okolab

USER MANUAL

H301-MIZAR-TILT

IST1748_REV06

Index

1 Chamber Compatibility

H301-MIZAR-TILT is compatible with Mizar Tilt Systems.

2 Components and Dimensions

H301-MIZAR-TILT includes the following components:

1. **Chamber Lid** with embedded temperature sensor
2. **Light Trap** to avoid any reflected light (to be ordered separately)
3. **Magnetic Clamps** to snap lock the chamber slide (to be ordered separately)
4. **Chamber Base** with embedded temperature sensor
5. **Chamber Bracket** to fix the chamber to the stage

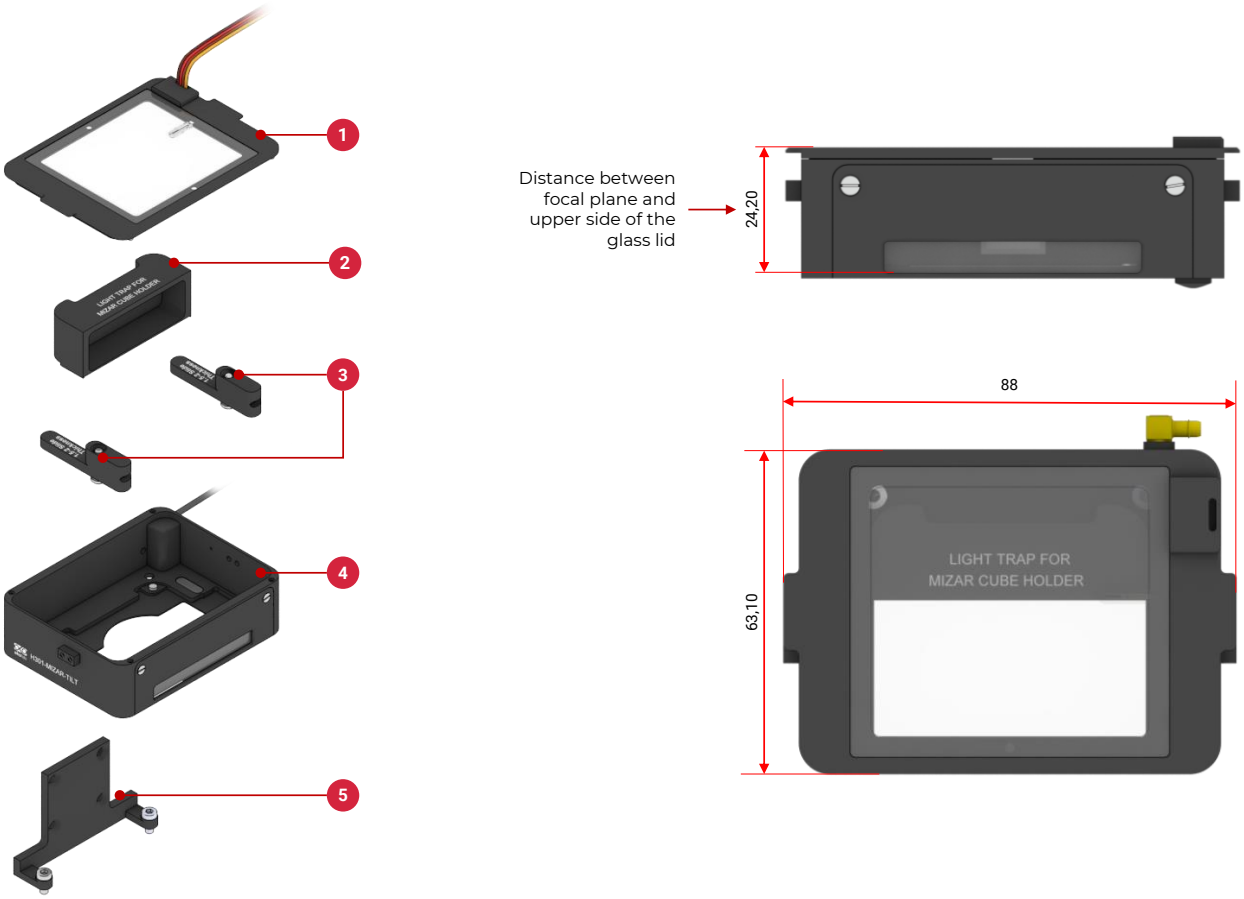

Figure 1. Components and Dimensions.

3 Available Light Traps

H301-MIZAR-TILT can accept Mizar Cube Holder (with or without guide arm), MIZAR-1x22by40 Sample Holder and 1”x3” slides/chamber slide. H301-MIZAR-TILT must be equipped with at least one light trap. The following light traps are available for H301-MIZAR-TILT.

LIGHT-TRAP-MCH	Light trap for Mizar Cube Holder (with or without guide arm) and for MIZAR-1x22by40 Sample Holder.
LIGHT-TRAP-GS	Light trap for 1”x3” slides/chamber slides.

