

NORIS UNI

Quick-change tap holder NORIS UNI

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.

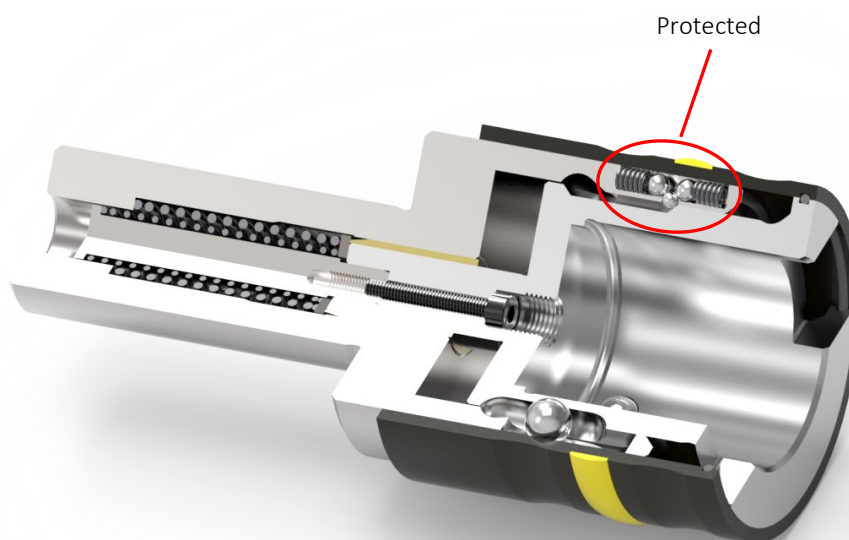
▶ Please observe these instructions!



Note

Marks application instructions and other useful information.

Sectional view:



Quick-change adapter NORIS UNI

1 Application range, safety instructions and technical data

1.1 Application range, determined use

The quick-change tap holders type NORIS UNI are mainly used on CNC machining centres, CNC turning machines and conventional machine tools. They are intended for clamping of taps/cold-forming taps for thread production.

The quick-change tap holders are marked by a yellow ring at the grip sleeve, see Picture 1, page 7.

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

- Morse taper shank according to DIN 228 B (ASME B 5.10)
- Cylindrical shank according to DIN ISO 10889 (formerly DIN 69880) or DIN1835 B+E or ASME B 94.19
- Hollow taper shank according to DIN 69893 A or DIN 69893 C

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

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

The quick-change tap holders type NORIS UNI are equipped with a length compensation on tension and on compression, with a pressure point mechanism and a front release, see chapter 1.2, page 5.

The quick-change tap holders type NORIS UNI (marked by a yellow ring) are **not** suitable for internal-lubricant coolant supply.

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

1.2 Specifications

Further features of the quick-change tap holders type NORIS UNI are:

- Small and compact overhang length
- **Length compensation in compression direction:**
Compensates differences between spindle feed and the pitch of the thread to be produced. When using quick-change adapters with overload clutch, the length compensation on compression takes on the spindle feed as soon as the overload clutch is activated.
- **Length compensation in tension direction:**
Compensates differences between spindle feed and the pitch of the thread to be produced as well as an overrun of the spindle in the reversing point of the thread producing cycle.
- **Front release:**
The front release protects the quick-change tap holder, the quick-change adapter and the tap/cold-forming tap as well as the workpiece against damage caused by the axial tension load being too high. Such tension may occur if the length compensation movement is exceeded, i.e. because the machine spindle overruns in the reversing point of the thread producing cycle or the fast-feed function is activated before the tap/cold-forming tap has come free from the workpiece. In these situations, the quick-change adapter disengages automatically from the quick-change tap holder and avoids expensive damages.
- **Pressure point mechanism:**
The pressure point mechanism guarantees the safe cutting of the tool. Only when the effective occurring axial force exceeds the allowed cutting or forming force, the pressure point mechanism sets the length compensation movement free.
⇒ Repeatable and regular thread depths are reached.

1.3 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.

