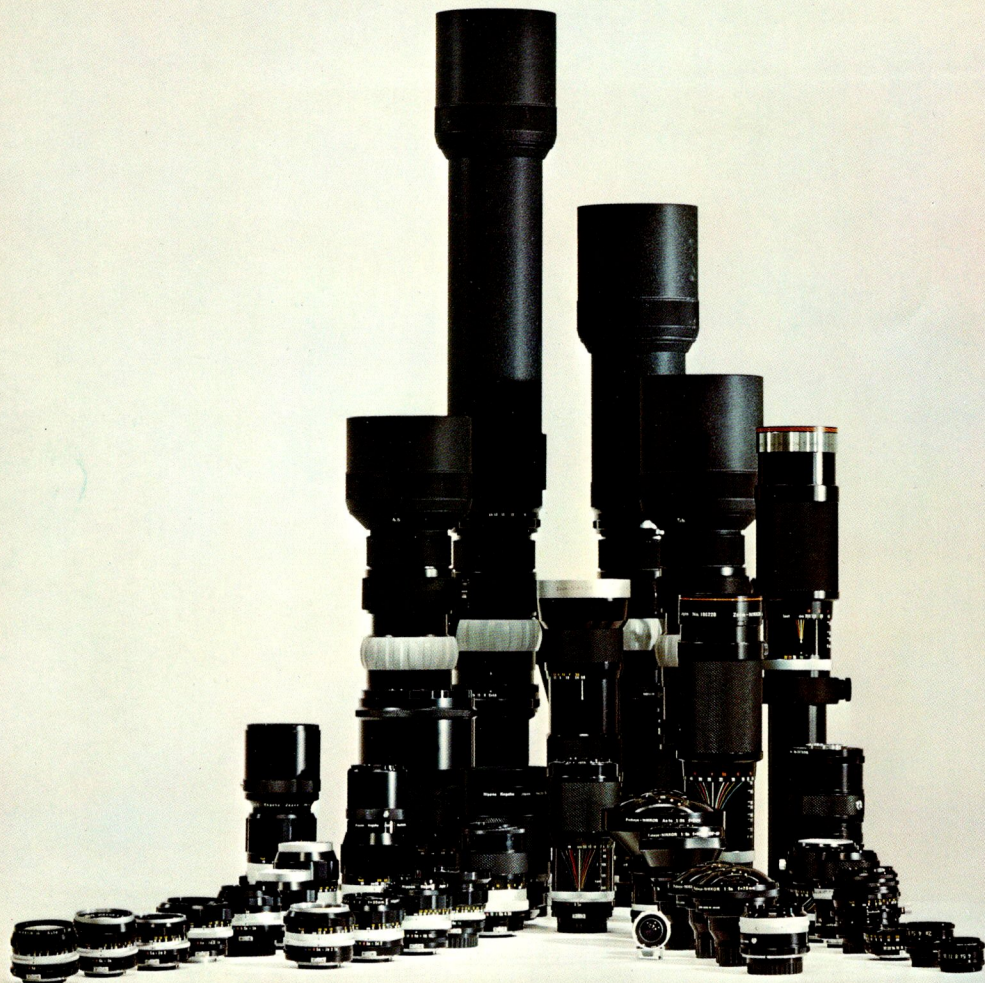




for Nikon and Nikkormat cameras

Nikkor Lenses



NIKKOR INTERCHANGEABLE LENSES

A camera is only as good as its lens, just as a lens is only as good as the camera. And both are only as good as the accuracy with which they are mated.

In the Nikon System, camera and lens are engineered to function as a unit. The underlying concept transcends optical and mechanical factors to achieve this perfect unity of interchangeable components. We call it Total System Resolution. Every Nikkor lens is designed to fulfill its own vital role in the System Resolution concept.

These are the lenses whose performance in the hands of today's foremost photographers has revolutionized 35mm photography. Each is designed to be the finest of its kind. Together they form a system of camera optics unequalled for its extent and variety, ranging from almost incredible 220° picture coverage to 40X telephoto magnification.

Nikkor lens quality begins with a choice of more than 220 types of Nikon optical glass giving the lens designer full freedom to apply his inventive genius. Aided by the latest computer facilities and using such innovating techniques as "floating" elements and multiple-layer coating, the Nikon designers have produced many of today's most original — and frequently imitated — photographic optics.

No less important for successful photography is the careful construction of Nikkor lens mounts. Optical elements are precisely aligned and anchored by threaded retaining rings. Closely spaced helical threading assures positive, smooth focusing that maintains its silky smoothness through the years. Lastingly accurate diaphragm action is achieved by the use of precision ball bearings.

Nothing short of this painstaking precision can bring about true System Resolution the perfect mating of camera and lens which is essential for consistently superior pictures. And, after all, isn't that why you invested in a Nikon or Nikkormat in the first place!

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FEATURES OF

Screw-in Thread

The front of every Nikkor lens is threaded to accept screw-in filters, lens hood, adapter rings, slide copying attachments or close-up lenses. Most Nikkor lenses from 24mm to 200mm are designed with a 52mm diameter thread so that only one set of the above accessories are required.

Focusing Ring

Scalloped on some lenses, cross-ridged on others. Both types provide convenient, positive focus control.

Depth-of-Field Scale

Clearly indicates depth of field with color-coded lines corresponding to aperture scale markings.

Infra-red Distance Index

Used in place of regular index to compensate for image plane displacement occurring with infra-red film.

Aperture Control Ring

Presets the automatic diaphragm to the desired exposure aperture. Also controls the movement of the meter coupling prong.



NIKKOR LENSES

Distance Scale

Calibrated in both meters and feet on most Nikkor lenses.

Distance Index

Lens Interchanging Ring

Fixed, milled ring provides firm grip for positive attachment or removal of lens.

Aperture Index

Desired aperture is set against this dot which also serves for aligning lens on camera.

Aperture Scale

Aperture scaling is equidistantly spaced. Aperture control ring click-stops at each f-number calibrated. Use of intermediate settings is possible.

Meter Coupling Prong

When this prong is engaged with the coupling pin of a Nikon Photomic meter/finder or built-in Nikkormat meter, the lens diaphragm is coupled to the meter system.

Nikkor lenses have markings in conspicuous white color on their front rims designating their optical designs, mechanical features, main purposes, etc.

1. Code Letter after "Nikkor"

The letter after "Nikkor" indicates the number of elements in each lens, and is the first letter of Latin or Greek numerals:

- U for 1 element (Uns)
- B for 2 elements (Bini)
- T for 3 elements (Tres)
- Q for 4 elements (Quatuor)
- P for 5 elements (Pente)
- H for 6 elements (Hex)
- S for 7 elements (Septem)
- O for 8 elements (Octo)
- N for 9 elements (Novem)
- D for 10 elements (Decem)

For examples, the Nikkor-P Auto f/2.5 105mm lens has five elements, and the Nikkor-UD Auto f/3.5 20mm lens consists of eleven elements.

2. "C" marking after the code letter on lens front rim represents NIC (Nikon Integrated Coating).
3. "Auto" indicates that the diaphragm in the lens is automatic, coupling with the camera body shutter mechanism.
4. Nikkor lenses for special purposes are distinguished by a word or letters preceding "Nikkor":
 - Fisheye-Nikkor (A circular or full frame fisheye image covering 170° 180° or 220° angle of view. Equidistant projection).



jection)

- PC-Nikkor (Perspective control)
 - GN Nikkor (Guide number)
 - Micro-Nikkor (Microphotography)
 - Medical-Nikkor (Medical and other close-up photography)
 - Zoom-Nikkor (Zoom optics)
 - Reflex-Nikkor (Mirror and lens optics)
 - EL-Nikkor (Enlarging use)
5. Maximum aperture ratio is indicated, for example:
1:1.4 for f/1.4, 1:2.8 for f/2.8. etc.
 6. Focal length is indicated by "f = 50mm"
"f = 1000mm", etc.
 7. "No." precedes the serial number of the lens.

TACHROME X FILM

20mm — 94°
24mm — 84°
28mm — 74°
35mm — 62°



NIKKOR WIDE ANGLE LENSES

Every photographer encounters situations where the normal lens does not take in all of the desired picture area. Here the wideangle lens, as the name indicates, provides a perfect and simple solution.

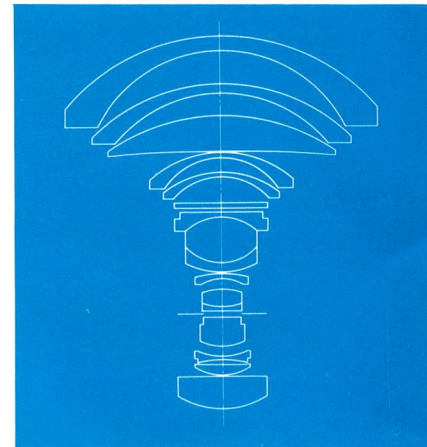
The imaginative photographer, however, also realizes the value of the wideangle lens as a creative tool. He uses its tendency to increase the apparent distance between near and far objects to produce a dramatic impression of depth bordering on the three-dimensional. He takes advantage of its great depth of field to impart foreground-to-background sharpness that seems to defy perspective. Also, when shooting action, he can prefocus his wideangle lens for the approximate subject distance and, relying on its depth of field, be sure of sharp pictures without constant refocusing.

Nikon acknowledges the importance of wideangle optics by offering what is probably the greatest variety in all of 35mm. All have automatic-reopen diaphragms and couple to camera meter systems for thru-the-lens exposure control at full aperture.

The Nikon system currently provides eight wideangle lenses:

- 15mm f/5.6 Nikkor-QD Auto
- 20mm f/3.5 Nikkor-UD Auto
- 24mm f/2.8 Nikkor-N Auto
- 28mm f/2 Nikkor-N Auto
- 28mm f/3.5 Nikkor-H Auto
- 35mm f/1.4 Nikkor-N Auto
- 35mm f/2 Nikkor-O Auto
- 35mm f/2.8 Nikkor-S Auto

15mm f/5.6 • Nikkor-QD Auto



Focal length = 15mm

Maximum aperture : f/5.6

Lens construction : 14 elements in 12 groups

Picture angle : 110°

Distance scale : Graduated both in meters and feet up to 0.3m and 1 ft

Aperture scale : f/5.6 - f/22

Aperture diaphragm : Fully automatic

Meter coupling prong : Integrated (fully open method exposure measurement)

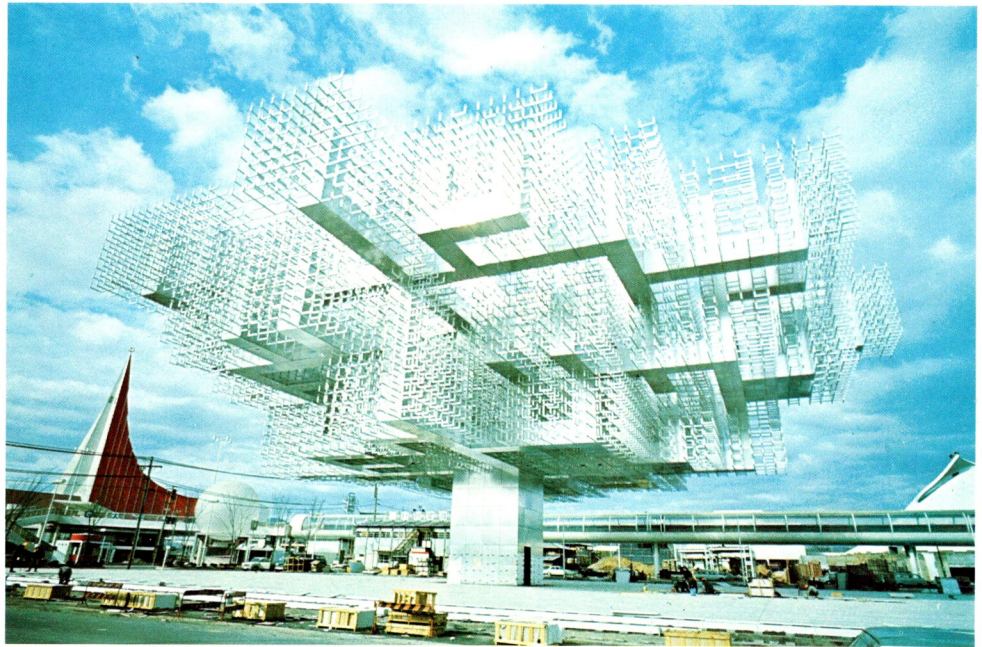
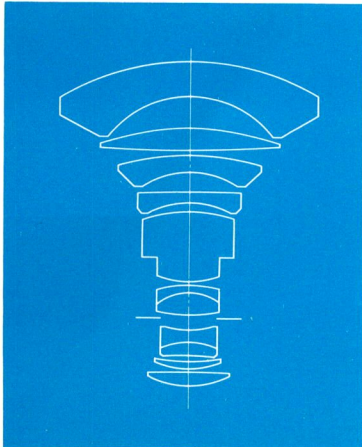
Filter : Built-in, L1A, Y48, O56 & R60

Dimensions : 92mm dia. x 88.5mm length (3-5/8 in. x 3-1/2 in.)

