

	<p align="center"> BUNDELKHAND SAHAKARI DUGDH SANGH MARYADIT SIRONJA, SAGAR (M.P.) 470004 AN ISO 9001 : 2015 Certified Organization E-mail: sanchimccsagar@gmail.com Phone 07582-281345 </p>
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Ref No: 521 /BKDS/IM/2021

Dated: 24/02/2021

NOTICE INVITING E- TENDER (Second Call)

Online Tenders are invited for supply of **Laboratory Equipments** at Bundelkhand Sahakari Dugdh Sangh from reputed manufacturer/distributor/dealer/suppliers. The tender documents containing the terms and conditions can be purchased online & downloaded through following website <http://www.mptenders.gov.in> from 25.02.2021 12.00 PM onwards. The tender will be opened in the office of the undersigned as mentioned in tender time schedule(key date). The detailed Tender Form can be seen (only for reference) at our H.O website: www.mpcdf.gov.in **OR** www.sanchidairy.com

Name of item	EMD (Rs)	Tender Fee (Rs)	Bid submission due date & time	Technical Bid opening Date & time	Financial Bid Opening Date & Time
Laboratory Equipments	50,000/-	500/-	08.03.2021 4.00 pm	09.03.2021 4.00 pm	10.03.2021 4.00 pm

CHIEF EXECUTIVE OFFICER

**BUNDELKHAND SAHAKARI DUGDH SANGH MARYADIT
SIRONJA, SAGAR 470004**

E-mail:sanchimccsagar@gmail.com
Phone 07582-281345

DOCUMENT COST Rs. 500/-

TENDER FOR PURCHASE OF PACKING MATERIALS

TENDER DOCUMENT

Schedule I	:	General Terms &Conditions.
Schedule II	:	Specification &Qty& EMD
Schedule III	:	Form A & B
(To be downloaded filled manually &scanned copy uploaded online.)		
Schedule IV	:	Price Schedule
Tender Cost	:	Rs.500/-(Rupees One thousand only)
Place of opening of Tender	:	Meeting Hall of The Bundelkhand Sahakari Dugdha Sangh Maryadit, Sagar.
Address for Communication	:	The CEO, Bundelkhand Sahakari Dugdha Sangh Maryadit, Sagar 470004

CHIEF EXECUTIVE OFFICER

Tender Details Annexure-I

Tender level Details			
Tender No: *		Tender Creation Date and Time:	
NIT No: *		Title: *	
Notice Invited for:	Tender	Stage:	II
Tender Call: *	IIInd	Currency:	Indian Rupee
Email: *		Division/Basin: *	
District:	SAGAR	Vendor Class: *	
Tender Category: *	Procurement	Tender Sub category: *	Stores and Purchase
Period of Completion (In months): *	12 months	Tender Type:	
Form Of Contract:		SOR:	
Name of Work: *	Laboratory Equipments Purchase	Work No: *	
Tender Fee details			
Probable Amount of Contract(PAC) in: *		EMD in :*	Rs. 50,000/-
Cost of Document in: *	500/-	Processing Fee in :	
Important Dates			
Purchase of Tender Start Date : *	25.02.2021 12.00 pm	Pre bid meeting Date and Time:	
Purchase of Tender End Date: *	08.03.2021 4.00 pm	Bid Submission End Date: *	08.03.2021 4.00 pm
Mandatory Submissions (Envelope A) Open Date: *	08.03.2021 4.00 PM	Technical Proposal (Envelope B) Open Date: *	09.03.2021
Financial Bid (Envelope C) Open Date: *	10.03.2021 4.00 pm		

* Mandatory field

SCHEDULE - I
General Terms & Conditions for tender submission & supply

Bundelkhand Sahakari Dugdha Sangh Mydt Sagar (BKDSM), cooperative organization, invites sealed tenders from bonafide manufacturers and/ or their authorized dealers or other suppliers for supply of **Laboratory Equipment's** strictly in adherence to the detailed specifications given in the schedule II of the tender documents.

Bundelkhand Sahakari Dugdha Sangh Mydt., Sagar reserves the right to accept or reject any or all tenders, which in their opinion justify such actions, without further explanation to the tenderers.

1.0 DECLARATION :

The submission of a tender by a tenderer implies that he/she has read the notice and conditions of the tender and the terms and conditions of contract and has made himself/herself aware of scope and specifications of the supplies to be made and the destination where the supplies have to be made and satisfied himself/herself regarding the quality and specifications of the articles.

2.0 TENDER SUBMISSION:

- 2.1 Tenders received by e-mail will not be considered. However, amendments by e-mail to a tender sent will be considered, provided the same are received before the opening of the tender and confirmed by post.
- 2.2 Individuals signing on the tender and other related documents must specify in which capacity of the firm he/ she has signed the document. (copy to be uploaded-mandatory)
- 2.3 The tenderer(s) should clearly state in their offer the address, telephone e-mail, PAN and GSTIN Numbers. Any change in the address should immediately be communicated to the Chief Executive Officer, Bundelkhand Sahakari Dugdha Sangh Mydt, Sagar and correspondence thereafter will be made at the changed address.
- 2.4 Negligence on the part of tenderer in filling the tender form offers him/her no right to withdraw the tender after it has been opened.
- 2.5 The acceptance of the tender and award of the purchase order will be the sole right of the Chief Executive Officer, Bundelkhand Sah. Dugdha Sangh Mydt. who does not bind himself to accept a tender in whole or in part or reject any or all the tenders received without assigning any reasons and no explanation can be demanded of the cause of rejection of the tender by any tenderer.
- 2.6 The Chief Executive Officer, BKDSM reserves the right to place order for whole requirement with any tenderer or split the orders among one or more tenderers or not to purchase at all any item even after rate approval.

- 2.7 Each tender should be accompanied with copy of PAN, GST, sales tax number and sales tax clearance certificate; without which the tender may not be entertained.
- 2.8 The tenderers should submit the rates (ONLINE) in the schedule-IV only. The conditional tenders are liable to be rejected.
- 2.9 No person or firm is permitted to submit more than one tender under different names.
- 2.10 The tenderer shall not sublet the contract or assign to any other party or parties, the whole or any portion of the contract without prior written permission of Chief Executive Officer, BKDSM.
- 2.11 Manufacturers will be given preference. Copy of license is to be attached with tender for each item filled in, wholesalers dealing with the item will have to attach copy of authorization certificate of the manufacturer. (copy to be uploaded-mandatory)
- 2.17 Tenderer shall fill all the details of the unit in the enclosed form- A in schedule-III. (copy to be uploaded-mandatory)

Bid Validity

Bid shall be valid for a period of 90 days from the date of opening.

Documents composing the Bid

Technical bid:

1. Technical bid form filled (to be uploaded)
2. Bid Security (EMD) – Scan copy to be uploaded
3. Tender document each page sealed and signed as token of acceptance to each and every terms and conditions

From sl.no.1 to 3 document must be submitted in hard copy before bid submission end date and time.

