

## B and B+ series

### HIGHLIGHTS

- Monocular, binocular and trinocular models
- WF 10x/18 mm or WF 10x/20 mm eyepiece(s)
- Revolving reversed nosepiece for 4 or 5 objectives
- Semi plan, plan IOS, semi plan phase and plan phase objectives
- Integrated X-Y mechanical stage
- Coaxial coarse and fine adjustment with adjustable rack-stop
- Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and filter holder
- 1 W LED illumination with rechargeable batteries and integrated power supply
- 20 W halogen illumination with integrated power supply
- 5 years warranty



86.041

## TECHNICAL SPECIFICATIONS

### EYEPIECE(S)

- Standard models with wide field WF10x/18 mm eyepieces
- The B+ series come with wide field WF10x/20 mm eyepieces
- The eyepiece of monocular models can be supplied with a pointer

### HEAD

- All heads are 360° rotatable and equipped with 30° inclined tubes. Tube length 160 mm
- Binocular and trinocular models are equipped with a diopter  $\pm 5$  adjustment on left eyepiece
- The interpupillary distance is adjustable between 48 to 76 mm
- The B series can also be supplied with a discussion head

### NOSEPIECE

- Standard models with revolving and reversed quadruple nosepiece, the B+ series have quintuple reversed nosepiece

### OBJECTIVES

- A large range of semi plan, plan, semi plan phase, plan phase or plan IOS 4x/0.10, 10x/0.25, S40x/0.65 and S100x oil immersion objectives can be supplied with the B and B+ series
- All S40x, S60x and S100x oil immersion objectives are spring loaded
- All optics are anti-fungus treated and anti-reflection coated for maximum light throughput

### FOCUSING

- Coaxial coarse and fine adjustments, 200 graduations, 1  $\mu\text{m}$  per graduation, 200  $\mu\text{m}$  per rotation, total travel approximately 23 mm
- Supplied with an adjustable rack stop to prevent damage to sample and objectives
- The coarse adjustments are equipped with friction control

### STAGE

- 125 x 135 mm with mechanical 75 x 35 mm X-Y translation stage and Vernier scale. Removable specimen holder
- Stages with heating elements and temperature PID controller are also available on demand

### CONDENSER

- Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and filter holder.
- Models for phase contrast with references 86.3xx are supplied with a Zernike disc condenser with phase contrast rings for 10/20/S40x and S100x phase contrast objectives.
- Models for phase contrast with references 86.4xx are supplied with a slider with phase ring for S40x phase contrast objective

#### CARDIOID MIRROR CONDENSER FOR DARK FIELD

- The 86.091-DFLED model is supplied with an oil immersion condenser with cardioid mirrors, a 5 W integrated NeoLED™ illumination and a S100x objective with built-in iris diaphragm for real 1000x dark field applications

#### ILLUMINATION

- The microscopes of the B and B+ series are equipped with either a 1 W LED adjustable illumination system for increased light output with 3 rechargeable batteries for cordless operation or a 20 W 6 V halogen adjustable illumination.
- All models have an integrated power supply for cordless operation.
- 110 and 230 V mains versions available for halogen models

#### ILLUMINATION FOR DARK FIELD

- 5 W NeoLED™ adjustable illumination for model 86.091-DFLED.
- By using AE.3612 and 86.521 an existing brightfield microscope can be upgraded to dark field

#### PACKAGING

- Supplied with power cord, dust cover, a spare fuse, user manual and 5 ml immersion oil for models with S100x objective.
- Models with a 20W halogen illumination are supplied with a spare bulb and a blue filter, models with 1 W LED illumination are supplied with white filter.
- All packed in a polystyrene box



## MODELS WITH SEMI PLAN OBJECTIVES

	Monocular	Binocular	Trinocular	WF 10 x 18 mm	WF 10 x 20 mm	4 objectives nosepiece	5 objectives nosepiece	Semi plan 4x/10x/540x/S100x oil objectives	20 W halogen
86.010	•			•		•		•	•
86.025		•		•		•		•	•
86.041			•	•		•		•	•
86.010-LED	•			•		•		•	
86.025-LED		•		•		•		•	
86.041-LED			•	•		•		•	
86.019-LED	•				•	•		•	
86.029-LED		•			•	•		•	
86.049-LED			•		•	•		•	

## MODELS WITH PLAN OBJECTIVES

	Monocular	Binocular	Trinocular	WF 10x 18 mm	WF 10x 20 mm	4 objectives nosepiece	5 objectives nosepiece	Plan 4x/10x/540x/ S100x oil objectives	20 W halogen
86.060	•			•		•		•	•
86.075		•		•		•		•	•
86.091			•	•		•		•	•
86.060-LED	•			•		•		•	
86.075-LED		•		•		•		•	
86.091-LED			•	•		•		•	
86.069-LED	•				•	•		•	
86.079-LED		•			•	•		•	
86.099-LED			•		•	•		•	

