

Nikon Diaphot TMD-EF fluorescence, phase contrast and Hoffman inverted research microscope

\$6500 /obo - free shipping to US



This is a ready-to-go fluorescence microscope with phase contrast (PC) or Hoffman Modulation Contrast (HMC) to provide context if desired. Of course, it can be used with only the transmitted light by removing the fluorescence cube. It comes with a working mercury lamp with power supply and a pristine Diaphot-EF attachment. As shown in a picture farther down, the mercury bulb has 11.1 hours on it, which is accurate – a new bulb was installed by me. The 50 W halogen bulb up top is in excellent shape, but not brand new. The voltage indicator and small lamp work. All mechanical sliders, stages and knobs operate smoothly. The left-hand fine focus knob has been replaced with a larger knob with a groove – ready for a motorized belt-drive, if you desire to make this connection.

Cosmetically, it is in very good, but not perfect, shape. There are signs of wear-and-tear from it's already 30 (or so) year career. A couple of paint chips are evident, as well as some surface scratches.

For an overall score, I would give this beautiful instrument a 9.0-9.5. I can't actually think of a reason it isn't a 10, but that seems a little ridiculous! ☺





Included with the package, in terms of optics, is a **pair of CFWN 10x/20 eyepieces**, as well as:

Five objectives: (and 5-position RMS turret)

Nikon Fluor 10x/0.50 Ph2 DL 160/0.17

Nikon Fluor 40x/0.85 Ph3 DL 160/0.11-0.23

Nikon Plan 10x/0.25 (HMC modified) 0.17/- (not a spring loaded nose)

Modulation Optics Plan HMC 20x/0.40 LWD 160/0-2 (not a spring loaded nose)

Modulation Optics Plan HMC 40x/0.50 LWD 160/0-2

Two condensers:

Phase contrast 2 condenser ELWD 0.3 (BF Ph1 Ph2 Ph3)

Modulation Optics HMC condenser LWD 0.5 (BF 10x 20x 40x)

The Phase contrast condenser does not include a PhL mask, but one may be inserted if you have the appropriate 4x PhL objective to go with it.

Three fluorescence cubes:

UV-1A (365 nm excitation filter, 400 nm dichroic, 400 nm barrier filter)

Dual – green excitation and blue excitation (specs unknown)

Filters:

Heat absorbing (installed in the collector lens assembly)

ND8 neutral density (with “lollipop” holder)

Diffuser (with “lollipop” holder)

NCB10 neutral color balancing

Orange interference filter (610 nm)

Polarizer (primarily for Hoffman, but with an analyzer, could do polarization imaging)

The polarizer is “loose”, where I sit it on top of the HMC condenser and rotate it by hand.

Lamps:

50 W halogen with a working power supply (in the microscope base)

100 W mercury with a working power supply

Camera ports:

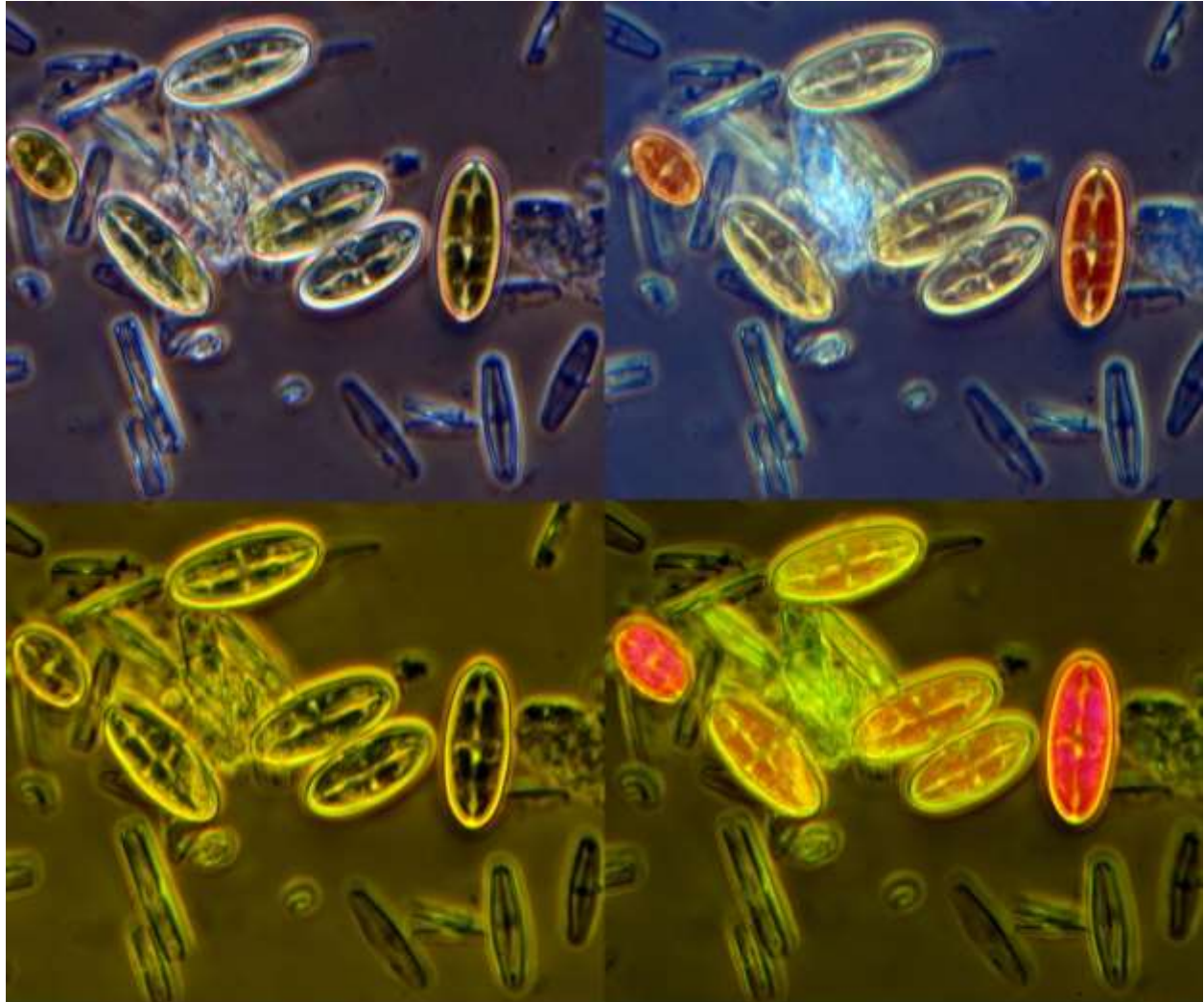
F-mount on the front and a 23.2 mm port on the side, which can accept a USB camera, or a projection lens which feeds a large (35 mm to medium format) sensor plane, or a C-mount camera. I can help with camera selection / installation, or provide a camera system for your use.

