

HOW TO USE TAKUMAR-F ZOOM 70 – 210mm f/4 – 5.6

- This is a "two-action" type zoom lens having two separate rings: the front one for focusing and the rear one for zooming. Choose the focal length you desire by turning the zoom ring.
- When the focal length is changed by turning the zoom ring, a slight shift of focus is unavoidable. So, after zooming and before releasing the shutter, be sure to obtain accurate focus by using the auto-focus function or the focus-indication (FI) system the camera has to offer.
- In general, the zoom lens is more liable to cause distortion than the single-focal-length lens because it has more elements and more complicated mechanisms, although the degree of distortion varies depending on the focal length chosen.
- In the case of a zoom lens, the amount of focus compensation when taking infrared photos varies depending on the focal length chosen. The infrared indexes are located by the distance-scale window. Compensate for the focus by using the infrared index of the focal length in use. Since this lens has no indexes other than those for 70mm and 210mm, the position of any in-between index should be decided by guess to obtain proper focus compensation.
- Always keep the lens cap on when not using the lens to prevent scratching or damage to lens surface. Protect electrical contacts on the mount face of the lens from dirt or damage. Clean with a clean, dry cloth.

For other general instructions on lens usage, refer to the camera's operating manual.

SPECIFICATIONS

Lens construction:	13 elements in 9 groups
Angle of view:	34.5° – 11.8°
Diaphragm:	Fully automatic
Minimum aperture:	f/32 – f/45
Min. focus distance:	3.6 ft. (1.1 m)
Max. magnification:	0.25X
Max. diameter & length:	2.5 x 3.5 in. (71 x 98.5mm)
Weight:	19.4 oz. (555 grams)
Filter:	49mm size
Lens hood:	49mm screw-in type (RH-RB)
Lens case:	S80-160