Commercial Bid

- Commercial Bid form filled

Bid price

Price indicated on the price schedule shall be inclusive of all taxes & duties and other expenses like

- GST (Percentage of GST to be mentioned)
- Freight
- Insurance

3.0 Earnest Money Deposit (as detailed in Price bid)

All the tenderers are required to deposit fresh Earnest Money as specified in tender document, for each item separately through online mode in favour of "Bundelkhand Sahakari Dugdha Sangh Mydt, Sagar". EMD should reach at BKDSM, Sagar before the tender opening time & schedule. Submissions of earnest money by any other mode than specified above shall not be acceptable and the related tender shall not be eligible for consideration.

- 3.2 Any tender which is not accompanied by Earnest Money deposit are liable to be rejected. Earnest money deposit of unsuccessful tenderers will be returned within 60 days from the date of opening of the tender. The earnest money deposit of the successful tenderers will be released on completion of supply/work as the case may be within the stipulated period.

3.3 No interest will be paid on the earnest money for the period during which (the EMD) lies in deposit with Bundelkhand Sahakari Dugdha Sangh.Maryadit.

- EMD may be forfeited :
 - If successful Bidder/supplier fails/denies to perform work
 - If any bidder/supplier withdraw its bid during the bid validity period

4.0 PRICES:

4.1 Prices offered by the tenderers should be firm and free from all escalations and shall be valid at least for a period of 12 months from the date of approval of rates. BKDS will have the right to extend the validity of the tender approval by 3 months. We would communicate our rate approval within 60 days of opening of tender

4.2 The tenderer should quote rate on FOR dairy plant Sagar basis.(GST Extra)

4.3 If need be, negotiations will be done for prices and as well as terms& conditions of material supply only with the party which offers the lowest rate.

4.4 The prices charged for the material supplies under the contract by the supplier firm in no event shall exceed the lowest price at which the supplier firm sells the material of identical tender description to any other persons/ firms during the period and until the execution of all supply orders placed during contract period.

4.5 The lowest rate shall not be the only criteria for approving the tender.

5.0 MODE OF DESPATCH

5.1 The material to be supplied by successful firm shall be dispatched to the dairy under prior intimation. Depending upon the type of material, the supplier shall have to carry out proper packing/crating to avoid damage during transit.

5.2 FOOD GRADE CERTIFICATE: Certificate(s) of use of food grade quality of raw material are to be sent along with consignments where ever required.

5.3 Wharfage /Demurrage etc. on account of incorrect or delayed despatch of material/documents shall be the responsibility of supplier and shall be recovered from the bills.

• LIQUIDATED DAMAGES:

6.1 Delivery date are fixed for supply of material they shall be strictly adhered too. In case they are not followed, or in case of delay in execution or non-execution of the order, the Dugdha Sangh reserves the right either to cancel the order and make alternative purchases from other sources, at the risk and cost & expenses of the defaulting supplier. In case the supplies are not affected as per the schedules, the liquidated damages may be charged on the goods not so delivered as under:-

Sl.No.	Duration of delay	Liquidated Damages
1.	Upto 15 days	1% cost of the unit.
2.	Between 16 to 30 days	2% cost of the unit
3.	Beyond 30 days	Upto 5% cost of the unit.

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- If the tenderer fails to make supply as per purchase order without any valid reason, the order would be treated as cancelled and the firm may be blacklisted for future dealings and EMD also would be forfeited by the management.

7.0 INSURANCE:

Insurance is to be arranged by the tenderer.

8.0 INSPECTION:

8.1 All the supplies are subject to inspection at our plant before acceptance. If goods are rejected due to defective or wrong supply, the report of our authorized official in this respect shall be FINAL and no correspondence on the subject would be entertained. The rejected goods should be removed from our premises by the tenderer within 15 days after receipt of our inspection report failing which the same shall be returned to the supplier at his risk and expenses or disposed off in Auction and the proceeds, if any, less expenses would be credited to tenderer's account.

8.2 Sample of the articles should be sent/produced before the competent authority if asked for within 7 days or as mutually agreed.

9.0 PAYMENT

9.1 Our normal terms of payment is full payment after receipt, inspection and acceptance of materials in our stores within a period of about 30 days after receipt. Such payments shall be made through RTGS. Tenderer agreeing to these terms would be given preference over those specifying other terms.

10. TERMINATION OF CONTRACT:

If any act of commission or omission of a unit under contract brings Bundelkhand Sah. Dugdha Sangh Mydt. to dispute, then Bundelkhand Sahakari Dugdha Sangh Mydt. shall be competent to debar/blacklist the unit from further business.

11.0 CONSEQUENCES OF BREACH OF AGREEMENT:

If any firm under the contract commits breach of any of the conditions, it shall be lawful for the Chief Executive Officer, Bundelkhand Sah. Dugdha Sangh Mydt. to cancel the contract and to purchase material from any other alternate sources on the risk and cost of the defaulting unit.

12. DISPUTE ARBITRATION & FINAL AUTHORITY:

12.1 It should be clearly understood that in the event of a successful tenderer failing to accept and execute the supply order, then decision of the Chief Executive Officer, Bundelkhand Sah. Dugdha Sangh Mydt. in this respect will be final and binding on the successful tenderer.

12.2 For all matters of dispute, the decision of the Honourable Chairman, Bundelkhand Sah. Dugdha Sangh Mydt.. Under Arbitration and Conciliation Act. 1996 shall be final and binding on all the concerned.

12.3 For all disputes, the venue for legal course shall be at Sagar.

Chief Executive Officer

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**BUNDELKHAND SAHKARI DUGDHA SANGH MARYADIT
SAGAR DAIRY PLANT ; SIRONJA,SAGAR**

SCHEDULE - II

SCHEDULE – II				
BUNDELKHAND SAHKARI DUGDH SANGH				
Annual tender for Laboratory Equipments			EMD Required Rs. 50,000/-	
S. No.	Name of Chemicals & Detergents	Make	F.O.R.	Rate per Unit (GST Extra)
1	Water Bath For TS-12 holes	Narang scientific works, Cintex, Kumar sales, Grant, Equitron	SAGAR	1
2	Hot Air oven (with PID control)	Tempo, Narang Scientific works Pvt. Ltd. kumar sales corporation, Memmert, Equitron.	SAGAR	1
3	Hot Plate (Large size)	Kumar sales, Narang Scientific, Remi Tarson, JSGW	SAGAR	1
4	Hot Plate (small size)	Kumar sales, Narang Scientific, Remi, Tarson, JSGW, IKA, ABDOS, Citizen, Cole Parmer	SAGAR	1
5	Electrical Hot Plate with Magnetic Stirrer	IKA, Cole Parmer, Tarson, Remi, Borosil, JSGW, ABDOS, Citizen	SAGAR	1
6	Acidometer	Metrohm, Mettler Toledo	SAGAR	1
7	Auto Clave	Tempo, Narang Scientific, kumar Sales, coleparmer, Memmert, Tuttnaeur, Equitron, Machin Frbrik, Indo german pharma engineers, Metal Chem industries	SAGAR	1
8	BOD Incubator	Thermo scientific, Macro Scientific works, kumar Sales corporation, Narang scientific works, weiber, equitron	SAGAR	1

