



The Eyes of Science

Accessories

Advanced Research Microscope Accessories

ECLIPSE 90*i* / 80*i*



ECLIPSE 80i

ECLIPSE 90i

CFI60

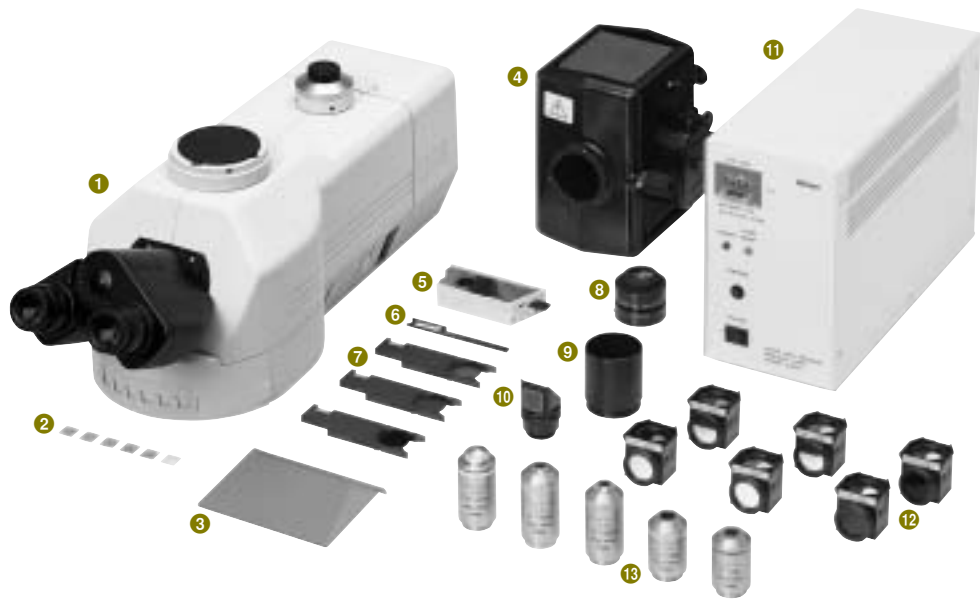
ECLIPSE i-Series Website
www.nikon-i.com



Epi-fluorescence Accessories

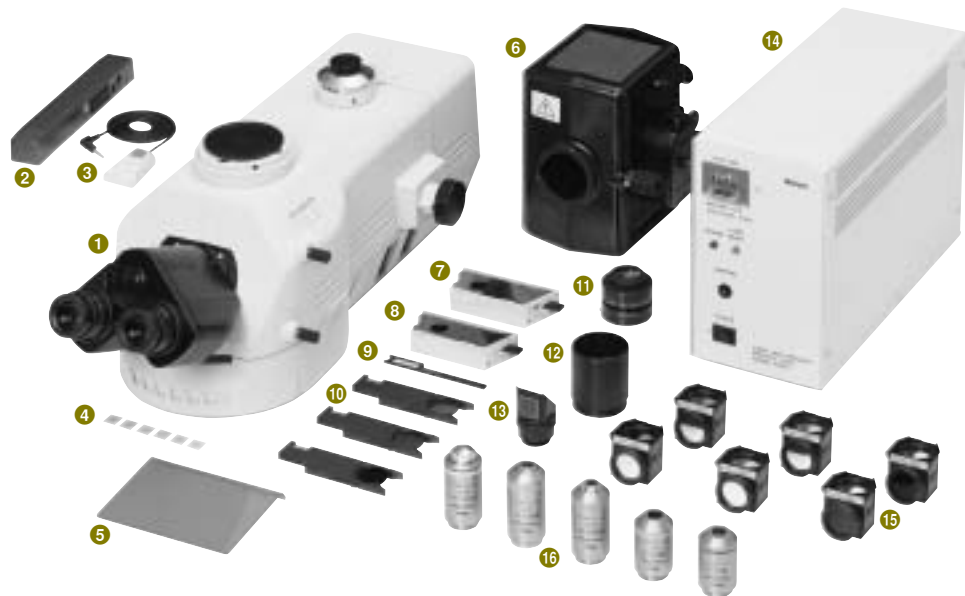
The digital-imaging head and the universal epi-fluorescence illuminator incorporate Nikon's unique Noise Terminator to achieve fluorescence images with an unprecedentedly high signal-to-noise (S/N) ratio. The digital-imaging head comes in two types: the DIH-E features a motorized switching for the field diaphragm, optical path, epi-fl filter cube, excitation light shutter, analyzer and optical zoom, while the DIH-M has a motorized control specifically for the excitation light shutter.

