OPTIKA®
MICROSCOPES
ITALY

B-380 Series

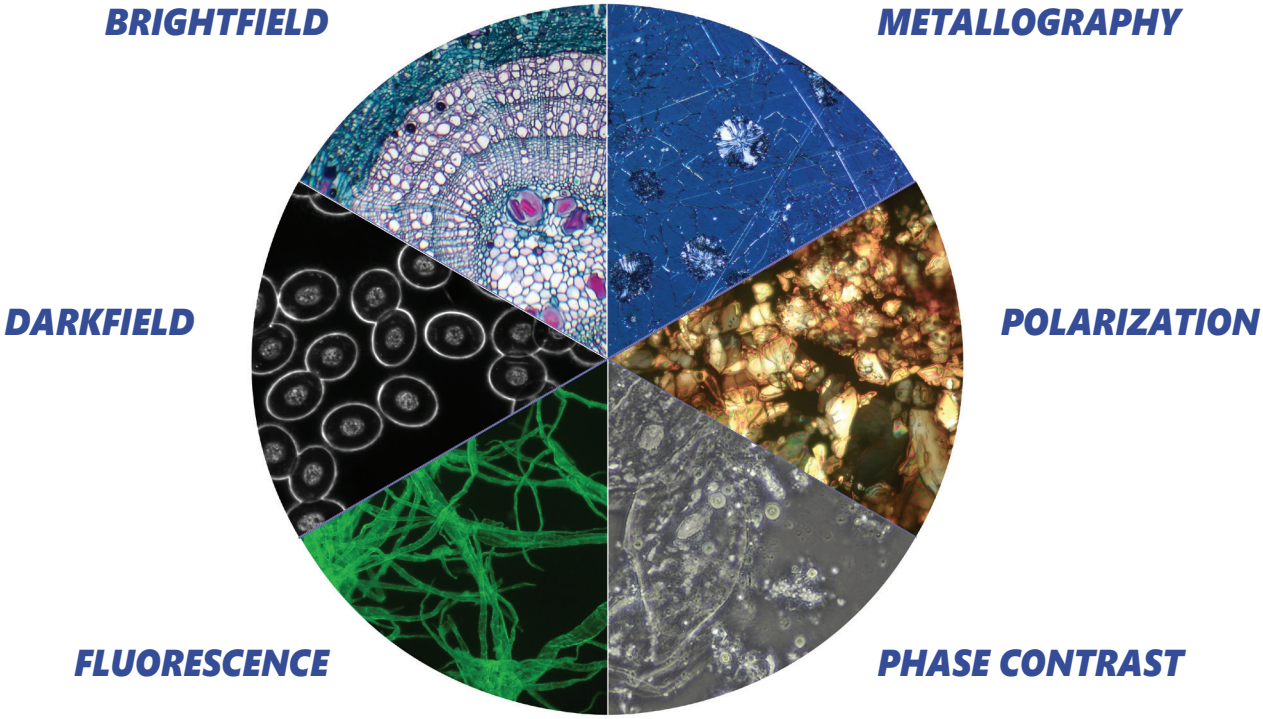
Middle-Level Routine Lab Upright Microscopes

Just What You Need. Right When Is Needed

ROUTINE IN UNIVERSITIES, LABS & INDUSTRIES
» Wide range to fullfil specific lab requirements
» Valuable solutions for life and material sciences
» Compliant with several observation methods

THE PREFERRED PARTNER FOR ROUTINE TASKS
» Full planarity optics on 20 mm (N-PLAN) according to ISO 19012-1
» Fixed Koehler illumination for crisp and contrasted images
» Rounded edge, rackless stage to prevent scratches

Multiple Observation Methods



100x Oil/Water Objective – Only at OPTIKA

SAME OBJECTIVE FOR OIL AND WATER USE
» Oil represents the best media for high numerical aperture
» Water combines results with convenience
» Water is recommended especially for educational purposes

UNPARALLELED TIME & MONEY SAVING
» Save time by forgetting about tedious cleaning
» No time-wasting procedures for maintainance
» No additional expenses due to inappropriate cleaning

X-LED³ – Only Available at OPTIKA

STATE-OF-THE-ART ILLUMINATION SYSTEM
» Uncomparable light intensity, exclusive lens & collector design
» Constant pure-white colour temperature at all intensity levels
» Unmatched color fidelity, uniformity and brightness

CUT ELECTRICITY BILLS BY 90%
» Money & energy saving, only 3.6 W
» More efficient brightness than a 50 W halogen lamp
» LED long lifetime (65,000 hours = 22 years at 8 hours/day usage)

Multi-plug power supply

ALC - Only Available At OPTIKA

AUTOMATIC LIGHT CONTROL IN 3 STEPS
» When another objective is used
» When the diphragm aperture changes
» When processing samples with different opacity

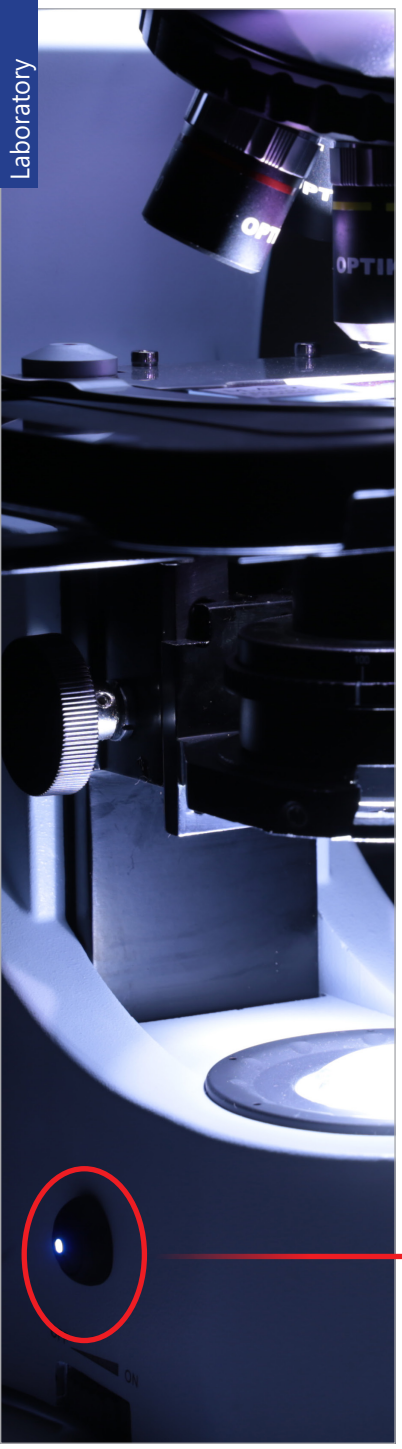
FORGET ABOUT MANUAL LIGHT ADJUSTEMENT
» Choose the light intensity according to your preference
» Press the ALC button and the brightness is saved
» The microscope will automatically regulate the light

STEP 1
Set the brightness according to your prefences.

