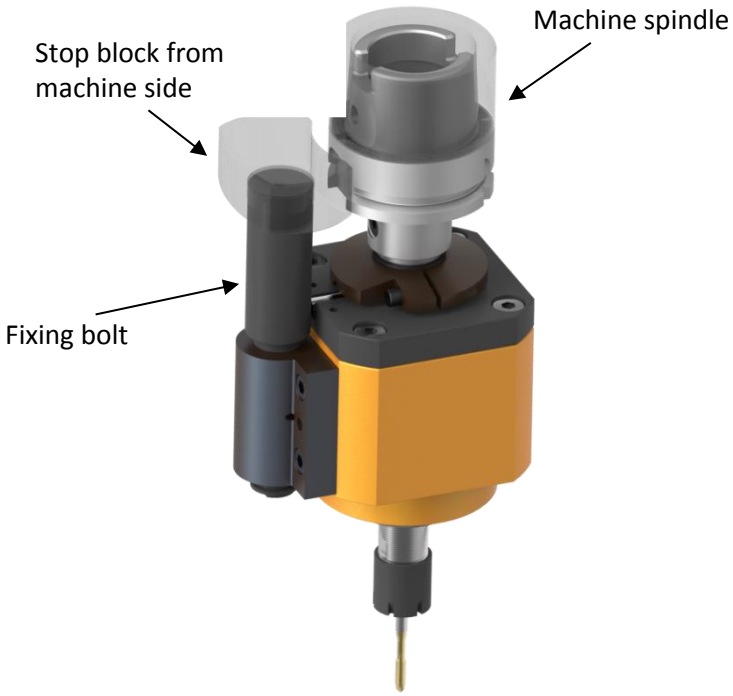
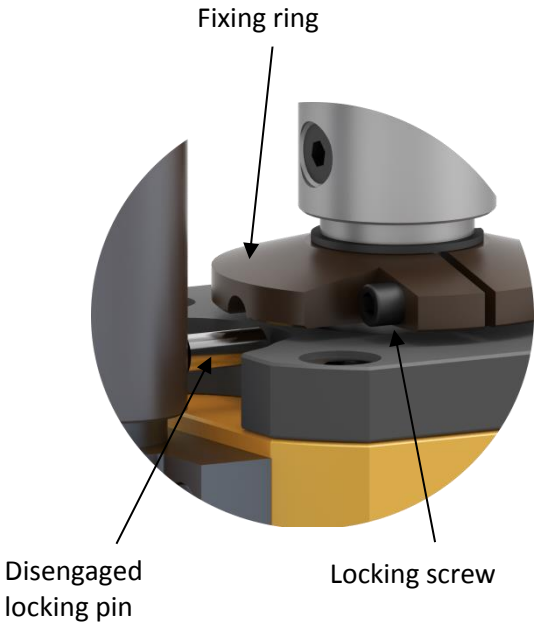
1 Putting the SPEEDSYNCHRO® Modular into operation

Stop fixture:
The housing of the SPEEDSYNCHRO® must be secured against twisting via stop fixture.
This is done by engaging the locking pin in a defined angular position in the machine-side locking block.
If the angular position is known, the stop fixture will be preadjusted by EMUGE at delivery.
Please pay attention to the attached comment refering to the SPEEDSYNCHRO® Modular.

First use of the SPEEDSYNCHRO® Modular:
⇨ Stop fixture already preadjusted ➔ see point 1 + 3
⇨ Stop fixture not preadjusted ➔ see point 1 – 5

1. Locking pin is engaged in the fixing ring.
2. Loosen locking screw
3. Load the SPEEDSYNCHRO® Modular manually into the machine spindle.
4. The fixing bolt must engage in the stop block of the machine, if necessary twist the housing
   ⇒ The locking pin is disengaged from the fixing ring. The fixing bolt must not contact the housing.
5. Secure fixing ring in this position by tightening the locking screw (12-15 Nm).
   ⇒ The looking pin re-engages in the fixing ring when removing the SPEEDSYNCHRO® Modular
6.





⇒ **The SPEEDSYNCHRO® Modular is ready for use.**

The angle position of the stop fixture is defined.