Weight : 700g (24.7oz)

20mm f/3.5

• Nikkor-UD Auto



Focal length : 20mm Maximum aperture : f/3.5

Lens construction : 11 elements in 9 groups

Picture angle : 94°

Distance scale : Graduated both in meters and feet up to 0.3m and 1ft

Aperture scale : f/3.5 - f/22 Aperture diaphragm : Fully automatic

Meter coupling prong : Integrated

(fully open method exposure measurement)

Attachment size : 72mm (P=0.75) Filter : 72mm screw-in

Lens hood : Screw-in type

Dimensions : 75mm dia. x 69.5mm length (2-15/16 in. x 2-3/4 in.)

Weight : 390g (13.8oz)

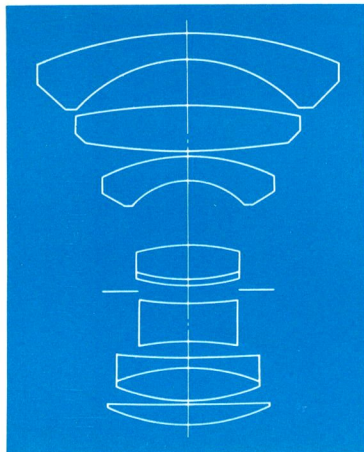
24 mm f/2.8

• Nikkor-N Auto



Focal length : 24mm Maximum aperture : f/2.8
Lens construction : 9 elements in 7 groups
Picture angle : 84°
Distance scale : Graduated both in meters and feet
up to 0.3m and 1ft Aperture scale : f/2.8 - f/16
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated
(fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in Lens hood : Screw-in type
Dimensions : 64.5mm dia. x 59.5mm length
(2-17/32 in. x 2-11/32 in.) Weight : 290g (10.2oz)

* Remarks: The rear group elements shift their positions according to the focused distance. (Refer to P. 43 for details.)



28 mm f/2

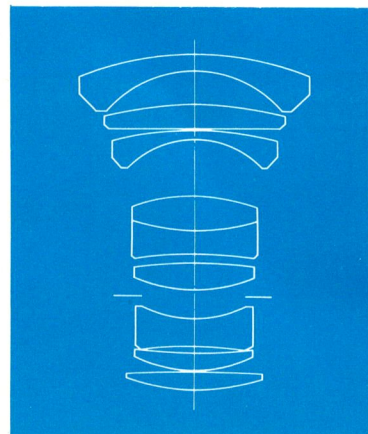
• Nikkor-N Auto



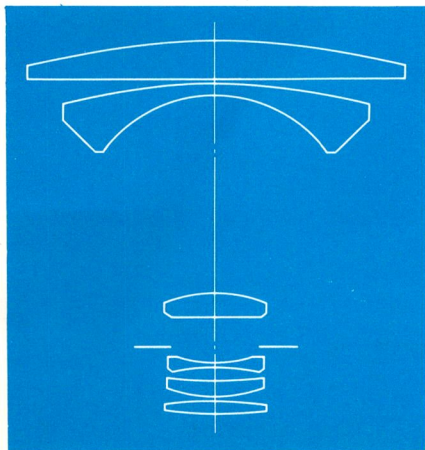
Focal length : 28mm Maximum aperture : f/2
Lens construction : 9 elements in 8 groups
Picture angle : 74°

Distance scale : Graduated both in meters and feet
up to 0.3m and 1ft Aperture scale : f/2 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated
(fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Lens hood : Screw-in type Filter : 52mm screw-in
Dimensions : 64.5mm dia. x 70mm length
(2-17/32 in. x 2-3/4 in.) Weight : 345g (12.2oz)

* Remarks: The rear group elements shift their positions according to the focused distance. On each air-surface of the elements, a multi-layer coating is applied. (Refer to P. 43 for details.)

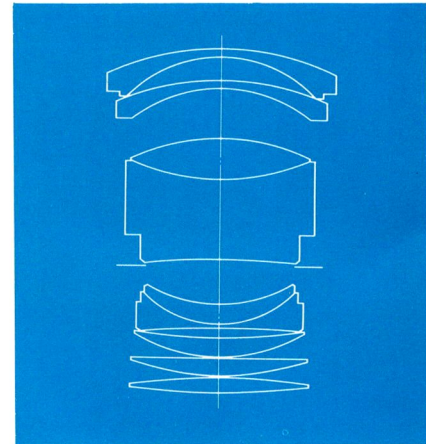


28 mm f/3.5
• Nikkor-H Auto



Focal length : 28mm Maximum aperture : f/3.5
 Lens construction : 6 elements in 6 groups Picture angle : 74°
 Distance scale : Graduated both in meters and feet up to 0.6m and 2ft
 Aperture scale : f/3.5 - f/16
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Integrated (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75)
 Filter : 52mm screw-in Lens hood : Screw-in type
 Dimensions : 62.5mm dia. x 54mm length (2-7/16 in. x 2-1/8 in.)
 Weight : 215g (7.6oz)

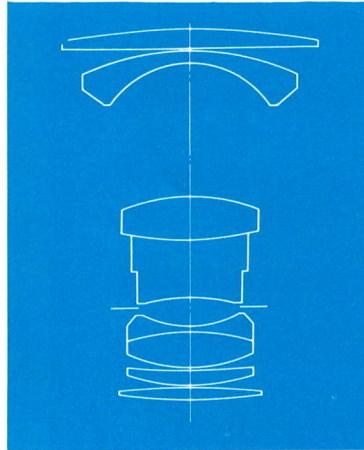
35 mm f/1.4 • Nikkor-N Auto



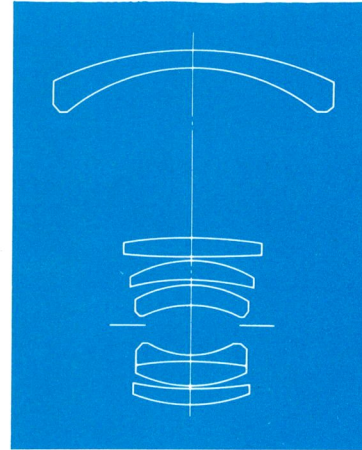
Focal length : 35mm Maximum aperture : f/1.4
Lens construction : 9 elements in 7 groups Picture angle : 62°
Distance scale : Graduated both in meters and feet up to 0.3m and 1ft
Aperture scale : f/1.4 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in Lens hood : Screw-in type
Dimensions : 66.5mm dia. x 74.5mm length (2-5/8 in. x 2-15/16 in.)
Weight : 415g (14.6oz)

* Remarks: The rear group elements shift their position according to the focused distance. On each air-surface of the elements, a multi-layer coating is applied. (Refer to P. 43 for details.)

• Nikkor-O Auto **f/2 35mm f/2.8** • Nikkor-S Auto



Focal length : 35mm Maximum aperture : f/2
 Lens construction : 8 elements in 6 groups
 Picture angle : 62°
 Distance scale : Graduated both in meters and feet up to 0.3m and 1ft
 Aperture scale : f/2 - f/16
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Intergrated
 (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75)
 Filter : 52mm screw-in Lens hood : Screw-in type
 Dimensions : 63.5mm dia. x 61mm length (2-1/2 in. x 2-13/32 in.)
 Weight : 285g (10.1oz)



Focal length : 35mm Maximum aperture : f/2.8
 Lens construction : 7 elements in 6 groups
 Picture angle : 62°
 Distance scale : Graduated both in meters and feet up to 0.3m and 1ft
 Aperture scale : f/2.8 - f/16
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Integrated (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75)
 Filter : 52mm screw-in Lens hood : Screw-in type
 Dimensions : 62.5mm dia. x 57.5mm length (2-15/32 in. x 2-1/4 in.)
 Weight : 200g (7.1oz)



NIKKOR NORMAL LENSES

TACHROME X FILM

50mm — 46°
55mm — 43°



S. HILL

50 mm f/1.4 • Nikkor-S Auto

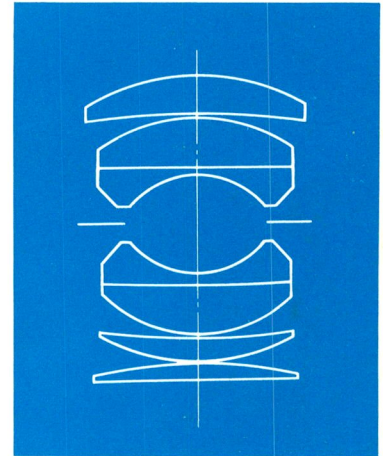
A normal lens is one which produces pictures whose perspective closely matches that seen by the human eye. With 35mm cameras, this means lenses of 45mm to 58mm focal length.

There are three normal Nikkor lenses:

- 50mm f/1.4 Nikkor-S Auto
- 50mm f/2 Nikkor-H Auto
- 55mm f/1.2 Nikkor-S Auto

The excellent speed of these lenses is an obvious advantage for available-light photography. It also means a brighter viewing image and easier focusing, thanks to the shallow depth of field. The faster the lens, the more pronounced these advantages. All three exhibit superb sharpness and all-over performance, even at their maximum apertures.

Other lenses of normal focal length are the 45mm f/2.8 GN Auto Nikkor and the 55mm f/3.5 Micro-Nikkor-P Auto. Because of their special characteristics, however, they are discussed in the section on special lenses (pages 46 and 50).

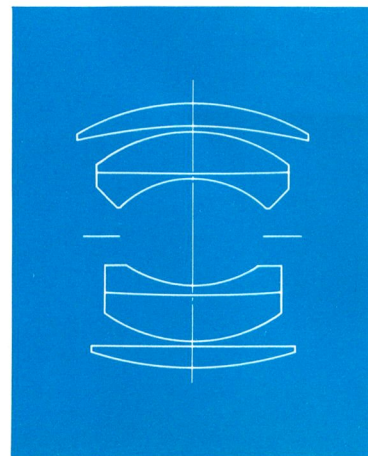


Focal length : 50mm Maximum aperture : f/1.4
Lens construction : 7 elements in 5 groups
Picture angle : 46°
Distance scale : Graduated both in meters and feet up to 0.6m and 2ft
Aperture scale : f/1.4 - f/16 Aperture diaphragm : Fully automatic
Meter Coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in Lens hood : Snap-on or screw-in type
Dimensions : 67mm dia. x 56.5mm length (2-5/8 in. x 2-7/32 in.)
Weight : 325g (11.5oz)



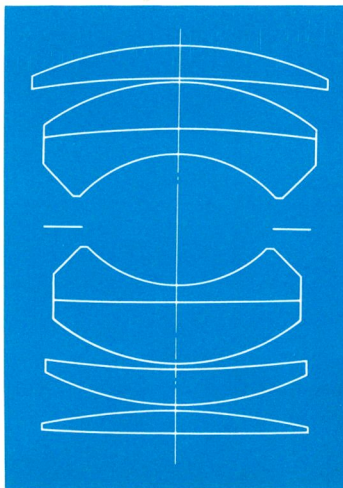
A.BEBE

50 mm f/2 • Nikkor-H Auto



55 mm f/1.2 • Nikkor-S Auto

Focal length : 50mm
Maximum aperture : f/2
Lens construction : 6 elements in 4 groups
Picture angle : 46°
Distance scale : Graduated both in meters and feet up to 0.6m and 2ft
Aperture scale : f/2 - f/16
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in
Lens hood : Snap-on or screw-in type
Dimensions : 64.5mm dia. x 48mm length (2-17/32 in. x 1-7/8 in.)
Weight : 205g (7.2oz)



Focal length : 55mm
Maximum aperture : f/1.2
Lens construction : 7 elements in 5 groups
Picture angle : 43°
Distance scale : Graduated both in meters and feet up to 0.6m and 2ft
Aperture scale : f/1.2 - f/16
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in
Lens hood : Snap-on or screw-in type
Dimensions : 73.5mm dia. x 58.5mm length (2-29/32 in. x 2-9/32 in.)
Weight : 420g (14.8oz)

* Remarks: A multi-layer coating is applied on the part of the lens. (Refer to P. 43 for details.)

