



XCEL[®] 255 Slit Lamp

USER'S GUIDE

Reichert[®]
Ophthalmic Instruments

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Warnings & Cautions

WARNING: AN INSTRUCTION THAT DRAWS ATTENTION TO RISK OF INJURY OR DEATH

WARNING: THE XCEL® 255 SLIT LAMP SHOULD BE USED IN STRICT ACCORDANCE WITH THE INSTRUCTIONS OUTLINED IN THIS USER'S GUIDE. THE SAFETY OF THE PATIENT AND THE PERFORMANCE OF THE INSTRUMENT CAN NOT BE GUARANTEED IF USED IN A MANNER NOT SPECIFIED BY REICHERT, INC.

WARNING: IN ORDER TO ENSURE THAT CORRECT OPERATION OF THE INSTRUMENT IS MAINTAINED, AND TO GUARANTEE THE SAFETY AND RELIABILITY OF THE INSTRUMENT, ANY REPAIR OR SERVICE MUST BE PERFORMED BY REICHERT, INC. OR AN AUTHORIZED SERVICE AGENT OF REICHERT, INC.

WARNING: ONLY APPROPRIATE CLINICAL PERSONNEL SHOULD USE THIS DEVICE IN ORDER TO AVOID THE RISK OF DAMAGING A PATIENT'S EYESIGHT.

WARNING: BECAUSE PROLONGED INTENSE LIGHT EXPOSURE CAN DAMAGE THE RETINA, THE USE OF THE DEVICE FOR OCULAR EXAMINATION SHOULD NOT BE UNNECESSARILY PROLONGED, AND THE BRIGHTNESS SETTING SHOULD NOT EXCEED WHAT IS NEEDED TO PROVIDE CLEAR VISUALIZATION OF THE TARGET STRUCTURES. THIS DEVICE SHOULD BE USED WITH FILTERS THAT ELIMINATE UV RADIATION (<400 NM) AND, WHENEVER POSSIBLE, FILTERS THAT ELIMINATE SHORT-WAVELENGTH BLUE LIGHT (<420 NM).

WARNING: THE RETINAL EXPOSURE DOSE FOR A PHOTOCHEMICAL HAZARD IS A PRODUCT OF THE RADIANCE AND THE EXPOSURE TIME. IF THE VALUE OF RADIANCE WERE REDUCED IN HALF, TWICE THE TIME WOULD BE NEEDED TO REACH THE MAXIMUM EXPOSURE LIMIT.

WARNING: WHILE NO ACUTE OPTICAL RADIATION HAZARDS HAVE BEEN IDENTIFIED FOR SLIT LAMPS, IT IS RECOMMENDED THAT THE INTENSITY OF LIGHT DIRECTED INTO THE PATIENT'S EYE BE LIMITED TO THE MINIMUM LEVEL WHICH IS NECESSARY FOR DIAGNOSIS. INFANTS, APHAQUES AND PERSONS WITH DISEASED EYES WILL BE AT GREATER RISK. THE RISK MAY ALSO BE INCREASED IF THE PERSON BEING EXAMINED HAS HAD ANY EXPOSURE WITH THE SAME INSTRUMENT OR ANY OTHER OPHTHALMIC INSTRUMENT USING A VISIBLE LIGHT SOURCE DURING THE PREVIOUS 24 HOURS. THIS WILL APPLY PARTICULARLY IF THE EYE HAS BEEN EXPOSED TO RETINAL PHOTOGRAPHY.

WARNING: NEVER REMOVE A BULB THAT HAS RECENTLY BEEN IN USE AS IT WILL BE VERY HOT. WAIT UNTIL THE BULB HAS COOLED AND USE GLOVES OR A CLEAN, DRY CLOTH WHEN HANDLLING THE BULB.

CAUTION: AN INSTRUCTION THAT DRAWS ATTENTION TO THE RISK OF DAMAGE TO THE PRODUCT.

CAUTION: FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY, OR ON THE ORDER OF, A PHYSICIAN OR PRACTITIONER.

CAUTION: DO NOT USE ANY SOLVENTS OR STRONG CLEANING SOLUTIONS ON ANY PART OF THIS INSTRUMENT OR DAMAGE TO THE UNIT MAY OCCUR.

CAUTION: IF SMOKE OR A BURNING ODOR IS DETECTED WHILE USING THE DEVICE, IMMEDIATELY DISCONTINUE USING THE DEVICE AND NOTIFY REICHERT, INC.

CAUTION: AVOID TOUCHING THE OPTICAL COMPONENTS OF THE DEVICE TO PREVENT REDUCED PERFORMANCE BY LEAVING BEHIND FINGERPRINTS OR OILS ON THE LENSES.

CAUTION: NEVER TOUCH A HALOGEN BULB WITH BARE HANDS AS FINGERPRINTS AND SKIN OILS WILL SHORTEN THE LIFE OF THE BULB.

Symbol Information

The following symbols appear on the instrument:



WARNING - Consult accompanying documents



CAUTION - Consult accompanying documents



WARNING - Risk of electric shock



Type B Product Classification Class 1 Equipment, Continuous Operation



Alternating Current



Protective Earth



Direct Current



On / Off



Conformity with mandatory European safety requirements



Waste of Electrical and Electronic Equipment



Catalog Number

Introduction

Congratulations on the purchase of your new XCEL® 255 Slit Lamp.

This User's guide is designed as a training and reference manual for the operation and maintenance of the instrument. We recommend that you read it carefully prior to use and follow the instructions to ensure optimum performance of your new instrument.

Please retain this manual for future reference and to share with other users. Additional copies can be obtained from your authorized Reichert dealer or from the Reichert Customer Service Department. Contact information is provided at the end of this guide.

XCEL® 255 PACKAGE CONTENTS

1 XCEL® 255 Slit Lamp

1 User's Guide

Accessories:

