microtome
Clinical Purpose	For Section Cutting of Histopathology Specimen Sample

<p>TECHNICAL SPECIFICATIONS</p> <p><u>Detailed Requirements:</u> Safest, most ergonomic and intuitive fully automated rotary microtome Automated sectioning can be operated via velocity</p>
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knob,
start button or optional foot pedal
Accidental start prevented by double click operation
Ergonomic removable control panel can be located on either side of the microtome
Memory function for specimen positioning
Touch-pad keyboard to select section thickness, sectioning mode, speed and memory function
Easy switch between thickness setting for TRIM and SECTION/FINE
X/Y fine orientation with reproducible zero positioning
"Rocking mode" speeds up the trimming process by transmitting the movement of the hand wheel directly to the object
Automatic brake following motorized action
Easily accessible emergency stop button
4 motorized modes of operation (single section, interval, multi sections, and continuous
Programmable cutting window
Motorized specimen advance
Specimen retraction (can be deactivated)
Longest stroke length available (72mm) allows high quality sections even of Macro / Super Mega cassettes
Large removable section waste tray covers the entire working area

User Adjustable Setting:

Cutting Stroke: 72mm
Total Specimen Advance: 28mm
Section Thickness Range: 0.5 - 100µm
Trim Thickness Range: 5 - 500µm
Retraction : 40µm
Sectioning Speed: 0 - 450mm/s

Accessories:

- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- 100ml Para/Guard TM or equivalent, Standard tools, brushed aluminum cover plate, dust cover
- Universal Cassette quick release Clamp orienting head
- Disposable blade holder
- Disposable Microtome blades Pk/50
- Operating Manual with a soft copy
- Service manual with a soft copy

Optional:

Clinical Specialty	Haematology, Histopathology
Generic Name	Automatic Slide Stainer
Clinical Purpose	Staining for Microscope Slide for Use in cytology, hematology and histology laboratories

TECHNICAL SPECIFICATIONS:

Detailed Requirements:

Fully Automated IHC & ISH Stainer Analyzer
 Convertible Technology
 Parallel Automation
 Continuous processing
 High throughput and rapid turnaround
 Designed for single load, double load and continuous throughput
 Bench top unit features user-specified water stations to match your routines
 Operating voltage 220V, 50 Hz

User Adjustable Settings:

Slide capacity 30-60 finished trays (10 sliding tray may be replaced continuously)
 Reagent container capacity: 7 ml - 30 ml
 Number of reagent containers: 24-36
 Bulk reagent container capacity: 2 - 10 l
 Hazardous waste container capacity: 2 to 10 l
 External bulk waste container capacity: 2-10 l
 Turntable rotates for convenient access to stations at the rear of the unit
 Turntable Diameter : 34" (86 cm)

Accessories:

- Compatible Imported Online Sine wave UPS with Battery backup for 2 hours minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Vertical Slide Carrier (60 position) -2 supplied
- Staining Trough -25.3 fl. oz. (750ml) -24 supplied
- Water Wash Trough - 4 supplied
- Water Inlet and Outlet Hose - 9.8 ft (3m) long fitted
- Operating Manual with a soft copy
- Service manual with a soft copy

Optional:

Clinical Specialty	Histopathology
Generic Name	Automatic Tissue Micro Array Machine With TMA Software
Clinical Purpose	Automated Tissue Microarrays provide the finest solutions for high-speed automated preparation of tissue microarrays. Tissue microarrays (TMAs) possess significant advantages over traditional histological approaches including the analysis of many patient samples simultaneously, complete automation, conservation of precious tissue samples, improved internal experimental control, reduced consumption of antibodies and other reagents, and wide applicability to many molecular techniques including mRNA and protein expression analysis, immunohistochemistry, in situ hybridization, FISH and in situ PCR.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Automatic Block 5 or better virtual slide matching
Automatic slide localization on case center section number prediction based on core volume measurement
Core extraction for molecular analysis with (inbuilt PCR)
Automated Tissue Microarrays
Analysis of many patient tissue samples simultaneously
Conserves tumors, biopsies and other precious biological samples
Conserves antibodies and other expensive reagents
Improves assay precision through sample and patient multi-plexing
Applicable to mRNA and protein expression analysis
Miniaturize and automate immunohistochemistry, in situ hybridization, FISH, and in situ PCR
High-speed preparation of tissue microarray blocks
Maintains tissue integrity during embedding
Standardized block configuration simply image analysis
Rotary print tip control

TMA EVALUATE SOFTWARE
Tissue microarray analysis.
Project based, multi user, multi slide.
Flexible gallery uses measurement data from the image quantification applications
RS 232 or USB Interface
220V 50 Hz, AC

User Adjustable Settings:

Up to 300 tissues slices per donor block
Prepare up to 240 tissue cores per hour
Core placement success rate >99%
Tissue preparation cycle time of 15-18 secs
Positional accuracy of 5 µm at donor blocks
Fully automated 5 axis computer control

Accessories:

Complete with standard and operation accessories;

- Three print tip sizes of 1.0, 2.0 and 3.0 mm (TMM)
- Four print tip sizes of 0.5, 1.0, 1.5 and 2.0 mm (TMMP)
- New 500 μm (0.5 mm) Print Tip Option prints into 20 x 16 (320 well) recipient blocks
- Donor block capacity of 10 blocks
- Recipient block capacity of 2 blocks
- Recipient blocks contain 320 x 0.5 mm wells (20 x 16), 120 x 1 mm wells (12 x 10), 60 x 2 mm wells (6 x 10) and 30 x 3 mm wells (5 x 6)
- Number of CCD cameras: Two, full color
- TMM CCD camera chips: 1,280 x 1,024 pixels (higher resolution for TMMP)
- TMM CCD camera pixel size: 2.2 x 2.2 μm
- Camera resolution: 5 μm at recipient block and 30 μm at donor block
- Number of LED illumination modules: Two
- Complete line of recipient blocks and consumables available
- Personal computer control with Intel Dual Core 2.2 GHz, 1 GB RAM and 160 GB HD
- TMM computer operating system and software: Windows XP PRO and Microsoft Excel
- TMMP computer operating system and software: Windows 7 and Microsoft Excel
- Computer monitor: touch screen LCD with 15" and 1,024 x 768 pixel display
- Cassette and slide printer with tags
- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 2 hours minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Histopathology
Generic Name	Bench Top Cryostat Machine
Clinical Purpose	A cryostat (from cryo meaning cold and stat meaning stable) is a device used to maintain low cryogenic temperatures of samples or devices mounted within the cryostat. Low temperatures may be maintained within a cryostat by using various refrigeration methods, most commonly using cryogenic fluid bath such as liquid helium. Hence it is usually assembled into a vessel, similar in construction to a vacuum flask or Dewar. Cryostats have numerous applications within science, engineering, and medicine.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Portable Bench Top Cryostat Machine Thermostatically controlled temperature Choice of hand wheel or lever operated microtome and blade holder Used disposable blades and incorporates the antiroll plate with lateral adjustment Easily transportable with heavy duty trolley with big wheel locking system(SS) Automatic defrosting system High precision manual rotary microtome Automatic feeding of selected sections thickness agitator each and wheel revelation Quick freeze shelf 220V, 50Hz</p> <p><u>User Adjustable Settings:</u> Temperature Range ambient 30 to 40 deg C</p> <p><u>Displayed Parameters:</u> Digital display for temperature</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Compatible Imported Online Sine wave UPS with Battery backup for 2 hours (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • 5 pack of low profile disposable blades containing 50 blades per pack • Embedding media - 5 bottles, 5 boxes low profile disposable blades each containing 50 blades Intenerated heat extractor , frost free insulation glass • Brush, cryostat oil, embedding media - 5 bottles, • Standard knife holder • Orientation of specimen holder in three planes • 6-8 specimen preparation positions • Specimen stages 4-6 different shapes • Operating Manual with a Soft Copy • Operating Manual with a Soft Copy 	

<u>Optional:</u>

Clinical Specialty	Chemical Pathology
Generic Name	Bilirubinometer Invasive with Centrifuge Machine
Clinical Purpose	A device that measures Bilirubin (formerly referred to as hematoïdin) is the yellow breakdown product of normal heme catabolism. Heme is found in hemoglobin, a principal component of red blood cells. Bilirubin is excreted in bile, and its levels are elevated in certain diseases. It is responsible for the yellow color of bruises and the yellow discoloration in jaundice.

TECHNICAL SPECIFICATIONS

<p>Bilirubinometer: <u>Detailed Requirement:</u> Measurement of total serum bilirubin in mg/dL or micro mol/L invasively Method of Measurement: Dual Wavelength Detector: Silicon Photocell or Equivalent Light Source: LED or 6V, 1.5A Tungsten Lamp USB Interface connection for Computer 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Warm up Time should not be more than 60 seconds Measurement time should be 1 sec or better Measurement Range (Total Bilirubin): 0 – 30 mg/dL Sample Volume: 50 – 60 uL</p> <p><u>Displayed Parameters:</u> LCD Display Accuracy: (+/-) 5% or Better</p> <p>Centrifuge Machine: <u>Detailed Requirement:</u> Bench top Mini Centrifuge Machine with horizontal rotor Brushless motor Noiseless and vibration free Rotor Imbalance detection Lid safety interlock 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Speed up to 500 - 14,000 rpm or more RFC 18000 g or better Digital control of Timing up to 30min Maximum capacity 24 x 2/1.5 ml</p>
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Displayed Parameters:

Digital display of speed, timing

Accessories**Bilirubinometer:**

Complete with standard and operation accessories;

- Sample Container Capillary Tubes Heparinized, Red Qty 01 Vial (100Pcs)
- Sample Container Capillary Tubes Plain, Blue Qty 01 Vial (100Pcs)
- Clay Sealer (Wax Plate or Equivalent): Qty 02
- Standard Solution ABY or Equivalent: Qty 02 Bottles
- Spare Lamp 6V, 1.5A Tungsten Lamp Qty 02
- USB Cable with Software
- AC/DC Adapter
- With Built-in Thermal Printer or External Laser Printer
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Centrifuge Machine:

Complete with standard and operation accessories;

- Sample Container Capillary Tubes (200Pcs)
- Compatible Online Imported UPS with at least 30 minutes back up time
- Operating Manual (Hard Copy and Soft Copy)
- Service Manual (Hard Copy and Soft Copy)

Optional:

Clinical Specialty	Blood Bank, Microbiology
Generic Name	BIOLOGICAL SAFETY CABINET Class II Type A2
Clinical Purpose	Class II, Type A2 Biological Safety Cabinets offer personnel, product, and environmental protection to obtain optimum control over product quality while reducing the potential for exposure of both product and personnel to airborne biological or particulate chemical agents in low to moderate risk-hazard research and drug preparation or product operations.

TECHNICAL SPECIFICATIONS**Detailed Requirement:**

Stand mounted Biological Safety Cabinet for use in cytotoxic reconstitution with product, operator and environmental safety with filter exhaust.

Internal construction of stainless steel and acrylic front and side panels

Rigid and rust proof construction of electro-galvanized steel, abrasive resistance,

oven baked powder coating finish
 Centrifugal blower for negative pressure plenum with variable speed controller
 Electrical fittings
 Fitting with Ultraviolet (UV) Light and fluorescent light
 Gas and water valves
 220V 50 Hz, AC

User Adjustable Settings:

Size: 6 ft
 Airflow: 70% Recirculated / 30% Exhausted
 Airflow Control: Airflow Sensor
 Window Access Opening: 8", 10" or 12"
 Hepa filter with efficiency of min. 99.99% against particles of 0.3µm
 Low noise level of less than 65 dB

Accessories:

- Complete with standard and operation accessories
- Servo Controlled Voltage Stabilizer with surge protection facility
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Microbiology
Generic Name	BIOLOGICAL SAFETY CABINET Class II B1 Type
Clinical Purpose	Type B1 Biological Safety Cabinets exhausts 70% of airflow. The B1 Biosafety Cabinet may be used for work treated with minute quantities of volatile toxic chemicals and trace amounts of radionuclides required as an adjunct to microbiological studies if work is done in the direct exhausted portion of the cabinet, or if the chemicals or radionuclides will not interfere with the work when recirculated in the down flow air.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Stand mounted Biological Safety Cabinet for use in cytotoxic reconstitution with product, operator and environmental safety with filter exhaust.
 Style of Cabinet: Bench top/console with optional base stand
 Internal construction of stainless steel and acrylic front and side panels
 Rigid and rust proof construction of electro-galvanized steel, abrasive resistance, oven baked powder coating finish
 Centrifugal blower for negative pressure plenum with variable speed controller
 Electrical fittings
 Fitting with Ultraviolet (UV) Light and fluorescent light
 Gas and water valves

220V 50 Hz, AC

User Adjustable Settings:

Nominal Size: 6 ft.

