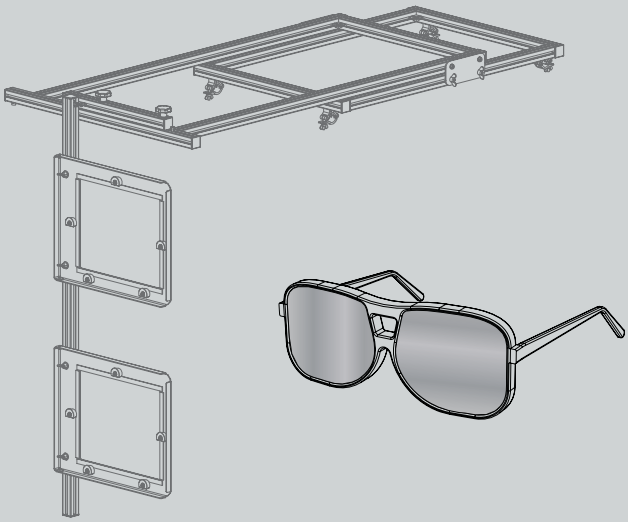
Polarization 3D Kit



Installation manual
For RLM W-series

R9864220

R5905072/00
28/02/2011

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Changes

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1. POLARIZATION 3D KIT

Purpose of the Polarization 3D Kit

The Polarization 3D Kit is exclusively designed for the Barco RLM W-series and can thus not be used on any other equipment.

Overview

- Introduction
- Installation process overview

1.1 Introduction

Function

The illusion of depth in a photograph, movie or other 2D image, is created by presenting a slightly different image to each eye. The brain puts the two pictures together to form one 3D image.

The passive polarization 3D viewing system can be obtained with a dual projection setup.

In front of the lens of each projector, there's a linear polarizer (reference 1, image 1-1). The polarization for the left eye is perpendicular to the one for the right eye.

The light emitted by the projectors is projected onto and reflected by a special screen (reference 2, image 1-1) that is coated to retain the polarization.

The images are simultaneously projected on the screen, so they overlap, resulting in a blurry image. But since the spectators are wearing passive 3D glasses (reference 3, image 1-1) with perpendicularly polarized lenses, they can see clear and well defined 3D images.

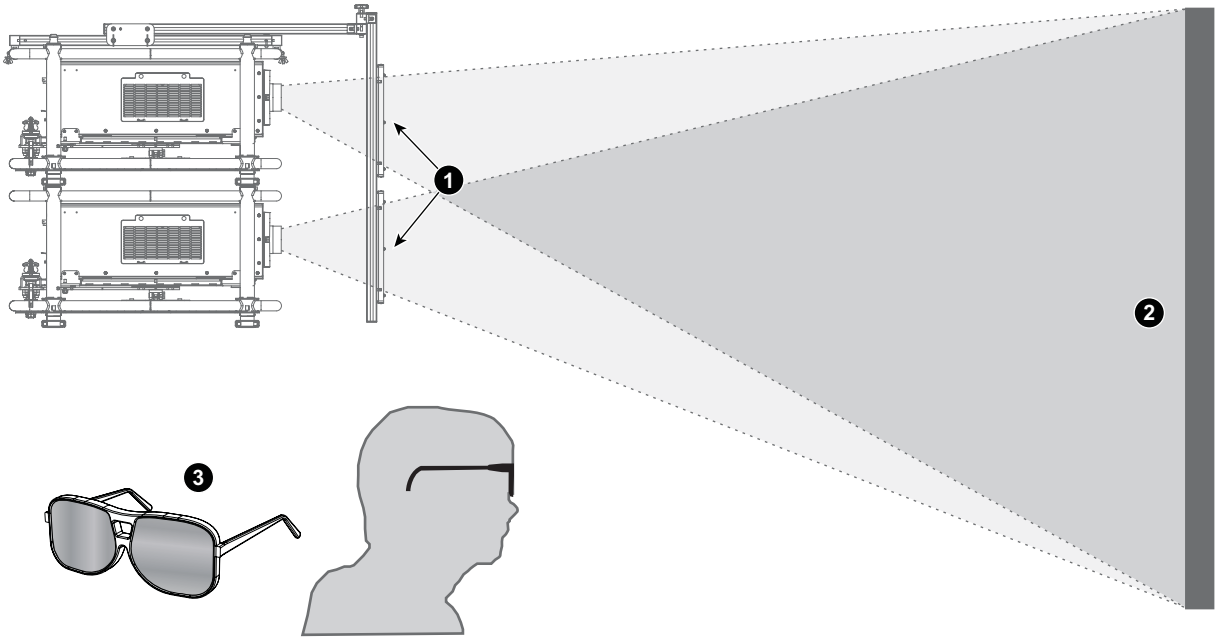

Image 1-1

Order info & content of the kit

When ordering the Polarization 3D Kit for RLM W-series, refer to article number R9864220.

