STALWART

Motorized Automatic Biological Microscope
STM-2085 Series

STM-2085

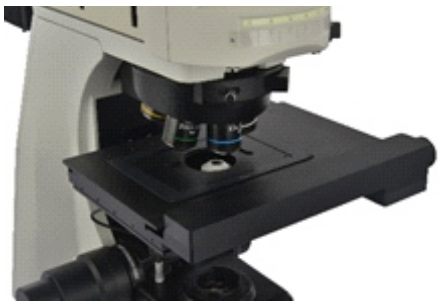
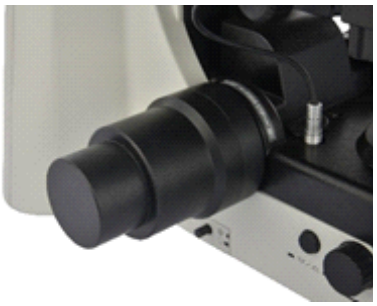
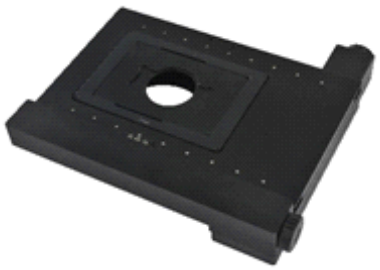
STM-2085F

Introduction

STM-2085 motorized automatic biological microscopes have been designed to present a safe, comfortable and precision oSTMervation 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 STM-2085F fluorescent automatic biological microscope. With perfectly performed structure, high-definition optical image and ergonomical operations, STM-2085/FMA realize professional analysis and meet all the needs of research in biological, medical, life science and other fields.

Features

- 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.

- **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.

- **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.

Features

- **Nosepiece Rotating Buttons.**

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

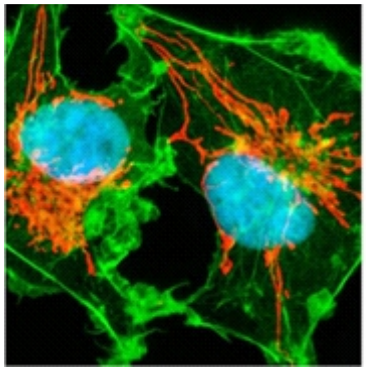
- **Motorized Swing-out Condenser.**

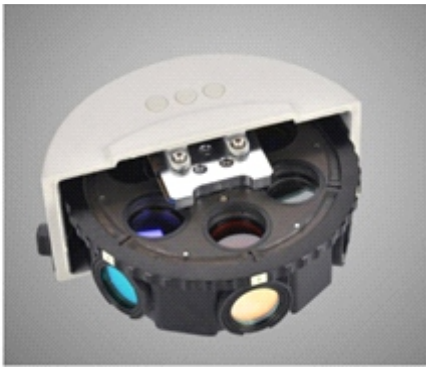
The top-lens on the condenser will be automatically swing-in or swing-out according to the objective lens that is selected.

- **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

- **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.

Features

- 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.

Specification

Item	Specification	STM-2085	STM-2085F
Optical System	NIS60 Infinite Color Corrected Optical System	Standard	Standard
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	Standard	Standard
	Seidentopf Trinocular Head, 30° inclined, interpupillary distance: 47mm-78mm; splitting ratio Eyepiece: Trinocular=100:0 or 20:80 or 0:100	Optional	Optional
	Seidentopf Binocular Head, 30° inclined, interpupillary distance: 47mm-78mm	Optional	Optional
Eyepiece	Super wide field plan eyepiece SW10X/25mm, diopter adjustable	Standard	Standard
	Super wide field plan eyepiece SW10X/22mm, diopter adjustable	Optional	Optional
	Extra wide field plan eyepiece EW12.5X/17.5mm, diopter adjustable	Optional	Optional
	Wide field plan eyepiece WF15X/16mm, diopter adjustable	Optional	Optional
	Wide field plan eyepiece WF20X/12mm, diopter adjustable	Optional	Optional

