

## BS-2094C Inverted Biological Microscope



BS-2094C



BS-2094CF

### Introduction

BS-2094C Inverted Biological Microscope is a high level microscope which is specially designed for medical and health units, universities, research institutes to observe cultured living cells. With innovative infinite optical system and ergonomic design, it has excellent optical performance and easy to operate features. The microscope has 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. The tilting head can offer a comfortable working mode. The angle of transmitted illumination arm can be adjusted, so petri-dish or flask can be easily moved out.

BS-2094C 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, BS-2094C also has a LCD screen to show the working mode like magnification, light intensity, transmitted or fluorescent light source, working or sleep etc.

### Feature

1. Excellent infinite optical system,  $\Phi 22\text{mm}$  wide field eyepiece,  $5^{\circ}$ - $35^{\circ}$  inclined viewing head, more comfortable for observation.
2. Camera port is on left side, less disturb for operation. Light distribution (both): 100 : 0 (100% for eyepiece); 0 : 100 (100% for camera).
3. Long working distance condenser N.A. 0.30, Working distance: 75mm(with condenser).
4. Large size stage, convenient for research. Stage Size: 170mm(X)  $\times$  250 (Y)mm, Mechanical stage moving range: 128mm (X)  $\times$  80 (Y)mm. Various of petri-dish holders are available.



Slide Glass Holder  
Φ65mm



Universal Holder



Terasaki Holder



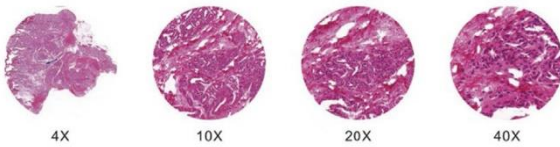
Petri Dish Holder  
Φ54mm



Petri Dish Holder  
Φ90mm

5. BS-2094C 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.



4X

10X

20X

40X

(2) Use a dimming knob on left of the base 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

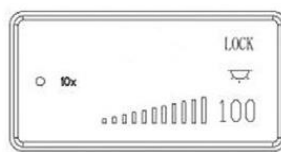
Press 3 seconds: Set the time of turning off the light after leaving

(3) Display microscope working mode.

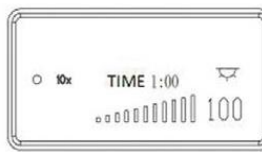
The LCD screen in the front of the microscope can display the working mode of the microscope, including magnification, light intensity, sleep mode and so on.



Start & working



Lock mode



Turn off the light in 1 hour



Sleep mode

6. The microscope control mechanism has a reasonable layout and easy to Operate.

The frequently used control mechanisms of these microscopes are close to the user and in low-hand position. This kind of design makes operation more quickly and conveniently, and reduce the fatigue caused by the long observation. On the other hand, it reduces the airflow and dust caused by large amplitude operation, it is very effective to reduce the probability of sample pollution. It is a strong guarantee for the accuracy and repeatability of the experimental results.

7. 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

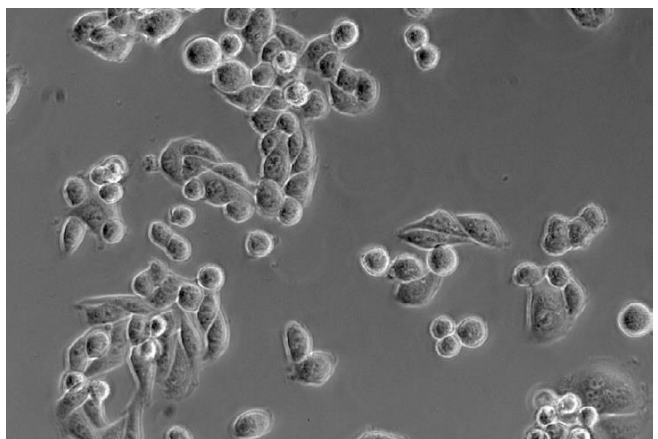
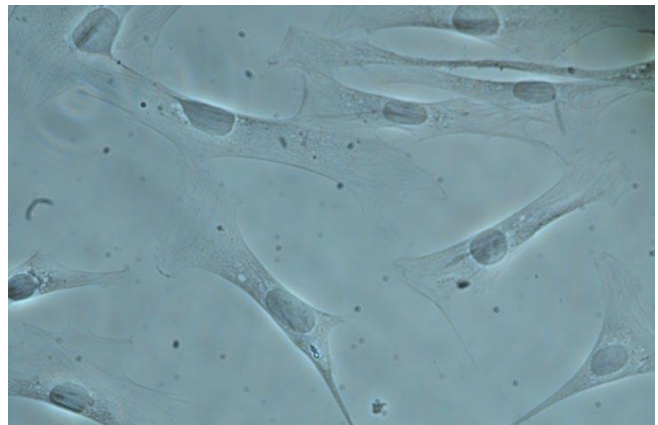


the clean bench for sterilization under UV lamp. The distance between the eye point to the operation button and the focusing knob of the microscope is relatively short, and the distance from the stage is far away. It is available to make the viewing head and operating mechanism outside, and stage, objectives and sample inside the clean bench. So realize cell sampling and operation inside and observing comfortably outside.

