

## Refrigerated Centrifuge

**Application:** A Multi-functional, general purpose High speed refrigerated bench top centrifuge with fixed angle/swinging bucket rotors for sedimentation of samples with easy lift and safety lid.

### **Base unit:**

1. Table top centrifuge with maintenance free brushless motor and have low access height
2. CFC free refrigerant
3. LCD Digital Display of time, speed and
4. Temperature and run conditions
5. Compatible with all fixed angle and swinging bucket rotors
6. Automatic rotor recognition facility
7. Automatic imbalance detection and cut-off.
8. Should be programmable with easy pre-set programs for fast temperature for precooling and short spin.
9. Should have motorized lid lock system
10. Dials and digital display for easy setting.
11. Automatic imbalance detections for customer safety

**Temperature range:** -5°C to 40 °C

**Speed:** Maximum speed range: 15000 rpm to 20000 rpm (>20000 RCF)

### **Rotors:**

1. 15 mL and 50 ml Falcon tube with respective adapters
2. Rotor for 1.5-2.0 mL Eppendorf tubes (optional: adaptors for 0.2/0.5 mL tubes)

Rotor and buckets should be autoclavable.

### **Centrifuge tubes:**

1. Suitable 15 mL autoclavable screw capped tubes
2. Suitable 50 mL autoclavable screw capped tubes

**Power requirement:** Suitable voltage stabilizer should be supplied along with the unit.

### **Certificates Performance and safety standards:**

1. Should be FDA/CE/BIS approved product.
2. Manufacturer and Supplier should have ISO certification for quality standards.
3. Standard certification for electrical safety IEC 60601- General requirements(or equivalent BIS Standard)
4. Centrifuge machine should be manufactured as per IVD directive

### **Calibration certificates**

Certificate from ISO17025 accredited lab for temperature, pressure gauges & timer.

### **Operation and maintenance training:**

The supplier will have to carry out successful installation at the laboratory premises (where ever the system has to be installed) and provide on – site comprehensive training for a minimum of two scientific personnel operating the system and support services till customer satisfaction

**Warranty:** Warranted for 3 years after satisfactory installation and working including consumable parts and accessories.

## **Operating manuals, service manuals, and other manuals:**

Should provide 2 sets (hardcopy and soft-copy) of:

1. User, technical and maintenance manuals to be supplied in English language along with machine diagrams.
2. List of equipment and procedures required for local calibration and routine maintenance. Service and operation manuals (original and copy) to be provided
3. Advanced maintenance tasks documentation
4. Certificate of calibration and inspection

## **Service contract clauses, including prices:**

List of all spares and accessories (including minor) with part numbers and price, required for maintenance and repairs in future after guarantee/warranty period should be attached.

### **Optional:**

- Automatic rotor recognition with speed limitation
- SOFT break function for smooth stopping of rotor
- ECO shut-off function (Automatic switch-off after particular time)
- Facility for pre-setting the programme via date & time to have the centrifuge refrigerated and ready to use at the pre-selected time.
- Built-in condensation drain to eliminate water accumulation & prevent corrosion.
- Machine should have Option to use Aerosol – tight rotor
- Machine should have option to use 5.0 ml falcon tube rotor for future up gradation.