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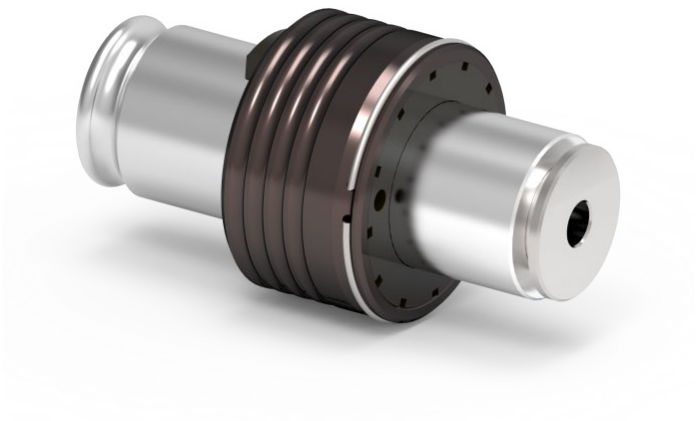


NORIS WE-U-L

Quick-change adapters NORIS WE-U-L

Operating instruction

Contents:

Warning signs, symbols

This operating instruction uses the following symbols:

Attention

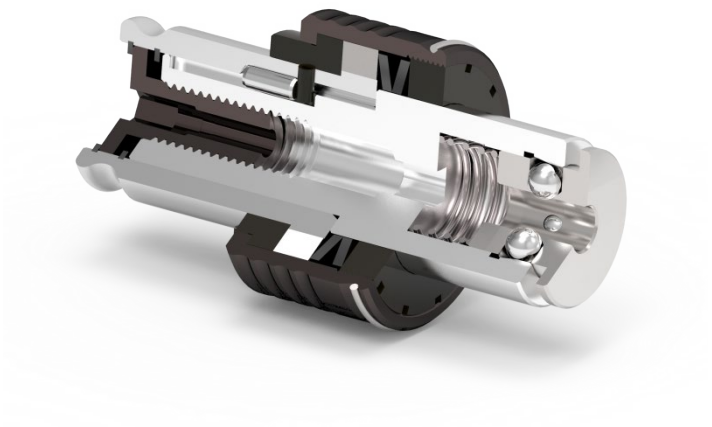
Marks special instructions, rules and prohibitions which are important in order to avoid any damage.

- Please observe these instructions!

Note

Marks application instructions and other useful information.

Sectional view:



Quick-change adapter NORIS WE-U-L

1 Application range, safety instructions and technical data

1.1 Application range, determined use

Application of the quick-change adapters:

- Adaptation of taps/cold-forming taps according to:
  DIN or ISO or ASME dimensions
- These adapters are designed to be used in all quick-change tap holders, REIME NORIS types:
  NORIS UNI NORIS UNI HP

  as well as compatible quick-change holders of other manufactures.

  The size of the adapter to be used is defined by the size of quick-change tap holder.

Attention

The quick-change adapter has to be equipped with a length compensation so that when the overload clutch is activated, the continuous spindle feed is picked up without causing any damage.
Exception: The machine is equipped with integrated length compensation in the machine spindle.

- For taps/cold-forming taps **with** internal coolant-lubricant supply (oil channel**)**
- The maximum coolant-lubricant pressure is determined by the used quick-change tap holder, but not more than 50 bar.
- Main application range: Production of blind hole threads on multi-spindle heads
- Production of right-hand and left-hand threads
- All machining directions

The adaptation of the taps/cold-forming taps is executed via a quick-change-ball clamping system, the tap/cold-forming tap is centered at the shank. The torque arising during the thread producing operation is transferred via the square in the quick-change adapter.

