

OPERATION MANUAL

MANUAL NO. 057-092-00
REV. K

LAB-LINE® MAXI ROTATORS

MODELS NO_s. | 4631
4631JPN
4631-1
4631-1CE



LAB-LINE INSTRUMENTS, INC.
DESIGNERS AND MANUFACTURERS

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INTRODUCTION

THANK YOU

for selecting Lab-Line Instruments for your equipment needs. For maximum value and ease of start-up,

PLEASE PROCEED AS FOLLOWS:

- Inspect the carton and contents for shipping damage. Notify the carrier immediately if damage is found.
- Use the Accessory Checklist when unpacking to verify that the complete unit has been received. Do not discard packing materials until all is accounted for.
- Read this Operation Manual thoroughly *before* deciding upon an appropriate location for the unit: you will want to consider the availability of power, water, hook-ups, drains and other unit requirements, as well as user convenience.
- Insist that every operator of this unit becomes familiar with the Operation Section of this manual.
- Be sure to fill out the Warranty Registration Card and mail it in to Lab-Line Instruments within seven (7) days after receiving the unit.

IF

after reading this manual you should have any difficulties with the installation or operation instructions, please call:

Lab-Line Customer Relations Department
708/450-2600 (in Illinois)
1-800/LAB-LINE (elsewhere)

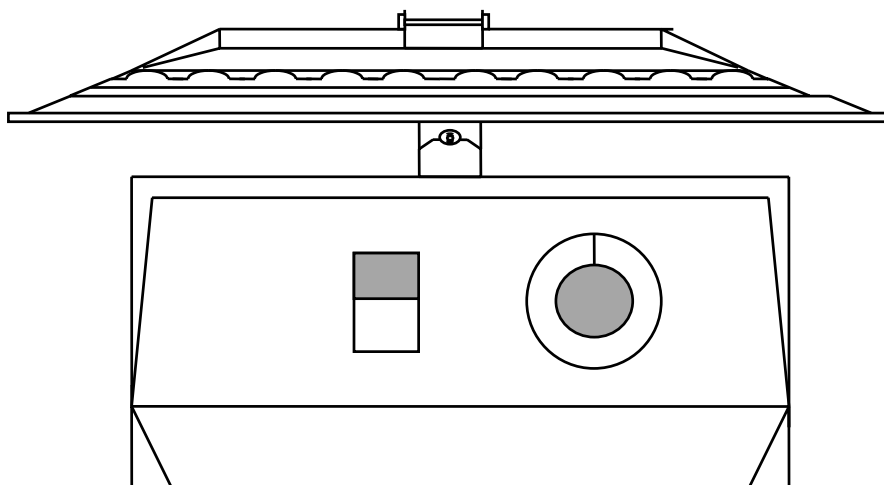
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The information contained in this manual is the exclusive property of Lab-Line Instruments, Inc., and has been provided solely to enable the users of the equipment described herein to operate and maintain such equipment. Any other use of this information, or the reproduction or transmission of all or any portion of this manual without prior written consent of the manufacturer is expressly prohibited. © 2000, Lab-Line Instruments, Inc.

DESCRIPTION

The Maxi Rotator is a compact unit ideal for hybridization blotting, staining and destaining gels, serological and other laboratory procedures which require a smooth, consistent mixing action. With a bi-directional movement, the mixing motion is a horizontal and vertical orbital rotation through a 6° angle at speeds from 0 to 25 rpm.

The lightweight body makes for easy portability and its compact size permits use in areas with limited space. The non-skid platform surface holds containers in place and the rotator's rubber feet provide stability.



SPECIFICATIONS

POWER REQUIREMENTS:

Model 4631: 120 VAC, 50/60 Hz, 0.4 Amps, 50 Watts
Model 4631JPN: 100 VAC, 50/60 Hz, 0.5 Amps, 50 Watts
Model 4631-1(CE): 240 VAC, 50/60 Hz, 0.2 Amps, 50 Watts

SHAKER MOTION: A bi-directional movement, a horizontal and vertical orbital rotation through a 6° angle.

SHAKER SPEED: 0 to 25 revolutions-per-minute.