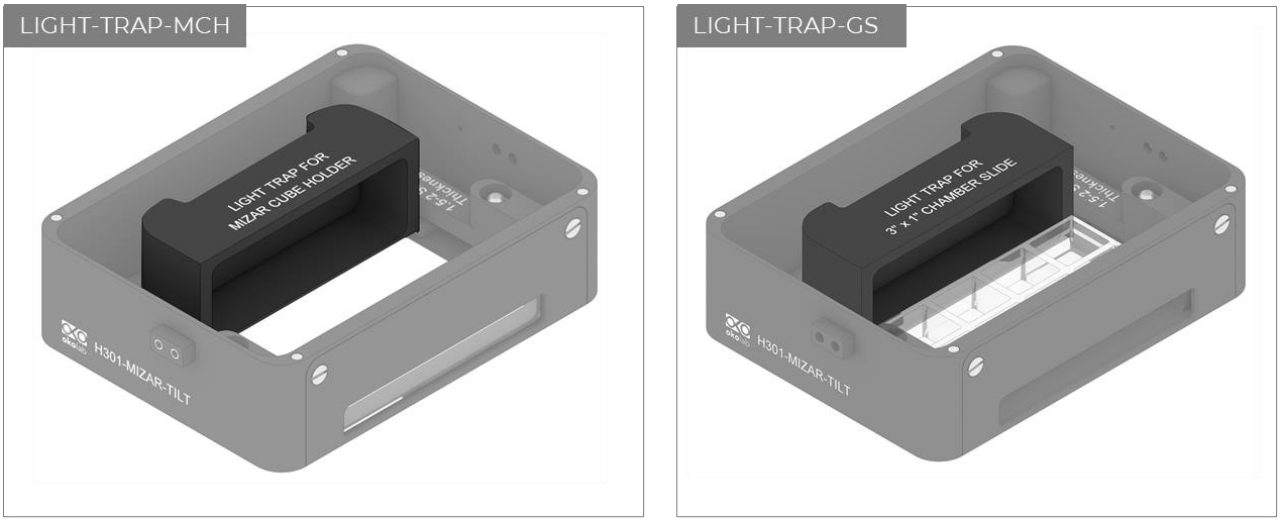

Figure 2. Available Light Traps.

4 Available Magnetic Clamps

H301-MIZAR-TILT can accept standard glass slide with thickness between 1.50 up to 2 mm and also glass slide with thickness between 2.1 to 4 mm. The following magnetic clamps are available for H301-MIZAR-TILT.

MAG-CLAMP-1.5-2	Magnetic clamp for slides/chamber slides with thickness in the range 1.50 – 2 mm.
MAG-CLAMP-2.1-4	Magnetic clamp for slides/chamber slides with thickness in the range 2.10 – 4 mm.

Figure 3. Available Magnetic Clamps.

5 Optional Components

5.1 Available Sample Holders

The following sample holders are available for H301-MIZAR-TILT.

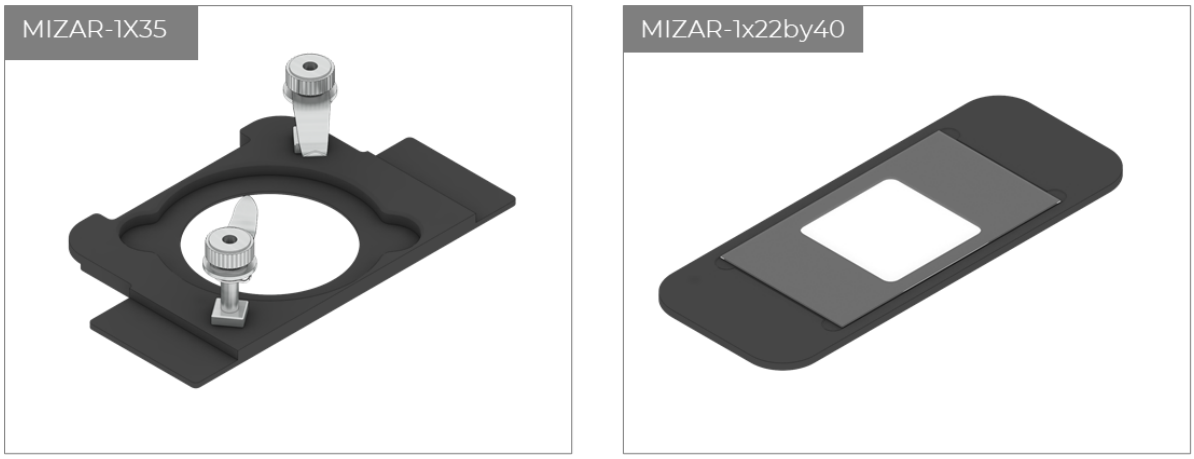

Figure 4. Available Sample Holders.

