KERN OPTICS

Checklist for your compound microscope - your requirements

1) Which kind of microscope do you need?

			Pages to be filled out:
☐	Compound microscope:	(primarily used for transparent/translucent preparation)	(Page: 1 - 3)
☐	Stereo microscope	(surface observation with 3-dimensional optic with slow/medium magnification)	(Page: 4 - 6)
☐	Phase contrast microscope	(Preparations with minimal contrast / very translucent)	(Page: 1 - 3)
☐	Fluorescence microscope	(fluorescent structures, which are specific coloured or auto coloured)	(Page: 1 - 3)
☐	Polarisation microscope	(Preparations with refraction (anisotropic). for example Crystal	(Page: 1 - 3)
☐	Metallurgical microscope	(surface observation of components, materials and minerals)	(Page: 1 - 3)
☐	Inverted microscope	(used primarily for culture fessel from cell culture / for very thick preparation)	(Page: 1 - 3)

State your intended use/
Describe your application: _____

State your previous model/manufacturer:
(if available) _____

State your min. and max. magnification: _____

2) What type of eyepiece tube do you need for your application?

☐	Monocular eyepiece tube	(view with one eye = 1 eyepiece available)
☐	Binocular eyepiece tube	(view with both eyes = 2 eyepieces available)
☐	Trinocular eyepiece tube	(view with both eyes + additional option to adapt a camera)
☐	Digital eyepiece tube	(view with both eyes + integrated camera)

Attention: look also at point 20) Do you need a camera?

Additional comments: _____

3) Which illumination do you need for your application?

☐	Halogen transmitted illumination	(very good illumination/also suitable for dark field and phase contrast)
☐	LED transmitted illumination	(extremely long life time / no heat generation)
☐	Halogen reflecting illumination	(additional illumination, e.g. for Polarisation and metallurgical microscopes)
☐	LED incident illumination	(only for stereo microscopes)
☐	External illumination	(external illumination could be ordered additionally, for example ring illumination unit, swan neck (cold light source), as Accessories)

Note:

- ➔ Halogen bulbs are still the standard in light microscopy, because they have a better brightness.
- ➔ The LED illumination have a much longer life time and the advantage that there is no heat generation. For this reason, we use LED illumination in our stereo microscopes as standard illumination.

Additional comments: _____

4) Do you need Köhler illumination?

☐	no	
☐	fixed, pre-centred Köhler illumination	condenser is centred, can be height-adjusted and focussed, field diaphragm / aperture diaphragm available.
☐	full Köhler illumination	condenser can be fully centred and focussed, field diaphragm / aperture diaphragm available.

Additional comments: _____

_____

5) How many objectives would you like to use?

☐	3 objectives	(quadruple objective revolver with 3 objectives)
☐	4 objectives	(quadruple objective revolver)
☐	5 objectives	(quintuple objective revolver)

6) What magnification (objectives) do you need?

☐	4x objective	=	40x magnification	(when using the 10x magnification eyepiece)
☐	20x objective	=	200x magnification	(when using the 10x magnification eyepiece)
☐	40x objective	=	400x magnification	(when using the 10x magnification eyepiece)
☐	60x objective	=	600x magnification	(when using the 10x magnification eyepiece)
☐	100x objective	=	1000x magnification	(when using the 10x magnification eyepiece)

Note:
Magnification formula: objective magnification x eyepiece magnification = Total magnification

State the magnification you require: _____

Additional phase contrast objective: _____

_____

7) What quality do you need for the objective?

☐	Achromatic	(DIN standard objectives)
☐	Plan achromatic	(DIN standard objectives)
☐	Infinity E-Plan / Semi Plan	(infinitely corrected objectives for professional methods)
☐	Achromatic Infinity Plan	(infinitely corrected objectives for professional methods)

Additional comments: _____

_____

8) What eyepiece diameter (visual field) and what eyepiece magnification do you need?

