PRESSSURE MOULDING MACHINE

SEPECIFICATION –

1. Should be able to produce high quality orthodontic appliances, temporaries, positioners, Model duplication, custom impression trays, mouth guards, fluoride trays etc.
2. Its functions should be electronically controlled, checked and indicated on display.
3. Heating and cooling times should be individually programmed according to each type of procedure.
4. It should be an energy saving device with having built into heating element.
5. It should have LCD clock for control of all heating times.
6. It should have Air button controls for quick depressurization.
7. It should have thermostatic heating infrared technology.
8. It should reach working temperature within one second.
9. Dimension W - (15-20)" D- (8-10)" H- (10-12)"
10. Technical features-
    - (I) Voltage - (115-230) V
    - (II) Frequency – (50-600) Hz.
    - (III) Weight – Max 25 Kg.
    - (IV) Power- (250-500) watt.
    - (V) Working pressure- (1-6) bar.

HANDPIECE AUTOCLAVE

SEPECIFICATION –

1. Digital display of pressure & temperature.
2. Can be used at 121°C/134°C during sterilization.
3. B-type front loading fully automatic autoclave.
4. With vacuum & dry cycle.
5. 22 liter capacity & micro processor controlled.
6. Wrapped/unwrapped, porous, solid instrument including cotton swabs can be sterilized.
7. Bow & dick test qualified, inbuilt sensor for distill water
8. Double safety lock on the door.
9. Silicon Gasket prevents any leakage of air.
10. Diagnostic automatic alarm for any malfunctioning.
11. 2 storage tanks .
12. Chamber size- 250mm x 450mm
13. Total Tray 03 Pieces.
14. Weight 55 kg (approx.)

Department of Pathology

Essential Criteria:

1. Demonstration mandatory at hospital premises at OEM cost.
2. CMC offered for the quoted equipment should not be more than 5% of the quoted model with not more than 5% escalation per year after completion of CMC period.
3. CMC offered for the quoted equipment must be on OEM letterhead for further years. (CMC offered on distributors/ Vendor letterhead will not be considered).
4. Installation process should be performed by OEM trained service engineer/ service representative on OEM's letter head/ service report, with a mandatory provision of providing preventive service visits of OEM trained service engineer/ service representative quarterly per year till completion of warranty period (i.e. 20 visits for first five years) and further quarterly visit (04 visits/ year) till the completion of CMC period.
5. The installation process must be completed by the OEM/ Service provider within 30 days of supply.
6. The accessories/ consumables utilized during the period of installation process should be taken care FOC by OEM/ Service provider.
7. The equipment complies with the requirement of the Medical Device Directive of class I equipment and Electromagnetic compatibility, all supporting documents must be provided.
8. **Equipment should have brand name / model number embossed/ etched on the equipment.**
9. In case of technical snag/ failure/ breakdown, the response time for Inspection should be within 24 Hour and repair within 5 days, otherwise provide a service machine until the period of recovery of breakdown of the unit. Failing which will attract penal action as per the decision of the University (Uptime guarantee of 95%).
10. The page of technical bid should be numbered and checklist should be duly filled as per the annexures and all annexures should be in accordance with the format, otherwise it may be the reason for disqualification.
11. All the technical specifications accepted in the compliance statement must be supported by **Original Literature from the firm/ O.E.M with Highlighting, Numbering & flagging as per below mentioned format for the compliance statement.**

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SPECIFICATION OF ELECTROLYTE ANALYZER

1. For analysis of Electrolytes in serum, plasma, urine and body fluids.
2. , System should measure Na, K, Cl, Ca, and optional for Li & pH.
3. Throughput atleast 60 sample/hour
4. Should be colour touch screen system with screen size above 5 inches"
5. Sample volume should be 100-200 micro-liters.
6. Auto Calibration Facility and provision for on demand calibration
7. Quality control facility.
8. Facility of flagging of abnormal results and user programmable ranges.
9. Standby mode: user controlled and automatically controlled.
10. Memory for atleast 50000 samples
11. Built in printer for printing the data.
12. RS. 232 (standard serial port) should be available.
13. Na, K, Ca, Cl, and optional for Li & pH Electrodes- 02 each (1 standard and 1 spare).
14. Should have facility automatic reagents replacement warning
15. Should be CE approved product.