FACHROME X FILM

85mm — 28° 30'

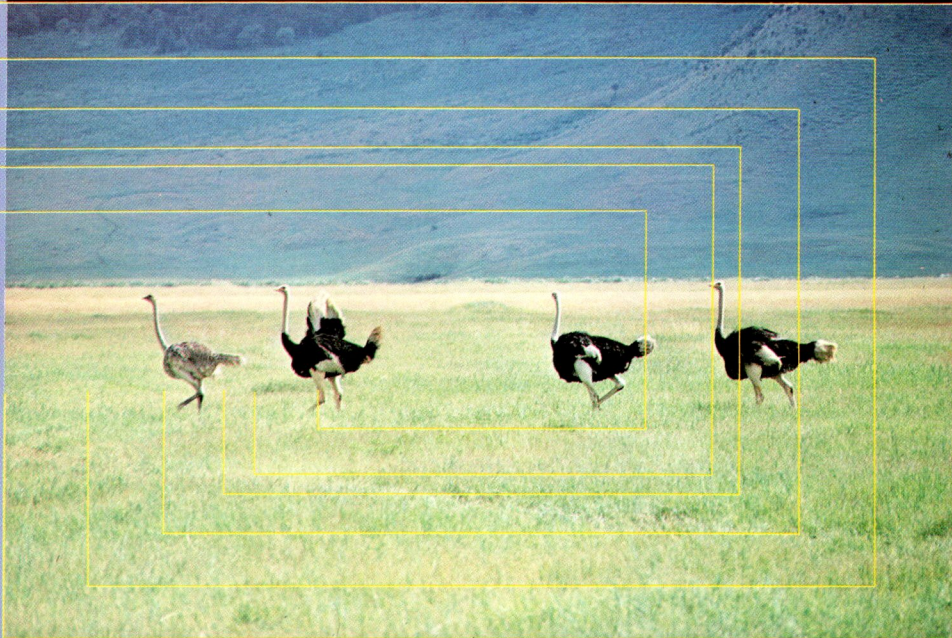
105mm — 23° 20'

135mm — 18°

180mm — 13° 40'

200mm — 12° 20'

300mm — 8° 10'



J. DORNBIERER

NIKKOR TELEPHOTO LENSES

The ability of telephoto lenses to bring far-away object within arm's length makes them plainly essential parts of any camera outfit. Where subject distance, inaccessibility or hazardous conditions make it impossible to obtain a large image with the normal lens, the telephoto provides a simple and practical solution.

But, for the serious photographer, these optics also represent important creative tools. And the slr system makes it easy to recognize their unique capabilities and put them to effective use.

At a given subject distance, different focal length lenses impart different perspectives to the picture. Telephoto lenses tend to compress the apparent distance between near and far points; wide angle lenses tend to expand that distance. Thus, lenses from 85mm to 135mm focal length are favorites for portraiture because they do not produce the distortion of facial features typical of shorter lenses. The extremes of this perspective-compression effect of telephoto lenses are often seen in photos of rows of buildings that seem to have no depth at all or of traffic jams in which cars appear to be pasted one in front of the other.

The apparent shallow depth of field of telephoto lenses not only makes them very easy to focus accurately.

It also lets you throw distracting backgrounds or

foregrounds out of focus and concentrate attention on the subject or create sharpness contrast between different areas in the picture.

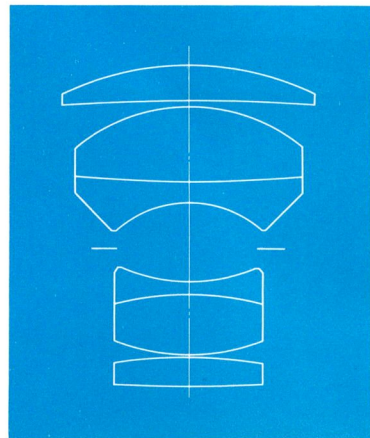
Many of the medium-long Nikkors are compact and light enough for hand-held shooting at 1/125th or faster shutter speeds. Use of a tripod is recommended to assure optimum results, especially with the longer focal length.

Lens hoods are supplied with all Auto-Nikkors of 105mm and greater focal length.

85mm f/1.8	Nikkor-H Auto
105mm f/2.5	Nikkor-P Auto
135mm f/2.8	Nikkor-Q Auto
135mm f/3.5	Nikkor-Q Auto
180mm f/2.8	Nikkor-P Auto
200mm f/4	Nikkor-Q Auto
300mm f/4.5	Nikkor-H Auto



85 mm f/1.8 • Nikkor-H Auto

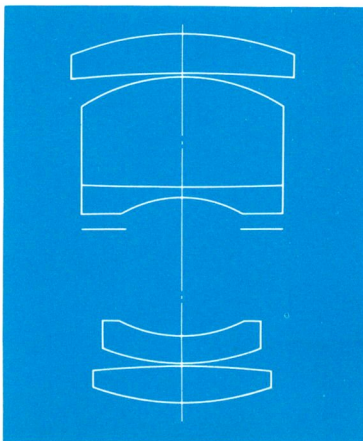


105mm f/2.5 • Nikkor-P Auto

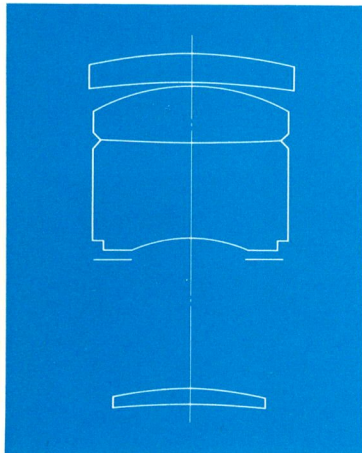
Focal length : 85mm
Maximum aperture : f/1.8
Lens construction : 6 elements in 4 groups
Picture angle : 28°30'
Distance scale : Graduated both in meters and feet up to 1m and 3.5ft
Aperture scale : f/1.8 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in
Lens hood : Screw-in type
Dimensions : 72mm dia. x 70mm length
(2-27/32 in. x 2-3/4 in.)
Weight : 420g (14.8oz)



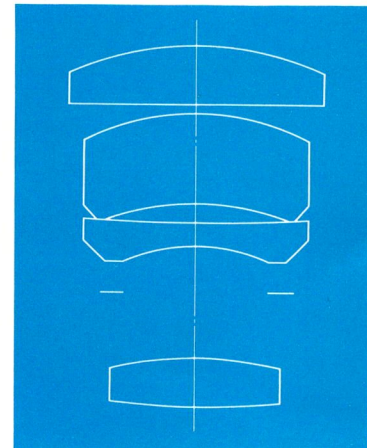
Focal length : 105mm
Maximum aperture : f/2.5
Lens construction : 5 elements in 4 groups
Picture angle : 23°20'
Distance scale : Graduated both in meters and feet up to 1m and 3.5ft
Aperture scale : f/2.5 - f/32
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in
Lens hood : Snap-on or screw-in type
Dimensions : 66mm dia. x 78mm length
(2-19/32 in. x 3-1/16 in.)
Weight : 435g (15.3oz)



Nikkor-Q Auto • f/3.5 **135** mm f/2.8 • Nikkor-Q Auto



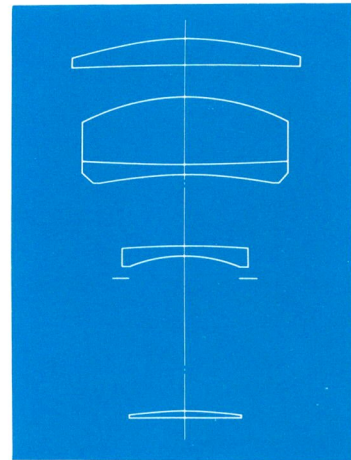
Focal length : 135mm Maximum aperture : f/3.5
 Lens construction : 4 elements in 3 groups
 Picture angle : 18°
 Distance scale : Graduated both in meters and feet up to 1.5m and 5ft
 Aperture scale : f/3.5 - f/32
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Integrated (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75)
 Filter : 52mm screw-in Lens hood : Snap-on or screw-in type
 Dimensions : 66mm dia. x 93.5mm length (2-19/32 in. x 3-11/16 in.)
 Weight : 460g (16.2oz)



Focal length : 135mm Maximum aperture : f/2.8
 Lens construction : 4 elements in 4 groups
 Picture angle : 18°
 Distance scale : Graduated both in meters and feet up to 1.5m and 5ft
 Aperture scale : f/2.8 - f/22
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Integrated (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75)
 Filter : 52mm screw-in Lens hood : Built-in telescopic type
 Dimensions : 72.5mm dia. x 104mm length (2-27/32 in. x 4-3/32 in.)
 Weight : 620g (21.9oz)

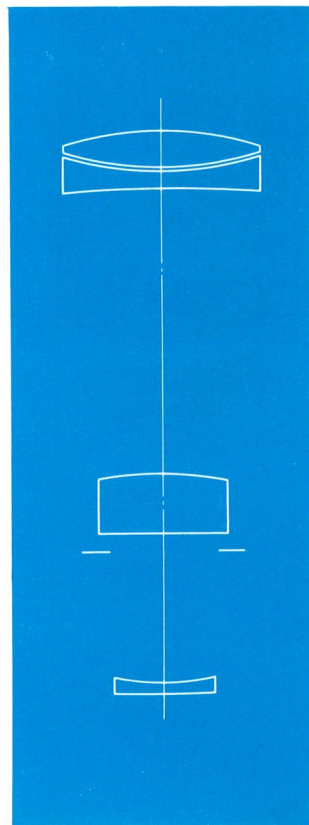


180mm f/2.8 • Nikkor-P Auto



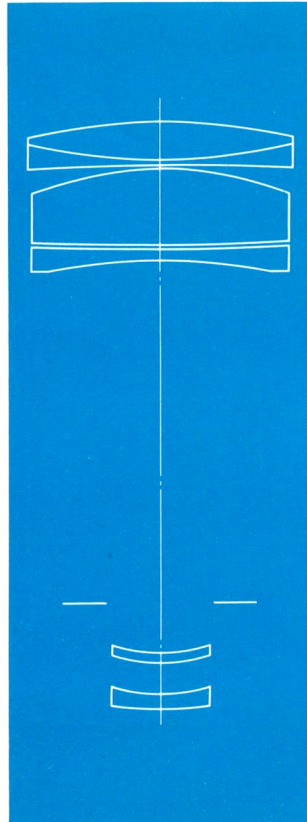
Focal length : 180mm Maximum aperture : f/2.8
Lens construction : 5 elements in 4 groups
Picture angle : 13°40'
Distance scale : Graduated both in meters and feet up to 1.8m and 6ft
Aperture scale : f/2.8 - f/32
Meter coupling prong : Integrated (fully open method exposure measurement)
Aperture diaphragm : Fully automatic
Attachment size : 72mm (P=0.75)
Filter : 72mm screw-in Lens hood : Built-in telescopic type
Dimensions : 81mm dia. x 141mm length (3-3/16 in. x 5-9/16 in.)
Weight : 830g (29.3oz)

200mm f/4 • Nikkor-Q Auto



Focal length : 200mm Maximum aperture : f/4
 Lens construction : 4 elements in 4 groups
 Picture angle : $12^{\circ}20'$
 Distance scale : Graduated both in meters and feet up to 2m and 7ft
 Aperture scale : f/4 - f/32
 Aperture diaphragm : Fully automatic
 Meter coupling prong : Integrated
 (fully open method exposure measurement)
 Attachment size : 52mm (P=0.75) Filter : 52mm screw-in
 Lens hood : Built-in telescopic type
 Dimensions : 72.5mm dia. x 163mm length (2-27/32 in. x 6-13/32 in.)
 Weight : 630g (22.2oz)

300mm f/4.5 • Nikkor-H Auto



Focal length : 300mm Maximum aperture : f/4.5

Lens construction : 6 elements in 5 groups

Picture angle : 8° 10'

Distance scale : Graduated both in meters and feet up to 4m and 13ft

Aperture scale : f/4.5 - f/22

Aperture diaphragm : Fully automatic

Meter coupling prong : Integrated
(fully open method exposure measurement)

Attachment size : 72mm (P=0.75)

Filter : 72mm screw-in

Lens hood : Built-in telescopic type

Dimensions : 80mm dia. x 203mm length (3-5/32 in. x 8 in.)

Weight : 1.1kg (2.3lb)

TACHROME X FILM

- 400mm — 6° 10'
- 500mm — 5°
- 600mm — 4° 10'
- 800mm — 3°
- 1000mm — 2° 30'
- 1200mm — 2°
- 2000mm — 1° 10'



R. SANYAL

NIKKOR SUPER TELEPHOTO LENSES

These "big guns" of the Nikon system provide magnification from 8X to 40X compared to the normal lens. They are, of course, invaluable for sports, wild life and bird photography. You also see them in action at missile launchings, reaching for the stars in astrophotography, and in other long-distance application. They fall into three optical design categories.

