

OLYMPUS®

INVERTED METALLURGICAL MICROSCOPE
GX SERIES



UIS
UNIVERSAL
INFINITY SYSTEM

Advanced Imaging System Plus Versatile Modular Design



GX71

Both of these new GX series microscopes feature Olympus' world-renowned UIS infinity-corrected optical system for ultra-clear images no matter what observation method is used. In addition they are built to a modular design which enables the user to match selected image recording equipment (video, digital or large-format/35mm camera backs) to the microscope body and attach them singly or in multiple configurations —along with devices to print a scale directly onto the image*¹. Together with these sophisticated functions and performance features, the GX71 also allows erect image observation*². The GX series presents a highly advanced imaging system with the flexibility to comply with the diverse needs of future inspection and research applications.

¹Except GX71's optional side port. ²GX71 only.



GX51

Improved optical performance sets new standards of image clarity for inverted metallurgical microscopes

Getting the full picture with any observation method

The UIS infinity-corrected optical system was developed from Olympus' original technological know-how — and the GX series is designed to maximize its performance in the context of inverted metallurgical microscopes.

The result is sharp, detailed images with excellent contrast and consistently high clarity with any and every observation method.

Equipped with extra-bright 100W halogen lamps and newly improved levels of light collecting efficiency, GX series microscopes provide the brighter and more even illuminations that contemporary applications demand.

Ergonomic control layout allows a natural working posture

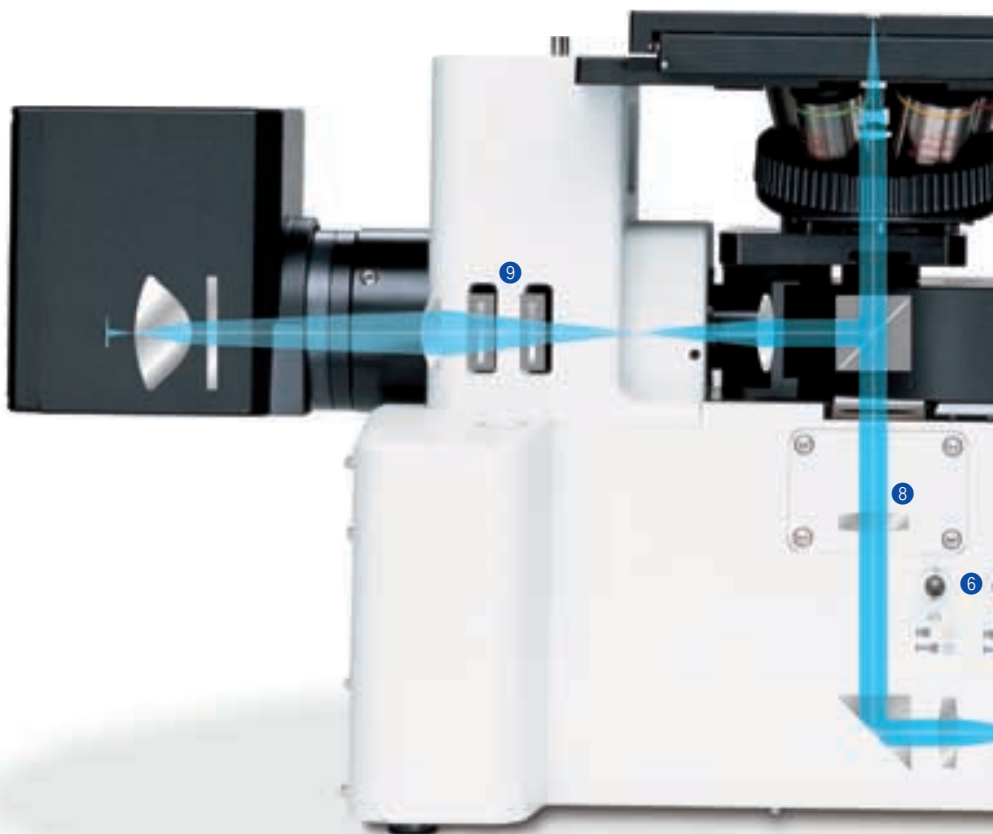
Numerous refinements are included to ensure that the operator can adopt a natural posture and work in comfort. They include an ergonomic control layout that places the field stop (FS)*, aperture stop (AS)*, focus handle and light intensity adjustment dial close to the operator's hand, and the introduction of a flexible handle stage that anyone can use easily.