The SPEEDSYNCHRO® Modular can be changed or replaced over the tool exchanger

Owing to the stop fixture it is possible that a second tool place in the tool exchanger may be required. It is therefore necessary to carry out a manually operated test run before the putting into operation. For automatic tool exchange we recommend to reduce the tool exchange speed.

When working with internal coolant-lubricant:
The max. coolant-lubricant pressure is **50 bar**.

When working with minimum-quantity lubrication:
The max. coolant-lubricant pressure is **10 bar.**

The coolant-lubricant supply occurs centrally through the spindle.

2 Programming notes

The transmission ratio of the SPEEDSYNCHRO® Modular is 1:4,412.

This leads to the following programming rules.

- **Feed f**

  f = P x 4,412

  f = Feed [mm/U]

  P = Thread tool pitch [mm]

- **Speed n** of the **machine spindle** for the desired tool speed

  $n_{MSP} = n_{WZG} / 4,412$

  n_{MSP} = Machine spindle speed [U/min]

  n_{WZG} = Tool speed [U/min]

The max. speed at the machine spindle is n_{MSP} = 2000 U/min

The max. speed at the tool is n_{WZG} = 8824 U/min

Example: thread M6 / thread tool pitch P = 1 mm:

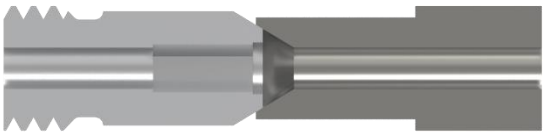
Requested speed n at the tool:	n_{WZG} = 6000 U/min
Required speed n at the machine spindle:	n_{MSP} = 6000 U/min / 4,412 = 1360 U/min
Required feed:	f = 1 x 4,412 mm/U = 4,412 mm/U

3 Using the SPEEDSYNCHRO® Modular with adjustment screw

On option we may supply adjustment screws for the SPEEDSYNCHRO® Modular adapted to the threading tool.

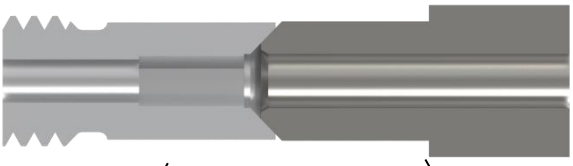
Do not use the SPEEDSYNCHRO® Modular/MQL **without** adjustment screw and coolant-lubricant tube!

1. Select suitable adjustment screw (depending on the clamping diameter and tool end)



Adjustment screw with external bevel

Tool with internal bevel



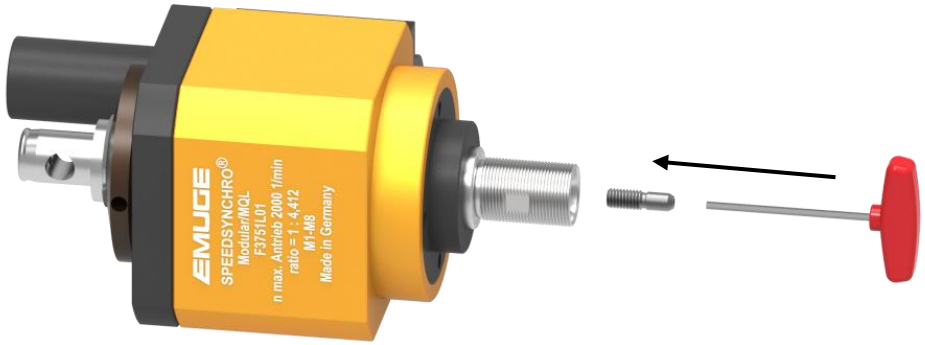
Adjustment screw with internal bevel

Tool with external bevel

For internal coolant supply with emulsion we recommend the adjustment screw with external bevel

2. Assembly of the adjustment screw:

Required internal hexagon wrench: SW 2



To ensure an optimum MQL-supply the adjustment screw must fit to the square of the tool.

Screw in the adjustment screw up to dimension L max., see Table 1.

The traverse is 2 mm in direction of the thread tool.

