STALWART

Inverted Biological Microscope
STM-2094 Series

STM-2094A

STM-2094B

Description

STM-2094 Series Inverted Biological Microscope are high level microscopes which are specially designed for medical and health units, universities, research institutes to observe cultured living cells. With innovative infinite optical system and ergonomic design, they have excellent optical performance and easy to operate features. The microscopes have adopted long life LED lamps as transmitted and fluorescent light source. Digital cameras can be added to the microscope on left side to take photos, videos and make measurement.

Difference

The main difference between STM-2094A and STM-2094B is that STM-2094B has an intelligent illumination management system, the illumination intensity will automatically change after you change the objectives and make the microscope to get the best illumination effect, STM-2094B also has a LCD screen to show the working mode like magnification, light intensity, transmitted or fluorescent light source, working or sleep etc.

STM-9094A(left side)

STM-2094A(front)

STM-2094A(right side)

STM-9094B(left side)

STM-2094B(front)

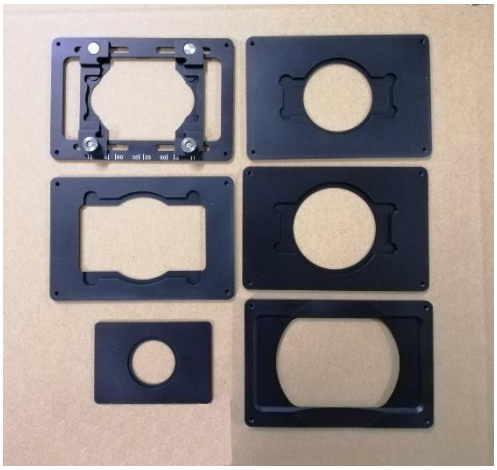
STM-2094B(right side)

Features

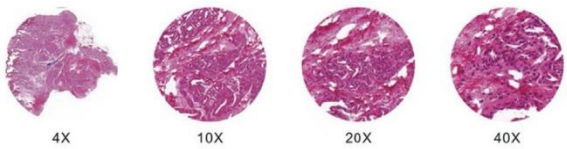
- Excellent infinite optical system, Φ22mm wide field eyepiece, 45° inclined viewing head, more comfortable for observation.
- Camera port is on left side, less disturb for operation. Light distribution (both): 100 : 0 (100% for eyepiece); 0 : 100 (100% for camera).
- Long working distance condenser N.A. 0.30, Working distance: 75mm(with condenser), Working distance: 187mm (without condenser), available for extra high culture dishes. Condenser is detachable, without condenser, it is suitable for culture flask.



- Large size stage, convenient for research. Stage Size: 170mm(X) × 250 (Y)mm, Mechanical stage moving range: 128mm (X) × 80 (Y)mm. 6 types of petri-dish holders are available.

- STM-2094B has an intelligent illumination management system.
  1. Coded Quintuple Nosepiece can memorize the illumination brightness of each objective. When different objectives are converted to each other, the light intensity is automatically adjusted to reduce visual fatigue and improve work efficiency.



2. Use a dimming knob to achieve multiple functions.

Click: Enter standby(sleep) mode

Double click: light intensity lock or unlock

Rotation: Adjust brightness

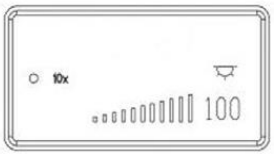
Press + clockwise rotate: Switch to the transmitted light source

Press + contrarotate: Switch to the fluorescent light source

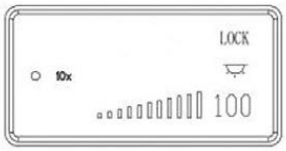
Press 3 seconds: Set the time of turning off the light after leaving

3. Display microscope working mode.

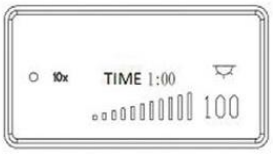
The LCD screen in the front of the microscope can display the working mode of the microscope, including magnification, light intensity, sleep mode and so on.



