USER'S GUIDE
QP-2100-01

beam™

Fluorescence Module for Stereo Microscopes

Note: stereo microscope not provided.

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MANUFACTURER

Amplyus LLC, dba miniPCR bio™.
1770 Massachusetts Avenue, Suite 167, Cambridge,
Massachusetts, 02140, United States of America.

INTENDED USE OF THE EQUIPMENT

The equipment is intended for the visualization of fluorescence.

TECHNICAL SUPPORT

The miniPCR bio™ technical support department is open Monday through Friday, 9:00 AM to 5:00 PM, Eastern Time.

Contact us by phone at +1-781-990-8727 or by email at support@minipcr.com.

HAZARDS

Safety warning

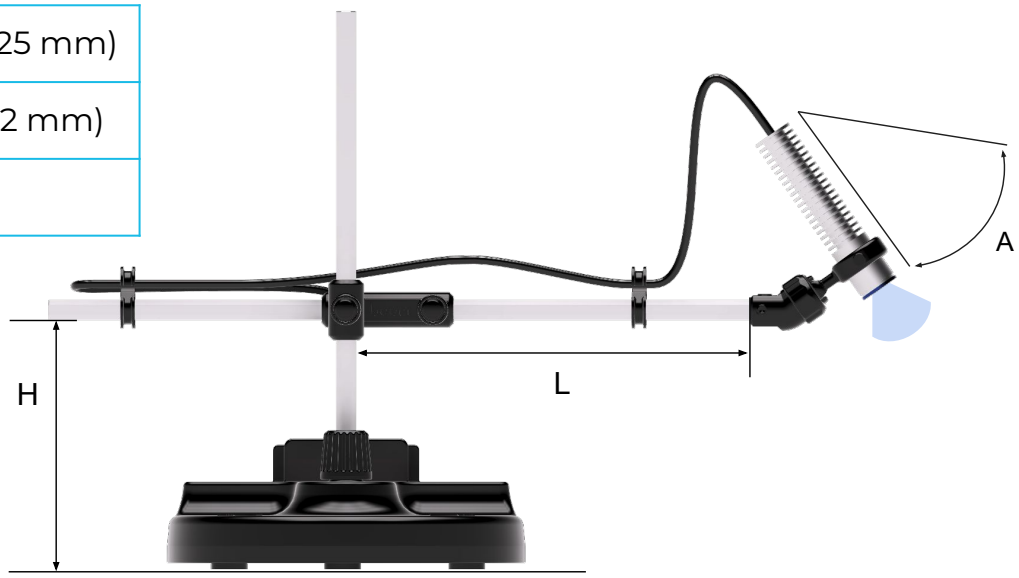
This product emits blue light. Do not look directly at the operating lamp as this may result in eye injury.

- BEAM™ is designed to operate safely when used in the manner specified in this document. If BEAM™ is used in a manner not specified by Amplyus LLC, the inherent protection provided by the equipment may be impaired.
- BEAM™ should only be powered using a USB-C power adapter that is UL-listed or has been certified by a recognized product safety testing laboratory. Use of a non-certified power adapter may result in risk of shock, fire, or other hazards.
- Amplyus LLC is not liable for any injury or damage caused by the use of this equipment in any unspecified manner, or by modifications to the equipment not performed by Amplyus LLC or an authorized agent.
- No consumable materials are used in the equipment and no poisonous or injurious substances are liberated.
- If biohazardous samples are used, Biosafety Microbiological and Biomedical Laboratory (BMBL) practices published by the Centers for Disease Control (CDC) should be followed.

TECHNICAL SPECIFICATIONS

RANGE OF MOTION

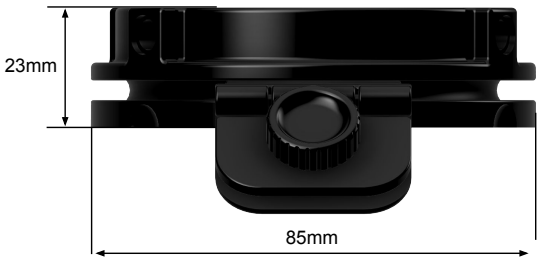
L	1.3-8.9 in (34-225 mm)
H	1.3-7.6 in (32-192 mm)
A	25 to 90°



OBJECTIVE FIT

Adjustable between 35 and 67 mm Ø

Optional oversize adapter fits up to 85 mm Ø objectives



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TECHNICAL SPECIFICATIONS

EXCITATION SOURCE	High-powered blue LED
EXCITATION FILTER	SPF470
EMISSION FILTER	Magnetic mount. Longpass 508 nm
INTENSITY	Variable
POWER	5 V @ 0.35 A USB-C or PD power pack
SAFETY	Integrated, removable protective shield
MICROSCOPE MOUNT	Fits objectives 35 to 67 mm Ø. Oversize adapter fits up to 85 mm Ø.
DIMENSIONS	Base: 11.6” x 7.6” x 4.9” (29.4 x 19.4 x 12.4 cm) Microscope mount: 6.4” x 3.5” x 4.8” (16.2 x 9.0 x 12.2 cm)
WEIGHT	Base: 0.9 lb (408 g) Microscope mount: 0.5 lb (227 g)

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OPERATING CONDITIONS

Environment	Indoor use only
Operating temperature	15–30 °C (59–86 °F)
Transport and storage temperature	0–45 °C (32–113 °F)
Max. relative humidity	60%

CLEANING, MAINTENANCE AND SERVICE

BEAM™ does not need routine calibration or maintenance.

