

**TECHNICAL SPECIFICATION****Non Refrigerated Centrifuge Machine for General Purpose**

<b>Sr. No.</b>	<b>Description</b>	<b>Specification</b>
1.	Purpose	To centrifuge different kind of samples at room temperature
2.	Model	Bench Top
3.	Capacity	6 Nos X 50 mL
4.	Speed	6000 RPM Selectable and Variable
5.	RPM Accuracy	± 5%
6.	Diving Motor	Brushless
7.	Noise Level	< 60 dB
8.	Timer	0 to 60 min or permanent mode and automatic cut-off
9.	Display	LCD
10.	Controller	Microprocessor
11.	Type of rotation	Angle Rotor
12.	Auto cut off	Yes
13.	Temperature	Ambient
14.	Safety	Door interlock, Over speed detection, Over temperature detection, Vibration detector, Hazard Reduction caps for sample tubes and cover Lid closed detector and Automatic internal diagnosis.
15.	Installation & Demonstration of instrument	Yes
16.	Certificate	Yes
17.	Graduated Centrifuge tube 50 ml	a. Glass- 24 Nos.
		b. PP- 24 Nos.
18.	Program Memory	Memory of > 50 data sheets
19.	Power Supply	220 V AC

20.	Warranty	1 Year
21.	Supplier should provide all required essential accessories, Power supply accessories, Spanners, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate	

## TECHNICAL SPECIFICATION

### DIGITAL FLAME PHOTOMETER WITH RELATED ACCESSORIES

**Scope:** Microprocessor based four channels Flame Photometer to analyze Na, K, and Ca in the utility water sample

Sr. No.	Description	Specification
1	Digital Flame Photometer for determination of sodium, potassium and calcium with simple and easy to operate. Having narrow band interference filters, preferably dual channel for simultaneous observation of Na & K with single aspiration, conveniently accessible nebulizer and auto ignition. The system is equipped with air compressor, air filtration valve, sprayer, and atomizing chamber.	
2.	Display	LED
3.	Element Analyzed (min)	Na <sup>+</sup> , Ca <sup>+</sup> , K <sup>+</sup>
4.	Measuring Range (Min.)	0.5 to 100 ppm
5.	Read out	mmol/L
6.	Sensitivity	Na <sup>+</sup> & K <sup>+</sup> : - 5 ppm
		Ca <sup>++</sup> : - less than 10 ppm
7.	Reproducibility	Less than 0.5 %
8.	Accuracy	+/- 2% up to 40 ppm
		+/- 5% above 40 ppm
9.	Reading Stabilization	Software command
10.	Recorder output	50 mv to 7.5 mv via software Command.
11.	Air Supply	Oil & Moisture free air supply at 15 psi (6 lit/min)
12.	Fuel Supply	High grade Propane, Butane or Propane Butane mixture regulated at approx. 30 psi pressure.
13.	Safety	Flame Protection Device
14.	Interface	USB
15.	Installation & Demonstration of instrument	Required
16.	Certificate	Required

17.	Power Supply	220-240V, 50Hz.
18.	Warranty	1 Year
19.	Supplier should provide all required essential accessories, Instruction manual, Power supply accessories, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate and 500 ml of Certified Reference Material having traceability of National or International standard for each component.	

## TECHNICAL SPECIFICATION

### Portable Multi Gas Detector

Sr. No.	Description	Specification		
1.	Display	Digital High-contrast colour display		
2.	Housing	Durable two-component housing		
3.	Temperature	- 20 to 50 °C		
4.	Pressure	700 to 1,300 hPa		
5.	Relative humidity	10 to 90 % (short-term up to 95 %) r.h.		
6.	Alarms	<b>Visual:</b> 3 LED 'red' (gas alarms),		
		3 LED 'yellow' (device alarms)		
		<b>Acoustic:</b> Multi-tone, typically 100 dB(A) at 30 cm		
7.	Measuring Gases	<b>Component</b>	<b>Range</b>	<b>Resolution</b>
		O <sub>2</sub>	0-25 vol. %	0.1 vol. %
		H <sub>2</sub> S	0-100 PPM	0.1 PPM
		CO	0-200 PPM	1 PPM
		NH <sub>3</sub>	0-100 PPM	1 PPM
8.	Start-up times	< 60 Sec.		
9.	Operating times (Diffusion)	Min. 24 Hrs.		
10.	Power Supply	Lithium-ion battery, Rechargeable		
11.	Charging times	4 hours after use during a shift of max. 10 hours		

12.	Certificate	Required
13.	Installation & Demonstration	Required
14.	Warranty	1 Year for Sensor and 1 Year for overall
15.	Supplier should provide all required essential accessories, Power supply accessories, Spanners, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate	

## TECHNICAL SPECIFICATION

### Automatic Viscometer for Analysis of Viscosity in Lube and Hydrocarbon Liquid Samples

**Scope:** Automatic Viscosity analyzer capable to analyze kinematic viscosity of various petroleum product using ASTM methods at different temperatures range using high temperature option.

