

Commissioning // Instruction manual



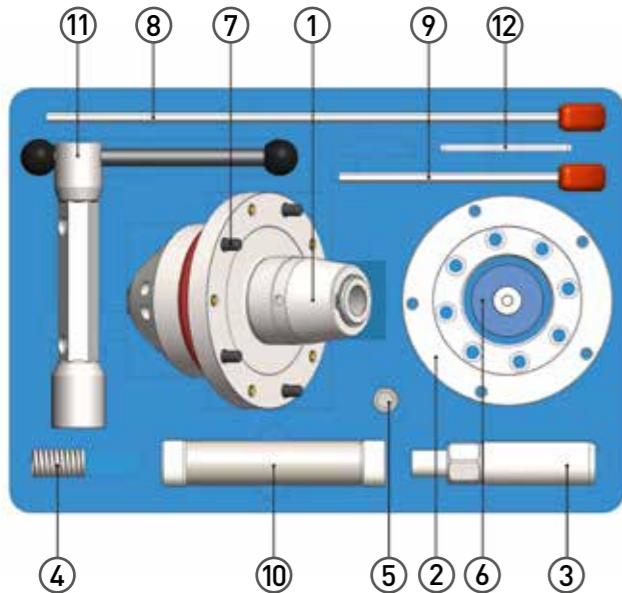
SHARK

5-Jaw Chuck
for ANCA machines

grinding deserves **SOLUTIONS**

GDS
Made in Germany

Case includes:



① SHARK 5-Jaw Chuck

② SHARK adapter flange

③ tension rod

④ Compression spring

⑤ Adjusting screw

⑥ Adjusting mandrel D20d12

⑦ Mounting screws

⑧ Clamping wrench SW6x350

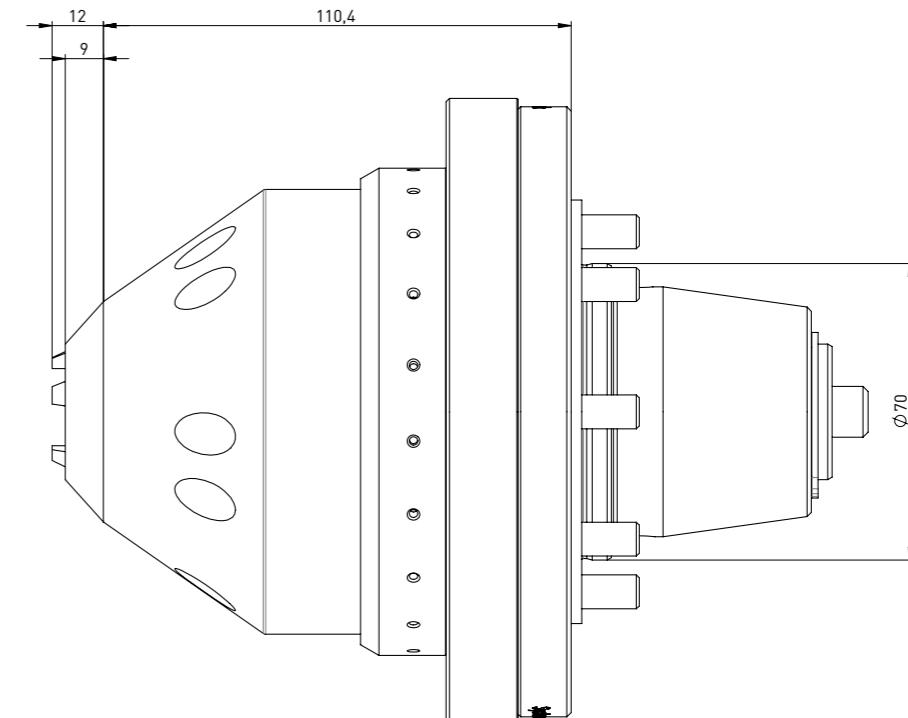
⑨ Tension wrench SW6x150

⑩ Tapper D30x155 Alignment hammer

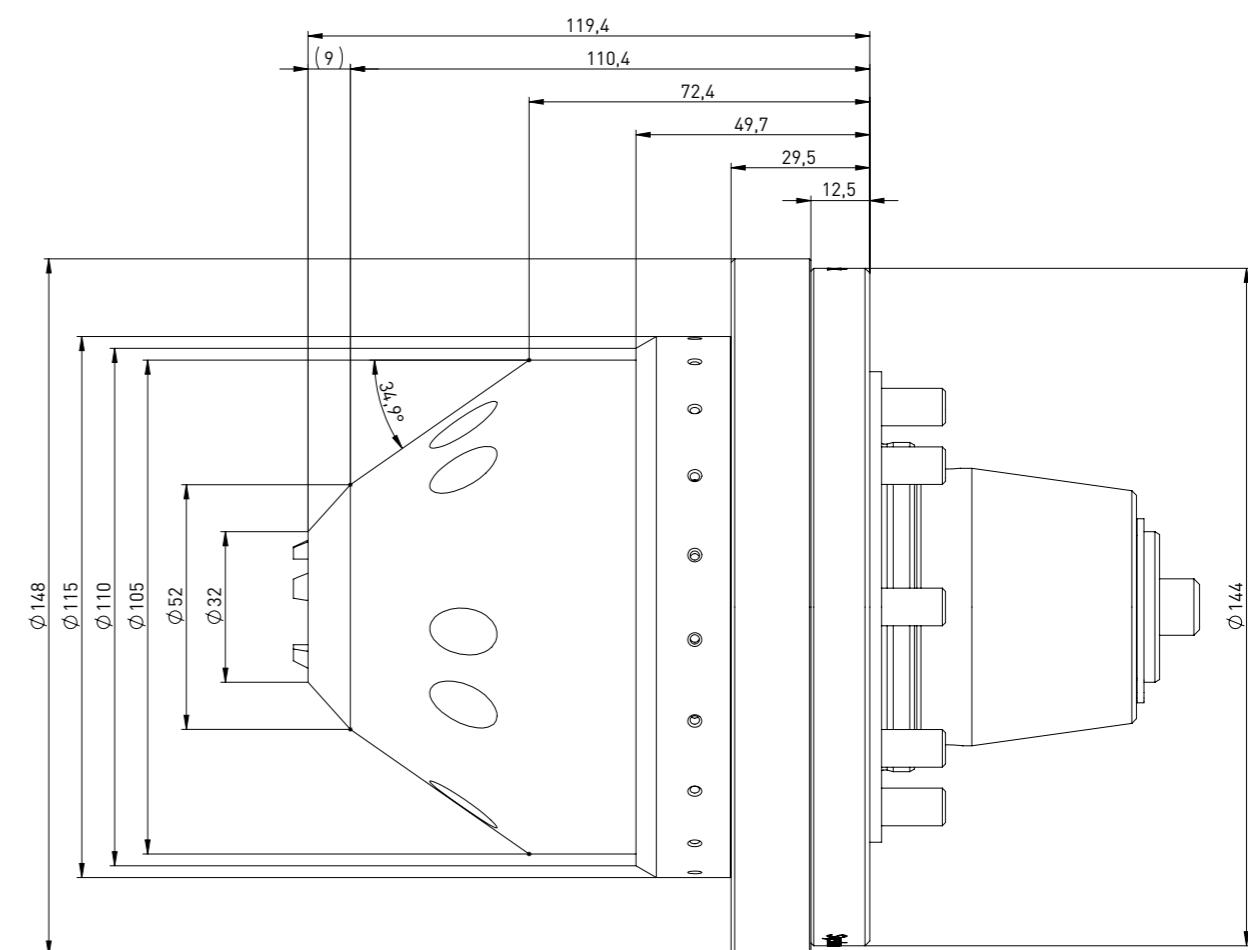
⑪ Double socket wrench SW24 x 27 with handle



SHARK 5-Jaw Chuck for a clamping range of 3-20 mm.



