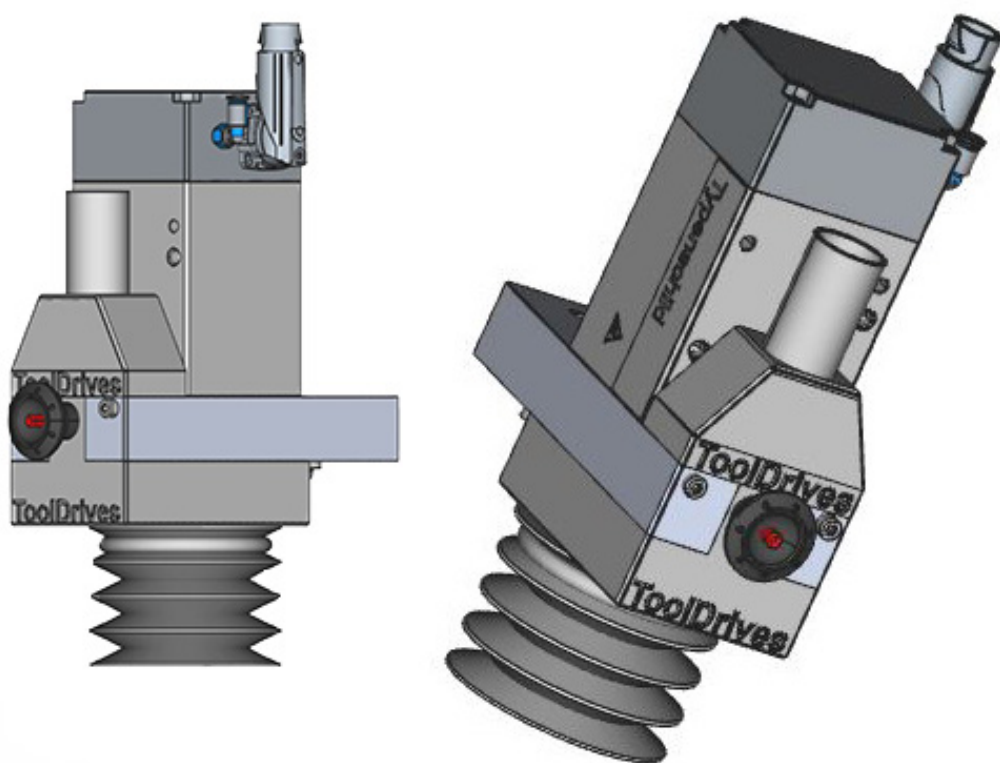


ToolDrives

Intelligent services for smart processes



Operating Manual

Module Compact Line CV 064-01-000

Supplement for suction

Revision history

Revision	Date	Comment	Chapter
01	25.01.21	Creation	All

Service

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1. About this manual

1.1 General

- ▶ These instructions are intended for all people who work with the Compact Module. During their work, they must have the operating instructions available and observe the information and notes that apply to them.
- ▶ These instructions help you to work safely with the "Compact Module" of the Module Compact Line. It contains safety instructions that you must observe.
- ▶ The operating instructions must always be complete and in a perfectly legible condition.
- ▶ This instruction is a supplement to BA-CV064-000 and only apply when using the special application described. If there are contradicting information in this manual, this information is valid.

The original of this manual was created in German, all other language versions are Translations of these instructions.

1.2 Safety symbols

The following safety symbols are used to draw your attention to dangers, prohibitions and important information:



Danger!

Danger of personal injury from dangerous electrical voltage.

Indicates an imminent danger that can result in death or serious injuries if appropriate actions are not taken.



Danger!

Danger of personal injury from a general source of danger. Indicates an imminent danger that can result in death or serious injuries if appropriate actions are not taken.



Stop!

Risk of property damage.

Indicates a possible danger that could result in property damage if the corresponding actions are not taken.



Hot surface

Risk of burns.

Indicates possible burns when touched with the bare hand.



Information

Important information.

Instructions for trouble-free function and useful tip for easy handling.

2. Assembly

2.1 Preparations



Danger!

Incorrectly installed extraction can cause severe damage and injuries.

- Only mount the extractor on a suitable mounting (mounting frame) in the machine, in accordance with the possible uses of the compact module.
- Adhere to the required installation specifications.

