

❖ **Microscope stage automatic thermo control system ThermoPlate**

ThermoPlate for inverted microscope MATS-505R30

The flat plate surface ensures easy operation of the manipulator and easy handling of specimens.



ThermoPlate for upright microscope MATS-505SF-BZ

Enables field diaphragm images to be successfully focused for phase contrast observation. It is particularly effective for sperm counting and motional analysis.



ThermoPlate for stereoscopic zoom microscope MATS-SMZSL

The plate shape is designed to match the shape of the microscope's stage. Wide-area temperature control is possible. The flat plate surface ensures easy operation of the manipulator and easy handling of specimens.



Manufacturer: Tokai Hit Co., Ltd.

❖ **Digital camera systems for microscopy**

Compact, standalone control unit eliminates the need for a PC connection. With up to 30 fps, the live-image display enables easy image confirmation and capture. Images can be stored in USB memory but are also sent to remote monitors. The system drastically reduces image capture tasks, allowing the operator to concentrate on the ICSI manipulation process, which requires a high degree of precision.



Camera control unit DS-L3

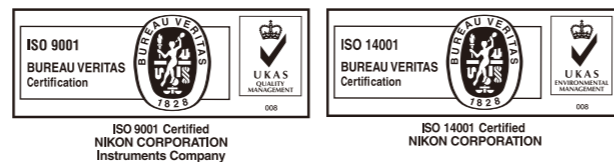


High-speed live-display color camera head DS-Vi1

Digital camera systems for Digital Sight series

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WARNING TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USING YOUR EQUIPMENT.



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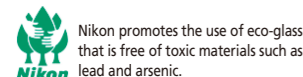
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**Intracytoplasmic sperm injection (ICSI)/
Observation systems**

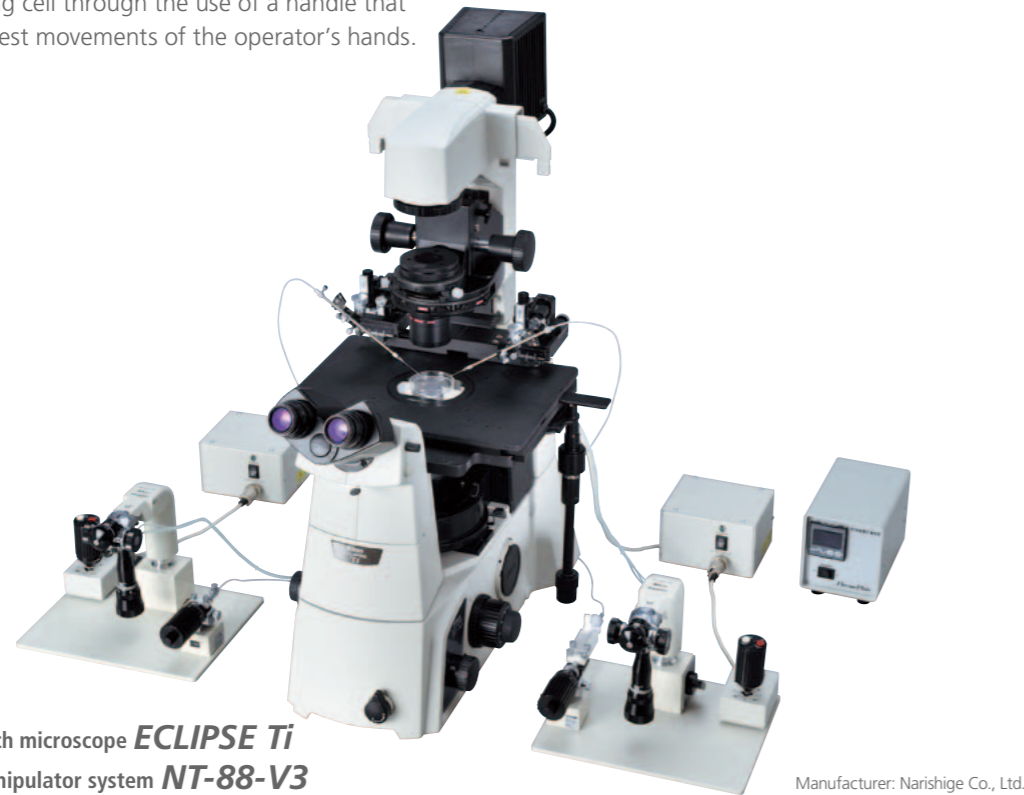


Designed to ensure dynamic and stress-free operation

Nikon intracytoplasmic sperm injection (ICSI)/observation systems

❖ Oil-hydraulic micromanipulator system for ICSI

This remote control oil-hydraulic micromanipulator system enables effortless, vibration-free injection into a floating cell through the use of a handle that responds to the slightest movements of the operator's hands.



