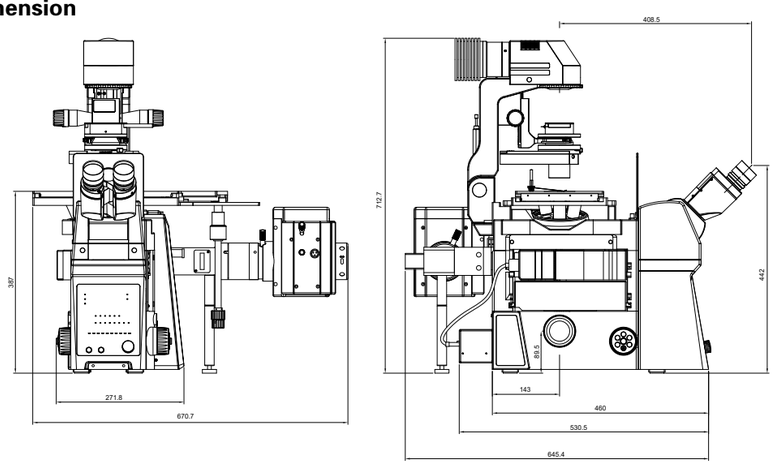
IRX50 Specification

Optical System	Infinity color correction system
Viewing Head	20~45 degree tilting binocular head, inverted image, interpupillary distance: 50~76mm
Eyepieces	Eyepiece PL10X/22mm, diopter adjustable, reticle attachable
Objectives	LWD plan semi-APO objectives (2X/4X/10X/20X/40X/60X)
	LWD plan semi-APO phase contrast objectives (4X/10X/20X/40X/60X)
	Infinity correction plan APO objectives（2X/4X/10X/20X/40X/60X/60XOLI/100XOLI）
	Infinity correction plan super-APO objectives（10X/20X40X/60XOLI)
Nosepiece	Motorized revolving sextuple nosepiece with DIC slot
Frame	Low position coarse and fine coaxial electric focusing mechanism, range: 10.5mm；built-in electric left camera port, splitting ratio: 0:100/50:50/100:0; dual optical path, with fluorescent light barrier
Stage	Manual mechanical stage，size: ≥ 300mm(X) x 240mm(Y), moving range: 135mm(X) x 85mm(Y), stage thickness: 30mm. Right universal handle，X/Y axis limitable and lockable, moving range 50mm x 50mm; with ϕ110mm replaceable disc
Condenser	Manual septuple condenser, NA0.55,WD=27mm; 3 holds for ϕ30mm(phase contrast), 4 holds for ϕ38mm(DIC); support for bright field/dark field/simple polarization/phase contrast/DIC
	Super long working distance condenser with more than 5 holds, NA0.3, WD=73mm; support for 4X-60X phase contrast/simple polarization or 10X-40XRPC
Transmitted illumination	Tilting transmission light columTiltable bracket for transmission type of lighting,Transmission type of Kohler lighting system,Condenser bracket with adjustable lifting,moving rang:65mm,Installation position of color filter:4,including ground glass group/optional color temperature transition filter set/Green contrast filter set
Fluorescent illumination	Motorized fluorescent mirror turret attachment with electric shutter and dust proof box ;ND6/ND25/ND50 Plug plate with attenuation filter,B1/G1/UV1 fluorescent filters for option
Lamp house	100W fluorescent mercury lamp source group,mercury lamp power box,100W dc mercury lamp(OSRAM)
	10W LED light box (cold color temperature),optional 12V100W halogen light box with preseting filament center;Optional 12V100W halogen lamp
Cameras	SOPTOP OD series cameras available
Other accessories	0.5X/0.65X/1X C-mount adapters, focus adjustable; Electric control box; PC and monitor; Centering eyepiece;Professional software MvImage3.0 research

IRX50 Dimension



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Design and production adheres to ISO14001 international quality standard

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NINGBO SUNNY INSTRUMENTS CO.,LTD.

www.sunnyoptical.com
C1801-2210
No additional notice for changes on the specification or appearance

ADD: No.66-68 Shunyu Road, Yuyao, Zhejiang.
TEL: 0086-574-62530070
FAX: 0086-574-62530066
ZIP: 315400
E-mail: sales@sunnyoptical.com