5.2 Available Accessories

MIZAR-CUBE GL	Stainless Steel Top Lid for 12.50x12.50 Mizar Imaging Cube. It helps to minimize evaporation.

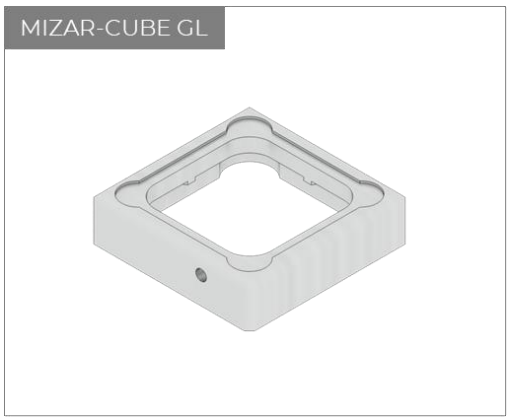

Figure 5. MIZAR-CUBE GL.

6 Installation

Follow the instructions in the following paragraphs to install the chamber properly.

6.1 Installation of the Chamber on the Stage

To fix the H301-MIZAR-TILT on the stage, follow the steps listed below and shown in Figure 6:

6. Fix the bracket to the SLR.300 Piezoconcept Stage with four M2.5x6 screws (see Image 1 of Figure 6).
7. Fix the base of the chamber with two M3x6 screws on the bracket (see Image 2 of Figure 6).
8. Insert the sample holder (see paragraph 6.2, 6.3, 6.4 or 6.5 according to the sample holder you have purchased).

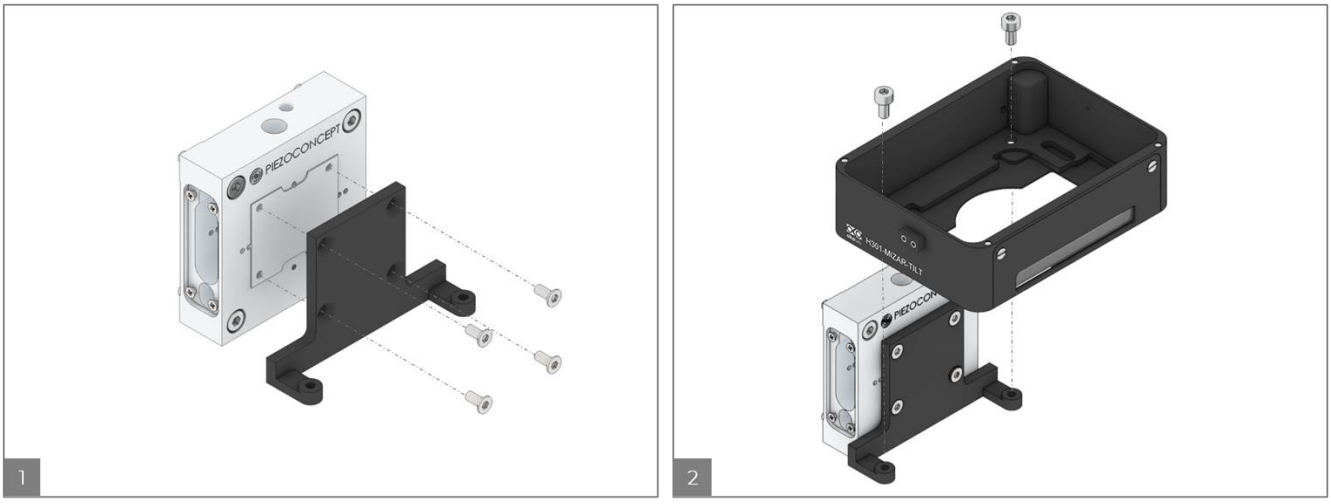

Figure 6. Installation of the Chamber on the Stage.

6.2 Working with MIZAR-1x22by40 Sample Holder or Mizar Cube Holder

The MIZAR-1x22by40 fits into the Chamber Base and it is held in place by the magnetic clamps in order to prevent movement inside the opening on the base. To insert the MIZAR-1x22by40 Sample Holder, follow the steps shown in Figure 8 and listed below:

1. Insert the MIZAR-1x22by40 into the Chamber Base (see image 1 in Figure 8).
2. Place the magnetic clamps over the insert (see image 2 in Figure 8), then push down the head of the clamps simultaneously and move it in the direction shown in the image 3 of Figure 8.
3. Insert the Light Trap into the Chamber Base as shown in image 4 in Figure 8.

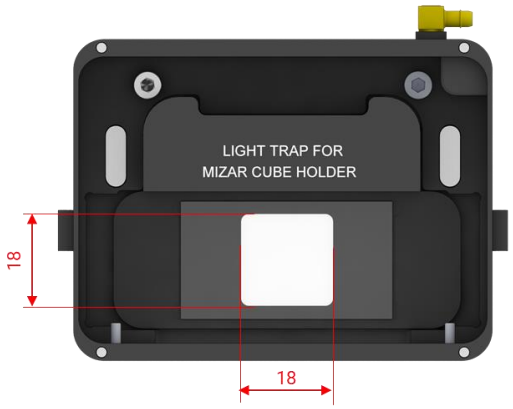

Figure 7. Base Top View dimensions.