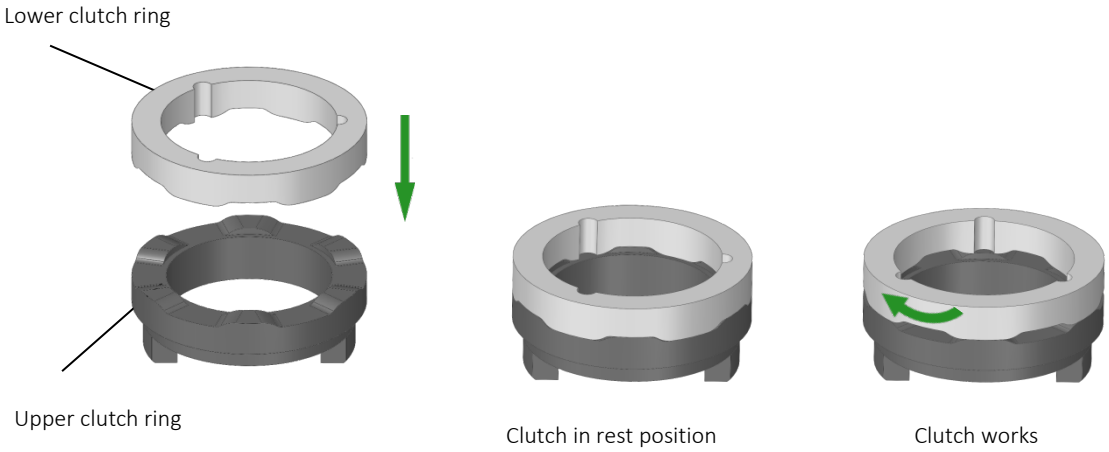
The required clamping diameter is determined by the used tap/cold-forming tap.
Owing to the quick-change principle each shank diameter requires a separate adapter.

Overload clutch:

The integrated overload clutch is adjusted to an average torque value for the corresponding clamping diameter, reference values see chapter 6, page 17.

This torque adjustment can be adjusted to the appropriate processing conditions. Please refer to chapter 2.5, page 12, for adjustment instruction.

Owing to the wear-resistant wave-profile of the clutch disks, see picture 1, the quick-change adapter can be used for producing right- and left-hand threads and the soft overloading is guaranteed.



Picture 1: Principle of the overload clutch in quick-change adapters NORIS WE-U-L

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 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.

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.

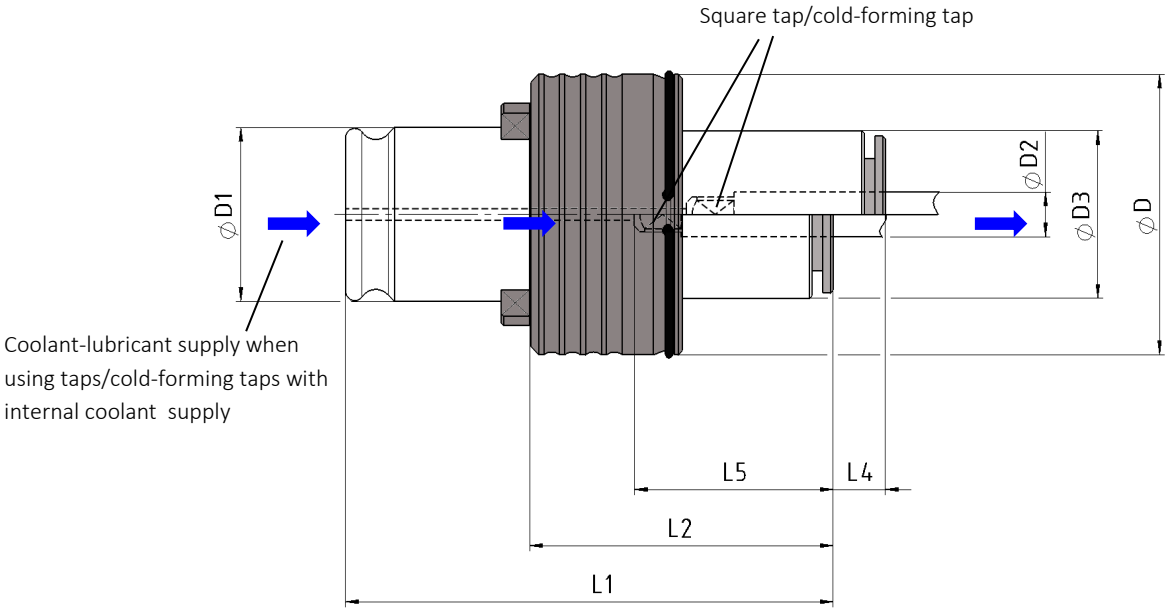
- Hold the tool when loosening the tool clamping to avoid it falling down and damaging the tool and the work piece.
- There are maximum values for cutting speeds and feeds for every kind of machining. Please observe such data.
- Please observe the maximum tool dimensions.
- Furthermore, the instructions 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 REIME NORIS GmbH.