The table below gives an overview of the content of the kit.

Article number	Description	Quantity	Image
R5905072	This installation manual	1	
R8760979	Frame assembly	1	image 1-2
B364356	Clamp	4	image 1-3
B362188	Hammer nut	4	image 1-4
B362189	Screw	4	image 1-5

Image 1-2

Image 1-3

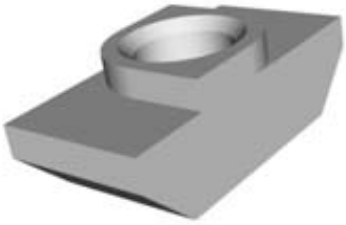

Image 1-4

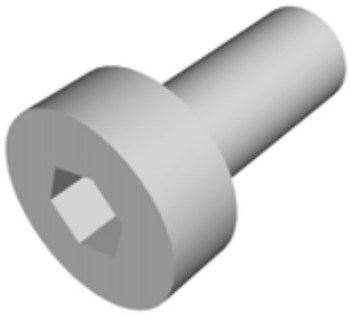

Image 1-5

1.2 Installation process overview

Installation from A to Z

1. **Stack the two projectors.** The two projectors must be stacked using the multifunctional frame, which is exclusively designed for the Barco RLM W-series projectors. See the installation manual (R5905038) of the multifunctional frame (R9899700).
2. **Install the 3D polarizer assembly.** The 3D polarizer assembly has to be mounted on the frame of the upper projector in the dual stack. See "Installation of the 3D polarizer assembly", page 8 .
3. **Align the two stacked projectors**. It is important that the projected images of both projectors coincide with each other on the screen. See the installation manual (R5905038) of the multifunctional frame (R9899700) to align the projectors using the adjustments on the frames.
4. **Apply 3D content to the stacked projectors.** For that connect the 3D content for the left eye with the input port of the lower projector and the 3D content for the right eye with the input port of the upper projector.
5. **Adjust the 3D polarization filters.** For optimal 3D performance, the projected surface upon the polarization filters should be as big as possible without loss of content. See "Adjustment the 3D polarization filters", page 11.
6. **Clean the 3D polarization filters if necessary.** See "Cleaning the polarization filters", page 13.
7. **Enable/Disable the 3D polarization filters.** For 2D projection, the polarization filter has to be removed from the front of the projection lens. The 3D polarization assembly is designed to shift the filters away from the projection lens. See "Enabling/Disabling the 3D polarization filters", page 14.

2. INSTALLATION PROCEDURES

Overview

- Installation of the 3D polarizer assembly
- Adjustment the 3D polarization filters
- Cleaning the polarization filters
- Enabling/Disabling the 3D polarization filters

2.1 Installation of the 3D polarizer assembly

How to install the 3D polarizer assembly?

1. Place the 3D polarizer assembly on top of the two stacked projectors as illustrated (image 2-1). If necessary, adjust the position of the clamps (reference 1, image 2-1) on the frame in the Y direction (reference 2, image 2-1). Release the screws (reference 3, image 2-1) and slide the clamps as desired. Tighten the screws.
2. Secure the 3D polarizer assembly on the upper multifunctional frame by locking the clamps (reference 1, image 2-1).