Specification

Objective	N-PLN Plan Objective	N-PLN 2X/NA=0.06, WD= 7.5mm	Optional	Optional
		N-PLN 4X/NA=0.10, WD= 30mm	Standard	Standard
		N-PLN 10X/NA=0.25, WD= 10.2mm	Standard	Standard
		N-PLN 20X/NA=0.40, WD= 12mm	Standard	Standard
		N-PLN 40X/NA=0.65, WD= 0.7mm	Standard	Standard
		N-PLN 100X(Oil)/NA=1.25, WD =0.2mm	Standard	Standard
		N-PLN 50X(Oil)/NA=0.95, WD= 0.19mm	Optional	Optional
		N-PLN 60X/NA=0.80, WD= 0.3mm	Optional	Optional
		N-PLN-I 100X (Oil, with Iris Diaphragm)/ NA=0.5-1.25, WD=0.2mm	Optional	Optional
	N-PLN PH Plan Phase Contrast Objective	N-PLN PH 10X/NA=0.25, WD =10.2mm	Optional	Optional
		N-PLN PH 20X/NA=0.40, WD =12mm	Optional	Optional
		N-PLN PH 40X/NA=0.65, WD =0.7mm	Optional	Optional
		N-PLN PH 100X(Oil)/NA=1.25, WD=0.2mm	Optional	Optional
	N-PLFN Plan Semi-apochromatic Fluorescent Objective	N-PLFN 4X/NA=0.13, WD= 17.2mm	Optional	Optional
		N-PLFN 10X/NA=0.30, WD= 16.0mm	Optional	Optional
		N-PLFN 20X/NA=0.50, WD= 2.1mm	Optional	Optional
		N-PLFN 40X/NA=0.75, WD= 1.5mm	Optional	Optional
		N-PLFN 100X(Oil)/NA=1.4, WD =0.16mm	Optional	Optional

Specification

Nosepiece	Motorized Backward Sextuple Nosepiece (with DIC slot)	Standard	Standard
Condenser	Swing-out type condenser N.A.0.9/0.25(Auto)	Optional	Optional
	Turret Phase Contrast Condenser	Optional	Optional
	Dark-field Condenser (Dry), used for objectives lower than 100X	Optional	Optional
	Dark-field Condenser (Oil), used for 100X objective	Optional	Optional
Transmitted Illumination	3W S-LED lamp, center pre-set, intensity adjustable	Standard	Standard
	12V/100W halogen lamp, center pre-set, intensity adjustable	Optional	Optional
Focusing	Motorized auto focusing, fine division 0.1μm, Max. speed 10 r/s, moving range: 30mm	Standard	Standard
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	Standard	Standard
DIC Kit	10X DIC Objective Lens	Optional	Optional
	20X DIC Objective Lens	Optional	Optional
	Polarizer for DIC Kit	Optional	Optional
	DIC insert plate(10X/20X), can be inserted into the DIC slot on nosepiece	Optional	Optional
	DIC insert plate(40X/100X) can be inserted into the DIC slot on nosepiece	Optional	Optional
	DIC Turret Condenser	Optional	Optional
Reflected fluorescence illuminator	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).	Optional	Standard
	B1, U, V, R fluorescent filters	Optional	Optional
	100W mercury lamp house, filament center and focus adjustable; with reflected mirror, mirror center and focus adjustable.	Optional	Optional
	Digital power controller, wide voltage 100-240VAC	Optional	Optional
	ND6/ND25 Filter	Optional	Optional
Control Handle	3D control handle, 4 gears speed	Standard	Standard

Specification

Controller	Communication interface: USB2.0 and Rs232	Standard	Standard
Other Accessories	0.5X C-mount Adapter	Optional	Optional
	USB3.0 Digital camera(5.0MP, Sony IMX250, 2/3" CMOS sensor, 35fps@2448x2048)	Optional	Optional
	1X C-mount Adapter	Optional	Optional
	Dust Cover	Standard	Standard
	Power Cord	Standard	Standard
	Cedar Oil 5ml	Standard	Standard
	Simple Polarizing kit	Optional	Optional
	Calibration slide 0.01mm	Optional	Optional
	Multi Viewing Attachment for 2/3/5/7/10 person	Optional	Optional

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.

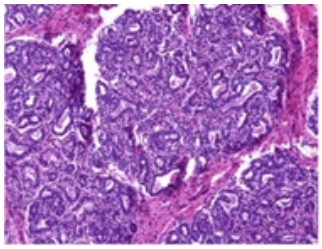
These plan phase contrast objectives are specially designed for phase contrast oSTMervation. They are good choice for clinic and scientific research. These objectives can provide advanced flat image of 25mm FOV under transmitted bright field.