1.4 Dimensions and technical data



Picture 2: Dimensions of the quick-change adapters NORIS WE-U-L

Table 1: Technical data of the quick-change adapters NORIS WE-U-L

Type	Cutting range	Adapter size[1]	ØD [mm]	ØD1 [mm]	ØD2[2] [mm]	ØD3 [mm]	L1 [mm]	L2 [mm]	L4 [mm]	L5[3] [mm]	Tool type
WE00-UL	M1-M10 M1-M9	00	24	13	2,5-7 2,24-7,1	13	49	29	8	21-24 20-24	DIN ISO
WE01-UL	M3-M14 M3,5-M14	01	33	19	3,5-11 3,55-11,2	18	55	33	10	22-29 22-29	DIN ISO
WE03-UL	M4,5-M24 M6-M24	03	50	31	6-18 6,3-18	30	94	59	15	38-47 38-48	DIN ISO
WE04-UL	M14-M36 M14-M36	04	72	48	11-28 11,2-28	47	137	81	25	55-68 55-69	DIN ISO
WE05-UL	M22-M48 M24-M50	05	95	60	18-36 18-35,5	58	205	142	40	94-109 95-105	DIN ISO

For further dimensions please refer to our REIME NORIS main catalogue.

[1] Size is defined by the used quick-change tap holder
[2] Clamping diameter is defined by the required tap/cold-forming tap.
[3] Plug-in depth is defined by the used tap/cold-forming tap.

2 Putting the quick-change adapters into operation

2.1 Unpacking

- Take the quick-change adapter from the plastic case.
- Clean the quick-change adapter with a duster to remove any conservation oil.

Note

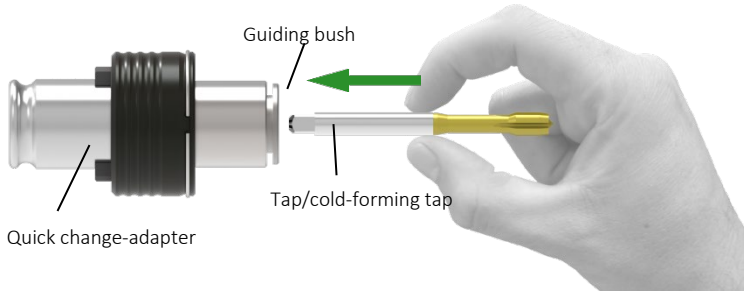
- Do not use any aggressive solvents.
- Do not use fibrous materials i.e. steel wool.

√ The quick-change adapter is now ready for operation

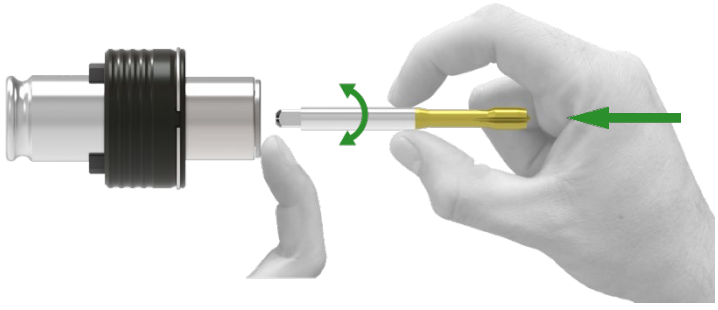
2.2 Insert tap/cold-forming tap

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!



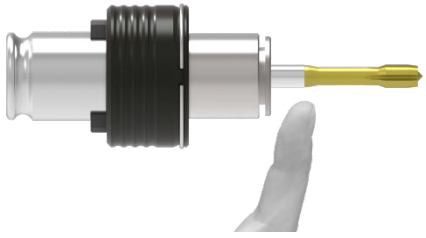
1. Press guiding bush back and hold it



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

Insert the quick-change adapter into the quick-change tap holder as described in the operating instruction of the used tap holder.

