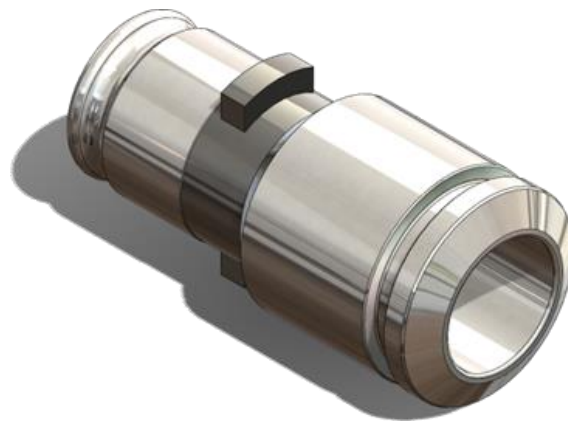




■ Made
■ in
■ Germany



EM 01 / PGR / IKZ

EM 03 / PGR / IKZ

EMUGE

Quick-change adapter EM / PGR / IKZ

Operating instruction

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powRgrip® ® is a registered trademark of REGO FIX AG

Warnings, symbols

This operating instruction uses the following symbols:



Attention

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

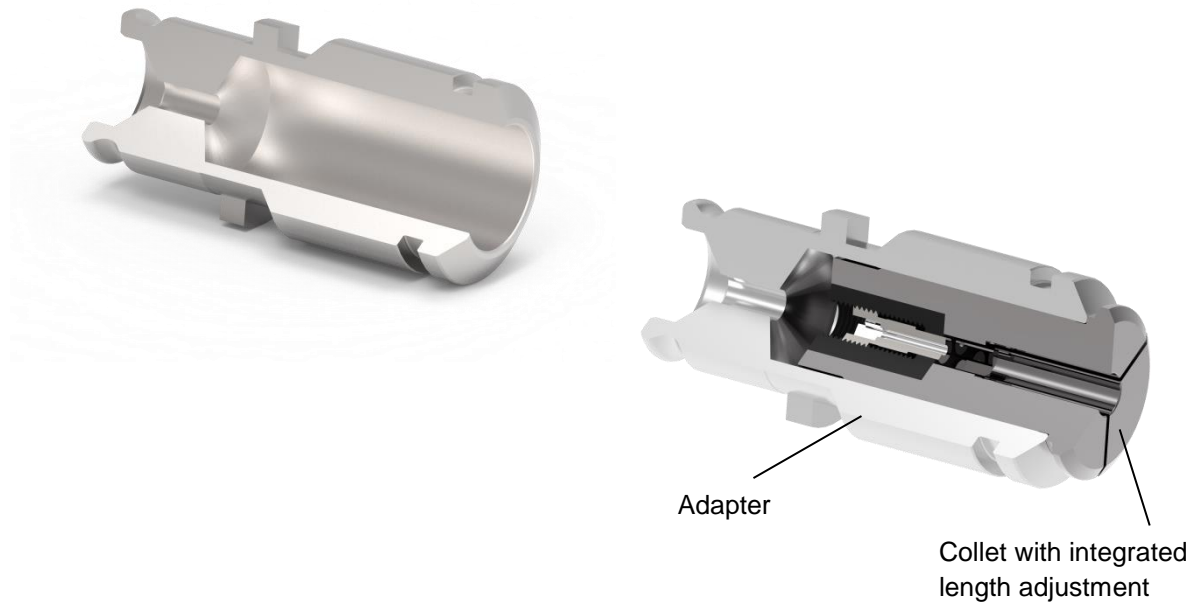
▶ Please observe these instructions!



Note

Marks application instructions and other useful information.

Sectional view:



Quick-change adapter EM/PGR/IKZ

1 Application range, safety instructions and technical data

1.1 Application range, determined use

Application of the quick-change adapters:

- Clamping of taps/cold-forming taps
- These adapters are designed to be used in all quick-change tap holders, EMUGE types:
KSN KSN/HD
SFM SFM/NP SFM-L SFM-L-DZ
The size of the adapter to be used is defined by the size of quick-change tap holder.
- For taps/cold-forming taps with and without internal coolant-lubricant supply (oil channel). The max. coolant-lubricant pressure is defined by the used quick-change tap holder
- The quick-change adapters EM/PGR/IKZ are used if the machining requires a rigid tool holder, e.g.:
 - Use of solid carbide tools
 - Applications with high coolant-lubricant pressure
 - High speed machining
- Production of right-hand and left-hand threads
- All machining directions

The taps/cold-forming taps are locked via the collets type PGR-GB (for taps/cold-forming taps with shank tolerance h9 and integrated square). The collets must be chosen depending on their type and the used taps/cold-forming taps, for more information please refer to chapter 2.2, page 7.

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 with the collet 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.



