



ICAR - NATIONAL RICE RESEARCH INSTITUTE

CUTTACK – 753 006, Odisha (India)

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OPEN TENDER NO.223/2019-20/STORE DATED 21.01.2020

Last date: 11.02.2020 at 1.00 P.M.

Sealed tenders (**Single Bid**) are invited from the Manufacturers/Authorized Dealers for procurement of the following Scientific Equipments/Instruments/Farm Implements. The amount of EMD to be deposited separately against each item are as mentioned below.

S. N.	Name of the Equipment	SFC/Scheme	Qty.	Amount of EMD (₹)	Place of Delivery
1.	Peddal Mixer or Ribbon Blender	EAP-275	1	--	National Rice Research Institute, Cuttack-753006 (Odisha)
2.	Weighing Balance	EAP-275	2	2500.00	
3.	Double Distillation Unit	EAP-275	1	2500.00	
4.	Mother culture glass vessels/ Fermenters 1-2 liters	EAP-275	30	4000.00	
5.	Small Oil Free Air Compressor	EAP-275	2	2500.00	
6.	Vertical Autoclave	EAP-275	2	4000.00	
7.	Centrifuge	EAP-275	1	--	
8.	Water Purifier	SFC	2	2500.00	
9.	Pulverizer	EAP-272	1	5000.00	
10.	Planetary Mixer	EAP-272	1	5000.00	
11.	Tray Dryer	EAP-272	1	5000.00	
12.	Uruli Roaster	EAP-272	1	--	
13.	Sheeting Machine	EAP-272	1	--	
14.	Kneading Machine	EAP-272	1	--	
15.	Rotor Oven	EAP-272	1	--	
16.	Flour Mill	EAP-272	1	--	
17.	Band Sealing Machine	EAP-272	1	--	
18.	Rice Puffing Machine	EAP-272	1	6500.00	
19.	Boiler	EAP-272	1	--	
20.	Steaming Unit	EAP-272	1	--	
21.	Form Filling Sealing Machine	EAP-284	1	13000.00	
22.	Drum Mixer	EAP-284	1	--	
23.	Drum Dryer	EAP-284	1	2500.00	
24.	Walk-in-Cold Room	EAP-284	1	6500.00	
25.	Bar Code Scanner	EAP-241	1	--	
26.	Hot Air Oven Stainless Steel (vertical)	Inst. Fund	1	5000.00	
27.	Video and Still Camera	SFC	1	4000.00	
28.	BOD Incubator	SFC	1	4000.00	
29.	Vacuum Sealing Machine	SFC	1	--	
30.	Hot Air Oven	SFC	1	2500.00	Central Rainfed Upland Rice Research Station, Hazaribagh-825302 (Jharkhand)
31.	Digital Balance	SFC	1	--	
32.	Laser Land Leveler	SMAM-KVK(K)	1	9500.00	Krishi Vigyan Kendra, Jainagar, Koderma – 825 109
33.	Tractor Operated Sprayer	SMAM-KVK(K)	1	2500.00	

Tender documents along with EMD amount should be submitted in sealed cover superscribing the **Open Tender Number, Name of the item, & Sl. No.** which should reach the **Director, National Rice Research Institute, Cuttack-753006(Odisha)** on or before **11.02.2020** up to **1.00 p.m.** The tender will be opened on **11.02.2020 at 3.30 p.m.** If the office remains closed on the last date of receipt of tender as specified above for any reason, the immediate next working day will be treated as the last date for receipt and opening of tender.

The Director, NRRI, Cuttack reserves the right to reject any or all of the tender documents without assigning any reason thereof.

DIRECTOR
Contd./2

TERMS AND CONDITIONS OF THE OPEN TENDER FOR SUPPLY OF SCIENTIFIC EQUIPMENTS/INSTRUMENTS/FARM IMPLEMENTS.

1. The detailed tender/quotation containing make, model with other technical specifications and price in the attached Price Schedule format should reach this office by **1.00 p.m.** on **11.02.2020**. The envelope containing the quotation should be superscribed as “**TENDER FOR SUPPLY OF (Name of the equipment & Sl. No.), O.T. No.223/2019-20/Store**”. Quotations received without this superscription will have the risk of not being considered. The quotations received within stipulated period will be opened on **11.02.2020** at **3.30 p.m.** Quotations received after the prescribed date and time will not be considered at all.
2. Tenderer submitting quotations for more than one item should submit in separate envelope for each item along with prescribed amount of EMD. Any envelope found containing more than one quotation will not be entertained for opening with others.
3. Earnest Money Deposit as specified only against the items towards bid security will have to be deposited in the form of **Demand Draft/Fixed Deposit Receipt/Banker's Cheque** in favour of **Director, NRRI, Cuttack** payable at **Cuttack-4** along with the quotation. Other modes of payment of EMD will not be accepted.
4. The tenderer should mention standard terms & conditions such as validity of rate, term of delivery, delivery period, period of warranty etc. in the tender.
5. The rates so quoted should be on FOR destination as mentioned above against each equipments/instruments/farm implements.
6. The details of equipments/instruments/farm implements should support its Product Catalogue with reference to specific brand.
7. If taxes, duties or any other charges like installation, demonstration etc. over and above the rate quoted are payable by the purchaser, actual / percentages of such taxes / duties or charges should be separately and clearly indicated, which will be taken into account in calculating the total cost.
8. In case the tenderer is not a manufacturer, an authorization certificate from the original manufacturer must be attached.
9. Payment will be made by e-transfer after completion of supply and satisfactory installation for which the concerned firm has to provide Bank details. Quotation insisting any other mode of payment including advance payment is not acceptable.
10. The successful tenderer will have to deposit performance security amount at the rate of **5%** (five percent) of the **value of contract** in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial Bank or Bank Guarantee from a Commercial Bank in an acceptable form in favour of **The Director, NRRI, Cuttack-6** in case the contract value is more than **₹ 1,00,000.00**. The Performance Security shall have to be furnished before release of payment and should remain valid for a period of 60 days beyond the date of completion of all contractual obligation of the supplier including warranty obligation. The EMD deposited along with tender will be refunded on receipt of performance security. No request for transfer of any other previous deposit of earnest money/security money will be entertained. The earnest money / security money should not, on any account, fall short.