SOPTOP

Sunny Instruments
IRX50 Series
Inverted Biological Microscope

IRX50

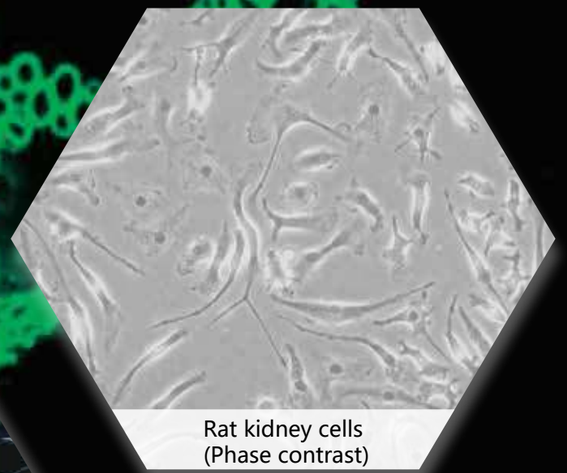
Open a new world of microscopic imaging

IRX50 Inverted Biological Microscope is a new electric microscope developed by SOPTOP, Specially designed to meet the needs of teaching and research.

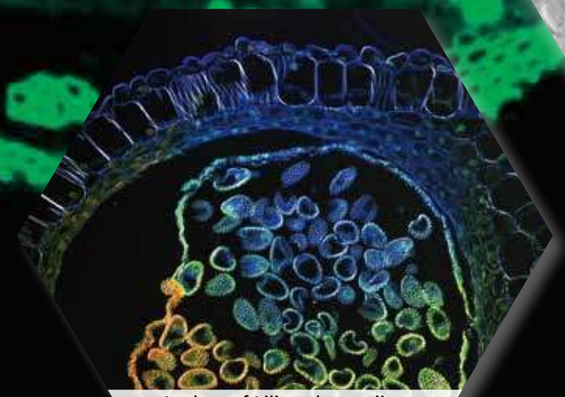
As a highly scalable instrument platform for live cell imaging, the IRX50 combines excellent optical and mechanical properties to provide users with high–resolution, high–contrast microscopic images, meets bright field, fluorescence, dark field, phase contrast, relief phase contrast, DIC and other observation methods.

Excellent optical performance

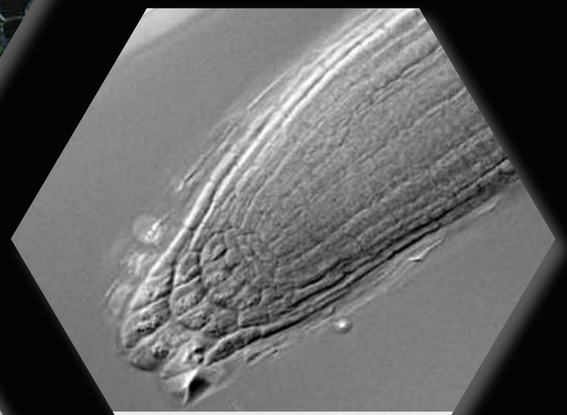
—— Meet multi-observation methods supported



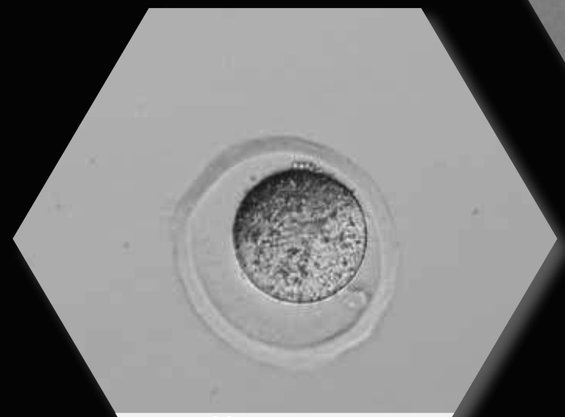
Rat kidney cells
(Phase contrast)



Anther of Lilium brownii var.
viridulum Baker
(Fluorescence)



The root of
Arabidopsis(DIC)



Mouse zygote
(Relief phase contrast)

LWD semi–APO series objectives

Full series of LWD semi–APO objectives were developed for cell culture. The objectives with correction ring have significant advantage for the observation of glass substrates and culture vessels with different thickness, and achieves accurate focusing by correcting the cover glass thickness.