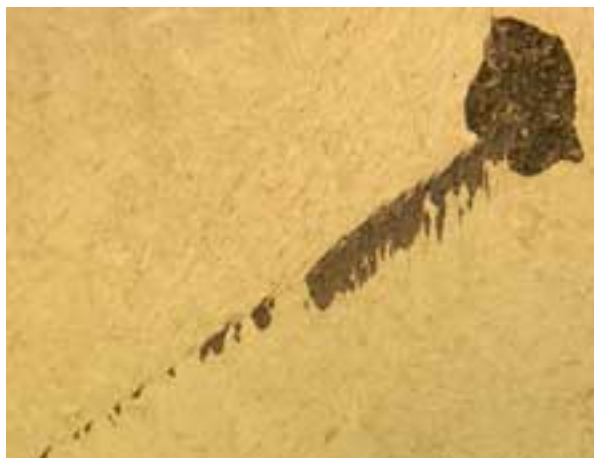
* GX71 only

Computer-designed frame with more rigidity and higher reliability

Computer simulations have been used to further improve the rigidity and low-gravity design of the frame, which is the key to greater stability and a more flexible system structure.



Brightfield

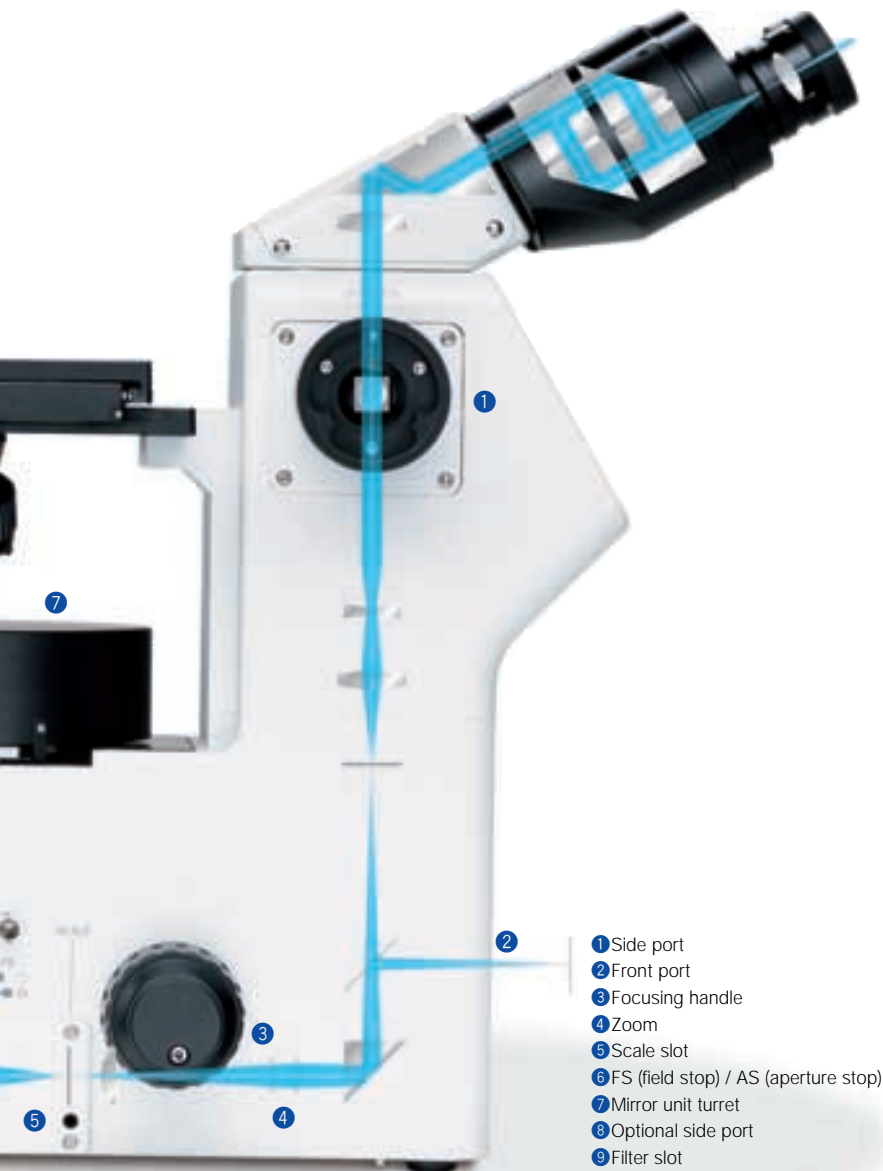


Darkfield



Nomar





Adjusting the image to suit the specimen — Nomarski DIC observation

To obtain the ideal combination of resolution and contrast to suit the state of each specimen, three different Nomarski DIC prisms are provided: U-DICR for all-purpose use, U-DICR for higher resolution and U-DICRHC for higher contrast. All three are slider-operated, so that the operator can make smooth continuous transitions to different magnifications and easily switch between observation methods.



Practical range of filters

The GX series comes with a practical range of filters, including neutral density, green, color temperature conversion and frost effect. Two slider slots are provided, each allowing attachment of up to three filters.

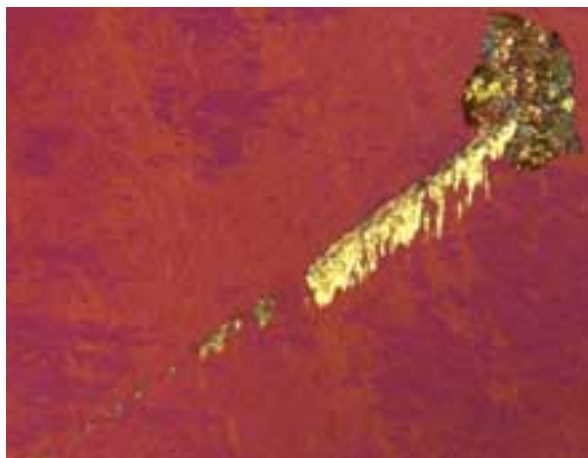


Nomarski DIC



