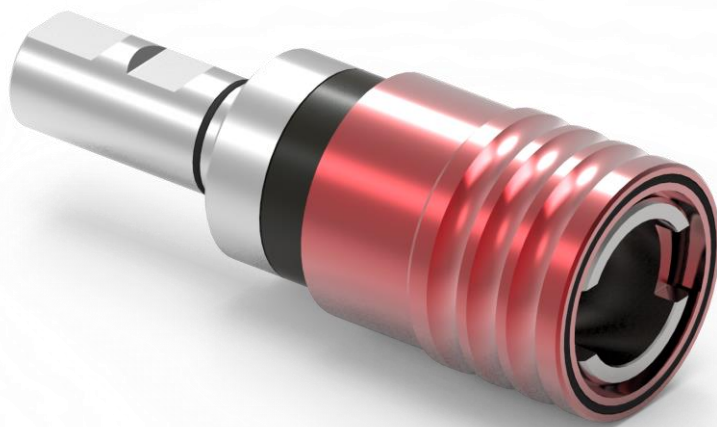




■ Made
■ in
■ Germany



Softsynchro® 1 QuickLock
Softsynchro® 3 QuickLock
Softsynchro® 4 QuickLock

EMUGE

Quick-change tap holder Softsynchro® QuickLock

Operating instruction

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Warnings, symbols

In this operating instruction the following symbols are used:



Attention

Marks special instructions, rules and prohibitions, which are important in order to avoid any damage.

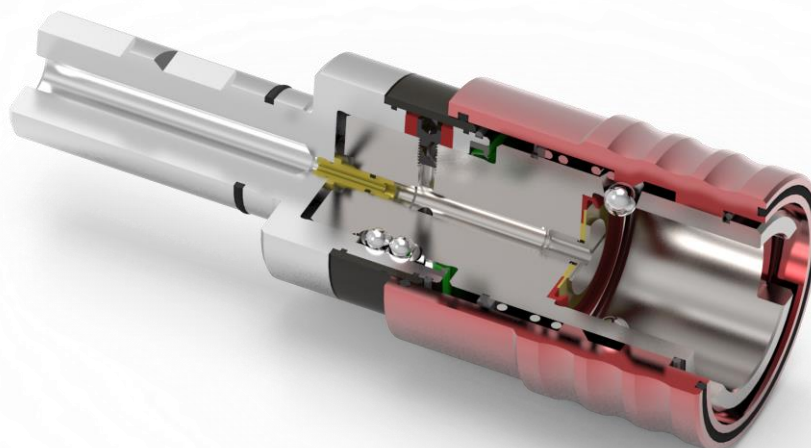
► Please observe these instructions!



Note

Marks application instructions and other useful information.

Sectional view:



Quick-change tap holder Softsynchro® QuickLock

1 Application range, safety instructions and technical data

1.1 Application range, determined use

The quick-change tap holders type Softsynchro® QuickLock are used on CNC machining centres with synchronous control. They are intended for clamping of taps/cold-forming taps for thread production.

The integrated minimal length compensation on tension and compression compensates arising minimal pitch differences between synchronous spindle and tap/cold-forming tap which would lead to high thread flank friction forces. An eventual increase of the axial force during the thread producing cycle is reduced to a minimum. The resulting advantages are:

- No mis-cutting of the threads
- Optimised tap/cold-forming tap life

Normally the quick-change tap holders are equipped with one of the following shanks:

- Cylinder shank according to DIN 1835 B+E
- Hollow taper shank according to DIN 69893 HSK-A
- Taper shank according to DIN 69871 AD

The cutting range of each type is indicated in table 1, page 6.

The tap/cold-forming tap is locked via the quick-change adapters type EM (QuickLock).

The quick-change adapters must be chosen depending on the used size and the used tap/cold-forming tap, for more information please refer table 1, page 6.

The quick-change tap holders type Softsynchro® QuickLock are suitable for coolant pressures up to 50 bar.