Available for the following machines:

ANCA
WalterAvailable for these machines **on request:**ISOG
JOERG S-techplus
Reinecker
Saacke
Schütte
Star
TGT
Vollmer

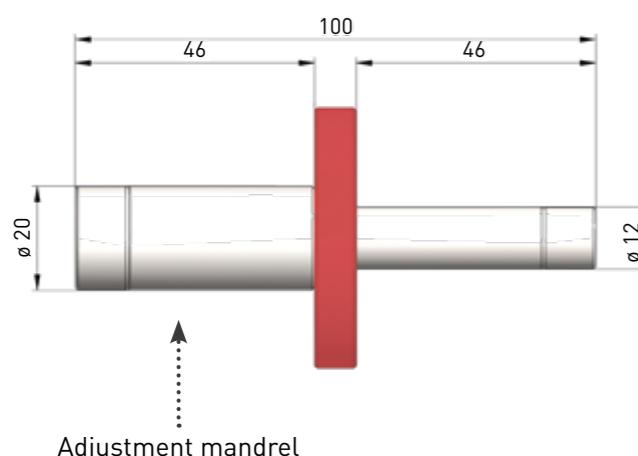
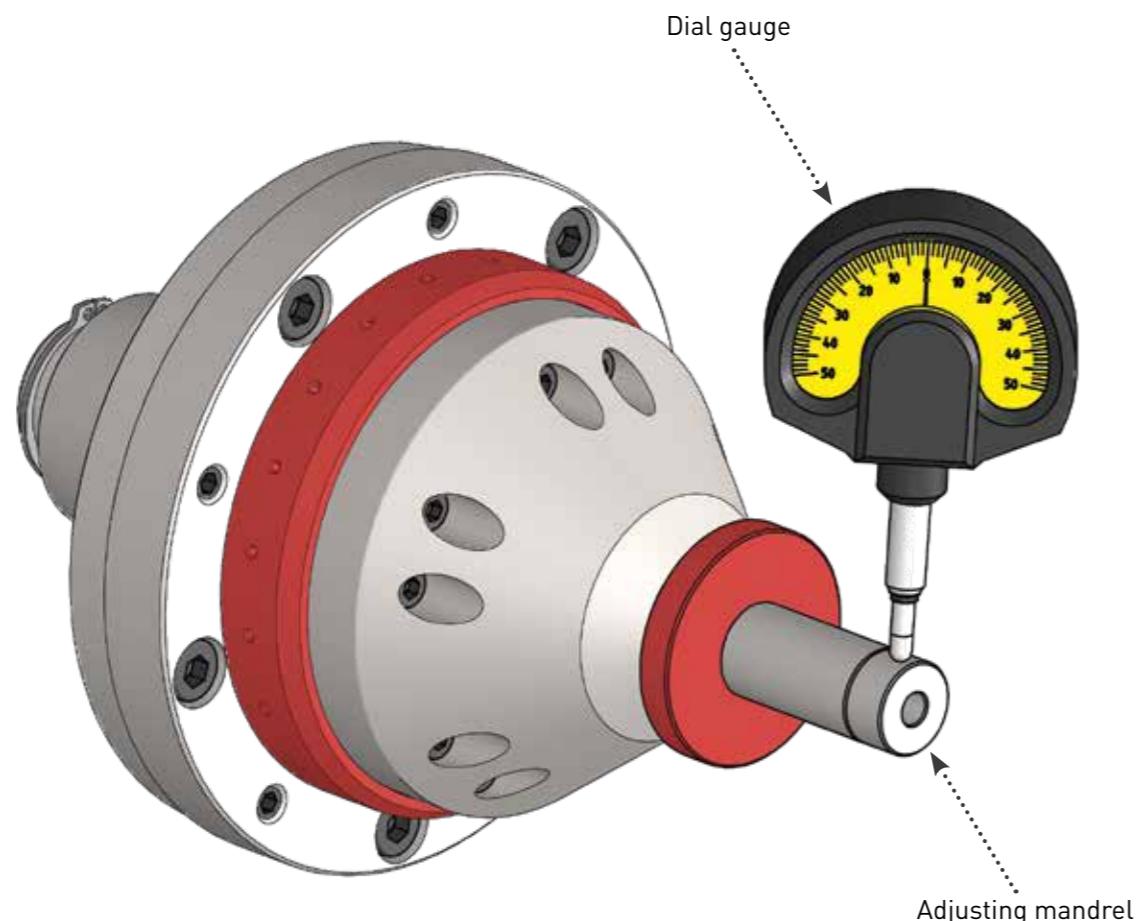
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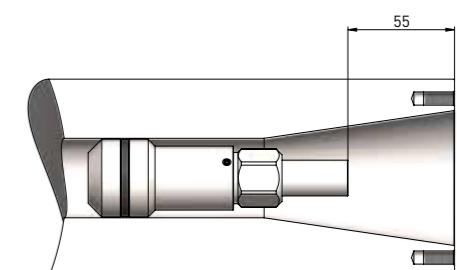
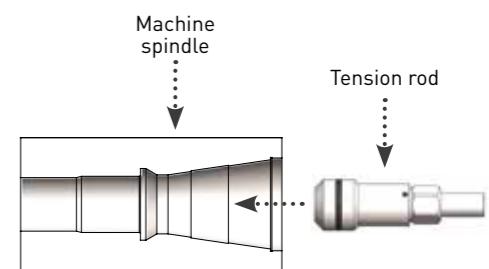
ATTENTION:

The SHARK 5-Jaw Chuck is only suitable for automatic operation.



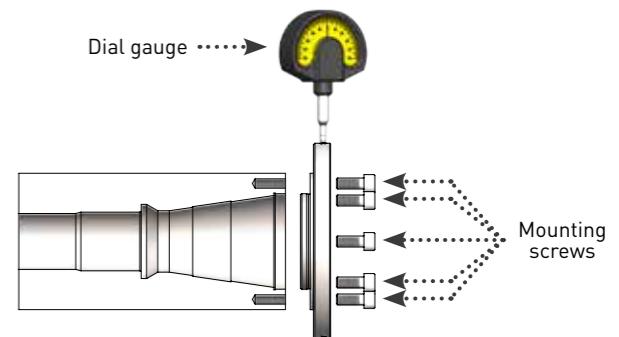
Step 1: Screw in tension rod

1. Screw the tension rod into the machine spindle using the supplied double-ended socket wrench (11).
2. Move the tension rod forward with the machine control.
3. Measure the control dimension length 55mm from the plane surface of the machine spindle to the plane surface of the tension rod.
4. If the dimension 55mm is not reached, remove the tension rod, loosen the pressure screw and adjust the determined difference until the dimension 55mm is reached, tighten the pressure screw again.
5. Screw the tension rod into the machine spindle again and tighten it with the counter screw inside. Check the control dimension 55mm.
6. Move the tension rod with the machine control to the rear.



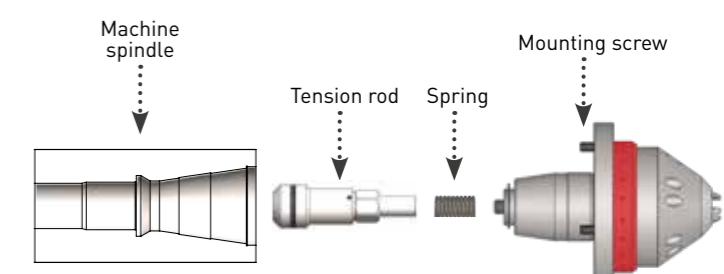
Step 2: Preparation of the adapter flange

1. Make sure that the face of the machine interface is level and clean.
2. Clean all contact surfaces of the adapter flange.
3. Mount the adapter flange on the machine interface using the supplied mounting screws.
4. Align the runout of the adapter flange to 0.001mm by tapping lightly on the alignment surface with the alignment hammer provided.
5. After achieving the optimum runout, tighten the mounting screws crosswise to 15 Nm.



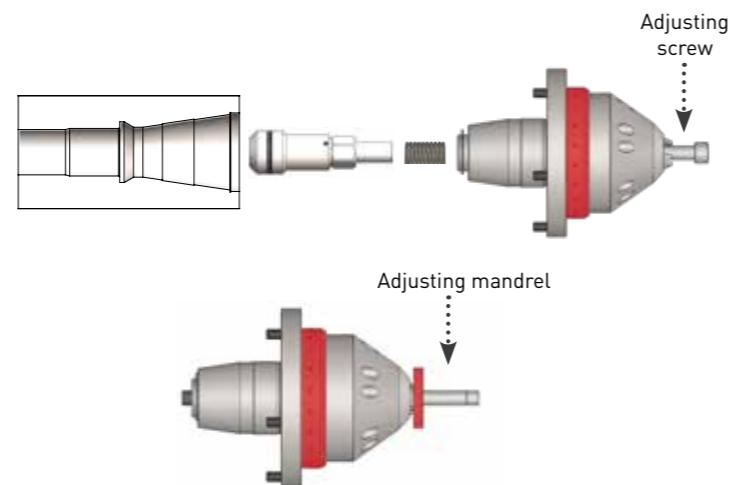
Step 3: Mount chuck

1. Insert the supplied spring into the rear of the chuck.
2. Screw the chuck onto the face contact of the adapter flange using the supplied mounting screws. When doing so, please apply the mounting screws only lightly. (The mounting screws are tightened after the concentricity adjustment).



Step 4: Preparation for setting

1. Move the tension rod forward with the machine control.
2. Screw the supplied adjusting screw into the chuck from the front until a slight resistance is felt.
3. Insert the Ø 12 or Ø 20 adjusting mandrel into the chuck and adjust the clamping jaws to Ø 12 or Ø 20 with the adjusting screw so that the clearance is the smallest (see page 7 step 6).



CAUTION: Risk of injury!

Setting concentricity and repeatability

Please take the time to adjust the runout. The more accurately the chuck is set during setup, the more accurately it will behave.



When adjusting, use precision dial gauges as well as the adjusting mandrel supplied.



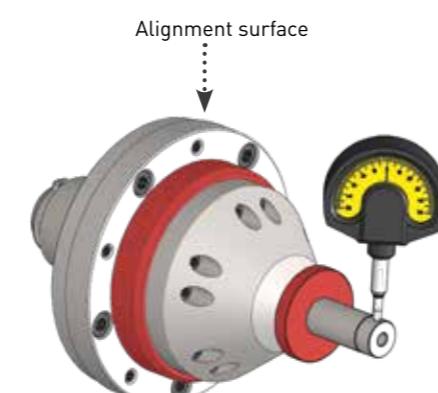
ATTENTION:

To ensure proper functioning, disassemble and clean the chuck at least once a month.

Step 5: Adjust concentricity

Align the concentricity by tapping on the alignment surface with the alignment hammer (9) supplied.

1. Turn the A-axis evenly clockwise to the highest clock deflection value. Now reduce this by half the value by tapping.
2. Repeat this process until you have achieved a runout of 0.001mm. Then tighten the mounting screws crosswise with 15Nm.
3. Unclamp and clamp the adjusting mandrel three to five times so that the chuck settles and the assembly tensions are released.
4. Check the concentricity again. Readjust if necessary.