STEP 2
Press the ALC button to save the brightness level.

STEP 3
Forget about the illumination!
The microscope will automatically adjust the brightness for you, in case of:
- Another objective is used
- The diaphragm aperture is changed
- Another specimen with different opacity is processed

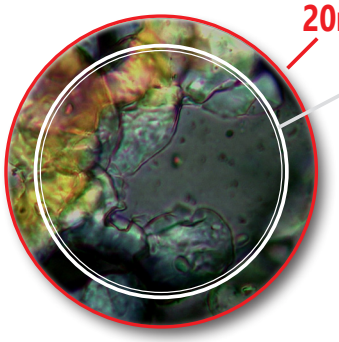
B-380 Series



This series incorporates all the experience gathered by OPTIKA Microscopes in the field of light microscopy, adapted specifically for common laboratory applications.
Suitable for routine microscopy with brightfield, darkfield (oil and dry), phase contrast, fluorescence and polarized light, designed to be extremely stable on the bench and last long.

Purposely Designed For Intense Use, Effortless
Full of features that help being more comfortable especially in case of long-term use.
All the main controls are located close to each other to enable minimal movements and reinforce the advantages that the ergonomy brings to this series.

X-LED³ Exclusive Lighting Source
Special technology able to double the light intensity for incomparable performance, ensuring constant pure-white colour temperature (6,300K colour temperature).
Relevant money and energy saving thanks to the incredibly low energy consumptions which allows you to cut the electricity bills by 90%!
The electric consumption (3.6 W only) proves the high efficiency of this system: incredibly high light intensity combined with low consumption.



Large Specimen View (20 mm Field Number)
The **F.O.V.** (field of view) is based on a comfortable diameter of 20 mm.
This means that a wide area of the sample can be inspected and allows a natural and easy view, particularly needed in a laboratory environment.

ALC - Automatic Light Control, Only Available At OPTIKA

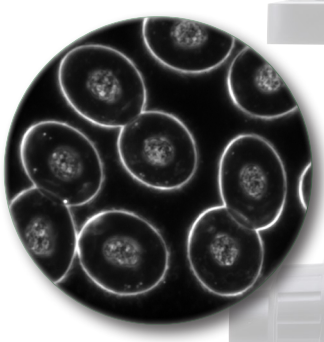
Incomparable Comfort With The Exclusive Automatic Light Control (ALC)
Light intensity is automatically adjusted by the microscope itself in order to maintain the same level as the one the user has previously chosen.
No matter if the aperture of the diaphragm changes, if another objective is used, and if the opacity of the sample is different...the microscope will set the light for you according to your preferences.
On ALC Models.

Safe And Convenient Operations
Rounded edge rackless stage has been designed with a belt-driven mechanism that allows a smooth movement without any protruding part.
This design gives you a more compact solution and lowers any risk of injury after accidentally hitting the rack with your hands.

Middle-Level Routine Lab Upright Microscopes

Universal Condenser For Brightfield, Darkfield & Phase
OPTIKA B-380 phase contrast microscopes are equipped with a 5-position dedicated rotating condenser for brightfield (standard use), phase contrast (10x/20x, 40x and 100x phase diaphragms), and a darkfield position for dry objectives.

Exclusive X-LED³ Darkfield Condenser
The special condenser with integrated, exclusive X-LED³ illuminator replaces any other external and expensive lighting source required for these applications and is ideal for great-looking, rich and high-quality specimen view.

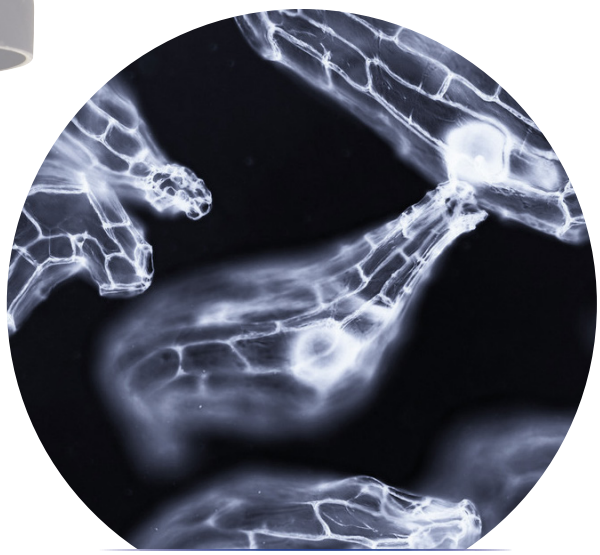


In fluorescence we can offer several options.
According to your application and to the fluorochromes you are using, we can help you to identify the best light source.

