

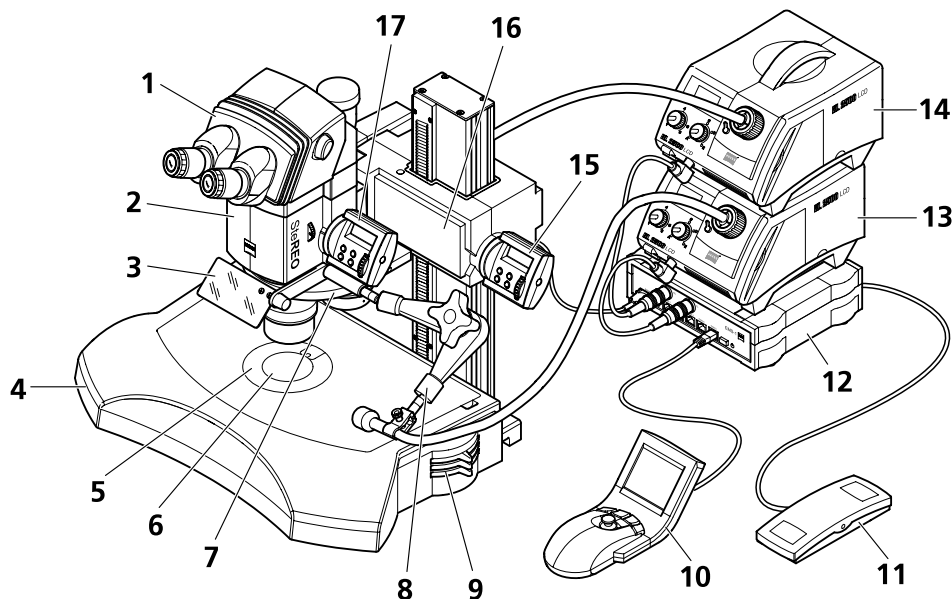


For your safety

Observe the following instructions:

- The stereomicroscope SteREO Discovery.V12 including the original accessories may only be used for the microscopy procedures described in these instructions and in the detailed Operating Manual. The manufacturer accepts no liability if used for any other procedures.
- Read the Operating Manual (B 46-0009) carefully; follow the safety instructions described here.
- Connect the unit to the mains only at a correctly installed earthed socket.
- Unplug the unit from the mains before opening it, and before changing a bulb or fuse.
- Read the related user instructions before using any additional accessories.
- When the motorised focussing is in motion there is a crush hazard!
During movement, keep your hands away from the movement area.
- When using the microscope with transmitted-light there is a dazzle hazard.
Use the dazzle protector provided with the transmitted-light unit.

Controls and functional elements



NOTE: The microscope configuration shown here may vary from the existing configuration!

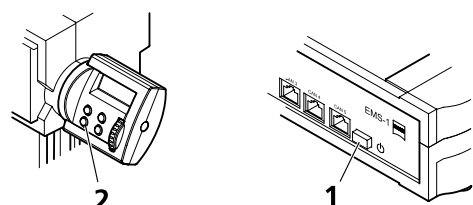
- 1 Binocular Ergo phototube S 5°-45° for mounting eyepieces and a camera using an adapter
- 2 Microscope body SteREO Discovery.V12
- 3 Dazzle protector, swing forward for use; when using the microscope with transmitted-light illumination
- 4 Transmitted-light unit S for use only in connection with cold-light source KL 1500 LCD / KL 2500 LCD for transmitted-light illumination
- 5 Support for glass plate with diameter 120 mm for objects or support of tables using adapter plate 84/120
- 6 Support for opal glass for transmitted-light illumination (diameter 84 mm)
- 7 Coded nosepiece 3 fold, coded or carrier S (not shown) for supporting the microscope body (support diameter 76 mm)
- 8 Oblique reflected-light illumination with flexible light guide and focussing attachment.
- 9 Illumination control for transmitted-light microscopy: see section **Adjusting the illumination**
- 10 System control panel SYCOP; for operation see section **SYCOP Touch screen controls**
- 11 Foot pedal for focussing / zoom function
- 12 Control unit EMS-1 (component of SYCOP); connection of various functional units
- 13 Cold-light source KL 2500 LCD for reflected-light; see user instructions for setting and operating
- 14 Cold-light source KL 2500 LCD for transmitted-light; see user instructions; only in connection with transmitted-light unit S
- 15 Focussing control unit HIP (Human Interface Panel); power supply unit for operation without SYCOP included in scope of supply
- 16 Motor focussing on the column; caution! During movement, keep your hands out of the movement area - crush hazard!
- 17 Zoom control unit HIP (Human Interface Panel); power supply unit for operation without SYCOP included in scope of supply

Switching the device on

Switch-on procedure varies according to the existing configuration.

