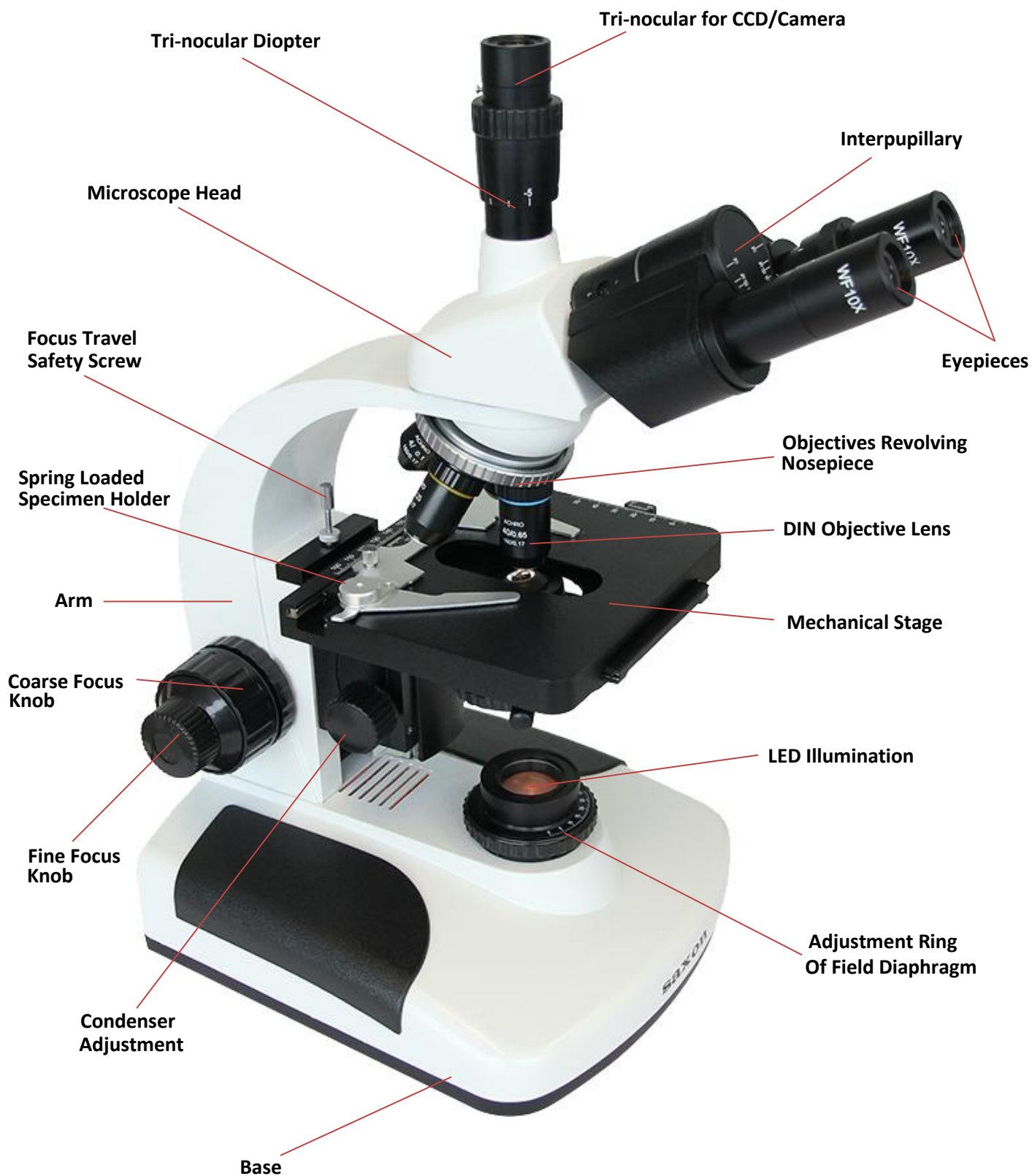


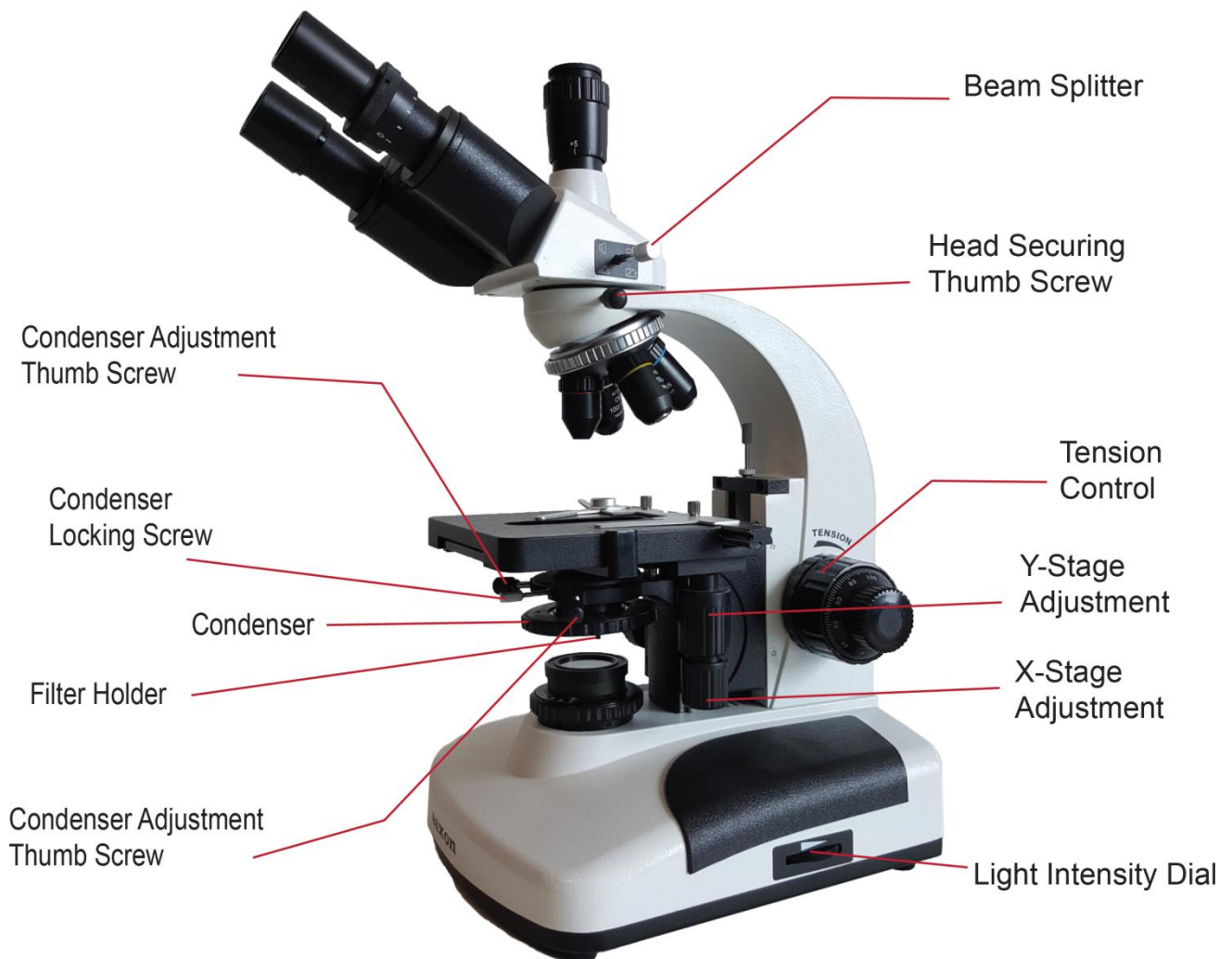
**saxon**  
high quality optics



saxon RBT Researcher Biological Microscope 40x-1600x  
Instruction Manual  
SKU# 311009

# saxon RBT Researcher Biological Microscope 40x-1600x Features





**WARNING!**

- Do not use the mirror on the microscope to focus the sunlight through your microscope.
- Looking directly at the sunlight can result in irreversible eye damage.
- Your microscope is a precision optical instrument and should be handled with care at all times.
- Do not drop your microscope as such impacts may damage or misalign the optics in your instrument.
- Do not power down your microscope within five minutes of switching it on as this may reduce the effective lifetime of the lamp.
- Avoid using your microscope in direct sunlight, high temperature and humidity, dust and vibration.