Start& working



Lock mode



Turn off the light in 1 hour

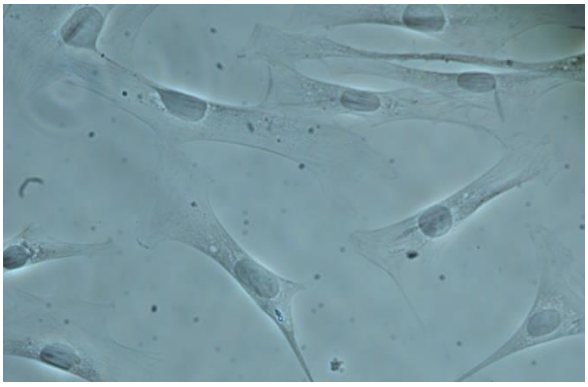
Sleep mode

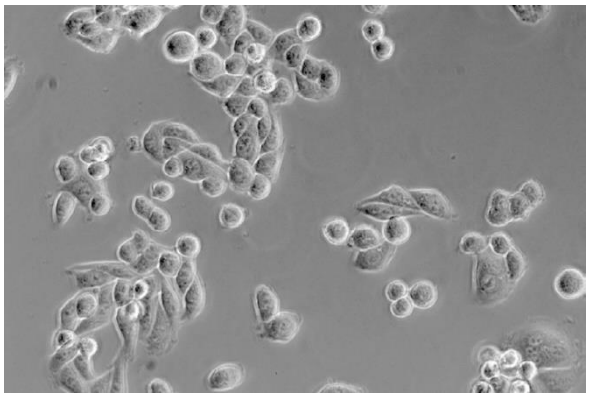
- The microscope body is compact, stable and suitable for clean bench. The microscope body has been coated with anti-UV material and can be placed into the clean bench for sterilization under UV lamp.

- Phase Contrast, Hoffman Modulation Phase Contrast and 3D Emboss Contrast observation method are available with transmitted illumination.

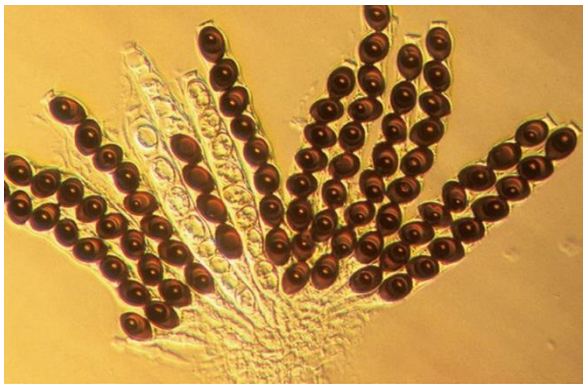
1. Phase contrast observation is a microscopic observation technique that produces a high-contrast microscopic image of a transparent sample by utilizing a change in refractive index. The advantage is that the details of live cell imaging can be obtained without staining and fluorescent dyes.

   Application range: Living cells culture, Micro-organism, Tissue slide, cell nuclei and organelles etc.





2. Hoffman Modulation Phase Contrast. With slant light, Hoffman phase contrast changes phase gradient into light intensity variety, it can be used to observe unstained cells and living cells. Giving 3D effect for thick samples, it can greatly reduce the halo in thick specimens.
3. 3D Emboss Contrast. No need for expensive optical components, just add a contrast adjustment slider to achieve a pseudo 3D glare-free image. Both glass culture dishes or plastic culture dishes can be used.



With Hoffman Modulation Phase Contrast

With 3D Emboss Contrast

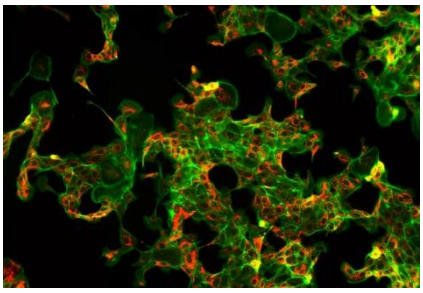
- LED Fluorescent attachment is optional.

