



■ Made
■ in
■ Germany



SFM 00 - NP
SFM 01 - NP
SFM 03 - NP

EMUGE

Quick-change tap holder SFM - NP

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 adapter SFM - NP

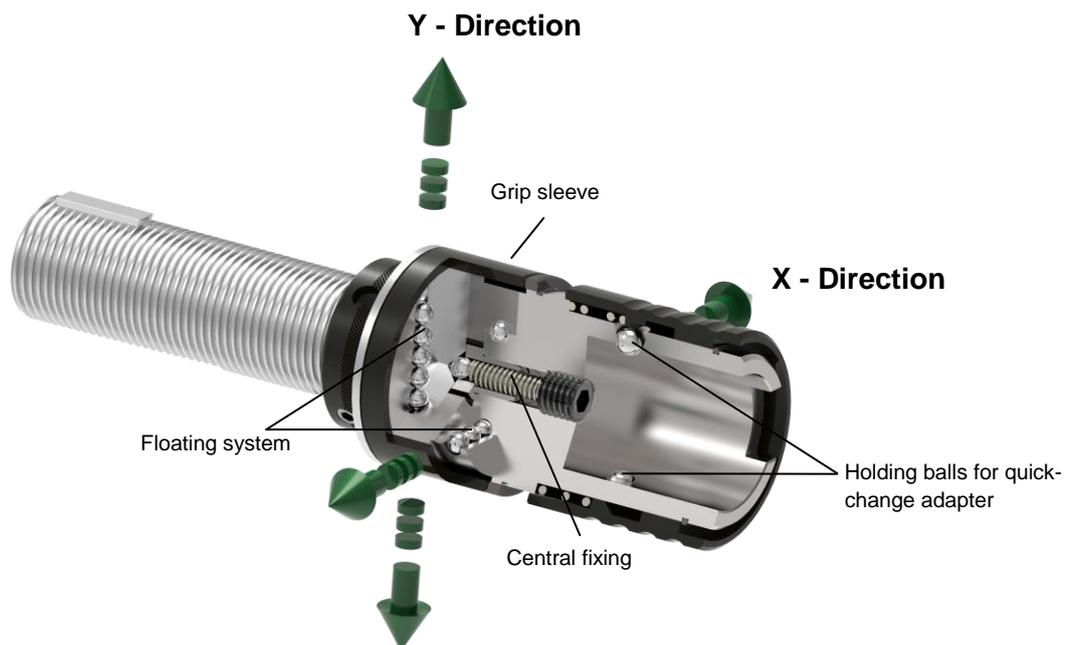
1 Application range, safety instructions and technical data

1.1 Application range, determined use

The quick-change tap holders type SFM-NP are mainly used on multi-spindle machines and transfer lines. Owing to their thin and short design they allow to machine borings with a small distance.

The quick-change tap holders type SFM-NP have no length compensation. It is therefore necessary to ensure the thread production is carried out synchronously, i.e. via a lead screw.

The quick-change tap holders type SFM-NP are equipped with an axial-parallel **ball floating**, see picture 1, which also works under radial force. The floating compensates misalignments between machine spindle and workpiece boring or concentricity deviation in the machine spindle. The max. floating movement depends on the size of the quick-change tap holder and is indicated in table 1, page 7.



Picture 1: Principle of the floating motion in quick-change tap holders type SFM-NP

Normally, the quick-change tap holders are equipped with the following shank:

- Cylindrical shank according to DIN 6327 resp. ASME B 5.11

For the cutting range of each type, please refer to table 1 page 7

The locking of the tap/cold-forming tap or die is executed via quick-change adapters type EM. The quick-change adapters must be chosen according to the size and the used tap/cold-forming tap, see chapter 2.4 page 10.

The quick-change tap holders type SFM-NP are **not** suitable for internal coolant-lubricant supply.

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

1.2 Safety instructions and hints

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

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.



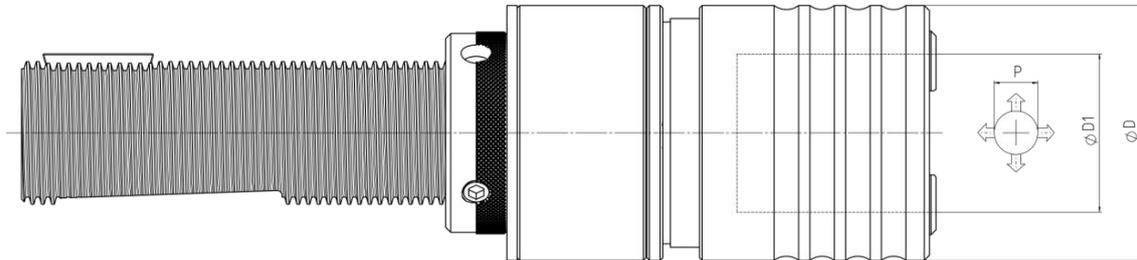
- ▶ Hold the tool when loosening the tool clamping to avoid it falling down and damaging the tool and the work piece.
- ▶ Keep the tool adaptation clean.
- ▶ There are maximum values for cutting speeds and feeds for every kind of machining. Please observe such data.
- ▶ Please observe the maximum tool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

1.3 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.

