



E-series  
Z-series

 **euromex**

# The E-series and Z-series

*Stereo microscopes are often used in science and industry for research, inspection, manufacturing or modification of extremely small objects.*

*Due to its high contrast and wide field of view, stereo microscopes are perfectly suitable for such. The E- and Z-series microscopes are used in a wide variety of applications for medical doctors, biologists, tooth technicians and renovators.*

*In the electronics, fine mechanical, galvanic, graphical and food industry these high quality microscopes series are used for research and quality control due to their brilliant optical performance.*



Configuration: EE.1552 and ST.1740

## Stereo heads E-series 45° tube, with 2 pair objectives in revolving nosepiece

| EE.1521 - binocular   | EE.1522 - binocular<br>EE.1552 - trinocular  | EE.1523 - binocular<br>EE.1553 - trinocular  | EE.1524 - binocular<br>EE.1554 - trinocular   |
|---|--|--|---|
| Objectives 0.5x and 1x<br>Magnification 5x and 10x<br>Field number 46 and 23 mm<br>Free working distance 200 mm<br>Specifically for stands ST.1715,<br>ST.1720, ST.1770, ST.1780, ST.1785 | Objectives 1x and 2x<br>Magnification 10x and 20x<br>Field number 23 and 11.5 mm<br>Free working distance 110 mm | Objectives 1x and 3x<br>Magnification 10x and 30x<br>Field number 23 and 7.7 mm<br>Free working distance 80 mm | Objectives 2x and 4x<br>Magnification 20x and 40x<br>Field number 11.5 mm and 5.7 mm<br>Free working distance 63 mm |

## Stereo heads Z-series with zoom objective

| ZE.1624 - binocular*<br>ZE.1654 - trinocular*   | ZE.1670 - binocular<br>ZE.1671 - trinocular  | ZE.1626 - binocular   | ZE.1629 - binocular  | ZE.1657 - trinocular  | ZE.1659 - trinocular  |
|---|--|---|--|---|---|
| Tube 45°<br>Zoom objective 0.7x - 4.5x<br>Magnification 7x - 45x<br>Field number 32 - 5.1 mm<br>Free working distance 93 mm | Tube 45°<br>Zoom objective 1x - 7x<br>Magnification 10x - 70x<br>Field number 23 - 3.29 mm<br>Free working distance 104 mm<br>ZE.1671: when using photo tube the image remains visible in both eyepieces | Similar to ZE.1624 but with 60° tube, suitable to mount on instruments or machines<br>Free working distance 93 mm | Similar to ZE.1624 but with 90° tube, suitable to mount on instruments or machines<br>Free working distance 110 mm | Similar to ZE.1654 but when using photo tube the image remains visible in both eyepieces!<br>Free working distance 104 mm | Similar to ZE.1657 but with Zoom objective 0.4x - 2.5x<br>Magnification 4x - 25x<br>Free working distance 185 mm<br>With opening for flexible light conductor for semi coaxial illumination |

\* For click-stop versions, add suffix 'D' to article number



ZE.1629, ST.1710, LE.5210, LE.5214



ZE.1624, ST.1780, LE.1970



ZE.1659, ST.1770, AE.1950, LE.5210, LE.5218

## Optical system

The super wide field eyepieces 10x/23 together with the highly light transmitting objectives provide an outstanding image clarity with a large field of view and high contrast. This results in comfortable viewing even after long hours of observation.

The E-series has two pairs of objectives mounted in a revolving nosepiece. The left tube has

dioptric adjustment. The magnification of the zoom objective of the Z-series can smoothly be adjusted through easy to operate ergonomic control knobs located on both sides of the microscope. Both tubes have dioptric adjustment.

## Illumination

When using the microscope for longer periods it is essential to use a proper illuminator. One can choose to use a cold light illumination with several glass fibre light conductors, neon-fluorescence illumination or a LED ring illuminator. Euromex has a specific brochure with a detailed overview of the different type of illuminators.



