

Figure A

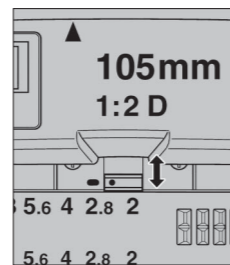


Figure B

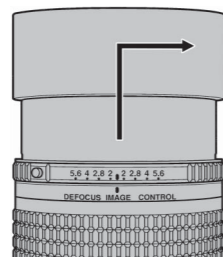


Figure C

English

Thank you for purchasing a Nikon product. This AF DC-Nikkor 105mm f/2D lens combines Nikon defocus image control (DC) with a rounded diaphragm, allowing you to defocus objects in the foreground or background while making the out-of-focus elements appear more natural. It also features a rear focusing (RF) system to improve durability and autofocus response; the rear lens elements slide inside the barrel so that the overall length of the lens does not change during focusing. A built-in lens hood minimizes flare in bright sunlight. The lens also supplies distance information to the camera body for instantaneous 3D matrix metering or 3D multi-sensor balanced fill-flash flash control. Before using this product, please carefully read both these instructions and the camera manual so you get the maximum value from your lens now and for years to come.

■ For Your Safety

▲ CAUTIONS

- Do not disassemble.** Touching the internal parts of the camera or lens could result in injury. In the event of malfunction, the product should be repaired only by a qualified technician. Should the product break open as the result of a fall or other accident, remove the camera battery and/or disconnect the AC adapter and then take the product to a Nikon-authorized service center for inspection.
- Turn the camera off immediately in the event of malfunction.** Should you notice smoke or an unusual smell coming from the equipment, immediately unplug the AC adapter and remove the camera battery, taking care to avoid burns. Continued operation could result in fire or injury. After removing or disconnecting the power source, take the equipment to a Nikon-authorized service center for inspection.
- Do not use in the presence of flammable gas.** Operating electronic equipment in the presence of flammable gas could result in explosion or fire.
- Do not look at the sun through the lens or the camera viewfinder.** Viewing the sun or other bright light source through the lens or viewfinder could cause permanent visual impairment.
- Keep out of reach of children.** Particular care should be taken to prevent infants from putting the batteries or other small parts into their mouths.
- Observe the following precautions when handling the lens and camera:**
 - Keep the lens and camera dry. Failure to observe this precaution could result in fire or electric shock.
 - Do not handle the lens or camera with wet hands. Failure to observe this precaution could result in electric shock.
 - Keep the sun well out of the frame when shooting backlit subjects. Sunlight focused into the camera when the sun is in or close to the frame could cause a fire.
 - If the lens will not be used for an extended period, attach the front and rear lens caps and store the lens out of direct sunlight. If left in direct sunlight, the lens could focus the sun's rays onto flammable objects, causing fire.

■ Parts of the Lens

- Meter coupling ridge
- CPU contacts
- Aperture indexing post
- EE servo coupling post
- Aperture ring
- Aperture/mounting index
- Depth-of-field indicators (show depth of field at f/16)
- Infrared compensation index (white)
- A-M mode ring release button
- A-M mode ring
- Focus distance mark
- Lens barrel
- DC ring lock button (unlocks DC ring while pressed)

- Built-in lens hood
- Aperture-direct-readout scale
- Minimum aperture lock lever
- Aperture scale
- A-M mode index
- Focus distance indicator window
- Focus distance indicator
- Focus ring
- DC ring index
- DC ring (turn toward "R" to blur background, toward "F" to blur foreground)
- Aperture scale for image blur control

■ Notices

- Keep the CPU lens contacts clean and be careful not damage the CPU contacts.
- Do not attach the following accessories directly to the lens: PK-1 or PK-11 auto extension rings, K1 or K2 rings, BR-4 auto rings, or BR-2 macro adapter rings (the PK-11A, BR-6, and BR-2A can be used in place of the PK-11, BR-4, and BR-2, respectively). Failure to observe this precaution will result in damage to the CPU contacts or other parts of the lens. Other lens accessories may not be compatible with the camera; be sure to consult the camera manual before use.
- The lens can not be used with the DX-1 viewfinder for Nikon F3AF cameras.