1.4 Dimensions and technical data



Picture 2: Quick-change adapter SFM-NP

Table 1: Technical Data of the quick-change tap holder type SFM-NP

Type	Cutting range	Quick-change adapter type EM	ØD [mm]	ØD ₁ [mm]	P* [mm]
SFM 00-NP	M1 – M10 (Nr. 0 – ³ / ₈)	00	23	13	0,8
SFM 01-NP	M3 – M14 (Nr. 4 – ⁹ / ₁₆)	01	32	19	1,4
SFM 03-NP	M4,5 – M24 (Nr. 10 – 1")	03	50	31	2,5

* total floating movement

Further outer dimensions of the individual types depend on the required shank.

The dimensions may be taken from the EMUGE main catalogue.

2 Putting the quick-change tap holders into operation

2.1 Unpacking

- Take the quick-change tap holder from the plastic case
- 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.

✓ Die Schnellwechsel-Aufnahme ist für den Einsatz betriebsbereit.

2.2 First putting into operation

The quick-change tap holder is inserted into the machine manually or, if provided, by the tool exchanger.



Attention

- ▶ The tool exchange must not be executed while the machine spindle rotates!
- ▶ Only use tool shanks and tightening bolts 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

2.3 Re-putting into operation

If the quick-change tap holder is back into operation as described in chapter 4, page 16, please go through the following steps:

1. 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.

2. Check function:
Operate floating system manually by pressing the grip sleeve in X- and Y- direction, see picture 1 page 4 → The floating system must return to its initial position.
3. Insert the quick-change tap holder into the machine as described in chapter 2.2 page 8.

2.4 Application and choice of different quick-change adapters

The tap/cold-forming tap or die adaptation is executed via quick-change adapters. The following quick-change adapters are available:

Type	Description	Recommended Applications
EM..	Rigid type	Through hole threads
EM..-E-Lock	Rigid type, locking of the tool is secured by form-fitting	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
EM..-L	With length adjustment	On multi-spindle heads and transfer lines
EM..-Z	Rigid type with adaptation for collets according to DIN ISO 15488	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
EM..L/ER/IKZ	With length adjustment and adaptation for collets according to DIN ISO 15488	On multi-spindle heads and transfer lines Clamping of carbide tools High coolant-lubricant pressures High-speed machining
EM..-PGR	Rigid type with adaptation for collets according to type PGR (GB)	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
EM..-SE	Rigid type with adaptation for dies according to DIN 223	External threads
EM..-R	Reducing adaptation for all EM types	For the extension of the clamping range downwards

The adaptation of the tap/cold-forming tap is carried out via a quick-change ball clamping system, except for EM-Z. The torque arising during the thread producing operation is transferred via the square integrated in the quick-change adapter. The adaptation of the dies is executed via mechanical locking.

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

The quick-change adapter sizes for the appropriate quick-change tap holder may be taken from table 1, page 7. The clamping diameter is defined by the tool used. Each diameter requires a separate quick-change adapter.

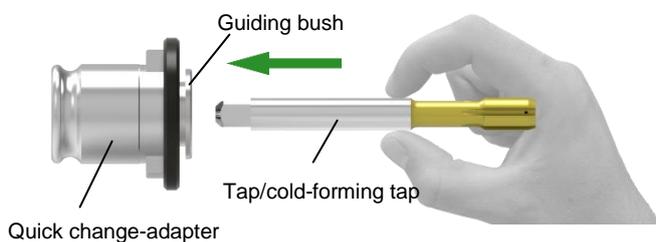
2.5 Insert tap/cold-forming tap

2.5.1 Quick-change adapter types EM, EM-L

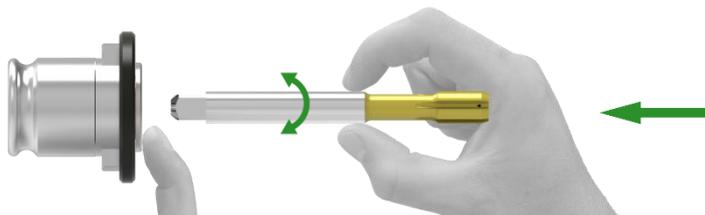


Attention

- ▶ Choose the appropriate quick-change adapter for the required tap/cold-forming tap!
- ▶ The exchange of the tap/cold-forming tap must not be executed while the machine spindle rotates!