Sash Height: 8" (200 mm)

Inflow Velocity: 105 fpm (.53 m/s)

Down flow Velocity: 60 fpm (0.30 m/s)

Light Intensity foot-candles (LUX): 90 - 120 (960 - 1290)

Hepa filter with efficiency of min. 99.99% against particles of 0.3µm

Low noise level of less than 65 dB

Accessories:

Complete with standard and operation accessories

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Microbiology
Generic Name	BIOLOGICAL SAFETY CABINET Class II B2 Type
Clinical Purpose	Class II, Type B2 Biological Safety Cabinets feature down flow air drawn from within the laboratory or outside air. No down flow air is drawn from the cabinet exhaust air. All down flow and inflow air is exhausted through a HEPA filter without recirculation within the cabinet. All contaminated ducts and plenums are maintained at negative pressure. The Type B2 Biological Safety Cabinet may be used for work with volatile toxic chemicals and radionuclides as required as adjuncts to microbiological studies.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Stand mounted Biological Safety Cabinet for use in cytotoxic reconstitution with product, operator and environmental safety with filter exhaust.

Style of Cabinet: Bench top/console with optional base stand

Internal construction of stainless steel and acrylic front and side panels

Rigid and rust proof construction of electro-galvanized steel, abrasive resistance, oven baked powder coating finish

Centrifugal blower for negative pressure plenum with variable speed controller

Electrical fittings

Fitting with Ultraviolet (UV) Light and fluorescent light

Gas and water valves

220V 50 Hz, AC

User Adjustable Settings:

Nominal Size: 6 ft.
Sash Height: 8" (200 mm)
Inflow Velocity: 105 fpm (.53 m/s)
Down flow Velocity: 60 fpm (0.30 m/s)
Light Intensity foot-candles (LUX): 90 to 120 (960 to 1290)
Hepa filter with efficiency of min. 99.99% against particles of 0.3µm
Low noise level of less than 65 dB

Accessories:

Complete with standard and operation accessories

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Microbiology
Generic Name	BIOLOGICAL SAFETY CABINET Class III
Clinical Purpose	A biosafety cabinet (BSC) also called a biological safety cabinet or microbiological safety cabinet is an enclosed, ventilated laboratory workspace for safely working with materials contaminated with (or potentially contaminated with) pathogens requiring a defined biosafety level. Class III Biosafety Cabinet provides maximum protection of the environment and user when working with highly infectious microbiological agents.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

The Class III Glove Box is designed for maximum personnel protection against high-risk pathogenic agents for research applications in BSL-3 and BSL-4 laboratories by creating a vacuum relative to the room, preventing contamination.

The Class III cabinet, generally only installed in maximum containment laboratories

The enclosure is gas-tight, and all materials enter and leave through a dunk tank or double-door autoclave. Gloves attached to the front prevent direct contact with hazardous materials.

(Class III cabinets are sometimes called glove box).

These custom-built cabinets often attach into a line, and the lab equipment installed inside.

A single shell, high grade stainless steel, fully welded cabinet eliminates potential leaks that may occur through failures of gaskets and cabinet seams.

Class III Glove Boxes working with infectious agents, emerging diseases, chemical carcinogens, equipment producing high volume aerosols, or high concentrations of low to moderate risk agents in microbiology, bacteriology, virology, culture analysis and more.

220V 50 Hz, AC

User Adjustable Settings:

Low Vacuum Alarm
Bag-in Bag-Out HEPA Filter Exchange
Cool White Fluorescent Lighting
Duplex Outlets
Germicidal Ultraviolet Light
Custom Solutions

Accessories:

Complete with standard and operation accessories

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Base Stand Options
Motor Speed Control

Clinical Specialty	Blood Bank
Generic Name	BLOOD BAG SHAKER
Clinical Purpose	Blood Bag Shaker is compact unit that provide safe and smooth action to ensure mixing of blood and anticoagulant without damaging blood cells during collection of blood from a donor

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Microprocessor controlled
Desktop type with silicon rubber plate
Its rollers and glides allow the drawer storage platform to agitate smoothly
Sturdy, one piece perforated drawer for uniform air circulation
The drawer will be removable type
220V 50 Hz, AC

User Adjustable Settings:

Capacity to hold at least 48 bags
Speed range 25 – 300 rpm
Timer minimum for 24 hours

Displayed Parameters:

Digital display and alarm function
Motion alarm system

Accessories:

Complete with standard and operation accessories;

- Spring rack/holder
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	BLOOD BAG TUBE SEALER
Clinical Purpose	Blood bag tube thermo sealers are used to seal the pilot tubing of bags used for collecting and processing blood. Some designs include radio frequency systems that can seal a tube in less than 2 or even 1 second, without causing haemolysis or leakage
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> For electric handling and processing of blood bags in the blood donor area for 5 mm tubes Microprocessor controlled high frequency generator unit Adjustable sealing time up to 5 sec or less Rechargeable battery operated unit with charging unit Hand held sealer with 2 meter cable 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Battery backup for 500 sealing</p> <p><u>Displayed Parameters:</u> Digital Display of Temperature, No. of Sealing etc Over temperature alarms</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none">• Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)• Operating Manual with a Soft Copy• Service Manual with a Soft Copy	
<u>Optional:</u>	

Clinical Specialty	Haematology
Generic Name	BLOOD CELL COUNTER
Clinical Purpose	Digital differential Blood Cell Counter is used in Haematology to classify and count white blood cells
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Unit to count blood cell for blood analysis Possibility for correction Audible guided keys Main and battery driven RS232/USB interface 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> 14 or more inputs per program</p> <p><u>Displayed Parameters:</u> 4 lines or more LCD display Possibility to have entered data displayed as partial, total, and absolute or in percentage</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	

Clinical Specialty	Microbiology
Generic Name	BLOOD CULTURE SYSTEM
Clinical Purpose	Blood culture system is a fully automated microbiology growth and detection system designed to detect microbial growth from blood specimens
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Fully automated testing System will be non-radiometric Continuous-monitoring instrument Automated quality control to ensure precise and reliable operation Advanced algorithms for rapid detection of pathogens in blood culture like individual bottle types, like low blood volume, paediatric specimens, or to detect slow growing</p>	

organisms
RS 232 or USB Interface
220V 50 Hz, AC

User Adjustable Settings:

Reagent bottles will be tested every 10 minutes
Internal temperature of 70°F to 85°F
Average capability of approximately 20-25 specimens per day
Data management systems with bar-code scanning
Long term data storage and historical trending with bi-directional interface to an LIS

Displayed Parameters:

Digital display for results
Results will be displayed as positive/negative and numerical growth units

Accessories:

- Complete with standard and operation accessories
- Built-in or External Laser Printer
 - Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology
Generic Name	BLOOD GAS ANALYZER
Clinical Purpose	An arterial blood gas (ABG) test is a blood gas test of blood from an artery; it is thus a blood test that measures the amounts of certain gases (such as oxygen and carbon dioxide) dissolved in arterial blood.
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> Microprocessor based Blood gas Analyzer to measure, blood gas and electrolytes Principal: Assay technology: Potentiometric and Amperometric electrodes (pH & O2 electrode), and a range of Ion-selective electrodes. Sample Type: Whole blood (syringe and capillary) with recommended anticoagulant. Plasma/Serum for electrolytes only. Test menu: pO2, pCO2, O2 saturation, pH, Na+, K+, Cl- and HCT. Easy changing access to electrodes and reagents. Automatic sample recognition and sampling. Possibility of upgrade for data management RS 232 or USB Interface 220V 50 Hz, AC <u>User Adjustable Settings:</u> Throughput: 30 or more samples/hour	

Sample Volume should be $\leq 100 \mu\text{l}$
 Analysis Time: Not more than 60 seconds nominal
 Control panel with easy setting and monitoring of pCO₂, pO₂, pH
 Measuring range:
 pCO₂: 5 - 200 mmHg
 pO₂: 0 - 800 mmHg
 pH: 6.000 - 8.000 pH

Displayed Parameters:

LCD display for results
 Large storage memory for minimum of 250 results or more
 System should be capable of two point calibration along with manual calibration
 Calibration history at least 24 hours
 System should have at least 3-4 programs for quality control

Accessories:

- Complete with standard and operation accessories;
- Consumables, reagents, calibrators, controls for startup.
 - Initial calibration and quality control up to the full satisfaction of end user
 - One roller mixer, spare lamps, fuses, dust cover etc.
 - Built-in or External Laser Printer
 - Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Note:

The firm must submit the cost of consumables/kits and details of reagent consumption and approximate cost per cycle along with the tender. It should also submit maintenance cost (per annum) as required after completion of warranty period.

Optional:

- Measurement of;
- Glucose
 - Lactic Acid
 - Total Hemoglobin

Clinical Specialty	Blood Bank
Generic Name	BLOOD STORAGE CABINETS
Clinical Purpose	The Blood storage cabinet is extensively used to store the blood and its related product in hospitals and blood banks

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Stainless Steel Interior
 Automatic closing of the door
 Controlled fan cooling
 Key operated power switch
 Safety door lock

Interior lighting
 Integrated RS485 interface
 LAN Converter
 220V 50 Hz, AC

User Adjustable Settings:

Gross volume: 400L
 Net capacity : minimum 240 blood bags of 450ml
 Non modifiable temperature set point of +4°C
 200-250 min hold over time at +25C ambient temperature
 Safety thermostat

Displayed Parameters:

Digital temperature display
 Temperature recording and online monitoring
 Acoustical and visual alarm for temperature and power failure
 Alarm system with battery backup
 low and high alarm
 Door opening alarm

Accessories:

Complete with standard and operation accessories

- Seven day chart recorder
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION LARGE SIZE
Clinical Purpose	For transport of blood and pharmaceutical products

TECHNICAL SPECIFICATIONS

Detailed Requirement:

A plastic reinforcement at the bottom of the container allows the removable steel compartment to be held in place
 Large enough to accommodate blood and pharmaceutical products in their original packaging, as well as a substantial amount of plasma
 Material outer casing: Polyethylene. Material inner container: Polyethylene

User Adjustable Settings:

An excellent isolated transport box of 44 l
 Cold life at +32°C: up to 109 h
 Cold life at +43°C: up to 74 h

<u>Accessories:</u> Complete with standard and operation accessories; <ul style="list-style-type: none"> • Operating Manual with a Soft Copy
<u>Optional:</u>

Clinical Specialty	Blood Bank
Generic Name	THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION MEDIUM SIZE
Clinical Purpose	For transport of blood and pharmaceutical products
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Standard-equipped with a removable steel compartment as well as 12 icepacks, 3 of which are constantly in use Large enough to accommodate blood and pharmaceutical products in their original packaging, as well as a substantial amount of plasma Material outer casing: Polyethylene. Material inner container: Polyethylene</p> <p><u>User Adjustable Settings:</u> An excellent isolated transport box of 24 l Cold life at +32°C: up to 96 h Cold life at +43°C: up to 56 h</p> <p><u>Accessories:</u> Complete with standard and operation accessories; <ul style="list-style-type: none"> • Operating Manual with a Soft Copy </p> <p><u>Optional:</u></p>	

Clinical Specialty	Blood Bank
Generic Name	THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION SMALL SIZE
Clinical Purpose	For transport of blood and pharmaceutical products
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Specially designed for the transport of blood Made of rotomoulded polyethylene, a virtually indestructible plastic Excellent mechanical resistance, as proven by drop tests No subject to corrosion Material outer casing: Polyethylene. Material inner container: Polyethylene CFC & HCFC Free: Standard</p>	

User Adjustable Settings:

An excellent isolated transport box of 8 l
Cold life at +32°C: up to 46 h
Cold life at +43°C: up to 32.5 h

Accessories:

Complete with standard and operation accessories;
• Operating Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION LARGE SIZE IN VEHICLES
Clinical Purpose	For transport of blood and pharmaceutical products in Vehicles

TECHNICAL SPECIFICATIONS**Detailed Requirement:**

The Container range is designed for the transportation of temperature sensitive products in vehicles.

The units are completely self-sufficient and do not require a 230V mains supply or a vehicle plug-in for operation. They are easily loaded into standard vehicles.

Easy to install in non-modified standard vehicles.

Several containers can be loaded onto the same vehicle, allowing products at different temperatures to be transported.

No additional fuel consumption due to the refrigeration system

Self-sufficient refrigeration, even when the vehicle is stopped.

Body and door made of laminated polyester and white lacquered exterior, food quality for the framework.

White lacquered paneling and food quality stainless steel interior for model C160.

Easy to clean using professional detergent or disinfectant

High-performance thermal insulation made from CFC-free expanded polyurethane foam.

