# BAADER
# FFB – FlatFieldBox

available in 450 / 650 / 850 / 1250 mm size



**No more Sky-FLATs**
**in Your (Remote) Observatory**

## Function

When capturing (astro)-images, the raw data still contain several artefacts that can be removed through calibration. Uneven illumination of the camera sensor caused by the telescope, vignetting, and dark spots from dust particles can all be corrected with flat-field exposures. To record only these “errors,” the telescope is pointed at a very uniformly lit surface.

In practice, this can be done with twilight flats or with a Flat Field Box (FFB). Twilight flats offer only a short time window, and are prone to interference from bright stars, aircraft, contrails, and clouds. You also have to follow the changing twilight brightness to avoid large jumps in exposure levels across a series of flats.

With our FFB, you can take flats for (virtually) all of our filters at any time and in any weather with your telescope.

**BAADER PLANETARIUM GMBH**
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# FFB – FlatFieldBox




## Features

Our FFBs, developed specifically for large telescopes, deliver remarkably uniform light across the entire aperture and spectrum thanks to their sophisticated design. White, red, green, and blue LEDs enable balanced flats even for colour cameras and dual-band filters. The integrated dimmer lets you set each colour channel precisely to match your system and filters.

Constructed with a rigid 30 mm Minitec aluminium frame, the FFB can be mounted on a wall, placed on a table, or even used inside rotating domes. The built-in power supply allows remote control via network.

## Highlights

- Full-surface usable aperture – no dark zone in the centre, suitable even for refractors
- Abundant WRGB LEDs ensure extremely even illumination, even over very large areas
- Dimmable control extends flat exposure times when needed
- Individually dimmable colour channels for well-balanced flats with colour and dual-band cameras
- Suitable for wall or dome installation
- Infinity-mirror technology and multi-stage design minimise brightness gradients at edges and corners
- Low-flicker output; exposure times down to 1 ms possible (several-second exposures recommended)
- Covers the full VIS range of our broadband and narrowband filters
- Can double as stylish observatory lighting



FFB 450 with Control Box (included)



Single Control Box with LAN connection

**MORE INFO:**
**www.baader-planetarium.com/en/ffb**

## Available Sizes

The Baader FFB Flatfield Box is currently offered in four size variants.

| Name | Item # | Width × Height × Depth | Clear Aperture |
|---|---|---|---|
| **FFB 450** | 2205145 | 542 x 542 x 200 mm | 450 mm |
| **FFB 650** | 2205165 | 742 x 742 x 200 mm | 650 mm |
| **FFB 850** | 2205185 | 942 x 942 x 200 mm | 850 mm |
| **FFB 1250** | 2205125 | 1342 x 1342 x 200 mm | 1250 mm |

## Choosing the Right Size

Because telescopes gather light in a cone, the illuminated opening must be slightly larger than the telescope's aperture.

To ensure proper alignment in rotating domes, we use FFBs with a diameter 5 cm larger than those for static installations.

| Name | Static Installation (max. telescope aperture) | Slit-Dome Installation (max. telescope aperture) |
|---|---|---|
| **FFB 450** | 400 mm / 16" | 350 mm / 14" |
| **FFB 650** | 600 mm / 24" | 550 mm / 22" |
| **FFB 850** | 800 mm / 32" | 750 mm / 30" |
| **FFB 1250** | 1200 mm / 48" | 1150 mm / 46" |

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