OLYMPUS®

Your Vision, Our Future

System Microscope

BX43/BX46/BX53

BX3 Series

Comfort and Performance
in Efficient Harmony

UIS2
World-leading optics

Comfort &

BX46
Clinical Microscope

BX43
System Microscope

BX53
System Microscope

A Revolutionary New Standard in Operating Comfort and Imaging Efficiency

The Olympus BX43/BX46/BX53 series defines a revolutionary new standard in laboratory and clinical microscopy. Ergonomic design can provide enhanced operator comfort during long hours of use, with an intuitive control layout for fast, efficient observation and imaging.


OLYMPUS
BX43

Comfortable Posture for the Operator

Binocular Tube Lifts to Meet You Halfway

The U-TTLBI binocular tube lifts, extends and tilts with simple adjustments for optimum posture. This new design allows long hours of observation to be more comfortable, regardless of physique.

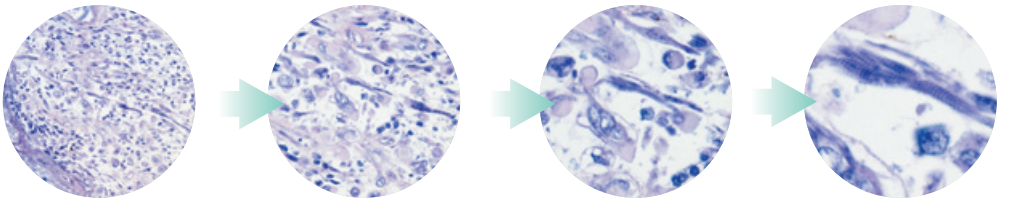
Tilting Binocular tube Lineup Caters To Your Individual Needs

A diverse lineup of tilting tubes is now available to meet various demands, including cost performance with U-TBI-3 and erect image observation with U-ETBI. Eyepoint adjusters/U-EPA2 and U-EPAL-2 accommodate height differences, resulting in a height-appropriate eye-point fit.

Diminishes Eye Fatigue and Repetitive Movements

Light Intensity Manager Controls Brightness

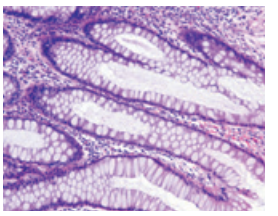
The BX43/BX46 assigns objectives their own brightness, freeing the operator from light intensity adjustments with changes in magnification. Uniform brightness is maintained with objective changeovers, eliminating light intensity control and reducing eye fatigue. Brightness can also be set to suit operator preferences.



Olympus LED*, Optimal Lighting for Pathology and Cytology

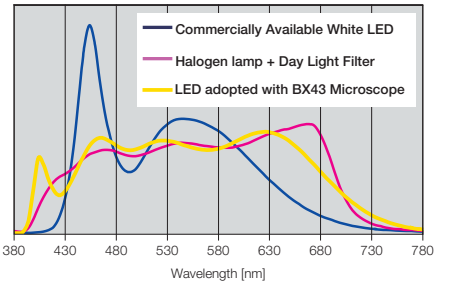
The BX43/BX46 offers a solution for detecting purples, cyans, and reds that are often difficult to view with white LEDs. Olympus white LED with high color rendering index has wavelength characteristics close to those of halogen, realizing halogen lamp-equivalent color reproductions. LED lighting retains color temperature even preventing images from turning reddish or bluish in color.

*LED was jointly developed by Olympus Corporation and CCS Inc.



Colon (HE Stain)
(Illuminated with White LED with High Color Rendering Index)

Spectral Characteristics*



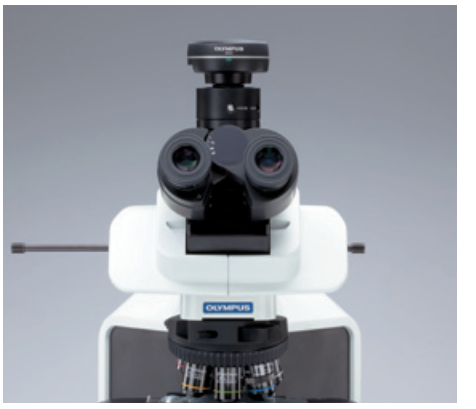
* This graph shows the spectral characteristics of each light source regularized with the luminosity curve. It does not compare the strength of light for each light source.


OLYMPUS
BX63

Accessible Comfort in Conference and Imaging

Tilting Trinocular Tube for Optimal Posture

A camera can be attached to the tilting trinocular tube/U-TTR-2 which accommodates operator physique and posture. The optical path switch can be attached to either side of the tube.



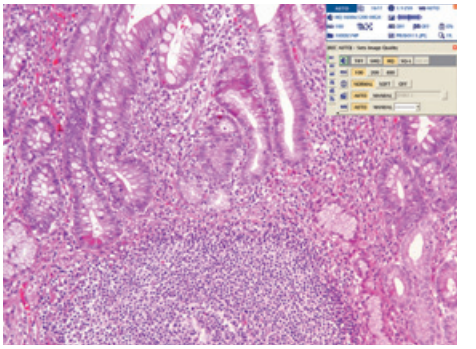
Hand Switch for Image Capture

The U-HSEXP hand switch for exposure attaches easily on the microscope, and allows the operator to capture an image without having to take his/her eyes away from the specimen. The exposure switch is located close to the focus handle creating minimal movement during operation.

DP21 Digital Camera Takes Comfort Further

The Olympus DP21, a stand-alone digital camera that is also computer-friendly, provides accurate color reproductions and smooth, high-definition live image displays that are ideal for conference use. The convenient handset ensures simple operation during image acquisition and measurement.

BX53+Digital Camera DP21 (Stand-alone) Configuration

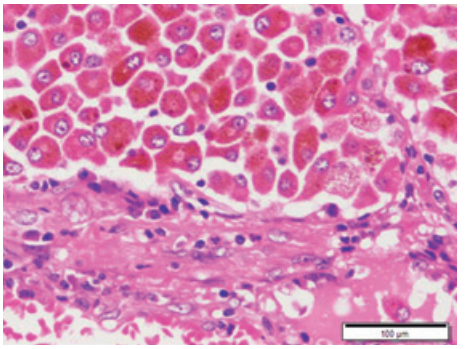


Stomach (HE Stain)

Capturing Images Made Easy

The Olympus digital camera, using the cellSens imaging software platform, facilitates image capture. cellSens is simple to operate, allowing the operator to customize his/her workflow.

BX53+Digital Camera DP73 Configuration



Lung (HE Stain)

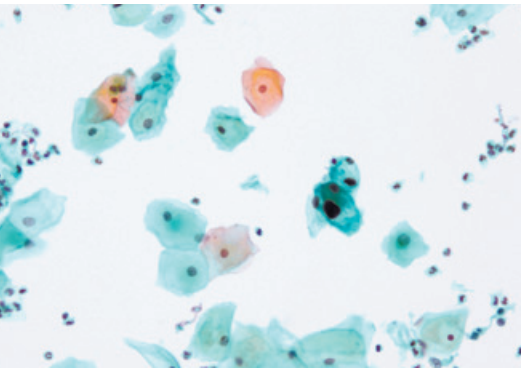
Accurate Post-imaging Measurements

Integration with coded revolving nosepiece allows sharing and recording of objective magnification. The coded revolving nosepiece eliminates errors that occur when the wrong magnification is manually recorded by the operator.

BX43

BX43

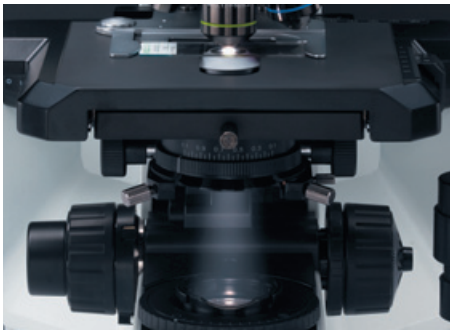
Comfort and Efficiency in Operation

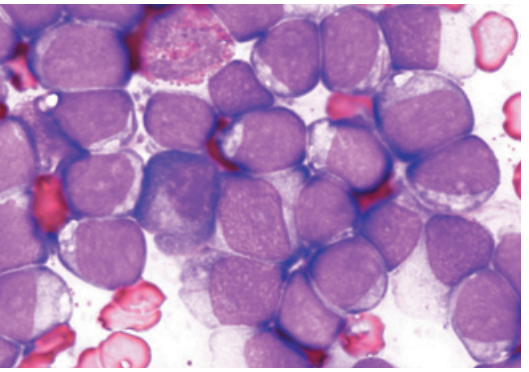


Cervical Cytology (Papanicolaou Stain)

Light Intensity Manager Controls Brightness

This feature functions with the BX43-5RES, a coded 5-position nosepiece for BX43, eliminating light intensity adjustments when switching magnifications. The long-life LED ensures uniform brightness with easy maintenance.

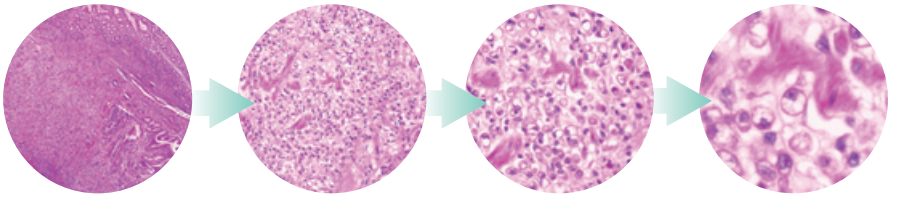




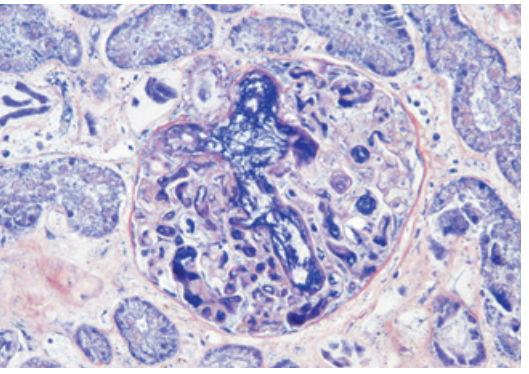
Hematology (Giemsa Stain)

Low Magnification Condenser U-LC

Changing objective magnification from 2x to 100x (dry) is now possible without having to change the condenser or move the top lens.



2x 20x 40x 100x



Kidney (Fibrin, PTAH Stain)

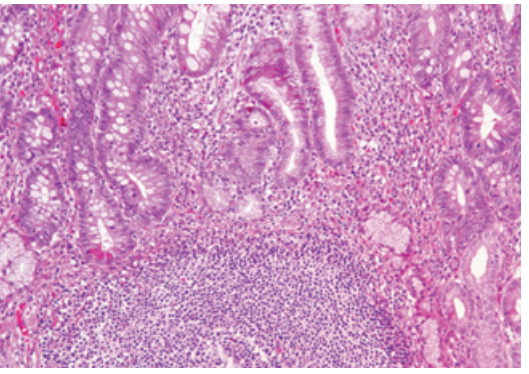
Various Units to Accommodate Observation Style

A diverse lineup of module units including ergonomic observation tubes and stages are available to suit individual applications.

BX46

BX46

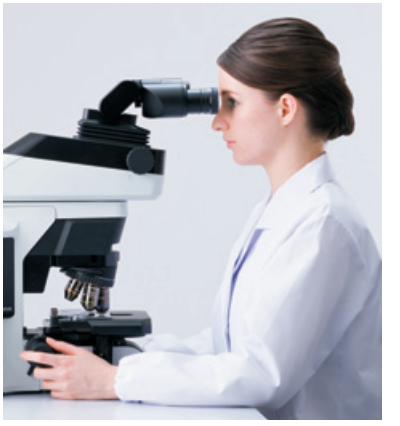
Improved User Comfort and Efficient Operation

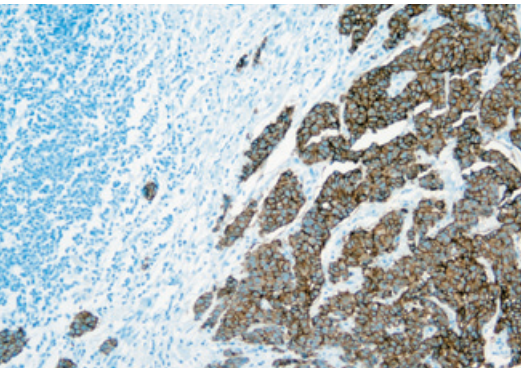


Stomach (HE Stain)

Ergonomic Tube Provides Comfort in Posture

The binocular tube/U-TTLBI tilts, extends and lifts to accommodate operator physique and posture. This feature enhances comfort during long hours of observation.





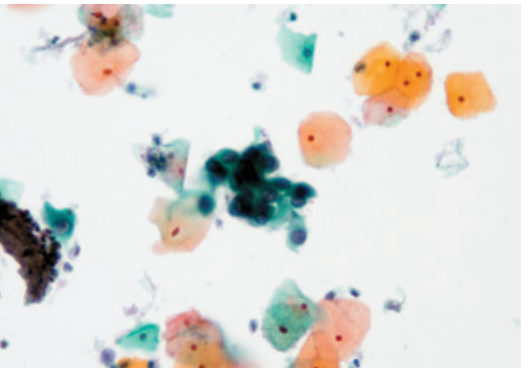
Breast (Anti HER2)

Revolving Nosepiece with Light Intensity Manager Functionality

The light intensity manager sets brightness settings according to the specific objective. Uniform brightness is achieved from low to high magnifications, eliminating light intensity adjustments, therefore reducing eye fatigue. The long-life LED ensures uniform brightness with easy maintenance.

Light Action, Low Torque Stage — Reduced Operator Force to Move the Specimen

Quick yet thorough screenings with simple finger taps alleviate operator fatigue. Low-position handles require only minimal movements, with the lower arm resting comfortably on the desk.



Cervical Cytology (Papanicolaou Stain)

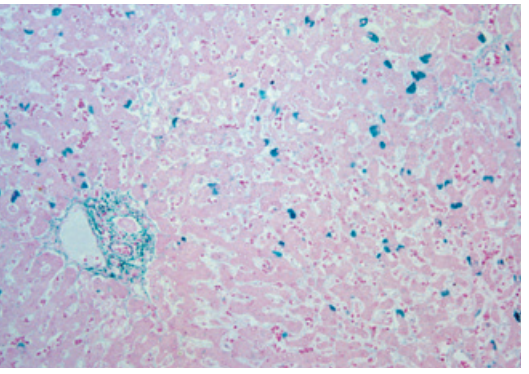
Low, Fixed Stage for Ease in Changing Specimens

Working comfort increases with our low-position fixed stage and nosepiece focus to suit the individual user. Specimen is easily set with minimum hand operations and visibility is improved to reduce operator fatigue.

BX53

BX53

Advanced Modularity to Suit Observation Style



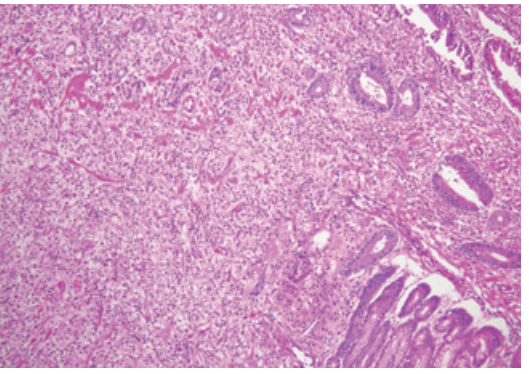
Liver (HBV, Victoria Blue Stain)

Ideal Scalability Answers Various Demands

In addition to integrations with modular components for brightfield observation, various other modular units such as fluorescence, phase contrast, polarization and darkfield are available to enhance scalability. The 100 W halogen-transmitted light source can meet various imaging and multi observation modes.

Further Comfort in Fluorescence Observation

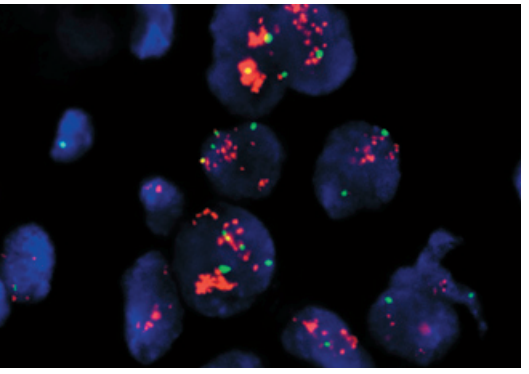
Olympus introduces special high performance filters for all fluorescence mirror units. The fluorescence illuminators can carry eight mirror units simultaneously to seamlessly image multi-stained specimens. Furthermore, no tools are required for mirror unit replacements.



Stomach (HE Stain)

Customizable Control Layout

The BX53 is designed for maximum flexibility in placement, with a centrally positioned light intensity dial and a fluorescence illuminator shutter that can be operated with either hand. In addition, the fine focus handles can be attached on either the right or left side of the microscope according to operator preference.



Breast (HER2, FISH)

Energy-saving Switch Turns off Automatically

The motion sensor detects when an operator leaves and automatically turns off the transmitted light lamp after around 30 minutes. The energy-saving switch conserves energy and lamp lifetime.

A Microscope Designed to Meet Your Specifications and Needs

The Olympus infinity-corrected optical system UIS2 satisfies future scalability needs. Inserting an optical element into the infinity space causes no additional image distortion or deterioration in image quality.

UIS2
World-leading optics

UPLSAPO Series

Thanks to the application of the Olympus original UW multi-coatings, these Super Apochromat objectives compensate for both spherical and chromatic aberrations from the UV to the near infrared region. Their sensitivity to fluorescence emissions ensures the acquisition of sharp, clear images, without color shift, even in brightfield observation. For quality and performance, they offer solutions for digital imaging needs.

PLAPON Series

Designed for unsurpassed resolution and contrast, these Plan Apochromat objectives reduce chromatic aberration to an absolute minimum. 1.25x and 2x objectives are available.

UPLFLN (UPLFLN-PH) Series

These plan objectives also provide flat images with high transmission up to the near infrared region of the spectrum. With their high signal to noise ratio, excellent resolution and high contrast imaging, they are especially effective in brightfield observation.
The UPLFLN-PH series is optimized for phase contrast observation.

PLN (PLN-PH) Series

Ideal for a range of clinical and research applications, these high quality objectives feature excellent flatness up to FN 22 in transmitted brightfield (phase contrast) observation.
The PLN-PH series is specifically designed for phase contrast observation.

No Cover Objectives

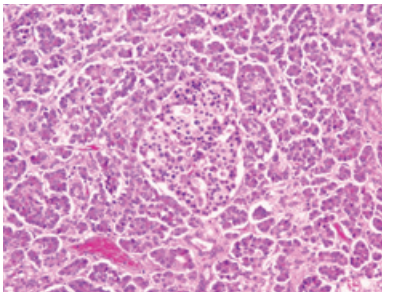
The Olympus coverglass-free objectives are designed for glass slides without a cover slip. This feature is largely designed for observation of blood smear specimens.

Brightfield

Brighter Images, with Superb Resolution/ Flatness at All Magnifications

Olympus offers a diverse line of condensers including: the U-SC3 swing-out condenser, suitable for observations from 1.25x to 100x; the U-LC, for consecutive observations from 2x to 100x (dry); the U-AAC, whose Aplanat-Achromat design reduces chromatic aberration; and the U-ULC-2 special condenser for ultra low magnifications.

*Select the U-ULC2 condenser for optimal digital imaging with the 1.25x objective.



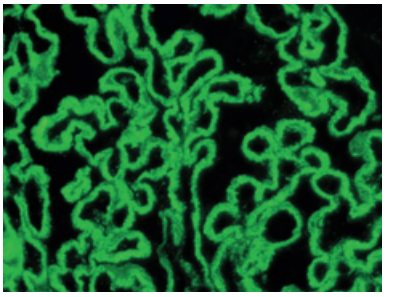
Pancreas (HE)

①U-SC3 ②U-ULC-2 ③U-AC2 ④U-AAC ⑤U-LC

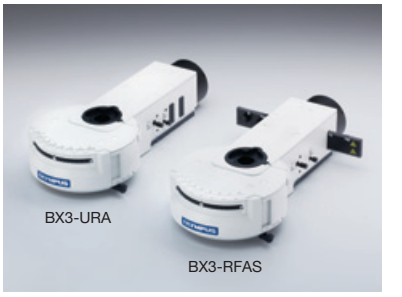
Fluorescence

Olympus Takes Fluorescence Observation to Another Plane

Two types of reflected illuminators are available, the universal reflected illuminator/BX3-URA and the coded fluorescence illuminator/BX3-RFAS. A total of eight fluorescence mirror units can be attached for comfortable multi-color fluorescence observations. High-performance filters provide efficient, bright and even fluorescence observations.



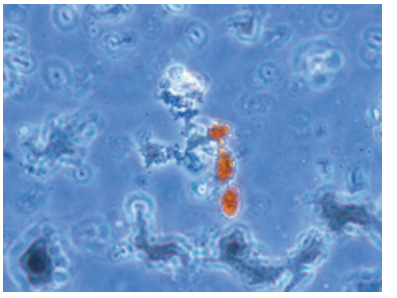
Kidney (Anti IgG)



Phase Contrast

High-contrast, High-resolution Imaging

High contrast phase imaging allows close observation of the cell interior and of live bacteria. Using UPLFLN-PH or PLN-PH series objectives, phase contrast observation from 10x up to 100x is available. With the U-PCD2 phase/darkfield condenser, users can view specimens in brightfield or darkfield. Simultaneous observation with reflected light fluorescence microscopy is also possible.

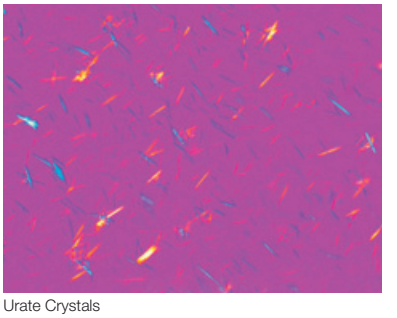


Asbestos

Polarized Light

High-resolution View of Double Refraction Structure in Cells

Tooth, bone, muscle tissue, nerve tissue, actomyosin fiber and mitotic spindle can all be observed, without staining. There are intermediate attachments (U-OPA/U-CPA) for orthoscopic and orthoscopic/conoscopic viewing. Various compensators make it possible to observe a wide range of retardation. Also available is a condenser exclusively for polarization observation, revolving nosepiece, rotating stage, objectives, simple polarizing attachment and analyzer to detect uric acid crystal.



Urate Crystals

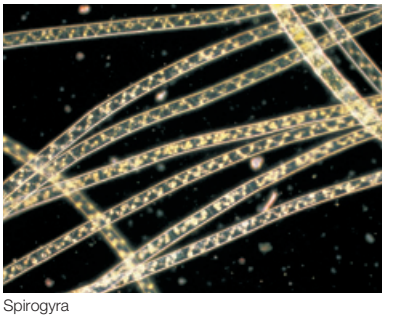
①U-POC-2 ②U-CPA ③U-OPA ④U-AN360P-2 ⑤U-P4RE ⑥U-GAN ⑦BX45-PO

Darkfield

Excellent Darkfield Effect from Low to High Magnifications

Choose from the 10x to 100x dry darkfield condenser/U-DCD or the 20x to 100x oil immersion darkfield condenser/U-DCW.

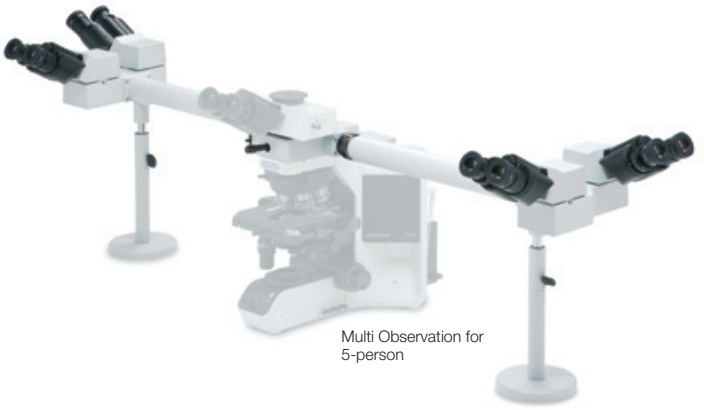
*Please consult your nearest Olympus representative for applicable objectives.



Spirogyra

Group Observation Systems

Olympus discussion systems are invaluable for lab training and education. There is a wide choice, designed for 2 to 10 participants. The pointer is powered by LED, so there is no concern for sudden lamp failure.



Multi Observation for 5-person

Side by Side Observation

Dual Observation

Multi Observation for 10-person

Enhanced Performance Even for the Environment

Olympus Group will develop products, services and production technologies with a careful and conscientious regard for safety and environmental protection, so that the society and environment we pass on will be sound and full of health. BX43/BX46/BX53 are manufactured under Olympus' own green designing standards, established in reference to Type II environmental label indication stipulations in the international standard ISO 14021.

Development/ Production

- Lead-and-arsenic-free Eco-glass for optics, such as lenses and prisms
- Exclusion of hexavalent chrome from metal materials and surface metal treatments
- Exclusion of lead from electric components and solders
- Exclusion of chlorofluorocarbons in production
- Compliance with laws and regulations : RoHS (EU), Chinese RoHS (China), WEEE (EU)

Transport

- Adoption of cardboard packaging

Use

- **LED Illumination** White LED as light source, BX43 and BX46 reduce power consumption by 10%
- **ECO (energy-saving) modes** The BX53 sensor turns off the transmitted light lamp after around 30 minutes.

Waste Disposal

- Waste sorting

Improved recycling rate

BX46 system diagram

◆ **WHN10X-H, CROSS WHN10X**
Eyepieces

* **WHN10X, WHN10X-H, CROSS WHN10X**
Eyepieces

CAMERAS

CAMERA ADAPTERS

* **U-BI30-2**
Binocular tube

* **U-TBI-3***1
Tilting binocular tube
U-TBI-3-CLI*1
Tilting binocular tube

* **U-TTBI**
Ergonomic binocular tube
U-ETBI
Ergonomic erect image binocular tube

◆ **U-TTLBI**
Tilting, telescopic, lifting binocular tube

* **U-TR30-2**
Trinocular tube

◆ **U-TTR-2***2
Tilting trinocular tube

U-ECA
Magnification changer 2x

U-CA
Magnification changer

U-APT
Arrow pointer

U-EPA2
Eyepoint adjuster

U-EPAL-2
Eyepoint adjuster

U-TRUS
Trinocular intermediate unit

U-GAN
Gout analyzer

BX46F
BX46 frame

U-LHLEDC
LED lamp housing

U-LS30ADP
LS30 adapter

U-LS30-5
Lamp socket for 30 W halogen

U-DAL10X
Drawing attachment 10x

U-DA
Drawing attachment

BX45-PO
Polarizer

Filter holder*3

32LBD
ø32 LBD filter for BX46
32IF550
ø32 interference filter for BX46
32LND1.5, 32LND3, 32LND6, 32LND12, 32LND25, 32LND50
ø32 ND filters for BX46, low reflection type

TL4
Power supply unit

U-DO3
Dual observation attachment

U-SDO3
Side by side observation attachment

U-HRD-4, U-HRDT-4
Specimen holder

U-HLD-4, U-HLDT-4
Specimen holder

U-HLS-4, U-HLST-4
Specimen holder

U-FMP
Mechanical stage

U-SVRC-CY
BX46 stage with right hand control for cytology

U-SVRC
BX46 stage with right-hand control

U-SVLC
BX46 stage with left-hand control

U-SHG
U-SHGT
Rubber grip

U-SRG2
Rotatable graduated stage

U-SRP
Precision rotatable stage

U-SP
Plain stage

*1 Vignetting may occur in combination with an additional intermediate attachment.
*2 Only U-EPA-2 and U-EPAL-2 are able to use as an additional intermediate attachment.
*3 Attached to BX46F.

BX43 system diagram

◆ **WHN10X-H, CROSS WHN10X**
Eyepieces
U-CT30-2
Centering telescope

* **WHN10X, WHN10X-H, CROSS WHN10X**
Eyepieces
U-CT30-2
Centering telescope

▲ **SWH10X-H, CROSS SWH10X, MICRO SWH10X**
Eyepieces
U-CT30-2
Centering telescope

TR-Adapter

U-FMT F-mount Adapter
U-TMAD T-mount Adapter
U-SMAD Sony-mount Adapter
U-BMAD Bayonet-mount Adapter
U-CMAD3 C-Mount Adapter
U-TVZ Zoom Adapter
U-TV1X-2 TV Adapter
U-DPCAD Dual port tube with C-mounts
U-CMDPTS C mount adapter for U-DPTS
U-DPTS Multi double port tube
U-CMDPTS C mount adapter for U-DPTS
U-TV0.63XB B4-Mount Adapter

U-SWETTR-5 Super widefield erect image tilting trinocular observation tube
U-SWTR-3 Super widefield trinocular tube
U-ETR-4*1 Erect image trinocular tube
U-TR30NIR Trinocular tube
U-TR30-2 Trinocular tube
U-TTR-2 Tilting trinocular tube
U-BI30-2 Binocular tube
U-TBI-3*1 Tilting binocular tube

U-GAN Gout analyzer
U-ANT Analyzer for transmitted light
U-DICT DIC slider for transmitted light
U-DICTS Shift DIC slider for transmitted light
U-DICTHR High resolution DIC slider for transmitted light
U-DICTHC High contrast DIC slider for transmitted light
U-ANT Analyzer for transmitted light
U-TAD Plate adapter
COMPENSATORS

A **U-D7RES** Coded 7-position nosepiece
A **U-D6RES** Coded 6-position nosepiece
U-D7RE Septuple revolving nosepiece for DIC/simple POL
U-D6RE Sextuple revolving nosepiece for DIC/simple POL
U-P6RE Centerable revolving nosepiece
U-P4RE Centerable revolving nosepiece
OBJECTIVES

A B **BX43F** BX43 frame
U-LS30ADP LS30 adapter
U-LS30-5 Lamp socket for 30 W halogen
TL4 Power supply unit
U-LHLEDC LED lamp housing
45LBDIF
U-POT Polarizer
U-FC Filter cassette
Filter (ø45)

U-CST Centering target
U-HLD-4, U-HLDT-4 Specimen holder
U-HRD-4, U-HRDT-4 Specimen holder
U-HLS-4, U-HLST-4 Specimen holder

U-FMP Mechanical stage
U-SHG Rubber grip
U-SHGT Rubber grip
U-SRG2 Rotatable graduated stage
U-SRP Precision rotatable stage
U-SP Plain stage
U-SVRO Oil rectangular stage with right-hand control
U-SVLO Oil rectangular stage with left-hand control
U-SVRB-4 Mechanical stages with right-hand control
U-SVLB-4 Mechanical stages with left-hand control

*1 Slight vignetting may occur in combination with an additional intermediate attachment or observation method. *2 Require an additional intermediate attachment or fluorescence illuminator.
*3 Cannot be used with U-TTLBI. *4 Compatible with FN 22. *5 An auxiliary lens is equipped.

CAMERAS

U-TV0.25XC
0.25X C-Mount Adapter

U-TV0.35XC-2
0.35X C-Mount Adapter

U-TV0.5XC-3
0.5X C-Mount Adapter

U-TV0.63XC-3
0.63X C-Mount Adapter

U-TV1XC
C-Mount adapter 1X (XY adjustment)

U-ECA
Magnification changer 2x

U-CA
Magnification changer

U-DP*1*3
Dual port

U-DP1XC
Dual port 1x

U-APT
Arrow pointer

U-TBI-3-CLI*1
Tilting binocular tube

U-TTBI
Ergonomic binocular tube

U-ETBI
Ergonomic erect image binocular tube

U-TTLBI*2
Tilting, telescopic, lifting binocular tube

U-TRU*1*3
Trinocular intermediate unit

U-TRUS*3
Trinocular intermediate unit

U-ANT
Analyzer for transmitted light

U-KPA
Intermediate attachment for simple polarizing observation

U-EPA2
Eyepoint adjuster

U-EPAL-2
Eyepoint adjuster

C

U-5RE-2
Quintuple revolving nosepiece

A

BX43-5RES
Coded 5-position nosepiece for BX43

U-LLGAD
Liquid light guide adapter

U-LLG150/ U-LLG300
Liquid light guide (1.5 m/3 m)

U-HGLGPS
Light source

U-LH75XEAPO
75 W xenon apo lamp housing

U-RX-T
Power supply unit for xenon lamp

U-LH100HGAPO
100 W mercury apo lamp housing

U-LH100HG
100 W mercury lamp housing

U-RFL-T
Power supply unit for mercury lamp

U-CPA
Intermediate attachment for conoscopic and orthoscopic observation

U-AN360P-2
Rotatable analyzer

U-OPA
Intermediate attachment for orthoscopic observation

U-DAL10X
Drawing attachment 10x

U-DA
Drawing attachment

U-DO3
Dual observation attachment

U-SDO3
Side by side observation attachment

C

BX3-URA
Universal reflected illuminator

U-PO
Polarizer

BX3-6ND6
ND filter

BX3-25ND25
ND filter

U-AN-2
Analyzer slider

Mirror units

C D

BX3-RFAS*4
Coded fluorescence illuminator

U-DULHA
Double lamp house adapter

U-LC*5
Low magnification condenser

U-AC2
Abbe condenser

U-SC3
Swing-out condenser

U-AAC
Achromatic/ Aplanatic condenser

U-ULC-2
Ultra low condenser

U-PCD2
Phase/darkfield condenser

U-POC-2
Polarizing condenser

U-DCD
Darkfield condenser, dry

U-DCW
Darkfield condenser, oil

Optical devices

U-CO1.25X
Low magnification conversion lens for UCD

U-UCD8-2
8-position universal condenser

U-TLO
Oil top lens

U-TLD
Dry top lens

A

B D

U-IFRES
Interface for coded nosepiece

A D

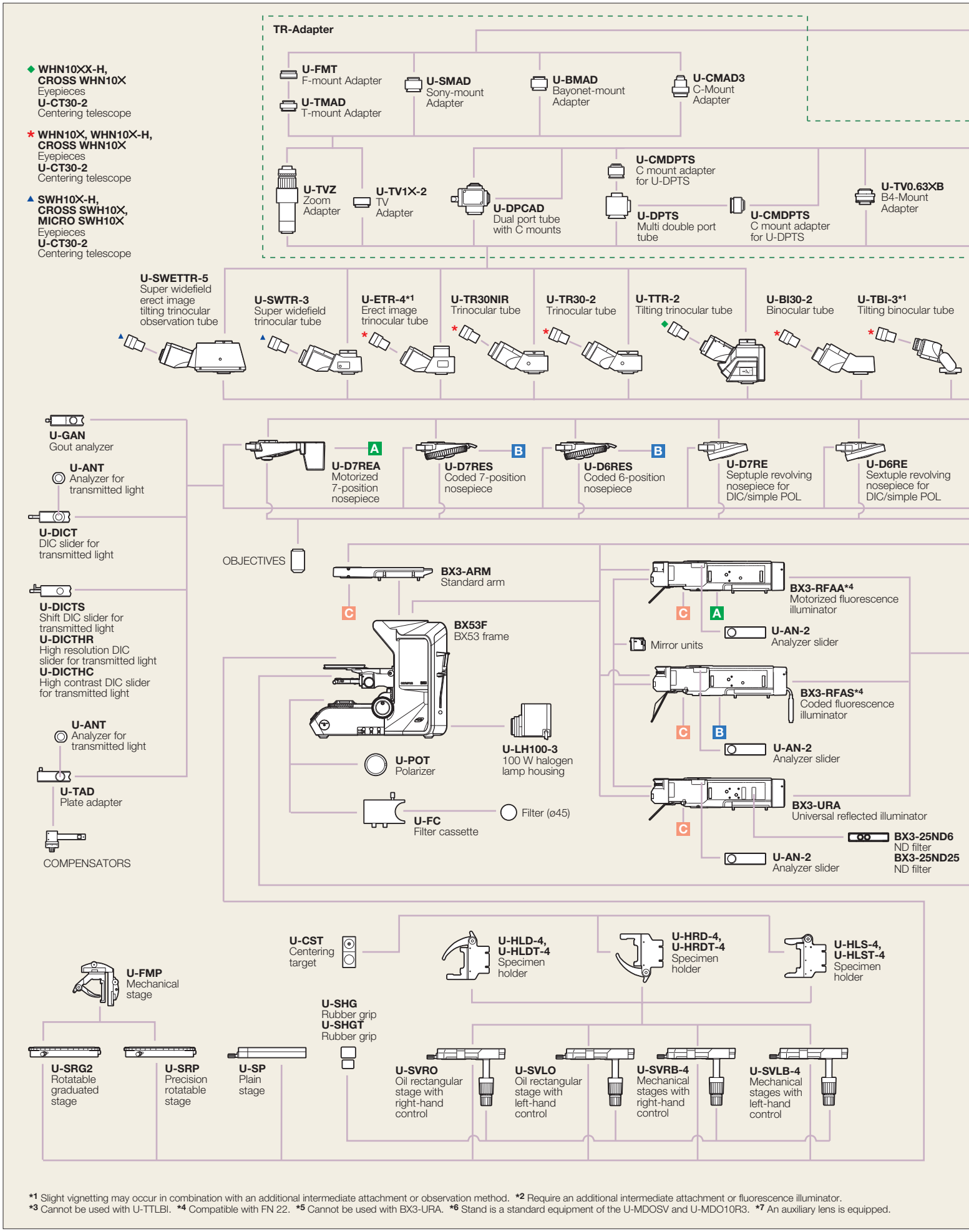
U-CBS
Control box for coded function

U-HSEXP
Hand switch for exposure

DP21-SAL
Standalone Connection Kit

PC (Software)

BX53 system diagram



*1 Slight vignetting may occur in combination with an additional intermediate attachment or observation method. *2 Require an additional intermediate attachment or fluorescence illuminator.
*3 Cannot be used with U-TTLBI. *4 Compatible with FN 22. *5 Cannot be used with BX3-URA. *6 Stand is a standard equipment of the U-MDOSV and U-MDO10R3. *7 An auxiliary lens is equipped.