System configuration:
Nikon inverted research microscope **ECLIPSE Ti**
Oil-hydraulic micromanipulator system **NT-88-V3**

Manufacturer: Narishige Co., Ltd.

Pneumatic microinjector **IM-11-2**

The IM-11-2 is equal in operability to the oil-hydraulic injector. It eliminates the need for oil and allows easy pipette attachment. In addition, the one-touch pressure release valve allows immediate adjustment of syringe size. The IM-11-2 is a new-generation pneumatic injector that enables speed control while it holds objects.



Manufacturer: Narishige Co., Ltd.

Microinjector **IM-9B**

The IM-9B is equipped with a new mechanism that enhances parallelism between syringe and plunger with minimal effect, enabling smooth operational control. The use of oil enables fine control, making it suitable for injections.



Pneumatic injector **IM-9C**

The IM-9C is equipped with the same new mechanism as the IM-9B. It reduces maintenance, such as the need to change oil and remove air bubbles, and is suitable for cell holding.

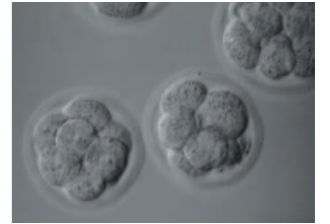


❖ Nikon Advanced Modulation Contrast (NAMC) objectives

Nikon has developed new objectives that enable the observation of colorless and transparent specimens in plastic dishes using pseudo-relief shading, something that is impossible with DIC observation. With each CFI S Plan Fluor ELWD NAMC objective, the direction of contrast can be rotated 360 degrees, while shade can also be adjusted in the desired direction. The contrast adjustment ring of this objective series is equipped with a clamp mechanism that prevents accidental rotation of the contrast adjustment ring while the correction ring is being used.



Specimen courtesy of:
Gianpiero D. Palermo,
M.D., Ph.D., Cornell
University



CFI S Plan Fluor ELWD NAMC 20x (left)
CFI S Plan Fluor ELWD NAMC 40x (right)
(with clamp mechanism)



CFI NAMC 10x (left)
CFI LWD NAMC 20xF (middle)
CFI LWD NAMC 40xC (right)

❖ Upright microscope

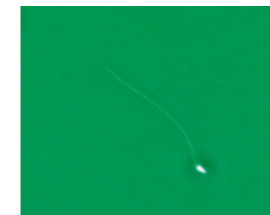
Clinical/laboratory microscope **ECLIPSE Ci-L**

This clinical/laboratory microscope boasts a space-saving design and user-friendly stage operation. The new eco-friendly high-luminescent LED illumination (Eco-illumination) provides bright, uniform images up to the periphery during phase contrast observation.

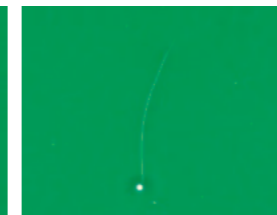


Phase contrast objectives

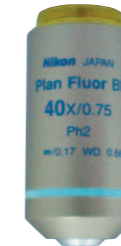
These objectives are useful for phase contrast microscopy (bright contrast), which is similar to darkfield microscopy, with bright sample images having large phase differences on dark backgrounds. These objectives are particularly suited to observation of the terminal filaments of sperm flagella. CFI Plan Fluor BM 40x and CFI BM 10x are available.



Echinus



Asterid



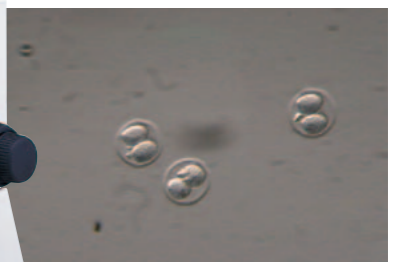
CFI Plan Fluor BM 40x

Images courtesy of: Dr. Sumio Ishijima, Tokyo Institute of Technology

❖ Stereoscopic zoom microscope

Stereoscopic zoom microscope **SMZ1500**

A top-of-the-line stereoscopic zoom microscope with a zoom ratio of 15:1 (0.75x to 11.25x), which produces high-resolution, high-contrast images up to the periphery and enables observation with reduced flare. Oblique Coherent Contrast (OCC) illumination built into a C-DSD diascope stand allows high-contrast, pseudo-relief observations of colorless and transparent specimens.



Fertilized mouse eggs