



MARKING TOOLS
MARKING ROLLS
ENGRAVING TECHNOLOGY



The premium-brand from Hommel+Keller

zeus® MARKING TECHNOLOGY

zeus® is a premium brand that stands for highest quality, precision, reliability and sustainability – virtues that play a more and more important role in the marking of consumable and investment goods today.

In virtually all industries, being able to mark parts with production and supplier data and batch numbers can make the difference between getting the contract or not. And it has more benefits, helping you to -

- Generate uninterrupted production records
- Distinguish between and track individual batches
- Track suppliers
- Reinforce your USP against competitors / no-name products

Based on practical case studies, Hommel + Keller have designed special tool systems that make it possible for you to mark your workpieces right on your standard lathe / machining centre. Because integrating the 'additional chore' right into the actual production process helps you to save a lot of time and money:

- No need anymore to take the workpiece out and put it on a different machine
- The operator does ALL the jobs on the same machine
- No more losses due to retooling and / or changeover
- Shorter production times
- Uniform marking of ALL workpieces
- No additional losses due to transport and storage
- No risk of mix-ups
- Average unit costs go down

zeus® marking systems adapt to any and all of your requirements, leaving no wishes unfulfilled:

- The **revolving system** was designed for all marking jobs involving large and medium-sized series that need to be fast, precise and economic.
- The **spring-return system** is perfect for flexible marking jobs involving parts of varying sizes and shapes. Different texts, numbers, characters can be set quickly and easily. No problem to mark workpieces all the way up to the collar. This is the economic solution for the marking of small, average and large series.

Leaving a lasting impression – with zeus® marking technology I



zeus® MARKING TECHNOLOGY

REVOLVING SYSTEM

The revolving system is particularly useful for large and middle-sized series. The marking roll is custom-built and adapted to the diameter of each individual workpiece. Thanks to the userfriendly mount system, operators can exchange the rolls quickly and easily so that the tool can be used for a broad range of different workpieces and markings.

TECHNICAL FEATURES:

- Marking rolls are specially built to match the diameter of the workpiece
- The roll's diameter is about 0.15 mm smaller than the diameter of the workpiece
- Multiple revolutions ensure perfect precision and definition of the impression
- Driving knurls provide for perfect revolutions
- Perfect concentricity is essential
- The workpiece diameter must be guaranteed with only minute tolerances (+/- 0.025)

BENEFITS FOR THE USER:

- Easy handling
- Fast and economic
- Suitable for large and medium-sized series
- Marking rolls can be easily exchanged
- Lateral driving knurls may be removed after marking
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc
- The reading direction may be flipped by flipping the roll 180 degrees

Please find more information concerning individual marking systems in the corresponding product descriptions and in the technical appendix.



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REVOLVING SYSTEM

TOOL SERIES MC1

Tools:

• 130-08/10/12/14/16/20



• 131-08/10/12/16



• 131-20/25



Marking rolls for MC1 series

• 40



• 40-A



TOOL SERIES MCC1 FOR TAPERED APPLICATIONS AND MARKING OF FACES

Tools:

• 311



• 312



Marking roll for MCC1 series

• 40-K



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SPRING-RETURN SYSTEM

The spring-return system offers a maximum of flexibility in all areas. You may use it for multiple workpieces with different diameters. Exchangeable marking segments facilitate inexpensive text changes. The easy and fast exchange of the entire segment mount / marking roll constitutes the last but not the least element of the multi-faceted profile of this system.

TECHNICAL FEATURES:

- It is not necessary to match the marking roll to the diameter of the workpiece
- Three driving points guarantee a perfect impression
- To generate the impression, the roll turns only once and only partly. It stops at the end of the text
- Unlike the revolving system, this technology requires a higher contact pressure because the desired depth of the impression must be achieved in one go

BENEFITS FOR THE USER:

- Tool may be used for multiple workpieces with varying diameters and shapes
- It is suitable for small, medium-sized and large series
- Diameter variances do not constitute a problem
- The marking roll may be (optionally) equipped with exchangeable text segment
- That means texts are flexible and may be adapted to multiple applications (e.g. consecutive serial numbers, production dates etc.)
- The T-shape of the segments allow texts to be reversed 180 degrees. That means texts may be applied in reverse direction of reading
- When you need a completely different text, you simply exchange the entire mount unit – quick and easy
- No problem to mark workpieces all the way up to the collar

Please find more information concerning individual marking systems in the corresponding product descriptions and in the technical appendix.



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RÜCKFEDERNDEN SYSTEM

TOOL SERIES MR1

Tools:

- 431-08/10/12/16 R150506-A
- 431-08/10/12/16 L150506-A



- 431-16/20/25 M250606



Marking roll for MR1 series

- 41



TOOL SERIES MR1 MARKING UP TO THE COLLAR

Tools:

- 432-08/10/12/16 R300818
- 432-16/20/25 R500838
- 432-08/10/12/16 L300818
- 432-16/20/25 L500838



Marking roll for MR1 series (up to the collar)

- 44



TOOL SERIES MRS1 WITH EXCHANGEABLE SEGMENTS

Tools:

- 431-16/20/25 M450606



Marking roll for MRS1 series

- 42



TOOL SERIES MRS1 WITH EXCHANGEABLE SEGMENTS – MARKING IS POSSIBLE UP TO THE COLLAR

Tools:

- 432-08/10/12/16 R300818
- 432-16/20/25 R500838
- 432-08/10/12/16 L300818
- 432-16/20/25 L500838



Marking roll for MRS1 series (up to the collar)

- 43



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MARKING ROLL # 40 REVOLVING SYSTEM

Marking roll # 40 is the roll of choice for large and medium-sized series with identical text / characters. Every roll is specially built to match the particular requirements of the application at hand.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 4/6/8/10 mm
- Max. character height: roll width minus 1 mm

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).



TECHNICAL FEATURES:

- The design of marking roll # 40 is based on the diameter of the workpiece.
- The roll's diameter is about 0.15 mm smaller than the diameter of the workpiece.
- There are special driving points / knurls that provide for the perfect revolving application of the marking. (See possible types of marking). Lateral driving knurls may be removed after marking.

BENEFITS FOR THE USER:

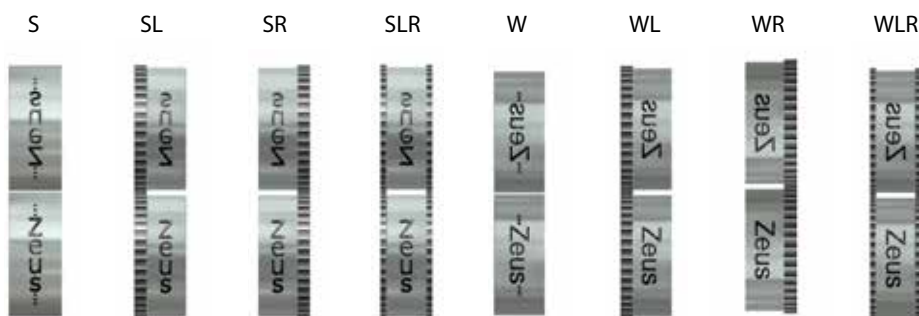
- Easy handling.
- Fast and economic.
- Suitable for series production.
- Marking rolls can be easily exchanged.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

FOR MARKING TOOLS:

Series MC1:

- 130-08/10/12/14
- 131-08/10/12/16
- 131-20/25

Possible types of marking:



Marking roll

Workpiece

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MARKING ROLL # 40-A REVOLVING SYSTEM

Marking roll # 40-A is also suitable for large and medium-sized series – and sports an additional feature that allows the operator to exchange individual characters. This may be useful when workpieces must be marked with batch numbers or production dates.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 4/6/8/10 mm
- Max. character height: roll width minus 1 mm

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).

TECHNICAL FEATURES:

- The design of marking roll # 40-A is based on the diameter of the workpiece.
- The roll's diameter is about 0.15 mm smaller than the diameter of the workpiece.
- There are special driving points / knurls that provide for the perfect revolving application of the marking. (See possible types of marking).
- Marking rolls may be equipped with one or several pins bearing different characters. That means texts are flexible and may be adapted to multiple applications (e.g. consecutive serial numbers etc.). Lateral driving knurls may be removed after marking.

BENEFITS FOR THE USER:

- Easy handling.
- Fast and economic.
- Suitable for series production.
- Exchange the entire roll; or exchange individual characters.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

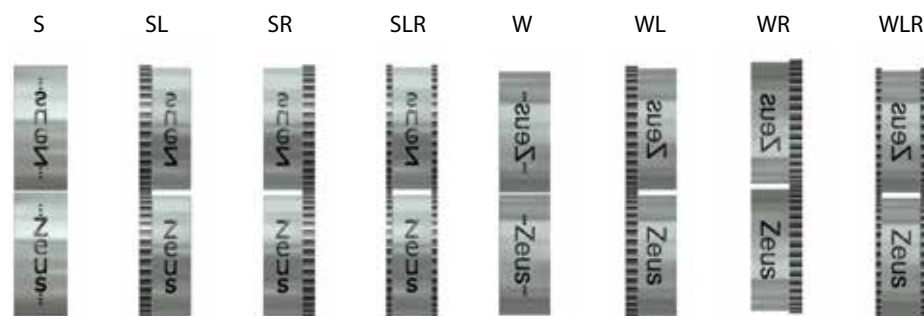


FOR MARKING TOOLS:

Series MC1:

- 130-08/10/12/14
- 131-08/10/12/16
- 131-20/25

Possible types of marking:



Marking roll

Workpiece

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MARKING ROLL # 40-K REVOLVING SYSTEM

Marking roll # 40-K has been designed for marking tapered workpieces and flat faces. This roll guarantees fully impressed, high-precision impressions on special workpieces.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: depends on customer's application
- Max. character height: depends on customer's application

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).



TECHNICAL FEATURES:

- The design of marking roll # 40-K is based on the diameter of the workpiece.
- The roll's diameter is about 0.15 mm smaller than the diameter of the workpiece.
- There are special driving points / knurls that provide for the perfect revolving application of the marking. (See possible types of marking). Lateral driving knurls may be removed after marking.