Associate Prof. & Head Path.
Department of Pathology
King George's Medical University
U.P. India

Head of the Department of
Pathology,
K.G. Medical University,
Lucknow

Department of Microbiology

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Binocular Light Microscope

1. Objective lens must be plan & achromatic (10x)
2. Nose piece must be with four types of lens (4x, 10x, 40x & 100 x oil immersion lens)
3. Observation tube must have an inclination angle of 30°
4. Stage must be mechanical with right hand control
5. Must have Abbe condenser
6. Must have LED illuminator
7. Must have Fine and coarse adjustment

Incubator

1. Must be at least 60 litres capacity
2. Temperature range must be +5 °C to 105 °C
3. Must have door open alarms
4. Outer powder coated body
5. Inner must be steel with round corners
6. Must have adjustable steel shelves
7. Must also have internal socket
8. Voltage 100-230 V,50/60 Hertz
9. Must also have inner glass door
10. Must have convection technology
11. Must have a digital display
12. Must have easy temperature setting

BOD incubator

1. Must have at least 200 litres capacity
2. Exterior must be powder coated with smooth finish
3. Interior must be stainless steel with 4 stainless steel shelves
4. Temperature range must be +5 to 60 °C (with temperature Accuracy of ± 0.2 °C)
5. Must have an inner glass door
6. Must have the facility of light inside the cabinet
7. Must have digital display of temperature.
8. Temperature adjustment facility must be present on the display unit.
9. Must work on 230V AC single phase 50Hz

Laminar flow cabinet

1. Size must be at least 4'x2'x2' (lxbxh)
2. Exterior must be powder coated and must have a digital panel for controls.
3. Digital panel must display the quality of HEPA filters and the pressure inside the cabinet.
4. Switches for fan and lights must be present on the panel.
5. Internal body must be stainless steel.
6. Inside of the cabinet must have the UV light facility and must have an electricity socket with switch.
7. Must have pre-filters & HEPA filters must have an efficiency to filter 99.995% of the particles.
8. Airflow must be vertical i.e. from up to down.

9. Front glass must be temper proof.
10. Must have a movable stand.

Water Bath

1. Must be at least 5 litres capacity
2. Exterior body must be powder coated
3. Must come with a steel cover
4. Inside must be corrosion resistant stainless steel.
5. Temperature must be ambient to 100 °C (with temperature Accuracy of ± 0.2 °C).
6. Must have digital display of temperature.
7. Must be provided with a glass thermometer.
8. Must include Clear Polycarbonate Gable Cover, Diffuser Tray, and Rubber Duck.
9. Must work on 120/230V

Hot air oven

1. Operating temperatures must be from 50° to 250°C
2. Must have automatic over-temperature alarm system
3. Must be a Low energy consumption system.
4. Must have built in timer.
5. Must have corrosion-resistant stainless steel chambers with rounded corners
6. Must have digital display.
7. Must have easy to use, microprocessor-controlled touch button operation
8. Doors can be opened at over 180°C.

Autoclave

1. Vertical laboratory autoclave with sterilization chamber volume of 50 lit or higher.
2. The sterilization chamber constructed of corrosion resistant stainless steel.
3. Microprocessor controller for high precision temperature control,
4. Display for temp, timer and warning alert checks.
5. Automatic sterilization system for unattended operation.
6. Sterilization temperature at 121°C.
7. The pressure gauge attached to the front side for easy check.
8. The instrument should have Mechanical Safety Devices.
9. Over temperature protection by automatic power cut-off.
10. Over pressure protection by automatic and manual safety valve.
11. The instrument should have Safety Warning System.
12. Over temperature warning.
13. Sterilization fail warning.
14. Supplied with two suitable stackable stainless steel bucket for sterilization.
15. Supplied with an Extra silicone or suitable gasket.
16. Electric requirement: Single phase, 230V, 50-60 Hz.