User Adjustable Settings:

Maximum Volume: 400 L

Accessories:

Complete with standard and operation accessories;
• Operating Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	THERMO CONTAINER FOR BLOOD BAG TRANSPORTATION MEDIUM SIZE IN VEHICLES
Clinical Purpose	For transport of blood and pharmaceutical products in Vehicles
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> The Container range is designed for the transportation of temperature sensitive products in vehicles. The units are completely self-sufficient and do not require a 230V mains supply or a vehicle plug-in for operation. They are easily loaded into standard vehicles. Easy to install in non-modified standard vehicles. Several containers can be loaded onto the same vehicle, allowing products at different temperatures to be transported. No additional fuel consumption due to the refrigeration system Self-sufficient refrigeration, even when the vehicle is stopped. Body and door made of laminated polyester and white lacquered exterior, food quality for the framework. White lacquered paneling and food quality stainless steel interior for model C160. Easy to clean using professional detergent or disinfectant High-performance thermal insulation made from CFC-free expanded polyurethane foam.</p> <p><u>User Adjustable Settings:</u> Maximum Volume: 150 L</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Operating Manual with a Soft Copy 	
<p><u>Optional:</u></p>	

Clinical Specialty	Haematology, Microbiology, Immunology
Generic Name	CENTRIFUGE MACHINE
Clinical Purpose	A centrifuge is a piece of equipment that puts an object in rotation around a fixed axis (spins it in a circle), applying a potentially strong force perpendicular to the axis of spin (outward). The centrifuge works using the sedimentation principle, where the centripetal acceleration causes denser substances and particles to move outward in the radial direction. At the same time, objects that are less dense are displaced and move to the center. In a laboratory centrifuge that uses sample tubes, the radial acceleration causes denser particles to settle to the bottom of the tube, while low-density substances rise to the top

TECHNICAL SPECIFICATIONS**Detailed Requirement:**

Bench top centrifuge machine with angle rotor
Built in speedometer, variable speed control, lid locking and braking device
Maintenance free motor
Lid safety interlock
Noiseless and vibration free
220V 50 Hz, AC

User Adjustable Settings:

Speed 4500–5000 rpm.
Maximum capacity 8/12 x 15ml
Digital control of Timing up to 60min

Displayed Parameters:

Digital display of speed, timing
Rotor Imbalance detection

Accessories:

Complete with standard and operation accessories

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	CO2 Incubator
Clinical Purpose	CO2 Incubator is a device which guarantees ideal, reproducible growth conditions for cell cultures
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> CO2 Incubator to control in processing various cell cultures Advanced technology for unprecedented temperature and CO2 Long-term performance, extremely reliable and viable In order to prevent contamination, CO2 incubators employ copper enriched stainless steel interior chamber Ultraviolet lamp system The proven air jacket system and latest technology eliminate the risk of condensation Up to 180°C hot-air sterilization, bacteria and spores are eliminated Or H2O2 (Hydrogen Peroxide) decontamination system The unique deep-drawn obstruction free chamber makes cleaning very easy 220V 50 Hz, AC	
<u>User Adjustable Settings:</u>	

Capacity and size 50-75 liters
 Temp. Range from +5 Deg C above ambient to 50 Deg C approx

Displayed Parameters:

With temperature alarm monitor, CO2, humidity and temp
 Control over temp. and under temp audible & visual alarm system

Accessories:

Complete with standard and operation accessories;

- CO2 cylinders (2xD-type with one regulator)
- S.S shelves
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	COLONY COUNTER
Clinical Purpose	In microbiology, a colony-forming unit (CFU) is a unit used to estimate the number of viable bacteria or fungal cells in a sample. Viable is defined as the ability to multiply via binary fission under the controlled conditions. Counting with colony-forming units requires culturing the microbes and counts only viable cells, in contrast with microscopic examination which counts all cells, living or dead. The visual appearance of a colony in a cell culture requires significant growth, and when counting colonies it is uncertain if the colony arose from one cell or a group of cells. Expressing results as colony-forming units reflects this uncertainty.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Unit to record each pulsed with 2x minifying glass With inbuilt Illuminator Removable plates for housing varying sizes of Petri dishes Unit should accommodate reversible contrast plates 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Should have facility to record up to 999 counts with beep for each count Acquisition time: 10 min</p> <p><u>Displayed Parameters:</u></p>	

Digital display for counts

Accessories:

Complete with standard and operation accessories;

- Centering Device of different sizes
- Grid of different sizes
- Clickable permanent marker
- Stainless contact pointer
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology, Histopathology
Generic Name	COMPACT WATER PURIFICATION SYSTEM
Clinical Purpose	Remove impurities & contaminates with a reverse osmosis water treatment system
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Space saving device For water purification conductivity less than 10μs with reservoir, automatic pressure control and pumping machine, capacity 20 liters/hr Reverse Osmosis Unit 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Average water consumption: 20 L/hour Built-in Pure Water Storage Tank of 30 L with water level sensor to automatic operate the unit</p> <p><u>Displayed Parameters:</u> The purity of the deionized water should be so that the conductivity is 0 TDS as Final Product There must be a conductivity meter on the final product The water pressure at OUTPUT should be in range 7 to 57 psi Quality control of RO permeate in all units Reduction rate for particles and bacteria > 99 %</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories</p> <ul style="list-style-type: none">• Operating Manual with a Soft Copy• Service Manual with a Soft Copy	
<p><u>Optional:</u></p>	

Clinical Specialty	Microbiology, Histopathology, Cytology
Generic Name	Automatic Slide Cytosedimentation Machine
Clinical Purpose	Cytocentrifuge is an Important diagnostic tool for any diagnostic or research laboratory. It is used for retrieving cells or microorganisms from body fluids directly on the microscopic slides. Ordinary routine centrifuges are not capable of doing this function. Suitable for complete range of body fluids like CSF, Pleural fluid, putum, urine, synovial fluids, Peritoneal fluids, Bronchial washings, Fine needle aspirates etc.

TECHNICAL SPECIFICATIONS

Detailed Requirements:

Auto - Locking Plastic outer lid
 Autoclavable sealed head
 Disposable sample chambers with caps
 Wipe clean control panel
 The Cytospin protects the operator before, during and after sample Preparation
 The ability to load the Cytospin Sealed Head in a microbiological cabinet is the ultimate safety procedure
 The Standby Mode is a power saving mode
 220V, 50 Hz

User Adjustable Settings:

The Speed window displays the programmed spinning speeds from 200 to 2000 rpm
 Acceleration Control
 The 3 Acceleration buttons allow the operator excellent flexibility and exceptional protection for fragile samples

Displayed Parameters:

The Time window displays the programmed time Remaining run time from 1 to 99 minutes
 Auto Fixation Mode Control
 Program Key Pad
 Easy touch design allows for easier keystrokes and more intuitive Programming
 Protected Program Memory
 Up to 23 routines can now be stored for instant recall and protected from power loss
 Safety alarms that protects users and specimens

Accessories:

- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Kit, Clipped Funnel Starter
- Operating Manual with a soft copy
- Service manual with a soft copy

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	DEEP FREEZER (LOCAL)
Clinical Purpose	In Deep Freezer pharmaceutical items can be quickly frozen and kept for long periods at a very low temperature as low as -4°C
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> Vertical type Temperature Control Control of temperature for freezer with interior light Powerful cooling Fan cooled condenser Better cooling retention Rust resistant body 220V 50 Hz, AC	
<u>User Adjustable Settings:</u> Deep Freezer Temperature Range: -4 Deg C Capacity: 12 CFT	
<u>Displayed Parameters:</u>	
<u>Accessories:</u> Complete with standard and operation accessories; <ul style="list-style-type: none">• 3-4 shelves adjustable polyurethane/Nylon coated wire shelves• Handle with lock• Front drain• Servo Controlled Voltage Stabilizer with surge protection facility• Operating Manual with a Soft Copy• Service Manual with a Soft Copy	
<u>Optional:</u>	

Clinical Specialty	Chemical Pathology
Generic Name	DE-IONIZER
Clinical Purpose	Deionizers, demineralizers and DI systems are different names for the same equipment. Another process, electrode ionization (EDI), utilizes ion exchange resins and electricity to produce ultra pure deionized water.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Capacity more than 10 liter per hour with R.O. System
 RO Production rate at 15°C: 10 l/hr
 RO Production rate at 20°C: 11 l/hr
 RO Production rate at 25°C: 13 l/hr
 Rejection rate for ions: 98%
 Rejection rate for bacteria: 99%
 Rejection rate for particles: 99%
 Permeate conductivity: <0.1 µS/cm
 Bacteria: <1 cfu/ml
 Particles > 0.2 µm: <1 per ml
 220V 50 Hz, AC

Accessories:

Complete with standard and operation accessories

- 30 l Extension storage tank
- 60 l Extension storage tank
- Wall bracket ET30 for 30 l tank
- Wall bracket ET60 for 60 l tank
- CO2 Degassing unit (max. 150 l/h)

Firm must quote the frequency of replacement and cost of the following consumables;

- Replacement Pre-treatment module AMB
- Replacement RO Module 10 l/h
- Replacement DI Cartridge VMD
- Sterile filter 0.2 µm with endotoxin retention (pack of 3 filters)
- Sterile filter 0.2 µm (pack of 3 filters)
- Vent Filter for built-in 7 l storage tank (pack of 3 filters)
- CO2 Trap CT1 with Vent Filter VT1 Kit for 30 and 60 l tank
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Digital Hot Air Oven
Clinical Purpose	Hot air ovens are electrical devices which use dry heat to sterilize. They were originally developed by Pasteur. Generally, they can be operated from 50 to 300 °C, using a thermostat to control the temperature.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Microprocessor based PID control Inner & outer made of stainless steel Stainless steel chamber with adjustable shelves and a tough ended glass inner viewing door At least two shelves made of stainless steel with adjustable height positions The outer cabinet is to be rust resistant Fitted with circulation fan Chamber Capacity: 50-60 Liters or more Power Source 220V, 50HZ AC</p> <p><u>User Adjustable Settings:</u> Adjustable temperatures from ambient +5C up to 300C Stability: 0.25C Insulated control box</p> <p><u>Displayed Parameters:</u> Temperature Control for accurate results Digital display to show the chamber temperature and time Indicator lamps to show when the heater is active and if an over temperature condition exists The over temperature safety cutout to be set by the user</p>	
<p><u>Accessories:</u></p> <ul style="list-style-type: none"> • Servo Controlled Voltage Stabilizer with surge protection facility • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<p><u>Optional:</u></p>	

Clinical Specialty	Virtual Microscopy
Generic Name	Digital Pathology Image Capturing Integration, Analysis and Collaboration System
Clinical Purpose	Digital Pathology is an image-based information environment which is enabled by computer technology that allows for the management of information generated from a digital slide. Digital pathology is enabled in part by virtual microscopy, which is the practice of converting glass slides into digital slides that can be viewed, managed, and analyzed on a computer monitor. With the advent of Whole-Slide Imaging, the field of digital pathology has exploded and is currently regarded as one of the most promising avenues of diagnostic medicine in order to achieve even better, faster and cheaper diagnosis, prognosis and prediction of cancer and other important diseases
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Automatic whole slide scanning system with; Z Stack and extended focus Motorized objective changer for 2 objective 20X and 40X 12 slide hardware Software for membrane,nuclear,Histo,TMA,Telepathology Compatible, reporting facility staining intensity/density 220V, 50Hz</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Compatible camera • Compatible PC and LCD Monitor • Compatible Imported Online Sine wave UPS with Battery backup for 2 hours (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Operating Manual with a Soft Copy 	
<p><u>Optional:</u></p>	

Clinical Specialty	Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	DIGITAL WEIGHING BALANCE
Clinical Purpose	Weighing scales (or weigh scales or scales) are devices to measure weight or calculate mass of different objects
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Top loading balance Changeable Battery</p> <p><u>User Adjustable Settings:</u> Capacity 200 gm Sensitivity 1mg</p> <p><u>Displayed Parameters:</u> Digital display Set zero or calibration</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Spare Battery • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<p><u>Optional:</u></p>	

Clinical Specialty	Microbiology, Histopathology
Generic Name	ELECTRIC PLATE SHAKER
Clinical Purpose	A shaker is a piece of laboratory equipment used to mix, blend, or to agitate substances in tube(s) or flask(s) by shaking them, which is mainly used in the fields of chemistry and biology. A shaker contains an oscillating board which is used to place the flasks, beakers, test tubes, etc. Although the magnetic stirrer has come to replace the uses of shaker lately, the shaker is still a preferred choice of equipment when dealing with such large volume substances, or simultaneous agitation is required.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Microprocessor controlled Desktop type with silicon Rubber plate Its rollers and glides allow the drawer storage platform to agitate smoothly Sturdy, one piece perforated drawer of uniform air circulation</p>	

The drawer will be removable type
220V 50 Hz, AC

User Adjustable Settings:

Speed range 30 – 300 rpm
Timer minimum for 24 hours

Displayed Parameters:

Digital display and alarm function
Motion alarm system

Accessories:

