



F-series
G-series



euromex

The F-series

The Euromex F- and G-series bright field microscopes are routine and research microscopes for use in higher education, science and biological, medical and industrial laboratories. The inverted microscopes in this series are used for research of cell and tissue cultures.

These microscopes provide an excellent and flat image. The large eye lenses of the eyepieces are suitable for people wearing spectacles. The F- and G-series have a robust, heavy and stable stand and can be equipped for phase contrast or dark field applications.



Trinocular microscope FE.2025



Inverted microscope FE.2955

F-series models

| Model | Tube | DIN Objectives | Remarks |
|---------|------------|--|---|
| FE.2020 | Binocular | Semiplan 4x, 10x, S40x, S100x | Standard version Semiplan |
| FE.2025 | Trinocular | Semiplan 4x, 10x, S40x, S100x | Standard version Semiplan |
| FE.2030 | Binocular | Plan 4x, 10x, S40x, S100x | Standard version Plan |
| FE.2035 | Trinocular | Plan 4x, 10x, S40x, S100x | Standard version Plan |
| FE.2040 | Binocular | Semiplan 4x and plan phase 10x, S40x | Phase contrast-set – medium dark 'Zernike' type |
| FE.2045 | Trinocular | Semiplan 4x and plan phase 10x, S40x | Phase contrast-set – medium dark 'Zernike' type |
| FE.2520 | Binocular | Semiplan 4x, 10x, S40x | With built-in heating stage |
| FE.2525 | Trinocular | Semiplan 4x, 10x, S40x | With built-in heating stage |
| FE.2540 | Binocular | Semiplan 4x and plan phase 10x, S40x | Phase contrast set – medium dark 'Zernike' type and built-in heating stage |
| FE.2545 | Trinocular | Semiplan 4x and plan phase 10x, S40x | Phase contrast set – medium dark 'Zernike' type and built-in heating stage |
| FE.2910 | Binocular | Infinity type semiplan 4x, 10x, 20x | Inverted microscope, condenser N.A. 0.30 |
| FE.2915 | Trinocular | Infinity type semiplan 4x, 10x, 20x | Inverted microscope, condenser N.A. 0.30 |
| FE.2930 | Binocular | Infinity type semiplan 4x, 10x, 20x, 40x | Inverted microscope with detachable mechanical stage, X-Y translation 112x72 mm. Coaxial controls. Condensers N.A. 0.30 and N.A. 0.55 |
| FE.2935 | Trinocular | Infinity type semiplan 4x, 10x, 20x, 40x | Inverted microscope with detachable mechanical stage, X-Y translation 112x72 mm. Coaxial controls. Condensers N.A. 0.30 and N.A. 0.55 |
| FE.2950 | Binocular | Infinity type semiplan 4x, semiplan phase 10x, 20x | Inverted microscope with detachable mechanical stage, X-Y translation 112x72 mm. Coaxial controls. Condenser N.A. 0.55 with phase annulus in sliding holder |
| FE.2955 | Trinocular | Infinity type semiplan 4x, semiplan phase 10x, 20x | Inverted microscope with detachable mechanical stage, X-Y translation 112x72 mm. Coaxial controls. Condenser N.A. 0.55 with phase annulus in sliding holder |



Nosepiece inverted microscope



Flat-top type mechanical stage



'Zernike' phase condenser

Optical equipment

The F-series microscopes are standard equipped with semiplan objectives which are parfocally adjusted to the DIN tube. The G-series has plan objectives. The trinocular types have a vertical third tube for mounting a photo or video camera. When using this option the light is divided between the photo tube (80%) and the eyepieces (20%). The ball bearing revolvers are suitable for five objectives and those of the G-series are tilted. The revolver of the inverted microscopes is suitable for four objectives.

The F- and G-series microscopes are equipped with a height adjustable Abbe condenser, an iris diaphragm with filter holder and daylight blue filter. The inverted microscopes are supplied with a condenser N.A. 0.30 and/or N.A. 0.55, with working distances 55 / 21 mm.