PLATFORM DIMENSIONS: 16" W x 14"D (41 x 36 cm)
13-1/8"W x 10"D x 4-3/16"H (33 x 25 x 11 cm)

NET WEIGHT: 14 lbs. (6 kg)

UNIT'S ENVIRONMENTAL OPERATING CONDITIONS:

POLLUTION DEGREE: 2
INSTALLATION CATEGORY: II
ALTITUDE: 2000 Meters MSL (Mean Sea Level)
HUMIDITY: 80% maximum, non-condensing
ELECTRICAL SUPPLY: 120VAC or 240VAC
VOLTAGE TOLERANCE: ±10% of normal rated line
TEMPERATURE: 15°C to 40°C
PRODUCT USAGE: This product is intended for use indoors **only**

SECTION 4

INSTALLATION

✓ **SHIPPING CARTON:**

This should be inspected upon delivery. When received, carefully examine for any shipping damage before unpacking. If damage is discovered, the delivering carrier should both specify and sign for the damage on your copy of the delivery receipt.

Open the carton carefully making certain that all parts are accounted for before packaging materials are discarded—after unpacking, if damage is found promptly report it to the carrier and request a damage inspection promptly.

IMPORTANT: Failure to request an inspection of damage within a few days after receipt of shipment absolves the carrier from any liability for damage: you must call for a damage inspection promptly.

ELECTRICAL REQUIREMENTS:

120 VAC models require a 120 VAC, 50/60 Hz power source. They are supplied with a 3-wire line cord. It should be plugged into an outlet designed for 3-prong plugs. If an extension cord is used, it also should be the 3-wire grounded type. For an outlet designed to accept 2-prong plugs (ungrounded), it is required that a qualified electrician replace the outlet with a new grounded type.

240 VAC models require a 240 VAC, 50/60 Hz power source. Because of the variety of plug configurations in use worldwide for 240 VAC power, the unit is furnished with the plug removed. The user must install a plug to conform with local code and configuration requirements.

100 VAC models require a 100 VAC, 50/60 Hz power source. Because of the variety of plug configurations in use worldwide for 100 VAC power, the unit is furnished with the plug removed. The user must install a plug to conform with local code and configuration requirements.

If a plug must be installed, use only the 3-prong grounded type, rated for the unit load requirements and matching the power outlet. Make sure the green ground wire is secured to the plug ground terminal.

NOTE: LEAVE SHAKER DISCONNECTED WHEN NOT IN USE.

LOCATION:

For optimum performance, place the unit on a level, stable surface and in an area free from drafts, extraneous heat sources and vibration. Be sure to provide clearance on all sides so as to avoid contact of the moving platform with any surrounding equipment or objects.

Do not use in a room with a temperature higher than 40°C.

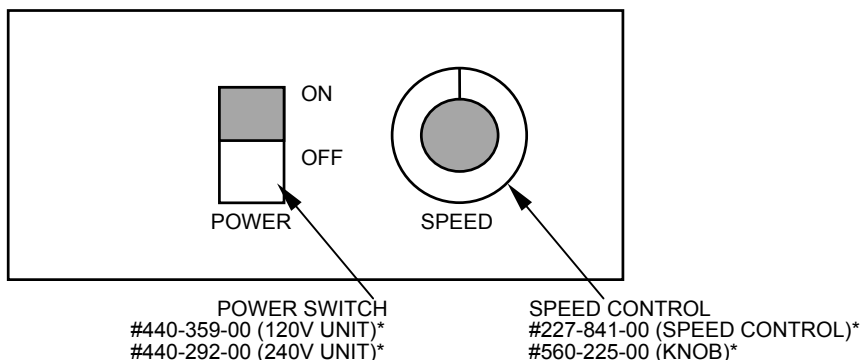
Do not use in a room with a temperature lower than 0°C.

Do not use in a damp atmosphere.

NOTE: POSITION ROTATOR SO THAT IN CASE OF EMERGENCY THE PLUG IS WITHIN EASY TO BE QUICKLY DISCONNECTED FROM THE POWER OUTLET.

DANGER: DO NOT USE IN THE PRESENCE OF FLAMMABLE OR COMBUSTIBLE MATERIALS OR EXPLOSIVE GASES. DO NOT USE IN THE PRESENCE OF PRESSURIZED OR SEALED CONTAINERS—FIRE OR EXPLOSION MAY RESULT, CAUSING DEATH OR SEVERE INJURY.

CONTROL PANEL:



- Check that the power switch is in the **OFF** position.
- Rotate the speed control to the **0** position.
- Place glass slides, microtiter plates and other vessels on the platform. Arrange the materials so as to avoid any possibility of contact with each other while the rotator is in motion.
- Turn the power switch to the **ON** position.
- Rotate the speed control to a point where the platform is just moving. At this level of rotation, determine that the vessels on the platform are secure and that no liquids are in danger of escaping. Slowly increase the speed of rotation to the level desired, continuing to observe that all materials are secure.
- In the event that gases may be emitted from any reactions taking place, the rotator should be placed in a properly vented hood.
- Observe all rules of your organization or laboratory regarding the wearing of safety gloves, glasses and protective clothing.
- After mixing action has completed, return speed control to **0** and turn unit off.