CAMERAS

U-TV0.25XC
0.25X C-Mount Adapter

U-TV0.35XC-2
0.35X C-Mount Adapter

U-TV0.5XC-3
0.5X C-Mount Adapter

U-TV0.63XC-3
0.63X C-Mount Adapter

U-TV1XC
C-Mount adapter 1X (XY adjustment)

U-TBI-3-CLI*1
Tilting binocular tube

U-TTBI
Ergonomic binocular tube

U-ETBI
Ergonomic erect image binocular tube

U-TTLBI*2
Tilting, telescopic, lifting binocular tube

C

U-P6RE
Centerable sextuple revolving nosepiece

U-P4RE
Centerable revolving nosepiece

U-5RE-2
Quintuple revolving nosepiece

U-ECA
Magnification changer 2x

U-KPA
Intermediate attachment for simple polarizing observation

U-ANT
Analyzer for transmitted light

U-CA
Magnification changer

U-DP*1*3
Dual port

U-DP1XC
Dual port 1x

U-APT
Arrow pointer

U-EPA2
Eyepoint adjuster

U-EPAL-2
Eyepoint adjuster

U-TRU*1*3
Trinocular intermediate unit

U-TRUS*1
Trinocular intermediate unit

U-CPA
Intermediate attachment for conoscopic andorthoscopic observation

U-AN360P-2
Rotatable analyzer

U-OPA
Intermediate attachment for orthoscopic observation

U-DAL10X
Drawing attachment 10x

U-DA
Drawing attachment

U-DO3
Dual observation attachment

U-SDO3
Side by side observation attachment

U-LLGAD
Liquid light guide adapter

U-LLG150/ U-LLG300
Liquid light guide (1.5 m/3 m)

U-HGLGPS
Light source

U-LHEAD*5
Extension adapter for lamp housing

U-DULHA
Double lamp house adapter

U-LH75XEAPO
75 W xenon apo lamp housing

U-RX-T
Power supply unit for xenon lamp

U-LH100HGAPO
100 W mercury apo lamp housing

U-LH100HG
100 W mercury lamp housing

U-RFL-T
Power supply unit for mercury lamp

A

U-AW
Motorized attenuator wheel

U-MDOSV*6
Multi observation side viewer

U-MDOB3
Multi observation body

U-MDO10B3
Multi observation body for 10 persons

U-MDO10R3*6
Multi observation body for 10 persons

U-LC*7
Low magnification condenser

U-AC2
Abbe condenser

U-SC3
Swing-out condenser

U-AAC
Achromatic/ Aplanatic condenser

U-ULC-2
Ultra low condenser

U-PCD2
Phase/darkfield condenser

U-POC-2
Polarizing condenser

U-HSEXP
Hand switch for exposure

Stand*6

U-CBS
Control box for coded function

B

U-HSCBM
Hand switch for CBM

DP21-SAL
Standalone Connection Kit

Optical devices

U-CO1.25X
Low magnification conversion lens for UCD

A

BX3-UCD8A
Motorized universal condenser

U-TLO
Oil top lens

U-TLD
Dry top lens

U-DCD
Darkfield condenser, dry

U-DCW
Darkfield condenser, oil

U-UCD8-2
8-position universal condenser

A

U-IFCBL200
Interface cable, 200 cm

U-CBM
Control box

PC (Software)

BX43 specifications

Microscope frame	Optical system	UIS2 optical system
	Focus	Vertical stage movement: 25 mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse adjustment knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1 µm)
	Illuminator	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source, 6 V 30 W halogen bulb (pre-centered)
Revolving nosepiece		Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded sextuple/coded septuple nosepiece
Observation tube	Widefield (FN 22)	• Widefield tilting, telescopic and lifting binocular • Widefield tilting trinocular • Widefield trinocular • Widefield erect image trinocular • Widefield tilting binocular • Widefield ergo binocular • Widefield binocular
	Super widefield (FN 26.5)	• Super widefield trinocular • Super widefield erect image tilting trinocular
Stage		Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)
Condenser		• Abbe (NA 1.1), for 4x–100x • Swing out Achromatic (NA 0.9), for 1.25x–100x (swing-out: 1.25x–4x) • Achromatic Aplanatic (NA 1.4), for 10x–100x • Phase contrast, darkfield (NA 1.1), [phase contrast: for 10x–100x, darkfield: for 10x–100x (up to NA 0.80)] • Universal (NA 0.9), for 1.25x–100x [swing-out: 1.25x–4x, with oil top lens:(NA 1.4)] • Low (NA 0.75), for 2x–100x (Dry) • Ultra low (NA 0.16), for 1.25x–4x • Darkfield dry (NA 0.8–0.92), for 10x–100x • Darkfield oil (NA 1.20–1.40), for 10x–100x

BX46 specifications

Microscope frame	Optical system	UIS2 optical system
	Focus	Fixed low stage nosepiece focus 15 mm focus stroke with coarse adjustment limit stop Torque adjustment for coarse adjustment knobs High sensitivity fine focusing knob (adjustment gradations: 1 µm)
	Illuminator	Built-in Koehler illumination for transmitted light, light intensity manager switch High color reproductivity LED light source
Revolving nosepiece		Fixed reversed coded quintuple nosepiece
Observation tube	Widefield (FN 22)	• Widefield tilting trinocular • Widefield trinocular • Widefield tilting binocular • Widefield tilting,Telescopic,Lifting binocular • Widefield ergo binocular • Widefield binocular
Stage		Ceramic-coated coaxial stage with left or right hand low drive control, rotating mechanism and torque adjustment mechanism (Low torqe, Plain, Rotating stages are also available)
Condenser		Built-in condenser (NA 0.9) 1.25x–100x (swing out: 1.25x–2x)

BX53 specifications

Microscope frame	Optical system	UIS2 optical system
	Focus	Vertical stage movement: 25 mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse adjustment knobs, Stage mounting position variable, High sensitivity fine focusing knob (minimum adjustment gradations: 1 µm)
	Illuminator	Built-in Koehler illumination for transmitted light, Light preset switch, Light intensity LED indicator, Built-in filters (LBD-IF, ND6, ND25, optional) 12 V 100 W halogen bulb (pre-centered)
Revolving nosepiece		Interchangeable reversed quintuple/coded quintuple/sextuple/septuple/coded sextuple/coded septuple nosepiece
Observation tube	Widefield (FN 22)	• Widefield tilting trinocular • Widefield trinocular • Widefield tilting binocular • Widefield tilting,Telescopic,Lifting binocular • Widefield ergo binocular • Widefield binocular
	Super widefield (FN 26.5)	• Super widefield trinocular • Super widefield erect image tilting trinocular
Stage		Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available (Non stick grooved coaxial, plain, rotatable stages are also available)
Condenser		• Abbe (NA 1.1), for 4x–100x • Swing out Achromatic (NA 0.9), for 1.25x–100x (swing-out: 1.25x–4x) • Achromatic Aplanatic (NA 1.4), for 10x–100x • Phase contrast, darkfield (NA 1.1), [phase contrast: for 10x–100x, darkfield: for 10x–100x (up to NA 0.80)] • Universal (NA 0.9), for 1.25x–100x [swing-out: 1.25x–4x, with oil top lens:(NA 1.4)] • Low (NA 0.75), for 2x–100x (Dry) • Ultra low (NA 0.16), for 1.25x–4x • Darkfield dry (NA 0.8–0.92), for 10x–100x • Darkfield oil (NA 1.20–1.40), for 10x–100x
Fluorescence illuminator		• Multi-purpose coded type (FN 22, 8-position mirror unit turret, 4-position ND slider) • Economical type (FN 26.5, 8-position mirror unit turret)
Fluorescence light source		100 W Hg apo lamp housing and transformer, 100 W Hg lamp housing and transformer, 75 W Xe lamp housing and transformer or 130 W Hg light guide illumination

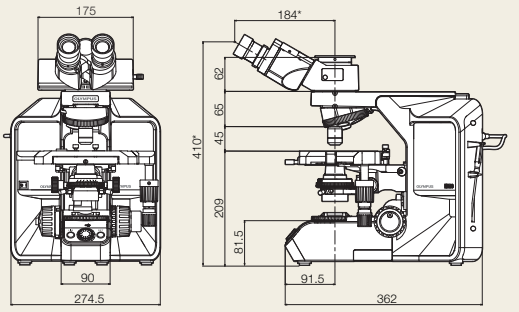
The U-CBM is designed for the BX3 use in industrial environments for the EMC performance (IEC61326-1 Class A device). Using it in a residential environment may affect other equipment in the environment.

BX43/BX46/BX53 common specifications

Operating environment	• Indoor use • Ambient temperature : 5 º to 40 ºC (41 º to 104 ºF) • Maximum relative humidity : 80 % for temperatures up to 31º C (88 ºF), decreasing linearly through 70 % at 34 ºC (93 ºF), 60 % at 37 ºC (99 ºF), to 50 % relative humidity at 40 ºC (104 ºF) • Supply voltage fluctuations : Not to exceed ±10 % of the normal voltage

BX43 dimensions

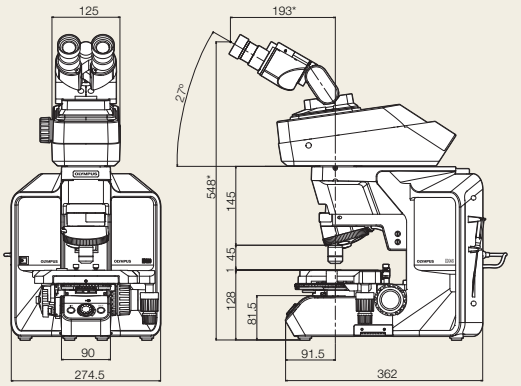
(unit: mm)



Weight: Approx. 13 kg, Power consumption: Approx. 4 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

BX46 dimensions

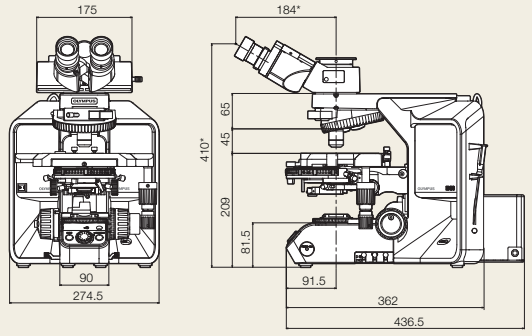
(unit: mm)



Weight: Approx. 17 kg, Power consumption: Approx. 4 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

BX53 dimensions

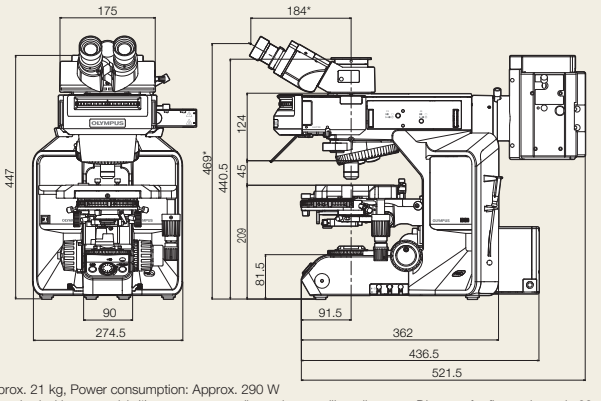
(unit: mm)



Weight: Approx. 16 kg, Power consumption: Approx. 140 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

BX53 FL dimensions

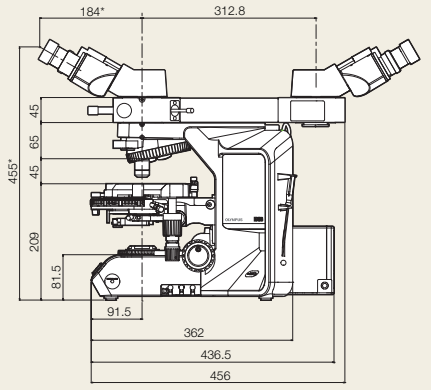
(unit: mm)



Weight: Approx. 21 kg, Power consumption: Approx. 290 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

BX53+U-DO dimensions

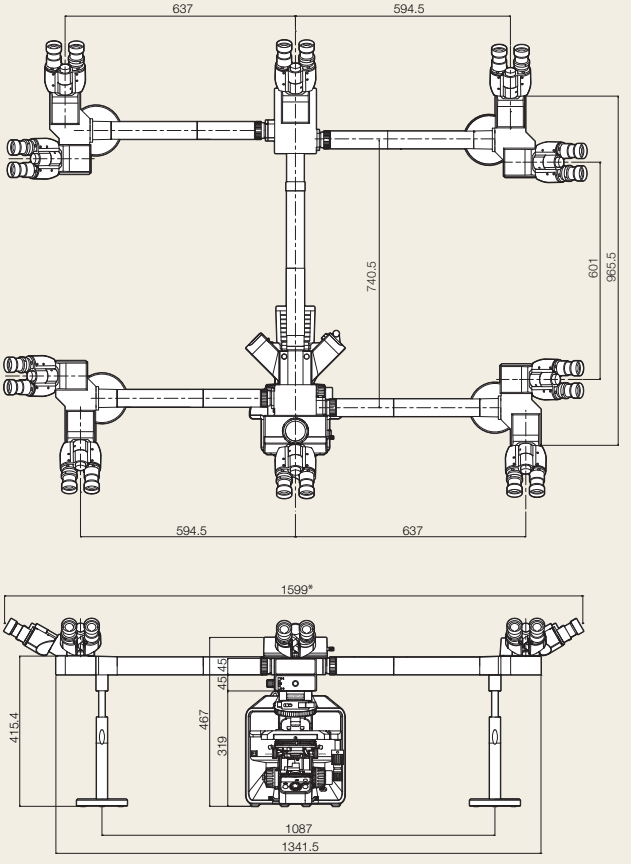
(unit: mm)



Weight: Approx. 19 kg, Power consumption: Approx. 140 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

BX53+U-MDO10 dimensions

(unit: mm)



Weight: Approx. 35 kg, Power consumption: Approx. 140 W
The length marked with an asterisk (*) may vary according to interpupillary distance. Distance for figure shown is 62 mm.

- **OLYMPUS CORPORATION is ISO14001 certified.**
- **OLYMPUS CORPORATION is FM553994/ISO9001 certified.**
- **OLYMPUS CORPORATION is MD540624/ISO13485 certified.**
- **Illumination devices for microscope have suggested lifetimes. Periodic inspections are required. Please visit our web site for details.**

OLYMPUS®

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OLYMPUS

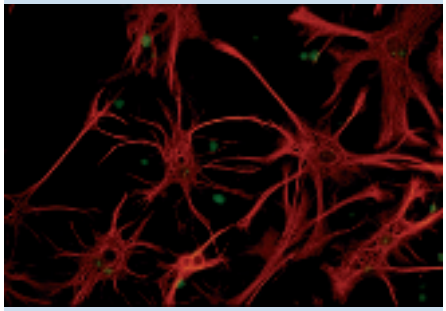
Your Vision, Our Future

LED Illumination Light Sources

FluoLED Range

Transmitted Fluorescence

Fluorescence for All



LEDS: THE FUTURE OF ILLUMINATION

LEDs are small solid-state electronic devices which can be made to emit light in specific wavelength bands without the use of colour filters. They have already found widespread acceptance for diverse lighting requirements such as digital clocks, traffic lights and household appliances, and were first used in microscopy for white light illumination in ring lights and illumination bases for stereo microscopes. Recent advances now mean they are powerful enough to be used as sources of fluorescent illumination for microscopy. They have many advantages over arc burner-based systems, such as lower cost of purchase and ownership. Furthermore, they reach operating conditions almost instantaneously and can be switched on and off very quickly. There is no need for neutral-density filters since light intensity can be changed by varying the voltage, without any colour effects as with tungsten bulbs or arc burners.

FluoLED
LED cassette

FluoLED MultiFluo
Illuminator with three LED cassettes

LEDs offer excellent illumination stability, and are also extremely safe to use and dispose of since they do not explode or have any harmful components. They produce light more efficiently than other light sources and this combined with their long lifetimes (2-year warranties offered on FluoLED units) ensure they offer cost and energy savings.

FluoLED

The FluoLED system has been specifically designed for use with transparent specimens, such as bacteria and thin sections, which require transmitted fluorescence illumination. The system provides very good signal-to-noise ratios (S/N) with high intensities and is very easy to retrofit to the Olympus CX upright microscope range. With the unit fitted, normal brightfield light can still be used by just sliding out a mirror.

Importantly, the light source is simple and intuitive to use as well as being alignment-free, meaning it can be installed and used instantly. Very few other optical items are required since no excitation or dichroic filters are necessary except for in the MultiFluo system, which uses dichroic filters due to the multiple input wavelengths. As a result, signal separation is very easy to achieve.

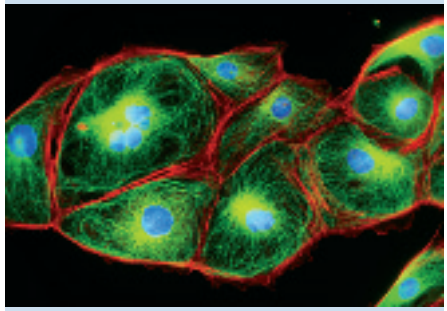
All these features make it the perfect entry-level fluorescence system for educational, clinical and routine use – day in, day out.

Multiple versions

The FluoLED system is available in three versions, all of which attach directly to Olympus CX microscopes to provide transmitted fluorescence whilst still maintaining the microscopes' capacity to perform normal transmitted brightfield illumination. The fixed-wavelength FluoLED Easy Blue system provides a low-cost, entry-level system with consistent intensity. The package includes a 480 nm LED cassette and 510 nm emission filter, making it perfect for blue excitable fluorescent dyes such as FITC. The FluoLED single-channel system provides on/off and intensity control for one of the seven interchangeable LED cassettes, which provides excellent flexibility for fluorescence dye detection. The FluoLED MultiFluo (available for Olympus CX31/CX41 only) provides variable intensity control of two or three of the seven available LED cassettes for multicolour observations.

Fluorescence for all

The ease of use, low running costs and the adaptation to small laboratory microscopes of the FluoLED systems make fluorescence microscopy available to a new range of user groups. For example, using fluorescent markers in the detection of infections such as tuberculosis could deliver results with higher fidelity and efficiency than standard staining procedures. Furthermore, the on-site investigation at crime scenes could benefit from access to a fluorescence microscope for immediate analysis and would ensure that decisions are made more quickly and therefore more effectively. For the most remote locations, the FluoLED EasyBlue and Single systems can be powered via batteries or even solar power, opening up a new world of possibilities.

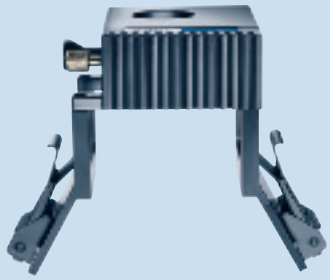


Your fluorescence microscope

All Olympus CX2 microscopes feature peerless UIS2 optics which ensure the highest optical standard. The most cost-efficient fluorescent system available from Olympus consists of the CX21 microscope, which provides the best image flatness in its class, in combination with FluoLED EasyBlue. For additional flexibility, the CX21 can also be combined with the FluoLED Single system. The FluoLED Single and multicolour FluoLED MultiFluo can also be fitted onto the CX31 with its excellent field number (FN20) and integrated 30 W adjustable halogen lamp. For the ultimate FluoLED system, the Single and MultiFluo can be fitted to the highly flexible, modular CX41 system microscope for all inspection and education applications in life science and medicine.

FluoLED Single

Illuminator with LED cassette



Specifications

	FluoLED EasyBlue CX21	FluoLED EasyBlue CX31/CX41	FluoLED Single CX21	FluoLED Single CX31/41	FluoLED MultiFluo CX31/CX41
LED cassettes	480 nm incl.	480 nm incl.	1	1	Up to 3
Intensity control	Fixed driver	Fixed driver	1-channel electronic driver	1-channel electronic driver	3-channel electronic driver
Emission filter slider	None, 510 nm LP filter incl.	None, 510 nm LP filter incl.	3 positions	3 positions	6 positions
UV blocking filter	Not necessary	Not necessary	Included	Included	Included
Battery pack	Optional	Optional	Optional	Optional	Not possible
Solar battery charger	Optional	Optional	Optional	Optional	Not possible

Note: For FluoLED Single and MultiFluo: LED cassettes and emission filters to be ordered separately. Additional dichroic filters must be ordered for FluoLED MultiFluo.
Note: FluoLED® is a registered trademark of FRAEN Corporation Srl.

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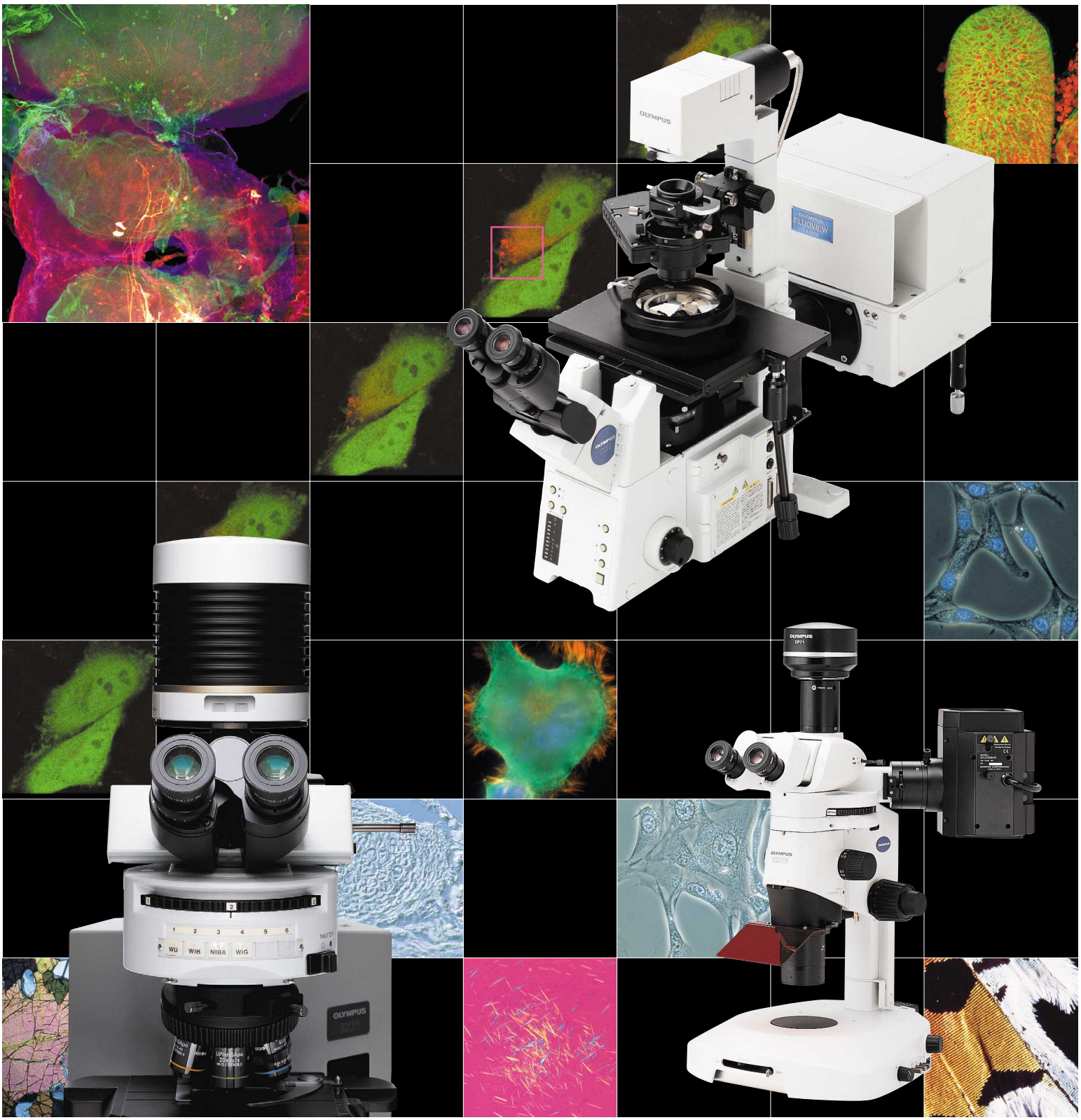
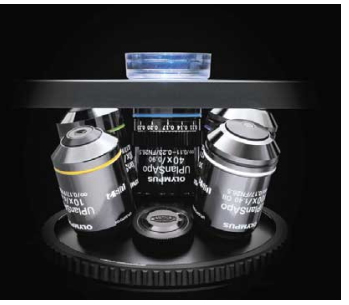
OLYMPUS®

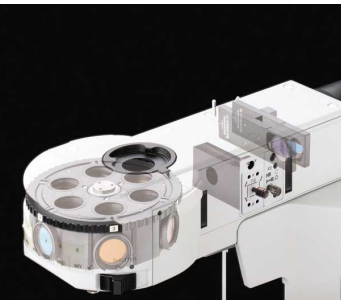
Your Vision, Our Future

BIOLOGICAL MICROSCOPES

2006-09







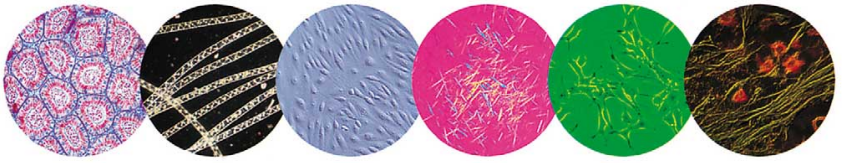
New avenues of research are opening in biological and medical fields. As research demands become more specialized and diversified, biological microscopes must offer the capabilities to meet these needs.

Olympus microscopes and their accessories are developed to meet the ever-changing needs of research applications.

Our accomplishments in microscope development date back more than three-quarters of a century. Olympus has accumulated a broad range of advanced optical and precision technologies and we are renowned for our innovative approach to microscopy.

An outstanding example of Olympus ingenuity is the superior UIS2 infinity-corrected optical system employed on the BX2 and IX2 microscopes. Olympus has also won acclaim for its system versatility and broad range of advanced accessories.

Our microscopes are evolving with enhanced performance and operational ease. Olympus continues to answer research demands in the biological and medical field of today and pave the way for future advances with increasingly sophisticated research equipment.



Contents

FLUOVIEW FV1000
CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE

UIS2
World-leading optics

FV1000+IX81

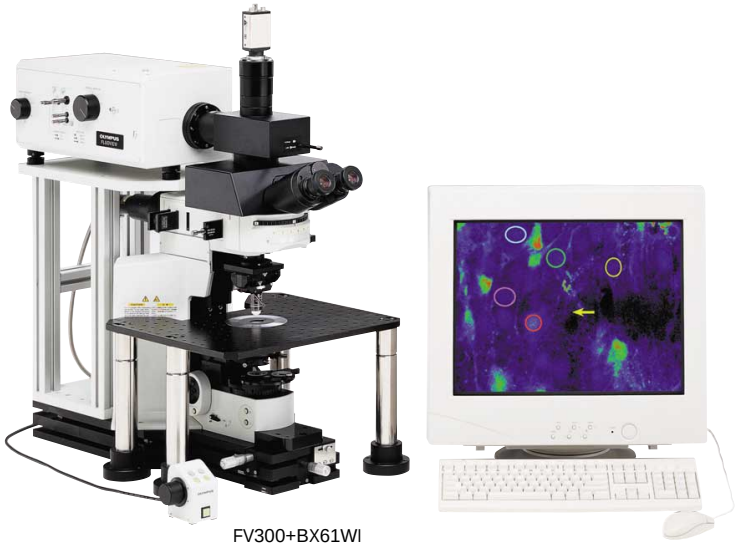
The FV1000 has an original spectral detection system which uses a high speed diffraction grating combined with a variable slit to deliver superior linear spectral distribution. This enables high-precision, high-resolution, high-speed spectroscopy in observations ranging from milliseconds to hours. SIM (SIMultaneous) Scanner System synchronizes laser light stimulation and confocal imaging. The FV1000 incorporates 2 laser scanners for simultaneous observation and laser light stimulation.
The FV1000 is the most suitable choice of microscope for FRAP, FLIP and photo activation.

		Spectral type fluorescence detector	Filter type fluorescence detector
Laser light	Visible light laser	Multi-line Ar laser ,HeNe(G) laser, HeNe (R) laser HeNe(G) laser (543nm, 1mW), HeNe (R) laser(633nm, 10mW) Visible light laser platform with implemented AOTF system	
	Violet laser (option)	Laser Diode 405nm, 440nm	
	Laser port	Standard 3 laser ports, VIS - UV - IR	
Scanning and Detection	Detector module	Standard 3 confocal Channels. Spectral detection : CH1 and CH2 equipped with independent grating. CH3 with 6 position barrier filter turret	Standard 3 confocal Channels. CH1 to CH3 each with 6 position barrier filter turret.
	Scanning method	Dual galvano mirror scanner (X, Y)	
	Scanning modes	pixel size:64 x 64 — 4096 x 4096 Pixel Dwell time: 2 to 200 microsec with unidirectional 0.5 or 1 microsec with fast bidirectional scanning X,Y,T,Z,λ (any combination) Line scanning: Straight line with free orientation, free line	
	Field Number (N.A.)	18	
	Optical Zoom	1X — 50X in 0.5X increment	
	Z-drive	Motorized focus module of the microscope, minimum increment 10 nm	
	Transmitted light detector unit	External transmitted photomultiplier detector	
Micro-scope	Motorized microscope	Inverted IX81, Upright BX61, Upright focussing nosepiece & fixed stage BX61WI	
Option-al unit	SIM Scanner	2 Galvano scanning mirrors, pupil projection lens, built-in laser shutter, 1 laser port Fiber introduction of near UV laser diode or visible light laser, Optional: 2nd AOTF laser combiner	

*Please refer to FV1000 catalog for further details

FLUOVIEW FV300
CONFOCAL LASER SCANNING BIOLOGICAL MICROSCOPE

UIS2
World-leading optics



FV300+BX61WI

The FV300 gives both individual and group users the right solution to match their research needs and budget.
The system is compatible with the Olympus research range of microscopes offering high resolution confocal sectioning with the ability to conduct time-lapse experiments.
The FV300 offers a wider number of options with the ability to upgrade the systems for the future.

- Highest image quality (12 bit, 2048x2048 pixel resolution) with economical cost.
- Simultaneous capturing of 2 fluorescence and 1 transmitted light detector images.
- Simple, straight optical systems for easy system construction.

Up to 3 channel *2-channel fluorescence (+1-channel transmitted light)		
Visible light laser, *Ar laser, *Multi laser, *Green HeNe laser, *Red HeNe laser, Helium Cadmium laser		
1 laser port for visible light laser		
Manual operating scanning unit		
5-position single pinhole turret		
Scanning unit, *Galvanometer mirror scanner (both X and Y), *Photo detector: PMT		
Automatic laser control/laser combiner *Each laser light path is equipped with continuously variable neutral density filters or AOTF and a shutter All laser lines are combined and introduced into via a single fiber optic		
Intuitive user friendly software		
Scanning mode:	1-dimension: Point scanning 2-dimension (space): X-Y, rect, X-Z, linear line-Z and free line-Z 2-dimension (time): X-t, linear line-t and free line-t 3-dimension (space): X-Y-Z and rect-Z 3-dimension (time): X-Y-t, X-Z-t and rect-t 4-dimension: X-Y-Z-t and rect-Z-t	
Image size and scanning speed:	256X256(0.45s) - 2048X2048(10.835s)	
*High speed mode:	512X512(0.25s)	
Image acquisition:	12bit	
Image analysis:	2D measurement, image filtering, various image display mode, 3D animation display etc.	
Microscope Upright microscope (BX50, BX51, BX61), Inverted microscope (IX70, IX71, IX81), Fixed stage upright microscope (BX61WI)		

*Please refer to FV300 catalog for further details

BX61
MOTORIZED SYSTEM MICROSCOPE

UIS2 World-leading optics

Motorized system microscope BX61 in the BX2 series features outstanding reliability in highly advanced microscopy such as three dimensional imaging capture with high-end fluorescence imaging and confocal microscope.
Standard features include motorized focusing and light adjustment and a stage escape mechanism. Several key macro microscope operations are available by software-controlled setting, and executed by hand switch, personal computer.

- Uses flexible software which can easily be customized for specific purposes.
- Many operating procedures (including switching between observation methods) are stored as individual macros and allotted to buttons on the microscope, hand switches and keys on the monitor of the personal computer.
- A wide variety of separate modules make expansion very easy.

Illumination	Transmitted light 12V100W halogen Koehler illumination
Focusing	Motorized focus Full stroke: 14mm, minimum fine adjustment: 0.01µm
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield tilting/telescoping binocular (F.N.22), super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed quintuple/sextuple/septuple, motorized sextuple with slider slot for DIC, septuple for DIC/simple POL
Stage	Ceramic-coated coaxial with left or right hand low drive control, non-stick grooved coaxial, plain, rotatable
Condenser	Abbe (N.A.1.1), swing out Achromatic (N.A.0.9), Achromatic Aplanatic (N.A.1.4), Universal (N.A.1.4/0.9)
Other features	Coarse/fine changeover button, stage shunting button, stage up/down button, built-in filters (LBD-IF, ND6, ND25, option)
Accessories	Motorized fluorescence illuminator, motorized universal condenser, motorized transmitted filter wheel, motorized reflected filter wheel, motorized observation filter wheel, hand switch, control unit, etc.

*Please refer to BX51/BX61 catalog for further details

BX51
SYSTEM MICROSCOPE

UIS2 World-leading optics

This leading model from the BX2 series offers improved ergonomic and system performance, and is widely used in both routine work and specialized research. It is equipped with Olympus' original UIS2 optic system, and a high-rigidity Y-shape frame with newly refined ergonomics. Excellent features provide the flexibility needed for compliance with a variety of applications. In addition, many kinds of filter sliders and accessories are all designed with multiple openings on the bodies and illuminators.

- Can be combined with a swing-out condenser and a septuple revolving nosepiece with DIC slider to enable continuous observations from 1.25X to 100X.
- A newly developed 8-position universal condenser gives even greater freedom to combine observation methods.

Illumination	Transmitted light 12V100W halogen Koehler illumination
Focusing	Coarse & fine coaxial handle: full stroke: 25mm, minimum fine adjustment: 1µm
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield tilting/telescoping binocular (F.N.22), super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed quintuple/sextuple/septuple
Stage	Ceramic-coated coaxial with left or right hand low drive control, non-stick grooved coaxial, plain, rotatable
Condenser	Abbe (N.A.1.1), swing out Achromatic (N.A.0.9), Achromatic Aplanatic (N.A.1.4), Universal (N.A.1.4/0.9)
Other features	Coarse/fine changeover button, stage shunting button, stage up/down button, built-in filters (LBD-IF, ND6, ND25, option)
Accessories	Reflected light fluorescence attachment, DIC attachment, phase-contrast attachment, multi-viewing attachment, polarizing attachment, etc.

*Please refer to BX51/BX61 catalog for further details

BX41
LABORATORY MICROSCOPE

UIS2 World-leading optics

ECO-PRODUCTS

This key model in the BX2 series offers excellent cost-performance and meets a wide variety of needs in the routine inspection of laboratories and clinics. The extensive range of features benefits from consistently simple operation, enhanced by Olympus' original and ergonomically-advanced Y-shape frame design and UIS2 optical system. This model allows easy system expansion: by combining multiple units together, it can meet the majority of general working requirements.

- Newly developed 30W halogen light source provides as much brightness as a conventional 50W halogen lamp.
- Equipped with an easy-to-operate rackless stage with no protrusion of the X-axis guide.
- The front-located power switch and light intensity volume control make it possible to operate the microscope with the arms resting on the desk.
- A 3-filter cassette enables quick, easy exchange.
- The detachable revolving nosepiece allows quick exchange of objectives to suit different observation methods.

Illumination	Transmitted light 6V30W halogen Koehler illumination
Focusing	Vertical stage movement: 25mm; Stage stroke with coarse adjustment limit stop; Torque adjustment for coarse adjustment knobs; Stage mounting position variable; High sensitivity fine focusing knob (adjustment graduations 1µm)
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield ergo binocular (F.N.22) super widefield trinocular (F.N.26.5)
Nosepiece	Interchangeable reversed sextuple/quintuple
Stage	Ceramic coated coaxial with right or left hand low drive control and rotating mechanism, non stick grooved coaxial, plain, rotatable
Condenser	Abbe(N.A.1.1), swing-out Achromat (N.A.0.9), Achromatic Aplanat (N.A.1.4), phase-contrast/darkfield (N.A.1.1), darkfield dry (N.A,0.8-0.92), darkfield oil (N.A.1,20-1,40), ultra low (N.A.0.16)
Other feature	Light pre-set switch
Accessories	Reflected light fluorescence attachment, DIC attachment, phase-contrast attachment, multi-viewing attachment, etc.

*Please refer to BX41/BX45/BX45A/BX51 catalog for further details

BX45/BX45A
ERGONOMIC LABORATORY MICROSCOPE
AUTOMATED ERGONOMIC LABORATORY MICROSCOPE

UIS2 World-leading optics

ECO-PRODUCTS
BX45

These high-performance laboratory microscopes are equipped with UIS2 optics that provide excellent image quality, and the same ergonomically advanced Y-shape frame as other models in the BX2 series.

- Use no-cover objectives which are suitable for observing smear specimens (e.g. blood) with no cover glass.
- 2x,4x,10x and 20x objectives equipped with ND filter enable the same level of brightness even if the magnification is changed from 2x to 40x. No brightness adjustment (e.g.of light intensity) is required.
- Employ a rackless stage providing precise movement and smooth stopping with no protrusion of the X-axis guide.
- A convenient marking unit is provided.

BX45 BX45A

BX45

Equipped with a 3-position universal condenser which complies with brightfield, phase-contrast and darkfield observations, and a gout inspection analyzer that uses simple polarizing observation. Enables optimum illumination for observations from 1.25X to 40X.

BX45A

Equipped with a low stage position fixed at 128mm from the desktop, a revolving nosepiece with variable up/down movement, and a motorized 2-position revolving nosepiece which can make quick changes between objectives.

Illumination	Transmitted light 6V30W halogen Koehler illumination
Focusing	Fixed low stage nosepiece focus
Observation tube	Widefield binocular (F.N.22), widefield tilting binocular (F.N.22), widefield trinocular (F.N.22), widefield ergo binocular (F.N.22)
Nosepiece	Fixed motorized 2-position (BX45A) Fixed reversed quintuple (BX45)
Stage	Ceramic-coated coaxial with right or left hand low drive control, rotating and torque adjustment mechanism, plain, rotation
Condenser	Brightfield N.A.0.9 (BX45A) Fixed 3-position universal condenser N.A.0.9 (BX45)
Other features	One-touch marking unit, Light preset switch, Torque adjustment

*Please refer to BX41/BX45/BX45A/BX51 catalog for further details

Accessories for BX2

BX-RFAA
Motorized fluorescence illuminator

Up to 6 fluorescence mirror units can be attached simultaneously. Mirror unit can be exchanged automatically with corresponding shutter adjustment.