Traditional, HBO Fluorescence
» The most used and diffused method, worldwide
» Wide spectrum range for future upgrades

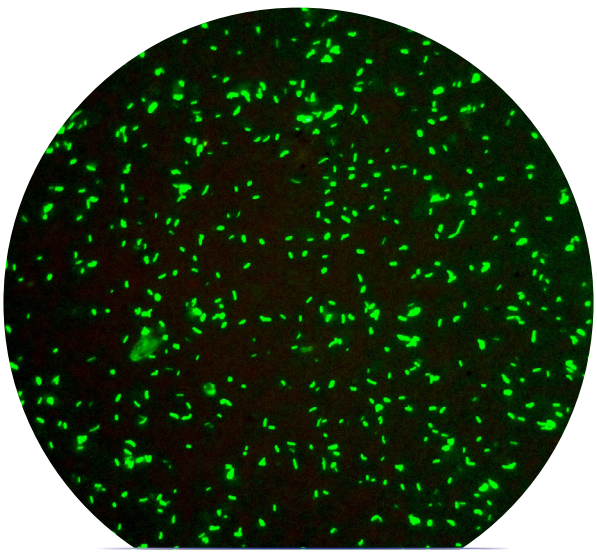
Innovative, LED Fluorescence
» Recommended for routine applications
» Cost-effective, money saving technology
» Ready for immediate operation
» Eliminate warm-up/cool-down times
» Forget lamp replacement & centering

B-380 Series



10x - Darkfield

M-185
Darkfield condenser (dry)
With M-185 optional condenser you can easily obtain a darkfield view for dry objectives.



50x - Fluorescence

M-335
Objective 50x/0.75
IOS W-PLAN MET
For applications where no cover slide is required (such as sputum smear analysis for tuberculosis diagnosis), the M-335 objective provides excellent results for stunning images.

Get the most of our accessories

M-181
Complete Phase Contrast Set with IOS W-PLAN PH obj. 10x, 20x, 40x, 100x, with Darkfield position
The B-380 series can be upgraded at any time with phase contrast kits (M-179 with W-PLAN PH objectives and M-181 with IOS W-PLAN PH objectives) including all the components you need to inspect transparent specimens such as microorganisms, thin tissue slices, lithographic patterns, fibers, glass, etc.

M-975.1 Ring with blue filter;
Increase the colour temperature of light (toward the blue).
M-977.1 Ring with green filter;
Optimize the resolution of phase contrast.
M-979.1 Ring with yellow filter;
Decrease the colour temperature of light (toward the red).
M-989.1 Ring with frosted glass filter;
Increase the uniformity of illumination, even further.

Blue filter

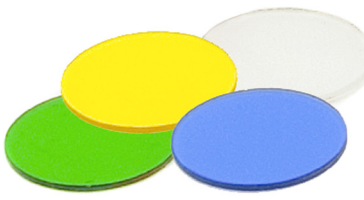
Green filter

Yellow filter

Frosted glass

M-156 Koehler field diaphragm
Additional field diaphragm for upgrading the Fixed Koehler illumination system to a Full Koehler type.
To be ordered on newly purchased B-380 microscope.

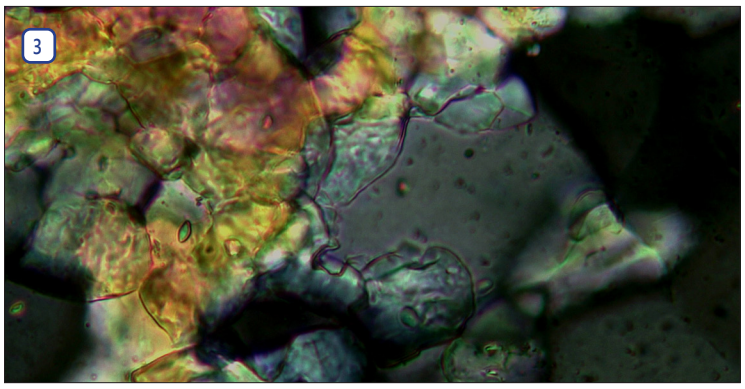
M-975 Blue filter;
Increase the colour temperature of light (toward the blue).
M-977 Green filter;
Optimize the resolution of phase contrast.
M-979 Yellow filter;
Decrease the colour temperature of light (toward the red).
M-989 Frosted glass filter;
Increase the uniformity of illumination, even further.

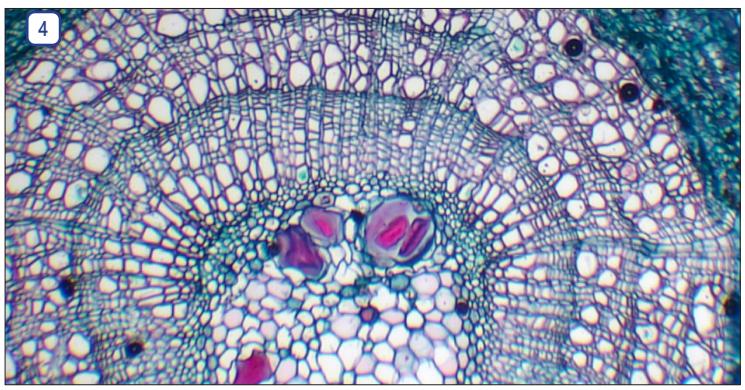


B-380 Series

Legend

1. Planachromatic Phase Contrast objectives.
2. Coded iris diaphragm for each objective.
3. B-383POL, tuff observed under polarized light.
4. Tilia three year stem at 4x magnification, B-383PL.
5. B-380 head with built-in Automatic Light Control system.
6. Head with Siedentopf adjustment system.
7. B-383POL attachment with Bertrand lens.
8. Handle for easy and comfortable transportation.
9. Coin at 4x magnification, B-383MET.
10. Coin at 50x magnification, B-383MET.
11. Innovative design of B-380 series.