Complete with standard and operation accessories;

- Spring rack / holder
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology
Generic Name	ELETROLYTE ANALYZER
Clinical Purpose	Automated microprocessor-controlled electrolyte system that uses ISE (Ion Selective Electrode) technology to make electrolyte measurements i.e. combinations of Na⁺, K⁺, Cl⁻, Li⁺, Ca⁺⁺, and pH in whole blood, serum, plasma, or urine
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> ISE System, For measuring electrolytes Na⁺, K⁺, in plasma, Serum and Urine System should accept Whole Blood, Serum, Plasma, Urine, CSF as sample System should be capable of automatic two point calibration along carrying out one-point and two-point calibration manually System should have 2 or more levels of quality controls RS 232 or USB Interface 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Sample Volume Range: Serum/Plasma/Blood ≤100 ul, Urine ≤300 ul Throughput 60 samples/hour or more Analysis Time: Serum/Plasma/Blood/ Urine = 60 sec Result storage capacity: 150 - 200 samples</p> <p><u>Displayed Parameters:</u> Simultaneous digital display for the results</p>	

Selectable adjustable reference range for all parameters

Accessories:

Complete with standard and operation accessories;

- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Measurement of;

1. Cl^-
2. Li^+
3. Ca^{++}
4. pH

Clinical Specialty	Blood Bank
Generic Name	ELECTRONIC BLOOD COLLECTION MONITOR
Clinical Purpose	A blood collection monitor is a device used to monitor the collection of a blood donation to protect against over or under bleeding of the patient. The devices are extensively used in hospitals, research clinics, and pharmaceuticals industries to ensure the anticoagulation and addition of blood when necessary, without blood cells being damaged during the collection procedure.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Small size and extremely light weight
High portability for mobile use
Increased efficiency
Battery operated system
Easy to clean and maintain
Outstanding stability and long life time
USB connection

User Adjustable Settings:

Both with scale and mixing function
Blood Collection Monitor is developed to take a predefined blood donation and mix the product in a three-dimensional way
For quality assurance, it monitors the entire blood donation and registers all significant events that may occur during the process

Displayed Parameters:

Digital Display for measured values of blood
Bi-directional communication

Data management capability
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • SD card • Rechargeable Battery with Charger • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<p><u>Optional:</u></p> <ul style="list-style-type: none"> • Wireless connection (option)

Clinical Specialty	Haematology
Generic Name	ELECTROPHORESIS EQUIPMENT WITH ACCESSORIES
Clinical Purpose	Electrophoresis Apparatus is used for protein and nucleic acid applications designed for research, agarose gel electrophoresis equipment
TECHNICAL SPECIFICATIONS	
<p>H. B. Electrophoresis Fully automatic computer controlled agarose gel electrophoresis system Dry temperature controlled migration chamber High efficiency peltier driven temperature Automatic sample application, migration and staining Distaining and result interpretation User interface software with up-gradation facility USB Connectivity 220V, 50Hz</p> <p><u>Detailed Requirement:</u> Electrophoresis apparatus including following: Electrophoresis tank Densitometer Bridges and applicator Power supply To scan all standard electrophoresis media in absorbance or fluorescence mode Fractions selected automatically or manually Edit function for all separations</p> <p><u>Electrophoresis Tank</u> For cellulose acetate strips, Cellulose acetate plates, and Agarose gels. Tank made of highly resistant white ABS material. Both compartment marked with (Negative/Cathode) & + (Positive/ anode). Fitted with 2 Platinum electrodes. Built in safety device for no current unless cover is placed on top.</p> <p><u>Densitometer</u> For identification of serum proteins, & Lipoproteins fractions</p>	

Capable of storing 5 personalized, programs, Haemoglobins, Iso enzymes, etc.
Average optical value as additional check for result acceptability
Supports both transparent and non transparent gels and strips
Scan length: up to 50 mm
Height graph normalization, minimum singling out, protein and lipid fractions identifications
Elimination and / or minima added albumin value correction.
Up to 8 fractions can be identified
Repeatability more than 0.3 %

Bridges & Applicator

1 Bridge for cellulose acetate strips, 140 x 57 mm
1 Bridge for cellulose acetate plates and agarose gels
1 sample applicator for 0.9 ul, 4 samples / strips
Tip set
Complete with housing.

Power supply:

For constant voltage
Digital display of voltage, current and timer, safety features over rides in case of excess load
220V, 50 Hz with regulated PS of range 0-500V, 100 mA

User Adjustable Settings:

Flexible migration chamber 2 or 3 electrodes
Memory minimum of approx 2 gels/20 racks
Assay: serum proteins, B1-B12, immunofixation violet-blue, penta valent and Bence Jones Immunofixation , HR protein, HDC, Alkaline and acidic Hemoglobin. Lipoproteins, LDH, CK, ALP
Isoelectric focusing of the CSF

Displayed Parameters:

Results in IU/l; g/l; g/dl; mg/dl & rel%
Colour Touch Screen Monitor or Integrated Monitor with Key Board
Result report format: Quantitative(value) qualitative(bands with graph)

Accessories:

- Disposable sample plate
- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 2 hours (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a soft copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Histopathology
Generic Name	EMBEDDING STATION
Clinical Purpose	An instrument used to melt paraffin to embed on tissue cassette. Embed routine tissue samples into paraffin blocks for microtome sectioning.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Hot station

An instrument used to melt paraffin to embed on tissue cassette.

Paraffin tank holding 3 liters of paraffin

Activation of paraffin flow manually via a rotating, height-adjustable clip.

Paraffin flow controllable, 2 pre-heated removable paraffin trays.

Ample easily clean heated space with politer spot for super mega cassettes.

Removable heated forceps holder for up to 6 forceps

Extra better illumination with adjustable lamp.

RS-232/USB Interface

Power Supply: 220V, 50Hz

User Adjustable Settings:

Optimum temperature choice: 55 C to 75 C

Paraffin: 3 liters

Paraffin trays: 1.5 liters

Cassette warmer: 100 cassettes

Displayed Parameters:

Program

Temperature: Paraffin tank, steel moulds section, Operating area

Temperature choice: 55 C to 75 C

Time: Days, Starting-Ending Time, Present etc.

Constant temperature indication

Programmable start and end times

Accessories:

Complete with standard and operation accessories;

- Paraffin reservoir lid
- Filtering screen
- Paraffin collecting trays
- 2 Removable cassette and mold baths
- 02 removable lid for cassette and base molds
- Removable holder for 6 forceps
- Paraffin scraper
- Illumination stand
- Replacement Bulb
- Set of fuses
- Set of power cords
- Imported Compatible Sine wave UPS for back up of up to 30 minutes

(Emerson, Liebert, Chloride, MGE, APC or Equivalent) <ul style="list-style-type: none"> • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<u>Optional:</u>

Clinical Specialty	Chemical Pathology
Generic Name	HIGH END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER
Clinical Purpose	Chemistry Analyzers are used to determine the concentration of certain metabolites, electrolytes, proteins, and/or drugs in samples of serum, plasma, urine, cerebrospinal fluid, and/or other body fluids.

TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirements:</u> Microprocessor controlled fully automated chemistry analyzer User programmable with built in bar code reader Sample type: Serum, Plasma, Body Fluids etc. Capability to re-run with automatic on board sample dilution Automatic Sample Quality Analysis for Lipemia, Hemolysis, Icterus CD/USB Storage System RS 232 interface for on line computer 220V, 50 Hz operated</p> <p><u>User Adjustable Settings:</u> Minimum 40 tests on panel including ISE Minimum 60 sample/QC positions and continuous loading of samples 500 tests/hr or above for a range of chemistries (Other than ISE i.e. Na⁺, K⁺, Cl⁻) Spectral Range 320-690 nm Filter Wavelength 340, 405, 492, 505, 546, 578, 630 nm, one free position Sample volume 2-50 µl</p> <p><u>Displayed Parameters:</u> Touch Screen Display Monitor On board reagent refrigeration of 2-8 Degree Centigrade or better Facility to display actual temperature of reagent Temperature control for assays at 37C Self calibrating against known standards + Storage of QC results Independent stat capability, facility of reflex testing Automatic calibration of curves and results Automatic flagging of results outside user defined limits Data entry by keyboard, bar code reader & LIS Bubble and sample level detector/Liquid Level Sensing on both Reagent and Sample Probe Minimum data storage 10,000 tests Parameters to be decided by the procuring agency as per requirements of end user</p>	

<p>Accessories:</p> <ul style="list-style-type: none"> • With Built-in Thermal Printer or External Laser Printer • Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Compatible RO System (If required) to operate the Chemistry Analyzer • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<p>Optional (If any):</p>

Clinical Specialty	Chemical Pathology
Generic Name	LOW END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER
Clinical Purpose	Chemistry Analyzers are used to determine the concentration of certain metabolites, electrolytes, p proteins, and/or drugs in samples of serum, plasma, urine, cerebrospinal fluid, and/or other body fluids.

TECHNICAL SPECIFICATIONS	
<p>Detailed Requirements: Microprocessor controlled fully automated chemistry analyzer User programmable with built in bar code reader Sample type: Serum, Plasma, Body Fluids etc. Capability to re-run with automatic on board sample dilution Automatic Sample Quality Analysis for Lipemia, Hemolysis, Icterus CD/USB Storage System RS 232 interface for on line computer 220V, 50 Hz operated</p> <p>User Adjustable Settings: Minimum 30 tests on panel including ISE Minimum 60 sample/QC positions and continuous loading of samples 150 tests/hr or above for a range of chemistries (Other than ISE i.e. Na⁺, K⁺, Cl⁻) Spectral Range 320-690 nm Filter Wavelength 340, 405, 492, 505, 546, 578, 630 nm, one free position Sample volume 2-50 µl</p> <p>Displayed Parameters: Touch Screen Display Monitor On board reagent refrigeration of 2-8 Degree Centigrade or better Temperature control for assays at 37C Self calibrating against known standards + Storage of QC results Independent stat capability, facility of reflex testing Automatic calibration of curves and results Automatic flagging of results outside user defined limits Data entry by keyboard, bar code reader & LIS</p>	

Bubble and sample level detector/Liquid Level Sensing on both Reagent and Sample Probe
 Minimum data storage 10,000 tests
 Parameters to be decided by the procuring agency as per requirements of end user

Accessories:

- With Built-in Thermal Printer or External Laser Printer
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Compatible RO System (If required) to operate the Chemistry Analyzer
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional (If any):

Clinical Specialty	Chemical Pathology
Generic Name	MEDIUM END FULLY AUTOMATIC RANDOM ACCESS CHEMISTRY ANALYZER
Clinical Purpose	Chemistry Analyzers are used to determine the concentration of certain metabolites, electrolytes, p proteins, and/or drugs in samples of serum, plasma, urine, cerebrospinal fluid, and/or other body fluids.

TECHNICAL SPECIFICATIONS

Detailed Requirements:

Microprocessor controlled fully automated chemistry analyzer
 User programmable with built in bar code reader
 Sample type: Serum, Plasma, Body Fluids etc.
 Capability to re-run with automatic on board sample dilution
 Automatic Sample Quality Analysis for Lipemia, Hemolysis, Icterus
 CD/USB Storage System
 RS 232 interface for on line computer
 220V, 50 Hz operated

User Adjustable Settings:

Minimum 40 tests on panel including ISE
 Minimum 60 sample/QC positions and continuous loading of samples
 300 tests/hr or above for a range of chemistries (Other than ISE i.e. Na⁺, K⁺, Cl⁻)
 Spectral Range 320-690 nm
 Filter Wavelength 340, 405, 492, 505, 546, 578, 630 nm, one free position
 Sample volume 2-50 µl

Displayed Parameters:

Touch Screen Display Monitor
 On board reagent refrigeration of 2-8 Degree Centigrade or better
 Facility to display actual temperature of reagent
 Temperature control for assays at 37C

Self calibrating against known standards + Storage of QC results
 Independent stat capability, facility of reflex testing
 Automatic calibration of curves and results
 Automatic flagging of results outside user defined limits
 Data entry by keyboard, bar code reader & LIS
 Bubble and sample level detector/Liquid Level Sensing on both Reagent and Sample Probe
 Minimum data storage 10,000 tests
 Parameters to be decided by the procuring agency as per requirements of end user

Accessories:

- With Built-in Thermal Printer or External Laser Printer
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Compatible RO System (If required) to operate the Chemistry Analyzer
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional (If any):

Clinical Specialty	Blood Bank, Microbiology, Immunology
Generic Name	FULLY AUTOMATIC MULTI WASH AND ELISA TEST READER
Clinical Purpose	Plate readers, also known as micro plate readers or micro plate photometers, are instruments which are used to detect biological, chemical or physical events of samples in microtiter plates