1.2 Specifications

Further features of the quick-change tap holders type Softsynchro® QuickLock are:

- Small and compact overhang
- The standardized cylinder shank according to DIN 1835 B+E allows a simple adaptation with the required adaptation shank. For adaptation shanks please refer to the EMUGE main catalogue.
- The quick-change tap holder allows a quick and simple change of the quick-change adapters.
- When using quick-change adapters type EM-QuickLock the quick-change tap holder is axially and radially hermetically sealed against dirt.

The non-determined use exempts the manufacturer from any liability.

1.3 Safety instructions

For all works, i.e. putting into operation, production and maintenance, please observe the details given in the operating instructions.

All relevant safety regulations as well as local instructions are to be observed when working with the quick-change tap holders.

Below please find some basic rules:



Attention



- ▶ Please wear gloves during tool change to avoid injury.
- ▶ Basically change the tool yourself to avoid the sudden start of the spindle caused by mis-operating.



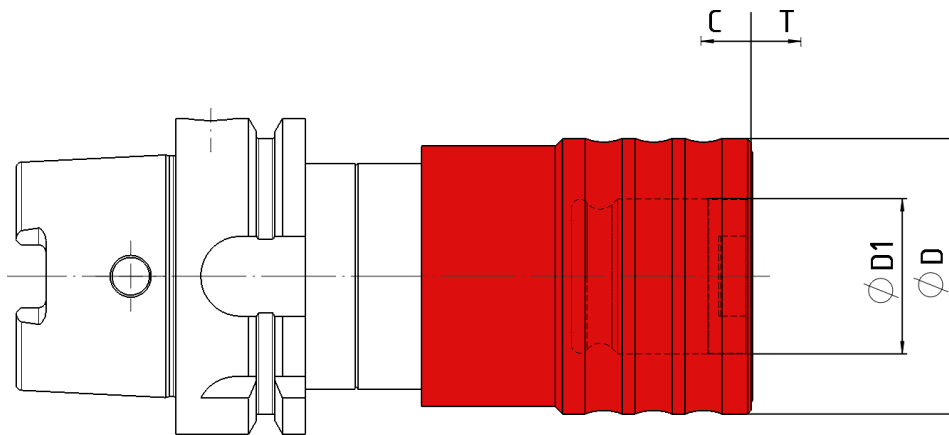
- ▶ Hold the tool when loosening the tool clamping to avoid it falling down and damaging the tool and the work piece.
- ▶ Keep the tool adaption clean.
- ▶ There are maximum values for cutting speeds and feeds for every kind of machining. Please observe such data.
- ▶ Please observe the maximum tool dimensions.
- ▶ Furthermore, the instructions of the tool manufacturers are valid!

1.4 Proprietary rights

The entire contents of these operating instructions are subject to German proprietary rights legislation.

Any form of multiplication, processing, broadcasting, passing on to third parties - also in the form of extracts - and any kind of use outside the boundaries of proprietary rights requires the written consent of EMUGE GmbH&Co.KG.

1.5 Dimensions and technical data



Picture 1: Quick-change tap holder Softsynchro® QuickLock

Table 1: Technical data of the quick-change tap holders type Softsynchro® QuickLock

Type	Cutting range	Quick-change adapter size	ØD [mm]	ØD ₁ [mm]	C ¹ [mm]	T ² [mm]
Softsynchro® 1 QuickLock	M4 - M12	EM 01	39	19	0,5	0,5
Softsynchro® 3 QuickLock	M8 - M20	EM 03	55	31	0,5	0,5
Softsynchro® 4 QuickLock	M14 – M30	EM 04	74	48	0,7	0,7

! Note

The maximum coolant pressure is 50 bar.

Further outer dimensions of the individual types depend on the required shank. The dimensions may be taken from the EMUGE main catalogue.