BENEFITS FOR THE USER:

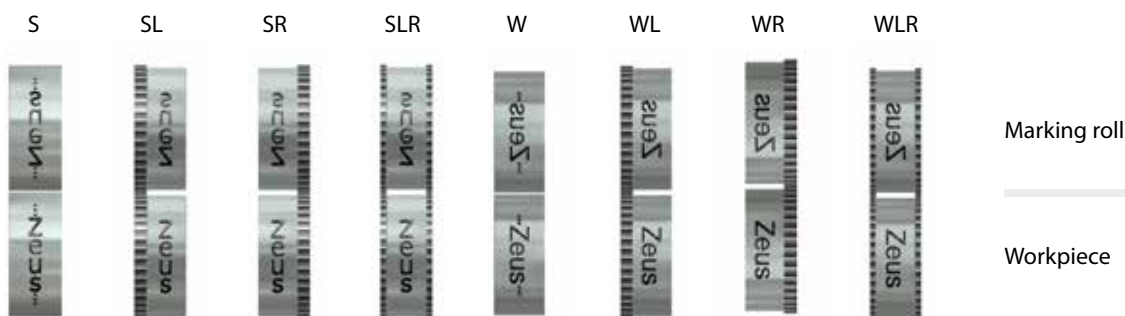
- Easy handling.
- Fast and economic.
- Suitable for series production.
- Marking rolls can be easily exchanged.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

FOR MARKING TOOLS:

Series MCC1:

- 311
- 312

Possible types of marking:



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MARKING ROLL # 41 SPRING-RETURN SYSTEM

Marking roll # 41 is suitable for marking multiple workpieces with varying diameters.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 5 mm, 6 mm
- Max. character height: roll width minus 1 mm

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).



TECHNICAL FEATURES:

- The design of marking roll # 41 is INDEPENDENT of the workpiece diameter.
- There are three driving points that guarantee the perfect impression depth. (See possible types of marking).
- Basically, it is absolutely possible to work without driving points. In that case, however, we cannot guarantee for a perfect depth and definition of the impression from the first to the last character.
- Driving points may be placed to the side of the characters.
- Full depth and definition are accomplished in one go.

BENEFITS FOR THE USER:

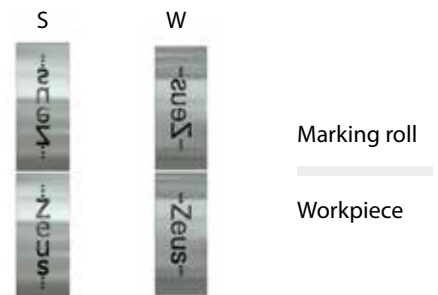
- This roll is especially versatile because it's INDEPENDENT of the workpiece diameter.
- Workpiece diameter tolerances do not constitute a problem.
- Marking is possible at high speed.
- Marking rolls can be easily exchanged.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

FOR MARKING TOOLS:

Series MR1:

- 431-08/10/12/16 R150506-A
- 431-08/10/12/16 L150506-A
- 431-16/20/25 M250606

Possible types of marking:



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MARKING ROLL # 44 SPRING-RETURN SYSTEM

Marking roll # 44 is suitable for marking multiple workpieces with varying diameters. Marking all the way up to the collar is possible.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 8 mm
- Max. character height: 7 mm (roll width minus 1 mm)

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).



TECHNICAL FEATURES:

- The design of marking roll # 44 is INDEPENDENT of the workpiece diameter.
- There are three driving points that guarantee the perfect impression depth. (See possible types of marking).
- Basically, it is absolutely possible to work without driving points. In that case, however, we cannot guarantee for a perfect depth and definition of the impression from the first to the last character.
- Driving points may be placed to the side of the characters.
- Full depth and definition are accomplished in one go.

BENEFITS FOR THE USER:

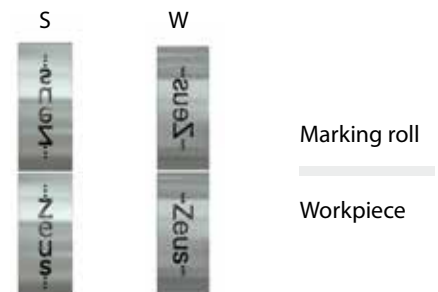
- This roll is especially versatile because it's INDEPENDENT of the workpiece diameter.
- Suitable for markings all the way up to the collar.
- Workpiece diameter tolerances do not constitute a problem.
- Marking is possible at high speed.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

FOR MARKING TOOLS:

Series MR1:

- 431-08/10/12/16 R300818
- 431-08/10/12/16 L300818
- 432-16/20/25 R500838
- 432-16/20/25 L500838

Possible types of marking:



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MARKING ROLL # 42 SPRING-RETURN SYSTEM

Marking roll # 42 is suitable for marking multiple workpieces with varying diameters. Exchangeable segments make it possible to match this flexible roll to multiple applications.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 5 mm, 6 mm
- Max. character height: roll width minus 1 mm

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).

TECHNICAL FEATURES:

- The design of marking roll # 42 is INDEPENDENT of the workpiece diameter.
- Segments may be exchanged individually.
- There are three driving points that guarantee the perfect impression depth. (See possible types of marking).
- Basically, it is absolutely possible to work without driving points. In that case, however, we cannot guarantee for a perfect depth and definition of the impression from the first to the last character.
- Driving points may be placed to the side of the characters.
- Full depth and definition are accomplished in one go.

BENEFITS FOR THE USER:

- This roll is especially versatile because it's INDEPENDENT of the workpiece diameter.
- Exchangeable segments make it possible to match this roll to multiple applications - a fast, flexible and economic solution.
- Workpiece diameter tolerances do not constitute a problem.
- Marking is possible at high speed.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

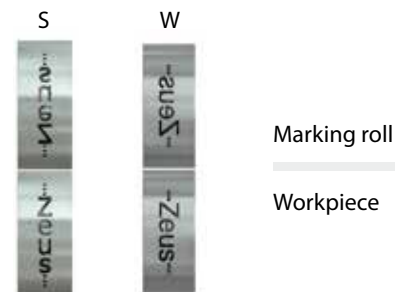
FOR MARKING TOOLS:

Series MRS1:

- 431-16/20/25 M450606



Possible types of marking:



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MARKING ROLL # 43 SPRING-RETURN SYSTEM

Marking roll # 43 is particularly versatile. The exchangeable segments make it possible to match this flexible roll to multiple applications. What is more, it can produce markings that go all the way to the collar.

STANDARD DESIGN:

- Material: 1.2436
- Hardness: 61 – 63 HRC
- Flank angle: 90°
- Typeface: DIN 1451
- Roll width: 8 mm
- Max. character height: 7 mm (roll width minus 1 mm)

Deviations from standard design are optionally available (i.e. different materials, flank angles, typefaces and roll widths).

TECHNICAL FEATURES:

- The design of marking roll # 43 is INDEPENDENT of the workpiece diameter.
- Segments may be exchanged individually.
- There are three driving points that guarantee the perfect impression depth. (See possible types of marking).
- Basically, it is absolutely possible to work without driving points. In that case, however, we cannot guarantee for a perfect depth and definition of the impression from the first to the last character.
- Driving points may be placed to the side of the characters.
- Full depth and definition are accomplished in one go.

BENEFITS FOR THE USER:

- This roll is especially versatile because it's INDEPENDENT of the workpiece diameter.
- Exchangeable segments make it possible to match this roll to multiple applications – a fast, flexible and economic solution.
- Suitable for markings all the way up to the collar.
- Workpiece diameter tolerances do not constitute a problem.
- Marking is possible at high speed.
- Special characters may be used instead of driving knurls, e.g. logos, backslashes, stars, diamonds etc.
- The reading direction may be flipped by flipping the roll 180 degrees.

FOR MARKING TOOLS:

Series MRS1:

- 432-08/10/12/16 R300818
- 432-08/10/12/16 L300818
- 432-16/20/25 R500838
- 432-16/20/25 L500838



Possible types of marking:



zeus® MARKING TOOL 130:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.

APPLICATION

- Revolving system: depends on workpiece diameter.
- Roll concludes several revolutions to apply the complete impression.
- The roll maintains surface contact during the entire process.
- All types of markings are possible.
- Lateral driving knurls / points may be removed after marking.



EFFICIENCY AND COST EFFECTIVENESS

- Easy handling.
- Cost efficiency: parts are machined quickly at high speeds.
- Suitable for large series of specific parts with identical text.
- Text can be applied at feedrate all the way down to final impression depth.
- Marking rolls are easy to replace.
- Tool mount may be used for driving knurl applications.
- Special surface hardening for increased wear resistance.
- Carbide axle pins: higher speeds, faster machining, longer tool life.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn39Pb3
Lathe: STAR SR20

APPLICATION PARAMETERS:

Tool: 130-14U150804-A
Marking roll: # 40
Speed: $V_c = 45 \text{ m/min}$
Feedrate: $F = 0,15 \text{ mm}$
Special feature: Driving knurls were removed after marking (cropping)

ZEUS® MARKING TOOL 130:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.