- S/N ratio has been dramatically improved by directing stray light out of the optical path.
- Excitation wavelength can be continuously fine-tuned by adjusting the sliding distance of the optional Excitation Balancer.
- Six filter cubes can be accommodated, and they are easily exchanged.
- Filters or mirror in the filter cubes can be easily replaced to create the desired combination.
- Filter position labels glow in the dark for easy identification.
- Universally functional for darkfield, brightfield, Nomarski DIC and other applications using episcopic illumination in addition to epi-fluorescence microscopy.



■ Specific Accessories for Motorized Digital-Imaging Head (DIH-E)

- | | |
|---|------------------------------------|
| 1 D-DH-E Digital-Imaging Head E Main Body | 8 C-FC Epi-fl Collector Lens |
| 2 Filter Position Labels | 9 Light Shielding Tube |
| 3 Light Shielding Plate | 10 C-FC Centering Tool |
| 4 Hg Lamphouse HMX-4B | 11 C-SHG1 Power Supply for HG 100W |
| 5 Aperture Diaphragm | 12 C-FL Epi-fl Filter Cubes |
| 6 D-FB Excitation Balancer (optional) | 13 CFI Plan Fluor Objectives |
| 7 D-ES ND Filters | |



■ Specific Accessories for Manual Digital-Imaging Head (DIH-M)

- | | |
|---|---------------------------------------|
| 1 D-DH Digital-Imaging Head M Main Body | 9 D-FB Excitation Balancer (optional) |
| 2 D-CB Connector Box | 10 D-ES ND Filters |
| 3 C-HS Hand Switch | 11 C-FC Epi-fl Collector Lens |
| 4 Filter Position Labels | 12 Light Shielding Tube |
| 5 Light Shielding Plate | 13 C-FC Centering Tool |
| 6 Hg Lamphouse HMX-4B | 14 C-SHG1 Power Supply for HG 100W |
| 7 Aperture Diaphragm | 15 C-FL Epi-fl Filter Cubes |
| 8 Field Diaphragm | 16 CFI Plan Fluor Objectives |



■ Specific Accessories for Universal Epi-fluorescence Illuminator

- | |
|--|
| 1 D-FL Universal Epi-fluorescence Attachment |
| 2 Filter Position Labels |
| 3 Light Shielding Plate |
| 4 C-FC Epi-fl Collector Lens |
| 5 C-FC Centering Tool |
| 6 Hg Lamphouse HMX-4B |
| 7 C-SHG1 Power Supply for HG 100W |
| 8 CFI Plan Fluor Objectives |
| 9 C-FL Epi-fl Filter Cubes |