Step 6: Set clamping range

1. You can set the desired clamping range by adjusting the adjusting screw.

Clamping range	Blank
Ø 3mm - Ø 8mm	Ø 8mm
Ø 8mm - Ø 13mm	Ø 13mm
Ø 13mm - Ø 18mm	Ø 18mm
Ø 18mm - Ø 20mm	Ø 20mm



GDS SHARK safety instructions

To note:

- The SHARK multi-range clamping system was designed for loading and changing rotationally symmetrical blanks and tools in automatic mode.
- For shank tools, all shanks according to DIN 1835 Form A, B, E or DIN 6535 form HA, HB, HE can be clamped.
- The SHARK multi-range clamping system may only be used within the scope of its technical data. within the scope of its technical data.
- This product is intended for industrial use.
- Intended use includes compliance with all the information in these instructions.
- Faultless function and warranty claims can only be guaranteed with original GDS accessories.
- Inserting the blank by hand is prohibited.

GDS SHARK Fehlerursachen und Lösungen

Überprüfen Sie folgende Punkte:

- Check clamping pressure
- Check blank
- Contamination
- All mounting screws correctly tightened
- Chuck requires room temperature
- Open everything again, clean and start from the beginning step by step

General safety instructions

Danger to persons and property may arise from this product due to incorrect handling, assembly and maintenance if these operating instructions are not observed. Damage and defects must be reported to the manufacturer immediately and repaired without delay in order to keep the extent of damage to a minimum and to ensure that the safety of the product is not impaired. **Only original GDS spare parts may be used.**

Intended use

The SHARK multi-range chuck is used for clamping tools with cylindrical shanks for tool grinding on grinding machines.

- The product may only be used within the scope of its technical data.
- The product is intended for installation in a machine. The applicable guidelines must be observed and complied with.
- The product is intended for industrial use.
- Intended use also includes compliance with all the information in these instructions.

Use not in accordance with the intended purpose

The multi-range chuck must not be used for turning or milling. The precision grinding chuck is not being used for the intended purpose, for example:

- if tools are not properly clamped.
- if, in disregard of the safety regulations, persons are working on the 5-jaw chuck without additional protective devices, e.g. in order to machine clamped tools.
- the technical data are exceeded when using the 5-jaw chuck.
- the 5-jaw chuck is used for machines not intended for this purpose.

Notes on special hazards

Danger to persons (risk of injury) and damage to property can arise from the SHARK 5-Jaw Chuck system if:

- it is not used as intended;
- it is improperly installed or maintained;
- the safety and assembly instructions, the safety and accident prevention regulations applicable at the place of use and the EC Machinery Directive are not observed.



CAUTION:

Risk of injury to the operating personnel in case of jaw breakage or loss of work-piece due to flying parts!

- When using the multigrip chuck, protective equipment must be used in accordance with the EC Machinery Directive so that in the event of failure of the multigrip chuck or a component of the chuck, parts flying away are caught by the protective equipment.
- The machine manufacturer must ensure sufficient wall thicknesses for his enclosure/protective equipment (in compliance with the currently applicable regulations and standards).



CAUTION:

Risk of injury to the operating personnel in case of improper use and exceeding the technical data due to failure of the multigrip chuck! Improper use and exceeding of the technical data may cause failure of the multirange clamping system, resulting in danger to life and limb of the operator and considerable damage to the equipment.

- Observe the values of the technical data
- Only use the multigrip chuck for its intended purpose.
- Observe the applicable safety standards and safety regulations.



CAUTION:

Risk of injury from the multigrade clamping system falling down during transport, mounting and dismantling. Protect the multigrade clamping system from falling down during transport and installation or dismantling.



CAUTION:

During manual loading and unloading, there is a risk of crushing limbs due to the opening and closing of the clamping jaws. Do not reach between the clamping jaws. For hand-loaded machines, the tool feed must be carried out via a setting aid.



CAUTION:

Risk of injury during manual loading and unloading of the tools due to sharp cutting edges. Remove the tools only when the machine is at a standstill. Prefer automatic loading and unloading of the tools.

Note for safe operation

- Cylindrical tools with an outer diameter of at least 3 mm can be clamped as the smallest tool. If smaller tools are clamped, they cannot be clamped securely.
- When loading manually, there is a risk that limbs may be trapped and crushed. Therefore, an insertion aid must be used for manual loading.
- Out-of-round tools damage the multirange clamping system or have an unfavorable effect on the grinding accuracy. The concentricity of the tools must not exceed 0.006 mm.
- The chuck must not be used in EDM machines. Corrosion may cause the multigrade clamping system to lose its specification.
- Observe the maintenance and care instructions.