Type of lathe: Conventional – suitable for all common lathes. In particular:

- > Manual / automatic / cam-controlled lathes
- > Swiss-type lathes
- > Short-bed lathes
- > Multi-spindle lathes

Application: --> Revolving system: Marking depends on workpiece diameter
 --> Standard impression depth: 0.15 mm (relative to Ø). Deeper impression is possible.
 --> Max. character height: 5 mm (angle $\alpha = 90^\circ$).
 --> Standard roll width: 4/6/8/10 mm, different widths are possible with special mounts

Features: --> Center height can be adjusted.
 --> Special surface hardening for increased wear resistance
 --> Carbide axle pins

ORDER EXAMPLE:

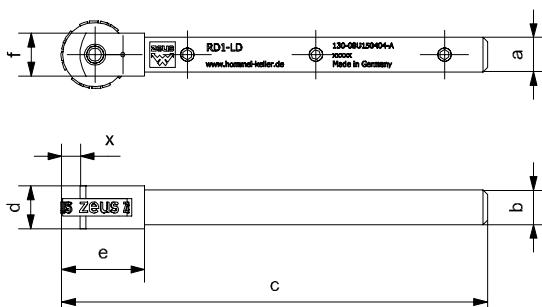
Tool mount # 130-12 U 250606-A
 Product series 130-12 U
 Shank size 12 x 12 mm
 Universal
 Type A
 Dimensions of roll: 25 x 6 x 6 (dia. x width x bore)

For marking roll # 40:



TOOL TYPES:

Tool mount #	a mm	b mm	c mm at Ø 15 at Ø 25	d mm	e mm at Ø 15 at Ø 25	f mm	x mm at Ø 15 at Ø 25	Dimensions Marking roll mm Ø x w x b	Spare parts Pins
130-08U150404-A	8	8	99	10	19	10	4	10/15 x 4 x 4	06TER0972
130-08U150604-A	8	8	99	14	19	10	4	10/15 x 6 x 4	06TER0974
130-10U150404-A	10	10	99	10	-	10	4	10/15 x 4 x 4	06TER0972
130-10U150604-A	10	10	99	14	19	10	4	10/15 x 6 x 4	06TER0974
130-10U250806-A	10	10	110,5	16	30,5	16	5,5	20/25 x 8 x 6	06TER0980
130-12U150404-A	12	12	99	12	-	12	4	10/15 x 4 x 4	06TER0973
130-12U250606-A	12	12	110,5	14	30,5	14	5,5	20/25 x 6 x 6	06TER0979
130-12U250806-A	12	12	110,5	16	30,5	16	5,5	20/25 x 8 x 6	06TER0980
130-14U150604-A	14	14	99	14	-	14	4	10/15 x 6 x 4	06TER0974
130-14U250606-A	14	14	110,5	14	-	14	5,5	20/25 x 6 x 6	06TER0979
130-16U250806-A	16	16	110,5	16	-	16	5,5	20/25 x 8 x 6	06TER0980
130-20U251006-A	20	20	110,5	20	-	20	5,5	20/25 x 10 x 6	06TER0982
130-20U251506-A	20	25	110,5	25	-	20	5,5	20/25 x 15 x 6	06TER0983



HM pin

zeus® MARKING TOOL 131:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.

APPLICATION

- Revolving system: depends on workpiece diameter.
- Roll concludes several revolutions to apply the complete impression.
- The roll maintains surface contact during the entire process.
- All types of markings are possible.
- Lateral driving knurls / points may be removed after marking.



EFFICIENCY AND COST EFFECTIVENESS

- Easy handling.
- Cost efficiency: parts are machined quickly at high speeds.
- Suitable for large series of specific parts with identical text.
- Text can be applied at feedrate all the way down to final impression depth.
- Marking rolls are easy to replace.
- Tool mount may be used for driving knurl applications.
- Special surface hardening for increased wear resistance.
- Carbide axle pins: higher speeds, faster machining, longer tool life.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: 1.4305
Lathe: Index G200

APPLICATION PARAMETERS:

Tool: 131-16U150606-A
Marking roll: # 40
Speed: $V_c = 40$ m/min
Feedrate: $F = 0,15$ mm

ZEUS® MARKING TOOL 131:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.



- Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:
--> Swiss-type lathes
- Application: --> Revolving system: Marking depends on workpiece diameter
--> Standard impression depth: 0.15 mm (relative to Ø). Deeper impression is possible
--> Max. character height: 5 mm (angle $\alpha = 90^\circ$)
--> Standard roll width: 4 mm; different widths are possible with special mounts
- Features: --> Center height is integrated in tool mount
--> Special surface hardening for increased wear resistance
--> Carbide axle pins

ORDER EXAMPLE:

Tool mount # 131-12 R 150404-A

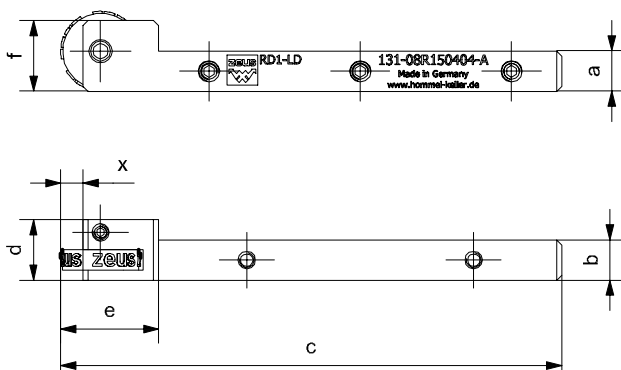
Product series 131-12 R 150404-A
Shank size 12 x 12 mm
Right design
Type A
Dimensions of roll: 15 x 4 x 4 (dia. x width x bore)

For marking roll # 40:



TOOL TYPES:

Tool mount #	a mm	b mm	c mm at Ø15	d mm	e mm at Ø15	f mm	x mm at Ø15	Dimensions Marking roll mm Ø x w x b	Spare parts Axle pins
131-08L150404-A	8	8	99	12	19	18	4	10/15 x 4 x 4	06TER0960
131-08R150404-A	8	8	99	12	19	18	4	10/15 x 4 x 4	06TER0960
131-10L150404-A	10	10	99	12	19	20	4	10/15 x 4 x 4	06TER0960
131-10R150404-A	10	10	99	12	19	20	4	10/15 x 4 x 4	06TER0960
131-12L150404-A	12	12	99	12	19	22	4	10/15 x 4 x 4	06TER0960
131-12R150404-A	12	12	99	12	19	22	4	10/15 x 4 x 4	06TER0960
131-16L150404-A	16	16	99	12	19	26	4	10/15 x 4 x 4	06TER0960
131-16R150404-A	16	16	99	12	19	26	4	10/15 x 4 x 4	06TER0960



06TER0960

zeus® MARKING TOOL 131:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.

APPLICATION

- Revolving system: depends on workpiece diameter.
- Roll concludes several revolutions to apply the complete impression.
- The roll maintains surface contact during the entire process.
- All types of markings are possible.
- Lateral driving knurls / points may be removed after marking.



EFFICIENCY AND COST EFFECTIVENESS

- Easy handling.
- Cost efficiency: parts are machined quickly at high speeds.
- Suitable for large series of specific parts with identical text.
- Text can be applied at feedrate all the way down to final impression depth.
- Marking rolls are easy to replace.
- Tool mount may be used for driving knurl applications.
- Special surface hardening for increased wear resistance.
- Carbide axle pins: higher speeds, faster machining, longer tool life.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn38Pb1.5
Lathe: STAR SR32

APPLICATION PARAMETERS:

Tool: 131-20U250806-A
Marking roll: # 40
Speed: $V_c = 45$ m/min
Feedrate: $F = 0,17$ mm
Special feature: Driving knurls were removed after marking (cropping)

ZEUS® MARKING TOOL 131:

THE CLASSIC – USER-FRIENDLINESS AND UNBEATABLE EFFICIENCY FOR LARGE SERIES.



- Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:
- Universal / short-bed lathes
 - Lathing / milling centres
 - Multi-spindle lathes
- Application:
- Revolving system: Marking depends on workpiece diameter
 - Standard impression depth: 0.15 mm (relative to Ø). Deeper impression is possible
 - Max. character height: 5 mm (angle $\alpha = 90^\circ$).
 - Standard roll width: 20/25 mm, different widths are possible with special mounts
- Features:
- Center height is integrated in tool mount
 - Special surface hardening for increased wear resistance
 - Carbide axle pins

ORDER EXAMPLE:

Tool mount # 131-20 U 250806-A

Product series 131-20 U 250806-A

Shank size 20 x 20 mm

Universal

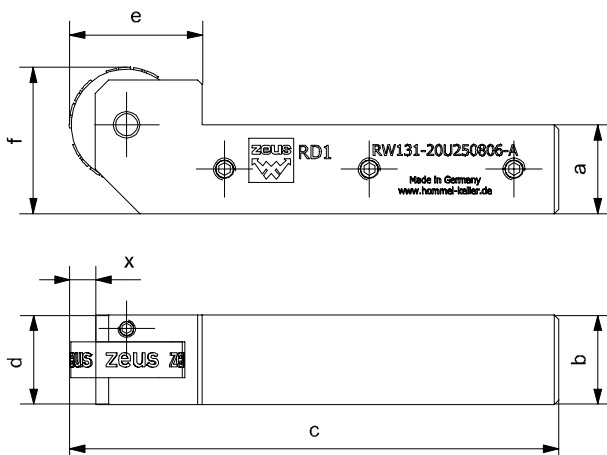
Type A

Dimensions of roll: 25 x 8 x 6 (dia. x width x bore)

TOOL TYPES:

Tool mount #	a mm	b mm	c mm at Ø 25	e mm at Ø 25	f mm at Ø 25	x mm at Ø 25	Dimensions Marking roll mm Ø x w x b	Spare parts Axle pins
131-20U250806-A	20	20	109,5	29,5	32,5	5,5	20/25 x 8 x 6	06TER0965
131-25U250806-A	25	20	109,5	29,5	37,5	5,5	20/25 x 8 x 6	06TER0965

For marking roll # 40:



06TER0960

zeus® MARKING TOOL 431-15:

THE COMPACT SOLUTION FOR VARIABLE DIAMETERS.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Precise positioning of characters on workpiece circumference.
- Centre height corresponds to first marking point.
- Marking positions can be set as desired.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- A screw secures axle pin and plate: for a quick replacement of the marking roll.
- Special surface hardening for increased wear resistance.
- Play of the marking roll is adjustable.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn38Pb2
Lathe: TAKAMATZ X 100

APPLICATION PARAMETERS:

Tool: 431-16L150506-A
Marking roll: # 41
Speed: $V_c = 5 \text{ m/min}$
Feedrate: $F = \text{Fast}$
Special feature: Logos replace drive points



zeus® MARKING TOOL 431-15:

THE COMPACT SOLUTION FOR VARIABLE DIAMETERS.



Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:

- Swiss-type lathes
- Universal / short-bed lathes
- Lathing / milling centres
- Multi-spindle lathes
- Rotary lathes (workpiece is fixed and tool revolves)

Application: → Spring-return system: Marking is independent of workpiece diameter.

- Max. impression depth is 0.15 mm (relative to Ø).
- Max. character height: 4 mm (angle $\alpha = 90^\circ$).
- Standard roll width: 5 mm; different widths are possible (up to 6.5 mm).

Features: → Center height is integrated in tool mount

- Shank is modular to provide for retrofitting other shank dimensions
- A screw secures axle pin and plate: the marking roll can be easily replaced
- Play of the roll is adjustable
- Replace spring to flip turning direction
- Special surface hardening for increased wear resistance

ORDER EXAMPLE:

Tool mount # 431-12 R 150506-A

Product series 431-12 R 150506-A

Shank size 12 x 12 mm

Right design

Type A

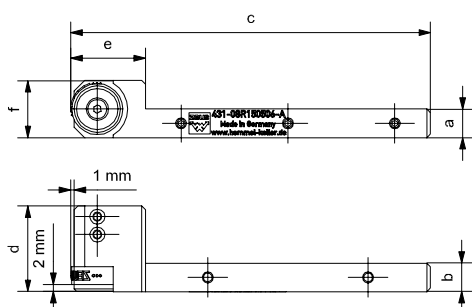
Dimensions of roll: 15 x 5 x 6 (dia. x width x bore)

For marking roll # 41:



TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm $\phi \times w \times b$	Spare parts Axle pins	Spare parts Spiral springs
431-08L150506-A	8	8	101	24	21	16	15 x 5 x 6	06TER0419	06TER0420
431-08R150506-A	8	8	101	24	21	16	15 x 5 x 6	06TER0419	06TER0421
431-10L150506-A	10	10	101	24	21	18	15 x 5 x 6	06TER0419	06TER0420
431-10R150506-A	10	10	101	24	21	18	15 x 5 x 6	06TER0419	06TER0421
431-12L150506-A	12	12	101	24	21	20	15 x 5 x 6	06TER0419	06TER0420
431-12R150506-A	12	12	101	24	21	20	15 x 5 x 6	06TER0419	06TER0421
431-16L150506-A	16	16	101	24	21	24	15 x 5 x 6	06TER0419	06TER0420
431-16R150506-A	16	16	101	24	21	24	15 x 5 x 6	06TER0419	06TER0421



zeus® MARKING TOOL 431-25:

THE COMPACT SOLUTION FOR VARIABLE DIAMETERS.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Precise positioning of characters on workpiece circumference.
- Centre height corresponds to first marking point.
- Play of the marking roll is adjustable.
- Marking positions can be set as desired.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Special surface hardening for increased wear resistance.
- The reading direction may be flipped by flipping the roll 180 degrees.
- A screw secures axle pin and plate: for a quick replacement of the marking roll.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn38Pb2
Lathe: STAR SR 20

APPLICATION PARAMETERS:

Tool: 431-16M250606
Marking roll: # 41
Speed: $V_c = 42$ m/min
Feedrate: $F = 0,13$ mm
Special feature: No driving points



ZEUS® MARKING TOOL 431-25:

THE COMPACT SOLUTION FOR VARIABLE DIAMETERS.



- Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:
- > Universal / short-bed lathes
 - > Lathing / milling / machining centres
 - > Multi-spindle lathes
 - > Rotary lathes (workpiece is fixed and tool revolves)
- Application: --> Spring-return system: Marking is independent of workpiece diameter
- > Max. impression depth is 0.15 mm (relative to Ø).
 - > Max. character height: 5 mm (angle $\alpha = 90^\circ$).
 - > Standard roll width: 6 mm; different widths are possible (up to 10 mm)
- Features: --> Centre height is integrated in tool mount
- > A screw secures axle pin and plate: for quick replacement of the marking roll
 - > To flip the reading direction flip the roll 180 degrees
 - > Play of the roll is adjustable
 - > Special surface hardening for increased wear resistance

ORDER EXAMPLE:

Tool mount # 431-20 M 250606

Product series 431-20

Shank size 20 x 20 mm 25

Modular M

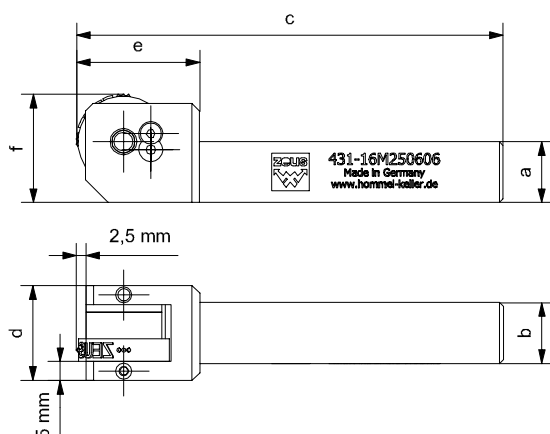
Dimensions of roll: 25 x 6 x 6 (dia. x width x bore)

For marking roll # 41:



TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm Ø x w x b	Spare parts Axle pins	Spare parts Spiral springs
431-16M250606	16	16	112,5	25	32,5	28,5	25 x 6 x 6	21BHR0705	06TER0422 (left application), 06TER0423 (right application)
431-20M250606	20	20	112,5	25	32,5	32,5	25 x 6 x 6	21BHR0705	06TER0422 (left application), 06TER0423 (right application)
431-25M250606	25	25	112,5	25	32,5	37,5	25 x 6 x 6	21BHR0705	06TER0422 (left application), 06TER0423 (right application)



zeus® MARKING TOOL 431-45:

THE SOLID SOLUTION WITH EXCHANGEABLE SEGMENTS.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Precise positioning of characters on workpiece.
- Centre height corresponds to first marking point.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Flip the reading direction simply by flipping the segment roll 180 degrees.
- Flexible adaptation of texts thanks to simple replacement of segments.
- Flip the turning direction by replacing the return spring.
- Special surface hardening for increased wear resistance.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.



APPLICATION EXAMPLE:



APPLICATION:

Material: 1.1725
Lathe: INDEX G160

APPLICATION PARAMETERS:

Tool: 431-25M450606
Marking segment roll: # 42
Speed: $V_c = 25 \text{ m/min}$
Feedrate: $F = 0,15 \text{ mm}$
Special feature: Driving points only at the beginning and end.

zeus® MARKING TOOL 431-45:

THE SOLID SOLUTION WITH EXCHANGEABLE SEGMENTS.



- Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:
- > Universal / short-bed lathes
 - > Lathing / milling centres
 - > Multi-spindle lathes
- Application:
- > Spring-return system: Marking is independent of workpiece diameter
 - > Max. impression depth is 0.15 mm (relative to Ø).
 - > Max. character height: 5 mm (angle $\alpha = 90^\circ$).
 - > Standard roll width: 6 mm; different widths are possible (up to 7 mm)
- Features:
- > Centre height is integrated in tool mount
 - > A screw secures axle pin and plate: for a quick replacement of the marking roll
 - > To flip the reading direction flip the roll 180 degrees
 - > Flip the turning direction by replacing the return spring
 - > Special surface hardening for increased wear resistance

ORDER EXAMPLE::

Tool mount # 431-20 M 450606-A

Product series 431-20 M 450606-A Type A

Shank size 20 x 20 mm Dimensions of roll: 45 x 6 x 6

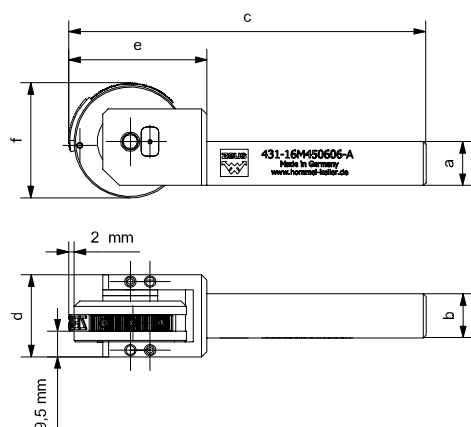
Modular Dimensions of roll: 45 x 6 x 6 (dia. x width x bore)

For marking segment roll # 42:



TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm ø x w x b	Spare parts Axle pins	Spare parts Spiral springs
431-16M450606-A	16	16	134	30	54	45	45 x 6 x 6	21BHR0706	06TER0422 (left application), 06TER0423 (right application)
431-20M450606-A	20	20	134	30	54	45	45 x 6 x 6	21BHR0706	06TER0422 (left application), 06TER0423 (right application)
431-25M450606-A	25	25	134	30	54	47,5	45 x 6 x 6	21BHR0706	06TER0422 (left application), 06TER0423 (right application)



21BHR0706



06TER0422



06TER0423

zeus® MARKING TOOL 432-30 WITH MARKING SEGMENTS:

MARK WORKPIECES ALL THE WAY UP TO THE COLLAR – CONVINCING FLEXIBILITY FOR THE SWISS-TYPE LATHE.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Marking is possible all the way up to the collar.
- Precise positioning of characters on workpiece circumference.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Symmetrical T-segments: flip the reading direction simply by flipping the segments 180 degrees.
- Flip the direction of rotation by exchanging the mount unit.
- Fast retooling thanks to simple exchange of mount unit.
- Positioning of spring return adjustable for 4 x 90° / 2 x 180° / 8 x 45°. That means the tool can be used with multiple texts simultaneously.
- Special surface hardening for increased wear resistance.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.
- Suitable for use with marking rolls and / or segment rolls.



PROCESS RELIABILITY

- Segments are 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.



