

RUD TECDOS TSB

Operating Instructions Workbench with mould opener for Prototype Tools



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1. Foreword

1.1 General information

This Foreword will help you use the RUD TECDOS TSB safely, properly and economically. By applying the information in this Instruction Manual, you will:

- increase the reliability and service life of the RUD TECDOS TSB,
- prevent hazards from arising and
- reduce repairs and system down times.

These Instructions must:

- **always be available at the location at which the machine is being used**
- **be read and complied with by everyone who works with the RUD TECDOS TSB.**

The RUD TECDOS TSB has been manufactured using the latest technological developments and the approved technical safety regulations. However, there may be a risk to life and limb for the user or a third party, or a risk of physical damage to the TECDOS TSB and other equipment, if material is not processed correctly, or if the TECDOS TSB is not used correctly.

Spare parts must meet the technical requirements defined by RUD Ketten. This is guaranteed in the case of original spare parts, as they undergo constant quality control supported by an ISO 9001-certified quality management system. Third party spare parts can in some circumstances change the system's properties, as defined in the design phase, and cause major defects for which RUD Ketten shall accept no liability.

Use suitable workshop equipment for maintenance. Only personnel authorized by the manufacturer can provide perform technically sound maintenance or repair.

These Instructions have been created with the greatest possible care. However, if you need additional information, please contact:

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1.2 Main components of the TECDOS TSB

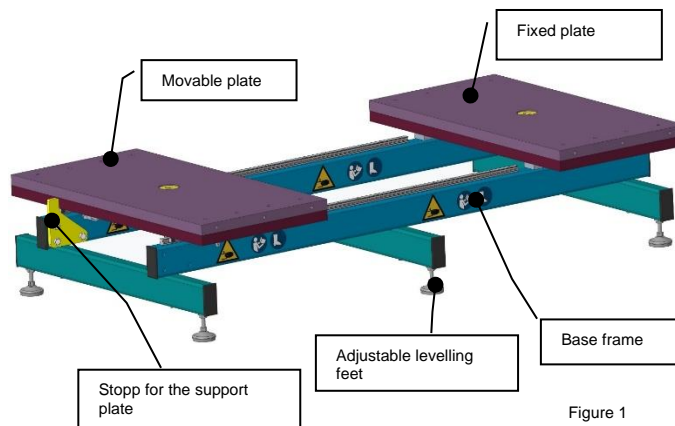


Figure 1

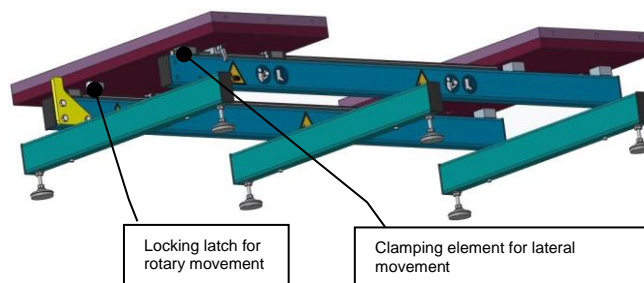


Figure 2

The figures are functional or indicative. The figures refer to the TECDOS TSB 08/16-2,5.

1.3 Operational limits of the TECDOS TSB

1.3.1 Intended use

The TECDOS TSB is designed for safe and damage-free opening of moulds. It is permitted to carry out maintenance and assembly work on the original mould if the TECDOS TSB is held in position by the locking latch and the clamping element and the TECDOS TSB is not stepped on. The TECDOS TSB is mobile and can be transported from one place of use to another by means of a suitable industrial truck (e.g. forklift) or a crane. The TECDOS TSB is usually set up in factory buildings and must not be used outdoors. Usual operating temperatures are from 10°C to 30°C.

1.4 TECDOS TSB personnel

1.4.1 Operators

The TECDOS TSB must only be used by operators who have the appropriate authorisation to move these loads. Operators must also have been properly instructed in how to use the TECDOS TSB and their managers must ensure that they have read and fully understood these Operating Instructions.

1.4.2 Staff involved with transportation

If the TECDOS TSB is to be transported with a forklift truck, the forklift truck driver must have the appropriate training certificates. Transportation by crane must only be performed by operators with the appropriate specialist training who also have permission to work with lifting gear, hoists and attachment fittings.

2. Safety instructions

2.1 Explanation of symbols and instructions

	Failure to comply with the relevant safety instructions can cause danger to life or considerable damage to property.
	Failure to comply with the relevant safety instructions can result in unexpected events or situations.
	Warning of danger of crush injuries
	Use foot protection

	Follow instructions
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2.2 General information

These Operating Instructions describe the RUD TECDOS TSB and how to use it. Compliance with these Operating Instructions is a requirement for problem-free operation and the meeting of any claims under warranty that might arise. You must read these Operating Instructions before using the TECDOS TSB.

Compliance with these Operating Instructions is a requirement for operating the TECDOS TSB safely and for ensuring that the specified features and performance are achieved. RUD Ketten accepts no liability for personal injuries or any damage to property and assets arising from failure to comply with these Operating Instructions. In such cases, any liability for material defects is excluded.