LWD plan semi–APO objectives

LWD plan semi–APO phase contrast objectives

Infinity correction plan APO objectives

Infinity correction plan super–APO objectives

LWD plan semi–APO Relief phase contrast objectives

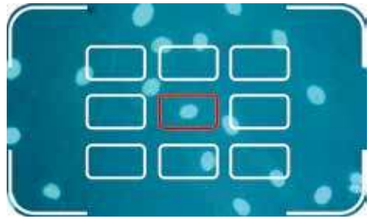
Series	Magnification	N.A. (mm)	W.D. (mm)	Cover–glass(mm)	OIL
LWD plan semi–APO objectives	2X	0.08	5.55	–	/
	4X	0.13	17.00	–	/
	10X	0.30	8.8	–	/
	20X	0.45	6.50–7.60	0–2	/
	40X	0.60	2.85–4.05	0–2	/
	60X	0.70	1.43–2.10	0–1.3	/
LWD plan semi–APO phase contrast objectives	4X	0.13	17	–	/
	10X	0.30	8.8	–	/
	20X	0.45	6.50–7.60	0–2	/
	40X	0.60	2.85–4.05	0–2	/
	60X	0.70	1.43–2.10	0–1.3	/
LWD plan semi–APO Relief phase contrast objectives	10X	0.3	8.8	–	/
	20X	0.45	6.5–7.6	0–2	/
	40X	0.6	2.85–4.05	0–2	/
Infinity correction plan APO objectives	2X	0.08	6.20	–	/
	4X	0.16	12.8	–	/
	10X	0.40	3.20	0.17	/
	20X	0.75	0.60	0.17	/
	40X	0.95	0.15	0.17	/
	60X	0.90	0.26	0.17	/
	60X	1.25	0.14	0.17	OIL
	100X	1.35	0.13	0.17	OIL
Infinity correction plan super–APO objectives	10X	0.4	3.1	0.17	/
	20X	0.80	0.6	0.17	/
	40X	0.95	0.18	0.17	/
	60X	1.42	0.17	0.17	OIL

More intelligent operation:

—— Electric components improve work efficiency

- Electric z-axis
- Electric revolving nosepiece
- Electric switching optical port
- Electric control system
- Digital light intensity control
- Coded fluorescence illumination disc

Electric control system



Auto Focus

The Z–axis height can be quickly adjusted according to real–time images to achieve one–click focus, eliminating fine–tuning steps and improving work efficiency.

Electric optical path selection

Through the front panel button or PC control, uses can freely achive three light paths selection so that the repetitive experimental operation is more convenient, which greatly improves the efficiency of scientific research work compared with the same series of products on the market.

Electric nosepiece

The objectives can be quickly switched by pressing the button on the frame or controlling by PC to improve the operation convenience.