APPLICATION EXAMPLE:



APPLICATION:

Material: 1.4301
Lathe: MAZAK QUICK TURN NEXUS

APPLICATION PARAMETERS MRS1:

Tool: 432-20L300818-90°
Marking segment: # 43
Speed: C-axis via twisting angle
Feedrate: 0.12 mm/rev.
Special feature: positioning along Z-axis, marking along X-axis

ZEUS® MARKING TOOL 432-30 WITH MARKING SEGMENTS:

MARK WORKPIECES ALL THE WAY UP TO THE COLLAR – CONVINCING FLEXIBILITY FOR THE SWISS-TYPE LATHE.



- Type of lathe: Conventional and CNC – suitable for all common types of lathes. In particular:
- Swiss-type lathes
 - Multi-spindle lathes
- Application:
- Spring-return system: Marking independent of workpiece diameter
 - Marking up to collar
 - Max. impression depth: 0.15 mm (relative to dia.)
 - Max. character height: 7 mm (angle $\alpha = 90^\circ$).
- Features:
- Centre height is integrated in tool mount
 - Shank is modular to provide for retrofitting other shank dimensions
 - Segments are easily exchangeable
 - Mount unit has transverse bores for selecting starting positions
 - Special surface hardening for increased wear resistance

For marking segment roll # 43:

- Segments are exchangeable to provide for different applications
- Symmetrical T-segments: reading direction may be flipped



ORDER EXAMPLE:

Tool mount # 432-12 R 300818-A

Product series 432-12 R

Shank size 12 x 12 mm

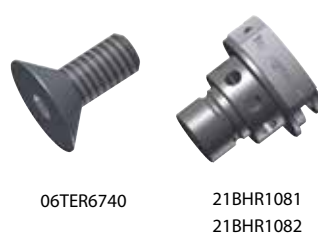
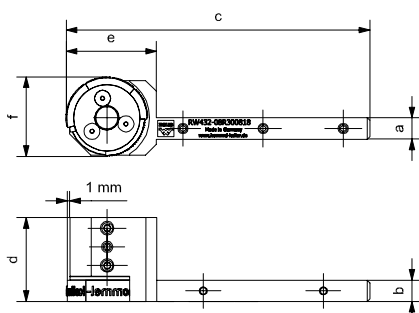
Right design

Type A

Marking segment roll – dimensions: 30 x 8 x 18 (Ø x width x bore)

TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm Ø x w x b	Spare parts Countersunk bolt	Mount unit
432-08L300818	8	8	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-08R300818	8	8	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-10L300818	10	10	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-10R300818	10	10	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-12L300818	12	12	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-12R300818	12	12	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-16L300818	16	16	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-16R300818	16	16	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081



zeus® MARKING TOOL 432-30 WITH MARKING ROLL:

MARK WORKPIECES ALL THE WAY UP TO THE COLLAR – CONVINCING FLEXIBILITY FOR THE SWISS-TYPE LATHE.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Marking is possible all the way up to the collar.
- Precise positioning of characters on workpiece circumference.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Symmetrical T-roll: flip the reading direction simply by flipping the roll 180 degrees.
- Flip the direction of rotation by exchanging the mount unit.
- Fast retooling thanks to simple exchange of mount unit. The reading direction may be flipped by flipping the roll 180 degrees.
- Positioning of spring return adjustable for $4 \times 90^\circ / 2 \times 180^\circ / 8 \times 45^\circ$. That means the tool can be used with multiple texts simultaneously.
- Special surface hardening for increased wear resistance.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.
- Suitable for use with marking rolls and / or segment rolls.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.



APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn37Pb2
Lathe: MAZAK QUICK TURN 20

APPLICATION PARAMETERS MR1:

Tool: 432-16L300818
Marking roll: # 44
Speed: $V_c = 5 \text{ m/min}$
Feedrate: $F = \text{Fast}$

zeus® MARKING TOOL 432-30 WITH MARKING ROLL:

MARK WORKPIECES ALL THE WAY UP TO THE COLLAR – CONVINCING FLEXIBILITY FOR THE SWISS-TYPE LATHE.



- Type of lathe: Conventional and CNC – suitable for all common lathes. In particular:
- > Swiss-type lathes
 - > Multi-spindle lathes
- Application:
- > Spring-return system: Marking independent of workpiece diameter
 - > Marking up to collar
 - > Max. impression depth: 0.15 mm (relative to dia.)
 - > Max. character height: 7 mm (angle $\alpha = 90^\circ$).
- Features:
- > Centre height is integrated in tool mount
 - > Shank is modular to provide for retrofitting other shank dimensions
 - > Mount unit is easily exchangeable
 - > Mount unit with transverse bores for selecting starting positions
 - > Special surface hardening for increased wear resistance

For marking roll # 44:

- > Symmetrical T-marking roll: reading direction may be flipped



ORDER EXAMPLE:

Tool mount # 432-12 R 300818-A

Product series 432-12 R 300818-A

Shank size 12 x 12 mm

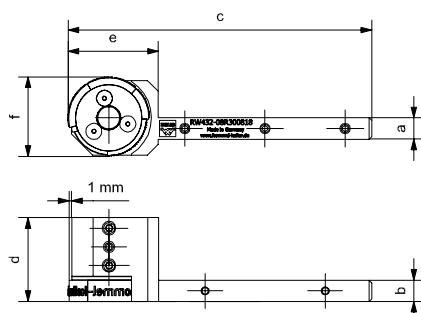
Right design

Type A

Marking segment roll - dimensions: 30 x 8 x 18 (Ø x width x bore)

TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm Ø x w x b	Spare parts Countersunk bolt	Mount unit
432-08L300818	8	8	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-08R300818	8	8	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-10L300818	10	10	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-10R300818	10	10	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-12L300818	12	12	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-12R300818	12	12	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081
432-16L300818	16	16	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1082
432-16R300818	16	16	113	31,5	32,5	28	30 x 8 x 18	06TER6740	21BHR1081



06TER6740



21BHR1081
21BHR1082

zeus® MARKING TOOL 432-50 WITH MARKING SEGMENTS:

THE INNOVATIVE SOLUTION – CONVINCING FLEXIBILITY THANKS TO MARKING SEGMENT ROLLS.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Marking is possible all the way up to the collar.
- Precise positioning of characters on workpiece circumference.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Symmetrical T-segments: flip the reading direction simply by flipping the segments 180 degrees.
- Flip the direction of rotation by exchanging the mount unit.
- Flexible adaptation of texts thanks to simple replacement of segments.
- Fast retooling thanks to simple exchange of mount unit.
- Positioning of spring return adjustable for $4 \times 90^\circ / 2 \times 180^\circ / 8 \times 45^\circ$. That means the tool can be used with multiple texts simultaneously.
- Special surface hardening for increased wear resistance.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.
- Suitable for use with marking rolls and / or segment rolls.



PROCESS RELIABILITY

- Marking segments / rolls are 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.



APPLICATION EXAMPLE:



APPLICATION:

Material: 1.4305
Lathe: MAZAK QUICKTURN NEXUS

APPLICATION PARAMETERS MRS1:

Tool: 432-20L500838
Marking segment roll: # 44
Speed: C-axis via twisting angle
Feedrate: 0.12 mm/rev.
Special feature: positioning along X-axis, marking along C-axis

ZEUS® MARKING TOOL 432-50 WITH MARKING SEGMENTS:

THE INNOVATIVE SOLUTION – CONVINCING FLEXIBILITY THANKS TO MARKING SEGMENT ROLLS.



- Type of lathe: Conventional and CNC – suitable for all common lathes. In particular:
- > Universal / short-bed lathes
 - > Lathing / milling centres
 - > Multi-spindle lathes
- Application: --> Spring-return system: Marking independent of workpiece diameter
- > Marking up to collar
 - > Max. impression depth: 0.15 mm (relative to dia.).
 - > Max. character height: 7 mm (angle $\alpha = 90^\circ$).
- Features: --> Centre height is integrated in tool mount
- > Shank is modular to provide for retrofitting other shank dimensions
 - > Segment mount unit / segment can be easily exchanged
 - > Segment mount unit has transverse bores for selecting starting positions
 - > Special surface hardening for increased wear resistance

ORDER EXAMPLE:

Tool mount # 432-16 R 500838

Product series 432-16 R

Shank size 16 x 16 mm

Right design

Marking segment roll – dimensions: 50 x 8 x 18 (Ø x width x bore)

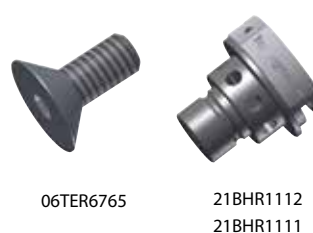
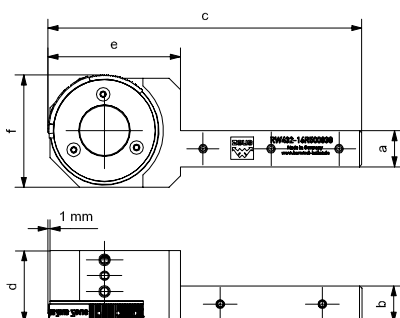
For marking segment roll # 43:

- > Segments are exchangeable to provide for different applications
- > Symmetrical T-segments: reading direction may be flipped



TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm $\phi \times w \times b$	Spare parts Countersunk bolt	Mount unit
432-16L500838	16	16	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1112
432-16R500838	16	16	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1111
432-20L500838	20	20	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1112
432-20R500838	20	20	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1111
432-25L500838	25	25	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1112
432-25R500838	25	25	139	39.6	59	50.5	50 x 8 x 38	06TER6765	21BHR1111



zeus® MARKING TOOL 432-50 WITH MARKING ROLL:

THE INNOVATIVE SOLUTION FOR CONVINCING FLEXIBILITY.

APPLICATION

- Spring-return marking system: suitable for multiple workpiece diameters.
- Marking is possible all the way up to the collar.
- Precise positioning of characters on workpiece circumference.



