

# UNICO®



G380 LED Series

## COMPOUND MICROSCOPE OPERATION MANUAL

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G380 LED SERIES MICROSCOPE INCLUDES THE FOLLOWING MODELS:

Model #	Head	Objective Type	Objectives Magnification	Eyepieces
G380-LED	Binocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G380SP-LED	Binocular	Semi-Plan Achromat	4x 10x 40x 100x	High Eye Point 10X
G380PL-LED	Binocular	Plan Achromat	4x 10x 40x 100x	High Eye Point 10X
G381-LED	Monocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G382-LED	Dual Monocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G383-LED	Trinocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G383SP-LED	Trinocular	Semi-Plan Achromat	4x 10x 40x 100x	High Eye Point 10X
G383PL-LED	Trinocular	Plan Achromat	4x 10x 40x 100x	High Eye Point 10X
G386-LED	Infinity Binocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G386PL-LED	Infinity Binocular	Plan Achromat	4x 10x 40x 100x	High Eye Point 10X
G388-LED	Infinity Dual Binocular	Achromat	4x 10x 40x 100x	High Eye Point 10X
G388PL-LED	Infinity Dual Binocular	Plan Achromat	4x 10x 40x 100x	High Eye Point 10X

Custom configurations available on request. Contact UNICO customer service for details and available options.

G380 SERIES MICROSCOPE FEATURES

G380 series microscopes were designed with the user in mind. Whether it is for use in a busy medical or veterinary practice, a research department, or for anyone needing the most versatile microscope, there is a G380 to meet your needs.

**OBJECTIVES:** Each G380 microscope comes equipped with 4 achromatic DIN flatfield objectives (optional *Semi-plan, Plan and Infinity objectives are available*). The color-coded, polished objectives are parfocal and parcentered. The 100X (oil) and the 40X (high dry) are spring loaded to prevent damage.

**EYEPIECES:** Two Widefield 10X 18mm “High-Eyepoint” eyepieces are included with each G380 microscope. The tube size is standard 23.2mm. The specialized High- Eyepoint eyepieces are designed to reduce eyestrain while wearing glasses.

**FILTER HOLDER:** A swing-out filter holder is installed under the condenser for holding a blue (or other color) filter to sharpen contrast, which is recommended for routine hematology or urine analysis.

**HEAD:** The head of your G380 microscope may be a binocular, trinocular, back-to-back dual binocular, monocular, or dual viewing head (teaching head). The binocular and trinocular heads are Seidentoph inclined 45° style. Each can be set for individual requirements and comfort. The inner diameter of the eyepiece tube size is standard 23.2mm.

**ILLUMINATION:** 3watt white LED

Additional G380 series features:

- Large mechanical stage (135mm x 150mm) with low mounted coaxial controls. The stage upper-movement limit (safety lock) can be set as desired to protect slides as well as objectives.
- Coaxial coarse and graduated fine focusing knobs with tension adjustment control
- Focusable Abbe condenser (N.A. 1.25) with iris diaphragm.
- Pre-aligned illumination and easy lamp replacement.
- Universal power input from 110V/60Hz to 230V/50Hz, detachable power cord.
- Power Input: AC 115V/60Hz - 220V/50Hz universal. Output: LED, 3 Watt. Fuse: 250V/1.5 Amp

UNPACKING UNICO® G380 MICROSCOPE

Each UNICO® microscope has been packed with utmost care. Please take a moment to examine the outer and inner cartons for any visual damage. We recommend that you keep all packing material until you have fully examined and tested your microscope. If you note any damage, please contact the shipping company or your distributor.

Unpack your G380 microscope using the following checklist for the parts and accessories.

- (1) Microscope stand with NA 1.25 Abbe condenser
- (1) Head options: binocular, or trinocular, or back-to-back dual binocular, or monocular
- (2) 10x High-Eyepoint eyepieces
- (4) Achromatic objectives 4x, 10x, 40xr and 100xr (oil) / (or what you have ordered)
- (2) Replacement fuses (250V/1.5A)
- (1) Dust cover and this Operation manual

If any parts are missing, please contact your distributor or UNICO® customer service at 732-274-1155 or [info@unicosci.com](mailto:info@unicosci.com)

## G380 MICROSCOPE ASSEMBLY INSTRUCTIONS

1. Remove the stand of the microscope and place it on a sturdy, dust free surface.
2. Remove the plastic dust plugs from the nosepiece. Save them in individual objective containers.
3. Each objective is packed in an individual plastic container. Remove each objective from its container and install the objectives in the following order: 4x, 10x, 40x, and 100x. Make certain that they are screwed in all the way. Containers should be saved in case the objectives need to be send out for service.
4. Remove the plastic dust plugs from the eyepiece tubes as well as the protective plastic cover from the head (save the protective plastic parts). Install the head and secure it with the retention thumbscrew at the top of the stand.
5. Unwrap the eyepieces and carefully and slide them in each eye tube.
6. The slide holder has already been installed on the mechanical stage.

## USING G380 SERIES MICROSCOPE

Note: If your microscope has been exposed to extremes of temperature, please allow time for all the parts to come to room temperature before turning on the power. Excess cold can fog the lenses and may cause the bulb to fail.

1. Plug the power cord into the power inlet at the rear of the stand and plug another end of the power cord into the AC outlet (110V/60Hz – 230V/50Hz).
2. The on/off and illumination control wheel is located on the left side of the base. Turn the control wheel to the brightness desired. To turn off the illumination, simply reverse the turning until you hear a click.
3. To speed up your familiarity with the microscope, choose a specimen slide you are familiar with, such as an old hematology slide or a commercially prepared slide. Place the slide into the slide holder by pushing back the thumb guard and placing the slide toward the back of the holder. Allow the metal slide holder to gently hold the slide in place. Do not allow the slide holder to “snap-back” against the slide, this could cause the slide to chip or shatter.
4. Move the slide to the center of the stage, by turning the mechanical stage control knobs, just below the stage on the right side. These knobs allow you to move the slide in the X-Y axis (left-right and forward-backward).
5. Open the aperture of the iris diaphragm on the Abbe condenser (controlled by the small black lever on the condenser).
6. Once you are comfortably seated, look into the eyepieces and move the eyepiece tubes together or apart until you see only one complete circle of light. You have now adjusted your interpupillary distance (the range is 55-75mm).
7. Focusing.
  - 7.1 Bring the 4x objective into working position. As you bring the objective into place, will feel a “click-stop” when objective is in place. Use the coarse and fine adjustment knobs to bring the 4x objective into focus.
  - 7.2 Move the 10x objective into working position. Minor focusing adjustment is needed to bring the 10x objective into focus.
  - 7.3 Move the 40x objective into working position. Focus with fine focusing knob for the best image.
  - 7.4 You may have to adjust the aperture diaphragm (on the condenser) for the best contrast.
  - 7.5 Immersion oil is required when 100X oil objective is used. Never allow 40X or other dry objectives to touch immersion oil!
8. Diopter adjustment. G380 microscope has dual diopter adjustment rings located on each eye tube of the Seidentopf head.
  - 8.1 Set both diopters at “0”.
  - 8.2 Close your left eye and with your right eye open, look into the right ocular.
  - 8.3 Adjust the fine focus to give you the best image. Do not touch the diopter on the right eye tube.
  - 8.4 Close your right eye and look with your left eye into the left ocular.
  - 8.5 Rotate the adjustment (diopter) ring on the left ocular tube until you see a clear focused field.
9. Focus Tension Control. Focus tension has been pre-adjusted at UNICO®. If needed, the focus tension can be adjusted at any time without tools. To adjust the tension of your focusing controls, simply turn the tension control ring. This knurled ring is located on the right side between the microscope stand and the focusing knob. Removing too much tension may cause the stage to drift down.
10. Mechanical Stage Safety Stop. The safety stop is provided to help prevent objectives and slide damage. The safety stop sets the upper limit movement of the mechanical stage. The safety stop setting screw is located on top of stage driving block and has been preset at UNICO.

You are now ready to use your UNICO® G380 microscope.