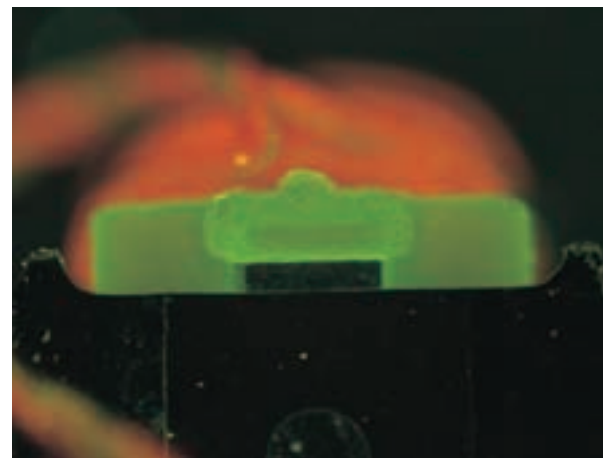
C

Simple polarizing



D

Fluorescence



Modular design for flexible system configuration from digital recording to conventional photography

Greater freedom to select and combine image recording equipment

The GX series' modular construction maximizes the flexibility to mix and match image recording devices on the microscope body. Digital, video and conventional still cameras (large-format or 35mm) can be attached to the front port, while the side port accepts both digital and video cameras. When both ports are used simultaneously, up to 3 camera backs can be attached, providing ample system variation.

High-precision, high-sensitivity digital images at 5.8 million* pixels via personal computer.

Combined with a DP50 digital camera, the GX series displays its potential by recording microscope images in exceptionally sharp detail. Brightfield images are naturally very clear, while even those recorded under weak fluorescence offer a truthful representation of the original specimen image. Advanced software and a high-performance graphic user interface make both the capture and filing of images easy, efficient and quick.