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

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.

Accessories

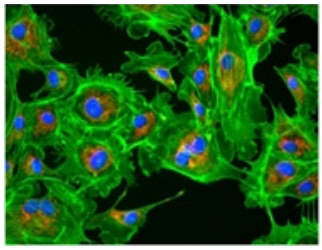
4. Bright field Viewing.




Mammary Gland (active stage)

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

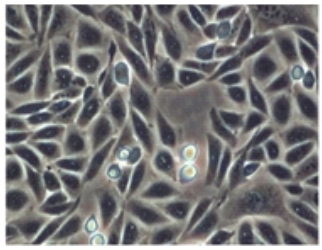
5. Fluorescent Viewing.




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.

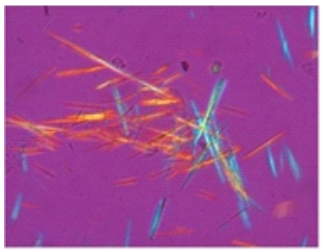
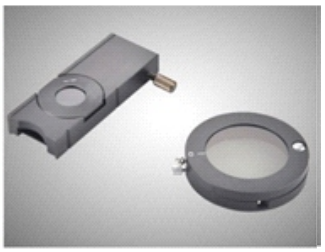
6. Phase Contrast Viewing.




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.

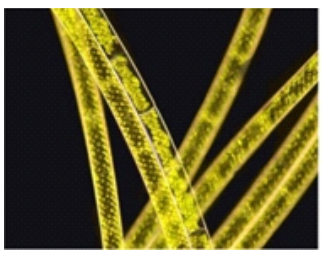
7. Polarizing Viewing.

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 structing.

Accessories

9. Multi Viewing Heads.

2 Viewing heads (Face to Face)

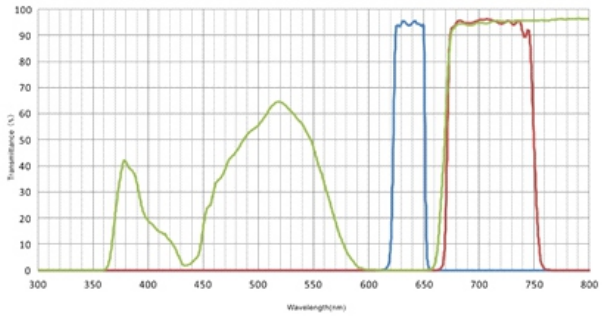
2 Viewing heads (Side to Side)

5 Viewing heads

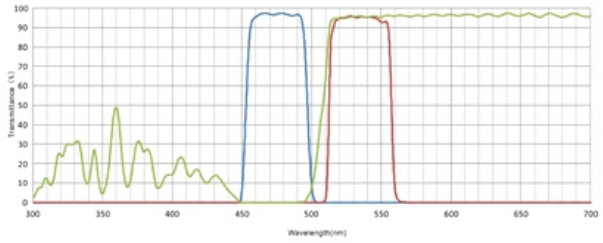
10. Fluorescent filters.

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 Φ25mm, Dichroic Mirror is 5.8X37.5/1mm, the filters can be installed in the block.		

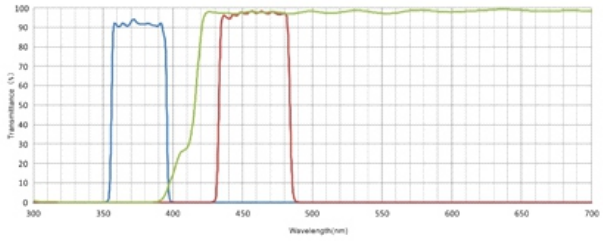
Spectral range



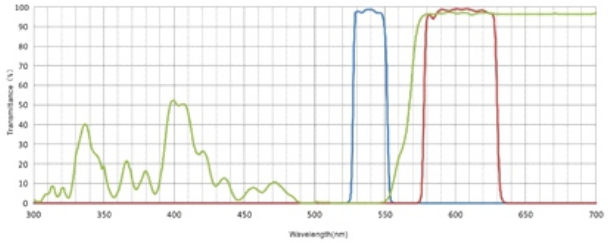
FL-R
- BP620-650
- DM660
- BA670-750



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



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



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

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.

Sample Picture