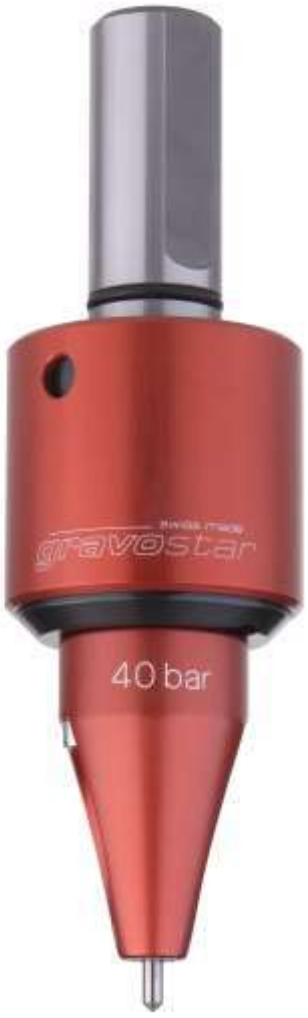
gravostar W-20

The needle oscillation the gravostar W-20 tool type is generated by the coolant of the ICS. All functional elements of the pulse control system are integrated in the tool. As soon as the tool internal cooling system is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle actuation via internal tool cooling system
  (required coolant pressure approx. 10 - 50 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

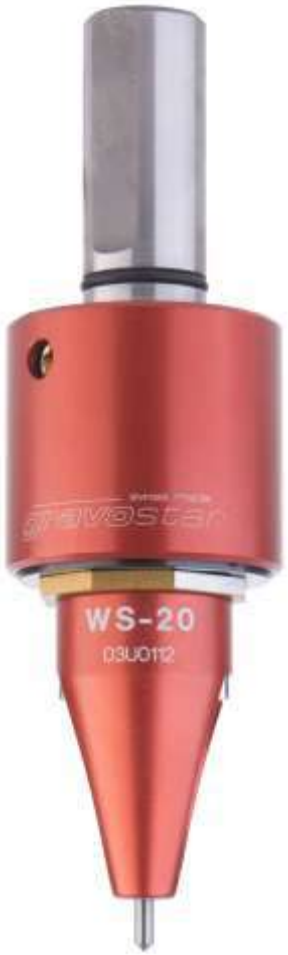
- Integrated, automatic distance compensation up to approx. 0.5 mm
  (Regular marking depth also of uneven marking surfaces)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar WS-20

The needle oscillation the gravostar WS-20 tool type is generated by the coolant of the ICS. All functional elements of the pulse control system are integrated in the tool. As soon as the tool internal cooling system is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual markings of any workpieces
with large irregularities or dimensional differences such as rough casting parts etc.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle actuation via internal tool cooling system
  (required coolant pressure approx. 5 - 50 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

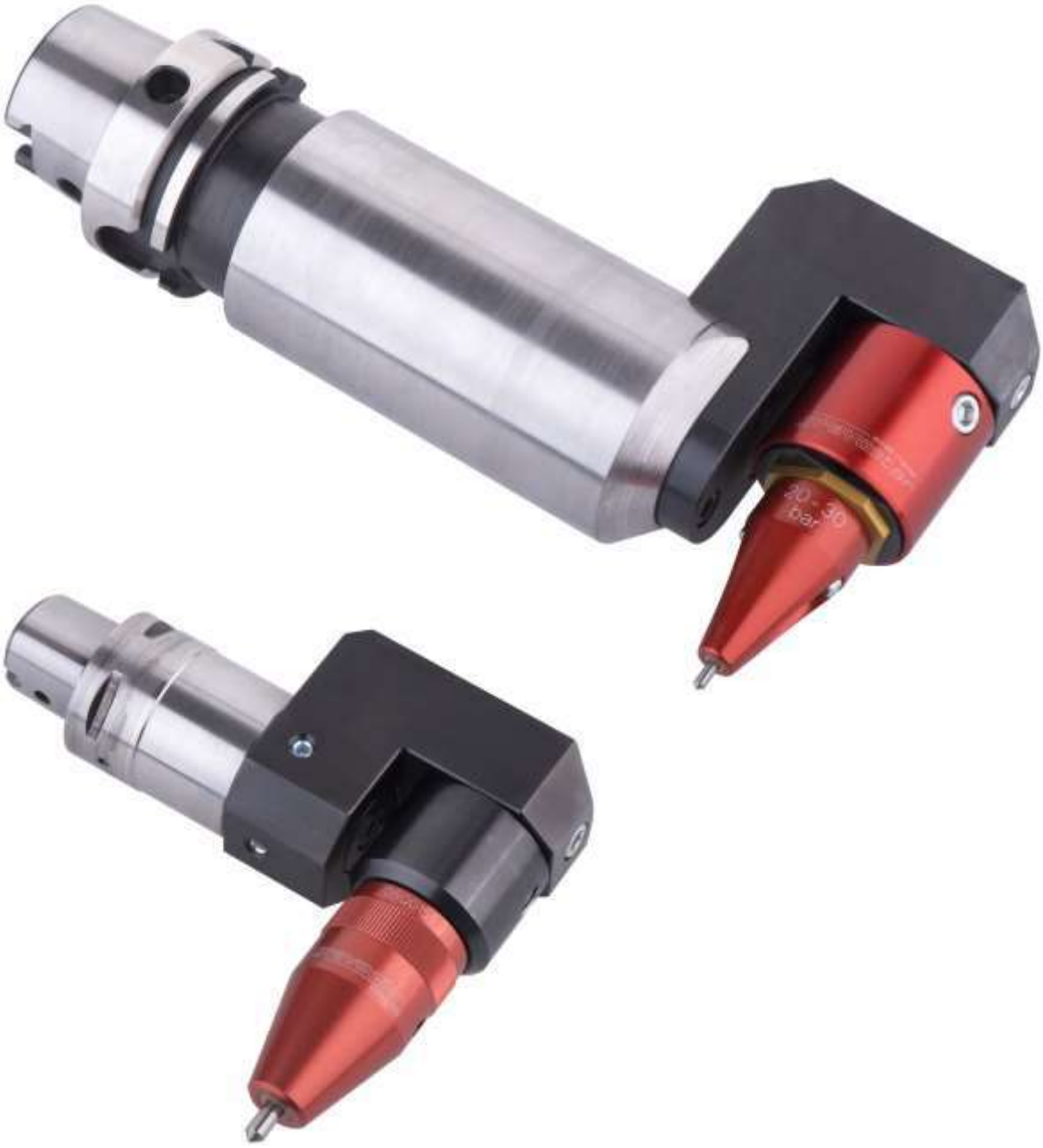
Tool specifications

- Integrated, automatic distance compensation up to approx. 3 mm
  (Regular marking depth also of uneven marking surfaces)
- The amount of distance compensation on the tool is adjustable
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar with angle tool holders

Various special holders with appropriate holders are available for applications where the marking has to be carried out at an angle to the machine axis. These applications, which are usually customer-specific, can be equipped with coolant or compressed air operated micropercussion tools or scratching or ball point marking tools depending on the respective requirements.

Below is a sample with tool holder HSK63 with a coolant-operated tool and a sample with a pneumatically driven tool version H-PP with Capto C4 holder.

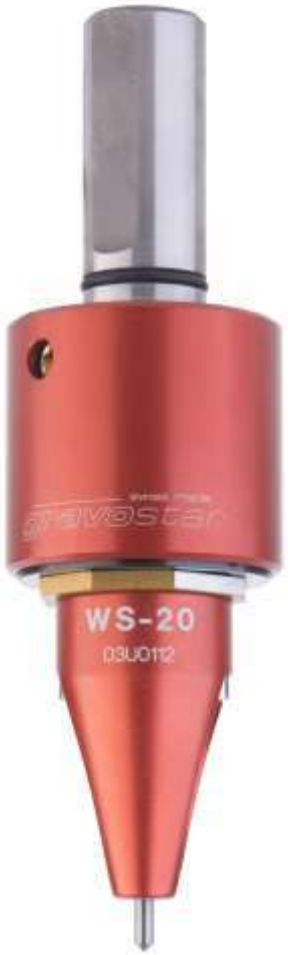


gravostar WSX-20

The needle oscillation the gravostar WSX-20 tool type is generated by the coolant of the ICS. All functional elements of the pulse control system are integrated in the tool. As soon as the tool internal cooling system is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual markings of any workpieces
with large irregularities or dimensional differences such as rough casting parts etc.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle actuation via internal tool cooling system
  (required coolant pressure approx. 5 - 80 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

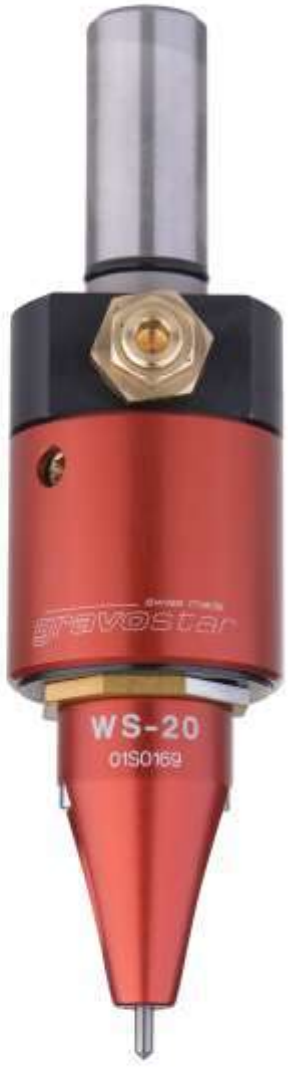
- Integrated, automatic distance compensation up to approx. 3 mm
  (Regular marking depth also of uneven marking surfaces)
- The amount of distance compensation on the tool is adjustable
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar WSRX-20

The needle oscillation the gravostar WSRX-20 tool type is generated by the coolant of the ICS. All functional elements of the pulse control system are integrated in the tool. As soon as the tool internal cooling system is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Sophisticated markings on any workpieces in a prescribed (tolerated) marking depth (e.g. security-relevant parts in turbine construction, etc.)



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle actuation via internal tool cooling system
  (required coolant pressure approx. 5 - 120 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

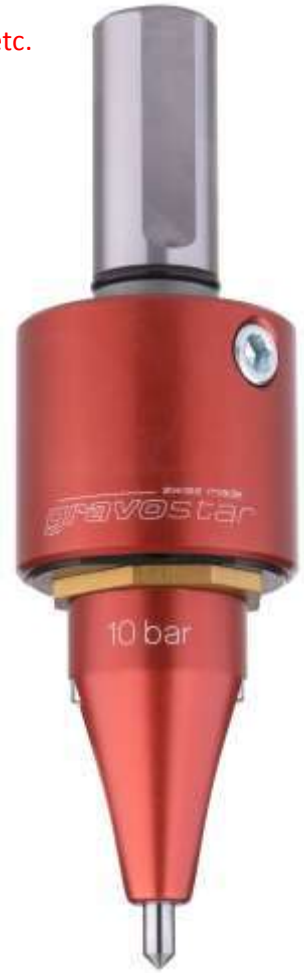
- Integrated, automatic distance compensation up to approx. 3 mm
- (Regular marking depth also of uneven marking surfaces)
- The amount of distance compensation on the tool is adjustable
- Integrated, precisely adjustable coolant pressure reduction
  (for precise adjustment of the pre-defined marking depth)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar WSXP-20

