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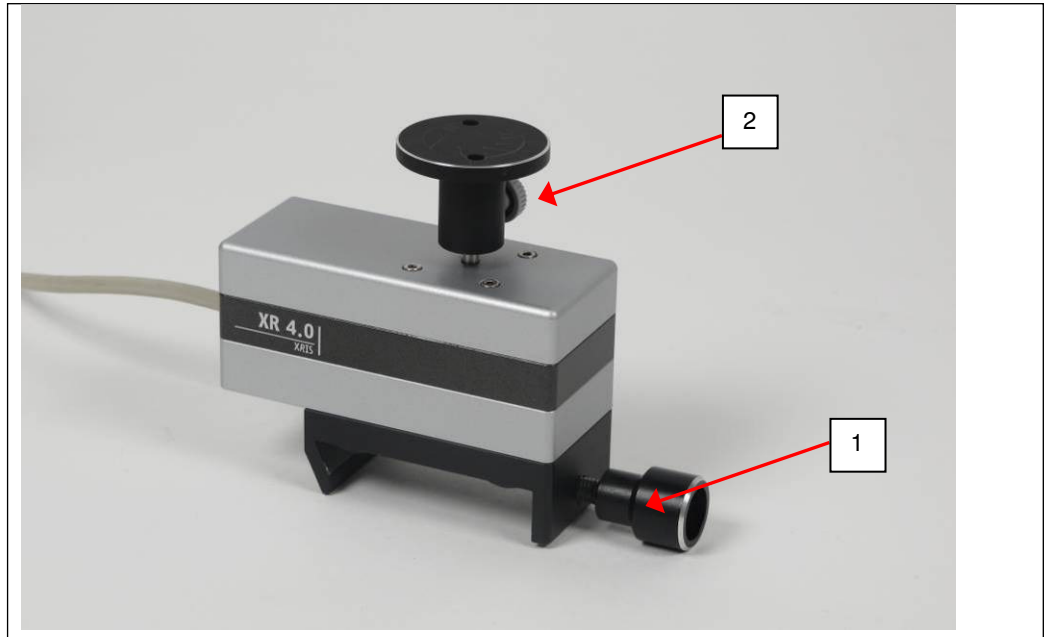


Fig. 1: 09057-42 XR 4.0 X-ray CT Z-axis rotation unit (XRstage)

Operating Instructions

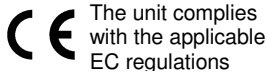


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- Use the unit solely for its intended purpose.
- The unit is intended solely for use in dry rooms where there is no risk of explosion.
- Ensure that the venting slots of the experiment set-up are not covered.
- Do not open the unit.
- Do not connect any devices to the unit other than the ones that are intended for this purpose.
- Ensure that no liquids or objects penetrate the unit through the venting slots.

2 PURPOSE AND CHARACTERISTICS

This rotary stage is used to align samples, e.g. for computed tomography.

- Z-axis rotation of the sample to be analysed: The movement of the sample is not affected by gravitational effects. Rigid objects of flexible sizes can be analysed in an uncomplicated manner.
- Easy installation and alignment on the optical bench.

3 FUNCTIONAL AND OPERATING ELEMENTS

The rotary stage can be fastened directly to the optical bench with the aid of screw 1 (Fig. 1). The plates are exchangeable and are fixed in place by way of screw 2 (Fig. 1). A plate with a larger diameter can be attached to the smaller rotary plate. For this purpose, the rotary plate has two recesses. With the aid of the fixed cable 3 (Fig. 2), connect the motor directly to the XR 4.0 expert unit (09057-99) via the "Motor" connector in the experiment chamber (see Fig. 2). The control is also ensured via the X-ray unit.

1 SAFETY INSTRUCTIONS



- Read the operating instructions thoroughly and completely prior to starting the unit. This is important for your own protection and for avoiding damage to the unit.

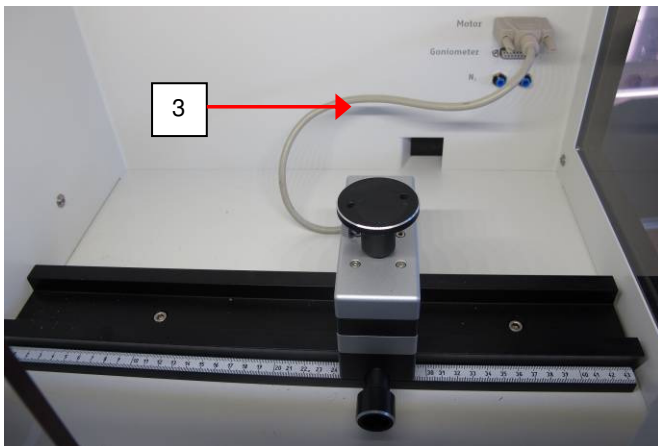


Fig. 2: Connection to the X-ray unit

4 OPERATING INSTRUCTIONS

The rotary stage XRstage fulfils the technical requirements that are summarised in the current directives of the European Community.

