english

D-series

euromex

The D-series

The advanced Euromex D-series microscopes are the ultimate research stereo microscopes in the Euromex line.

These modular microscopes are engineered around a precise common main objective and a parallel zoom system to reach unrivalled optical performance with stunning images. Ergonomics, quality and flexibility have been the basics for these top class microscopes designed to meet today's demanding applications.

Configuration:
DE.1430, DE.1400, 2x DE.1436, DE.1448, DE.1415, DE.1470 and DE.1483

Plan achromatic objectives - ocular UWF 10x - fieldnumber 24

	Objective 1.0x		Objective 0.5x		Objective 0.75x		Objective 1.5x		Objective 2.0x	
	Working distance 76 mm		Working distance 164 mm		Working distance 101 mm		Working distance 43 mm		Working distance 29 mm	
Zoom indication	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm
0.75	7.5x	32	3.75x	64	5.62x	42.7	11.25x	21.3	15x	16
1	10x	24	5x	48	7.5x	32	15x	16	20x	12
1.5	15x	16	7.5x	32	11.25x	21.3	22.5x	10.7	30x	8
2	20x	12	10x	24	15x	16	30x	8	40x	6
2.5	25x	9.6	12.5x	19.2	18.75x	12.8	37.5x	6.4	50x	4.8
3	30x	8	15x	16	22.5x	10.7	45x	5.3	60x	4
3.5	35x	6.9	17.5x	13.7	26.25x	9.1	52.5x	4.6	70x	3.4
4	40x	6	20x	12	30x	8	60x	4	80x	3
5	50x	4.8	25x	9.6	37.5x	6.4	75x	3.2	100x	2.4
6	60x	4	30x	8	45x	5.3	90x	2.7	120x	2
7	70x	3.4	35x	6.9	52.5x	4.6	105x	2.3	140x	1.7
7.5	75x	3.2	37.5x	6.4	56.25x	4.3	112.5x	2.1	150x	1.6

DE.1400, DE.1448

Zoom-Body

The heart of the system is the D-zoom stereo body featuring a 10:1 zoom ratio and built-in adjustable double iris diaphragms.

The zooming knob features click-stops which eliminates the need to remove your eyes from the eyepieces while changing the magnification.

A coaxial course and fine focus mechanism with a 50 mm focusing range is provided for ultra smooth and precise focus control.

DE.1425

DE.1430

Stereo heads

One can choose between a standard and ergonomic head. The eyepiece tubes of the ergonomic head is positioned low and can be adjusted between 10° and 50°, which enables easy and comfortable operation in the right position. The interpupillary distance is adjustable between 52 mm and 75 mm. The standard head is equipped with a 45° angled tube, interpupillary distance 46 mm - 75 mm.

Optics

The parallel optical paths of the Euromex D-series together with a common main objective and ultra wide field eyepieces offer distortion free, high-resolution images at magnifications ranging from 3.75x to 300x.

Parallel optical system

Two perpendicular columns of eight zoom lenses in four groups move in a smooth continuous motion by rotating the ergonomically positioned zoom control. This parallel system design allows quick mounting and exchanging a

DE.1420

diversity of optical components such as an independent beamsplitter, a coaxial illuminator and photo and video attachments. For a wide variety of applications this instrument can be configured according to customer demands.

Stands

The anti-static aluminum alloy base of the D-series are suited for ESD applications which enables work with sensitive electronic components.

DE.1415, DE.1485

Plan achromatic objectives - ocular UWF 15x - fieldnumber 16

	Objective 1.0x		Objective 0.5x		Objective 0.75x		Objective 1.5x		Objective 2.0x	
	Working distance 76 mm		Working distance 164 mm		Working distance 101 mm		Working distance 43 mm		Working distance 29 mm	
Zoom indication	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm
0.75	11.25x	21.3	5.62x	42.7	8.43x	28.4	16.87x	14.2	22.5x	10.7
1	15x	16	7.5x	32	11.25x	21.3	22.5x	10.7	30x	8
1.5	22.5x	10.7	11.25x	21.3	16.87x	14.2	33.75x	7.1	45x	5.3
2	30x	8	15x	16	22.5x	10.7	45x	5.3	60x	4
2.5	37.5x	6.4	18.75x	12.8	28.12x	8.5	56.25x	4.3	75x	3.2
3	45x	5.3	22.5x	10.7	33.75x	7.1	67.5x	3.6	90x	2.7
3.5	52.5x	4.6	26.2x	9.1	39.37x	6.1	78.75x	3	105x	2.3
4	60x	4	30x	8	45x	5.3	90x	2.7	120x	2
5	75x	3.2	37.5x	6.4	56.25x	4.3	112.5x	2.1	150x	1.6
6	90x	2.7	45x	5.3	67.5x	3.6	135x	1.8	180x	1.3
7	105x	2.3	52.5x	4.6	78.7x	3	157.5x	1.5	210x	1.1
7.5	112.5x	2.1	56.25x	4.3	84.37x	2.8	168.7x	1.4	225x	1

