

# Achios-X Inverso

BRIGHTFIELD, PHASE CONTRAST, FLUORESCENCE

HOFFMAN & 3D RELIEF CONTRAST

## HIGHLIGHTS

- Extra Wide field WF 10x/22 mm, Ø 30 mm
- Head with 45° inclined tubes
- Head with ergo tilting 5° - 35° tubes and backwards tilting illumination column
- Revolving quintuple nosepiece
- IOS 60 mm Plan, Plan Phase or Plan Semi-Apochromatic objectives
- Hoffman contrast and 3D relief contrast
- Low positioned stage adjustment knobs
- 3 W NeoLED
- LCD screen for Smart Light Control
- Blue, green and UV LED fluorescence

## TECHNICAL SPECIFICATIONS

### EYEPIECES

SWF 10x/22 mm wide field eyepieces with adjustable diopter. Ø 30 mm tubes

### HEAD

Binocular head with 45° inclined tubes or binocular ergo head with 5-35° tilting tubes. Interpupillary distance of 48 to 75 mm. Optional side photo port with 100-0/0-100 beamsplitter

### NOSEPIECE

Revolving quintuple nosepiece on ball-bearings

### OBJECTIVES - 60 MM PARFOCAL, M25 THREAD

#### Objectives with 1.2 mm coverslip correction

|                                 |         |          |          |           |
|---------------------------------|---------|----------|----------|-----------|
| Plan IOS                        | 4x/0.10 | 10x/0.25 | 20x/0.40 | S40x/0.60 |
| Plan Semi Apo Fluarex IOS       | 4x/0.13 | 10x/0.30 | 20x/0.45 | S40x/0.60 |
| Plan Phase IOS                  |         | 10x/0.30 | 20x/0.45 | S40x/0.60 |
| Plan Semi Apo Phase Fluarex IOS | 4x/0.13 | 10x/0.30 | 20x/0.45 | S40x/0.60 |
| Plan PLi Hoffman IOS            |         | 10x/0.25 | 20x/0.40 | S40x/0.60 |

#### Objectives with adjustable coverslip correction

|                                 |          |           |           |
|---------------------------------|----------|-----------|-----------|
| Plan Semi Apo Fluarex IOS       | 20x/0.45 | S40x/0.60 | S60x/0.70 |
| Plan Semi Apo Fluarex Phase IOS | 20x/0.45 | S40x/0.60 | S60x/0.70 |

Fluarex™ objectives are made of low-absorption glass. Fluarex™ is a trademark of Euromex microscopen bv. All optics are anti-fungus treated and anti-reflection coated for maximum light throughput



● AI.4058-PLPHi

AI.1053-PLPHi  
AI.3053-PL(PH)Fi  
AI.4058-PLPHi  
AI.4058-PL(PH)Fi

526 (h) x 244 (w) x 543 mm (d) | 14.6 kg  
526 (h) x 244 (w) x 560 mm (d) | 15.5 kg  
504 (h) x 244 (w) x 520 mm (d) | 16.6 kg  
504 (h) x 244 (w) x 558 mm (d) | 17.5 kg

### STAGE

- 170 x 250 mm stage with 129 x 83 mm mechanical X-Y stage
- Supplied with metal insert for Ø 65 glass plate and universal cell culture dish holder (AI.9569)
- Optional metal inserts, Ø 35, Ø 54 and Ø 90 mm cell culture dish holder with 27x26 mm slide holder
- Optional metal insert for Multiwell plates (127.76 x 85.48 mm) (AI.9517)



● AI.9554



● AI.9569



● AI.9517 MultiWell plate holder



● AI.9517 and AI.9535 combined



● AI.9590 Petri dish insert 90 mm



● AI.9535 Petri dish insert 35 mm

## CONDENSERS

- WD\*: 75 mm, without condenser: 187 mm
- The condenser can be removed to increase WD\*, allowing multilayered culture flasks
- With slot for phase contrast/embossed contrast/Hoffman contrast sliders