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11. Bid securities of the unsuccessful bidders will be returned within 30 days after award of the contract.
12. Enquiries regarding rate will be treated to be a disqualification for consideration of the quotation.
13. While submitting tender, tenderers should clearly indicate no. of pages of schedule, literature, diagram, papers etc. attached with the tender. Incomplete quotation is liable to be rejected.
14. Tenderer should provide the copies of PAN & GSTN along with tender. In absence of these details the tender shall not be considered at all.
15. Quotations not complying with the above conditions are liable to be rejected. Overwriting in tender papers/rates will have the risk of cancellation. **Only typed/ computer printed quotations will be accepted.**
16. All disputes including court proceedings shall be settled within the Cuttack jurisdiction only.
17. The Director, NRRI, Cuttack reserves the right to cancel any one or all the tenders without assigning any reason thereof.

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FORMAT OF PRICE SCHEDULE

(To be provided in the Letter Head of the Firm)

Sl. No.	Description of Goods (Make / Model etc.)	Detailed Specifications	Qty.	Unit Rate (Rs.)	Total Amount	
					Rs.	P.
G.S.T.						
Grand Total						

Total Amount in Words (Rupees.....)

Standard Terms & Conditions

1. Validity of Rate :
2. Delivery Period :
3. Warranty Period :

DECLARATION

We agree to supply the above good(s) in accordance with the technical specifications on FOR Destination at ICAR-NRRI, Cuttack-6 (Odisha) / CRURRS, Hazaribag (Jharkhand) / KVK, Jainagar, Koderma (Jharkhand) within the delivery period specified in the Quotation.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier with Seal

①

Peddal Mixer or Ribbon Mixer

- ❖ Capacity: 100kg
- ❖ Product Specific gravity will be approx: 0.66
- ❖ Chamber and blender blade should be made of SS 304
- ❖ Special Helix design Double ribbon blade arrangement for blending
- ❖ Fixed Speed of at 21rpm approx
- ❖ Should use Maintenance free Induction Motor with Gearbox
- ❖ Mounting to constructed of rigid epoxy painted MS Frame
- ❖ Should have Bottom Discharge 1 no with Butterfly valve
- ❖ Power: 415v, 50Hz , 15 HP Three Phase AC

2

Weighing Balance

- Capacity: 300g
- Readability: 0.1mg
- Repeatability: 0.2mg
- Linearity: 0.2mg
- Pan size: ϕ 90 (mm)
- Response time: <5 ~ 8 sec.
- Calibration: Auto
- Analytical balance with internal calibration and GMP-GLP record print-out.
- Brilliant backlit LCD display with simple navigation windows and menus to guide you through balance function
- User selectable filter, stability indicator and auto- zero tracking for use in difficult environments
- RS 232C and USB connectors to connect with PC
- Optional LAN connection, wireless Wi-Fi connection allows to extend communication
- Weigh-below hook for below- balance weighing application with in-built density measurement software

3

Double distillation unit

- It should be all Quartz double distillation unit
- Demountable boiler panel series
- Model vertical
- Distilled water output capacity-2.5 liters/ hour
- Distilled water quality specifications
 - It should be free from pyrogen and organic matter
 - Conductivity $<1 \times 10^{-6}$ S/cm
 - Total organic carbon $<500 \mu\text{g/l}$
 - Total solids $<0.1 \text{mg/lit.}$

Accessories for Double Distillation Unit

- Distillation apparatus power supply (DAPS) for 2.5ltrs model
- Low temperature circulating water bath (chiller)
 - Working temperature: -10°C to 100°C
 - Temperature accuracy: $\pm 0.1^{\circ}\text{C}$
 - Bath volume: Minimum 5 litre capacity
 - External manual should be provided along with the equipment

Warranty: **One year at the minimum from the date of successful installation.**

④

Mother culture glass vessels / fermenters 1-2liters

1. Standard glass Vessel made of Borosilicate glass with dished bottom
2. Total Volume: 2liters
3. Working volume: 1.4liters
4. Glass thickness: Should be atleast 3 to 3.2mm
5. Should withstand autoclaving
6. Should have measurement markings in the vessel.

5

Small oil free air compressor

- Should be a oil Free air compressor
- Should have horizontal reservoir of 45liters
- Motor capacity should be atleast 1HP
- Should be of single phase operation
- Max pressure of 8bars



VERTICAL AUTOCLAVE

- ❖ Semi automatic model
- ❖ The outer chamber is made of thick Mild Steel sheet, which is dc-greased, tested for rust proofing and powder coated to give the unit a smooth finish.
- ❖ The inner chamber is made of high-grade Stainless Steel sheet (SS-304 grade). The lid is made of thick Mild Steel sheet lined with Stainless Steel for double protection.
- ❖ The unit is fitted with a Chrome plated Mild Steel radial locking system with a paddle lifting device.
- ❖ Provided with built-in safety valve, pressure gauge, pressure release valve and water-level indicator. The pressure can be adjusted between 5 psi and 20 psi to an accuracy of ± 3 psi.
- ❖ Water Pressure Range : 5 to 20 psi
- ❖ Operating Water Pressure: 15 to 20 psi
- ❖ Sterilizing Water Pressure : 15 psi @ 121°C
- ❖ Water Pressure Accuracy: ± 3 psi
- ❖ Supplied with a stainless steel basket.
- ❖ Dia: 550 mm Height: 750 mm
- ❖ Capacity 152 Ltr.
- ❖ Automatic low water level cut-off device
- ❖ Automatic pressure control switch
- ❖ Digital temperature indicator cum controller with mechanical Timer 0-60 minutes (with alarm system)