Both stands with and without built-in transmitted halogen illumination are available. Also available is a bright field/ dark field stand including cold light source and flexible light conductor especially for observing transparent objects

Coaxial illumination

The coaxial vertical illumination is used to observe flat, highly reflective objects such as integrated circuits, semiconductor wafers, polished metal specimens, solder balls or magnetic recording heads. The illuminator is mounted between the body and the viewing head and directs light down through the objective on the specimen. When using the stand without illuminator or the bright field/dark field stand a separate transformer must be used. When the stand with illumination is used the coaxial illuminator can be connected to the transformer of the stand. The total magnification is increased by a factor 1.5x when the coaxial illuminator is used. A 1/4 wave plate is delivered together with the coaxial vertical illuminator to view reflective specimens. The quarter wave plate is attached to the bottom of the objective and is rotated to achieve the desired effect.

Incidence 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.

Photo/video attachment

With the photo/video attachment it is possible to attach a digital photo camera as well as a video camera. This attachment has a prism beamsplitter that divides the light between the photo tube (80%) and the eyepieces (20%). This enables observing through the eyepieces and through the camera or at the monitor at the same time. Optionally an additional video attachment is available which fits on the left side of the photo/video attachment and to which a CCD video camera can be connected. There is a wide variety of photo camera and C-mount adapters for photo and CCD cameras available.

Configuration:
DE.1430, DE.1400, 2 x DE.1436, DE.1448, DE.1420, DE.1491, DE.1492
AE.5059, VC.3021, AE.5129, AE.5061 and digital SLR camera

Plan achromatic objectives - ocular UWF 20x - fieldnumber 12

	Objective 1.0x		Objective 0.5x		Objective 0.75x		Objective 1.5x		Objective 2.0x	
	Working distance 76 mm		Working distance 164 mm		Working distance 101 mm		Working distance 43 mm		Working distance 29 mm	
Zoom indication	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm	Total magnification	Field of view in mm
0.75	15x	16	7.5x	32	11.25x	21.3	22.5x	10.7	30x	8
1	20x	12	10x	24	15x	16	30x	8	40x	6
1.5	30x	8	15x	16	22.5x	10.7	45x	5.3	60x	4
2	40x	6	20x	12	30x	8	60x	4	80x	3
2.5	50x	4.8	25x	9.6	37.5x	6.4	75x	3.2	100x	2.4
3	60x	4	30x	8	45x	5.3	90x	2.7	120x	2
3.5	70x	3.4	35x	6.9	52.5x	4.6	105x	2.3	140x	1.7
4	80x	3	40x	6	60x	4	120x	2	160x	1.5
5	100x	2.4	50x	4.8	75x	3.2	150x	1.6	200x	1.2
6	120x	2	60x	4	90x	2.7	180x	1.3	240x	1
7	140x	1.7	70x	3.4	105x	2.3	210x	1.1	280x	0.9
7.5	150x	1.6	75x	3.2	112.5x	2.1	225x	1	300x	0.8

Order numbers

*The **D-zoom body** is the base unit for configuring your specific D-series microscope. You can choose between a **standard** and **ergonomic head** after which the desired **stand** can be chosen. By selecting the **eyepieces** and **objective** your microscope is complete. Besides these main components the configuration can be extended with several accessories.*

Body

DE.1400 10:1 zoom body with built-in dual iris diaphragm and click stops

Heads

DE.1425 Binocular head, 45°

DE.1430 Ergonomic binocular head, angle adjustable between 10° and 50°

UWF – ultra wide field eyepieces, with high eye point

Complete with eyeshades, per piece

DE.1436 UWF 10x / 24 ocular, focusable

DE.1437 UWF 15x / 17 ocular, focusable

DE.1438 UWF 20x / 12 ocular, focusable

DE.1439 UWF 10x / 24 ocular, focusable, with micrometer. Scale on X- and Y-axe, 10mm/100

All other eyepieces can be equipped with micrometer and cross hair.