- Use a microfiber cloth to clean the filter and screen when needed.
- Do not submerge in liquids.
- Do not autoclave.

WARRANTY

This Limited Warranty covers defects in materials and workmanship under the following conditions:
• This 12-month warranty is valid from the date of purchase of QP-2100-01 (the “Product”).
• This Limited Warranty covers the original purchaser of the Product and shall not extend in its validity to third parties without the written agreement of Amplyus LLC (“Amplyus”).
• This Limited Warranty covers only the Product and any original accessories provided with it. It excludes software, documentation, consumables, or related items.
• This Limited Warranty will maintain its validity only as long as the Product is operated in the manner, conditions, and with the care described in its User's Guide.
• This Limited Warranty will be voided by improper or unauthorized maintenance of the Product, or by improper attachment of electrical adapters and power supplies not supplied by Amplyus or its authorized representatives.
• Amplyus will repair or replace any defective items upon factory inspection of the item claimed. Amplyus will cover shipping charges if the claim is initiated within 30 days from purchase. After 30 days from the date of purchase, end users of the Product will be responsible for shipping charges to and from the Amplyus facility for assessment and repair under the terms of this Limited Warranty.
• This Limited Warranty does not cover wear and tear to components resulting from normal use of the Product, nor does it cover failures caused by incorrect use, negligence, alterations, or damage caused by intentional or accidental misuse. This Limited Warranty also excludes damage caused during any shipment/transport/movement of the product following its initial receipt by the customer.

Amplyus’ sole liability, under this Limited Warranty, for failure to repair or replace the Product after a reasonable number of attempts, is limited to the replacement of the Product or, at Amplyus’ sole discretion, the refund of the original purchase price of the Product.

DISCLAIMER

Amplyus LLC, d.b.a miniPCR bio, reserves the right to modify the product and this guide at any time. Amplyus LLC assumes no liability for errors or omissions, or for any damage resulting from the application or use of this information. This instrument is intended for laboratory use only. This instrument should not be modified or altered in any way. Alteration of this instrument will void the manufacturer's warranty and could create a potential safety hazard for the user. Amplyus LLC is not responsible for any injury or damage caused by the use of this instrument for purposes other than those for which it is intended, or by modifications of the instrument not performed by Amplyus LLC or an authorized agent.

WHAT'S INCLUDED

1. **Base**
2. **Cross arm**
3. **Light engine**
4. **Microscope mount**
   Other thumb screw lengths available (contact: support@minipcr.com)
5. **USB-C power cable**
6. **Protective shield**
7. **Emission filter**

COMPONENTS

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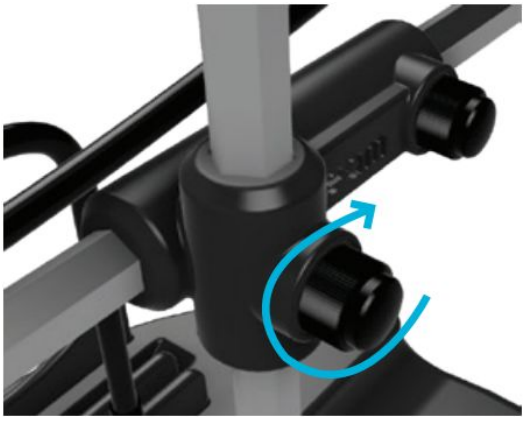
SETUP AND OPERATION

Step 1 - Assemble base

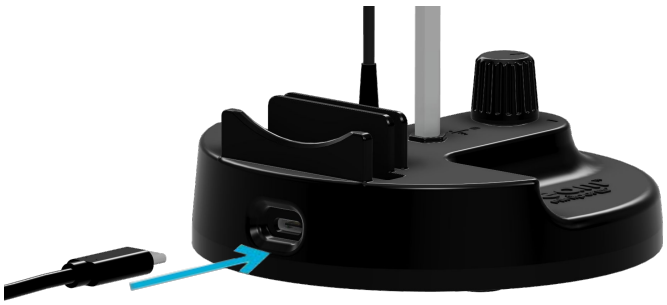
1. Slide the cross arm with the light engine onto the base

