



SUNNY GROUP

SUNNY

XD20/30 Inverted Biological Microscope



Technical Innovation of Routine Examination

XD20/30 Inverted Biological Microscope — specially designed for observing the cell culture.

Perfect Structure Excellent Image Easy Operation



- XD is handled more comfortable for the Ergonomic design.
- Newest CSIS optical system makes the microscopic image with excellent contrast.
- Use new technique of contrast observation with high contrast and low chromatism, which make it possible to observe the outline and inner instruction of cellular tissue.
- Suitable for various kind of specimen culture vessel.
- Long work distance condenser supplies enough space to place flask.
- Trinocular joint is easy for assembling all kinds of digital photography or TV device.
- Left fluorescence observing path.

Eyepiece

22mm PL10 eyepiece is more adapt to searching and observing.



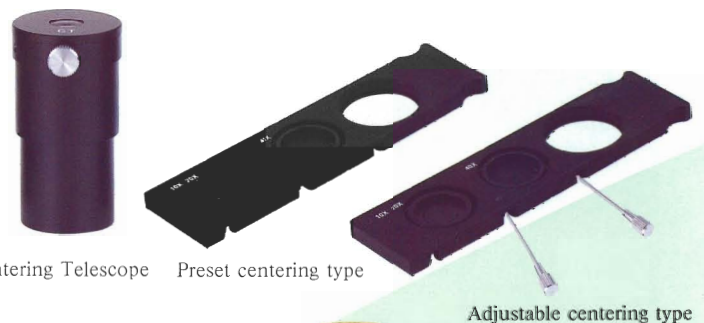
Objective

- Infinite Chromatic Correction Objectives makes the image with high quality and high resolution.
- Designed with Long work distance, which could change the objectives freely, and will never touch the stage even if using the high magnification ones.



Contrast Observing

- Using phase contrast technology to observe more efficient for live culture and the specimen with undyed and low contrast.
- Provide two types of contrast slide, which apply to 10 × ~ 40 × contrast objectives. Preset centering type operates easy and fast, and the adjustable centering type could adjusting more accurately by contrast ring centering device to do professional contrast observation.



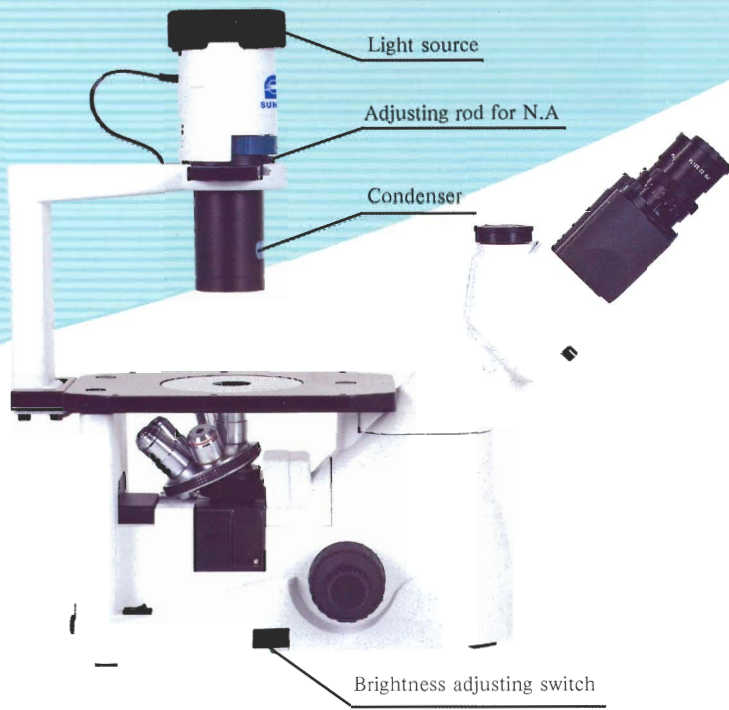
Centering Telescope Preset centering type

Adjustable centering type



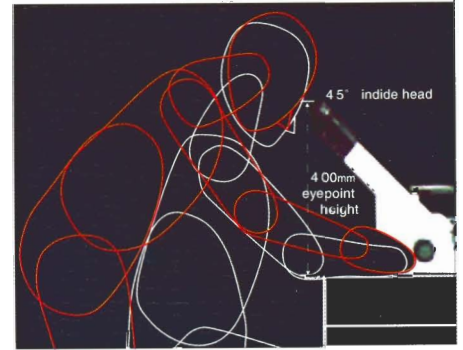
Contrast objective

Category	Mag.	Numerica Aperture (N.A.)	Work Distance (mm)	Conjugate Distance (mm)
Long work distance and Plan Achromatic objective	4x	0.10	22.0	∞
	10x	0.25	7.94	∞
	20x	0.40	7.66	∞
	40x	0.60	3.71	∞
	60x	0.70	2.50	∞
Long work distance and Plan Contrast objective	10x	0.25	7.94	∞
	20x	0.40	7.66	∞
	40x	0.60	3.71	∞



Illumination System

- Adopted Koehler illuminator systems with 6V/30W Halogen bulb (Philips 5761), which supplies higher lightness and longer service life.
- Adopted 90-240V voltages, with adjustable brightness.
- Suitable brightness adjusting knob is easy for operating.
- It is more convenient for changing with different condenser, and whole condenser to adapt to observe with tall culture flask could also unscrew it.



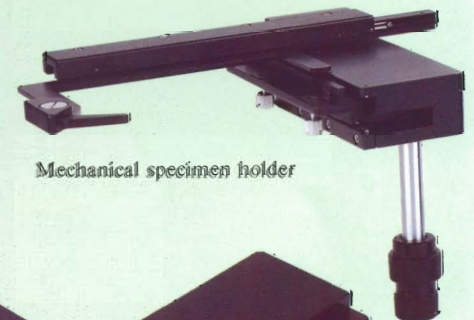
Head

- 400mm Eye point height that the user who observed and operated comfortable whether by stand or sit.
- Gemel binocular head with adjustable diopter, and 45° inclined.
- Trinocular head (trinocular joint) applies light path of collecting and recording image. Shifting light path could output the image of 80% light intensity, and the left 20% light intensity could be used for observing.

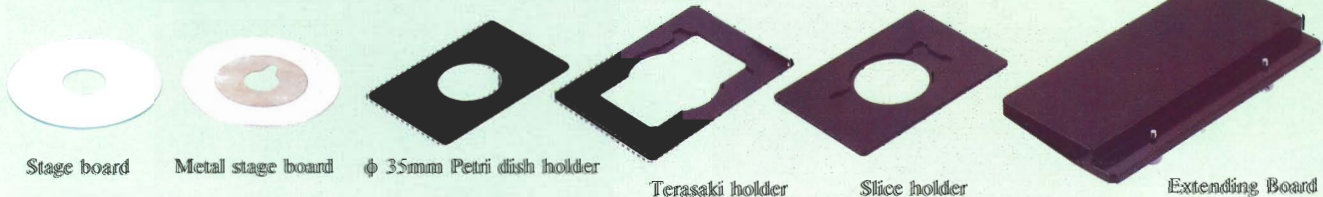


Stage and its accessories

- Standard stage is a large fixed plan board.
- Adopt advanced hard coating technology, that makes the surface wear well and anticorrosive.
- Accessories such as extending board and mechanical specimen holder etc. could be selected to assemble on both sides of the stage.
- Mechanical specimen holder is convenient and comfortable to operate with low position of coaxial control button. It adapts to various kind of culture dish holder.



Mechanical specimen holder



Stage board

Metal stage board

φ 35mm Petri dish holder

Terasaki holder

Slice holder

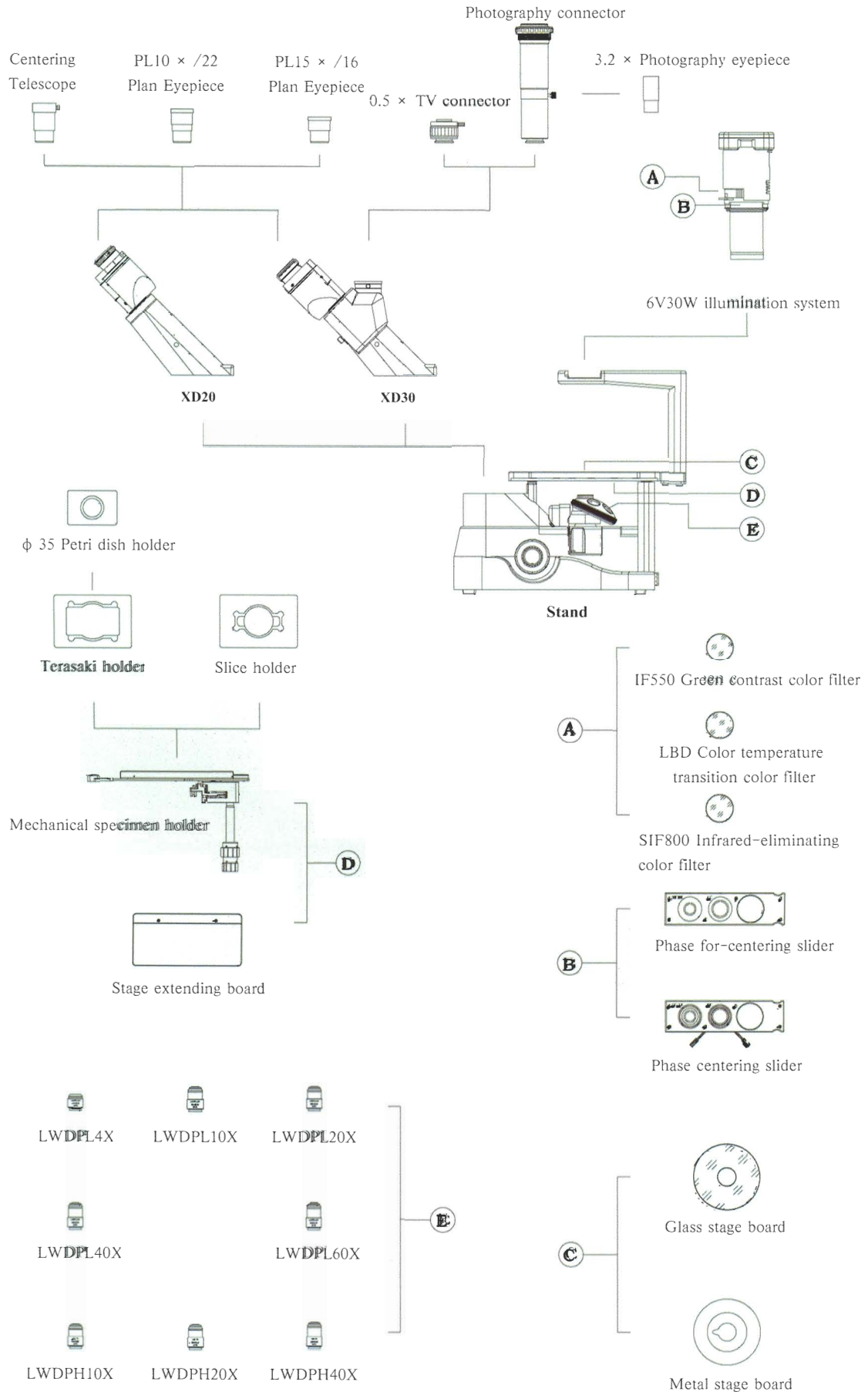
Extending Board

XD Series Inverted Microscope Specification (For option)

Specification		Type		Art.
Part	Specification	XD20	XD30	
Eyepiece	PL10 × /22mm (φ 30), with eye cap	● X2	● X2	EP10X22
	PL10 × plan eyepiece with reticle	○ x2	○ x2	EP10X22r
	PL15 × /16mm (φ 30)	○ x2	○ x2	EP15X16
Long work distance and Infinite Plan achromatic objective	LWDPL4X	●	●	OLIP4
	LWDPL10X	●	●	OLIP10
	LWDPL20X	○	○	OLIP20
	LWDPL40X	●	●	OLIP40
	LWDPL60X	○	○	OLIP60
Long work distance and Infinite Plan Contrast objective	LWDPH10X	○	○	OLIPP10
	LWDPH20X	●	●	OLIPP20
	LWDPH40X	○	○	OLIPP40
Head	Binocular head	●	/	XDBH
	Trinocular head	/	●	XDTH
Body	Include electric devices, Coaxial focus system with coarse and fine	●	●	XDF
Illuminator	6V30W Halogen bulb (adjustable filament center)	●	●	XDAL2
Condenser	N.A.0.3,WD72mm	●	●	XDCD0.3
Contrast slider	Phase centering slider, with two centering handle	● *	● *	XDSL
	Phase for-centering slider	○	○	XDSL P
Centering telescope	Centering telescope (φ 30)	● *	● *	XY-SCE
Stage and other accessories (the holder could make as requirements)	Glass stage board	●	●	XDCPG
	Metal stage board	●	●	XDCPM
	Mechanical specimen holder	○	○	XDSGM
	Stage extending board	○	○	XDSGEX
	φ 35 Petri dish holder	●	●	XDSGHJ01
	Slice holder (φ 54 and 26.5 × 76.5)	○ **	○ **	XDSGHJ02
	Terasaki holder (φ 65 and 56 × 81.5)	○ **	○ **	XDSGHJ03
Color filter	Green contrast color filter (φ 45mm)	● *	● *	IF550
	Color temperature transition color filter (φ 45mm)	●	●	LBD
	Infrared-eliminating color filter (φ 45mm)	/	○	SIF800
Photography device	Photography connector (with PK mount, Md joint for selecting)	/	○	XDPH
	3.2 × Photography eyepiece	/	○	
TV device	0.5 × focusing lens (with C mount)	/	○	XDCTV0.5
Inner hexagon spanner	M3 & M4	●	●	
Package	Pack with foam and paper carton	●	●	
	Pack with aluminum alloy carton and paper carton	○	○	