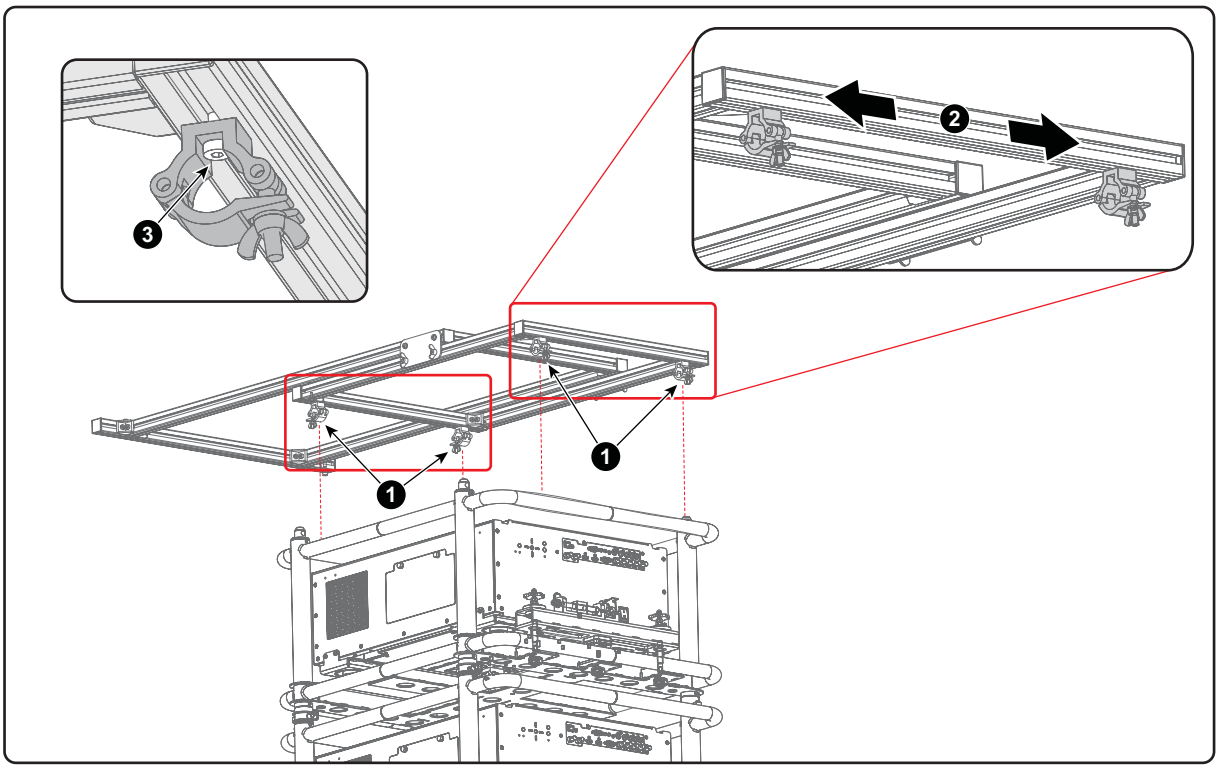

Image 2-1

3. Install the filter assembly with the filters in front of the projector lenses as illustrated (image 2-2). The upper profile of the filter assembly has two guiding bolts (reference 4, image 2-2) which slide into the profile mounted on top of the projector. Tighten the two knobs (reference 5, image 2-2) on top of the filter assembly to secure the position of the polarization filters.