U-FWR, U-FWO, U-FWT
Filter wheels

Motorized exchange of 6 filters. Three kinds of of filters can be attached simultaneously: U-FWR (ø32, 25) for excitation, U-FWO (ø32, 25) for absorption and U-FWT (ø32) for transmitted light.

U-UCD8A-2
Motorized universal condenser

Different combinations of designated optical components allow correspondence with various kinds of transmitted light observations. Automatic control of optical component exchange, top lens swing in/out and aperture iris diaphragm.

U-AFP1
Auto focus unit

Maintains steady auto focusing with 1.25X to 100X objectives. All observation methods are applicable except phase-contrast. Combined with BX61TRF and BX62TRF. Personal computer and adapter (BX2-UCB) are necessary to use this unit.

U-UCD8-2
8-position universal condenser

The universal condenser simultaneously accepts up to 6 DIC prisms and 2 other optical components at maximum.
The condenser numerical aperture of 0.9 or 1.4 (oil) can be selected through interchangeable top elements.

U-PCD2
Phase/darkfield condenser

High contrast phase imaging allows close observation of the cell interior and of live bacteria. Standard brightfield and dry darkfield as well as simultaneous reflected light fluorescence observations are possible.

BX-RFA, BX-URA2
BX fluorescence illuminator
BX reflected light illuminator

Fully integrated into the microscope arm, two illuminators add to the stability of the imaging platform. BX-RFA for research needs and BX-URA2 for routine observation.

U-RFSS
Rectangular field stop

Designed for use with CCD cameras, prevents photobleaching of the specimen outside of the imaging area.

U-KPO
Simple polarizing attachment

Simple polarizing observation can be accomplished with the combination of U-KPA intermediate attachment for simple polarizing observation, U-ANT analyzer for transmitted light and U-POT polarizer.

U-RSL6, U-RSL6EM
6-position filter slider

Equipped with three single, two dual and one triple band exciter, the 6-position filter slider provides all excitation modes typically wanted with just one filter set.

U-EXBABG, U-EXBAUB, U-EXBAUG
Excitation balancer

Used singly or in tandem, the excitation balancer curtails the individual excitation bandwidths of the fluorochromes under observation.

Accessories for BX2

U-SDO3, U-MDO10B3
Multi observation body

A single image can be viewed with the same orientation and brightness by up to ten persons simultaneously to facilitate discussion between researchers, and for training and education. No additional power unit is required since the power unit of the arrow pointer is incorporated in the main body.
•Also available for five persons (U-MDO) and two persons in face-to-face (U-BDO).

BX51+U-MDO10B3

BX51+U-SDO3

BX51WI/BX61WI

FIXED STAGE UPRIGHT MICROSCOPE/ FIXED STAGE UPRIGHT MICROSCOPE WITH MOTORIZED FOCUSING

UIS
UNIVERSAL INFINITY SYSTEM

Designed for neuroscience and cell biology applications, the BX51WI offers front focus operation and a complete absence of vibration, even when switching the objectives on the nosepiece and filters on the turret and in the optical path of the intermediate tubes. The availability of two-wavelength IR-DIC (775nm and 900nm) has huge advantages for researchers performing electrophysiological work using brain slice samples. Our unique two-position nosepiece can easily switch between objectives, and prevent air bubbles forming. To avoid having to change objectives, Olympus offers a single objective (XLUMPLFL20X/W) for low to high magnifications, combined with an intermediate magnification changer. The BX51WI provides dramatically bright fluorescence images, equivalent to our BX2 models.

Illumination	Transmitted light 12V100W halogen Koehler illumination (BX51WI) Transmitted light 12V100W halogen Koehler illumination; Light adjustment: less than DC2V∿12V (continuous adjustment) Brightness adjustment, light preset switch (BX61WI)
Focusing	Nosepiece focus by roller guide (rack & pinion); Stroke per rotation: fine: 0.1mm, coarse:15mm; Maximum stroke: 25mm; Coarse lower limit stopper mechanism, Torque adjustment mechanism for coarse focus (BX51WI) Motorized focusing using stepping motor and ball screw Nosepiece focus by cross roller guide; Minimum graduation; fine: 1µm (sensitivity 1µm) Resolution 0.01µm: Maximum stage movement speed 3mm/s Stroke: 25mm, stage escape mechanism (BX61WI)
Observation tube	Trinocular (F.N.22), erect image trinocular (F.N.22), double port magnification change unit (F.N.22)
Nosepiece	Swing, slide, single, position, swing-slide
Stage	Mechanical, bridge
Condenser	8-position universal, long working distance oblique, long working distance DIC, swing-out

*Please refer to BX51WI/BX61WI catalog for further details

CX41/CX31

SYSTEM MICROSCOPE/ BIOLOGICAL MICROSCOPE

UIS2 World-leading optics

ECO-PRODUCTS

CX31

CX41

The CX41/CX31 offer extended capabilities to match a wide range of applications from routine clinical work to educational use. They not only feature an ergonomically designed frame for maximum operating comfort and enhanced rigidity, but also offer the convenience of extra-bright illumination.

CX41

Featuring powerful 6V30W halogen Koehler illumination and outstanding flat images in this class of microscope, the CX41 is applicable for a wide range of observation methods and photomicroscopy.

CX31

An ergonomically designed frame and bright 6V30W halogen illumination make the CX31 ideal for routine clinical work and educational applications.

Illumination	Built-in transmitted Koehler illuminator 6V30W halogen bulb 100-120V/220-240V∼ 0.85/0.45A 50/60Hz
Focusing	Stage height movement by roller guide (rack & pinion) Stroke per rotation: 36.8mm Full stroke range: 25mm Tension adjustment on coarse focus adjustment knob Upper limit stopper (CX41) Upper limit stopped by simplified pre-focusing dial (CX31)
Observation tube	Binocular/Tilting binocular/Trinocular
Nosepiece	Fixed quadruple nosepiece with inward tilt
Stage	Size: 188(W) X 134 (Y) mm Traveling range: 76mm(X) x 50mm(Y) Specimen holder: Double slide holder
Condenser	Abbe condenser, with built-in daylight filter(CX31 only)
Accessories	Dual-observation attachment, phase-contrast attachment, drawing attachment, simple polarizing attachment, digital camera adapter etc.

*Please refer to CX41, CX31 catalogs for further details

CX21

BIOLOGICAL MICROSCOPE

UIS2 World-leading optics

ECO-PRODUCTS

The CX21 demonstrates the ideal combination of advanced performance and operability for multiple inspection and educational purposes in the medical field. Incorporating the UIS2 optical system and employing Plan objective lenses as standard, it delivers class-leading standards of image clarity and flatness in a wide range of observation methods.
Other characteristics include excellent durability, and ergonomic design features to reduce fatigue during long observations.
To maintain performance in any working environment, an effective anti-fungal treatment is applied to the objectives, eyepieces and microscope tube.

Optical system	UIS2 (Universal Infinity System) optical system
Illumination System	Built-in transmitted illumination system 6V20W halogen bulb 100-240V 50/60Hz universal voltage
Focusing	Stage height movement (coarse movement stroke 20mm) Fine focus graduation: 2.5µm
Revolving nosepiece	Fixed quadruple nosepiece
Stage	Wire movement mechanical fixed stage: 120 X 132mm Traveling range: 76mm(X) X 30mm(Y) Single specimen holder
Observation tube	30° inclined binocular tube Interpupillary distance adjustment range 48-75mm
Condenser	Abbe type with aperture iris diaphragm N.A.: 1.25
Objective lens	Plan Achromatic objectives (anti-fungus) 4X N.A.: 0.10 W.D.: 18.5mm 10X N.A.: 0.25 W.D.: 10.6mm 40X N.A.: 0.65 W.D.: 0.6mm 100X N.A.: 1.25 W.D.: 0.13mm (option)
Eyepiece (10X)	Field Number (F.N.): 18 (anti-fungus)
Optional accessories	Mirror unit, 15X eyepiece (F.N. 12, anti-fungus), cord rest, wooden storage box, filar micrometer, wire pointer, filter holder, darkfield stop

*Please refer to CX21 catalog for further details

IX81

MOTORIZED INVERTED SYSTEM MICROSCOPE

UIS2 World-leading optics

This model allows researchers to customize the motorized system according to their own specific purpose, with operating control handled from the front. By using special software via a personal computer, it is also possible to exercise accurate control of multi-dimensional analyses, ranging from 2D to 6D. The full range of IX81performance functions, including observations, measurements and manipulation, can be monitored via the numerous input/output ports, which allow connection of various kind of light sources and motorized modules.

- Purpose-selectable motorized units and easy operation right by the operator's hand.
- Multi-dimensional analysis by PC control.
- Maximum installation of experimental equipment and minimum layout limitations.
- Sharp, fade-free fluorescent images and faster observations.
- Optimized resolution and contrast in Nomarski DIC observation, for both thick- and thin-cell specimens.
- Combining different light sources and video systems to obtain even clearer images.
- Prolonged active-cell observation with highly reliable data.
- Special microscope body for FV1000/300 is available.

Illumination	Transmitted Koehler light 12V100W halogen
Focusing	Motorized focus; Stroke: 9mm Resolution: 0.1µm
Observation tube	Tilting binocular (F.N. 22), trinocular (F.N. 22)
Nosepiece	Motorized sextuple with simple waterproof mechanism
Stage	Cross with flexible right handle, plain, mechanical
Condenser	Motorized long working distance universal, long working distance universal, DIC, mid long working distance, 8-position universal, ultra long working distance universal
Other features	Video port for primary image, integrated magnification change lens
Accessories	Motorized/manual reflected light fluorescence attachment, DIC attachment, external power supply unit, side-viewing attachment, incubator, heat stage, micromanipulator, etc.

*Please refer to IX71/IX81 catalog for further details

IX71/IX51

RESEARCH INVERTED SYSTEM MICROSCOPE/ INVERTED SYSTEM MICROSCOPE

UIS2 World-leading optics

eco ECO-PRODUCTS IX51

IX51

IX71

Designed to provide the high performance and versatility needed by researchers involved in live cell experiments, the IX71 offers highly precise temperature control and resistance to heat and vibration, enabling work on live cells with much less risk of damage and reducing the incidence of failure in prolonged experiments.
A 30W illumination pillar type IX51, which has no intermediate magnification changer, is also available.

- More free space and a better working environment, with flexible use of several cameras and light sources.
- Easy front operation allows auxiliary equipment to be placed near the microscope.
- Flexible system expansion allows many different fluorescence applications without major remodeling.
- Obtaining high-quality, purpose-specific images with different cells and different types of container.
- Rigid construction and comprehensive system features to analyze time lapse changes in highly active cell conditions.
- Special microscope body for FV1000/300 is available.

Illumination	Transmitted light 12V100WHAL for IX71, 6V30WHAL for IX51
Focusing	Vertical movement of nosepiece (stage fixed); coarse & fine coaxial handle; full stroke: 9mm; minimum fine adjustment: 1.2µm
Observation tube	Tilting binocular (F.N.22), binocular (F.N.22), trinocular (F.N.22)
Nosepiece	Sextuple, simple waterproof mechanism
Stage	Cross with flexible right handle, cross with short left handle, plain, mechanical
Condenser	Motorized long working distance universal, long working distance universal, DIC, mid long working distance, 8-position universal ultra long working distance universal
Other features	Video port for primary image, integrated magnification change lens
Accessories	Reflected light fluorescence attachment, DIC attachment, external power supply unit, side-viewing attachment, incubator, heat stage, micromanipulator, etc.

*Please refer to IX71/IX81 catalog and IX51 catalog for further details

Accessories for IX2

TIRFM
Total internal reflected fluorescence microscopy

An exclusive high N.A.(1.65,1.45) objective and reflected light illuminator are provided, allowing exchange between evanescent wave and normal fluorescence observation.

IX71 TIRFM version

U-DPCAD
Dual port with C-mount adapter

This double port tube allows the attachment of two cameras (both primary images).

IX2-RFA
Fluorescence illuminator

Can be mounted with six different mirror units. An original mirror unit can be tailor-made from generic mirror units. UV cut filter integrated.

IX2-RFAL
L-shaped fluorescence illuminator

Allows easy centering and AS/FS operation from the front and also permits attachment of a large format camera to the back port.

IX2-GS
Gliding stage

To follow the quick movement of *caenorhabditis elegans*, this stage is designed to move smoothly and freely throughout the plane.

IX2-LWUCD
Long working distance universal condenser

The new DIC system is especially effective in obtaining high-contrast, high-resolution images in 20X and 40X DIC observations.

IX2-MLWCD
Mid long working distance condenser

The relief contrast condenser is designed to produce contrast and shading effects, similar to DIC, yet within the confines of plastic sample vessels.

IX2-DICD+IX2-TLW
DIC condenser + water top lens for DICD

By combining the IX2-TLW top lens, DIC prism and DIC slider, this model provides excellent operability in injection and patch clamping operations.

IX2-TVRAC
Motorized bottom port unit with C-mount

Entirely aberration-free primary images from UIS2 objectives are directed to C-mount CCD camera.

IX2-RFACA
Motorized fluorescent cube turret

Accepts up to 6 fluorescence filter cubes, making it easy to switch between them during fluorescence observation of multi stained specimens. (Manual shutter included.)

IX2-LWUCDA2
Motorized long working distance universal condenser

Simultaneously accepts up to 6 optical components at maximum. Motorized exchange through PC possible.

CKX41/CKX31
INVERTED MICROSCOPES

UIS2 World-leading optics

ECO-PRODUCTS

CKX41/CKX31 are designed to check the viability of cultured cells more quickly and efficiently. Its unique, centering-free phase annulus (common for 10X, 20X and 40X) provides faster phase contrast observations with no need for adjustment. The solid frame has a compact, space-saving design which is ideal for standard workbench surfaces.

CKX41

Observation tube is exchangeable, a trinocular tube is also mountable. A glass stage insert plate provides quick recognition of objectives.

CKX31

The CKX31 is a standard type with a fixed binocular tube and a powerful 6V30W halogen illumination and ideal for routine cultured cell observation.

Illumination	Transmitted light 6V30W halogen illumination
Focusing	Vertical movement of nosepiece (stage fixed); coarse & fine coaxial handle; full stroke: 9mm; minimum fine adjustment: 1.2µm
Observation tube	Binocular (CKX31 frame/CKX41 frame with tilting binocular tube) Trinocular (CKX41 frame with trinocular tube)
Nosepiece	Fixed quintuple
Stage	Plain stage (160mm X 240mm), attachable mechanical stage
Condenser	Detachable long working distance condenser (N.A. 0.3, W.D. 72mm)
Accessories	Glass stage insert plate, eyepoint adjuster, relief contrast system, Terasaki holder, 35mm dia., petri dish holder, slide glass holder, etc.

*Please refer to CKX41/CKX31 catalog for further details

Accessories for CKX41/CKX31

IX2-SLP
Phase contrast slider (pre-centered)

Centering-free type phase slider.
A common phase annulus for 10x, 20x and 40x enables fast and easy operation for routine use.

IX2-SL
Phase contrast slider (centerable)

Centerable type phase slider.
The centering unit for phase annuli is available for precise adjustment.

CKX-RCD
Relief Contrast condenser

The reduced halo of the relief contrast improves information on the the cell's interior. Maintains the same shadow direction even if the magnification is changed.

CKX-RFA
Fluorescence illuminator

Provides fluorescence observation (B and G excitation) for CKX41.

CK40-CPG30
Glass stage insert plate

Easy recognition of objectives.
An insert with ø30mm opening is available (CKX41 only).

IX2-BCTP
Hemacytometer holder

The mechanical stage offers excellent inspection performance with hema-cytometer holder or other micro plates.

ON3 Series
MICROMANIPULATORS

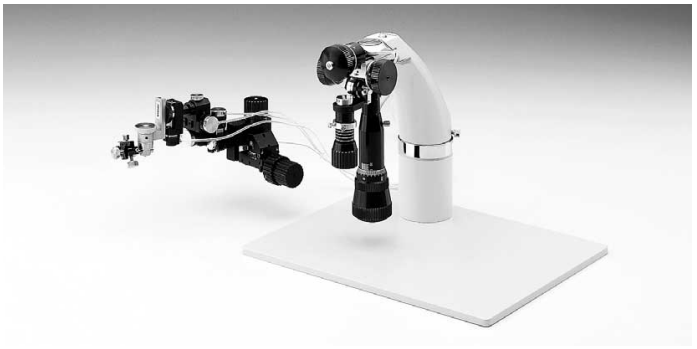
As a joint development with Narishige Scientific lab, the ON3 micromanipulators offer high-precision and easy operation for IVF, injection and physiological experiments.

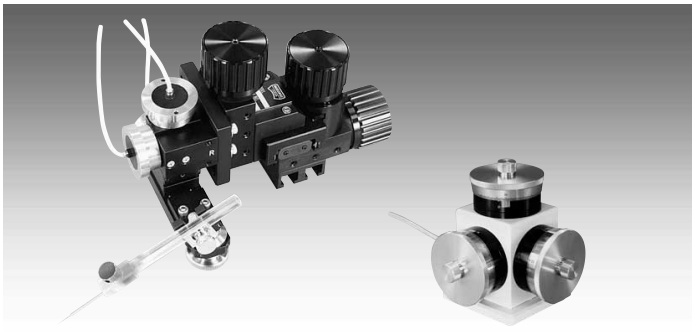
ON3-99D (1:1)
Oil-hydraulic micromanipulator system

The ON3-99D consists of a pair of three-axis motorized positioners, drop handle joystick micromanipulators and UT-D universal joints. The ON3-99D is ideal for ICSI applications.
Two types of injectors, the IM-9B microinjector (for sperm injection) and the IM-9C pneumatic injector (for oocyte holding) are available separately.

Drop handle joystick
- Fine movement range: 10mm
- Full rotation of knob: 250µm
- Minimum graduation: 2.5µm
- Joystick (for X and Y movement): 400µm max. (movement ratio and lever tension adjustable)

Motorized positioner
- Coarse movement range: 23mm (movement speed adjustable)





ONO-301D
Drop handle joystick micromanipulator (1:1)

Thanks to its symmetrical design, this micromanipulator can be attached on either the right or the left side. In combination with the optional universal joint (UT-D) and return mechanism (UT-R), it also provides a pipette return function.

- Accessory: IP plate
- Fine movement range: X, Y and Z axes 10mm
- Full rotation of knob: 250µm
- Minimum graduation: 2.5µm

Photo: ONM-2D, ONO-301D, UT-D and UT-R configuration

MHW-3
Three-axis water hydraulic drum type micromanipulator

The MHW-3 is useful for physiological experiments as well as fine injection or suction. The solid design including mechanical coarse positioner provides reliable stability and precise movement.
The optional MHW-4 single axis micromanipulator is mountable.

- Fine movement range: 2mm
- Coarse movement range: 30mm
- Full rotation of knob: 50µm
- Minimum graduation: 0.2µm

BX51-P
POLARIZING MICROSCOPES

UIS2
World-leading optics

This series employs UIS2 optics to achieve unsurpassed performance in polarized light observation. These units deliver optimum compensation for optical aberrations to achieve images of unprecedented sharpness. Six compensators are available to allow observation and measurement at various retardation levels.

- Conoscopic/orthoscopic version and orthoscopic version available.
- 6 different kinds of compensators are available for BX51-P.
- Accessories and video/camera system of BX2 Series mountable on BX51-P.


Conoscopic/
orthoscopic version


Orthoscopic version

Illumination	Transmitted light 12V100W halogen Koehler illumination
Polarizing intermediate tube	Swing-out focusable Bertrand lens with slot for 360° rotatable analyzer for conoscopic & orthoscopic observation (U-CPA)
Test plate	1 wavelength (1λ), 1/4 wavelength (1/4λ)
Compensators	Berek, Senarmont, Brace-Koehler, quartz wedge, etc. (6 types available)
Focusing	Coarse & fine coaxial handle; full stroke: 25mm; minimum fine adjustment: 1µm
Observation tube	Trinocular (F.N. 22)
Nosepiece	Detachable quadruple nosepiece with centering adjustment function
Stage	Circular rotatable stage with centering adjustment function and attachable mechanical stage. 360° graduated in 1° increments, lockable in any position
Condenser	Achromat strain-free condenser with built-in 360° rotatable polarizer (N.A. 0.18-0.9)

*Please refer to BX51-P catalog for further details

CX31-P
POLARIZING MICROSCOPE

UIS2
World-leading optics

The CX31-P is a high-quality polarizing microscope that's ideal for training, with the wide-ranging functions and superior durability required in every field of research.
Its excellent optical performance is matched with the versatility to meet the demands of many different kinds of applications, from double-refraction examination of the structure and characteristics of transparent specimens to complex analyses of rocks, fibers, macromolecules and new materials.

Optics	Objective	ACHN-P series, UPLFL-P series
	Eyepiece	WHN10X, WHN10X-H, CROSSWHN10X, WHB10X3, WHB10X2-H
Observation tube	Binocular	U-BI30P, U-CBI30-2
	Trinocular	U-TR30-2, U-CTR30-2
Conoscopic Intermediate tube (U-PA)	Bertrand lens	Incorporated, detachable, focusable
	Changeover between orthoscopic/conoscopic observation	Engage or disengage of Bertrand lens Position: ● IN Position: ○ OUT
	Analyzer	Incorporated, detachable, 180° rotatable, lockable in any position, 2° increments, minimum retardation resolution 6', using vernier scale
	Slot for compensators	Tint plate (U-TP530), 1/4 wavelength retardation plate (U-TP137) and various compensators attachable

*Please refer to BX31-P catalog for further details

SZX16/SZX10
RESEARCH STEREOMICROSCOPE SYSTEM

SZX16 with fluorescence system

SZX10

The system modularity allows users to create the application dedicated configurations they need. Offering optical and mechanical excellence and stability, and a wide range of modularity components, the SZX2 Series is today's first choice in research stereo microscopy.

SZX16

Offering a zoom ratio of 1:16.4, the SZX16 is ideal for the most demanding applications. New SDF objective lenses provide the highest NA with 900lp/mm resolution. Optimum specimen viewing from large field overview to microstructure, along with instant zoom function to select observation points, is assured.

SZX10

A zoom ratio of 1:10 is suitable for operations like specimen selection or dissection. SZX10 provides wide viewing and assures fewer oversights while relieving fatigue. Choose from a wide range of accessories to suit your sample needs.

	SZX16	SZX10
Optical system	Telescope type system	
Zoom range	0.7x-11.5x (zoom ratio 1: 16.4),	0.63x-6.3x (zoom ratio 1: 10.0)
	Click stop equipped (releasable)	
Aperture diaphragm	Built-in	
Total mag. range	2.1x-690x	3.15x-378x
Working distance	141 (with SDFPLFL0.3x) - 20mm (with SDFPLAPO2xPFC)	171 (with DFPL 0.5x) - 33.5mm (with DFPL2x-4)
Observation tube	SZX2-TTR/SZX2-TTRPT: tilting trinocular, 5 - 45° variable inclination SZX2-TR30/SZX2-TR30PT: 30 degree trinocular, 30° inclination	
	—	SZX-BI30: 30° binocular, 30° inclination SZX-BI45: 45° binocular, 5 - 45° variable inclination SZX-TBI: tilting binocular, 5 - 45° variable inclination
Objective	SDFLPLFL0.3x, SDFPLAPO0.5xPF, SDFPLAPO0.8x, SDFPLAPO1xPF, SDFPLAPO1.6xPF, SDFPLAPO2xPFC	DFPL0.5x-4, DFPL0.75x-4 DFPLAPO1x-4, SZX-ACH1x, DFPLAPO1.25x, SZX-ACH1.25x-2 DFPL1.5x-4, DFPL2x-4
Eyepiece	WHN10x-H (FN 22)	WHSZ10x-H (FN 22)
	WHSZ15x-H (FN 16), WHSZ20x-H (FN 12.5), WHSZ30x-H (FN 7)	
Focusing	SZX2-FO: Focusing unit, coarse handle stroke 80mm SZX2-FOF: Fine focusing unit, coarse handle stroke 80mm, fine handle stroke 80mm SZX2-FOFH: Fine focusing unit for heavy loading, stroke 80mm fine handle stroke 80mm SZX-FOA2: Motorized focus unit, focusing stroke 75mm	
Accessories	Fluorescence illuminator,coaxial illuminator, light beam splitter, revolving nosepiece, large stage plate, stage adapter, etc.	
	—	Eyepoint adjuster, arrow pointer, drawing attachment, side by side discussion tube, etc.

*Please refer to SZX16/SZX10 catalog for further details

SZX2-ILLB
High-level transmitted light illumination base

Provides effective contrast from oblique illumination and easily selected “High” and “low” contrast settings. Light volume and color temperature are adjusted by means of built-in filters (LBD/ND).

SZX2-ILLD
Brightfield/darkfield transmitted light illumination base

Enables darkfield observation under illumination twice as bright as conventional models. Flat and thin specimens like brain tissue slices are vividly displayed on a black background.

SZX2-ILLT
Slim LED transmitted light illumination base

With a slim design of 41mm, this transmitted light illumination base has a lower height to enable a low eyepoint and easy access to base-mounted samples during observation and operation.
The LED 4-position turret enables contrast adjustment between brightfield, oblique, and darkfield illumination with a simple turn.

SZX7
STEREOMICROSCOPE SYSTEM

The SZX7 minimizes strain and fatigue while fulfilling the key mission of Olympus microscope designers — to provide the optimal image for any specimen. The clear, accurate performance of the high-level Galilean optical system is complemented by a distortion free objective lens series with maximum numerical aperture. The SZX7 microscope body is manufactured using newly developed lead-free optics, demonstrating Olympus' commitment to protect the environment.

ECO-PRODUCTS

Optical system	Galilean type optical system
Zoom microscope body	Zoom range 0.8x-5.6x (zoom ratio 1:7), Lead-free
Observation tube	1. SZX-BI45: Binocular, 45° inclination 2. SZX-TBI: Binocular, 5°-45° variable inclination 3. SZX2-TR30: Trinocular, 30° inclination 4. SZX2-TR30PT: Trinocular, 30° inclination All observation tubes: Lead-free Interpupillary distance adjustable range: 50 to 76 mm
Objective	DFPL0.5x-4, DFPL0.75x-4, DFPLAPO1x-4, SZX-ACH1x, DFPLAPO1.25x, SZX-ACH1.25x-2, DFPL1.5x-4, DFPL2x-4 All objectives: lead-free
Eyepieces	"Comfort*View*" WHSZ series All eyepieces: Lead-free

*Please refer to SZX7 catalog for further details

SZ61/SZ51
ZOOM STEREOMICROSCOPE

Incorporating new improvements to the highly-regarded Greenough optical system, the SZ61 and SZ51 successfully meet the demand for a variety of observation and documentation options in a genuinely compact microscope design. Clear, sharp image reproduction is matched by new ergonomic design elements which maximize comfort and ease of use.
The SZ61 and SZ51 microscope bodies are manufactured using newly developed lead-free optics, demonstrating Olympus' commitment to protect the environment.

ECO-PRODUCTS

SZ61/SZ51

SZ61TR

SZ61-60/SZ51-60

	SZ61	SZ61-60	SZ61TR	SZ51	SZ51-60
Optical system	Greenough type optical system				
Zoom ratio	1:6.7			1:5	
Working distance	110mm				
Tube inclination angle	45°	60°	45°		60°
Video camera adaptability	—		C-mount (0.5x built in)	—	
Optical component	Lead-free				
Auxiliary objective	Mounting by screwing into the thread at the bottom of frame (M48 thread x 0.75)				
Eyepieces	"Comfort*View*" WHSZ series All eyepieces: Lead-free				

*Please refer to SZ61/SZ51 catalog for further details

Accessories for SZX/SZ

SZ2-ILST
LED illuminator stand

The world's first LED stand features a thin design to keep sample positions low and to optimize operability. Simultaneous transmitted and reflected light are available on this stand. LED light offers both long lifetime and constant color temperature at any intensity.

SZ2-ILA
Transmitted illumination attachment

Used with the SZ2-ST stand, this cost-effective illumination stand provides bright, uniform illumination from low to high magnifications. Tiltable mirror provides direct and oblique illumination for low contrast specimen. Available 22W and 100W lamphouses provide necessary power for a variety of illumination needs.

SZ2-LGDI
Interlock dual light guide

Standard oblique semi-rigid fiber optic light guide. The light source position on the rear side of the stand saves desk space.

SZ2-LGSF
Flexible light guide

A single fiber optic guide is fixed at the back of the objective so as not to disturb microscope operation.

SZ2-LGR
Ring light guide

Used with the GB illumination system, this ring light guide provides bright and uniform images.

SZ2-STU3
Table clamp stand

The versatile SZ2-STU3 can be fixed to the side of a desk to expand the working area. Also, this stand exhibits operational versatility in anatomical and electrophysiological experimentation.

• For use with SZ2-STB1 bonder arm

SZ2-STU2
Universal stand type 2

This versatile stand allows smooth adjustment of both arm angle and length. This stand is perfect for photomicrography and video mounting of large specimens.

• For use with SZ2-STS arm

Macro View MVX10

RESEARCH MACRO ZOOM SYSTEM MICROSCOPE

Developed as a system specially designed for macro fluorescence imaging, the MVX10 employs a single-zoom optical system, and has world-class features including a high resolution of 1500 lines/mm, a zoom ratio of 10, and NA of 0.5 (with 2x objective). This enables seamless observation of bright fluorescence images, from macro to micro, and provides extraordinarily high resolution.

Zoom microscope body MVX-ZB10	Optical system	Mono-zoom variable magnification system		
	Zoom range	0.63x-6.3x (zoom ratio 1:10)		
	Aperture iris diaphragm	Built-in		
Observation head MVX-TTRS	Features	Tilting binocular head that allows switching between standard and stereo observation		
	Field number (FN)	22		
	Tilting angle	0 — 23° continuously variable system		
	Light path selection	2-step binocular 100%/photo 100%		
Reflected light fluorescence unit MVX-RFA	Illumination mode	Coaxial reflected light		
	Filter selection	Turret 3 filter + BF		
	Fluorescence mirror unit	For CFP, GFP, YFP, RFP separation high quality mirror unit		
	Light source	100W mercury apo lamp housing and power source, 100W mercury lamp housing and power source, or 75W xenon apo lamp housing and power source		
Magnification changer MVX-CA2X	Magnification	1x, 2x selection		
Objectives (when used with eyepiece WHN10X)		MVPLAPO 0.63X	MVPLAPO 1X	MVPLAPO 2XC
	Total magnification	4.0 — 40x	6.3 — 63x	12.5 — 125x
	Working distance (WD)	87mm	65mm	20mm
	Numerical aperture (NA)	0.15	0.25	0.5
	Field of view	55 — 5.5mm	34.9 — 3.5mm	17.6 — 1.7mm
Stands, transmitted illuminators	Stands, transmitted illuminators	High-level transmitted light illumination base SZX2-ILLB, Brightfield/darkfield transmitted light illumination base SZX2-ILLD, Large stand SZX2-STL		
	Focusing unit	Fine focusing unit SZX2-FOFH, motorized focusing unit SZX-FOA2		
	Stage	Large stage plate, thermoplate, CO_2 incubator		

*Please refer to MVX10 catalog for further details

DP30BW
HIGH SENSITIVITY COOLED CCD CAMERA

Using its Peltier-cooled system, the DP30BW offers quiet, vibration-free operation. Combined with the built-in shutter and new background subtract function (noise at long exposures is reduced by using this), these features enable high-quality recording of even weak fluorescence images.

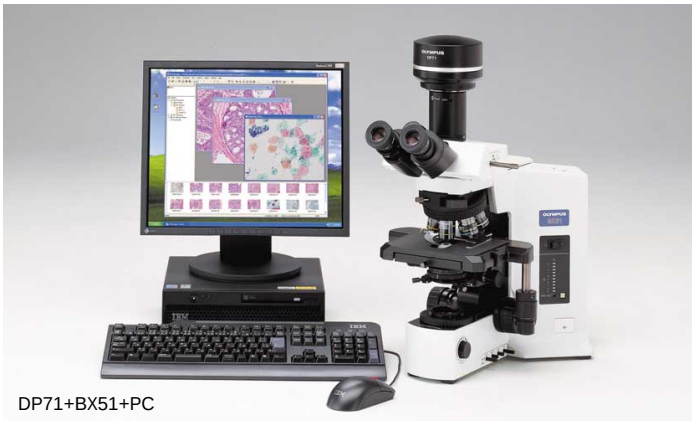
* Please refer to DP30BW catalog for further details

DP30BW+BX51

DP71
DIGITAL CAMERA

By combining Olympus digital technologies together with high-speed processing hardware, even an image of 12.5 million pixels can be captured at high speed, around 3 seconds, while fully maintaining image quality, accuracy and color fidelity. High sensitivity and low noise ensure that even images derived from relatively faint fluorescence can be acquired clearly.

* Please refer to DP71 catalog for further details



DP71+BX51+PC

DP20
DIGITAL CAMERA

Image display, storage, and simple measurement can be done from a compact, palm-size handset control unit. The outstanding operability of the functional key layout allows starting up quickly and continuously shoot images at 1 second intervals. The UXGA (1600 x 1200 pixel) compatible monitor enables real-time 15 fps display, and the system is also ideal for high-resolution monitoring applications without a PC.

* Please refer to DP20 catalog for further details

DP20+BX51

DP12
DIGITAL CAMERA

The overall design is compact, with a palm-size multi function control unit integrating a 3.5" LCD monitor with 200,000-pixel display, and a small footprint that makes it easy to install and lay out any necessary auxiliary equipment. The 3.34 million-pixel and 1/1.8 inch progressive scanning CCD system ensures highly precise digital images which can be stored at a maximum resolution of 2048x 1536.

* Please refer to DP12 catalog for further details

DP12+BX51+PC

The advanced UIS2 system delivers high performance over a wider wavelength spectrum.

UIS2 optics inherit high expandability

As heir to Olympus' infinity-corrected optical system, in which the tube lens is built into the observation tube, UIS2 optics display no image deterioration even when many different optical components or equipment are inserted in the parallel light path. This inherent expandability gives users ample freedom to construct the system in a way that meets their specific requirements.

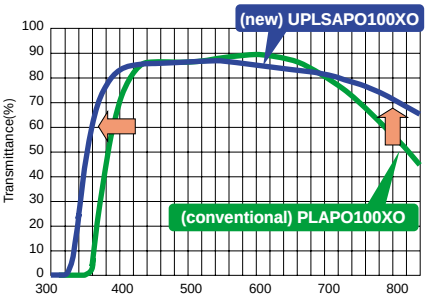
UW (Ultra wideband) multi-coatings reduce autofluorescence and improves S/N ratio

By using carefully selected raw materials for glass, and applying advanced UW multi-coatings technology, Olympus has reduced objective autofluorescence and significantly improved the S/N ratio.

Flat, high transmission over wide wavelength range from UV to IR

UW multi-coatings also yield flat, high transmission over a wide wavelength range, ensuring high performance in research tasks using different types of fluorochromes.

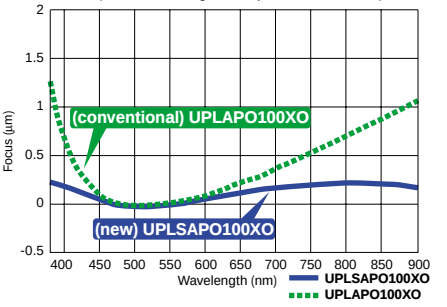
High transmittance
UPLSAPO100XO



Complete chromatic aberration compensation up to near infrared region

UPLSAPO objectives completely eliminate chromatic aberration up to the near infrared region, matching the ability of Super Apochromat objectives to provide clear images without overlapping colors or color shift. As a result, a single objective can perform imaging from UV to IR wavelengths.

UPLSAPO series
chromatic aberration compensation
Comparing chromatic aberration compensation levels:
(The smaller the figure, compensation level better)



UIS2/UIS Series Objectives

Universal objectives

UPLSAPO series
The top-performance universal Plan Super Apochromat objectives offer an unbeatable solution to every kind of digital imaging need.

UPLFLN series
These affordable Semi-Apochromat universal objectives deliver superb resolution, contrast and flatness for any microscopic technique.

UPLFL-P series
These strain-free Semi-Apochromat universal objectives reduce internal strain to an absolute minimum and are best suited for polarizing and Nomarski DIC microscopies.

Brightfield objectives

PLAPON series
Designed for unsurpassed resolution and contrast, these Plan Apochromat objectives keep chromatic aberration down to an absolute minimum.

PLN series
These cost-effective Achromat objectives ensure field flatness up to F.N. 22 and are widely used in research, educational and routine work applications.

Objectives for special purpose

UPLFLN-PH series
The newly designed phase annuli reduce flare and halo to a minimum and ensure high resolution and contrast for unstained specimens, e.g. living cells and microorganisms.

No cover objectives
These no cover objectives are specially designed for microscopy without a cover slip such as for blood smear specimens.

UAPO/340 series
These objectives feature a highest transmission of 340nm wavelength light, ensuring maximum performance in fluorescence microscopy through UV excitation including CA^{2+} photometry.

Objectives for BX51WI/BX61WI

UMPLFLW, LUMPLFLW series
These objectives address the need for high transmission from the near UV to visible light. For ratio imaging (fura-2, 340nm transmission requirement) fluorescence and DIC observation.

LUMPLFLW/IR series
These objectives are specially designed for visible band near IR spectral regions. Near IR-DIC imaging deep within thick brain sections can be observed.

XLFLUOR/340 series, XLUMPLFL20XW
XLFLUOR/340 series objectives are designed for low magnification fluorescence observation. High N.A. long W.D. XLUMPLFL20XW objective allows the measurement of cell membrane electric potential.

Objectives for inverted microscopes

LUCPLFLN-PH series
These objectives are exclusively designed for culture specimens. An excellent phase-contrast image is assured regardless of the thickness and material of the vessel.

LUCPLFLN series
These Semi-Apochromat objectives are dedicated for tissue culture and offer excellent contrast and resolution in brightfield, Nomarski DIC and fluorescence observations.

LCACHN series
These Achromat phase-contrast objectives are designed for cell culture observations and are best suited for various clinical examinations and cell testing.