CATADIOPTRIC LENSES

500mm f/8 Reflex-Nikkor
1000mm f/11 Reflex-Nikkor
2000mm f/11 Reflex-Nikkor

These lenses are based on design principles used in large astronomical telescopes. Nikon has built many such telescopes for leading observatories.

In conventional lenses, the light travels a straight path. In Reflex-Nikkors, it doubles back and forth through a system of optically precise, front surface mirrors and lenses. This leads to remarkable reductions in size and weight compared to other lenses of similar focal length and actually makes possible hand-held shooting at high shutter speeds.

Like all catadioptric lenses, Reflex-Nikkors have no diaphragm. Light transmission is regulated by filters built into the rear of the lens or by varying the shutter speed. Each has a built-in tripod socket and a camera mount that enables you to turn the camera body for either horizontal or vertical shots.

FOR USE WITH SEPARATE FOCUSING UNIT

400mm f/4.5 Nikkor-Q Auto
600mm f/5.6 Nikkor-P Auto
800mm f/8 Nikkor-P Auto
1200mm f/11 Nikkor-P

In addition to enormous magnification and superb optical quality, these lenses offer an ingenious design feature. Each consists of an optical unit that is fitted to the Nikon or Nikkormat slr by means of a separate focusing unit which also contains the diaphragm. The same focusing unit is used with all four lenses, resulting in substantial cost economy for anyone requiring more than one of them. This two-piece construction also means greater convenience in carrying the lenses.

The diaphragm reopens automatically except with the 1200mm. Use of a sturdy tripod is a must with these lenses which have a tripod socket built into a rotatable collar.

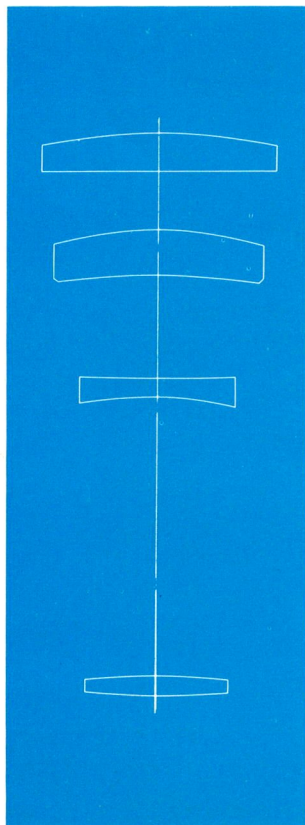
COMPACT DESIGN

400mm f/5.6 Nikkor-P Auto

This optical glass, developed by Nikon, makes possible the compact size and light weight of this innovating lens. The special properties of this result in exceptionally fine color correction, high resolution and superior image contrast for color as well as black and white photography.



400mm f/4.5 • Nikkor-Q Auto



Focal length : 400mm Maximum aperture : f/4.5

Lens construction : 4 elements in 4 groups

Picture angle : 6°10'

Distance scale : Graduated in meter or feet up to 5m or 16ft

Aperture scale : f/4.5 - f/22

Aperture diaphragm : Fully automatic

Exposure measurement : Stop-down method

Attachment size : 122mm (P=1.00)

Filter : 122mm screw-in

Lens hood : Built-in telescopic type

Dimensions : 135mm dia. x 471.5mm length

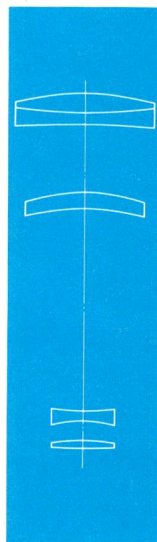
(5-5/16 in. x 18-9/16 in.)

Weight : 3.1kg (6.8lb)

* Remarks: Dimensions and weight are with the Focusing Unit.

600 mm f/5.6

• Nikkor-P Auto

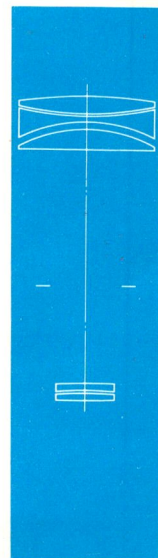


Focal length : 600mm
Maximum aperture : f/5.6
Lens construction : 5 elements in 4 groups
Picture angle : 4° 10'
Distance scale : Graduated in meters
or feet up to 11m or 35ft
Aperture scale : f/5.6 - f/22
Aperture diaphragm : Fully automatic
Exposure measurement : Stop-down method
Attachment size : 122mm (P=1.00)
Filter : 122mm screw-in
Lens hood : Built-in telescopic type
Dimensions : 135mm dia. x 516.5mm length
(5-5/16 in. x 20-11/32 in.)
Weight : 3.6kg (7.9 lb)

* Remarks: Dimensions and weight are with the Focusing Unit.

800 mm f/8

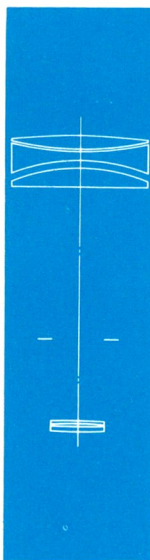
• Nikkor-P Auto



1200mm f/11 • Nikkor-P

Focal length : 800mm
 Maximum aperture : f/8
 Lens construction : 5 elements in 5 groups
 Picture angle : 3°
 Distance scale : Graduated in meters
 or feet up to 19m or 61ft
 Aperture scale : f/8 - f/22 (f/64 with manual)
 Aperture diaphragm : Fully automatic
 Exposure measurement : Stop-down method
 Attachment size : 122mm (P=1.00)
 Filter : 122mm screw-in
 Lens hood : Built-in telescopic type
 Dimensions : 135mm dia. x 711.5mm length
 (5-5/16 in. x 28 in.)
 Weight : 3.5kg (7.7lb)

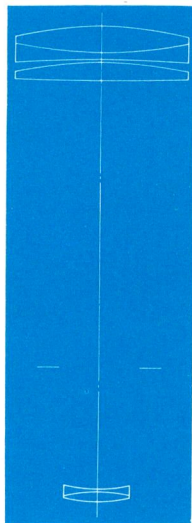
* Remarks: Dimensions and weight are with the Focusing Unit.



Focal length : 1200mm Maximum aperture : f/11
 Lens construction : 5 elements in 5 groups
 Picture angle : 2° Distance scale : Graduated in meters
 or feet up to 43m or 139ft Aperture scale : f/11 - f/64
 Aperture diaphragm : Manual
 Exposure measurement : Stop-down method
 Attachment size : 122mm (P=1.00) Filter : 122mm screw-in
 Lens hood : Built-in telescopic type Dimensions : 135mm dia. x 922mm
 length (5-5/16 in. x 36-5/16 in.) Weight : 4.3kg (9.5lb)

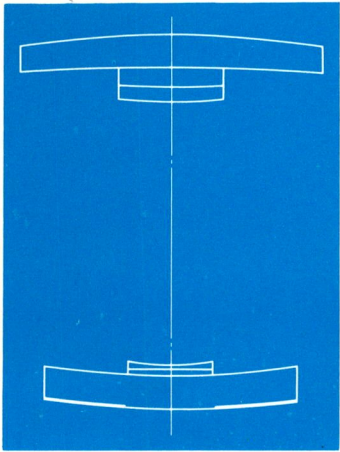
* Remarks: Dimensions and weight are with the Focusing Unit.

400mm f/5.6 • Nikkor-P Auto



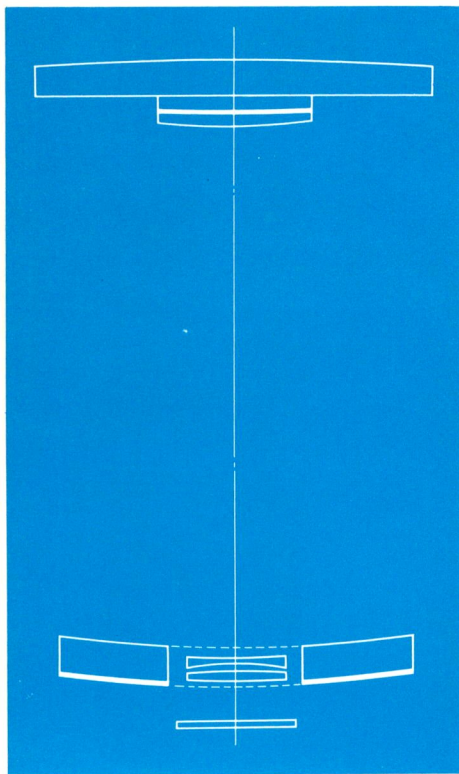
Focal length : 400mm Maximum aperture : f/5.6
Lens construction : 5 elements in 3 groups
Picture angle : 6°10'
Distance scale : Graduated both in meters and feet up to 5m and 16ft
Aperture scale : f/5.6 - f/32
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated
(fully open method exposure measurement)
Attachment size : 72mm (P=0.75) Filter : 72mm screw-in
Lens hood : Built-in telescopic type
Dimensions : 85mm dia. x 262mm length (3-11/32 in. x 10-5/16 in.)
Weight : 1.4kg (3.1lb)

500mm f/8 Reflex-Nikkor



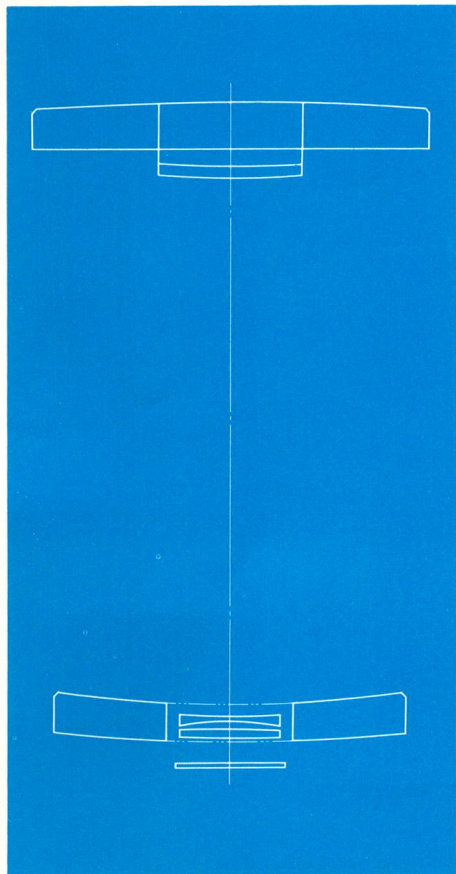
Focal length : 500mm Maximum aperture : f/8
Lens construction : 5 elements in 3 groups
Picture angle : 5°
Distance scale : Graduated both in meters and feet up to 4m and 13ft
Attachment size : 88mm (P=0.75)
Filter : 39mm screw-in Lens hood : Screw-in type
Dimensions : 93mm dia. x 142mm length (3-21/32 in. x 5-19/32 in.)
Weight : 1kg (2.2lb)

1000mm f/11 Reflex-Nikkor



Focal length : 1000mm
Maximum aperture : f/11
Lens construction : 5 elements in 5 groups
Picture angle : $2^{\circ}30'$
Distance scale : Graduated both in meters and feet up to 8m and 25ft
Attachment size : 108mm (P=0.75)
Filter : Built-in, L39, Y48, O56 & R60
Lens hood : Slip-on type
Dimensions : 117mm dia. x 238mm length
(4-19/32 in. x 9-3/8 in.)
Weight : 1.9Kg (4.2lb)

2000mm f/11 Reflex-Nikkor



Focal length : 2000mm Maximum aperture : f/11
Lense construction : 5 elements in 5 groups Picture angle : $1^{\circ}10'$
Focusing : By means of the focusing knob. In 3 rotations, covers ∞ - 20m (∞ - 60ft)
Distance scale : Graduated both in meters and feet up to 20m and 60ft
Filter : Built-in, L39, Y48, O56 & R60
Dimensions : 262mm dia. x 598mm length (10-5/16 in. x 23-17/32 in.)
Weight : 17.5kg (38.6lb)

Mounting (Mounting AY-1 for this lens.)
Angle of elevation : 60° Angle of depression : 35°
Horizontal rotation : Continuous
Dimensions : 573mm high x 330mm wide (22-9/16 in. x 13 in.)
Weight : 7.5kg (16.5lb)

TACHROME X FILM



43—86mm—53°—28° 30'

50—300mm—46°—8° 10'

80—200mm—30° 10'—12° 20'

200—600mm—12° 20'—4° 10'

H. C. WHITE

NIKKOR ZOOM LENSES

You are framing your picture in the camera finder, and you're not satisfied with the composition. The subject image is too large, or too small. Or the perspective just isn't right. So, you move closer, or farther away. You try other lenses of various focal lengths. Eventually you may come up with the desired effect, provided your subject is still there.