- Check that all cables are correctly plugged in.
- SYCOP: Switch the rocker switch at the rear of the control unit EMS-1 to **I** and press button **⓪** on the front (1).
- HIP: Press button **⓪** (2).

NOTE: Press button **⓪** on the control units EMS-1 (1) again to switch into standby mode.



HIP controls

The HIP (Human Interface Panel) allows operation without SYCOP. The first HIP is used for motorised focussing, the second HIP for zoom operation. If a SYCOP is connected, the HIP is not necessary and is only of limited function.

There is a basic mode and a setting mode.

Zoom control unit HIP in basic mode

The display shows the magnification (Mag) and the field diameter (Field). Briefly press the **Mode** button repeatedly to display successively field diameter, resolution and depth of focus. Zoom value is set by the thumb wheel.

Focussing control unit HIP in basic mode

The header line of the display shows the focus position Z. Briefly press the **Mode** button to reset the focus value to zero. Set the focus position by moving the thumb wheel. Press the thumb wheel to switch between FocusSpeed and FineFocus.

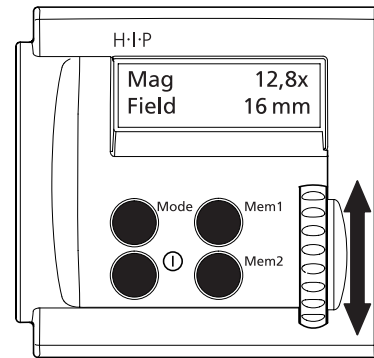
Parameters in the Setting mode (selected by Mode button)

applies to Zoom control unit only:

- Set Lens** to change objective variables
- Set Eyepiece** to change eyepiece variables
- Confirmation** to switch starting enquiries on / off

applies to both control units:

- Zoom / Focus Speed** to set the speed of movement
- Backlight** to adjust background illumination
- Beep Level** to switch acknowledgement beep on / off
- Reset Param?** to set on default variable



Thumb wheel ↑↓

- ↑ moves to higher position
- ↓ moves to lower position
- In setting mode: select list entry

Buttons Mem1 / Mem2

- Briefly press the buttons to call up saved values
- Press for two seconds duration to save the current value

Mode button

- Press for two seconds duration to switch between the modes
 - In setting mode: briefly press to select Parameters
- NOTE: Changes to the parameter variables are only saved when you switch back into basic mode.

Button ①

- HIP switch on / switch off

SYCOP controls

Joystick:

- Shift to left: reduce zoom value
- Shift to right: increase zoom value
- Shift upwards: move the focus plane upwards
- Move downwards: move the focus plane downwards;
CAUTION: crush hazard! Avoid risk of damaging the specimen by using the specimen protection function or limit switches.

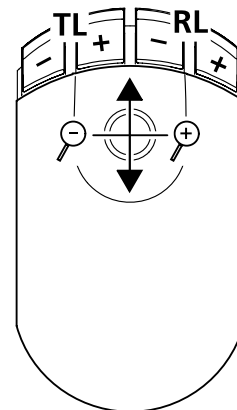
4 buttons for illumination intensity;

the two left hand buttons are for transmitted-light (TL)

the two right hand buttons are for reflected-light (RL)

- - Reduce brightness / double click switches the illumination off
- + Increase brightness or switch on again

See also section **SYCOP Touch screen controls**.



🔍 = Zoom
↑↓ = Focus

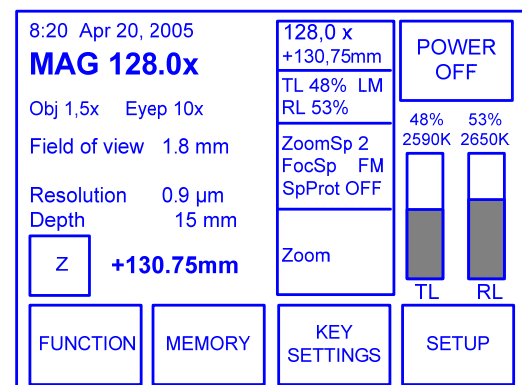
SYCOP Touch screen controls

The touch screen is a touch-sensitive screen. Press with the finger on the relevant button to call up the function.

