GN Auto NIKKOR 45mm f/2.8



INSTRUCTIONS

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1. Features and Uses

GN Auto NIKKOR with Nikon F mount, can be interchangeably used with other NIKKOR lenses.

The lens is provided with the guide-number coupler which permits coupling its aperture ring to the focusing ring, so that in flash light photography once the guide-number to be used is set, the aperture (f-number) is automatically adjusted to the focus distance, that is, there is no need to reset the aperture each time the distance changes, thus simplifying the picture taking procedures with flash light to a great extent.

Covering the widest picture angle as a normal lens, the GN Auto NIKKOR is suited for landscape and interior photography.

The extraordinary flat lens construction, with a larger free working distance, will offer convenience in taking close-ups. Picture quality of the lens in close-up photography is also excellent.

The aperture which can be stopped down to f/32 may be advantageous when the lens is used in an extreme brightness, such as on a skiing ground.

The corners of the aperture diaphragm opening being quite rounded at f/8, the most frequently used aperture, so that radiating flashes of reflecting image will be minimized.

The excellent character of out-of-focus image will also satisfy the user of the lens.

2. Specifications

Focal length: Maximum aperture ratio: Minimum aperture ratio: Picture angle: Aperture diaphragm: Type of mount: Exposure meter coupling range:

Distance scale: Guide-numbers:

Attachment size: Weight: Dimensions:

45mm 1:2.81:32 50° Fully automatic Nikon F bayonet mount f/2.8-f/32 (with Photomic FT_N Finder) f/2.8-f/22 (with Photomic-T_N Finder and Nikkormat FT_N) Infinity to 0.8m and to 3 ft Graduated both for meters: 10, 13, 16, 20, 25, 32, 40, 50, 63,80 and for feet: 32, 40, 50, 63, 80, 100, 125, 160, 200, 250 52mm (p = 0.75mm)135g 64mm dia. $\times 32$ mm long (20mm from the lens attaching base surface)



3. Available Accessories

- Front lens cap: 52mm in dia, snap-on
- Rear cap: Type F
- Hood: 52mm in dia., screw-in
- Filter: 52mm in dia., screw-in
- Finder screen : Type A, J, B, E, G1 and G2 are suitable

4. Nomenclature







Fig. 4

5. Using the Lens

1) General photography

- ◆ In general photography, release the guide-number coupler on the focusing ring from the aperture ring, then, each ring can be rotated independently.
- In this lens the coupling range of the exposure meter in the Nikon Photomic FT_N is from f/2.8 to f/32. But in the Nikon F Photomic- T_N and Nikkormat [FT_N that is from f/2.8 to f/22. When using f/32, it is necessary to release the exposure meter coupling prong from the camera finder, whereby the stop-down measurement is applied.
- ◆ The distance scale on the GN Auto NIKKOR is graduated opposite to that on the other NIKKOR lenses. No depth-of-field scale is provided, so the depth of field should be checked on the finder screen, manipulating the depth-off-ield preview button on the camera, or use the accompanying table. (P. 16~17)

2) Flash photography

◆ Rotate either the focusing or aperture ring so that the guide-number to be used comes to between the two tips of the coupler with click. Then, push the coupler toward the camera until it stops. Now the focusing and aperture rings will be engaged each other. (Fig. 5)





- Owing to various types of flash bulbs and films, the guide-number to be used may not always coincide with the numbers engraved on the aperture ring. In this case, choose the nearest number.
 Most speed lights (electronic flashes) will produce pictures of weak contrast; better results will be obtained with a smaller guide-number so as to get a slight overexposure.
- Difficulty in focusing in darkness should be overcome by estimating the distances. At a far distance, however, the difference by such procedure will result in no great error.

- ◆ The distance scale and guide-number scale are engraved in yellow for feet and those in white for meters.
- The coupling is limited by the f-number range between f/2.8 and either f/32 or the shortest focus distance of the lens.

<Example>

When the guide-number is set to 250 in feet, the aperture ring can be rotated between f/2.8 and f/32 and the focusing ring between about 90 and 8 feet (for f/32 disengage the exposure coupling). When the guide-number is set to 32, the distance scale can be rotated

between about 3 and 11 feet, and the aperture ring between about f/11 and f/2.8.

While being coupled, the rotation of the focusing ring will be somewhat heavy. Before the lens is detached or attached to the camera, the guide-number coupler should be disengaged to prevent a heavy load from being charged on the coupler.

With the coupler engaged, the lens cannot sometimes be removed when the camera is Nikon Photomic- T_N , FT_N or Nikkormat FT_N .

a) Nikon Speedlight SB-1

The calculating dial of the Nikon Speedlight SB-1 has a guide number scale for GN Auto NIKKOR. The guide number of the film to be used can be obtained by the following way:

- 1. Set the ASA scale on the guide number calculating dial of the Speedlight to the film type index (COLOR or B&W).
- 2. The figure opposite or nearer to the index in the sector window on the dial shows the guide number. If the index comes just halfway between, read out the smaller figure to avoid underexposure.

For example, the guide number of the film ASA 25 (COLOR) will be 40 as shown in Fig. 6.



Fig. 6

Table 1 shows the recommendable guide number for each film speed (ASA).