1. Press guiding bush back and hold it.

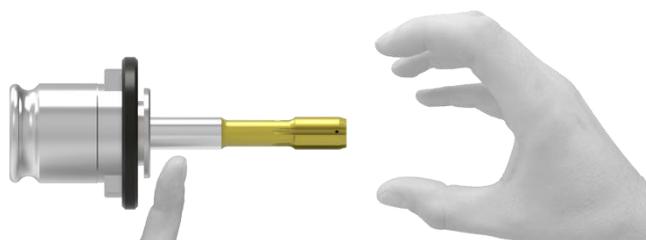


2. Push tap/cold-forming tap into the guiding bush.



Note

Bring the square into the correct position by turning the tap/cold-forming tap.



3. Let go of the guiding bush.



Note

For the instruction of EM-E-Lock, please see chapter 2.5.2, page 12.

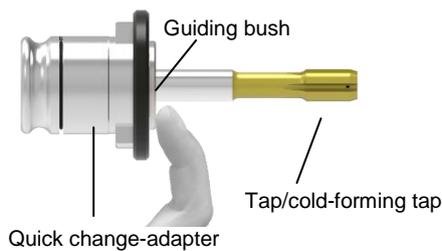
For other quick-change adapters please observe the details given in the appropriate operating instruction.

2.5.2 Quick-change adapter type EM-E-Lock

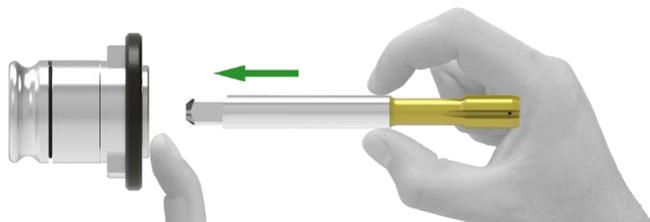


Attention

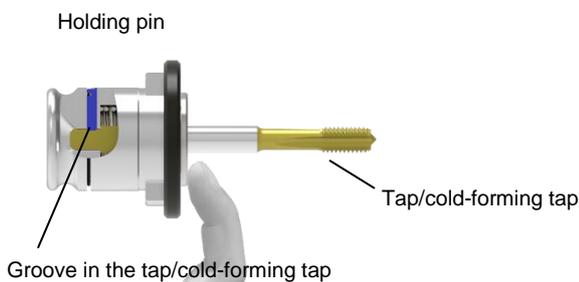
- ▶ Choose the appropriate quick-change adapter for the used tap/cold-forming tap!
- ▶ The tap/cold-forming tap must be provided with a corresponding groove in the square face!
- ▶ The tool may only be changed if the quick-change adapter is **not** fixed in the quick-change tap holder
- ▶ The exchange of the tap/cold-forming tap must not be executed while the machine spindle rotates!
- ▶ If quick-change adapter and tap/cold-forming tap are fixed in the quick-change tap holder, the holding pin in the quick-change adapter stops the tap/cold-forming tap from being taken out.



1. Press guiding bush back and hold it.



2. Push tap/cold-forming tap into the guiding bush.



Attention

Position of the holding pin and of the groove in the tool must match!