## Product Disclaimer

This product is designed and intended for use only as a biological microscope. Modifying this product in any way for use in any situation other than the original and intended product design will automatically void the warranty

## Setting up your microscope

Remove the microscope and accessories from the box and identify all parts before assembling. When ready to begin, set the microscope on a stable surface. Your objective lenses should be pre-installed

If your microscope requires manual installation, please take the following steps:

1. Remove the eyepiece(s) from the packaging.
2. Slide the narrow end of the eyepiece(s) into the eyepiece holder.
3. Plug the power cord into a power outlet.
4. Your microscope is powered by an AC power. It is important to ensure the voltage coincides with that of the microscope.

# Operating the microscope

## Getting started

1. Switch on the power and the light(s) on your microscope should be illuminated. If your microscope has a light intensity adjustment dial, ensure it is turned up to the brightest.
2. Place and align the specimen/object to the centre of the working stage and, where possible, hold it down with the stage clips.

## Focusing

1. Rotate the nosepiece and place the objective lens with the lowest power (4x) in the optical path. Make sure you hear a click that confirms it is in place.
2. If needed, loosen the locking screw located in between the stage and the arm to regulate the range of movement of the stage.
3. Ensure the iris diaphragm is opened fully.
4. Push the spring loaded specimen holder to insert a specimen slide.
5. Adjust the slide with X and Y stage adjustment until the specimen is directly over the condenser lens.
6. Looking through the eyepiece(s), adjust the interpupillary and turn the coarse focuser knob to focus on the specimen until it comes into focus.
7. Re-adjust the focus with the fine focus knob until the image appears sharp and defined.

## Changing magnification

Slowly turn the nosepiece clockwise or anticlockwise to the desired magnification until you hear a click confirming the selected magnification is secured.

1. Ensure your specimen is sitting directly under the objective lens.
2. Rotate the coarse focuser knob, and then adjust the fine focus knob until the image comes to focus.

## Using 1000X magnification with immersion oil

To obtain maximum resolution with 100X objective lens, applying immersion oil between the slide and the front lens is necessary.

1. Place one small drop of immersion oil on top of the cover slip, directly over where light comes up from the condenser.
2. Slowly rotate the 100X objective lens into place. You should see the oil filling the space between the lens and the slide. If bubbles appear, they can be removed by slightly rotating the revolving nosepiece back and forth.
3. Adjust the focus with the fine focus knob only.
4. Always wipe and clean all parts that have come into contact with the immersion oil after use. This is because oil could dry up on the lens surface and damage the microscope. Always wipe with lens paper or a soft cotton cloth with the appropriate cleaning solution.

**Note:** The immersion oil should only be used for the 100X objective lens. Do not use the immersion oil for any other objective lens as this may cause spherical and chromatic aberrations.

## **Adjusting diaphragm diameter**

The diameter of the diaphragm can be adjusted by turning the adjustment ring of field diaphragm.

## **Condenser**

The 1.25 condenser lens can be removed by loosening the condenser locking screw. The condenser can be adjusted to desired position by adjusting two of the condenser adjustment thumb screws.

## **Changing colour filter lens**

There are 3 colour filter lens that would help to bring out the contrast of the specimen depending on its colour and light condition. You can change the colour filter by removing the colour filter ring and replacing with a desired colour filter lens. The filter can be found just below the iris diaphragm. Place the coloured filter onto the holder and swing it back to place. You may now observe the specimen through the eyepiece.

## **Adjusting the tri-nocular head**

You can adjust the tri-nocular head by loosening the head securing thumb screw and adjust the tri-nocular to the desired position.

## **Viewing through an eyepiece through tri-nocular head and beam splitter**

You can view through the eyepiece with the tri-nocular head by attaching the supplied eyepiece linker and insert a desired eyepiece on it. Pull the beam splitter outwards so light can enter.

## **Attaching a CCD through tri-nocular head**

You can attach the CCD to the tri-nocular microscope by attaching the supplied CCD link. Pull the beam splitter outwards so light can enter to the camera.

## **Illumination**

Should there be a need to change the light bulb, unplug the electric cord and ensure the microscope has been switched off for at least 15 minutes.

1. Slowly position the microscope on its side, with the underside of the base facing you.
2. Remove the four screws holding the grill.
3. Carefully remove the bulb in the microscope.
4. Use a clean cloth to hold and insert a new bulb into the socket.
5. Attach the grill and screw to tighten.

### **Caution**

Do not touch the new bulb with your fingers as it could affect both the transmission of light and the duration of the bulb.