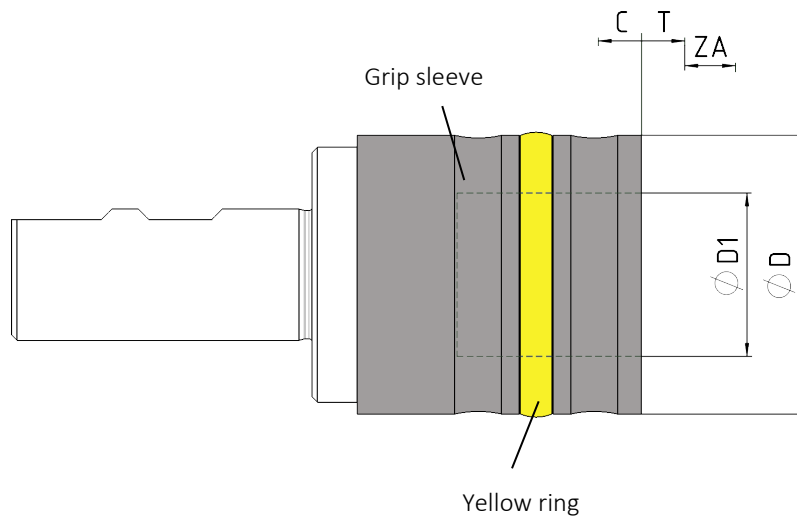
▶ Furthermore, the instructions of the tool manufacturers are valid!

1.4 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 REIME NORIS GmbH.

1.5 Dimensions and technical data



Picture 1: Dimensions of the quick-change tap holders type NORIS UNI

Table 1: Technical data of the quick-change tap holders type NORIS UNI

Type	Cutting range	Quick-change adapter size type EM	ØD [mm]	ØD1 [mm]	C ¹ [mm]	T ² [mm]	ZA ³ [mm]
NORIS UNI 0	M1 – M10 (Nr. 0 – ³ / ₈)	00	26	13	5	7,5	1,7
NORIS UNI 1	M3 – M14 (Nr. 4 – ⁹ / ₁₆)	01	36	19	5	8	2,1
NORIS UNI 3	M4,5 – M24 (Nr. 10 – 1")	03	53	31	8,5	15	2,8
NORIS UNI 4	M14 – M36 (⁹ / ₁₆ – 1 ³ / ₈)	04	78	48	15	23,5	4,1
NORIS UNI 5	M22 – M48 (⁷ / ₈ – 1 ³ / ₄)	05	96	60	16,5	25	5,7

Further outer dimensions depend on the required shank. These dimensions may be taken from the REIME NORIS GMBH main catalogue or your REIME NORIS GMBH representative.

¹ Length compensation on compression

² Length compensation on tension

³ Front release

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.

2.2 First putting into operation

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!

2.3 Re-putting into operation

In case the quick-change tap holder is re-put into operation as described in chapter 4, page 15, please carry out the following steps:

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

Note

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

2. Check function of the length compensation:
 - Stretch the quick-change tap holder at the grip sleeve, let off the grip sleeve
⇒ the quick-change tap holder must independently return to its initial position
 - Compress the quick-change tap holder at the grip sleeve, let off the grip sleeve
⇒ the quick-change tap holder must independently return to its initial position
3. Exchange the quick-change tap holder into the machine as described in chapter 2.2, page 8

2.4 Application and choice of other quick-change adapters

Type	Description	Recommended Applications
WE..	Rigid type	Through hole threads
WE..-U	With adjustable overload clutch	Blind hole threads
WE..-L	With length adjustment	On multi-spindle heads and transfer lines
WE..-UL	With adjustable overload clutch and length adjustment	Blind hole threads on multi-spindle heads
WE..-Z	Rigid type with adaptation for collets according to DIN ISO 15488	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
WE..L/ER/MKB	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
WE..-PGR	Rigid type with adaptation for collets according to type PGR (GB)	Clamping of carbide tools High coolant-lubricant pressures High-speed machining
WE..-SE	Rigid type with adaptation for dies according to DIN 223	External threads
WE..-R	Reducing adaptation for all WE types	For the extension of the clamping range downwards

The tap/cold-forming tap adaptation is executed via a quick-change-ball-clamping system except for type WE-Z, WE-L/ER/MKB and WE-PGR. The torque arising during the thread producing operation is transferred over the square in the quick-change adapter.

