UST-Lens for G100 series

Installation manual

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Table of contents

1 General

1.1 About the UST lens

Possible mounting positions

This lens can be mounted on the G100 series of projectors and can be mounted in two positions: facing upwards and to the left. The motor housing must be turned to the correct position before the lens is mounted in the projector.

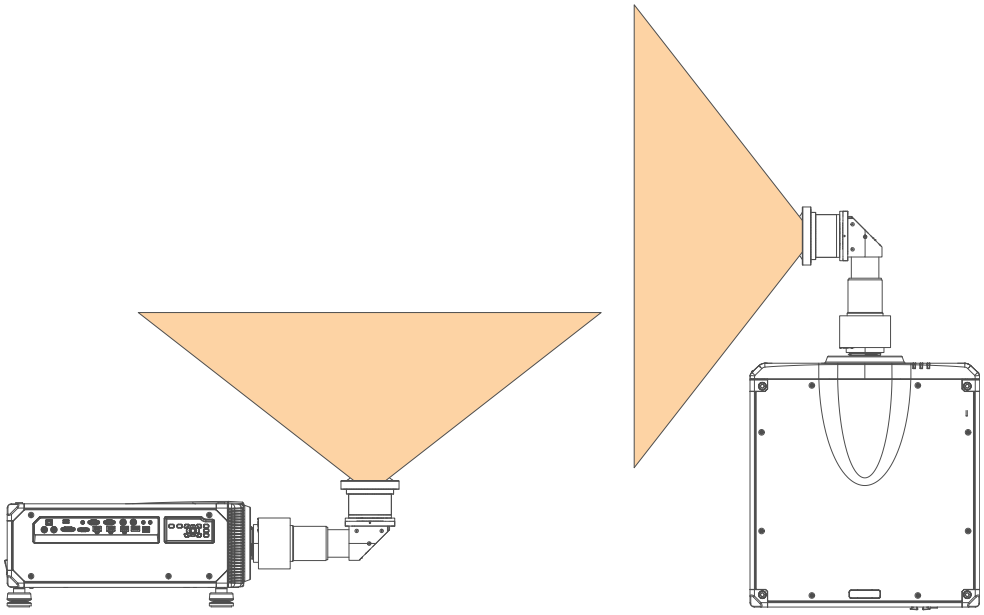
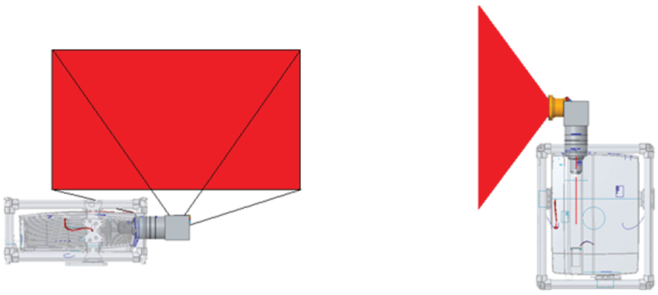


Image 1–1

How your image is displayed

Projection to the side for any projector:



A B

Image 1–2

A Side view
B Top view

Up projection for any projector:

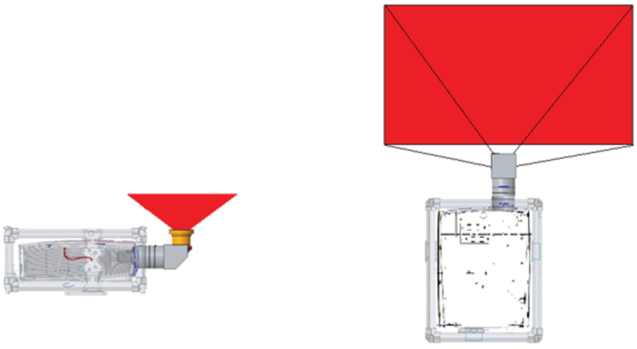


Image 1–3

C Side view
D Bottom view

1.2 Parts indication

UST Lens adapter kit

The UST lens adapter kit for the G100 includes an adapter cover, hook and 7 hex screws. The cover and hook slide into each other as depicted in the following illustration.