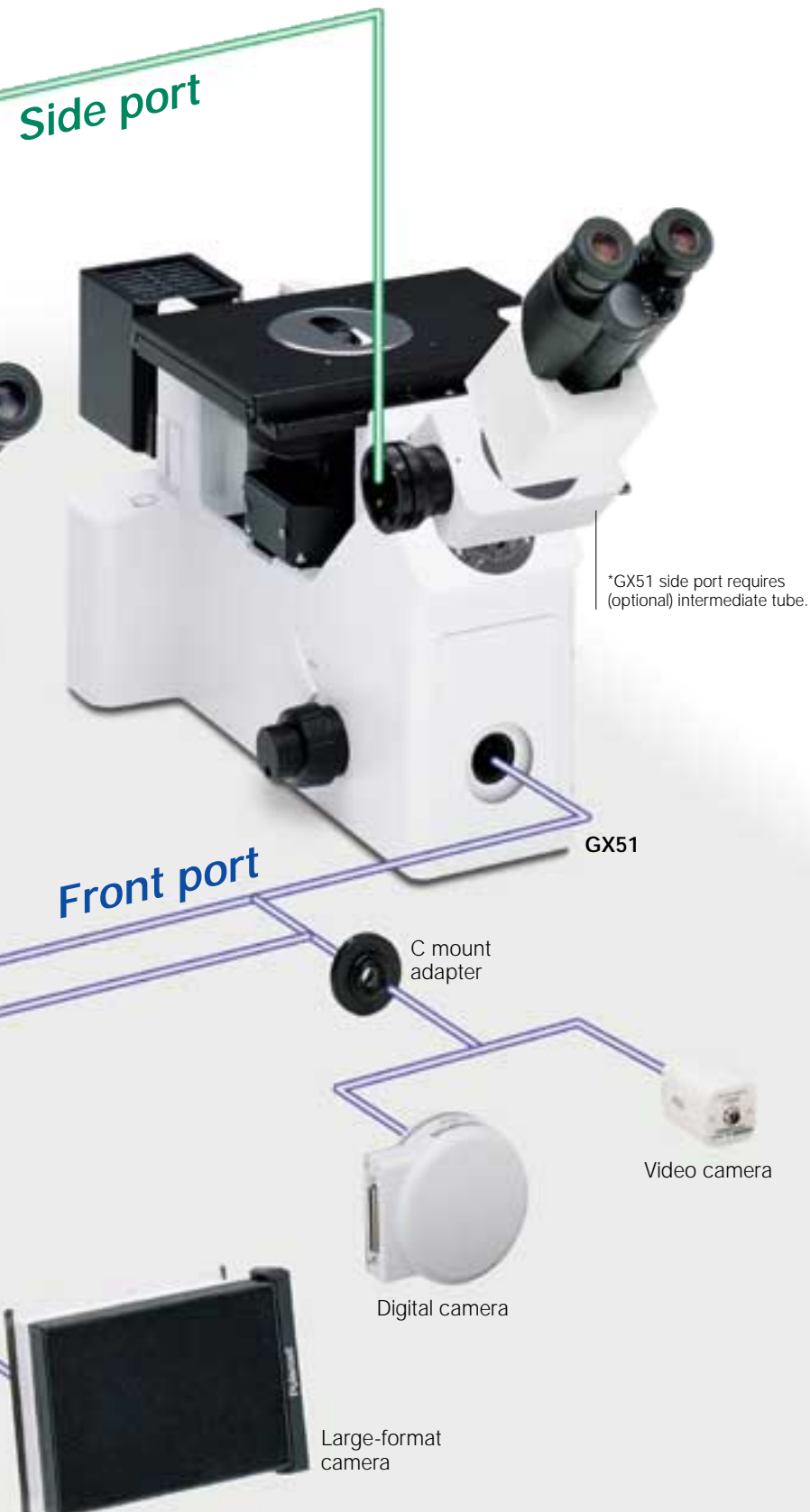
* Special technology is used to derive a 5.8 million-pixel equivalent image from the 1.5 million pixel CCD.



GX-PHU
Photo unit

35mm camera





Easy image capture via control box with LCD monitor

With a DP12 digital camera attached, microscope images can be captured directly (without a personal computer) and recorded/stored to SmartMedia. The DP12 has a 1/1.8 inch, 3.34 million-pixel CCD and provides sharp, high-precision results with both full-size images and detailed, individually-selected areas. Its 3.5-inch TFT color LCD monitor is directly attached to the control box, so the operator can simply place the box where it's easy to view and use it for framing and focusing.