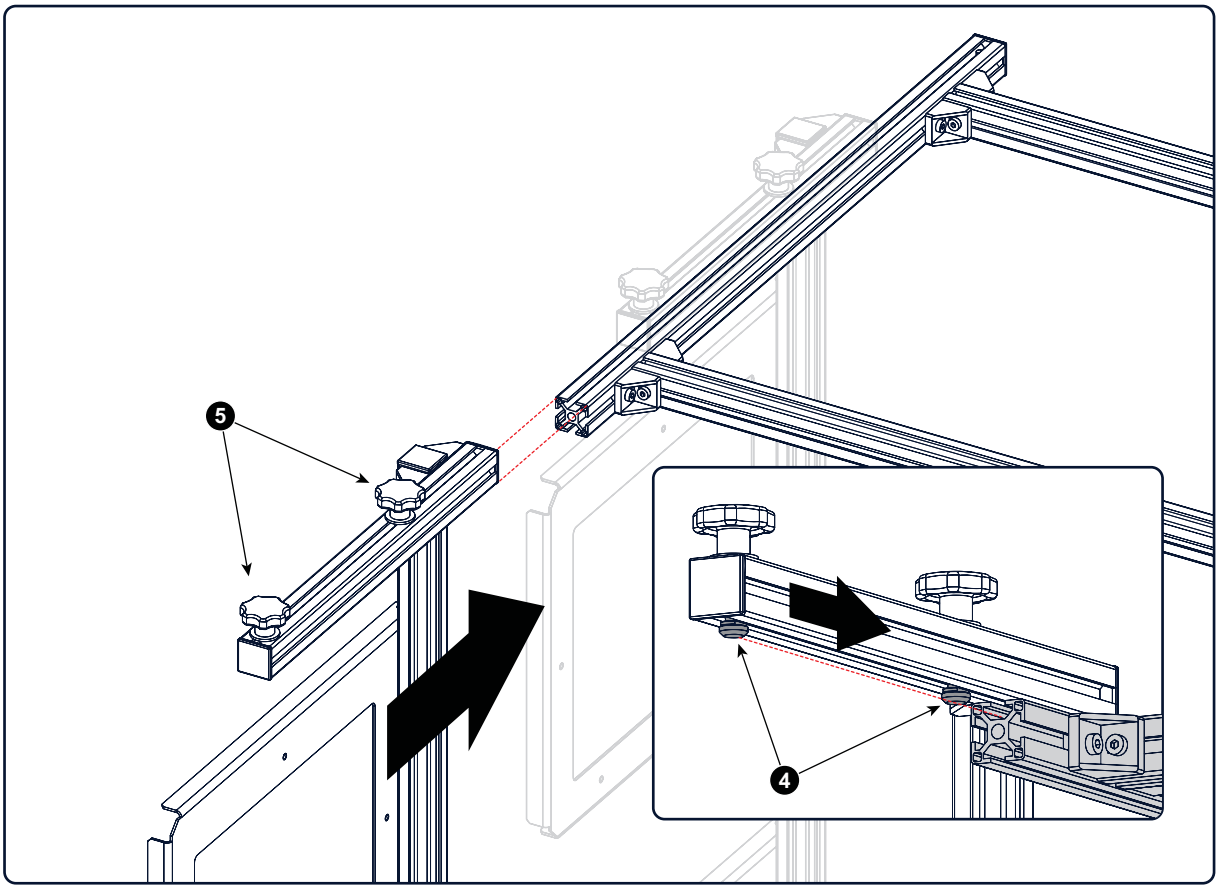

Image 2-2

4. Install the corner bracket (reference 6, image 2-3) upon the profile mounted on top of the projector as illustrated. Slide the corner bracket against the filter assembly before fastening. Use a 4 mm Allen wrench to tighten the screw (reference 7, image 2-3) with hammer nut (reference 8, image 2-3).
   Note: *This corner bracket functions as a reference for the filter assembly. In case the filter assembly was retracted for a 2D projection it can easily be placed back in front of the projection lens by sliding the assembly against the corner bracket.*