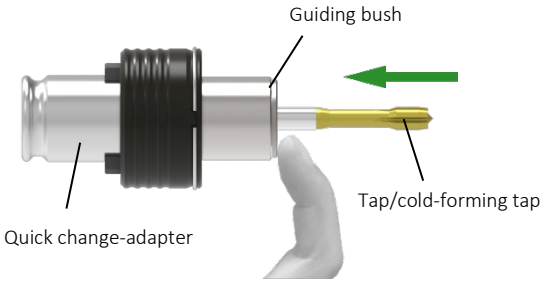
Note

The tap/cold-forming tap may also be changed according to the above mentioned method if the quick-change adapter is fixed in the quick-change tap holder.

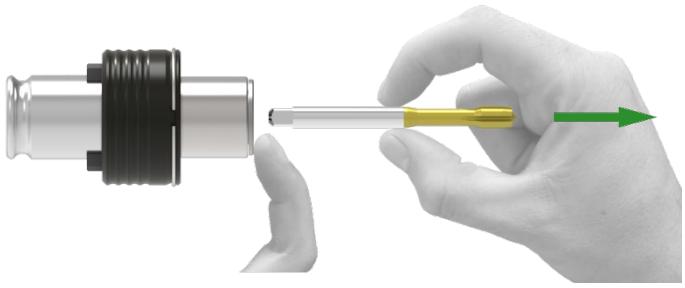
2.3 Detach tap/cold-forming tap

Attention

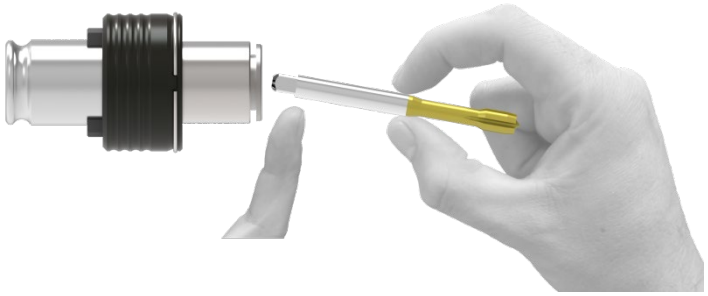
- The exchange of the tap/cold-forming tap must not be executed while the machine spindle rotates!



1. Press guiding bush back and hold it



2. Pull out tap/cold-forming tap



3. Let go of guiding bush

Note

The tap/cold-forming tap may be loosened according to the above mentioned method if the quick-change adapter is fixed in the quick-change tap holder.

2.4 Length adjustment

The overhang length of the quick-change adapters NORIS WE-U-L may be adjusted if required. This could be necessary, e.g. when adjusting a predetermined length on multi spindle heads.

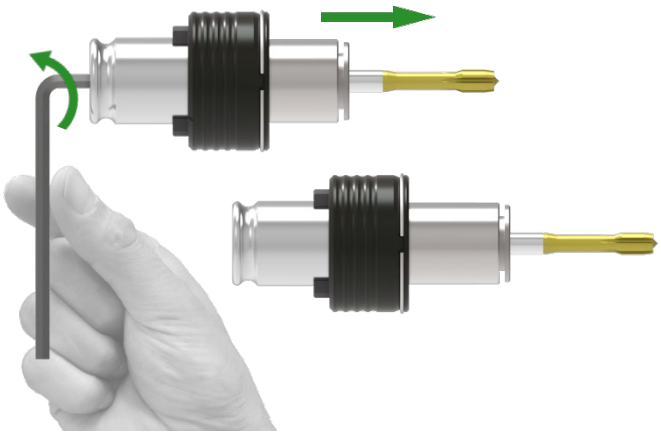
Note

The length can only be adjusted if the quick-change adapter is **not** fixed in the quick-change tap holder.