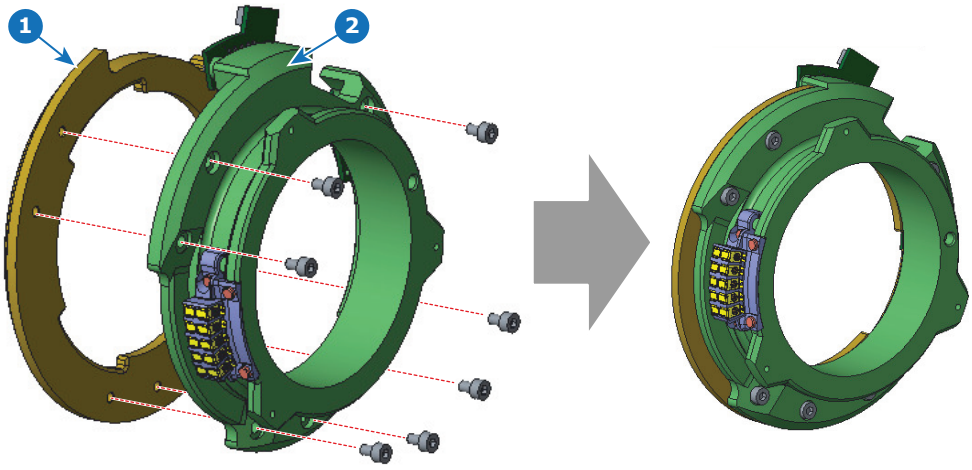


Image 1–4

1 UST-adapter cover
2 UST-adapter hook

Lens support frame kit

The UST lens support kit for the G100 includes 3 mechanical parts and some screws. These parts are the following:

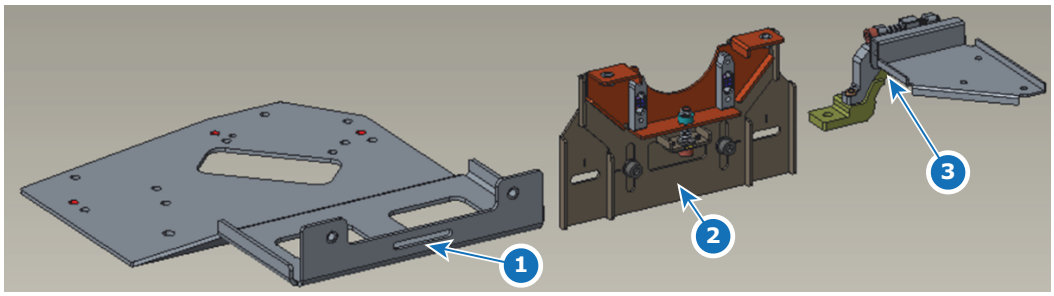


Image 1–5

1 Base plate
2 Lens holder module
3 Lens clamp module

2 Mounting the lens

CAUTION: When mounting the lens without the support, **always** use a safety cable as shown in the image.

2.1 Adapting the lens for the projecting position

Required tools

Allen wrench with long shaft 2 mm

How to adapt

1. Place the lens on a table. Turn out the 6 screws (1). Use an Allen key with a long shaft so that you do not damage the screw head. These screws will not be reused.

   Note: Always use the correct tool (delivered with the kit) to avoid damage to the screw heads !

