HIGH SPEED CENTRIFUGES

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Instruction Manual

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Model : LMHS-60

Please read this manual carefully before using the instrument

Labnics Equipment

Before Installation

The centrifuge can be damaged if connected to the wrong voltage.
Check the voltage before plugging the centrifuge into a power source.

- Use Labnics rotors only. Use of another manufacture's rotor can result in personal injury and /or centrifuge damage.
- Pathogenic, toxic, or radioactive materials should not be used in

  This instrument unless all necessary safety precautions are taken, e.g., uses of controlled ventilation or isolation areas.
- Spills may generate aerosols. Always be ware of the possibility of contamination when using radioactive, toxic, or pathogenic materials. Take all necessary precautions and use appropriate decontamination procedures if exposure occurs.
- Never use any material capable of producing flammable or explosive vapors.
- Under no circumstance should any effort be made to slow or stop the rotor by hand.
- Do not operate centrifuge without rotor properly installed: rotor cover must be on and locked in place and the rotor locked to the centrifuge drive,
- Locate the centrifuge on a level floor to avoid rotor imbalance during operation.
- Maintenance other than that contained in this manual should be performed only by trained, qualified personnel.

Table of Content

CHAPTER 1. TECHNICAL SPECIFICATION

1.1 Specifications:-

Model No.	LMHS-60
Maximum Speed	6,000 rpm
Capacity range	0.2ML X 32
Temp. Control	Air cooling
Electrical Requirements	220V, 50HZ & 60Hz
Net Weight	2.5 kg
Dimensions (W X D X H)	165 x 165 x 172 mm

CHAPTER 2. CENTRIFUGE FEATURES

1. High Performance Drive

High Performance Drive: The high torque DC motor is designed for higher durability and greater reliability.

Rotors

Rotor	Rotor Capacity	Max. Speed
Angle rotor	0.2 x 32	6,000rpm

2. Installation

Location

Locate the centrifuge on a level floor in a clean, safe, uncluttered environment. Be sure to provide a 4 inch clearance on each side of the centrifuge and at the rear of the centrifuge to ensure sufficient air ventilation during operation.

Electrical

High Speed Centrifuge LMHS-60 (PCR-Fuge) requires nominal single phase 220 V power, 50Hz, fused for 1.2amps. If the line voltage varies ±10% of its nominal valve, you may notice variations in the performance of the centrifuge. If the voltage exceeds this tolerance, it may damage the centrifuge. The centrifuge can be damaged if connected to the wrong voltage. Check the voltage before plugging the centrifuge into any power source.

Ambient Temperature

An ambient temperature range of 15^{O}C to 38^{O}C should be maintained. If the inlet air temperature is high, the centrifuge will not maintain low temperatures at high speeds.

CHAPTER 3. OPERATION

(1)Open the lit and load samples into the hole. Close the lit.

- For best run conditions and prolonged centrifuge life, the centrifuge should be dry at the start of run.
  Use Labnics rotors only. Use of another manufacturer's rotor can cause rotor failure which could result in personal injury and/or centrifuge damage.
- The load should be balanced. Do not operate the rotor unless it is balanced. Operating the rotor out of balance can cause damage to the centrifuge drive assembly.

CHAPTER 4. TROUBLE SHOOTING

Trouble Shooting:

Problem	Possible Cause	User Action
The centrifuge power is on, but unit does not operate.	The lit was not completely closed.	Check the lit.
Funny noises or vibration	Rotor imbalance	Check for proper rotor Loading.
		Open the Chamber lid and tighten rotor locking knob(s).

CHAPTER 5. MAINTENANCE

This chapter describes routine maintenance procedures that are to be performed by the user.

The following is a suggested maintenance schedule.

Maintenance	Frequency
Clean the rotor chamber	Daily or immediately after the spill
Clean cabinet panels and the control panel	Monthly or as required
Clean air inlet valves	Monthly or as required

CHAPTER 6. CLEANING

Rotor Chamber

The rotor chamber should be always kept clean and wiped dry. Wash the chamber with a mild dishwashing liquid, then rinse and dry with a soft absorbent cloth.

- Use 70% ethanol to infect the rotor chamber. For general radioactive decontamination, use a solution of equal parts of ethanol, 10% SDS, and water. Follow this with ethanol rinses then demonized water rinses. Dry with a soft absorbent cloth. Dispose of all wash solutions in proper radioactive waste containers.
- Chlorides are extremely harmful to aluminum alloy rotor and can cause stress corrosion cracking. Therefore, do not use chlorides to disinfect the chamber.

Drive Spindle

- Wipe the drive spindle with a soft cloth each time a rotor is to be installed to reduce the chance of the rotor sticking. Once a week, wash the drive spindle with warm water.

Air inlets

- To allow proper air flow through the centrifuge, the airlets should be kept free of dust and dirt. Clean the louvers with a brush or a vacuum cleaner as needed.

Lubrication

- All components are prelubricated and require no further lubrication. The ball bearings in the centrifuge motor are permanently lubricated.

CHAPTER 7. GENERAL INFORMATION AND WARRANTY

Labnics Equipment makes no warranty of any kind, Expressed or implied, except for the stated in this warranty policy. warranty does not apply to any damage to any instrument resulting from : normal wear and tear, misuse; abuse; use of electric currents of circuits other than those specified on the plate affixed to the instrument; accident; negligence; failure to follow operating instructions; or use of any rotor other than a **Labnics** rotor intended for use in this instrument.

SERVICE REPORT

Customer's Address : _____

Tel.No.:
Fax No.:
Weekly Off.:
Dept.:

Contact Person / Designation :

Date	Time		System Configuration	Model	Serial No.
	From	To			

Date : SR. No.

Status : OK ❑ Not OK ❑

Installation ❑ Warranty ❑
Demonstration ❑
Maintenance ❑ Contract ❑
Repairs ❑
Application ❑ Billable ❑
Calibration ❑
Validation ❑ Courtesy ❑

Nature of Problem :

Observation & Action Taken :

Customer's Remarks :

Parts Replaced :

Parts Recommended / Action Required : Yes ❑ No ❑ Requisition Number :

Service Engineer's Name & Signature	Customer's Name, Signature, Date & Stamp

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LABNICS Equipment

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