1. LED light makes fluorescent observation easier.

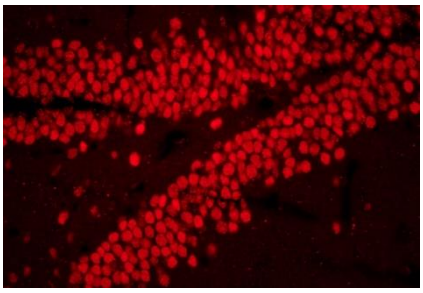
   Fly-eye lens and Kohler illumination have provided a uniform and bright field of view, which is benefit to get high definition images and perfect details. Compared with traditional mercury bulb, the LED lamp has much longer working life, it saves money and has greatly improved the working efficiency. The problems of preheating, cooling and high temperature of mercury lamp has also been solved.

2. Suitable for a variety of fluorescent dyes.

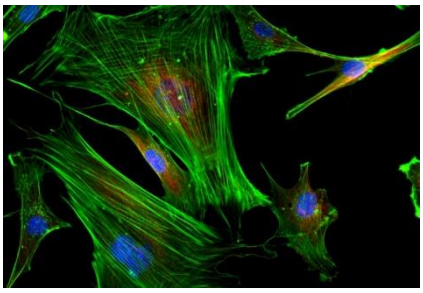
   The LED fluorescent attachment has equipped with 3 fluorescent filter blocks, it can be applied to a wide range of dyes and capture clear high contrast fluorescence images.



Breast cancer



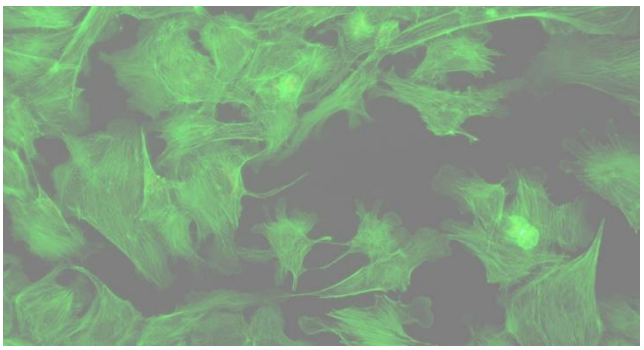
Hippocampus



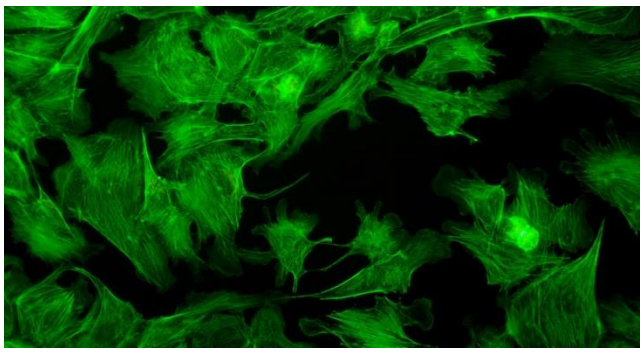
Mouse brain nerve cells

3. Light barrier plate(contrast shield).

The light barrier plate can be attached to the condenser and effectively block the external light, increase the contrast of the fluorescent image and provide a high quality fluorescent image. When need phase contrast observation, the light barrier plate is very convenient to be removed from the light path, avoiding influence on the quality of phase contrast.



Without Contrast barrier plate



With Contrast barrier plate

Specification

Item	Specification		STM-2094 A	STM-2094 AF	STM-2094 B	STM-2094 BF
Optical System	NIS 60 Infinite Optical System, Tube length 200mm		Standard	Standard	Standard	Standard
Viewing Head	Seidentopf Binocular Head, Inclined at 45°, Interpupillary Distance 48-75mm, Left side camera port, Light distribution: 100: 0 (100% for eyepiece), 0:100 (100% for camera), Eyepiece Tube Diameter 30mm		Standard	Standard	Standard	Standard
Eyepiece	SW10×/ 22mm		Standard	Standard	Standard	Standard
	WF15×/ 16mm		Optional	Optional	Optional	Optional
	WF20×/ 12mm		Optional	Optional	Optional	Optional
Objective	NIS60 Infinite LWD Plan Achromatic Objective (Parfocal distance 60mm, M25×0.75)	4×/0.1, WD=30mm	Standard	Standard	Standard	Standard
	NIS60 Infinite LWD Plan Phase Contrast Achromatic Objective (Parfocal distance 60mm, M25×0.75)	PH10×/0.25, WD=10.2mm	Standard	Standard	Standard	Standard
		PH20×/0.40, WD=12mm	Standard	Standard	Standard	Standard
		PH40×/0.60, WD=2.2mm	Standard	Standard	Standard	Standard
Nosepiece	Quintuple Nosepiece		Standard	Standard		
	Coded Quintuple Nosepiece				Standard	Standard
Condenser	Long Working Distance Condenser, N.A. 0.3, Working Distance 75mm (with condenser), 187mm (without condenser)		Standard	Standard	Standard	Standard