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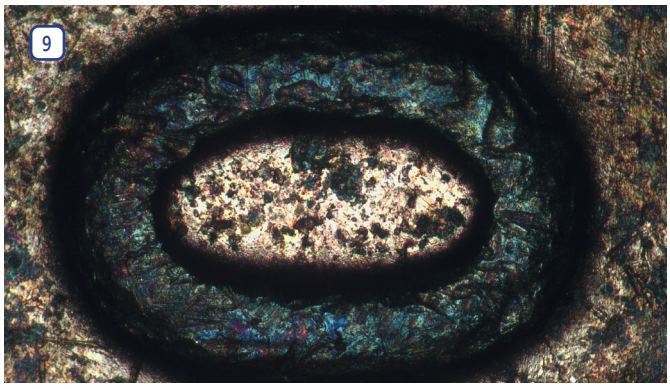
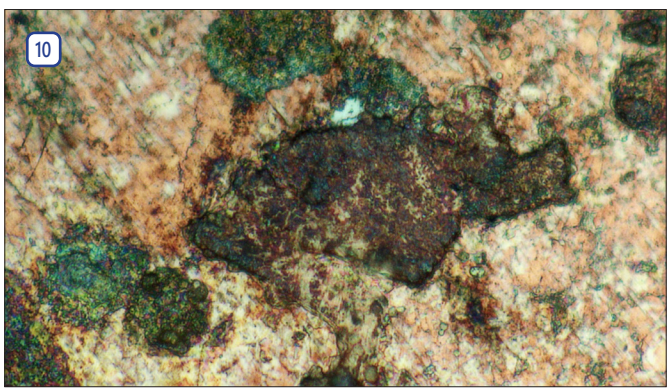
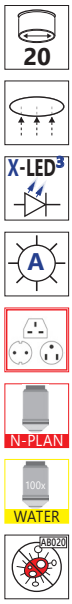




B-380 Series - Brightfield Models

B-382PL-ALC



Brightfield binocular microscope with N-PLAN objectives, rackless stage and combining the exclusive *X-LED³* with *ALC* (Automatic Light Control) for great-looking, rich and high-quality view.

Observation mode: Brightfield.

Head: Binocular, 30° inclined, 360° rotating (when ALC cable is unplugged).

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
N-PLAN 4x/0.10 — N-PLAN 10x/0.25
N-PLAN 40x/0.65 — N-PLAN 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 150x139 mm, 75x33 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) and brightness control. ***ALC*** system.
Multi-plug 100-240Vac/6Vdc external power supply.

B-383PL

Brightfield trinocular microscope with N-PLAN objectives, rackless stage and the exclusive *X-LED³* for great-looking, rich and high-quality view.

Observation mode: Brightfield.

Head: Trinocular (fixed 50/50), 30° inclined, 360° rotating.

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
N-PLAN 4x/0.10 — N-PLAN 10x/0.25
N-PLAN 40x/0.65 — N-PLAN 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 150x139 mm, 75x33 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) with brightness control.
Multi-plug 100-240Vac/6Vdc external power supply.

B-380 Series - Brightfield Models

B-382PLi-ALC

Brightfield binocular microscope with IOS N-PLAN (Infinity Corrected) objectives, rackless stage and combining the exclusive *X-LED³* with *ALC* (Automatic Light Control) for great-looking, rich and high-quality view.

Observation mode: Brightfield.

Head: Binocular, 30° inclined, 360° rotating (when ALC cable is unplugged).

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
IOS N-PLAN 4x/0.10 IOS N-PLAN 10x/0.25
IOS N-PLAN 40x/0.65 IOS N-PLAN 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) and brightness control. ***ALC*** system.
Multi-plug 100-240Vac/6Vdc external power supply.

B-383PLi

Brightfield trinocular microscope with IOS N-PLAN (Infinity Corrected) objectives, rackless stage and the exclusive *X-LED³* for great-looking, rich and high-quality view.

Observation mode: Brightfield.

Head: Trinocular (fixed 50/50), 30° inclined, 360° rotating.

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
IOS N-PLAN 4x/0.10 IOS N-PLAN 10x/0.25
IOS N-PLAN 40x/0.65 IOS N-PLAN 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-380 Series - Phase Contrast Models

B-382PH-ALC

Phase contrast, darkfield and brightfield binocular microscope with W-PLAN objectives, rackless stage and combining the exclusive *X-LED³* with *ALC* (Automatic Light Control) for great-looking, rich and high-quality view.

Observation mode: Brightfield, phase contrast and darkfield (dry).

Head: Binocular, 30° inclined, 360° rotating (when ALC cable is unplugged).

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
N-PLAN 4x/0.10 — W-PLAN PH 10x/0.25
W-PLAN PH 40x/0.65 — W-PLAN PH 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 150x139 mm, 75x33 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) and brightness control. ***ALC*** system.
Multi-plug 100-240Vac/6Vdc external power supply.

B-383PH

Phase contrast, darkfield and brightfield trinocular microscope with W-PLAN objectives, rackless stage and the exclusive *X-LED³* for great-looking, rich and high-quality view.

Observation mode: Brightfield, phase contrast and darkfield (dry).

Head: Trinocular (fixed 50/50), 30° inclined, 360° rotating.

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
N-PLAN 4x/0.10 — W-PLAN PH 10x/0.25
W-PLAN PH 40x/0.65 — W-PLAN PH 100x/1.25 (Oil/Water)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 150x139 mm, 75x33 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-380 Series - Phase Contrast Models

B-382PHi-ALC

Phase contrast, darkfield and brightfield binocular microscope with IOS W-PLAN (Infinity Corrected) objectives, rackless stage and combining the exclusive *X-LED³* with *ALC* (Automatic Light Control) for great-looking, rich and high-quality view.

Observation mode: Brightfield, phase contrast and darkfield (dry).

Head: Binocular, 30° inclined, 360° rotating (when ALC cable is unplugged).

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
IOS W-PLAN PH 10x/0.25 IOS W-PLAN PH 20x/0.40
IOS W-PLAN PH 40x/0.65 IOS W-PLAN PH 100x/1.25 (Oil)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.

Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) and brightness control. ***ALC*** system. Multi-plug 100-240Vac/6Vdc external power supply.

B-383PHi

Phase contrast, darkfield and brightfield microscope with IOS W-PLAN (Infinity Corrected) objectives, rackless stage and the exclusive *X-LED³* for great-looking, rich and high-quality view.

Observation mode: Brightfield, phase contrast and darkfield (dry).

Head: (50/50), 30° inclined, 360° rotating.

Interpupillary distance: Adjustable between 48 and 75 mm.

Dioptric adjustment: On the left eyepiece tube.

Eyepieces: WF10x/20 mm, high eye-point and secured by screw.

Nosepiece: Quintuple revolving nosepiece, rotation on ball bearings.