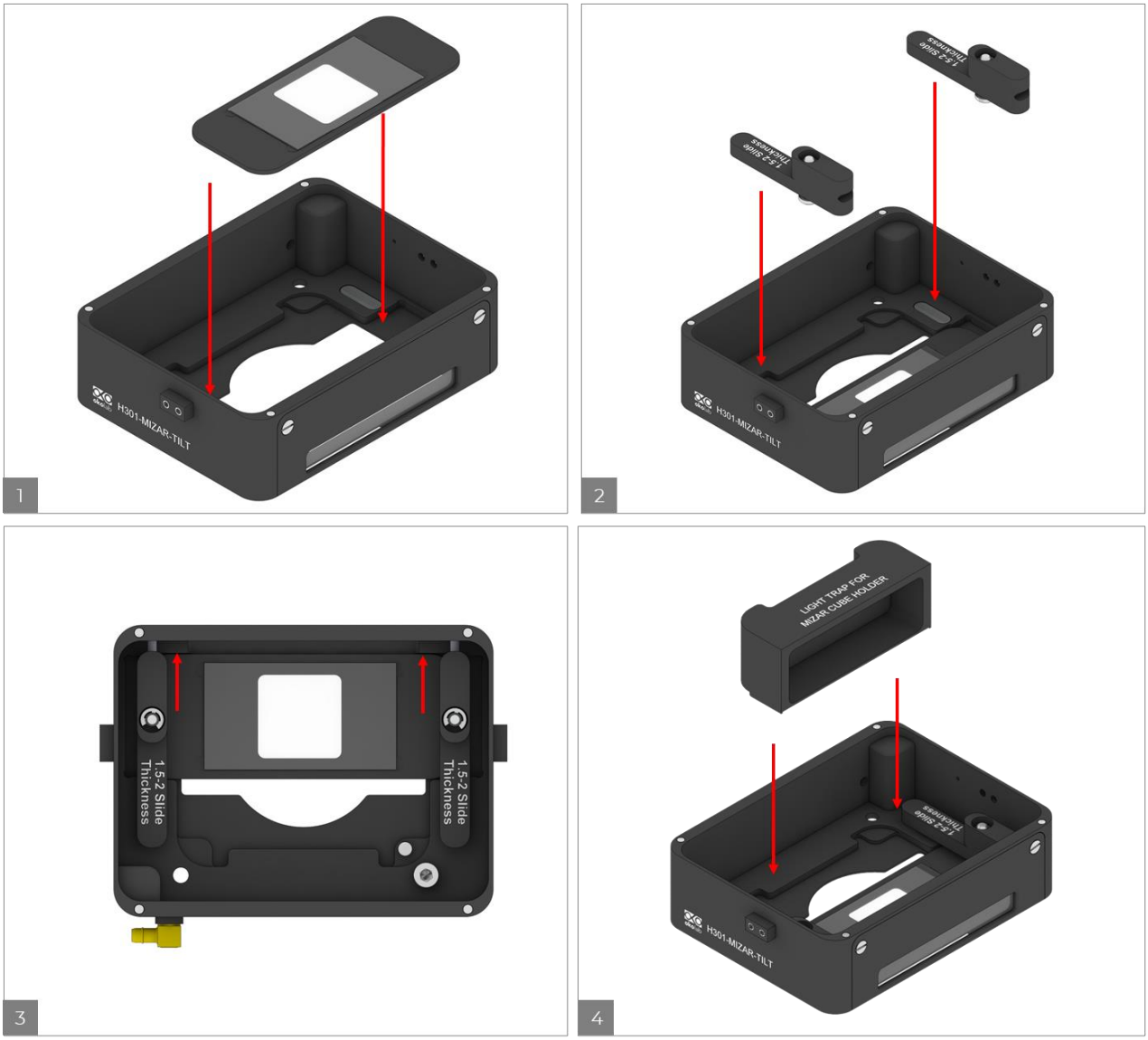

Figure 8. Working with MIZAR-1x22by40.

Note ► *To work with Mizar Cube Holder, the procedure is the same as MIZAR-1x22by40 Sample Holder.*

6.3 Working with 1”x3” chamber slide

The 1”x3” chamber slide fits into the Chamber Base and it is held in place by the magnetic clamps in order to prevent movement inside the opening on the base. To insert the 1”x3” chamber slide, follow the steps shown in Figure 10 and listed below:

1. Insert the 1”x3” chamber slide into the Chamber Base (see image 1 in Figure 10).
2. Place the magnetic clamps over the 1”x3” chamber slide (see image 2 in Figure 10), then push down the head of the clamps simultaneously and move it in the direction shown in the image 3 of Figure 10.
3. Insert the Light Trap into the Chamber Base as shown in image 4 in Figure 10.