7

Centrifuge (Non refrigerated)

- ❖ Non refrigerated bench top centrifuge
- ❖ Micro-processor control
- ❖ Max speed of approx. 10,000 to 12,000 rpm and max rcf of more than 30,000 g.
- ❖ Acceleration time to maximum speed must be less than 15 s for all rotors at max load and a
- ❖ Deceleration time of less than 15s with the standard 30 x 1.5/2ml rotor.
- ❖ Automatic rotor recognition with imbalance detection

Rotor types required

1. Fixed angle rotor accommodating 24 x 1.5/2ml tubes
2. Fixed angle rotor accommodating 6x 15/50ml with 7000xg speed.
3. Swing-bucket Plate Rotor accommodating 2 x DWP (optional)

8

Technical Specification for Water Purifier

Type	Floor Mounted
Function	Hot, Cold & Normal
Material of cabinet	Fine grade plastic
Tough, durable & resistant cabinet	Yes
Material for cooling water chamber	Plastic
Flow rate	15 litres/hr
Cold water storage capacity	4 litres
Cooling capacity	15 litres/hr
Hot water storage capacity	1.5 litres
Heating capacity	5 litres/hr
Power supply	230 volts
Cooling power consumption	300 watts
Heating power consumption	350 watts
Cooling temperature levels	3 degree Celsius
Heating temperature levels	87 degree Celsius
CFC free eco-friendly refrigerant type	Yes
Drip tray	Yes
Overheat protection	Yes
Hot and cold ready indicators	Yes
Onsite warranty	1 year

Technical Specifications for Pulverizer

1. Purpose: Multipurpose pulveriser, to be used for grinding dry food materials like grains, dal, spices and herbs and also wet materials, should be ideal for medium, fine and coarse materials
2. Type: Vertical type, fully automatic
3. Voltage: 220 V
4. Material of construction: All contact and non-contact parts should be made of stainless steel (SS 304)
5. Milling type: Pin Mill/hammer mill and continuous type
6. Capacity: 30 - 150kg/hr
7. Construction material thickness: 6mm
8. Speed(r/min): minimum 4500
9. Product size: 250- 500 microns
10. Should be easy to disassemble, clean and assemble the parts
11. Dust collecting, no waste, no noise
12. Motor: 2-7.5Hp, 3 phase branded motor
13. Crushing fineness: Should be provided with different screens (4-120, 250- 500 microns)
14. Surface finishing: SS or MS (matt or mirror finish)
15. Should have an hopper for feeding the material, discharge gate, safety switch, automatic water cooling mechanism, cyclone separator (for collection of material), dust collector, air blower (for the suction of powder), outlet part for taking out the material
16. The tender will be acceptable only from the manufacturers or its authorized supplier
17. Local Service support should be available
18. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
19. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
20. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
21. Payment will be made only after installation, demonstration and training. No advance payment will be made.
22. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
23. Should operate under tropical Indian room conditions and up to 80% humidity.
24. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
25. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
26. The bidder should quote for only that equipment for which hardware, software and spare parts support will be available in next minimum 7 years.
27. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
28. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
29. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
30. Should provide compliance sheet.

Technical specifications for Planetary Mixer

1. Model: Gear driven vertical type with overload protection and micro switch
2. Purpose: to be used for homogeneous and safe mixing of cake batters, muffin batters, whipping creams and icings
3. Capacity: 40 litres
4. Power source: Electrical, 2-2.5 HP
5. Voltage: 220-380V, 3 Phase
6. Should be provided with 3 speeds (80/160/310 rpm) and 3 spare parts (hook, beater and whip) for different mixing purposes
7. Should be provided with scrapping blades
8. Material of construction: All contact parts of the bowl and the beater should be made of SS316
9. Frame: should be made of Mild steel powder coated
10. Base: should have a food safe, heavy duty aluminium base
11. Speed control lever to adjust the speeds
12. Should also provide a table top planetary mixer of capacity 5-7 Litres
13. Machine should be equipped with an emergency stop button on the control panel and allows the operator to stop the machine in case of emergency
14. Should have a safety guard fitted on the bowl with a limit switch which will stop the machines operation when the guard is opened
15. The bowl lift cradle of the machine should be fitted with a limit switch which will stop the machines operation if the bowl is lowered
16. The control panel should consist of gear speed selector, start button, overload reset button and emergency stop button
17. The tender will be acceptable only from the manufacturers or its authorized supplier
18. Local Service support should be available
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31. Should provide compliance sheet.