UIS2 objectives *

* All UIS2 objectives and WHN eyepieces: lead-free eco-glass

Description		N.A.	W.D. (mm)	F.N.	Cover glass	Immersion	Spring	Correction ring	Iris diaphragm	Water proof & oil proof function	For upright microscope	For inverted microscope
UPLSAPO	UPLSAPO 4X	0.16	13	26.5	—						○	○
	UPLSAPO 10X	0.40	3.1	26.5	0.17						○	○
	UPLSAPO 20X	0.75	0.6	26.5	0.17		○				○	○
	UPLSAPO 20XO	0.75	0.6	26.5	0.17		○				○	○
	UPLSAPO 40X	0.90	0.18	26.5	0.11-0.23		○	○			○	○
	UPLSAPO 60XW	1.20	0.28	26.5	0.15-0.2	Water	○	○		○	○	○
	UPLSAPO 60XO	1.35	0.15	26.5	0.17	Oil	○			○	○	○
	UPLSAPO 100XO	1.40	0.13	26.5	0.17	Oil	○			○	○	○
PLAPON	PLAPON 1.25X	0.04	5	26.5	—						○	
	PLAPON 2X	0.08	6.2	26.5	—						○	
	PLAPON 60XO	1.42	0.15	26.5	0.17	Oil	○			○	○	○
	PLAPON 60XOTIRFM	1.45	0.1	26.5	0.13-0.19	Oil	○	○		○	○	○
UPLFLN	UPLFLN 4X	0.13	17	26.5	—						○	○
	UPLFLN 10X	0.30	10	26.5	—						○	○
	UPLFLN 20X	0.50	2.1	26.5	0.17		○				○	○
	UPLFLN 40X	0.75	0.51	26.5	0.17		○				○	○
	UPLFLN 40XO	1.30	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 60X	0.90	0.2	26.5	0.11-0.23		○	○			○	○
	UPLFLN 60XOI	1.25-0.65	0.12	26.5	0.17	Oil	○		○	○	○	○
	UPLFLN 100XO2	1.30	0.2	26.5	0.17	Oil	○			○	○	○
	UPLFLN 100XOI2	1.3-0.6	0.2	26.5	0.17	Oil	○		○	○	○	○
	UPLFLN 4XPH	0.13	0.17	26.5	—						○	
	UPLFLN 10XPH	0.30	10	26.5	—						○	
	UPLFLN 20XPH	0.50	2.1	26.5	0.17		○				○	
	UPLFLN 40XPH	0.75	0.51	26.5	0.17		○				○	
	UPLFLN 60XOIPH	1.25-0.65	0.2	26.5	0.17	Oil	○		○		○	
	UPLFLN 100XO2PH	1.30	0.2	26.5	0.17	Oil	○				○	
PLN	PLN 2X	0.06	5.8	22	—						○	
	PLN 4X	0.10	18.5	22	—						○	
	PLN 10X	0.25	10.6	22	—						○	
	PLN 20X	0.40	1.2	22	0.17		○				○	
	PLN 40X	0.65	0.6	22	0.17		○				○	
	PLN 50XOI	0.90-0.50	0.2	22	—	Oil	○		○		○	
	PLN 100XO	1.25	0.15	22	—	Oil	○				○	
PLN-PH	PLN 10XPH	0.25	10.6	22	—						○	
	PLN 20XPH	0.40	1.2	22	0.17						○	
	PLN 40XPH	0.65	0.6	22	0.17		○				○	
	PLN 100XOPH	1.25	0.15	22	—	Oil	○				○	
PLN & ACHN-P	PLN 4XP	0.10	18.5	22	—						○	
	ACHN 10XP	0.25	6	22	—						○	
	ACHN 20XP	0.40	3	22	0.17						○	
	ACHN 40XP	0.65	0.45	22	0.17		○				○	
	ACHN 100XOP	1.25	0.13	22	—	Oil	○				○	
PLFLN-CY	PLFLN10XCY	0.3	10	26.5							○	
PLN-CY	PLN2XCY	0.06	5.8	22							○	
	PLN4XCY	0.1	18.5	22							○	
	PLN10XCY	0.25	10.6	22							○	
	PLN20XCY	0.4	1.2	22	0.17		○				○	
LUCPLFLN	LUCPLFLN 20X	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 40X	0.60	2.7-4	22	0-2			○				○
	LUCPLFLN 60X	0.70	1.5-2.2	22	0.1-1.3			○				○
	LUCPLFLN 20XPH	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 20XRC	0.45	6.6-7.8	22	0-2			○				○
	LUCPLFLN 40XPH	0.60	3.0-4.2	22	0-2			○				○
	LUCPLFLN 40XRC	0.60	3.0-4.2	22	0-2			○				○
	LUCPLFLN 60XPH	0.70	1.5-2.2	22	0.1-1.3			○				○
UPLFLN-PH	UPLFLN 4XPH	0.13	17	26.5	—							○
	UPLFLN 10XPH	0.30	10	26.5	—							○
UPLFLN-PHP	UPLFLN 4XPHP	0.13	16.4	22	—							○
CPLFLN	CPLFLN 10XPH	0.30	9.5	22	1							○
	CPLFLN 10XRC	0.30	9	22	1.5							○
LCACHN	LCACHN 20X PH	0.40	3.2	22	1							○
	LCACHN 20X PHP	0.40	3.2	22	1							○
	LCACHN 20XRC	0.40	2.8	22	1.5							○
	LCACHN 40XPH	0.55	2.2	22	1							○
	LCACHN 40XPHP	0.55	2.2	22	1							○
	LCACHN 40XPHP	0.55	1.9	22	1.5							○
CACHN & CPLN	CACHN 10XPHP	0.25	8.8	22	1							○
	CPLN 10XPH	0.25	10	22	1							○
	CPLN 10XRC	0.25	9.7	22	1.5							○

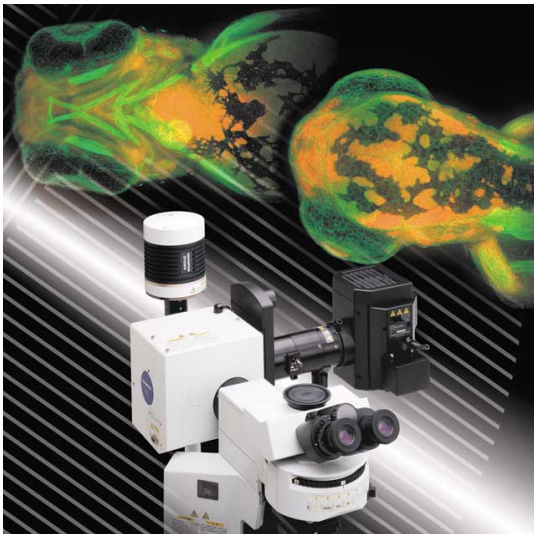
UIS objectives

Description		N.A.	W.D. (mm)	F.N.	Cover glass	Immersion	Spring	Correction ring	Iris diaphragm	Water proof & oil proof cap	For upright microscope	For inverted microscope
UPLAPO	UPLAPO 10XO3	0.40	0.24	26.5	0.17	Oil	○			○	○	○
	UPLAPO 10XW3	0.40	0.43	26.5	0.17	Water	○			○		○
	UPLAPO 40XOI3	1.00-0.50	0.12	26.5	—	Oil	○		○	(○)	○	○
PLAPO	PLAPO 40X	0.95	0.13	26.5	0.11-0.23		○	○			○	○
UPLFL-P	UPLFL 4XP	0.13	13	26.5	—						○	
	UPLFL 10XP	0.30	3.1	26.5	—						○	
	UPLFL 20XP	0.50	1.6	26.5	0.17		○				○	
	UPLFL 40XP	0.75	0.51	26.5	0.17		○				○	
	UPLFL 100XO3P	1.30	0.1	26.5	0.17	Oil	○				○	
PLFL	PLFL 100X	0.95	0.2	26.5	0.14-0.2		○	○			○	
UAPO	UAPO 10X/340											
	UAPO 20X3/340	0.75	0.55	22	0.17		○			○		○
	UAPO 40X3/340	0.90	0.2	22	0.11-0.23		○	○		○		○
	UAPO 40XOI3/340	1.35-0.65	0.1	22	0.17	Oil	○		○	○		○
	UAPO 20XW3/340	0.70	0.4	22	0.17	Water	○			○		○
	UAPO 40XW3/340	1.15	0.25	22	0.13-0.25	Water	○	○		○		○
APO	APO 100XOHR	1.65	0.1	22	0.15	Oil	○			○		○
Low magnification fluorescence	XLFLUOR 2X/340	0.14	21**	22	0-5 (Water)							
	XLFLUOR 4X/340	0.28	29.5**	22	0-5 (Water)							
Super high N.A.	XLUMPLFL 20XW	0.95	2	22		Water						
No cover objective	MPLAPO 50X	0.95	0.3		0		○				○	
	MPLAPO 60X	0.90	0.4		0		○				○	
	MPLAPO 100XO	1.40	0.1		0	Oil	○				○	
	UMPLFL 40X	0.75	0.63		0		○				○	
	UMPLFL 50X	0.80	0.66		0		○				○	
	UMPLFL 100X	0.95	0.31		0		○				○	
	UMPLFL 10XW	0.30	3.3	26.5	—	Water					○	
	UMPLFL 20XW	0.50	3.3	26.5	—	Water					○	
	UMPLFL 40XW	0.80	3.3	26.5	0	Water					○	
	UMPLFL 60XW	0.90	2	26.5	0	Water					○	
	LUMPLFL 40XW/IR2	0.80	3.3	26.5	0	Water					○	
	LUMPLFL 60W/IR2	0.90	2	26.5	0	Water					○	
	LUMPLFL 100XW	1.00	1.5	26.5	0	Water					○	
LSM objective	PLAPO 40XWLSM	0.90	0.16	22	0.17	Water	○			○	○	○
	PLAPO 60XWLSM	1.00	0.15	22	0.17	Water	○			○	○	○
	PLAPO 40XOLSM	1.10	0.13	22	0.17	Oil	○			○	○	○

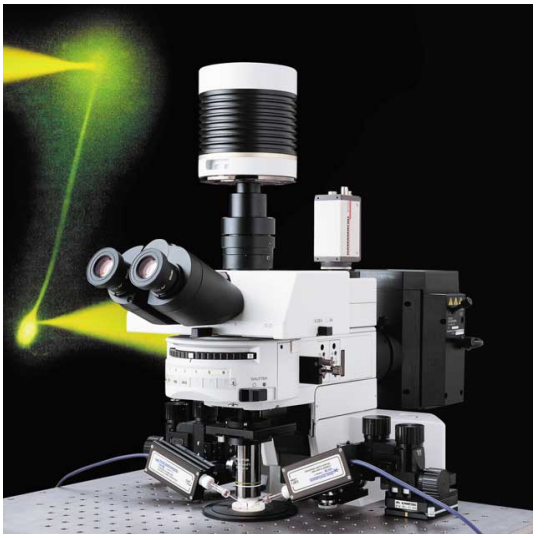
** Include 5mm water (○): oil proof cap applicable

Macro Imaging

Time Lapse



Live-cell Confocal Microscopy



Patch Clamping

Image data courtesy of:

Pr. Kentaro Arikawa, Ms. Mituyo Kinoshita,
Laboratory of Neuroethology,Graduate School of Integrated Science, Yokohama City University (cover page left top)

Atsushi Miyawaki M.D., Ph.D, Ms. Ryoko Ando,
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University of California, San Diego, NCMIR (back page left top)

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Department of Neuromuscular and Developmental Anatomy, Gunma University Graduate School of Medicine (back page left bottom)

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ISO9001/ISO14001 Certification
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OLYMPUS CORPORATION has obtained ISO9001/ISO14001

ECO-PRODUCTS

Products with Olympus Eco-products mark in this catalog are environmentally conscious products made according to OLYMPUS standard.
This does not apply to some accessories.
Please visit our website for more information:
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OLYMPUS®

Your Vision, Our Future

SYSTEM MICROSCOPE

CX41

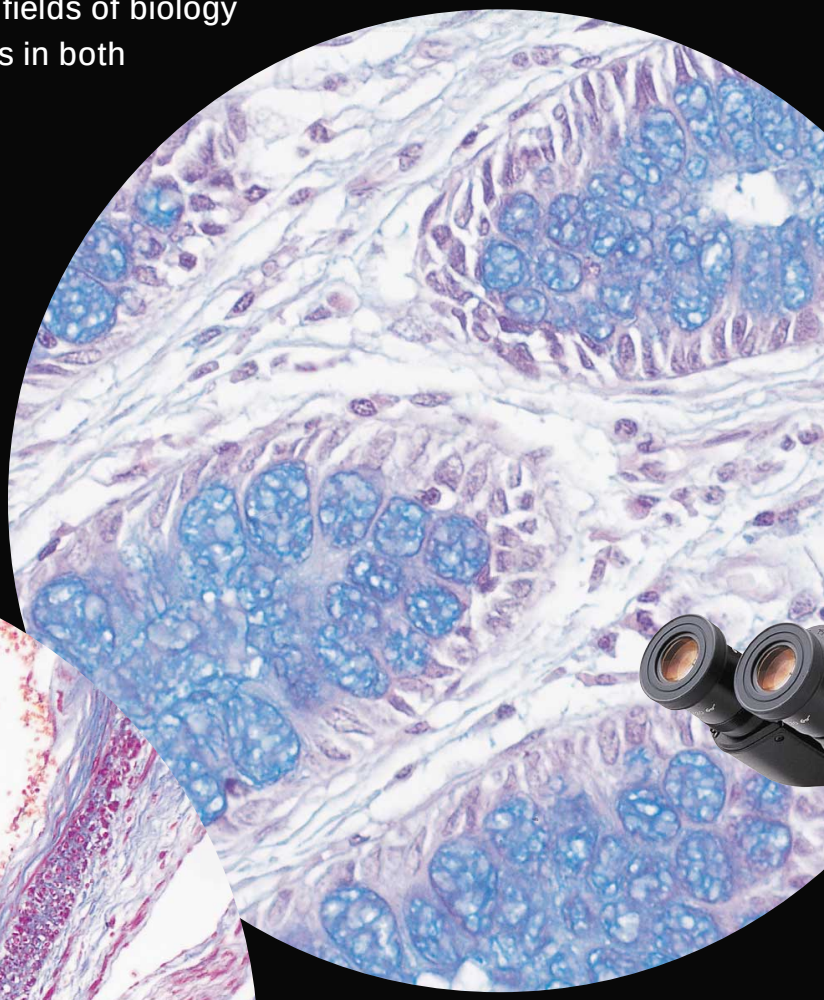
CX2 SERIES

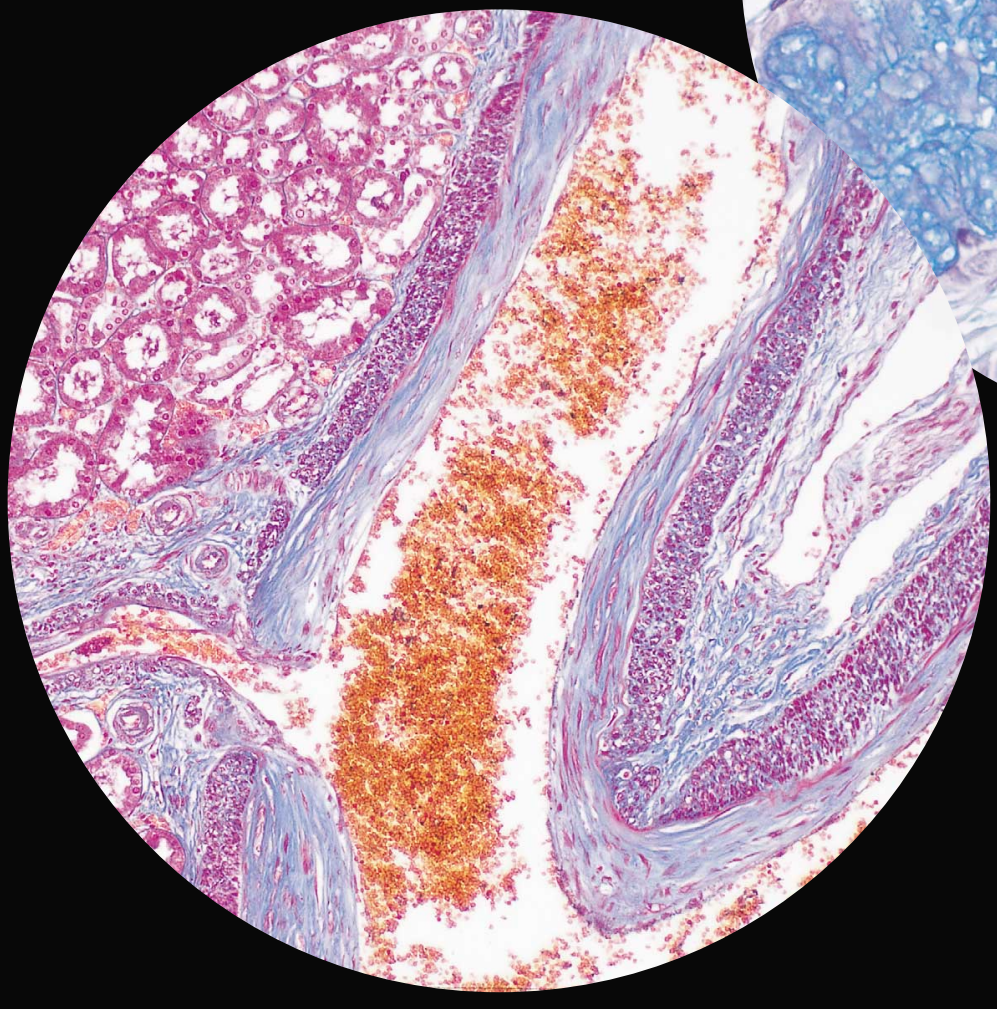
UIS2
World-leading optics

Optics and performance outstanding in its class

Advanced optical and system performance with excellent cost-efficiency

The evolution of this bestselling microscope delivers new, cost-efficient improvements in both optics and system performance. Newly equipped with Olympus' leading-edge UIS2 optical system, it provides significantly enhanced image clarity in a variety of observation methods, from brightfield to reflected light fluorescence. For all inspection and training applications in the fields of biology and medicine, the CX41 sets the pace for its class in both basic and system performance.

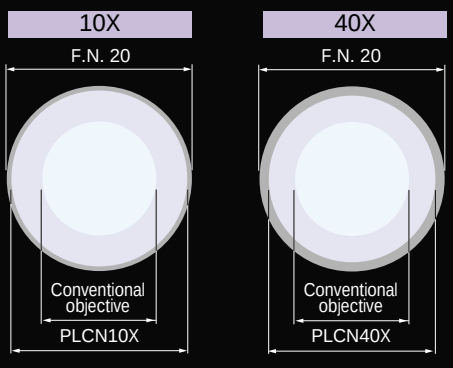




Outstanding flat images from PLCN objectives

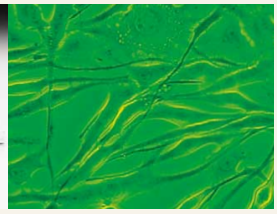
The CX41 provides images of outstanding brightness and clarity in a variety of observation modes. As well as Olympus' renowned UIS2 optics infinity system, it employs the PLCN series of Plan Achromat objectives, which are made from carefully selected top quality glass and manufactured with the most rigorous precision. The result is a major improvement in image flatness, with the 10X and 40X objectives in particular providing images that are among the very best in this class of microscope. Transmitted light illumination is from a 6V, 30W high-intensity halogen light source.

Flatness area comparison

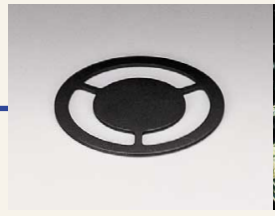


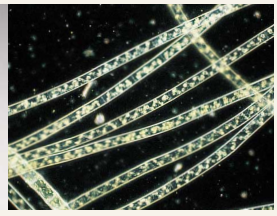
Excellent cost-performance in reflected light fluorescence and other observation methods

Slide condenser / CX-SLC
Brightfield condenser / CH3-CD
These Abbe type condensers allow brightfield observations from 4X to 100X. Accurate centering is provided by the attachment lens (CX-AL) and the iris diaphragm, to exclude unnecessary light and obtain bright Koehler illumination right across the magnification range. These highly economical condensers enable phase contrast and darkfield observations by simply adding basic accessories.



Simple phase contrast attachment / CX-PH1, 2, 3
For phase contrast observations at 10X, 40X and 100X.

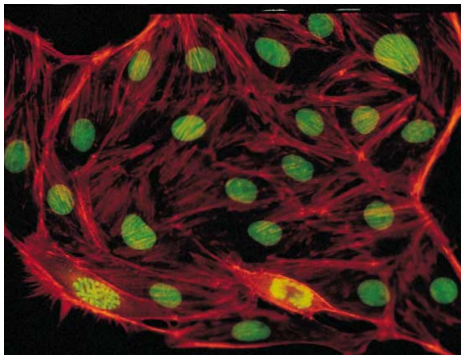




Darkfield central stop / CH2-DS
For darkfield observations from 4X to 40X.
* Separate filter holder (CH2-FH) or attachment lens (CX-AL) required.

Low magnification adapter /CX-LA
Use of the 2X low magnification objective allows macro observation.

Reflected light fluorescence attachment / CX-RFA-2
Users can choose between blue or green excitation and transmitted light observations. UIS2 optics provide bright fluorescence images, with no intermediate magnifications when changing from transmitted light to fluorescence observation. Standard PLCN objectives can be used without replacement.



Simple polarizing condenser / CH3-CDP
With the optional plate adapter U-TAD, polarizing observations from 4X to 100X using a tint plate can be performed. A U-GAN analyzer is provided for gout inspection. Polarizing objectives from 4X to 100X are available.
* Separate polarizer U-POT and analyzer U-ANT required.

Dry darkfield condenser / CX-DCD
This dry-type darkfield condenser gives a superior darkfield effect without the need for immersion in oil. Suitable for use at 10X and 40X magnifications.

Dependable basic performance assures outstanding operational convenience

Phase-contrast condenser / CX-PCD
The multi-purpose CX-PCD condenser allows observation of brightfield, phase-contrast and darkfield images without exchanging condensers. Phase-contrast observation from 10x to 100x and darkfield observation from 10x to 40x is allowed.

Anti-fungus treatment
The treatment applied to the observation tubes, eyepieces and objectives, protects quality of optical parts even in high humidity regions.

Move the specimen with just one finger
Rubber grips are provided for the stage handles, allowing the specimen to be moved smoothly with just one finger. The slim body and conveniently positioned controls ensure that everything is within easy reach, so operators can maintain a natural posture.

Tilting binocular tube
The tilting binocular tube lets each operator select the most suitable and comfortable eyepoint — a valuable contribution to reducing fatigue in extended observation sessions. High cost-efficiency type (U-CTBI) is also available.


U-TBI-3


U-CTBI

Inward-facing quintuple revolving nosepiece
The quintuple revolving nosepiece enables a wide range of magnification observations and various combinations of objectives. Unrestricted access to the space in front of the objective allows specimens to be exchanged quickly and easily.

Rackless stage with enhanced operability
To keep the work area clear, and to avoid interference with observation operations, the X-direction travel guide does not extend out from the side of the stage. The main and sub-scale displays are designed for easy read-out.

Torque adjustable focusing knob
The torque of the coarse focusing knob can be adjusted, to suit different operators' needs and to make focusing smooth and easy while keeping the hands on the desk. A stage upper limit stopper is also provided.

Easy transportation and installation
The CX41 is eminently portable, with convenient handgrips at the front and back of the frame and no inconvenient protrusion of the stage guide.

More accessories, more observation versatility

Dual observation attachment/ U-DO3
Enables dual, simultaneous observation of a single specimen from the same direction with equal magnification and brightness for both operators. A pointer can be used to indicate specific sections of the specimen to simplify the training process and enhance discussion.

Trinocular tube/ U-CTR30-2
Digital (DP20) or video cameras can be attached for on-site/ remote illustration of educational/ discussion meetings.

CX41+DP20

Eyepoint adjuster/ U-EPA2
Allows the eyepoint position to be raised by 30mm. Up to two eyepoint adjusters can be attached between the frame arm and observation tube.

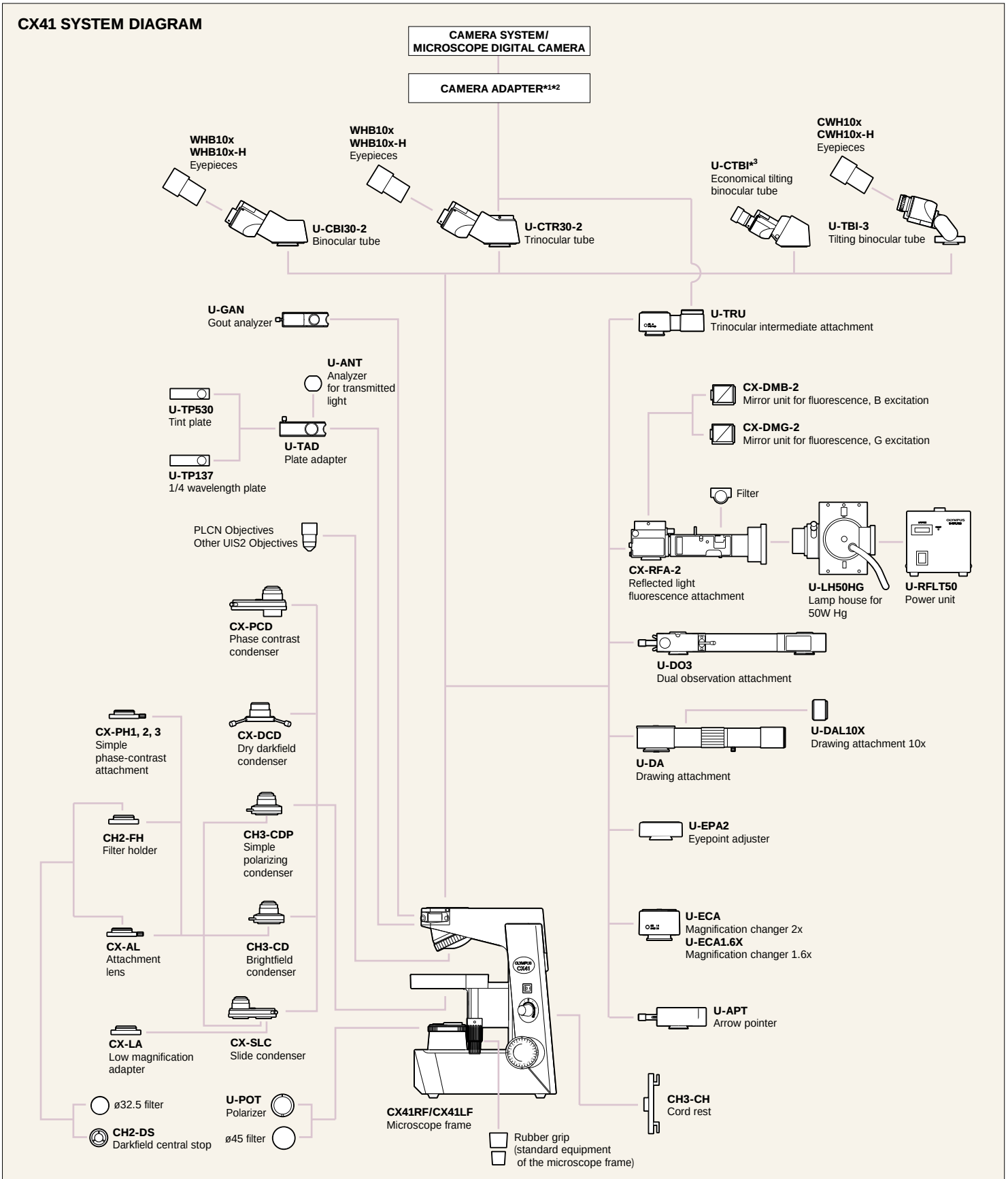
Arrow pointer/ U-APT
Enables insertion of an LED arrow for display in a digital image.

2x magnification changer/ U-ECA
Magnification is doubled by engaging the auxiliary 2x lens.

Drawing attachment/ U-DA
The drawing attachment projects an image of the pencil and drawing surface into the visual field.

Trinocular intermediate attachment/ U-TRU
A binocular tube on its own allows digital imaging in combination with this trinocular intermediate attachment.

CX41 SYSTEM DIAGRAM



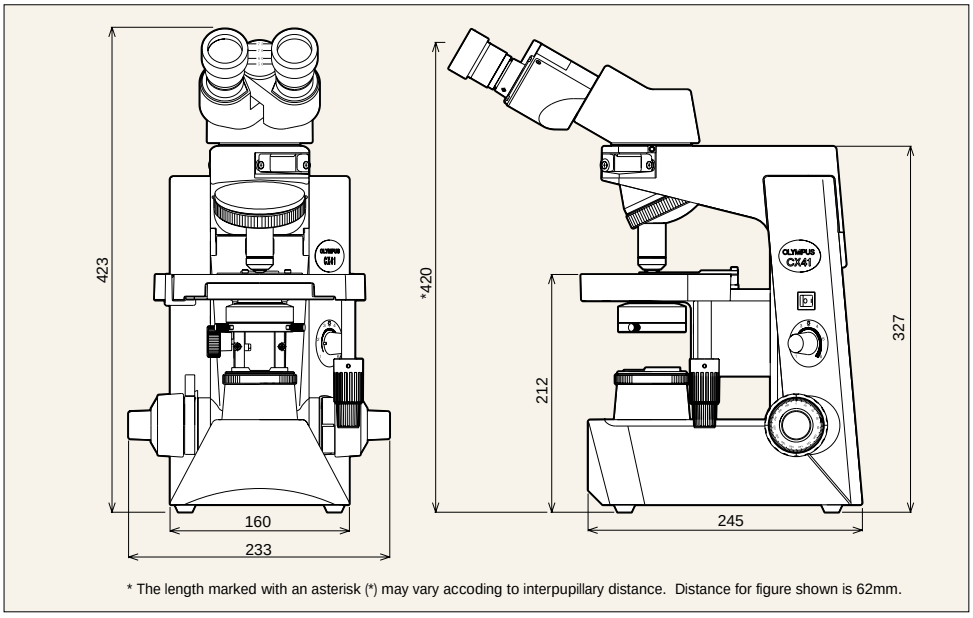
*1 Please consult your Olympus dealer for detail. *2 U-TV1x cannot be attached for technical reason. Combine U-TV1x-2 for 1x adapter. *3 10x eyepieces incorporated. F.N. 18

Specifications

Item				
Optical system		UIS2 (Universal Infinity-corrected) optical system		
Illumination		Built-in transmitted Koehler illuminator 6V30W halogen bulb 100-120V/220-240V∼ 0.85/0.45A 50/60Hz		
Focusing		•Stage height movement by roller guide (rack & pinion) •Stroke per rotation: 36.8mm •Full stroke range: 25mm •Upper limit stopper •Tension adjustment on coarse focus adjustment knob		
Revolving nosepiece		Fixed quintuple nosepiece with inward tilt		
Observation tube	Type	U-CBI30-2, Binocular	U-CTR30-2, Trinocular	U-CTBI, Tilting binocular
	Field number	20	20	18
	Tube inclination	30º	30º	30º—60º
	Interpupillary distance adjustment range	48—75mm	48—75mm	48—75mm
	Light path selector	None	None (Bi 50%, Video/Photo 50% fixed)	None
Stage	Size	188(W)X134(D)mm		
	Movement range	76mm X-direction X 50mm Y-direction		
	Specimen holder	Double slide holder		
	Rubber grip	Equipped as standard		
Condenser (CH3-CD)	Type	Abbe condenser		
	N.A.	1.25 with oil immersion		
	Aperture iris diaphragm	Built-in		
Dimensions & weight		233(W) X 432(H) X 367.5(D)mm, approximately 8.5kg (approximately 18.7 lb.)		

Dimensions

(Unit: mm)



* The length marked with an asterisk (*) may vary accoding to interpupillary distance. Distance for figure shown is 62mm.

Objectives, Plan Achromat

PLCN	Numerical Aperture (N.A.)	Working Distance (W.D.)
4X	0.10	18.5mm
10X	0.25	10.6mm
20X	0.4	1.2mm
40X	0.65	0.6mm
60X	0.8	0.2mm
100XO	1.25	0.13mm
100XOI	1.25-0.6	0.13mm

Eyepiece

	Field Number (F.N.)
WHB10X	20
CWH10X (for U-TBI-3)	20

CX41 is the environmental conscious product according to OLYMPUS's own standards.

Main features of OLYMPUS Eco-products are as follows.

- *Lead-free and arsenic-free Eco-glass for optics, such as lenses and prisms.*
- *Exclusion of hexavalent chrome, mercury, lead and cadmium from metal materials and surface treatment of metal.*
- *Exclusion of lead solders.*
- *Adoption of cardboard for packing materials without styrene foam for promoting the recycling.*

** A definition of exclusion depends on olympus standard. Some accessories are inapplicable.*

Please visit our web site for further information:
http://www.olympus.co.jp/en/eco-products/

ECO-PRODUCTS

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Specifications

Item	Specifications		CH20*i* Binocular	CH20*i* Trinocular
CH20*i* MICROSCOPE FRAME	• Coaxial coarse/fine knobs: Tension adjustment on the right side Fine focus knob graduated Stage movement (XY direction) on rack and pinion • Quadruple revolving nosepiece (fixed) Plane stage 120 x 132 mm • With right hand mechanical stage • Abbe condensor N.A. 1.25 (oil immersion), with aperture iris diaphragm • Blue filter • Universal Power Supply (100V to 240V) for 6V 20W illuminator • 8cc immersion oil • Dust cover • Mirror unit (Plano-concave)	• Binocular observation tube (inclination 45°, Interpupillary distance adjustment range 53-75 mm), diopter adjustment on the left	❍	
		• Trinocular observation tube (inclination 45°), diopter adjustment on the left		❍
Power Cord			❍	❍
Lamp	6V 20W halogen lamp (x 2)		❍	❍
Objectives	iNEA Achromat 4X (anti-fungus)		❍	❍
	iNEA Achromat 10X (anti-fungus)		❍	❍
	iNEA Achromat 40X (anti-fungus) spring		❍	❍
	iNEA Achromat 100X (anti-fungus) spring, oil		❍	❍
Eyepiece	iCWHK10X (LB eyepiece 10X), F.N. 18mm, (anti-fungus) (x 2)		❍	❍

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OLYMPUS

BIOLOGICAL MICROSCOPE

CH20*i*

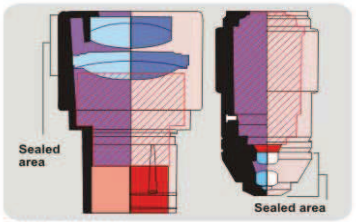
In Japan, OLYMPUS prides itself as a company that manufactures quality optical products with a FOCUS ON LIFE. Olympus (India) extends that corporate philosophy as it brings the renowned Japanese technical expertise to its making of microscopes. It is progress through precision.

Quality that's pure

OLYMPUS

CH20*i*

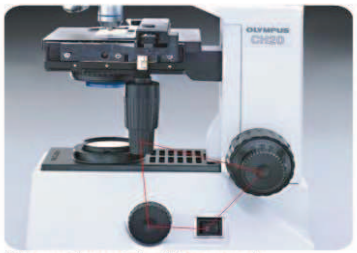
Features



Sealed optical parts

Anti Fungus Optics

From the eyepiece and objectives to the interior of the observation tube, comprehensive anti fungus treatments are applied to every area which effects the clarity of the observed images. This Tropicalized treatment ensures Image excellence for long periods in conditions favouring to fungus growth.



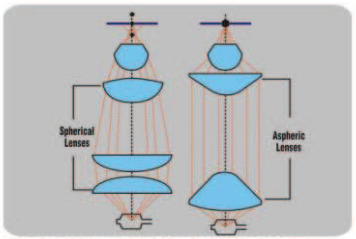
Main operating controls within easy reach

Ergonomic Design

All the main operating functions are within easy reach, thereby allowing extended observation without fatigue of eye or posture.

Window in the arm section

The specimen can be observed with the naked eye from the back. Also, convenient to observe the specimen while using microscope through natural light by using reflector.



Optimization of illumination with aspheric lenses

High Performance Aspheric Lenses

The abbe condenser & the light relay system are fitted with high performance aspheric lenses, which ensure uniform illumination, resulting in a bright and crisp image.

Illumination System

Built-in illumination through SMPS circuit for constant voltage output to cover input voltage fluctuations from 100 volts to 240 volts. This prolongs bulb life and prevent frequent bulb change.

Easily Interchangeable objectives

Interchangeability of Objectives

The high precision objectives can be mounted on the nosepiece in any sequence without effecting their parfocality or centering.

Technology From Japan

The CH-20i is an accumulation of advanced Japanese manufacturing technology that turns creative designs into quality products. Now, made in India under licence from Olympus Corporation, Japan, the CH-20i is the manifestation of the uncompromising quality standards and user friendly features which OLYMPUS products are known for.

The manufacturing process, under the strict supervision of a team of Japanese engineers, ensures compliance with demanding performance standards. OLYMPUS technology is constantly applied to every aspect of design, maximising the interchangeability of parts and minimising adjustment requirements during assembly. Consequently, the CH-20i is the only microscope in India conforming to internationally accepted standards.

