

## BS-2085 Motorized Automatic Biological Microscope



BS-2085



BS-2085F

### Introduction

BS-2085 motorized automatic biological microscopes have been designed to present a safe, comfortable and precision observation experience. The motorized nosepiece, X-Y stage, condenser and auto focusing will make your works easier. The software has motion controlling, depth of field fusion, objective lens switching, brightness controlling, auto focusing, area scanning, image stitching, 3D imaging functions. Semi-APO objectives and B, G, U, V, R fluorescent filters are available for BS-2085F fluorescent automatic biological microscope. With perfectly performed structure, high-definition optical image and ergonomical operations, BS-2085/FMA realize professional analysis and meet all the needs of research in biological, medical, life science and other fields.

### Features

#### 1. Adopt stepper motor and screw driving mode.



Adopt stepper motor and screw driving mode, the screw pitch is consistent and the positioning accuracy is high.

## 2. Tilting Trinocular Head.



- (1) The eye tube can be adjusted from 0°-35°.
- (2) Digital cameras or DSLR cameras can be connected to the trinocular tube.
- (3) The beam splitter has 3-position (100:0, 20:80, 0:100).
- (4) The splitter bar can be assembled on the either side according to user's requirements.

## 3. Motorized Objective Change.



Objectives could be switched by simply pressing the buttons. Users could also self-define two of the most commonly used objectives and switch between them with the green button.

The illumination has connection with the objective, when the objective is changed, the light intensity will also be changed accordingly.

## 4. Nosepiece Rotating Buttons.



This microscope has the function of motorized rotating nosepiece with the 2 buttons.

## 5. Motorized Swing-out Condenser.



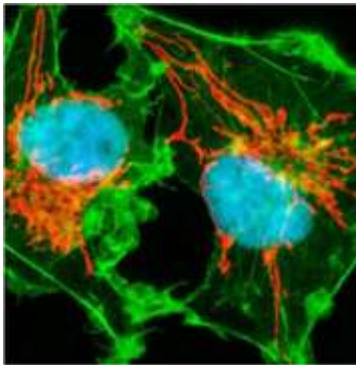
The top-lens on the condenser will be automatically swing-in or swing-out according to the objective lens that is selected.

## 6. Light Intensity Management.

The illumination has connection with the objective, when the objective is changed, the light intensity will also be changed accordingly. Thus, from low to high magnification, the field of view maintains the same brightness. There is no need to manually adjust the intensity of the light and also reduce eye fatigue. The long-life LED light source ensures uniform brightness while is easy to maintain.



## 7. 6-Position Turret for fluorescent filter blocks.



Animal Fiber Cell



All the fluorescent filter blocks use the high-performance filter lens. Up to 6 filter blocks can be installed in the turret, that allows users to view different stained specimens with a turret.

## 8. Can be controlled by the control handle and controller, also can be controlled by software.



Control Handle



NMC-3 Controller

This microscope can realize LED brightness, objective lens switching, auto focus, and electric adjustment of XYZ axis through the NMC-3 controller and control handle. The software can realize depth of field fusion, objective lens switching, brightness control, auto focus, area scanning, image stitching, 3D imaging and other functions.

## Application

This motorized automatic microscope is an ideal instrument in biological, histological, pathological, bacteriology, immunizations and pharmacy field and can be widely used in medical and sanitary establishments, laboratories, institutes, academic laboratories, colleges and universities.