Note: “●” for standard, “○” for selecting, “*” for standard use with contrast objective, “**” for standard use with mechanical specimen holder.

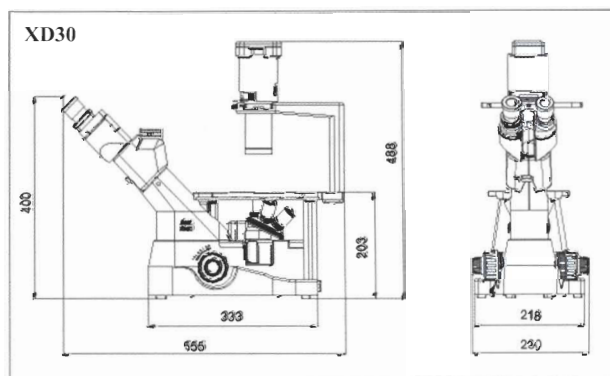
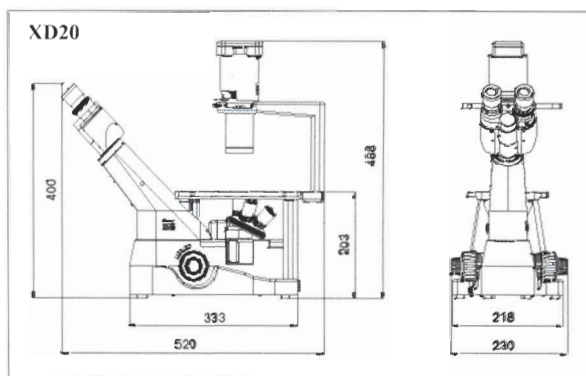
Configuration Chart



Specification

	XD20	XD30
Optical system	Infinite Chromatic Correction Optical system (CSIS)	
Head	Gemel type of binocular head	Gemel type of trinocular head
	Adjusting range: 54 ~ 75mm, Eyepoint height: 400mm, 45° inclined	
Eyepiece	PL10 × (Plan high-eyepoint, FN 22mm). PL15 × (Plan high-eyepoint, FN 16mm)	
Nosepiece	Quintuple nosepiece	
Objective	Long work distance and Infinite Plan Achromatic objective (PL4 ×, 10 ×, 20 ×, 40 ×, 60 ×)	
	Long work distance and Infinite Plan Contrast objective (PH10 ×, 20 ×, 40 ×)	
Focusing system	Coaxial focus system with coarse and fine adjusting knob, adjusting coarse by torque adjustment,	
	work distance 38mm/coarse adjusting, 0.2mm/fine adjusting, precision 0.002mm.	
Fixed stage	Board size: 160x250mm, could fix with sample clips, stage extending board and mechanical specimen holder	
Illumination	Adopt 90-240V wide voltage, 6V/30W Halogen bulb, adjustable brightness	
Condenser	N.A.0.3, WD72mm, removable	
Ring diaphragm	Preset centering diaphragm Ph1, Ph2, bright field; adjustable centering diaphragm Ph1, Ph2, bright field	
Mechanical specimen holder	Low coaxial focus system, could set various kind of specimen holder, work distance: 120(X) × 80(Y)mm	
Holder	Slice holder (could set with ϕ 54mm dish), Terasaki holder (could set with ϕ 65mm dish), ϕ 35mm Petri dish holder etc.	
Color filter	ϕ 45mm Green contrast color filter, Color temperature transition color filter, Infrared-eliminating color filter,, Galileo color filter	

System Size (mm)



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