CH20*i*

4-axis Machining Centre


Clean Room Assembly area


Laser Interferometer for optics inspection


Lens Inspection

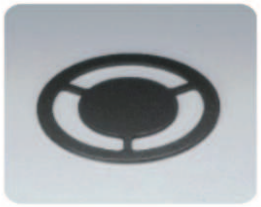
Quality that's pure

OLYMPUS

CH20*i*

Optional Accessories

Digital Imaging Compliance
An optional adapter to mount digital cameras is provided to allow easy, cost-effecient digital imaging



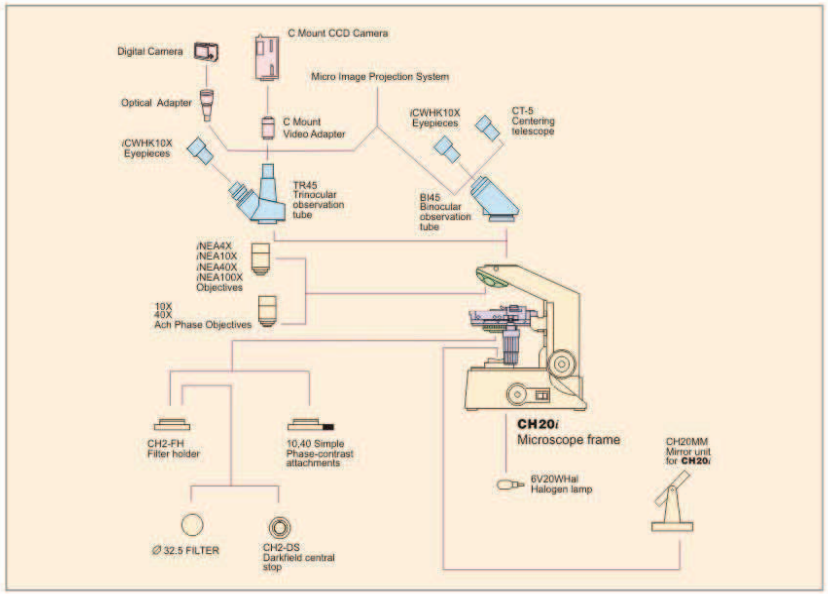
Darkfield central stop/ CH2-DS
Darkfield observation from 10X-40X is possible. This is placed underneath the condenser with attachment lens CH3-AL or filter holder CH2-FH

Attachments

Phase-contrast Attachment/10X,40X
This is attached underneath the condenser. Phase-contrast objectives (10X & 40X) are provided

CCTV Attachment
Supplied with optical C mount Video Adapter

Micro Image Projection System



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		• Trinocular observation tube (inclination 45°), diopter adjustment on the left		❍
Power Cord			❍	❍
Lamp	6V 20W halogen lamp (x 2)		❍	❍
Objectives	iNEA Achromat 4X (anti-fungus)		❍	❍
	iNEA Achromat 10X (anti-fungus)		❍	❍
	iNEA Achromat 40X (anti-fungus) spring		❍	❍
	iNEA Achromat 100X (anti-fungus) spring, oil		❍	❍
Eyepiece	iCWHK10X (LB eyepiece 10X), F.N. 18mm, (anti-fungus) (x 2)		❍	❍

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OLYMPUS®

Your Vision, Our Future

Biological Microscope

CX21*i*

CX2 Series

UIS2
World-leading optics

Step up to Higher Performance with the Olympus UIS2 Infinity Optics

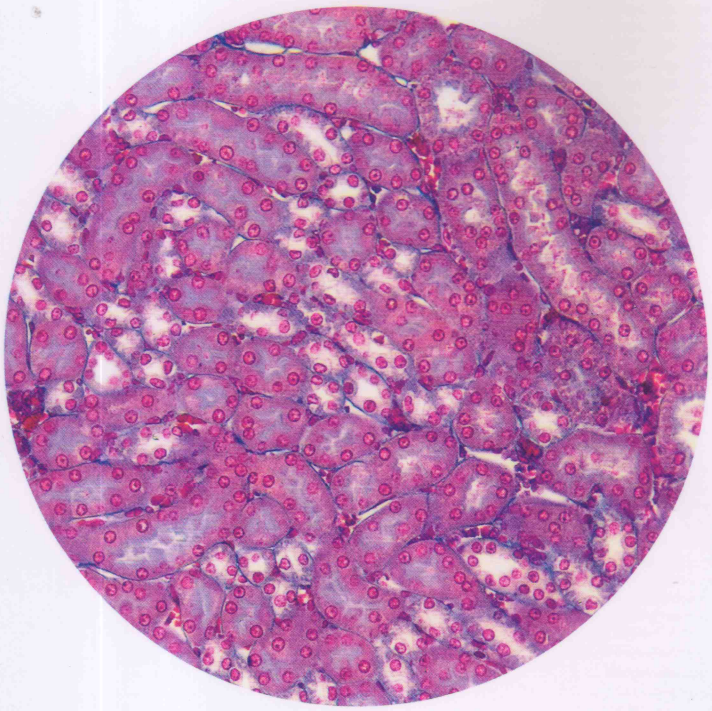
The CX21i sets new standards for educational and laboratory applications

Superb image clarity coupled with Oly

Superior imaging

Plan objectives are packaged as standard, providing image flatness that is among the best in this class

The CX21i is equipped with the same UIS2 optical system used in Olympus' top-level microscopes. In addition, Plan Achromat objectives are included as standard for the first time in this class of microscope, providing sharp images with high contrast right up to the edge of the field of view.

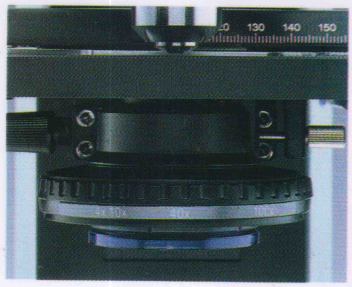


Bright, uniform illumination

The CX21i's 6V20W high intensity halogen lamp delivers clear, stable illumination. The built-in aspheric collector lens provides images that are bright and uniformly illuminated over the entire field of view.

Abbe condenser for optimized contrast

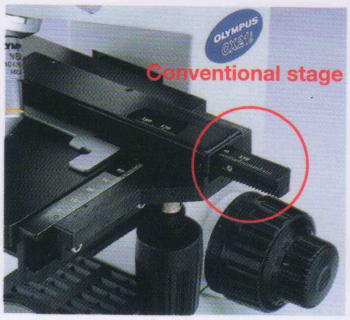
The optimal aperture stop position for each objective is clearly marked on the Abbe condenser, resulting in high-resolution, high-contrast images.



Easy, safe operation

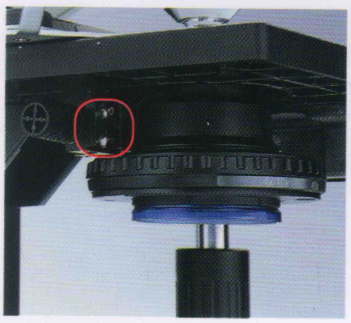
Rackless stage for durability and ease of use

The wire-driven stage movement avoids any protrusion of racks — preventing the possibility of accidental damage or hand injury. Abrasion-resistant rackless design ensures continuous smooth movement.



Component security — Student proof !

The eyepieces, objectives and condenser are all factory attached to the microscope body ensuring that no component is dropped or detached during transportation or regular use.



Ultra-smooth, quadruple revolving nosepiece

High-precision machining ensures smooth operation and durability. Nosepiece includes a rubber ring for an easy ergonomic grip.

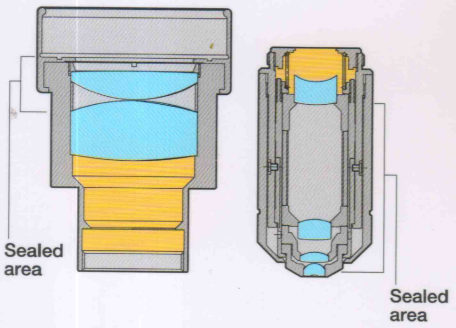
Mechanical stage focus-lock prevents mishaps

The focus position can be locked making it easy to refocus when the specimen is changed. With the upper stage position locked, there is no chance of the objective accidentally touching the slide and damaging either the specimen or the objective itself.

mpus' renowned reliability and rigidity

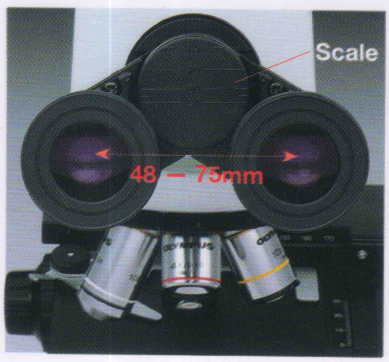
Use in any environment

Anti-fungus treatment for component durability
An effective anti-fungus treatment is applied to the objectives, eyepieces and observation tube for consistent image clarity and long operating life even in hot humid work conditions.



Compact design, easy to store and carry
The CX21i is only 391 mm high, compact enough to be stored in a typical classroom cabinet.

Individual choice of adjustment
Binocular observation tube is inclined 30 degrees allowing for an ergonomic, comfortable posture during observation. Eyepieces can be easily set for multiple users with a scaled interpupillary distance adjustment and diopter setting. High eyepoint design eyepieces with F.N. 20 can be used comfortably without removing eyeglasses.



Suitable for any user

Tension adjustment for smoother focusing
The coaxial coarse/fine focusing knob is operable from either the left or right side. Coarse movement tension can be adjusted in accordance with personal preference.

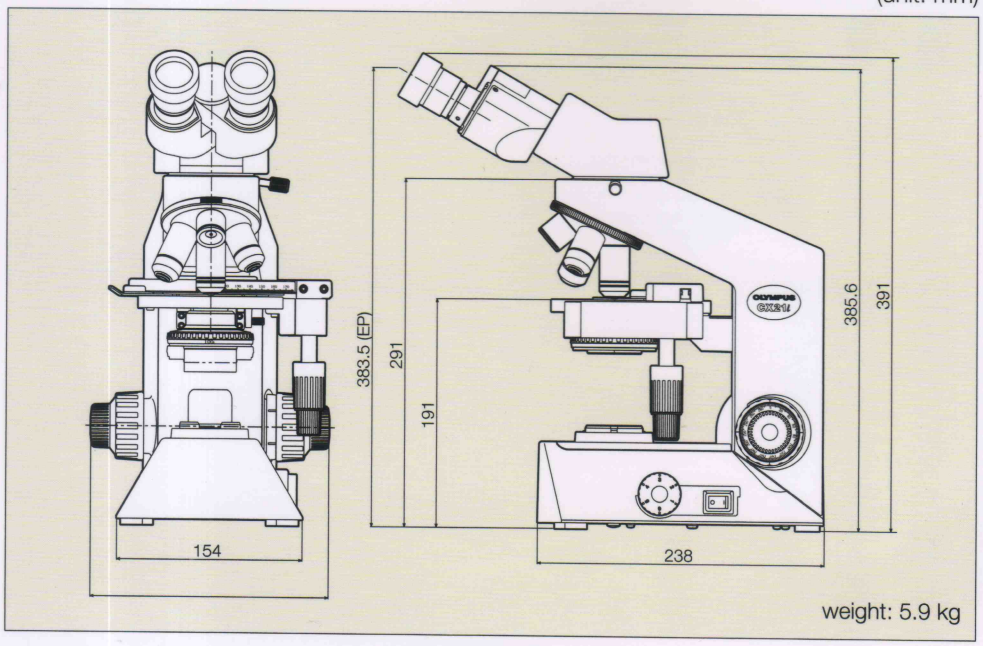
Ergonomic design for user convenience
The focusing knob, light control adjustment knob and stage handle are located close together, the user can work with hands on the desk and operate the CX21i with minimal movement.

Specifications: CX21*i* Biological Microscope

Microscope Frame	CX21 FS1
Optical system	UIS2 (Universal Infinity System) optical system
Illumination System	Built-in transmitted illumination system 6 V 20 W halogen bulb 100-240 V 50/60 Hz universal voltage
Focusing	Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 µm
Revolving Nosepiece	Fixed quadruple nosepiece
Stage	Wire movement mechanical fixed stage: 120x132 mm Traveling range: 76 mm (X) x 30 mm (Y) Single specimen holder
Observation Tube	30° inclined binocular tube Interpupillary distance adjustment range 48–75 mm
Condenser	Abbe type with aperture iris diaphragm N.A.: 1.25
Objective	Plan Achromatic objectives (anti-fungus) 4x N.A.: 0.10 W.D.: 18.5 mm 10x N.A.: 0.25 W.D.: 10.6 mm 40x N.A.: 0.65 W.D.: 0.6 mm 100x N.A.: 1.25 W.D.: 0.13 mm (option)
Eyepiece (10x)	Field Number (F.N.): 20 (anti-fungus)
Optional Accessories	Mirror unit, 15x eyepiece (F.N. 12, anti-fungus), micrometer, filter holder, darkfield stop, Micro image projection system, Phase-contrast Attachment/10X, 40X, Simple Polarizing attachment

Dimensions

(unit: mm)



Features:

- Ergonomic & compact design for user convenience
- UIS2 Plan infinity optics providing image flatness
- Seidentopf observation head for individual choice of adjustment
- Anti fungus treatment for component durability
- High eyepoint design eyepiece (F.N.20)
- High performance aspheric lenses in the abbe condenser & light relay system for bright & uniform illumination
- SMPS circuit for constant voltage output
- Rackless stage for durability and ease of use
- Mechanical stage focus-lock prevents mishaps
- Component security – Student proof

- **Over 200,000 highly satisfied CX21 customers world over**
- **CX21i is now exclusively for India at affordable cost**

CX21i is the environmental conscious product according to OLYMPUS' own standards.

- Adoption of cardboard for packing materials without styrene foam for promoting the recycling.
- Lead-free and arsenic-free Eco-glass for optics, such as lenses and prisms.
- The CX21i meets CE standards for safety.
- Specifications and appearances are subject to change without any notice or obligation on the part of the manufacturer.

CX21*i* is manufactured under license from Olympus Corporation, Japan

OLYMPUS®

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OLYMPUS®

Your Vision, Our Future

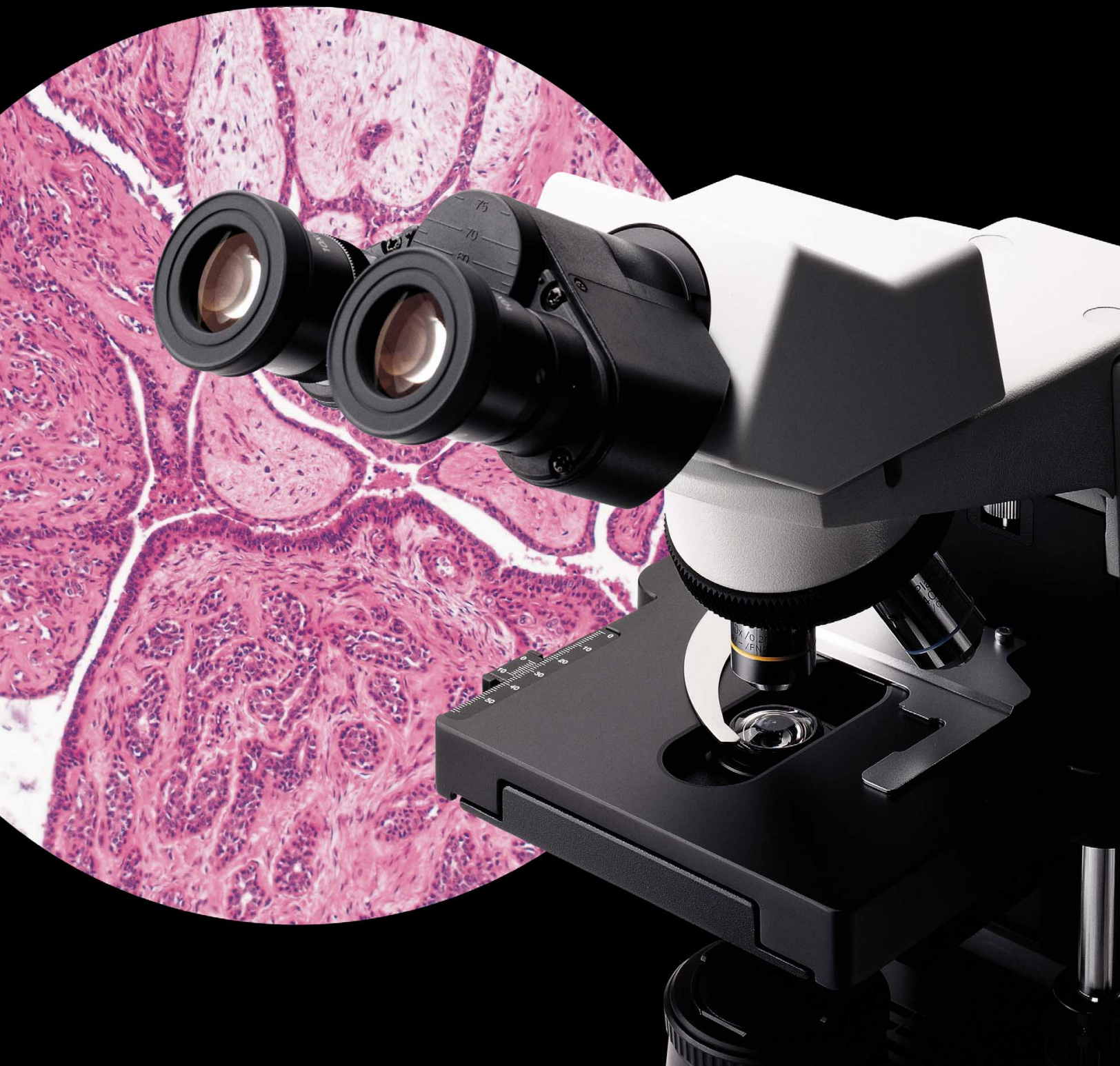
BIOLOGICAL MICROSCOPE

CX31

CX2 SERIES

UIS2
World-leading optics

New standards of sharpness, clarity and flatness

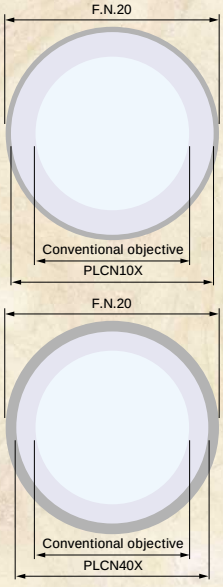


Advanced optical performance wit

The Olympus CX2 microscopes, which have gained an outstanding worldwide reputation in many medical and educational arenas, now evolve with new UIS2 infinity optics.
The CX31 microscopes improve all-round performance and offer excellent cost-efficiency.

Outstanding flat images from PLCN objectives

The PLCN series of UIS2 objectives improves flatness dramatically, producing sharp, clear images right up to the edge of the field of view. Ideal for the 10X and 40X objectives so frequently used for inspection work, the flatness ranks among the very best in this class of microscopes.



Flatness area comparison

Bright, even observation images

The illumination system employs a high intensity 6V, 30W halogen lamp for bright images. The aperture iris diaphragm with built-in condenser and standard field stop combine to provide bright and even illumination at all levels of magnification.

Rigid, durable construction for high performance and long service life

Construction quality is excellent throughout, with objectives, eyepiece, observation tube, revolving nosepiece, highly reliable rackless stage and other components all fixed firmly to the body — so there's nothing to come loose or fall off when the microscope is being transported. The highly reputable rackless stage is employed, and since the X-axis guide does not protrude, both transportation and operation are performed easily and safely.

For digital imaging (optional)

An optional adapter (sold separately) to mount Olympus digital cameras is provided to allow easy, cost-efficient digital imaging.

Anti-fungus treatment

The treatment applied to the observation tubes, eyepieces and objectives, protects quality of optical parts even in high humidity regions.

h excellent cost-efficiency.

UIS2 eyepiece

Provides wide field of view (F.N. 20) and allows easy observation with eyeglasses.

Observation tube (Binocular/Tilting binocular)

Diopter adjustment is performed via the knurled collar on the left eyetube. Wide interpupillary distance adjustment (48-75mm) ensures the best and most comfortable observation conditions for every user. Tilting binocular is also available for your comfortable posture in operation.

Quadruple inward-facing revolving nosepiece

Complies with a wide range of magnifications, allows unrestricted use of the space in front of the objectives and makes it easy to confirm observation magnifications.

Coarse upper limit stopper

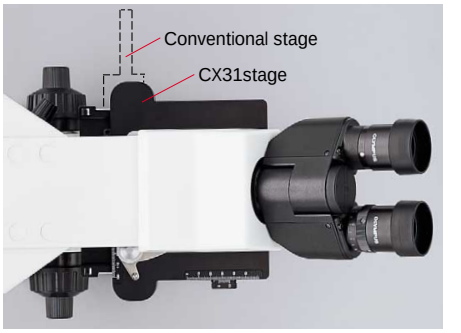
Locks the upper position of the stage, preventing contact between the objective and the specimen in high magnification observations.

UIS2 objectives

4X, 10X, 40X and 100X PLCN objectives, providing world-class image flatness.

Rackless stage

Rack-free stage with no side protrusions. Low-positioned control knob allows smooth and comfortable specimen movement. Scale gradations are in white lettering on a black background.



Light intensity adjustment

Continuous light adjustment is possible.

Abbe condenser

An Abbe condenser, with N.A. 1.25 and built-in aperture diaphragm, provides the appropriate diaphragm setting to suit different specimens and magnifications.

Field stop

Frame integrated, with ability to accept a ø45mm filter.

Coaxial coarse/fine focusing knob

The coaxial coarse/fine focusing knob allows each operator to adjust the torque for coarse focusing operations. Focusing is smooth and easy, with the user's hands placed on the desk.

Stage handle with tactile grips

Tactile grips are fitted to the X and Y stage controls to provide a "light touch" stage movement.

Highly rigid frame

Extra rigid frame withstands frequent use and repositioning.

Hand grips for easy portability

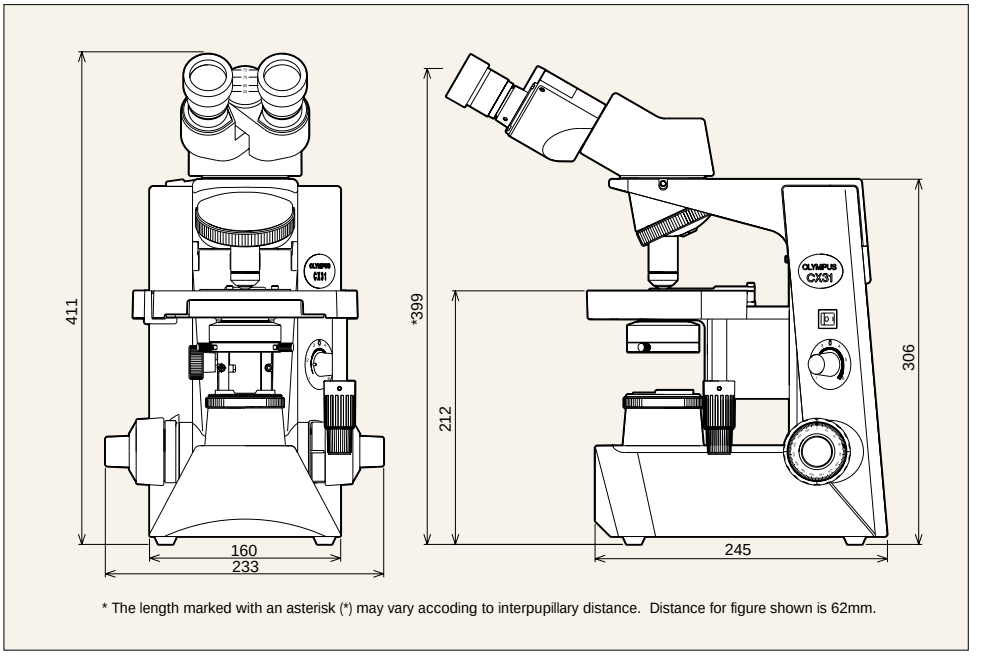
Convenient hand grips at the front and back of the frame make it easy to carry the microscope.

Specifications

Item		CX31	
Optical system		UIS2 (Universal Infinity-corrected) optical system	
Illumination		Built-in transmitted Koehler illuminator 6V30W halogen bulb 100-120V/220-240V∿ 0.85/0.45A 50/60Hz	
Focusing		•Stage height movement by roller guide (rack & pinion) •Stroke per rotation: 36.8mm •Full stroke range: 25mm •Upper limit stopped by simplified pre-focusing dial •Tension adjustment on coarse focus adjustment knob	
Revolving nosepiece		Fixed quadruple nosepiece with inward tilt	
Observation tube	Type	Binocular	Tilting binocular
	Field number	20	18
	Tube inclination	30°	30°—60°
	Interpupillary distance adjustment range	48—75mm	48—75mm
Stage	Size	188(W) X 134(D)mm	
	Movement range	76mm X-direction X 50mm Y-direction	
	Specimen holder	Double slide holder	
	Rubber grip	Equipped as standard	
Condenser	Type	Abbe condenser, with built-in daylight filter	
	N.A.	1.25 with oil immersion	
	Aperture iris diaphragm	Built-in	
Dimensions & weight		233(W) X 411(H) X 367.5(D)mm, approximately 8kg (approximately 17.6 lb.)	

Dimensions

(Unit: mm)



* The length marked with an asterisk (*) may vary accoding to interpupillary distance. Distance for figure shown is 62mm.

Objectives, Plan Achromat

PLCN	Numerical Aperture (N.A.)	Working Distance (W.D.)
4X	0.10	18.5mm
10X	0.25	10.6mm
40X	0.65	0.6mm
100XO	1.25	0.13mm

Eyepiece

	Field Number (F.N.)
10X (Binocular)	20
10X (Tilting binocular)	18

ECO-PRODUCTS

Environmentally-friendly product
All optical components in CX31 microscope use lead-free eco-glass.

Specifications are subject to change without any obligation on the part of the manufacturer.

ISO9001 Certification
Design and production adheres to ISO9001 international quality standard.

ISO14001 Certification
Design and production at the OLYMPUS CORPORATION Ina Plant conforms with ISO14001 specifications for environmental management systems.

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Since the past 44 years Olympus (India) Pvt. Ltd. - in collaboration with Olympus Corporation, Tokyo, Japan has pursued the path of excellence in the field of optical engineering. To maintain international standards set for us by our Japanese collaborators, Olympus India has developed a completely integrated factory wherein optical lens processing, vacuum coating, finishing and other processes are carried out under the strict vigil of Japanese trained engineering personnel. This self-contained infrastructure alongwith a rigid quality control system ensures the production of high resolution optics and trouble-free instruments complying to the high OLYMPUS standards.

The OLYMPUS range of optical instruments comprise of:

- Biological Microscopes
- Research Microscopes

OLYMPUS

HSA

STUDENT MICROSCOPE

The HSA is based on a compact design and is extremely reliable in mechanical and optical performance. A wide variety of standard and optional accessories enhance the characteristics features of the HSA. The sphere of its application have been sufficiently extended to meet various requirements at high schools, colleges and universities.

Body	:	Monocular die-cast body inclinable upto a horizontal position (90°)
Magnification	:	100 X — 600 X
Stage	:	Plain square stage of 100 X 100 mm, with two clips, mechanical stage (Optional)
Nosepiece	:	Triple hole nosepiece with positive click stops for precise and smooth alignment of objectives
Focusing	:	By coarse and fine focusing knobs
Eyepieces	:	Huygenian 10X & 15X
Objectives	:	Hard anti-reflection coated, colour coded Parfocal Achromat: 10X & 40X
Condenser	:	Built-in Sub-stage condenser with iris diaphragm
Illumination	:	Plano-concave mirror in adjustable fork mount
Finish	:	Olympus textured grey

Magnus

invi

Long Working Distance (LWD), Plan Infinity Optics

4x, 40x Objectives & Phase 10x, 20x as Standard

Pre-centred Phase Annulus

Trinocular Port in Standard Unit

FOV 22mm with 10x Eyepiece

Optional Items :

Phase 40x Objective

Attachable Mechanical Stage

Warm Plate

Terasaki, Petri Dish

& Slide Glass Holders

Digital Camera Attachment (Optional)

INVERTED MICROSCOPE FOR TISSUE CULTURE APPLICATIONS

Specifications :

MODEL INVI	MODEL DESCRIPTIONS	
VIEWING HEAD	Trinocular Head Inclined at 30 deg., Interpupillary distance 48 - 75mm	
EYEPIECE	High-point, Extra Wide Field Eyepiece EW10X/22	
OBJECTIVE	LWD Plan Infinity Objective	4X/0.1 WD 18mm
		40X/0.6 WD 2.6mm (Cover Glass 1.2mm)
	LWD Plan Infinity Phase Objective	PH10X/0.25 WD 10mm
		PH20X/0.4 WD 5.1mm
NOSEPIECE	Quintuple Nosepiece	
CONDENSER	ELWD Condenser NA 0.3, LWD 72mm, (without condenser 150mm)	
PHASE ANNULUS	10X - 20X Phase Annulus Plate	
STAGE	Plane Stage 160 x 250mm	
	Glass Insert	
	Auxiliary Stage 70 x 180mm	
FOCUSING	Coaxial Coarse and Fine Adjustment	
	Coaxial Stroke: 37.7mm per Rotation, Fine Stroke: 0.2mm per Rotation	
ILLUMINATION	Halogen Lamp 6V30W	
FILTER	Blue, Green and Frosted Glass, 45mm dia	
OPTIONAL ITEMS	PH40X/0.6 WD2.6mm (Cover Glass 1.2mm) Phase Contrast Objective	
	Attachable Mechanical Stage, X-Y Co-axial Control, Moving Range 120 x 78 mm	
	Terasaki Holder, 38mm dia Petri Dish Holder, 54mm dia Slide Glass Holder	
	Warm Plate	
	Digital Camera / MIPS (Micro Image Projection System) Attachment	
	Time Lapse Recording System	

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Magnüs

invi

Long Working Distance (LWD), Plan Infinity Optics

4x, 40x Objectives & Phase 10x, 20x as Standard

Pre-centred Phase Annulus

Trinocular Port in Standard Unit

FOV 22mm with 10x Eyepiece

Optional Items :

Phase 40x Objective

Attachable Mechanical Stage

Warm Plate

Terasaki, Petri Dish

& Slide Glass Holders

Digital Camera Attachment (Optional)

INVERTED MICROSCOPE FOR TISSUE CULTURE APPLICATIONS

Specifications :

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VIEWING HEAD	Trinocular Head Inclined at 30 deg., Interpupillary distance 48 - 75mm	
EYEPIECE	High-point, Extra Wide Field Eyepiece EW10X/22	
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		40X/0.6 WD 2.6mm (Cover Glass 1.2mm)
	LWD Plan Infinity Phase Objective	PH10X/0.25 WD 10mm
		PH20X/0.4 WD 5.1mm
NOSEPIECE	Quintuple Nosepiece	
CONDENSER	ELWD Condenser NA 0.3, LWD 72mm, (without condenser 150mm)	
PHASE ANNULUS	10X - 20X Phase Annulus Plate	
STAGE	Plane Stage 160 x 250mm	
	Glass Insert	
	Auxiliary Stage 70 x 180mm	
FOCUSING	Coaxial Coarse and Fine Adjustment	
	Coaxial Stroke: 37.7mm per Rotation, Fine Stroke: 0.2mm per Rotation	
ILLUMINATION	Halogen Lamp 6V30W	
FILTER	Blue, Green and Frosted Glass, 45mm dia	
OPTIONAL ITEMS	PH40X/0.6 WD2.6mm (Cover Glass 1.2mm) Phase Contrast Objective	
	Attachable Mechanical Stage, X-Y Co-axial Control, Moving Range 120 x 78 mm	
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Magnus – Fraen Partnership

Since its inception in 2000, Fraen Srl has defined the concept of MAXIMIZING LIGHT! and is committed to developing high-quality, innovative and technologically advanced optical solutions to satisfy customer requirements.

Based on its rich knowledge of optical systems, Fraen Srl has developed automotive lighted instrumentation pointers, fiber optic couplers, light pipes, high-efficacy TIR collimators, etc and has become the industry benchmark for the top quality optical solutions for high-powered LEDs.

Magnus has a significant presence in the healthcare & education sectors in the Indian market and its microscopes have been the preferred choice for a number of World Bank funded projects. Since 1995, more than 15,000 Magnus microscopes have been supplied to important World Bank public health programs.

Guided by Japanese production methods and manufactured in a TUV-certified ISO 9001 : 2000 facility, Magnus microscopes are today recognized for their precision engineering and high-performance optics. The core team at Magnus has been specially trained in Japan & Germany by experts from leading optical engineering companies in the world.

The Magnus-Fraen partnership strives to combine the optical design and manufacturing strengths to produce high precision and cost competitive products to serve the education and healthcare markets all over the world.

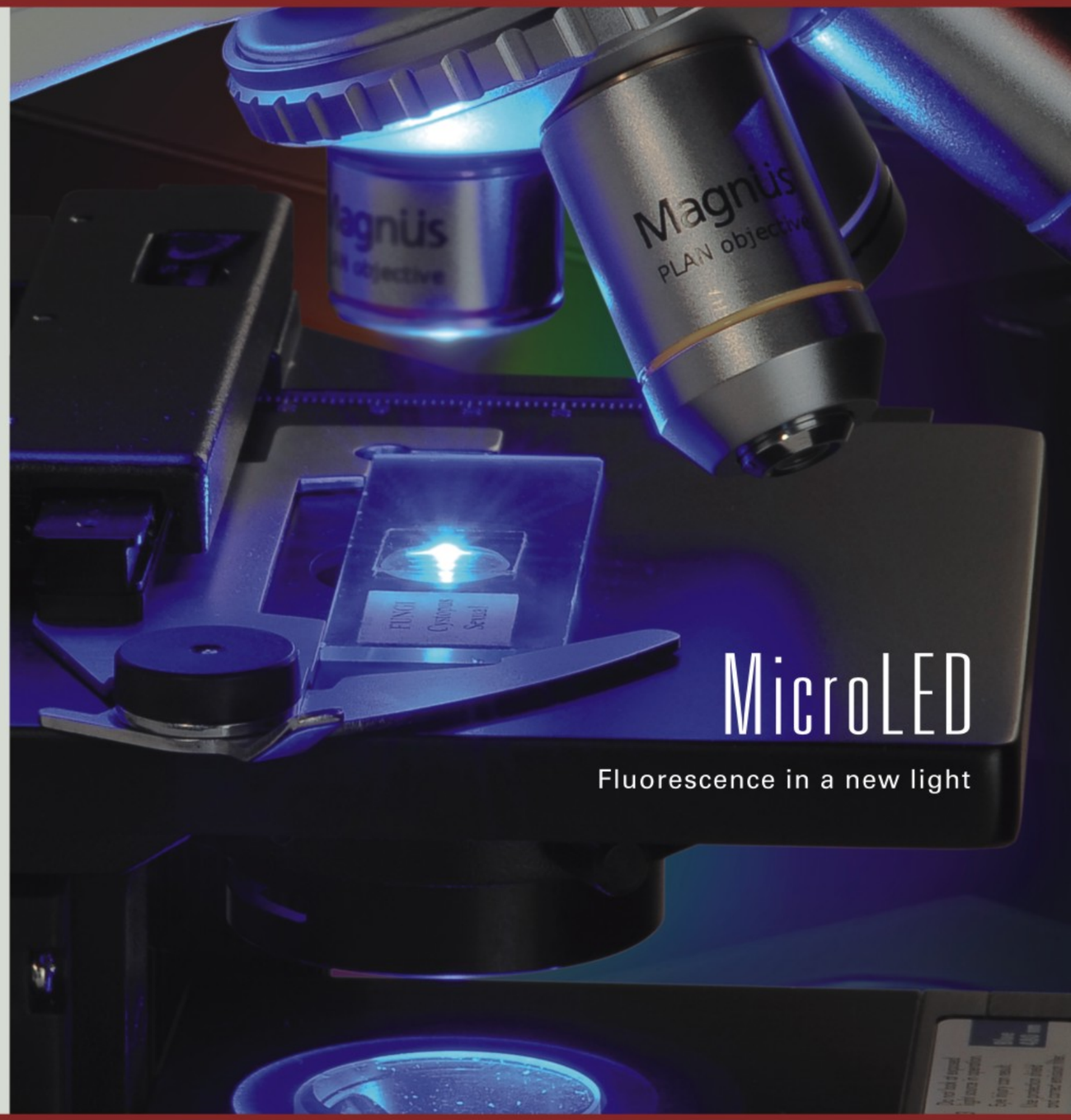
MicroLED Specifications

Lifetime	:	>30,000 hrs
LED Power	:	Typically 3W, depending on LED type
Excitation	:	See table ►
Modules available	:	Clamp-on modules available for the following microscopes: • Magnus Icon • Magnus MLXi • Olympus CX21 • Olympus CX31
Emission filters	:	2 or 3 positions sliding filter carrier depending on the excitation spectra
Mirror	:	Enhanced Al + SiO coating
AC adaptor	:	Input Voltage 220/110V AC Output Voltage - 7.5V DC / 12V DC Power - Max. 15 - 18W

	LED Cassettes	Excitation
	Royal Blue	450nm
	Blue	480nm
	Green	535nm

Optionals

Battery Pack	:	Rechargeable NiMH battery pack for Fluorescence module
Intensity Control	:	Fluorescence illumination intensity control through variable potentiometer
Digital Cameras	:	Choice of Digital SLR camera or USB/Firewire camera. (Requires Trinocular Head and adapter as per microscope model)



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FRAEN
MAXIMIZING LIGHT

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Magnüs

FRAEN
MAXIMIZING LIGHT

THE NEW VISION OF FLUORESCENCE MICROSCOPY

Overview

Magnus Analytics and Fraen Corporation, Italy bring you an intergrated optical solution for fluorescence microscopy consisting of a unique, proprietary illumination system with high power solid-state (LED) sources to replace the mercury and xenon arc-lamps found in traditional epi fluorescence microscopy.

This approach allows significant increase of performance and light source lifetime, reduction of initial costs and operating costs, reduction of maintenance and less heat production.

The module is designed to attach to a number of standard bright field microscope and fluorescence microscopy can be done by simply inserting a mirror in the light path.

Bright field microscopy is not affected since the halogen white light function remains intact. Magnus MicroLED LED fluorescence modules are available for the Olympus CX series and the Magnus Icon as well as MLXi microscopes.

The standard fluorescence module is available with 480nm (blue) module. Other options include the 455nm (deep Blue) and the 535nm (green) LED cassettes.

MicroLED attachment on a Magnus MLXi microscope. The Digital SLR camera with appropriate adapter mounted on a Trinocular head provides high resolution images for archival and sharing. Options are available to attach other cameras for live image view on a laptop

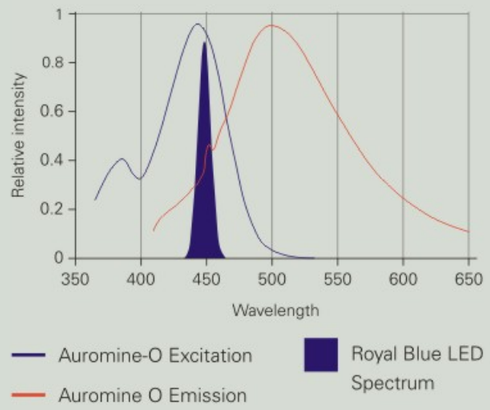
Tuberculosis Application

Transmitted light microscopy on sputum samples is the most widely used method to diagnose pulmonary tuberculosis. However, this method is complex and has low sensitivity compared to culture, while the more-sensitive fluorescence microscopy method is a far more reliable and effective diagnostic tool.