Objectives:
IOS W-PLAN PH 10x/0.25 IOS W-PLAN PH 20x/0.40
IOS W-PLAN PH 40x/0.65 IOS W-PLAN PH 100x/1.25 (Oil)
All with anti-fungus treatment.

Specimen stage: Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.

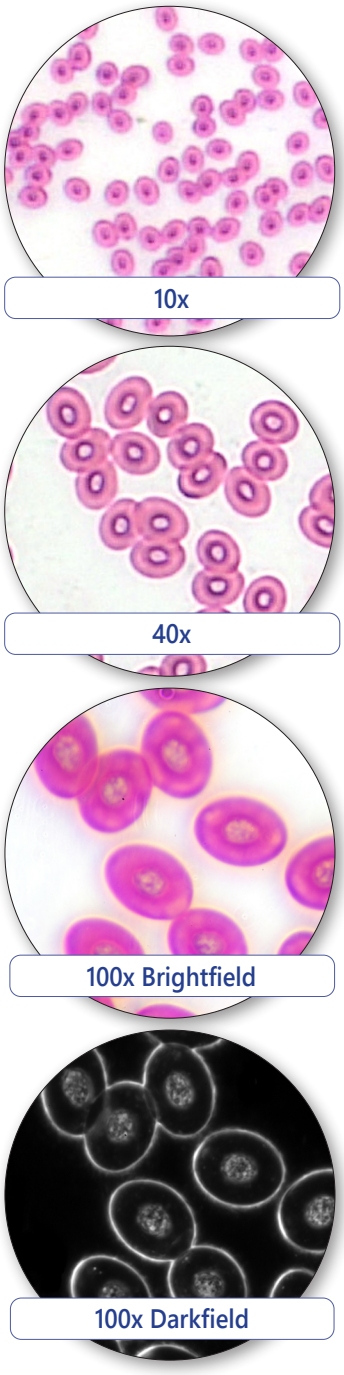
Focusing: Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.

Condenser: Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield.

Illumination (Fixed Koehler type): X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-383DK - Darkfield Microscope

Laboratory upright microscope for brightfield and darkfield observations with N-PLAN objectives (and W-PLAN 100x with iris diaphragm) for biology and especially darkfield fresh blood analysis and the exclusive ***X-LED³*** illumination system. The special condenser with integrated, exclusive X-LED3 illuminator replaces any other external and expensive lighting source required for these applications and is ideal for great-looking, rich and high-quality specimen view. Our immersion darkfield system provides the same result achieved by 150W external illuminators in combination with traditional cardioid darkfield condenser.

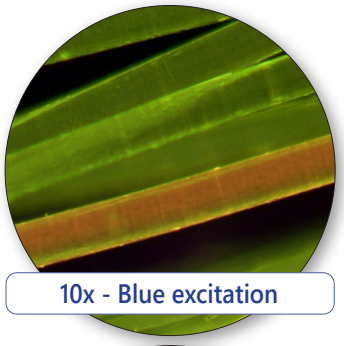


Part	Description
Observation mode:	Brightfield, oil immersion darkfield.
Head:	Trinocular (fixed 50/50), 30° inclined, 360° rotating.
Interpupillary distance:	Adjustable between 48 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/20 mm, high eye-point and secured by screw.
Nosepiece	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	N-PLAN 4x/0.10 N-PLAN 10x/0.25 N-PLAN 40x/0.65 W-PLAN 100x/1.25 (oil) with iris All with anti-fungus treatment.

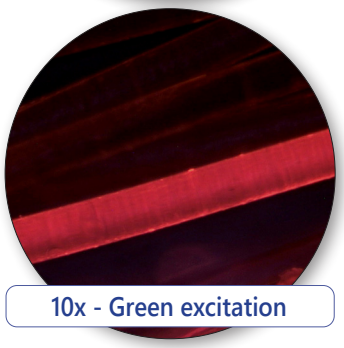
Part	Description
Specimen stage:	Double layer rackless mechanical stage, 150x139 mm, 75x33 mm X-Y range.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Brightfield condenser:	Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.
Darkfieldfield condenser:	Darkfield N.A. 1.36 (oil immersion) with built-in X-LED³.
Transmitted illumination (Fixed Koehler type):	X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-383FL - HBO Fluorescence Microscope

Laboratory upright microscope for brightfield and fluorescence observations with IOS N-PLAN objectives.
The HBO fluorescence illuminator provides an outstanding flexibility of use, standing the blue and green filter sets (supplied as standard) for Auramine, FITC, GFP and YFP (with blue filter set) plus Rhodamine, Texas Red and TRITC (with the green one), yet giving the possibility to combine any other specific filter sets for future upgrade. Transmitted light through the exclusive ***X-LED³*** to ensure great-looking, rich and high-quality specimen view.



10x - Blue excitation



10x - Green excitation

Standard filterset

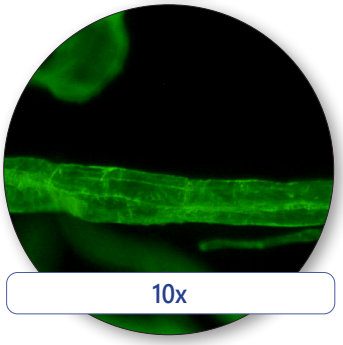
Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B Blue	460 – 490	505	515LP
G Green	510 – 550	570	575LP

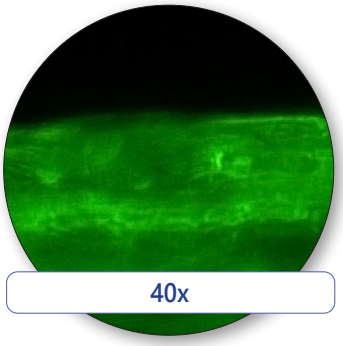
Part	Description
Observation mode:	Brightfield, HBO fluorescence.
Epi-illumination and filters:	HBO 100 W high pressure mercury lamp. 3-position filter holder; blue and green included.
Head:	Trinocular (fixed 50/50), 30° inclined, 360° rotating.
Interpupillary distance:	Adjustable between 48 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/20 mm, high eye-point and secured by screw.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	IOS N-PLAN 4x/0.10 IOS N-PLAN 10x/0.25 IOS N-PLAN 20x/0.40 IOS N-PLAN 40x/0.65 IOS N-PLAN 100x/1.25 (Oil/Water) All with anti-fungus treatment.