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Open system fully automated Microprocessor Controlled Micro Plate/Batch ELISA Analyzer with LCD Monitor and data recording system
 Unit with automatic sample identification, dilution, incubation, conjugation, washing and reading facility
 (The Reader should be open and programmable, selectable interpretation facility with LCD display, Optical density of 3.5 or more)
 System should have programmable incubation and micro-plate shaking
 System Should be able to work in sessions
 At least 3 integrated liquid buffer tanks
 The washer should be of have multiple heads
 LAN/ WLAN port to share the data with hospital network
 RS 232 or USB Interface
 220V 50 Hz, AC

User Adjustable Settings:

Programmable for 4 Plates of 96 wells with filters 405-630 nm with at least 6 filters
 Throughput 4x96 samples test i.e. Infectious profile, Hormones Profile, Auto

antibodies, Vit D level, Immunoglobulin, Tumor markers, Auto immuno panel
 12 or more assays for micro-plate
 Up to 12 assays profile
 Unit based on at least 2 micro-plate principal and 2 incubation positions
 System should have possibility to detect clot and to check volume intake
 The facility for Auto clot detection, sensor probes for reagent and samples have been added
 System should have possibility to run 25 or more controls with 18 or more position for reagents
 8 or more suction channels and at least 8 dispensing channel

Displayed Parameters:

Digital display for results

Accessories:

Complete with standard and operation accessories;

- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	HAEMATOLOGY
Generic Name	HAEMATOLOGY ANALYZER (3 Part)
Clinical Purpose	Hematology Analyzers are computerized, highly specialized and automated machines that count the number of different kinds of white and red blood cells in a blood sample. The results they provide are collectively known as complete blood counts (CBCs) or complete blood count with differentiation of cells (CBCs with diff)
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirements:</u> Automated Hematology Counter Auto probe cleaning/wiping RS232/USB interface 220V, 50 Hz operated</p> <p><u>User Adjustable Settings:</u> Through put 60 samples/hour or more 3-Part differential with minimum 20 parameters Histograms for WBC, RBC and Platelet Sample Volume: Max 120 ul of whole blood or less</p>	

Displayed Parameters:

LCD display with touch screen

Auto calibration programme

Patient data entry and specimen recognition by keyboard/LCD Touch Screen/Bar Code

Patient data and results storage of 5,000 Results or more

Accessories:

- With Built-in Thermal Printer or External Laser Printer
- Consumables, reagents, calibrators, controls for start up
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Note:

Availability of Reagents and Kits must be ensured and guaranteed by the supplying firm in the local market.

Optional:

Clinical Specialty	HAEMATOLOGY
Generic Name	HAEMATOLOGY ANALYZER (5 Part)
Clinical Purpose	Hematology Analyzers are computerized, highly specialized and automated machines that count the number of different kinds of white and red blood cells in a blood sample. The results they provide are collectively known as complete blood counts (CBCs) or complete blood count with differentiation of cells (CBCs with diff)
TECHNICAL SPECIFICATIONS	
<p>Detailed Requirements: Automated Hematology Counter Auto probe cleaning/wiping RS232/USB interface 220V, 50 Hz operated</p> <p>User Adjustable Settings: Through put 60 samples/hour or more Minimum 24 parameters 5-Part differential including Hb, WBC, RBC, Hct, PLT, and derived values Histograms for WBC, RBC and Platelet Sample Volume: Max 120 ul of whole blood or less</p> <p>Displayed Parameters: LCD display with touch screen Patient data entry and specimen recognition by keyboard/LCD Touch Screen/Bar Code</p>	

Patient data and results storage for 10,000 Results or more

Accessories:

With specimen mixer and auto sampler;

- With Built-in Thermal Printer or External Laser Printer
- Consumables, reagents, calibrators, controls for start up
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Note:

Availability of Reagents and Kits must be ensured and guaranteed by the supplying firm in the local market.

Optional:

Clinical Specialty	Histopathology
Generic Name	Hybridization System
Clinical Purpose	Hybridization System and its ability to accurately keep the temperature stable is essential to success of RNA scope Assay. Hybridization System is a simple, easy-to-use, low-profile bench top hybridization oven that provides superior conditions for RNA-ISH. The Oven provides a gasket-sealed, temperature-controlled humidifying chamber necessary for optimized RNA scope assay performance.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Hybridization System
Rotating Oven, Rotator and Hybridization Cassette
Internal rotator easily drops in and lifts out without tools
Unique convection heating system eliminating hot/cold spots
Uses simple two-piece 4-slide cassette
Rotators are available for SciGene, Agilent and Robbins Scientific ovens or equivalent
Friction hinged Lid
Four leveling Feet
Small footprint
220V, 50Hz

User Adjustable Settings:

Rotator holds up to 6-8 cassettes (20-30 slides) for rotational mixing during incubation
20-30 slides capacity
Temperature Range: ambient +5 C to 99 C

Temperature Regulation: ± 0.2 C from set point
 Up to 20 or 80 RPM
 Programmable digital controls

Displayed Parameters:

Digital display of temperature
 Calibration mode included to ensure accurate readings

Accessories:

Complete with standard and operation accessories;

1. **Hybridization Cassette:**
 - Two piece design reduces handling errors
 - Replaces 4x single slide Agilent SureHyb chambers or equivalent
 - Priced 40% less than 4x Agilent SureHyb chambers or equivalent
 - Automation compatible – micro plate footprint
2. Jog switch adjusts rotator position for easy cassette loading
3. Compatible Imported Online Sine wave UPS with Battery backup for 2 hours (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
4. Operating Manual with a Soft Copy
5. Operating Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology, Immunology
Generic Name	IMMUNOASSAY ANALYZER
Clinical Purpose	An immunoassay is a biochemical test that measures the presence or concentration of a macromolecule or a small molecule in a solution through the use of an antibody (usually) or an antigen (sometimes). The molecule detected by the immunoassay is often referred to as an "analyte" and is in many cases a protein, although it may be other kinds of molecules, of different size and types, as long as the proper antibodies that have the adequate properties for the assay are developed. Analytes in biological liquids such as serum or urine are frequently measured using immunoassays for medical and research purposes.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Fully automatic Random Access Analyzer for routine and specialized immunoassays
 Chemilumiscence based System
 Qualitative and quantitative analysis assays
 Onboard reagent Refrigeration
 Automatic Rerun Facility for out of range results
 Bar Code Reader for Reagents and Samples

The reagent vials with caps close automatically, no reagent evaporation
 Automatic sample clot detection and rejection in each sample to ensure every sample is clear
 Automated operation, no manual loading of test units / test cartridges etc.
 RS 232 or USB Interface
 220V 50 Hz, AC

User Adjustable Settings:

Sample type: Serum , plasma or urine
 Sample volume: 150 to 250 ul test dependent
 Through put min 80 tests/hr or more
 Sample Capacity should be at least 50 samples with continuous loading platform
 Up to 24 Reagents on-board at a time
 Parameters to be decided by the procuring agency as per requirements of end user

Displayed Parameters:

Automatic assays of analytes related to Cancer,
 Infectious diseases, Cardiovascular disease,
 Thyroid disease, Fertility/Hormones, Polio & Vitamins
 Hepatitis markers

Accessories:

- Complete with standard and operation accessories;
- Built-in or External Laser Printer
 - Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	Inoculation Hood
Clinical Purpose	The inoculation hood is used to create bacteria, fungus free atmosphere in the chamber with ultra violet germicidal light and it is used in biological culture studies

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Tabletop model with viewing glass
 Inoculation hood with size around 3'
 Made of Stainless Steel with clear fixed window for viewing
 Two opening ports for insertion of hands
 Two door on two sides to keep Glassware. Almost air tight chamber.
 220V 50 Hz, AC

Accessories:

Complete with standard and operation accessories;

- Fluorescent light
- UV light
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Molecular Biology
Generic Name	Laboratory Incubator
Clinical Purpose	An incubator is a device used to grow and maintain microbiological cultures or cell cultures. The incubator maintains optimal temperature of the atmosphere inside. Incubators are essential for a lot of experimental work in cell biology, microbiology and molecular biology and are used to culture both bacterial as well as eukaryotic cells.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Microprocessor controlled unit/ Thermostatically controlled Unit should have four side heating option Unit should be made of Stainless Steel from inside and outside Glass door for inner viewing 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Adjustable temperature range of +5 °C above ambient up to +80 °C or more Accuracy: (+/-) 1 deg C Capacity and size 100 liters or more</p> <p><u>Displayed Parameters:</u> Digital display of temperature and time Fitted with thermostat, thermometer, digital timer</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Two shelves • Servo Controlled Voltage Stabilizer with surge protection facility • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	

Optional:

Clinical Specialty	Microbiology
Generic Name	LABORTARY STERLIZER LARGE
Clinical Purpose	Steam sterilizers (sometimes referred to as steam autoclaves, or just autoclaves) are an essential part of the decontamination and sterilization process performed by Central Sterile Services Departments (CSSD) in healthcare facilities

TECHNICAL SPECIFICATIONS

Detailed Requirement:

High pressure Vertical/Horizontal Steam Sterilizer
Built in Electric Steam Generator and connection for external steam supply
Fully automatic, programmable, micro processor type
Automatic one door/Manual
Chamber and Door Material SS 304L
Should be provided with over pressure safety valve
Safety interlock
Automatic heat exchanger and Air detector
Door should be hinged type with screw wheel handle
Door sealing assisted with high quality silicon Gasket
Steam Generator provided with Automatic Water feeding for continuous operation
3 phase, 380V, 50Hz.

User Adjustable Settings:

Capable of taking both packets and containers of all standard sizes
Chamber volume 100 Ltr or more
Time cycled, working temperature 121 degree C at 15 PSI

Displayed Parameters:

Temperature & Pressure recorder
Chamber pressure indicator
Cycle indicator to determine the phase of sterilization cycle
Automatic Cycle completion indicator or buzzer
Program/Cycle selection

Accessories:

Complete with standard accessories;

- Removable shelves
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology, Haematology
Generic Name	LABORTARY STERLIZER SMALL
Clinical Purpose	Steam sterilizers (sometimes referred to as steam autoclaves, or just autoclaves) are an essential part of the decontamination and sterilization process performed by central sterile services departments (CSSD) in healthcare facilities
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> System should be fully automatic microprocessor controlled horizontal steam sterilizer high-speed pre & post vacuum treatment The door system should be automatic with locking device. The system should be based on a screw and a self-aligning nut The sterilizer's framework, piping and housing should be made up of stainless steel quality Sterilizer should be equipped with a diaphragm vacuum pump, combined with a heat exchanger, and should be a pre-vacuum and post vacuum sterilizer The sterilizers should be equipped with 2 Water Reservoirs one for the tap water and one for drain water The Sterilizers should be equipped with an Energy Saving Mode which should be activated when the unit is not in use for a certain period of time</p> <p><u>User Adjustable Settings:</u> Capacity: 30 litter or more Sterilizer should be equipped with 2.9KW built-in steam generator The chamber should be jacketed with an electrical heater (300 W) System should have the temperature range of up to 137°C (279°F) Pressure up to 2.3 bars (34 psi)</p> <p><u>Displayed Parameters:</u> The system should have a 5" or more digital touch-screen graphic display , communication, self and remote diagnosis and PC connection for external documentation and printing The sterilizer should show's real time graph of cycles while it's running The Sterilizer should be equipped with 5 Pre-programmed cycle and 2 test cycles Memory for at least last 10 cycles</p>	
<p><u>Accessories:</u> Complete with standard accessories;</p> <ul style="list-style-type: none"> • The unit should be supplied with an integrated impact printer • A disposable air filter (HEPA) should be provided for filtering the atmospheric air before entering in the chamber • Removable shelves • Operating Manual with a Soft Copy 	

<ul style="list-style-type: none"> • Service Manual with a Soft Copy
<u>Optional:</u>

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	MEDICAL REFRIGERATOR WITH FREEZER
Clinical Purpose	The Medical Refrigerators of complete and integrated solutions for pharmaceuticals, medicines and temperature sensitive biologicals, but also suite the stable and reliable laboratory requirements. The refrigerators provide an ideal temperature environment for clinical, pharmaceutical and industrial research.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Temperature Control Control of temperature for individual refrigerator and freezer compartments Interior light in refrigerator compartment 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> (Refrigerator) +2 to +8 Deg C (Freezer) - 4 Deg C Capacity: 10 CFT</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories</p> <ul style="list-style-type: none"> • 3-4 adjustable polyurethane/Nylon coated wire shelves • Servo Controlled Voltage Stabilizer with surge protection facility • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	