10x magnification:

- ☐ Ø 18 mm
- ☐ Ø 18 mm with pointer needle
- ☐ Ø 18 mm with 0.1 mm scale
- ☐ Ø 20 mm
- ☐ Ø 20 mm with 0.1 mm scale

Dioptre adjustment:

- ◯ Yes, on one side
- ◯ Yes, on both sides
- ◯ No

Further magnifications possible:
(State the magnification you require:)

9) Do you need a camera to save the documents?

- ◯ yes
- ◯ no

Note:
With a trinocular microscope, you always have to use a C-mount adapter to adapt a camera!

Additional comments:
(Number of mpx:)

10) Do you need any further functions?

- ☐ Dark field unit
- ☐ Polarisation unit
- ☐ Fluorescent unit
- ☐ Phase-contrast unit
- ☐ Colour filter
- ☐ Additional objectives

Additional comments:

Statement of phase contrast magnification:

Statement Fluorescence-channel (colour UV/V/B/G):

11) Further technical characteristics:

State your requirements:

12) What type of eyepiece tube do you need for your application?

☐ Binocular eyepiece tube (view with both eyes, two eyepieces)
☐ Trinocular eyepiece tube (view with both eyes and additional option to adapt a camera)

Attention: look also at point 20) Do you need a camera?

Additional comments: _____

13) Please select the required optical system?

☐ Greenough (beam paths which are completely separate from each other)
☐ Parallel /ABBE (beam paths which are completely separate from each other which run parallel)

Additional comments: _____

14) Which illumination do you need for your application?

☐ None (stereo microscope without illumination)
☐ Incident illumination (incident illumination e.g. LED or halogen)
☐ Transmitted illumination (additional illumination for translucent samples)
☐ Coaxial illumination (integrated coaxial illumination for selective depth of focus)
☐ External illumination (external illumination could be ordered additionally, for example ring illumination unit, swan neck (cold light source), as Accessories)

Additional comments: _____

15) What type of magnification do you need?

☐ Rotation objective (changing the magnification by rotating the objective)
☐ Zoom (continuous magnification)

Additional comments: _____

16) What magnification do you need?

☐ Minimum: _____ ☐ Maximum: _____

Additional comments: _____

_____

Note:
Magnification formula: Eyepiece magnification x objective magnification (zoom) = Total magnification

17) What eyepiece diameter (visual field) do you need?

10x magnification:

☐ Ø 20 mm
☐ Ø 22 mm
☐ Ø 23 mm

Dioptre adjustment:

◯ Yes, on one side
◯ Yes, on both sides

Further magnifications possible:
(State the magnification you require:) _____

_____

18) What working distance do you need?

☐ Minimum: _____mm ☐ Maximum: _____mm

Additional comments: _____

_____

Note:
The working distance is the distance between the objective and the sample.

19) What size of field of view do you need?

☐ Minimum: _____mm ☐ Maximum: _____mm

Additional comments: _____

_____

Note:
The field of view is the section which is shown through the magnification. If the magnification (Zoom) is very high, the field of view will be reduced. By magnifying and focussing a specific section, it is not possible to capture the whole sample.

20) Do you need a camera to save the documents?

- ◯ yes
- ◯ no

Note:
With a trinocular microscope, you always have to use a C-mount adapter to adapt a camera!

Additional comments: _____
(Number of mpx:) _____

21) Do you need any further functions?

- ☐ Dark field unit
- ☐ Stand inlays (preparation-background) (e.g. glass, opaque glass, black, white)
- ☐ Universal stand
- ☐ Mechanical bench

Additional comments: _____

22) Further technical characteristics:

State your requirements: _____

23) Please fill in your contact, that we could make you an offer for a suitable microscope

Customer number: _____
Company: _____
Surname, first name: _____
Street: _____
Postcode / Area: _____
Country: _____
Tel.: _____
Fax: _____
E-mail: _____

Please send the completed checklist with your requirements to: **optics@kern-sohn.com**

Please click here