It's a lot easier and faster when you put a Nikkor Zoom lens on your Nikon or Nikkormat slr. You simply slide the large, knurled collar on the lens mount forward or back and observe the changing image in the viewfinder. Within seconds you can obtain precisely the pictorial effect you want. And you never have to move from the spot or take your eye off the finder.

How does a Nikkor Zoom perform its seeming magic? While in conventional lenses the focal length is fixed, in Nikkor Zooms it is continuously variable through a given range. You choose the focal length by means of the sliding collar which shifts part of the optics back and forth. Thus a single Nikkor Zoom can be any lens from semi-wide angle to long focus, or from normal to telephoto, or from medium long to super telephoto. It is literally countless lenses in one, giving you a measure of pictorial variety and control not available with any number of other lenses.

There are other, unique advantages you enjoy with a Nikkor Zoom. Once focused sharply at any focal length

setting, it is automatically in focus throughout its entire range, without the slightest focus shift. What's more, on all but one of today's Nikkor Zooms the same control does both: simply slide it to select the focal length, twist it to focus. Its movement is so smooth you can actually "follow-zoom" moving action to keep the image size uniform for the entire sequence.

Considering these unique capabilities, it's easy to see why quality zoom lenses are the most difficult of all to design and manufacture. The optics involved are enormously complex. Infinitesimal precision is essential to ensure 100% alignment accuracy of the moving components at any of innumerable settings.

The axiom that high quality lenses cannot be cheap thus is especially true for zoom optics.

Not surprisingly, Nikon was first to produce a practical zoom lens for 35mm that met professional quality requirements. From this headstart, through years of improvement and refinement, Nikon has developed today's incomparable array of Nikkor Zoom lenses whose sharpness and correction are considered the quality standard for zoom optics.

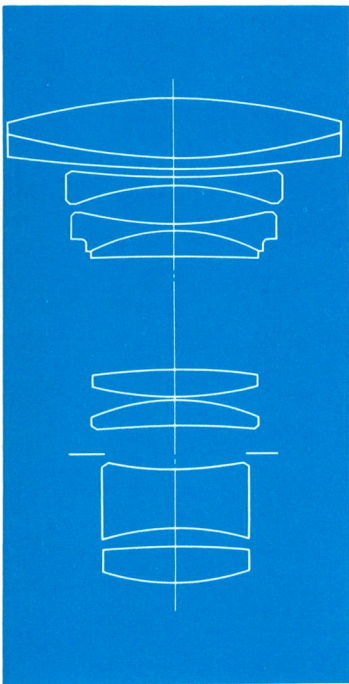
43mm - 86mm f/3.5 Zoom-Nikkor Auto

80mm - 200mm f/4.5 Zoom-Nikkor Auto

50mm - 300mm f/4.5 Zoom-Nikkor Auto

200mm - 600mm f/9.5 Zoom-Nikkor Auto

43—86 mm f/3.5 • Zoom-Nikkor Auto



Focal length : 43mm - 86mm

Maximum aperture : f/3.5

Lens construction : 9 elements in 7 groups

Picture angle : 53° (F=43mm) - 28°30' (F=86mm)

Distance scale : Graduated both in meters and feet
up to 1.2m and 4ft

Aperture scale : f/3.5 - f/22

Aperture diaphragm : Fully automatic

Meter coupling prong : Integrated

(fully open method exposure measurement)

Focusing : By turning the zooming/focusing ring

Zooming : By back and forth movement of the zooming/focusing ring
(with the reference markings for 43, 50, 60, 70 and 86mm)

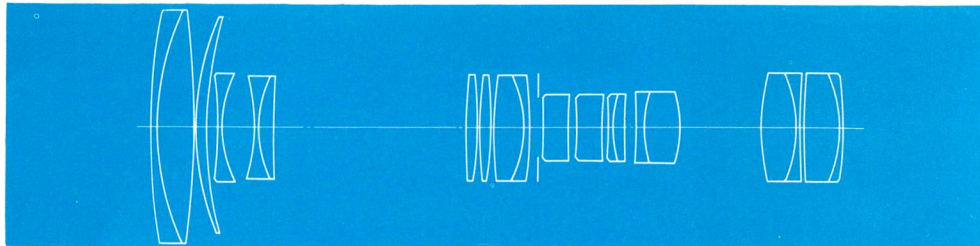
Attachment size : 52mm (P=0.75)

Filter : 52mm screw-in Lens hood : Screw-in type

Dimensions : 65mm dia. x 78 mm length (2-9/16 in. x 3-1/16 in.)

Weight : 410g (14.5oz)

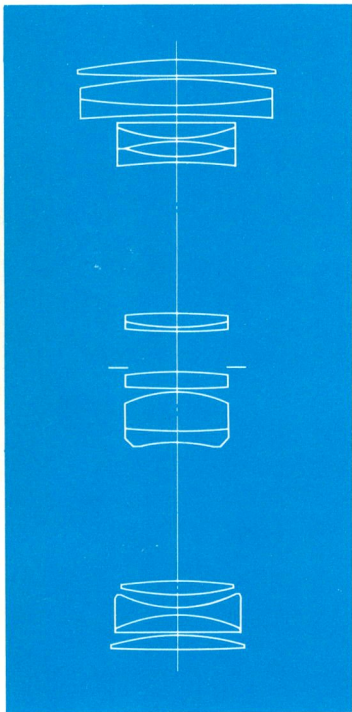
50—300 mm f/4.5 · Zoom-Nikkor Auto



Focal length : 50mm - 300mm Maximum aperture : f/4.5
Lens construction : 20 elements in 13 groups
Picture angle : 46° (F=50mm) - 8° 10' (F=300mm)
Distance scale : Graduated both in meters
and feet up to 2.5m and 8.5ft Aperture scale : f/4.5 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated
(fully open method exposure measurement)
Focusing : By turning the focusing ring

Zooming : By turning the zooming ring
(with the reference markings
for 50, 60, 70, 85, 105, 135, 200, 250 and 300mm)
Attachment size : 95mm (P=1.00)
Filter : 95mm screw-in Lens hood : Screw-in type
Tripod socket : Rotatable
(equipped with click stops at each 90°)
Dimensions : 98mm dia. x 292mm length
(3-27/32 in. x 11-1/2 in.) Weight : 2.3kg (5.1lb)

80—200 mm f/4.5 · Zoom-Nikkor Auto



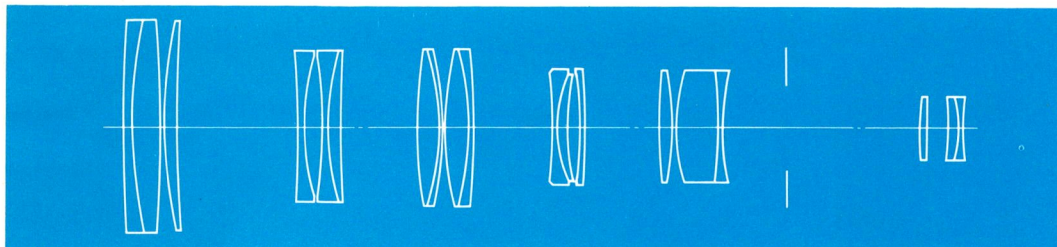
F. HIDALGO



Focal length : 80mm - 200mm Maximum aperture : f/4.5
Lens construction : 15 elements in 10 groups
Picture angle : 30°10' (F=80mm) - 12°20' (F=200mm)
Distance scale : Graduated both in meters and feet up to 1.8m and 6ft
Aperture scale : f/4.5 - f/32 Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated
(fully open method exposure measurement)
Focusing : By turning the zooming/focusing ring
Zooming : By back and forth movement of the zooming/focusing ring
(with the reference markings for 80, 90, 105, 135 and 200mm)
Attachment size : 52mm (P=0.75) Filter : 52mm screw-in
Lens hood : Screw-in type
Dimensions : 74.5mm dia. x 162mm length
(2-15/16 in. x 6-3/8 in.)
Weight : 830g (29.3oz)

200—600mm f/9.5

• Zoom-Nikkor Auto



Focal length : 200mm - 600mm Maximum aperture : f/9.5 Lens construction : 19 elements in 12 groups

Picture angle : 12°20' (F=200mm) - 4°10' (F=600mm)

Distance scale : Graduated in meters or feet to 4m or 13ft With close-up attachment, from 4m to 2.3m or from 13ft to 7.5ft

Aperture diaphragm : Fully automatic Aperture scale : f/9.5 - f/32

Exposure measurement : Stop-down method Focusing : By turning the zooming/focusing ring

Zooming : By back and forth movement of the zooming/focusing ring

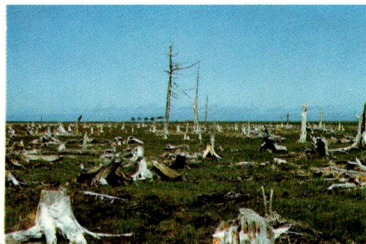
(with the reference markings for 200, 250, 300, 350, 400, 500 and 600mm)

Attachment size : 82mm (P=0.75) Filter : Series 9 Lens hood : Screw-in type

Tripod socket : Rotatable (equipped with click stops at each 90°)

Dimensions : 89mm dia. x 382mm length (3-1/2 in. x 15-1/32 in.) Weight : 2.3kg (5.1lb)

PICTORIAL CONTROL WITH NIKKOR ZOOM LENSES



50mm



105mm



200mm



300mm

Both series of photos were made with a Nikkor Zoom lens and illustrate the matchless pictorial control such a lens provides. All photos in the top row were made with the camera in the same position. They show the increasing magnification of the subject image and narrowing picture angle as the focal length setting of the lens is increased.

For the photos in the bottom row, the camera-to-subject distance was changed each time to keep the image size of the main subject uniform. Note the changes in perspective, with the distance between foreground and background seeming to diminish as the focal length increases.



50mm



105mm



200mm



300mm

NIKON'S LATEST ACHIEVEMENT IN LENS DESIGN

Nikon "Floating Element" Design

Through this ingenious design feature, the 24mm f/2.8, 28mm f/2 and 35mm f/1.4 Nikkor lenses maintain their superb image quality even at extremely close distances.

Most lenses are designed to perform best at medium to long distances. As they are focused for close distances, their quality tends to deteriorate. Therefore, most lenses must limit their closest focus setting to a point where image deterioration is not yet noticeable.

This problem applies particularly to large-aperture wideangle lenses of retrofocus design. However, the three Nikkor lenses

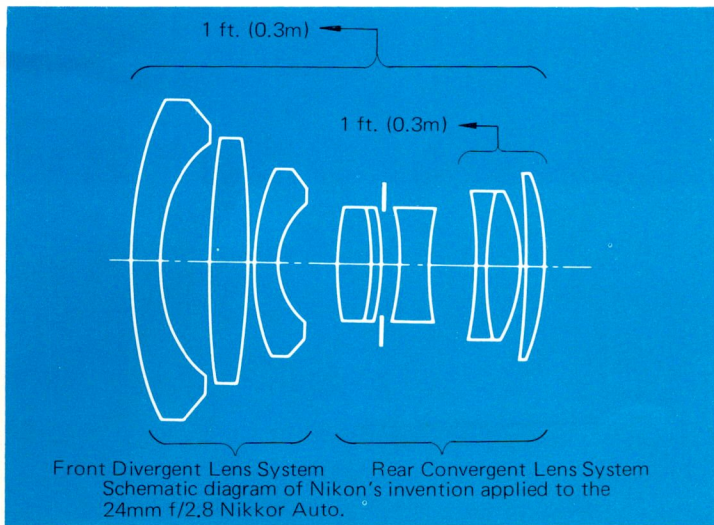
mentioned, while members of this category, employ an ingenious solution. As any of them is focused for close distances, its group of rear elements automatically shifts position in relation to the other elements resulting in greatly improved performance. Thus, these lenses offer an increased focusing range with exceptional picture quality throughout.

Nikon Multi-Layer Coating ("NIC"—Nikon Integrated Coating)

Lens coating is a process by which one or more very thin layers of chemicals are deposited on the lens surfaces. Its effect, when properly applied, is to reduce light reflection, thus increasing the light transmission and color rendition of the lens while minimizing ghost and flare.

Nikon scientists were among the first to discover that the performance of certain lenses comprising more than a few glass elements could be improved even further by applying several layers of coating. As the result of this research, multi-layer coating has been incorporated in the design of several Nikkor lenses: 28mm f/2, 35mm f/1.4, and 55mm f/1.2.

It should be kept in mind that coating cannot improve a lens that is not inherently of good quality. Nor does its effectiveness automatically increase with the number of layers applied. At Nikon, each individual lens design is evaluated to determine whether single or multi-layer coating or a combination of both is best suited for assuring the optimum performance of the lens involved.