1 Focusing Rod

1 Hex Wrench

1 Dust Cover

1 Halogen Lamp (main)

2 Guide-rail Covers

2 Replacement fuses

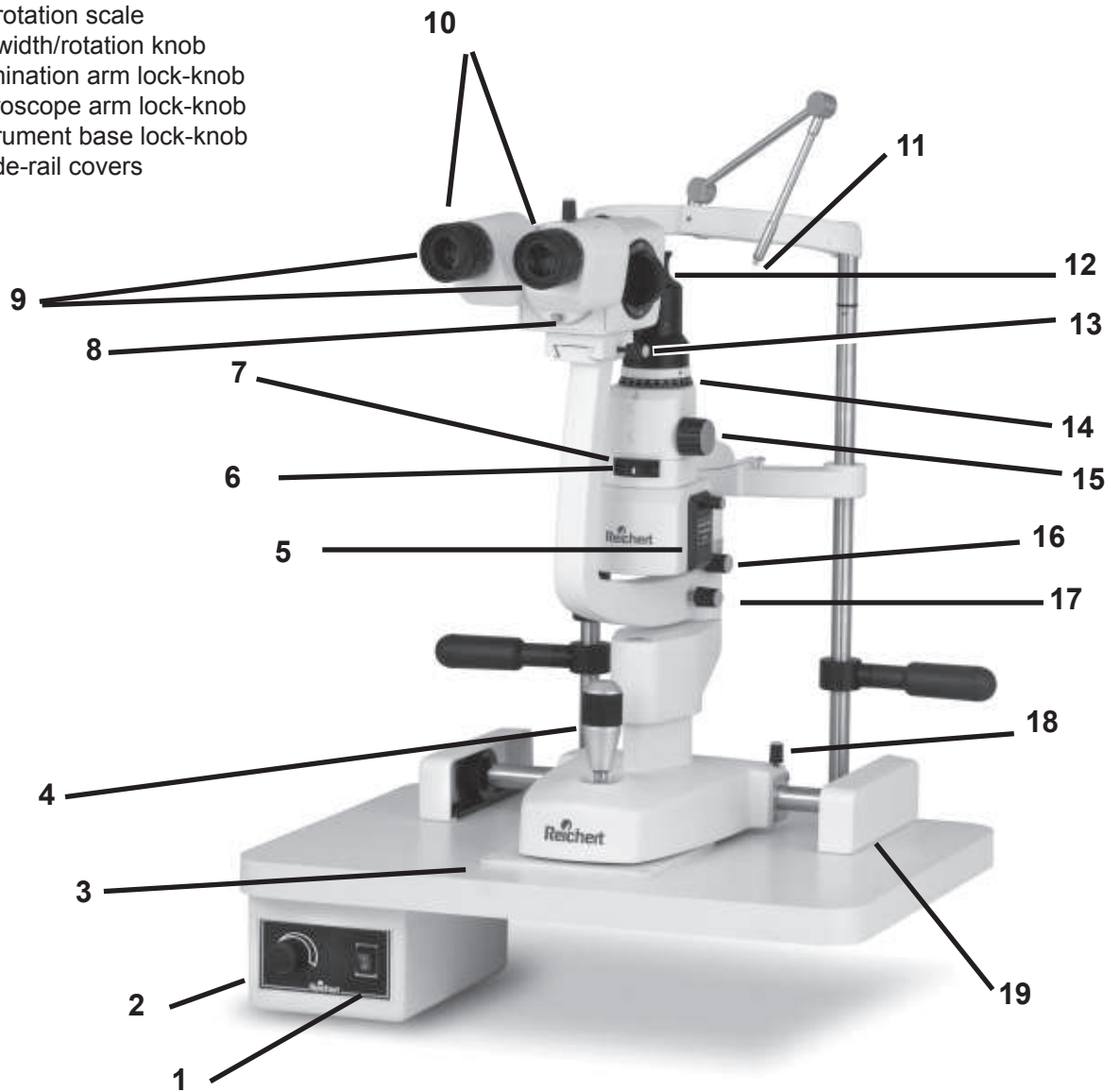
2 Packages Chin Rest Paper

Indications for Use:

The XCEL 255 Slit Lamp is an AC-powered slitlamp biomicroscope that is intended for use in examining the anterior segment, from the corneal epithelium to the posterior capsule. It is used to aid in the diagnosis of diseases or trauma, which affect the structural properties of the anterior segment of the eye.

Features and Functions

1. On/Off switch
2. Illumination level control
3. Slide plate
4. Joystick for horizontal and vertical movement
5. Bulb access door
6. Filter dial
7. Slit length dial
8. Breath-shield mount
9. Eyepieces
10. Focusing rings
11. Fixation light
12. Magnification dial
13. Microscope lock-knob
14. Slit rotation scale
15. Slit width/rotation knob
16. Illumination arm lock-knob
17. Microscope arm lock-knob
18. Instrument base lock-knob
19. Guide-rail covers



Installation

1. Take out the various parts. Remove the wrapping. Make sure the wrapping does not contain parts belonging to the instrument. Save the packing.
2. Mount the headrest with the socket-head screws and hexagonal wrench (provided). Connect the transformer ground wire to the headrest ground screw and tighten the screw (torque to 7.8 N•m). (See Figure 1)
3. Plug the wire from the headrest assembly into the connector on the back of the transformer.
4. Mount the table-top on appropriate instrument stand arm or table base.
5. Position the slit lamp body on the table so that the geared rollers mate with the teeth on the guide rails. When the instrument is pushed forward or pulled backwards, the wheels should roll freely and evenly over the guide-rails.
6. Install the guide-rail covers and tighten the instrument base locking screw.
7. Mount the microscope head on the microscope arm by sliding it into position, making sure it is up against the stop. Then, tighten lock-knob located on the right side of the microscope. (See Figure 2)
8. Plug the cable from the lamp arm into the connector on the back of the transformer.
9. Connect the power cord to power supply and plug into a wall outlet or the instrument arm. The slit lamp should be positioned close to the outlet so that you can quickly and easily disconnect the power cord should the need arise.