Till now, the fluorescence method has not found favour in public health programmes, due to the high initial investment required for a fluorescence microscope. But now, with MicroLED, fluorescence microscopy can be employed on small microscopes at an affordable price.

Advantages of Fluorescence Microscopy over ZN staining

- Observation at low magnification provides high throughput – Due to the use of 40x magnification in fluorescence instead of 100x, the user can view a much larger field and thus make the process of diagnosis faster.
- The output of the Royal Blue LED (455nm) used for tuberculosis applications provides a perfect match for the excitation peak of the Auromine O Dye, resulting in a high contrast image with excellent Signal-to-Noise ratio

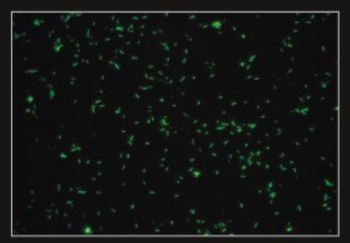


- With the use of a dry 40x objective, there is no need for using oil resulting in overall savings as well as lesser microscope maintenance issues associated with the use of immersion oil.
- The fluorescence method achieves higher sensitivity than the ZN method making detection of TB pathogens easier.

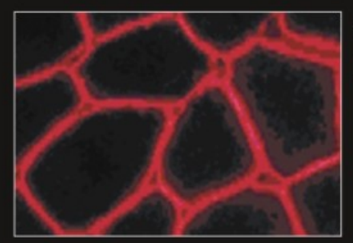
Key Benefits

The MicroLED has been developed to provide equivalent performance and capability delivered in standard fluorescence microscopy equipment, but with a series of enhancements designed to make the technology accessible to more users, easier to operate and maintain, and significantly smaller to make it portable. Some of the key advantages offered by this technology are as under :

- The LED modules are light sources emitting an extremely efficient spectrum only in the desired bandwidth, thus ensuring a very good signal-to-noise ratio.
- Light source lifetime: typically 30,000 hrs, thus allowing many years of operation and cost savings.
- No warm-up time required for the light source.
- No need of any special alignment procedure.
- Variable light control allows adjustment of illumination intensity to reduce photobleaching
- Allows transmitted light observation without removing the fluorescence module
- Choice of Blue, Royal Blue and Green LED cassettes
- Battery pack option for field operation.



The mycobacteria apprear as bright luminous rods on a dark background.



Single Colour Excitation Muscle, Alexa Fluor 546.

Magnus

MLM

DISCOVER A NEW WORLD

Anti-fungus treated optics:
Unique chemical treatment keeps fungus away

Parfocal & Centered Objectives:
Minimises use of the fine focussing and stage-control knobs during objective change-over

Mechanical Stage:
Sturdy, double-plate mechanical stage design

Tamper Proof:
Eyepiece and condenser are pre-fixed to microscope body eliminating the possibility of loss & misplacement

MICROSCOPE FOR EDUCATION

Specifications :

ITEM	SPECIFICATIONS	MLM
Body	Aluminium die-cast monocular body	●
Inclined Observation Head	45 degree monocular, rotatable through 360 degrees	●
Eyepiece (widefield) for observation	WF 10x (F.N. 18) paired compensating eyepiece. Provides relief from eye fatigue and renders color-compensated images of utmost clarity. Compatible with an optionally available eyepiece micrometer	●
Nosepiece	Quadruple revolving nosepiece	●
Objectives	Achromat objectives 4X/N.A.0.10, 10X/N.A.0.25, 40X/N.A.0.65, (spring loaded) & 100X/N.A.1.25, (oil immersion)	●
Mechanical stage	Left hand co-axial double plate mechanical stage, movement 60mm X 25 mm, size 120mm X 120mm	●
Focusing system	Separate fine and coarse focusing adjustment knobs with tension control mechanism	●
Condenser	Condenser N. A. 1.25 with iris diaphragm focusable by spiral movement	●
Illumination base	Built-in illumination base with pre-centered 6V 15W halogen light source. Pre-centered bulb is coupled with an efficient collector lens system to Provide optimum brightness along the optical path. A conveniently positioned rotatable knob enables variable light control	●

Magnus

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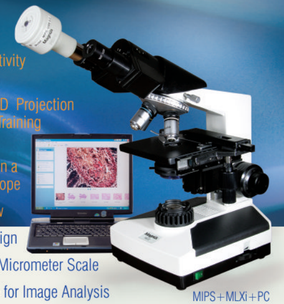
Magnus MIPS



- Computer Connectivity with USB2 Port
- Connectivity to LCD Projection for Teaching and Training Application
- Can be Mounted on a Binocular Microscope
- Large Field of View
- Plug and Play Design
- Option of Built-in Micrometer Scale
- Option of Software for Image Analysis

MIPS+MLXi+PC

CE MICROSCOPE IMAGE PROJECTION SYSTEM

About Magnus:
World class manufacturing needs world class production infrastructure with a well trained and motivated work force - MAGNUS ensures it has one. Magnus microscopes are today recognized for their precision engineering and high-performance optics. Magnus has an uncompromising commitment towards quality. A group of highly qualified and experienced engineering personnel work closely with a highly motivated workforce in providing products and services of international quality. Magnus brings you convenience & performance in one single exciting package equipped with the Long life LED Light source. Also, Magnus & Fraen Srl Corporation, Italy bring you an integrated optical solution for Fluorescence Microscopy. Magnus has a very significant presence in the healthcare & education sectors.

Magnüs

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TÜV SÜD ISO 9001
ISO 9001:2008 Certified Company

CMR 1K 01 12

Magnus invi

Long Working Distance (LWD), Plan Infinity Optics

- 4x, 40x Objectives & Phase 10x, 20x as Standard
- Pre-centred Phase Annulus
- Trinocular Port in Standard Unit
- FOV 22mm with 10x Eyepiece

INVI

Optional Items :
Phase 40x Objective
Attachable Mechanical Stage
Warm Plate
Terasaki, Petri Dish
& Slide Glass Holders

Digital Camera Attachment (Optional)

INVERTED MICROSCOPE FOR TISSUE CULTURE APPLICATIONS

Magnus MLX-M

Parfocal & Centered Optics
Minimises use of the fine focusing and stage-control knobs during objective change-over

Optics with Multi-layer Coating
Maximises transmission of light for crisp & bright image

MLX-M Monocular Version

Illumination
Efficient light collector-lens system for optimum brightness

Micron Sensitive Movements
Enables easy manipulation of specimen

Options Available
- With halogen or LED light source
- Freedom series with LED light & battery backup

Multilayer Vacuum Coating Plant

CE MICROSCOPES FOR EDUCATION & LABORATORIES

Magnus HB Magnus HSA

The HB & HSA based on a compact, precise and practical design and are extremely reliable in mechanical and optical performance. These compact and reliable microscopes incorporated some of the most effective of international optical techniques.

Model	HB Laboratory Microscope	HSA Student Microscope
Body	Monocular die-cast body inclinable upto a horizontal position (90°)	
Magnification	100X – 1000 X (1500X)	100 X – 600 X
Stage	Built-in graduated Mechanical stage 120 X 125 mm with convenient adjustment for manipulation of slides	Plain square stage of 100 X 100 mm, with two clips, mechanical stage (Optional)
Nosepiece	Quadruple	Triple hole
Focusing	By coarse and fine focusing knobs	
Eyepieces	Widefield Eyepiece (NWF 10X)	Huygenian 10X & 15X
Objectives	Achromatic 10X, 40X & 100X (spring loaded, oil immersion)	Achromatic 10X & 40X
Condenser	Sub-stage abbe condenser of 1.25 N.A. focusable with rack and pinion; fitted with an iris diaphragm and filter holder (for blue filter) to facilitate optimum adjustment of light	Built-in Sub-stage condenser with iris diaphragm
Illumination	Plano-concave mirror in adjustable fork mount	
Finish	Black durable acid resistant epoxy coated finish	Textured grey
Optional	Eyepieces widefield 15X & Huygenian 5X, 10X & 15X	

Model HB & HSA, now manufactured under 'Magnus' brand with no change in performance, quality & model name

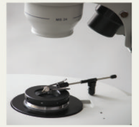
MICROSCOPES FOR LABORATORIES & STUDENTS

Magnüs Accessories

Heating Stage
Magnus Digital Warm Stage
(Temp. from 27ºC to 45ºC) - for MLX / CH20i

Darkfield Attachments
Magnus Immersion Darkfield Condenser with Objective 100x having iris diaphragm - for MLX
Magnus Dry Dark field Condenser - for MLX

Phase Contrast Attachments
Magnus Turret Type Phase Contrast Attachment Model PC-4 with Objectives 10x, 20x, 40x & 100x (oil) - for MLX. Also available : Model PC-2 with Long Barrel achromatic phase objectives 10X & 40X . - for MLX



Gems - Inspection Accessories
Magnus Darkfield Attachment (with specimen holder) for inspection of Gems & Micro Samples under transmitted light (To be used with Stereo microscopes MS / MSZ)

Magnus Microscope Image Projection System Model MIPS-USB
Consisting of light weight compact imaging sensor with in-built widefield optical microscope adapter & with inbuilt USB connectivity (without any power supply, plug-n-play design) can be fitted in any Binocular / Trinocular microscope (suitable for NT based OS)

Magnus Digital Camera System Consisting of :
Olympus Interchangeable Lens Type Live View Digital Camera (above 12 mega pixels) alongwith one zoom lens, rechargeable battery, carry bag, compatible 4GB memory card & Magnus optically corrected microscope adapter.
Note: Presently, the camera model E-PL1 is being supplied. In case if it is discontinued, the camera available at the time of supply will be supplied.

Image Analysis Software
Magnus-Pro Image Analysis Software for arranging and measuring captured images, creating databases and preparing reports

Magnüs

International Quality Microscopes

Magnus MicroLED

Technical Collaboration with Fraen SRL, Italy

Long Life LED Allows Many Years of Operation (Life Time 30000 hrs.)

No Warm Up Time Required

Modules Available for Olympus CX Series and Magnus MLX-i / ICON Microscopes

Royal Blue, Blue & Green Excitations

Battery Pack Option for Field Operation

Also allows transmitted light brightfield observation without removing the fluorescence module

MicroLED+MLXi-Tr+Camera

No need of any special alignment procedure

Choice of Digital Camera (For BF Applications) or USB 5mp CMOS Color Camera System (For Fluorescence Applications)
(Requires Trinocular head and adapter as per microscope model)

	LED cassettes	Excitation
	ROYAL BLUE	450 nm
	BLUE	480 nm
	GREEN	535 nm

CE LED FLUORESCENCE ATTACHMENTS FOR TB & AUTO-IMMUNE TESTING

Magnus ICON

Plan Infinity Optics

6V 20W Koehler Illumination

Inward Nosepiece

Centrable Condenser

Dual Slide Holder

Option of Quintuple nosepiece

Seidentopf Head with FN 20

ICON Binocular Version

Also available in Trinocular version ICON-Tr

Digital Camera Attachment (Optional)

CE MICROSCOPES FOR RESEARCH APPLICATIONS

Magnus MLXi

Plan Infinity Corrected Optics

Seidentopf Head

Wide Field Eye Piece with FN 20

International Build Quality

Options Available
- With halogen or LED source
- Freedom series with LED light & battery backup

MLXi Binocular Version

Also available in Trinocular version MLXi-Tr

Digital Camera Attachment (Optional)

CE MICROSCOPES FOR RESEARCH APPLICATIONS

Magnus MLX-B

Parfocal & Centered Optics
Minimises use of the fine focusing and stage-control knobs during objective change-over

Optics with Multi-layer Coating
Maximises transmission of light for crisp & bright image

Illumination
Efficient light collector-lens system for optimum brightness

Micron Sensitive Movements
Enables easy manipulation of specimen

MLX-B Binocular Version

Options Available
- With halogen or LED light source
- Freedom series with LED light & battery backup

Also available in Trinocular version MLX-Tr

Digital Camera Attachment (Optional)

CE MICROSCOPES FOR EDUCATON & LABORATORIES

Magnus MSZ

Parfocality
One Time Focus for all Zoom Magnifications

Ergonomic Design for Ease of Operation

Zoom Ratio 1:7

Options for Reflected and Transmitted illumination - Top halogen lamp 6v15w adjustable brightness bottom fluorescent lamp 5w

MSZ-Tr Trinocular Version

MSZ-BI Binocular Version

CE STEREO ZOOM MICROSCOPES FOR BIOLOGICAL & INDUSTRIAL USE

Magnus MS13/MS24

Superior Optics for Enhanced Image Flatness and Contrast

Ergonomic Design for Ease of Operation

Long Working Distance of 105 mm

Parfocal Objectives

Smooth Magnification Changeover between 1X/3X or 2X/4X

Options for Reflected and Transmitted illumination - Top halogen lamp 6v10w adjustable brightness bottom fluorescent lamp 5w

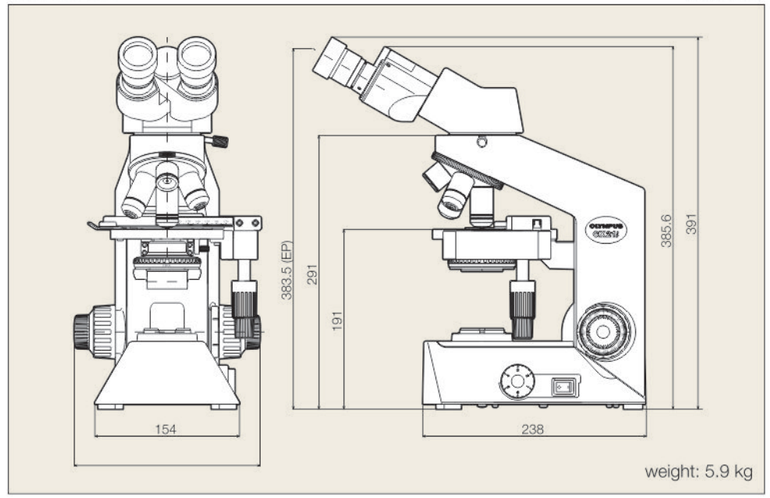
Option for MIPS Attachments

CE STEREO MICROSCOPES FOR BIOLOGICAL & INDUSTRIAL USE

Specifications: CX21*i* Biological Microscope

Microscope Frame	CX21 FS1
Optical system	UIS2 (Universal Infinity System) optical system
Illumination System	Built-in transmitted illumination system 6 V 20 W halogen bulb 100-240 V 50/60 Hz universal voltage
Focusing	Stage height movement (coarse movement stroke 20 mm) Fine focus graduation: 2.5 µm
Revolving Nosepiece	Fixed quadruple nosepiece
Stage	Wire movement mechanical fixed stage: 120x132 mm Traveling range: 76 mm (X) x 30 mm (Y) Single specimen holder
Observation Tube	30° inclined binocular tube Interpupillary distance adjustment range 48–75 mm
Condenser	Abbe type with aperture iris diaphragm N.A.: 1.25
Objective	Plan Achromatic objectives (anti-fungus) 4x N.A.: 0.10 W.D.: 18.5 mm 10x N.A.: 0.25 W.D.: 10.6 mm 40x N.A.: 0.65 W.D.: 0.6 mm 100x N.A.: 1.25 W.D.: 0.13 mm (option)
Eyepiece (10x)	Field Number (F.N.): 20 (anti-fungus)
Optional Accessories	Mirror unit, 15x eyepiece (F.N. 12, anti-fungus), micrometer, filter holder, darkfield stop, Micro image projection system, Phase-contrast Attachment/10X, 40X, Simple Polarizing attachment

Dimensions (unit: mm)



Features:

- Ergonomic & compact design for user convenience
- UIS2 Plan infinity optics providing image flatness
- Seidentopf observation head for individual choice of adjustment
- Anti fungus treatment for component durability
- High eyepoint design eyepiece (F.N.20)
- High performance aspheric lenses in the abbe condenser & light relay system for bright & uniform illumination
- SMPS circuit for constant voltage output
- Rackless stage for durability and ease of use
- Mechanical stage focus-lock prevents mishaps
- Component security – Student proof

- **Over 200,000 highly satisfied CX21 customers world over**
- **CX21i is now exclusively for India at affordable cost**

CX21i is the environmental conscious product according to OLYMPUS' own standards.
- Adoption of cardboard for packing materials without styrene foam for promoting the recycling.
- Lead-free and arsenic-free Eco-glass for optics, such as lenses and prisms.
- The CX21i meets CE standards for safety.
- Specifications and appearances are subject to change without any notice or obligation on the part of the manufacturer.

CX21*i* is manufactured under license from Olympus Corporation, Japan

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OLYMPUS®
Your Vision, Our Future

Biological Microscope
CX21*i*
CX2 Series

UIS2 World-leading optics

Step up to Higher Performance with the Olympus UIS2 Infinity Optics

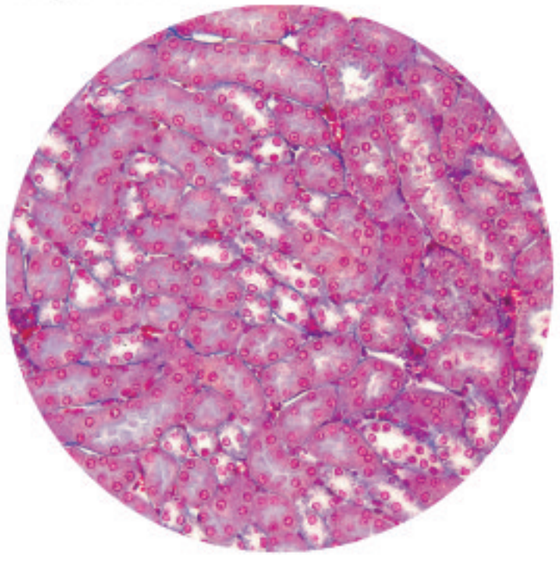
The CX21i sets new standards for educational and laboratory applications

Superb image clarity coupled with Olympus' renowned reliability and rigidity

Superior imaging

Plan objectives are packaged as standard, providing image flatness that is among the best in this class

The CX21i is equipped with the same UIS2 optical system used in Olympus' top-level microscopes. In addition, Plan Achromat objectives are included as standard for the first time in this class of microscope, providing sharp images with high contrast right up to the edge of the field of view.



Bright, uniform illumination

The CX21i's 6V20W high intensity halogen lamp delivers clear, stable illumination. The built-in aspheric collector lens provides images that are bright and uniformly illuminated over the entire field of view.

Abbe condenser for optimized contrast

The optimal aperture stop position for each objective is clearly marked on the Abbe condenser, resulting in high-resolution, high-contrast images.

Easy, safe operation

Rackless stage for durability and ease of use

The wire-driven stage movement avoids any protrusion of racks — preventing the possibility of accidental damage or hand injury. Abrasion-resistant rackless design ensures continuous smooth movement.

Component security — Student proof !

The eyepieces, objectives and condenser are all factory attached to the microscope body ensuring that no component is dropped or detached during transportation or regular use.

Ultra-smooth, quadruple revolving nosepiece

High-precision machining ensures smooth operation and durability. Nosepiece includes a rubber ring for an easy ergonomic grip.

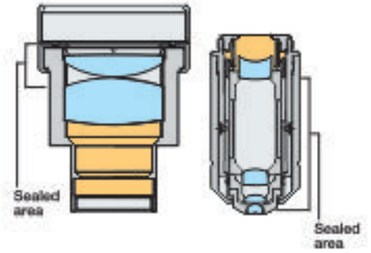
Mechanical stage focus-lock prevents mishaps

The focus position can be locked making it easy to refocus when the specimen is changed. With the upper stage position locked, there is no chance of the objective accidentally touching the slide and damaging either the specimen or the objective itself.

Use in any environment

Anti-fungus treatment for component durability

An effective anti-fungus treatment is applied to the objectives, eyepieces and observation tube for consistent image clarity and long operating life even in hot humid work conditions.

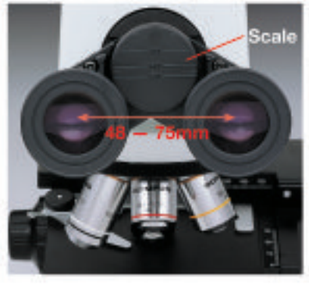


Compact design, easy to store and carry

The CX21i is only 391 mm high, compact enough to be stored in a typical classroom cabinet.

Individual choice of adjustment

Binocular observation tube is inclined 30 degrees allowing for an ergonomic, comfortable posture during observation. Eyepieces can be easily set for multiple users with a scaled interpupillary distance adjustment and diopter setting. High eyepoint design eyepieces with F.N. 20 can be used comfortably without removing eyeglasses.



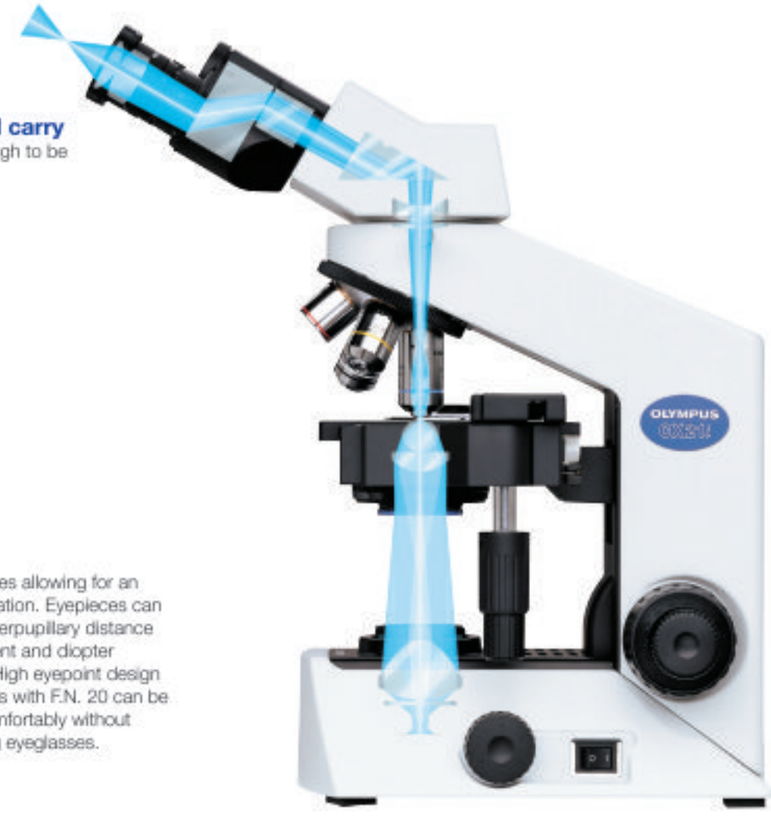
Suitable for any user

Tension adjustment for smoother focusing

The coaxial coarse/fine focusing knob is operable from either the left or right side. Coarse movement tension can be adjusted in accordance with personal preference.

Ergonomic design for user convenience

The focusing knob, light control adjustment knob and stage handle are located close together, the user can work with hands on the desk and operate the CX21i with minimal movement.



Magnüs

MLX*i*

Plan Infinity Corrected Optics

Seidentopf Head

Wide Field Eye Piece with FN 20

International Build Quality

Options Available

- With halogen or LED light source
- Freedom series with LED light & battery backup

Also available in Trinocular version MLXi-Tr
Digital Camera Attachment (Optional)

MLXi Binocular Version

MICROSCOPES FOR RESEARCH APPLICATIONS

Optional Accessories

LED based Fluorescence Attachment

MIPS

Specifications :

ITEM	SPECIFICATIONS	MLXi Binocular Version	MLXi-Tr Trinocular Version
Body	Aluminium die-cast body with all critical movements based on ball bearing & wire guides thereby ensuring smooth & precise manipulation	●	●
Mechanical Stage	Co-axial low drive mechanical stage (125mm x 145mm) (+/-5mm) with traverse area of 50mm x 76mm (+/-5mm)	●	●
Focusing System	Co-axial coarse & fine controls with a focus adjustment and fine adjustment knobs. Coarse Focus range 28mm. Fine focus range 0.2mm	●	●
Condenser holder	Rack & pinion mounted condenser holder	●	●
Condenser	Abbe condenser with aperture iris diaphragm (N.A. 1.25) focusable with rack & pinion through 20mm and a continuously variable iris diaphragm with a removable blue filter for daylight observation	●	●
Illumination base with option (a), (b), (c)	(a) Built-illumination base with pre-centered 6V 20W halogen light source coupled with an efficient collector lens system. Power supply 230V AC 50Hz single phase.	MLXi	MLXi-Tr
	(b) LED Light source High brightness, longlife (30,000hrs) 1w LED.	MLXi LED	MLXi-Tr LED
	(c) LED light source (with battery back-up) High brightness, longlife (30,000hrs) 1w LED. Battery back-up in-built NiMH Rechargeable batteries provide 6 to 8 hrs back-up on full charge.	MLXi Freedom series	MLXi-Tr Freedom series
Nose Piece	Quadruple revolving nosepiece based on precision ball-bearing mechanism with positive click stop Quintuple nosepiece option is also available.	●	●
Objectives	Plan Achromat Objectives — N.A. — W.D. 4X — 0.10 — 25 mm 10X — 0.25 — 5 mm 40X (spring loaded) — 0.65 — 0.5 mm 100X (oil, spring loaded) — 1.25 — 0.14 mm Infinity corrected plan optics Uniformly centered, Interchangeable & Parfocal Anti fungus treated Tropicalized anti fungus treatment ensures image excellence for long periods in conditions favoring to fungus growth	●	●
Inclined Observation Head With a special anti-fungus treatment and an anti-reflection optical coating of the prism (to enhance the image brightness)	Binocular (30 degree inclined seidentopf), 360 degree rotatable, diopter adjustment	●	
	Trinocular head 30 degree inclined seidentopf		●
Eyepiece (wide field) for observation	WF 10x (FN 20mm) paired eyepiece. The unique optical design of the compensating eyepiece provides relief from eye fatigue and renders color-compensated wide-field images of utmost clarity. Compatible with optionally available eyepiece micrometer	●	●

Magnüs

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E-mail: sales@olympusoptosystems.in

TÜV SÜD ISO 9001 ISO 9001:2008 Certified Company

CE

All standard sets are supplied as per specifications which are subject to change without any obligation on the part of the manufacturer.
Optics are anti-fungus treated & with multi-layer coatings. Accessories shown may not be part of standard equipment. • CE Certification is only for MLXi, MLXi-Tr

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Magnüs

MLX-B

Parfocal & Centered Optics
Minimises use of the fine focusing and stage-control knobs during objective change-over

Optics with Multi-layer Coating
Maximises transmission of light for crisp & bright image

Illumination
Efficient light collector-lens system for optimum brightness

Micron Sensitive Movements
Enables easy manipulation of specimen

Options Available
- With halogen or LED light source
- Freedom series with LED light & battery backup

Also available in Trinocular version MLX-Tr
Digital Camera Attachment (Optional)

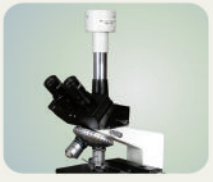
MICROSCOPES FOR EDUCATON & LABORATORIES

Specifications :

ITEM	SPECIFICATIONS	MLX-B Binocular Version	MLX-Tr Trinocular Version
Body	Aluminium die-cast body with all critical movements based on ball bearing & wire guides thereby ensuring smooth & precise manipulation	●	●
Inclined Observation Head	Binocular 45 degree inclined, rotatable through 360 degrees	●	
	Trinocular 45 degree inclined, rotatable through 360 degrees		●
Eyepiece (widefield) for observation	WF 10x (FN 18) compensating paired eyepiece. Provides relief from eye fatigue and renders color-compensated images of utmost clarity. Compatible with an optionally available eyepiece micrometer	●	●
Nosepiece	Quadruple revolving nosepiece based on precision ball-bearing mechanism with positive click stop	●	●
Objectives	Achromat objectives — N.A. — W.D. 4X — 0.10 — 29.0mm 10X — 0.25 — 6.3mm 40X (spring loaded) — 0.65 — 0.53mm 100X (oil, spring loaded) — 1.25 — 0.20mm	●	●
Mechanical stage	Stage size 125mm X 145mm with traverse area of 50mm X 76 mm with right hand low drive mechanical stage	●	●
Focusing system	Co-axial coarse & fine controls with a focus adjustment range of 25 mm	●	●
Condenser holder	Rack & pinion mounted condenser holder with height displacement upto 20mm	●	●
Condenser	Abbe condenser with aperture iris diaphragm (N.A. 1.25) focusable with rack & pinion through 20 mm and a continuously variable iris diaphragm with a removable blue filter for daylight observation	●	●
Illumination base with option	(a) Built-illumination base with pre-centered 6V 20W halogen light source coupled with an efficient collector lens system. Power supply 230V AC 50Hz single phase.	MLX-B	MLX-Tr
	(b) LED Light source High brightness, longlife (30,000hrs) 1w LED.	MLX-B LED	MLX-Tr LED
	(c) LED light source (with battery back-up) High brightness, longlife (30,000hrs) 1w LED. Battery back-up in-built NiMH Rechargeable batteries provide 6 to 8 hrs back-up on full charge.	MLX-B Freedom series	MLX-Tr Freedom series

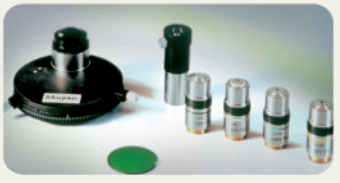
Optional Accessories

• Simple Polarizing attachment • Eyepiece Widefield WF 15x • Image Analysis software

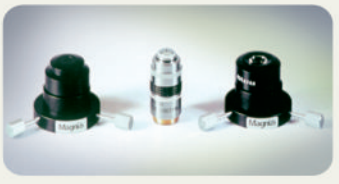


Micro Image Projection System MIPS

Digital Camera System



Phase Contrast Attachment PC-4



Darkfield attachment

- Imm. DF Condenser with OBJ 100x having Iris Diaphragm
- Dry. DF condenser

Magnus

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ISO 9001:2008 Certified Company

CE

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C MB 1K 08 12

Magnüs

MLX-M

Anti-Fungus treated Optics
Unique chemical treatment ensures image excellence for long periods in conditions favoring to fungus growth

Parfocal & Centered Objectives
Minimises use of the fine focussing and stage-control knobs during objective change-over

Optics with multi-layer coating
High-grade optics provides optimum brightness & contrast for long hours of comfortable viewing

Micron Sensitive mechanical movements
Enables easy manipulation of specimen

Illumination
Efficient light collector-lens system for optimum brightness

Options Available
- With halogen or LED light source
- Freedom series with LED light & battery backup

Excellent optical clarity and compact size – which keeps all the key controls within easy reach – makes the Magnus MLX-M an ideal choice of microscope for education

MICROSCOPES FOR EDUCATION & LABORATORIES

Specifications :

ITEM	SPECIFICATIONS		MLX-M Monocular Version
Body	Aluminum die-cast body with all critical movements based on ball-bearing & wire-guides thereby ensuring smooth & precise manipulation		●
Mechanical Stage	Co-axial low drive mechanical stage (125mm x 145mm) with traverse area of 50mm x 76mm		●
Focussing System	Co-axial coarse & fine focusing control with a focus adjustment and find adjustment knobs.		●
Condenser Holder	Rack & pinion mounted condenser holder.		●
Illumination base with option (a), (b), (c)	(a) Built-illumination base with pre-centered 6V 20W halogen light source coupled with an efficient collector lens system. Power supply 230V AC 50Hz single phase.		MLX-M
	(b) LED Light source High brightness, longlife (30,000hrs) 1w LED.		MLX-M LED
	(c) LED light source (with battery back-up) High brightness, longlife (30,000hrs) 1w LED. Battery back-up in-built NiMH Rechargeable batteries provide 6 to 8 hrs back-up on full charge.		MLX-M Freedom series
Nose Piece	Quadruple nosepiece based on precision ball-bearing mechanism, enables smooth objective change.		●
CONDENSER	Sub-stage Condenser With its compound lens system ensures that the traverse of light along the microscope's optical path is optimised. The built-in iris diaphragm enables maximum contrast of the specimen under observation.	Abbe condenser with aperture iris diaphragm, N.A. 1.25, provided with a filter holder and blue filter.	●
OBJECTIVES	Achromatic Objectives • Anti fungus treated • Made from high quality Japanses optical glass • Precision engineered for parfocal & centred viewing	Achromat objectives — N.A. — W.D. 4X — 0.10 — 29.0mm 10X — 0.25 — 6.3mm 40X (spring loaded) — 0.65 — 0.53mm 100X (oil, spring loaded) — 1.25 — 0.20mm	●
MONOCULAR INCLINED OBSERVATION HEAD	• 45 degree inclined • Rotatable through 360 degree a) With a special anti-fungus treatment b) With anti-reflection optical coatings of prisms to enhance the brightness of the image	A unique design of observation head provides uniform illumination for ease of observation & eye comfort during extended usage.	●
WIDEFIELD EYEPIECE	WF 10x (F.No.18) compatible with an optionally available eyepiece micrometer	Unique compensating eyepiece provides relief from eye fatigue & renders color-compensated images of utmost clarity. Color corrected in all magnifications including high power objective, resulting in better defined images.	●

Optional Accessories

Eyepiece WF 15x, Phase contrast, dark field and polarization accessories & imaging solutions with micro image projection system, Image analysis Software etc.

Magnüs

OLYMPUS OPTO SYSTEMS INDIA PVT. LTD.
Works : A-3, Sector-81, Phase-II, Noida-201305 (U.P.)
Corporate Office : A-5, Mohan Co-operative Indl. Estate, Mathura Road, New Delhi-110044 India
Tel.: 91-11-30886743, 30886744 Fax: 91-11-26959382
E-mail: sales@olympusoptosystems.in

ISO 9001:2008 Certified Company

CE

All standard sets are supplied as per specifications which are subject to change without any obligation on the part of the manufacturer.
Optics are anti-fungus treated & with multi-layer coatings. Accessories shown may not be part of standard equipment. • CE Certification is only for MLX-M

C MM 1K 08 12

Magnüs

MSZ

Parfocality
One Time Focus for all
Zoom Magnifications

Ergonomic Design for Ease of Operation

Zoom Ratio 1:7

Options for Reflected and Transmitted illumination -
Top halogen lamp 6v15w adjustable brightness
bottom fluorescent lamp 5w

MSZ-TR Trinocular Version

MSZ-BI Binocular Version

STEREO ZOOM MICROSCOPES FOR BIOLOGICAL & INDUSTRIAL USE

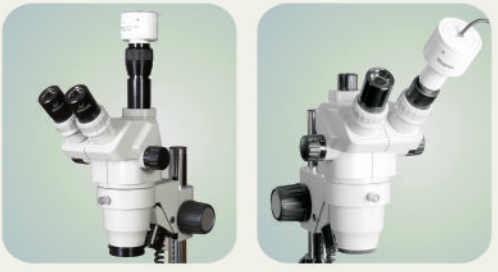
Features

High Performance:

The high performance MSZ Series stereo microscopes utilize a Greenough design and feature a 1: 7 zoom ratio with a 100mm working distance and a large visual field. The parfocality allows an erect image of the observed specimens to stay in focus through repeated changes in the magnification. It is ergonomically designed for ease of operation.

Durability:

In addition to performance and comfort, a highlight of the MSZ is its durability. Promoting one of the finest ball bearing guideways making the focusing mechanism extremely robust.



MIPS (Micro Image Projection System) :
Optional attachments on MSZ & MSZ-TR

Optional Accessories

Accessory for Inspection of Gems & Micro Samples:

Darkfield Attachment (with specimen holder) for inspection of GEM & MICRO SAMPLES under transmitted light
(To be used with Stereo Microscopes MSZ)

Optional Lights:

Fluorescent Ring Light
Fibre Optics Illumination (Ring Light)
Fibre Optics Illumination (Bifurcated)

Auxiliary Objectives & Eyepieces:

Eyepieces (Paired) Widefield 15x or 20x or 25x
Auxiliary Lens 1.5x or 2x

Gems - Inspection Accessories
Darkfield attachment (with specimen holder) for inspection of Gems & Micro samples under transmitted light

Standard Configurations

	MODEL MSZ-BI	MODEL MSZ-TR
Optical body	Binocular body	Trinocular body
Zoom ratio	1 : 7	
Objective zoom range	0. 65X - 4.5X	
Eyepiece	SWF10X/22mm (High eye-point Super Widefield Eyepieces)	
Working distance	100mm	
Interpupillary distance adjustment	55mm-75mm	
Binocular head inclination of	45º	
Diopter adjustment	+/- 5 diopter	
Optical Body Rotation	360º with reflected and transmitted illumination Voltage input 220V/50HZ Top halogen lamp 6V15W adjustable brightness bottom fluorescent lamp 5W	

MSZ Series Optical Data

Auxiliary Lens (optional)	WF 10X (standard)		WF 15X (optional)		WF 20X (optional)		WF 25X (optional)		Working Distance mm
	Mag	FOV mm	Mag	FOV mm	Mag	FOV mm	Mag	FOV mm	
1.5x	9.8x - 67.5x	22.5 - 3.3	14.6x - 101.3x	16.4 - 2.3	19.5x - 135x	13.3 - 1.9	24.4x - 168.8x	12.3 - 1.7	**45**
2.0x	13x - 90x	16.9 - 2.5	19.5x - 135x	12.3 - 1.8	26x - 180x	10 - 1.4	32.5x - 225x	9.2 - 1.3	**40**

The user may select different objective and eyepiece as per the requirement of magnification, working distance, visual field and depth of field.