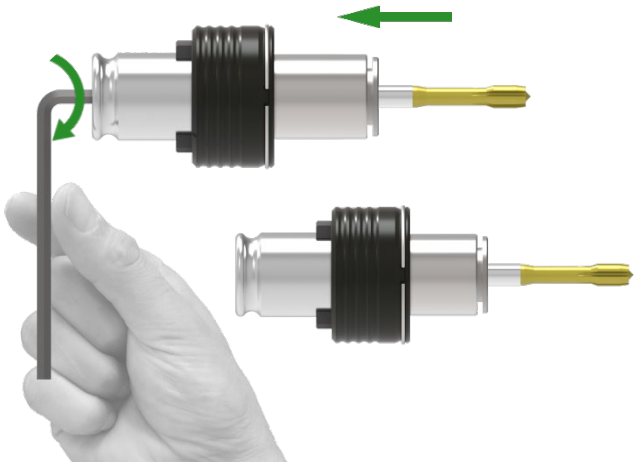
Required tool:

Hexagon socket wrench size:

WE00-L: SW 2,5	WE04-L: SW 10
WE01-L: SW 4	WE05-L: SW 8
WE03-L: SW 6	



a) Turn hexagon socket wrench **anti-clock-wise**
⇒ **Extension**



b) Turn hexagon socket wrench **clock-wise**
⇒ **Reduction**

2.5 Adjustment of the overload clutch

Basically speaking, the torque to be set depends on:

- Size
- Geometry and coating of the tap/cold-forming tap
- Work piece material
- Type and quality of the coolant-lubricant
- Drilled hole diameter
- Kind of thread processing (e.g. cold-forming of threads)

⇨ Due to these factors it may be necessary to adapt the torque values from chapter 6, page 17

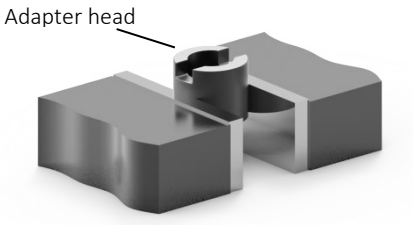
Note

Required tool:

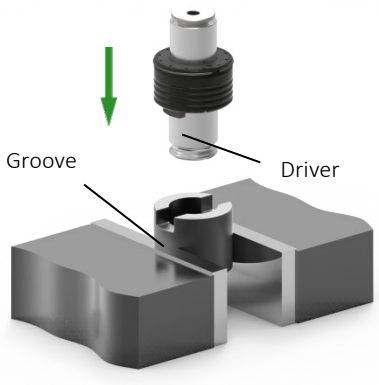
Adapter head type AEU	Spanner with pins type VS
Square pin type VEU	Torque wrench type DEU

Attention

The torque can only be adjusted if the clutch is in rest position, see Picture 1, page 5.



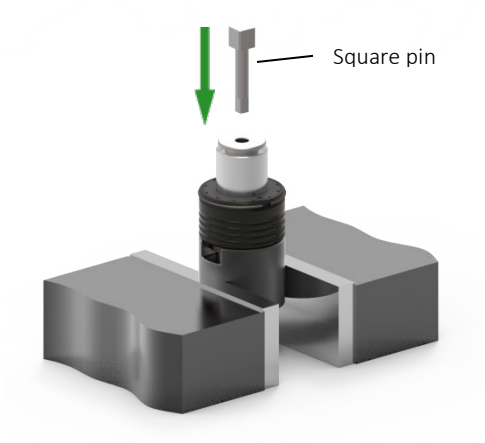
1. Fix adapter head at the clamping faces in the vice



2. Push quick-change adapter into the adapter head

Attention

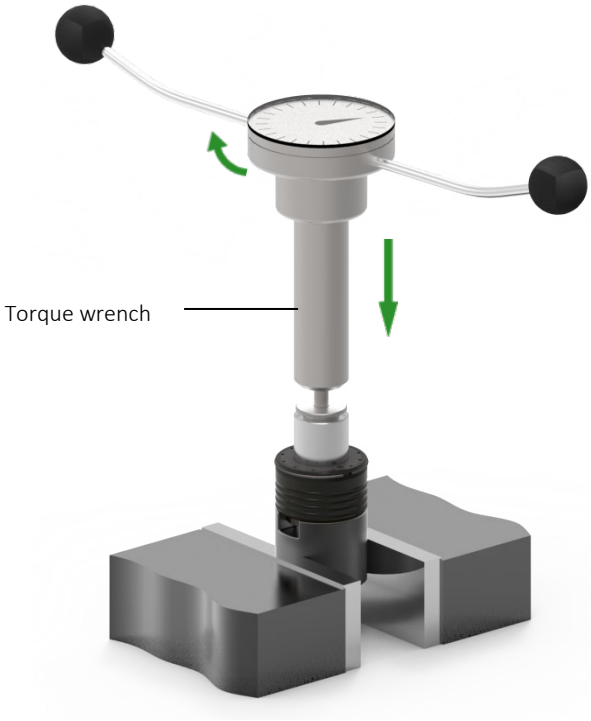
Driver of the quick-change adapter must be located in the groove of the adapter head.