The adaptation of dies is carried out via mechanical locking.

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

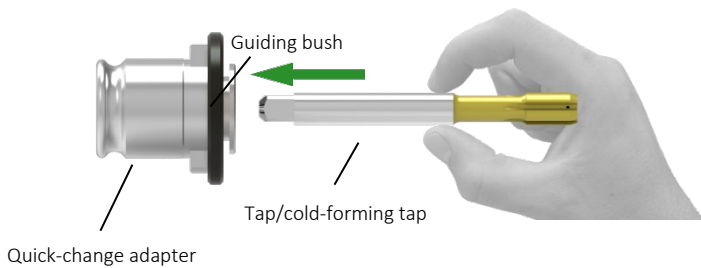
The adapter sizes for the appropriate quick-change tap holder may be taken from Table 1, page 7. The clamping diameter is defined by the tool used. Each diameter requires a separate quick-change adapter.

2.5 Insert tap/cold-forming tap

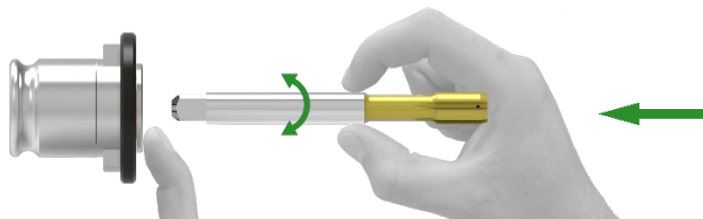
2.5.1 Quick-change adapters WE, WE-U, WE-L, WE-U-L

⚠ Attention

- ▶ Choose the appropriate quick-change adapter for the used tap/cold-forming tap!
- ▶ The tap/cold-forming tap must not be fitted while the machine spindle rotates!



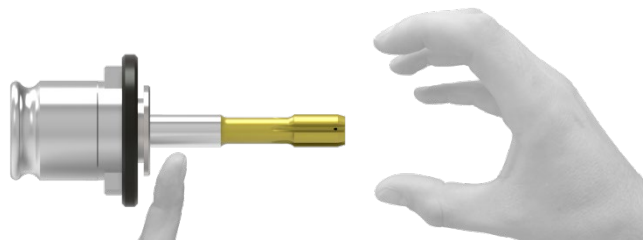
1. Press guiding bush backwards and hold it.