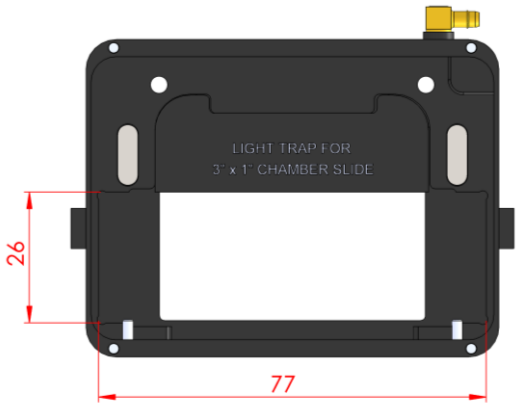

Figure 9. Base top View Dimensions.

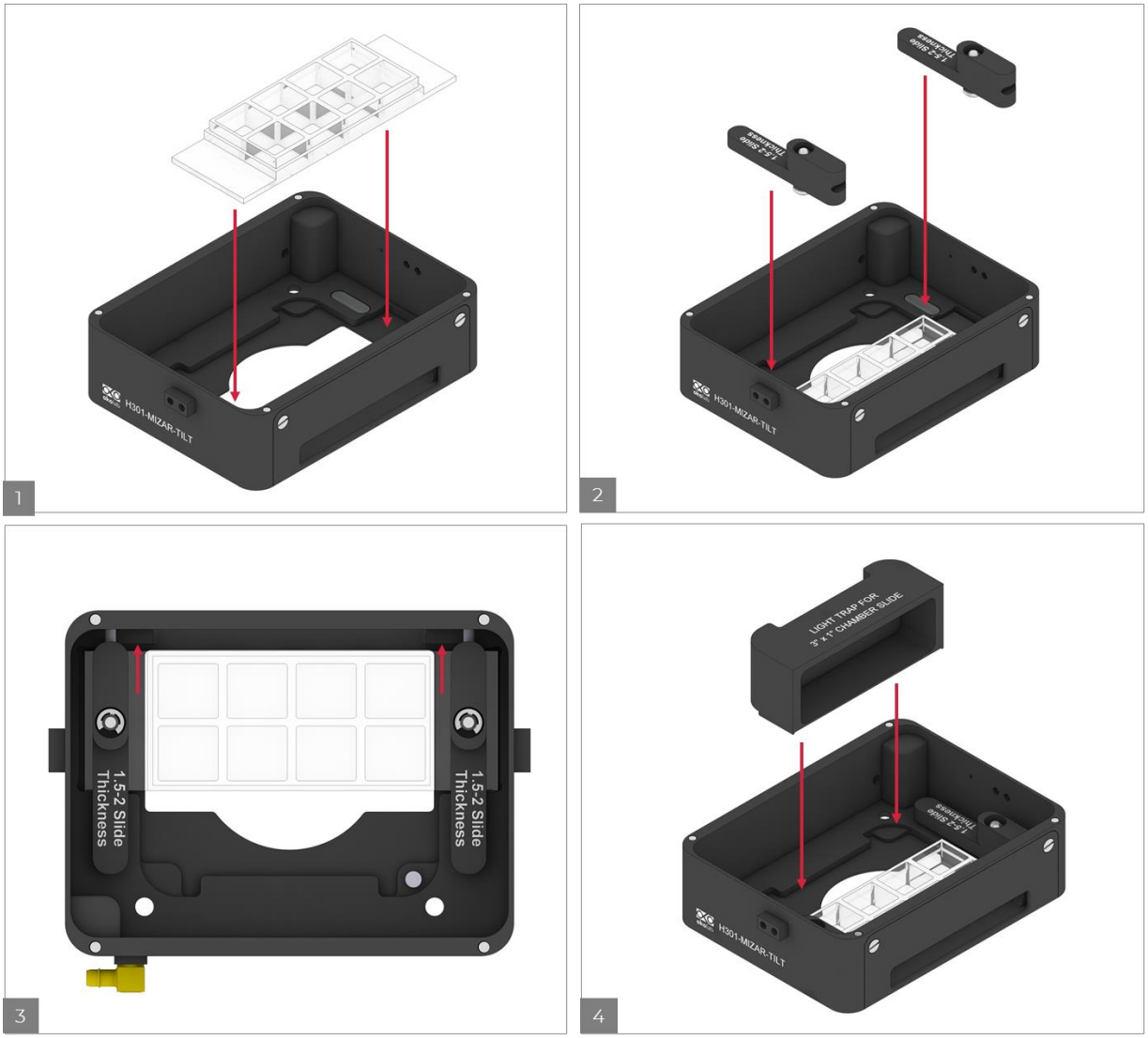

Figure 10. Working with 1"x3" chamber slide.

