HYPERION® 68°

The modular eyepiece system



5 mm Hyperion® #2454605

8 mm Hyperion® #2454608

10 mm Hyperion® #2454610

13 mm Hyperion® #2454613

17 mm Hyperion® #2454617

21 mm Hyperion® #2454621

24 mm Hyperion® #2454624

Brief Description and Recommended Use

Scope of Supply for each Hyperion® 68° eyepiece:



6 Winged Rubber Eyeshield – ideal for binocular use

5 1¼" (31,7mm Ø) Dust Cap

4 Two end dust caps with inner diameters of 48mm and 45mm

1 68° Hyperion® eyepiece with Phantom-Group® Coating and two Photo-threads M43 and SP54

2 Soft-leather bag: provides perfect protection – takes very little space

3 dual 2" and 1¼" nosepiece

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The series of Hyperion® 68° eyepieces

– WITH "MULTIPLE FOCAL LENGTH (MFL)" –

The term “Multiple Focal Length (MFL)” in this brief description is put in quotation marks, because the modular design and the use of distance rings (finetuning rings) enables the user to vary the focal length for all Hyperion® eyepieces – except for the 24 mm Hyperion® eyepiece, which has only one fixed focal length.



Hyperion® 17 mm eyepiece

Hyperion® 68° eyepieces are multifunctional.
Here are the most important features:

- 1¼" and 2" barrels with self-locking safety groove
- Unscrewing the 1¼" barrel (which contains the first group of lenses) allows changing focal length by adding our finetuning rings.
- The M48 thread located between the 1¼" and 2" barrels allows inserting a 2" filter.
- All eyepieces are suitable for afocal and classical eyepiece projection.

Focal Length Extension and Insertion of 2" Filters

Hyperion® eyepieces must only be opened at the M48 filter thread at the upper end of the 1¼" barrel; disassembling the eyepiece elsewhere will void the warranty! As usual, 1¼" filters can be screwed onto the 1¼" barrel.

All other construction joints are secured with locktite and can only be opened by brute force, which should not be used!



Use of a 2" filter

The first group of lenses is located inside the 1¼" nose piece. If this part of the eyepiece is removed, the rest of it can be used as a 2" eyepiece with a changed focal length. Similarly, if a 2" filter is inserted between the 2" and 1¼" barrels (as shown in the illustration above), another, different focal length results. The following table details the resulting focal lengths:

Effective focal length in mm	Ø Field-stop mm	with 14 mm FTR		with 28 mm FTR		with 14 + 28 mm FTR		with 2" Baader Filter		without first group of lenses	
Hyperion®	24.0	28.0	--	--	--	--	--	--	--	--	--	--
Hyperion®	21.0	22.5	17.6	19.9	15.5	17.5	14.0	15.8	18.5	20.6	32.2	35.0
Hyperion®	17.0	20.9	13.1	17.1	10.8	14.1	9.2	12.1	14.6	18.7	21.8	30.0
Hyperion®	13.0	17.7	10.8	14.6	9.2	12.5	8.1	11.0	11.7	14.2	22.9	30.0
Hyperion®	10.0	15.0	8.4	11.6	7.1	9.8	6.1	8.7	9.1	12.0	22.4	30.0
Hyperion®	8.0	10.7	6.0	8.6	5.0	7.1	4.3	6.1	6.9	9.3	21.8	30.0
Hyperion®	5.0	6.5	4.0	5.4	3.2	4.5	2.6	3.9	4.3	5.8	22.5	30.0

Yellow column: Focal Length, light-grey column: Ø field stop
* Baader 2" eyepiece filter with 6 mm height | ** non-variable focal length

Inside the blocks in the table marked with rectangles, the middle column of the first block states the original focal length of each eyepiece. The column of the second block is the focal length of the eye-piece with a 2" eyepiece filter mounted between the front part of the eyepiece and the main body. The third column of the second block gives the focal length of the individual eyepieces with the first group of lenses completely removed.

Example: the 17.0mm Hyperion® eyepiece changes to a 14.6mm focal length with a 2" filter, and to a 21.8mm focal length without the 1¼" first group of lenses.