Fluorescence Filter Cubes

	Filters	Wavelengths	Characteristics	Applications
UV	UV-2A	EX 330-380 DM 400 BA 420	•Standard filter block for UV	•DAPI •Hoechst 33258/33342 •AMCA •Cascade Blue® •Autofluorescence
	UV-2E/C (DAPI)	EX 340-380 DM 400 BA 435-485	•For DAPI, cutting off FITC (green) and TRITC (red) •Soft-coated type for high signal/noise •Band-Pass Barrier Filter used to cut off green and red	
	UV-1A	EX 365/10 DM 400 BA 400	•Narrow band pass – only 365nm (i line) of Mercury spectrum used •Narrow band pass minimizes auto-fluorescence and photo-bleaching	
	UV-2B	EX 330-380 DM 400 BA 435	•Darker background than UV-2A	
V	V-2A	EX 380-420 DM 430 BA 450	•Standard filter block for V	•Catecholamine •Serotonin •Tetracycline
BV	BV-2A	EX 400-440 DM 455 BA 470	•Standard filter block for BV	•Quinacrine •Quinacrine Mustard (QM) •Thioflavine S •Acriflavine
	BV-1A	EX 435/10 EM 455 BA 470	•Narrow band pass – only 435nm (g line) of Mercury spectrum used •Narrow band pass minimizes auto-fluorescence and photo-bleaching	
B	B-3A	EX 420-490 DM 505 BA 520	•Wide band pass – recommended for halogen illumination only	•FITC •Acridine Orange •Auramine O •Coriophosphine O •Bodipy® •Fluo-3 •DIO
	B-2A	EX 450-490 DM 505 BA 520	•Standard filter block for B •For FITC + Counter-stain (TRITC, PI)	
	B-2E/C (FITC)	EX 465-495 DM 505 BA 515-555	•Soft coated type for high signal/noise •For FITC (green), cutting off Rhodamine red •Band-pass Barrier Filter used to cut off red	
	B-1A	EX 470-490 DM 505 BA 520	•Narrower excitation range than B-2A •FITC+Counter-stain (TRITC, PI)	
	B-1E	EX 470-490 DM 505 BA 520-560	•For FITC (green), cutting off Rhodamine red •Band-Pass Barrier Filter used to cut off red	
G	G-2A	EX 510-560 DM 575 BA 590	•Standard filter block for G	•TRITC •Rhodamine B200 •Propidium iodide •R-Phycoerythrin •B-Phycoerythrin •Dil •Ethidium Bromide
	G-2E/C (TRITC)	EX 540/25 DM 565 BA 605/55	•For TRITC (Rhodamine) •Soft coated type for high signal/noise •Band-Pass Barrier Filter used to cut off reds above 643nm	
	G-1B	EX 546/10 DM 575 BA 590	•Narrow band pass – only 546nm (e line) of Mercury spectrum used •Narrow band pass minimizes auto-fluorescence and photo-bleaching	
	G-2B	EX 510-560 DM 575 BA 610	•610nm barrier provides darker background and deep red emission	
Y	Y-2E/C (Texas Red)	EX 540-580 DM 595 BA 600-660	•For Texas Red® •Soft coated type for high signal/noise •Band-Pass Barrier Filter used to cut off reds above 660nm	•Texas Red®

Fluorescence Reagents and Dedicated Filters*
for Fluorescence Protein

Filters/Reagents	Wavelengths
GFP-L	EX480/40, DM505, BA510
GFP-B	EX480/40, DM505, BA535/50
BFP	EX380/30, DM420, BA460/50
CFP	EX436/20, DM455, BA480/40
YFP	EX500/20, DM515, BA520
Cy 3	EX535/50, DM565, BA610/75
Cy 5	EX620/60, DM660, BA700/75
Cy 7	EX710/75, DM750, BA810/90

Multi-Band Filters*

Filters	Abbreviations	Reagents
Dual	F-R	FITC/Rhodamine
	F-T	FITC/Texas Red
	D-F	DAPI/FITC
Triple	D-F-R	DAPI/FITC/Rhodamine
	D-F-T	DAPI/FITC/Texas Red

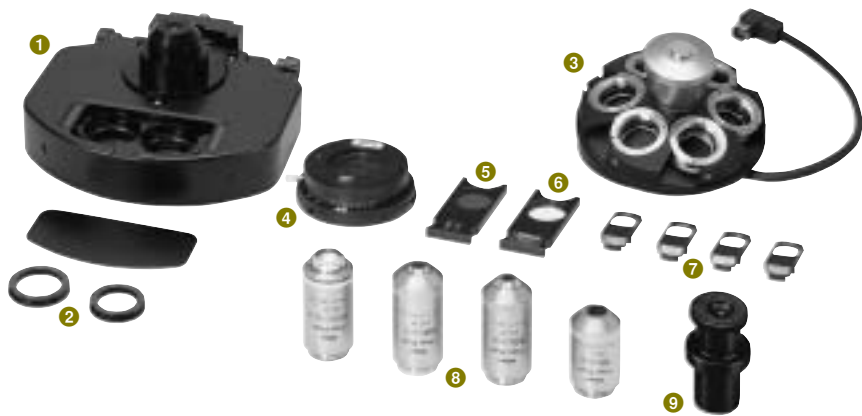
Filters are consumables. Filters marked with an asterisk (*1), in particular, come with special coatings, so these should be replaced in the shortest possible period of time.
Other filter combinations are available. Please ask your local Nikon distributor for a complete list of filters or inquire about special custom filter combinations possible.