EFFICIENCY AND COST EFFECTIVENESS

- Suitable for multiple workpiece diameters.
- Desired depth is reached at fast speed.
- Full revolution of roll is not required.
- Fast retooling thanks to simple exchange of mount unit.
- Positioning of spring return adjustable for $4 \times 90^\circ / 2 \times 180^\circ / 8 \times 45^\circ$. That means the tool can be used with multiple texts simultaneously.
- Symmetrical T-roll: flip the reading direction simply by flipping the roll 180 degrees.
- Flip the direction of rotation by exchanging the mount unit.
- Special surface hardening for increased wear resistance.



MODULAR PRODUCT CONCEPT

- Modular shank design for cost-efficient deployment with all common CNC and cam-controlled Swiss-type lathes.
- Suitable for use with marking rolls and / or segment rolls.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- Precise positioning of the tool.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: CuZn35Pb1.0
Lathe: INDEX G300

APPLICATION PARAMETERS:

Tool: 432-20L500838
Marking roll: # 44
Speed: C-axis via twisting angle
Feedrate: 0.12 mm/rev.
Special feature: Convex marking; positioning along X-axis, marking along C-axis



zeus® MARKING TOOL 432-50 WITH MARKING ROLL:

THE INNOVATIVE SOLUTION FOR CONVINCING FLEXIBILITY.



- Type of lathe: Conventional and CNC – suitable for all common lathes. In particular:
- Universal / short-bed lathes
 - Lathing / milling centres
 - Multi-spindle lathes
- Anwendung: → Spring-return system: Marking is independent of workpiece diameter
- Marking up to collar
 - Max impression depth: 0.15 mm (relative to Ø).
 - Max. character height: 7 mm (angle $\alpha = 90^\circ$).
- Features:
- Center height is integrated in tool mount
 - Shank is modular to provide for retrofitting other shank dimensions
 - Mount unit is easily exchangeable
 - Mount unit has transverse bores for selecting starting positions
 - Special surface hardening for increased wear resistance

ORDER EXAMPLE:

Werkzeughalter No. 432-16 R 500838

Product series
Shank size 16 x 16 mm
Right design
Marking segment roll – dimensions:
50 x 8 x 18 (Ø x width x bore)

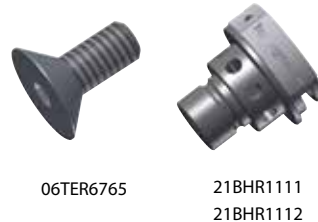
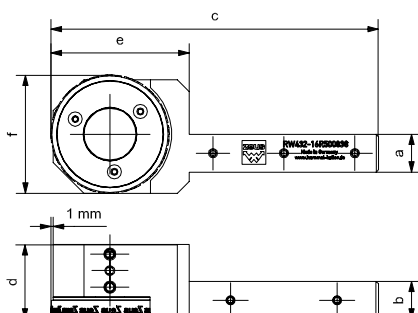
For marking roll # 44:

- Symmetrical T-roll:
reading direction may be flipped



TOOL TYPES:

Tool mount #	a mm	b mm	c mm	d mm	e mm	f mm	Dimensions Marking roll mm Ø x w x b	Spare parts Countersunk bolt	Mount unit
432-16L500838	16	16	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1112
432-16R500838	16	16	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1111
432-20L500838	20	20	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1112
432-20R500838	20	20	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1111
432-25L500838	25	25	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1112
432-25R500838	25	25	139	39,6	59	50,5	50 x 8 x 38	06TER6765	21BHR1111



zeus® MARKING TOOL MCC 311:

THE SPECIAL SOLUTION FOR TAPERED PARTS AND FLAT FACES.

APPLICATION

- Revolving system: depends on workpiece diameter.
- Marking is possible on flat faces and tapered parts.
- Roll concludes several revolutions to apply the complete impression.
- All types of markings are possible. Lateral driving knurls / points may be removed after marking.



EFFICIENCY AND COST EFFECTIVENESS

- Easy handling.
- Cost efficiency: parts are machined quickly at high speeds.
- Suitable for large series of specific parts with identical text.
- Text can be applied at feedrate all the way down to final impression depth.
- Marking rolls are easy to replace.
- Tool mount may be used for driving knurl applications.
- Special surface hardening for increased wear resistance.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- 100 % reproducibility.



zeus® MARKING TOOL MCC 311:

THE SPECIAL SOLUTION FOR TAPERED PARTS AND FLAT FACES.



- Type of lathe: Tool must be adapted to specific machine
- Anwendung: --> Revolving system: Marking depends on workpiece diameter.
 --> Standard impression depth: 0.15 mm (relative to Ø). Deeper impression is possible
 --> Max. character height: 5 mm (angle $\alpha = 90^\circ$).
- Features: --> Special surface hardening for increased wear resistance

For marking roll # 40-K:



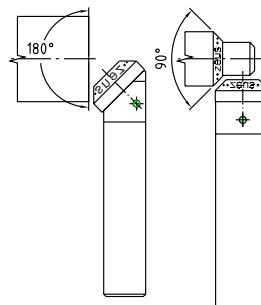
EXAMPLES

■ Marking flat faces

If you want to apply text to a flat face, you must go to the calculated position of the pitch circle diameter.

■ Marking tapered faces

You must match the pitch circle diameter of the marking roll to the desired position on the workpiece.



zeus® MARKING TOOL MCC 312:

THE SPECIAL SOLUTION FOR TAPERED AND FLAT FACES.

APPLICATION

- Revolving system: depends on workpiece diameter.
- For marking tapered parts.
- Roll concludes several revolutions to apply the complete impression.
- All types of markings are possible. Lateral driving knurls / points may be removed after marking.



EFFICIENCY AND COST EFFECTIVENESS

- Easy handling.
- Cost efficiency: parts are machined quickly at high speeds.
- Suitable for large series of specific parts with identical text.
- Text can be applied at feedrate all the way down to final impression depth.
- Marking rolls are easy to replace.
- Tool mount may be used for driving knurl applications.
- Special surface hardening for increased wear resistance.
- Carbide axle pins: higher speeds, faster machining, longer tool life.



PROCESS RELIABILITY

- Text is 'rolled' onto the workpiece consistently.
- High dimensional accuracy.
- 100 % reproducibility.

APPLICATION EXAMPLE:



APPLICATION:

Material: 11SMn30+C
Lathe: TAKAMATZ XY 2000

APPLICATION PARAMETERS:

Tool: 312-20R151604-19° S
Marking roll: # 40-K
Speed: $V_c = 45 \text{ m/min}$
Feedrate: $F = 0,15 \text{ mm}$
Special feature: Tapered faces



zeus® MARKING TOOL MCC 312:

THE SPECIAL SOLUTION FOR TAPERED AND FLAT FACES.



- Type of lathe: Tool must be adapted to specific machine
- Anwendung: --> Revolving system: Marking depends on workpiece diameter.
 --> Standard impression depth: 0.15 mm (relative to Ø). Deeper impression is possible
 --> Max. character height: 5 mm (angle $\alpha = 90^\circ$).
- Features: --> Special surface hardening for increased wear resistance

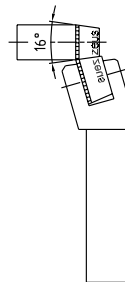
For marking roll # 40-K:



EXAMPLE

■ Marking tapered faces

You must match the pitch circle diameter of the marking roll to the desired position on the workpiece.



zeus® ENGRAVING TECHNOLOGY

ROLLS / DRUMS
STAMPS
EMBOSSING DIES
SPECIAL ENGRAVING



zeus® ENGRAVING TECHNOLOGY

MAKE YOUR MARK!

Wherever you want it. Individual and unique.

Stamping tools are essential in everyday industrial operations. Whether you stamp your product with a number, your logo or a decorative element – zeus® engraving technology will make it unmistakably yours. We develop the customized solution for your requirements. There is no limit to the diversity of possible applications.

As an essential quality criterion we offer you state-of-the-art heat and surface treatment, in addition to ultra-quality high-tech PVD coatings in our competence centre together with H+K Härteund Oberflächentechnik GmbH and H+K Surface Technology GmbH. This allows us to manufacture products with excellent material properties and above-average stability.

The material, dimensions and quality requirements are based on your individual application.

An exemplary selection of our products is shown on the following pages.



zeus® ENGRAVING TECHNOLOGY

ROLLS / DRUMS

SCRIBING ROLLS

Marking and labelling of turned parts.



SEGMENT ROLLS

Marking and labelling of turned parts with flexibly replaceable text and symbol modules.



EMBOSSING ROLLS

Embossing of bar stock.



EMBOSSING DRUMS

Embossing and printing of various materials, such as leather and textiles.

Embossing drums are provided with raised or recessed lettering, as needed.



zeus® ENGRAVING TECHNOLOGY

STAMPS

HAND STAMPS

Marking of various materials for identification, numbering or decoration.

The texts / symbols are applied in mirror image and are then legible after being stamped into the material. Your individual logos and symbols are manufactured exactly to your specifications.



MACHINE STAMPS

Embossing of all types of materials.

In comparison with hand stamps, the machine stamps are designed on the shank end with a journal or threads for mounting on the machine. Our machine stamps are hardened and tempered to suit the application. Production is based on your requirements and drawings.



SEGMENT STAMPS

Labelling with variable segments, which you can combine / supplement as needed.

The segment stamps are manufactured individually to customer specifications.



EMBOSSING STAMPS

Individual marking of your products by cold or warm stamping.



zeus® ENGRAVING TECHNOLOGY

EMBOSSING DIES

BLIND AND RELIEF STAMPS

Surface embossing of various materials for the final touch.

Our blind and relief stamps will give your paper, cardboard, leather or wood products that something extra to make them stand apart.



SHEET METAL STAMPS

The sheet metal stamp consists of a top and bottom die and is suitable for raised or recessed embossing of sheet metal.



PRINTING PLATES

Printing plates or paper embossing tools made of brass for finishing your products.

Give your high-quality packages / products an exquisite finish. We manufacture printing plates and embossing tools that are exactly customized for your requirements.



zeus® ENGRAVING TECHNOLOGY

SPECIAL ENGRAVING

For marking of complex surfaces we will be glad to develop an individual solution. Based on your data and drawings we will develop and deliver the right tool, also for exceptionally complex applications.