■ Defocus Image Control: Using the DC Ring (Figure A)

To use defocus image control, keep the DC ring lock release button pressed while rotating the DC ring. To blur background objects, rotate the ring toward "R" (rear). To blur foreground objects, rotate the ring toward "F". Rotating the ring so that the DC ring index aligns with the f-number currently selected for aperture throws your subject into sharp relief while artfully blurring objects in the background or foreground; for a soft-focus effect, rotate the ring to a higher number. Always position the ring before focusing; rotating the DC ring after focusing or while focus is locked will throw your subject out of focus.

Note that the highest resolution is achieved when the ring index is aligned with the dot between the two f/2 positions, and that the distance shown by focus distance indicator may differ from the actual focus distance when the ring is other positions. When defocus image control is in effect, the focus ring can be rotated past infinity and the minimum focus distance may, depending on the position of the DC ring, be greater than 0.9 m (3 ft).

The effects of defocus image control vary with shooting conditions, including the distance between the subject and the background or foreground. If the effects are difficult to discern in the viewfinder, take a test shot and adjust the ring as necessary.

■ Focus

This lens supports A-M mode selection. To choose the A-M mode, rotate the A-M mode ring while pressing the A-M mode ring release button. Select **A** for autofocus and **M** for manual focus. Choosing an A-M mode that does not match the camera focus mode may damage the camera.

■ Depth of Field (Metric)

Focus distance	Depth of field							Reproduction ratio
	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16	
0.9	0.90–0.90	0.91–0.90	0.91–0.90	0.91–0.89	0.92–0.89	0.92–0.88	0.93–0.87	1/8
1.2	1.21–1.19	1.21–1.19	1.21–1.19	1.22–1.18	1.23–1.17	1.24–1.16	1.26–1.15	1/11
1.5	1.51–1.49	1.52–1.48	1.52–1.48	1.53–1.47	1.55–1.45	1.57–1.44	1.60–1.41	1/14
2.0	2.02–1.98	2.03–1.97	2.04–1.96	2.06–1.94	2.09–1.92	2.13–1.88	2.19–1.84	1/18
3.0	3.05–2.95	3.07–2.93	3.11–2.90	3.15–2.86	3.22–2.81	3.32–2.74	3.48–2.64	1/28
5.0	5.15–4.86	5.22–4.80	5.31–4.73	5.45–4.62	5.66–4.48	5.99–4.30	6.54–4.06	1/47
∞	165–∞	117–∞	83–∞	59–∞	41–∞	29–∞	21–∞	1/∞

■ Close-up Photography (Metric)

Accessory	Close-up photography			Close-up photography (lens reversed) ¹		
	Reproduction ratio	Subject field	Focus distance	Reproduction ratio	Subject field	Focus distance
Ring PK ²	1/13.1–1/1.5	31.5×47.2–3.6×5.5	154–37.4	–	–	–
Ring PN	1/2.0–1/1.4	4.8×7.2–3.5×5.2	42.0–37.1	–	–	–
Bellows PB-4, PB-5	1/2.4–1/8	5.9×8.8–1.4×2.0	45.7–40.2	–	–	–
Bellows PB-6	1/2.2–2.0	5.2×7.9–1.2×1.8	43.5–41.9	–	–	–
Extension Bellows PB-6E	1/2.2–4.2	5.2×7.9–0.57×0.86	43.5–62.1	–	–	–

- Can not be used when lens is reversed.
- First figure is for PK-11A when used alone, remaining figures for rings PK-11A through PK-13, PK-11 through PK-13, or PK-1 through PK-3 used together. Note the PK-11 and PK-1 can not be attached directly to the lens.