VDRL shaker

1. Universal platform with adjustable roller to fix the sample in micro-plate, petri-dish, glass vessels or test tubes
2. Brush less motor for maintenance free operations
3. Adjustable rollers to fix samples of different sizes
4. Rubber cushion help in stable sample holding
5. Dimension (W x D x H) must be 270 x 260 x 125 (mm)
6. Platform size must be 7 x 11
7. Shaking orbit must be 10 mm
8. Must have countdown timer 0-99 minutes
9. Min speed must be 50 – 300 RPM
10. Power Supply 220-240 v, 50 Hz, Single phase.

Serum inspissator

1. Must be tripple walled,
2. In side must be made up of stainless steel covered with stainless steel jacket duly welded for leakproof construction.
3. Outside must be powder coated paints.
4. In side chamber should have low height partition to place test tube at angles.
5. A full view perspex cover must be provided for easy viewing.
6. Bottom must be fitted with adjustable screw assembly to place bath at different angles.
7. Must have water inlet & outlet to maintain water level.
8. Must have thermostat or microprocessor based digital temperature indicator cum controller with dual display, accuracy ± 0.50 or better.
9. Must have three core wire and plug to work on 230 VAC.

Distill water unit

1. Must be double distill water unit.
2. Distill water output must be approx. 2.5 litres
3. Must be pyrogen free.
4. Must provide water in pH range of 6.9-7.
5. Distillate temperature must be 65-75°C.
6. Primary boiler must have built in heater enclosed in quartz coil.
7. A secondary boiler also must have built in heater enclosed in quartz coil.
8. The whole unit must be mounted on a powder coated panel stand with electrical terminals.
9. Must have all the accessories required to make the unit functional.
10. Must have automatic off system in the event water level falls below heating coil.
11. Must work on single phase, 230-250 volts.

Analytical Chemical Balance

1. Measuring ability must be in the range from 0.1 mg to 100 gm or more.
2. Must be resistant to most chemicals including acetone.
3. Stabilization time must be from 2 to 3 seconds.
4. Balance could be programmed with user defined weight.

5. Must be touch operated and have digital display.
6. Must have protective glass shield and cover.
7. Must have overload protection.
8. Must be USP and GLP/GMP compliant.

Refrigerator

1. Must be at least 380 litres.
2. Must be upright.
3. Temperature range must be +2 to +8 °C
4. Doors must be lockable glass doors.
5. Must have 4 or more number of shelves.
6. Must have an external digital temperature display.
7. Must have audible and visual alarm in case of temperature changes
8. Must have eco-friendly refrigerant.
9. Battery backup of 2 hours at least must be provided with the refrigerator.
10. Must be CE certified.

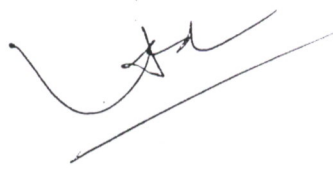
pH meter

1. pH range must be from 0.0 to 14
2. Must have electrodes and swing arm
3. Accuracy of ± 0.01 is required
4. Temperature range 0.0 to 100°C with resolution of 0.1°C and accuracy of 0.3°C.
5. Must have LCD display.
6. Must have three-point calibration with percent slope calculation system.

Anaerobic Jar

1. Transparent, unbreakable Polycarbonate jar of 3.5 litre capacity.
2. With sturdy, aluminium lid clamp and sealing ring.
3. Must be provided with petri plate and test tube stainless steel carrier.

Department of Pediatrics



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Specifications for Open Care System