## Specification

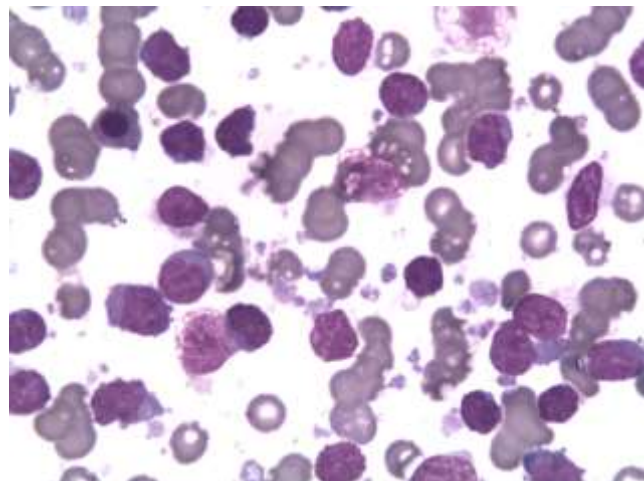
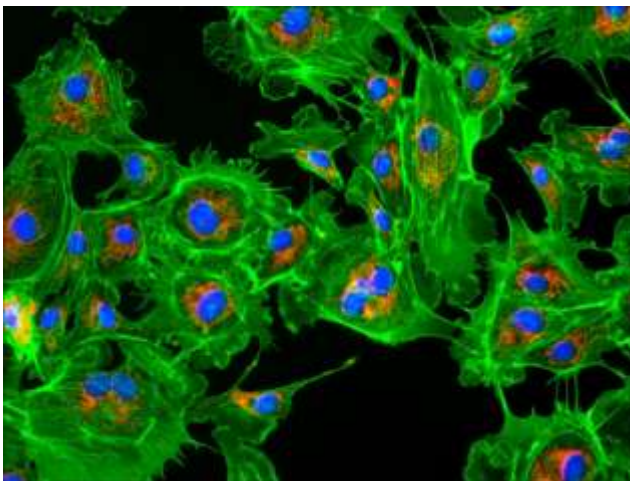
Item	Specification	BS-2085	BS-2085F	
Optical System	NIS60 Infinite Color Corrected Optical System	●	●	
Viewing Head	Ergo Tilting Trinocular Head, adjustable 0-35° inclined, interpupillary distance 47mm-78mm; splitting ratio Eyepiece:Trinocular=100:0 or 20:80 or 0:100	●	●	
	Seidentopf Trinocular Head, 30° inclined, interpupillary distance: 47mm-78mm; splitting ratio Eyepiece:Trinocular=100:0 or 20:80 or 0:100	○	○	
	Seidentopf Binocular Head, 30° inclined, interpupillary distance: 47mm-78mm	○	○	
Eyepiece	Super wide field plan eyepiece SW10X/25mm, diopter adjustable	●	●	
	Super wide field plan eyepiece SW10X/22mm, diopter adjustable	○	○	
	Extra wide field plan eyepiece EW12.5X/17.5mm, diopter adjustable	○	○	
	Wide field plan eyepiece WF15X/16mm, diopter adjustable	○	○	
	Wide field plan eyepiece WF20X/12mm, diopter adjustable	○	○	
Objective	N-PLN Plan Objective	N-PLN 2X/NA=0.06, WD=7.5mm	○	○
		N-PLN 4X/NA=0.10, WD=30mm	●	●
		N-PLN 10X/NA=0.25, WD=10.2mm	●	●
		N-PLN 20X/NA=0.40, WD=12mm	●	●
		N-PLN 40X/NA=0.65, WD=0.7mm	●	●
		N-PLN 100X(Oil)/NA=1.25, WD=0.2mm	●	●
		N-PLN 50X(Oil)/NA=0.95, WD=0.19mm	○	○
		N-PLN 60X/NA=0.80, WD=0.3mm	○	○
	N-PLN PH Plan Phase Contrast Objective	N-PLN PH 10X/NA=0.25, WD=10.2mm	○	○
		N-PLN PH 20X/NA=0.40, WD=12mm	○	○
		N-PLN PH 40X/NA=0.65, WD=0.7mm	○	○
		N-PLN PH 100X(Oil)/NA=1.25, WD=0.2mm	○	○
	N-PLFN Plan Semi-apochromatic Fluorescent Objective	N-PLFN 4X/NA=0.13, WD=17.2mm	○	○
		N-PLFN 10X/NA=0.30, WD=16.0mm	○	○
		N-PLFN 20X/NA=0.50, WD=2.1mm	○	○
N-PLFN 40X/NA=0.75, WD=1.5mm		○	○	
N-PLFN 100X(Oil)/NA=1.4, WD=0.16mm		○	○	
Nosepiece	Motorized Backward Sextuple Nosepiece (with DIC slot)	●	●	
Condenser	Swing-out type condenser N.A.0.9/0.25(Auto)	●	●	
	Turret Phase Contrast Condenser	○	○	
	Dark-field Condenser (Dry), used for objectives lower than 100X	○	○	
	Dark-field Condenser (Oil), used for 100X objective	○	○	
Transmitted Illumination	3W S-LED lamp, center pre-set, intensity adjustable	●	●	
	12V/100W halogen lamp, center pre-set, intensity adjustable	○	○	
Focusing	Motorized auto focusing, fine division 0.1μm, Max. speed 10 r/s, moving range: 30mm	●	●	