*AS LISTED ON UPCOMING REPLACEMENT PARTS LIST

OPERATION: (Con't)

- To lengthen life of unit, it is recommended that unit be disconnected from its power source when not in use.

CAUTION: DO NOT OPERATE ROTATOR WITHOUT PLATFORM IN PLACE. EXPOSED ROTATING PARTS CAN BE A HAZARD TO FINGERS AND/OR CLOTHING SUCH AS SHIRT CUFFS, TIES, BUTTONS AND SIMILAR ITEMS.

NOTE: THIS SYMBOL MEANS A HIGH-POWER WARNING; FOUND ON YELLOW WARNING LABEL ON BOTTOM OF UNIT

CAUTION: PROTECTION PROVIDED BY THE EQUIPMENT MAY BE IMPAIRED IF NOT CORRECTLY USED IN THE MANNER SPECIFIED.

POWER MAINS PROTECTION:

If a fuse blows, have a qualified person replace it with a properly rated fuse—this now follow here: The internal primary of the transformer fuse is: 5 AMP, Littlefuse® #313.005, 3AG, Slo-Blo Type (Lab-Line Part #330-273-00).

SECTION 6

MAINTENANCE

BE ADVISED:

NOTE: MAKE NO ATTEMPT TO SERVICE OR REPAIR A LAB-LINE PRODUCT UNDER WARRANTY BEFORE CONSULTING YOUR LAB-LINE DEALER. AFTER THE WARRANTY PERIOD, SUCH CONSULTATION IS STILL ADVISED, ESPECIALLY WHEN THE REPAIR MAY BE TECHNICALLY SOPHISTICATED OR DIFFICULT.

IF ASSISTANCE IS NEEDED BEYOND WHAT THE DISTRIBUTOR CAN PROVIDE, PLEASE CALL THE LAB-LINE CUSTOMER RELATIONS DEPARTMENT AT 708/450-2600 (IN ILLINOIS) OR 1-800/LAB-LINE (ELSEWHERE).

NO MERCHANDISE, HOWEVER, SHOULD BE RETURNED DIRECTLY TO LAB-LINE WITHOUT PRIOR APPROVAL FROM LAB-LINE.

CAUTION: DISCONNECT PLUG FROM ELECTRICAL OUTLET BEFORE ATTEMPTING ANY MAINTENANCE OR REPAIR OF THIS UNIT.

NEUTRALIZING SPILLS:

In the event of any spills on the surfaces of the unit, carry out appropriate neutralization procedures and/or wash off with a cleaning solution made of warm water and a mild detergent. Rinse off with clean water and dry thoroughly. Do not use abrasive cleaners on surfaces.

REPLACING THE POWER SWITCH AND THE SPEED CONTROL:

WARNING: TO AVOID RISK OF ELECTRIC SHOCK, DISCONNECT EQUIPMENT FROM POWER SOURCE BEFORE PERFORMING ANY MAINTENANCE PROCEDURE.

Replacing the power switch and/or speed control requires removal of the bottom cover. Turn unit over and remove 4 screws holding the bottom cover and lift cover from the housing.

- **POWER SWITCH:** Disconnect wiring from switch. Grasp the switch on its top and bottom, depress the locking spring sufficiently to free the switch from the unit. Withdraw from the front. Reverse procedure to install new switch.
- **SPEED CONTROL:** Replace the speed control by removing 2 setscrews and a retaining nut to separate it from the panel. Disconnect the wiring from the speed control and reconnect to the replacement speed control.
- Reverse the sequence to put speed control into position on the panel.
- Replace bottom cover and tighten the 4 screws previously removed.

SECTION 7

REPLACEMENT PARTS

DESCRIPTION	PART NUMBER
Bearing	140-030-00
Bearing Housing	584-961-00
Circuit Breakers, 1 Amp (2)	330-158-00
Cordset	470-187-00
Cordset, CE (Euro)	470-299-00

Fuse, 5 Amp	330-273-00
Knob	560-225-00
Power Switch, 100/120V Unit	440-359-00
Power Switch, 240V Unit	440-292-00
Mat, Vinyl	790-316-06
Motor	370-371-00
Rod End, Male	803-610-00
Rod End, Female	803-611-00
Rubber Feet (4)	790-214-00
Speed Control	227-841-00
Transformer, 240V Unit	460-242-00
Wiring Schematic, 100/120V Unit	228-541-00
Wiring Schematic, 240V Unit	228-558-00
Wiring Schematic, (4631-1CE)	229-121-00
Wiring Schematic, (4631-1CCE)	228-817-00

NEED A PART? CALL THE LAB-LINE PARTS HOTLINE.
CALL: 1-800/522-5463; FAX: 1-800/450-4522.

