Ergo80
User Guide
Ergo 80 stereo microscope
Stereo microscope

Vision Engineering manufacture a wide range of patented optical systems, offering fatigue-free viewing with superb hand-eye co-ordination, for improved quality and productivity.

To achieve the most from this precision instrument, please read the enclosed assembly instructions, usage and maintenance guidelines.

Health & Safety

Vision Engineering and its products conforms to the requirements of the EC Directives on Waste Electrical and Electronic Equipment (WEEE) and Restriction of Hazardous Substances (RoHS).

EN61326-1:2006
FCC Part 15
IEC 61010-1:2001

**WARNING:** ALL EQUIPMENT PLUGGED INTO THIS UNIT MUST BE APPROVED TO EN60950-1:2001 AND CHECK CURRENT RATING OF OUTPUT SOCKET IF USED.

The equipment is connected to protective earth via the mains cable provided.

If the equipment is used in a manner not specified by Vision Engineering Ltd in this user guide, the protection provided by the equipment may be impaired.

Warning symbols

This symbol, when used alone or in conjunction with the following symbol, indicates the need to consult the operating instructions provided with the product.

**WARNING:** A potential risk of danger exists if the operating instructions are not followed.

This symbol indicates the presence of electric shock hazards. Consult the operating instructions provided with the product wherever this symbol is found.
System by box content

Box 1 Stand (Boom or Bench as ordered)
Box 2 Zoom assembly
Box 3 Objective
Box 4 ISIS ergonomic eyepieces or standard eyepieces
Box 5 Dovetail adapter, power supply, control box, screws, cable clips and user guide
Box 6 Boom stand adapter and screws (if Boom stand ordered)
Box 7 Accessories
### SYSTEM EQUIPMENT

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### WARRANTY
SYSTEM EQUIPMENT

Head
1. ISIS ergonomic eyepieces
2. Standard eyepieces
3. Head adapter
4. Zoom assembly
5. Objective

Stand

Illuminator
1. Ringlight
2. Antiglare screen
Optional equipment

**Stage**

1. Floating stage
2. Stage adapter

**Ergowedge**

**25° wedge**

**Unicam digital camera**

**Iris control**
Bench stand

Attaching the zoom assembly & objective

Ensuring all components are clean and dust-free, proceed as follows:

- Loosen the securing screw 1.
- Lower the zoom assembly 2 into the stand’s head location ring 3.
- Tighten the securing screw.
- Screw the objective lens 4 up into the zoom assembly.

Attaching the head & control box

- Place the adapter ring 1 on to the zoom assembly 2 and using a 2mm Allen key, secure it with the securing grub screw 3.
- Place the head 4 on to the adapter ring and secure it by tightening the securing screw 5.

Note: The ISIS ergonomic eyepieces are illustrated but the procedure for the Standard eyepieces is the same.

- Remove the 2 securing screws 6 from the top cap 7 and lift the cap off.
- Place the control box 8 on top of the stand, replace the top cap and secure it in place with the replacement screws.
ASSEMBLY

Boom stand

Attaching the boom stand interface bracket

- The boom stand interface bracket 1 is fitted between the boom stand focus assembly 2 and the head location ring 3 in a 2 stage process, using the focus control 4.
- Remove the head location ring.
- Turn the focus control clockwise until there is enough room to secure the interface bracket via the top 2 location holes - see inset A.
- Turn the focus control anticlockwise until there is enough room to secure the interface bracket via the top 2 location holes - see inset B.

Attaching the zoom assembly, objective, head & control box

- Using the same procedures as detailed on page 3, attach the zoom assembly 1, objective 2, head adapter plate 3 and head 4.
- Secure the control box 5 and its cap 6 to the interface bracket 7 and secure it with the screws provided 8.
Attaching the ringlight & antiglare screen

- Raise the ringlight 1 into position over the objective 2 and secure it by tightening the 3 grub screws 3.
- Slide the antiglare screen 4 into the lower receptor groove in the ringlight body.

Attaching the head & optional iris control

- Place the iris control 1 on to the zoom assembly 2 and using the 2mm Allen key supplied, secure it with the securing grub screw 3.
- Place the adapter ring 4 on the iris control and secure it with the securing grub screw 5.
- Place the head 6 on to the iris control and secure it by tightening the securing screw 7 using a 2mm Allen key.

Note: The ISIS ergonomic eyepieces are illustrated but the procedure for the Standard eyepieces is the same.

Attaching the ergowedge

- Loosen the head adapter securing screw 1 and remove the head 2.
- Place the ergowedge 3 on to the head adapter and retighten the adapter securing screw.
- Place the head on to the ergowedge and tighten its securing screw 4.