EE.1554, ST.1750



EE.1522, ST.1760, LE.5210, LE.5246

## Stands without illumination

| ST.1710   | ST.1715  | ST.1717  |
|---|--|--|
| 210 mm stand post $\phi$ 20 mm<br>Black/white object plate<br>2 object clamps<br>Holder ST.1790 for height adjustment<br>Size: 240x150x250 mm (l x w x h) | Similar to ST.1710, but with:<br>Holder ST.1792 for stereo head with moveable lamp holder<br>250 mm stand post<br>Size: 240x150x290 mm (l x w x h) | Similar to ST.1710, but with extra large base and an 250 mm long post.<br>Size: 320x250x290 mm (l x w x h) |

## Stand with illumination

| ST.1740   |
|---|
| Base plate 60 mm height with telescopic arm<br>Black/white and transparent object plate<br>The height adjustable holder is mounted to the telescopic arm.<br>Size: 240x160x290 mm (height 240-290 mm) (l x w x h)<br>Adjustable halogen illumination 10 Watt. Incident illumination with blue filter, transmitted illumination with diffuse filter.<br>The illuminators can be controlled separately and simultaneously.<br>Built-in transformer 230 Volts<br>Not for stereo head EE.1521 |

## Stands with dark field illumination

|   |   |
|---|---|
| ST.1750 stand, perfectly suitable to observe gems   | ST.1760 stand, perfectly suitable to observe gems, contact lenses and other objects with poor contrast  |
| Round base plate, $\phi$ 260 mm<br>Tilted adjustable stand<br>With moveable object holder AE.5446<br>The height adjustable holder is mounted to the arm.<br>Size: 260x260x300 mm (l x w x h)<br>Illumination: dark field 230 Volts, 40 Watt halogen, mounted in the stage.<br>Light intensity can be adjusted with the iris diaphragm.<br>Not for stereo head EE.1521 | Stand post 210 mm, $\phi$ 20 mm<br>With moveable object holder AE.5446<br>Holder ST.1790 for height adjustment<br>Size: 240x150x260 mm (l x w x h)<br>Illumination: transmitted illumination through fibre light conductor, which is connected to the 100 Watt cold-light source LE.5210. Attachable dark field set up AE.1878.<br>An additional fibre light conductor can be supplied on request.<br>Not for stereo heads EE.1521, ZE.1659 |

# For the professional

*The E- and Z-series microscopes can be configured in accordance with customers specification due to its modular components.*

*For each application it is possible to choose the right stereo head and stand and with the wide choice of supplementary objectives and eyepieces the desired magnifications can simply be constructed.*

*The robust metal frame of these microscopes guarantees a long life time.*

Configuration: ZE.1654, ST.1720, LE.5210, LE.5239



## Articulating arm stands with wide working space, without illuminator

|   |  |
|---|--|
| <b>ST.1720</b>  | <b>ST.1770</b> suitable for SMD inspection   |
| Base plate 270x270 mm, stand post 610 mm, $\varnothing$ 29 mm<br>Holder ST.1794 for height adjustment, moveable in all directions, with holder for illuminator<br>Stand size 780x270x650 mm, weight 19.5 kg | Base plate, black laminated 500x580 mm, stand post 360 mm, $\varnothing$ 29 mm<br>Horizontal arm 340 mm adjustable<br>Holder ST.1790 for height adjustment<br>Size: 500x580x400 mm (l $\times$ w $\times$ h) |

## Articulating ring arm stands for table or wall mounting

|  |   |
|--|---|
| <b>ST.1780</b> for table mounting  | <b>ST.1785</b> for wall mounting  |
| Stand post 560 mm, $\varnothing$ 28 mm with console for table mounting<br>Holder ST.1790 for height adjustment<br>Size 1100x100x560 mm (l $\times$ w $\times$ h) | Similar to ST.1780 but without stand post<br>With console for wall mounting |

## Holders for stereo heads with height adjustment to attach on instruments or machines

|   |   |  |   |   |
|---|---|--|---|---|
| <b>ST.1790</b>  | <b>ST.1792</b>  | <b>ST.1794</b>   | <b>ST.1796</b>  | <b>ST.1798</b>  |
| Connection opening for base pillar $\varnothing$ 20 mm<br>Internal diameter ring holder 84 mm<br>Friction is adjustable | Similar to ST.1790 but with moveable holder for illuminator | Similar to ST.1792 but with hinge for movement in all directions | Similar to ST.1790 but with coaxial course and fine adjustment with scale | Similar to ST.1794 but with coaxial course and fine adjustment with scale |