Part	Description
Specimen stage:	Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.
Transmitted illumination (Fixed Koehler type):	X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-383LD - LED Fluorescence Microscope

Entry-level laboratory upright microscope for brightfield and fluorescence observations with IOS N-PLAN objectives. The extremely powerful LED fluorescence illuminator is combined with blue excitation filter set for the visualization of the following fluorochromes: Acridine Yellow, Acridine Orange, Auramine, DiO, DTAF, FITC, GFP, YFP, etc. LED fluorescence ensures unparalleled convenience eliminating warm-up/cool-down times and all the inconveniences related lamp replacement and adjustment. Transmitted light through the exclusive ***X-LED³*** to ensure great-looking, rich and high-quality specimen view.





Standard filterset

Name	Excitation filter (nm)	Dichroic mirror cut-off (nm)	Emission filter (nm)
B Blue	460 – 490	505	515LP

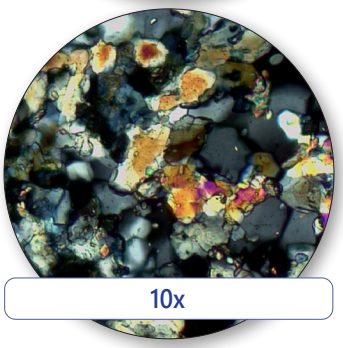
Part	Description
Observation mode:	Brightfield, LED fluorescence.
Epi-illumination and filter:	High-power blue LED with brightness control. 3-position filter holder; blue included.
Head:	Trinocular (fixed 50/50), 30° inclined, 360° rotating.
Interpupillary distance:	Adjustable between 48 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/20 mm, high eye-point and secured by screw.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.
Objectives:	4x/0.10, W.D. 16.8 mm 10x/0.25, W.D. 5.8 mm 20x/0.40, W.D. 5.1 mm 40x/0.65, W.D. 0.43 mm 100x/1.25 (Oil/Water), W.D. 0.13 mm All with anti-fungus treatment.

Part	Description
Specimen stage:	Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.
Transmitted illumination (Fixed Koehler type):	X-LED³ with white 3.6 W LED (6,300K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

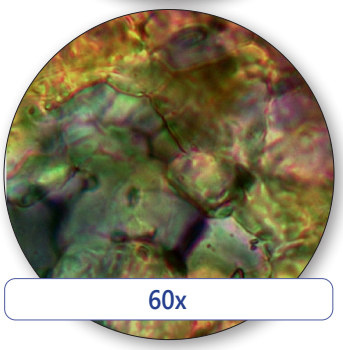
B-383POL - Polarizing Microscope

Upright microscope for brightfield and polarizing light observations with strain-free IOS N-PLAN POL objectives. Complete of polarizer and analyzer filters, Bertrand lens for conoscopic observation, compensator plates and high-precision rotatable stages. It comes with the exclusive ***X-LED³*** illumination system to deliver bright and clear images, along with all the accessories to perform accurate polarization analysis in biology and materials science.


4x with First Order plate


10x


10x with First Order plate


60x

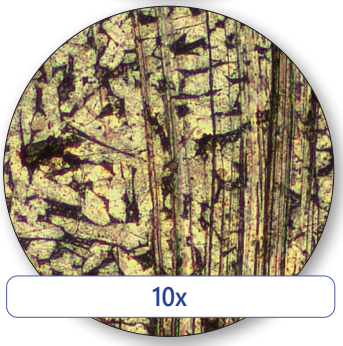
Part	Description
Observation mode:	Brightfield, transmitted polarized light and conoscopy.
Bertrand lens and polarizing attachment:	Swing-out type with centering mechanism for observation in conoscopy/orthoscopy. Rotatable analyzer from 0° to 90° with graduated scale. Tint plates: 1° order red (λ); λ/4; Quartz wedge.
Head:	Trinocular (fixed 50/50), 30° inclined, 360° rotating.
Interpupillary distance:	Adjustable between 48 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/20 mm, high eye-point and secured by screw. One with crosshair.
Nosepiece:	Quadruple revolving nosepiece, rotation on ball bearings. Centering system for each objective.

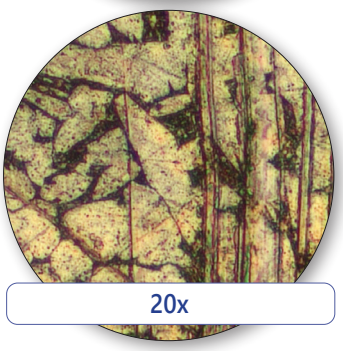
Part	Description
Objectives (strain-free):	IOS N-PLAN POL 4x/0.10 IOS N-PLAN POL 10x/0.25 IOS N-PLAN POL 40x/0.65 IOS N-PLAN POL 60x/0.80 All with anti-fungus treatment.
Specimen stage:	Rotatable stage with locking mechanism. Vernier scale with accuracy 0.1 mm. Diameter 160 mm. Specimen slide clamps.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable. With rotating polarizing filter.
Transmitted illumination (Fixed Koehler type):	X-LED³ with white 3.6 W LED (6.300 K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

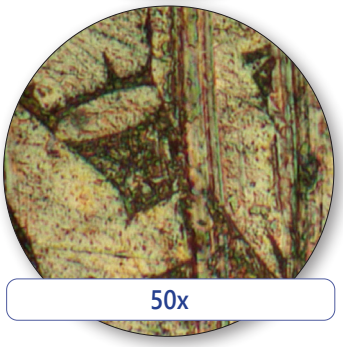
B-383MET - Metallurgical Microscope

Brightfield upright microscope with IOS W-PLAN MET objectives and metallurgical attachment combining the exclusive ***X-LED³*** lighting source both for incident and transmitted illumination. The NCG (no cover glass) objectives are especially designed for microscopy use without a cover slip ideal for metallographic samples and other opaque specimens.