We look forward to your challenges.
Please address inquiries to:

Phone: +49 (0) 7424 / 9705 - 0
E-Mail: info@hommel-keller.de

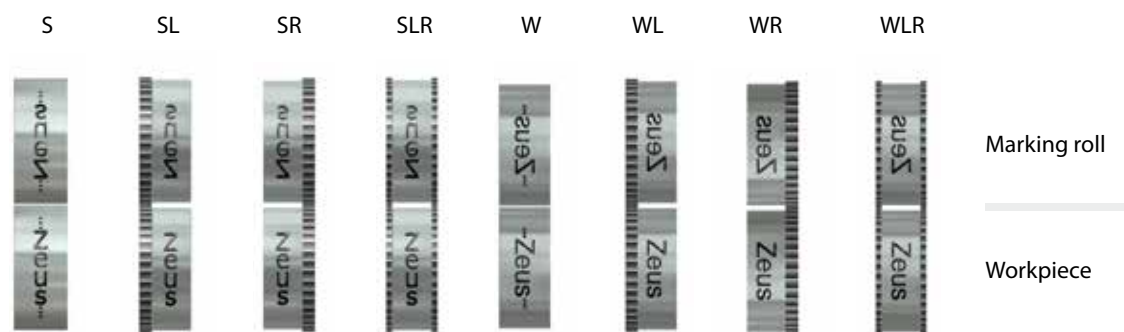
TECHNICAL APPENDIX – REVOLVING SYSTEM

MARKING ROLL – SPECIFICATIONS

1. TYPEFACES

- Standard typeface accor. to DIN 1451
- For other typefaces, logos and special characters: please call.
- For logos and special characters, we need a .dxf file or other type of suitable model.

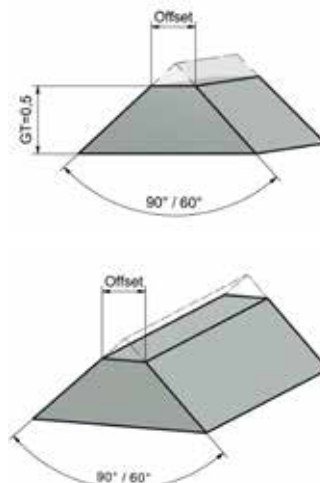
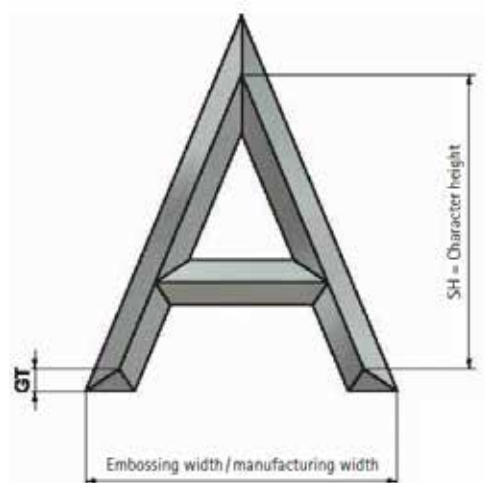
2. POSSIBLE TYPES OF MARKING / DRIVING KNURLS



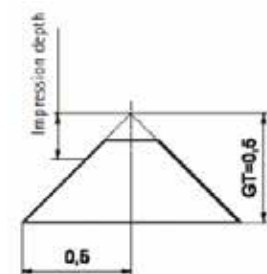
- Driving knurls may be removed in a final machining step (cropping, finishing, chamfering etc).

3. CHARACTER HEIGHT / EMBOSING WIDTH

- The height and width of the characters on the roll do not correspond 1:1 to the impression left on the workpiece. Overmeasure for character height and width depending on the flank angle α :
Typeface flank angle is 90° -> embossing width = character width and / or height + 1 mm
Typeface flank angle is 60° -> embossing width = character height + 0.6 mm
- Standard offset = 0.01 mm approx.; special designs up to 0.5 mm are possible depending on materials, impression, depth and customer's wishes.



GT = Embossing depth
GB = Embossing width
SH = Character height
PT = Impression depth
OS = Offset



4. CHARACTER SPACING

- Proper motion of marking rolls requires that spacing between characters does not exceed a certain maximum which depends on the character height and marking roll diameter:
Roll diameter = 15 mm: 6° (max. spacing 0.7 mm approx.)
Roll diameter = 25 mm: 7° (max. spacing 1.5 mm approx.)

5. MARKING ROLL / WORKPIECE DIAMETER INTERRELATIONS

- The revolving system requires a certain relationship between the diameter of the roll and the diameter of the workpiece.
- A workpiece diameter between 10 and 70 mm will require a 1:1 relationship with the workpiece diameter.
- Outside this range, the marking roll diameter will have to be adapted to the workpiece 1:n or n:1.
- The diameter of the roll is about 0.15 mm smaller than the diameter of the workpiece.

PRACTICAL GUIDANCE

1. PREPARING THE WORKPIECE

- Perfect concentricity is essential.
- The diameter of the workpiece must be very precise (max. tolerance: ± 0.025).

2. IMPRESSION DEPTH

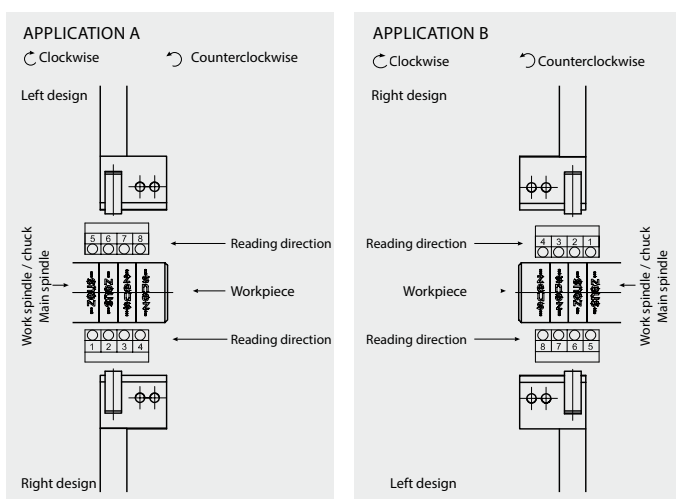
- The standard impression depth is 0.075 mm relative to the radius / 0.15 mm relative to the diameter.
- Deeper impressions are possible (about 0.35 mm max. – depending on diameter and character height).
- Impression depths exceeding the recommended max. values may cause character distortions.

3. MARKING AS PART OF THE MACHINING PROCESS

- The position of the driving knurl on the workpiece should be taken into consideration during planning and design. That way, the driving knurl may be removed during machining, in one go, right after marking.
- There is a danger that weak parts of the workpiece are deformed during marking. We recommend marking to be carried out on the strong parts of the workpiece and / or before the critical machining steps.

4. READING DIRECTION

- The marking roll may be flipped 180 degrees to flip the direction of reading.



TECHNICAL APPENDIX – SPRING-RETURN SYSTEM

MARKING ROLL – SPECIFICATIONS

1. TYPEFACES

- Standard typeface accor. to DIN 1451
- For other typefaces, logos and special characters: please call.
- For logos and special characters, we need a .dxf file or other type of suitable model.

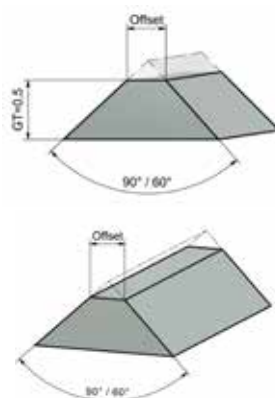
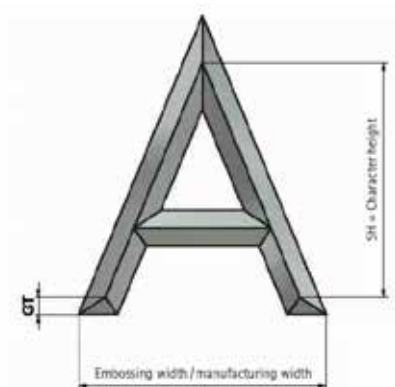
2. POSSIBLE TYPES OF MARKING / DRIVING KNURLS



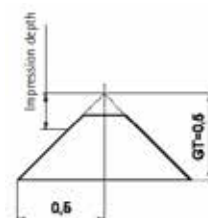
- The standard design has the driving points in the centre of the roll.
- Of course, they may be placed to the side of the characters, if so requested.
- Driving points located to the left or right of the characters may be removed in a final machining step (cropping, finishing, chamfering etc).

3. CHARACTER HEIGHT / EMBOSSED WIDTH

- The height and width of the characters on the roll do not correspond 1:1 to the impression left on the workpiece. Over-measure for character height and width depending on the flank angle α :
Typeface flank angle is 90° -> embossing width = character width and / or height + 1 mm
Typeface flank angle is 60° -> embossing width = character height + 0.6 mm
- Standard offset = 0.01 mm approx.; special designs up to 0.5 mm are possible depending on materials, impression, depth and customer's wishes.
- The standard design has the characters in the centre of the segment. For different solutions: please call.



GT = Embossing depth
GB = Embossing width
SH = Character height
PT = Impression depth
OS = Offset



4. CHARACTER SPACING

- Proper motion of marking rolls requires that spacing between characters does not exceed a certain maximum which depends on the character height and marking roll diameter:
 Roll diameter = 15 mm: 6° (max. spacing 0.7 mm approx.)
 Roll diameter = 25 mm: 7° (max. spacing 1.5 mm approx.)

5. MARKING ROLL / WORKPIECE DIAMETER INTERRELATIONS

- The spring-return system does NOT require any specific relationship between the diameter of the roll and the diameter of the workpiece.

PRACTICAL GUIDANCE

1. PREPARING THE WORKPIECE

- Workpiece diameter variances do not constitute a problem.