Specifications for Tray Dryer with accessories

1. Purpose: To be used for drying grains, paddy, rice, rice extruded products like pasta
2. Fully automatic
3. Triple walled construction for close loop circulation
4. Material of construction:
 - a. Exterior chamber: Made of Mild steel / CRCS 18/16 gauge with CNC fabrication with powder coated panels or fully stainless steel. In case of mild steel, the entire outer body should be duly painted by long lasting paint
 - b. Gap between the walls should be filled with asbestos sheet followed by a dense layer of high quality low thermal mass glass wool insulation/mineral wool insulation
 - c. Pre-heating chamber and inner chamber: Mild steel/SS
 - d. All contact parts should be made of Stainless steel 304 grade
 - e. Inner and outer chamber should be filled with rock wool slabs of high density and low thermal conductivity
5. Capacity: 50-100kg per batch
6. Trays:
 - a. Number of trays: Perforated 10-12 trays (Stainless steel 204/304 grade material)
 - b. Tray size: 16" X 32" X (1"- 2") inch
 - c. Each tray capacity should be minimum 3 to 5 kg
 - d. All trays should be fully die pressed with coved corners. Trays should be buffed to mirror finish
 - e. Should have equal spacing between the trays
7. There should be provision for forced air circulation using motorized blower
8. Should be provided with control panel for monitoring temperature
9. Doors should be provided with safety cut-out system disabling motor and heaters when doors are opened in operational mode
10. Motor: 0.5-1HP
11. Single phase
12. Temperature Range: Ambient + 5°C to 150°C
13. Temperature accuracy: $\pm 1^\circ\text{C}$, with temperature display and control
14. Should have provision of air blowing to get rid of humidity
15. Power supply: 400 - 440 volts, 3 phase
16. Source of heat: Strip type heaters
17. Power: 1.5 Hp to 3 Hp
18. Control panel:
 - a. Microprocessor based digital PID temperature controller with timer
 - b. Built-in control panel comprising digital temperature controller, main lamp, load lamp, on/off switch, for fan and heater etc., are provided at the side of the chamber
 - c. Fully automatic electronic digital Temperature controller – cum – Indicator should be fitted in the control panel for controlling temperature. It should consist of starters, contactors, safety relays, circuit breakers, indicating lamps, timers, push buttons, timers, controllers
19. The tender will be acceptable only from the manufacturers or its authorized supplier
20. Local Service support should be available
21. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
22. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
23. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.

24. Payment will be made only after installation, demonstration and training. No advance payment will be made.
25. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
26. Should operate under tropical Indian room conditions and up to 80% humidity.
27. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
28. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
29. The bidder should quote for only those equipments for which hardware, software and spare parts support will be available in next minimum 7 years.
30. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
31. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
32. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
33. Should provide compliance sheet.

Technical Specifications for Uruli roaster

1. Purpose: for roasting and drying of grains, pulses, powders and spices
2. Capacity: minimum 5kg to 60 kg
3. Voltage: 220-380V
4. Automation grade: Semi-automatic
5. Material of construction of uruli: Stainless steel 304/ Aluminium
6. Material of construction of frame and powder guard: MS/SS
7. Motor: 0.25 to 1 HP, single phase
8. Should have a rotating uruli and stationary stirrers
9. Should have a central discharge hole to discharge the material after roasting
10. Mode of operation: Electric cum LPG gas operated, should be equipped with fuel tanks, pressure gauge
11. Collection tray for ease of use
12. The tender will be acceptable only from the manufacturers or its authorized supplier
13. Local Service support should be available
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25. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
26. Should provide compliance sheet.

Technical Specifications for Sheeting Machine

1. Purpose: Reversible puff sheeter machine for sheeting dough for making bakery products like pastry
2. Type: stand-alone mounted type with rolling support
3. Maximum rolling weight: 5-7kg
4. Power: 220/380 V
5. Overall Dimension: [(2000-3500) X (800-1200) X (600-1350)]mm
6. Conveyor belt dimension: [(500-600) X (1500-2900)]mm
7. Roller adjustable gap/sheet thickness: 1-35mm
8. Belt should move in both forward and reverse direction
9. Should be provided with safety guard surrounding the area where dough is processed for added safety.
10. Power: 1HP motor
11. Phase: Three phase
12. The tender will be acceptable only from the manufacturers or its authorized supplier
13. Local Service support should be available
14. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
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26. Should provide compliance sheet.

Specifications for Kneading Machine

1. Purpose: Spiral kneader for kneading dough for making breads
2. Dough Capacity: 40-50 kg
3. Flour capacity: 25-35 kg
4. Mixing speed: 150-200rpm
5. Bowl speed: 15-25 rpm
6. Power: 380 V
7. Dimension: [(800-1200)X(500-650)X(1000-1100)]mm
8. Material of construction: Bowl (stainless steel), body (Stainless steel or mild steel powder coated)
9. Motor: 1-3 HP (for both bowl and spiral)
10. Three phase
11. The tender will be acceptable only from the manufacturers or its authorized supplier
12. Local Service support should be available
13. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
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24. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
25. Should provide compliance sheet.

Technical Specifications for Rotor Oven


1. Purpose: For making baked products like breads, cakes, cookies and muffins
2. Voltage: 220-380 V
3. Material of construction: Stainless steel 430, chamber plated with aluminium for rust proof baking
4. Temperature range: up to 300°C or more
5. Control panel: should have on/off power switch, temperature controller and timer
6. Power source: Electric/gas operated
7. Dimension (LxWxH) mm: [(1250 – 1400)x(850-950)x(1600-1800)]
8. Capacity: 3 desks, 9-12 trays
9. Should have automatic flame extinguishing safety valves in case of failure igniting
10. Should be equipped with overheat protector, power supply should cut off automatically when oven temperature reaches the set temperature
11. The tender will be acceptable only from the manufacturers or its authorized supplier
12. Local Service support should be available
13. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
14. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
15. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
16. Payment will be made only after installation, demonstration and training. No advance payment will be made.
17. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
18. Should operate under tropical Indian room conditions and up to 80% humidity.
19. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
20. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
21. The bidder should quote for only those equipments for which hardware, software and spare parts support will be available in next minimum 7 years.
22. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
23. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
24. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
25. Should provide compliance sheet.