After switching on, the main menu shows the following values:

- Date and time; four short status display windows
- Visual overall magnification (Mag), objective (Obj), eyepiece (Eyep)
- Field diameter (Field), resolution (Resol), depth of focus (Depth)
- Illumination intensity, colour temperature for reflected-light (RL) and transmitted-light (TL)

- Press button **Z** to reset the current focus position to zero
- Press button **POWER OFF** to switch the system into standby mode
- Use the menu buttons to call up the **FUNCTION**, **MEMORY**, **KEY SETTINGS** or **SETUP** submenus



Adjusting the illumination

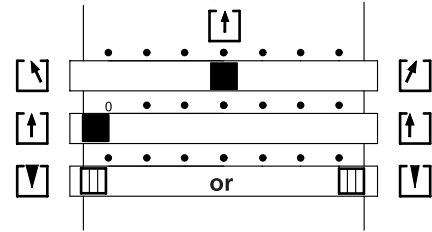
Reflected-light illumination:

- Connect the light guide for reflected-light to the cold-light source (RL) and attach it to the stand plate or nosepiece (or carrier S). Alternatively clamp the ring illuminator to the single objective (not to the nosepiece).
- Switch on the cold-light source for reflected-light (RL) with rocker switch I.
- Align the light guide on to the specimen.
- Adjust the illumination intensity on the cold-light source or use the two right hand buttons on SYCOP.

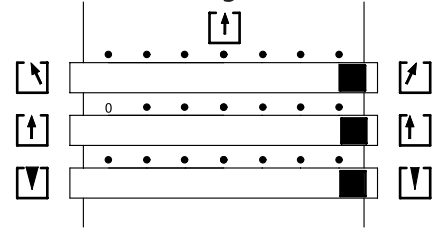
Transmitted-light illumination with transmitted-light unit S:

- Connect the light guide for transmitted-light (TL) to the cold-light source.
- For lower magnifications, insert the opal glass.
- To avoid dazzle from transmitted-light, swing the dazzle protector into position.
- Switch on the cold-light source for transmitted-light (TL) with rocker switch I.
- Adjust the illumination intensity on the cold-light source or use the two left hand buttons on SYCOP.
- The illumination levers on the transmitted-light unit allow the brightfield / darkfield to be adjusted as depicted alongside. To optimise the contrast with oblique light various intermediate positions can be employed (see explanation of symbols).


Transmitted-light brightfield




Transmitted-light darkfield





Symbols for illumination control


 Light beam exits vertically (reflector at 45° inclination)


 Inclining the light beam towards the observer (dazzle hazard!)

 Inclining the light beam away from the observer

 Light beam exits centrally

 Translation of the light beam towards the observer

 Diffuse light quality with the white reflector plate

 Directed light quality with the mirror reflector plate

Adjusting the stereomicroscope

The stereomicroscope should be connected and switched on.

Focus and zoom can be controlled using HIP or SYCOP. See section **HIP controls** or **SYCOP controls**.

- Place a specimen on the insert plate (3).
- If the dioptic eye values are known, set the eyepieces (2) accordingly.
- Select the viewing height by twisting the eyepiece support (1) by up to max. 120° and adjust it to the pitch of individual eyes, i. e. when looking in the eyepieces only an uninterrupted circle of light should be seen.
- Tilt the binocular part viewing angle and set it within the range 5° - 45°.
- Open the aperture diaphragm using thumb wheel (4).
- When searching for objects, first set the zoom (5) to the lowest magnification.
- Focus on a small sharp detail in the centre of the image (6).
- Set the maximum zoom value (5) and adjust for exact focus on the detail (6).
- Then go back to the lowest zoom value (5) and correct any out-of-focus separately for each eye, using the adjustable eyepieces (2) (compensation for variations in the eye).

Once the microscope has been compensated in this way, image focus will be retained over the entire zoom range.

At the camera outlet of the Ergo phototube (8) a camera can be attached by a suitable adapter if desired. To change between visual observation and documentation, swing over the lever (7). The right hand beam path is switched over completely.