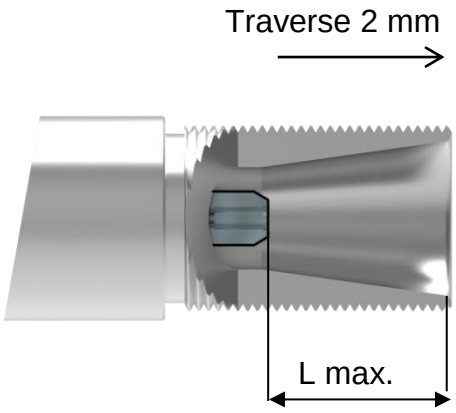
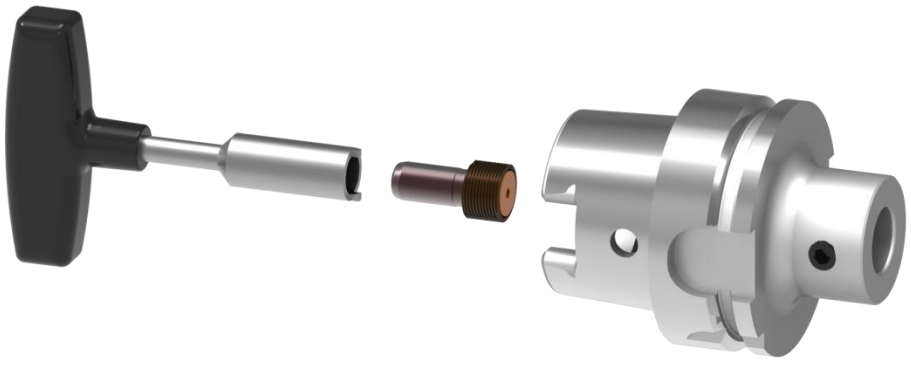


Table 1: maximum screw-in depth of the adjustment screw

Clamping diameter	Dimension L max.	
	WzIF Tool	WzAF Tool
6	18,5	18,5
7	18,5	18,5
8	23	23,5
9	23,5	24,5

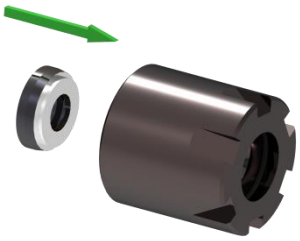
The dimension L max. must not be exceeded, otherwise the adjustment screw does not fit to the tool!

3. Assembly of the suitable coolant-lubricant tube - depending on the lubricant system



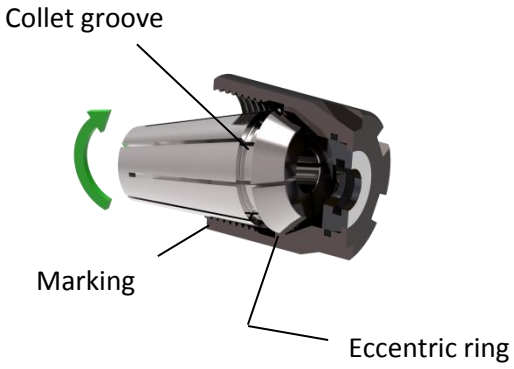
4 Assembly of the sealing disk, collet and the tools

1. Assembly of the sealing disk:



Click!

2. Assembly of the collet:



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3. Screw the clamping nut with engaged collet onto the thread of the tap holder.

4. Insert tool

When using a collet with integrated square, the tool must be turned into position where it may be pushed into the square of the collet.

5. Tighten clamping nut with wrench① and support with wrench②

In order to avoid damaging of SPEEDSYNCHRO ® Modular parts, it is necessary during the tightening of the clamping nut via wrench① to **support** with wrench②**,** see figure.
Wrenches are part of the delivery.
As an alternative to wrench② the assembly device③ F3741909 can be used.

To adjust the correct torque (see table 2), we recommend to use a torque wrench.

Table 2: Tightening torques for clamping nuts

Type	Recommended tightening torque [Nm]
Hi-Q/ERM16 Hi-Q/ERMC16	24

Data valid for the use of ER-GB collets.
The maximum tightening torque must not be more than 25% above the recommended values. Higher torque may result in the damage of the collet holder
.

5 Remove tool

To loosen the clamping nut with wrench① it is necessary to **support** with wrench②

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