Technical Specifications for Flour Mill

1. Purpose: For grinding food items like cereals and pulses
2. Operation mode: domestic, stoneless, Automatic
3. Output Capacity: 8 – 10 kg/hr
4. Hopper capacity: 4-5kg
5. Container capacity: 4-5 kg (approx.)
6. Should have auto start, auto stop, auto clean, child safety lock and overload cut-off
7. Should have the vacuum cleaning technology after grinding grains
8. Should be provided with the changeable filter net
9. Should be provided with 5-10 different type of strong rust proof SS sieves
10. Material of construction: All contact parts should be of stainless steel, rust proof
11. Outer chamber: cast iron
12. Motor: 1HP
13. RPM: 2000 – 3000
14. Power source: single phase
15. Dimension (L x W x H): [(500-550) x (300-355) x (800-825)]mm
16. Mode of operation: Electric
17. Motor RPM: 1440
18. The tender will be acceptable only from the manufacturers or its authorized supplier
19. Local Service support should be available
20. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
21. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
22. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
23. Payment will be made only after installation, demonstration and training. No advance payment will be made.
24. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
25. Should operate under tropical Indian room conditions and up to 80% humidity.
26. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
27. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
28. The bidder should quote for only those equipments for which hardware, software and spare parts support will be available in next minimum 7 years.
29. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
30. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
31. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
32. Should provide compliance sheet.

Specifications for Band Sealing Machine

1. Purpose: to be used for sealing LDPE, HDPE and retort individual pouches automatically
2. Should be provided with cup filling hopper arrangement
3. Type: Vertical type, continuous with gas flushing attachment
4. Material of construction: Stainless steel
5. Sealing speed: 10-12 pouches/min
6. Sealing width: 3-12mm
7. Film thickness (mm): (0.05-0.1)
8. Temperature range: 0-250°C
9. Voltage: 230V, 50Hz
10. Power: 500-1000 Watts
11. Maximum conveyor load: 3-5kgs
12. Package weight: up to 250gm
13. Sealing height from the conveyor: 10-40mm
14. Should have inbuilt geared motor for the conveying system
15. Dimension: [(800-1200)x(350-480)x(300-750)]mm
16. Should be provided with nitrogen flushing attachment, ink coder, counter
17. Accessory: Band sealer machine: horizontal type
 - a. Temp Range: 0-300 °C
 - b. Voltage: 230V, 50Hz
 - c. Power: 500 Watts
 - d. Speed of the sealing: 0-12m/min
 - e. Inbuilt geared motor for the conveying system
 - f. Sealing width: 10 mm
 - g. Package weight: up to 1kg
 - h. Overall conveyor loading weight: up to 3 kg
 - i. Sealing height from the conveyor: 10-40mm
 - j. Weight of machine- 25-40kg
18. The tender will be acceptable only from the manufacturers or its authorized supplier
19. Local Service support should be available
20. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
21. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
22. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
23. Payment will be made only after installation, demonstration and training. No advance payment will be made.
24. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
25. Should operate under tropical Indian room conditions and up to 80% humidity.
26. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.

27. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
 28. The bidder should quote for only that equipment for which hardware, software and spare parts support will be available in next minimum 7 years.
 29. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
 30. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
 31. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
 32. Should provide compliance sheet.
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Specifications for Rice puffing machine

1. Purpose: to be used for puffing paddy to puffed rice
2. Automation grade: semi / Fully automatic
3. Electrically operated, sand puffing method
4. Material of construction: Stainless steel (SS 304/316)
5. Production capacity: up to 80 – 100 kg/hr
6. Motor Rotation: 1475 per minutes (RPM)
7. Operating pressure range (0-3 bar)
8. Roaster heating temperature range: 200 to 300°C \pm 2°C
9. RPM of the roaster: 80 – 100 rpm
10. Dimension: 93x83x116cm
11. Should have the provision to adjust, control and monitor the operating temperature and pressure
12. Material of construction & Cover: Painted Mild Steel & Stainless Steel
13. Hopper & Product Guard: Fully Stainless Steel Food Grade (SS304/SS316)
14. Material Feeding Motor: 1 HP 220 V-DC, AC with single phase connected load
15. Product Cutting Motor: 1 HP 220 V-DC, AC with single phase connected load
16. Hopper Outer Covering: Complete Stainless Steel Covering
17. Electric Control Panel for control Cutting & Feeding Motors with parameter setting.
18. Warranty period of equipment: \geq 2 years.
19. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
20. The system should be suited to Indian system of electrical inputs (230V/ 50Hz).
21. To be supplied with appropriate branded stabilizer with warranty.
22. Warranty of all items will strictly be applicable from the date of installation.
23. The bidder should quote for only those equipments for which hardware, software and spare parts support will be available in next minimum 7 years.
24. There should be minimum 5 installations of the instrument in Indian Public Sector or CGIAR research institutes. The list should be provided.
25. It should comply with international safety and quality standards and valid documents in support of this must be submitted.

Technical Specifications for Boiler

1. Purpose: For generating Steam
2. Type: LPG operated
3. Material of construction: All contact parts should be made of stainless steel (SS 304)
4. Body make: should be made of Mild steel of minimum thickness 6mm
5. Capacity: Equivalent of 35-38 KW
6. Should have a water chamber provided with float valve
7. Should be provided with water level indicator meter
8. Should be provided with a base stand SS angles
9. Should be provided with burner and pedestal
10. Should be provided with Stainless steel sheet clad insulation all around the body as an additional safety measure
11. Should be provided with pressure release valve and pressure indicator meter
12. The tender will be acceptable only from the manufacturers or its authorized supplier
13. Local Service support should be available
14. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
15. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
16. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
17. Payment will be made only after installation, demonstration and training. No advance payment will be made.
18. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
19. Should operate under tropical Indian room conditions and up to 80% humidity.
20. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
21. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
22. The bidder should quote for only that equipment for which hardware, software and spare parts support will be available in next minimum 7 years.
23. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
24. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
25. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
26. Should provide compliance sheet.