9	Electronic Weighing scale (Least count 0.1 mg)	Mettler Toledo, Minebea intec (Formally known as sartotius), Essae	SAGAR	1
10	Sodium Ion Analyzer	Thermofisher, Metrohm, Hach, Mettler	SAGAR	1
11	Digital BR apparatus	Atago, Rudolph	SAGAR	1
12	Moisture analyzer	Mettler Toledo, Minebea Intec (Formally known as sartotius)	SAGAR	1
13	Muffle furnace	Kumar sales tempo, cintex, tara Toshiba, cole parmer	SAGAR	1
14	Laminar air flow unit for Microbiological Analysis		SAGAR	1
15	Colony counter	Dyna filters, Labline, Labtech, Narang scientific, Clean Air, equitron	SAGAR	1
16	Microscope	Primostar, Olympus, carl Zeiss, De- winter	SAGAR	1
17	Centrifuge with variable speed	Remi, Eppendoff, Sigma, sartorious, thermo.	SAGAR	1
18	Magnetic stirrer	Tarson, IKA, Abdos, citizen, cole parmer, JSGW	SAGAR	1
19	Sediment tester with mixer	Funke Gerber	SAGAR	1
20	Digital pH meter	Metrohm, Mettler Toledo, Thermo fisher, Hash	SAGAR	1
21	Mixture grinder	Phillips, Bajaj, Morphy, Richards, Prestige, Singer	SAGAR	1
22	Water Distillation Apparatus (Double Distillation)	Borosil, Durasil, JSGW	SAGAR	1
23	Bursting Strength Testing machine (for corrugated boxes duplex etc.)	Presto, Vertex, Ubique	SAGAR	1
24	Powder Scorched particle analyser	Funke Gerber	SAGAR	1
25	Bulk density Analyser	Funke Gerber	SAGAR	1
26	Dessicator		SAGAR	1
27	Air Purifier		SAGAR	1

28	Water Quality Analyser		SAGAR	1
29	Hygiene Monitoring System		SAGAR	1
30	Automatic Protein analyser kjeldhal unit	Gerhardt, FOSS	SAGAR	1
31	Turbidity meter		SAGAR	1
32	Antibiotic test kits/somatic counter	Evetest Instruments, Chemometec (Indian Distributor- Spinco Biotech Pvt. Ltd.)	SAGAR	1
33	Punchure resistance tester machine (for corrugated boxes duplex etc.)		SAGAR	1
34	Density Hydrometer		SAGAR	1
35	Digital TDS meter	Eutech, Horiba, Hanna Instruments, Hatch, cole parmer	SAGAR	1

The detail specifications of all the above Laboratory equipment's as given below:

③ **Technical specifications for Hot Air Oven**

Rev: 0

Date : 27/11/2017

1. Functional requirement

Equipment is required for estimation of moisture / Total solids in liquid milk and milk products

2. Specifications

Attribute	Specification
Size	<ol style="list-style-type: none">1. The minimum size (Width x Depth x Height) of inner chamber should be 600 * 600 * 600 mm. A maximum deviation of 20 mm would be acceptable on any two sides. Provided that volume of oven is in the range of 216 ± 15 ltrs.2. The inner chamber of unit should be of SS 3043. Outer wall should be made of SS 304.4. Perforated trays – 3 Nos.5. The oven shall have the arrangement to adjust the height of trays as per the requirement.
Temperature	<ol style="list-style-type: none">1. Instrument shall have the micro processed digital controller cum indicator to maintain temperature from 5 °C above ambient to 250 °C with an accuracy of ± 0.5 °C2. The temperature uniformity should be less than ±2 °C at 150 °C.
Heater	<ol style="list-style-type: none">1. Oven shall have heating element on minimum three sides.2. Air circulation fan/blower should be available, preferably with an option of adjusting speed.3. Ventilators4. Insulation thickness – minimum 75 mm.5. System shall have suitable mechanism to close the doors tightly to avoid any leak of heat.6. Oven shall have the provision to insert the thermocouple to monitor the actual temperature.
Power	<ol style="list-style-type: none">1. It should work under Indian environmental conditions (Temperature, humidity) as well as should meet electric power requirements (230 V), 50 Hz, single phase.
Warranty	<ol style="list-style-type: none">1. The unit should have minimum 1 year warranty from the date of installation or more as per manufacturer policy

	2. All technical specification would be demonstrated during installation at site.
Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for commissioning of the equipment shall be in the scope of supplier.

3. Electrical compatibility

Equipment must be compatible to run with an Indian electrical supply (230 V / 50 Hz).

4. Suggested suppliers/makes

Tempo, Narang Scientific Works Pvt. Ltd., Kumar Sales Corporation, Memmert, Equitron.

(4) Hot plate (Large Size)

Suggested Makes	Kumar Sales, Narang scientific, Remi, Tarson, JSGW
REV.NO.: 0	Date: 01/12/2017

Sr. No.	Technical Feature	Specification
1	Surface size (cm)	30 x 45
2	Operating Temperature Range °C	50 to 300
3	Temperature controlling	Through Thermostat / digital controller
4	Power Supply	210 - 230, 50 Hz, single phase
5	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for commissioning of the equipment shall be in the scope of supplier.

(5) Hot plate (Small Size)

Suggested Makes	Kumar Sales, Narang scientific, Remi, Tarson, IKA, Abdos, Citizen, Cole parmer
REV.NO.: 0	Date: 01/12/2017

Sr. No.	Technical Feature	Specification
1	Surface size (mm)	180 x 180 (±.15 mm)
2	Operating Temperature °C	Ambient plus 5 to 300
3	Temperature controlling	Through thermostat/ digital controller with temperature accuracy of +/- Deg.C
4	Material Top surface	Ceramic / SS
5	Power	210 - 230, 50 Hz, single phase
6	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for commissioning of the equipment shall be in the scope of supplier.