5x


10x


20x


50x

Part	Description
Observation mode:	Brightfield, incident polarized light.
Epi-illumination and polarizing filters:	X-LED³ with white 3.6 W LED (6.300 K) with brightness control. Field and aperture diaphragms, polarizer & analyzer filters.
Head:	Trinocular (fixed 50/50), 30° inclined, 360° rotating.
Interpupillary distance:	Adjustable between 48 and 75 mm.
Dioptric adjustment:	On the left eyepiece tube.
Eyepieces:	WF10x/20 mm, high eye-point and secured by screw.
Nosepiece:	Quintuple revolving nosepiece, rotation on ball bearings.

Part	Description
Objectives (strain-free):	IOS W-PLAN MET 5x/0.12 IOS W-PLAN MET 10x/0.25 IOS W-PLAN MET 20x/0.40 IOS W-PLAN MET 50x/0.75 All with anti-fungus treatment.
Specimen stage:	Double layer rackless mechanical stage, 233x147 mm, 78x54 mm X-Y range. With tempered glass plate.
Focusing:	Coaxial coarse (adjustable tension) and fine focusing mechanism with limit stop to prevent the contact between objective and specimen.
Condenser:	Abbe N.A. 1.25, with objective-coded iris diaphragm, focusable and centerable.
Transmitted illumination (Fixed Koehler type):	X-LED³ with white 3.6 W LED (6.300 K) with brightness control. Multi-plug 100-240Vac/6Vdc external power supply.

B-380 Series - Comparison chart

Model	Head	Eyepieces	Nosepiece	Objectives	Stage	Focusing	Condenser	Illumination
B-382PL-ALC	Binocular, 30° inclined	WF 10x/20	Quintuple, reversed	N-PLAN 4x, 10x, 40x, 100x (oil/ water)	Rackless double layer, 150x139mm, moving range 75x33mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	3.6 W X-LED^3, brightness control, ALC control. Fixed Koehler
B-383PL	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	N-PLAN 4x, 10x, 40x, 100x (oil/ water)	Rackless double layer, 150x139mm, moving range 75x33mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	3.6 W X-LED^3, brightness control. Fixed Koehler
B-382PLi-ALC	Binocular, 30° inclined	WF 10x/20	Quintuple, reversed	IOS N-PLAN 4x, 10x, 40x, 100x (oil/ water)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	3.6 W X-LED^3, brightness control, ALC control. Fixed Koehler
B-383PLi	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	IOS N-PLAN 4x, 10x, 40x, 100x (oil/ water)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	3.6 W X-LED^3, brightness control. Fixed Koehler
B-382PH-ALC	Binocular, 30° inclined	WF 10x/20	Quintuple, reversed	W-PLAN 4x, 10xPH, 40xPH, 100xPH (oil)	Rackless double layer, 150x139mm, moving range 75x33mm	Coaxial coarse and fine, limit stop, adjustable tension	Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield	3.6 W X-LED^3, brightness control, ALC control. Fixed Koehler
B-383PH	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	W-PLAN 4x, 10xPH, 40xPH, 100xPH (oil)	Rackless double layer, 150x139mm, moving range 75x33mm	Coaxial coarse and fine, limit stop, adjustable tension	Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield	3.6 W X-LED^3, brightness control. Fixed Koehler
B-382PHi-ALC	Binocular, 30° inclined	WF 10x/20	Quintuple, reversed	IOS W-PLAN 10xPH, 20xPH, 40xPH, 100xPH (oil)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield	3.6 W X-LED^3, brightness control, ALC control. Fixed Koehler
B-383PHi	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	IOS W-PLAN 10xPH, 20xPH, 40xPH, 100xPH (oil)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Phase condenser (10x/20x, 40x, 100x) with darkfield (dry) and brightfield	3.6 W X-LED^3, brightness control. Fixed Koehler
B-383DK	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	N-PLAN 4x, 10x, 40x, W-PLAN 100x (oil, with iris diaphragm)	Rackless double layer, 150x139mm, moving range 75x33mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable. Additional darkfield condenser, N.A. 1.36, built-in X-LED^3	3.6 W X-LED^3, brightness control. Fixed Koehler
B-383FL	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	IOS N-PLAN 4x, 10x, 20x, 40x, 100x (oil/water)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	**Transmitted**: 3.6 W X-LED^3, brightness control. Fixed Koehler **Incident**: HBO 100 W high-pressure mercury bulb
B-383LD	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	IOS N-PLAN 4x, 10x, 20x, 40x, 100x (oil/water)	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	**Transmitted**: 3.6 W X-LED^3, brightness control. Fixed Koehler **Incident**: High-power blue LED
B-383POL	Trinocular, 30° inclined, 360° rotating	WF 10x/20 (one with crosshair reticle)	Quadruple, reversed	Strain-free IOS N-PLAN POL 4x, 10x, 40x, 60x	Round, 360° rotating, 160mm diameter, with sample clips and stop knob	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable. With rotating polarizer	3.6 W X-LED^3, brightness control. Fixed Koehler
B-383MET	Trinocular, 30° inclined, 360° rotating	WF 10x/20	Quintuple, reversed	IOS W-PLAN MET 5x, 10x, 20x, 50x	Rackless double layer, 233x147mm, moving range 78x54 mm	Coaxial coarse and fine, limit stop, adjustable tension	Abbe N.A. 1.25, iris diaphragm, focusable and centrable	**Transmitted and incident:** 3.6 W X-LED^3, brightness control. Fixed Koehler

B-380 Series - Accessories

Eyecups & Eyepieces

M-001 Huygens 5x eyepiece
M-008.1 WF10x/20 eyepiece, high eyepoint, with pointer, rubber cup
M-160 EW10x/20 eyepiece, high eyepoint, with rubber cup
M-161 EW15x/16 eyepiece, with rubber cup
M-162 WF20x/10 eyepiece
M-163 EW10x/20 micrometric eyepiece, high eyepoint, with rubber cup