Magnüs

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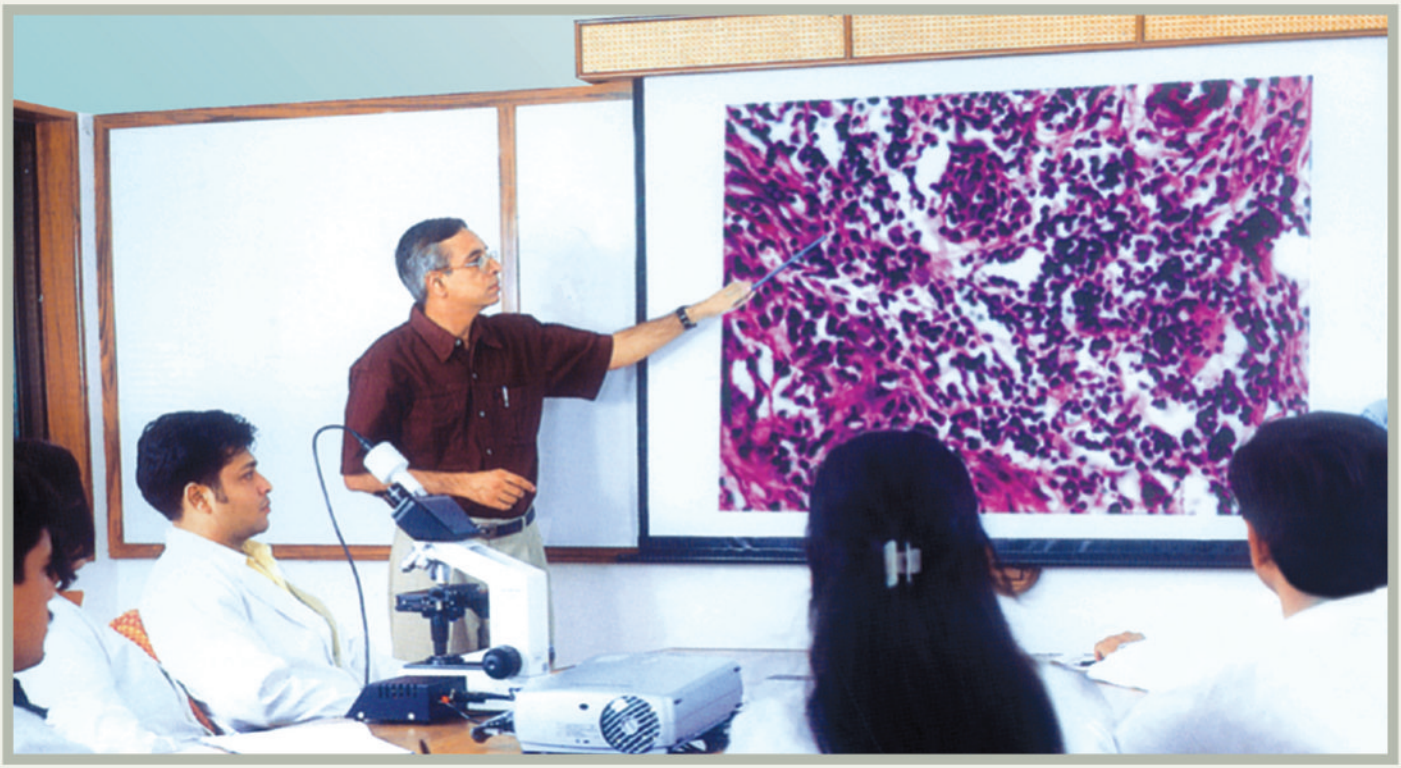
C MZ 0.2K 08 12

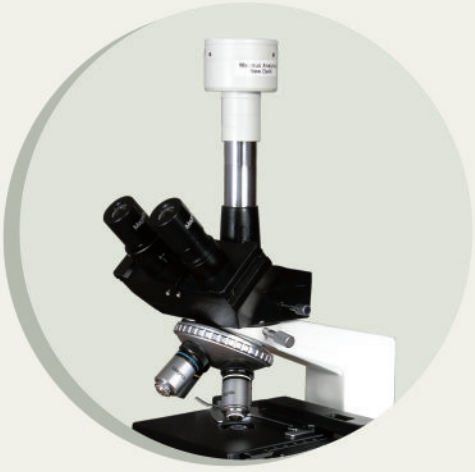
Magnus MIPS

- Computer Connectivity with USB2 Port
- Connectivity to LCD Projection for Teaching and Training Application
- Can be Mounted on a Binocular Microscope
- Large Field of View
- Plug and Play Design
- Option of Built-in Micrometer Scale
- Option of Software for Image Analysis

MICROSCOPE IMAGE PROJECTION SYSTEM



The Perfect Educational Tool



Models available : • MIPS for direct connectivity to TV • MIPS-USB for USB 2 connectivity

Magnüs

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CE

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Magnus – Fraen Partnership
Since its inception in 2000, Fraen Srl has defined the concept of MAXIMIZING LIGHT! and is committed to developing high-quality, innovative and technologically advanced optical solutions to satisfy customer requirements.

Based on its rich knowledge of optical systems, Fraen Srl has developed automotive lighted instrumentation pointers, fiber optic couplers, light pipes, high-efficacy TIR collimators, etc and has become the industry benchmark for the top quality optical solutions for high-powered LEDs.

Magnus has a significant presence in the healthcare & education sectors in the Indian market and its microscopes have been the preferred choice for a number of World Bank funded projects. Since 1995, more than 15,000 Magnus microscopes have been supplied to important World Bank public health programs.

Guided by Japanese production methods and manufactured in a TUV-certified ISO 9001 : 2008 facility, Magnus microscopes are today recognized for their precision engineering and high-performance optics. The core team at Magnus has been specially trained in Japan & Germany by experts from leading optical engineering companies in the world.

The Magnus-Fraen partnership strives to combine the optical design and manufacturing strengths to produce high precision and cost competitive products to serve the education and healthcare markets all over the world.

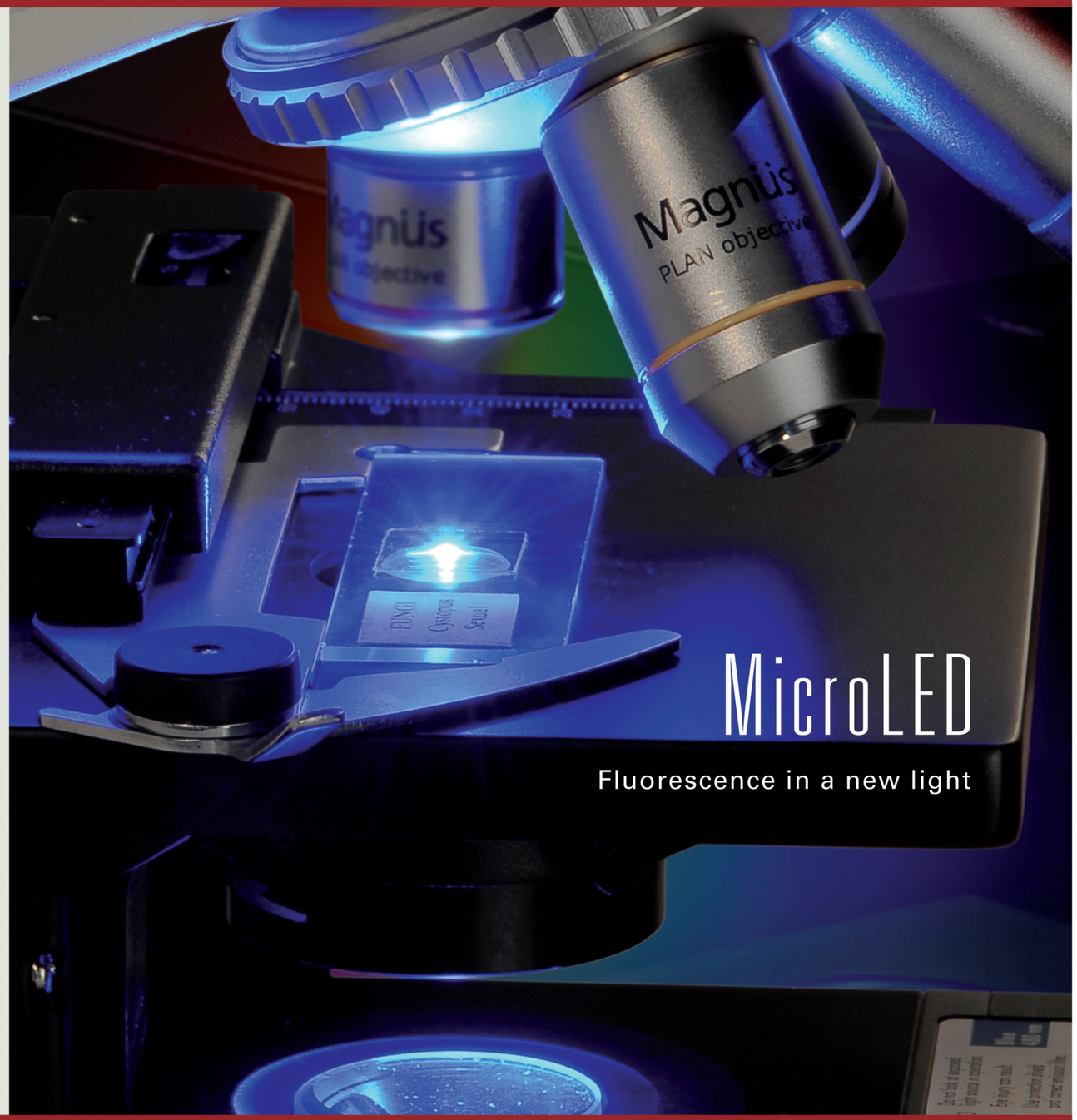
MicroLED Specifications

Lifetime	:	>30,000 hrs
LED Power	:	Typically 3W, depending on LED type
Excitation	:	See table ►
Modules available	:	Clamp-on modules available for the following microscopes: • Magnus Icon • Magnus MLXi • Olympus CX21 • Olympus CX31
Emission filters	:	2 or 3 positions sliding filter carrier depending on the excitation spectra
Mirror	:	Enhanced Al + SiO coating
AC adaptor	:	Input Voltage 220/110V AC Output Voltage - 7.5V DC / 12V DC Power - Max. 15 - 18W

	LED Cassettes	Excitation
	Royal Blue	450nm
	Blue	480nm
	Green	535nm

Optionals

Battery Pack	:	Rechargeable NiMH battery pack for Fluorescence module
Intensity Control	:	Fluorescence illumination intensity control through variable potentiometer
Digital Cameras	:	Choice of Digital SLR camera or USB/Firewire camera. (Requires Trinocular Head and adapter as per microscope model)



Magnus

FRAEN MAXIMIZING LIGHT

MAGNUS ANALYTICS
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Magnus

FRAEN MAXIMIZING LIGHT

THE NEW VISION OF FLUORESCENCE MICROSCOPY

Overview

Magnus Analytics and Fraen Corporation, Italy bring you an intergrated optical solution for fluorescence microscopy consisting of a unique, proprietary illumination system with high power solid-state (LED) sources to replace the mercury and xenon arc-lamps found in traditional epi fluorescence microscopy.

This approach allows significant increase of performance and light source lifetime, reduction of initial costs and operating costs, reduction of maintenance and less heat production.

The module is designed to attach to a number of standard bright field microscope and fluorescence microscopy can be done by simply inserting a mirror in the light path.

Bright field microscopy is not affected since the halogen white light function remains intact. Magnus MicroLED LED fluorescence modules are available for the Olympus CX series and the Magnus Icon as well as MLXi microscopes.

The standard fluorescence module is available with 480nm (blue) module. Other options include the 455nm (deep Blue) and the 535nm (green) LED cassettes.

MicroLED attachment on a Magnus MLXi microscope. The Digital SLR camera with appropriate adapter mounted on a Trinocular head provides high resolution images for archival and sharing. Options are available to attach other cameras for live image view on a laptop

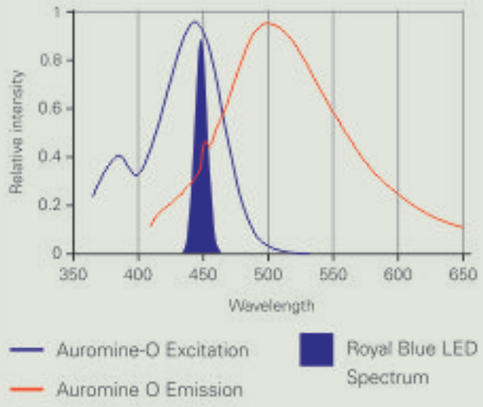
Tuberculosis Application

Transmitted light microscopy on sputum samples is the most widely used method to diagnose pulmonary tuberculosis. However, this method is complex and has low sensitivity compared to culture, while the more-sensitive fluorescence microscopy method is a far more reliable and effective diagnostic tool.

Till now, the fluorescence method has not found favour in public health programmes, due to the high initial investment required for a fluorescence microscope. But now, with MicroLED, fluorescence microscopy can be employed on small microscopes at an affordable price.

Advantages of Fluorescence Microscopy over ZN staining

- Observation at low magnification provides high throughput – Due to the use of 40x magnification in fluorescence instead of 100x, the user can view a much larger field and thus make the process of diagnosis faster.
- The output of the Royal Blue LED (455nm) used for tuberculosis applications provides a perfect match for the excitation peak of the Auromine O Dye, resulting in a high contrast image with excellent Signal-to-Noise ratio

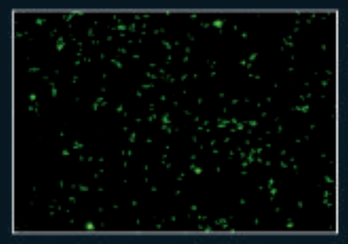


- With the use of a dry 40x objective, there is no need for using oil resulting in overall savings as well as lesser microscope maintenance issues associated with the use of immersion oil.
- The fluorescence method achieves higher sensitivity than the ZN method making detection of TB pathogens easier.

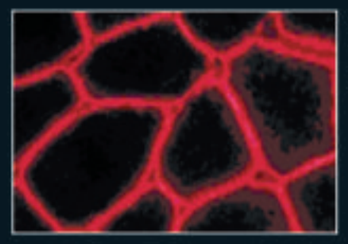
Key Benefits

The MicroLED has been developed to provide equivalent performance and capability delivered in standard fluorescence microscopy equipment, but with a series of enhancements designed to make the technology accessible to more users, easier to operate and maintain, and significantly smaller to make it portable. Some of the key advantages offered by this technology are as under :

- The LED modules are light sources emitting an extremely efficient spectrum only in the desired bandwidth, thus ensuring a very good signal-to-noise ratio.
- Light source lifetime: typically 30,000 hrs, thus allowing many years of operation and cost savings.
- No warm-up time required for the light source.
- No need of any special alignment procedure.
- Variable light control allows adjustment of illumination intensity to reduce photobleaching
- Allows transmitted light observation without removing the fluorescence module
- Choice of Blue, Royal Blue and Green LED cassettes
- Battery pack option for field operation.



The mycobacteria apprear as bright luminous rods on a dark background.



Single Colour Excitation Muscle, Alexa Fluor 546.

OLYMPUS INDIA

A Presentation

WELCOME TO THE WORLD OF

OLYMPUS

&

Magnüs

microscopes

OLYMPUS & Magnüs

Series of microscopes are manufactured in a

✓TUV-Certified ISO 9001 : 2000

production facility by :

OLYMPUS INDIA PVT. LTD
Noida

OLYMPUS INDIA

Recognized for their

- ✓ precision engineering

&

- ✓ high-performance optics

OLYMPUS INDIA

Microscopes

- ✓ A Preferred choice for World Bank Funded Projects

- ✓ More than 20,000 Microscopes supplied to Important World Bank public Health Programs

OLYMPUS INDIA

- ✓ Influenced by a Japanese Legacy

- ✓Uncompromising Commitment towards Quality


Inauguration of new factory at NOIDA by
Global Head,OLYMPUS Microscope, Japan

OLYMPUS - Noida factory

Horizontal 4-axis Machining Centre

[CNC operations with 5~10 microns accuracy]

High Precision CNC Lathes

High Speed Polishing

From OLYMPUS - Japan

Process Skills in Olympus India Manufacturing Unit

- Laser Interferometer

Optics Assembly

Process Skills in Olympus India Manufacturing Unit

Optics Assembly 2

Process Skills in Olympus India Manufacturing Unit

Inclined Scope Assembly

Olympus CH20i Assembly

Process Skills in Olympus India Manufacturing Unit

Opto-mechanical centring of Obj.

CORPORATE OFFIC

Marketing & Sales

Since the past 44 years Olympus (India) Pvt. Ltd. - in collaboration with Olympus Corporation, Tokyo, Japan has pursued the path of excellence in the field of optical engineering. To maintain international standards set for us by our Japanese collaborators, Olympus India has developed a completely integrated factory wherein optical lens processing, vacuum coating, finishing and other processes are carried out under the strict vigil of Japanese trained engineering personnel. This self-contained infrastructure alongwith a rigid quality control system ensures the production of high resolution optics and trouble-free instruments complying to the high OLYMPUS standards.

The OLYMPUS range of optical instruments comprise of:

- Biological Microscopes
- Research Microscopes

HSA

STUDENT MICROSCOPE

The HSA is based on a compact design and is extremely reliable in mechanical and optical performance. A wide variety of standard and optional accessories enhance the characteristics features of the HSA. The sphere of its application have been sufficiently extended to meet various requirements at high schools, colleges and universities.

Body	:	Monocular die-cast body inclinable upto a horizontal position (90°)
Magnification	:	100 X ~ 600 X
Stage	:	Plain square stage of 100 X 100 mm, with two clips, mechanical stage (Optional)
Nosepiece	:	Triple hole nosepiece with positive click stops for precise and smooth alignment of objectives
Focusing	:	By coarse and fine focusing knobs
Eyepieces	:	Huygenian 10X & 15X
Objectives	:	Hard anti-reflection coated, colour coded Parfocal Achromat: 10X & 40X
Condenser	:	Built-in Sub-stage condenser with iris diaphragm
Illumination	:	Plano-concave mirror in adjustable fork mount
Finish	:	Olympus textured grey

OLYMPUS

HB

LABORATORY MICROSCOPE

This compact and reliable microscope incorporated some of the most effective of OLYMPUS optical techniques. The precise and practical design of this instrument has resulted in considerable extension of its applications in laboratories, universities and hospitals.

Body	:	Monocular, die cast body, inclinable upto a horizontal position (90°)
Magnification	:	100 X ~ 1000 X (1500 X)
Stage	:	Built-in graduated Mechanical stage 120 X 125 mm with convenient adjustment for manipulation of slides
Nosepiece	:	Quadruple nosepiece with positive click stops for precise and smooth alignment of objectives
Focusing	:	By coarse and fine focusing knobs
Eyepiece	:	Widefield Eyepiece (NWF 10X)
Objectives	:	Hard anti-reflection coated, colour coded Parfocal Achromat: 10X, 40X & 100X (spring loaded, oil immersion)
Condenser	:	Sub-stage Abbe condenser of 1.25 N.A. focusable with rack and pinion; fitted with an iris diaphragm and filter holder (for blue filter) to facilitate optimum adjustment of light
Illumination	:	Plano-concave mirror in adjustable fork mount
Finish	:	Black durable acid resistant epoxy-coated finish
Optional	:	Eyepieces widefield 15X & Huygenian 5X, 10X &15X

OLYMPUS

GB

PATHOLOGICAL LABORATORY MICROSCOPE

This is a standard laboratory microscope which eliminates the operational complexities of conventional instruments, with features such as a graduated draw tube, and in-built graduated mechanical stage. The GB thus meets all the requirements of advanced microscopy.

Body	:	Monocular die cast body, with graduated draw tube, inclinable upto a horizontal position (90°)
Magnification	:	100 X ~ 1000 X (1500 X)
Stage	:	Built-in graduated mechanical stage 120 X 125 mm with convenient adjustment for manipulation of slide
Nosepiece	:	Quadruple nosepiece with positive click stops for precise and smooth alignment of objectives
Focusing	:	By coarse and fine focusing knobs
Eyepiece	:	Widefield Eyepiece (NWF 10X)
Objectives	:	Hard anti-reflection coated, colour coded parfocal Achromat: 10X, 40X & 100X (spring loaded, oil immersion)
Condenser	:	Sub-stage Abbe condenser of 1.25 N.A. focusable with rack and pinion; fitted with an iris diaphragm and filter holder (for blue filter) to facilities optimum adjustment of light
Illumination	:	Plano-concave mirror on adjustable fork mount
Finish	:	Black durable acid resistant epoxy-coated finish
Optional	:	Eyepieces Widefiled 15X, Huygenian 5X, 10X & 15X

OLYMPUS
INDIA

Biological Microscope

CH20*i*

Specifications

CH20*i*

Item	Specifications		Binocular	Trinocular
CH20*i* MICROSCOPE FRAME	• Coaxial coarse/fine knobs: Tension adjustment on the right side Fine focus knob graduated Stage movement (XY direction) on rack and pinion • Quadruple revolving nosepiece (fixed) Plane stage 120 x 132 mm • With right hand mechanical stage • Abbe condensor N.A. 1.25 (oil immersion), with aperture iris diaphragm • Blue filter • Universal Power Supply (100V to 240V) for 6V 20W illuminator • 8cc immersion oil • Dust cover • Mirror unit (Plano-concave)	• Binocular observation tube (inclination 45°, Interpupillary distance adjustment range 53-75 mm), diopter adjustment on the left	❍	
		• Trinocular observation tube (inclination 45°), diopter adjustment on the left		❍
Power Cord			❍	❍
Lamp	6V 20W halogen lamp (x 2)		❍	❍
Objectives	*i*NEA Achromat 4X (anti-fungus)		❍	❍
	*i*NEA Achromat 10X (anti-fungus)		❍	❍
	*i*NEA Achromat 40X (anti-fungus) spring		❍	❍
	*i*NEA Achromat 100X (anti-fungus) spring, oil		❍	❍
Eyepiece	*i*CWHK10X (LB eyepiece 10X), F.N. 18mm, (anti-fungus) (x 2)		❍	❍

Specifications are subject to change without any obligation on the part of the manufacturer

CH20*i* is manufactured under license from Olympus Corporation, Japan

ISO 9001:2000

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A-5, Mohan Co-operative Industrial Estate, Mathura Road, New Delhi-110044
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OLYMPUS

BIOLOGICAL MICROSCOPE

CH20*i*

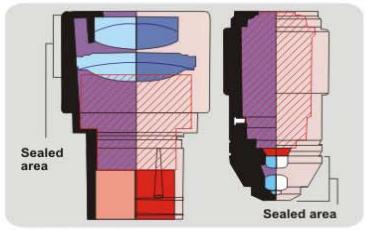
In Japan, OLYMPUS prides itself as a company that manufactures quality optical products with a FOCUS ON LIFE. Olympus (India) extends that corporate philosophy as it brings the renowned Japanese technical expertise to its making of microscopes. It is progress through precision.

Quality that's pure

OLYMPUS

CH20*i*

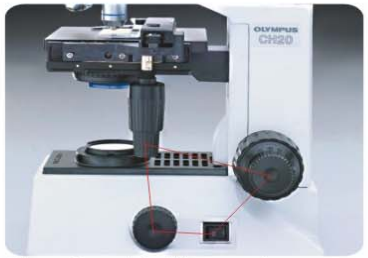
Features



Sealed optical parts

Anti Fungus Optics

From the eyepiece and objectives to the interior of the observation tube, comprehensive anti fungus treatments are applied to every area which effects the clarity of the observed images. This Tropicalized treatment ensures Image excellence for long periods in conditions favouring to fungus growth.



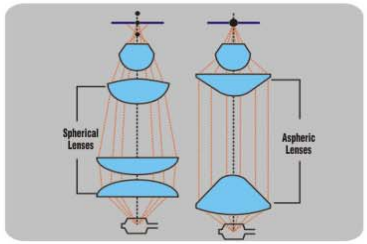
Main operating controls within easy reach

Ergonomic Design

All the main operating functions are within easy reach, thereby allowing extended observation without fatigue of eye or posture.

Window in the arm section

The specimen can be observed with the naked eye from the back. Also, convenient to observe the specimen while using microscope through natural light by using reflector.



Optimization of illumination with aspheric lenses

High Performance Aspheric Lenses

The abbe condenser & the light relay system are fitted with high performance aspheric lenses, which ensure uniform illumination, resulting in a bright and crisp image.

Illumination System

Built-in illumination through SMPS circuit for constant voltage output to cover input voltage fluctuations from 100 volts to 240 volts. This prolongs bulb life and prevent frequent bulb change.

Easily Interchangeable objectives

Interchangeability of Objectives

The high precision objectives can be mounted on the nosepiece in any sequence without effecting their parfocality or centering.

Technology From Japan

The CH-20i is an accumulation of advanced Japanese manufacturing technology that turns creative designs into quality products. Now, made in India under licence from Olympus Corporation, Japan, the CH-20i is the manifestation of the uncompromising quality standards and user friendly features which OLYMPUS products are known for.

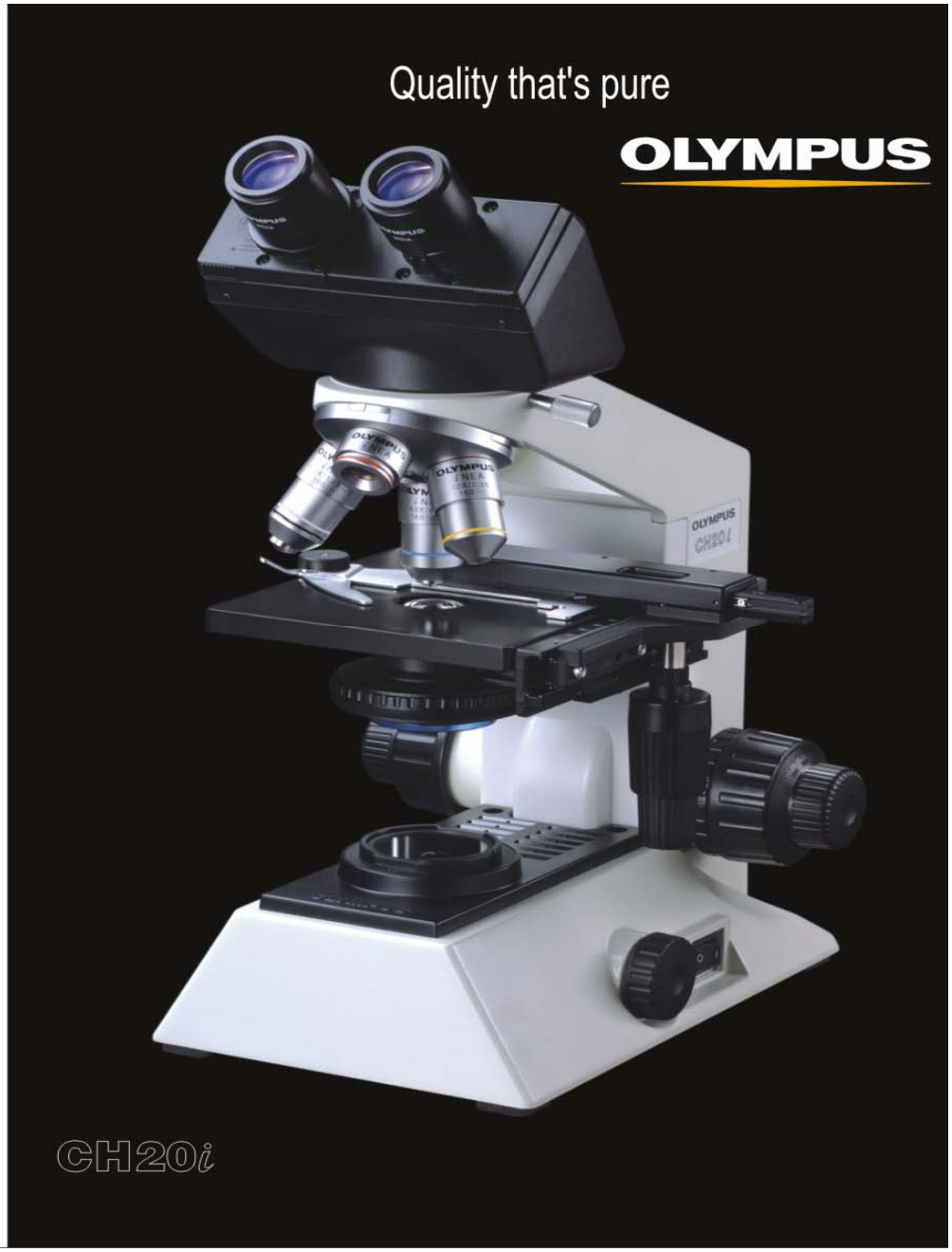
The manufacturing process, under the strict supervision of a team of Japanese engineers, ensures compliance with demanding performance standards. OLYMPUS technology is constantly applied to every aspect of design, maximising the interchangeability of parts and minimising adjustment requirements during assembly. Consequently, the CH-20i is the only microscope in India conforming to internationally accepted standards.

4-axis Machining Centre


Clean Room Assembly area


Laser Interferometer for optics inspection

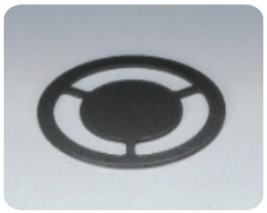

Lens Inspection



Optional Accessories

Digital Imaging Compliance

An optional adapter to mount digital cameras is provided to allow easy, cost-effecient digital imaging



Darkfield central stop/ CH2-DS

Darkfield observation from 10X-40X is possible. This is placed underneath the condenser with attachment lens CH3-AL or filter holder CH2-FH

Attachments

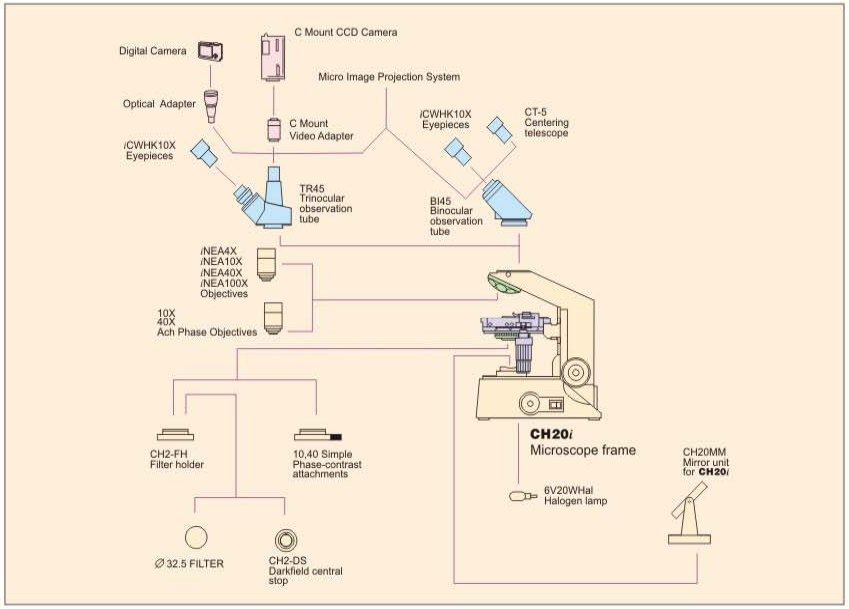
Phase-contrast Attachment/10X,40X

This is attached underneath the condenser. Phase-contrast objectives (10X & 40X) are provided

CCTV Attachment

Supplied with optical C mount Video Adapter

Micro Image Projection System



Specifications

Item	Specifications		CH20*i* Binocular	CH20*i* Trinocular
CH20*i* MICROSCOPE FRAME	• Coaxial coarse/fine knobs: Tension adjustment on the right side Fine focus knob graduated Stage movement (XY direction) on rack and pinion • Quadruple revolving nosepiece (fixed) Plane stage 120 x 132 mm • With right hand mechanical stage • Abbe condensor N.A. 1.25 (oil immersion), with aperture iris diaphragm • Blue filter • Universal Power Supply (100V to 240V) for 6V 20W illuminator • 8cc immersion oil • Dust cover • Mirror unit (Plano-concave)	• Binocular observation tube (inclination 45°, Interpupillary distance adjustment range 53-75 mm), diopter adjustment on the left	❍	
		• Trinocular observation tube (inclination 45°), diopter adjustment on the left		❍
Power Cord			❍	❍
Lamp	6V 20W halogen lamp (x 2)		❍	❍
Objectives	*i*NEA Achromat 4X (anti-fungus)		❍	❍
	*i*NEA Achromat 10X (anti-fungus)		❍	❍
	*i*NEA Achromat 40X (anti-fungus) spring		❍	❍
	*i*NEA Achromat 100X (anti-fungus) spring, oil		❍	❍
Eyepiece	*i*CWHK10X (LB eyepiece 10X), F.N. 18mm, (anti-fungus) (x 2)		❍	❍

Specifications are subject to change without any obligation on the part of the manufacturer

CH20*i* is manufactured under license from Olympus Corporation, Japan

OLYMPUS

ISO 9001:2000

OLYMPUS (INDIA) PVT. LTD.
A-5, Mohan Co-operative Industrial Estate, Mathura Road, New Delhi-110044
Tel.: 30886766, 30886741, 30886744 Fax: 91-11-30886737 Email: oisales@dssimage.com

CH20i FEATURES

- **ERGONOMIC DESIGN**

- Aluminum die-cast body with new generation ergonomic design which **enables long hours of fatigue free work**

The slim body base design

allows the user to operate the stage, coarse/fine focusing knob & illumination easily and comfortably while keeping the hands on the desk

CH20i FEATURES

A WINDOW IN THE ARM SECTION

Allows the slide to be observed from the back
to see the objective which is currently engaged

The presence of window in the microscope frame plays an important role

for observation of the specimen from the back
while using external light to access the reflection mirror

CH20i FEATURES

HIGH EYEPOINT 10X WIDEFIELD EYEPIECES

- Easy to use by persons who wear glasses
- Eliminate Eye-Strain
- Enables fatigue free observation over long period of time

- Compensating Eyepieces
  Assure image sharpness in the visual field

ANTI-FUNGUS TREATED - SEALED EYEPIECES
Hard anti-reflection coatings on eyepieces
Image excellence is long-lasting

COLOR CORRECTIONS
At all magnifications

CH20i FEATURES

PARFOCALITY

The precision engineered Parfocal objectives

allow the specimen to remain in focus (within 1/4th turn of fine focus knobs) while changing objectives magnification via the revolving nosepiece.

CENTERING

The precision engineered

Objectives ensures that the specimen under observation remains in the centre of the field of view

even while the objectives magnifications are changed via the revolving nose piece

INTERCHANGEABILITY

The objectives are interchangeable

& can be mounted in any sequence or location on the quadruple revolving nose piece without effecting their Parfocality & Centering.

CH20i FEATURES

EXCELLENT DEFINITIONS

The higher image contrast is achieved by way of using special Objective design, Lens Curvature ratio setting, objective glass selection & lens construction followed by ultramodern multilayer coatings applied through a special lens coating machine to minimize lens surface reflections & eliminate flare and determine the best combination.

These are few ways Olympus achieves higher image contrast during Objective manufacture. This resulted

minimum distance at which two minute dots in a specimen can be clearly distinguished

CO-AXIAL LOW DRIVE MECHANICAL STAGE

HARD, ABRASION RESISTANT COATING ON STAGE

VERY SMOOTH & SENSITIVE MOVEMENT FOR EASE-OF OPERATION

which enable accurate & precise manipulation of specimen slides

The Stage size 132 x 120mm, Movement 76 x 46mm

designed to accommodate the microscope slides which are 75x25 mm in size.

CH20i FEATURES

- **OPTIMIZATION OF ILLUMINATION WITH ASPHERIC LENSE SYSTEM**
  incorporated in Condenser & light relay system

  For brilliant and uniform light resulting in a

  Bright and crisp image

  The use of the aspheric lenses in the condenser & light relay system maximizes the collection of light emanating out of the bulb thereby condensing them as a strong light beam moving along the optical axis of the microscope which results in bright & even illumination of the observation field

- **Push fit filter holder**
  For safety & protection from breakage
  TRULY DAY-LIGHT FILTER
  for exceptional images contrast

CH20i FEATURES

- **BINOCULAR OBSERVATION TUBE**

  Consists of a multilayer coated beam splitter prisms which ensures maximum transmittance / reflectance of light for negligible light loss and

  provides bright & Uniform illumination in Both the eyepieces for ease of observation & eye comfort during extended usage

  NO INTERNAL FLARE

  Internal flare is completely eliminated

  thereby resulting in

  high contrast observation

  HIGH SENSITIVITY

  Fine focus highly sensitive

  of sensitivity less than 2 microns

CH20i FEATURES

- **EXCLUSIVE ANTI-FUNGUS TREATMENTS**

Maintain optimum performance

Extensive anti-fungus application from the eyepiece and objectives to the interior of the observation tube, comprehensive anti fungus treatments are applied to every area which effects the clarity of the observation images

Image excellence is extremely long-lasting even in conditions liable to fungus accumulation

CH20i FEATURES

Overall Image Definition & Brilliance

Excellent at all magnifications throughout the field
Seeing & Comparing is believing

Collaboration

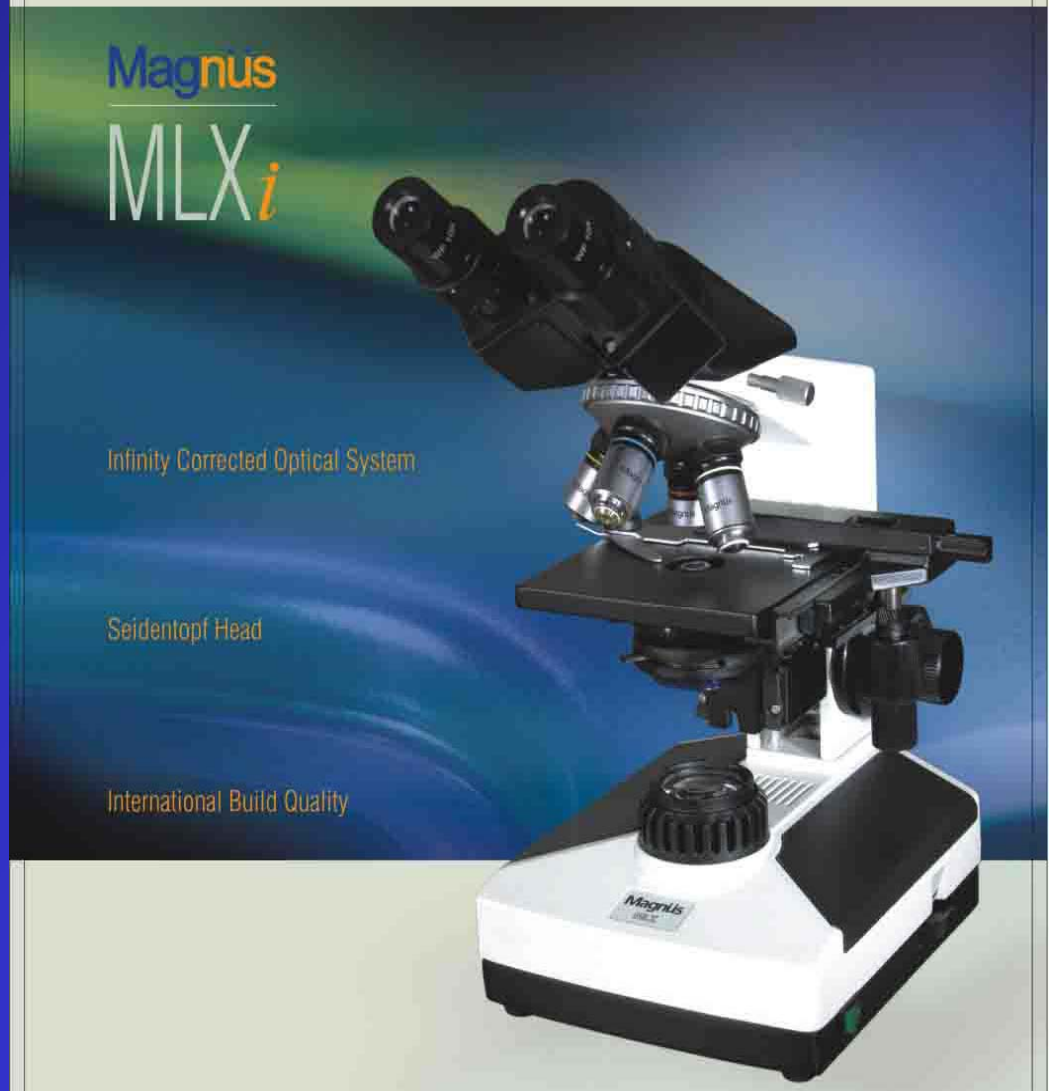
Manufactured under under license agreement with a renowned International Co. of repute **Olympus Corporation, Tokyo, Japan**

ISO 9000-2001

Manufactured in a ISO 9000-2001 certified company
under strict vigil of Japanese trained quality control engineers

OLYMPUS INDIA

MLX*i*

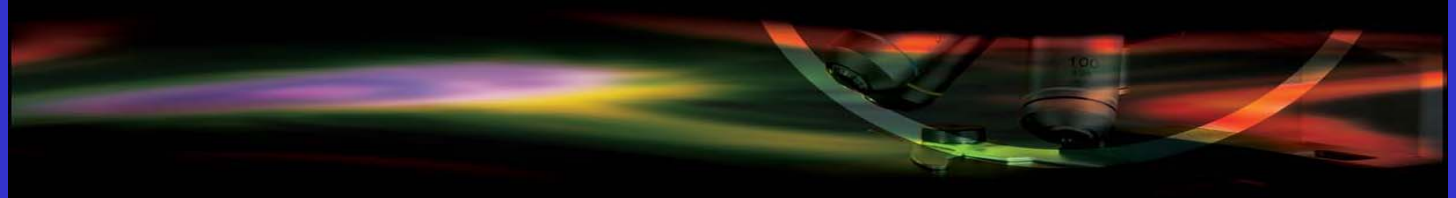


New introduction

Magnüs

MicroLED

Fluorescence in a New Light



www.magnusanalytics.com

FRAEN
MAXIMIZING LIGHT

Magnus MicroLED

New introduction

MicroLED for Tuberculosis

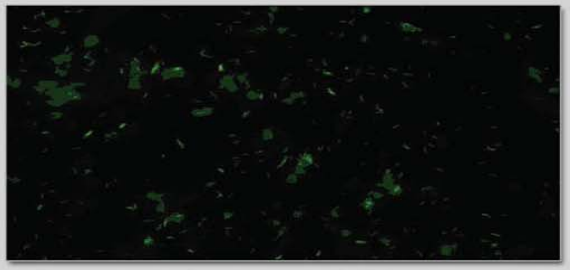
Transmitted light microscopy on sputum samples is the most widely used method to diagnose pulmonary tuberculosis. However, this method is complex and has low sensitivity compared with culture, while the more-sensitive fluorescence microscopy method is a far more reliable and effective diagnostic tool.