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

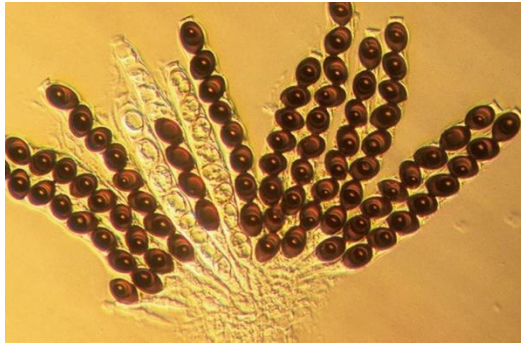
(1) Phase contrast observation is a microscopic observation technique that produces a high-contrast microscopic image of a transparent sample by utilizing a change in refractive index. The advantage is that the details of live cell imaging can be obtained without staining and fluorescent dyes.

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

9. LED Fluorescent attachment is optional.

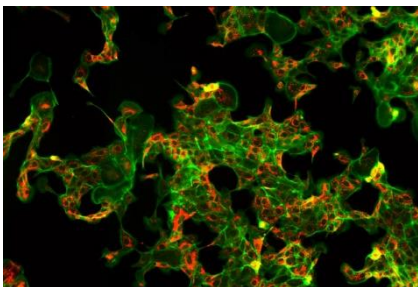
(1) LED light makes fluorescent observation easier.

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.

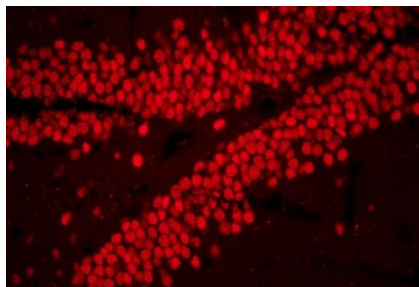


(2) Suitable for a variety of fluorescent dyes.

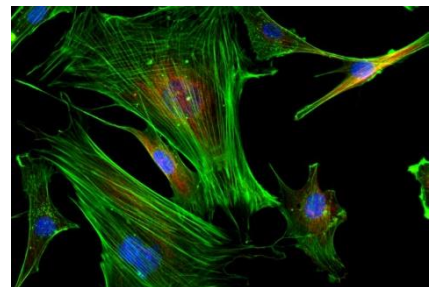
The LED fluorescent attachment has equipped with 3 fluorescent filter blocks, it can be applied to a wide range of dyes and capture clear high contrast fluorescence images.



Breast cancer



Hippocampus



Mouse brain nerve cells

10. With a tiltable viewing head, the most comfortable state of operation can be maintained regardless of whether you are sitting or standing.



11. Tilttable transmitted illumination column.

The culture dishes used for cell observation often have a larger volume and area, and the tilttable transmitted illumination column provides more space for sample replacement, which is more convenient for users to operate.



### Application

BS-2094C inverted microscope can be 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.

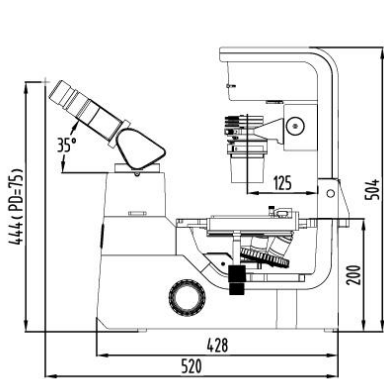
### Specification

Item	Specification	BS-2094C	BS-2094CF	
Optical System	NIS 60 Infinite Optical System, Tube length 200mm	●	●	
Viewing Head	Seidentopf Tilting Binocular Head, adjustable 5-35° inclined, Interpupillary Distance 48-75mm, Left side camera port, Light distribution: 100: 0 (100% for eyepiece), 0:100 (100% for camera), Eyepiece Tube Diameter 30mm	●	●	
Eyepiece	SW10×/ 22mm	●	●	
	WF15×/ 16mm	○	○	
	WF20×/ 12mm	○	○	
Objective (Parfocal distance 60mm, M25×0.75)	NIS60 Infinite LWD Plan Achromatic Objective	4×/0.1, WD=30mm	●	○
		10×/0.25, WD=10.2mm	○	○
		20×/0.40, WD=12mm	○	○
		40×/0.60, WD=2.2mm	○	○
	NIS60 Infinite LWD Plan Phase Contrast Achromatic Objective	PH10×/0.25, WD=10.2mm	●	○
		PH20×/0.40, WD=12mm	●	○
		PH40×/0.60, WD=2.2mm	●	○
	NIS60 Infinite LWD Plan Semi-APO Fluorescent Objective	4×/0.13, WD=17mm, cover glass=-	○	●
		10×/0.3, WD=7.4mm, cover glass=1.2mm	○	●
		20×/0.45, WD=8mm, cover glass=1.2mm	○	●
		40×/0.60, WD=3.3mm, cover glass=1.2mm	○	●
		60×/0.70, WD=1.8-2.6mm, cover glass=0.1-1.3mm	○	○