### For AI.1xxx and AI.3xxx models

- Condenser N.A. 0.30 with iris diaphragm and slot for sliders

### For AI.4xxx models

- Height adjustable Kohler condenser N.A. 0.30 with iris diaphragm and 3 filter holders and shutter function
- Mounted on a backwards tilting illumination column allowing easy access to samples and placement multilayered culture flasks, without removing the condenser

\*WD = Working distance

## CONDENSER FOR HOFFMAN CONTRAST

- All models can be equipped with a Hoffman condenser and slider with Hoffman slits for 10/20/40x objectives. Needs Hoffman objectives

## SLIDER FOR 3D RELIEF CONTRAST

- All models can be equipped with a 3D relief contrast slider. Works for standard condenser and Plan or Plan Semi-Apo IOS 10/20/40x objectives

## FOCUS ADJUSTMENT

- Coaxial 37.5 mm coarse and fine adjustments with 200 graduations
- Precision 1 µm, 0.2 mm per rotation
- Fine focus knobs are left/right interchangeable

## ILLUMINATION

- Transmitted 3W NeoLED™ illumination with adjustable intensity
- Internal power supply 100-240 V (CE). Fuse 500 mA 250 Vac

## FLUORESCENCE

### For models with fluorescence LED light source

LED epi-fluorescence attachment with 365, 485 and 525 nm LED

Supplied with standard long pass filters cubes:

**Blue excitation** EX: 460-495 nm BS: 505 nm EM: 510 nm LP (AI.9745)

**Green excitation** EX: 510-550 nm BS: 570 nm EM: 575 nm LP (AI.9746)

**UV excitation** EX: 330-385 nm BS: 410 nm EM: 420 nm (AI.9748)

### Rotating fluorescence filter wheel

Fluorescence models are supplied with 3 cubes with fluorescence filters for Blue, Green and UV excitation

## SMART LIGHT CONTROL

This intelligent function:

- memorizes the light intensity level for each objective
- increases comfort
- saves valuable time during routine magnification shifts
- includes a sleep function

## NEOLED



The innovative NeoLED™ design is a combination of a custom LED and a specially designed thin lens with a short focal length

Four main benefits:

- More oblique light from the NeoLED™ light source, which increases the light output significantly
- Less energy is required to achieve this level of light intensity
- The larger aperture of NeoLED™ allows the optical system of the microscope to produce images at higher resolutions, very close to the theoretical diffraction limit of the optics
- Super long life span, up to 50.000 hrs nominal, L70 norm

## PACKAGE CONTENT

- Supplied with Ø 65 glass plate and universal cell culture dish holder
- Power cord, dust cover and user manual
- Phase contrast models are supplied with green filter and alignment telescope
- Fluorescence models are supplied with an anti-reflection shield to be mounted on the condenser and an orange protection shield

| MODELS         | Ergo head | Backwards tilting arm | Plan PLi objective 4x IOS AI.83xx | Plan phase PLPHi objectives 10/20/40 IOS AI.87xx | Plan Semi-Apo Fluarex objectives 10/20/40 IOS AI.86xx(I) | Plan Semi-Apo Fluarex phase objectives 10/20/40 IOS AI.89xx(I) | Plan Hoffman objectives 10/20/40x AI.88xx | 3D Relief contrast | Epi-fluorescence equipment for B, G and UV excitation | Köhler illumination |
|----------------|-----------|-----------------------|-----------------------------------|--------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------|-------------------------------------------------------|---------------------|
| AI.1053-PLPHi  |           |                       | •                                 | •                                                |                                                          |                                                                | o                                         | o                  |                                                       |                     |
| AI.3053-PLFi   |           |                       |                                   |                                                  | •                                                        |                                                                | o                                         | o                  | •                                                     |                     |
| AI.3053-PLPHFi |           |                       |                                   |                                                  |                                                          | •                                                              | o                                         | o                  | •                                                     |                     |
| AI.4058-PLPHi  | •         | •                     | •                                 | •                                                |                                                          |                                                                | o                                         | o                  |                                                       | •                   |
| AI.4058-PLFi   | •         | •                     |                                   |                                                  | •                                                        |                                                                | o                                         | o                  | •                                                     | •                   |
| AI.4058-PLPHFi | •         | •                     |                                   |                                                  |                                                          | •                                                              | o                                         | o                  | •                                                     | •                   |