Nomarski DIC Accessories

The new DIC system produces well-balanced images with outstanding contrast and resolution to produce crisp and clear images with perfectly even brightness, even during low-magnification observations.

- Two types of DIC modules (dry) are enough to cover observations from 10X to 100X.
- DIC sliders can be chosen from Standard, High-contrast, and High-resolution types, depending on the specimen.
- Shear direction of DIC images can be adjusted* on a rotatable stage.

*Rotatable stage cannot be mounted on the 80i mechanical-stage model.



Specific Accessories for 90i System

- 1 D-CUD-E Motorized Universal Condenser Dry
- 2 D-C DIC Module Dry
- 3 D-ND6-E Motorized Sextuple DIC Nosepiece
- 4 D-DP DIC Rotatable Polarizer
- 5 D-DA DIC Analyzer
- 6 D-LP Lambda Plate
- 7 D-C DIC Sliders
- 8 CFI Plan Fluor/CFI Plan Apo Objectives
- 9 C-CT Centering Telescope



Specific Accessories for 80i System

- 1 D-CUD Universal Condenser Dry
- 2 D-C DIC Module Dry
- 3 D-ND6 Sextuple DIC Nosepiece
- 4 D-NID6 Intelligent Sextuple DIC Nosepiece
- 5 D-DP DIC Rotatable Polarizer
- 6 D-DA DIC Analyzer
- 7 D-LP Lambda Plate
- 8 D-C DIC Sliders
- 9 CFI Plan Fluor/CFI Plan Apo Objectives
- 10 C-CT Centering Telescope

Epi-fluorescence/Nomarski DIC Accessories

This method allows a DIC image to be overlaid with an epi-fluorescence image within a single view field. This makes the position identification of a fluorescence specimen easier and more accurate. In configuration with the DIH-E motorized digital-imaging head and 90i, the system can automatically optimize settings for epi-fl/DIC observations at the click of a mouse via the connected PC.



■ Specific Accessories for 90i System

- 1 D-DH-E Digital-imaging Head E Main Body
- 2 Filter Positon Labels
- 3 Light Shielding Plate
- 4 D-ES ND Filters
- 5 D-FB Excitation Balancer (optional)
- 6 Aperture Diaphragm
- 7 D-CUD-E Motorized Universal Condenser Dry
- 8 D-C DIC Module (Dry)
- 9 Light Shielding Tube
- 10 D-DP DIC Rotatable Polalyzer
- 11 D-DA DIC Analyzer
- 12 C-FC Centering Tool
- 13 D-C DIC Slider
- 14 Hg Lamphouse HMX-4B
- 15 C-FC Epi-fl Collector Lens
- 16 D-ND6-E Motorized Sextuple DIC Nosepiece
- 17 C-SHG1 Power Supply for HG 100W
- 18 C-FL Epi-fl Filter Cubes
- 19 CFI Plan Fluor/CFI Plan Apo Objectives



■ Specific Accessories for 80i System

- 1 D-DH Digital-imaging Head M Main Body
- 2 Filter Positon Labels
- 3 Light Shielding Plate
- 4 D-CB Connector Box
- 5 C-HS Hand Switch
- 6 Aperture Diaphragm
- 7 Field Diaphragm
- 8 D-FB Excitation Balancer (optional)
- 9 D-ES ND Filters
- 10 D-CUD Universal Condenser Dry

- 11 D-C DIC Module (Dry)
- 12 Light Shielding Tube
- 13 D-DP DIC Rotatable Polalyzer
- 14 D-DA DIC Analyzer
- 15 C-FC Centering Tool
- 16 D-C DIC Slider
- 17 Hg Lamphouse HMX-4B
- 18 C-FC Epi-fl Collector Lens
- 19 D-ND6 Sextuple DIC Nosepiece
- 20 D-NID6 Intelligent Sextuple DIC Nosepiece
- 21 CFI Plan Fluor/CFI Plan Apo Objectives
- 22 C-SHG1 Power Supply for HG100W
- 23 C-FL Epi-fl Filter Cubes

Phase Contrast Accessories (80i)

These accessories produce well-defined high contrast images with neutral background coloration regardless of the magnification range. The CFI Plan Fluor DLL objectives can be universally used for phase contrast, epi-fluorescence, brightfield, as well as DIC applications. The CFI Achromat ADL objectives clearly visualize the minute structure of thick phase objects by minimizing halos.