■ Depth of Field (Imperial)

Focus distance	Depth of field							Reproduction ratio
	f/2	f/2.8	f/4	f/5.6	f/8	f/11	f/16	
3 ft	3 ft 3/8 in.–2 ft 11 1/8 in.	3 ft 3/8 in.–2 ft 11 1/8 in.	3 ft 3/8 in.–2 ft 11 1/8 in.	3 ft 7/8 in.–2 ft 11 1/8 in.	3 ft 1 1/8 in.–2 ft 11 1/8 in.	3 ft 1 1/8 in.–2 ft 11 3/8 in.	3 ft 1 3/8 in.–2 ft 10 1/8 in.	1/8
4 ft	4 ft 9/16 in.–3 ft 11 1/8 in.	4 ft 9/16 in.–3 ft 11 1/8 in.	4 ft 9/16 in.–3 ft 11 1/8 in.	4 ft 3/4 in.–3 ft 11 1/8 in.	4 ft 1 1/8 in.–3 ft 10 3/8 in.	4 ft 1 1/8 in.–3 ft 10 3/8 in.	4 ft 2 1/8 in.–3 ft 9 1/8 in.	1/11
5 ft	5 ft 7/8 in.–4 ft 11 1/8 in.	5 ft 7/8 in.–4 ft 11 1/8 in.	5 ft 7/8 in.–4 ft 11 in.	5 ft 1 1/8 in.–4 ft 10 3/8 in.	5 ft 1 1/8 in.–4 ft 10 3/8 in.	5 ft 2 1/8 in.–4 ft 9 1/8 in.	5 ft 4 3/8 in.–4 ft 8 3/8 in.	1/14
6 ft	6 ft 1 1/8 in.–5 ft 11 1/8 in.	6 ft 1 in.–5 ft 11 in.	6 ft 1 1/8 in.–5 ft 10 3/8 in.	6 ft 2 1/8 in.–5 ft 10 in.	6 ft 2 1/8 in.–5 ft 9 1/8 in.	6 ft 4 1/8 in.–5 ft 8 3/8 in.	6 ft 6 3/8 in.–5 ft 6 3/8 in.	1/17
8 ft	8 ft 1 3/8 in.–7 ft 10 1/8 in.	8 ft 1 3/8 in.–7 ft 10 3/8 in.	8 ft 2 1/8 in.–7 ft 9 1/8 in.	8 ft 3 1/8 in.–7 ft 8 1/8 in.	8 ft 5 1/8 in.–7 ft 7 1/8 in.	8 ft 8 in.–7 ft 5 3/8 in.	8 ft 11 1/8 in.–7 ft 2 1/8 in.	1/23
10 ft	10 ft 2 in.–9 ft 9 1/8 in.	10 ft 3 in.–9 ft 9 3/8 in.	10 ft 4 in.–9 ft 7 1/8 in.	10 ft 6 in.–9 ft 6 1/8 in.	10 ft 8 in.–9 ft 4 1/8 in.	11 ft 1 in.–9 ft 1 1/8 in.	11 ft 7 in.–8 ft 9 1/8 in.	1/28
20 ft	20 ft 8 in.–19 ft 3 in.	21 ft–19 ft	21 ft 6 in.–18 ft 7 in.	23 ft 3 in.–18 ft 1 in.	23 ft 4 in.–17 ft 6 in.	25 ft 1 in.–16 ft 7 in.	28 ft 1 in.–15 ft 6 in.	1/58
∞	542 ft–∞	383 ft–∞	271 ft–∞	192 ft–∞	135 ft–∞	96 ft–∞	69 ft–∞	1/∞

■ Close-up Photography (Imperial)

Accessory	Close-up photography			Close-up photography (lens reversed) ¹		
	Reproduction ratio	Subject field	Focus distance	Reproduction ratio	Subject field	Focus distance
Ring PK ²	1/13.1–1/1.5	12.4×18.6–1.4×2.2	60.7–14.7	–	–	–
Ring PN	1/2.0–1/1.4	1.9×2.8–1.4×2.1	16.5–14.6	–	–	–
Bellows PB-4, PB-5	1/2.4–1/8	2.3×3.5–0.54×0.80	18.0–15.8	–	–	–
Bellows PB-6	1/2.2–2.0	2.1×3.1–0.48×0.71	17.1–16.5	–	–	–
Extension Bellows PB-6E	1/2.2–4.2	2.1×3.1–0.23×0.34	17.1–24.4	–	–	–

- Can not be used when lens is reversed.
- First figure is for PK-11A when used alone, remaining figures for rings PK-11A through PK-13, PK-11 through PK-13, or PK-1 through PK-3 used together. Note the PK-11 and PK-1 can not be attached directly to the lens.