o = Optional



● AI.1053-PLPHi



● AI.3053-PL(PH)Fi

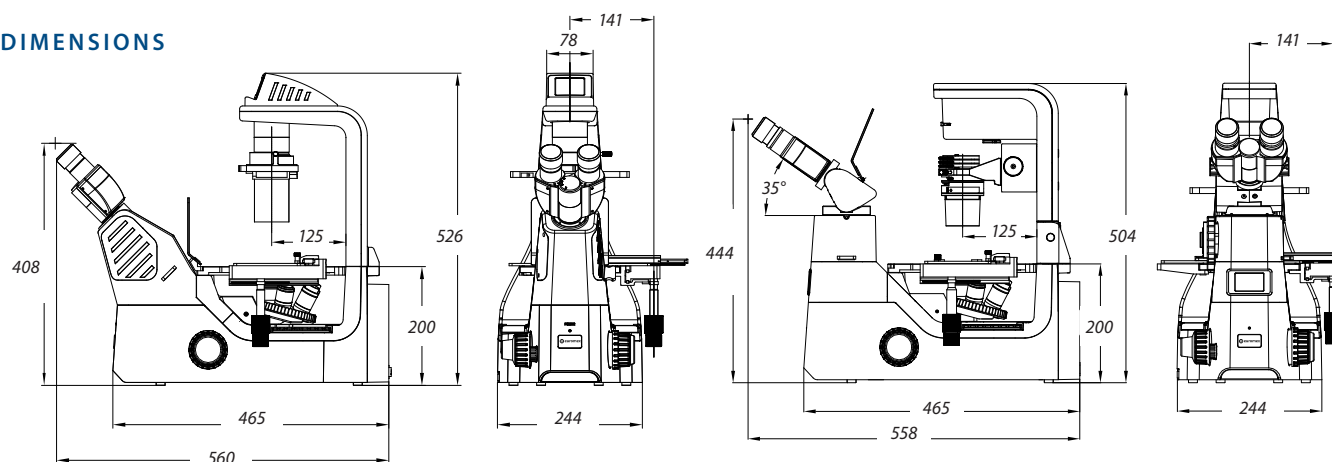


● AI.4058-PLPHi



● AI.4053-PL(PH)Fi

## DIMENSIONS



## ACCESSORIES AND SPARE PARTS

### EYEPIECES (Ø 30 MM TUBE)

- AI.6010** WF 10x/22 mm eyepiece  
**AI.6015** WF 15x/16 mm eyepiece  
**AI.6020** WF 20x/12 mm eyepiece  
**AI.6099** Pair of eyeshades

### OBJECTIVES - 60 MM PARFOCAL

#### Plan LWD

- AI.8304** 4x/0.10 OS objective\*, WD 30 mm  
**AI.8310** 10x/0.25 IOS objective\*, WD 10.2 mm  
**AI.8320** 20x/0.40 IOS objective\*, WD 12.0 mm  
**AI.8340** 40x/0.60 IOS objective\*, WD 2.2 mm

#### Plan Semi Apochromatic Fluarex LWD

- AI.8604** 4x/0.13 IOS Fluarex objective\*, WD 17 mm  
**AI.8610** 10x/0.30 IOS Fluarex objective\*, WD 7.4 mm  
**AI.8620** 20x/0.45 IOS Fluarex objective\*, WD 8 mm  
**AI.8640** 40x/0.60 IOS Fluarex objective\*, WD 3.6 mm

#### Plan Semi Apochromatic Fluarex LWD with built-in iris diaphragm

- AI.8620-I** 20x/0.45 IOS Fluarex objective\*, WD 7.5-8.8 mm  
**AI.8640-I** 40x/0.60 IOS Fluarex objective\*, WD 3-4.4 mm  
**AI.8660-I** 60x/0.70 IOS Fluarex objective\*\*, WD 1.8-2.6 mm