*For phase contrast applications on the 80i rotatable mechanical stage model, a universal condenser must be used.



■ Specific Accessories for Rotatable Mechanical Stage Model

- 1 D-CUD Universal Condenser (Dry)
- 2 D-C PH Module
- 3 CFI Plan Fluor DLL Objectives



■ Specific Accessories for Mechanical Stage Model

- 1 C-C Phase Contrast Condenser
- 2 CFI Plan Fluor DLL Objectives
- 3 Filter, 45mm GIF
- 4 C-CT Centering Telescope

Darkfield Accessories

These dedicated darkfield accessories allow clear observation of blood or the minute structure of flagella. Dry- and oil-type condensers are available. The expander lens is used to obtain illumination with greater brightness. It is also possible to perform darkfield microscopy using a universal condenser or phase contrast condenser.



■ Specific Accessories

- 1 C-CEL Expander Lens
- 2 C-C Darkfield Condenser (Dry)
- 3 C-C Darkfield Condenser (Oil)

Simple Polarizing Accessories

Ideal for observing birefringent samples such as collagen, amyloids and crystals. Operation is as simple as inserting a polarizer over the field lens and an analyzer in the arm slot. The field number has been increased to 25.



■ Specific Accessories

- 1 C-SP Simple Polarizer
- 2 C-ISA Intermediate Tube w/Simple Analyzer

Sensitive Color Polarizing Accessories

Enables gout and pseudo-gout tests easily.



■ Specific Accessories

- 1 C-TP Polarizer with First-order Red Tint Plate
- 2 C-IA Intermediate Tube with Analyzer

Other Accessories

Eyepiece Tubes



Name	Beam Split Ratio	Field Number	ISO Photo Tube
Binocular Tube B	Observation 100%	22	
Trinocular Tube FUW	Observation 100% / Photo 100%	22/25	Attachable
Trinocular Tube TUW	Observation 100% / Photo 100% / Observation 20%, Photo 80%	22/25	Attachable
Ergonomic Binocular Tube	Observation 100% / Observation 50%, Photo 50% (with DSC port)	22	
DSC Port (for Ergo Tube)	With C-mount 0.7X lens		

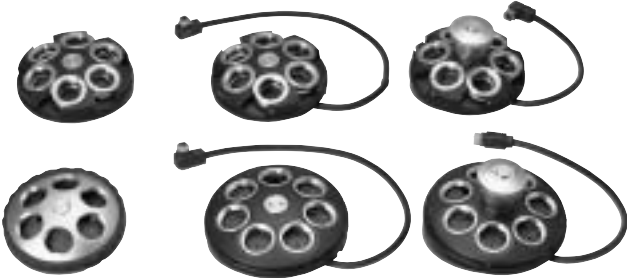
Eyepiece Lenses



Name (Magnification)	Field Number	Reticule
CFI 10X	22	
CFI 10XM	22	Photomask
CFI 12.5X	16	
CFI 15X	14.5	
CFI UW 10X	25	
CFI UW 10XM	25	Photomask

Nosepieces

The DIC-type nosepiece allows researchers to individually mount DIC sliders for each objective. The intelligent-type nosepiece allows objective information to be recorded with the image when it is captured with a Digital Sight-series digital camera. Two motorized types are available for the 90i, according to use.



C-N6	Sextuple Nosepiece (80i)
C-ND6	Sextuple DIC Nosepiece (80i)
D-NID6	Intelligent Sextuple DIC Nosepiece (80i)
D-NI7	Intelligent Septuple Nosepiece (80i)
D-ND6-E	Motorized Sextuple DIC Nosepiece (90i)
D-N7-E	Motorized Septuple Nosepiece (90i)

Stages

The image can be rotated and the polarizing direction adjusted on the rotatable stage. The specimen can be moved in the XY direction on the motorized stage*.



C-SR	Mechanical Stage (for 80i mechanical stage)
C-SRR	Rotatable Mechanical Stage (for 90i/80i rotatable mechanical stage)
D-S-E	Motorized XY stage* (90i only)

Specimen holders available separately. *Available soon.