■ Focusing Screens

The cameras below support a variety of focusing screens for use with different lenses or in different situations. The following screens are suited for use with this lens (when using B2/B3, E2/E3, or K2/K3 screens with cameras not listed here, refer respectively to columns B, E, or K):

Camera	Screen	EC-B/EC-E	A/L	B	C	D	E	G1	G2	G3	G4	H1
F6			⊙	⊙			⊙					
F5+DP-30		⊙	⊙	⊙			⊙			○ (+0.5)		
F5+DA-30		⊙	⊙ (+0.5)	⊙			⊙			○ (+1.0)		
F4+DP-20				⊙			⊙			○		
F4+DA-20				⊙			⊙			○		
F3		○	⊙	⊙			⊙		⊙			

Camera	Screen	H2	H3	H4	J	K	P	M	R	T	U
F6					⊙						
F5+DP-30					⊙						
F5+DA-30					⊙ (+0.5)						
F4+DP-20					⊙	⊙	⊙				
F4+DA-20					⊙	⊙	⊙				
F3		○			⊙	⊙	⊙		△	⊙	○

- ⊙: Recommended.
- : Vignetting visible in viewfinder (photographs are not affected).
- △: Split-screen display does not improve focus accuracy.
- (): Figures in parentheses give the exposure compensation for center-weighted metering. Select "Other screen" for Custom Setting b6 ("Screen comp.") when adjusting exposure compensation for the F6; note that with screens other than B or E, "Other screen" must be selected even when the value for exposure compensation is 0. Users of the F5 and F4 can adjust exposure compensation using Custom Setting 18 or the focusing screen exposure compensation dial, respectively; see the camera manual for details.

Empty cell: Not suited to use with this lens. Note that type M screens can however be used for photomicrography and macro photography at magnifications of 1 : 1 or higher.

■ The Minimum Aperture Lock Lever (Figure B)

Lock aperture at f/16 when shooting in programmed auto or shutter-priority auto mode.

- Rotate the aperture ring to the minimum aperture setting (f/16).
- Slide the lock lever toward the aperture ring so that the white dot on the lock lever aligns with the orange dot.

To release the lock, slide the lever in the opposite direction.

■ Using the Built-in Lens Hood (Figure C)

To extend the hood, pull it out and rotate it counterclockwise until it stops. To retract the hood, turn it clockwise and press it back.

■ Lens Care

- Use a blower to remove dust and lint from the lens surfaces. To remove smudges and fingerprints, apply a small amount of ethanol or lens cleaner to a soft, clean cotton cloth or lens-cleaning tissue and clean from the center outwards using a circular motion, taking care not to leave smears or touch the glass with your fingers.
- Never use organic solvents such as paint thinner or benzene to clean the lens.
- The lens hood or an NC filter can be used to protect the front lens element.
- Attach the front and rear caps when the lens is not in use.
- Keep the lens dry. Rusting of the internal mechanism can cause irreparable damage.
- If the lens will not be used for an extended period, store it in a cool, dry location to prevent mold and rust. Do not store in direct sunlight or with naphtha or camphor moth balls.
- Leaving the lens in extremely hot locations could damage or warp parts made from reinforced plastic.

■ Compatible Accessories

- 72 mm screw-in filters
- Hard Lens Case CL-38

■ Specifications

Focal length	105 mm
Maximum aperture	f/2
Lens construction	<ul style="list-style-type: none"> 6 elements in 6 groups Protective glass lens covering
Angle of view	23°20'
Focus distance indicator	Graduated in meters and feet from 0.9 m (3 ft.) to infinity (∞)
Distance information	Output into camera
Aperture scale	f/2 to f/16 on both standard and aperture-direct-readout scales
Minimum aperture lock	Provided
Diaphragm	Fully automatic
Focusing	Nikon Rear Focusing (RF) system
Metering	<ul style="list-style-type: none"> CPU/AI cameras: Full aperture Other cameras: Minimum aperture
Mount	Nikon F mount
Filter-attachment size	72 mm (P = 0.75 mm)
Dimensions	Approx. 79 mm (maximum diameter) × 111 mm (distance from camera lens mount flange); overall length is approx. 119 mm
Weight	Approx. 620 g (1 lb. 5.9 oz.)

Nikon reserves the right to change the specifications of the hardware described in this manual at any time and without prior notice.