

HOZAN

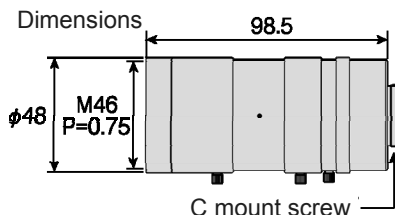
L-870

ZOOM LENS

INSTRUCTION MANUAL

Thank you for purchasing the HOZAN L-870 ZOOM LENS. With proper care and handling, this fine instrument will provide years of trouble-free operation. Please read this entire instruction manual carefully before attempting to place this instrument in service. Please keep this instruction manual available for reference.

Identification of parts



Specifications

Lens mount	C mount
Aperture	F5.6 to 32
Working distance	150 to 400 mm *
Weight	260 g

* Focused completely in this range.



Magnification corresponds to working distance at intervals of 50 mm

	Working distance mm	150	200	250	300	350	400
Optical magnification	Minimum	0.08X	0.054X	0.042X	0.034X	0.029X	0.025X
	Maximum	0.8X	0.54X	0.42X	0.34X	0.29X	0.25X

Warning and caution symbols

These symbols are used throughout the instruction manual to alert the user to potential safety hazards as follows :

Warning ... Notice when incorrect handling could cause the user's death or serious injury.

Caution ... Notice when incorrect handling could cause injury to the user or material damage.

Even if the instructions do not have **Caution** mark, there are some possibilities for a serious situation. Follow the instructions.

Precautions



Caution

This zoom lens is for HOZAN's cameras which have C mounts. Do not use for any other purpose.

Preparation

- 1 Remove the cap on the lens mount.
Then attach the L-870 to the camera
engaging each C mount.

Using example

**L-835
USB camera**



- 2 Arrange the surroundings for inspection such as connecting the camera with the computer.

* See the instruction manual of the camera for connecting procedure.

•When using L-851 Full HD camera or L-834 Infrared USB camera.

There is the 50 mm mount base on the camera. Please remove this mount base which will obstruct installation.

* See the instruction manual of the camera for details.

For supporting

Surely hold by the camera side because there is no device for holding this lens.
Use Hozan's L-803 Flexible arm to support the camera.

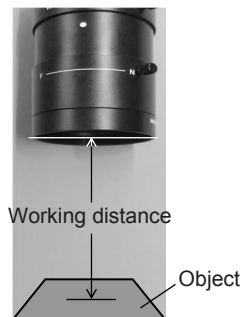
Using example



Operation

- 1 Adjust the working distance, from the structural top of the L-870 opposite the object to the object, between 150 to 400mm.

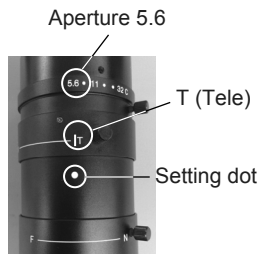
The optical magnification varies with working distance. Refer to the magnification table on page 1.



- 2 Bring the T (Tele) indication on the zoom ring to the setting dot, to obtain maximum magnification.

This time, set the aperture to 5.6. Images can not be gotten if the aperture is closed.

Then, adjust the focus ring.



Reason why focus at high magnification first

The range in which it is in focus is wide (=depth of field is deep) at low magnification, and narrow at high magnification.

Focusing first at high magnification side makes images in focus can be gotten at the whole area of zooming.

- 3 Obtain appropriate magnification, brightness and depth of field using the zoom ring and the aperture ring.

Hint

Regarding magnification

The gotten magnification becomes high and the field of view becomes narrow when the working distance is short, contrarily becomes low and wide when the working distance is long. On every working distance 10X zoom is effective.

Daily care

Lens

- Blow away any dust with "134a Duster" or "Rubber Blower". Or wipe away gently with a soft cloth or a piece of gauze.
- Clean away fingerprints or oil stains with a cloth which is lightly soaked in denatured alcohol (such as ethyl alcohol or methyl alcohol).
*Alcohol is extremely flammable, so handle it with care.
- Store in the case after attaching the cap provided onto the lens mount when not in use.

Option

L-803 Flexible arm

Holds the camera with the camera screw at its top.



L-803

L-835 USB camera

A camera with 5,000,000 picture elements. Has a camera screw. Can be combined with a arm and such. Also taken images and animations, image edited, and dimension measured.



L-835

L-50-2 Lens filter

A protection filter with 46 mm diameter. Prevents the camera lens from being soiled with fume or splashing flux when soldering



L-50-2

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