7 **Electrical Hot Plate with Magnetic Stirrer**

Suggested Makes		IKA, Cole Parmer, Tarson, Remi, Borosil, JSGW, Abdos, Citizen
Sr. No.	Technical Feature	Specification
1	Number of stirring positions	1
2	Stirring quantity [L]	Minimum 5 Litre
3	Display	Monitoring of Set and actual temperature /speed
4	Operating Speed Range	upto 1200 RPM
5	Stirring bar length [mm]	As per the manufacturer design
6	Heating temperature range [Ambient to 300 Deg.C
7	Heat control accuracy	+/-1 deg C
8	ext. temperature sensor	Provision for external temperature sensor should be available
9	Set-up plate material	ceramic / Stainless steel
10	Set-up plate dimensions	260 X 260 (+/- 15 mm)
11	Protection class according to	DIN EN 60529 IP 21 or any National /International standard
12	Stirrer	Min.Four stirrers of suitable size to be offered
13	Voltage [V]	210 - 230, 50 Hz, single phase
14	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for commissioning of the equipment shall be in the scope of supplier.

8 **Acidometer-**

Application: Analysis of titratable acidity in milk and liquid milk products.

Suggested Make: Metrohm, Mettler Toledo

Power supply: As per Indian standard power supply.

The potentiometric titrator should have the capability and dedicated mode to perform all types of potentiometric titrations like, acid-base (acidity), non-aqueous FFA (Free Fatty Acids), argentometric (chloride determination), redox (Iodine & peroxide value) by using suitable electrodes & titrants.

The instrument should have: 1. Motor driven Piston burette 2. Resolution of 1/10,000 of burette volume or less 3. Facility for Method & Result storage and should be able to store at least about 50 Methods and about 1000 results 4. pH measurement capability with 5 point pH calibration 5. Automatic Burette Recognition feature 6. Automatic temperature compensation 7. Possibility of using various Volume like 5, 10 and 20ml. The instrument should be offered with suitable chemical resistant magnetic stirrer/propeller type stirrer. The instrument should be capable of controlling stirrer speed.

The instrument should have the possibility for direct connection of USB Keyboard, Printer, USB Mouse and preferably transferring data to LIMPS/SAP/Suitable network program.

3 mV Range & Resolution Min. -1200 to +1200 mV with max. Resolution of ± 0.1 mV 4pH Range & Resolution 0 to 14 with resolution of 0.01 pH or better

Accessories

All required accessories for operation of the equipment and applications shall be offered along with the equipment i.e. electrode, pH standard, stirring bars, electrode holder, burettes of 5, 10 & 20ml, methods, cables, burette stand, etc.

At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue.

9 AUTOCLAVE (75 L)

1. Capacity: Minimum 75 L
2. Working Pressure: 15- 22 psi
3. Sterilizing Temperature: 121°C to 125°C or better on upper side.
4. Temperature accuracy: $\leq \pm 1^\circ\text{C}$
5. Digital Temperature Indicator cum Controller with Timer.
6. Double walled complete (SS 304) construction.
7. Foot Lifting Arrangement.
8. S. S. Perforated baskets (3 nos.)
9. Steam Release Valve & pressure gauge.

10. Safety Protection for heater and automatic cutoff for low water level which may be indicated by an alarm.
11. PID Controller with timer & purging system and programming capabilities to automatic shutdown after sterilization.
12. Power & Plug - To suit Indian norms
13. Essential Standard Accessories for installation and commissioning should be supplied along with the equipment
14. Calibrated in Laboratory as per ISO-17025
15. Commissioning and installation will be done by the party.
16. At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.
17. The accessories required for commissioning of the equipment shall be in the scope of supplier.

Suggested Makes:

TEMPO, NARANG SCIENTIFIC, KUMAR SALES, COLEPARMER, MEMMERT, TUTTNAEUR, EQUITRON, MACHIN FABRIK, INDO GERMAN PHARMA ENGINEERS, METAL CHEM INDUSTRIES

10

BOD incubator

Application: Incubation of samples during BOD test for effluent

Suggested makes: Thermo scientific, Macro Scientific Works, Kumar sales corporation, Narang Scientific Works, Weiber, Equitron

Chamber Volume: 280 ± 30 litres with approx. dimension of internal chamber 55 X 55 X 90 cm.

External dimensions (cm) W x D x H Approx. 70 X 85 X 165 with tolerance of ± 15 cm on Width/Depth and ± 50 cm on Height

Shelves: Minimum 3 no shelves, made of stainless steel (SS 304) with perforations

Temperature Range: 5 degree C (or below) to 60 degree C (or above)

Controller Accuracy: Maximum deviation of ±0.5 degree C of set value

Temperature uniformity: 1 degree C

Compressor: Hermetically Sealed compressor of reputed make with CFC/HCFC free refrigerant

Controller: Digital Display microprocessor based PID Controller

Temperature sensor: Pt-100

Internal chamber material: SS-304

External body material: SS 304

Inner door: Should be made up of transparent acrylic sheet or glass door of 8 mm thickness

Air Circulation: Forced air circulation through backside located motorized blower for temperature homogeneity

Safety feature: The equipment should be equipped with Over temperature protection device

Insulation: PUF of minimum 7 cm thickness

Illumination lamp: Door operated illumination lamp

At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.

The accessories required for commissioning of the equipment shall be in the scope of supplier. The unit should have minimum 1 year warranty from the date of installation.

(11) **Electronic Weighing Scale(Least Count 0.1 mg)**

Suggested Makes: Mettler Toledo, MINEBEA INTEC (FORMALLY KNOWN AS SARTORIUS) , Essae

Specification:

Capacity: up to 220 g Readability: ≤ 0.1 mg

Repeatability: ≤ 0.1 mg Linearity: ≤ 0.2 mg

Settling time: ≤ 2 sec Display: LED

Minimum sample weight: ≤ 20 mg

Weighing pan dimension: 90 ± 5 mm

Body: Solid metal base

Sensitivity temperature drift: ≤ 2 ppm / $^{\circ}\text{C}$

Overload protection up to 100 Kg

Front feet levelling for easy operation and verification Internal adjustment

RS 232 interface port with printing feature shall be available in the equipment

Accessories: 1 set of 3 certified weights to verify the balance in the working range to be offered, i.e., 20mg, 20g and 200g or in any alternate suitable ratio per equipment per delivery location.

At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.

The accessories required for the commissioning of the equipment shall be in the scope of supplier

12 **Sodium Ion Analyzer**

Application: To estimate sodium ion concentration in the raw milk samples.