6.4 Working with 35mm petri-dish

Flat springs prevent movement of 35mm petri-dish inside the opening on the Chamber Base. To insert the MIZAR-1x35, follow the steps shown in Figure 12 and listed below:

1. Insert the MIZAR-1x35 into the Chamber Base (see image 1 in Figure 12).
2. Place the magnetic clamps over the MIZAR-1x35 (see image 2 in Figure 12), then push down the head of the clamps simultaneously and move it in the direction shown in the image 3 of Figure 12.
3. Turn the flat springs (see image 4 in Figure 12) and insert the petri-dish (see image 5 in Figure 12) into the sample holder.
4. Lock the petri-dish by using the flat springs (see image 6 in Figure 12).

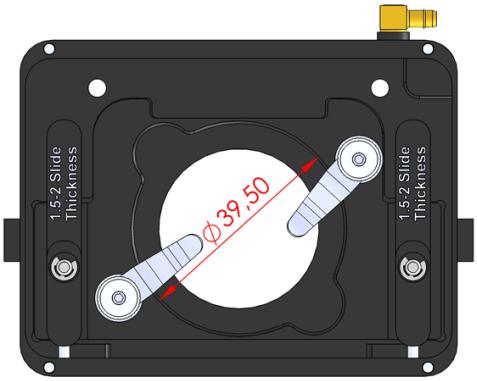

Figure 11. Base Top View dimensions.

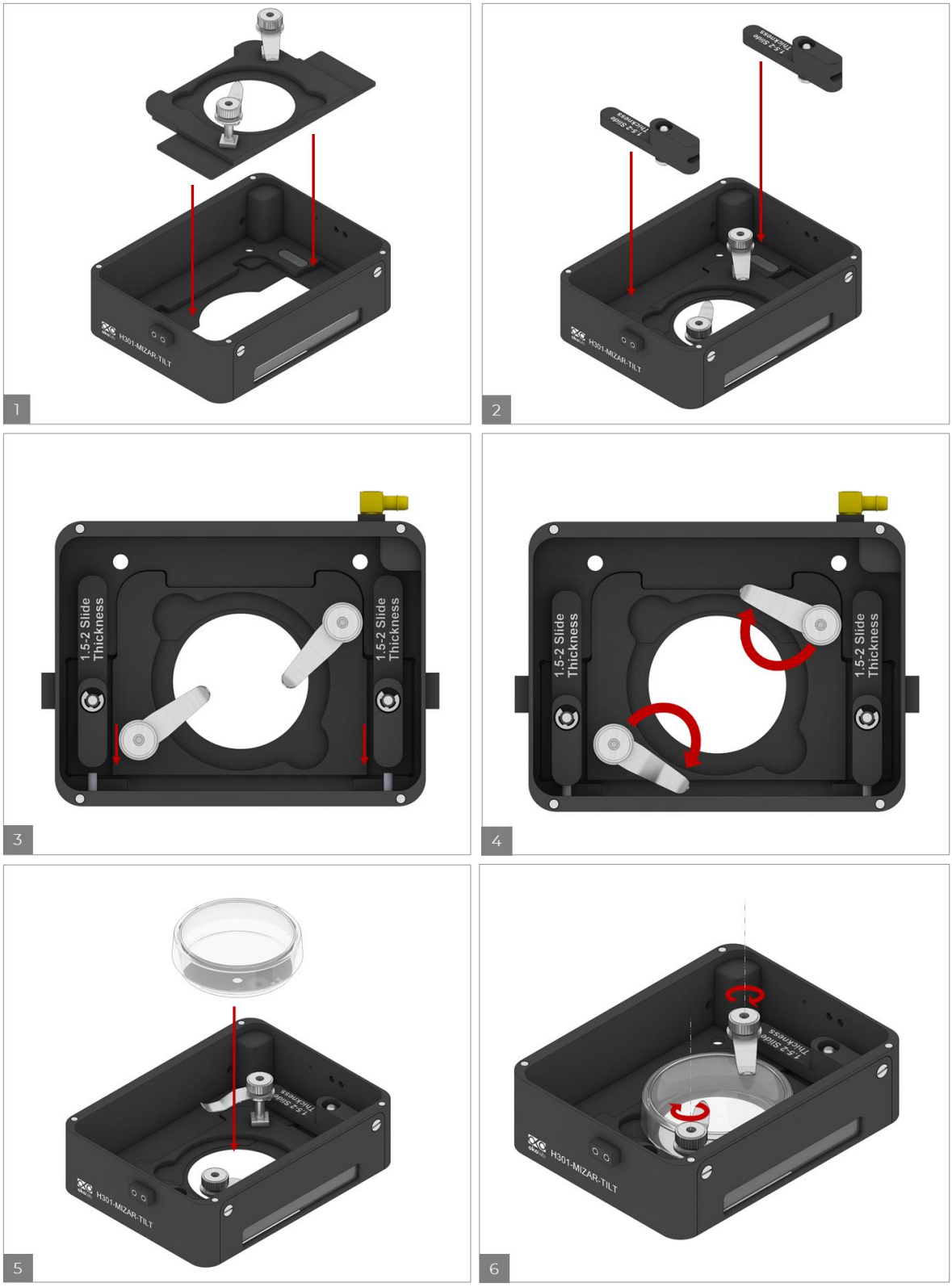

Figure 12. Working with 35mm petri dish.