Objectives

N-PLAN

M-164 N-PLAN objective 4x/0.10
M-165 N-PLAN objective 10x/0.25
M-166 N-PLAN objective 20x/0.40
M-167 N-PLAN objective 40x/0.65
M-168 N-PLAN objective 60x/0.85
M-169 N-PLAN objective 100x/1.25 (oil)

IOS N-PLAN

M-144 IOS N-PLAN objective 4x/0.10
M-145 IOS N-PLAN objective 10x/0.25
M-146 IOS N-PLAN objective 20x/0.40
M-147 IOS N-PLAN objective 40x/0.65
M-149 IOS N-PLAN objective 60x/0.80
M-148 IOS N-PLAN objective 100x/1.25 (oil)
M-144P IOS N-PLAN POL objective 4x/0.10
M-145P IOS N-PLAN POL objective 10x/0.25
M-146P IOS N-PLAN POL objective 20x/0.40
M-147P IOS N-PLAN POL objective 40x/0.65
M-149P IOS N-PLAN POL objective 60x/0.80
M-148P IOS N-PLAN POL objective 100x/1.25 (oil)

W-PLAN

M-059 W-PLAN objective 100x/1.25OI - (oil) objective with iris for DF
M-170 W-PLAN PH objective 10x/0.25
M-171 W-PLAN PH objective 20x/0.40
M-172 W-PLAN PH objective 40x/0.65
M-182 W-PLAN PH objective 100x/1.25 (oil)

IOS W-PLAN

M-634.1 IOS W-PLAN objective 50x/0.95 (oil)
M-336 IOS W-PLAN MET objective 5x/0.12
M-338 IOS W-PLAN MET objective 10x/0.25
M-339 IOS W-PLAN MET objective 20x/0.40
M-335 IOS W-PLAN MET objective 50x/0.75
M-698.2 IOS W-PLAN MET objective 100x/0.80 (dry)
M-1120.N IOS W-PLAN PH objective 10x/0.25
M-1121.N IOS W-PLAN PH objective 20x/0.40
M-1122.N IOS W-PLAN PH objective 40x/0.65
M-1123.N IOS W-PLAN PH objective 100x/1.25 (oil)

M-181 - PH set - 10x, 20x, 40x, 100x IOS W-PLAN PH obj. & BF/DF/PH condenser

M-185 - Darkfield condenser for dry objectives

M-179 - PH set - 10x, 40x, 100x W-PLAN PH obj. & BF/DF/PH condenser

B-380 Series - Accessories

Stages

M-175	Rotating stage for polarising set (for 150x139mm rackless stage) (except for B-382PH-ALC, B-383PH and B-383DK)
M-175.1	Rotating stage for polarising set (for 233x147mm rackless stage) (except for B-382PHi-ALC and B-383PHi)
M-635	Heating stage (on newly purchased microscopes, for 233x147mm stage), multiplug
M-666.290	Heating stage (on newly purchased microscopes, for 150x139mm stage), multiplug

Condensers & Filters

M-174.1	Polarising set (filters only) (except for B-383POL)
M-179	PH set - 10x, 40x, 100x W-PLAN PH obj. & BF/DF/PH condenser
M-181	PH set - 10x, 20x, 40x, 100x IOS W-PLAN PH obj. & BF/DF/PH condenser
M-185	Darkfield condenser for dry objectives
M-975.1	Ring with blue filter, 45mm diameter
M-977.1	Ring with green filter, 45mm diameter
M-979.1	Ring with yellow filter, 45mm diameter
M-989.1	Ring with frosted glass filter, 45mm diameter

Camera Adapters

M-115	0.35x C-Mount projection lens
M-114	0.5x C-Mount projection lens
M-118	0.75x C-Mount projection lens
M-173	C-Mount projection lens for APS-C/full frame reflex cameras (trino)
M-620	0.35x focusable C-Mount adapter (biological microscopes)
M-620.1	0.5x focusable C-Mount adapter (biological microscopes)
M-620.2	0.65x focusable C-Mount adapter (biological microscopes)
M-620.3	1x focusable C-Mount adapter (biological & stereomicroscopes)
M-699	Universal adapter for C-Mount projection lens (trino)

Miscellaneous

15008	Immersion oil, 10ml
15009	Immersion oil, 100ml
15104	Cleaning kit
DC-002	Plastic dust cover, medium, 490(l)x490(h) mm (except for B-383POL, B-383MET, B-383LD1, B-383LD2 and B-383FL)
DC-003	TNT dust cover, medium, 600(l)x550(h) mm (only for B-383POL, B-383MET, B-383LD1, B-383LD2 and B-383FL)
M-005	Micrometric slide, 26x76mm, with 2 scales (1mm/100 & 10mm/100)
M-069	Solar charger
M-151	HBO 100W high-pressure mercury bulb for fluorescence (only for B-383FL)
M-151.1	HBO 100W high-pressure mercury bulb for fluorescence (OSRAM) (only for B-383FL)
M-156	Koehler field diaphragm (on newly purchased microscopes) (except for B-383POL)
M-1380	Centering telescope, 23mm diameter
VP-380	IQ/OQ/PQ manual for B-380 series
AB-020	Antibacterial surface treatment, only for newly purchased microscope

How to connect the cameras to our microscopes.
Please refer to the Adapter reference list on Digital section.

15104 - Cleaning kit

It cleans glass quickly and effectively,
without leaving residue or odor.
Ideal for precision lens or prism cleaning.

M-069 - Solar charger

Included battery: rechargeable – Lithium-Poly.
Capacity: 2500 mAh. - Output voltage: 5 Vdc.
Autonomy: over 6 hours at medium intensity (X-LED^3).
Charging models: with solar panel (12h),
with external USB power supply (2.5h)

Headquarters and Manufacturing Facilities

OPTIKA® S.r.l. Via Rigla, 30 - 24010 Ponteranica (BG) - ITALY - Tel.: +39 035.571.392 - info@optikamicroscopes.com

Optika Sales branches

OPTIKA® Spain spain@optikamicroscopes.com
OPTIKA® China china@optikamicroscopes.com
OPTIKA® India india@optikamicroscopes.com
OPTIKA® USA usa@optikamicroscopes.com
OPTIKA® Central America camerica@optikamicroscopes.com