

2. Iris Stop at Focusing

If you fully open the iris of the enlarger lens at the time of focus adjustment and stop down the iris to the using iris at the time of actual enlarging, focusing shift may occur due to the spherical aberration of the enlarger lens.

3. Main-point Measurement

Measure the focus by placing the focuser, so that its bottom center hole will come to the most important portion in the composition of the picture to be enlarged.

4. Focusing Difference

When you want to enlarge an image by exceeding the designed value of the lens, aberrations of the lens will occur, and there will be a difference in the focusing degree between the main point and peripheral points of the picture. Even if you are using an enlarger of the auto-focusing type, it is definitely advisable that you will check the focus again using the focuser.

5. Use of BG Filter

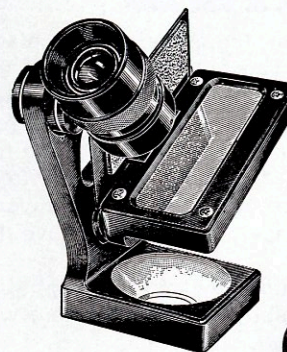
When you want to obtain more correct enlarging of the black and white film, use the focuser after fitting the BG filter to its eyepiece. The use of this filter will permit the coincidence between the wavelength sensitive to your eyes and that to be enlarged.

Item No.	Model I No. 2000	Model II No. 2020	Model III No. 2030
Eye-piece	10× 2-groups 3-elements	10× 3-groups 4-elements	10× 2-groups 2-elements
Angle	30°	20°	10°
Mirror	86×26 mm	53×27 mm	43×25 mm
Size	80×160×140 mm	65×140×140 mm	65×140×140 mm
Net weight	643 gm.	280 gm.	174 gm.
Accessory	BG filter	BG filter (optional)	BG filter (optional)

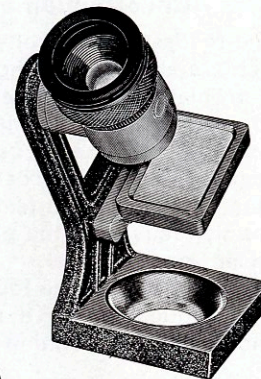
PEAK ENLARGING FOCUSER

I, II, & III

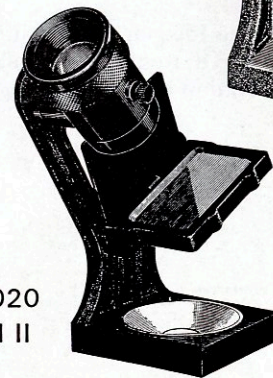
(Prof. Z. Koana's System)



No. 2000
Model I



No. 2030
Model III



No. 2020
Model II

TOHKAI SANGYO CO., LTD.

PEAK ENLARGING FOCUSER I, II, & III

(Prof. Z. Koana's Systems)

These focusers are auxiliary instruments which ensure extremely sharp focusing of your photo-enlarger not only at the picture center portion but also at any position within the picture area. With the aid of these focusers, you will be able to demonstrate the full performance of your enlarger and obtain pictures of unparalleled sharpness.

Construction and Principles of Focusers

The focuser mainly consists of a mirror, loupe and pattern plate, which are arranged as shown in Fig. 1. The bottom surface of the pattern plate and the basement surface of the focuser are adjusted so that they will be in positions accurately symmetrical to the mirror. Therefore, when the focus of the enlarger is adjusted to cause the enlarged image of the negative to correctly focus on the bottom surface of the pattern plate, the enlarged image of the negative is correctly focused on the photographic paper, when you remove the focuser from the easel.

Even if you place the focuser at a position deviated from right below the optical axis of the enlarger, as shown in Fig. 2, there will be no change in obtaining correct focusing.

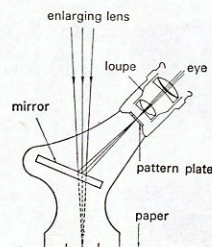


fig. 1

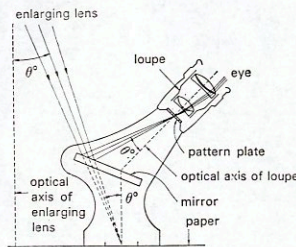


fig. 2

Using Method of Focuser

First, turn on the enlarger lamp and place the focuser on the easel. Then look into the loupe and make "visibility adjustment" so that

the picture on the pattern plate inside can be sharply seen by the user's eye.

Next, adjust the focusing of the enlarger to obtain a nearly-sharp enlarged image of the negative on the easel, and place the focuser on the easel, so that most important portion of the picture will appear in the visual field of the loupe.

Finally, make a fine adjustment on the focusing of the enlarger, until the silver grains of the negative and the profile of the pattern plate can be clearly seen simultaneously.

By the above procedure, the sharp focusing of the enlarger can be obtained. Then remove the focuser from the easel, place photographic paper on the easel and carry out enlarging.

Features of Respective Focusers

Model I . . . This model employs Kellner's loupe and a mirror of 86 mm in length. Since the loupe portion is arranged to allow swinging, focusing is possible within the range in which the optical axis of the enlarger lens forms an angle of about 30° with the optical axis of the loupe. Model I has an aluminum die-cast body in high-class black-paint finish.

Model II . . . This model has the same basic design as Model I. Through the use of the special-design wide-field loupe, focusing is possible within the range in which the optical axis of the enlarger lens forms an angle of about 20° with the optical axis of the loupe, while the loupe and pattern plate are being securely fixed. For the body of this model, glass-fiber-impregnated resin is used.

Model III . . . This model also has the same basic design as Model I and II. Focusing can be accomplished smoothly within the range in which the optical axis of the enlarger lens forms an angle of about 10° with the optical axis of the focuser.

Caution in Handling

1. Focus Deviation Due to Thickness of Photographic Paper

When using the focuser, fix a small piece of photographic paper, which is to be used, at the bottom of the focuser, and you can eliminate the focus deviation due to the thickness of the photographic paper.