Image 2–1

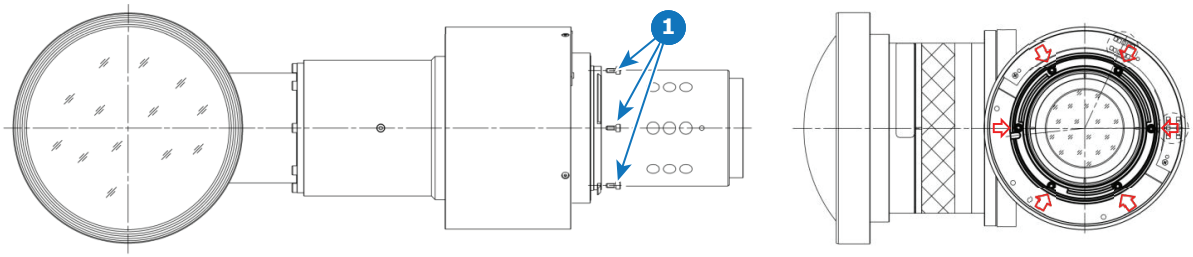


Image 2–2

2. Slide the motor housing a few mm to the backside of the lens (2) to disengage focusing gear and motor gear.

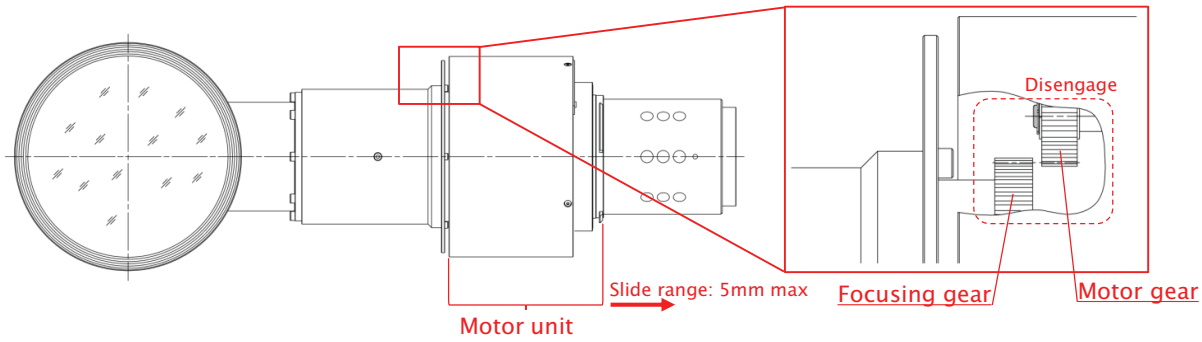


Image 2–3

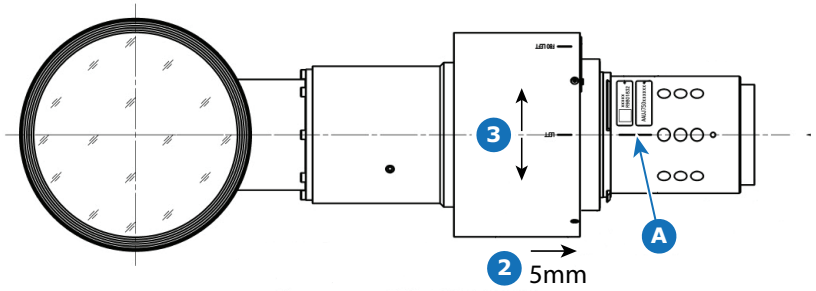


Image 2–4

A reference marking

3. Rotate the motor housing until the chosen marker on the housing corresponds with the reference marking on the lens body (steps of 30°). See if the mounting holes matches the holes in the lens body.

   E.g. if you want to project to the left, then turn the motor housing until the left marking on the motor housing corresponds with the reference marking on the lens housing.

A B C

Image 2–5

A Project LEFT
B Project RIGHT (not used on G100)
C Project UP

4. Slide the motor housing back to the front of the lens to re-engage focusing gear and motor gear.

5. Drive in 6 **new** Allen screws with glue (screws are delivered with the kit). These screws can be multiple times reused. The turned out old screws can be thrown away.

   Use again a tool with a long shaft (Allen wrench 2 mm, delivered with the kit).

   The lens is ready to be mounted on the projector.

2.2 Mounting the lens adapter

How to mount

1. Slide the UST-adapter-hook onto the lens input side until it matches the bayonet flang.
2. Secure the adapter hook by turning it clockwise (bayonet fitting).

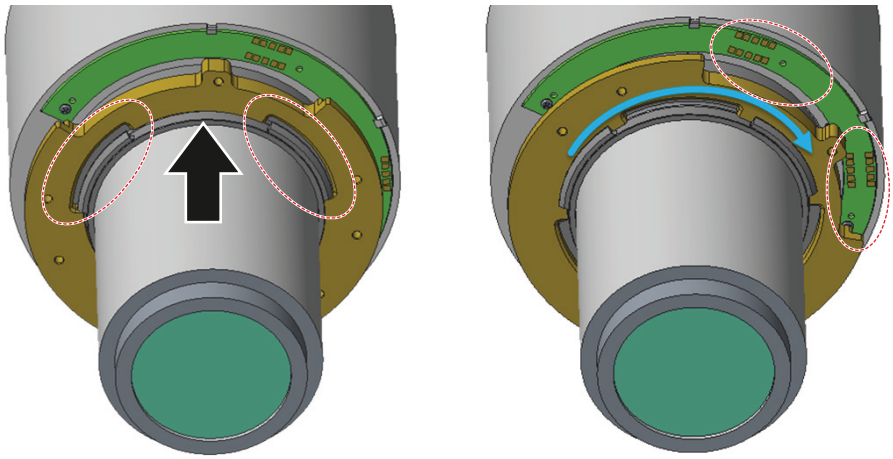


Image 2–6

Tip: Make sure that the contact points (C) of the lens are not covered by the adapter hook.