Stage	Motorized double layers mechanical stage, size 275 X 239 X 44.5 mm; moving range 125mmX75mm (X-Y); precision: 0.1µm, Max. Speed: 20mm/s	●	●
DIC Kit	10X DIC Objective Lens	○	○
	20X DIC Objective Lens	○	○
	Polarizer for DIC Kit	○	○
	DIC insert plate(10X/20X), can be inserted into the DIC slot on nosepiece	○	○
	DIC insert plate(40X/100X) can be inserted into the DIC slot on nosepiece	○	○
Reflected fluorescence illuminator	DIC Turret Condenser	○	○
	Turret with 6 filter block cubes position, with iris field diaphragm and aperture diaphragm, central adjustable; with filter slot and polarizing slot; with fluorescence filters (B,G fluorescent filters).	○	●
	B1, U, V, R fluorescent filters	○	○
	100W mercury lamp house, filament center and focus adjustable; with reflected mirror, mirror center and focus adjustable.	○	●
	Digital power controller, wide voltage 100-240VAC	○	●
Control Handle	ND6/ND25 Filter	○	○
	3D control handle, 4 gears speed	●	●
Controller	Communication interface: USB2.0 and RS232	●	●
Other Accessories	0.5X C-mount Adapter	○	○
	USB3.0 Digital camera(5.0MP, Sony IMX250, 2/3" CMOS sensor, 35fps@2448x2048)	○	○
	1X C-mount Adapter	○	○
	Dust Cover	●	●
	Power Cord	●	●
	Cedar Oil 5ml	●	●
	Simple Polarizing kit	○	○
	Calibration slide 0.01mm	○	○
	Multi Viewing Attachment for 2/3/5/7/10 person	○	○

Note: ● Standard Outfit, ○ Optional

## Sample Image



## Accessories

### 1. N-PLN Series Plan Objectives.



The Plan objectives can provide flat high transmittance image from visible light to NIR light. They are usually used for bright-field viewing as the high signal-to-noise, high resolution and high contrast features.

### 2. N-PLN PH Series Plan Phase Contrast Objectives.



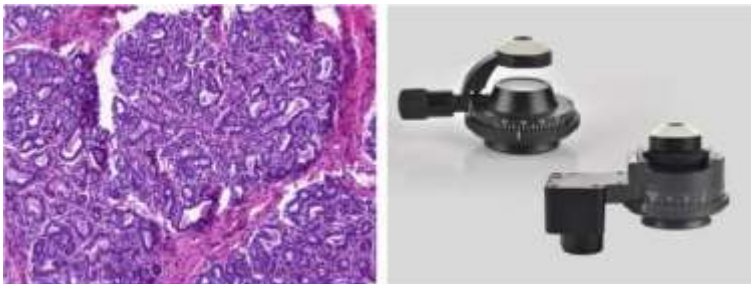
These plan phase contrast objectives are specially designed for phase contrast observation. They are good choice for clinic and scientific research. These objectives can provide advanced flat image of 25mm FOV under transmitted bright field.