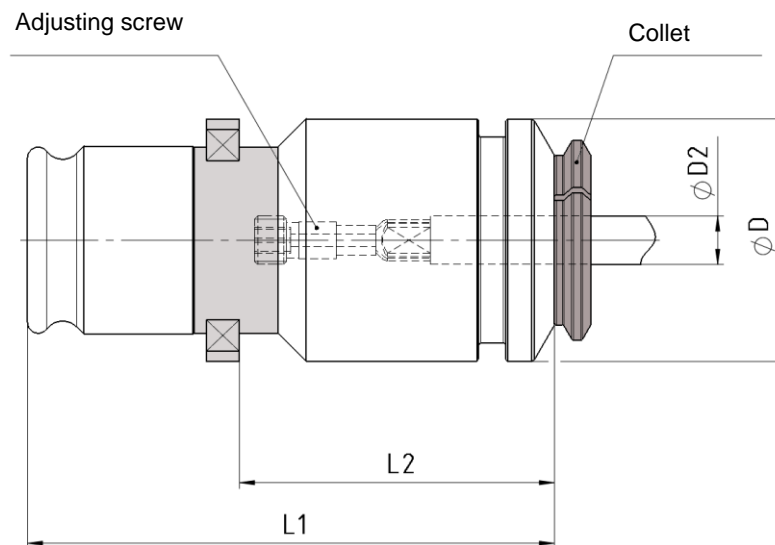
- ▶ Hold the tool when loosening the tool clamping to avoid it falling down and damaging the tool and the work piece.
- ▶ There are maximum values for cutting speeds and feeds for every kind of machining. Please observe such data.
- ▶ Please observe the maximum tool dimensions.
- ▶ Furthermore, the instructions 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 1: Dimensions of the quick-change adapters EM/PGR/IKZ

Table 1: Technical data of the quick-change adapters EM/PGR/IKZ

Type	Cutting range	Adapter size ¹	Collet size	ØD [mm]	ØD ₁ [mm]	ØD ₂ ² [mm]	L ₁ [mm]	L ₂ [mm]
EM01/PGR/IKZ	M4 - M12 (Nr.8 - $\frac{7}{16}$)	01	PGR15 (GB)	24	19	4,5-10	64	42
EM03/PGR/IKZ	M8 - M20 ($\frac{5}{16}$ - $\frac{3}{4}$)	03	PGR25 (GB)	40	31	8-16	87	52

For further dimensions please refer to our EMUGE 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

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

Clean the quick-change adapter as described in the cleaning directions, chapter 2.3.1, page 8.

2.2 Collets

2.2.1 Application

The adaptation of the tap/cold-forming tap is executed via collets type PGR and/or PGR-GB. These powRgrip® collets have a taper shank with plane contact surface and a central bore for the tool shank. With collets type PGR the tap/cold-forming tap is centred and clamped via the clamping diameter, the shank tolerance must be h6. With collets type PGR-GB the torque arising during the thread producing operation is additionally transferred via the square, integrated in the collet; tap/cold-forming tap with shank tolerance h9 may be used.

The powRgrip® collets have an integrated adjusting screw. With a pre-adjustment tool the length of the tool system can be pre-adjusted.



Note

Owing to the better torque transmission and the possibility to use taps/cold-forming taps with shank tolerance h9, we would recommend the use of collets type PGR-GB

The collet sizes for the according quick-change adapter may be taken from Table 1, page 6. The clamping diameter is indicated by the used tap/cold-forming tap.

2.3 Assembly instruction for the collets and taps/cold-forming taps



Attention

- ▶ Do not press in the collet without a tap/cold-forming tap!
Pressing in collets without a tool will destroy the collet!
- ▶ Before clamping, clean and degrease collet and cutting tool as described in the cleaning directions!
Dirt and grease reduce clamping force, accuracy and tool life.

2.3.1 Cleaning directions



Clean the powRgrip® interface of the collet holder, i.e. with a taper cleaner (see catalogue, chapter accessories) or with a clean towel.



Degrease powRgrip® collet, by dipping into clean, fat-dissolving and oil-free solvent, i.e. alcohol, cleaning solvent.

Dry collet. Only use compressed air if it is clean and oil-free (no preceding maintenance unit).



Set collet into tool holder or quick-change adapter.



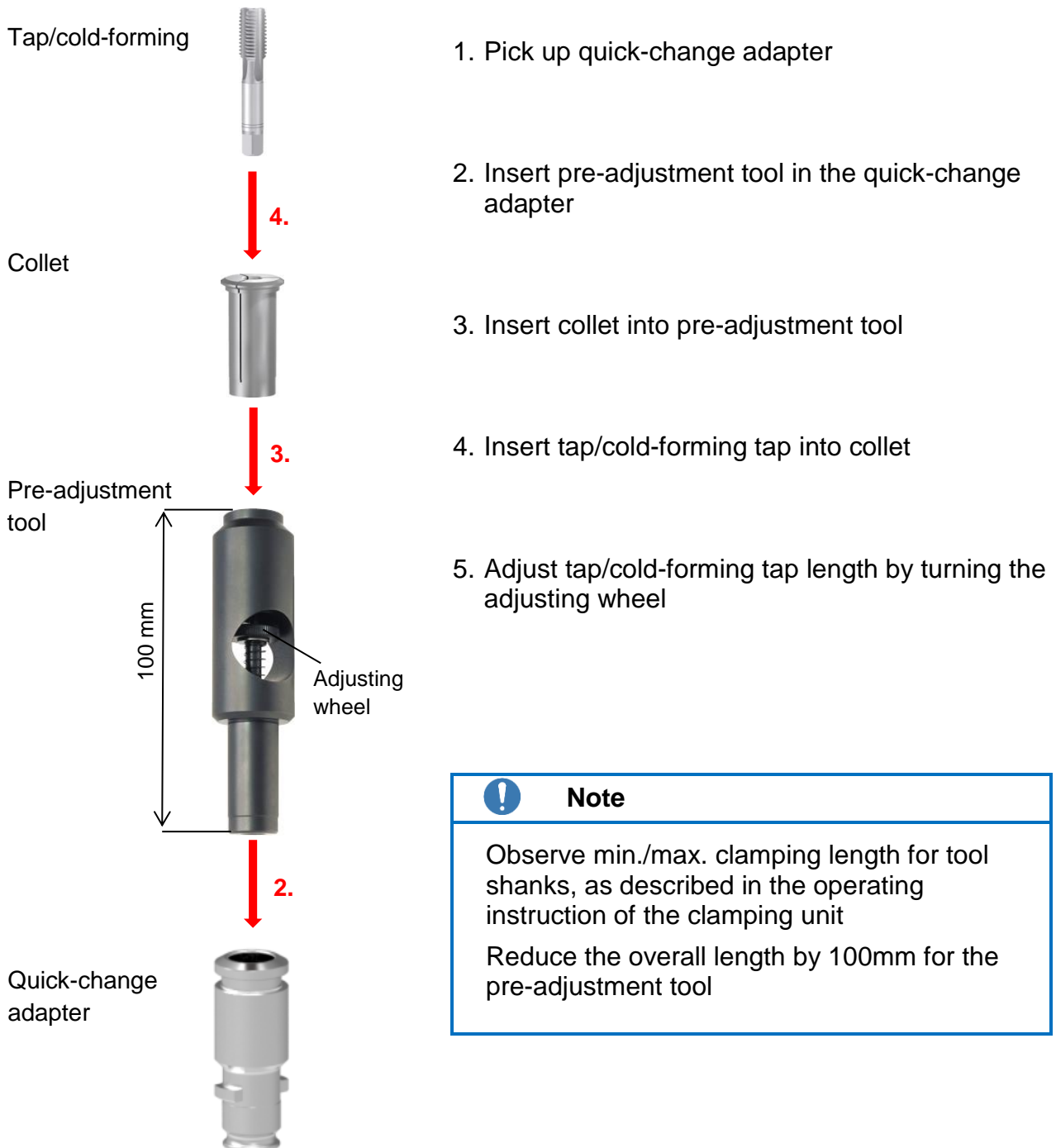
Degrease tap/cold-forming tap shank, by dipping into clean, fat-dissolving and oil-free solvent, i.e. alcohol, cleaning solvent.



Insert tap/cold-forming tap into the powRgrip® collet. When using a PGR-GB collet with integrated square, the tool must be turned into position in order to be inserted into the square of the collet.

Press in tap/cold-forming tap, using the clamping unit as described in the operating instruction of the powRgrip® unit or pre-adjust the length as described in chapter 2.3.2, page 9.

2.3.2 Length adjustment



Note

Observe min./max. clamping length for tool shanks, as described in the operating instruction of the clamping unit

Reduce the overall length by 100mm for the pre-adjustment tool

2.4 Remove tap/cold-forming tap

Loosen tap/cold-forming tap using the clamping unit, as described in the operating instruction of the powRgrip® unit.

As soon as the unclamping operation is completed, the tap/cold-forming tap and the collet can be removed from the quick-change adapter.

3 Maintenance

3.1 Maintenance schedule

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

3.2 External cleaning



Attention

Before clamping make sure the quick-change adapter is oil-free in the area of the powRgrip® interface; same for collet and tool shank. Eventually clean these components as described in the cleaning directions, chapter 2.3.1, page 8.

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



Note

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

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
EM..	Rigid type	Through hole threads
EM../MQL	Rigid type, for minimum-quantity lubrication (MQL)	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..-U	With adjustable overload clutch	Blind hole threads
EM..-U/IKZ	With adjustable overload clutch, and internal coolant supply through channels along the tap/cold-forming tap shank.	Blind hole threads
EM..-L	With length adjustment	On multi-spindle heads and transfer lines
EM..-UL	With adjustable overload clutch and length adjustment	Blind hole threads on multi-spindle heads
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..-Z/MQL	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 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..-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

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

EMUGE quick-change adapter EM / PGR / IKZ

Operating instruction

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Please keep this for future use!

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