Clinical Specialty	Haematology, Microbiology, Histopathology
Generic Name	Bi-Head MICROSCOPE
Clinical Purpose	A microscope is an instrument used to see objects that are too small for the naked eye. The science of investigating small objects using such an instrument is called microscopy. Microscopic means invisible to the eye unless aided by a microscope. The most common (and the first to be invented) is the optical microscope, which uses light to image the sample.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Bi- Head Microscope
Standard microscope with infinity color corrected optics
Trinocular head, adjustable inter papillary distance
Tube head with an inclination of 30 Degree or more
Rotating quadruple/quintuple nose piece
2-layer with mechanical sliding stage, 150x200 mm, moving range 75x50 mm
Condenser carrier, vertically/horizontal adjustable
Bright field condenser, N.A. of 1.25
Aperture iris diaphragm
LED illumination
220V 50 Hz, AC

User Adjustable Settings:

Coaxial coarse and fine focusing system, with focusing stop mechanism
Variable intensity control system
Eyepiece lenses:-
10x wide field, focusable, FN 20mm
4x Scanning lens, NA=0.1, WD=18.5
10X NA=0.25, WD=10.6
20X NA=0.4, WD=1.2
40x NA=0.65, WD=0.6
100x NA=1.25, oil immersion, WD=0.13
Polarizing Lens

Accessories:

- Complete with standard and operation accessories;
- Carrying case
- Dust cover
- Immersion oil

Camera: Built-in or Separate

- C mount type microscope camera
- 8 or more frames per second at 5.0MP
- Workable with windows operating system
- Medical grade 5 or more mega pixel
- Editable software
- Memory : 8 GB or more
- Compatible PC
- Color LCD Display:
 - 17" inch or above (locally provided) HP, Samsung, Sony or Equivalent
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty

Microbiology, Histopathology, Haematology

Generic Name	BINOCULAR MICROSCOPE
Clinical Purpose	A microscope is an instrument used to see objects that are too small for the naked eye. The science of investigating small objects using such an instrument is called microscopy. Microscopic means invisible to the eye unless aided by a microscope. The most common (and the first to be invented) is the optical microscope, which uses light to image the sample

TECHNICAL SPECIFICATIONS

Detailed Requirement:
Standard microscope with infinity color corrected optics
Binocular head, adjustable inter papillary distance
Tube head with an inclination of 30 Degree or more
Rotating quadruple/quintuple nose piece
2-layer with mechanical sliding stage, 150x200 mm, moving range 75x50 mm
Condenser carrier, vertically/horizontal adjustable
Bright field condenser, N.A. of 1.25
Aperture iris diaphragm
LED illumination
220V 50 Hz, AC

User Adjustable Settings:
Coaxial coarse and fine focusing system, with focusing stop mechanism
Variable intensity control system
Eyepiece lenses:-
10x wide field, focusable, FN 20 mm
Objective lenses (Achromat):-
4x Scanning lens, NA=0.1, WD=18.5
10X NA=0.25, WD=10.6
20X NA=0.4, WD=1.2
40x NA=0.65, WD=0.6
100x NA=1.25, oil immersion, WD=0.13

Accessories:
Complete with standard and operation accessories;

- Carrying case
- Dust cover
- Immersion oil
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:
Polarizing Lens

Clinical Specialty	Haematology, Microbiology, Histopathology
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Generic Name	MICROSCOPE Multi-Head
Clinical Purpose	A microscope is an instrument used to see objects that are too small for the naked eye. The science of investigating small objects using such an instrument is called microscopy. Microscopic means invisible to the eye unless aided by a microscope. The most common (and the first to be invented) is the optical microscope, which uses light to image the sample
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Multi Head Microscope with five heads Standard microscope with infinity color corrected optics Trinocular head, adjustable inter papillary distance Tube head with an inclination of 30 Degree or more Rotating quadruple/quintuple nose piece 2-layer with mechanical sliding stage, 150x200 mm, moving range 75x50 mm Condenser carrier, vertically/horizontal adjustable Bright field condenser, N.A. of 1.25 Aperture iris diaphragm LED illumination 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Coaxial coarse and fine focusing system, with focusing stop mechanism Variable intensity control system Eyepiece lenses:- 10x wide field, focusable, FN 20mm. 4x Scanning lens, NA=0.1, WD=18.5 10X NA=0.25, WD=10.6 20X NA=0.4, WD=1.2 40x NA=0.65, WD=0.6 100x NA=1.25, oil immersion, WD=0.13 Polarizing Lens</p> <p><u>Accessories:</u></p> <ul style="list-style-type: none"> • Complete with standard and operation accessories; • Carrying case • Dust cover • Immersion oil <p>Camera: Built-in or Separate</p> <ul style="list-style-type: none"> • C mount type microscope camera • 8 or more frames per second at 5.0MP • Workable with windows operating system • Medical grade 5 or more mega pixel • Editable software • Memory : 8 GB or more • Compatible PC 	

<ul style="list-style-type: none"> • Color LCD Display: • 17"inch or above (locally provided) HP, Samsung, Sony or Equivalent • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<u>Optional:</u>

Clinical Specialty	Microbiology, Histopathology, Haematology
Generic Name	TRINOCULAR MICROSCOPE
Clinical Purpose	A microscope is an instrument used to see objects that are too small for the naked eye. The science of investigating small objects using such an instrument is called microscopy. Microscopic means invisible to the eye unless aided by a microscope. The most common (and the first to be invented) is the optical microscope, which uses light to image the sample

TECHNICAL SPECIFICATIONS

Detailed Requirement:
 Trinocular microscope 360° rotating, inclined at 30°
 Wide Field 10X / 20 mm
 Quadruple/Quintuple nose piece
 2-layer with mechanical sliding stage, 150x200mm, moving range 75x50 mm
 LED Illumination
 1.25 N.A. Abbe type Condenser
 220V 50 Hz, AC

User Adjustable Settings:
 Coaxial coarse and fine focusing system, with focusing stop mechanism
 Achromatic 4x, 10x, 40x and 100x (oil immersion)
 4x Scanning lens, NA=0.1, WD=18.5
 10X NA=0.25, WD=10.6
 20X NA=0.4, WD=1.2
 40x NA=0.65, WD=0.6
 100x NA=1.25, oil immersion, WD=0.13
 Polarizing Lens

Accessories:

- Complete with standard and operation accessories;
- Carrying case
- Dust cover
- Immersion oil

Camera: Built-in or Separate

- C mount type microscope camera
- 8 or more frames per second at 5.0MP
- Workable with windows operating system

- Medical grade 5 or more mega pixel
- Editable software
- Memory : 8 GB or more
- Compatible PC
- Color LCD Display:
- 17"inch or above (locally provided) HP, Samsung, Sony or Equivalent
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Laboratory Microwave Oven General Purpose
Clinical Purpose	General-purpose laboratory microwave oven featuring high-performance fume extraction. Excellent for general laboratory use (slide drying, histology staining, etc.)

TECHNICAL SPECIFICATIONS

Detailed Requirement:
 Microprocessor based PID control
 Stainless steel interior & exterior for easy maintenance, long life
 High-performance vent system with standard 4" output; connect to fume hood or vent stack
 Microwave stirrers (no carousel necessary) for even microwave distribution, no "hot spots"
 Tall chambers, for tall containers and vessels
 Illuminated interiors with stain-resistant ceramic floors
 Power Source 220V, 50HZ AC

User Adjustable Settings:
 Vent system output: 100cfm
 Presets available: 20
 Number of power settings: 5

Displayed Parameters:
 Digital display to show the time
 Digital countdown timer, accurate to 1 second

Accessories:
 A full line of accessories including ;

- Racks
- containers
- Tray carriers
- Microwave leakage detector
- 8' Ventilation Hose
- Microwave Companion

<ul style="list-style-type: none"> • Servo Controlled Voltage Stabilizer with surge protection facility • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<p>Optional:</p> <ul style="list-style-type: none"> • Temperature Control for accurate results • Digital display to show the chamber temperature

Clinical Specialty	Histopathology
Generic Name	Laboratory Microwave Oven for Histology
Clinical Purpose	Histology laboratory microwave oven ever, featuring high-performance fume extraction. Excellent for histology use (slide drying, histology staining, etc.)

TECHNICAL SPECIFICATIONS

Detailed Requirement:
 Microprocessor based PID control
 Stainless steel interior & exterior for easy maintenance, long life
 High-performance vent system with standard 4" output; connect to fume hood or vent stack
 Microwave stirrers (no carousel necessary) for even microwave distribution, no "hot spots"
 Tall chambers, for tall containers and vessels
 Illuminated interiors with stain-resistant ceramic floors
 Adjustable air agitation ensures even temperature and reagent dispersion for all specimens
 Preset & variable time entry
 Power Source 220V, 50HZ AC

User Adjustable Settings:
 Vent system output: 100 cfm
 Presets available: 40
 Number of power settings: Full scale variable power (0-100%)

Displayed Parameters:
 Digital display to show the time
 Digital countdown timer, accurate to 1 second

Accessories:
 A full line of accessories including ;

- Racks
- containers
- Tray carriers
- Microwave leakage detector
- 8' Ventilation Hose

- Microwave Companion
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

- Temperature Control for accurate results
- Digital display to show the chamber temperature

Clinical Specialty	Microbiology
Generic Name	Mycobacterial Detection System
Clinical Purpose	Automated system for high-volume mycobacteria growth, detection and susceptibility testing.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Automated mycobacteria growth detection & sensitivity testing system having photo detectors measuring fluorescence levels.

Designed to meet the needs of medium and high volume laboratories

Walk-away/automated mycobacteria growth detection & automated sensitivity of TB drugs including streptomycin, ionized, rifampicin, ethambutol & pyrazinamide TB culture and sensitivity of Anti TB drugs.

Mycobacteria culture tubes containing fluorescent sensors that respond to oxygen concentration in the culture medium & Anti TB drugs sensitivity-testing kits.

Susceptibility Test for Mycobacterium Tuberculosis to PZA

A non-radiometric system with Mycobacteria Growth Indicator Tube system having media and patented sensors, making efficient use of advanced fluorometric technology which permits highly accurate detection of O2 consumption without sharps.

On-board incubation means no sharps, and no need to handle or transfer tubes once the system is loaded - thus reducing labor requirements and adding on an extra layer of operator safety.

Automated quality control is performed continuously to ensure precise and reliable operation. Results are provided as positive/negative and numerical Growth Units
Built-in computer; liquid crystal display key pad; floppy disk drive or CD/DVD Drive System should automatically direct the placement of each tube within the instrument and indicates positives with both a visual and an audible signal as they occur

USB/RS-232 Interface

Input voltage, 220 volts AC. 50 Hz.

User Adjustable Settings:

960 tubes capacity or more

Throughput: 8000 specimens per year

Displayed Parameters:

LCD display for results

Continuous monitoring identifies positives as they occur.

Faster results can improve patient care and lower healthcare costs by reducing hospital stays and optimizing equipment and staff utilization

Bar code scanning for eliminating potential errors
 Data Management System to perform statistical analyses and accommodates different customer preferences.
 It also provides simple specimen tracking along with a flexible and dynamic reporting system for more in-depth data management needs

Accessories:

Complete with standard and operation accessories;

- Mycobacteria Growth Indicator Tube Plastic Tubes
- Mycobacteria Growth Indicator Tube SIRE Kit
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Built-in Printer or compatible printer
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	PH Meter
Clinical Purpose	A pH Meter is a scientific instrument that measures the hydrogen-ion concentration (or pH) in a solution, indicating its acidity or alkalinity. The pH meter measures the difference in electrical potential between a pH electrode and a reference electrode. It usually has a glass electrode plus a calomel reference electrode, or a combination electrode. In addition to measuring the pH of liquids, a special probe is sometimes used to measure the pH of semi-solid substances.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> PH meter with auto and manual temperature from 0 to 99.9 °C System should have auto buffer recognition system for 3 buffer PH 4, pH 7 and pH9.21. Connectivity for computer and printer 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> PH range: 0-14 or more Mv range +/-1999 or better Ta (C) 0 to 99.9 or better</p> <p><u>Displayed Parameters:</u> Digital display for measured values</p>	

Accessories:

Complete with standard and operation accessories

- Temperature sensor
- pH Electrode
- Electrode's support stand
- With Built-in Thermal Printer or External Laser Printer
- Consumables, reagents, calibrators, controls for start up
- Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Pharmaceutical Refrigerator or Laboratory Refrigerator Large Size
Clinical Purpose	The Medical Refrigerators of complete and integrated solutions for pharmaceuticals, medicines and temperature sensitive biologicals, but also suite the stable and reliable laboratory requirements. The refrigerators provide an ideal temperature environment for clinical, pharmaceutical and industrial research.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

For storage of specimens, diagnostic kits, reagents and Anti serum
Internally and externally made of made of stainless steel with insulation thickness of 75mm or better
Door must be made of same material
Controlled fan cooling system
Glass door with safety insulation
Safety thermostat
Fan based refrigeration system
220V 50 Hz, AC

User Adjustable Settings:

Temperature control should be available on panel with 2 levels of security
Temperature Set Ranges: +0 to +15 Degree Centigrade
Alarm Settings: +15 Degree Centigrade
Ambient Temperature Range: +10 to +32 Degree Centigrade
Gross Volume: 500 Liters or more
Hold over Time: 30 Minutes

Displayed Parameters:

Color display for temperature and settings
 Digit audible and visual alarm for door ajar, power failure, automatic defrosting system, temperature indicator, digital temperature display alarm, silence button, lights switch & temp
 Alarms must be battery driven
 Door opening alarm

Accessories:

Complete with standard and operation accessories

- Three shelves
- Internal light
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

- Door Lock
- Chart Recorder

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Pharmaceutical Refrigerator or Laboratory Refrigerator Small Size
Clinical Purpose	The Medical Refrigerators of complete and integrated solutions for pharmaceuticals, medicines and temperature sensitive biologicals, but also suite the stable and reliable laboratory requirements. The refrigerators provide an ideal temperature environment for clinical, pharmaceutical and industrial research.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> For storage of specimens, diagnostic kits, reagents and Anti serum Internally and externally made of made of stainless steel with insulation thickness of 75mm or better Door must be made of same material Controlled fan cooling system Glass door with safety insulation Safety thermostat Fan based refrigeration system 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Temperature control should be available on panel with 2 levels of security</p>	

Temperature Set Ranges: +0 to +15 Degree Centigrade
 Alarm Settings: +15 Degree Centigrade
 Ambient Temperature Range: +10 to +32 Degree Centigrade
 Gross Volume: 200 Liters or more
 Hold over Time: 30 Minutes

Displayed Parameters:

Color display for temperature and settings
 Digit audible and visual alarm for door ajar, power failure, automatic defrosting system, temperature indicator, digital temperature display alarm, silence button, lights switch & temp
 Alarms must be battery driven
 Door opening alarm

Accessories:

- Complete with standard and operation accessories;
- Three shelves
 - Internal light
 - Servo Controlled Voltage Stabilizer with surge protection facility
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

- Door Lock
- Chart Recorder

Clinical Specialty	Blood Bank
Generic Name	Plasma Storage Freezer
Clinical Purpose	Plasma Freezer provides an ideal freezing environment for the preservation of vaccines, blood plasma, test samples and specimens. Biomedical Plasma Freezer has a storage environment with excellent safety features, easy operability, and a lot of other features. Biomedical Plasma Freezer offers unsurpassed reliability and functionality for short or intermediate term storage at temperatures as low as -40°C.

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Stainless Steel Interior
 Automatic defrost (hot gas)
 Automatic closing of the door
 Controlled fan cooling
 Key operated power switch
 Safety door lock

Interior doors to minimize loss of refrigeration
 Integrated RS485 interface
 220V 50 Hz, AC

User Adjustable Settings:

Temperature range down to -40°C
 Gross volume of 8 cu. ft or more
 Net capacity : minimum 120 plasma bags of 450ml
 200-250 min hold over time at +25 C ambient temperature

Displayed Parameters:

Digital temperature display
 Acoustical and visual alarm for temperature and power failure
 Alarm system with battery backup
 Door opening alarm

Accessories:

Complete with standard and operation accessories;

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	PLATELET SHAKER
Clinical Purpose	Widely used in blood banks and clinical research laboratories, a platelet shaker (also referred to as platelet agitator) serves as platelet storage in motion, typically at a fixed speed. Platelet agitators offer a wide range of storage capacities. A platelet shaker is composed of a number of tray levels, which allows for air circulation and ventilation to allow oxygen transfer to the platelets. Platelet shakers can be used with platelet incubators or stand-alone units

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Microprocessor controlled
 Desktop type with silicon rubber plate
 Its rollers and glides allow the drawer storage platform to agitate smoothly
 Sturdy, one piece perforated drawer for uniform air circulation
 The drawer will be removable type
 220V 50 Hz, AC

User Adjustable Settings:

Capacity to hold at least 48 bags
 Speed range 30 – 300 rpm
 Timer minimum for 24 hours

Displayed Parameters:

Digital display and alarm function
 Motion alarm system

Accessories:

Complete with standard and operation accessories;

- Spring rack/holder
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank
Generic Name	PLATELET INCUBATOR WITH AGITATOR
Clinical Purpose	Widely used in blood banks and clinical research laboratories, a platelet incubator provide accurate and stable storage conditions for platelets, small cell fragments most commonly known for playing a role in wound repair/blood clotting. Platelet incubators are available in compact units for small institutions to large floor models for maximum capacity. Most models feature built-in agitators, motion failure alarms, and circular chart recorders.
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u>	
<p>Internal made of stainless steel Dual Pane, Tempered glass door Bacteria resistant Forced air circulation Key Lock RS 232 or USB Interface 220V 50 Hz, AC</p>	
<u>User Adjustable Settings:</u>	
<p>40-50 Bags Storage Continuous control of temperature</p>	
<u>Displayed Parameters:</u>	
<p>Digital display for temperature</p>	

Motion Failure Alarms
<p><u>Accessories:</u></p> <ul style="list-style-type: none"> • Complete with standard and operation accessories; • Chart Recorder • Operating Manual with a Soft Copy • Service Manual with a Soft Copy
<p><u>Optional:</u></p>

Clinical Specialty	Microbiology
Generic Name	REAL TIME PCR MACHINE
Clinical Purpose	The thermal cycler (also known as a thermocycler, PCR machine or DNA amplifier) is a laboratory apparatus most commonly used to amplify segments of DNA via the polymerase chain reaction (PCR)

TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u></p> <p>Automated Diagnostic PCR System Both Qualitative and Quantitative Test assay Simultaneous amplification and detection without operator intervention Active heating /cooling device of the thermo block Peltier elements Excitation source LED Detector CCD matrix camera Number of channels of measuring fluorescence 4 Excitation /detection wavelengths, nm 470/520, 530/570, 590/630, 630/670 Multipurpose flexibility and high sensitivity High sensitivity, optimal signal/noise ratio and a low inter channel cross talk ensured by the unique design of the optical track including a separate light source for each channel and a matrix CCD camera. Board dynamic range of detection achieved by employing multiple exposure method, which takes the optimization of signal registration conditions to a whole new level, greatly simplifying or even eliminating the need for photometric settings. Real-time quantification, melting curve analysis, single nucleotide polymorphisms (SNPs) genotyping biocenosis and gene expression analysis among key applications. Light emitting diodes (LED) as a light source that, unlike halogen lamps, does not deteriorate over the life time of about 100,000 hours and therefore does not require maintenance or constant monitoring. Any batch of data can be viewed and analyzed by the user using computer while another amplification program is being executed. The device is an open system and is not limited for use with specific reagents or plastic. Can be easily integrated in any laboratory information system (LIS) as the device can save all data in standard graphic or test formats ready to be loaded into databases. Power Sources 220V, 50HZ AC</p>	

User Adjustable Settings:

Thermal block format test tubes for 0.2 ml (12x8), microtiter plates, in 48, 96 or 384 well formats

Type of test tube 0.2-ml PCR tubes (separate, in strips of 8x12 or PCR micro plates)

Sample Size: 15-100 µl

Temperature range of the thermo block 4 – 100dg C

Temperature setting increment 0.1 dg C

Precision of temperature maintenance 0.3 dg C

Heating ramping rate, 2.5 – 3.5 dg Co /sec.

Cooling ramping rate, 1.4 – 2.2 dg C

Displayed Parameters:

Digital display for the results

Accessories:

- One Latest Version Branded Computer with 19" LCD with the system
- One other computer for reporting purpose i7 Latest Version Branded with 19" LCD
- Printer Laser 2000 series HP or compatible
- Two Centrifuge machine up to 14000 rpm with Digital Display made for 24 wells of 1.5 ml tubes in the single circle
- One Dry Heat Block with 48 wells for 1.5 ml Tube
- One Vortex Mixer
- Imported Compatible Sine wave UPS for back up of up to 3 hours (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Firm must quote the regents to make the system functional
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Haematology, Microbiology, Immunology
Generic Name	REFRIGERATED CENTRIFUGE MACHINE (FOR BLOOD PRODUCTS PREPARATION)
Clinical Purpose	Refrigeration constitutes an important added feature to any laboratory centrifuge. A refrigerated lab centrifuge comes in a number of configurations, including swing bucket or fixed-angle types, or both. These centrifugation systems utilize centrifuge tips and tubes or well-plates for use in a number of applications, with capacities reaching 4 x 500 ml. Refrigerated centrifuges offer the added benefit of cooling to protect from sample degradation caused by heat generated by the action of spinning.
TECHNICAL SPECIFICATIONS	

Detailed Requirement:

Floor type Refrigerated Centrifuge machine
Swing out rotor for blood bags
Brushless motor
Noiseless and vibration free
Imbalance detection
Lid safety interlock
220V 50 Hz, AC

User Adjustable Settings:

Integrated refrigeration system with a temperature range of -20C to +40C
Maximum speed 200-14,000 rpm
Relative centrifugal force (RCF) not less than 20,800 x g
Maximum capacity 6 x 500ml
Timing 0 to 60 minutes; continuous

Displayed Parameters:

Programmable
Digital display of programme speed, timing, braking
Self diagnostic with error display
Over temperature alarm

Accessories:

Complete with standard and operation accessories

- Compatible Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Refrigerator Large Size
Clinical Purpose	In Refrigerator pharmaceutical items can be kept for long periods at a very low temperature

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Medical grade type
Interior and Exterior made of Stainless steel
Tropical type
Laboratory use with interior light, magnetic door, adjustable shelves
CFC free refrigerant
LAN Converter

220V 50 Hz, AC

User Adjustable Settings:

20 cu.ft. capacity

150-200 min hold over time at +25 C ambient temperature

Displayed Parameters:

Variable temperature and alarm setting range

Alarm system with battery backup

Accessories:

Complete with standard and operation accessories;

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Refrigerator Medium Size
Clinical Purpose	In Refrigerator pharmaceutical items can be kept for long periods at a very low temperature
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Medical grade type Digital temperature controlled Tropical type Laboratory use with interior light, magnetic door, adjustable shelves. CFC free refrigerant. 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> 10 Cubic feet vertical 60-80 min hold over time at +25 C ambient temperature</p> <p><u>Displayed Parameters:</u> Variable temperature and alarm setting range. Alarm system with battery backup</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none">• Servo Controlled Voltage Stabilizer with surge protection facility• Operating Manual with a Soft Copy	

<ul style="list-style-type: none"> • Service Manual with a Soft Copy
<u>Optional:</u>

Clinical Specialty	Haematology, Microbiology, Histopathology
Generic Name	ROLLER MIXER
Clinical Purpose	The Roller (tube) mixer provides a gentle but highly efficient rocking and rolling motions, ideal for mixing blood samples, viscous substances and liquid-solid suspensions. Used in a variety applications, prevention of blood coagulation and immune precipitation etc.

TECHNICAL SPECIFICATIONS

<p><u>Detailed Requirement:</u> Roll mixer for biological and hematological fluids with 6 or more rollers Double action system for rolling and rocking should be available 6 roller rocking and rolling motion for complete mixing Continuous or timer operation Drip tray contains accidental spillages Can be used in cold rooms or incubators DC brushless motor is quiet and maintenance free Cold room and incubator compatible 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Selectable speed from 10-70 RPM Digital speed control Unit should be capable of handling tubes up to 35mm</p> <p><u>Displayed Parameters:</u> LCD display Speed and timer can be viewed simultaneously</p>

<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Servo Controlled Voltage Stabilizer with surge protection facility • Operating Manual with a Soft Copy • Service Manual with a Soft Copy

<u>Optional:</u>

Clinical Specialty	Chemical Pathology
Generic Name	SEMI -AUTOMATIC CLINICAL CHEMISTRY ANALYZER
Clinical Purpose	Chemistry Analyzers are used to determine the

	concentration of certain metabolites, electrolytes, proteins, and/or drugs in samples of serum, plasma, urine, cerebrospinal fluid, and/or other body fluids.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirements:</u> Semi automatic clinical chemistry analyzer Facility for multiple standards for one parameters Freely programmable against all commercially available chemistries Temperature controlled cuvette compartment 220V, 50 Hz operated</p> <p><u>User Adjustable Settings:</u> Wavelength selectable via individual filters in the range of UV-VIS 340, 405, 492, 520, 546, 578, 623, 720nm End Point, two points kinetic + kinetic modes Minimum Sample Volume: 400-500 ul or test dependent</p> <p><u>Displayed Parameters:</u> Digital display for showing values Identification of upper and lower limits</p>	
<p><u>Accessories:</u></p> <ul style="list-style-type: none"> • With Built-in Thermal Printer or External Laser Printer • Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
Optional (If any):	