There are several of my labels on the optical components, which will be removed prior to shipment.



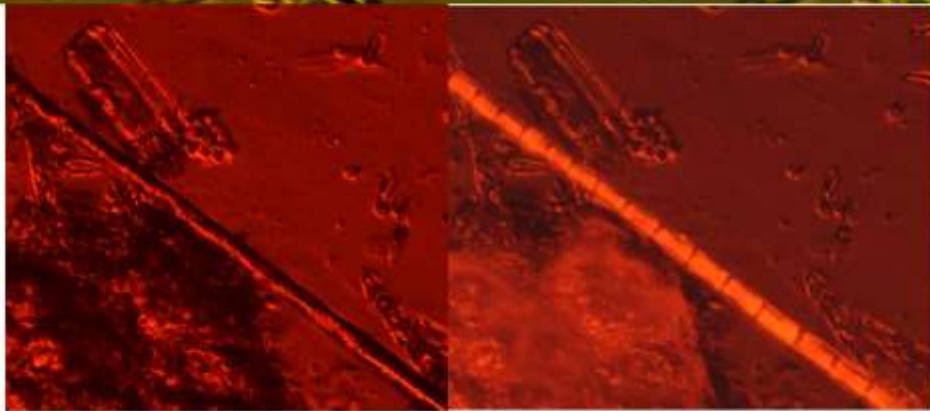
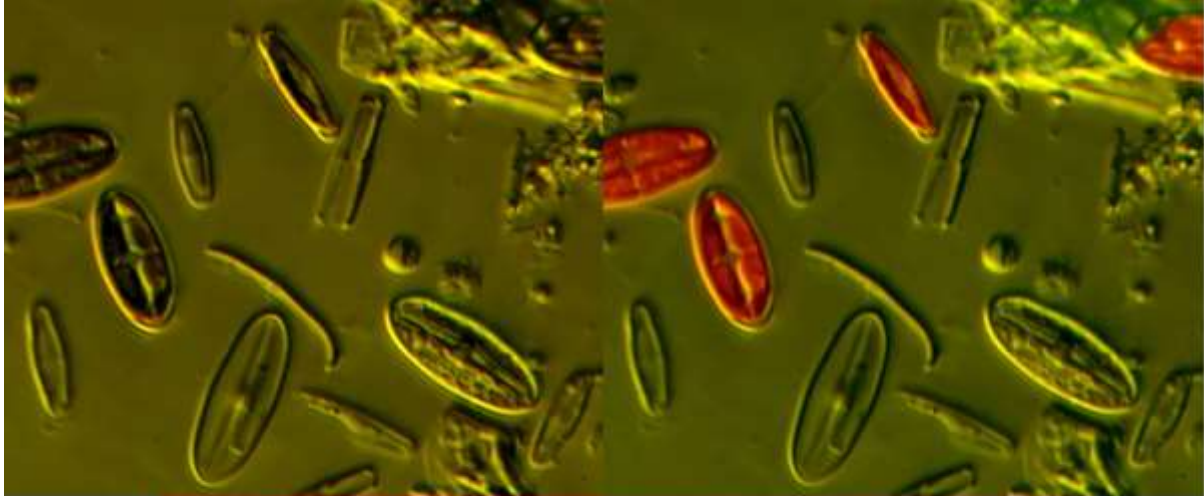


The following are example photos taken through this microscope, showing some of the various effects possible, first with PC and then with HMC. All examples are with 40x objectives, shown both with and without fluorescence excitation.



Top: 40x Ph3 through BA400 filter and with added UV excitation light
Bottom: 40x Ph3 through BA520 filter and with added blue excitation light

For shipping, the instrument will be disassembled and well-packed. I will help you understand how to put it back together again properly. This should take 10-15 minutes after unpacking everything. Links to my site which have various user manuals will be provided.



Top: HMC 40x through yellow filter and with added blue excitation light
Bottom: HMC 40x through red filter and with added green excitation light

To protect your investment, it comes with a very large dust cover that allows the mercury lamp to remain in place (please allow to cool first!) while covered. It also has both camera port dust-caps, and the left-side under-objective bay cover for when the dual fluorescence cube is not installed.