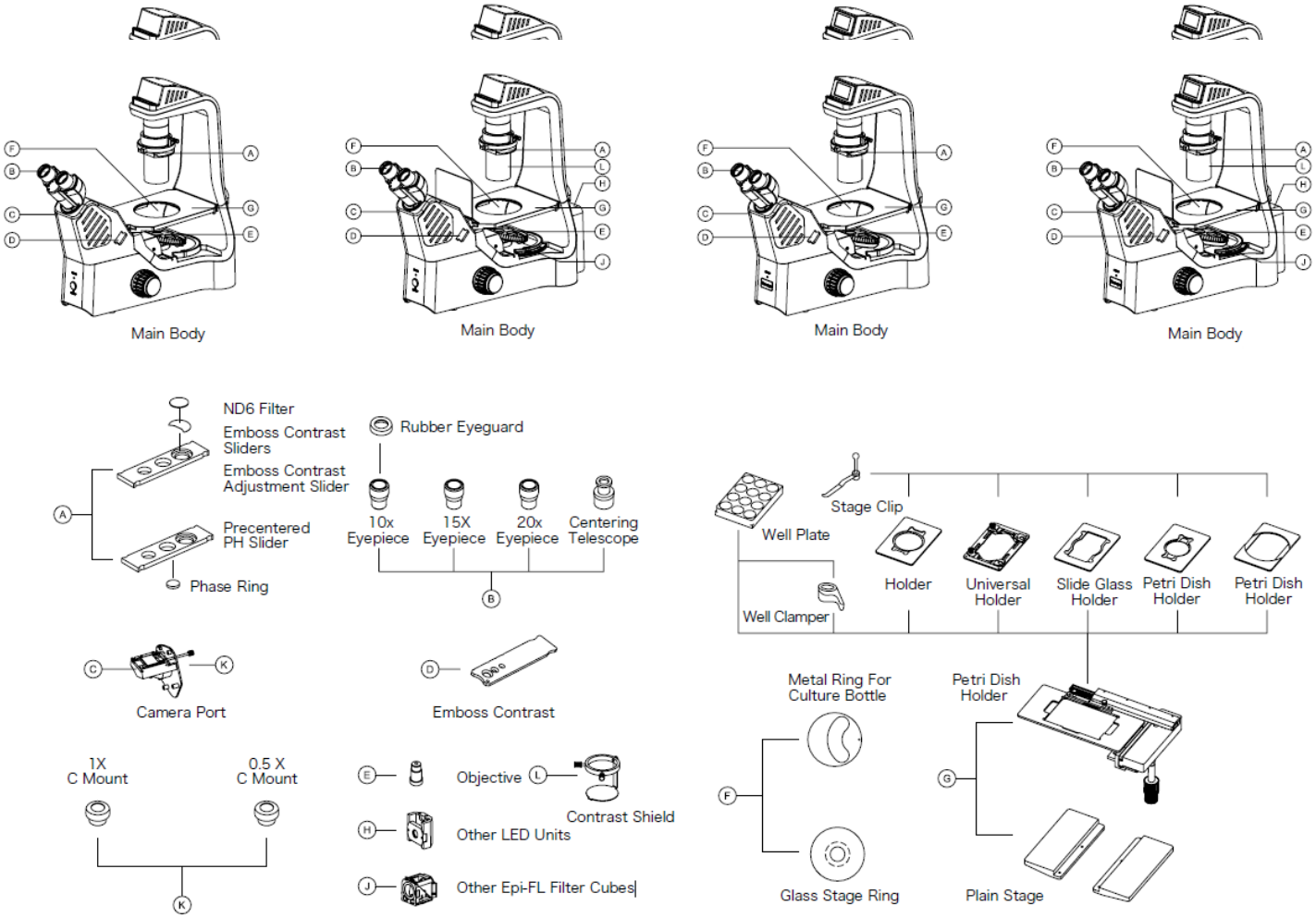
Telescope	Centering Telescope: used to adjust the center of phase annulus	Standard	Standard	Standard	Standard
Phase Annulus	10×-20×-40× Phase Annulus Plate (center adjustable)	Standard	Standard	Standard	Standard
	4× Phase Annulus Plate	Optional	Optional	Optional	Optional
Stage	Stage 170 (X)×250(Y) mm with glass insert plate (diameter 110mm)	Standard	Standard	Standard	Standard
	Attachable Mechanical Stage, X-Y Coaxial Control, Moving Rang: 128mm×80mm, accept 5 types of petri-dish holders, well plates and stage clips	Standard	Standard	Standard	Standard
	Auxiliary stage 70mm×180mm, used to extend the stage	Optional	Optional	Optional	Optional
	Universal Holder: used for Terasaki plate, glass slide and Φ35-65mm petri dishes	Standard	Standard	Standard	Standard
	Terasaki Holder: used for Φ35mm Petri Dish Holder and Φ65mm petri dishes	Optional	Optional	Optional	Optional
	Glass Slide and Petri Dish Holder Φ54mm	Optional	Optional	Optional	Optional
	Glass Slide and Petri Dish Holder Φ65mm	Optional	Optional	Optional	Optional
	Petri Dish Holder Φ35mm	Optional	Optional	Optional	Optional
	Petri Dish Holder Φ90mm	Optional	Optional	Optional	Optional
Focusing	Coaxial Coarse and Fine Adjustment, tension adjustment, Fine Division 0.001mm, Fine stroke 0.2mm per rotation, Coarse stroke 37.5mm per rotation. Moving Range: up 7mm, down 1.5mm; Without limitation can up to 18.5mm	Standard	Standard	Standard	Standard
Transmitted Illumination	3W S-LED, Brightness Adjustable	Standard	Standard		
	3W S-LED Koehler illumination, Brightness Adjustable			Standard	Standard
EPI-Fluorescent Attachment	LED illuminator, built-in Fly-eye lens, can be configured with up to 3 different fluorescence blocks; B, B1, G, U, V, R fluorescent filters are available	Optional	Optional	Optional	Optional