6.5 Working with MIZAR-CUBE GL

H301-MIZAR-TILT can accept Mizar Cube Holder and MIZAR-1x22by40 Sample Holder with Mizar Imaging Cube. The following glass lid is available to cover the 12.50 x 12.50 mm Mizar Imaging Cube, in order to reduce evaporation of the medium. The glass lid provides a lateral dedicated hole to insert the Sample Feedback Temperature Sensor (see Figure 13).

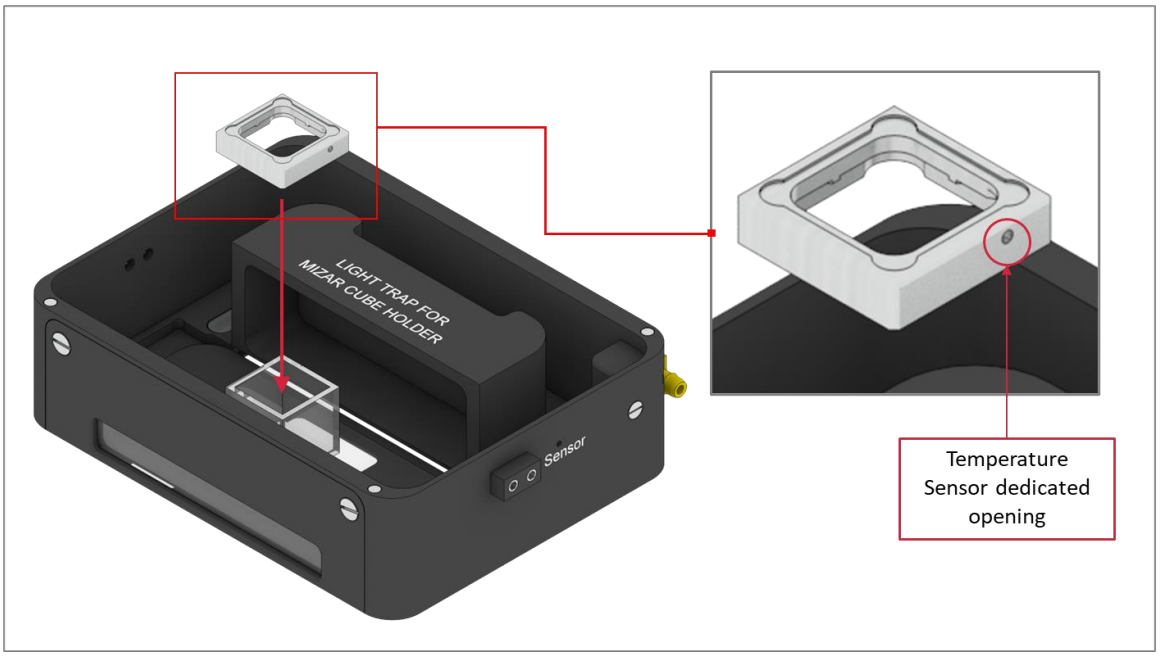

Figure 13. Working with MIZAR-CUBE GL.

6.6 Lid Assembly

Place the Lid on the chamber base (no screws or tools are necessary). See Figure 14.

Figure 14. Lid Assembly.

7 Gas Connection

A single silicon tubing carries output gas from the Okolab Gas Controller to the H301-MIZAR-TILT. Silicon tubing connects to a gas input - brass opening - located on rear side of the H301-MIZAR-TILT. See Figure 15. Connect by gently pushing silicon tubing onto brass opening.

Figure 15. Gas Connection.

8 Working with perfusion

H301-MIZAR-TILT features 4 perfusion holes on the sides of the chamber base for the insertion of perfusion tubing up to 2.0 mm in outer diameter. Small screws plug the perfusion holes when not in use (Grub screws M2,5x3). Remove the small screws as necessary before introducing perfusion tubing.

Figure 16 shows the location of the perfusion holes.