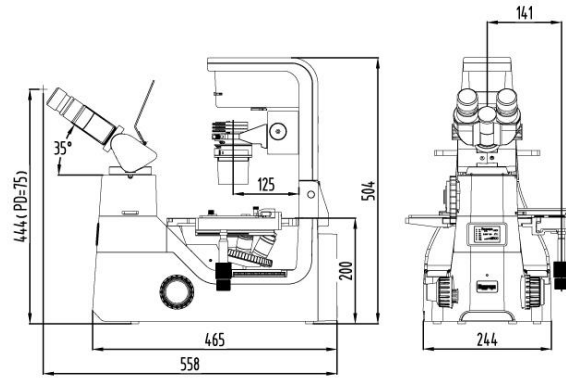
	NIS60 Infinite LWD Plan Semi-APO Phase Contrast Objective	4×/0.13, WD=17.78mm, cover glass=-	○	○
		10×/0.3, WD=7.4mm, cover glass=1.2mm	○	○
		20×/0.45, WD=7.5-8.8mm, cover glass=1.2mm	○	○
		40×/0.60, WD=3-3.4mm, cover glass=1.2mm	○	○
		60×/0.70, WD=1.8-2.6mm, cover glass=0.1-1.3mm	○	○
Nosepiece	Coded Quintuple Nosepiece	●	●	
Condenser	N.A. 0.3 Insert Plate Condenser, Working Distance 75mm	●	●	
	N.A. 0.4 Insert Plate Condenser, Working Distance 45mm	○	○	
Telescope	Centering Telescope: used to adjust the center of phase annulus	●	●	
Phase Annulus	10×-20×-40× Phase Annulus Plate (center adjustable)	●	●	
	4× Phase Annulus Plate	○	○	
Stage	Stage 170 (X)×250(Y) mm with glass insert plate (diameter 110mm)	●	●	
	Attachable Mechanical Stage, X-Y Coaxial Control, Moving Rang: 128mm×80mm, accept 5 types of petri-dish holders, well plates and stage clips	●	●	
	Auxiliary stage 70mm×180mm, used to extend the stage	○	○	
	Universal Holder: used for Terasaki plate, glass slide and Φ35-65mm petri dishes	●	●	
	Terasaki Holder: used for Φ35mm Petri Dish Holder and Φ65mm petri dishes	○	○	
	Glass Slide and Petri Dish Holder Φ54mm	○	○	
	Glass Slide and Petri Dish Holder Φ65mm	○	○	
	Petri Dish Holder Φ35mm	○	○	
Petri Dish Holder Φ90mm	○	○		
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	●	●	
Transmitted Illumination	3W S-LED Koehler illumination, Brightness Adjustable	●	●	
EPI-Fluorescent Attachment	LED illuminator, built-in Fly-eye lens, can be configured with up to 3 different LED light source and B, G, U fluorescent filter blocks	○	●	
	LED light source and V, R, FITC, DAPI, TRITC, Auramine, mCherry fluorescent filters	○	○	
Hoffman phase contrast	Hoffman Condenser with 10×, 20×, 40× insert plate, centering telescope and special objective 10×, 20×, 40×	○	○	
3D Emboss Contrast	Main emboss contrast plate with 10×-20×-40× will be inserted into condenser	○	○	
	Auxiliary emboss contrast plate will be inserted into slot near viewing head	○	○	
C-mount Adapter	0.5× C-mount Adapter (focus adjustable)	○	○	
	1× C-mount Adapter (focus adjustable)	●	●	
Other Accessories	Warm stage	○	○	
	Light shutter, can be used to block the external light	○	○	
	Dust cover	●	●	
Power Supply	AC 100-240V, 50/60Hz	●	●	
Fuse	T250V500mA	●	●	
Packing	2cartons/set, Packing Size: 47cm×37cm×39cm, 69cm×39cm×64cm, Gross Weight: 20kgs, Net Weight: 18kgs	●	●	

Note: ● Standard Outfit, ○ Optional

Dimension



BS-2094C



BS-2094CF

Unit: mm