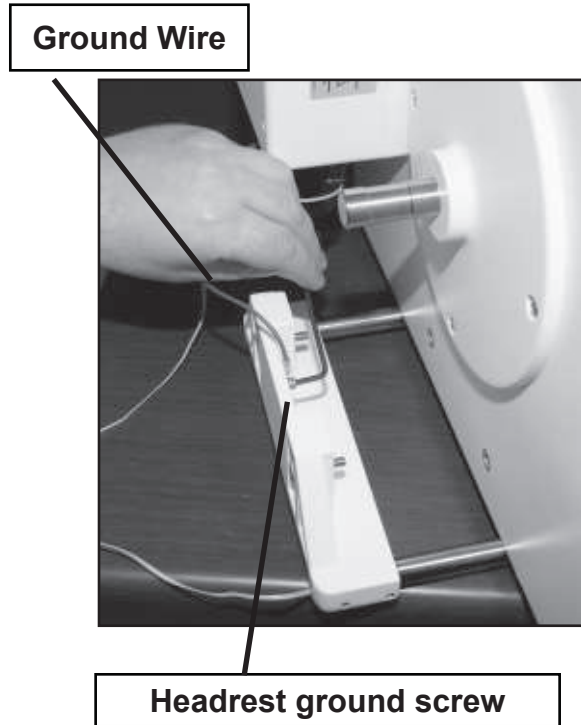


Figure 1: Mounting the headrest and grounding wire

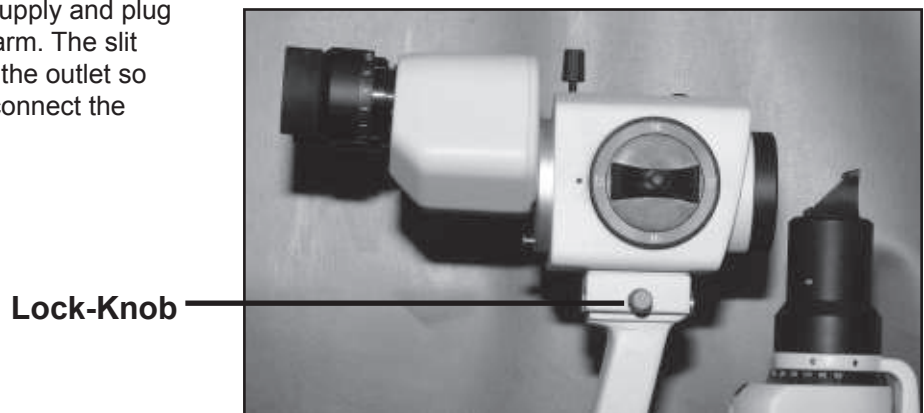


Figure 2: Securing the Microscope

Operation

1. Turn on the power using the On/Off switch located on the front of the power supply. Brightness can be adjusted by rotating the illumination level knob.

NOTE: The maximum position is for intermittent use only. Continuous use will shorten lamp life.

2. Insert the focusing rod in the pivot post of the instrument body to make rough PD and focus adjustments. Position the light onto the flat surface of the focusing rod and adjust the pupillary distance and focus of the eyepieces to suit the needs of the operator. Remove the focusing rod.
3. To position a patient, adjust the chinrest height by turning the control knob on the post of the headrest assembly until the patient's canthus is in line with the canthus mark on the headrest post.
4. Microscope elevation is adjusted by rotating the joystick and observing the slit image through the microscope until the slit is centered on the patient's cornea.
5. Move the slit lamp with the joystick held firmly and slightly angled toward the patient, until the slit appears sharply on the cornea. The accuracy of this rough adjustment should be checked by the naked eye. The fine adjustment is performed while observing the slit through the microscope.
6. Tilt the joystick, which is now held lightly at its upper end, until the slit appears sharply at the depth of the eye which is to be observed. The horizontal motion of the base can be locked by tightening the base locking screw. Lock the base whenever the lamp is not in use.
7. The slit width can be adjusted by rotating the slit-width control on either side of the instrument.
8. The angle between the illumination system and the microscope can be varied between 0° and 90° to either the left or to the right. The angle is indicated on the scale of the slit lamp arm.
9. Magnification is altered by rotating the dial on the microscope head. The magnification of each click-stop position is engraved on the dial.

Adjusting Slit Length

The slit length is adjusted by rotating the slit length dial. The dial has five stops for adjustments of 0.6, 5.8, 9, 13.5 mm diameter and a continuous length adjustment.

Filter Dial

The filter dial has four positions which are color coded as follows:

Blue dot = Cobalt Blue
Red dot = Heat Absorbing
White dot = Open
Green dot = Red-free

Slit Rotation

Slit rotation is achieved by twisting the slit body to the left or right. The degree of rotation is indicated by the scale above the slit body.

Maintenance



WARNING: Risk of electric shock. Always disconnect the power cord from the wall and the instrument before performing any of the following care and maintenance procedures.

CHANGING THE HALOGEN BULB



WARNING: Never touch a Halogen Bulb with bare hands as fingerprints will shorten the bulb life. Never remove a bulb that has recently been in use as it will be very hot. Wait until it has cooled and use gloves or a thick cloth when handling any halogen bulb.

Open the bulb access door. Swing the retaining spring toward the arm pivot and pull the socket and bulb from the housing. Note the position of the notch in the metal collar of the bulb. Replace the bulb with a new one (6V 20W halogen lamp). Make sure the notch is in the same position. Insert the bulb and socket into the lamp housing and move the retaining spring back into position. Close the bulb access door.

Cleaning the Slide Plate

If the plate is dirty it may cause a rough feeling when maneuvering the base of the slit lamp. Clean the slide plate with a soft cloth lightly dampened with a mild soap and water solution.

Fuse Replacement

Locate the black fuse holder in the rear of the power supply. Remove the power cord, insert small screwdriver at each side of fuse holder and gently pry edges to dislodge. Replace fuses only with fuses of the same type and rating:

IEC 60127-2 standard

T 1.6A L 250V

Forehead / Chinrest

For hygienic reasons, wipe the forehead rest and chin rest with an alcohol wipe after each patient.