Image 2–7

C Contact points

3. Slide the UST-adapter cover onto the lens input and over the adapter hook as illustrated. Make sure the contact points of the cover touch the contact points of the lens.
4. Fasten the adapter cover and hook, using the 7 hex screws provided in the kit.

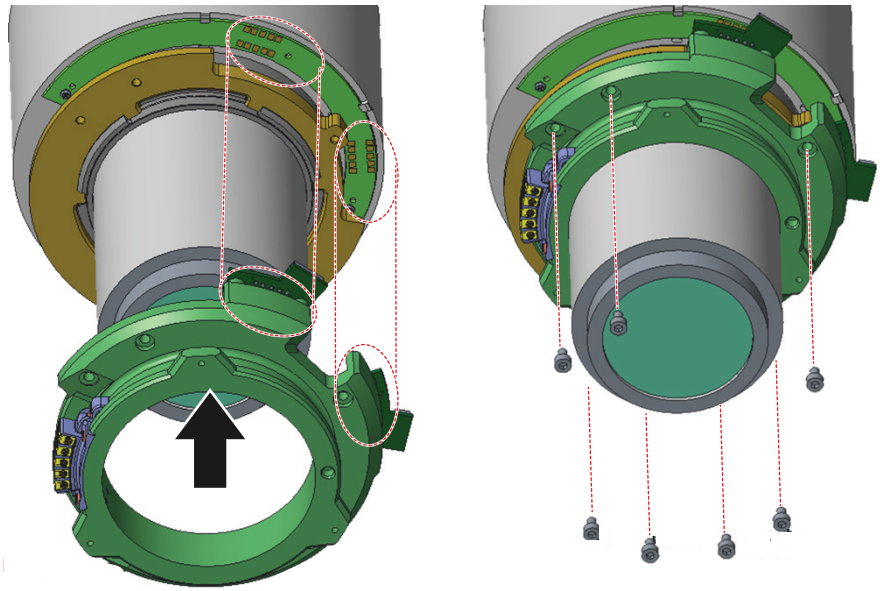


Image 2–8

2.3 When mounting the lens without the support

When to use the safety cable

While it is strongly recommended to use the specifically designed mounting support for this lens in combination with this lens, it is not mandatory.

When mounting the UST lens in a projector without using the mounting support (not recommended), it is strongly advised to use the safety cable set provided by Barco instead. Failing to use either the correct type of safety cable or the mounting support may damage the lens and/or projector.

How to prepare the lens with the safety cable

1. Stick 3 to 4 clips on the surface of the lens body (1).
2. Snap the first loop end of the safety cable into one of the clips.

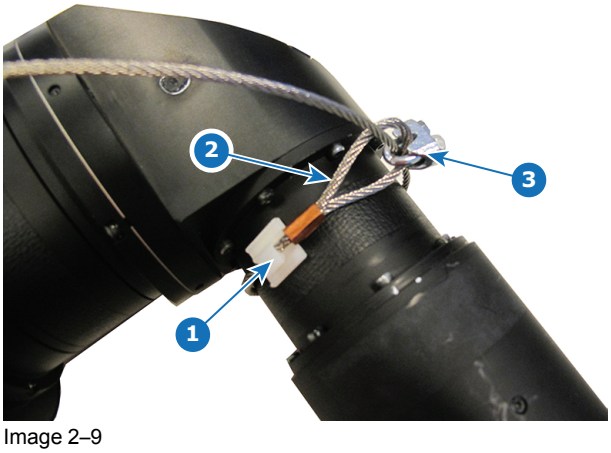


Image 2–9

3. Slide the rest of the cable around the lens. Click the cable into every clip it passes in the loop.
4. Slide the cable through the loop end at the beginning of the cable (2).
5. Install an U-bolt on the lens holder with the open ends oriented outwards (3). Make sure that both a part of the loop end and the outgoing part of the safety cable are placed in the enclosure.
6. Close the U-bolt and tighten it.

Note: Make sure the safety cable is tightened around the lens before tightening the U-bolt nuts.

7. Place the shackle through the free loop end of the safety cable.
8. Mount the lens in the projector.
9. Secure the safety cable around the truss and secure the shackle by turning the safety ring of the shackle over the open end.