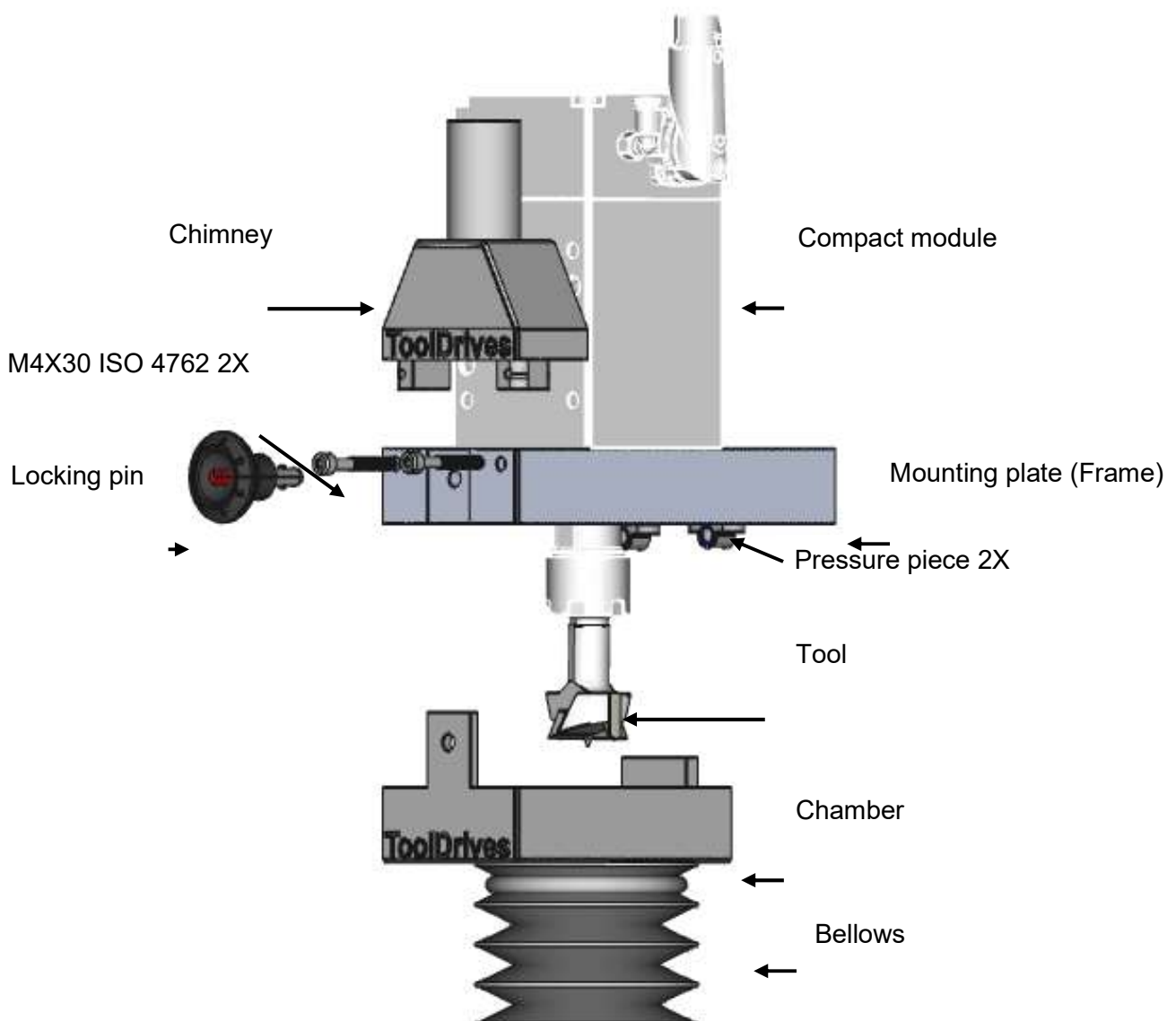


Information

The suction device is used to reduce the exposure to dust and chips.

- Read the general safety instructions before starting work. (See chapter 2.7) in the operating instructions BA-CV064-000.

2.2 Overview assembly of suction



2.3 Mounting plate (Frame) or suitable platform



Information

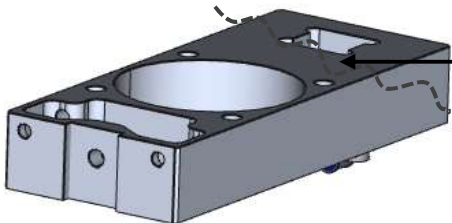


Illustration 1 Mounting frame

The material of the mounting frame or the platform must have a tensile / compressive strength of 400 N / mm² to ensure a secure screw connection.