5. Place the plastic cap (reference 9, image 2-3) upon the profile.

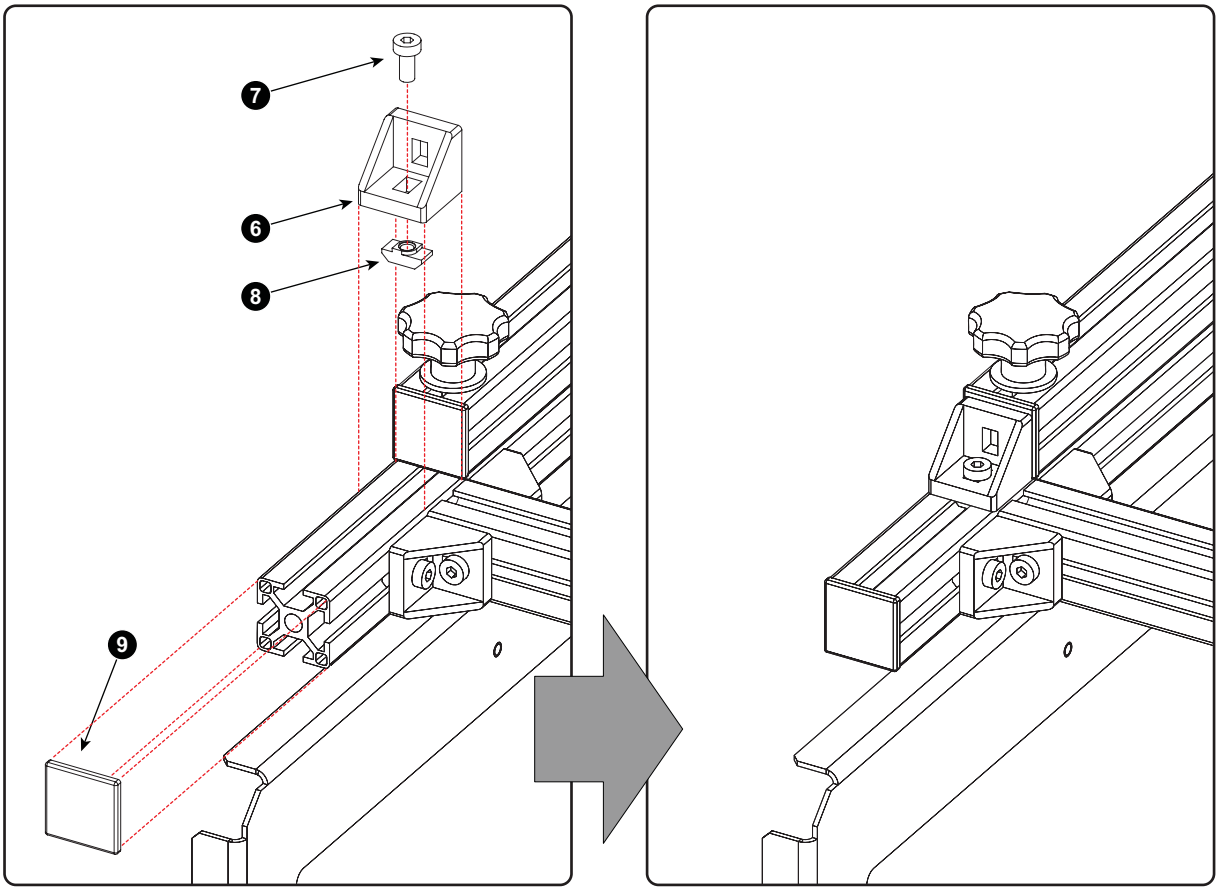

Image 2-3

2.2 Adjustment the 3D polarization filters

Why adjusting the 3D polarization filters?

For optimal performance of the 3D polarization filters, the projected surface upon the polarization filters should be as big as possible without loss of content. The design of the 3D polarization assembly makes it possible to adjust the position of the filters in the X, Y and Z direction.

This procedure assumes that the projected images of both stacked projectors are already aligned.

Why adjusting the 3D polarization filters?

1. Adjust the Y direction of the polarization filters until the center of the projected image matches the center of the polarization filter. Release the two knobs (reference 1, image 2-4) to reposition the assembly with polarization filters. It may be necessary to release the corner bracket (reference 2, image 2-4). Use a 4 mm Allen wrench to release the corner bracket.
   Tip: *Once the Y direction is correctly aligned, install the corner bracket against the assembly with polarization filters. This corner bracket will function as a reference to reposition the polarization filters for 3D projection after they were retraced for 2D projection.*

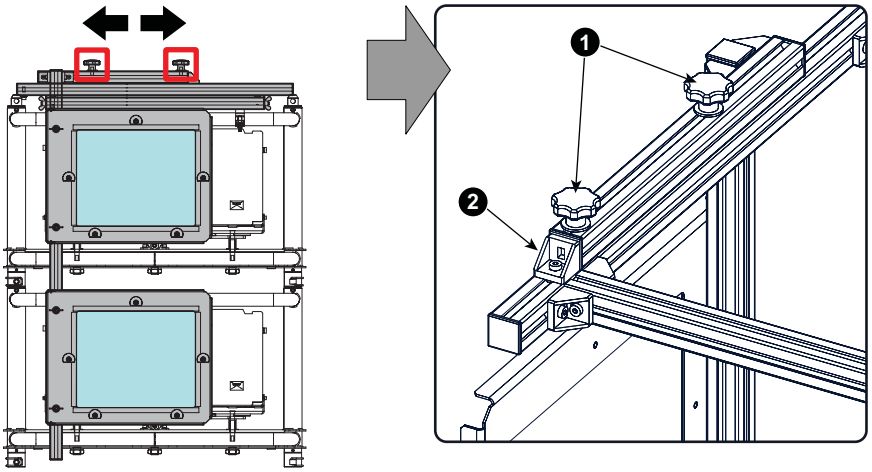

Image 2-4

2. Adjust the height (Z direction) of each polarization filter until the center of the projected image matches the center of the polarization filter. Release the two wing nuts (reference 3, image 2-5) to reposition the polarization filter. Tighten the wing nuts when finished.