2. Push tool into the guiding bush.

! Note

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

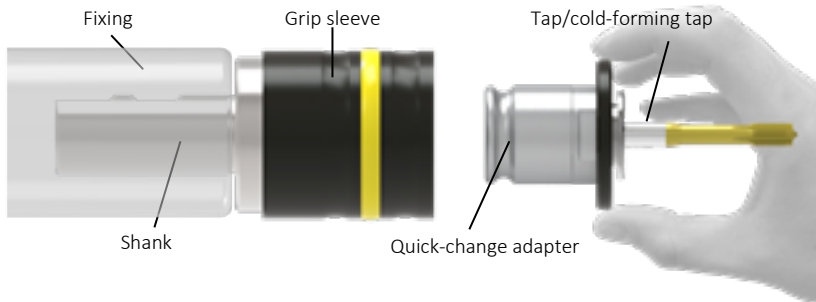


3. Let go of the guiding bush.

2.6 Insert quick-change adapter

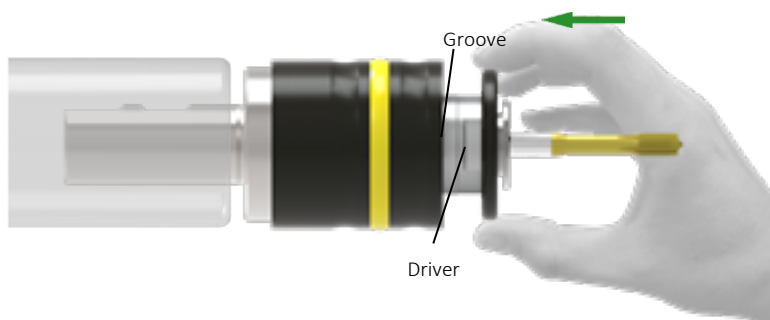
 Attention

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



1. Fix the shank

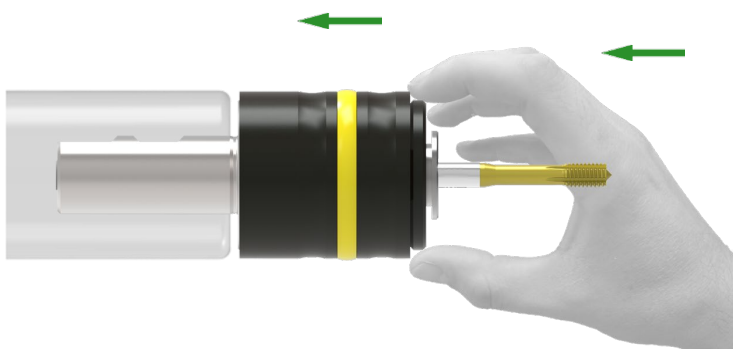
i.e. by adapting the holder in the machine spindle



2. Move in quick-change adapter

 Attention

Check position of driver and groove!

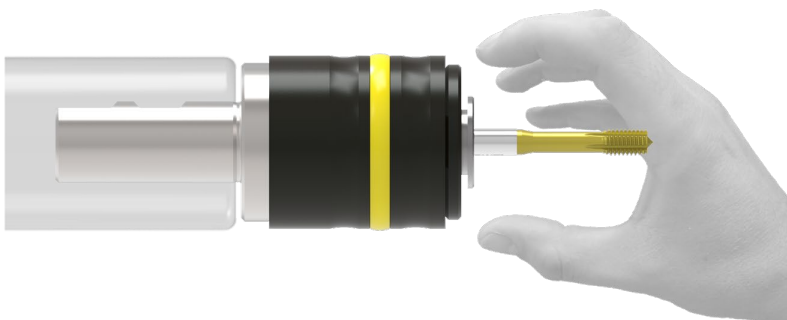


3. Strongly press the grip sleeve in direction of the shank and hold.

 Attention

The pressure point must be overcome!

Push quick-change adapter backwards.



4. Let go of the grip sleeve

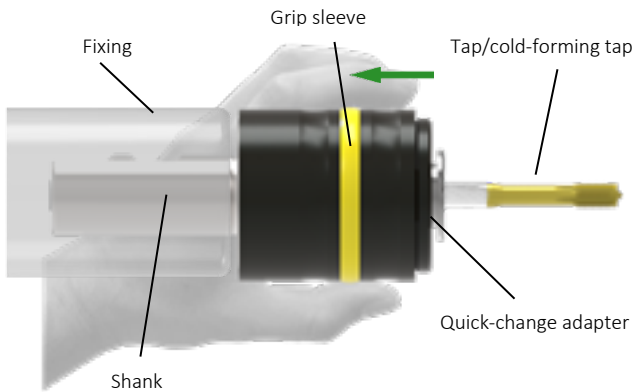
 Attention

Check, whether grip sleeve is in front position

2.7 Remove quick-change adapter

⚠ Attention

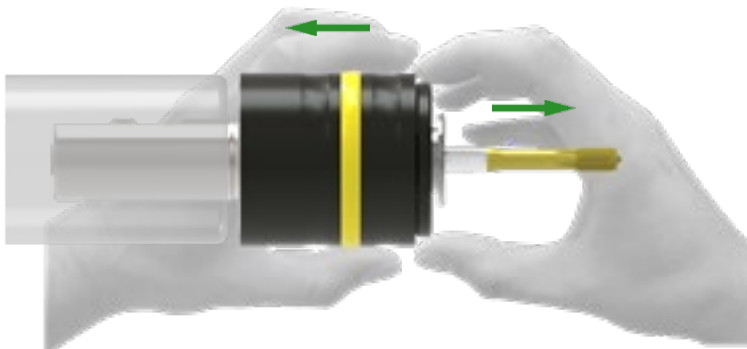
▶ The quick-change adapters must not be fitted while the machine spindle rotates!