2.4 Mounting the UST lens

Required tools

- Allen wrench 5 mm
- Allen wrench 3 mm

Required parts

- Base plate
- Lens holder module
- Lens clamp module
- Hex screws M6 (x3)

How to mount?

1. Turn the projector on its top cover.
2. If the projector is to be mounted in the UDX frame, make sure to **first** mount the frame adapter plate.

   Note: For more information on how to mount the adapter plate and mounting the projector in the rigging frame, see the projector installation manual.

3. Place the bottom support plate on the bottom plate of the projector as illustrated. Make sure that the fixation holes match the holes in the bottom plate.

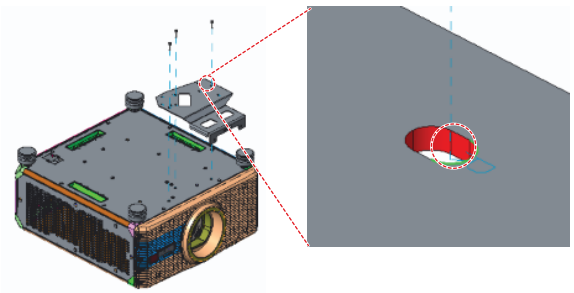


Image 2–10 Mount bottom plate on the front side of the projector

Tip: The blue circle is the ideal screw location

4. Drive in the three M6 screws. Use a 5 mm Allen wrench.
5. Turn the projector back on its feet.

   Note: If the projector is to be mounted in the rigging frame, do this first. For more information, see the installation manual of the G100.

6. Carefully insert the lens into the lens holder.

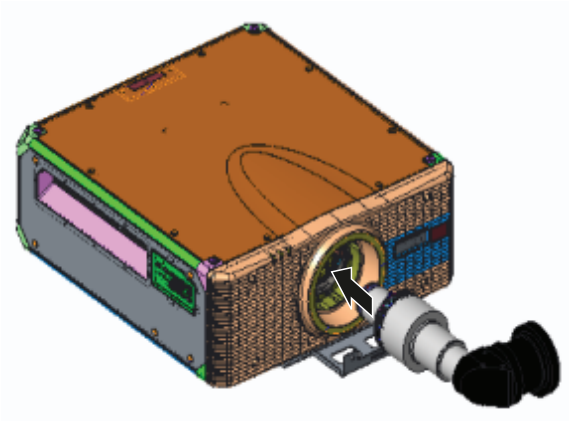


Image 2–11

7. Slide the lens holder module onto the base plate.
8. Drive in the screws partially, but do not fasten yet! It must be possible to move the plate a little bit while mounting the other plates.

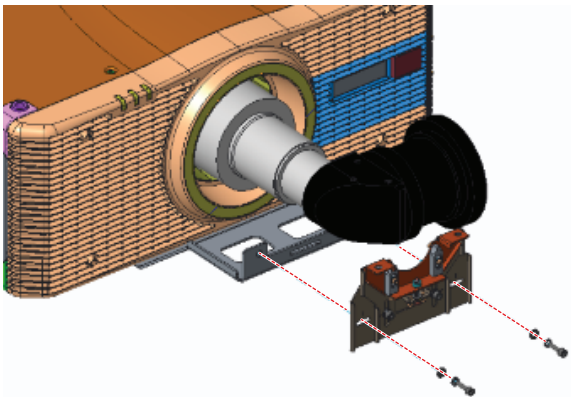


Image 2–12

9. Mount the lens clamp module onto the lens holder module, using screws and washers..

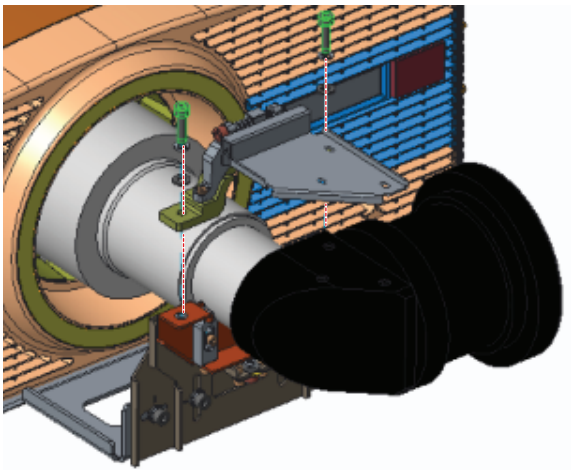


Image 2–13

Tip: Adapt the lens clamp module, depending on how the lens has been mounted. If the lens points to the left, use the full lens clamp. If the lens points upward, only use the bottom part.