Technical specifications for Steaming unit

1. Purpose: To be used for steaming idli
2. Type: Fully automatic/Semi-automatic
3. Number of chambers: 2
4. Capacity: 2 -3 trays within each chamber
5. Material of construction: all contact parts should be made of SS 304

Accessories

- (i) Should be provided with SS Table made of SS 304
- (ii) Mini boiler should be provided along with the steaming unit

Boiler specifications


- (i) Purpose: For generating Steam
 - (ii) Type: LPG operated
 - (iii) Material of construction: All contact parts should be made of stainless steel (SS 304)
 - (iv) Body make: should be made of Mild steel of minimum thickness 6mm
 - (v) Capacity: Equivalent of 18-20 KW
 - (vi) Should have a water chamber provided with float valve
 - (vii) Should be provided with water level indicator meter
 - (viii) Should be provided with a base stand SS angles
 - (ix) Should be provided with burner and pedestal
 - (x) Should be provided with Stainless steel sheet clad insulation all around the body as an additional safety measure
 - (xi) Should be provided with pressure release valve and pressure indicator meter
6. The tender will be acceptable only from the manufacturers or its authorized supplier
 7. Local Service support should be available
 8. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
 9. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
 10. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
 11. Payment will be made only after installation, demonstration and training. No advance payment will be made.
 12. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
 13. Should operate under tropical Indian room conditions and up to 80% humidity.
 14. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
 15. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
 16. The bidder should quote for only those equipments for which hardware, software and spare parts support will be available in next minimum 7 years.
 17. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
 18. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
 19. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
 20. Should provide compliance sheet.

Specifications for one Form Fill Seal Machine

1. Purpose: Suitable for packing liquids and semi liquids
2. Packing range: 250 ml ~~& 1000 ml~~ 500 ml
3. Type: Fully automated vertical type
4. Accuracy: 5 to 10 gm
5. Filling system: Volumetric piston filling
6. Type of sealing: Three side sealing
7. Speed: 20 – 25 pouch per minute
8. Machine power – 0.25 HP
9. Dimension: (HxWxB) = 6x3x3
10. Power supply & consumption: 1.5KVA, 230V
11. Should be provided with air compressor – 220L capacity, 2HP
12. Should be provided with batch coding device, batch cutting device auto lubrication
13. Material: Laminates/ Any Heat Sealable Packaging Materials, all poly materials
14. The tender will be acceptable only from the manufacturers or its authorized supplier
15. Local Service support should be available
16. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
17. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
18. A warranty of minimum of 2 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
19. Payment will be made only after installation, demonstration and training. No advance payment will be made.
20. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
21. Should operate under tropical Indian room conditions and up to 80% humidity.
22. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
23. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
24. The bidder should quote for only that equipment for which hardware, software and spare parts support will be available in next minimum 7 years.
25. The original brochures with all details of the instrument quoted should be mandatorily provided with the technical bid.
26. The instrument standards should comply with requirements of NABL accredited laboratories in terms of calibration standards and safety regulations.
27. It should comply with international safety and quality standards (ISO, CE and others) and valid documents in support of this must be submitted.
28. Should provide compliance sheet.

(22)

Specifications for Drum Mixer

1. Purpose: For mixing, blending, homogenizing of dry powders and granules, closed container system for blending and storing
 2. Capacity: 50-100 kg/hr
 3. Bearing: Pedestal type
 4. Baffles: Fixed
 5. Automation Grade: Automatic
 6. Material of construction: Stainless steel
 7. All contact parts SS 316 & non-contact parts SS 304
 8. Finishing type: Polished
 9. Power source: Electric
 10. Total system should be dust free
 11. Should have a control panel with cycle timer
 12. Control panel: Push button to on/off M/, R.Y.B. lights for phase
 13. Gear box: Worm reduction type
 14. Motor specification: 2HP
 15. It should have option for variable speed
 16. **Comprehensive Warranty:** 3 years
 17. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
 18. There should be minimum 5 installations of the instrument in Indian Public Sector or CGIAR research institutes. The list should be provided.
 19. It should comply with international safety and quality standards (ISO and CE) and valid documents in support of this must be submitted.
 20. The manufacturers of the quoted make of the product must be of National/International repute and having CE/ISO/BIS certificate
 21. The tender will be acceptable only from the manufacturers or its authorized supplier
 22. Local Service support should be available
 23. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
 24. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
 25. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).
 26. A warranty of minimum of 3 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
 27. Payment will be made only after installation, demonstration and training. No advance payment will be made.
 28. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
 29. Should operate under tropical Indian room conditions and up to 80% humidity.
 30. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
 31. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
 32. The original brochures with all details of the instrument quoted along with web address of manufacturer and web link to instrument brochure should be mandatorily provided with the technical bid. Without this document and web address, claim for 'matching of specifications' will summarily be rejected.
 33. It should comply with international safety and quality standards and valid documents in support of this must be submitted.
 34. Should provide compliance sheet.
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(23)
Specifications for Drum Dryer