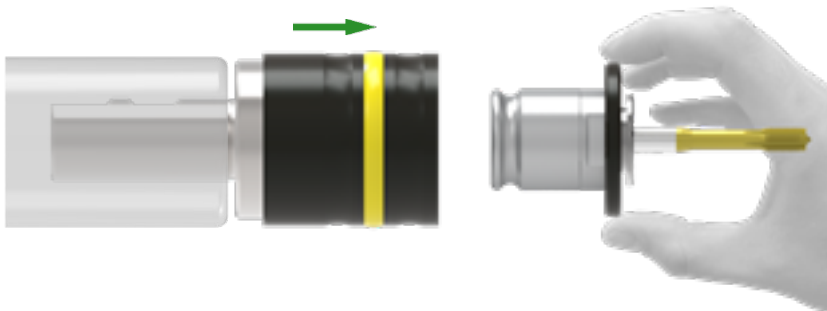
1. Strongly press the grip sleeve in direction of the shank and hold.

⚠ Attention

The pressure point must be overcome!



2. Remove quick-change adapter

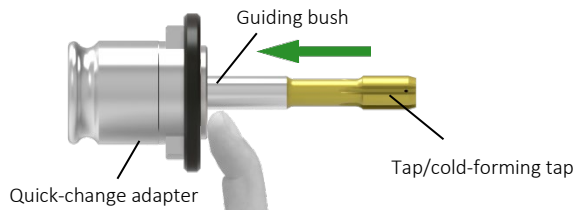


3. Let go of the grip sleeve

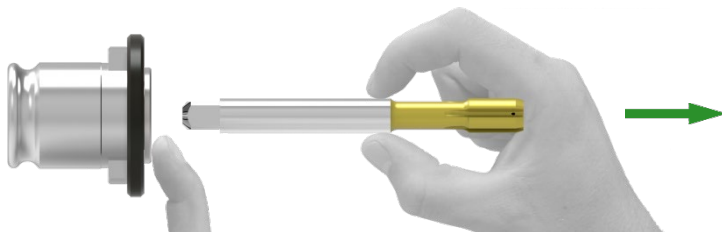
2.8 Remove tap/cold-forming tap

 **Attention**

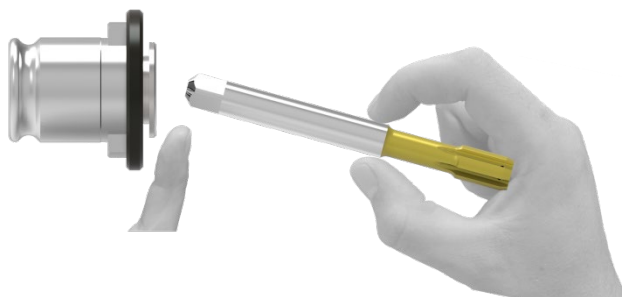
The tap/cold-forming tap must not be fitted while the machine spindle rotates!



1. Press guiding bush backwards and hold it.



2. Remove the tap/cold-forming tap



3. Let go of the guiding bush

 **Note**

This instruction is valid for all quick-change adapters type:
WE, WE-U, WE-L, WE-U-L.

For other quick-change adapters, please refer to the appropriate operating instruction.

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.

 **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:

- Clean the quick-change tap holder with a duster.
- 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!

REIME NORIS GMBH quick-change tap holder NORIS UNI
Operating instruction


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Please keep the operating instruction for future use!


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