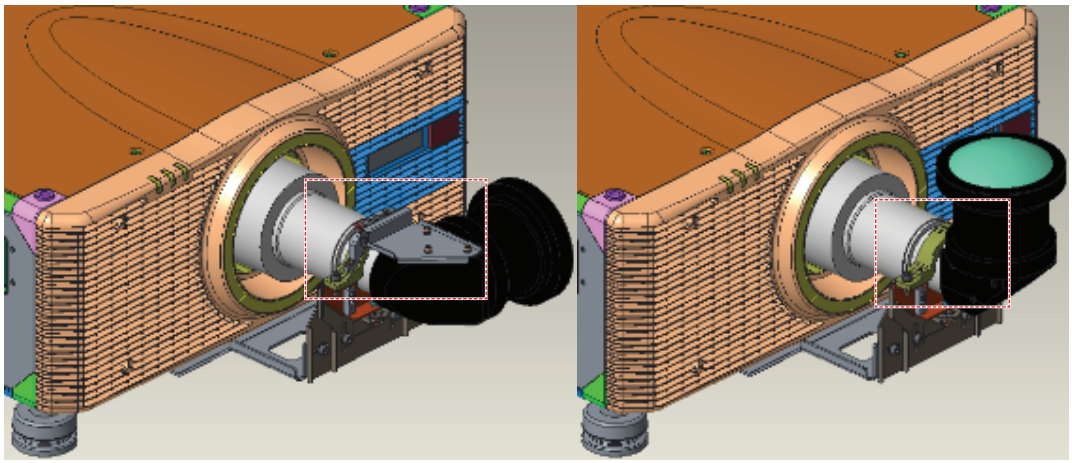


Image 2–14

Use a 3 mm Allen wrench to release the 3 screws holding the parts together

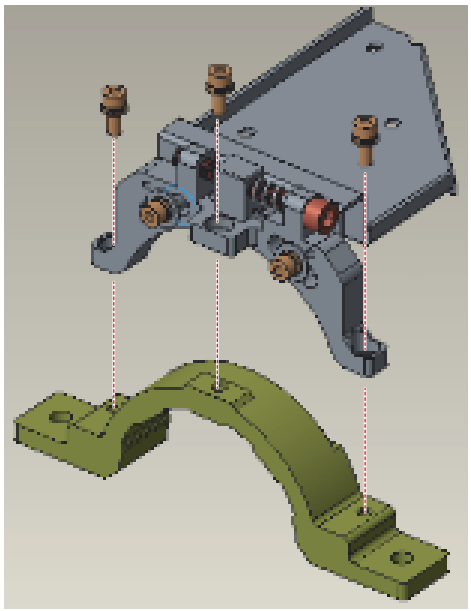


Image 2–15

10. In the case the lens points to the left side of the projector, you can also secure the lens and adapter plate with 3 hex screws.

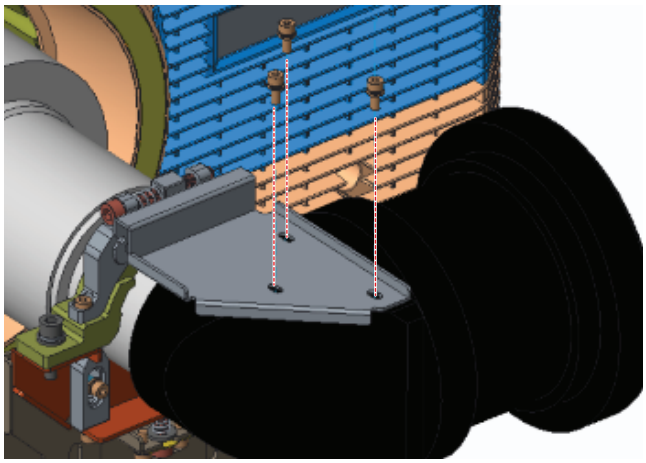
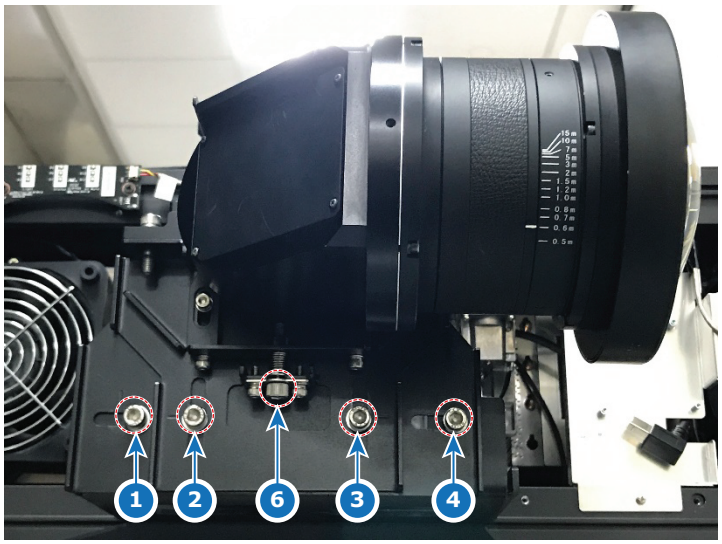


