

# Corning® LSE™ Nutating Mixer

CORNING

## Instruction Manual

Catalog Numbers:

6720

6721

6722



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## 1.0 Introduction

The Corning® LSE™ Nutating Mixer is a 3-dimensional mixer typically used for maintaining the uniform suspension of blood components in blood collection tubes without foaming. This Nutating Mixer is also ideal for mixing large strands of DNA into solution in microcentrifuge tubes or mixing blood into a buffer in large centrifuge tubes. The Nutating Mixer achieves its 3-dimensional mixing by combining the rotating motion of an orbital shaker with the rocking motion of a platform rocker.

## 2.0 Symbols and Conventions



**CAUTION:** This symbol refers you to important operating and maintenance (servicing) instructions within this Instruction Manual. Failure to heed this information may present a risk of damage or injury to persons or equipment.



The electrical warning indicates the presence of a potential hazard which could result in electrical shock.



This symbol identifies a Protective Earth (PE) terminal, which is provided for connection of the supply system's protective earth (green or green/yellow) conductor.

## 3.0 Technical Specifications

Motion	3-dimensional rocking motion
Speed	
6720	24 rpm, fixed
6721, 6722	20 rpm, fixed
Platform Tilt Angle	20°, fixed
Platform Dimensions	9.5 x 6.75 in. (24 x 17 cm)
Mixer Dimensions (L x W x H)	9.5 x 5.75 x 6.75 in. (24 x 14.6 x 17 cm)
Mixer Weight	1.88 lbs. (0.85 kg)
Platform Load Capacity	1.75 lbs. (0.8 kg) balanced
Platform Capacity without Stacking	60 x 1.5 mL microcentrifuge tubes 30 x 3 mL pediatric blood tubes 21 x 7 mL standard blood tubes 17 x 15 mL centrifuge tubes 9 x 50 mL centrifuge tubes
Temperature Range	5°C to 40°C (up to 80% RH at 31°C, decreasing linearly to 50% RH at 40°C)
Electrical	
6720	120V~, 50/60Hz, 0.03A, 3.6W
6721, 6722	230V~, 50/60Hz, 0.017A, 4W
Protection Class	IP21

The Corning LSE Nutating Mixer is designed to be safe when operated under the following conditions:

- Indoor use
- Altitude up to 2,000 meters
- Pollution Degree 2

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. The equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user manual, may cause harmful interference to radio communications. Operation of equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference.



**CAUTION:** This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.

This ISM device complies with Canadian ICES-001.

*Cet appareil ISM est conforme à la norme NMB-001 du Canada.*

## 4.0 Installation

The Corning® LSE™ Nutating Mixer can be used on a bench, in a cold room, or in an incubator up to 40°C. Place the unit on a flat stable surface and be sure to leave sufficient room around the unit to allow the platform to run freely. A minimum of 4 inches (10 cm) clearance on all sides of the mixer is advised.

Plug the unit into a properly grounded outlet of the appropriate voltage as shown on the unit's data plate label.

## 5.0 Operation

Tubes may be placed directly on to the dimpled mat. The dimple pattern is configured to allow blood tubes and centrifuge tubes to be securely placed on the mat without additional strapping in most cases. If tubes are to be stacked, they should be secured with rubber bands or bungee cords. Holes in the corners of the platform edges are provided for this purpose.

**NOTE:** Always load the platform in a uniform and balanced fashion.

Use the power switch to turn the unit on. The direction of rotation in which the unit starts is random and does not affect mixing. If desired, the rotational direction can be reversed by holding the unit's base and very briefly touching the rotating platform on the bottom at one corner. This technique can also be used to select the quietest direction of rotation.

## 6.0 Maintenance

**NOTE:** Always disconnect the cord from the power source before maintaining or servicing.

The Corning LSE Nutating Mixer requires no maintenance other than occasional cleaning with a damp cloth with mild detergent. The dimpled mat may be washed with soap and water. Do not immerse the unit in water or spill liquids over the unit. Be sure the unit is dry before reconnecting to power.

## 7.0 Limited Warranty

Corning Incorporated (Corning) warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of purchase. CORNING DISCLAIMS ALL OTHER WARRANTIES WHETHER EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE. Corning's sole obligation shall be to repair or replace, at its option, any product or part thereof that proves defective in material or workmanship within the warranty period, provided the purchaser notifies Corning of any such defect. Corning is not liable for any incidental or consequential damages, commercial loss, or any other damages from the use of this product.

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in the supplied instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces, or other causes not arising from defects in original material or workmanship. This warranty does not cover motor brushes, fuses, light bulbs, batteries, or damage to paint or finish. Claims for transit damage should be filed with the transportation carrier.

In the event this product fails within the specified period of time because of a defect in material or workmanship, contact Corning Customer Service at: USA/Canada 1.800.492.1110, outside the U.S. +1.978.442.2200, visit [www.corning.com/lifesciences](http://www.corning.com/lifesciences), or contact your local support office.

Corning Customer Service will help arrange local service where available or coordinate a return authorization number and shipping instructions. Products received without proper authorization will be returned. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, padded to avoid damage. Corning will not be responsible for damage incurred by improper packaging. Corning may elect for onsite service for larger equipment.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. You may have other rights which vary from state to state.

No individual may accept for, or on behalf of Corning, any other obligation of liability, or extend the period of this warranty.

For your reference, make a note of the model number, serial number, date of purchase, and supplier here.

Model No. \_\_\_\_\_ Date Purchased \_\_\_\_\_  
Serial No. \_\_\_\_\_ Supplier \_\_\_\_\_

## 8.0 Equipment Disposal



According to Directive 2012/19/EU of the European Parliament and Council of 4th July 2012 on waste and electronic equipment (WEEE) as amended, this product is marked with the crossed-out wheeled bin and must not be disposed of with domestic waste.

Consequently, the buyer shall follow the instructions for reuse and recycling of waste electronic and electrical equipment (WEEE) provided with the products and available at the following link: [www.corning.com/weee](http://www.corning.com/weee).

**Warranty/Disclaimer:** Unless otherwise specified, all products are for research use or general laboratory use only.\* Not intended for use in diagnostic or therapeutic procedures. Not for use in humans. These products are not intended to mitigate the presence of microorganisms on surfaces or in the environment, where such organisms can be deleterious to humans or the environment. Corning Life Sciences makes no claims regarding the performance of these products for clinical or diagnostic applications. \*For a listing of US medical devices, regulatory classifications or specific information on claims, visit [www.corning.com/resources](http://www.corning.com/resources).

*Corning's products are not specifically designed and tested for diagnostic testing. Many Corning products, though not specific for diagnostic testing, can be used in the workflow and preparation of the test at the customers discretion. Customers may use these products to support their claims. We cannot make any claims or statements that our products are approved for diagnostic testing either directly or indirectly. The customer is responsible for any testing, validation, and/or regulatory submissions that may be required to support the safety and efficacy of their intended application.*

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