

Objective Lens Selection Guide



Plan Apochromat Lambda Series

Employed ultra-low refractive index coating technology "Nano Crystal Coat," used in the manufacture of professional SLR camera lenses, is now employed in the new Plan Apochromat Lambda objective series. This technology enables remarkably high transmission throughout a broad range of wavelengths, from UV to the near-IR region. Offering bright, sharp, high-contrast images, these objectives are perfect for multi-color fluorescence live-cell imaging, particularly for fluorescent dyes with longer wavelengths that are less phototoxic to living specimens. Moreover, with the world's highest level of chromatic aberration correction, resolution and image flatness, the capture of high-quality brightfield images is ensured. Capable of visualizing the minute structures and dynamics of living cells or organisms, the Plan Apochromat Lambda series supports bioscience research in its quest to reveal the mechanisms of life.

Model	NA	W.D. (mm)	Cover glass thickness	Correction ring	Observation
Plan Apochromat Lambda 2X	0.1	8.5	—		BF, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 4X	0.2	20	—		BF, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 10X	0.45	4	0.17		BF, DF (Dry), DIC, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 20X	0.75	1	0.17		BF, DF (Dry/Oil), DIC, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 40XC	0.95	0.25-0.17	0.11-0.23	v	BF, DF (Oil), DIC, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 60XC	0.95	0.21-0.11	0.11-0.23	v	BF, DF (Oil), DIC, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 60X Oil	1.4	0.13	0.17		BF, DIC, PH**, POL, FL (visible light, UV*, NIR)
Plan Apochromat Lambda 100X Oil	1.45	0.13	0.17		BF, DIC, PH**, POL, FL (visible light, UV*, NIR)

Plan Fluor Series

Objective lenses providing incredible high contrast fluorescence observation and photomicrography. Featuring exceptionally high transmission from the ultra-violet to the infra-red and flatness across the field of view, the Plan Fluor series objective lenses are designed for high contrast fluorescence observation and photomicrography. The performance and quality of Plan Fluor objectives make them a terrific choice as multipurpose objectives for brightfield, fluorescence, polarizing, and DIC observations.

Model	NA	W.D. (mm)	Cover glass thickness	Correction ring	Observation
Plan Fluor 4X	0.13	17.2	—		BF, POL*, FL (visible light, UV)
Plan Fluor 10X	0.3	16	0.17		BF, DF (Dry), DIC, POL, FL (visible light, UV)
Plan Fluor 20X	0.5	2.1	0.17		BF, DF (Dry/Oil), DIC, POL, FL (visible light, UV)
Plan Fluor 20XC MI	0.75	0.51-0.35 (Oil) 0.51-0.34 (Water) 0.49-0.33 (Glycerin)	0-0.17	v	BF, DF (Dry/Oil), DIC, POL, FL (visible light, UV)
Plan Fluor 40X	0.75	0.66	0.17		BF, DF (Dry/Oil), DIC, POL, FL (visible light, UV)
Plan Fluor 40X Oil	1.3	0.24	0.17		BF, DIC, PH**, POL, FL (visible light, UV)
Plan Fluor 60XC	0.85	0.35 (0.40-0.31)	0.11-0.23	v	BF, DF (Oil), DIC, POL, FL (visible light, UV)
Plan Fluor 60XS Oil	0.50-1.25	0.22	0.17		BF, DF (Dry/Oil), DIC, PH**, POL, FL (visible light, UV)
Plan Fluor 100X Oil	1.3	0.16	0.17		BF, DIC, POL, FL (visible light, UV)
Plan Fluor 100XS Oil	0.50-1.30	0.16	0.17		BF, DF (Dry/Oil), DIC, POL, FL (visible light, UV)

Super Fluor Series

Objective lenses with superior UV transmission and unsurpassed chromatic correction. Super Fluor Series objective lenses provide the highest level of ultra-violet transmission, exceptionally high N.A.s, and terrific chromatic correction. Thanks to outstanding transmission below 340nm, Super Fluor objectives are the ideal choice for fluorochromes like indo-1, fura-2, and fluo-3. These objectives also have improved signal-to-noise (S/N) for short wavelengths, (due to low auto-fluorescence materials,) and have high N.A.s, making the fluorescence images they produce significantly sharper and brighter. They are also a great choice for photo-activation of caged compounds.

Model	NA	W.D. (mm)	Cover glass thickness	Correction ring	Observation
Super Fluor 4X	0.2	15.5	—		BF, POL*, FL (visible light, UV)
Super Fluor 10X	0.5	1.1	0.17		BF, DF (Dry/Oil), DIC, POL*, FL (visible light, UV)
Super Fluor 20X	0.75	1	0.17		BF, DF (Dry/Oil), DIC, POL*, FL (visible light, UV)
Super Fluor 40XC	0.9	0.30 (0.34-0.26)	0.11-0.23	v	BF, DF (Oil), DIC, POL*, FL (visible light, UV)
Super Fluor 40X Oil	1.3	0.19	0.17		BF, DIC, PH**, POL*, FL (visible light, UV)
Super Fluor 100XS Oil	0.50-1.30	0.2	0.17		BF, DF (Dry/Oil), POL*, FL (visible light, UV)

Plan Fluor Series for Phase Contrast Series

Superb optical design provides exceptional resolution under multiple techniques. Plan Fluor series objective lenses for phase contrast microscopy. These objectives are multi-purpose; they can be used for brightfield, fluorescence and phase contrast observations. They facilitate high-quality fluorescence observation and provide exceptionally detailed resolution of minute structures in phase contrast observation. This is especially desirable because the use of phase contrast to find the desired portion of the specimen before switching to fluorescence observation is an excellent way to minimize fluorescence photobleaching.

Model	NA	W.D. (mm)	Cover glass thickness	Correction ring	Observation
Plan Fluor DLL 10X	0.3	16	0.17		BF, DF (Dry), PH, FL (visible light, UV)
Plan Fluor DL 10XF	0.3	15.2	1.2		BF, DF (Dry), PH, FL (visible light, UV)
Plan Fluor DLL 20X	0.5	2.1	0.17		BF, DF (Dry/Oil), PH, FL (visible light, UV)

BF: Brightfield / DF: Darkfield / Ph: Phase contrast / POL: Simple polarizing / FL: Fluorescence