1. Purpose: To dry highly viscous pastes to flakes and then milled to powders
2. Automatic Grade: Automatic
3. Type: Laboratory model single drum provided with a hopper to feed the material and provision for even spreading of material onto the drum surface
4. Scraper should be provided to remove the dried product from the surface of the drum
5. Provision to adjust the RPM of the drum
6. Provision to adjust the thickness of the spreading material
7. Material of construction: All contact parts are to be made out from stainless steel (304 grade)
8. All joints should be properly argon welded, smooth finished and polished
9. The unit should be supported on a mild steel
10. Diameter: 50 to 80 cm
11. Length: 2 to 5 m
12. Power Source: Electric, 2HP motor with a reduction gear box
13. **Comprehensive Warranty: 3 years**
14. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
15. There should be minimum 5 installations of the instrument in Indian Public Sector or CGIAR research institutes. The list should be provided.
16. It should comply with international safety and quality standards (ISO and CE) and valid documents in support of this must be submitted.
17. The manufacturers of the quoted make of the product must be of National/International repute and having CE/ISO/BIS certificate
18. The tender will be acceptable only from the manufacturers or its authorized supplier
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25. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
26. Should operate under tropical Indian room conditions and up to 80% humidity.
27. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
28. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
29. The original brochures with all details of the instrument quoted along with web address of manufacturer and web link to instrument brochure should be mandatorily provided with the technical bid. Without this document and web address, claim for 'matching of specifications' will summarily be rejected.
30. It should comply with international safety and quality standards and valid documents in support of this must be submitted.
31. Should provide compliance sheet.

Specifications for Walk-in-cold room

1. Purpose: To store perishables, grains and processed products under refrigerated condition
2. Capacity: 1.5 tones
3. Room Dimension: 7'x 7'x 7' Ft (Ext. dimension)
4. Temperature range: 2 to +6°C
5. Wall insulation: 60 mm thick PUF insulation panels with Pre-painted sheet inside & outside finish
6. Ceiling insulation: 60 mm thick PUF insulation panels with Pre-painted sheet inside & outside finish
7. Floor insulation: 60 mm PUF slabs over Kota
8. Door size: PP/PP clear opening with accessories, Posi-seal closure, Human safety release knob
9. Door Type: Single door, Swing type
10. Door thickness: 60 mm PP/PP
11. Defrost type: Manual defrost
12. Power source: Electric
13. Cooling system: Air cooled
14. Voltage: 220V
15. Phase: Single phase
16. Compressor Type: MSM
17. Should be provided with stainless steel racks to store products
18. **Comprehensive Warranty:** 3 years
19. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
20. There should be minimum 5 installations of the instrument in Indian Public Sector or CGIAR research institutes. The list should be provided.
21. It should comply with international safety and quality standards (ISO and CE) and valid documents in support of this must be submitted.
22. The manufacturers of the quoted make of the product must be of National/International repute and having CE/ISO/BIS certificate
23. The tender will be acceptable only from the manufacturers or its authorized supplier
24. Local Service support should be available
25. Should include the cost to the equipment along with taxes and other charges for delivery up to ICAR-NRRI, Cuttack. Responsibility of custom clearances at airports/seaports will solely lie with the supplier firm. Institute will provide a copy of DSIR certificate, if requested.
26. The system quotation should include all needed specific site needs along with their description of such requirements for the quoted system except power distribution point availability that would be provided by the institute.
27. The system should be suited to Indian system of electrical inputs (220V/ 50Hz).

28. A warranty of minimum of 3 years should be provided for the above specifications. Warranty will strictly be applicable from the date of installation.
29. Payment will be made only after installation, demonstration and training. No advance payment will be made.
30. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned.
31. Should operate under tropical Indian room conditions and up to 80% humidity.
32. Local Service support should be available for quick service support. Application support must be provided throughout the warranty period after installation on demand of ICAR-NRRI.
33. The equipment should be provided with all necessary accessories and spare parts to run without hindrance.
34. The original brochures with all details of the instrument quoted along with web address of manufacturer and web link to instrument brochure should be mandatorily provided with the technical bid. Without this document and web address, claim for 'matching of specifications' will summarily be rejected.
35. It should comply with international safety and quality standards and valid documents in support of this must be submitted.
36. Should provide compliance sheet.

Component 1: Bar Code Scanner

Form Factor	Hand Held
Type	Cordless
Scan System	2D Imager
Scan Rate (Scans per second/ frames per second)	60
Communication Interface	Bluetooth
Print Contrast Ratio (%)	30
Resolution (mil)	8
Bar Code Density (mil)	8
Minimum Depth of Field (mm)	16
Maximum Depth of field (mm)	392.5
Ambient Light Immunity (Lux)	107600
Light Source (nm)	634
Compatible Bar code Symbologies: (UPC-A/UPC-E, EAN 13, JAN-13, CODABAR, ADD-ON-2, code-93, Industrial Codes, Interleaved 2 or 5, EAN 128 etc)	Yes
Compatible Bar code Symbologies : (Micro PDF, PDF-417, Data Matrix, QR Code/UCC, EAN Composites, Aztec etc)	Yes
Radio Interface	Cradle Host
Radio Communication Frequency (Ghz)	0
Working Range (meters)	110
Power Supply/Battery	5V VDC
Housing Material of Scanner	ABS
Drop Resistance (Ft)	5
Operating Temperature Range (Degree C)	0 - 75
Operating Humidity (%RH)	5 - 95
IP Rating	42
BIS Registration under CRS of Meity	Must be available
Overall Dimensions (LxWxH) (mm x mm x mm)	176 x 96 x 70
Net Weight (Kg)	290
Availability of Test Reports from Central Govt/NABL/ILAC accredited Lab showing conformity to the specifications	Must be available
On Site OEM Warranty (Year)	3

Specifications for Hot Air Oven stainless steel (vertical)

