Annexure-VII

Specification of Analyser& stirrer

Analyser& stirrer with Battery Backup Charging by Solar & Electricity

Earlier specification				**Present specification**	
A. 1. 0	**Milk Analyzer**	Analyzer Inbuilt with Lithium Battery Backup Stand by –5 – 6 hours, virtual charging by Electric / Solar panel Cap-50watt. Stirrer Runs with Same power supply to Analyzer		**Milk Analyzer**	Analyzer with external Lithium Battery Backup Stand by –5 – 6 hours, virtual charging by Electric / Solar panel Cap-50watt. Stirrer Runs with Same power supply to Analyzer with Wi-Fi/ Blue tooth enabled
1. 1	Functional Requirement	To test & display FAT, SNF & Added water/Per Liter Price Lactose/Protein/ Salts, /Temp/Density sample Milk.		Functional Requirement	To test & display FAT, SNF & Added water/ Lactose/ Protein/ Salts, /Temp/Density sample Milk.
1. 2	Type	Direct FAT:0.5% to 12% accuracy+/-0.1% Measuring 12% to 15% accuracy+/-0.2% Parameters: SNF: 6% to 15% accuracy+/-0.15% Temperature: 1˚C to 40˚C Calculated CLR:15 to 40 accuracy+/-1 Parameters: Protein :2% to 7% accuracy+/-0.1 Lactose: 0.01% to 6% accuracy+/-0.2 Resolution: Added Water In Milk 0% to 99% Accuracy+/-3% FAT,SNF, Lactose,Protein,Salts : 0.01% Temperature : 1˚C CLR:0.5, Added Water:1% Repeatability: FAT: +/-0.07% SNF: +/-0.1%, CLR: +/-0.5 Milk Testing Time(Measurement) **– 25 Sec to 35** Milk Price Per Liter On Display		Type	Direct FAT:0.5% to 12% accuracy+/-0.1% Measuring 12% to 15% accuracy+/-0.2% Parameters: SNF: 6% to 15% accuracy: +/-0.15% Temperature: 1˚C to 40˚C Calculated: CLR:15 to 40 accuracy : +/-1 Parameters: Protein :2% to 7% accuracy+/-0.1 Lactose: 0.01% to 6% accuracy+/-0.2 Resolution: Added Water in Milk 0% to 99% Accuracy: +/-3% FAT, SNF , Lactose,Protein, Salts: 0.01% Temperature: 1˚C CLR:0.5, Added Water:1% Repeatability: FAT: +/-0.07% SNF: +/-0.1%, CLR+/0 Milk Testing time (Measurement -**25 sec to 40 Sec** Milk price Per Liter on Display
1.3	Technical	Milk Temperature: 1 to 40˚C Measurement Time: **25 Sec to 35** Sample Volume: 15 ml Average Speed: 120 samples/hr Number of Calibration: 3 Operation Time Limit: Continuous Display: High contrast blue / green backlight 4 line 20-character LCD Display. Average Speed: 120/hr		Technical	Milk Temperature: 1 to 40˚C Measurement Time: **25 Sec to 40** Sample Volume: 15 ml Average Speed: 90-120 samples/hr Number of Calibration: 3 Operation Time Limit: Continuous Display: High contrast blue / green

		Environmental: Ambient Temperature 10˚C to 40˚C Conditions: Relative Humidity 30 to 80%			backlight 4 line 20-character LCD Display. Average Speed: 90 to 120/hr Environmental: Ambient Temperature 10˚C to 40˚C Conditions: Relative Humidity 30 to 80%
1.4	Price Per Liter	Display on Analyzer,		Price Per Liter	N A
1.5	Battery Charging Indicator	Display on Machine		Battery Charging Indicator	N A
1.6	Test & Cleaning Log	Can save test &clinging count		Test & Cleaning Log	Can save test &Cleaning count
1.7	Storage Data on Analyser	20 days		Storage Data on Analyzer	30 days minimum
1.8	Electricals	Power Input: 160-240V AC, 50HZ Voltage 12 +/-0.05V DC/10A (Max) Output: Average Power 30W Peak Power 120W		Electricals	1.In Put Voltage 100-264V 50Hz 2. Battery 12V12ah Li- Fe P04 3. Output 2 out put (1 for analyzer and 1 for Stirrer) 4. Backup > 250 sample 5. solar input 50W solar panel 6. Solar charging: MPPT charge controlling 7. Charging source Mains + solar 8. Output voltage supply sequence Mains (Priority 1) (battery priority
1.9	Manual	Operating Manual each in English & Local language per AMCU supply		Manual	Operating Manual each in English & Local language per AMCU supply
2.0	Cleaning	Auto Buzzer Required,		Cleaning	Auto Buzzer Required,
2.1	Storage	Per day collection storage		Storage	N A
B. 2.2	**Ultrasonic Milk Sample Stirrer**	Detachable	**B. 2.2**	**Ultrasonic Milk Sample Stirrer**	Detachable
2.3	Functional Requirement	To remove air from fresh milk sample by vibrations created in the milk before testing of milk.		Functional Requirement	To remove air from fresh milk sample by vibrations created in the milk before testing of milk.
				Operational Abilities	Mode selection for Type of Milk ; (1) cow, Buffalo ,Mixed / single Curve with Cleaning calibration, system error list etc.
2.4	Type	Table Top, Ultrasonic Stirrer		Type	Table Top, Ultrasonic Stirrer
2.5	Stirrer for Ultrasonic Stirrer	Frequency and Time Setting		Stirrer for Ultrasonic Stirrer	Frequency and Time Setting
2.6	Ultrasonic Frequency	20-25 KHz (Variable)		Ultrasonic Frequency	20-25 KHz (Variable)
2.7	Timer	1-99 Sec selectable		Timer	1-99 Sec selectable
2.8	Environment	Suitable for dusty/humid village environment, operating temperature -5 to 50 Degree C		Environment	Suitable for dusty/humid village environment, operating temperature -5 to 50 Degree C