Table 1. Guide-number

								(1t)
ASA film	25	50	64	100	125	160	200	400
B & W	63	80	100	125	125	160	160	250
COLOR	40	63	63	80	100	100	125	160

								(m)
ASA	25	50	64	100	125	160	200	400
B & W	20	25	32	40	40	50	50	80
COLOR	13	20	20	25	32	32	40	50

b) Nikon Flash Unit Model BC-7

◆ When the Nikon Flash Unit Model BC-7 is used with a bulb such as listed on the exposure counter on the back of the flash unit, the guide-number is read on this counter. However, if the bulb is of a type not listed, an approximate guide-number will be obtained by multiplying the guide-number indicated on the package of the bulb by 0.7.

In bounce light photography, the reflection from the surroundings will exert a great influence, giving no correct adjustment.

The coupling in this lens will not always bring about better results than the experiences.

Example 1.

Flash bulb: G.E. No. 6B or Sylvania FP 26B

Shutter speed :

1/125 sec. (Turn the synch. selector dial on the camera, until the green dot appears.)

Speed of film : ASA 64. Color Distance to the subject : 10 ft.

- 1. Turn the revolving dial to set the ASA figure 64 for color film (in red) to the shutter speed figure 125.
- 2. The correct exposure will be obtained with an aperture of about halfway between f/4 and f/5.6 at the distance of 10 ft. And the guide number will be about 56.



3. The number is not engraved on the apertute ring.

In this case, set the guide number coupler to the nearest number, 50.

Example 2.

Flash bulb:

G.E. AG-1 or Sylvania AG-1

Shutter speed: 1/30 sec. (Turn the synch. selector dial on the Nikon F until the white dot and F appears in the window.)
Speed of film: ASA 125, B&W
Distance to the subject: 25 ft.

- 1. Turn the revolving dial to set the ASA figure 125 for blackand-white film (in black) to the white dot (for AG-1).
- 2. The correct exposure will be obtained with an aperture of about f/4 at the distance of 25 ft.

And the guide number will be about 100.



Fig. 8

6. Close-up Table

(inch)

Close-up	The lens a	ttached in norma	l position	in reverse position			
Attachment	Repro. ratio	Subject area(in)	Subject distance(in)	Repro. ratio	Subject area(in)	Subject distance(in).	
E ₂ ·Ring	1/3.3-1/2.7	3.1×4.7- 2.6×3.8	10.4-9.3				
K Ring Set	1/8.0- 1.1	7.6×11.3- 0.86×1.3	18.6-7.3				
Bellows Model 3	1/1.4- 3.1	1.3×2.0- 0.31×0.46	7.6-9.9	1.2-3.6	0.79×1.2- 0.26×0.40	7.5-10.7	
Bellows Model 2	1.0- 3.9	$0.95 \times 1.4 - 0.24 \times 0.36$	7.4-11.4	1.5-4.5	${}^{0.63 \times 0.95 -}_{0.21 \times 0.32}$	7.7-12.3	
Close-up Lens No.0	1/30 - 1/10	28.4×42.6- 9.5×14.2	58.3-21.9				
No. 1	1/14 - 1/7.3	$13.2 \times 19.9 - 6.9 \times 10.3$	29.6-16.9				
No. 2	1/7.3-1/4.8	6.9×10.3- 4.5×6.8	16.4-12.2				
Slide-copy Adapter	1.0- 4.0	$0.95 \times 1.4 - 0.24 \times 0.37$	7.4-11.5	1.6-4.5	0.59×0.89- 0.21×0.32	7.9-12.3	
Repro-copy Model PF	1/16 - 1/15	15.1×22.7- 14.2×21.3	33.5-31.2				

Close-up	The lens at	tached in normal	position	in reverse position				
Attachment	Repro. ratio	Subject area(cm)	Subject distance(cm)	Repro. ratio	Subject area(cm)	Subject distance(cm)		
E ₂ -Ring	1/3.3-1/2.7	8.0×12.0- 6.5×9.8	26.3-23.5					
K Ring Set	1/8.0- 1.1	19.2×28.9- 2.2×3.4	47.3-18.4					
Bellows Model 3	1/1.4- 3.1	$3.4 \times 5.1 - 0.8 \times 1.2$	19.3-25.1	1.2-3.6	2.0×3.0- 0.7×1.0	18.9-27.2		
Bellows Model 2	1.0- 3.9	2.4×3.6- 0.6×0.9	18.7-28.9	1.5-4.5	1.6×2.4- 0.5×0.8	19.5-31.1		
Close-up Lens No.0	1/30 - 1/10	72.9×109- 24.0×36.0	148-55.5					
No. 1	1/14 - 1/7.3	34.7×52.1- 17.6×26.3	75.1-42.9					
No. 2	1/7.3-1/4.8	17.5×26.2- 11.6×17.4	41.5-31.0					
Slide-copy Adapter	1.0- 4.0	2.4×3.6- 0.6×0.9	18.7-29.2	1.6-4.5	1.5×2.3- 0.5×0.8	19.9-31.3		
Repro-copy Model PF	1/16 - 1/15	38.8×58.3- 36.0×54.0	85.0-79.1					

<cm>



NIPPON KOGAKU K.K.

1-7 Nihonbashi-dori, Chuo-ku, Tokyo 103, Japan (Nishikawa Bldg.) (Tel) 272 • 3311

NIPPON KOGAKU (U.S.A.) INC. 623 Stewart Avenue, Garden City, N.Y. 11530 U.S.A.

NIKON EUROPE N.V.

Entrepotgebouw Schiphol-Centrum, Amsterdam, The Netherlands

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