### 3. N-PLFN Series Plan Semi-APO Fluorescent Objectives.



Owe to the multilayers coating technology, these Semi-APO objectives can compensate the spherical aberration and the chromatic aberration from ultraviolet and infrared light. High-sensitive fluorescence performance of the objectives ensures the sharpness, definition and color rendition of images.

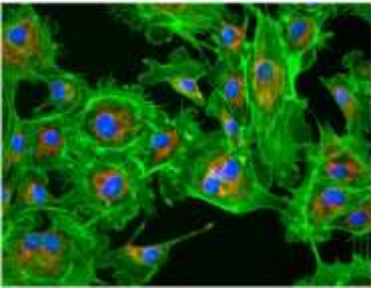
### 4. Bright field Viewing.



Mammary Gland (active stage)

Brighter image, high resolution and flatness, suitable for all the magnifications.

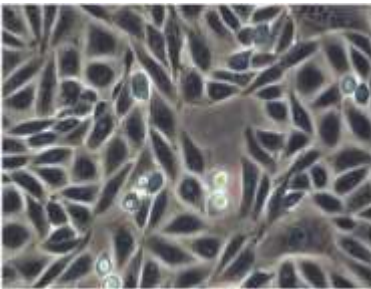
### 5. Fluorescent Viewing.



Arterial Cell

The compact epi-fluorescent components include noise elimination feature which ensures images captured are bright, with high contrast and high signal-to-noise ratio.

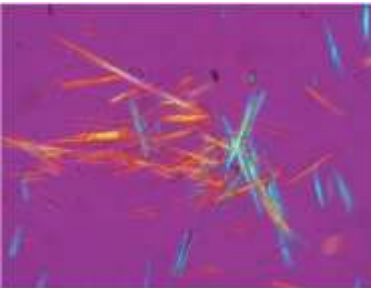
### 6. Phase Contrast Viewing.



Rat Ovarian Cell

Users can get high contrast image of neutral background color whatever the magnification is. It is suitable for viewing non-stained specimen.

### 7. Polarizing Viewing.



Uric Acid Crystal

It is quite suitable for viewing collagen, amyloid and crystal etc., double refracting specimens.

### 8. Dark-field Viewing.



Spirogyra

It can be used for clearly viewing of blood or flagellum etc., fine structuring.

## 9. Multi Viewing Heads.



2 Viewing heads (Face to Face)



2 Viewing heads (Side to Side)



5 Viewing heads

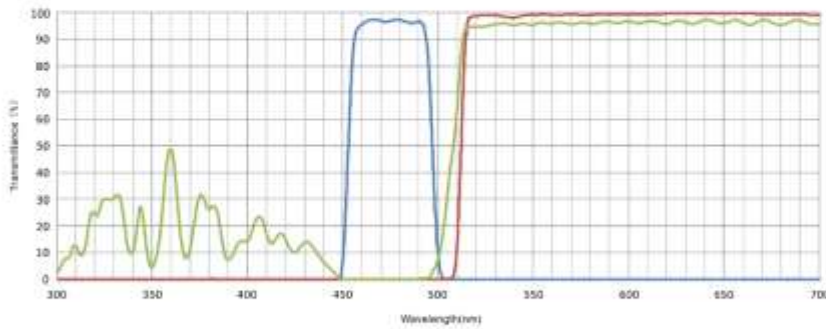
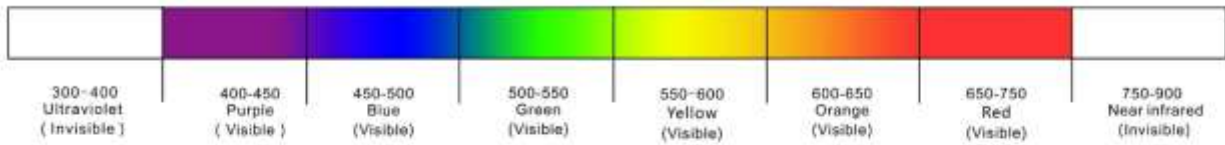
## 10. Fluorescent filters.



