

Neutral Density Filters



Call us for OEM versions

Schneider Kreuznach's neutral density filters attenuate light by absorption. By careful control of the thickness of the filter material there is a wide range of filters with different attenuation levels available. The transmission variations over the visible wavelength range are very small to avoid effects on color

balance. In imaging applications ND filters are used to adjust the intensity to an appropriate level to avoid camera overexposure. Using a filter instead of stopping down the iris of the lens leaves unaffected other imaging parameters such as depth of field and diffraction limitations.

Key Features

- Low reflections
- Wide range of attenuation levels up to 1:1,000,000
- Combine filters to individual levels by stacking

Applications

- Machine Vision and other imaging applications
- Scientific & research measurement

Technical Specifications ¹							
Filter Type:	101	102	103	106	110	113	120
Wavelength range:	visible	visible	visible	visible	visible	visible	visible
Optical density:	0.3	0.6	0.9	1.8	3.0	4.0	6.0
Transmission ² :	50 %	25 %	12.5 %	1.6 %	0.1 %	0.01 %	0.0001 %
Surface:	5/2 x 0.16 ³	5/2 x 0.16 ³	5/2 x 0.16 ³	5/2 x 0.16 ³	5/2 x 0.16 ³	5/2 x 0.16³	5/2 x 0.16³
Wavefront distortion ⁴ :	1 λ	1 λ	1 λ	1 λ	1 λ	1 λ	1 λ
Parallelism:	1 arc minute	1 arc minute	1 arc minute	1 arc minute	1 arc minute	1 arc minute	1 arc minute
Diameter tolerance:	+ 0 - 0.3 mm	+ 0 - 0.3 mm	+ 0 - 0.3 mm	+ 0 - 0.3 mm	+ 0 - 0.3 mm	+ 0 - 0.3 mm	+ 0 - 0.3 mm
Thickness [mm]:	2.0 ± 0.1	2.3 ± 0.1	1.65 ± 0.1	1.8 ± 0.1	2.15 ± 0.1	1.7 ± 0.1	2.5 ± 0.1

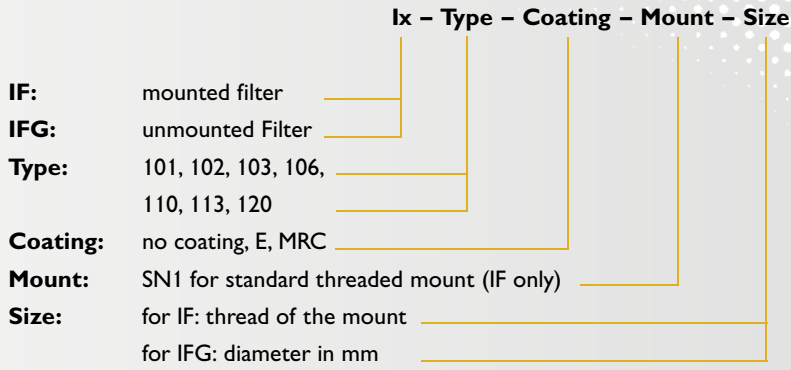
¹ Specifications for unmounted and uncoated versions

² Average over 400-700 nm

³ Surface specification according to ISO 10110, quality usually similar to MIL 80-50 scratch-dig or better

⁴ Per 30 mm at 633 nm

ORDER INSTRUCTIONS:



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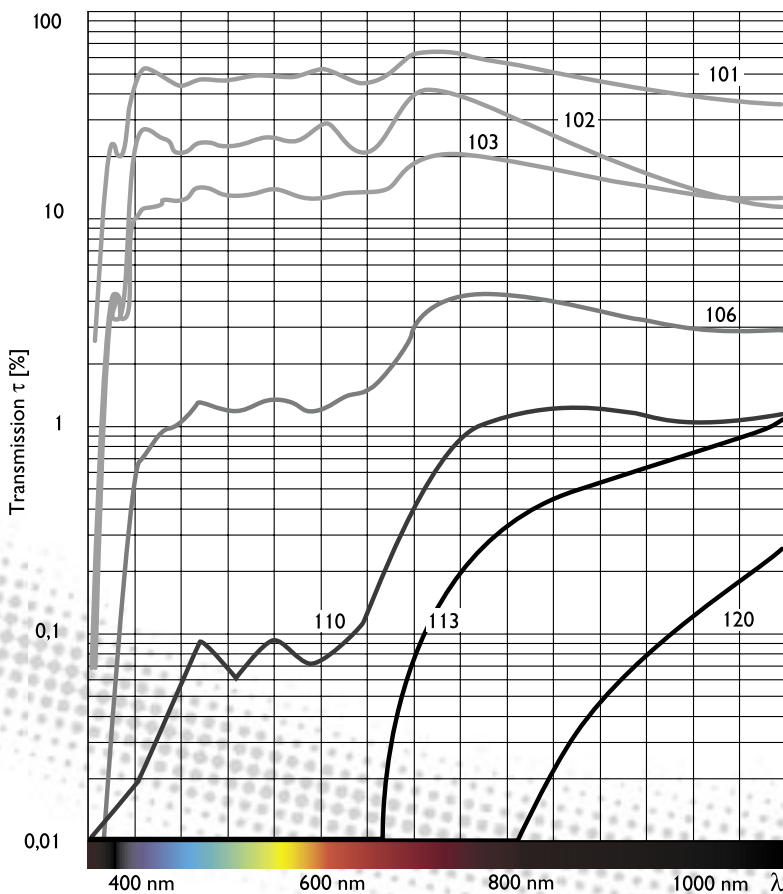
Examples:

IF - 101 - E - SN1 - 25.5

(101 filter with MgF₂ coating on both sides, mounted for M25.5)

IFG - 103 - 30

(unmounted 103 filter with with no coating, 30 mm diameter)



NEUTRAL DENSITY FILTERS