



Microscopes
for
Life Sciences



The Oxion series has been designed with all kind of Life Sciences applications and great durability in mind. This resulted in a modern, robust and high level microscope for everyday use, equipped with excellent optical and mechanical components. Specific attention to production methods resulted also in an excellent price/performance ratio

Infinity color corrected optical system

The Oxion features an unique swiveling concept allowing the viewing height to be easily matched with the user height and - compared to traditional microscopes - add approximately 40 mm extra viewing height.

The Siedentopf tubes have standard HWF plan 10x eyepieces with 22 mm field of view and adjustable diopter. The interpupillary distance is 50 to 75 mm.

Eyepieces can be secured to the tubes.
The Oxion head has an ergonomic viewing angle of 30°.



The Oxion is available in various configurations suitable for Life Sciences applications in laboratories, high schools and universities but also for routine medical applications and veterinary medicine. Besides the bright field contrast method, configurations with phase contrast, dark field contrast, simple polarization or fluorescence illumination can be used.

A microscope with well conceived details



The computer optimized design of the Oxion ensures high stability and durability which results in an advanced ergonomical all-round microscope. Below the head, the microscope features an opening for insertion of an optional polarizer. A handgrip at the back of the stand allows easy transportation of the microscope.

The large 150 x 140 mm table with 76 x 50 mm translation mechanical stage and a reversed nosepiece for up to 5 objectives makes the Oxion suitable for advanced laboratory work. Ergonomically placed adjustment knobs minimize fatigue during long microscopy sessions. The general shape of the stand has been specifically designed to match today's standard. The height adjustable Abbe N.A. 1.25 condenser accepts sliders for economical phase contrast and dark field applications.

The Oxion can also be equipped with a heating stage which can be set up to 50° Celsius by a real PID controller. Higher temperatures can be achieved on special request.

The 3 Watt adjustable LED illumination offers the user a comfortable illumination with a very constant color temperature and a very long term usage. The Koehler illumination enables highest contrast and maximum achievable resolving power of the optics. Besides low energy consumption and no heating, the high-powered LED has a long operating lifetime.

The 100 Watt mercury-vapor light source enables a large range of wavelengths to be used for various fluorophores. The vertical light reflected illuminator can accept up to 4 cubes at the same time for appropriate exciter and emitter filters.



Contrast methods for a large range of applications

Brightfield

A large scale of applications is covered by the common light-transmitted bright field contrast method. Besides the standard plan achromatic 4x, 10x, 20x, S40x, S60x, S100x oil bright field, the Oxion can also be engaged with newly designed high contrast plan semi-apochromatic objectives.

The improved correction of these objectives results in lower aberrations and improved resolving power for the complete optical system.

All objectives are treated with a multi-layer anti-reflection coating and are anti fungus.

Phase contrast

The observation of living cells and specimens with poor contrast is made possible by the use of the phase contrast method. Two different phase contrast equipments are available. All phase plan contrasts objectives can be used with both systems.

A first economical way is to use sliders, each equipped with phase contrast rings. The first slider features phase rings for 10x and S40x and the second for 20x and S100x plan phase contrast objectives. These phase contrast sliders are simply inserted into the standard condenser of the Oxion.

The second method is to use one of the 2 available Zernike phase contrast disc condensers. The first Zernike disc condenser allows bright field contrast and phase contrast for 10x, 20x, S40x and S100x phase plan objectives. The second one allows bright field and phase plan contrast for 10x, S40x, S100x phase plan objectives and also features a dark field contrast method for magnifications up to 400x. Both condensers are delivered with a telescope to adjust the phase contrast rings.

Fluorescence

Today, fluorescence microscopy offers a faster and reliable identification of infectious diseases and allows observation of complex interactions in unstained living cells. The high contrast plan semi-apochromatic Fluarex 4x, 10x, 20x, S40x and S100x oil objectives combined with the 22 mm eyepieces of the Oxion, offer the necessary resolution and field of view for fast detection of small pathogens. A 100 Watt mercury –vapor light source combined with the high performance fluorescence filters produce excellent contrasted images with an outstanding signal-to-noise ratio.