When handling a halogen bulb, it is recommended to wear gloves or cover the light bulb with protective sleeve. Oils and other materials from fingers may damage the bulb. If the bulb has been touched, clean with alcohol and cloth.

## saxon RBT Researcher Biological Microscope 40x-1600x

Specifications	
<b>Eyepieces</b>	Wide field 10x & Wide field 16x
<b>Objectives</b>	Plan Achromatic objective 4X Plan Achromatic objective 10X Plan Achromatic objective 40XR (Retractable) Plan Achromatic objective 100XR (Retractable)
<b>Condenser</b>	Abbe N.A 1.25
<b>Head Type</b>	360 degree rotatable Tri-noculars
<b>Focus</b>	Fine and coarse focusing mechanism
<b>Stage Type</b>	Large 140mm x 150mm rectangular mechanical stage with spring loaded specimen holder
<b>Nosepiece</b>	Quadruple nosepiece with click stop
<b>Interpupillary distance</b>	55mm to 75mm
<b>Illumination Type</b>	LED
<b>Powered by</b>	Supplied AC Adapter
<b>Dimensions</b>	250 x 360 x 430 mm
<b>Weight</b>	± 6.1kgs

### What's included in the box

1x saxon biological microscope  
2x Wide field 10X eyepieces  
2x Wide field 16X eyepieces  
1x Eyepiece linker  
1x Immersion oil  
1x Dust cover  
1x AC adapter  
3x Colour filters  
1x Instruction manual

### You can also obtain the e-Manual from our website at

[www.saxon.com.au](http://www.saxon.com.au)



## Caring for and cleaning your microscope

To ensure your microscope performs at its best, regular maintenance of your microscope is recommended.

Cover the microscope with the dust cover whenever it is not in use. This will prevent dust from settling on the mirror or lens surface.

When moving your microscope, carry it with two hands – one holding the arm and the other supporting the base. Never pick it up by the focusing knobs.

Do not dismantle or modify any parts of the microscope as either of this will void the warranty. (Unless noted on instruction manual)

Do not store microscope in direct sunlight or under direct indoor light.

Use only appropriate cleaning tools when cleaning your microscope. We recommend using a combination of the following:

- A soft brush made from camel hair
- Optical cleaning solution and soft lint-free cloth
- Special lens paper

Clean the lens surface using an appropriate optical cleaning solution and always remember to dry the lens after. Do not wipe the lenses when they are dry as they can easily be scratched.

For the condenser and illuminator lens, only clean the top lens surface.

## We recommend the following accessories for your microscope

### saxon ScopePix Smartphone Adapter

Taking pictures through your optical instruments has never been easier with the saxon ScopePix Smartphone Adapter!

With its simple twist-lock adjustment you will be snapping pictures in no time.

Fits telescopes, binoculars, spotting scopes, and microscopes.  
Compatible with all smartphone models.



SKU# 615001

### saxon Pre-Cleaned Blank Slides Kit

You too can immerse yourself in the world of biology! Discover the wonders of biology around you. Simply gather, prepare, and observe your specimen with the **saxon Pre-Cleaned Blank Slides Kit**.

Available in:

**50pcs**

**SKU# 310050**

**100pcs**

**SKU# 310100**



### saxon Biological Microscope Prepared Slides

Our microscope slides are great for students of all ages, from home-schoolers to college students looking for an excellent introduction to microscopy. The prepared slides give you the most diverse possible biological selection. These slides are premium and machine cleaned giving a sharp image.

Available in:

**50pcs Animals Slides**

**SKU# 310005**

**50pcs Plants Slides**

**SKU# 310100**

**100pcs Prepared Slides**

**SKU# 310010**



## You may also be interested with other microscope range

### saxon Stereo Microscopes

Stereo microscopes or dissecting microscopes are best used when observing 3D objects or objects that are not mounted on a slide.



### saxon Digital Microscopes

Digital microscopes are a great way to take pictures and videos of your specimen.



### saxon Gemological Microscopes

Gemological microscopes are often used to look at the cut and colour of gems, stones and jewels.



### saxon Microscope Accessories Range

Prepared slides, blank slides, eyepiece, microscope stage, and more!



Find out more about our microscope range and accessories here on [www.saxon.com.au/microscopes](http://www.saxon.com.au/microscopes)

# **saxon**

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