

Quick-start guide

Tool changer adapter for Kress FM6990E/
Kress FME-530/ Kress FME-800/ Kress FME-1050/
Suhner UAD25-RF/ Proxxon BFW 40/E



Important notes:

The adapter is appropriate for speeds of up to 28.000 rpm.

Please observe the included information for the lubricant distribution run. It is very important for the service life of the ball bearings.

Operate the adapter only in the fixture of your machine, since it acts as cooling element and avoids overheating of the ball bearings. Insert the adapter spindle in your machine fixture to the stop (refer to page 4), otherwise the ball bearings might be squeezed.

Never activate the changing process when the engine is turning. This causes immediate destruction of the air seals of the change system.

In order to guarantee a safe changing process, a minimum pressure of 8 bars is required.

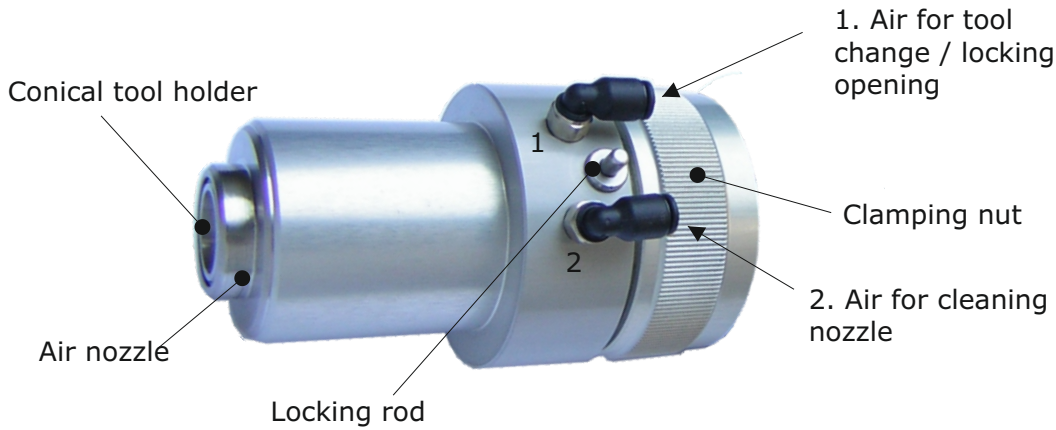
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The tool change adapter is appropriate for: milling and engraving in metal, plastic material and wood.

Please thoroughly read these instructions, before the first use in order to be able to safely and professionally operate the tool change adapter and accessories

NOTE! Make sure that it is correctly connected to the air hoses. Mixing up the air hoses will destroy the ball bearing seals!



Assembly of the tool change adapter on the milling spindle

The tool adapter simulates a collet chuck and a cap nut. Remove the cap nut and the collet chuck from your spindle, they are not required. Insert the milling spindle from the top into the adapter (1). Lock the shaft of the adapter by pressing the locking rod and block the shaft of the milling spindle. Then turn the whole adapter on the shaft of the spindle (tightening by hand is sufficient). Then the spindle is connected to the shaft. Turn the clamping nut until the milling spindle is firmly mounted in the fixture (3).



Compressed air controller STG101

This device controls the compressed air for the tool change (collet chuck) and the compressed air for the blow-off nozzle/cleaning nozzle. Furthermore, it also controls the sealing air in parallel to the cleaning air. The two air relays are connected to the PC (parallel port) by the 15-pole sub-D cable. To do so, you first need our parallel port adapter (2x 25-pole sub-D, 1x 15-pole sub-D).

Pin assignment 15-pole sub-D of the STG101:

- Pin 1: 0V, GND**
- Pin 4, 5 and 6: 24V coupler voltage**
- Pin 7: 0V, GND**
- Pin 10: signal for magazine/blow-off ***
- Pin 13: signal for chucks opened/closed ***
- All other pins = not assigned**

* Input signals can amount to 5V-24V (foreign or coupler voltage)

Parallel port adapter PA101

This adapter offers the option to branch off the necessary signals from your parallel port. Furthermore, it generates an analog control voltage 0-10V (speed control signal for the frequency converter). This allows operating with full functional scope using WinPC-NC Economy.

Connections (input): 1 x 25-pole sub-D plug

- Analyzed signals PC (parallel port):
- Pin 1 = Spindle on/off,
 - Pin 14 = Magazine/Blow-off
 - Pin 16 = Collet chuck opened/closed
 - Pin 17 (PWM signal) = analog signal 0-10V

Output 1 (25-pole sub-D socket):

All signals are looped through 1:1.