Till now, the fluorescence method has not found favour in developing countries, due to the high initial investment required for a fluorescence microscope. But now, with MicroLED, fluorescence microscopy can be employed on small microscopes at an affordable price.

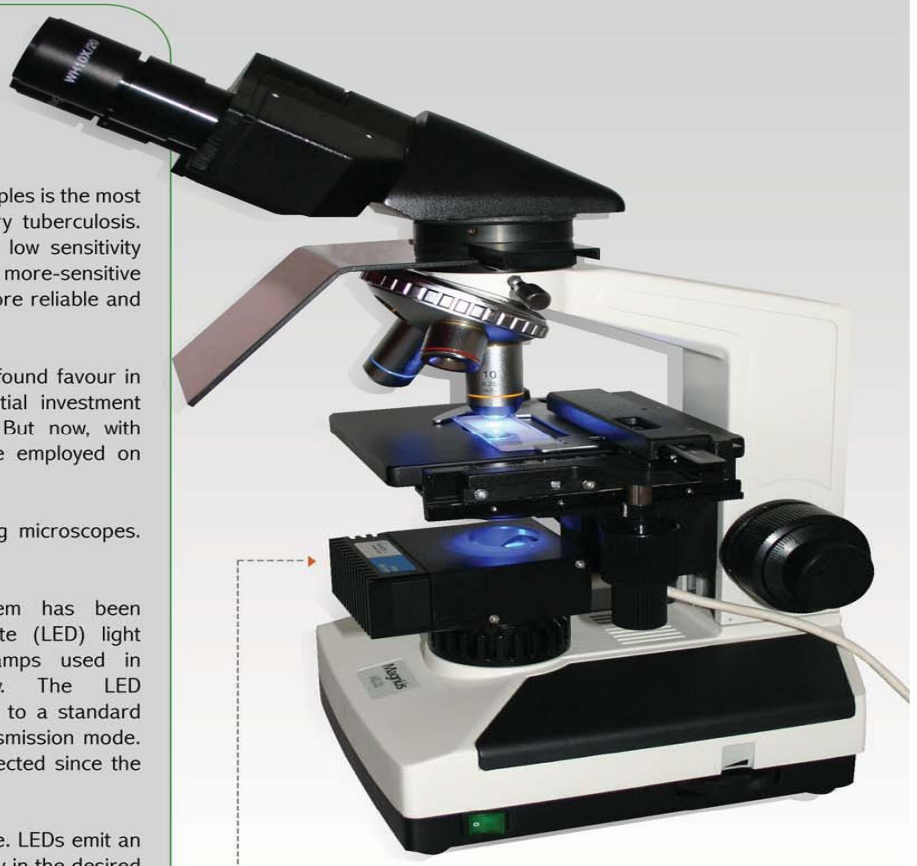
Furthermore it can be adapted on existing microscopes. Battery operation is also possible.

A unique, proprietary illumination system has been developed to utilize high-power solid-state (LED) light sources to replace the mercury arc-lamps used in traditional epi-fluorescence microscopy. The LED fluorescence module is designed to attach to a standard bright field microscope and is used in transmission mode. Bright field microscopy capability is not affected since the halogen white light function remains intact.

Spectral Response Curve of Auromine O Dye. LEDs emit an extremely efficient and narrow spectrum only in the desired bandwidth, thus producing excellent signal- to-noise ratio



The mycobacteria appear as bright luminous rods on a dark background



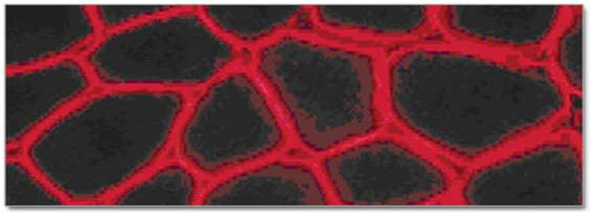
MLXi with the MicroLED Attachment

MicroLED can be mounted on other microscopes like the Zeiss Axio Star* as well as the Olympus CX31*

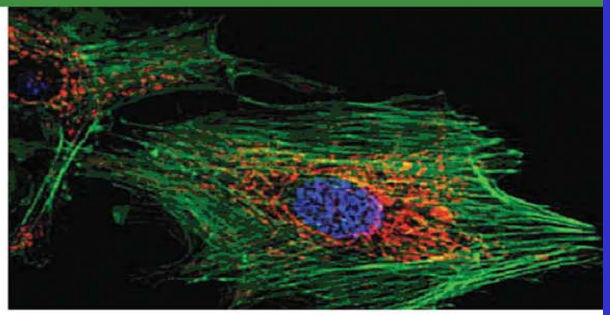
New introduction

Magnus MicroLED

MicroLED Overview



- Single Colour Excitation
  Muscle, Alexa Fluor 546



- Example of 3 colour Excitation
  BPAE Cells, DAPI / BODIPY, Mito Tracker Red

Magnus Analytics and Fraen Corporation, Italy bring you an integrated optical solution for fluorescence microscopy consisting of a unique, proprietary illumination system with high power solid-state (LED) sources to replace the mercury and xenon arc-lamps found in traditional epi-fluorescence microscopy.

This approach allows significant increase of performance and light source lifetime, reduction of initial costs and operating costs, reduction of maintenance and heat production.

The module is designed to attach to a standard bright field microscope and does not change the characteristics of the microscope in any way. The fluorescence light source is used in transmission mode and will not void any warranties. Bright field microscopy is not affected since the halogen white light function remains intact, which means that transmitted light observation is possible without major changes in the optical configuration.

Magnus MicroLED LED fluorescence is available as a complete ready-to-use instrument with the Magnus MLXi microscope or as an the add-on kit for the following microscopes* :

- Olympus
- Carl Zeiss
- Nikon
- Leica

They standard fluorescence module is available with 480nm (blue) module.

Other optional add-ons include 365nm (UV), 455nm (Deep Blue), 535nm (green), 590 nm (yellow) and 630nm (red) excitation wavelengths.

MicroLED Benefits

- The MicroLED products were developed to provide equivalent performance and capability delivered in standard fluorescence microscopy equipment, but with a series of enhancements designed to make the technology accessible to more users, easier to operate and maintain, and significantly smaller to make it portable.
- The LED modules are light sources emitting an extremely efficient spectrum only in the desired bandwidth, thus ensuring a very good signal-to-noise ratio.
- No warm-up time required for the light source.
- Light source lifetime: typically 30000 hours, thus allowing many years of operation and cost savings.
- No need of any special alignment procedure.
- Variable light control for adjustment of illumination intensity allows regulation of each single color channel via adjustable electronic driver (reduce photobleaching).
- Allows transmitted light observation without removing the fluorescence module.
- One, two and three color excitation. Grab up to three colors in one time (no pixel shift).
- Smaller instrument footprint .
- Battery pack option for field operation.

New introduction

SYSTEMS SPECIFICATION

• Magnus MicroLED Cassettes

Customer determines appropriate excitation cassette(s) according to fluorescent dyes.

Lifetime : > 30.000 hours

LED Power : Typically 3 W, depending on LED type

Excitation λ : See table

	FRAEN AFTER cassettes	Excitation
	UV	365 nm
	ROYAL BLUE	450 nm
	BLUE	480 nm
	CYAN (on request)	505 nm
	GREEN	535 nm
	YELLOW	590 nm
	RED	630 nm

• MicroLED Driver unit

Different driver units available for single, dual or triple color control.

AC adaptor : Input Voltage : 220/110V AC

Output Voltage : 7.5VDC / 12V DC

Power : Max. 15-18W

Features : Self detection of LED power

Option : Battery pack for use on field

• MicroLED Modules

Clamp-on adaptors for the following microscopes available:

- Olympus
- Carl Zeiss
- Nikon
- Leica

• MicroLED Additional Optics

UV blocking filter : In filter carrier housing

Emission filters : In 3 to 6 positions sliding filter carrier

Mirror : Enhanced Al + SiO_2 coating

*Micro LED modules for Olympus, Carl Zeiss, Nikon and Leica available for sale in India only.

Magnus

Magnus Analytics

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E-mail : sales@magnusanalytics.com Website : www.magnusanalytics.com

FRAEN
MAXIMIZING LIGHT

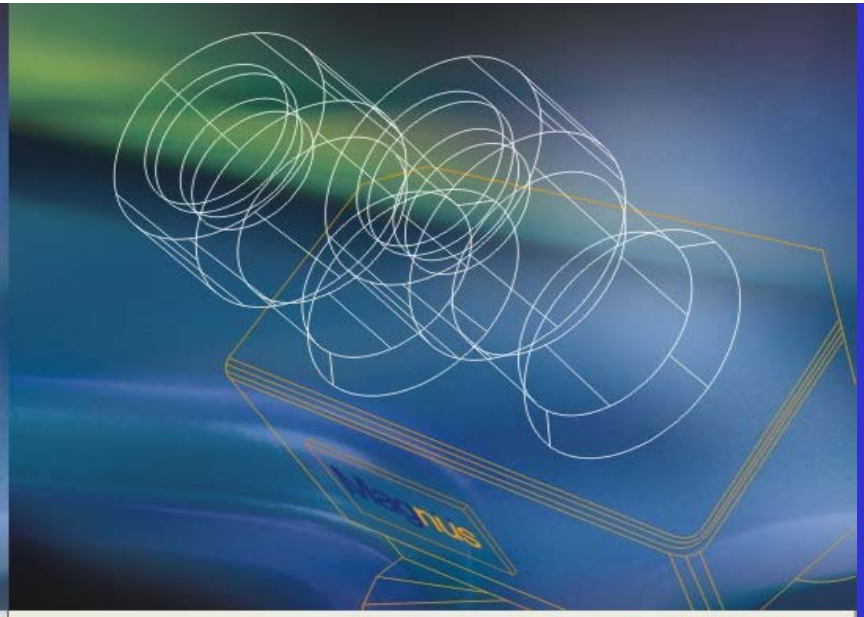
Magnüs

MLX-U nplugged

Battery Backup:
A long-life LED coupled with a rechargeable battery allows 6 hrs usage without electrical power

Anti-fungus treated optics:
Unique chemical treatment keeps fungus away

Parfocal & Centered Objectives:
Minimises use of the fine focussing and stage-control knobs during objective change-over



Optics with Multi-layer coating:
Maximises transmission of light for crisp, bright images

Specifications:

Body	Aluminium die-cast body. All critical movements based on ball bearing & wire guides that ensure smooth & precise manipulation
Inclined Observation Head	Binocular 45 degree inclined, rotatable through 360 degrees
Eyepiece (widefield) for observation	WF 10x (F.N. 18) compensating paired eyepieces that provides relief from eye fatigue and renders color-compensated images of utmost clarity. Compatible with an optionally available eyepiece micrometer
Nosepiece	Quadruple revolving nosepiece with click stop
Objectives	Long barrel achromatic 4X, 10X, 40X (spring) & 100X (oil immersion - spring)
Mechanical stage	Stage size 125mm X 145mm with traverse area of 50mm X 76 mm with right hand low drive knobs
Focusing system	Co-axial coarse & fine controls with a focus adjustment range of 25 mm and fine adjustment knobs
Condenser holder	Rack & pinion mounted condenser holder with height displacement upto 20mm
Condenser	Abbe condenser with aperture iris diahragm (N.A. 1.25) focusable with rack & pinion through 20 mm and a continuously variable iris diaphragm
Illumination base	Built-in illumination base with new 12V LED to provide adequate brightness at minimal power consumption. Supported by inbuilt battery backup during power failure

MICROSCOPES FOR FIELD

TÜV ISO 9001

ISO 9001:2000 Certified Company

Magnüs

Manufactured by

OLYMPUS (INDIA) PVT. LTD.

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Corporate Office : A-5, Mohan Co-operative Indl. Estate, Mathura Road, New Delhi-110044

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OLYMPUS INDIA

MLX

Magnüs :

MLX

Anti-fungus treated optics:

Unique chemical treatment keeps fungus away

Parfocal & Centered Objectives:

Minimises use of the fine focussing and stage-control knobs during objective change-over

Optics with Multi-layer coating:

Maximises transmission of light for crisp, bright images

Illumination:

for optimum brightness

Micron sensitive mechanical movements:

Enables easy manipulation of specimen

MICROSCOPES for Education & Laboratories

Magnus MLX-B

Key Features

- High-grade optics provides **Optimum brightness & contrast for long hours of comfortable viewing**
- **Optics are Uniformly Centered, Interchangeable And Parfocal**

Durable & rust-free construction with high quality paint finish ensures **trouble free performance for years**

- Machining of components on high precision CNC machines to ensure better accuracy.
- The ventilated light relay system resulting in the `minimum heating of base.
-

Magnus MLX-B

Key Features

- **Meets International safety standards of CE.**
- **Tropicalized Anti-Fungus treatment ensures image excellence** for long periods in conditions favoring to fungus growth.
- Coaxial focus mechanism provides precision at all magnifications.
- The superior design nosepiece system allows smooth rotation & easy access to specimens.
- A unique design of observation head provides **uniform illumination in both the eyepieces for ease of observation** & **eye comfort during extended usage.**

Magnus MLX-B

Key Features

Unique compensating eyepiece

Provides **Relief from eye fatigue**
& renders color-compensated images
of utmost clarity.

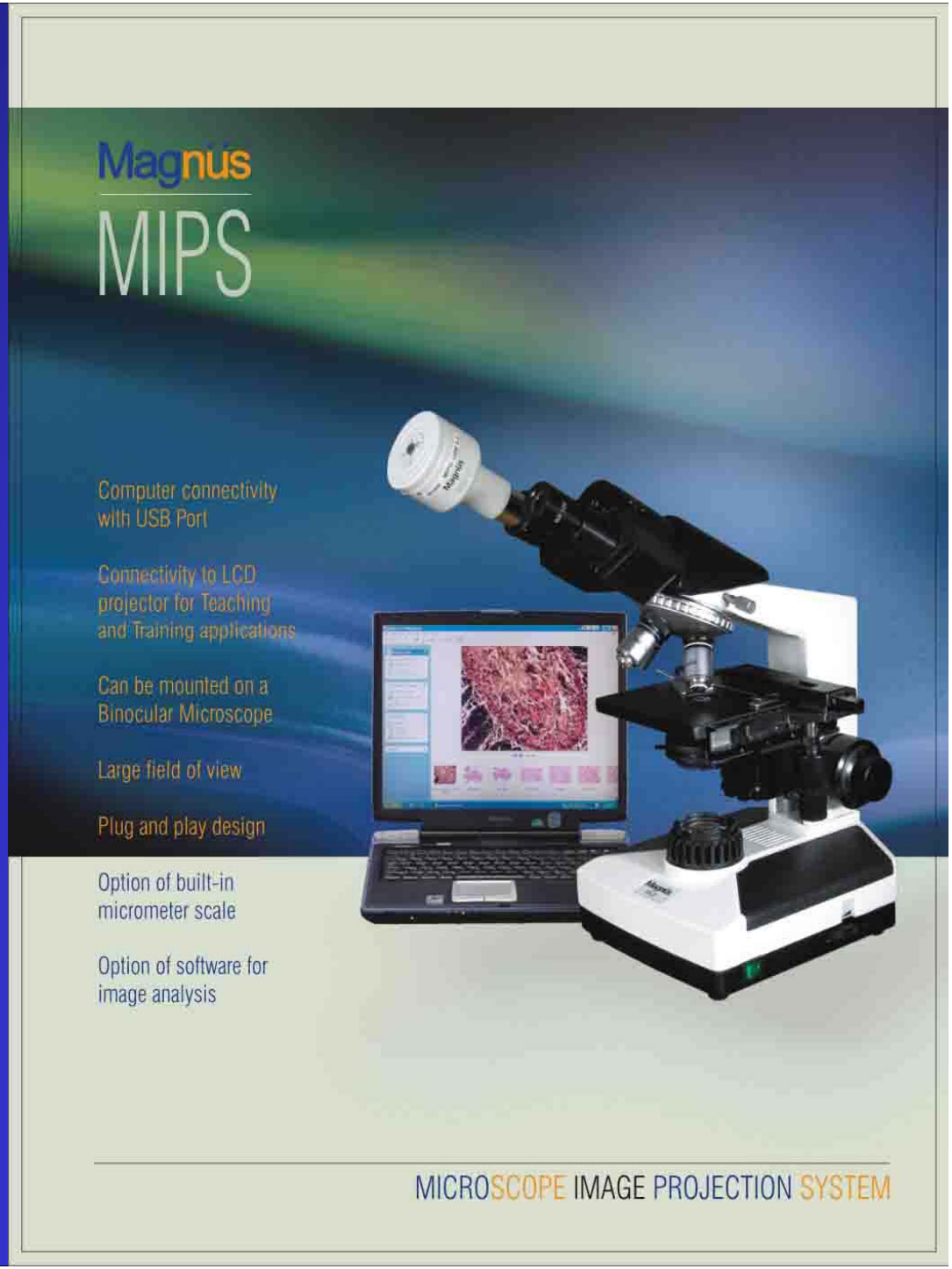
Color corrected in all magnifications

including high power objective, resulting in

better-defined images.

OLYMPUS INDIA

MIPS



Key Features MIPS Micro Image Projection System

- Universal design for adaptation of any microscope
  on Binocular eyepiece or Trinocular port
- Control Communication for complete handling through PC.
  Usable through Laptop as well as desktops.
- Interline Transfer CCD Sensor
  provides true colour image
- Connectivity through USB 2.0
  provides 25 frames/sec.
- Large view area - Selectable through software
  (from 240 x 240 up to 720 x 576 pixels)
- Sensitivity < 1.0 Lux for
  excellent low light performance
- Signal to noise ratio > 48 dB (AGC off) for
  high quality image
- Back light compensation for balancing the light on the specimen
- CCD Iris Control and Shutter speeds from 1/50 to 1/100000 for
  Automatic Manual adjustment of light intensity
- Auto White Balance
  and Manual White Balance modes for accommodating different light sources like halogen, tungsten, etc
- Power supply through USB bus
  for convenient single cable operation

OLYMPUS INDIA

MSZ

Magnüs :

MSZ

Anti-fungus treated optics:
Unique chemical treatment
keeps fungus away

Parfocality:
One time focus for all zoom
magnifications

Ergonomic design for ease of operation

Zoom Ratio 1:7

STEREOZOOM MICROSCOPES

Magnüs

MSZ

Anti-fungus treated optics:
Unique chemical treatment
keeps fungus away

Parfocality:
One time focus for
all zoom magnifications

Ergonomic design for ease of operation

Zoom Ratio 1:7

STEREOZOOM MICROSCOPES

Features

High Performance:
The high performance MSZ Series stereo microscopes utilize a Greenough design and feature a 1: 7 zoom ratio with a 100mm working distance and a large visual field. The parfocality allows an erect image of the observed specimens to stay in focus through repeated changes in the magnification. It is ergonomically designed for ease of operation.

Durability:
In addition to performance and comfort, a highlight of the MSZ is its durability. Promoting one of the finest ball bearing guideways making the focusing mechanism extremely robust.

Standard Configurations

		MODEL MSZ-BI	MODEL MSZ-TR
		Binocular body	Trinocular body
Zoom ratio	:	1: 7	
Objective zoom range	:	0. 65X - 4. 5X	
Eyepice	:	SWF10X/22mm (High eye-point Super Widefield Eyepieces)	
Working distance	:	100mm	
Interpupillary distance adjustment	:	55mm-75mm	
Binocular head inclination of	:	45°	
Diopter adjustment	:	+/- 5 diopter	
Optical Body Rotation	:	360° with reflected and transmitted illumination Voltage input 220V/50HZ Top halogen lamp 6V15W adjustable brightness bottom fluorescent lamp 5W	

MSZ Series Optical Data

	WF 10X (standard)		WF 15X (optional)		WF 20X (optional)		WF 20X (optional)		
Auxiliary Lens (optional)	Mag	FOV mm	Mag	FOV mm	Mag	FOV mm	Mag	FOV mm	Working Distance mm
1.5x	9.8x - 67.5x	22.5 - 3.3	14.6x - 101.3x	16.4 - 2.3	19.5x - 135x	13.3 - 1.9	24.4x - 168.8x	12.3 - 1.7	45
2.0x	13x - 90x	16.9 - 2.5	19.5x - 135x	12.3 - 1.8	26x - 180x	10 - 1.4	32.5x - 225x	9.2 - 1.3	40

The user may select different objective and eyepiece as per the requirement of magnification, working distance, visual field and depth of field.

Optional Accessories

Accessory for Inspection of Gems & Micro Samples
Darkfield Attachment (with specimen holder) for inspection of GEMS & MICRO SAMPLES under transmitted light
(To be used with Stereo Microscopes MSZ)

Optional Lights

Fluorescent Ring Light
Fibre Optics Illumination (Ring Light)
Fibre Optics Illumination (Bifurcated)

Auxiliary Objectives & Eyepieces

Eyepieces (Paired) Widefield 15x or 20x or 25x
Auxiliary Lens 1.5x or 2x

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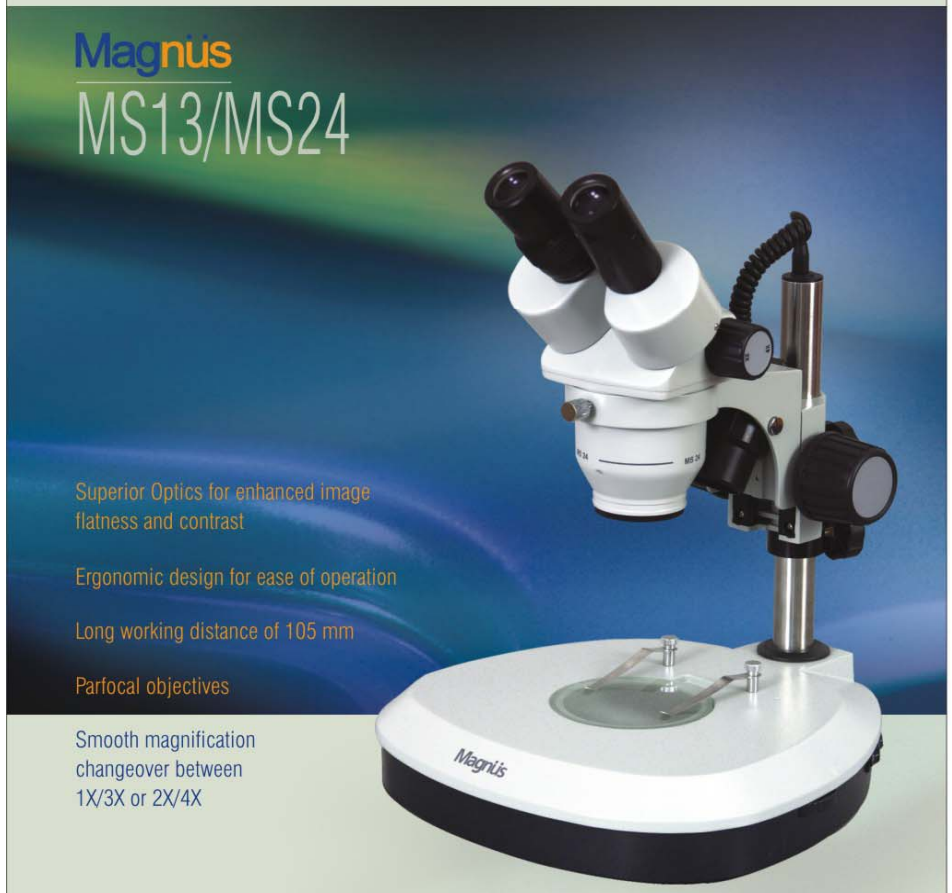
APPLICATIONS FOR STEREO MICROSCOPES	
BIOLOGICAL APPLICATIONS	**Segment**
Dissecting	Schools & Colleges
Fossils	Geology / Museums / Paleobotany
Insects	Malaria deptt. / Schools / College
Plant and animal specimens	Agricultural Universities
Botanical and anatomical studies	Colleges / Medical Colleges
Medical	Hair transplant and dental clinics
Forensic studies	Forensics
Tissue	Medical
IVF	Medical
INDUSTRIAL APPLICATIONS	
Viewing collections/inspection of coins	Mints / Museums
stony or metallic object	Geology
Yarns / Fibres	Textile Industries
for studying minerals	Geology
stamps	Forensics
Gems & jewelry	Gemologists / Jewellers & Gem Stones Manufacturers
Antique artifacts	Museums
Electronic circuitry	Electronic Industries
Miniatures	Watch Industries
Mold identification	Molding Industries
Paint Manufacturing (R&D / QC)	Paint Industries
Syringe (QC)	Syringe Manufacturers
Inspection (QC)	Intracular lenses
Inspection (QC)	Picture Tube (TV / Monitors) Manufacturers
Pen Tips (QC)	Pen Industries

Magnüs

MS13/MS24



Superior Optics for enhanced image flatness and contrast

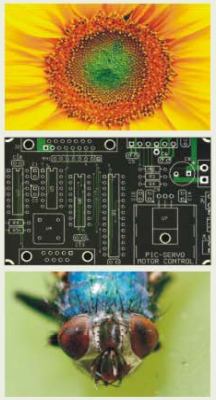
Ergonomic design for ease of operation

Long working distance of 105 mm

Parfocal objectives

Smooth magnification changeover between 1X/3X or 2X/4X

STEREO MICROSCOPES



Micro Image Projection System

Specifications :

		MS 13		MS 24	
Microscope Body	Objective	1X/3X		2X/4X	
Eye Piece	Working Distance	105mm			
	Diopter Adjustment	+/- (left side			
	High Eyepoint Super Widefield eyepiece SWH 10X with Field Number 23				
Field of View	Objective	1X	3X	2X	4X
	Visual field (mm)	23	7.7	11.5	5.7
Light Source	Reflected	6V 10W lamp with adjustable brightness			
	Transmitted	5W fluorescent lamp			
Optical Accessories		Fluorescent ring light			
		Eyepiece Micrometer			
		Eyepiece 15X and 20X			
		MIPS (Micro Image Projection System)			

Magnüs

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Magnüs

MLM

DISCOVER A NEW WORLD

Anti-fungus treated optics:
Unique chemical treatment keeps fungus away

Parfocal & Centered Objectives:
Minimises use of the fine focussing and stage-control knobs during objective change-over

Mechanical Stage:
Sturdy, double-plate mechanical stage design

Tamper Proof:
Eyepiece and condenser are pre-fixed to microscope body eliminating the possibility of loss & misplacement

MICROSCOPE FOR EDUCATION

Specifications :

ITEM	SPECIFICATIONS	MLM
Body	Aluminium die-cast monocular body	●
Inclined Observation Head	45 degree monocular, rotatable through 360 degrees	●
Eyepiece (widefield) for observation	WF 10x (F.N. 18) paired compensating eyepiece. Provides relief from eye fatigue and renders color-compensated images of utmost clarity. Compatible with an optionally available eyepiece micrometer	●
Nosepiece	Quadruple revolving nosepiece	●
Objectives	Achromat objectives 4X/N.A.0.10, 10X/N.A.0.25, 40X/N.A.0.65, (spring loaded) & 100X/N.A.1.25, (oil immersion)	●
Mechanical stage	Left hand co-axial double plate mechanical stage, movement 60mm X 25 mm, size 120mm X 120mm	●
Focusing system	Separate fine and coarse focusing adjustment knobs with tension control mechanism	●
Condenser	Condenser N. A. 1.25 with iris diaphragm focusable by spiral movement	●
Illumination base	Built-in illumination base with pre-centered 6V 15W halogen light source. Pre-centered bulb is coupled with an efficient collector lens system to Provide optimum brightness along the optical path. A conveniently positioned rotatable knob enables variable light control	●

Magnüs

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ML-M

Best option for HB/GB users

Affordable Price Difference with Add-on features

- Inclined head
- double layer mechanical stage
- bright illumination
- long barrel optics
- quadruple nosepiece
- 4 objectives
- ergonomically design
- temper proof optics

ML-M

KEY FEATURES :

Anti-Fungus Optics

ensures image excellence for long periods in conditions favoring to fungus growth

Optics are uniformly centered, interchangeable & Parfocal

Optimum brightness & contrast for long hours of Comfortable viewing.

Sub stage Condenser with Spiral Movement for ease of operation

Double Layer Mechanical Stage for comfortable movement of slide

Temper proof optics for security. Easy handling & Ergonomically design

Accessories

Heating Stage
Magnus Digital Warm Stage
(Temp. From 27°c to 45°c) - for MLX/CH20i

Darkfield Attachments
Magnus Immersion Darkfield Condenser with Objective 100x having iris diaphragm - for MLX
Magnus Dry Dark field Condenser - for MLX

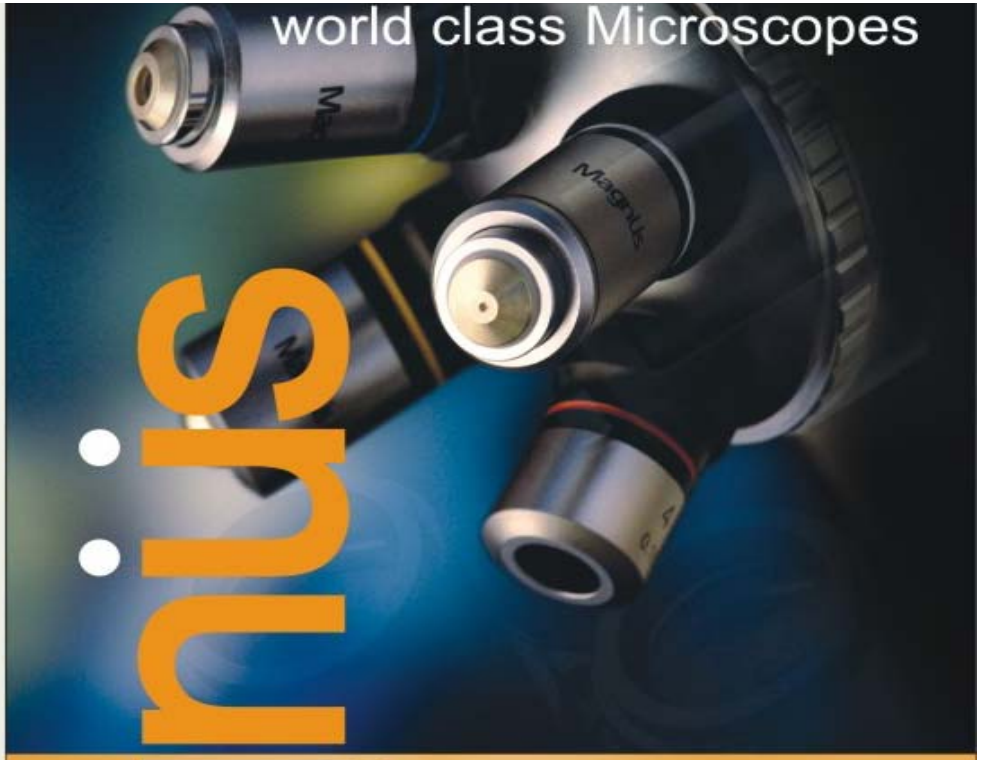
Phase Contrast Attachments
Magnus Turret Type Phase Contrast Attachment
Model PC-4 with Objectives 10x,20x,40x & 100x (oil) - for MLX

Gems - Inspection Accessories
Magnus Darkfield Attachment (with specimen holder) for inspection of Gems & Micro Samples under transmitted light (To be used with Stereo microscopes MS / MSZ)

Magnus Microscope Image Projection System Model MIPS-USB
Consisting of light weight compact imaging sensor with in-built widefield optical microscope adapter & with inbuilt USB connectivity (without any power supply, plug-n-play design) can be fitted in any Binocular/Trinocular microscope. (suitable for NT based OS)

Magnus Digial Camera System
Magnus Digital Camera system complete with any renowned available brand digital camera (above 7 Million Pixels) with rechargeable batteries with charger. & with Magnus Optical Microscope adapter (Olympus digital camera is discontinued & not availavle at the movment

Image Analysis Software
Magnus-Pro Image Analysis Software for arranging and measuring captured images, creating databases and preparing reports



Magnus

the Magnus range ...

GEMOLOGY APPLICATIONS - ACCESSORIES

Digital Camera Adaptors

ZERTIFIKAT ◆ CERTIFICATE ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE

TÜV

MANAGEMENT SERVICE

The Certification Body of
TÜV AMERICA, INC.
Danvers, Massachusetts USA

hereby certifies that

OLYMPUS (INDIA) PVT. LTD.
A-5, MOHAN CO-OPERATIVE INDUSTRIAL ESTATE,
MATHURA ROAD, NEW DELHI - 110 044, INDIA

has implemented a Quality Management System
in accordance with:

ISO 9001:2000

The scope of this Quality Management System includes:

Manufacturing, Sales & Service of Microscopes

Further Clarifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by consulting the organization.

This certificate is valid until: December 31, 2006

Certificate Registration No: 951 04 2437

Issued: February 2, 2004

TÜV

Gary W. Minks
Director, TUV America Certification Body
Member of TUV Suddeutschland Group

ANSI-RAB QMS ACCREDITED

TÜV Süddeutschland India • C-27, IIIrd Floor, Qutab Institutional Area, New Delhi - 110016 • Tel: +91-11-51688423-27 • Fax: +91-11-51688421

Ref: TUV/DEL/CE/ 033

Date:15 Jun 2005

To,

Olympus India Pvt Ltd
A/4,Mohan Co-operative Industrial Estate
Mathura Road, New Delhi-44 ,India

Attn: Mr H.S.Ahuja

Dear Sir,

Please refer our quotation Ref:P/279/1026/Q/06062004 Rev 1 Date: 28 Feb 2004 for CE marking of your MLX Series of Microscopes

We do hereby confirm that testing of MLX-DX model of microscope as per the following directives and standard was successfully completed on 3rd May 2005

Directives	Standards
73/23/EEC (LVD)	EN 61010-1-90+A1 :92+A2:95
89/336/EC (EMC)	CISPER-22, IEC 61000-4-2,4,5,11 IEC 61000-3-2,3

You may now affix CE symbol as shown below to above mentioned product after giving Declaration of Conformity and preparation of TCF

CE

Plese note that the thickness of the letters should be at least 5mm

Thank You

Saroj Patel
Dy. Gen Manager
TUV Suddeutschland India Pvt. Ltd.,

TÜV Süddeutschland India
TÜV SÜD Group

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TAN No.: MUMT09385F
Service Tax No.: M-IV/ST/TTI/06

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Sector-47C, Chandigarh
Tel: 0172-5049894
E-mail: jasmeen@dssimage.com

OLYMPUS

Magnüs

TÜV MANAGEMENT SERVICE ISO 9001
ISO 9001:2000 Certified Company

OLYMPUS INDIA PVT. LTD.

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email : oisales@dssimage.com

Import & Trade Division : P-39, (first floor), South Ext. Part-II, New Delhi-110049

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OLYMPUS

Your Vision, Our Future

thank you

DON'T REPLACE YOUR EYES.
REPLACE YOUR MICROSCOPES.