Suggested: Makes: Thermofisher, Metrohm, Hach, Mettler

1. Multi parameter bench top ion analyzer having feature for pH and ISE for sodium ion estimation.
2. Equipment with LED/LCD display.
3. Analyzer having facility for simultaneous display of pH or ISE and temperature measurement.
4. One stirrer / stirrer probe to be included with equipment which can be controlled by the software.
5. Range for mV : Potential measuring range of minimum -1200 to +1200 mV or better on both the side, resolution 0.1mV, accuracy ± 2 mV.
6. Equipment having auto and manual calibration features.
7. ISE range: upto 19900 or better. The equipment to measure sodium ion concentration from 0.025 ppm (or lower) to saturated sodium ion concentration or 1×10^{-6} (or lower) to saturated solution of sodium ion.
8. ISE Accuracy: ± 0.2 mV or 0.05%
9. Unit of measurement for ISE: Molar, ppm or more number of units.
10. ISE calibration facility up to 5 point.
11. Temperature range: -5 to 1050C or better on both the sides.
12. Temperature relative Accuracy: ± 0.10 C
13. Auto temperature compensation feature.
14. System to have facility to store data for minimum 500 samples and there shall be option to transfer data with USB/RS232 ports to computer. The required software for the same is to be offered by the bidder.
15. Equipment supply with following items
 - a. Universal power adaptor to connect 240 volt power supply
 - b. A Sodium electrode with waterproof connector. All required calibration standards/ chemical reagent solution for estimation of sodium for given application to be offered.
 - c. Required Stand for electrode to be included.
 - d. All necessary power cable, adaptors, stands, holders, required for normal operation & commissioning are to be provided by the bidder.

13 **Digital BR apparatus**

Application: Butyro Refractometer reading of milk fat for purity

Suggested Makes: Atago, Rudolph

Temperature controlled digital refractive index measuring instrument

Measurement range: Refractive index (nD) : 1.32422 or better on lower side to 1.53000 or better on higher side , Brix : 0.00 to 100.00%

Prism material: Prism shall be made of sapphire

Automatic temperature compensation facility shall be present in the equipment

Temperature controlling: Equipment to have facility to control the temperature in the range of 5 to 75°C. The equipment shall have the capability to maintain temperature of 10°C below the ambient and 55°C or above the ambient temperature in normal operation.

Temperature resolution: 0.02°C or better

Operating environmental conditions/electricity

Equipment shall be able to operate smoothly in the environmental temperature range of 5 to 40°C ($\pm 2^\circ\text{C}$) Equipment shall be able to operate under the Indian electrical supply.

Resolution: Refractive index (nD) : 0.00001, Brix : 0.01%

Measurement Accuracy

Refractive index (nD) : ± 0.00005 or better Brix : $\pm 0.05\%$ or better

Repeatability

Refractive index (nD) : ± 0.00002 or better Brix : $\pm 0.01\%$ or better

Special scale

Equipment shall have the facility to create user scales and should be supplied with the following pre-programmed user scales for Butyro refractometer (BR) reading at 40 Deg.C.

Memory: The equipment should have the capability to store analysis results.

Computer connectivity: The equipment should have the facility to transfer data to the computer and preferably to the central server through computer of directly from the equipment. The required software for computer connectivity and cables to be offered. The facility to transfer data to the printer shall be available in the equipment. The equipment shall have one RS232 port and a USB port.

Programming: Inbuilt program required to convert Refractive index (nD) into BR value for milk fat

At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.

The accessories required for the commissioning of the equipment shall be in the scope of supplier.

14 **Moisture analyzer**

Application		Analysis of moisture in powdered / liquid milk and milk product samples
Suggested Makes		Mettler Toledo, MINEBEA INTEC (FORMALLY KNOWN AS SARTORIUS)
Equipment specifications		
S no	Parameter	Description
1	Power requirements	220 V to 240 V AC, 800 W maximum
2	Sample pan size	Dia 90/130 mm
3	Minimum display in weighing/ readability	0.001g
4	Repeatability	0.15% at 2 g; 0.05% at 10 g or better
5	Measurement range of moisture content	0.01% to 99% or better
6	Moisture content minimum display	0.01%
7	Maximum sample capacity	50 g or more
8	Drying heater	Mid-wave infrared quartz heater or halogen heater
9	Setting temperature range	50°C to 150 °C or higher (by 1°C increments)
10	Display	LCD/LED display with backlight
11	Drying programs	System shall have standard / rapid drying programs
12	Operational temperature and humidity range	The equipment shall be capable of operating under atmospheric condition of 5°C to 40°C, 90% RH
13	Standard accessories	Aluminium sample pan 100 pcs, sample pan handler 2 pcs, spoon, spatula Accessories for handling liquid samples- 100 no.
14	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

15 **MUFFLE FURNACE:**

Application		For analysis of ash content in milk and milk product samples
Suggested Makes		Kumar Sales, Tempo, Cintex, Tara, Toshiba, Cole Parmer
Equipment specifications		
S no	Parameter	Description
1	Power supply	200-240V, 50 Hz
2	Temperature range	200°C to 900°C or higher.
3	Dimensions	The minimum size (Width*Height*Depth) of inner chamber should be 15 * 15* 30 cm
4	Temperature control accuracy	±5 °C or better.
5	Temperature uniformity	±5 °C or better.
6	Heating element	Shall be made of high quality Nichrome/Kanthal or better material (suitable evidence to be submitted). The heating element should be wound on the muffle chamber to ensure temperature uniformity. Heating element wound with high grade insulation material.
7	Display	It should have digital LED/LCD display to show actual and set point temperature.
8	Safety	Energy regulator to control heating elements for extra heating and safety of equipment. System to have the facility to give electronic alarm / warning in case of temperature overshoot of more than 10°C than the set temperature
9	Control system	The unit should have PID microprocessor with CE mark
10	Material	The inner chamber made up of ceramic pot, outer made up of thick guage CRCA sheet
11	Timer	The equipment shall be offered with digital timer facility adjustable to 0 to 900 minutes or more to automatically shut down the equipment after the user set time.
12	Other requirements	The unit should work under Indian environmental conditions (Temperature, humidity). It should meet electric power requirements (230 V) and should be supplied with suitable power cable and plug top. The unit should have minimum 1 year warranty from the date of installation.

16 Laminar Air Flow Unit for Microbiological Analysis

✶

a) Laminar air flow system of horizontal design and horizontal flow.

b) **Construction material**

- Main body- cold-rolled steel with powder coating and work table made up of stainless steel.
- Front & Side windows and front window made up of Toughened glass/acrylic /polycarbonate with anti-UV features.
- Front window shall be half openable and full openable with a lock to hold at both the position or shall have some sliding mechanism to hold the window at these positions.

c) **Size**

External Size (W*D*H) - 1270 *1030*1550 mm max

Internal Size (W* D* H) - 1220 * 600 * 600mm min.

d) HEPA filter efficiency 99.999% /at 0.3 um.

e) Air Velocity: Critical areas shall have the laminar airflow of 90 fpm \pm 20 %

f) UV sterilization system of min.30 w for decontamination.

g) 40 W Fluorescent light with milky diffuser.

h) One 6/16 Amp socket and one 16 AMP three pin top

i) Low noise level (<60dB)

j) Equipment should have the provision for gas supply at the work table.

k) The equipment should have the mechanism to adjust the pressure and suitable indicator to monitor the pressure.

l) Equipment shall be equipped with suitable indicating system i.e. flow/ colour /any other suitable technique to indicate the life of HEPA filter.

m) Equipment should be supplied with all standard accessories, filters, blower motor assembly of reputed make and pipes required for installation.

n) System to have wheel arrangement with lock system

o) The equipment to be calibrated/verified for all the required tests after installation.

p) Commissioning and installation will be done by the party.

q) Power supply- The system shall work on standard Indian supply of single phase.

r) At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.

s) The accessories required for the commissioning of the equipment shall be in the scope of supplier.

t) Equipment shall have minimum one year warranty and minimum two preventive maintenance services to be provided within warranty.

u) All recommendations related to maintenance, list of spares and consumables and other necessary items shall be provided at the time of installation.