- Make sure that the mounting frame or the platform meets the technical requirements (e.g., rigidity, accuracy, etc.) and contact us if necessary **ToolDrives GmbH&Co.KG**.
- Fasten the assembly frame or the platform to your machine or moving axis.

2.4 Install the Compact Module



Information



Illustration 2 install compact module

Observe the safety and processing instructions for the screw locking adhesive used.

- Clean the compact module with a paintbrush, brush or a clean, lint-free cloth.
- Do not use compressed air.
- Clean / degrease and dry the following components with a grease-dissolving, non-aggressive cleaning supply:
 - Mounting frame
 - Compact Module fastening screws
- Dry all contact surfaces of the components to be assembled in order to obtain the correct coefficient of friction for the screw connections.
- Also check the contact surfaces for damage and foreign bodies.

When **mounting** the Compact Module **on a mounting frame**, the diameter D60 is used for centering and four screws DIN 912 M6, strength class 8.8, for fastening (max. Screw-in depth: 8mm). Please take the drilling pattern from the dimension sheet in chapter 9.2.2.

For a secure screw connection, please coat the threaded holes with a screw locking adhesive (e.g., Loctite® 243)



Information

- Tighten the screws crosswise in at least two passes (approx. 15%, 100%) to the specified tightening torque.

Tightening torque fastening screws

M6	5Nm \pm 10%
----	---------------

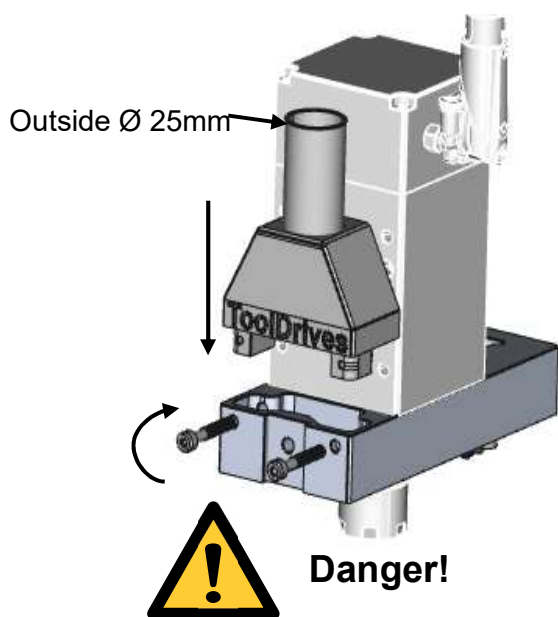
Tbl-1: Tightening torque fastening screws

- If you do **not** reach the specified tightening torque when tightening a screw, contact **ToolDrives GmbH&Co.KG**.
- Check that the Compact Module is firmly seated and lies on the mounting frame or screw-on platform without gaps.

2.5 Install the chimney



Information



The chimney is to be installed after the installation of the compact module or to be uninstalled before uninstalling the Compact Module.

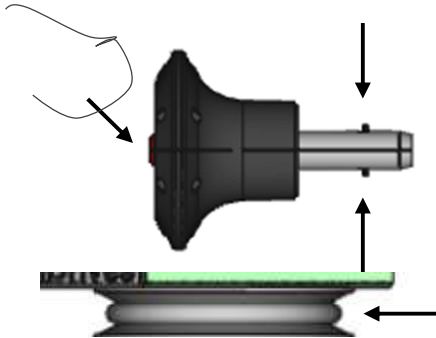
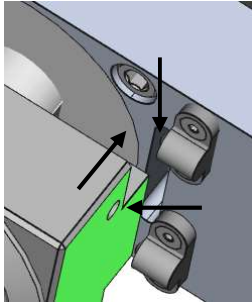
- Make sure that the chimney is screwed on with the appropriate screws and that no screws shorter than 30mm are used.
- The thread for the screw connection is in the chimney. As soon as the screw head is flush with the mounting plate, finish the screw connection without further torque.
- Tightening torques can damage the thread. The chimney must then be replaced.
- Fasten your suction hose with an inner diameter of 25mm with a clamp if necessary. Be careful not to compress the pipe.

Use of unsuitable screws can cause damage and injuries.

- If the screws are too short, the chimney is not anchored in the back of the mounting plate and can tip forward and cause damage and injuries.
- Adhere to the required installation specifications.