NIKKOR SPECIAL LENSES

Nikon leadership in photographic optics is exemplified by the numerous special lens designs originated by Nikon. Many of these lenses, while initially intended for special applications, have inspired photographers to use them in exploring new forms of pictorial expression and thus have spurred the development of 35mm photography into a contemporary art form.

Aside from their outstanding quality, the variety of special Nikkor lenses is impressive by itself. There is the 55mm f/3.5 Micro-Nikkor-P Auto with its exceptional performance in both close-up and conventional use. The 35mm f/2.8 PC-Nikkor brings distortion-correction facilities for architectural work to 35mm photography. The 200mm f/5.6 Medical-Nikkor Auto is a self-contained close-up system, with built-in focusing light and electronic ring-light flash. Other lenses in this group include the famous Fisheye-Nikkors with 180° or 220° picture angle, 45mm f/2.8 GN Auto Nikkor providing automatic flash exposure accuracy with any flash unit, and 105mm f/4 Bellows-Nikkor.

Inevitably, many of these lenses have attracted attempts at imitation. But, their unique combination of design ingenuity and meticulously precise construction continues to set Nikkor lenses apart as today's foremost optics for 35mm photography.

55 mm f/3.5

Micro-Nikkor-P Auto

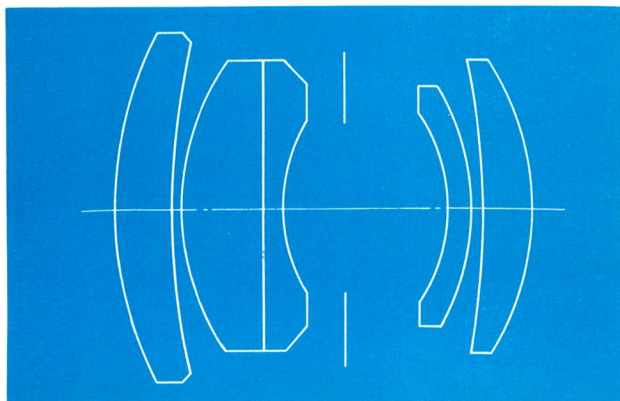


The Micro-Nikkor-P Auto offers a unique combination of exceptional resolving power, superb flatness of field, high image contrast, and outstanding color rendition. What's more, the lens provides a built-in close-up system with which to apply its matchless performance up to 1:1 reproduction.

The helical mount of the Micro Nikkor has an extra-long extension range. You can focus it continuously from infinity to 9.5" (film plane to subject) where it produces a 1/2-life size image. Use of the M2 ring, furnished as standard equipment, provides a second focusing range from 1/2-life size to 1:1. The automatic diaphragm remains operative throughout the entire range even when using the M2 ring. Without this ring, the lens is meter-coupled for open-aperture exposure control; with the M2 ring, the stop-down method is used.

The Micro Nikkor is also ideal for photomacrography, using bellows attachments or extension tubes. With the Nikon Bellows IV or V, for example, magnification to 4.3X can be obtained. Slide copying, using one of the appropriate Nikon attachments, is another prime application for this unique lens.

For easy reference, the lens barrel is engraved with scales for both distance and reproduction settings, with and without the M2 ring. In view of its superlative performance in both close-up and conventional applications, the Micro Nikkor is widely considered to be an ideal lens for general photography.

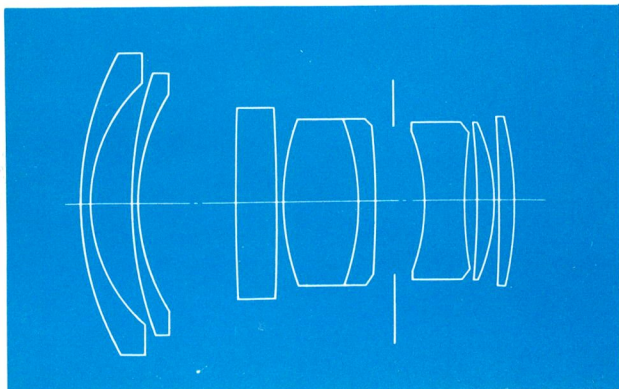




Focal length : 55mm Maximum aperture : f/3.5
Lens construction : 5 elements in 4 groups
Picture angle : 43°
Distance scale : Graduated both in meters and feet up to 24.1cm and 9-1/2in.
Aperture scale : f/3.5 - f/32
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 52mm (P=0.75) Filter : 52mm screw-in
Lens hood : Screw-in type
Dimensions : 65.5mm dia. x 64.5mm length (2-19/32 in. x 2-17/32 in.)
Weight : 235g (8.3oz)

35mm f/2.8

PC-Nikkor



It was Nikon that brought perspective correction to 35mm by means of the ingenious PC-Nikkor lens.

Normally, when photographing a building, the camera may have to be tilted to include the upper part of the structure. This causes the vertical lines to converge toward the top and gives the building the appearance of leaning or falling back.

Previously, the only solution was to use a view camera, keeping its back parallel to the building and raising the lens standard to bring the upper part into the picture.

In the PC-Nikkor, a micrometer lead-screw permits shifting the optics off-axis by as much as 11mm. A mm-calibrated scale shows the extent of the shift. This 11mm shift in the PC-Nikkor is equivalent to a 3-inch shift on a view camera equipped with a 9-1/2 inch lens.

For example shooting a building from a distance of about 200 feet, an 11mm upward shift of the lens will bring about 72 feet more of the upper structure into the picture.

Because the entire lens assembly can rotate in the mount of the PC-Nikkor, the effect of the shift can be applied vertically (up or down), horizontally (either side), or diagonally. There are 12 click-stop positions at 30° intervals.

The PC-Nikkor may also be used to produce "wide-field" pictures with uniform perspective (unlike those made with rotating pan heads). Two pictures, each taken with the lens shifted the full 11mm in the opposite extreme, can be joined where they overlap to produce a single extended photograph. The technique can be used on vertical or horizontal subjects.

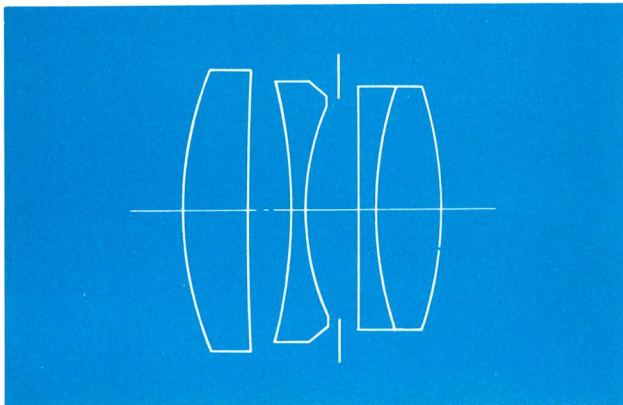
In its normal position, the PC-Nikkor is an excellent intermediate (62°) wideangle lens with focusing range as close as 12 inches.



Focal length : 35mm
Maximum aperture : f/2.8
Lens construction : 8 elements in 7 groups
Picture angle : 62°
Distance scale : Graduated both in meters and feet up to 0.3m and 1ft
Aperture scale : f/2.8 - f/32
Aperture diaphragm : Manual preset
Attachment size : 52mm (P=0.75)
Filter : 52mm screw-in
Lens hood : Screw-in type
Dimensions : 70mm dia. x 66.5mm length (2-3/4 in. x 2-5/8 in.)
Weight : 335g (11.8oz)

45mm f/2.8

GN Auto Nikkor



Another example of Nikon ingenuity in lens design, the unique GN Auto Nikkor reduces flash exposure to automatic accuracy and simplicity.

The GN has a special scale on which you can preset the flash guide number of the film you are using, from 32 to 320. This simple adjustment activates a precision linking system that couples the focusing mechanism to the lens diaphragm. Once the guide number is set, the diaphragm adjusts automatically as you focus, assuring correct flash exposure at all subject distances. This method of flash automation offers several advantages. One; the lens aperture changes as you focus, giving you greater depth of field at close distances. Two; the flash duration is constant and always within the capacity of color films, avoiding the risk of reciprocity failure which results from extremely short flash durations and may cause faulty color reproduction. And, of course, the GN provides automation with any flash unit. With guide number scale disengaged for non-flash photography, the GN Auto Nikkor couples to Nikon and Nikkormat meter systems. Its fine optical quality and speed make it an excellent choice for either application. The GN is also extremely compact, extending just 20mm (3/4 in.) from the front of the camera, and weighs a mere 150 grams (5.3 oz.).



The GN Auto Nikkor diaphragm automatically stops down or opens up as the lens is focused.

Focal length : 45mm Maximum aperture : f/2.8

Lens construction : 4 elements in 3 groups

Picture angle : 50°

Distance scale : Graduated both in meters and feet up to 0.8m and 3ft

Aperture scale : f/2.8 - f/32

Aperture diaphragm : Fully automatic

Meter coupling prong : Integrated (fully open method exposure measurement)

Attachment size : 52mm (P=0.75) Filter : 52mm screw-in Lens hood : Screw-in type

Dimensions : 64mm dia. x 31mm length (2-17/32 in. x 1-7/32 in.)

Weight : 150g (5.3oz)

200 f/5.6
mm

Medical-Nikkor Auto



The Medical-Nikkor reduces close-up photography to automatic, routine simplicity. It was originally intended for medical and dental applications. But, it is equally effective for other, scientific and industrial use where its completely automatic operation and ample working distances offer unique advantages.

Basically, the Medical-Nikkor is a fixed-focus lens for use at about 11 feet subject distance where it provides 1:15 reproduction. A series of

supplementary lenses, supplied with the lens, can be attached singly or in various combinations for shooting at closer distances with reproduction ratios from 1:8 to 3:1. In each case, the camera is moved towards or away from the subject until the finder image is at its sharpest. The lens incorporates its own light sources: Four incandescent bulbs which serve as modeling lights for easy close-up viewing and sharpness control, and a synchronized electronic ring-light flash which gives even and

shadowless illumination for the exposure. A choice of AC or battery power packs is available. Accurate exposure is automatically assured. Setting the lens for ASA film rating and desired reproduction ratio also presets the automatic diaphragm for the correct exposure aperture. The Medical-Nikkor can be set to imprint any or all frames with the magnification ratio used or numerically (from 1 to 38).



Built-in ring-light flash illuminates picture area fully and evenly. Note imprint of reproduction ratio in lower right corner.

Focal length : 200mm Maximum aperture : f/5.6

Lens construction : 4 elements in 4 groups

Picture angle : 12°20' Aperture scale : f/5.6 - f/45 Aperture diaphragm : Fully automatic

Attachment size : 38mm (P=0.75)

Dimensions : 80mm dia. x 176mm length (3-5/32 in. x 6-15/16 in.)

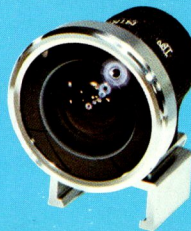
Weight : 670g (23.6oz)

NIKKOR FISHEYE LENSES



F. HIDALGO

This finder is supplied with the 6mm f/5.6 and 10mm f/5.6 OP Fisheye-Nikkors which are used with the camera mirror locked in "up" position. With all other current Fisheye-Nikkors, the automatic mirror return system remains fully operative.



Among the most striking of Nikon optical innovations, Fisheye-Nikkors originally were intended for use in meteorological and astronomical research. They are also invaluable for industrial uses — picturing interiors of boilers and pipe lines, for surveillance, security, and environmental control. But, the spectacular effects they produce has also opened new vistas in pictorial news and sports coverage and added dramatic impact to advertising and commercial photography.

With their extremely short focal length, Fisheye-Nikkors provide enormous depth of field extending from infinity to within inches of the camera. Their center-to-edge sharpness and color correction meet every professional standard.

Fisheye-Nikkors are equipped with built-in filter turrets. All except the 16mm f/3.5 produce circular images on the film. The OP Fisheye-Nikkor adopts the orthographic projection formula* ($Y=c \cdot \sin \theta$), while the other four lenses employ the ordinary equidistant projection formula ($Y=c \cdot \theta$).