Model	Description	Excitation	Dichroic Mirror	Barrier Filter
FL-B	B filter block	BP460-495	DM505	BA510
FL-B1	B1 filter block	BP460-495	DM505	BA510-550
FL-G	G filter block	BP510-550	DM570	BA575
FL-U	U filter block	BP330-385	DM410	BA420
FL-V	V filter block	BP400-410	DM455	BA460
FL-R	R filter block	BP620-650	DM660	BA670-750
FL-O	Fluorescent Block without filters	Optional Excitation and Barrier Filters is $\Phi$ 25mm, Dichroic Mirror is 5.8X37.5/1mm, the filters can be installed in the block.		

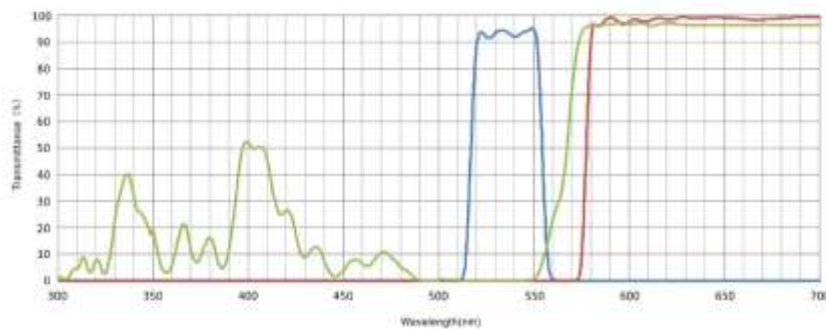


Spectral range



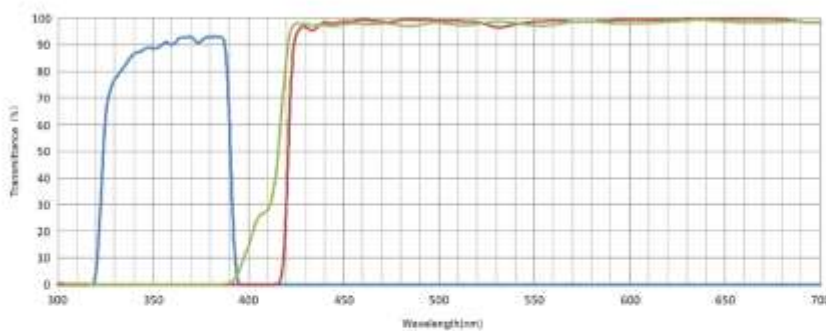