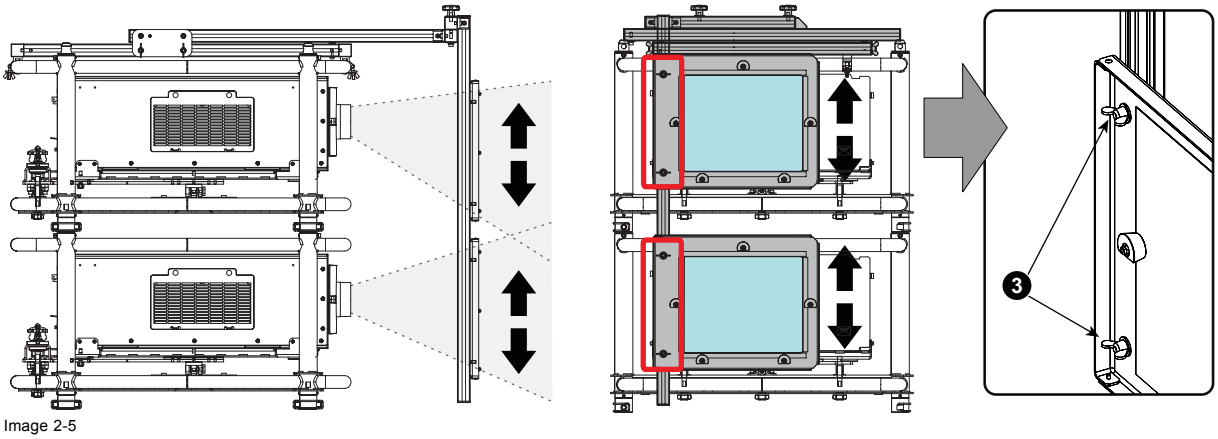

Image 2-5

3. Adjust the X direction of the polarization filters, by sliding the upper frame away or towards the projection lenses, until the projected surface upon the polarization filters is as big as possible without loss of content. Release the two wing screws (reference 4, image 2-6) at both sides of the assembly to reposition the assembly. Tighten the wing screws when finished.

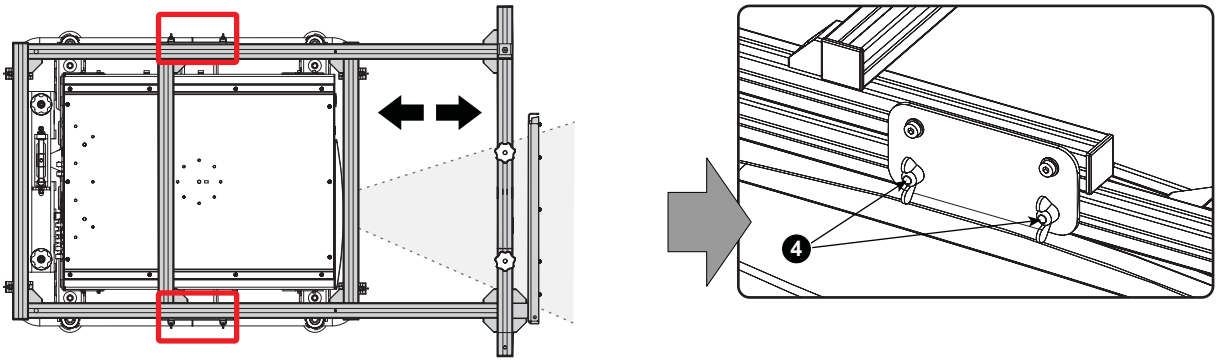

Image 2-6

4. Repeat step 1 to 3 until the projected surface upon the polarization filters is as big as possible without loss of content.

2.3 Cleaning the polarization filters

When cleaning the polarization filters?

Only clean the polarization filters in case it is really necessary. This means in case dust is clearly visible upon the surface of the polarization filters.

WARNING: ISOPROPANOL ALCOHOL (200–661–7).

Hazardous product. Irritating to eyes and skin. Always use in a well ventilated area. Vapors may cause drowsiness and dizziness. Avoid contact with skin and eyes. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advise.

CAUTION: ISOPROPANOL ALCOHOL (200–661–7).

Hazardous product. Lightly flammable. Always use in a well ventilated area. Keep away from sources of ignitions. Do not smoke while working with isopropanol. Exclusive keep in original container tightly closed at a cool, well ventilated and fireproof storage space.

Necessary tools

- Compressed air.
- Clean Toraysee™ cloth.
- Clean cotton cloth.
- Demineralized water.
- Isopropanol alcohol.

How to clean the polarization filters?