Sr. No.	Description	Specification
1.	Method Compliance	ASTM D7042 & D445
2.	Display	Full Automatic Digital /Microprocessor controlled of Temperature and etc.
3.	Display Resolution	Viscosity : 5 significant digits
		Temperature : 0.01 °C
4.	Temperature	+20 to 100 °C
5.	Temperature Accuracy	± 0.02 °C or Better
6.	Measurement Range (Viscosity)	0.3 to 3000 mPa.s (mm <sup>2</sup> /s)
7.	Viscosity Accuracy	0.10%
8.	Heating	Required
9.	Interface	4 x USB
10.	Data Storage	In Built Memory up to 1000 data sheet
11.	Sample Requirement	Max. 5 ml
12.	Control	Touch screen
13.	Data communication	System must required data communicate to printer and PC
14.	Certificate	Required
15.	Installation & Demonstration of instrument	Required
16.	Warranty	1 Year
17.	Certified viscosity standard	4 Nos. (each 100 ml)
18.	System must have facility of automatic cleaning & drying including with provision of solvent tank.	
19.	Supplier should provide all essential spares, viscosity standard having certificate traceable to National / International standard and consumables etc for smooth operation.	

20.	Facility of adjustable drainage rack to drain excess sample oil from tubes prior to cleaning to a suitable waste container or chemical drain for removal of waste oil and solvent
21.	Supplier should provide all required essential accessories, Power supply accessories, Spanners, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate



## TECHNICAL SPECIFICATION

### Double Walled Water Bath with 6 Holes

Sr. No.	Description	Specification
1.	Display	Digital Display
2.	Temperature Control	Microprocessor based PID Controller and Indicator
3.	Temperature	+20 to 100 °C
4.	Temperature Accuracy	± 0.5 °C or Better
5.	Heat time	Heat up time to 70°C should be less than 45 min
6.	Temperature Resolution	0.1 °C or Better
7.	Capacity	20 Litre
8.	Valve	Drain valve for easy draining of bath solution
9.	Holes	6 Holes on the top
10.	Insulation	Rockwool Insulation
11.	Controller	PID
12.	MOC	<b>Inner chamber and Lid:</b> Stainless Steel (SS-304 grade)
		<b>Outer chamber:</b> Mild Steel duly powder Coated
		<b>Special grade mineral wool</b>
13.	Control	Thermostatic temperature controller
		Wait On/Off timer. (up to 999 hours 59 minutes)
		Heating and mains indicators
14.	Power	220 V / 50 Hz

15	Safety fetures	Safe structure in which the heater, sensor, and pump inside the bath are separated by covering plates to protect users and samples against direct contact, Complete safety protection system with warning alarms- Low fluid level and dry-running, over-temperature, over-current, Convenient for carrying and moving with handles on the left and right sides.
16.	Sensor	PT-100
17.	Certificate	Required
18.	Installation & Demonstration	Required
19.	Warranty	1 Year
20.	Supplier should provide all required essential accessories, Power supply accessories, Spanners, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate	

<b>TECHNICAL SPECIFICATION</b>		
<b>Laboratory Hot Plate, Rectangular, Digital</b>		
<b>Sr. No.</b>	<b>Description</b>	<b>Specification</b>
1.	Controller	PID Controller
2.	Display	Independent display for SET & ACTUAL values
3.	Sensor	PT100 temperature sensor
4.	Temperature	Ambient $\pm 5$ to 350°C
5.	Temperature Accuracy	$\pm 0.5^\circ\text{C}$ ; Resolution – 0.1°C
6.	Outer Body	Powder-coated MS outer body for long-life
7.	Top body	Ceramic-glass plate
8.	Element	High-quality heating elements
9.	Safety features	Overload protection
		Mains & Process Indicator
		Non-Slip Feet
10	Input voltage	230VAC $\pm 10$ , 50-60 Hz
11	Temperature probe	PT100
12	Certificate	CE-approved detachable power-cable
13	Installation & Demonstration of instrument	Required
14	Warranty	1 Year
15	Pan size	40 x 25 cm (16 x 10")
16	power rating	1200 W
17	Supplier should provide all required essential accessories, Power supply accessories, Spanners, Data sheet and Catalogue, QAP with factory inspection report/MTC. Operating manual/Installation manual, Warranty Certificate	