¹ Length compensation on compression

² Length compensation on tension

2 Putting the quick-change tap holders into operation

2.1 Unpacking

- Take the quick-change tap holder from the packing
- Clean the quick-change tap holder with a duster to remove any conservation oil

Note

- ▶ Do not use any aggressive solvents.
- ▶ Do not use fibrous materials i.e. steel wool.

 The quick-change tap holder is now ready for operation.

Exception:

Type with **hollow taper shank (HSK)**. Please refer to chapter 2.2.1, page 8, for how to put this quick-change tap holder into operation.

2.2 First putting into operation

Note

For quick-change tap holders with HSK-shank (hollow taper shank) the coolant-lubricant tube must be mounted prior to putting into operation, see chapter 2.2.1, page 8.

When working with internal coolant supply:

The tap holders are made for coolant pressures up to **50 bar**

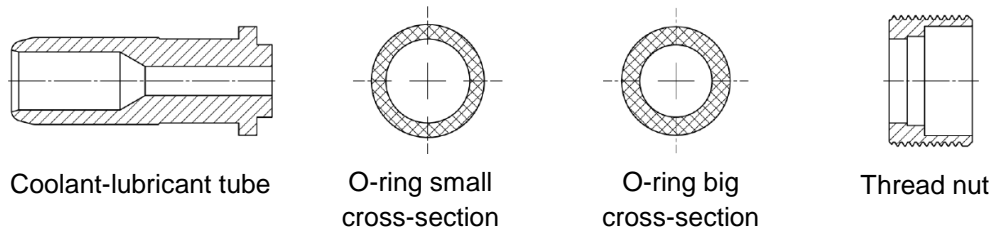
The quick-change tap holders are inserted into the machine manually or - if provided - by the tool exchanger.

Attention

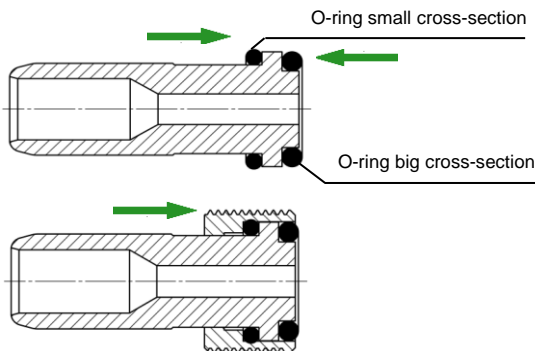
- ▶ The exchange of the tool must not be executed while the machine spindle rotates!
- ▶ Only use tool shanks suitable for the specific machine.
- ▶ Make sure the tool is correctly clamped.
Otherwise: Risk of accident by spinning of the tool!
- ▶ Please see also the indications in the operating instruction of your machine tool!

2.2.1 Assembly of the coolant-lubricant tube for quick-change tap holders with shank type HSK (hollow taper shank DIN 69893A)

a) Components



b) Prepare coolant-lubricant tube



1. Slide on the two O-rings

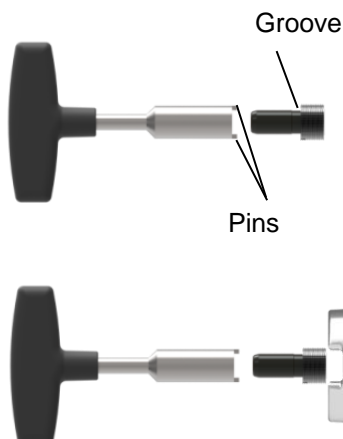
2. Slide on thread nut

c) Mount coolant-lubricant tube in the shank

! **Note**

Required tool:

Choose appropriate assembly wrench for the shank size
(For the assembly wrench please refer to the EMUGE main catalogue, category accessories)



1. Plug assembly wrench on the coolant-lubricant tube

Watch the position of the pins against the grooves!

2. Screw coolant-lubricant tube in the shank

2.3 Re-putting into operation

In case the quick-change tap holder is back into operation as described in chapter 4, page 13, please go through the following steps:

- Clean the quick-change tap holder with a duster to remove any conservation oil



Note

- ▶ Do not use any aggressive solvents.
- ▶ Do not use fibrous materials i.e. steel wool.