Illustration 3 install chimney

2.6 Assembly of chamber with bellows



Danger!

The chamber must always be installed at the end of the assembly and uninstalled as the first part.

- Press the chamber from below into the groove provided for this purpose and make sure that the pressure pieces snap into the recesses. ToolDrives font is at the front.
- Make sure that the chamber is installed with the appropriate locking pin with the correct length.
- Press the red button on the locking pin during assembly, make sure that the locking device engages in the mounting plate.
- If necessary, anchor a chain to the locking pin to secure it from falling down.
- The bellows is secured with a cable tie and can be shortened with scissors if necessary. It is important to ensure that the outer edges are always shortened.

Use of unsuitable locking pins can cause damage and injuries.

- Make sure that the chamber is installed with the appropriate locking pin of the correct length.
- Loosening the plug connection can cause the chamber to fall off and cause damage and injuries.

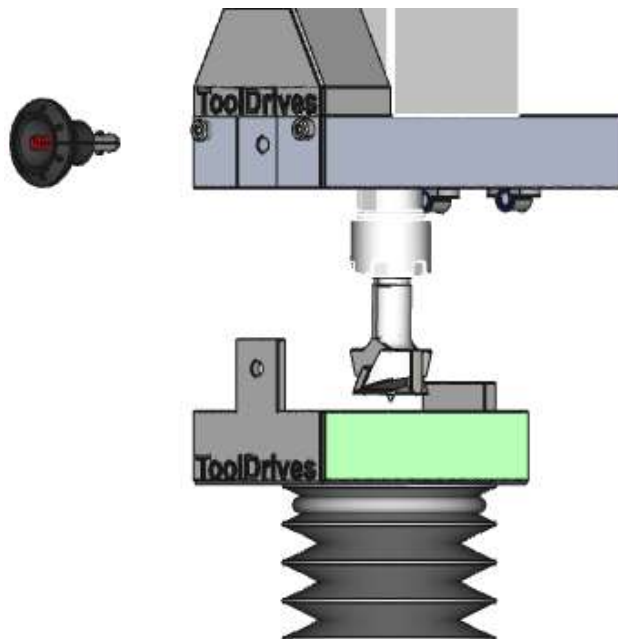


Illustration 4 installing chamber

2.7 Tool change

**Information**

Before starting work, read the general safety instructions for changing tools and setting up. (See section 6.2.1) in the operating instructions CV064-000.

- Uninstall the chamber as described in the previous chapter.
- Hold the shaft with an open wrench SW21.
- Open the ER20 mini nut with an ER20 collet wrench.
- Change the tool and assemble the mini nut including the collet in the opposite order.
- Assemble the chamber as described in the previous chapter.