The needle oscillation the gravostar WSXP-20 tool type is generated by the coolant of the ICS. All functional elements of the pulse control system are integrated in the tool. As soon as the tool internal cooling system is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual deeper markings of any workpieces
with large irregularities or dimensional differences such as rough casting parts etc.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Reinforced needle actuation via internal tool cooling system
  (required coolant pressure approx. 5 - 80 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

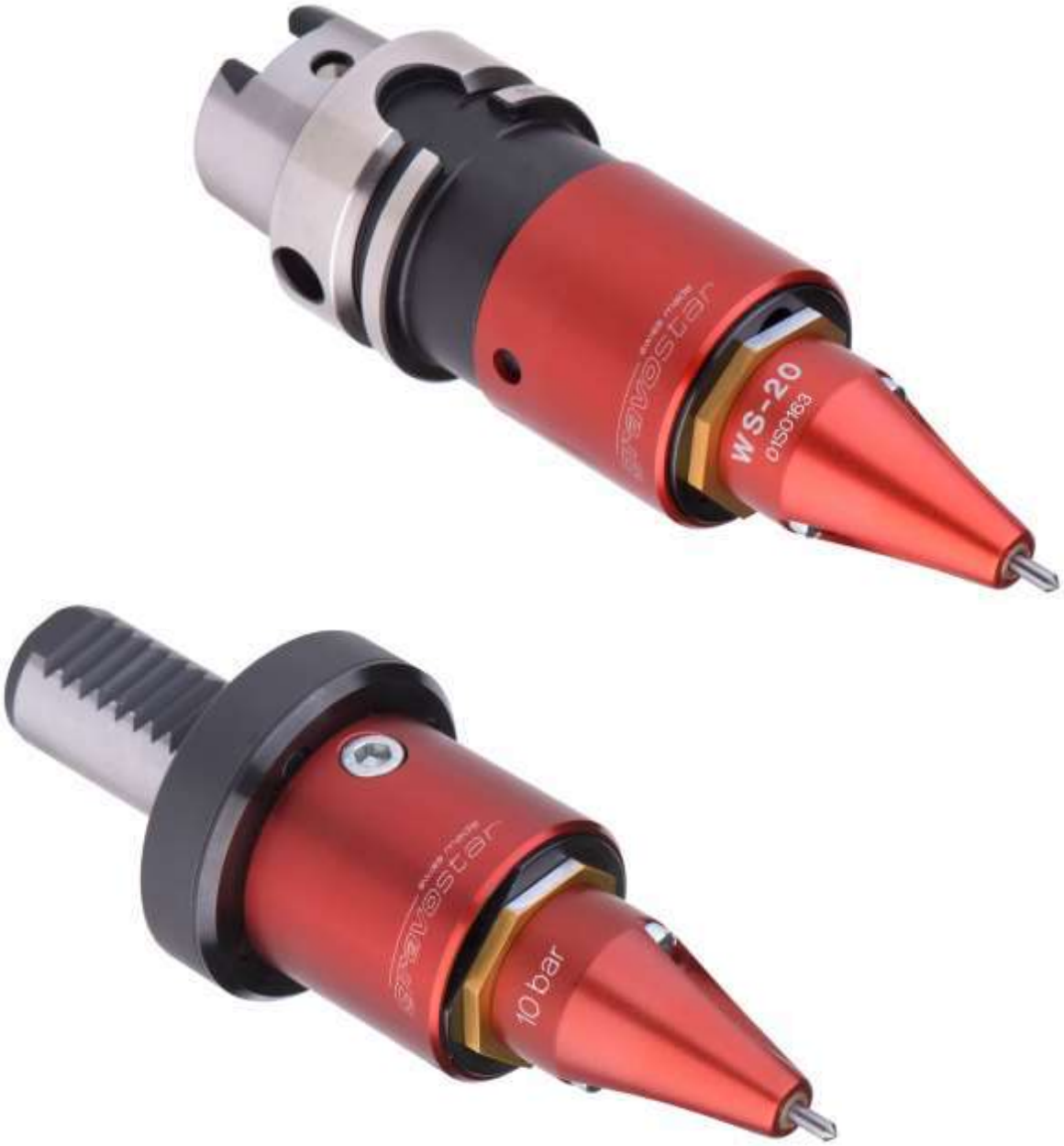
Tool specifications

- Integrated, automatic distance compensation up to approx. 3 mm
- (Regular marking depth also of uneven marking surfaces)
- The amount of distance compensation on the tool is adjustable
  (integrated, adjustable coolant flow rate reduction)
- Reinforced hard metal marking needle with very high wear resistance
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar with special tool holders

It is often important not to exceed a maximum tool length, especially when used on smaller machines. Therefore, all miropercussion tools, as well as scribing and roller embossing tools, are also available as special solutions with integrated tool holders, some of which are even available from stock. In addition, other customer-specific images can also be produced.

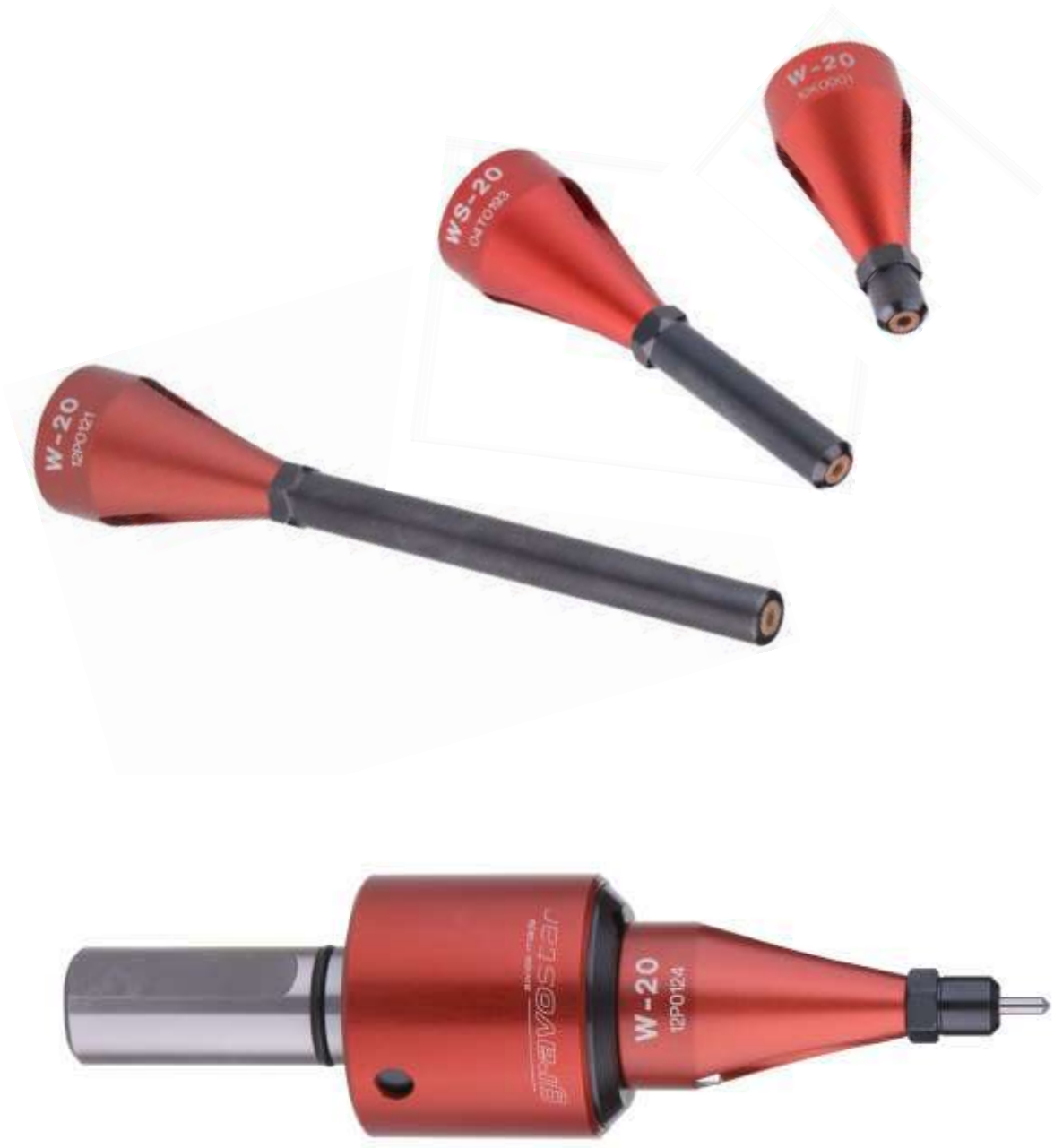
Below is a sample each with HSK50 for use in machining centres and a holder for lathe with VDI25.



Extended needle holders for gravostar W-types

Different marking heads with extended needle guides and corresponding marking needles are available for marking applications in recessed areas. These can be ordered separately or as a complete unit with standard adapter with a cylindrical Weldon shank shaft or with integrated special holders.

The marking heads with the three extended needle guides of 15mm, 50mm and 100mm available from stock are shown below.

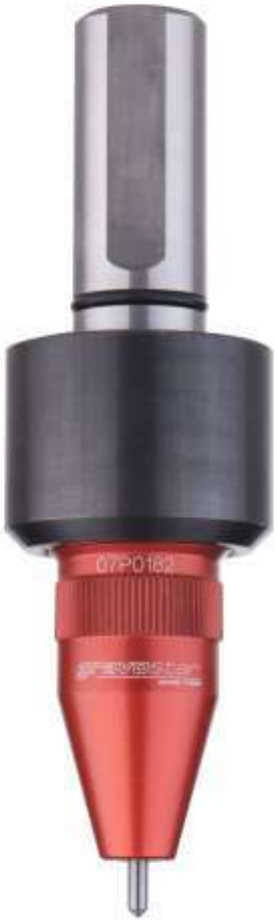


gravostar H-20

The needle oscillation for the gravostar H-20 tool type is generated using compressed air, which is supplied via the machine spindle. All functional elements for the impulse control system are integrated in the tool. As soon as the air supply is activated, the needle begins to oscillate at a frequency of approx. 300 Hz. Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle drive via central compressed air supply via
  the machine spindle (required air pressure approx. 3 - 8 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

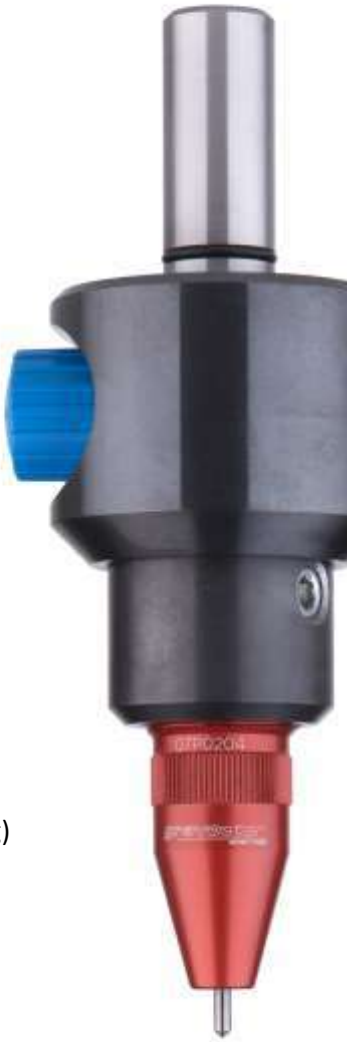
- Integrated, automatic distance compensation up to approx. 1 mm
  (Regular marking depth also of uneven marking surfaces)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar HRY-20

The needle oscillation for the gravostar HRY-20 tool type is generated using compressed air, which is supplied via the machine spindle. All functional elements for the impulse control system are integrated in the tool. As soon as the air supply is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual deeper markings of any workpieces
with pre-defined (tolerated) marking depth
(e.g. safety-relevant parts in turbine manufacture etc.).



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Needle drive via central compressed air supply via
  the machine spindle (required air pressure approx. 3 - 8 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

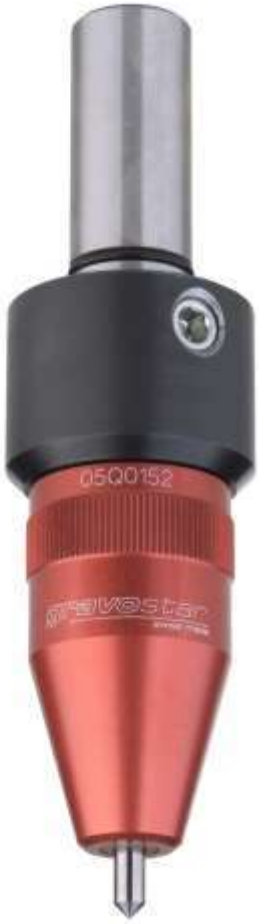
- Integrated, automatic distance compensation up to approx. 1 mm
  (regular marking depth also of uneven marking surfaces)
- Integrated, precisely adjustable compressed air controller
  (for precise adjustment of the pre-defined marking depth)
  - manometer connection (for measuring the pneumatic pressure setting)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar H-20 PP

The needle oscillation for the gravostar H-20 PP tool type is generated using compressed air, which is supplied via the machine spindle. All functional elements for the impulse control system are integrated in the tool. As soon as the air supply is activated, the needle begins to oscillate at a frequency of approx. 300 Hz.
Due to the high oscillating frequency, the individual marking points are so close to each other that they can no longer be individually recognised. The marking contour therefore appears as a continuous deep line.

Field of application

Individual deeper markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Reinforced needle drive via central compressed air supply via the machine spindle (required air pressure approx. 2 - 8 bar)
- Standard model with 20 mm Weldon shank
  - various HSK, SK or special holders (optionally available)
- Needle holders with different extensions (optionally available)

Tool specifications

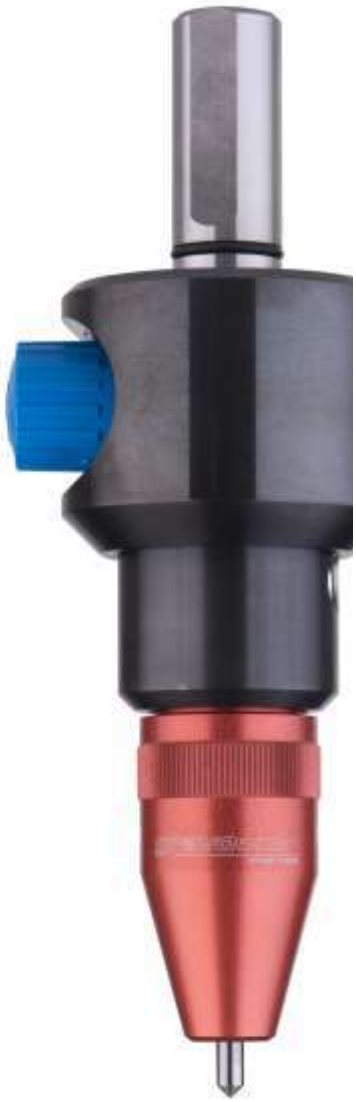
- Integrated, automatic distance compensation up to approx. 3 mm
  (Regular marking depth also of uneven marking surfaces)
- Reinforced hard metal marking needle with very high wear resistance
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - oscillation frequency of the marking needle: approx. 300 Hz
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process reliability due to easy pulse control integrated into the tool
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar HRY-20 PP

For the gravostar HRY-20 PP tool type, the needle oscillation is activated by compressed air, which is fed through the machine spindle. All functional elements are integrated in the tool. As soon as the compressed air supply is switched on, the needle oscillation starts with a frequency of about 300 Hz.
Due to the high oscillation frequency, the individual marking dots are placed close to each other, so that they cannot be individually recognized. This creates the marking contour as a continuous deep line.

Field of application:

Deep markings with high quality requirements on any workpieces
with defined specified (tolerated) marking depth
(e.g. safety-related parts in turbine construction, etc.).



General information:

- Use in machining centers, automatic lathes, etc.
  (no additional installations required)
- Reinforced marking needle activation (required air pressure: 2-8 bar)
- Standard version with 20 mm Weldon shank
- Various HSK, SK or special tool holders (optionally available)

Tool specifications:

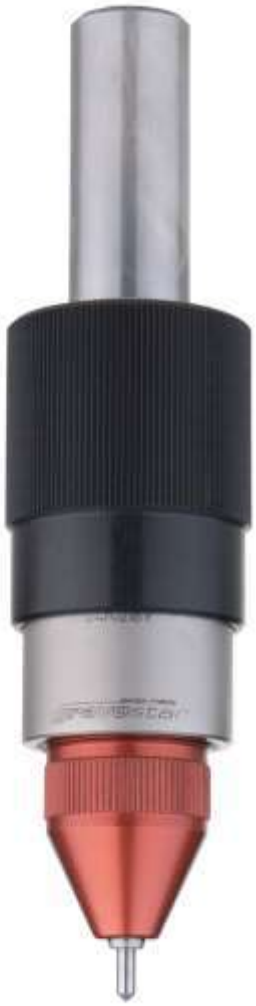
- Integrated, automatic distance compensation up to approx. 3 mm
  (constant marking depth also on uneven marking surfaces)
- Integrated, exactly adjustable compressed air regulator
  (for defined adjustment of the required marking depth)
- Pressure gauge connection (for measuring the adjusted air pressure)
- Reinforced carbide marking needle with very high wear resistance
  (material hardness 92 HRC)
- Easy exchangeability of the marking needle with a few simple steps
- Can be used for practically all free-cutting materials
  (up to approx. 62 HRC hardness of the marking surface)
- Extremely high process security due to simple, in-tool integrated activation of the marking needle oscillation
- Very short marking time
- Oscillation frequency of the marking needle: approx. 300 Hz
- Feed speed more than 5‘000 mm/min possible
- For universal use (Weldon shank shaft with a diameter of 20 mm)
- VDI tool holders for lathes (optionally available)
- Various HSK, SK or special tool holders for machining center (optionally available)

gravostar R-20

An active needle drive is not required for the scratch marking process because of the spring mounted, pre-tensioned marking needle. The workpiece is marked by a combination of material compression and displacement. As soon as the point of the needle is brought into contact with the workpiece, the needle penetrates the surface of the material with a defined pre-tension pressure.
Even uneven marking surfaces can be provided with a consistent marking depth because of the consistent pre-tension pressure of the spring-mounted pre-tensioned marking needle in the axial direction with this extremely easily adjustable tool type.

Field of application

Individual rather fine markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)

Tool specifications

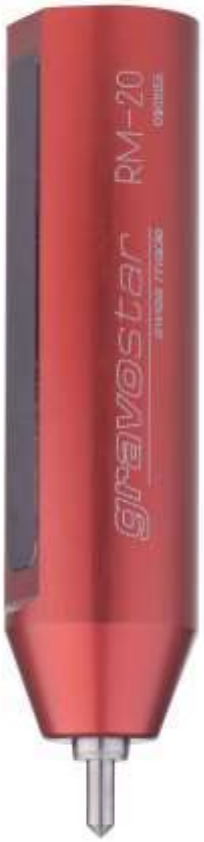
- Integrated, automatic distance compensation up to approx. 6 mm
  (regular marking depth also of uneven marking surfaces)
- Marking depth via individually pre-adjustable adjusting sleeve
  (with scale for repeatable pre-tension pressure adjustment)
- Stable housing made from stainless steel
- Standard model with hardened Weldon shank
  (clamping diameter 20 mm)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process safety due to single, spring-mounted,
  pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

gravostar RM-20

An active needle drive is not required for the scratch marking process because of the spring mounted, pre-tensioned marking needle. The workpiece is marked by a combination of material compression and displacement. As soon as the point of the needle is brought into contact with the workpiece, the needle penetrates the surface of the material with a defined pre-tension pressure.
Even uneven marking surfaces can be provided with a consistent marking depth because of the consistent pre-tension pressure of the spring-mounted pre-tensioned marking needle in the axial direction with this extremely easily adjustable tool type.

Field of application

Individual rather fine markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)
- Compact, short construction with 20 mm Weldon shank

Tool specifications

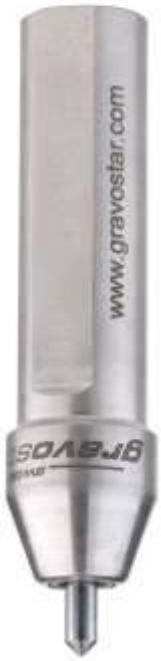
- Integrated, automatic distance compensation up to approx. 5 mm
  (regular marking depth also of uneven marking surfaces)
- Anodised aluminium housing with reinforced steel plate in the clamping area
  (prevents deformation due to clamping screw)
- 2 different adjustable marking depths
  (pre-tension pressure of the marking needle 30 or 80 N)
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process safety due to single, spring-mounted,
  pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 20 mm)

gravostar RM-12L

An active needle drive is not required for the scratch marking process because of the spring mounted, pre-tensioned marking needle. The workpiece is marked by a combination of material compression and displacement. As soon as the point of the needle is brought into contact with the workpiece, the needle penetrates the surface of the material with a defined pre-tension pressure.
Even uneven marking surfaces can be provided with a consistent marking depth because of the consistent pre-tension pressure of the spring-mounted pre-tensioned marking needle in the axial direction with this extremely easily adjustable tool type.

Field of application

Individual rather fine markings of any workpieces
with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)
- Very compact construction with 12 mm Weldon shank

Tool specifications

- Integrated, automatic distance compensation up to approx. 6 mm
  (regular marking depth also of uneven marking surfaces)
- Stable housing made from stainless steel
- Marking depth individually adjustable via adjusting screw
- Extremely high resistance to wear of the hard metal marking needle
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
  - feed speed more than 5‘000 mm/min possible
- Extremely high degree of process safety due to single, spring-mounted, pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 12 mm)

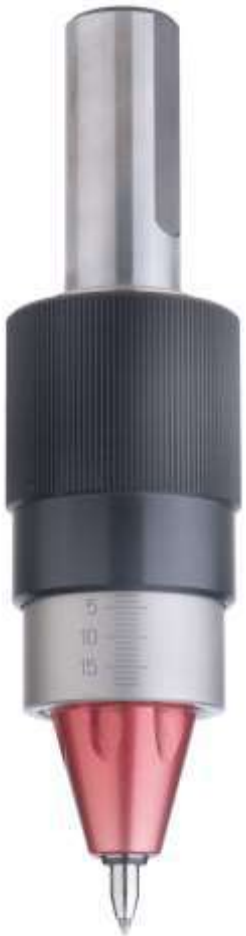
gravostar RB-20

The unique feature of this process: the marking needle, which is spring-mounted and pre-tensioned in the axial direction, is equipped with a freely rotating solid carbide ball. The marking contour is created by the compaction of the material left by the rolling action of the hard metal ball on the surface of the material.

Roller embossing is used for fine, visually high-quality marking and for applications where absolute freedom from burrs without any material throw-up is required. Even uneven marking surfaces can be provided with a consistent marking depth due to the spring-mounted marking needle with this tool type.

Field of application

Optically very high-quality, absolutely burr-free, fine marking
of any workpieces with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)

Tool specifications

- Integrated, automatic distance compensation up to approx. 5 mm
  (regular marking depth also of uneven marking surfaces)
- Marking depth via individually pre-adjustable adjusting sleeve
  (with scale for repeatable pre-tension pressure adjustment)
- Stable housing made from stainless steel
- Standard model with hardened Weldon shank
  (clamping diameter 20 mm)
- Marking needle with freely rotating carbide ball
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Very short marking time
- Absolute burr-free marking with extremely high visual quality
- Extremely high degree of process safety due to single, spring-mounted,
  pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 20 mm)
  - VDI tool holders for lathes (optionally available)
  - various HSK, SK or special tool holders for machining centres (optionally available)

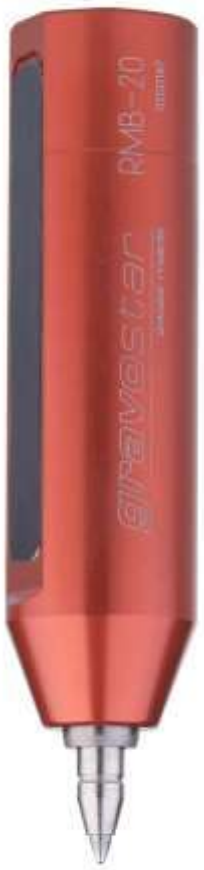
gravostar RMB-20

The unique feature of this process: the marking needle, which is spring-mounted and pre-tensioned in the axial direction, is equipped with a freely rotating solid carbide ball. The marking contour is created by the compaction of the material left by the rolling action of the hard metal ball on the surface of the material.

Roller embossing is used for fine, visually high-quality marking and for applications where absolute freedom from burrs without any material throw-up is required. Even uneven marking surfaces can be provided with a consistent marking depth due to the spring-mounted marking needle with this tool type.

Field of application

Optically very high-quality, absolutely burr-free, fine marking
of any workpieces with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)
- Compact, short construction with 20 mm Weldon shank

Tool specifications

- Integrated, automatic distance compensation up to approx. 4 mm
  (regular marking depth also of uneven marking surfaces)
- Anodised aluminium housing with reinforced steel plate in the clamping area
  (prevents deformation due to clamping screw)
- Marking needle with freely rotating carbide ball
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Normal pre-tension pressure of the marking needle (98N)
- Very short marking time
- Absolute burr-free marking with extremely high visual quality
- Extremely high degree of process safety due to single, spring-mounted,
  pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 20 mm)

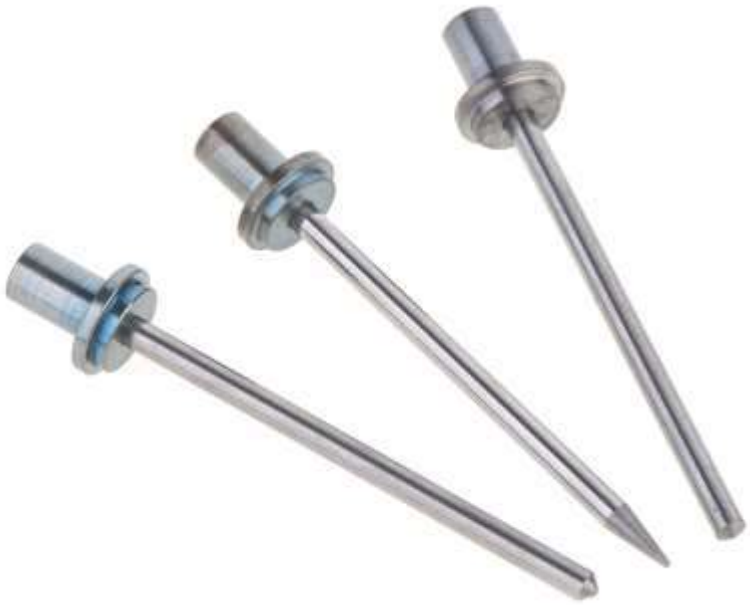
Wide range of needle designs

The standard marking needles are made of hard metal (hardness 92 HRC). In the standard version, the needle tips come with an angle of 90° and a tip radius of R 0.5mm.

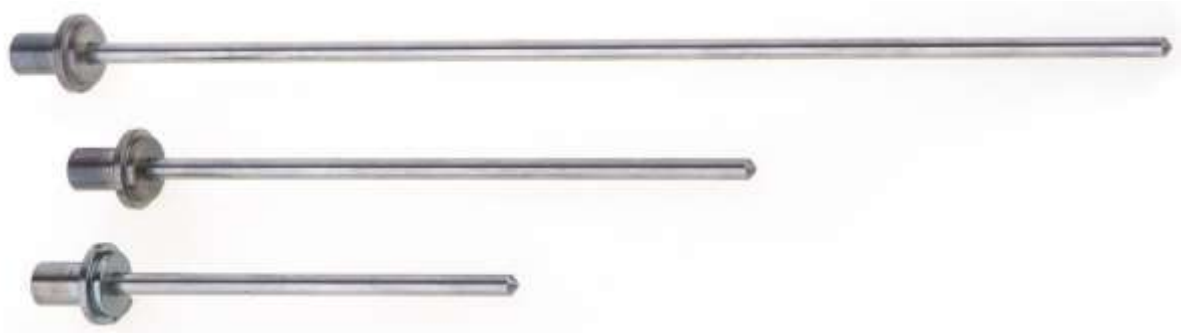
For applications with increased demands (marking of highly stressed parts such as turbines for power generation or aircraft engines etc.) marking needles with various tip contours are available. Special needles with a special coating or also in a diamond version are available for marking extremely hard or tough materials.

Nachfolgend sind einige der ab Lager lieferbaren Formen und Längen der Beschriftungsnadeln abgebildet. Für Sonderanwendungen können innerhalb weniger Tage auch beliebige Sonderausführungen gefertigt werden.

Various tip angles
Various tip radii



Various length



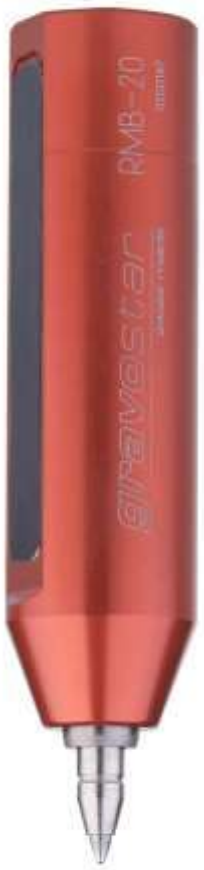
gravostar RMB-20L

The unique feature of this process: the marking needle, which is spring-mounted and pre-tensioned in the axial direction, is equipped with a freely rotating solid carbide ball. The marking contour is created by the compaction of the material left by the rolling action of the hard metal ball on the surface of the material.

Roller embossing is used for fine, visually high-quality marking and for applications where absolute freedom from burrs without any material throw-up is required. Even uneven marking surfaces can be provided with a consistent marking depth due to the spring-mounted marking needle with this tool type.

Field of application

Optically very high-quality, absolutely burr-free, fine marking
of any workpieces with regular, uneven or rough surfaces.



General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)
- Compact, short construction with 20 mm Weldon shank

Tool specifications

- Integrated, automatic distance compensation up to approx. 4 mm
  (regular marking depth also of uneven marking surfaces)
- Anodised aluminium housing with reinforced steel plate in the clamping area
  (prevents deformation due to clamping screw)
- Marking needle with freely rotating carbide ball
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Light pre-tension pressure of the marking needle (45 N)
- Very short marking time
- Absolute burr-free marking with extremely high visual quality
- Extremely high degree of process safety due to single, spring-mounted,
  pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 20 mm)

gravostar RMB-12

The unique feature of this process: the marking needle, which is spring-mounted and pre-tensioned in the axial direction, is equipped with a freely rotating solid carbide ball. The marking contour is created by the compaction of the material left by the rolling action of the hard metal ball on the surface of the material.

Roller embossing is used for fine, visually high-quality marking and for applications where absolute freedom from burrs without any material throw-up is required. Even uneven marking surfaces can be provided with a consistent marking depth due to the spring-mounted marking needle with this tool type.

Field of application

Optically very high-quality, absolutely burr-free, fine marking
of any workpieces with regular, uneven or rough surfaces.

General information

- Use in machining centres, automatic lathes, etc.
  (no additional installations required)
- Extremely easily adjustable tool (without requiring a needle drive)
- Very compact construction with hardened 12 mm Weldon shank

Tool specifications

- Integrated, automatic distance compensation up to approx. 6 mm
  (regular marking depth also of uneven marking surfaces)
- Stable hardened steel housing
- Marking needle with freely rotating carbide ball
  (material hardness 92 HRC)
  - needles are simple to replace with just a few manual operations
  - can be used for almost all machinable materials
    (hardness of marking surface up to approx. 62 HRC)
- Light pre-tension pressure of the marking needle (45 N)
- Very short marking time
- Absolute burr-free marking with extremely high visual quality
- Extremely high degree of process safety due to single, spring-mounted, pre-tensioned marking needle
- For universal use (Weldon shank shaft with a diameter of 12 mm)