3. Clamp square pin in the quick-change adapter (like tool, see chapter 2.2, page 8

Note

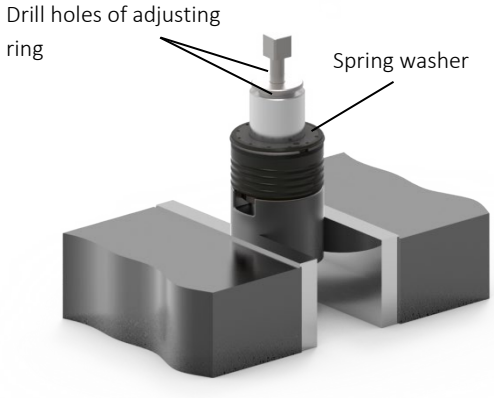
Use appropriate square pin for quick-change adapter



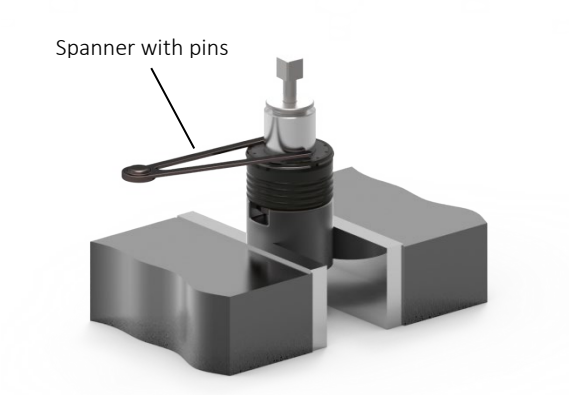
4. Put torque wrench on the square
   Adjust the indication to 0-position
   Turn torque wrench clock-wise
   ⇒ Read torque

Attention

Turn torque wrench until the overload clutch has disengaged and engaged again.
→ Recognizable by a clear click.



5. Remove the spring washer from the grip sleeve



6. Insert spanner with pins into the drill hole of adjustment ring and turn the ring

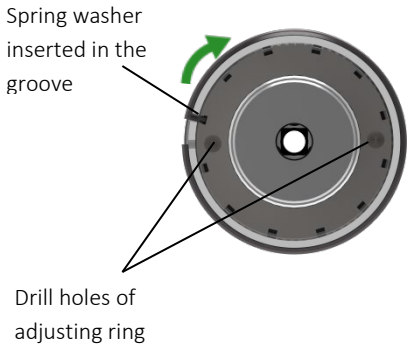
Turn right ⇒ Increase of torque

Turn left ⇒ Reduction of torque

7. Check torque by repeating point 4

Note

Repeat points 6 + 4 until the required torque is adjusted



8. Insert the spring washer into the groove.

Attention

Spring washer nose must engage in the nearest notch of the adjusting ring!

Mount spring washer in direction of machining

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 adapter at periodic intervals depending on how dirty the adapter 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 adapter is taken out of service, please go through the following working steps:

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

Attention

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

5 Application and choice of other quick-change adapters

Type	Description	Recommended Applications
WE..	Rigid type	Through hole threads
WE../MMS	Rigid type, for minimum-quantity lubrication (MQL)	Through hole threads
WE..-U	With adjustable overload clutch	Blind hole threads
WE..-U/MKBA	With adjustable overload clutch, and internal coolant supply through channels along the tap/cold-forming tap shank.	Blind hole threads
WE..-L	With length adjustment	On multi-spindle heads and transfer lines
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..-Z/MMS	Rigid type with adaptation for collets according to DIN ISO 15488, for minimum-quantity lubrication, with adjustment screw for presetting the tap/cold-forming tap length	Clamping of carbide tools 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 EM types	For the extension of the clamping range downwards

All quick-change adapters, unless stated otherwise, can be used for internal coolant supply when the taps/cold-forming taps are designed accordingly.