These Operating Instructions are to be read by properly qualified personnel who are tasked with operating, maintaining, and fixing the TECDOS TSB.

Ensure that replacement parts are disposed of safely and in a way that does not damage the environment.

Welding, naked flame and sanding tasks must not be performed on the machine.

Climbing up onto the TECDOS TSB is not permitted!

For safety reasons, no unauthorised conversions or changes to the TECDOS TSB are permitted.

RUD Ketten reserves the right to make changes to these Operating Instructions. All the information and instructions in these Operating Instructions have been created in accordance with generally recognised technical regulations. However, the information and instructions are non-binding. Please contact RUD if you require additional information or clarification.

Generally applicable legal and other binding regulations for preventing accidents and protecting the environment, which supplement the Operating Instructions, must be noted and complied with. They describe how to handle hazardous materials or the provision and wearing of personal protective equipment, for example. The operating firm is liable

2.3 Maintenance and servicing

Before starting maintenance work, the operator must ensure that no-one else is present in the machine's safety zone.

The TECDOS TSB must be inspected for damage by properly trained personnel every six months. The most important components to check are the stopper, the locking latch and the clamping element.

The TECDOS TSB must be moved to the respective end position for maintenance and cleaning. Afterwards, both the locking latches must be engaged and the clamping element closed so that the support plates can no longer move.

Before starting maintenance work, block off access to the machine's working area to keep out unauthorised people. Display a sign that clearly states that maintenance work is in progress.

3. Description

3.1 General information

The TECDOS TSB consists of the following assemblies, as shown in the figures in section 1.2 of these Operating Instructions:

- the base frame,
- the fixed and the movable support plates which serve to support the mould to be opened.

The TECDOS TSB is supplied as a fully assembled function-tested unit.

3.2 Functional description

The TECDOS TSB is intended to be operated in a hall at room temperature. Its intended function is to open and rotate a mould for maintenance, assembly and disassembly purposes.

The mould is usually placed on the TECDOS TSB with a crane. Care must be taken to place the mould slowly and carefully on the TECDOS TSB in order to avoid damage to the support plates and/or the mould.

In the next step, the operator examines the area behind and around the TECDOS TSB and makes sure that there is no other person in the danger zone (see Figure 7 under point 4.2) of the TECDOS TSB. Once the operator is satisfied that there is no one in this danger zone, he opens the mould.

Example of an opening process:

1. Check that the locking latch is engaged and the clamping element is clamped, this prevents unintentional movement of the moving support plate..

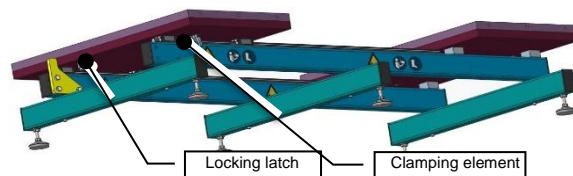


Figure 3

2. Carefully place the tool on the TECDOS TSB. Make sure that the parting line of the tool and the parting line of the fixed and movable support plate are in the same plane.

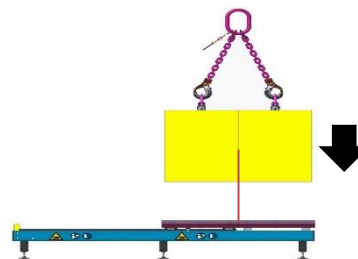


Figure 4

3. After opening the clamping element, open the mould by pushing on the movable support plate.

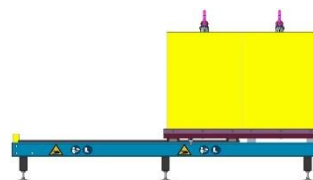


Figure 5

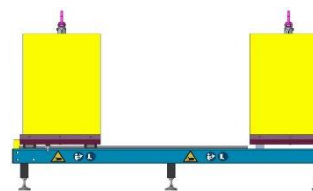


Figure 6

4. After clamping the clamping element, the locking latches can be opened and the support plates can be turned.

4. Commissioning

4.1 Transportation

Before transport, the TECDOS TSB must be unloaded.

For safety reasons, the TECDOS TSB may only be transported when empty. This means that no mould may lie on the TECDOS TSB during transport (dead weight: see Table 2).

The TECDOS TSB can be transported using a forklift truck.

It must be ensured that the means of transport is selected according to the weight of the TECDOS TSB (stated on the type plate).

When working with industrial trucks and lifting equipment, the general health and safety regulations of the Employer's Liability Insurance Association BGR 500 must be observed. In addition, the areas under suspended loads must be suitably secured.

4.2 Installation location and space requirement

A horizontal, level, dry and clean surface must be provided for the place of use, which is suitable and approved for a load of at least the dead weight of the TECDOS TSB including the complete payload. Sufficient workplace lighting is a prerequisite. The TECDOS TSB must be protected from the weather by a roof. The ceiling height should be at least three to four times the respective table length (for dimensions, see Table 2). A safety area must be provided for the area around the TECDOS TSB, in which the TECDOS TSB should be centrally located in the middle, as shown in Fig. 6. Maximum safety must be provided in this safety area during turning operations. The operator of the TECDOS TSB must ensure that no other persons are present in the safety area at this time.