GX photo unit (GX-PHU) for simultaneous attachment of 35mm and large-format camera backs

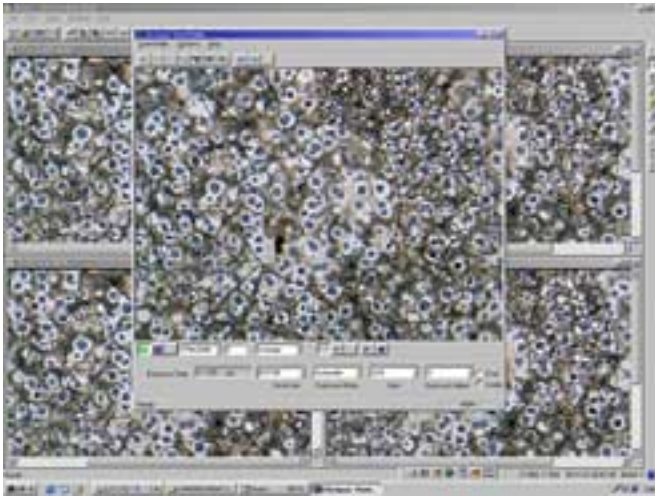
Specifically designed for integration with GX microscopes, the GX-PHU enables attachment of both 35mm and large-format camera backs simultaneously. The compact control box is easy to use, with only essential operating control buttons, but offers a full range of features including 1% spot and 30% average measuring, AE lock and multiple exposures.



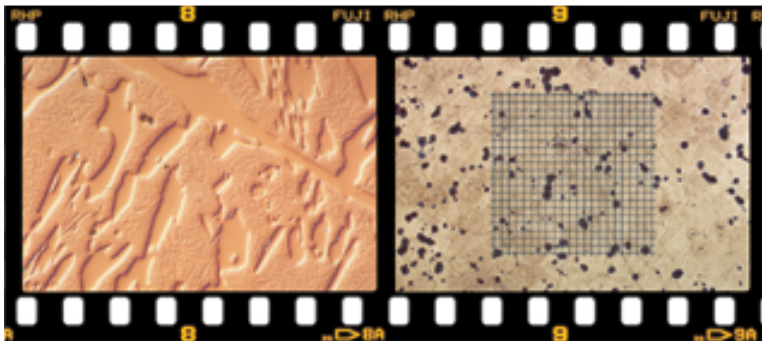
Scale printing and zoom magnification* from all ports

*GX71 only

Digital image



35mm photos



Large-format photo



Scale

Zoom/Imprinting of Scale

All-camera compatibility

The GX series allows scale imprinting from all ports and with any kind of camera, including digital, 35mm and large-format.

Accurate photos of any user-selected area

A large-format camera will record any given image (or part of an image) at the same magnification used for observation*. With the GX71's free-framing and 1x-2x magnification capabilities, user-selected areas of the image can be easily and accurately recorded.

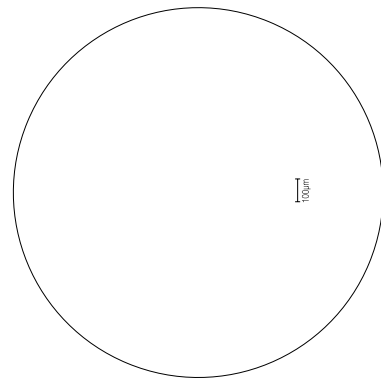
*When using 10x eyepiece.

A full range of scales

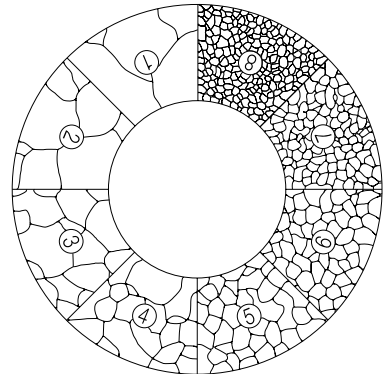
In addition to the scales for each objective, grain size and square scales can also be recorded. Up to 3 scale glasses can be freely combined in a single slider.



