

LAB 3. DAIRY LAB

FPPT-103: Introduction to food science

FPPT-253: Dairy Processing

FPPT-322: Oil & Fat Processing

FPPT-302: Food Process Engineering

LIST OF MACHINERY / EQUIPMENT

S.NO	EQUIPMENTS/MACHINERY	SPECIFICATIONS	QTY
1.	CENTRIFUGE	• Brushless motor drive quickly and effortlessly accelerates the rotor to set speed • Speed: 1000-5000 rpm increment • Rotor Capacity: 8 x 50ml centrifuge tubes With adapter for • Timer , hold • Voltage: 240V 50hz GERMANY,UK,USA,JAPAN or equivalent	01
2.	HEATING MANTLE	• Temperature: ambient to 450°C • Electrical: 220VAC, 50 Hz • Accessories: as per manufacturer standard • Capacity: 250 ml, 500ml , 1000ml China Made/Local	2each
3.	HOT PLATE	• Cast Aluminum • Teflon coated top plate • Temperature: 300 °C • Thermostatic control • 220 V • 50 Hz China Made	02
4.	INCUBATOR HEATING TYPE (115L CAPACITY)	• Temperature range: ambient +1C to +65C • Capacity: 150L • Number of Shelves: 2Nos • Recovery time after door has $\leq$3min • 220 V • 50 Hz	01

		EUROPE, USA, UK, JAPAN or equivalent	
5.	MAGNETIC STIRRER	• Safety temperature [°C] 300 • Thermal Couple: included • Speed display LCD • Speed range [rpm] 100-1500 • Power: 220V, 50Hz EUROPE, USA, UK, JAPAN or equivalent	04
6.	MAGNETIC STIRRER + HOT PLATE	• Separated safety circuit, automatically stop heating when temperature over 350°C • Power [W]: 530 • Voltage [VAC]: 200-240 • Speed range [rpm]: 0-1500 • Heating temperature range [°C]: RT-340 • Temperature display: LCD or digital or analog EUROPE, USA, UK, JAPAN or equivalent	01
7.	PORTABLE pH METER	• Measurement Range 0.00...14.00 pH • Display Liquid crystal EUROPE, USA, UK, JAPAN or equivalent	02
8.	Desktop pH METER	• Measurement Range 0.00...14.00 pH • Display Liquid crystal EUROPE, USA, UK, JAPAN or equivalent	01
9.	WATER BATH	• Easy-to-Clean Stainless Steel Tank • Capacity: 15 Litres • Temp Range: +5 – 100°C • Sensitivity: ±0.1°C • Uniformity: ± 0.2°C Local made	01
10.	WATER DISTILLATION UNIT	• Capacity (Liters/hr): 4 • Power: 220/240 VAC, 50/60 Hz. EUROPE, USA, UK, JAPAN or equivalent	01
11.	SPRAY DRIER	• Capacity 2 liter /hr	01

		• Separate powder discharge box • Drying temperatures range from 150°C to 500°C EUROPE, USA, UK, JAPAN or equivalent	
12.	DRUM DRIER	• Drum Dia meter(mm): 600 • Speed(r/min): 8 • Capacity(t/h): 0.5-1.5 • Power(KW): 3 Local Made	01
13.	EVAPORATOR	• 30 Lit Capacity • Heating and vacuuming of pulp/Juices/milk • SS made Local made	01
14.	HOMOGENIZER	• For high speed mixing of juices • Capacity: 10 L • SS tank Local/China Made	01
15.	STEAM BOILER	• Working capacity: 80PSI • Fittings: Gas fired • Water level Display, filling pumps • Types: instant steam generation, safety valve installation • All safety measures installed Local/china Made	01
16.	MILK CHILLER	• Capacity:- 20-50 L • Cooling Range:- 0-10°C • Body:- Stainless Steel • With agitator Local made	01
17.	SEPARATOR MANNUAL	• RPM:- 1100-2000 • Capacity: 5-7 L. • Product: MILK • Stainless Steel Plates Local Made	02
18.	ICE CREAM MACHINE with motor	• Wooden Box • Inner Stainless steel Body • Complete Accessories. • Capacity: 20 L Local Made	01

19.	RICHARD MEISEL RM APPARATUS	• Flask: 300ml • Condenser • Receiver Flask:- 100-150ml UK,USA,JAPAN,EUROPE or equivalent	01
20.	REFRIGERATOR	• Capacity 18CFT • Power: 220V, 50Hz, EUROPE, USA, UK, JAPAN or equivalent	01
21.	DOUBLE JACKETED ELECTRIC KETTLE	• SS made • Safety valve • Capacity 20 L Local Made	01
22.	PASTEURIZER (LAB SCALE)	• Automatic pilot plant (MILK) • Display of temperature and pressure • Capacity 10 L Local made	01
23.	Cold press oil extractor	• Capacity 20kg /hr • Local made	01
24.	Thermometer digital	• Digital	10
25.	Pycnometer	• Glass	10
26.	Lactoscan	• Power: 220V, 50Hz, • EUROPE, USA, UK, JAPAN or equivalent	01
27.	Cheese vat	• Capcity= 20iter • Local made	01