1. Microprocessor based Radiant Warmer servo controlled and manual modes with digital display , Unit should have swiveling Radiant heater source with dual ceramic heaters and parabolic reflectors.
2. Hi/Lo alarms should be programmable for skin & air (Skin± 1°C alarm, sensor failure alarms, heater failure alarm).
3. Unit should have stop-watch Apgar timer and programmable alarm preferably with a display of text message about the alarms.
4. In manual mode unit should be able to control heater output as well as time duration .
5. It should work at 230 ± 25volts, 50Hz .
6. Unit should be provided with detachable infant care trolley, unbreakable transparent drop down side panels, IV pole , side shelf for monitors & bottom shelf for baby belongings .No drawers Should have mobile castors with brakes. Facility to raise head & foot end of baby.
7. Warranty with comprehensive maintenance service for two years after installation.
   - Quote Annual maintenance charges which shall be applicable for next five years after the expiry of two years of warranty periods. Quote under two headings.
     a) AMC without spares .
     b) AMC with spares- comprehensive AMC
8. Items covered under warranty/CMC
   a) Consumables should be available for at least next seven years.
   b) Prices of consumables should be quoted separately.
9. Essential accessories to be supplied at initial purchase with each piece of equipment
   a) Reusable temperature probes (full set): 5 nos/per equipment.
   b) One extra Mattress with each equipment
   c) Material soft and easy to clean
10. Environmental factors
    a) The unit shall be capable of operating continuously in ambient temperature of 20-40 deg C and relative humidity of 15-90%
11. Standards, safety and training
    a) Should be US FDA or European CE approved product and submission of the respective certificate of US FDA or European CE is mandatory .
    b) Manufacturer should be ISO certified for quality standards

Electrical safety conforms to standards for electrical safety IEC 60601-1 (OR EQUIVALENT international/national standard) general requirement for Electrical safety of Medical Equipment

3) Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ Para number of original catalogue/datasheet. Any point/ claim, if not substantiated with authenticated catalogue / manual, will not be considered, It is essential to enclose brochure/ Catalog/manual of the firm supporting the specification claimed to be present in the equipment.

Specifications of LED Phototherapy

246

- LED based phototherapy for newborns using LED sources in the range of 450-480 nm wavelength and having output intensity more than 30µw/cm²/nm at 45 cm.
- Preferably , should have a display showing the irradiance of the phototherapy unit, and be provided with optical probe to measure the irradiance.
- Light Source Life time : minimum 20,000 hrs
- Should have Effective surface area of 1500 cm² to adequately cover the babies.
- Should have audible noise <60dB
- Should have Electrical Leakage current :<100µA
- Should have Electrical Input: AC 100~240V(50/60 Hz)
- Should be able to sustain voltage fluctuation.
- Should have Low power Consumption.
- Should have height and angle adjustment and should be on mobile castors.
- The device should have a continuous tilt up to 90 deg for use alongside infant warmers.
- Should be usable for bassinet ,incubator, open bed or radiant warmers.
- Should have display to show the total hours of treatment given by this unit.
- Should comply with following (Safety Standards):-
  1. The device should be designed to cool the unit without needing an in-built fan, else the fan life should be committed equal to lamp life.
  2. The device should have an in-built safety cut-off if the temperature increases.
  3. Complete unit should conform to internationally accepted quality standards and should carry the certification of the applicable product quality standard US FDA and CE. The supporting document in this regard should be submitted along with the bid.
  4. The manufacturer should be ISO 13485 certified .(Certified to be submitted) and product should be CE93/42 and US FDA approved .(Certificate to be submitted)
- The device should have an in –built timer to measure the device usage.
- Should have local service facility .The service provider should have the necessary equipment's recommended by the manufacturer to carry out preventive maintenance test as per guidelines provider in the service/ maintenance manual.
- User/Technical/maintenance manuals to be supplied in English.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ Para number of original catalogue/datasheet. Any point/ claim, if not substantiated with authenticated catalogue / manual, will not be considered.

247

Infant Incubator

Technical Specification:

- Microprocessor based servo controlled temperature system, Controlled mode: Air and baby skin mode.
- Air temperature control range:25°C -38°C (>37°C temperature setting.)
- Set temperature, air temperature, baby skin temperature, humidity, oxygen concentration,SPO2, baby weight, timer and heating power are displayed separately by LCD
- ,A second thermal cut -off function for more safety.
- Audio and Visual alarm function for Power failure, temperature deviation, over temperature, temperature sensor failure and fan failure.
- Inclination of infant bed is adjustable.
- Double wall hood, 4 operating windows and 2 iris ports
- Electric height adjustable.
- Independent lock for front door
- LED Phototheraphy unit (upside or downside choose any one)
- X-Ray cassette tray
- RS-232 connector, oxygen inlet
- SPO2, CCD Camera (optional)

Power Supply	:	AC110/220V 60/50Hz
Power Input	:	420 VA
Operating Conditions	:	
Environment Temperature	:	20°C ~ 30°C
Environment Relative humidity	:	30% ~ 75% RH
Environment Air Velocity of flow	:	< 0.3m/s
Air Temperature Control range	:	25°C ~ 38°C
Skin Temperature control range	:	32°C ~ 38.5°C
Humidity display range	:	0% ~ 100% RH
Humidity Control range	:	20% ~ 60% RH
Oxygen Concentration display range	:	10% ~ 99%
Skin Temperature sensor accuracy	:	±0.3 C
Temperature fluctuation	:	±0.5°C
Uniformity of mattress temperature	:	<0.8°C
Warm-up time	:	< 45min
Internal noise level	:	<55dB (A)
Infant bed tilt angle	:	±10°
Mattress Size	:	65cm (L) x 37cm (W)
Trough capacity	:	1200ml
Air filter	:	0.5um

Pediatric Ophthalmoscope (as per specification by Department of Pediatrics, AIIMS New Delhi)

Technical Specification:

1. Halogen illumination
2. Multicoated viewing window
3. 48 focussing lens
4. Red free filter
5. 6 aperture filter combination
6. Adjustable rheostat to control light intensity
7. Metal handle
8. Spare bulbs 5 with each unit
9. High quality cushioned carrying case

Portable Hemoglobinometer

249.

General Specifications:

1. Compact and lightweight portable Hemoglobinometer with Digital display
2. Finger prick, spot testing analyzer with micro cuvette technology.
3. Should have LED/ LCD display of hemoglobin in g / l or g/dl.
4. Instrument should be able to work in hot climate, up to 45degree Celsius.
5. Should have U.S. FDA or CE mark.
6. Should have in vitro diagnostic directives 98/79/EC.
7. The manufacturer should submit user list, preferably in Govt. organization.
8. Vender should quote the rates of micro cuvette with lancet used for lancet gun, which will remain same for two years from the date of order. Micro cuvettes should be compatible with digital Hemoglobinometer.
9. Vender must supply standards and controls necessary for the hemoglobin analyzer.
10. Vender should quote, separately the rates of standards and controls necessary for the hemoglobin analyzer.
11. Instrument should have at least two years warranty.
12. Vender should be able to supply all necessary accessories (battery, cord etc.) as and when required.
13. Vender must train all the health personnel's, where this instrument is likely to be delivered.
14. Vendor must supply 5 Lancet guns along with each unit of Hemoglobinometer.

Technical Specifications:

1. Instrument should work on capillary blood.
2. Instrument should base on azide methemoglobin method.
3. Instrument should have auto zero facility and switch to standby mode.
4. Instrument should work on dual wavelength, one for hemoglobin measurement (570 nm) and one for turbidity compensation (880 nm).
5. Instrument should have auto calibration and electronic self-test.
6. Accuracy of Instrument should be +/- 2 % as compared to international approved method of hemoglobin estimation.
7. Instrument should measure hemoglobin in the range of 0-25 g/dl.

NEBULISER –ULTRASONIC TYPE

250

Technical specification:

1 Should be light weight, portable, Compact and easy to use.

2 Frequency of ultrasonic generator should be greater than 2.5 MHz

3 Should have 3 speed nebulization rate control (minimum, medium, maximum)

4 Should have a nebulisation capacity of 0.3 ml/min.

5 Transducer element should have life of at least 5000 hours

6 Medication cup capacity should have capacity of maximum 8ml.

7 Should uses water as ultrasonic conduction medium, no gel is required.

8 Should provide silent operation.

9 Should have a built in timer and shuts off after 10 minutes use

10 Should works on 200-240 VAC / 50 Hz.

11 Should be provided with a complete nebulisation kit of 10 Nos. including adult and child mask and medication cup – 5 Nos.

12 Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid

HEAD
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