## MODELS WITH PLAN IOS INFINITY CORRECTED OBJECTIVES

	Binocular	Trinocular	WF 10x 18 mm	WF 10x 20 mm	4 objectives nosepiece	5 objectives nosepiece	Semi plan IOS 4x/10x/540x/ S100x oil objectives	Plan IOS 4x/10x/540x/ S100x oil objectives	20 W halogen
86.125	•		•		•		•		•
86.141		•	•		•		•		•
86.125-LED	•		•		•		•		
86.141-LED		•	•		•		•		
86.129-LED	•			•		•		•	
86.149-LED		•		•		•		•	

## MODELS WITH SEMI PLAN PHASE CONTRAST OBJECTIVES

	Monocular	Binocular	Trinocular	WF 10 x 18 mm	WF 10 x 20 mm	4 objectives nosepiece	5 objectives nosepiece	Semi plan phase 10x/20x/540x/S100x oil objectives	20 W halogen
86.310	•			•		•		•	•
86.325		•		•		•		•	•
86.341			•	•		•		•	•
86.310-LED	•			•		•		•	
86.325-LED		•		•		•		•	
86.341-LED			•	•		•		•	
86.319-LED	•				•	•		•	
86.329-LED		•			•	•		•	
86.349-LED			•		•	•		•	

**MODELS WITH PLAN PHASE CONTRAST OBJECTIVES**

	Monocular	Binocular	Trinocular	WF 10 x 18 mm	WF 10 x 20 mm	4 objectives nosepiece	5 objectives nosepiece	Plan phase 10x/20x/540x/S100x oil objectives	20 W halogen
86.360	•			•		•		•	•
86.375		•		•		•		•	•
86.391			•	•		•		•	•
86.360-LED	•			•		•		•	
86.375-LED		•		•		•		•	
86.391-LED			•	•		•		•	
86.369-LED	•				•		•	•	
86.379-LED		•			•		•	•	
86.399-LED			•		•		•	•	

**MODELS WITH SEMI PLAN OBJECTIVES AND PLAN PHASE S40X OBJECTIVE**

	Monocular	Binocular	Trinocular	WF 10 x 18 mm	4 objectives nosepiece	Semi plan 4x/10x/S100x oil objectives	Phase S40x	20 W halogen
86.410	•			•	•	•	•	•
86.425		•		•	•	•	•	•
86.441			•	•	•	•	•	•
86.410-LED	•			•	•	•	•	
86.425-LED		•		•	•	•	•	
86.441-LED			•	•	•	•	•	

**ACCESSORIES AND SPARE PARTS**

<b>86.572-P</b> Wide field eyepiece HWF 10x/18 mm with pointer	<b>86.517</b> Plan PL S40x/0.65 objective. Working distance 0.56 mm
<b>86.572</b> Wide field eyepiece HWF 10x/18 mm	<b>86.519</b> Plan PL S60x/0.85 objective. Working distance 0.25 mm
<b>86.575</b> Wide field eyepiece HWF 10x/20 mm	<b>86.520</b> Plan PL S100x/1.25 oil immersion objective. Working distance 0.33 mm
<b>86.573</b> Wide field eyepiece WF 15x/12 mm	<b>86.521</b> Plan PL S100x/1.25 oil immersion objective with iris diaphragm. Working distance 0.33 mm
<b>80.882</b> Wide field eyepiece WF 20x/10 mm	<b>86.413</b> Semi plan phase PH 10x/0.25 objective. Working distance 6.61 mm
<b>86.574</b> Micrometer eyepiece HWF 10x/18 mm, 10 mm/100, with adjustable eye lens	<b>86.414</b> Semi plan phase PH 20x/0.40 objective. Working distance 1.85 mm
<b>AE.1110</b> Stage micrometer 1 mm, 100 parts	<b>86.417</b> Semi plan phase PH S40x/0.65 objective. Working distance 0.64 mm
<b>AE.1111</b> Stage micrometer 2mm, 200 parts	<b>86.420</b> Semi plan phase PH S100x/1.25 oil immersion objective. Working distance 0.19 mm
<b>80.839</b> Eyecup with inner diameter 28 mm	<b>86.313</b> Plan phase PLPH 10x/0.25 objective. Working distance 8.8 mm
<b>86.812</b> Discussion head with one vertical and one oblique tube. Without eyepieces	<b>86.314</b> Plan phase PLPH 20x/0.40 objective. Working distance 8.6 mm
<b>86.891</b> Semi plan SMP 4x/0.10 objective. Working distance 23.13 mm	<b>86.317</b> Plan phase PLPH S40x/0.65 objective. Working distance 0.65 mm
<b>86.893</b> Semi plan SMP 10x/0.25 objective. Working distance 4.09 mm	<b>86.320</b> Plan phase PLPH S100x/1.25 oil immersion objective. Working distance 0.33 mm
<b>86.894</b> Semi plan SMP 20x/0.40 objective. Working distance 1.97 mm	
<b>86.897</b> Semi plan SMP S40x/0.65 objective. Working distance 0.6 mm	
<b>80.899</b> Achromatic S60x/0.85 objective. Working distance 0.20 mm	
<b>86.900</b> Semi plan SMP S100x/1.25 oil immersion objective. Working distance 0.38 mm	
<b>86.511</b> Plan PL 4x/0.10 objective. Working distance 17.9 mm	
<b>86.513</b> Plan PL 10x/0.25 objective. Working distance 8.8 mm	
<b>86.514</b> Plan PL 20x/0.40 objective. Working distance 8.6 mm	