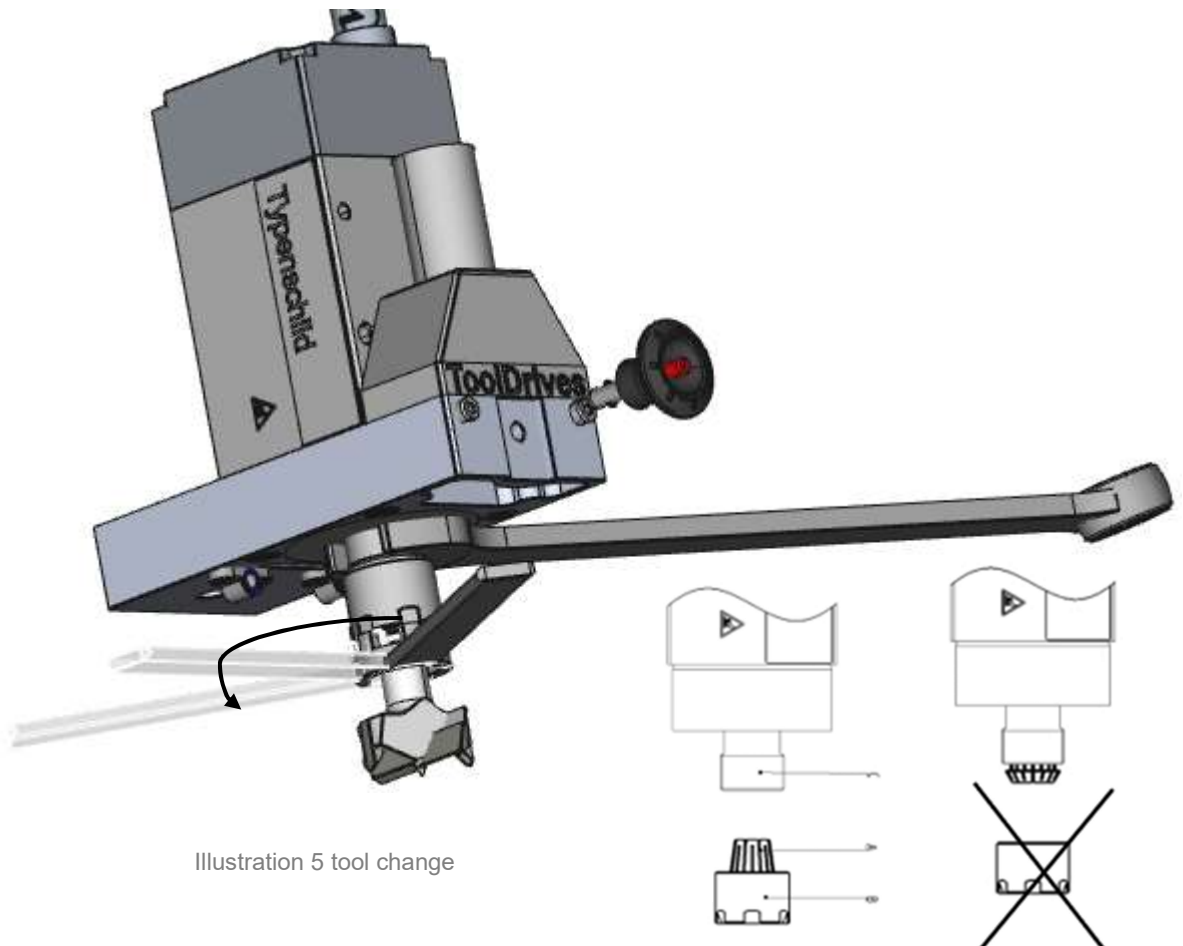


Illustration 5 tool change

3. Function of the suction

- In order to achieve efficient suction, the bellows must lie fully on the workpiece with the flat edge during the immersion cycle. The resulting negative pressure causes the chips to be guided through the chamber into the pipe of the chimney.
- A suitable suction hose must be attached to the chimney.
- Make sure that the hose and the suction system are designed in accordance with the required fire protection standards.
- The suction volume depends on the performance of the system and can, under certain circumstances, suck back the bellows if the suction volume is too strong.
- After the work cycle, it makes sense to move back so far from the workpiece that the bellows is briefly above the workpiece. This allows the bellows to be realigned.
- If the suction power is still too strong, it must be ensured that secondary air is allowed.
- This is achieved by cutting small holes in the bellows. Please note that you can also lose suction power as a result.
- A standard vacuum cleaner with medium suction power can be used as a guide value for the suction power or to test the function.
- For other conditions of use, contact **ToolDrives GmbH&Co.KG**.

4. Cleaning and disposal

4.1 Cleaning

The suction is made of high quality PA12 (polyamide). As a property, it has the lowest water absorption of all polyamides and is easy to clean.

PA is resistant to: petrol, oils and fats, esters, alcohols, ketones, ethers, chlorinated hydrocarbons, alkalis and diluted acids.

Use compressed air to remove any stuck chips from the chamber and chimney at regular intervals at other cleaning and maintenance intervals for the machine.

4.2 Disposal

You can obtain additional information on dismantling and disposal of the Compact Module from our Customer Service.

- ▶ Please dispose of cardboard boxes in the waste paper, other packaging materials in the designated disposal points.
- ▶ Dispose of the polyamide components only in the residual waste (not a yellow bag) or directly at a recycling center.
- ▶ Observe the applicable national regulations for disposal.