The unit must be used under the supervision of an expert and in the electromagnetically controlled environment at research, teaching, and training facilities (schools, universities, institutes, and laboratories). This means that, in such an environment, radio transmission devices, e.g. mobile phones, should not be used in the direct vicinity of the unit. The connected cables must not be longer than 2 m.

Electrostatic charges or similar electromagnetic phenomena (HF, bursts, indirect lightning discharge, etc.) may affect the unit so that it will not work within the specified data range.

The following measures reduce or eliminate potential interferences: avoid carpets; provide equipotential bonding; perform the experiments on a conductive, earthed surface, use shields and shielded cables. Do not use radiofrequency transmitters (radio sets, mobile phones) in the direct vicinity of the unit.

After a total exit, perform a restart by briefly interrupting the power supply.

5 HANDLING

This section describes the commissioning of the rotary stage XRstage and provides an overview of its handling. Please read this section thoroughly in order to avoid failures or operating errors.

5.1 Installation of the rotary stage (XRstage)

The rotary stage is directly fastened to the optical bench of the X-ray unit (09057-99) (see section 3). It can be moved freely on the optical bench.

The rotary stage is connected to the X-ray unit with the aid of the fixed data cable and via the "Motor" connector inside the X-ray unit (Fig. 2).

5.2 Activating the rotary stage mode

Select the menu with the aid of the button under the "Menu" display (see Fig. 3). Then, with the arrow buttons, select the option "Rotating Table" and also "Mode" in the menu of the rotary stage and confirm your selections with "Enter". In the "Mode" screen, select "On" and confirm with "Enter". The system now displays the position of the rotary stage (Fig. 4). The start position is automatically set to zero.



Fig. 3: Activation of the rotary stage mode



Fig. 4: Status display in the rotary stage mode

5.3 Manual operation

The rotary stage can now be rotated with the aid of the arrow buttons on the right-hand side of the display. At 360°, the stage will stop automatically.



Fig. 5: Modifying the parameters of the rotary stage

5.4 Overview of the rotary stage menu

Menu item	Function
Parameters	To change the parameters for an experiment → see section 5.5
Mode	To activate/deactivate the rotary stage mode
Set to zero	To define the current position of the rotary stage as zero ("taring")
Move to zero	The motor will automatically move to zero

5.5 Setting the parameters

The parameters for an experiment with the motor can be set directly under the menu item "Rotating Table", "Parameters". Here, you can adjust the stop angle (the start is always at 0°), the interval, and the gate time (Fig. 5). In order to change the parameters, press the button directly under "Modify". Then, select the parameters with the aid of the "Enter" button and modify them with the aid of the arrow buttons.

5.6 Installation of the tables on the motor

Use the screw at the side of the tables to fix it to the axis of the motor. Make sure that the stage is not directly touching the housing of the motor. This could influence the CT-Scan. The table with the biggest diameter is attached on top of one or the other small tables. Choose the height and size of the table according to the size of your sample. The tables suitable for the rotating table are included in the Set XR 4.0 X-ray CT accessories 09057-43.

5.7. Operation with the software 14421-61 XR 4.0 software measure CT

For a CT scan, the parameters can be set in the associated software. Details can be found in the Help menu of the software or in the CT quick start guide.

6 TECHNICAL DATA

- Angular resolution < 1 degree
- Motorised
- Stepper motor with 4,200 steps/360°

7 ACCESSORIES

- 09057-99 XR 4.0 expert unit
- 09057-40 XR 4.0 X-ray direct digital image sensor (XRIS)
- 14421-61 XR 4.0 software measure CT
- 09057-43 XR 4.0 X-ray CT accessories

8 WARRANTY

We give a warranty of 24 months for units supplied by us inside the EU, and a warranty of 12 months outside the EU. The following is excluded from the warranty: Damage that is due to non-compliance with the operating instructions, improper use, or natural wear.

The manufacturer can only be held liable for the function and safety-relevant properties of the unit, if the maintenance, service, and modifications of the unit are performed by manufacturer or by an institution that is expressly authorised by the manufacturer.

9 DISPOSAL

The packaging mainly consists of environmentally-friendly materials that should be returned to the local recycling stations.

Do not dispose of this product with normal household waste. If this unit needs to be disposed of, please return it to the address that is stated below for proper disposal.



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