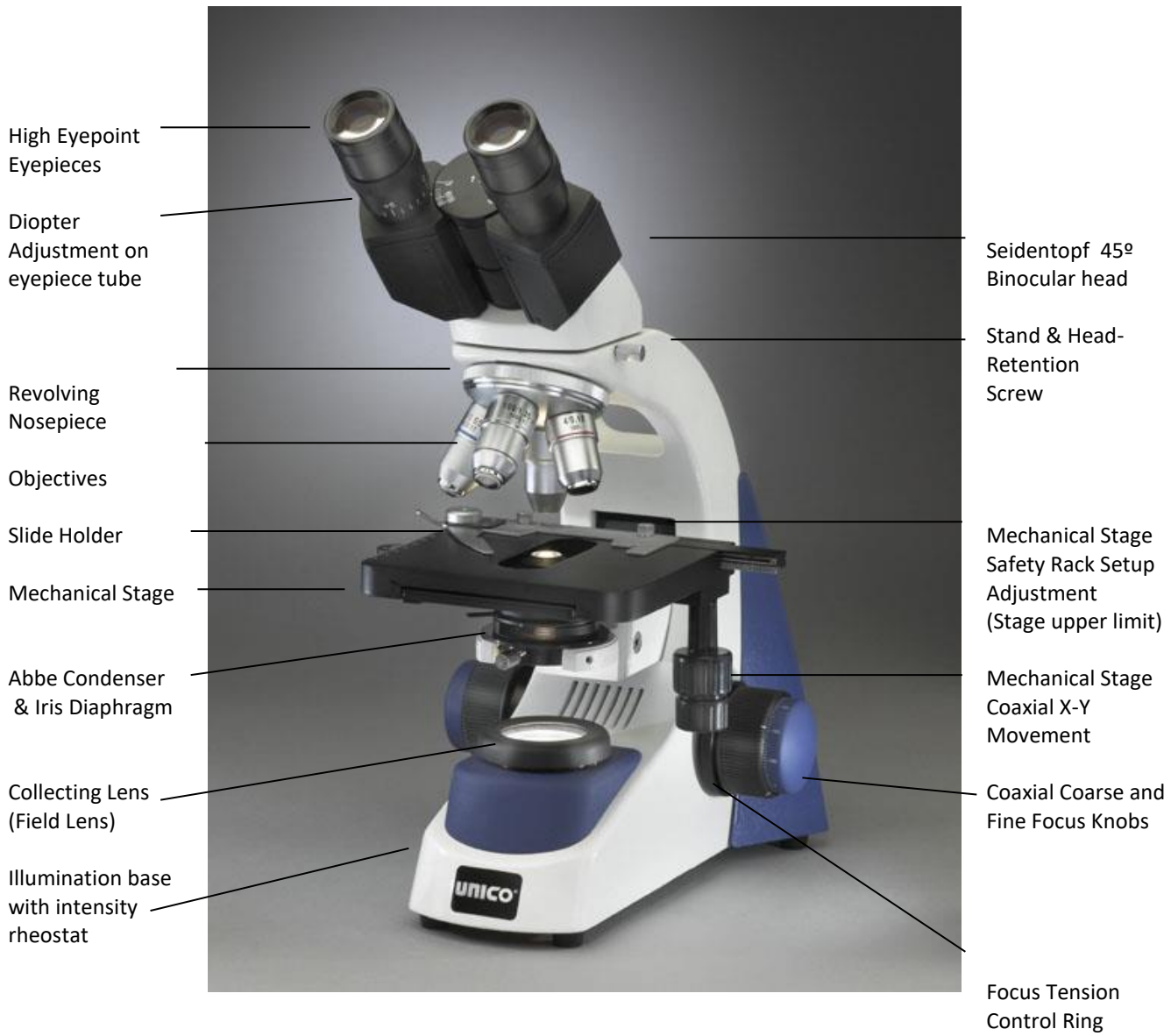
## FUSE REPLACEMENT

A 250V/1.5 Amp fuse protects the circuit board from electrical overload. Replacement fuse must be the same size and amperage as original (order UNICO item#B6-9005).

1. Turn the illuminator control wheel to "off" position. Unplug the power cord from AC outlet.
2. Remove the power cord from the power inlet on the back of the microscope.
3. Locate the fuse holder. The fuse holder is a part of the power inlet.
4. Use a flat head screwdriver to pull the snap-in holder out. Remove and replace the fuse.
5. Put the snap-in fuse holder back in.

## Maintenance

1. Always cover your microscope with the dust cover when not in use.
2. When cleaning the lenses, use lens paper or a Q-tip dipped in lens cleaning solution.
3. Excess immersion oil should be cleaned after each use. An alcohol pads should not be used to clean the objectives. They can be used for removing oil from the stage and other metal parts.
4. Dust should be blown out using only filtered air. Canned air works well for this job.
5. Whenever you remove an objective, we recommend that you place the plastic cap over the hole and put the objective back into the original plastic shipping vial until ready to be placed back on the microscope. This will keep the objective safe from dust and other foreign matter.
6. To keep your microscope in top condition for years, we recommend that you have the microscope professionally serviced once a year.



UNICO® G380 LED Series Compound Microscope