Objectives

DE.1446 Plan objective 0.5x, working distance 164 mm

DE.1447 Plan objective 0.75x, working distance 101 mm

DE.1448 Plan objective 1.0x, working distance 76 mm

DE.1449 Plan objective 1.5x, working distance 43 mm

DE.1450 Plan objective 2.0x, working distance 29 mm

Stands and attachable mechanical stages

DE.1410 Stand with black/white object plate ø 95 mm, size base plate 280x255x35 mm with vertical stand post 325 mm

DE.1415 Stand with transmitted adjustable halogen illumination, 6 Volts, 30 Watt. Connection for 230V. With transparent object plate ø 95 mm. Size base plate 280x255x85 mm with vertical stand post 325 mm. Including a second transformer to connect the optional coaxial illumination

DE.1420 Stand bright field/dark field for observing transparent objects. Adjustable transmitted illumination through 100 Watt cold light source with flexible 8 mm glass fibre light conductor, length 100 cm. Bright field / dark field fader switch on the front of the stand. With transparent object plate ø 95 mm. Size base plate 280x255x85 mm with vertical stand post 325 mm

DE.1482 Attachable 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. For stand DE.1410

DE.1483 Attachable mechanical stage, 145x115 mm with horizontal coaxial control knobs. With scale and Vernier. X-Y translation 75x50 mm. With glass plate for transmitted light for stands DE.1415 and DE.1420

DE.1485 Polarisation stage, ø 150 mm, rotatable with scale 1 degree. Including polarizer, 1/4 wave plate and object clamps. To be used with analyser DE.1486. Optional a filter gypsum red, 1st order is available

DE.1486 Analyser for mounting below the objective

Illuminators and filters

DE.1470 Coaxial vertical illuminator, 6 Volts, 30 Watt halogen, including 1/4 wave plate in holder

DE.1471 Transformer 230 Volt for DE.1470 for stands DE.1410 and DE.1420

DE.1473 Filter gypsum red, 1st order

The filters below can be shifted - per 2 pieces - in the coaxial illuminator:

DE.1474 Blue filter clear LB100 in metal holder, ø18 mm

DE.1475 Green filter G533 in metal holder, ø18 mm

DE.1476 Yellow filter clear Y48 in metal holder, ø18 mm

DE.1477 Neutral density filter ND2 in metal holder, ø18 mm

DE.1478 Neutral density filter ND8 in metal holder, ø18 mm

DE.1490 Neon fluorescence ring illumination, colour temperature 5200° Kelvin, 40.000 Hz. Connection for 230V.

LE.5210 Cold light illumination with 100 Watt halogen lamp, adjustable light intensity

LE.5214 Dual arm, self-supporting light conductors, length 50 cm

LE.5239 Ring illuminator with 60 cm flexible arm, glass fibre bundle ø 8 mm

LE.1970 LED ring illuminator containing 56 LED's, colour temperature max. 4300° Kelvin. Adjustable light intensity

SL.5219 Spare bulb for LE.5210

SL.5230 Long life spare bulb for LE.5210

Photo/video attachment

DE.1491 Photo/video attachment

DE.1492 Additional video-attachment, for mounting on DE.1491

C-mount adapters

AE.5059 Universal C-mount adapter with photo-eyepiece 0.45x, optionally a micrometer can be built-in

AE.5063 Universal C-mount adapter with photo-eyepiece 0.7x, optionally a micrometer can be built-in

Photo adapters

AE.5061 Photo eyepiece PH 2.5x / 16

AE.5062 Photo eyepiece PH 5x / 9.5

AE.5046 Photo eyepiece PH 3.3x with micrometer 10/100

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

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

Please enquire for an overview of our camera range.

In the late 1600s Antonie van Leeuwenhoek taught himself new methods for grinding and polishing tiny lenses of great curvature which gave magnifications up to 270x. He used these lenses to build his own microscopes. The model shown above consisted out of a single, small, high quality bi-convex lens with a very short focal length mounted between two thin brass plates, riveted together.

Although these first microscopes cannot be compared with the sophisticated Euromex D-series, Van Leeuwenhoek's powers of careful observation enabled him to make discoveries of fundamental importance.

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