LAB-LINE RESERVES THE RIGHT TO MAKE CHANGES TO SPECIFICATIONS WITHOUT PRIOR NOTICE.



WARRANTY

Page 1 of 2

LAB-LINE INSTRUMENTS, INC. ("Lab-Line") warrants that the product manufactured by Lab-Line shall be free of defects in materials and workmanship for a period of time defined on the following page from the first to occur of (i) the date the product is sold by Lab-Line or (ii) the date the product is purchased by the original retail customer (the "Commencement Date"). Except as expressly stated above,

LAB-LINE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO THE PRODUCTS AND EXPRESSLY DISCLAIMS ANY AND ALL WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF DESIGN, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

An authorized representative of Lab-Line must perform all warranty inspections. In the event of a defect covered by Lab-Line's warranty, Lab-Line shall, as its sole obligation and exclusive remedy, provide free replacement parts to remedy the defective product. In addition, for products sold by Lab-Line within the continental United States or Canada, Lab-Line shall provide free labor to repair the products with the replacement parts, but only for a period of ninety (90) days from the Commencement Date.

Lab-Line's warranty provided hereunder shall be null and void and without further force or effect if there is any (i) repair made to the product by a party other than Lab-Line or its duly authorized service representative, (ii) misuse (including use inconsistent with written operating instructions for the product), mishandling, contamination, overheating, modification or alteration of the product by any customer or third party or (iii) use of replacement parts that are obtained from a party who is not an authorized dealer of Lab-Line.

IN NO EVENT SHALL LAB-LINE BE LIABLE TO ANY PARTY FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR ANY DAMAGES RESULTING FROM LOSS OF USE OR PROFITS, ANTICIPATED OR OTHERWISE, ARISING OUT OF OR IN CONNECTION WITH THE SALE, USE OR PERFORMANCE OF ANY PRODUCTS, WHETHER SUCH CLAIM IS BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE), ANY THEORY OF STRICT LIABILITY OR REGULATORY ACTION.

The name of your nearest authorized Lab-Line dealer may be obtained by calling 1-800-522-5463.



DESIGNERS AND MANUFACTURERS

A SUBSIDIARY of Barnstead|Thermolyne

1999 North 15th Ave., Melrose Park, IL 60160-1491 USA

PHONE: (319) 556-2241 or (800) 522-5463; FAX: (319) 589-0516

WARRANTY

12 MONTH PARTS WARRANTY:

- All Environmental Chambers
- Low Temperature B. O. D. Incubators
- Animal Study Chamber
- Controlled Environment Centers
- Biological Work Station
- Refrigerators, Freezers
- Chromatography Refrigerators (5 year parts warranty on compressor only)
- Large Capacity Refrigerators and Freezers (5 year parts warranty on compressor only)

24 MONTH PARTS WARRANTY:

- Frame Clamps, Frame Sets, Lab Jacks
- Saybolt Viscosimeter
- Timers, Samplers, Flasks
- Saf-T-Shield, Safety Tongs
- All Incubators & Ovens
- Dual Action Open Air Shaker
- Reciprocating Shakers (open air and water bath)
- Rockers and Rotators
- Low Cost Shakers
- Environ Blok Shaker
- Titer Plate Shaker
- Multi Wrist Shaker
- Water Baths (excluding Aquabaths), Ultrasonic Cleaners
- Slide Warmers
- Mixers, Stirrers, Hotplates
- Thermal Cyclers
- Blok Heaters
- Aquabaths, lifetime warranty on heaters

LIFETIME PARTS WARRANTY:

- All **ORBITAL** Shakers (not carrying a 24 month parts warranty) offer a lifetime parts warranty on the drive mechanism and a 5 year warranty on all other parts
- Refrigerated Orbital Shakers carry a lifetime warranty on the drive mechanism, 1 year parts warranty on the compressor, and a 5 year warranty on all other parts.



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ACCESSORY CHECKLIST

The following loose parts and accessories are packed with this unit. Before discarding any packing materials, please be sure that nothing has been overlooked.

MODEL NO. 4631, 4631JPN, 4631-1, 4631-1CE

CHECKED BY: _____

DATE _____

PACKED BY _____

CHECKED	ITEM	PART NUMBER	QUANTITY
_____	Operation Manual	057-092-00	1