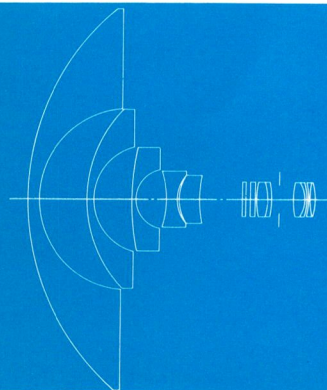
* Y =Image size θ =Zenith angle

6 mm f/2.8

Fisheye-Nikkor Auto



Focal length : 6mm
Maximum aperture : f/2.8
Lens construction : 12 elements in 9 groups
Picture angle : 220°
Projection formula : Equidistant
Image size on film : 23mm in dia.
Distance scale : Graduated both in meters and feet
up to 0.3m and 1ft
Aperture scale : f/2.8 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method
exposure measurement)
Filter : Built-in, L1A, Y48, Y52, O56 & R60
Dimensions : 236mm dia. x 171mm length
(9-9/32 in. x 6-23/32 in.)
Weight : 5.2kg (11.5lb)

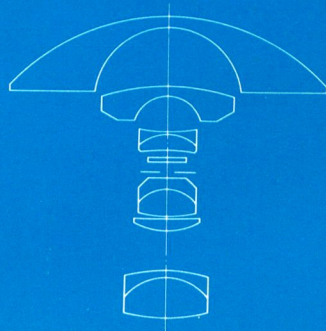


6 mm f/5.6

Fisheye-Nikkor

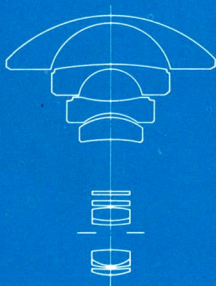


Focal length : 6mm
Maximum aperture : f/5.6
Lens construction : 9 elements in 6 groups
Picture angle : 220°
Projection formula : Equidistant
Image size on film : 21.6mm in dia.
Focusing : Fixed focus
Aperture scale : f/5.6 - f/22
Aperture diaphragm : Manual
Attachment size : 89mm (P=0.75)
Filter : Built-in, L1A, Y48, Y52, O57, R60 & XO
Dimensions : 92mm dia. x 81mm length
(3-5/8 in. x 3-3/16 in.)
Weight : 430g (15.2oz)



8mm f/2.8

Fisheye-Nikkor Auto



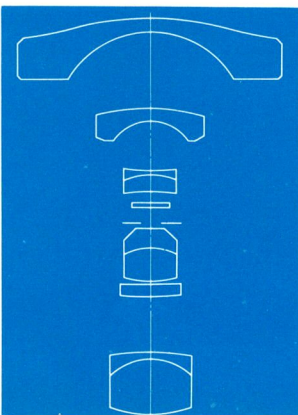
Focal length : 8mm Maximum aperture : f/2.8
Lens construction : 10 elements in 8 groups
Picture angle : 180° Projection formula : Equidistant
Image size on film : 23mm in dia.
Distance scale : Graduated both in meters and feet up to 0.3m and 1ft
Aperture scale : f/2.8 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Attachment size : 120mm (P=1.00)
Filter : Built-in, L1A, Y48, Y52, O56 & R60
Dimensions : 123mm dia. x 140mm length (4-27/32 in. x 5-1/2 in.) Weight : 1kg (2.2lb)

10mm f/5.6

OP Fisheye-Nikkor



Focal length : 10mm
Maximum aperture : f/5.6
Lens construction : 9 elements in 6 groups
Picture angle : 180°
Projection formula : Orthographic
Image size on film : 20mm in dia.
Focusing : Fixed focus
Aperture scale : f/5.6 - f/22
Aperture diaphragm : Manual
Attachment size : 79mm (P=0.75)
Filter : Built-in, L1A, Y48, Y52, O56, R60 & XO
Dimensions : 84mm dia. x 105mm length (3-5/16 in. x 4-1/8 in.)
Weight : 400g (14.1oz)

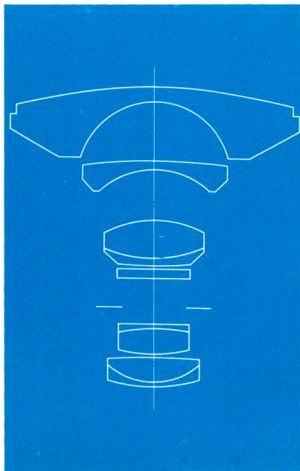


16mm f/3.5

Fisheye-Nikkor Auto

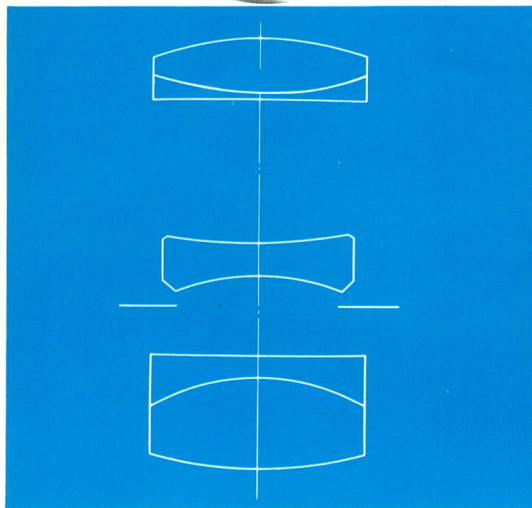
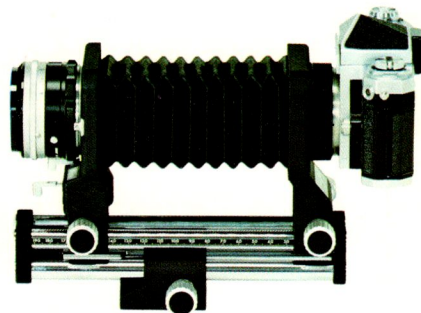


Focal length : 16mm
Maximum aperture : f/3.5
Lens construction : 8 elements in 5 groups
Picture angle : 170°
Projection formula : Equidistant
Image size on film : Fills 35mm film format
Distance scale : Graduated both in meters and feet up to 0.3m and 1 ft.
Aperture scale : f/3.5 - f/22
Aperture diaphragm : Fully automatic
Meter coupling prong : Integrated (fully open method exposure measurement)
Filter : Built-in Y48, O56, R60 & plain glass filter (N)
Dimensions : 68mm dia. x 60.5mm length (2-13/16 in. x 2-11/32 in.)
Weight : 330g (11.6oz)



This photo, taken with the 10mm f/5.6 OP Fisheye-Nikkor, shows a configuration ("sky") factor of 48%. Designed on the orthographic projection formula, the OP Fisheye-Nikkor is especially effective in measuring the luminance of an area surrounded by high-rise constructions in urban planning.

105mm f/4 Bellows-Nikkor



Focal length : 105mm

Maximum aperture : f/4

Lens construction : 5 elements in 3 groups

Picture angle : 23°20'

Distance scale : Not integrated. Focusing by means of Bellows Focusing Attachment

Aperture scale : From f/4 to f/32. Two intermediate settings between f-numbers are shown by black dots.

Aperture diaphragm : Manual preset

Attachment size : 52mm (P=0.75)

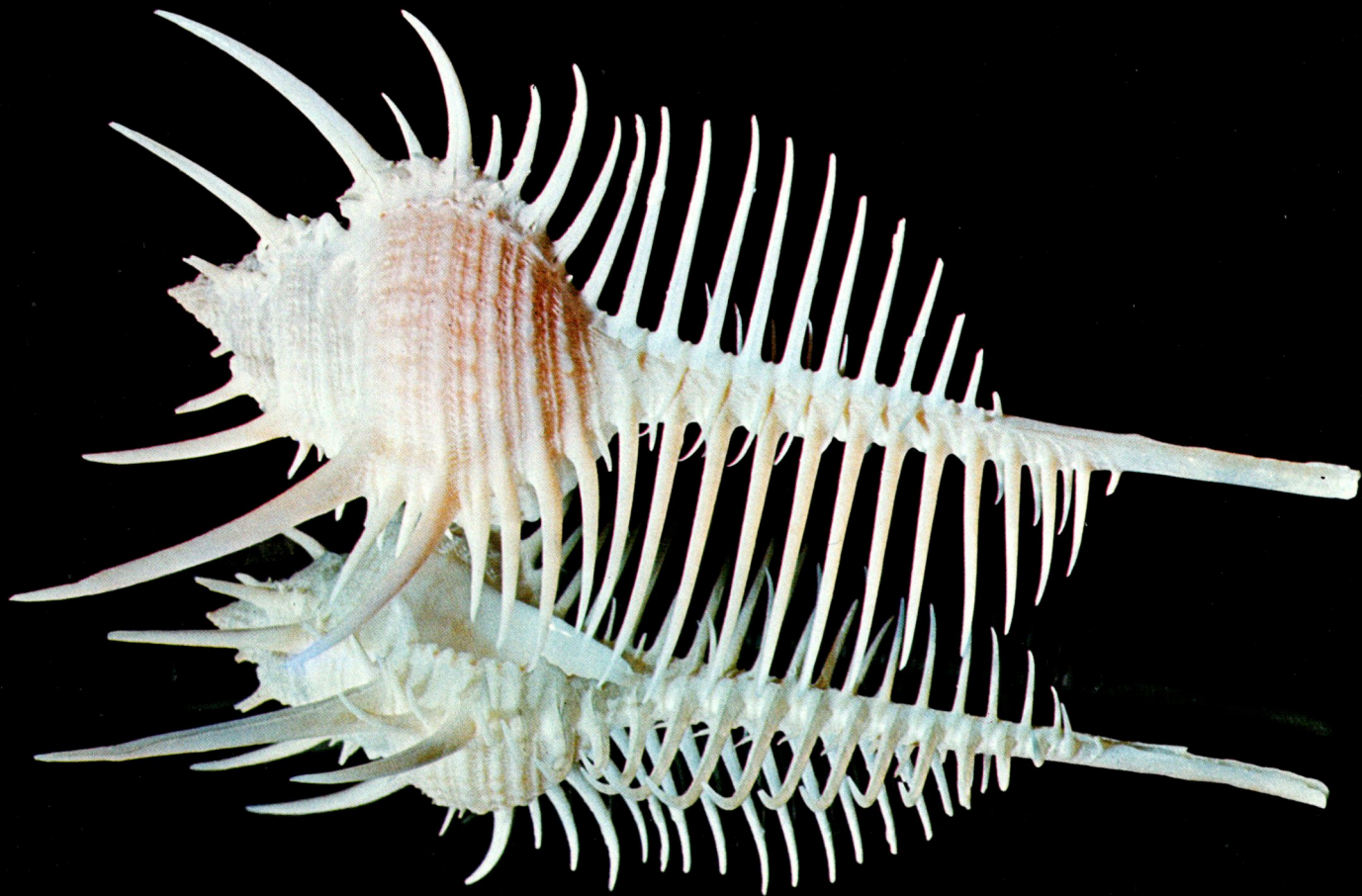
Filter : 52mm screw-in

Lens hood : Snap-on or screw-in type

Magnification : ∞ - 1.3X (with the PB-4 or PB-5)

Dimensions : 64mm dia. x 55mm length (2-1/2 in. x 2-3/16 in.)

Weight : 230g (8.1oz)



EL-NIKKOR ENLARGING LENSES



210mm f/5.6



240mm f/5.6



300mm f/5.6



360mm f/5.6



63mm f/3.5



75mm f/4



80mm f/5.6



105mm f/5.6



135mm f/5.6



50mm f/2.8



50mm f/4



150mm f/5.6



180mm f/5.6

EL-NIKKOR LENS CHART

No matter how good a lens is used to take a picture, you cannot expect to transform it into a truly fine print without using a high quality enlarging lens. El-Nikkor lenses are specifically designed for this purpose. Unlike camera lenses, they provide optimum performance at the relatively short negative-to-paper distances at which nearly all enlargements are made.

All El-Nikkor lenses produce exceptional definition and uniform image brightness over the entire picture area. They are corrected for chromatic aberrations not only in the visible light range but also in the near-ultraviolet range to which photographic paper is highly sensitive. This means that the visual focusing plane coincides precisely with the actual image plane on the paper, assuring sharpest possible prints. What's more, there is no focus shift as the lens is stopped down for the exposure.

El-Nikkor lenses are also designed for convenient and accurate handling in the darkroom. F-stops are engraved in large, white-on-black numerals on both sides of the barrel. Positive click stops make it possible to stop the lens down to the desired exposure aperture even without looking.