Zernike condenser with infinity plan achromatic phase objectives

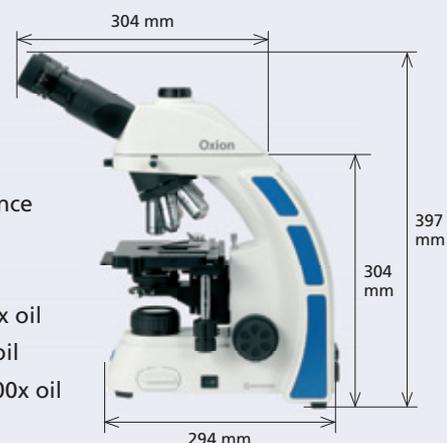
Configurations

Model	Head	Objectives
OX.3020	Bino	Infinity plan achromatic 4x, 10x, S40x
OX.3025	Trino	Infinity plan achromatic 4x, 10x, S40x
OX.3030	Bino	Infinity plan achromatic 4x, 10x, S40x, S100x oil
OX.3035	Trino	Infinity plan achromatic 4x, 10x, S40x, S100x oil
OX.3040	Bino	Infinity plan phase achromatic 10x, 20x, S40x, S100x oil
OX.3045	Trino	Infinity plan phase achromatic 10x, 20x, S40x, S100x oil
OX.3042	Bino	Infinity plan phase achromatic 10x, S40x, S100x oil and darkfield stop
OX.3047	Trino	Infinity plan phase achromatic 10x, S40x, S100x oil and darkfield stop
OX.3050	Bino	Infinity plan semi-apochromatic 4x, 10x, S40x
OX.3055	Trino	Infinity plan semi-apochromatic 4x, 10x, S40x
OX.3060	Bino	Infinity plan semi-apochromatic 4x, 10x, S40x, S100x oil
OX.3065	Trino	Infinity plan semi-apochromatic 4x, 10x, S40x, S100x oil
OX.3070	Bino	Infinity plan semi-apochromatic Fluarex 4x, 10x, S40x
OX.3075	Trino	Infinity plan semi-apochromatic Fluarex 4x, 10x, S40x
OX.3080	Bino	Infinity plan semi-apochromatic Fluarex 4x, 10x, S40x, S100x oil
OX.3085	Trino	Infinity plan semi-apochromatic Fluarex 4x, 10x, S40x, S100x oil

The models OX.3070, OX.3075, OX.3080 and OX.3085 are equipped with the fluorescence illuminator and power supply
Add "-heat" suffix after the model number to order a stage with heating elements and temperature controller

Technical Data

Optical system	Infinity color corrected optical system
Parafocal distance	45 mm
Eyepiece tubes	Swiveling Siedentopf tubes with 50 to 75 mm interpupillary distance
Eyepieces	PL 10x/22 with adjustable diopter
Nosepiece	Reversed quintuple nosepiece
Objectives	Infinity Plan achromatic bright field 4x, 10x, 20x, S40x, S60x, S100x oil Infinity Plan achromatic phase contrast 10x, 20x, S40x and S100x oil Infinity Plan semi-apochromatic Fluarex 4x, 10x, 20x, S40x and S100x oil
Stage	150 x 140 with mechanical 76 x 50 mm translation stage
Focus	Coaxial coarse and fine adjustment with 30 mm travel range and 0.20 µm graduations Friction control and object protection
Condenser	Abbe condenser N.A. 1,25, height adjustable with iris diaphragm
Illumination	3 Watt LED for transmitted light, 85-240 V operation Reflected 100 W mercury-vapor light source for fluorescence, with power supply for 85-240 V operation
Weight	Approx. 10 kg



Accessories

Eyepieces and eyeshades

- AE.3210** HWF 10x/22 eyepiece
- AE.3215** HWF 15x/13 eyepiece
- AE.3223** HWF 10x/22 eyepiece with micrometer reticule
- AE.3225** Pair of eyeshades

Objectives

- AE.3104** Infinity Plan Achromatic 4x objective
- AE.3106** Infinity Plan Achromatic 10x objective
- AE.3108** Infinity Plan Achromatic 20x objective
- AE.3110** Infinity Plan Achromatic S40x objective
- AE.3112** Infinity Plan Achromatic S60x objective
- AE.3114** Infinity Plan Achromatic S100x objective
- AE.3144** Infinity Plan Semi-Apochromatic 4x objective
- AE.3146** Infinity Plan Semi-Apochromatic 10x objective
- AE.3148** Infinity Plan Semi-Apochromatic 20x objective
- AE.3126** Infinity Plan Phase Achromatic 10x objective
- AE.3128** Infinity Plan Phase Achromatic 20x objective
- AE.3130** Infinity Plan Phase Achromatic S40x objective
- AE.3134** Infinity Plan Phase Achromatic S100x objective
- AE.3180** Telescope for phase contrast alignment
- AE.3152** Infinity Plan Semi-Apochromatic S40x objective
- AE.3156** Infinity Plan Semi-Apochromatic S100x objective

Fluorescence

- AE.3240** Fluorescence illuminator including power supply
- AE.3245** Fluorescence filter block for eGFP, FITC, Alexa Fluor488, Cy2, DiO, Fluo-4, FluorX, MitoTracker Green, Oregon Green 488, Rhodamine 110, SpectrumGreen
- AE.3246** Fluorescence filter block for Alexa Fluor 568 & 594, Cy3.5, MitoTracker Red, Rhodamine Red, X-Rhodamine, SpectrumRed, Texas Red, Texas Red-X, 5-ROX
- AE.3247** Fluorescence filter block for BOBO-1, Cerulean, CFP, POPO-1, SpectrumAqua
- AE.3248** Fluorescence filter block for Alexa Fluor 350, AMCA/AMCA-X, Cascade Blue, DAPI Fast Blue, Hoechst 33342 & 33258, LysoTracker Red, Marina Blue

Other beamsplitters, exciter and emitter filters available from a separate brochure

Sliders and phase contrast sets

- AE.3183** Phase contrast Zernike condenser with PLPH 10x, S40x, S100x oil and darkfield stop
- AE.3184** Phase contrast Zernike condenser with PLPH 10x, 20x, S40x, S100x oil
- AE.3185** Slider with darkfield stop
- AE.3187** Slider with phase rings for 10x and S40x plan phase contrast objectives
- AE.3189** Slider with phase rings for 20x and S100x oil plan phase contrast objectives

Miscellaneous

- AE.3190** Polarizer/Analyzer set
- AE.3194** Polarizer for lamphouse
- AE.3192** Polarizer slider for nosepiece
- AE.3196** Neutral density filter 45 mm
- AE.3198** Blue filter 45 mm
- AE.3200** Yellow filter 45 mm
- AE.3202** Green filter 45 mm
- AE.5057** Photo adapter 0.5x magnification for ½ inch C/CS mount camera
- AE.5527** Photo adapter for SLR camera without T2 adapter
- AE.5040** T2 adapter for Canon EOS SLR camera
- AE.5025** T2 adapter for Nikon SLR camera
- AE.5045** 3.2x lens for AE.5527
- PB.5155** Microscope 76 x 26 mm glass slides, edges grinded, packed per 50 pieces
- PB.5168** Cover glasses 22 x 22 mm, thickness 0.13-0.17 mm, packed per 100 pieces
- PB.5255** Immersion oil n=1.482, 25 ml
- PB.5274** Isopropanol 99%, 200 ml cleaning liquid
- PB.5245** Lens cleaning paper, 100 sheets

Spare parts

- SL.1385** 100 Watt mercury-vapor lamp for AE.3220 illuminator
- SL.5510** 3W LED replacement for Oxion
- AE.3199** Glass fuses 3.15 A 250 V packed per 10 pieces



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