

Top Considerations When Buying a Clinical Microscope

If you are considering purchasing a new clinical microscope, you will think about many options, vendors, and microscope models. Here are some top tips to help you come to the best buying decision.

1. Comfort and Ergonomics

Ergonomics is one of the most important points to consider when working long hours at your microscope to avoid back or neck pain and RSI (Repetitive Strain Injury). Look to tailor the microscope to your body, not vice versa, and decide what is important for you:

- Tilting the angle of the eyepieces can help you work in comfort, as you can adjust for the position of your eyes, and change your working position multiple times during the day

- Symmetrical operation of focus and stage drive keeps your shoulders in an aligned position during work.

Also, the light intensity knob should be within easy reach without unnecessary hand movement

- A microscope with adjustable height options provides flexibility to adapt to multiple users, ensuring everyone can work in comfort. Even better if you can change the stage operation from right to left hand use at any time depending on preferences and applications
- Height adjustable focus knobs enable hands and forearms to rest comfortably on the bench, independent from individual hand sizes
- Consider a semi-automated microscope for increased efficiency
- The option to adjust the torque of the focus knobs, and to change between coarse-medium and coarse-medium-superfine focus allows you to achieve the sharpest images while avoiding unnecessary stress for your hands



2. High quality optics

The microscopic image must be optimal for your analyses, to help you to achieve the best and most reliable results. High-quality optics is key in microscopy, so you might want to consider this as a top priority.

- Is the clinical microscope, you are interested in, compatible with the class of objectives for your application?
- Does the vendor have a high reputation for producing optical components and lenses?

3. Which contrast techniques do you need for your application(s)?

- Will you use bright field only, or in addition dark field, phase or polarization contrast, fluorescence or even DIC when examining your specimen? A clinical microscope should be flexible to be configured for all these options
- Ensure you future-proof your microscope and choose a supplier with a product range that can be upgraded in the future for more contrast techniques or different applications

4. Do you need a camera for documentation, teaching or sharing?

Assess if your microscope can be equipped with a camera right away, or if a camera attachment can be retrofitted later without the need for a new observation tube.

- How broad is the offering of your vendor with regard to cameras for your applications?
- Is it easy and possible without exchanging major parts of the microscope to add a camera later?

5. Do you use special specimen carriers for your application(s)?

Standard size glass slides (76mm x 26mm, 3" x 1") are very common in almost all clinical applications, but double size glass slides, various counting chambers, even Petri dishes are frequently used. Consider if you need specialist stages/specimen holders for:

- Handling of KOVA slides or Makler chambers
- Double size glass slides (76mm x 52 mm, 3" x 2")
- If you only use standard size glass slides, a precise stage with a short travel range will allow you to work more efficiently
- Results in some applications (e.g. polarization contrast) can be more easily achieved, if the stage is rotatable

6. Choose a brand you can trust

In many clinical applications, the microscope is the main tool to achieve reliable diagnoses. Choose a supplier with a proven track record in microscope quality, reliability and service.

- How long is the vendor in the market?
- Does the vendor offer reliable, local service and support?