Image 2–16

2.5 Lens adjustment

Location of the adjustment screws

Before adjusting the lens, make sure that screws 1–4 on the adapter are not tightened, and that screws 5 and 6 are in mid position.



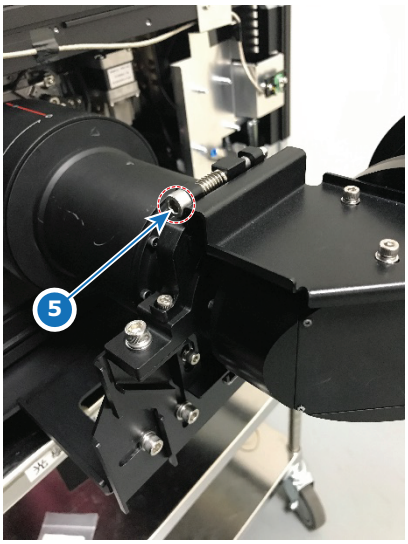


Image 2–17

1 Screw for horizontal shifting
2 Screw for vertical shifting
3 Screw for vertical shifting
4 Screw for horizontal shifting
5 Titl adjustment screw
6 Focus adjustment screw

How to adjust the lens

1. Shift the lens to the desired position as much as possible using the lens holder and software. Adjust with hand if necessary.

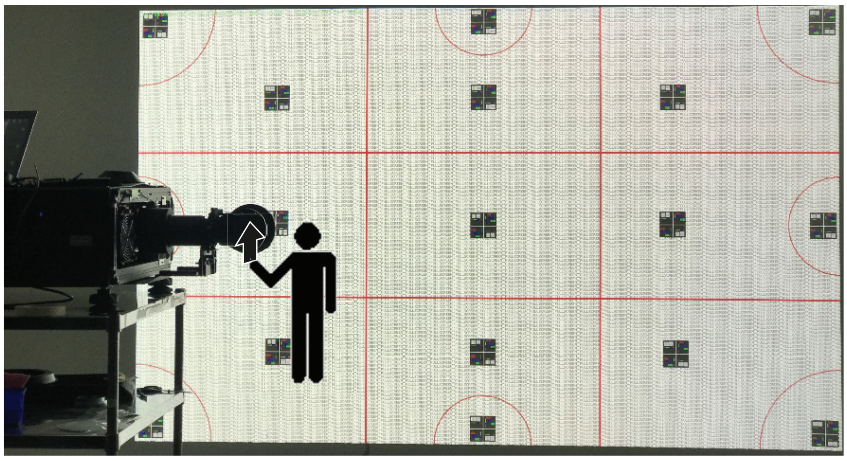


Image 2–18

2. Once the desired position has been reached, tighten the vertical shifting screws (2 and 3).
3. Fine-tune the tilt of the projected image, using screw 5. Using this method, you can adjust ±7.5°.