6 Torque reference values for thread cutting

Note

The indicated values are reference values for thread cutting in steel with a tensile strength of 600 – 800 N/mm².

Torque		Thread type								
[Nm]	[Ft. lb]	M	UNC	UNF	BSW	BSF	G (Whw) BSP	NPT NPTF	Rc (BSPT)	Pg
0,3	0,2	M2	Nr.2	Nr.2						
0,4	0,3	M2,5		Nr.3						
0,5	0,4		Nr.3	Nr.4						
0,6	0,5	M3								
0,8	0,6		Nr.4	Nr.5						
1,0	0,7	M3,5	Nr.5	Nr.6	1/8					
1,2	0,9		Nr.6	Nr.8						
1,6	1,2	M4	Nr.8		5/32					
2,0	1,5			Nr.10						
2,5	1,8	M5		Nr.12		3/16				
3	2,2		Nr.10	1/4						
4	3,0		Nr.12		3/16	7/32				
5	3,7	M6		5/16	7/32	1/4				
6	4,4		1/4	3/8	1/4	9/32	G 1/8			
8	6,0					5/16				
10	7,4	M8	5/16	7/16	5/16					
12	8,9			1/2		3/8				
16	12		3/8		3/8			1/16	Rc 1/16	Pg 7
18	13	M10		9/16		7/16	G 1/4			
20	15			5/8						
22	16		7/16		7/16		G 3/8			Pg 9
25	18	M12				1/2		1/8	Rc 1/8	Pg 11
28	21									Pg 13,5
32	24		1/2	3/4	1/2	9/16				Pg 16
40	30		9/16		9/16	5/8				
45	33	M14		7/8		11/16				Pg 21
50	37	M16	5/8		5/8		G 1/2			
56	41						G 5/8		Rc 1/4	
63	46							1/4		Pg 29
70	52		3/4	1	3/4	3/4	G 3/4			
80	59	M18		1 1/8		13/16	G 7/8			Pg 36
90	66	M20		1 1/4		7/8		3/8	Rc 3/8	Pg 42
100	74	M22	7/8	1 3/8	7/8					Pg 48
110	81			1 1/2						

Torque		Thread type								
[Nm]	[Ft. lb]	M	UNC	UNF	BSW	BSF	G (Whw) BSP	NPT NPTF	Rc (BSPT)	Pg
125	92					1				
140	103	M24	1		1		G 1			
160	118	M27					G 1 1/8	1/2	Rc 1/2	
180	133					1 1/8	G 1 1/4			
200	148					1 1/4	G 1 3/8	3/4	Rc 3/4	
220	162	M30	1 1/8		1 1/8		G 1 1/2			
240	177	M33	1 1/4		1 1/4		G 1 3/4			
260	192					1 3/8	G 2			
280	207	M36								
300	221					1 1/2	G 2 1/4			
320	236	M39				1 5/8				
340	250		1 3/8		1 3/8		G 2 1/2	1	Rc 1	
360	266		1 1/2		1 1/2		G 2 3/4			
400	295	M42					G 3			
420	310	M45					G 3 1/4			
450	332					1 3/4	G 3 1/2	1 1/4	Rc 1 1/4	
480	354						G 3 3/4			
500	369					2	G 4			
560	413	M48			1 5/8			1 1/2	Rc 1 1/2	
630	465	M52	1 3/4		1 3/4					
710	524	M56				2 1/4		2	Rc 2	
800	590	M60			1 7/8	2 1/2				
900	664	M64				2 3/4				
1000	738	M68	2		2					
1100	811		2 1/4		2 1/4	3				
1170	863	M72								
1230	907	M76								
1300	959	M80								
1380	1018	M85								
1400	1033		2 1/2		2 1/2			2 1/2	Rc 2 1/2	
1460	1077	M90								
1540	1136	M95								
1620	1195	M100								
1700	1254	M105								
1780	1313	M110								
1860	1372	M115								
1940	1431	M120								
2000	1475		2 3/4		2 3/4			3	Rc 3	
2020	1490	M125								
2110	1556	M130								
2200	1623				3					
2270	1674	M140								
2430	1792	M150								
2680	1977	M160								

Notes:

REIME NORIS quick-change adapter NORIS WE-U-L

Operating instruction

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Please keep this for future use!

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