Note: The ergowedge provides the ability to tilt the head -5 to -25 degrees

Note: The ISIS ergonomic eyepieces are illustrated but the procedure for the Standard eyepieces is the same.

Attaching the 25° wedge

- Loosen the head adapter securing screw 1 and remove the head 2.
- Place the 25° wedge 3 on to the head adapter and retighten the adapter securing screw.
- Place the head on to the 25° wedge and tighten its securing screw 4.

Note: The ISIS ergonomic eyepieces are illustrated but the procedure for the Standard eyepieces is the same.
Attaching the unicam

- Loosen the head adapter securing screw 1 and remove the head 2.
- Place the unicam 3 on to the head adapter and retighten the adapter securing screw.
- Place the head on to the unicam and tighten its securing screw 4.

Note: Refer to Unicam user guide for connection and operation.

Note: The ISIS ergonomic eyepieces are illustrated but the procedure for the Standard eyepieces is the same.

Attaching the floating stage

- Attach the stage adapter plate 1 to the stand 2.
- Attach the stage 3 to the adapter plate.

Fitting the stage glass

- Position the stage glass 1 on to the stage 2.
Cabling

- Connect the ringlight 1 to the left-hand connector on the control box 2.
- Connect the Isis 3 to the right-hand connector on the control box.
- Connect power 4 to the rear of the control box.

Isis adjustment

**Note:** If you wear corrective eyeglasses, keep them on.

- Hold the body of the Isis and adjust the Isis eyepieces 1 until you have the correct eyespacing. The view of the subject should now be comfortable. Minor adjustments can be made using the Eyepiece Dioptré adjusters 2 for comfort (no more than 2 to 3 marks movement should be necessary).

Using the iris control

- Move the control lever 1 to the left to reduce the Aperture, and vice versa. Reducing the aperture has the effect of increasing the visible depth of field.
Getting the most from your system

Routine maintenance

- The outside of the instrument should be wiped down with a damp cloth to remove dirt and dust.
- The instrument and accessories should be checked for loose or damaged components.
- When not in use, protect your system with the dust cover.
- Always disassemble the system prior to moving.

Tensioning

Note: The tensioning tool is available from Vision Branch Offices.

Bench stand

Attach special tensioning tool 1 to the inner collar of the left-hand focus knob 2 and turn the tool clockwise.

Boom stand

Turn the right-hand focus knob 1 clockwise whilst turning the left-hand focus knob in the opposite direction.

Environmental considerations

This equipment is designed for indoor use in the following conditions:

- Up to 2000m altitude
- Between 5° and 40°C ambient temperature (10° to 35° recommended limits)
- Power supply; 100-120V/ 220-240V, 50/60Hz with voltage fluctuations up to 10% of the nominal voltage
- Transient over voltages typically present on the Mains supply
- Maximum relative humidity of 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

This system is an accurate, industrial gauging instrument. To achieve the optimum accuracy and repeatability, the following considerations should be taken into account:

- Position the system on a firm, rigid and level table.
- Avoid locating the instrument near to a source of vibration.
- Do not place the instrument close to a radiator or similar heat source.
- Do not place the instrument close to a cold temperature source such as an air conditioning unit.
- Do not position the instrument in direct sunlight, or where bright reflections will affect the image.
- The equipment should be positioned so that access to the mains input connector is always available.
System Serial Number  ____________________

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WARRANTY

This product is warranted to be free from defects in material and workmanship for a period of one year from the date of invoice to the original purchaser.

If during the warranty period the product is found to be defective, it will be repaired or replaced at facilities of Vision Engineering or elsewhere, all at the option of Vision Engineering. However, Vision Engineering reserves the right to refund the purchase price if it is unable to provide replacement, and repair is not commercially practicable or cannot be timely made. Parts not of Vision Engineering manufacture carry only the warranty of their manufacturer. Expendable components such as fuses carry no warranty.

This warranty does not cover damage in transit, damage caused by misuse, neglect, or carelessness, or damage resulting from either improper servicing or modification by other than Vision Engineering approved service personnel. Further, this warranty does not cover any routine maintenance work on the product described in the user guide or any minor maintenance work which is reasonably expected to be performed by the purchaser.

No responsibility is assumed for unsatisfactory operating performance due to environmental conditions such as humidity, dust, corrosive chemicals, deposition of oil or other foreign matter, spillage, or other conditions beyond the control of Vision Engineering.

Except as stated herein, Vision Engineering makes no other warranties, express or implied by law, whether for resale, fitness for a particular purpose or otherwise. Further, Vision Engineering shall not under any circumstances be liable for incidental, consequential or other damages.
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