

Different Magnifications with the VIP-Barlow #240 6101

The VIP Barlow is a versatile Barlow for 1.25" and 2" focusers, which can be used both **v**isually and **p**hotographically – hence the name VIP Barlow.

The magnification factor of the VIP Barlow at visual use depends on the distance between the top end of the Barlow element and the eyepiece. The reference point is the field stop, which is located approximately at the transition from the 1.25" nose piece to the eyepiece body for most eyepieces. In the standard configuration there are 64 mm between eyepiece housing and Barlow, which corresponds to a twofold increase in focal length.

The figure at the right shows the dimensions: Without the 1,25" nose piece containing the Barlow element, the adapters and eyepiece clamp have a length of 69 mm; the actual Barlow element has a 5 mm long thread. Because of this, an eyepiece whose field stop is at the height of the transition to the housing has a distance of 64 mm from the screwed-in Barlow element.

By inserting additional T2-extension tubes or removing existing ones, you can also change the magnification factor – this principle is also used by zoom eyepieces.

The extension factor for visual use is calculated as follows:
 $1 + (\text{Distance [mm]} / 64 \text{ [mm]}) = \text{Magnification [x]}$

Thus, the calculation for the default configuration is:
 $1 + (64\text{mm}/64\text{mm}) = 2\text{x}$.

If one of the 15 mm-T2 Extensions is removed, the magnification factor is
 $1 + (49\text{mm}/64\text{mm}) = 1,76\text{x}$.

With an additional 40 mm-T2-sleeve, the magnification factor is
 $1 + (104\text{mm}/64\text{mm}) = 2,6\text{x}$.

One part of the VIP-Barlow is the adapter #29 from T2 to M48. It connects the T2 extension tubes with the 1,25" eyepiece clamp. You can use it to attach the Barlow element directly to the 2" filter-thread of an eyepiece (pictured below).



Again, the magnification factor depends on the distance between the Barlow element and the field stop of the eyepiece. Information about the location of the field stop of our Baader-eyepieces can be found on our website at the respective eyepiece description.

If the position of the field stop of your eyepieces is known, you can adjust the magnification very accurate. For this purpose, various extension options are available:



7,5mm extension tube
BNr. 150 8155 (#25C)



15mm extension tube
BNr. 150 8154 (#25A)



40mm extension tube
BNr. 150 8153 (#25B)



Baader VariLock 29
Optical length = min. 20 mm, max 29 mm
BNr. 295 6929 (#25 Y)



Baader VariLock 46
Optical length = min 29 mm, max 46 mm
BNr. 295 6946 (#25 V)

Calculating the Focal Length for Photography

For photographic use, the focal length can be calculated analogously; the plane of the image sensor corresponds to the position of the field stop of an eyepiece. If the sensor is 64 mm away from the upper end of the Barlow element, you're working with double focal length.

Please check the documentation of your camera for the exact position of the sensor. If you are using a DSLR with a standard T2-adapter, the distance is always 55mm. Thus, if you screw the Barlow-element directly into the T-ring, the distance to the sensor is 50 mm, and you are working with 1,8x magnification.

About the VIP-Barlow

The VIP-Barlow was designed in the 1990s by Dr. Pudenz, who also did the calculations for the Zeiss Abbe eyepieces. It was designed for 35mm-film, so it also works fine with modern full-frame DSLRs (24x36mm). Roland Christen has adapted it for modern US-American glasses. It has got a focal length of -65,5mm, the ideal focal point (or the position of the field stop) is 58mm away from the vertex of the lens which faces the eyepiece – but this is only a guide value, because the image gets even better with increasing magnification! That's why there were always good reviews and satisfied users in the past twenty years.

Please note that it is a Barlow lens – it has got nothing to do with our 2.6x-glasspath-correcter, which was developed exclusively for binocular viewers.



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