17

COLONY COUNTER:

Display	LED / LCD display
Max. Counts	9999 (four digit)
Dish Size	110 mm

Magnification	minimum 1.7x Surface Magnification with Magnification glass for 5 X
Power	230 V ± 10% AC, 50 Hz, Single Phase
Accessories	<ul style="list-style-type: none"> • Marking Pen, • Magnifying Lens of Approx. 110 mm diameter dish • Sliding Rod & Lens Holder • Dust Cover • Illumination of light
Audible Confirmation	After each count
Other	<p>At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.</p> <p>The accessories required for the commissioning of the equipment shall be in the scope of supplier.</p> <p>The operation manual should be submitted with the equipment.</p> <p>Equipment shall have minimum one year warranty.</p> <p>All recommendations related to maintenance, list of spares and consumables and other necessary items shall be provided at the time of installation</p>

Suggested Makes - Dyna Filters, Labline, Labtech, Narang Scientific , Clean Air, Equitron.

18) **MICROSCOPE:**

Application	1. Fot globule size estimation in homogenized milk 2. Gram staining for product to check contamination	
Suggested Makes	Primostar, Olympus, Carl Zeiss, De-winter	
Equipment specifications		
Sr. no.	Parameter	Description
1	Type	Binocular type optical microscope with ICS (Infinity Colour Corrected System)
2	Salient features	The equipment should have scratch proof specimen stage with spring lever holder
		The equipment should have 10 x focusable eye-piece pair
		The equipment should come equipped with Bright field Contrast Technique using Abbey condenser (0.9 / 1.25)

		The equipment should be upgradable for Phase contrast & Fluorescence techniques
		The equipment should have quadruple nose piece pointing towards back
		The equipment should come equipped with objectives of 4x, 10x, 40x & 100x (Oil), total magnification up to 1000 x , All Objectives lenses should be antifungus treated.
		The equipment should have transmitted light Halogen illuminator (Modular system) with variable control
		Binocular Tube can be rotated 360°, swiveling tube with upper & lower position to get extra viewing height
3	Accessories to be provided	Following accessories should be provided with the instrument:1. Spare Transmitted light LED Illumination assembly for longer life & for breakdown use2. Color Filter set Blue, Green & Yellow3. Cross line Eyepiece Micrometer reticule 10:100 for measurement4. Stage Micrometer 1:100 Slide for Calibration5. Any relevant accessories required for above application shall be included for demonstration during the installation and routine operation of equipment..
4	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

1g) Centrifuge with variable speed

Application: Centrifuge for separation of Fat from Milk samples at high speed.

Suggested Makes: Remi, Eppendoff, Sigma, Sartorius, Thermo

Power supply: 220-240 V, 50 Hz, single phase

The equipment shall set the speed centrifuge in increments of 100 rpm

Digital speed indicator: Dynamic brake shall be present in system

Equipment shall have digital timer up to 99 minutes for setting of centrifugation time.

Imbalance detection and cut off facility, Safety lid interlock to prevent cover opening during centrifugation.

System shall accept different type of rotors ranging from 1.5 ml, 10 ml, 15 ml, 25 ml and 50 ml.

Two rotors capable of centrifuging 50 ml and 15 ml tube to be offered with the equipment. Specification of compatible tubes with respective rotor shall be provided with equipment. Equipment shall be able to achieve minimum RPM of 10000 with above rotor.

Liquid handling capacity: Min.400 ml

Operating conditions

Instrument should perform well in the environmental temperature range of 5-45 ° C and humidity up to 80%

At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.

The accessories required for the commissioning of the equipment shall be in the scope of supplier.

Equipment shall have minimum one year warranty.

All recommendations related to maintenance, list of spares and consumables and other necessary items shall be provided at the time of installation.

20

Equipment	Magnetic stirrer
Suggested Makes	Tarson, IKA, Abdos, Citizen, Cole Parmer, JSGW
REV : 0	Date : 29/11/2017

1	Surface size (mm)	180 x 180 (± 15 mm)
2	Speed	upto 1100 rpm
3	Speed control	Through knob or digital controller
4	Material Top surface	Chemical resistance surface made up of ABS/SS/Ceramic
5	Capacity	Min.3 litres
6	Stirrer	Four stirrers of suitable sizes to be offered alongwith the equipment.
7	Voltage [V]	210 - 230, 50 Hz, single phase
8	Other	<p>At the time of installation, the performance of the equipment should be demonstrated as per the provided specification or OEM catalogue, whichever is better.</p> <p>The accessories required for the commissioning of the equipment shall be in the scope of supplier. Equipment shall have min. 1 year warranty.</p> <p>All recommendations related to maintenance, list of spares and consumables and other necessary items shall be provided at the time of installation.</p>

Name of Equipment	Sediment Tester
Application	Determination of sediment in raw milk
Approved Make	Funke Gerber
REV.NO.:0	Date : 08/02/2018

Equipment specifications		
Sr. no.	Parameter	Description
1	Operation	Manual
2	Body	Made up of stainless steel
3	Capacity	500 ml of milk
4	Clamp	To be provided with the instrument for fitting with the table
5	ADMI disc comparison chart	1 no. to be provided with each equipment
6	Filters	Minimum 1000 no. (32 mm Dia round shaped) are to be provided with each equipment
7	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

Name of Equipment	pH meter
Application	Analysis of pH
Suggested Make	Metrohm, Mettler Toledo, Thermo Fisher, Hash
REV.NO.: 0	Date: 04/12/2017

Equipment specifications		
Sr. no.	Parameter	Description
1	Power requirements	200-240 V, 50 Hz
2	pH range	0 to 14
3	pH resolution	Minimum 0.01 pH
4	pH accuracy	Minimum 0.02 pH at room temperature
5	Operating temperature range	0 to 50°C or better
6	Temperature accuracy	± 0.1°C or better. System shall be able to do automatic temperature compensation.
7	mV range	- 500 mV to + 500 mV or better
8	mV resolution	1 mV or better
9	mV accuracy	± 1 mV or more
10	Power Supply	Inbuilt adapter cum charger
11	Calibration	Automatic buffer calibration at pH 4, 7 & 10 or more
12	Display	LCD or LED display
13	Data storage	Internal memory storage with print feature
14	Readability	0.001 pH
15	Additional requirements	1) Calibration check facility & Calibration Error indication for 7.00, 4.00 and 10 pH 2) Shall supply following along with each equipment: Electrode (2 no.) Certified standard buffer solution (pH 4.0, 7.0, 10.01 x 50ml (2 no.) for each pH, or pH 4.0, 7.0, 10.01 x 100ml (1 no.) for each pH) + KCl solution (100 ml) + standard electrode holder + AC /DC Adaptor with each pH meter
16	Spares and consumables	Necessary spares and consumables required for commissioning of equipment shall be provided by bidder
17	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