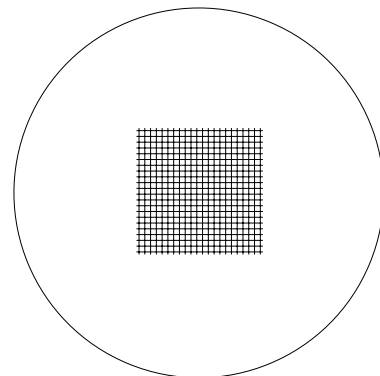
Scale



Grain Size Scale



Square Scale

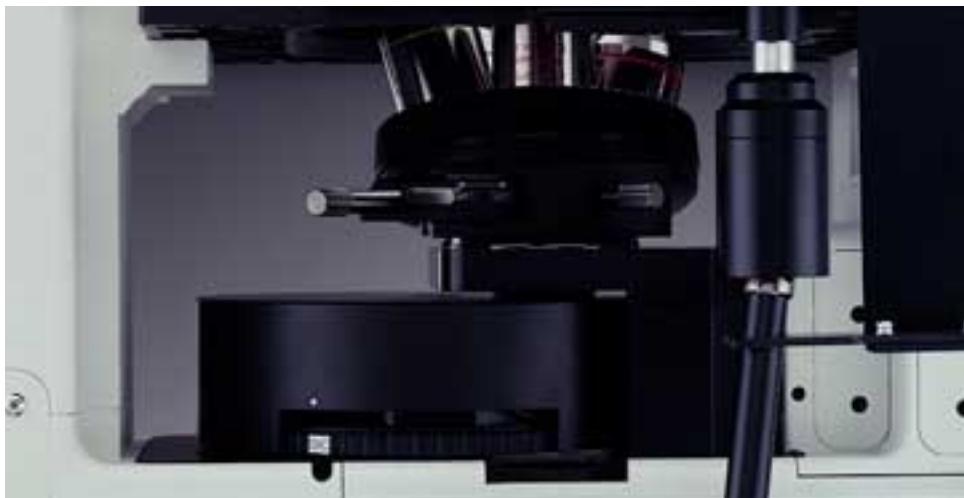


TOP-OF-THE-LINE INVERTED
METALLURGICAL SYSTEM MICROSCOPE

GX71

All the quality that today's advanced research





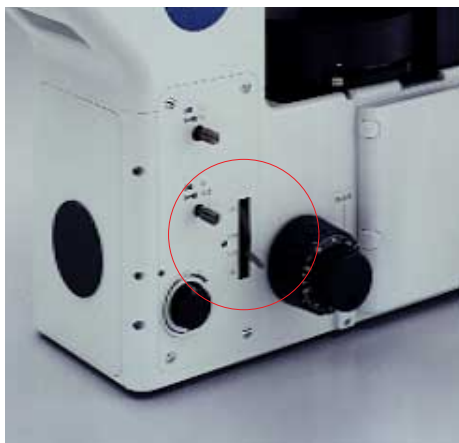
Ideal for every observation method from brightfield to fluorescence

Simply by changing the turret of the GX71's mirror unit, it's quick and easy to alternate between brightfield, darkfield, Nomarski DIC, simple polarizing and fluorescence observation (from U to G excitation) methods. The use of universal objectives means there is no need to swap to another objective each time the observation method is changed. The GX71 also employs a super widefield eyepiece (F.N.26.5), so specimen movement is minimized and the observation process is more efficient.