S. No.	Parameters	Specifications
1	Working width of the inner chamber	: $\geq 36'' \times 36'' \times 48''$
2	Display of temperature	: Digital Display of Temperature, 5°C above ambient to 250°C,
3	Accuracy	: $\pm 1^\circ\text{C}$
4	Uniformity	: $\pm 5\%$ of set value
5	Total Electrical Load	: 12 KW
6	No. of Tray	: 2-4
7	Insulation	: 3" thick mineral wool from all sides
8	It should have double walled Construction with Inner chamber made of S.S and outer body made of M.S. powder coated.	
9	It should have metallic double walled dully insulated door fitted with standard set of hardware	
10	It should have S.S. Wire Mesh Shelves	
11	It should have gap of inner & outer wall filled thick Glass wool insulation	
12	It should have MCB for Short Circuit	
13	Heat Selector switch for better accuracy	
14	It should have Inner camber S S 304 / Outer Chamber M S duly powder coated	
15	It should have Microprocessor Based Controller	
16	Warranty: 2 years or more	

27

Still

DIGITAL SLR CAMERA WITH ZOOMING FEATURES

SPECIFICATION

Still
Digital SLR Camera BODY

Product Dimensions: 30 x 24 x 22 cm (\pm 1cm); Screen Size: 3 Inches; Display Type: LCD; Optical Zoom: 24.3X; Display Resolution Maximum: 1080p Full HD; Optical Sensor Resolution : 24.3 Megapixels; Max Shutter Speed : 1/8000 Seconds; Min Shutter Speed : 30 seconds; View finder Type : digital; Auto Focus, Rechargeable Battery, Redeye Reduction, Self-Timer, AC Adapter, Remote, External Memory, Image Stabilization

Lens: Focal Length: 90mm; Aperture: Max: f/2.8, Min: f/22; Format compatibility: 35mm Film/ Full-frame Digital sensor

Technical Specifications for BOD INCUBATOR

- Capacity: > 320 liter. (12 cu. Ft.)
- Construction: Double wall with Poly Urethane (PUF)
- Insulation provided with door having locking arrangement and inner glass viewing door.
- Temperature range: 5 °C to 60 °C.
- Temperature resolution: ± 0.1 °C
- Temperature accuracy: ± 0.2 °C
- Temperature uniformity: ± 1 °C
- Temperature Control: Microprocessor based PID Control with Auto Tune CE Marked.
- Temperature sensor: PT 100 RTD type Class 'A'.
- Temperature sensor accuracy: ± 0.25 °C
- Temperature Display: Digital LED
- Air circulation: Flange motor with blower
- Heating: 'U' Shaped Nichrome Wire heater in SS Sheathing.
- Cooling: CFC Free Copeland Make compressor Utilizing R 134A eco friendly refrigerant, with motor condenser, relay.
- Chamber illumination: Fluorescent light with door switch.
- Feet: Castor wheels
- Trays: SS wire meshes heavy duty.
- Electrical: 230V / 15A / 50 Hz.

Safety Features:

- Temperature: High temp. Safety cut off.
- Compressor: Electrical overload cutoff relay for compressor.
- Time delay for compressor switch ON
- Electrical circuit breaker
- Supplied with 3 KVa stabilizer.
- Warranty: minimum two years.

29

Specification for vacuum sealing machine

- Fully automatic
- Vacuum: 0.035 Mpa.
- Sealing width: 40-300mm
- Power supply: AC 220V 50-60HZ.
- Heat-seal time: digital setting & auto control.
- Sealing length: ≥ 12 CM
- Double heater.
- Sealing power(w): 900, 750, 500
- Construction: All Stainless Steel
- Warranty: 2 years *

Technical specifications: Hot air oven

- Capacity (Metric): 175 L or more
- Depth Interior: 54 cm or more
- Shelves: Two
- Temperature Range: Ambient to 250°C
- Temperature Control: Microprocessor control with vacuum fluorescent display
- Temperature Stability: $\pm 0.3^{\circ}\text{C}$
- Type: Mechanical convection
- Voltage: 120V
- Wattage: 3360 w
- Electrical Requirements: 220 V and 50Hz
- Warranty: 2 years
- Built in timer should be there
- Corrosion-resistant stainless steel chambers with rounded corners
- Automatic over-temperature alarm system
- The Inner chamber should be made of AISI 430 / 1.4016 Stainless Steel
- Shelving system that can be fitted inside the chamber with just one click
- The door should be able to open at 180° angle for complete access to chamber interior.

Technical specifications: Digital balance

Description	Specification
Read out	0.01 g
Weighing range	500 g or more
Reproducibility	0.01 g
Linearity	0.03 g
Display	LCD
Ambient temperature permissible	6-45 °C
regulations	EC Type approval
Stabilization time	Steady weight within 3-4 sec.
Construction	The unit should be shock proof. Should have high corner load performance
Optional	Rechargeable battery pack – operating time up to 10 h without back light.
Warranty	1 year

32

Laser Land Leveler

Type	Tractor operated (45-50hp), fully automatic
Operating range	Dia 800-100 meter
Self leveling accuracy	Better than 4.5mm at 100meter
Laser beam type	Red visible
Laser power	<3mm
Operating power	12 vdc through external socket
Power source	External alkaline battery <50h ba
Blade control laser receiver	
Beam reception range	360°
Vertical reception range	<190mm
Automatic control capability	Yes
Mounting pipe champ	Suitable to 40-50mm
Control panel	
Automatic control	Yes
Out beam indicator	Yes
Power	12vdc through cable
Hydraulic operating setting	Directional or proportional value
Led display	Show up grade, on grade and below grade position of laser receiver

Technical Specification for Tractor Operated Sprayer

- Self-Driven Agriculture Orchard Sprayer with 5.7 hp engine & 300L Tank.