- 86.560** Plan PL 4x /0.12 infinity corrected IOS objective.  
Working distance 19.75 mm
- 86.562** Plan PL 10x/0.25 infinity corrected IOS objective.  
Working distance 5 mm
- 86.564** Plan PL 20x/0.40 infinity corrected IOS objective.  
Working distance 8.8 mm
- 86.566** Plan PL S40x/0.65 infinity corrected IOS objective.  
Working distance 0.66 mm
- 86.567** Plan PL S60x/0.80 infinity corrected IOS objective.  
Working distance 0.26 mm
- 86.568** Plan PL S100x/1.25 oil immersion infinity corrected IOS objective. Working distance 0.36 mm
- 86.172** Dark field stop to be placed in filter holder.  
Suitable for objectives from 10x up to S40x
- 86.627** Dark field N.A. 1.40 oil immersion condenser with cardioid mirrors. To be used with a LE.5241 flexible light conductor and a cold light source LE.5210, LE.5211 or LE.5211-LED
- 86.613** Simple 40x phase contrast set consisting of a N.A. 1.25 condenser with a plan phase PLPH S40x N.A. 0.65 objective and associated phase plate. Delivered with centering telescope and green filter
- 86.615** Zernike medium dark phase contrast set.  
The set consists of a disc phase N.A.1.25 condenser with rotating wheel of phase annuli and an aperture for bright field illumination. Complete with semi plan phase DIN PH 10x/0.25, PH 20x/0.40, PH S40x/0.65 and PH S100x/1.25 oil immersion objectives. Delivered with centering telescope and green filter
- 86.617** Zernike medium dark phase contrast set.  
The set consists of a disc phase N.A.1.25 condenser with rotating wheel of phase annuli and an aperture for bright field illumination. Complete with plan phase DIN PLPH 10x/0.25, PH 20x/0.40, PH S40x/0.65 and PH S100x/1.25 oil immersion objectives.  
Delivered with centering telescope and green filter
- 86.806** Mirror with adapter for B and B+ series with halogen illumination only
- AE.5168-B** Heating stage with PID controller up to 50°C.  
Only supplied with a new microscope
- AE.5130** Universal SLR camera adapter with 2x projection lens for 23.2 mm tubes. Need T2 adapter
- AE.5025** T2 adapter for Nikon D digital SLR cameras
- AE.5040** T2 adapter for Canon EOS digital SLR cameras
- Other T2 adapters on request*
- 86.820** SLR camera adapter with 2.5x and 4x magnification lenses
- DC.1320** 1x objective with C-mount for cameras with 1" sensor.  
Suitable for 23.2 mm tubes
- DC.1324** 0.5x objective with C-mount for cameras with 1/2" sensor.  
Suitable for 23.2 mm tubes
- DC.1326** 0.33x objective with C-mount for cameras with 1/3" sensor.  
Suitable for 23.2 mm tubes
- DC.1328** 0.67x objective with C-mount for cameras with 2/3" sensor.  
Suitable for 23.2 mm tubus
- 86.851** Polarizing attachment for B or B+ series with a halogen illumination
- 86.852** Polarizing attachment for B or B+ series with a LED illumination
- 86.860** Attachable Köhler diaphragm to be mounted on lamp house.  
Only suitable for models with halogen illumination
- 86.961** Plastic case for polystyrene packaging of B series
- 86.970** Aluminium Flight case
- 86.971** Aluminium case
- AE.5202** Blue filter, 32 mm diameter
- AE.5203** Yellow filter, 32 mm diameter
- AE.5204** Neutral grey filter, 32 mm diameter
- AE.5205** Green filter, 32 mm diameter
- AE.5207** Blue filter acrylic, 31.8 mm diameter
- AE.5227** Glass fuses 250 V 1 A, 10 pieces
- 86.889** Spare halogen bulb 6 V 20 W
- 86.101** Spare LED module for B series
- AE.5227** Glass fuses 1 A 250 V, 10 pieces
- PB.5155** Microscope slides 76 x 26 mm, ground edges, 50 pieces
- PB.5165** Cover glasses 18 x 18 mm, thickness 0.13-0.17 mm, 100 pieces
- PB.5168** Cover glasses 22 x 22 mm, thickness 0.13-0.17 mm, 100 pieces
- PB.5245** Lens cleaning paper, 100 sheets per pack
- PB.5255** Immersion oil, n = 1.482 (25 ml)
- PB.5274** Isopropyl alcohol 99% (200 ml)
- PB.5275** Cleaning kit: lens cleaning fluid, lint free lens tissue, brush, air blower, cotton swabs