# Optional accessories



## Super wide field eyepieces, per pair

- AE.1835 SWF 5x / field number 26
- AE.1836 SWF 10x / 23
- AE.1834 SWF 12.5x / 20
- AE.1837 SWF 15x / 16
- AE.1838 SWF 20x / 11.5
- AE.1840 SWF 30x / 7.5
- AE.5439 Eyeshades, for all eyepieces
- AE.5425 Eyeshades for spectacle wearers, for all eyepieces

## SWF measuring eyepieces with adjustable eye lens, per piece

- AE.1839 SWF 10x / 21 with micrometer 10 mm/100 and cross hair
- AE.1841 SWF 10x / 21 with reticule 10x10 mm in 400 squares
- AE.1842 SWF 10x / 21 with image masks for photography

## Object micrometers for calibration of measuring eyepieces

- AE.1110 Object micrometer 1 mm divided in 100 parts
  - AE.1111 Object micrometer 2 mm divided in 200 parts
- Both micrometers are printed on glass plate 76 x 26 mm

## Supplementary objectives for stereo microscopes

### with 1x/2x and 1x/3x objectives

- AE.1846 Objective 0.5x, working distance (WD) 100 mm
- AE.1847 Objective 0.75x, WD 63 mm
- AE.1848 Objective 1.5x, WD 35 mm
- AE.1849 Objective 2.0x, WD 21 mm

## Supplementary objectives for stereo microscopes

### with 2x/4x objectives

- AE.1851 Objective 0.5x, WD 100 mm
- AE.1852 Objective 0.75x, WD 63 mm
- AE.1853 Objective 1.5x, WD 35 mm
- AE.1854 Objective 2.0x, WD 21 mm

## Supplementary objectives for stereo head EE.1521 and ZE.1659

- AE.1850 Objective 0.7x, WD 300 mm for EE.1521, WD 233 mm for ZE.1659
- AE.1822 Objective 0.57x, WD 300 mm for ZE.1659

## Supplementary objectives for zoom stereo microscopes

### with tube 45° or 60°

- AE.1855 Objective 0.3x, WD 250 mm, for stands ST.1720, ST.1770, ST.1780 and ST.1785
- AE.1870 Objective 0.44x, WD 180 mm, for stands ST.1715, ST.1720, ST.1770, ST.1780 and ST.1785
- AE.1856 Objective 0.5x, WD 150 mm, maximum object height for stand ST.1740 is 15 mm
- AE.1857 Objective 0.75x, WD 97 mm
- AE.1858 Objective 1.5x, WD 50 mm
- AE.1859 Objective 2.0x, WD 34 mm

## Supplementary objectives for zoom stereo microscope

### with straight tube 90°

- AE.1805 Objective 0.3x, WD 330 mm, for stands ST.1720, ST.1770, ST.1780 and ST.1785
- AE.1806 Objective 0.5x, WD 198 mm, for stands ST.1715, ST.1720, ST.1770, ST.1780 and ST.1785
- AE.1807 Objective 0.75x, WD 125 mm
- AE.1808 Objective 1.5x, WD 62 mm
- AE.1809 Objective 2.0x, WD 42 mm

## Supplementary objectives for zoom stereo microscope ZE.1657

- AE.1816 Objective 0.35x, WD 250 mm
- AE.1817 Objective 0.5x, WD 174 mm
- AE.1818 Objective 1.5x, WD 57 mm

## Safety glasses. To be fitted below the objectives

- AE.1843 Safety glass for E-series with objectives 1x/2x of 1x/3x
- AE.1844 Safety glass for E-series with objectives 2x/4x
- AE.1845 Safety glass for Zoom stereo microscopes, except ZE.1659
- AE.1825 Safety glass for EE.1521, ZE.1659. Can not be used in combination with supplementary objectives

## SMD attachment

- AE.1940 Rotatable attachment for inspection of PCB etc. Soldered components can be inspected both vertically and angled. Built-in lens 0.3 x for angled and 0.44x for vertical observation. Working distances 110 mm and 80 mm. To be mounted below the objective of the zoom heads ZE.1624 and ZE.1654. Only for ST.1720 and ST.1770