2.9	Complete Ready to Use	Item complete in all respect with required electric/electronic parts, ready for use at site.		Complete Ready to Use	Item complete in all respect with required electric/electronic parts, ready for use at site.
3.1	MoC for body	AISI 304, 1.2 mm thick minimum		MoC For body	AISI 304, 1.2 mm thick minimum
3.2	Operating Voltage	230 Volts +/-10, AC,50 Hz and 12 Volts DC		Operating Voltage& power supply for Milk analyzer	230 Volts +/-10, AC,50 Hz and 12 Volts DC
3.3		Additional Requirements of Milk Analyzer		Loose Accessories	Holdingbottomtrayforspillage -1No. Connectivity through Bluetooth ACPowercablewithplugtop-1 No. Measuringmugs-2No Dailycleaningsolution– No.ofBottle3(Quantityminimu m200mlorequivalent). Weeklycleaningsolution- No.ofBottle2(Quantityminimu m200mlorequivalent)OR Monthly Cleaning solution- No of bottle 2 minimum200mlorequivalent)
3.4				Certificate	Milk Analyzer must be CE Certified
35				Performan ce Certificate	Performance certificate should be approved from NDDB calf
3.6				Secured calibration	Milk-Analyzer should be Bluetooth/WIFI enabled device and secured calibration is possible through mobile. Only authorized person can operate through secured mobile app, hence error free calibration without any manual intervention. All the historical data of calibration is stored on the cloud
3.7				Preventive	The system should be capable of recording Cleaning data and Error Log, which is stored on the cloud. This data may provide actionable alerts for preventive maintenance.
3.8				Mobile applicatio n	Blue tooth enabled Mobile Application

3.9				Warranty	3 Years
4.0				MOC for enclosure	AISI 304 0.75 mm thick minimum
4.1				Operational abilities	Mode selection for type of milk-(1) Cow,Buffalo,Mixed/Single curve with cleaning,calibration,system error list etc.

In place of earlier Specification of (C) for Thermal Printer & (D) external key Board the following revised SPECIFICATION OF MICROPROCESSOR BASED DATA PROCESSOR UNIT WITH IN BUILT THERMAL PRINTER may be considered.

4.2					**DPU** withinbuiltprinter&4G GSM Modemwithexternal antenna with wi-fi, Bluetooth enabled	- Microprocessor:32-bitorhigher, 1.5Ghzor higher - OperatingSystem: AOSP/Linux Kernel - RAM: 128MBDDR2orhigher - Memory: 256MB Flash - Storage:InBuilt SDcard(8GB or higher) - Clock:Built-inRTC(Realtime clock)with Battery - Display: 3.2"orhigherTFT/ Touch ScreenColor LCD/Graphic LCD - Printer:InbuiltThermalPrinter
					Main Components	DPU
4.3						- Modem:4GModemwithslotfor externalantenna - Ports:2 xUSB,4xRS232 (Wired/wireless) - Keyboard:USBPC Keyboard - BatteryBackup:Inbuilt - Wi-Fi: Wi-FiHotspottotransfer data whenGSMnetworkisnot available. - Bluetooth:Bluetooth communicationcapabilitywith Ultrasonicmilkanalyser, Electronicweighingscale,Remote digital display.
4.4					Remote Display	- LEDheight-12.5 mm,7Segment, - RS232interface,alongwith5-meterpower anddatacable

						Cabinet:ABS/GPSP powder coated rust free cabinet

4.5 The supplier should also provide Annual Maintenance Contract after warranty period on chargeable basis, if felt necessary by the purchaser.

4.6 Training – The supplier shall ensure proper and accurate functioning of all the components of the Milk analyser and impart training to the operating staff in operation, maintenance and routine check till the operating staffs are confident in operation and routine maintenance.

4.7 Operational & Cleaning SOPs (including leaflet on troubleshooting) - Provide laminated wall chart indicating important steps involved in operation & cleaning of the Milk Analyser for displaying in DCS.