1. Try to blow away the dust with compressed air.
2. Is all dust removed from the polarization filters?
   If yes, stop this cleaning procedure.
   If no, wipe off the dust of the polarization filters. Use for that a **clean Toraysee™ cloth**.
   Caution: *Always wipe in a single direction. Do not wipe back and forwards across the filter surface as this tends to grind dirt into the coating.*

   Tip: *Limit the number of wipe movements. This to protect the optical coating. It is better to wipe of the dust with one good wipe movement then with 10 soft wipe movements.*
3. Is all dust removed from the polarization filters?
   If yes, stop this cleaning procedure.
   If no, wipe off the dust of the polarization filters first with a **clean cotton cloth** and demineralized water and than with a **clean Toraysee™ cloth**.
   Tip: *Use isopropanol alcohol instead of demineralized water to remove fingerprints.*

Do not leave cleaning cloth in either an open room or lab coat pocket, as doing so can contaminate the cloth.

If smears occur when cleaning lenses, replace the cloth. Smears are the first indication of a dirty cloth.

2.4 Enabling/Disabling the 3D polarization filters

2D and 3D projection

The design of the 3D polarization assembly makes it possible to retract the filters from the lenses for 2D projection. The filters can easily be placed back in their original position by sliding the filter assembly against the reference bracket.

How to enable/disable the 3D polarization filters?

1. Release the two knobs (reference 1, image 2-7) on top of the filter assembly.
2. Slide the filter assembly away from the lenses for 2D projection or slide the filter assembly against the reference bracket (reference 2, image 2-7) for 3D projection.
3. Tighten the two knobs (reference 1, image 2-7) to secure the position of the filters.

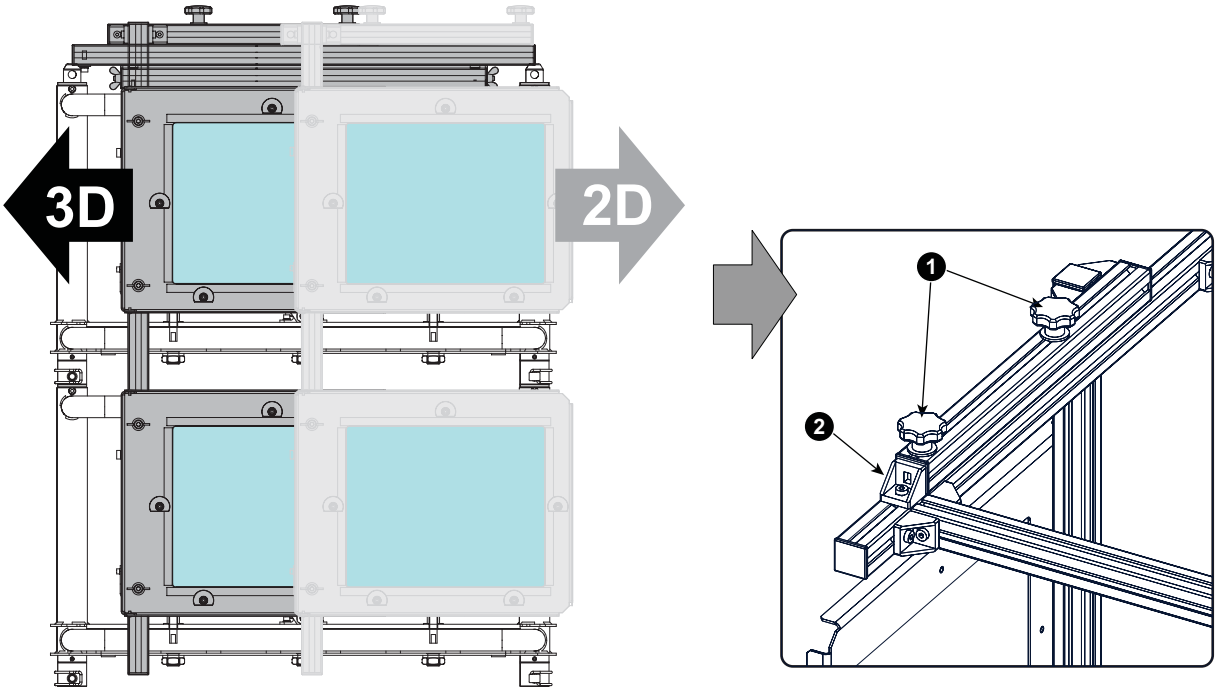

Image 2-7