Zoom function for easy framing

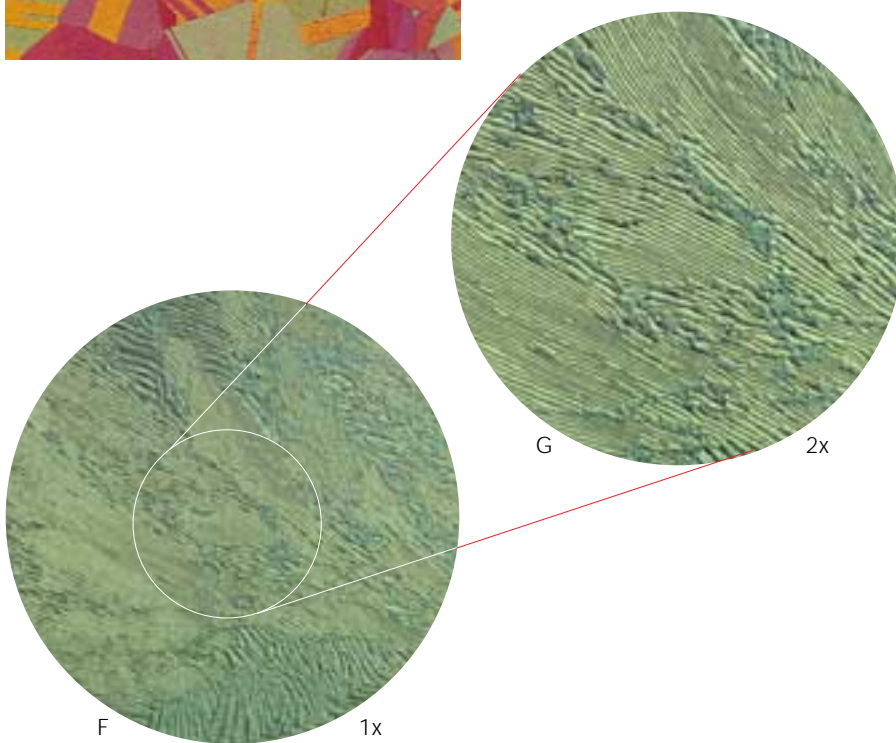
The observation section's 1x-2x zoom facility is also provided by all the ports, so framing is especially easy. Photomicrography with a large-format camera allows image capture at the same magnification as the real-time observation.



Erect images* — observation and recording of the specimen "as is"

Since observation images are not reversed, the specimen's position characteristics (right/left, up/down) are the same in a photograph as in the real-time observation view field. This makes it easier to compare the two, and presents specimen movements in a more natural way.

* Digital photo images are reversed.



Superb performance and reliability in all kinds of inspection work



Single lever switchover for brightfield/darkfield observation

The versatile GX51 performs brightfield, darkfield, Nomarski DIC and simple polarizing observations. Switching between brightfield and darkfield observation is done with a single lever located close to the operator's hand, while changing to Nomarski DIC observation is a simple matter of inserting or detaching the slider.



Expandable design for increased functionality

A wide variety of optional units can be easily attached to the GX51, allowing such system upgrades as linking to a digital or video camera via an intermediate tube (GX-SPU).



Ease of use for improved operating convenience

Since the GX51 was specially developed for inspection applications, its design reflects the close attention paid to operating convenience. All the most frequently used operating functions are accessed from the front, and the design makes it easy to use whether the operator is working in seated or standing position.



GX71/GX51 ACCESSORIES

GX71



GX71 observation tube
Super widefield binocular tube (U-SWB130) and super widefield trinocular tube (U-SWTR2) are provided for the GX71.



Revolving nosepiece
Sextuple revolving nosepiece and quintuple revolving nosepiece with DIC slider slot are also provided.

GX51



GX51 observation tube
The GX51 employs a widefield trinocular tube (U-TR30H) and widefield binocular tube (GX-BI90). Another widefield binocular tube (U-BI90) can also be used when combined with an eyepoint adjuster.



Motorized revolving nosepiece
The motorized sextuple revolving nosepiece and quintuple revolving nosepiece enable the user to change magnifications directly by means of a hand switch.

GX51



Intermediate tube
Other high-performance accessories are available to meet a variety of purposes, including an intermediate tube (IX-ATU), which allows attachment of a trinocular tube, a side port intermediate tube (GX-SPU) and an eyepoint adjuster (IX-EPA).



Transmitted light illuminator/IX2-ILL100
This illuminator can be attached to the back of the microscope body, enabling observations of transparent specimens and fine powders.