More considerate design

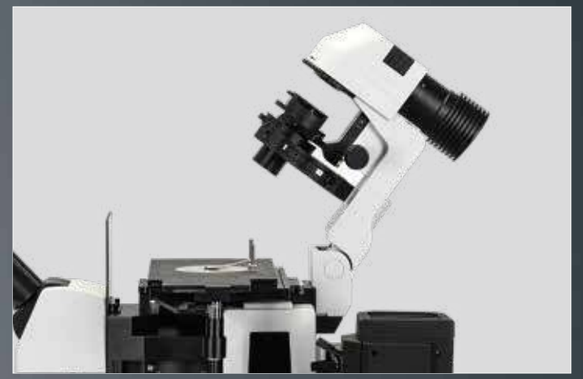
—— balance practicality and comfort

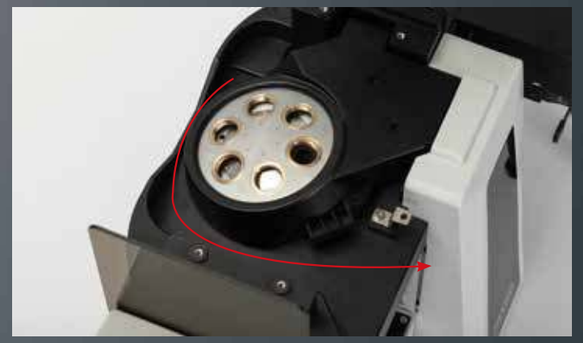
Elevation Adjustable Viewing Head

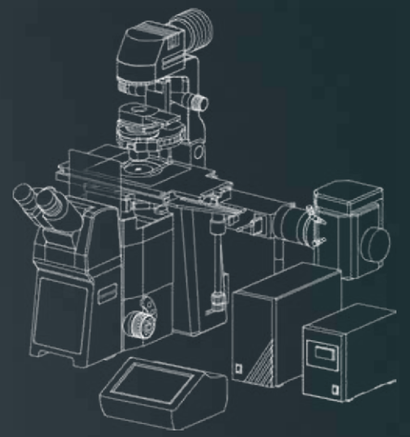
The IRX50 is equipped with a 20–45° adjustable binocular viewing head, which can raise the eye point by 78mm (65mm interpupillary distance) as required. It can be observed easily and quickly even in a standing state, which is effectively avoiding fatigue of eyes and limbs.

Low–position Platform Handwheel

The low–position platform handwheel can be rotated 360°, which can effectively reduce the hand fatigue caused by long–term operating, which is more ergonomic and improves the convenience of operation.







Tiltable transmission Lighting Structure

The bracket is equipped with a damped dumping mechanism, which can be tilted backward by 30° to ensure that the users have a large working space and feel easy to replace samples.

Integrated front Panel Control

IRX50 front digital screen can display the status information of multiple components such as objectives, real–time hole position information of fluorescent filter disk, transmission brightness, left side port, fluorescence gate, etc.

Waste Liquid Drainage Structure

The drainage groove structure is designed under the objective nosepiece, which can prevent the optical components and modules from accidentally being wetted by the cell culture medium or soaking liquid, contaminating and damaging the microscope, which makes the maintenance simplified.

High Extensibility

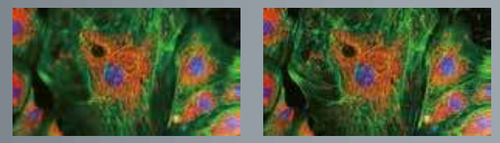
IRX50 can be flexibly configured with single or double layer optical paths according to the application, providing space for system extensibility. Double layer optical path can be customized according to customer needs, adapt to a variety of refit and self–research.

Plenty of new fountions in Mvimage software

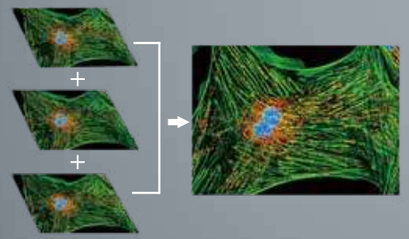
IRX50 is equipped with MvImage–Research 3.0, a professional fluorescence image analysis software independently developed, and has the intellectual property certificate issued by the National Copyright Administration. It can realize fluorescence intensity analysis, real–time/automatic depth of field extension mode, automatic stitching mode, automatic Z–stack and other functions.

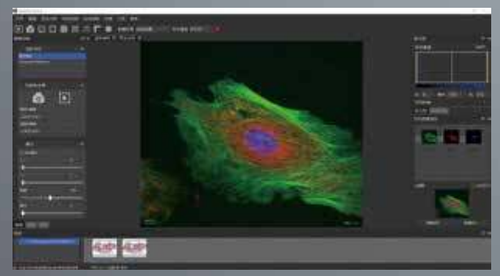
Image stitching

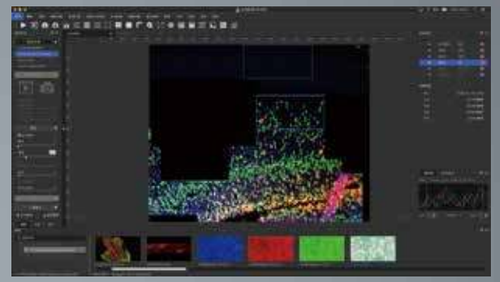
Photos from different parts of sections can be stitched together into one overall photo.



practical ideal







Automatic depth of field fusion

Users can set up and down moving distance and step length, so that the loading platform can move up and down, and automatically collect different depth of field image and image fusion.

Fluorescent merge

The images from different fluorescent channels, are able to be merged automatically and also kept separately. Each single image is available to be adjusted and the information will be updated to merged image simultaneously.

Cell counting

By clicking the "cell counting" button, setting appropriate threshold value, Mvimage will count cell number automatically and display the cell area, circumference and roundness.

IRX50 Diagram: