

zeus[®] PRODUCT RANGE

The background of the slide is a high-contrast, blue-toned photograph of various precision tools, including knurling wheels and form knurling tools, arranged in a way that suggests a product range. A dashed blue circle is drawn over the lower-left portion of the image, framing the product list.The Zeus logo is a blue square with the word 'zeus' in white lowercase letters above a stylized white 'W' shape.

--> KNURLING WHEELS

--> FORM KNURLING TOOLS

--> CUT KNURLING TOOLS

--> SPECIAL TOOLS

--> MARKING TOOLS

zeus® Knurling Technology



High quality standards towards consumer and industrial goods, especially in the premium segment, call for exceptional precision and surface quality of the knurling profile. Premium products require only too often a customized tool solution. As a result they stand out with a significant difference regarding visual and functional features compared to low-end products.

Hommel + Keller exceeds all of these expectations in every aspect with the premium brand zeus®. Individual product solutions bring forth superior final products, as for example control panels for the automotive industry or jewelry for the watch making industry.

Perfect precision, excellent visual appearance and first-class surface quality are the performance parameters for a superior knurling profile. zeus® knurling tools offer the decisive advance for your success.

Our mission is simple: We will exceed the expectations of our customers with innovative, application-oriented tools and customer-oriented service offerings.

Experience performance by passion: zeus® Knurling Technology.

Welcome!

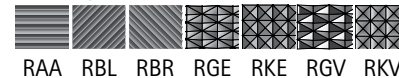


FORM KNURLING TOOLS zeus® RD1

The zeus® RD1 series for form knurling applications is the economic and user-friendly choice for producing all knurling profiles according to the DIN 82, as well as special profiles.

- The zeus® programme offers different tool types for all kinds of applications and machine types. The RD1 can also be used for the marking of turned-parts on auto-lathes.
- A further advantage: The knurling profile can start at any position of the work piece – a groove is not required.

Knurling profile on work piece:



FORM KNURLING TOOLS zeus® RD2

The zeus® RD2 series is the preferential choice for producing RGE profiles in axial tool direction. Working axially, the knurl width can be chosen according to any size required.

- The tool series offers many add-ons that simplify the tool handling. Due to its modular design, the RD2 is suitable for both right-hand and left-hand operations.
- A flexible shank system allows a conversion to different shank sizes for all swiss type auto-lathe versions.

Knurling profile on work piece:

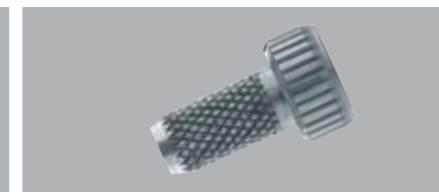
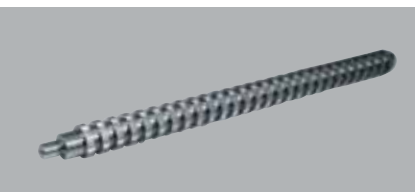


FORM KNURLING TOOLS zeus® RD3

The zeus® RD3 series for the axial machining of work pieces meets the high expectations towards rigidity and precision for processing very small work piece diameters.

- The RD3 is especially suitable for high precision turned-parts for the optical or watch industry, the medical industry or the electronic industry.
- The product series is suitable for straight and RGE knurling profiles.

Knurling profile on work piece:





CUT KNURLING TOOLS zeus® RF1

The first choice for knurling impressive RAA profiles! The cut knurling tool series RF1 stands for highest precision, excellent surface quality and maximum flexibility.

- The user-friendly tool setting in combination with a more stable design allow for increased process rigidity. Especially when processing difficult to machine materials!
- Due to the modular product concept a cost-efficient use on different machine types is possible.

Knurling profile on work piece:

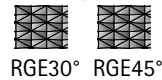


CUT KNURLING TOOLS zeus® RF2

Maximum rigidity, process stability and simplified handling: These are the advantages of the new RF2 cut knurling tool range, which is mainly suitable for manufacturing first-class RGE profiles.

- The serration between tool holder and cut knurling tool head provides extra rigidity and reduced wear on the knurling wheels.
- Setting aids for fine adjustment of the cut knurling head make the tool setting easy and offer increased process stability for exacting work pieces.

Knurling profile on work piece:

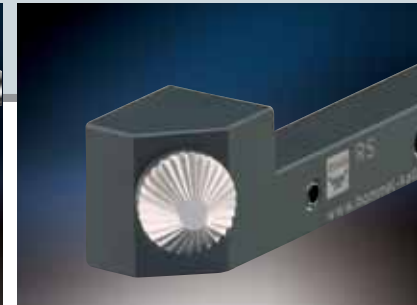
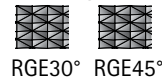


CUT KNURLING TOOLS zeus® RF3

The zeus® RF3 series is designed for the fine machining of very small and thin-walled work pieces in axial tool direction.

- The product series is suitable for producing RGE profiles with high demands on surface quality and dimensional accuracy.
- Due to the special design with three knurling wheels operating, the lateral pressure is reduced to a minimum. Typical applications are thin or pressure-sensitive parts, as for example spindles, tubes or delicate bushings.

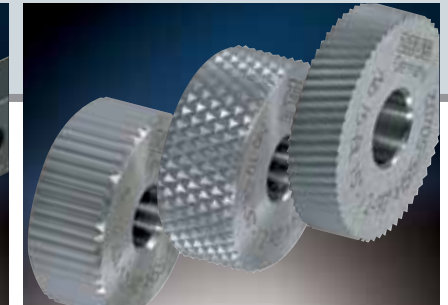
Knurling profile on work piece:



SPECIAL TOOLS zeus® RS

For special applications and product requirements, the zeus® tooling programme offers both efficient and application-oriented tool solutions.

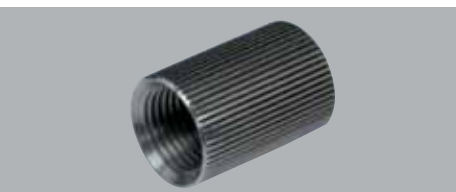
- Due to our long experience in tool development, customers will receive an individual knurling tool within a very short time.
- We offer partly standardized tools for frequent special request, like conical or face knurling, but can also develop a customized tool for very specific applications.



KNURLING WHEELS PREMIUM POWDERMETAL

With an unchallenged product variety for knurling wheels we have established ourselves as the market leader for knurling tools.

- Highest precision, long tool-life and a huge product depth for form and cut knurling wheels are the distinctive characteristics of the premium brand zeus®.
- Our product range contains special profiles and special forms. Customized knurling wheels are developed according to the specific application requirements within a short period of time.



zeus® MARKING TECHNOLOGY

The zeus® product range offers cost-effective and efficient solutions for the marking of turned-parts on autolathes. With these innovative tooling concepts, subsequent manual production steps for the marking are no longer required. As a consequence, the overall processing times and labour costs are substantially reduced.

The technique offers a wide range of applications for marking components with serial numbers, production dates, component ID's or logos.

Hommel + Keller has developed different tooling systems to meet different application requirements. The tool series zeus® MR 1 and zeus® MRS 1 allow the marking of different work piece diameters, whereas MC 1 and MCC 1 are designed for the continuous marking of the same diameter with higher speed rates.

Both applications have one thing in common: By integrating the marking into the production process, a reliable traceability of components is guaranteed. And what is even more important, production times and total piece costs can be reduced.

Leave a sign!
zeus® Marking tools.



MARKING TOOLS MC1

The continuous roll marking technique is the cost-effective marking solution for high volumes, high speed rates and process-safe results.

- Different types of markings with a horizontal or vertical text layout can be engraved. With further processing the driving knurl can be removed after the operation.



MARKING ROLLS



MARKING TOOLS MR1

Flexible and precise: The spring return marking system allows the marking of different work piece diameters. The marking is achieved through a partial revolution of the marking roll. After unwinding, the roll returns to its starting position by means of a spring.

- The main advantage of the spring return system lies in the flexible marking of different work pieces or product series. The programme includes tool versions for different machine types.

Each zeus® marking roll is individually manufactured according to the customers' requirements. Letters, logos or numbers are engraved with highest precision and care.

- Our know-how guarantees highest precision which is reflected by the quality of the marking on the end-part. The application possibilities are boundless.



MARKING TOOLS MRS1

The tool series MRS1 is also based on the spring return mechanism, but offers the additional advantage of combining and exchanging the individual segments according to requirement.

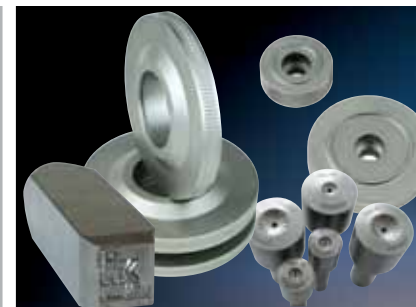
- Maximum flexibility in marking several work pieces, with differing texts and diameters is hence provided.



MARKING TOOLS MCC1

The special programme MCC covers marking tools for conical markings, markings on the front, up to a shoulder as well as application specific markings.

- Especially when developing customized tool solutions, we focus on application advantages, functionality and process stability.



ENGRAVING TECHNOLOGY STAMPS, PUNCH MARKERS, ROLLS

The zeus® engraving technology covers a wide range of applications. It includes manual stamps, circular stamps and engravings, marking rollers and machine stamps for labelling, branding and decorating turned-parts, work pieces and plates of a variety of materials.

- Each engraving tool is individually designed and manufactured. Typical engravings are logotypes, logos, production dates or decorative elements.