2. IMPRESSION DEPTH

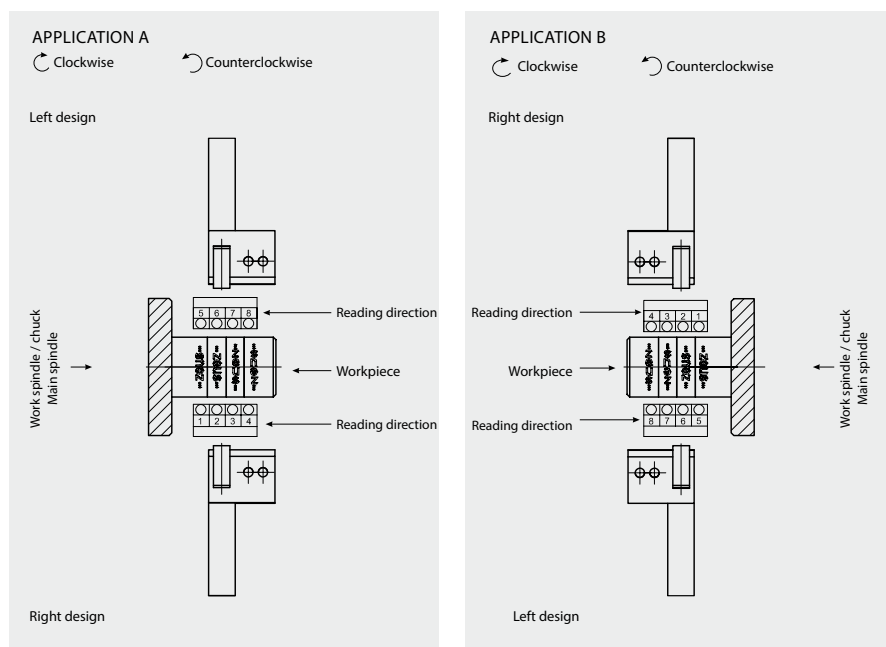
- The standard impression depth is 0.075 mm relative to the radius / 0.15 mm relative to the diameter.
- Deeper impressions are possible (about 0.35 mm max. – depending on diameter and character height).
- Impression depths exceeding the recommended max. values may cause character distortions.

3. MARKING AS PART OF THE MACHINING PROCESS

- The position of the driving points on the workpiece should be taken into consideration during planning and design. The driving points may be removed during machining, in one go, right after marking.
- There is a danger that weak parts of the workpiece are deformed during marking. We recommend marking to be carried out on the strong parts of the workpiece and / or before the critical machining steps.

4. READING DIRECTION

- The marking roll may be flipped 180 degrees to flip the direction of reading.



zeus® MARKING TECHNOLOGY

TECHNICAL APPENDIX
OVERVIEW TABLE

Tool #	Possible- locations on workpiece	Marking roll #	Roll ø	Roll width (mm, standard)	Max. width of special rolls (mm)	Shank size	Shank size (adaptable)	Centre height integrated into tool mount?	Max. spacing between characters (mm)	Max. length of mar- king (mm)	Flip reading direction by flipping roll 180 degrees?	Modify turning direction by exchanging spring?	Marking possible up to collar?	Material pin	Mount suitab- le for knurling?
revolving															
130	circumference	40/40-A	15	4/6/8/10	*1	8/10/12/14	no	no	about 0,7 (6°)	47	yes	no	no	VHM	yes
131	circumference	40/40-A	15	4	*1	8	10/12/16	yes	about 0,7 (6°)	47	yes	no	no	VHM	yes
311	face and chamfer	40-K	accor. to specs	accor. to specs	accor. to specs	accor. to specs	no	yes	depends on design	depends on design	no	no	no	HSS	yes
312	face and chamfer	40-K	accor. to specs	accor. to specs	accor. to specs	accor. to specs	no	yes	depends on design	depends on design	no	no	no	VHM	yes
spring return with roll															
431-15	circumference, face, surface	41	15	5	6,5	8	10/12/16/20/25	yes	about 0,78 (6°)	about 39 (300")	no	yes	no	HSS	no
431-25	circumference, face, surface	41	25	6	10	16/20/25	no	yes	about 1,5 (7°)	about 66,5 (305")	yes	yes	no	HSS	no
432-30	circumference, face, surface	44	30	8	12	8	10/12/16	yes	about 1,8 (7°)	about 78 (303") - about 9,5 (45") when split in 8	yes	yes	yes	HSS	no
432-50	circumference, face, surface	44	50	8	12	16	20/25	yes	about 2,9 (7°)	133 (309") 16,5 when split in 8	yes	yes	yes	HSS	no
spring retrun with segments															
432-30	circumference, face, surface	43	30	8	12	8	10/12/16	yes	about 1,8 (7°)	about 78 (303") - about 9,5 (45") when split in 8	yes	yes	yes	HSS	no
431-45	circumference, face, surface	42	45	6	7	16/20/25	no	yes	about 2,1 (6°)	about 119 (305")	yes	yes	no	HSS	no
432-50	circumference, face, surface	43	50	8	12	16	20/25	yes	about 2,9 (7°)	133 (309") 16,5 when split in 8	yes	yes	yes	HSS	no

All values given in the table are based on our standard specs: embossing depth = 0.5 mm, embossing / manufacturing width = 1 mm. Typeface is based on DIN 1451.

*1 Standard value may be increased about 1 mm. Different sizes are possible but require special mounts.

ZEUS® MARKING TECHNOLOGY

TECHNICAL APPENDIX GUIDELINES FOR MARKING SPEED AND FEEDRATES

REVOLVING SYSTEM

Material	Vc (m/min)	F (mm/U)
feed machining steel	30	0,1 - 0,15
stainless steel	25	0,08 - 0,12
brass	40	0,1 - 0,15
aluminium	35	0,1 - 0,15

SPRING-RETURN SYSTEM

1. APPROACH WHILE WORKPIECE IS IN ROTATION

Material	Vc (m/min)	F (mm/U)
feed machining steel	5	fast
stainless steel	5	fast
brass	5	fast
aluminium	5	fast

2. APPROACH WHILE WORKPIECE IS STANDING

1. Spindle is standing still
2. Feed in roll.
3. Run spindle slowly.
4. Feed out roll.

IMPORTANT:

All information given here is INDICATIVE. Best values must be checked out during practical tests.
Be sure to provide for good cooling / lubrication.
Impression depth: The standard impression depth is 0.075 mm relative to the radius / 0.15 mm relative to the diameter.

zeus® MARKING TECHNOLOGY

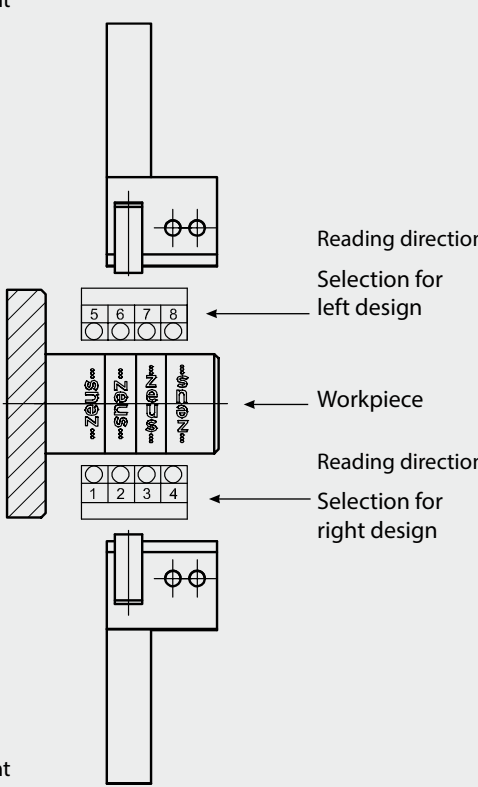
CUSTOMER'S SPECIFICATIONS FORM

In order to prepare the best possible offer for you, we need some details concerning your specific application.
Please use the following drawings to determine your application:

APPLICATION A

Rotation
☐ Clockwise ☐ Counterclockwise

Selecting a mount
☐ Left design



Work spindle / chuck
Main spindle →

Reading direction
Selection for left design

Workpiece

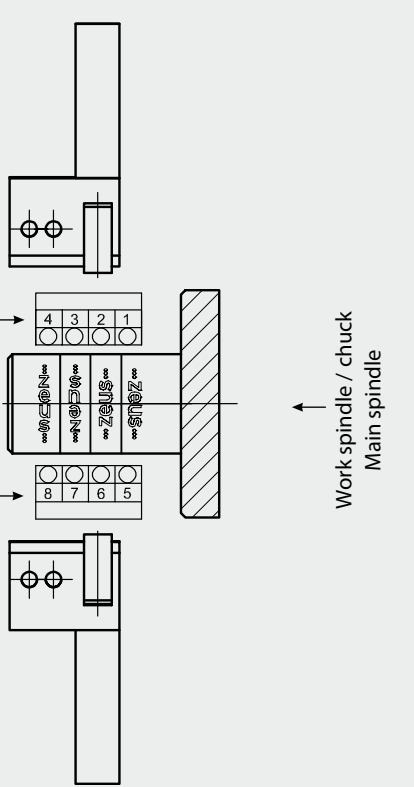
Reading direction
Selection for right design

Selecting a mount
☐ Right design

APPLICATION B

Rotation
☐ Clockwise ☐ Counterclockwise

Selecting a mount
☐ Right design



Reading direction
Selection for right design

Workpiece

Reading direction
Selection for left design

Work spindle / chuck
← Main spindle

Selecting a mount
☐ Left design

FURTHER DETAILS:

Character height (mm): _____

Marking roll ☐ Marking segments ☐

Dimensions of marking roll / marking segments

(Ø x width x bore) mm _____ x _____ x _____

Character height: _____

Typeface:

☐ Standard 1 (DIN 1451 medium)

☐ Standard 2 (DIN 1451 narrow)

☐ Proprietary: _____

Text: _____

Logo: ☐ Please send us your logo as .dxf file.



PRÄZISIONSWERKZEUGE