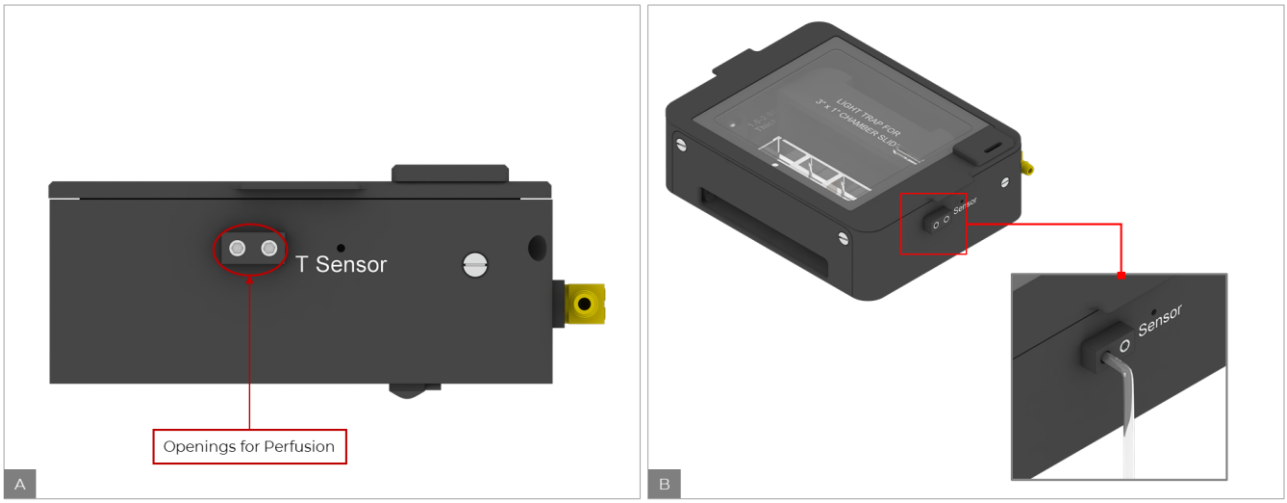

Figure 16. Working with Perfusion.

9 Insertion of the Sample Feedback Temperature Sensor

Insert the Sample Feedback Temperature Sensor through the dedicated opening located in the H301-MIZAR-TILT (see A in Figure 17).

To read the medium temperature and realize a self-calibration of the chamber, fix the Temperature Sensor tip with adhesive tape on the bottom of the medium volume of the sample holder. For more information about the self-calibration, please refer to the User Manual of the Okolab Controller in use.

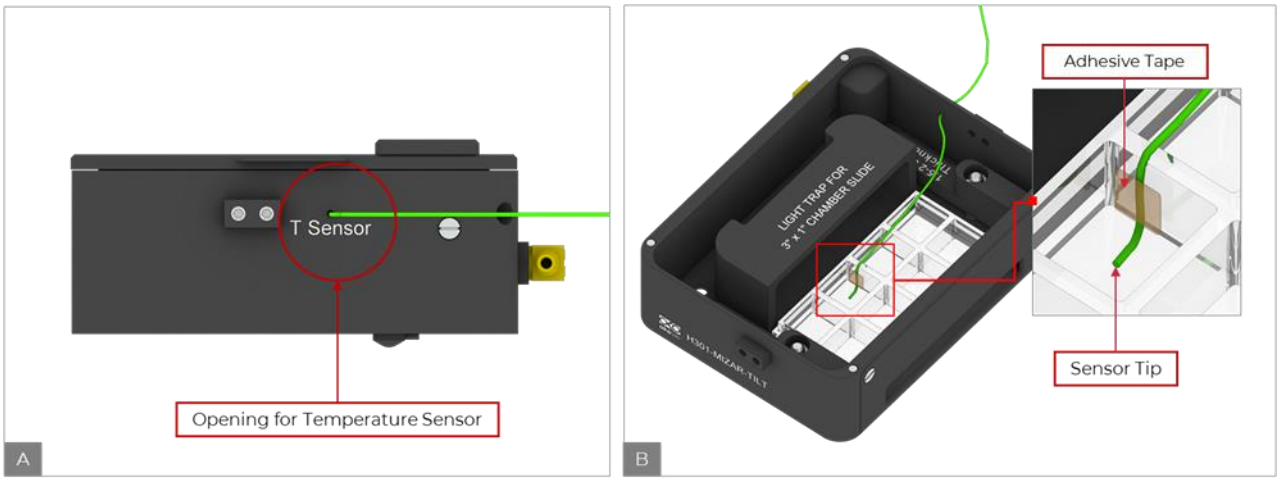

Figure 17. Insertion of the Sample Feedback Temperature Sensor.

10 Cleaning

- Turn the system off and pull the mains plug out the socket
- Remove the lid from the chamber main body, and keep it separate from the chamber main body while the chamber cools down.
- To clean the body and the glass lid of the chamber, wipe with a soft micro-fiber cloth. For stubborn smudges, you can damp the soft micro-fiber cloth with ethyl alcohol (product code UN1170). Do not put any liquid directly on the chamber. While cleaning the glass lid, do not apply strong force to the surface of the glass lid because it can be damaged.

11 Figure List

12 Table List

No table of figures entries found.

13 Document Revision Table

Revision Number	Additions or changes	Date
03	Update	Nov. 2021