Electric Mixer Grinder

REV.NO.: 0

Date: 05/12/2017

Suggested Makes : Philips, Bajaj, Morphy Richards, Prestige, Singer
Power : 500 Watt
Speed Control : 3
Warranty : Min.12 Months from the date of Supply
No. Of Jars : S.S. Jars 3 No. ,
1 liquid, 1 Wet / Dry Grinding, 1 Chutney
Colour : White
Other : At the time of installation, the performance of the
equipment should be demonstrated as per the
provided specifications or OEM catalogue,
which ever is better.

The accessories required for the commissioning of
the equipment shall be in the scope of supplier.

The machine should have :

- a) Safety Locking System
- b) Vacuum Footing Cups
- c) Star rating of 3.5 and above
- d) Automatic Overload Protection

Name of Equipment	Water distillation unit
Application	Water distillation for preparation of chemicals and other lab uses
Suggested Makes	Borosil, Durasil, JSGW
REV.NO.: 0	Date : 07/02/2018

Equipment specifications		
Sr. no.	Parameter	Description
1	Type	All quartz single distillation unit.
2		The distillation unit shall be fitted in vertical position in suitable metal frame (rust proof) to be placed on the table. Frame may have necessary features for wall mounting depending upon the requirement.
3	Output capacity	5.0 lt/hr
4	Biological activity	Pyrogen free
5	Conductivity of output water	$<2 \times 10^{-6} \mu\text{S/cm}$
6	Distillate temp.	Below 80°C
7	Electrical Requirement	220-250 volts, single phase
8	Other Requirements	System to be supplied with suitable safety cut device for automatically switching of heater, when water level falls below the heating coil or overheating. A suitable tank made up of glass/PP should be offered for collection and withdrawal of distilled water through knob/other suitable arrangement from the tank.

Name of Equipment : Bursting Strength testing machine (for corrugated boxes duplex etc.)

Makes : Presto , Vertex , Ubiqne

Specifications : Fully enclosed model.

Bursting strength displayed on gauges for greater accuracy.

Available two pressure gauges.

Change over from one gauge to the other by a simple switch.

Range 0-7 kg in one gauge and 0-35 kg in another.

Name of Equipment	Scorched Particle Analyzer ✓
Application	Determination of scorched particles in skimmed milk powder & whole milk powder as per IS:13500-1992
Suggested Make	Funke Gerber
REV.No.: 0	Date: 04/12/2017

Equipment specifications		
Sr. no.	Parameter	Description
1	Operation	Pressure type with filtering dia.of 3.2 cm as per clause no.2.1.6 of IS 13500-1992
2	Body	Made up of stainless steel
3	Capacity	500 ml of milk
4	Clamp	To be provided with the instrument for fitting with the table
5	ADMI chart	1 no. to be provided with each equipment
6	Filters	Minimum 1000 no. (of dia 3.2 cm) to be provided with each equipment
7	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

Name of Equipment	Digital bulk density apparatus
Application	To determine bulk density of skimmed & whole milk powder and dairy whitener
Suggested Make	Funke Gerber
REV.NO. : 0	Date: 04/12/2017

Equipment specifications		
Sr. no.	Parameter	Description
1	Power supply	Shall meet Indian Standard power supply condition.
2	No. of taps	250 taps per minutes.
3	Taps	Equipement to have a facility to adjust taps from 5 to 9990 or higher
4	Display	LED/LCD display
5	Tapping height	3 mm
6	Programming	5 programmes for different products
7	Cylinders	Two suitable cylinder shall be offered with the equipment
8	Compliance standard	The equipment shall meet requirement of relevant ISO and IDF standard for the application
9	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better.
		The accessories required for the commissioning of the equipment shall be in the scope of supplier.

26. Name of Equipment : Dessicator

Glass Dessicators with Cover and Porcelain Plate, Plastic knob 250 mm

27. Name of Equipment : Air Purifier

Working Area size : 4' X 2'

Body : Stainless steel

Air velocity : 90+/- 20 FPM(average)

Filtration Elements : HEPA Filters

Filter Efficiency Main Filters : 99.97 at 0.3 micron

Prefilter : Washable non-woven polyester fibre

Prefilter Arrestance : 90% at 10 micron

Noise level : < 65 dBA

Power Supply : 220 volts single phase 50 Hz

28. Name of Equipment : Water Quality Analyser

Good quality & accurate result.

29. Name of Equipment : Hygiene Monitoring system

The instrument which has collect, analyze and report data from multiple quality indicators. Accurate quality monitoring system.

Measures tests for ATP from surface and liquid samples, high sensitivity ATP/Allergen

Prevention, total viable count, Enterobacteriaceae, coliform, E-coli, Listeria spp., Listeria monocytogenes, Alkaline Phosphatase and Acid Phosphatase

Sensitive – can detect down to 0.1 femtomoles of ATP

Advanced photodiode technology – internal solid state detector is not damaged by drops or shakes

Memory capacity:

100 test plans

200 user IDS

5000 test locations

Small, lightweight, handheld instrument (0.57 lbs, 7x18x3 cm)

Quick- test mode enables ad-hoc testing

Large viewable screen with backlight and optional bold text

Powered by 2x AA batteries for several months of uninterrupted use

Connects to sure Trend software via USB

Name of Equipment	Kjeldahl Apparatus with Digestion and Distillation Facility
Application	To estimate Protein Content in Milk and Milk Products
Approved make	Gerhardt, FOSS
REV.NO.: 0	Date : 08/02/2018