2. Tighten the knob screw until the cross arm is firmly secured

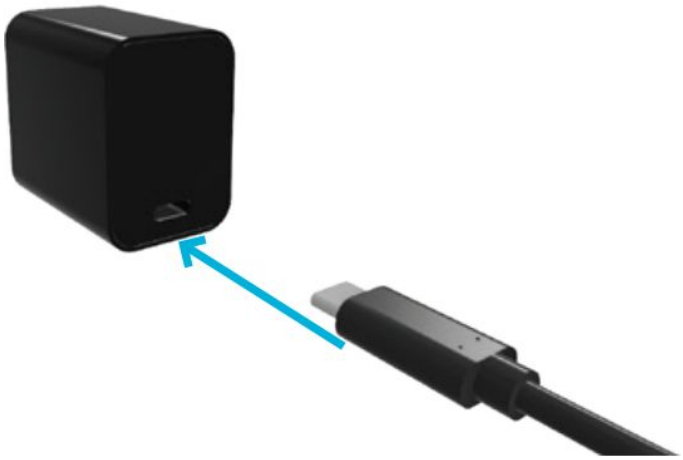


3. Plug the light engine cable into the base

4. Connect the USB-C cable



5. Connect the USB-C cable to a power source



Assembly is complete

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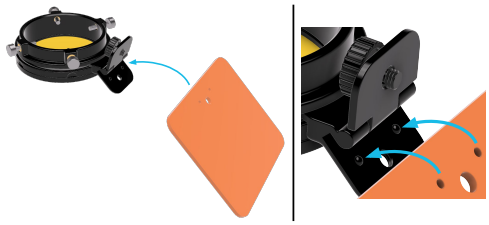
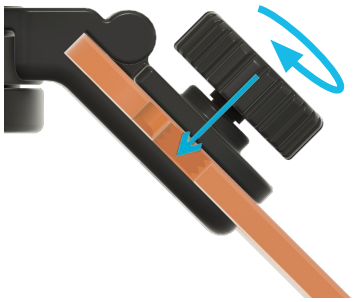
SETUP AND OPERATION

Step 2 - Assemble microscope mount

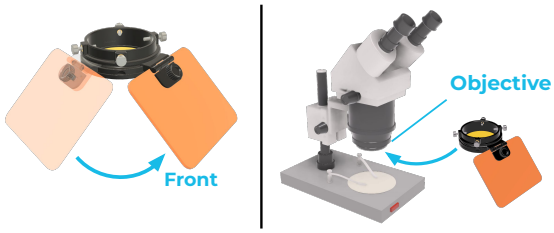
1. Open hinge of microscope mount and align protective shield with the guide pins



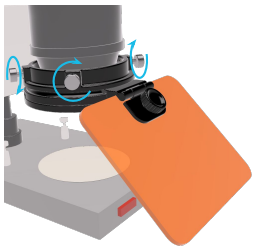
2. Close the hinge and rotate the screw to lock the protective shield in place



3. Rotate the protective shield to face the front of the microscope. Raise the mount from underneath the objective until the emission filter rests on the objective



4. Adjust the four thumb screws to secure the mount onto the microscope



Notes:

a. Different thumb screw lengths available

b. When not in use, the mount can stay in place; the emission filter is detachable

Assembly is complete

Note: Position the assembled base anywhere around the microscope for use

Operation

1. Push button to turn ON/OFF

2. Rotate clockwise to increase brightness

Safety warning

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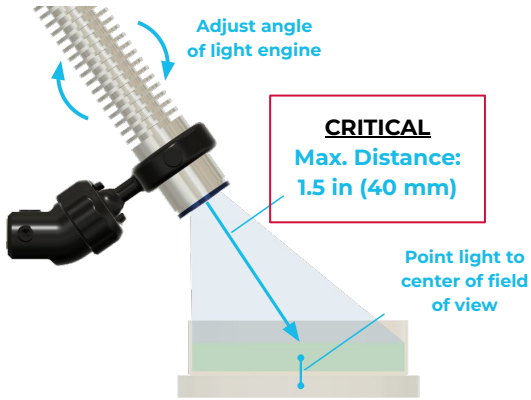
Ideal Set-up



For best results, use frosted or black stage plates

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BEST PRACTICES

1. For best contrast, use a frosted glass base plate beneath the sample on the microscope's stage.
2. The recommended distance between the sample and the tip of the lamp that is emitting the light is 1.5 inches (40 mm) or less.
3. Before placing the sample on the microscope stage, point the light at the center of the viewing area of the stage. This makes it easier to position the sample in the right spot for visualization.
4. The optimal lamp angle depends on the sample and the substrate being studied. Some material on which the specimen is placed can cause unwanted background fluorescence.
5. Use the rod clamp for coarse up/down and left/right adjustment, and the ball joint for fine adjustment to find the best angle.
6. The protective shield can be rotated out of the way when not in use so that the ring assembly does not need to be dismounted from the microscope's objective port.
7. The stand can be placed in multiple positions next to the microscope, as shown.

Stand to the side

Stand behind

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BEST PRACTICES

8. When not in use, the protective shield, emission filter, and/or microscope mount can be docked on the stand as shown below.

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