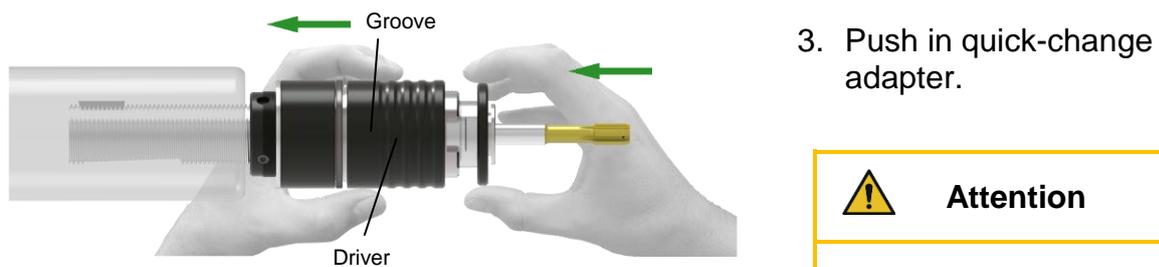
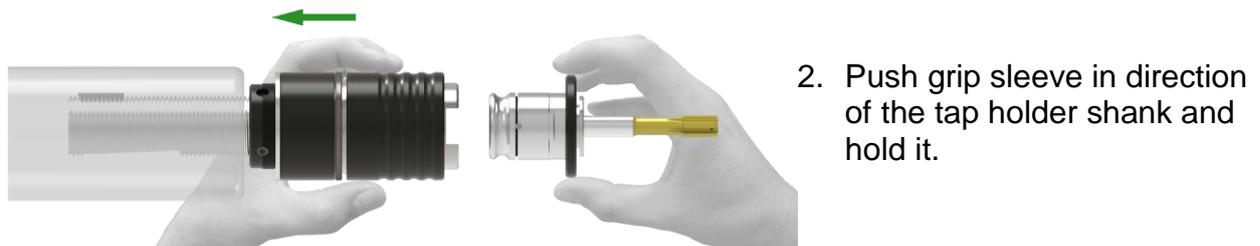
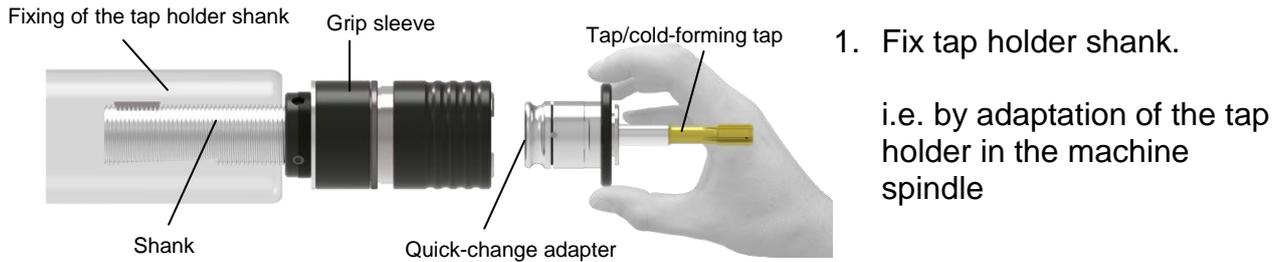


3. Let go of guiding bush.

2.6 Insert quick-change adapter

Attention

► The quick-change adapter must not be changed while the machine spindle rotates!



Attention

Watch position of driver and groove.

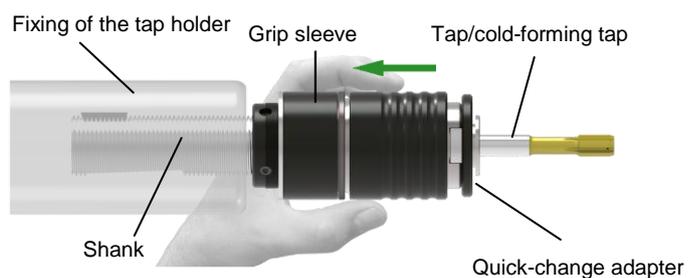


2.7 Remove quick-change adapter



Attention

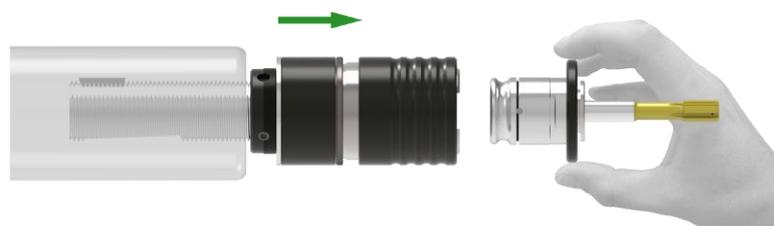
► The quick-change adapter must not be removed while the machine spindle rotates!



1. Push grip sleeve in direction of tap holder shank and hold it.



2. Remove quick-change adapter.



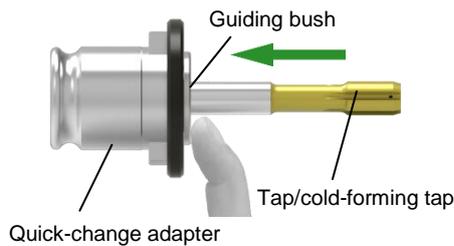
3. Let go of grip sleeve.

2.8 Remove tap/cold-forming tap



Attention

▶ The tap/cold-forming tap must not be removed while the machine spindle rotates!



1. Press guiding bush back and hold it.



2. Remove tap/cold-forming tap.



3. Let go of guiding bush.



Note

The instruction is valid for all quick-change adapters type:
EM, EM-L and EM-E-Lock

For other quick-change adapters, please observe the details given in the operating instruction for the appropriate quick-change adapter.

EM-E-Lock:

The tap/cold-forming tap may only be released if the quick-change adapter is **not** fixed in the quick-change tap holder.

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 with a duster depending on how dirty the quick-change tap holder is.



Note

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

4 Storage when not in use

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

1. Clean the quick-change tap holder with a duster, see chapter 3.2.
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:

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EMUGE quick-change tap holder SFM-NP
Operating instruction

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Please keep the operating instruction for future use!

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