Equipment specifications		
Sr. no.	Parameter	Description
A Digestion System Unit with accessories should have following features		
1	Aluminium Digestion Block - 1 no.	
2	Heating places for tubes (Separate heating place for each tube of 250 ml capacity). - Min. 8 no.	
3	Insert rack for 8 place - 2 no.	
4	Catalyst tablets for above application - 1000 no.	
5	Suitable exhaust manifold system - 1 no.	
6	Suitable Scrubber - 1 no.	
7	Temperature Range.	Ambient to 430 ± 10 °C
8	Temperature Accuracy	± 0.5 % of set temperature
9	Heating power	Adjustable
10	Number of program	10 or above
11	Digital Display	To be present
12	Power Supply	Shall meet Indian Standard power supply condition.
B Distillation Unit with accessories should have following features		
1	Automatic alkali addition.	
2	Automatic water addition.	
3	Automatic Boric acid addition.	
4	Suitable pump for addition of alkali, water and Boric acid.	
5	Removable drip tray for cleaning.	
6	Efficiently insulated steam generator preferably made of stainless steel to provide constant steam output.	
7	Housing - Re-inforced chemical resistant plastic housing, with door & tube sensor with safety door & diagnostic functions.	
8	Recovery rate for Nitrogen for level between 1-200 mg N should be in the range of 99.5 to 101%.	
9	One no. storage tank of suitable capacity with level sensor for all the chemicals.	
10	Additional Safety to be provided for electronic components by provision of over current circuit breaker and SELV (Safety Extra Low Voltage)	
11	Power supply	Shall meet Indian Standard power supply condition.
C Titration system		
1	Digital Burette to be offered of 0.01 ml or better resolution along with reagent bottle and adaptor.	
D Accessories		

1	Protein digestion tubes	Minimum 16 no. of 250 ml capacity
2	Tube insert rack	2 no.
E	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The minimum accessories required for the commissioning of the equipment shall be in the scope of supplier

31. TURBIDITY METER:

Deluxe model-

Range 0- 1000 NTU in 4 ranges – 0-2,20,200 & 0-1000 NTU,

Readability 0,01 NTU in 0-2 & 0-20 ranges, 0.1 NTU in 0-200 ranges and 1 NTU in 0.1000 Ranges

Name of Equipment	Somatic Cell Counter
Application	Somatic cell count in raw milk
Approved Make	Everest Instruments, Chemometec (Indian Distributor - Spinco Biotech Pvt.Ltd.)
REV.NO.: 0	Date : 07/02/2018

Equipment specifications		
Sr. no.	Parameter	Description
1	Power supply	The equipment shall be able to operate on single phase standard Indian electrical supply (230 V, 50 Hz) with tolerance of 10% fluctuation
2	Measuring range	Should be atleast 1 Lakh to 50 Lakh somatic cells per ml or better on both sides.
3	Accuracy	Less than 10 %
4	Average time per measurement	Not more than 5 minutes
5	Sample quantity required for analysis	Less than 10 ml
6	Display	Readable LCD/LED display
7	Memory	Storage capacity of minimum 200 results in the instrument
8	Connectivity	RS 232 interface facility should be available in the instrument. Necessary software, data cables and accessories shall be supplied with the instrument. The equipment having the facility to transfer data to computer and the network software (LIMS/ERP/SAP) would be preferred. System should be able to connect with the printer.
9	Operating environment	Equipment shall be able to perform under ambient temperature and RH conditions
10	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

33. Puncture resistance tester machine (for corrugated boxes duplex etc.)

Good quality & high accuracy

34. Density Hydrometer

Good quality & high accuracy

Name of Equipment	TDS meter
Application	To determine total dissolved solids (concentration of dissolved particles) in water
Suggested Makes	Eutech, Horiba, Hanna Instruments, Hach, Cole Parmer
REV.NO.: 0	Date : 07/02/2018

Equipment specifications		
Sr. no.	Parameter	Description
1	Type	Pocket type
2	TDS measurement range	Selectable mode for measurement in the range of 0-100 ppm, 1000 ppm (max 200 and 2000 ppm based on TDS factor 1.0), with adjustable TDS factor from 0.4 to 1 for accurate measurement
3	Accuracy	±1% of full scale
4	Resolution	selectable from 0.01 ppm, 0.1 ppm and 1ppm depending on the selected working range
	Automatic temperature compensation	Facility should be present in the instrument
5	Temp. range	0-50°C
6	Calibration	Should have provision of 3 point calibration
7	Power supply	Works on Batteries & Battery life should be minimum 150 hrs of usage
8	Display	LCD Display for temperature and TDS
9	Sensor	Sensor should be made up of SS-316 stainless steel and replaceable at the user level
10	Standards	1 set of 3 calibration standards for calibration of equipment preferable in the range of 50, 300 and 2000 ppm (quantity 450 ml each) are to be supplied with the equipment.
11	Other requirements	It should have hold function for reading and recording. Equipment should be waterproof. Equipment should have "auto power off" function. 2 no. sensors to be provided along with the equipment.
12	Warranty	2 years from the date of delivery
13	Other	At the time of installation, the performance of the equipment should be demonstrated as per the provided specifications or OEM catalogue, whichever is better. The accessories required for the commissioning of the equipment shall be in the scope of supplier.

**BUNDELKHAND SAHAKARI DUGDHA SANGH MARYADIT,
SIRONJA, SAGAR 470004**



SCHEDULE – III

Form – A

(To be uploaded - mandatory)

To,
Chief Executive Officer
BKDSM, SAGAR

Dear Sir,
Please find enclosed herewith scan copy of EMD No..... dtd..... for Rs.....
Bank Name..... towards EMD deposit. Original will be submitted before opening of
tender.

Seal & Signature of the of the tenderer



**BUNDELKHAND SAHAKARI DUGDHA SANGH MARYADIT,
SIRONJA, SAGAR 470004**

SCHEDULE – III

**Form – B
(To be uploaded -mandatory)**

To,

Chief Executive Officer
BKDSM, Sagar

Date :

Dear Sir,

I/We hereby furnish below some particulars about our company/unit which will form a part of our offer submission:

1. Name of the Co./Unit : _____
2. Address of the Co./Unit : _____

3. Telephone Nos.(with STD Code): _____
FAX No. : _____
Email ID : _____
4. Name of the CEO/Proprietor/
Partner : _____
5. Name and designation of other : _____
Authorized signatory of the Co./Unit
6. Particulars of Regn. Certificate : _____
Issued by the competent authority
(Regn No. & Date)
7. We are manufacturer/distributor/dealer/supplier ofCo.(with proof)
8. GST NO dtd.....
9. PAN Number(Permanent Account Number- Income Tax) :
10. Have your Co./Unit or its sister concern ever been black listed/ debarred by BSDSM or its sister Milk Unions or GOI /GOMP & its undertaking ? YES / NO
11. Price Escalation: YES/NO

**Seal & Signature of the
Authorized Signatory of the Co./Unit**

(Copies enclosed)

- Form-A & B(scan copy to be uploaded)
- Tender document each page sealed and signed as token of acceptance to each and every terms and condition.



BUNDELKHAND SAHAKARI DUGDHA SANGH MARYADIT
SIRONJA,
SAGAR 470004

SCHEDULE – IV

Form – C
(To be uploaded - mandatory)

(PRICE BID)

TENDER NUMBER:	
NAME OF TENDERER:	

S. No.	DESCRIPTION	Rate/unit	F.O.R	Sagar Dairy (GST Extra)

(Seal & Signature of the tenderer)