- If necessary, prepare the quick-change tap holder as described in chapter 2.2, page 7

2.4 Application and choice of various quick-change adapters

Type	Description	Recommended Applications
EM..-QuickLock	Rigid type With large grip sleeve for frontal sealing of the quick-change tap holder	Through hole threads
EM..-Z/QuickLock	Rigid type with adaptation for collets according to DIN ISO 15488 With large grip sleeve for frontal sealing of the quick-change tap holder With adjustment screw for presetting the tap/cold-forming tap length	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
EM..	Rigid type	Through hole threads
EM..-Z	Rigid type with adaptation for collets according to DIN ISO 15488	Clamping of carbide tools High coolant-lubricant pressures High-speed machining



Note

Working **with** internal coolant-lubricant it is necessary to use tap/cold-forming taps **with** oil channel:

The tap/cold-forming tap adaptation for quick-change adapters is executed via a quick-change-ball-clamping system. The torque arising during the thread producing operation is transferred over the square in the quick-change adapter.

For quick-change adapters type EM..Z/QuickLock the clamping of the tap/cold-forming tap is executed via collets type ER respectively ER/GB.

All quick-change adapters are suited for producing right/ and left-hand threads.

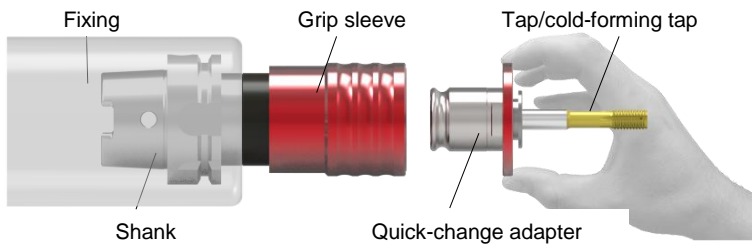
The quick-change adapters for the appropriate quick-change tap holders may be taken from table 1, page 6. The clamping diameter is defined by the used tap/cold-forming tap. Each diameter requires a separate quick-change adapter respectively a separate collet.

2.5 Insert quick-change adapter



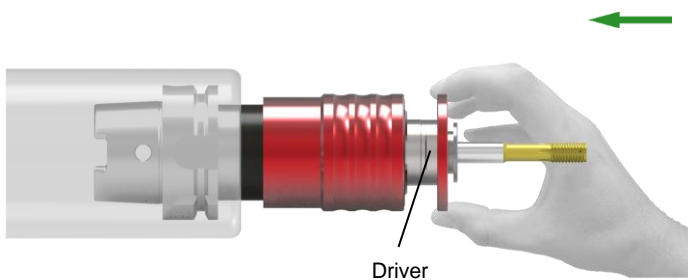
Attention

- ▶ The quick-change adapters must not be fitted while the machine spindle rotates!



1. Fix the shank

i.e. by adapting the holder in the machine spindle

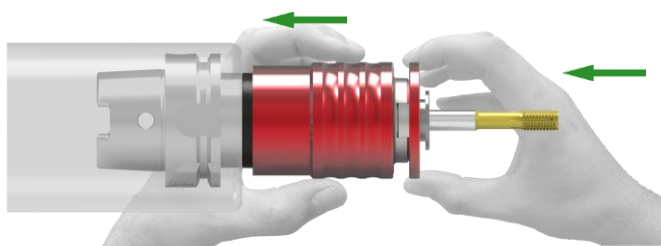


2. Move in quick-change adapter



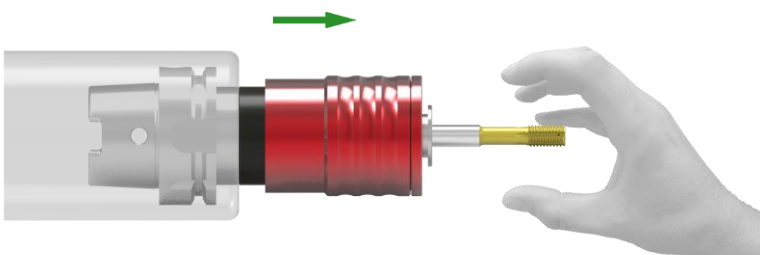
Attention

Check position of driver and groove!