FL-B

- BP 460-495
- DM 505
- BA 510IF



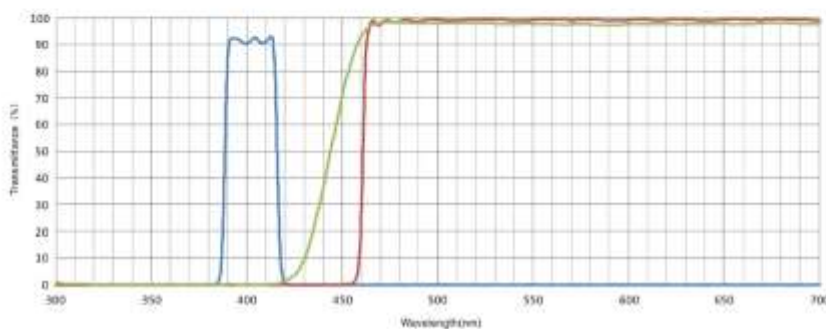
FL-G

- BP 510-550
- DM 570
- BA 575IF



FL-U

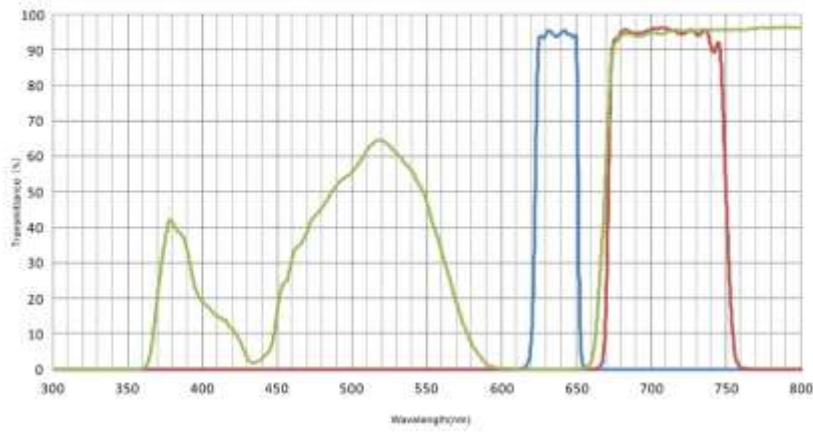
- BP 330-385
- DM 410
- BA 420IF



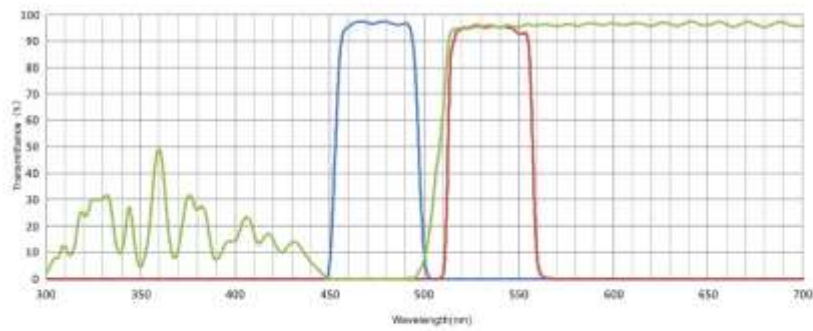
FL-V

- BP 400-410
- DM 455
- BA 460IF

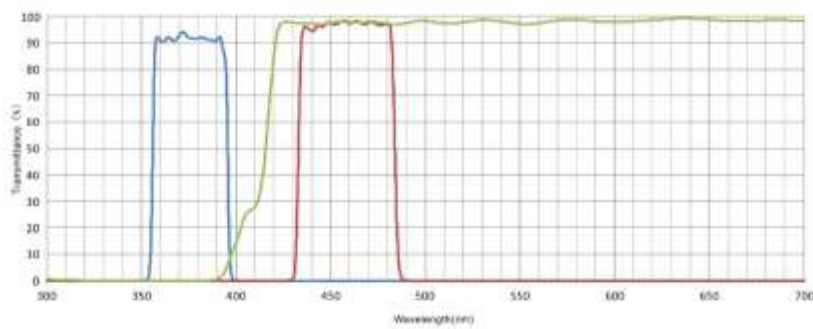
Spectral range



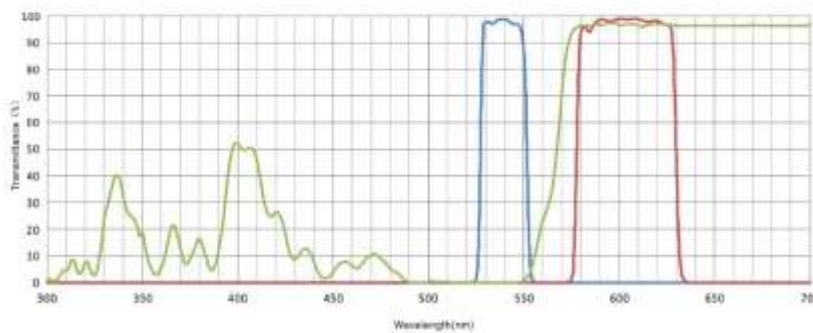
- FL-R
- BP620-650
  - DM660
  - BA670-750



- FL-FITC
- BP460-495
  - DM505
  - BA510-550



- FL-DAPI
- BP360-390
  - DM415
  - BA435-485



- FL-TRITC
- BP528-553
  - DM565
  - BA578-633