Stand

The stand is very stable and has coaxial course and fine adjustment knobs.

An adjustable safety device protects the specimen and objective from damaging. Friction can be adjusted in accordance with personal preference.

Stage

Flat-top type mechanical stage, 171x140 mm, ball bearing with X-Y translation 80x52 mm, readable in 0.1 mm with coaxial controls and detachable specimen holder. The models with heating are supplied with a 125x140 mm stage with attached mechanical stage, X-Y translation 75x40 mm. Heating elements are mounted under the stage for a smooth temperature adjustment up to 50°C.

The size of the stages of the inverted microscopes is 180x200 mm and they are supplied with a detachable mechanical stage, ball bearing, X-Y translation 112x72 mm, coaxial control. This mechanical stage is optional for the models FE.2910 and FE.2915.

Illuminator

The built-in 30 Watt Köhler halogen illumination of the F-series has a field diaphragm and pre-centered lamp with collector lens.

The light source of the G-series is even more powerful (50 Watt) and guarantees a perfect illumination. The inverted microscopes have a built-in halogen illuminator 6 Volts, 30 Watt.



Heating elements with stabilized transformer of microscopes with heating stage

General technical information

| | |
|---------------------------------|---|
| Observation tube | Bino- or trinocular. 30° tube, 360° rotatable, adjustable inter-pupillary distance 53-72 mm |
| Stand | Stable stand with coaxial course and fine adjustment knobs with graduated scale (interval 2.5µm) |
| Protection | Adjustable specimen protection to prevent damage of objective and specimen |
| Eyepieces | Paired DIN eyepieces KHWF 10x/20, also suitable for people with spectacles Inverted microscopes with eyepieces HWF 10X/18, also suitable for people with spectacles |
| Revolving nosepiece | Suitable for 5 objectives, with click-stop. The G-series microscopes have a tilted nosepiece. The inverted microscopes have a nosepiece which can contain up to 4 objective |
| Objectives F-series | Depending on the model with semiplan, plan or phase objectives |
| Objectives G-series | Depending on the model with plan or plan phase objectives |
| Abbe Condenser | Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and blue filter in holder. Inverted microscopes with height adjustable condenser N.A. 0.30, working distance 55 mm and/or N.A. 0.55, working distance 21 mm |
| Phase contrast condenser | The microscopes with phase contrast have an Abbe condenser with rotatable disc with phase positions which can be centered and with aperture for bright field. A sliding holder with phase annulus can be mounted in the condenser N.A. 0.55 of the inverted microscopes |
| Dark field condenser | Height adjustable Cardioid condenser N.A. 1.20 suitable for objectives 10x -100x |
| Packing | Complete with dust cover in styrofoam case |
| Manual | English |

The G-series

The G-series microscopes offer an extra comfort due to the reversed revolver. On top of that the microscopes of this series are equipped with an extra strong illuminator which helps to produce a very clear image at higher magnifications. This is for example important when using a camera.

For F- and G-series there is a wide choice of system components like binocular and trinocular heads, objectives, eyepieces, condensers, polarisation sets, filters etcetera.



Trinocular microscope GE.3035

G-series models

| Model | Tube | Objectives | Remarks |
|---------|------------|--|---|
| GE.3030 | Binocular | Plan 4x, 10x, S40x, S100x | Standard version Plan |
| GE.3035 | Trinocular | Plan 4x, 10x, S40x, S100x | Standard version Plan |
| GE.3040 | Binocular | Plan 4x en plan phase 10x, S40x, S100x | Phase contrast set – medium dark 'Zernike' type |
| GE.3045 | Trinocular | Plan 4x en plan phase 10x, S40x, S100x | Phase contrast set – medium dark 'Zernike' type |



Optional accessories



Heads, without eyepieces

- AE.1105 Monocular 30° tube, 360° rotatable
 AE.1107 Binocular 30° tube, 360° rotatable
 AE.1109 Trinoculaire head with binocular 30° tube, 360° rotatable

Eyepieces (suitable for spectacle wearers)

- AE.1120 Wide field eyepiece HWF 10x / field number 18
 AE.1121 Wide field eyepiece HWF 15x / 12
 AE.1122 Wide field eyepiece HWF 12,5x / 15
 AE.1123 Wide field eyepiece HWF 20x / 9
 AE.1125 Paired wide field eyepiece KHWF 10x / 20
 AE.1140 Wide field eyepiece HWF 10x / 18 with arrow pointer
 AE.1104 Pair of eyeshades for wide field eyepieces, please mention part number of the eyepiece when ordering

Measuring eyepieces with adjustable eye lens

Suitable for spectacle wearers

- AE.1143 Wide field eyepiece HWF 10x / 18 with micrometer scale 10 mm/100
 AE.1145 Wide field eyepiece HWF 10x / 18 with cross hair
 AE.1146 Wide field eyepiece HWF 10x / 18 with graticule 10 x 10 mm divided into 400 squares
 AE.1179 Micrometer eyepiece 10x / 15 with screw thread micrometer, range 10 mm. One interval is 1 mm divided in 100 parts

Measuring scales for calibration of measuring eyepieces

- AE.1110 Stage micrometer 1 mm, divided into 100 parts, on 76 x 26 mm glass slide
 AE.1111 Stage micrometer 2 mm, divided into 200 parts, on 76 x 26 mm glass slide

SMP semiplan and PL plan achromatic DIN objectives bright field

| | Objective | Numerical Aperture | Working Distance |
|---------|---------------|--------------------|------------------|
| AE.3411 | SMP 4x | N.A. 0.10 | 19.83 mm |
| AE.3412 | SMP 5x | N.A. 0.10 | 19.83 mm |
| AE.3413 | SMP 10x | N.A. 0.25 | 6.23 mm |
| AE.3414 | SMP S20x | N.A. 0.40 | 3.13 mm |
| AE.3417 | SMP S40x | N.A. 0.65 | 0.43 mm |
| AE.3418 | SMP S50x oil | N.A. 0.95 | 0.44 mm |
| AE.3419 | SMP S60x | N.A. 0.85 | 0.23 mm |
| AE.3420 | SMP S100x oil | N.A. 1.25 | 0.12 mm |
| AE.3421 | PL 4x | N.A. 0.10 | 17.9 mm |
| AE.3422 | PL 5x | N.A. 0.10 | 17.9 mm |
| AE.3423 | PL 10x | N.A. 0.25 | 8.9 mm |
| AE.3424 | PL 20x | N.A. 0.40 | 8.6 mm |
| AE.3427 | PL S40x | N.A. 0.65 | 0.65 mm |
| AE.3429 | PL S60x | N.A. 0.85 | 0.26 mm |
| AE.3430 | PL S100x oil | N.A. 1.25 | 0.33 mm |

PLPH plan achromatic phase DIN objectives

| | Objective | Numerical Aperture | Working Distance |
|---------|----------------|--------------------|------------------|
| AE.3443 | PLPH 10x | N.A. 0.25 | 8.9 mm |
| AE.3444 | PLPH 20x | N.A. 0.40 | 8.6 mm |
| AE.3447 | PLPH S40x | N.A. 0.65 | 0.65 mm |
| AE.3450 | PLPH S100x oil | N.A. 1.25 | 0.33 mm |

SMI semiplan objectives with long working distance (LWD)

Infinity type, corrected for 1.2 mm cover glass. For inverted microscopes

| | LWD Objective | Numerical Aperture | Working Distance |
|---------|---------------|--------------------|------------------|
| AE.3521 | SMI 4x | N.A. 0.10 | 19.95 mm |
| AE.3523 | SMI 10x | N.A. 0.25 | 6.64 mm |
| AE.3524 | SMI 20x | N.A. 0.40 | 4.49 mm |
| AE.3527 | SMI 40x | N.A. 0.65 | 0.78 mm |

SMIPH semiplan phase objectives with long working distance (LWD)

Infinity type, corrected for 1.2 mm cover glass. For inverted microscopes

| | LWD Objective | Numerical Aperture | Working Distance |
|---------|---------------|--------------------|------------------|
| AE.3533 | SMIPH 10x | N.A. 0.25 | 6.64 mm |
| AE.3534 | SMIPH 20x | N.A. 0.40 | 4.49 mm |
| AE.3537 | SMIPH 40x | N.A. 0.65 | 0.78 mm |

Bright field

- AE.3605 Large Abbe condenser N.A. 1.25 with iris diaphragm and filter holder for \varnothing 30 mm filters
 AE.1309 Achromatic-Aplanatic condenser N.A. 1.40 with iris diaphragm and filter holder for \varnothing 31,8 mm filters
 AE.3806 Condenser N.A. 0.55 for inverted microscopes. To be used with objective AE.3527

Dark field

- AE.3611 Dark field condenser N.A. 1.20 suitable for objectives 10x - 40x and 100x objective with iris diaphragm AE.3613
 AE.3613 Plan achromatic objective S100x N.A. 1.25 oil with iris diaphragm
 AE.3632 Dark field diaphragm disc which fits in the filter holder of the Abbe condenser AE.3605. Suitable for all SMP and PL bright field objectives of 4x - 40x

Phase contrast

- AE.3617 'Zernike' phase Abbe condenser N.A. 1.25 with rotatable disc with phase positions which can be centred and with aperture for bright field. To be used in combination with phase objectives AE.3443 - AE.3450
 AE.3810 Sliding holder with phase annulus for inverted microscopes, suitable to be mounted in condenser AE.3806. To be used in combination with objectives AE.3533 - AE.3537. Also with position for bright field
 AE.1329 Centrating telescope for centering phase rings on the phase objectives

Polarization

- AE.3635 Polarisation set for F-series with bright field objectives. The analyser is placed in the aperture below the inclined head, the rotatable polarizer is placed on the illuminator
 AE.3636 Polarisation set similar to AE.3635 but for G-series

Mechanical stage and specimen holders for inverted microscopes

- AE.3875 Large attachable mechanical stage for inverted microscope FE.2910 or FE.2915 with low positioned coaxial control knobs. X-Y translation 112 x 72 mm
 AE.3887 Petri dish holder 54 mm \varnothing
 AE.3888 Specimen plate holder 76x26 mm
 AE.3889 Terasaki-plate holder with 60, 72 of 120 test fields

Filters \varnothing 30 mm

- AE.1339 Green filter G53, clear
 AE.1340 Blue filter KB12, clear
 AE.1341 Blue filter KB12, one side frosted
 AE.1344 Yellow filter Y48, clear
 AE.1342 Neutral filter ND4
 AE.1343 Neutral filter ND8
 AE.1352 Polaroid filter

Filters for inverted microscopes \varnothing 46 mm

- AE.3839 Green filter G53, clear in metal holder
 AE.3840 Blue filter KB12, one side frosted, in metal holder

Spare bulbs and fuses

- SL.3678 Spare halogen bulb 6 Volts 30 Watt for F-series
- SL.3679 Spare halogen bulb 12 Volts 50 Watt for G-series
- AE.3683 Fuses 250 Volts/1A. Packed per 10 pieces

Cabinets for microscopes

- AE.5685 Cabinet with handle and lock for F-series microscopes. FE.2520 – FE.2545 without power supply. Not suitable for inverted microscopes
- AE.5801 Cabinet with handle and lock for G-series microscopes

Accessories for photography and- video cameras

- AE.1106 Vertical tube. Exchangeable with binocular head of the F- and G-series. To be used with camera-adapters AE.5127, AE.5129 and C-mount adapters.
- 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.5017 C-mount adapter with built-in optics for CCD camera
- 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 range.



Antonie van Leeuwenhoek (1632 – 1723)

This Dutchman was a microscope maker and looked at blood cells, rainwater and plant cells. He was the first person to view bacteria which he called "animalcules". He studied scrapings from teeth and he was the first to see living sperm cells in animals.

Today scientists study sperm cells with Euromex microscopes with heating stages and phase contrast.



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