Size	Safety Zone „Y“ (Minimum)
TSB 06/12-2,5	3,6 m
TSB 08/16-2,5	4,8 m

Table 1

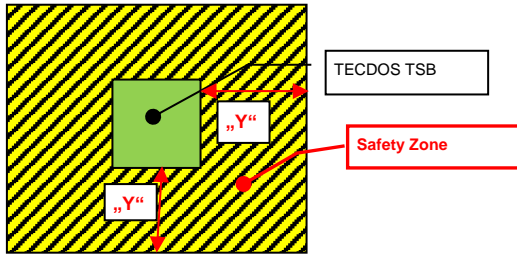


Figure 7

4.3 Commissioning of the TECDOS TSB

For first-time use, it is important to test the functions of the TECDOS TSB without load.

4.4 Accident or fault procedure

If an accident or fault occurs, stop the TECDOS TSB immediately and secure it to prevent it from being accidentally switched on again. If there is an accident, apply first aid and call the emergency services. The fault must be resolved by technical staff. Do not operate the TECDOS TSB again until the technical staff have authorised you to do so.

5. Handling the TECDOS TSB

5.1 Loading the TECDOS TSB

The TECDOS TSB is usually loaded by crane. The crane must be capable of lifting at least the TECDOS TSB's operating load (compare the crane manufacturer's data plate with the TECDOS TSB data plate). Only authorised and designated lifting gear are to be used. Comply with all the general health and safety regulations stated in DGUV R 500 or local equivalent for working with lifting gear. Areas below suspended weights must also be secured appropriately.

Warning! When loading, make sure that the mould is placed on the TSB in such a way that the parting plane of the mould coincides with the parting plane of the TSB, the mould must be secured on the TSB by suitable means.

If this instruction is not observed, there is a risk that the mould may fall off the TSB during opening and be damaged. Furthermore, if the individual mould parts are not secured properly, a mould part may tip or fall from the TSB.

Warning! The surface of the TSB must not be contaminated, as this will promote slipping of the original mould or damage to it. The surfaces of the frame must always be kept clean and protected from contamination.

Warning! The moulds to be opened with the TECDOS TSB must not exceed the temperature of 40° Celsius to avoid damage and burns.

No round or cylindrical parts or parts that can assume an unstable position on the turning frame (e.g.: convex castings or forgings, etc.) may be opened with the TECDOS TSB without suitable additional equipment, as these objects can start moving in an uncontrolled manner and cause damage to property and personal injury.

Moulds which protrude beyond the support plates of the TSB must not be set down or moved on the TECDOS TSB of the corresponding size.

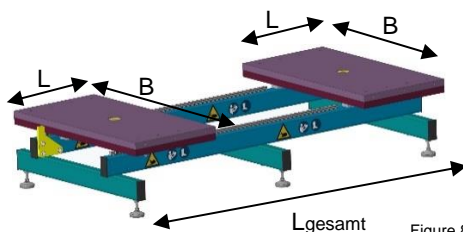


Figure 8

Size	Operating Load ^{*)}	L [mm]	B [mm]	Lgesamt [mm]	Unit weight [kg]
TSB 06/12-2,5	bis zu 2,5 t	300	600	1.200	300
TSB 08/16-2,5	bis zu 2,5 t	400	800	1.600	320

*)): Requirement: the load touches both table tops!!

Table 2

Warning! Long, thin moulds and moulds that tend to tip can behave in an uncontrolled manner and tip over when opened with the TECDOS TSB. If they are secured properly and with suitable

additional devices such as a prism or similar, it is possible to open the mould.

The prototype tool's centre of gravity should be positioned so that it lies securely on the TECDOS TSB.

The manufacturer accepts no liability for damage caused by improper use. All risk is assumed by the user.

5.2 Opening process



Before the opening procedure begins, the operator makes sure that there are no other persons in the safety area of the TECDOS TSB (compare Fig. 7).



During the opening process, the operator must carefully observe the opening process of the TECDOS TSB in order to interrupt the process immediately in case of danger. Otherwise there is a risk that he may be injured by parts falling over or down.

5.3 Servicing moulds on the TECDOS TSB



When cleaning and polishing primary moulds, make sure that the auxiliary materials to be used cannot attack or damage the surfaces of the TECDOS TSB (corrosion, abrasion or destruction). The TECDOS TSB must not be stepped on during maintenance tasks or other work on the mould.

5.4 Unloading the TECDOS TSB



After opening, the TECDOS TSB can be unloaded. A crane is usually used for unloading as well as for loading. The mould is attached to the crane by means of a sling chain and carefully lifted by the TECDOS TSB. To avoid damage, the mould must be lifted slowly.

Make sure that the mold is always in a stable position, otherwise it may tip over. If necessary, it must be secured by means of lashing straps.

We recommend you task RUD Ketten with performing maintenance on the TECDOS TSB. Our highly trained and professional service team are always happy to help if you have any queries.

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