3. Strongly press the grip sleeve in direction of the shank and hold it.

Push quick-change adapter backwards.



4. Pull the grip sleeve forward and let go of



Attention

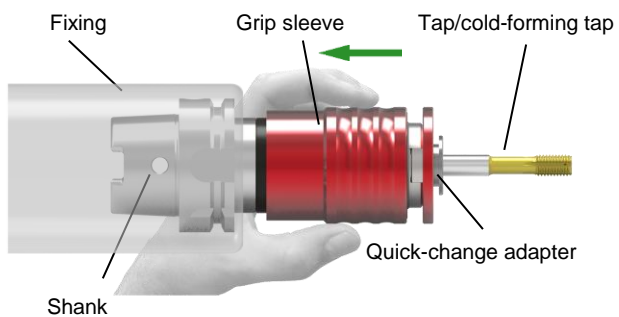
Check, whether grip sleeve is in front position

2.6 Remove quick-change adapter

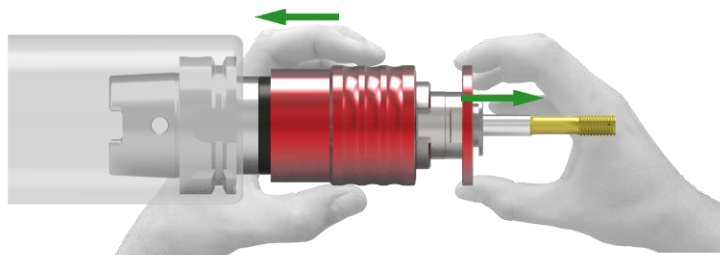


Attention

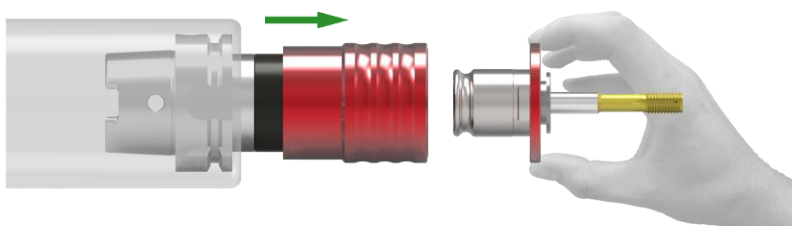
The quick-change adapters must not be fitted while the machine spindle rotates!



1. Press the grip sleeve in direction of the shank and hold it



2. Remove quick-change adapter



3. Let go of the grip sleeve

3 Maintenance

3.1 Maintenance schedule

What?	When?	Who?
External cleaning	Periodically, depending on the degree of dirt.	Operator

3.2 External cleaning

Clean the quick-change tap holder at periodic intervals, depending on how dirty the holder is.



Attention

- ▶ Do not use any aggressive solvents.
- ▶ Do not use fibrous materials i.e. steel wool.
- ▶ Do not clean and dry the quick-change tap holder in an automatic washplace, as a result the built-in dampers and seals may be damaged.

4 Storage when not in use

If the quick-change tap holder is taken out of service, please go through the following steps:

- Clean the quick-change tap holder with a duster, see chapter 3.2.
- Spray the quick-change tap holder with a preservation oil to avoid rusting and to preserve the easy running of the quick-change tap holder.



Attention

Before storage all evidence of coolant-lubricant and machining residues must be removed!

Notes:

Notes:

EMUGE Quick-change tap holder Softsynchro® QuickLock
Operating instruction

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Please keep the operating instruction for future use!

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