	Format	Standard Magnification	Range of Magnification
50 mm f/2.8	24mm × 36mm (1" × 1.5")	8X	2X—20X
50 mm f/4	24mm × 36mm (1" × 1.5")	8X	2X—20X
63 mm f/3.5	32mm × 45mm (1 ⁵ / ₈ " × 1 ³ / ₄ "	8X	2X—20X
75 mm f/4	56mm × 56mm (2 ¹ / ₄ " × 2 ¹ / ₄ "	5X	2X—10X
80 mm f/5.6	56mm × 72mm (2 ¹ / ₄ " × 2 ³ / ₄ "	5X	2X—15X
105 mm f/5.6	65mm × 90mm (2 ¹ / ₂ " × 3 ¹ / ₂ "	5X	2X—10X
135 mm f/5.6	90mm × 120mm (4" × 5")	5X	2X—10X
150 mm f/5.6	100mm × 125mm (4" × 5")	4X	2X—8X
180 mm f/5.6	130mm × 180mm (5" × 7")	4X	2X—8X
210 mm f/5.6	150mm × 210mm (5" × 7")	4X	2X—8X
240 mm f/5.6	180mm × 240mm (8" × 10")	3X	1X—6X
300 mm f/5.6	270mm × 330mm (10" × 12")	2X	1X—4X
360 mm f/5.6	300mm × 400mm (11" × 14")	2X	1X—4X

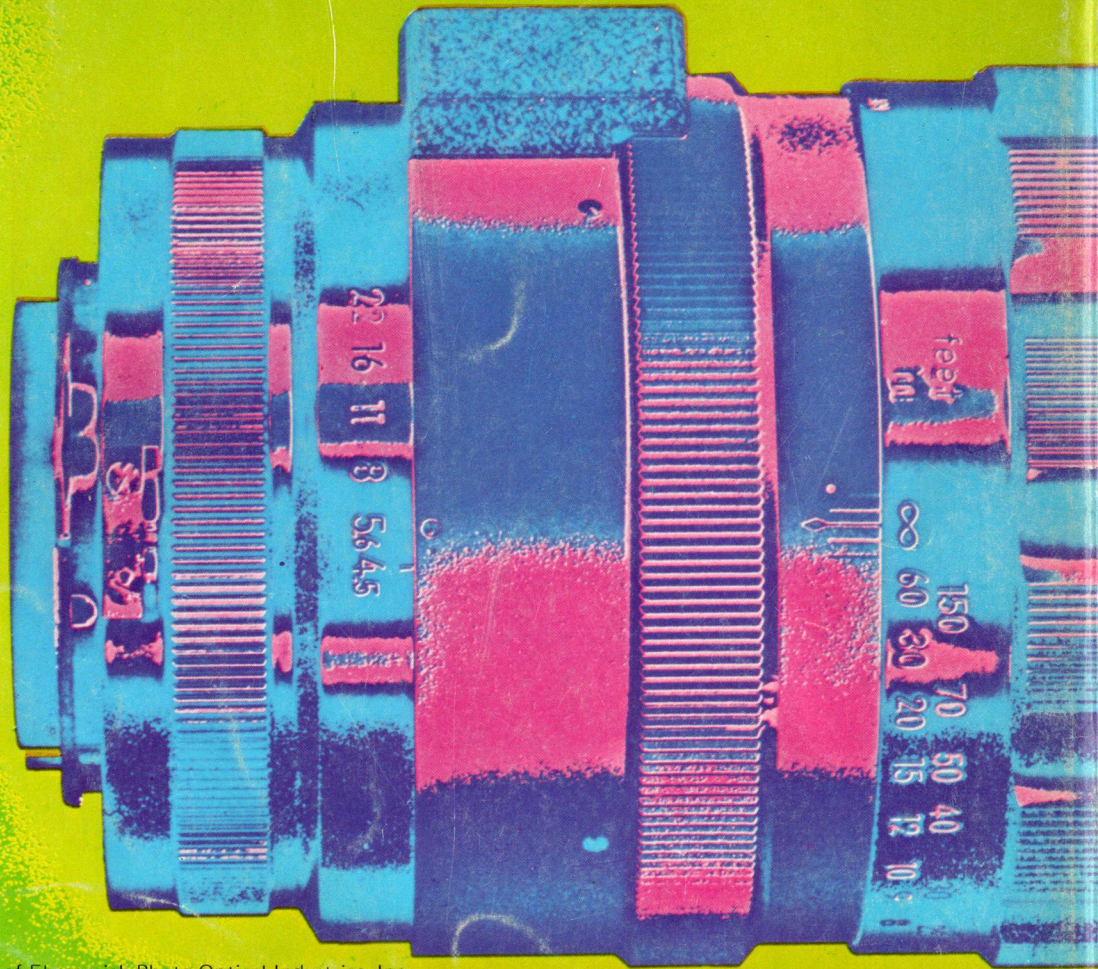
The 63mm f/3.5 lens can be used with the 35mm format camera as well as the 50mm f/2.8 and 50mm f/4 lenses.

NIKKOR LENS CHART

	Lens	Optical Construction (group-element)	picture Angle	Diaphragm Action	Minimum f-stop	Exposure Metering	Closest Focus (Calibration)	Attachment Size (mm)	Filter	Lenshood	Weight (g)	Measurements (mm) (Dia. × Length)
Wideangle	15 mm f/5.6 Nikkor-QD Auto	12-14	110°	Automatic	f/22	Full-open	1' (0.3 m)	—	Built-in	—	700	92 × 88.5
	20 mm f/3.5 Nikkor-UD Auto	9-11	94°	Automatic	f/22	Full-open	1' (0.3 m)	72 (p=0.75)	72 mm	Screw-in	390	75 × 69.5
	24 mm f/2.8 Nikkor-N Auto	7-9	84°	Automatic	f/16	Full-open	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	290	64.5 × 59.5
	28 mm f/2 Nikkor-N Auto	8-9	74°	Automatic	f/22	Full-open	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	345	64.5 × 70
	28 mm f/3.5 Nikkor-H Auto	6-6	74°	Automatic	f/16	Full-open	2' (0.6 m)	52 (p=0.75)	52 mm	Screw-in	215	62.5 × 54
	35 mm f/2 Nikkor-O Auto	6-8	62°	Automatic	f/16	Full-open	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	285	63.5 × 61
	35 mm f/1.4 Nikkor-N Auto	7-9	62°	Automatic	f/22	Full-open	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	415	66.5 × 74.5
Normal	35 mm f/2.8 Nikkor-S Auto	6-7	62°	Automatic	f/16	Full-open	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	200	62.5 × 57.5
	50 mm f/1.4 Nikkor-S Auto	5-7	46°	Automatic	f/16	Full-open	2' (0.6 m)	52 (p=0.75)	52 mm	Screw-in Snap-on	325	67 × 56.5
	50 mm f/2 Nikkor-H Auto	4-6	46°	Automatic	f/16	Full-open	2' (0.6 m)	52 (p=0.75)	52 mm	Screw-in Snap-on	205	64.5 × 48
	55 mm f/1.2 Nikkor-S Auto	5-7	43°	Automatic	f/16	Full-open	2' (0.6 m)	52 (p=0.75)	52 mm	Screw-in Snap-on	420	73.5 × 58.5
	85 mm f/1.8 Nikkor-O Auto	4-6	28°30'	Automatic	f/22	Full-open	3.5' (1 m)	52 (p=0.75)	52 mm	Screw-in	420	72 × 70
	105 mm f/2.5 Nikkor-P Auto	4-5	23°20'	Automatic	f/32	Full-open	3.5' (1 m)	52 (p=0.75)	52 mm	Screw-in Snap-on	435	66 × 78
	135 mm f/2.8 Nikkor-Q Auto	4-4	18°	Automatic	f/22	Full-open	5' (1.5 m)	52 (p=0.75)	52 mm	Built-in	620	72.5 × 104
Telephoto	135 mm f/3.5 Nikkor-Q Auto	3-4	18°	Automatic	f/32	Full-open	5' (1.5 m)	52 (p=0.75)	52 mm	Screw-in Snap-on	460	66 × 93.5
	180 mm f/2.8 Nikkor-P Auto	4-5	13°40'	Automatic	f/32	Full-open	6' (1.8 m)	72 (p=0.75)	72 mm	Built-in	830	81 × 141
	200 mm f/4 Nikkor-Q Auto	4-4	12°20'	Automatic	f/32	Full-open	7' (2 m)	52 (p=0.75)	52 mm	Built-in	630	72.5 × 163
	300 mm f/4.5 Nikkor-H Auto	5-6	8°10'	Automatic	f/22	Full-open	13' (4 m)	72 (p=0.75)	72 mm	Built-in	1100	80 × 203
	400 mm f/4.5 Nikkor-Q Auto	4-4	6°10'	Automatic†	f/22	Stop-down	16' (5 m)	122 (p=1.00)	122 mm	Built-in	3100 *	135 × 471.5 *
	400 mm f/5.6 Nikkor-P Auto	3-5	6°10'	Automatic	f/32	Full-open	16' (5 m)	72 (p=0.75)	72 mm	Built-in	1400	85 × 262
	600 mm f/5.6 Nikkor-P Auto	4-5	4°10'	Automatic†	f/22	Stop-down	35' (11 m)	122 (p=1.00)	122 mm	Built-in	3600 *	135 × 516.5 *
	800 mm f/8 Nikkor-P Auto	5-5	3°	Automatic†	f/22*	Stop-down	61' (19 m)	122 (p=1.00)	122 mm	Built-in	3500 *	135 × 711.5 *
Reflex	1200 mm f/11 Nikkor-P	5-5	2°	Manual‡	f/64	Stop-down	139' (43 m)	122 (p=1.00)	122 mm	Built-in	4300 *	135 × 922 *
	500 mm f/8 Reflex-Nikkor	3-5	5°	—	—	Stop-down	13' (4 m)	88 (p=0.75)	39 mm	Screw-in	1000	93 × 142
	1000 mm f/11 Reflex-Nikkor	5-5	2°30'	—	—	Stop-down	25' (8 m)	108 (p=0.75)	Built-in	Slip-on	1900	117 × 238
	2000 mm f/11 Reflex-Nikkor	5-5	1°10'	—	—	Stop-down	60' (20 m)	—	Built-in	Fixed	17500	262 × 598
	43 mm—86 mm f/3.5 Zoom-Nikkor Auto	7-9	53°—28°30'	Automatic	f/22	Full-open	4' (1.2 m)	52 (p=0.75)	52 mm	Screw-in	410	65 × 78
Zoom	50 mm—300 mm f/4.5 Zoom-Nikkor Auto	13-20	46°—8°10'	Automatic	f/22	Full-open	8.5' (2.5 m)	95 (p=1.00)	95 mm	Screw-in	2300	98 × 292
	80 mm—200 mm f/4.5 Zoom-Nikkor Auto	10-15	30°10'—12°20'	Automatic	f/32	Full-open	6' (1.8 m)	52 (p=0.75)	52 mm	Screw-in	830	74.5 × 162
	200 mm—600 mm f/9.5 Zoom-Nikkor Auto	12-19	12°20'—4°10'	Automatic	f/32	Stop-down	13' (4 m)	82 (p=0.75)	Serie 9	Screw-in	2300	89 × 382
	6 mm f/2.8 Fisheye-Nikkor Auto	9-12	220°	Automatic	f/22	Full-open	1' (0.3 m)	—	Built-in	—	5200	236 × 171
Special	6 mm f/5.6 Fisheye-Nikkor	6-9	220°	Manual†	f/22	—	—	89 (p=0.75)	Built-in	—	430	92 × 81
	8 mm f/2.8 Fisheye-Nikkor Auto	8-10	180°	Automatic	f/22	Full-open	1' (0.3 m)	120 (p=1.00)	Built-in	—	1000	123 × 140
	10 mm f/5.6 OP Fisheye-Nikkor	6-9	180°	Manual†	f/22	—	—	79 (p=0.75)	Built-in	—	400	84 × 105
	16 mm f/3.5 Fisheye-Nikkor Auto	5-8	170°	Automatic	f/22	Full-open	1' (0.3 m)	—	Built-in	—	330	68 × 60.5
	35 mm f/2.8 PC-Nikkor	7-8	62°	Manual Preset	f/32	Stop-down	1' (0.3 m)	52 (p=0.75)	52 mm	Screw-in	335	70 × 66.5
	45 mm f/2.8 GN Auto Nikkor	3-4	50°	Automatic	f/32	Full-open	3' (0.8 m)	52 (p=0.75)	52 mm	Screw-in	150	64 × 31
	55 mm f/3.5 Micro-Nikkor-P Auto	4-5	43°	Automatic	f/32	Full-open	0.79' (0.241 m)	52 (p=0.75)	52 mm	Screw-in	235	65.5 × 64.5
	200 mm f/5.6 Medical-Nikkor Auto	4-4	12°20'	Automatic	f/45	—	—	38 (p=0.75)	—	—	670	80 × 176
105 mm f/4 Bellows-Nikkor	3-5	23°20'	Manual Preset	f/32	—	—	52 (p=0.75)	52 mm	Screw-in Snap-on	230	64 × 55	

† Requires the focusing unit
 ‡ Requires the accessory viewfinder
 * With the Focusing Unit
 * f/64 when manually used

Designs and specifications in this brochure are subject to change due to further improvements.



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