Output 2 (15-pole sub-D socket):

- Pin 2 = 0V-10V speed signal
- Pin 9 = Spindle on/off
- Pin 10 = Magazine opened/closed; blow-off on/off
- Pin 13 = Collet chuck opened/closed

Optional accessory

Spare tool nut including clamping nut

Made of stainless steel for ER11 collets



Collet chuck kit ER11, 1mm - 7mm

in steps of 0.5mm, 13 pieces in a wooden board



Tool holder 5-fold, 1-row

Made of black anodized aluminum including fastening screws.



Pneumatic Tool holder x6 Tools, Dust-proof, with Tool length sensor

In this magazine your tool holders are kept guaranteed dust-proof. This way, a precise fixture and precise concentricity are guaranteed. It is simply controlled by the pneumatic valve integrated in the STG101

Technical data

- For 6 tools
- Pneumatically opening
- Working pressure: 8 bars
- Including integrated tool length sensor
- Dimensions: 210mm x 60mm x 90mm
- Maximum height when opening: 95mm
- Housing made of aluminum
- Cover made of 2mm Plexiglas



Disassembly of the milling spindle from the tool change adapter

Unscrew the clamping nut of the 43 mm holding fixture until it is possible to move the adapter. Press the locking rod (5) in and block the shaft of the milling spindle.

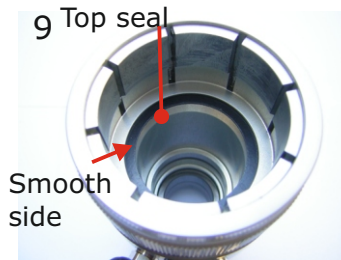
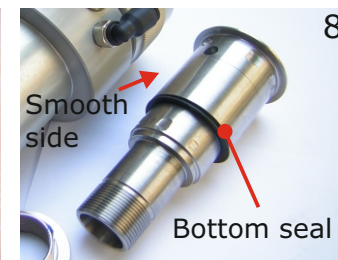
Then it is possible to turn out the adapter from the milling spindle.

Replacing the ball bearing / Replacing the air seals

Unscrew the air nozzle using tongs (4). Block the shaft by inserting the locking rod (5) in and block the shaft of the milling spindle. If it does not work due to a defective air seal, you can simply pull out the holding fixture to the front $F > 220N!$.

Then pull the spindle out of the housing (6).

Unscrew the retaining nut of the ball bearing downward using an appropriate tool (7). Then it is possible to push out the ball bearings downward. In the center of the shaft you will find the bottom sealing washer (the smooth side of the washer shows in direction of the holding fixture).

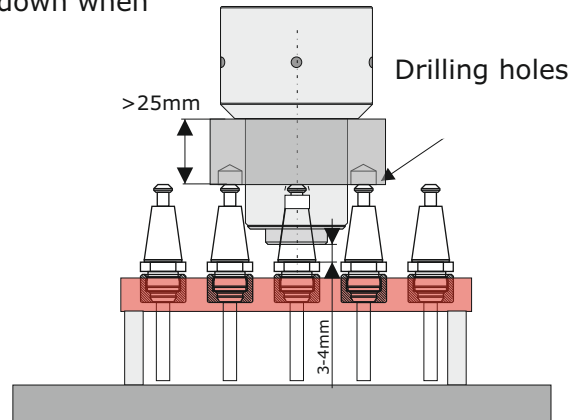


View from the top onto the top sealing washer (9) in its nut. It is important that the smooth side of the seal is showing upward.

Machining the spindle holding fixture (Only required for holding fixtures thicker than 25mm)

Since the distance of the tools in the tool fixture only amounts to 30mm, it may be necessary to add 2 clearances from the bottom to the milling spindle adapter of 43 mm (depending on the assembly direction of the magazine (in X- or Y-direction)).

NOTE: the spindle travels very far down when changing the tool, otherwise the spindle holder would touch down on the neighboring tools (refer to drawing).



The distance of one hole to the other amounts to 60 mm (30 mm from the center).

Functional description of the tool change

Getting tool:

Travel to the position of the required tool and lower the spindle with opened collet chuck. The ideal hole point is about 3 to 4 mm before the spindle touches the tool (refer to illustration).

Stop the travel at this position and close the collet chuck. Then the tool is firmly attached to the spindle and it can travel upward together with the spindle.

The tool deposit is performed the opposite way.

The control of the change function is executed via macros.

Connecting the components:

Connect the components as displayed on the illustration