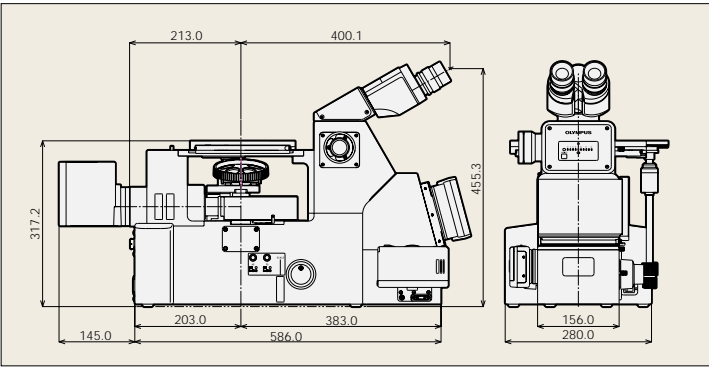
GX71 GX51

GX series specifications

		GX71	GX51
Optics	Objective	UIS optical system (infinity-corrected)	
	Eyeiece	UIS objectives	
Microscope body	Intermediate magnification	UIS eyepiece (F.N. 26.5)	UIS eyepiece (F.N. 22)
	Imprinting of scale	Zoom incorporated (1x - 2x)	—
	Power source	All ports	
	Photo frame	Power source for illuminator (12V100 halogen) incorporated	
Observation tube	Output port	Incorporated (IN/OUT)	—
	Super widefield	Side port: video system	Side port (optional): video system
	Widefield	U-SWB130, U-SWTR-2	—
	Widefield	—	U-BI30, GX-BI90, U-TR30H
Illuminator	Observation method	Brightfield, darkfield, simple polarizing, DIC, fluorescence	Brightfield, darkfield, simple polarizing, DIC
	Illuminator diaphragm	FS/AS manually controlled, with centering adjustment	
	Light source	100W halogen (standard), 100W mercury, 75W xenon, 50W metal halide (optional)	
Revolving nosepiece	Manual operation	Sextuple for BF, sextuple for BF/DIC, quintuple for BF/DF, quintuple for BF/DF/DIC	
	Motorized operation	Sextuple for BF/DIC, quintuple for BF/DF/DIC	
Stage		flexible right handle stage exclusively for GX series microscope (teardrop, rectangular stage insert plate)	
Image recording equipment	Photomicrographic system	35mm/large-format camera (simultaneously mountable), 1% spot/average measuring area (switchable), auto/manual exposure, exposure time adjustment, automatic ISO setting, AE lock, multiplex exposure, etc.	
	Digital camera	Olympus DP series, etc.	
	Video camera	Mountable using video adapters	

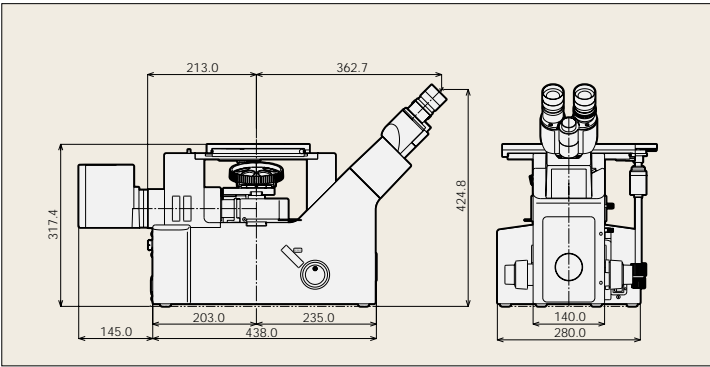
GX71 Dimensions

(unit:mm)



GX51 Dimensions

(unit:mm)



*All brands are trademarks or registered trademarks of their respective owners.

Web site address: <http://www.olympus.com>



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

Olympus business areas

Medical and health-care area

Imaging and information area

Industrial applications area



OLYMPUS OPTICAL CO., LTD.
San-Ei building, 22-2, Nishi-Shinjuku 1-chome, Shinjuku-ku, Tokyo, Japan
OLYMPUS OPTICAL CO. (EUROPA) GMBH.
Postfach 10 49 08- 20034, Hamburg, Germany
OLYMPUS AMERICA INC.
2 Corporate Center Drive, Melville, NY 11747-3157, U.S.A.
OLYMPUS SINGAPORE PTE LTD.
491B River Valley Road, #12-01/04 Valley Point Office Tower, Singapore 248373
OLYMPUS OPTICAL CO. (U.K.) LTD.
2-8 Honduras Street, London EC1Y 0TX, United Kingdom.
OLYMPUS AUSTRALIA PTY. LTD.
104 Ferntree Gully Road, Oakleigh, Victoria, 3166, Australia