Hoffman phase contrast	Hoffman Condenser with 10×, 20×, 40× insert plate, centering telescope and special objective 10×, 20×, 40×	Optional	Optional	Optional	Optional
3D Emboss Contrast	Main emboss contrast plate with 10×-20×-40× will be inserted into condenser	Optional	Optional	Optional	Optional
	Auxiliary emboss contrast plate will be inserted into slot which is near viewing head	Optional	Optional	Optional	Optional
C-mount Adapter	0.5× C-mount Adapter (focus adjustable)	Optional	Optional	Optional	Optional
	1× C-mount Adapter (focus adjustable)	Optional	Optional	Optional	Optional
Other Accessories	ECO function: will turn off after 15 minutes if no user	Optional	Optional	Optional	Optional
	Warm stage	Optional	Optional	Optional	Optional
	Light barrier plate(contrast shield), can be attached to the condenser and block the external light	Optional	Optional	Optional	Optional
	Dust cover	Standard	Standard	Standard	Standard
Power Supply	AC 100-240V, 50/60Hz	Standard	Standard	Standard	Standard
Fuse	T250V500mA	Standard	Standard	Standard	Standard
Packing	2cartons/set, Packing Size: 47cm×37cm×39cm, 69cm×39cm×64cm Gross Weight: 20kgs, Net Weight: 18kgs	Standard	Standard	Standard	Standard

Application

STM-2094 series inverted microscopes are used by medical and health units, universities, research institutes for observations of micro-organisms, cells, bacteria and tissue cultivation. They can be used for continuous observation of process of cells, bacteria grow and divide in the culture medium. Videos and images can be taken during the process. These microscopes are widely used in cytology, parasitology, oncology, immunology, genetic engineering, industrial microbiology, botany and other fields

System Diagram



Dimension