## Dark field

- AE.1878 Dark field attachment suitable for all stand with transmitted illumination
- AE.1879 Iris diaphragm with adapter, fits on AE.1878
- AE.1871 Object stage for dark field attachment. With using and object slide it is possible to observe a transparent object like a contact lens or gem. Only for stand ST.1760

## Polarisation

- AE.1890 Analyser in rotatable mount. For stereo microscopes except ZE.1659
- AE.1891 Polarizer in holder. For stands ST.1740, ST.1760
- AE.1892 Retardation filter, gypsum red 1st order, fits on polarizer AE.1891

## Mechanical stages

- AE.1876 Attachable mechanical stage with ball bearing. The top plate (145 x 115 mm) can be moved with horizontal coaxial control knobs. With scale and Vernier. Range 75 x 50 mm. For stands ST.1710, ST.1715, ST.1740
- AE.1896 Similar to AE.1876, but centered glass plate for transmitted illumination. For stands ST.1740, ST.1760
- AE.1877 Attachable top plate mechanical stage 170 x 155 mm. The top plate has ball bearing and can easily be moved by hand. X-Y translation 100 x 105 mm. Suitable for stands ST.1710, ST.1715, ST.1740
- AE.1950 Large SMD mechanical stage with ball bearing, size 390 x 390 mm. X-Y translation 360 x 260 mm. Suitable for stands ST.1720, ST.1770, ST.1780 and ST.1785

## Object stage

- AE.1884 Round object stage, high model, with diffuse glass filter. Exchangeable with dark field set up of stand ST.1760
- AE.1885 Round object stage, high model, with diffuse glass filter. Exchangeable with object plate of stand ST.1740

## Object plate, ø 94 mm

- AE.1880 Plexi glass object plate, transparent frosted
- AE.1881 Transparent glass object plate
- AE.1882 Black/white plastic object plate

#### Filters, ø 40 mm

- AE.1897 Diffuse glass filter
- AE.1898 Blue frosted filter

#### Object clamp

- AE.5446 Moveable object clamp for gems etc. Exchangeable with object clamp

#### Cabinets for microscopes

- AE.1886 Cabinet with handle and lock for stands ST.1710, ST.1715, ST.1740
- AE.1887 Cabinet with handle and lock for stand ST.1750

#### Spare bulbs and fuses

- SL.1868 Spare 30 Watt for transmitted illumination of stand ST.1750
- SL.1869 Spare halogen bulb 6 Volts 10 Watt for illuminator of stand ST.1740
- AE.3683 Glass fuses for stand ST.1740. Packed per 10 pieces

#### Accessories for photography and video cameras

- AE.5046 Photo eyepiece PH 3.3x with micrometer 10/100 mm
- AE.5061 Photo eyepiece PH 2.5x / 16
- AE.5062 Photo eyepiece PH 5.0x / 9.5
- AE.5127 Adapter for SLR camera with T2 mount. To be used with a photo eyepiece
- AE.5129 SLR camera-adapter with built-in optics and set up eyepiece with image mask. With T2 mount to be used with a photo eyepiece
- AE.5018 C-mount adapter with built-in optics for CCD camera
- AE.5006 C-mount adapter with lens 0.6x for models ZE.1657 and ZE.1659, optional with micrometer
- AE.5059 Universal C-mount adapter with photo eyepiece 0.45x, optional with micrometer
- AE.5063 Universal C-mount adapter with photo eyepiece 0.7x, optional with micrometer

*On request we supply T2-adapters for AE.5127 and AE.5129 and adapters for digital photo cameras.*

*Please enquire for an overview of our camera and illuminator range.*



#### Zacharias Janssen (1580 – 1638)

*This Dutch spectacle maker put several lenses in a tube and made a very important discovery. The object near the end of the tube appeared to be greatly enlarged, much larger than any simple magnifying glass could achieve by itself! He had just invented the compound microscope (which is a microscope that uses two or more lenses).*

*This invention has once formed the basis for the high quality Euromex microscopes that are used today.*



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