Specifications

Catalog	15120
Microscope	Galilean
Magnification Change	3 Step Drum Rotation
Eyepiece	12.5X
Magnification Ratio	10X 16X 25X
PD Range	54 - 75 mm
Diopter Adjustment	+/- 5
Illumination	6V 20W Halogen
Slit Width	0 - 13.5 mm
Slit Length	0 - 13.5 mm
Slit Apertures	0.6, 5.8, 9, 13.5 mm
Slit Rotation	0° - 180°
Filters:	Red Free Heat Absorbing Cobalt Blue
Movement Ranges:	
Longitudinal (In/Out)	90 mm
Lateral (Left/Right)	107 mm
Vertical (Up/Down)	30 mm
Chinrest Range	80 mm
Table Base Dimensions	465 mm x 316 m (18 1/2" x 12 10/16")
Weight, packed	52 lbs (23.64 Kg)

Due to a policy of continuous development, we reserve the right to change specifications without notice.

Electrical:

Voltage	90 - 250 volts AC
Supply	
Frequency.....	50-60 Hz
Power Input	35 W

Transportation & Storage Conditions:

This instrument can withstand the following conditions while packed for transportation or storage:

- an ambient temperature range of -20°C (-4°F) to +70°C (158°F)
- a relative humidity range of 10% to 90%
- an atmospheric pressure range of 55 kPa to 106 kPa

Exposure to extreme temperature conditions indicated above must not exceed 15 weeks.

Normal Environment Conditions for Use:

- For indoor use only
- Pollution Degree: 2
- Installation Category II (Overvoltage category)
- Altitude up to 2,000 meters
- Maximum Relative Humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C
- 5°C to 40°C

XCEL[®] 255 Slit Lamp Warranty

This product is warranted by Reichert, Inc. against defective material and workmanship under normal use for a period of one year from the date of invoice to the original purchaser. (An authorized dealer shall not be considered an original purchaser.) Under this warranty, Reichert's sole obligation is to repair or replace the defective part or product at Reichert's discretion.

This warranty applies to new products and does not apply to a product that has been tampered with, altered in any way, misused, damaged by accident or negligence, or which has had the serial number removed, altered or effaced. Nor shall this warranty be extended to a product installed or operated in a manner not in accordance with the applicable Reichert instruction manual, nor to a product which has been sold, serviced, installed or repaired other than by a Reichert factory, Technical Service Center, or authorized Reichert Dealer.

Lamps, bulbs, charts, cards and other expendable items are not covered by this warranty.

All claims under this warranty must be in writing and directed to the Reichert factory, Technical Service Center, or authorized instrument dealer making the original sale and must be accompanied by a copy of the purchaser's invoice.

This warranty is in lieu of all other warranties implied or expressed. All implied warranties of merchantability or fitness for a particular use are hereby disclaimed. No representative or other person is authorized to make any other obligations for Reichert. Reichert shall not be liable for any special, incidental, or consequent damages for any negligence, breach of warranty, strict liability or any other damages resulting from or relating to design, manufacture, sale, use or handling of the product.

PATENT WARRANTY

If notified promptly in writing of any action brought against the purchaser based on a claim that the instrument infringes a U.S. Patent, Reichert will defend such action at its expense and will pay costs and damages awarded in any such action, provided that Reichert shall have sole control of the defense of any such action with information and assistance (at Reichert's expense) for such defense, and of all negotiation for the settlement and compromise thereof.

PRODUCT CHANGES

Reichert reserves the right to make changes in design or to make additions to or improvements in its products without obligation to add such to products previously manufactured.

CLAIMS FOR SHORTAGES

We use extreme care in selection, checking, rechecking and packing to eliminate the possibility of error. If any shipping errors are discovered:

1. Carefully go through the packing materials to be sure nothing was inadvertently overlooked when the unit was unpacked.
2. Call the dealer you purchased the product from and report the shortage. The materials are packed at the factory and none should be missing if the box has never been opened.
3. Claims must be filed within 30 days of purchase.

CLAIMS FOR DAMAGES IN TRANSIT

Our shipping responsibility ceases with the safe delivery in good condition to the transportation company. Claims for loss or damage in transit should be made promptly and directly to the transportation company.

If, upon delivery, the outside of the packing case shows evidence of rough handling or damage, the transportation company's agent should be requested to make a "Received in Bad Order" notation on the delivery receipt. If within 48 hours of delivery, concealed damage is noted upon unpacking the shipment and no exterior evidence of rough handling is apparent, the transportation company should be requested to make out a "Bad Order" report. This procedure is necessary in order for the dealer to maintain the right of recovery from the carrier.

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