Specimen Holders

2-slide holders and a single-slide holder enabling the quick exchange of the specimen with one hand are available.



Condensers



Type	N.A.	W.D. (mm)	Objective Mag. (F.O.V. 22)
Abbe Condenser	0.9	1.9	4-100X
Achromat Condenser	0.85	4.2	4-100X
Achromat Swing-out Condenser 1-100X	0.8/0.12	3.2	1-100X
Achromat Aplanat Condenser	1.40	1.6	10-100X
LWD Achromat Condenser	0.65	10.2	4-40X
Low Power Condenser	0.15	10.2	1-4X
Darkfield Condenser (Dry)	0.8-0.95	4	10-40X
Darkfield Condenser (Oil)	1.2-1.43	1.5	20-100X
Phase Contrast Condenser*1	0.9	1.9	10-100X
Universal Condenser (Dry)	0.9/0.13	2.3	2-100X
DIC Condenser (Oil)	1.4	1.6	10-100X
Motorized Universal Condenser (Dry)*2	0.9/0.13	2.3	2-100X

*1 Cannot be mounted on the 90i and 80i rotatable mechanical stage models. *2 90i only.

CCTV Adapters

2.5X, 4X relay lenses are ideal for video enhanced contrast (VEC) applications. Use 0.35X, 0.45X and 0.7X relay lenses for 1/3-, 1/2-, 2/3-inch CCD cameras, respectively. 0.9 to 2.2X zoom relay lenses are also available.



Ergo Controller (90i only. Available soon)

The Ergo Controller allows focus adjustments, stage movements and objective lens changeovers to be performed in front of a PC monitor as if operating the actual microscope.



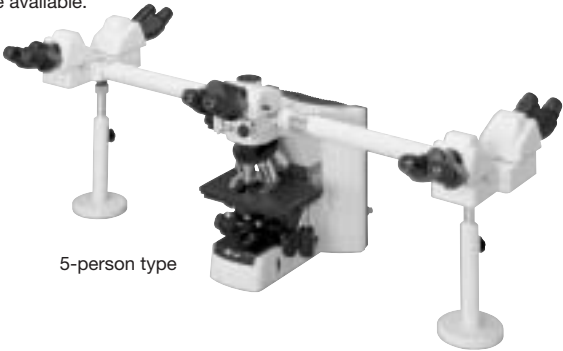
Motorized ND Filter Unit (90i only. Available soon)

The Motorized ND Filter Unit automatically selects the optimum filter type after a change of the objective.



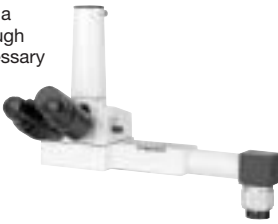
Teaching Heads

Various types from 2-person (side by side or face-to-face) to 10-person types are available.



Drawing Tube

The drawing tube allows both the image of a specimen and the drawing to be seen through the eyepieces. A dedicated adapter is necessary to attach it.



Double port

The double port enables the use of one CCTV camera and one digital camera, or two digital cameras simultaneously.



Magnification module

The turret system allows the intermediate magnification to be changed to 1X, 1.25X, 1.5X or 2X.



FX-III series photomicrographic equipment

The FX-III series utilizes a direct-projection system with a swing-out prism for fast exposure setting and accurate metering. U-III: 0.1% and 1% spot exposure, and 35% integrated-average measurement modes H-III: 1% spot and 35% integrated-average measurement modes P-III: Manual exposure model



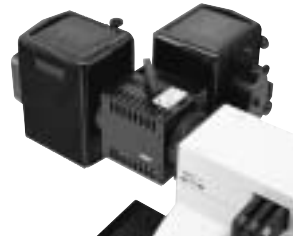
Quadrocular Adapter

Two CCTV cameras or one CCTV camera and a digital camera can be attached to the trinocular eyepiece tube while maintaining the same eye level.



Double-lamphouse Adapter

The double-lamphouse adapter allows two different light sources to be simultaneously attached to the microscope, eliminating the need to change the lamphouse and carry out time-consuming centering procedures.