#### Plan Phase PLPHi LWD

- AI.8710** 10x/0.25 IOS objective\*, WD 10.2 mm  
**AI.8720** 20x/0.40 IOS objective\*, WD 12.0 mm  
**AI.8740** 40x/0.60 IOS objective\*, WD 2.2 mm

#### Plan Hoffman LWD HFM

- AI.8810** 10x/0.25 IOS objective\* WD 9.5 mm  
**AI.8820** 20x/0.40 IOS objective\* WD 4.0 mm  
**AI.8840** 40x/0.60 IOS objective\* WD 2.3 mm

#### Plan Semi-Apochromatic Phase Fluarex PLPHi-APO LWD

- AI.8904** 4x/0.13 IOS Fluarex objective\*, WD 17 mm  
**AI.8910** 10x/0.30 IOS Fluarex objective\*, WD 7.4 mm  
**AI.8920** 20x/0.45 IOS Fluarex objective\*, WD 8 mm  
**AI.8940** 40x/0.60 IOS Fluarex objective\*, WD 3.6 mm

#### Plan Semi-Apochromatic Phase Fluarex PLPHi-APO LWD with built-in iris diaphragm

- AI.8920-I** 20x/0.45 IOS Fluarex objective\*, WD 7.5-8.8 mm  
**AI.8940-I** 40x/0.60 IOS Fluarex objective\*, WD 3-4.4 mm  
**AI.8960-I** 60x/0.70 IOS Fluarex objective\*\*, WD 1.8-2.6 mm

\*corrected for 0-2 mm

\*\*corrected for 0.1-1.3 mm

WD = working distance

### PHASE CONTRAST ACCESSORIES

- AI.9148** Telescope for phase/Hoffman contrast alignment, Ø 30 mm  
**AI.9196** Phase contrast slider 10/20/40x  
**AI.9190** Slider 4x/60x phase annuli  
**AI.9187** Green filter for phase contrast

### HOFFMAN CONTRAST

#### for AI.1xxx and AI.3xxx models

- AI.9148** Telescope for phase/Hoffman contrast alignment, Ø 30 mm  
**AI.9680** Hoffman condenser  
**AI.9683** Slider with Hoffman slits 10/20/40x

#### for AI.4xxx models

- AI.9148** Telescope for phase/Hoffman contrast alignment, Ø 30 mm  
**AI.9685** Hoffman condenser  
**AI.9688** Slider with Hoffman slits 10/20/40x

### 3D RELIEF CONTRAST

- AI.9686** 3D relief contrast slider 10/20/40x for condenser  
**AI.9687** 3D relief contrast slider 10/20/40x for head

### CAMERA ACCESSORIES

#### For AI.1053 and AI.3153 models

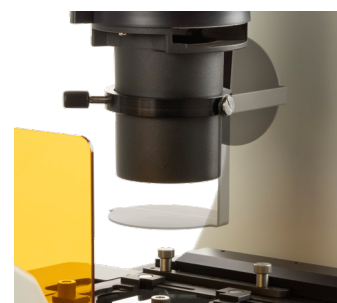
- AI.9810-3** C-mount photo adapter 1x  
**AI.9850-3** C-mount photo adapter 0.5x

#### For AI.4058 and AI.4158 models with Ergo head

- AI.9810-4** C-mount photo Adapter 1x  
**AI.9870-4** C-mount photo Adapter 0.7x  
**AI.9850-4** C-mount photo Adapter 0.5x

### MISCELLANEOUS

- AI.9205** UV protection shield  
**AI.9206** Anti-reflection shield for standard condensers of models for fluorescence  
**AI.9569** Universal cell culture dish holder, Ø 35-65 mm. Also holds Multiwell plates  
**AI.9508** Metal insert with hole for culture flasks  
**AI.9517** Metal insert for MultiWell plates (127.76 x 85.48 mm)  
**AI.9535** Petri dish insert 35 mm with 76 x 26 mm slide holder  
**AI.9554** Petri dish insert 54 mm with 76 x 26 mm slide holder  
**AI.9590** Petri dish insert 90 mm with 76 x 26 mm slide holder  
**AI.9506** Transparent glass insert ø 112 mm, inner hole ø 30 mm  
**AI.9550** Stage extension plate



● AI.9206



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