
EL-NIKKOR LENSES

El-Nikkor lenses are designed primarily for photographic enlargers. Eight different El-Nikkor lenses are available. The correct choice depends upon the working distance and the subject size involved. The design of enlarging lenses is quite different from that of general photographic lenses. One of the factors which must be considered is magnifying power. When a 35mm negative is enlarged to sizes of 3 1/4" x 4 1/4" and 10" x 12", the lens must be designed to have an accurate magnification of 3 or 10 times, respectively. Another factor to be considered is the spectral sensitivity of the printing material, that is, of the photosensitive paper. The El-Nikkor has been designed and manufactured with all these factors fully considered to do the best possible job. It is a lens of the highest quality and ensures faithful reproduction of details and adequate image contrast exactly as found in the negative film. Today, it is acclaimed as the best enlarging lens available on the market. The El-Nikkor lenses also have two large f-number scales, click-stops at each marking, etc., for usage convenience.

Features of El-Nikkor

1. Brightness

El-Nikkor lenses are designed to have a sufficiently large aperture which is advantageous for enlargement. They are designed so that the front and rear elements of the lens have a large diameter and competent light can be taken, not only at the center part, but also on the peripheries and edges of the picture field. Therefore, uniform image brightness can be produced throughout the entire picture area. Since the image is bright and the depth of focus is small, focusing can be done easily even for dark negatives.

2. Aberration Correction

The aberration of the El-Nikkor lenses have been corrected for a short focusing distance corresponding with their standard magnifying power, and differs from photographing lenses which are corrected for infinity. Aberrations are corrected to cover an area slightly larger than the size of the original negative. Thus, even if the negative gets slightly displaced, no blurring will occur at the picture corners. In addition, distortion aberration has been fully corrected so faithful reproduction of the negative film image can be obtained.

El-Nikkor lenses produce a flat image plane which does not shift focus even when the lens is stopped down or lights of different wavelengths are used. The lens has a higher resolution than the emulsion of negative film even when in fully opened condition. Thus, the El-Nikkor lenses give perfect enlargement results.

In order to achieve utmost enlargement results, it would be preferable to use the lens with the diaphragm set 3 or 4 stops before the full aperture.

3. Correction of Near Ultraviolet Rays

There is a considerable divergence between the focusing points of the light perceived by the human eye, namely visible light, and the light range to which black-and-white photographic printing paper is sensitive. Our eyes are almost entirely insensitive to near ultraviolet rays of 350m μ - 450m μ which is the main light range printing paper is sensitive to. Consequently, if focusing is performed by the naked eye, there is no way of telling whether the focusing has been adjusted correctly for the light to which the printing paper is sensitive. El-Nikkor lenses are corrected against chromatic aberration, not only for visible light rays, but also for near ultraviolet rays, so that the image formed of the visible light exactly coincides with that of the ultraviolet ray and focusing can be adjusted perfectly whether in color or in black-and-white.

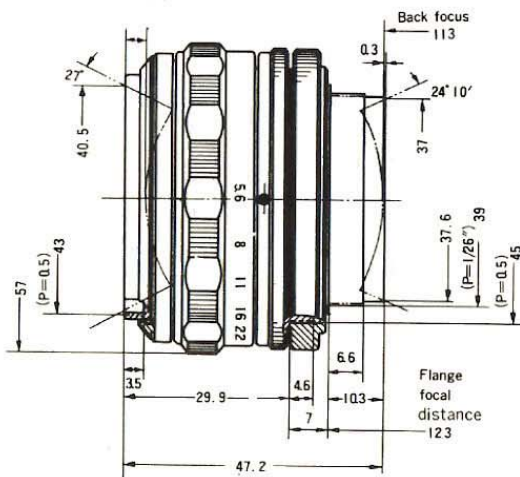
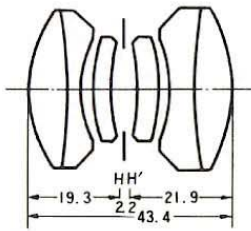
Another important point is that special type of glass is not used for making these lenses as such glasses are apt to absorb ultraviolet rays resulting in producing an enlarging lens with a rather deficient brightness. In addition, an anti-reflection coating for the wavelength of 400m μ is applied to increase the transmission of ultraviolet ray. Thus, the lens performs uniform spectral transmission covering the range from visible light to ultraviolet ray.

4. Barrel of El-Nikkor

The El-Nikkor lens elements are housed in a black barrel and an aperture ring is provided on the front side of the barrel. Large f-number figures are engraved in white and equidistantly spaced. These figures are marked on both sides of the lens confronting each other and permit easy reading from either side of the lens when attached to the enlarger. In addition, there is a click-stop at each marking and facilitates lens settings in dark rooms by touch feeling. Not only do El-Nikkor lenses faithfully reproduce negative images on printing papers but they completely fulfill the basically important requirement of handling ease.

135mm f/5.6 El-Nikkor
[90mm × 120mm (4'' × 5'') format]

Focal length	135mm
Max. aperture	f/5.6
Construction	6 elements 4 groups
Standard magnification	5X
Range of magnification ratio	2X – 10X
Picture angle	54°
Correction wavelength range	380mμ–700mμ
Subject size	90mm X 120mm
Overall working distance	972mm
Vignetting	0% at f/8
Distortion	+0.025%
Aperture scale	5.6, 8, 11, 16, 22, 32, 45
Mounts	Screw (d=39mm p=1/26'') & Screw (d=45mm p=0.5mm) Plate (i.d.=45.5mm) attachable
Dimensions: max. diameter	57mm
max. length	47.2mm
Weight	200g



150mm f/5.6 El-Nikkor
[100mm × 130mm (4'' × 5'') format]

Focal length	150mm
Max. aperture	f/5.6
Construction	6 elements 4 groups
Standard magnification	4X
Range of magnification ratio	2X – 8X
Picture angle	54°
Correction wavelength range	380mμ – 700mμ
Subject size	100mm X 130mm
Overall working distance	937.5mm
Vignetting	0% at f/8
Distortion	+0.001%
Aperture scale	5.6, 8, 11, 16, 22, 32, 45
Mounts	Screw (d=53mm p=0.75mm) Base plate (o.d.=74mm) with 6 countersinks (2.6p) 62mm 55.5mm
Dimensions: max. diameter	62mm
max. length	55.5mm
Weight	300g