CFI Objectives

Type	Use	Name	N.A.	W.D. (mm)	Cover-glass Thickness
Achromat	Brightfield (CFI)	4X	0.10	30.00	-
		10X	0.25	7.00	-
		LWD 20X	0.40	3.90	0.17
		40X	0.65	0.65	0.17
		LWD 40XC	0.55	2.7-1.7	0-2.0
		60X	0.80	0.30	0.17
		100XH	1.25	0.23	0.17
		100XH(iris)	0.5-1.25	0.23	0.17
	Phase Contrast (CFI)	DL 10X	0.25	7.00	-
		LWD DL 20X	0.40	3.90	0.17
		LWD DL 20XF	0.40	3.10	1.2
		DL 40X	0.65	0.65	0.17
		LWD DL 40XC	0.55	2.7-1.7	0-2.0
		DL 100XH	1.25	0.23	0.17
		BM 10XA	0.25	6.10	-
	New Phase Contrast (CFI)	ADL 10X	0.25	6.20	1.2
		LWD ADL 20XF	0.40	3.10	1.2
		LWD ADL 40XF	0.55	2.10	1.2
		LWD ADL 40XC	0.55	2.7-1.7	0-2.0
	Polarizing (CFI)	P 4X	0.10	30.00	-
		P 10X	0.25	7.00	-
		LWD P 20X	0.40	3.90	0.17
		P 40X	0.65	0.65	0.17
P 100XH		1.25	0.23	0.17	
Plan Achromat	Brightfield (CFI Plan)	UW 1X	0.04	3.20	-
		UW 2X	0.06	7.50	-
		4X	0.10	30.00	-
		10X	0.25	10.50	-
		20X	0.40	1.20	0.17
		40X	0.65	0.56	0.17
		50XH	0.90	0.35	-
		100XH	1.25	0.20	0.17
	No Cover (CFI Plan)	NCG 40X	0.65	0.48	0
		NCG 100X	0.90	0.26	0
	Phase Contrast (CFI Plan)	DL 10X	0.25	10.50	-
		DL 20X	0.40	1.20	0.17
		DL 40X	0.65	0.56	0.17
DL 100XH		1.25	0.20	0.17	
Fluor	Epi-fl (CFI Fluor)	10XW	0.30	2.00	0
		20XW	0.50	2.00	0
		40XW	0.80	2.00	0
		60XW	1.00	2.00	0
Super Fluor	Epi-fl (CFI S Fluor)	4X	0.20	15.5	-
		10X	0.50	1.20	0.17
		20X	0.75	1.00	0.17
		40X	0.90	0.30	0.11-0.23
		40XH	1.30	0.22	0.17
		100XH(iris)	0.5-1.3	0.20	0.17

Digital-imaging Heads, Universal Epi-fluorescence Illuminator Specifications

Applications	Epi-fluorescence, Epi-brightfield, Epi-darkfield, Epi-DIC, Epi-simple polarizing, Confocal	
Light distribution	Observation/front port/rear port: 100/0/0, 0/100/0, 0/0/100	
	Motorized switching	Manual switching
Optical output ports	Front port: 1X, diameter ø52mm	
	Rear port: optical zoom 0.8-2.0X (continuous), zoom ratio 2.5 : 1, C-mount	
	Motorized	Manual
Inclination angle	25°	
F.O.V.	22, 25mm	
Filter turret	6 filter cubes mountable	
	Motorized	Manual
Hi S/N Noise Terminator mechanism	Available	
Excitation light balancer	Available	
Aperture diaphragm	Centerable, detachable, diameter ø1.9mm (manual)	
Field diaphragm	Centerable, not detachable, diameter ø1.9mm	
	Motorized	Manual
ND filters	ND4, ND8, ND16 (manual)	
Excitation light shutter	Motorized	Manual
Analyzer	Motorized	Manual (with slot)
Polarizer	Manual (with slot)	
Light source	Mercury, xenon, halogen (centerable)	
External connection	USB, C1 interlock, external connection connector	Not available
Status-check function	Available (data can be recorded with image captured by Digital Sight digital camera)	Not available
Compatible microscopes	90i, 80i	90i, 80i, E600, E600FN, ME600L, L150

Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. April 2004. ©2004 NIKON CORPORATION

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



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