Clinical Specialty	Haematology
Generic Name	SEMI AUTOMATIC COAGULOMETER
Clinical Purpose	Blood clotting tests are the tests used for diagnostics of the hemostasis system. Coagulometer is the medical laboratory analyzer used for testing of the hemostasis system. Modern coagulometers realize different methods of activation and observation of development of blood clots in blood or in blood plasma
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Semi- automatic 4 channel open system Complete with automated pipettes and quick start Optical system for end point reading RS 232 or USB Interface 220V 50 Hz, AC</p>	

User Adjustable Settings:

Minimum capacity of 8-10 cuvettes
2-reagents positions

Displayed Parameters:

Digital display for results

Accessories:

Complete with standard and operation accessories;

- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology
Generic Name	SEMI-AUTOMATAIC WASH AND ELISA TEST READER
Clinical Purpose	Plate readers, also known as micro plate readers or micro plate photometers, are instruments which are used to detect biological, chemical or physical events of samples in microtiter plates
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> With reader and washer</p> <p><u>Reader:</u> Automatic Elisa reader with built-in shaker and incubator Easy to use internal software or PC control Ports: USB and Ethernet port 220V 50 Hz, AC</p> <p><u>Shaker:</u> User programmable</p> <p><u>Incubator:</u> In built</p> <p><u>Washer:</u> Inbuilt shaker with soaking and washing time between 3-4 min Can be connected to computer directly or through USB 220V 50 Hz, AC</p>	

User Adjustable Settings:**Reader:**

Filter range: 8 selectable filters

Wave length range: 340 to 850 nm

Linearity (96-well plate, 405 nm) 0 to 3 Abs \pm 2% Fast mode, 0 to 3 Abs \pm 2%

Normal mode

Linearity (384 – well plate, 405 nm)) 0 to 2.5 Abs \pm 2%, Fast mode 0 to 3 Abs \pm 2%

normal mode

Measuring mode: End point, two-point and kinetic

Read out range: 0 to 6 Abs

Measurement speed 6 sec, 96 well plate, Fast mode 12 sec

Linear shaking with three modes, slow, medium, fast

8 position fitter holder with 405, 450 and 620 mm installed

And all other filter also quote as an option

Temperature range ambient +4 up to 50 C

Washer:

Different type of washing 8 or 12 or 16 channels

Wash head 1X8, 1X12, 1X16, 1X8 cell,

Number of wash bottles up to 3

Plate types 96 well, 384 well plates

Cell washing included. LCD color display

Wash volume 5 to 1000 μ L (96 well) and 20 to 300 μ L (384 well)

Prime volume 5 to 100 ml

Rinse volume 5 to 100 ml

Dispense volume 50 to 400 μ L (96well), 20 to 120 μ L (384 well)

Residual volume < 1.5 μ L

Displayed Parameters:

Digital display for Reader and Washer for all operations and results

Data storage capacity: 100 for Reader

Data storage capacity of at least 40- 50 programs for Washer

Accuracy 405 nm \pm 1 % (0.3 to 03 Abs) \pm (2 to 4 Abs)

Precision 405 nm CV \leq 0.2% (0.3 to 03 Abs), CV \leq 1.0% (3 to 4 Abs)

Accessories:

Complete with standard and operation accessories

- Built-in or External Laser Printer
- Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology
Generic Name	SPECTROPHOTE METER
Clinical Purpose	A spectrophotometer is commonly used for the measurement of transmittance or reflectance of solutions, transparent or opaque solids, such as polished glass, or gases. However they can also be designed to measure the diffusivity on any of the listed light ranges that usually cover around 200 nm - 2500 nm using different controls and calibrations. Within these ranges of light, calibrations are needed on the machine using standards that vary in type depending on the wavelength of the photometric determination.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Microprocessor based Spectrophotometer Double beam measuring system for accurate results Double bulb optical system to cover full range of wave length Long life bulb Multi-Wavelength assays facility RS 232 or USB Interface 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Auto Lamp and Filter Selection by changing the wavelength setting Wavelength range of 340 – 1000 nm Optical path bandwidth of 5-8 nm Sample volume 1.0mL or less Measuring range: -0.200 to 3.000ABS Wave length accuracy of +1.0 nm</p> <p><u>Displayed Parameters:</u> Fully Programmable Graphic display for display of measured value in terms of table and graphs Automatic adjustment of maximum sensitivity Self Test and Calibration.</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Built-in or External Laser Printer • Spare lamps, fuses, dust cover and two quartz cells. • Imported Compatible Sine wave UPS for back up of up to 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent) • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	

Clinical Specialty	Chemical Pathology
Generic Name	THERMOSTATIC WATER BATH
Clinical Purpose	A water bath is laboratory equipment made from a container filled with heated water. It is used to incubate samples in water at a constant temperature over a long period of time. All water baths have a digital interface to allow users to set a desired temperature.
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> Microprocessor PID-temperature controller Exterior body of steel sheet Double skinned tank, inner case made of stainless steel Perforated stainless steel bottom tray Temperature control for regulation of temperature Gabled lid Power Source 220V, 50HZ AC</p> <p><u>User Adjustable Settings:</u> Capacity of 20-25 Liters Adjustable temperature range from +5C above ambient up to 100C Temperature accuracy of + 1%</p> <p><u>Displayed Parameters:</u> Built in thermometer Digital display of temperature and time Adjustable timer for time setting Fault indication system Over temperature protection system</p>	
<p><u>Accessories:</u></p> <ul style="list-style-type: none"> • Three Racks of different sizes • Servo Controlled Voltage Stabilizer with surge protection facility • With drain tap • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	

Clinical Specialty	Blood Bank, Haematology, Chemical Pathology, Microbiology, Histopathology
Generic Name	Ultra Low Freezer
Clinical Purpose	Ultra low-temperature freezers protect the samples requiring storage temperatures as low as -86°C.

TECHNICAL SPECIFICATIONS**Detailed Requirement:**

Upright ultra low temperature freezer
Microprocessor based control
Cascade system with two hermetically sealed compressors
Internal material of Stainless steel/aluminum
Exterior construction of painted galvanized steel sheet
Interior doors to minimize loss of refrigeration
Door with lock and key
CFC free refrigeration
220V 50 Hz, AC

User Adjustable Settings:

Control via self-diagnostic system
Temperature range down to -80oC
Set temperature range from -20°C to -86°C
Gross Volume of 15 cu. ft or more
150-200 min hold over time at +25 C ambient temperature

Displayed Parameters:

Digital display of all set/ control parameters
Audible and visual alarming facility for;
Power failure
Over/under temperature
Safety settings

Accessories:

Complete with standard and operation accessories;

- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	High Tech URINE ANALYZER
Clinical Purpose	A urine analyzer is a device used in the clinical setting to perform automatic urine testing. High tech Urine Analyzer also performs automated microscopy and automatic image evaluation.
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> Urine analyzer based on photometer principal with 4 differential wavelengths Unit analyze check Specific Gravity, Leucocytes, Nitrite, pH, Protein, Glucose,	

Ketones, Urobilinogen, Bilirubin, Blood, Creatinine, Albumin and Microalbumin to Creatinine ratio in urine
 Microscopy Analysis: RBC, WBC, Crystals, Yeast Cells, Bacteria, Hyaline Casts, Sperm, Mucus, Pathological casts, Non-squamous epithelial cells, Squamous epithelial cells
 Automatic calibration supported for strip and reference cuvette
 Automated Microscopy and automatic image evaluation
 Possibility to connect external Key board
 Connectivity: Connection to external keyboard or bar code reader
 Data transfer: External communication to PC / LIS via RS 232 or USB port
 220V 50 Hz, AC

User Adjustable Settings:

Sample Type: Urine and Dialysate
 Wave length from 490-650nm or better
 Throughput not less than 200 with strip reading and 100 for microscopy

Displayed Parameters:

Digital touch screen display
 Data Storage Capacity: 200 measurements

Accessories:

- Complete with standard and operation accessories;
- With Built-in Thermal Printer or External Laser Printer
 - Consumables, reagents, calibrators, controls for start up
 - Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology
Generic Name	STANDARD URINE ANALYZER
Clinical Purpose	A urine analyzer is a device used in the clinical setting to perform automatic urine testing

TECHNICAL SPECIFICATIONS

Detailed Requirement:

Urine analyzer based on photometer principal
 Unit analyze check Specific Gravity, Leucocytes, Nitrite, pH, Protein, Glucose, Ketones, Urobilinogen, Bilirubin, Blood, Creatinine, Albumin and Microalbumin to Creatinine ratio in urine
 Automatic calibration supported
 Possibility to connect external Key board
 Connectivity: Connection to external keyboard or bar code reader
 Data transfer: External communication to PC / LIS via RS 232 or USB port

220V 50 Hz, AC

User Adjustable Settings:

Sample Type: Urine and Dialysate
Wave length from 490-650nm or better
Throughput not less than 100 test per hour

Displayed Parameters:

Digital touch screen display
Data Storage Capacity: 200 measurements

Accessories:

- Complete with standard and operation accessories;
- With Built-in Thermal Printer or External Laser Printer
 - Consumables, reagents, calibrators, controls for start up
 - Compatible Imported Online Sine wave UPS with Battery backup for 30 minutes (Emerson, Liebert, Chloride, MGE, APC or Equivalent)
 - Operating Manual with a Soft Copy
 - Service Manual with a Soft Copy

Optional:

Clinical Specialty	Microbiology, Histopathology
Generic Name	VORTEX MIXER
Clinical Purpose	A vortex mixer, or vortexer, is a simple device used commonly in laboratories to mix small vials of liquid. It consists of an electric motor with the drive shaft oriented vertically and attached to a cupped rubber piece mounted slightly off-center. As the motor runs the rubber piece oscillates rapidly in a circular motion. When a test tube or other appropriate container is pressed into the rubber cup (or touched to its edge) the motion is transmitted to the liquid inside and a vortex is created. Most vortex mixers have variable speed settings and can be set to run continuously, or to run only when downward pressure is applied to the rubber piece.
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> Quiet and compact stable design Vortex tube mixer for biological fluids with surface of at least 6 cm or more At least two types of mixing modes Vortex mixer to operate when pressure is applied to the rubber cup which receives the vessel containing the materials to be mixed Electronic speed control for constant speed even during changes in load Steel base, silicone feet for ultra stability and vibration damping Motor type: Eccentric, oil less bearings	

Continuous or touch operation
220V 50 Hz, AC

User Adjustable Settings:

Shaking movement: Orbital, 4mm dia
Variable speed control
Frequency of 200-2000 RPM
Accept vessels up to 25mm diameter

Accessories:

Complete with standard and operation accessories;

- Adapters for tubes etc
- Servo Controlled Voltage Stabilizer with surge protection facility
- Operating Manual with a Soft Copy
- Service Manual with a Soft Copy

Optional:

Clinical Specialty	Chemical Pathology
Generic Name	WATER DISTILLATION PLANT
Clinical Purpose	If a liquid such as or water is distilled, it is heated until it changes into steam or vapour and then cooled until it becomes liquid again. This is usually done in order to make it pure.
TECHNICAL SPECIFICATIONS	
<u>Detailed Requirement:</u> Internal tank made of stainless steel with at least 4 litter capacity Safety cut out system In case of insufficient/ low level of water safety cut out 220V 50 Hz, AC	
<u>User Adjustable Settings:</u> Distillation capacity: 4 liters per hour	
<u>Accessories:</u> Complete with standard and operation accessories; <ul style="list-style-type: none">• Operating Manual with a Soft Copy• Service Manual with a Soft Copy	
<u>Optional:</u>	

Clinical Specialty	Chemical Pathology
Generic Name	WATER PURIFICATION SYSTEM
Clinical Purpose	Remove impurities & contaminates with a reverse osmosis water treatment system
TECHNICAL SPECIFICATIONS	
<p><u>Detailed Requirement:</u> For water purification conductivity less than 10µs with reservoir, automatic pressure control and pumping machine, capacity 20 liters/hr Reverse Osmosis Unit Mixed Bed Resin The complete water unit in one box with operating Panel 220V 50 Hz, AC</p> <p><u>User Adjustable Settings:</u> Average water consumption: 20 L/hour The water system should have pre-filter (0.5 micron Filter, Carbon block Cartridge, Granular Activated Carbon), RO Membrane: along with post filter 0.2 Micron or lower filter after the Mixed Bed Resin Raw Water Storage Tank of minimum 300 L Pure Water Storage Tank of minimum 300 L with water level sensor to automatic operate the unit</p> <p><u>Displayed Parameters:</u> The purity of the deionized water should be so that the conductivity is 0 TDS as Final Product There must be a conductivity meter on the final product The water pressure at OUTPUT should be in range 7 to 57 psi Reduction rate for particles and bacteria > 99 %</p>	
<p><u>Accessories:</u> Complete with standard and operation accessories;</p> <ul style="list-style-type: none"> • Operating Manual with a Soft Copy • Service Manual with a Soft Copy 	
<u>Optional:</u>	