Additionally, the focal length may be modified with the 14- and 28mm length Baader finetuning rings (FTR). The focal lengths achieved this way are in middle part of the table above.



Hyperion® eyepiece with FTR 14 and 28 mm

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A very useful accessory for our Hyperion® eyepieces is the 2" stop ring *#2958027*. Intended for use while observing with a 2" mirror or prism star diagonal, it prevents the 1¼" eyepiece barrel damaging the diagonal's mirror or prism when fine-tuning rings lengthen the original eyepiece body.



» Combination of a Hyperion® eyepiece, a 14mm finetuning ring, 2" stopp ring, 1¼" barrel and 2" ClickLock® star diagonal

Using MFL Hyperion® 68° as projection eyepieces

The Hyperion® mechanical design incorporates two system threads at the upper end. To expose them, please remove the rubber eyecap and/or the large thread-protecting ring (made of silicone). The threads are: 1 M43 male thread and 2 SP54 male thread.



System thread M43 | System thread SP54

The M43 thread serves for attachment of T-2 accessories for classic eyepiece projection. A stepper ring from M43 onto T-2 thread (Hyperion® M43/T-2 *#2958080*) is to be used in this case.



The illustration on the left side demonstrates a possible combination for classic eyepiece projection for webcams. Beginning at the bottom, the parts used a system thread M43 are:.

- Hyperion® eyepiece
- Hyperion® M43/T-2 ring *#2958080*
- Recommended T-2 extension tube, length 7.5 mm *#1508155*
- Optional T-2 extension tube, length 40 mm *#1508153* for further increasing the projection magnification

Any T-2 camera-ring with a SLR camera or DSLR-camera may be attached here.

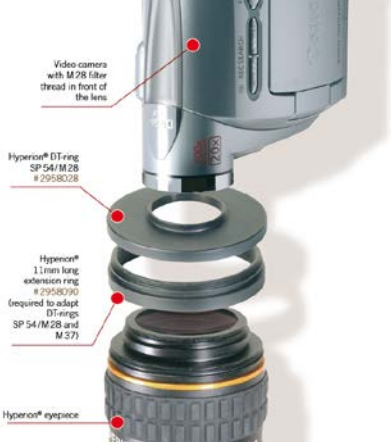
- Baader 1¼" ClickLock® eyepiece clamp *#2458100*

or alternatively to the ClickLock® clamp:

- the simpler and lower priced standard eyepiece clamp 1¼"/T-2 *#2458120*

The SP54 system 2 is to attach a digital camera or video camera where the objective cannot be removed (so-called afocal projection). The SP-thread is a "SPecial"-non-metric thread proprietary for this purpose.

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The left illustration shows the necessary parts to attach a video-camera with a M28 thread at the front of the lens.

From the bottom up:

- Hyperion® eyepiece.
- Hyperion® 11mm extension ring *#2958090*, required to adapt DT-rings SP54/M28 and M37.
- Hyperion® DT-Ring SP54/M28 *#42958028*
- Video-camera with M28 filter thread at the front of the lens.

Hyperion® eyepieces on Zeiss Spotting Scopes



The Hyperion® 68° eyepiece can be used with Zeiss Spotting Scopes. For Zeiss Diascopes you require the BAADER Diascope bayonet 1¼"-Adapter *#2454500*. It is pushed onto the 1¼" barrel of the Hyperion® eyepiece, and held in this position by three small locking screws locked against a bronce clamp ring that does not mark the eyepiece. The Zeiss Bayonet connection must be removed and exchanged for the Hyperion®-eyepiece with Baader-Adapter.



Also on later series like the Zeiss Harpia® Spotting Scopes, all Hyperion® eyepieces may be adapted with the aid of the Baader Harpia 85 / 95 Adapter *#2454511*.

Further application examples

For more information, read the **Instruction manual of the visual and photographic application-options for the modular Hyperion® 68° eyepieces** in multiple languages at:
www.hyperion-eyepieces.com





For those who want to get even deeper into the field of digiscoping, we recommend our **overview of the common camera adaptations and necessary adapters for afocal photography and eyepiece projection with spotting scopes and telescopes**. This manual lists Hyperion® as well as other Baader eyepieces such as Morpheus® 76°:

www.baader-planetarium.com/digiscoping

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