5. Appendix

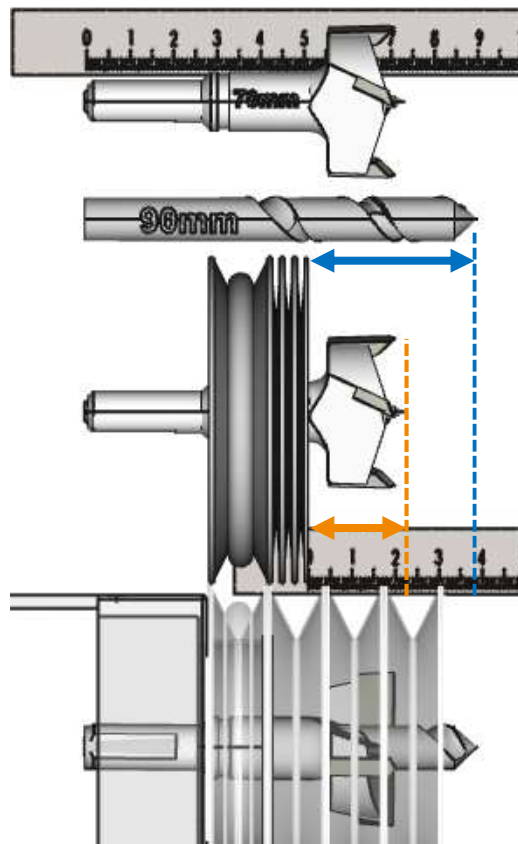
5.1 Technical data

Characteristics Material	Unit	Value
Base material		PA12
Density	g/cm ³	0,9-1,02
Hardness	Shore	75 D
Melting point	°C	176
Dimensionally stable	°C	85

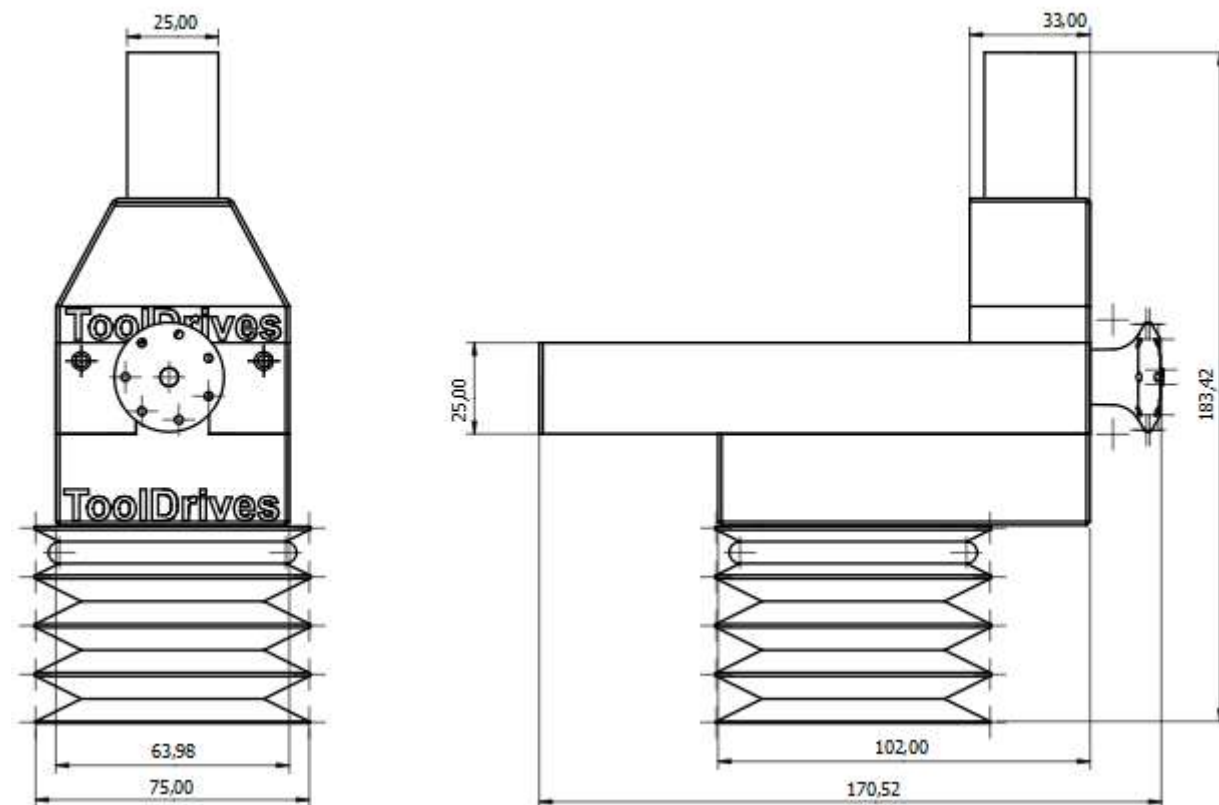
Tbl-2: Technical data

Minimal working depth in the material with deepest clamping of the tool in the ER20 holder.

The example on the right shows the clamping of 70 and 90mm tools



5.2 Dimension sheet



Unit: mm

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