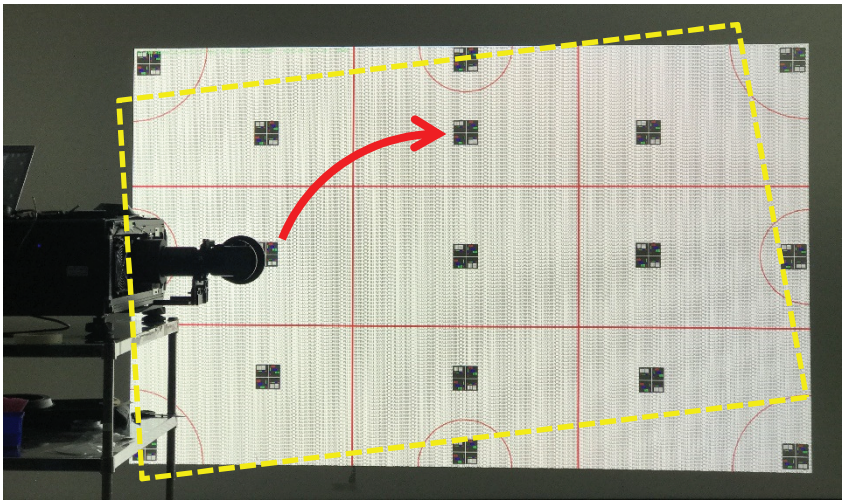


Image 2–19

Tip: Turning screw 5 clockwise will tilt the image counterclockwise. Turning the screws counterclockwise will tilt the image clockwise.

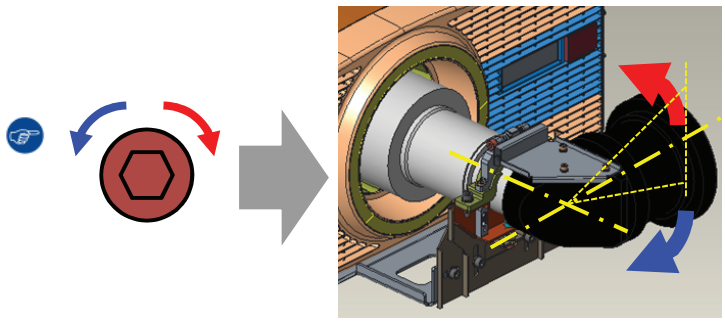


Image 2–20

4. Fine-tune the focus of the projected image vertically, using points A and B on the following image as reference points. The resolution/balance between both points should be the same.
   - Use the focus software feature to help focus the image.
   - Use adjustment screw 6 to help focus the image.
   - Use the focus ring at the end of the lens to help focus the image.
   - If necessary, loosen screws 2 and 3 a bit to push the lens a bit upward or downward to spot any variation in image quality.

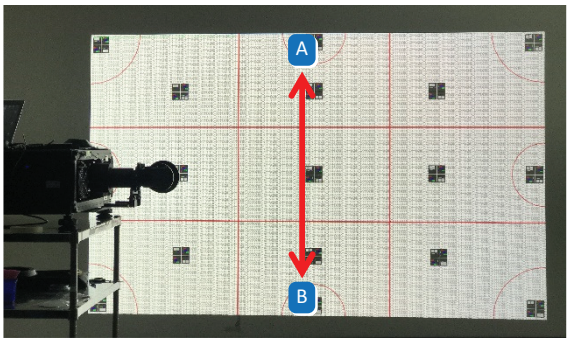


Image 2–21

5. Fine-tune the focus of the projected image horizontally, using points C and D on the following image as reference points. The resolution / balance between both points should be the same.
   - If the balance is a bit off, gently move the lens horizontally to see if this makes any difference.
   - Use the focus ring at the end of the lens to help focus the image.

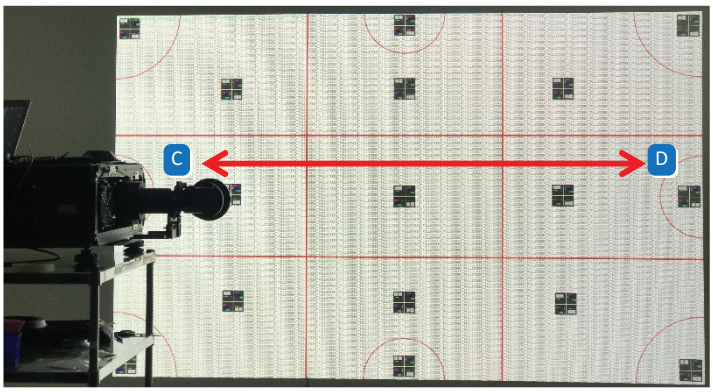


Image 2–22

6. Once shift, tilt and focus is all as desired, tighten adjustment screws 1 – 4.
7. Have a final check, using the focus feature and the focus ring of the lens. Repeat all previous steps if the end result is not as desired.