Clamping depth

The clamping depth depends on the clamping diameter.

The minimum clamping depth for optimum concentricity is $2.5 \times D$ clamping diameter.



Structure of the 5-jaw chuck

The 5-jaw chuck and the associated actuating device must be matched to each other. The stroke of the chuck must be sufficient to safely accommodate the largest and smallest diameter to be clamped.

When mounting the chuck and the clamping cylinder on the grinding machines, the following safety requirements must be observed:

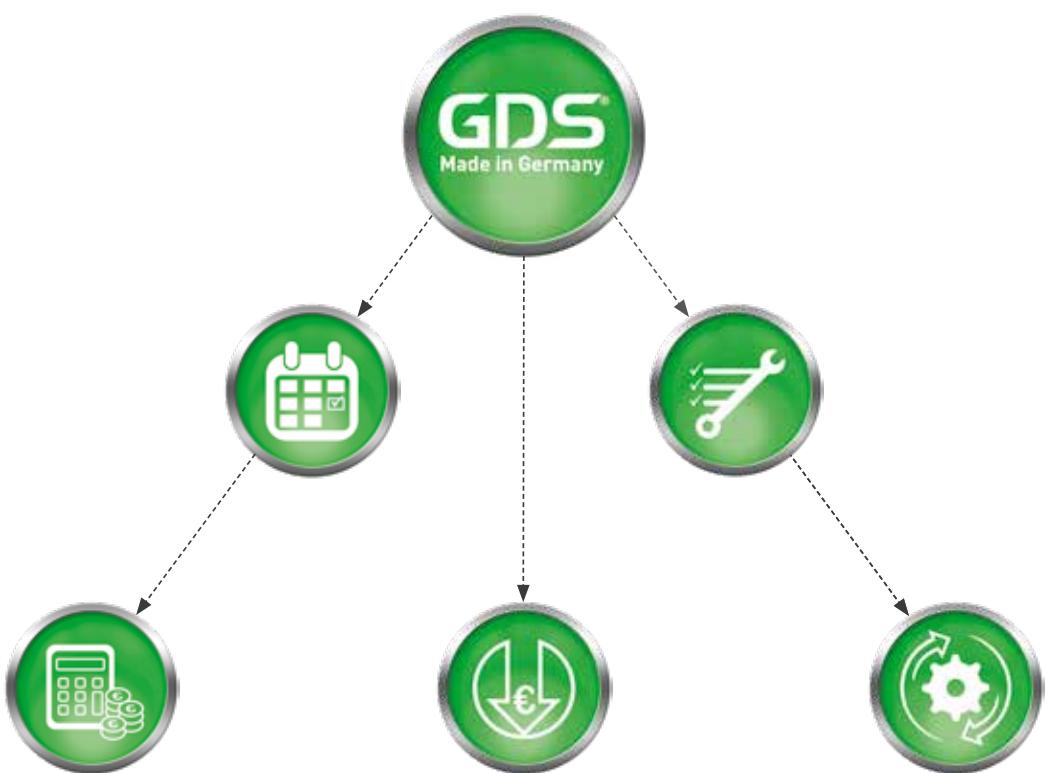
- The machine spindle must not start until the clamping pressure is built up in the clamping cylinder and the clamping takes place in the permissible working range and the machine door is closed.
- It must not be possible to release the tension until the machine spindle has come to a standstill.
- If the clamping energy fails, the tool must remain firmly clamped until the spindle comes to a standstill.
- In the event of power failure and return, there must be no change in the current switching position.
- The axial movement of the drive cylinder must not exceed a speed of 10 mm/sec when loaded manually.

Function test

After the 5-jaw chuck has been set up, its function must be checked by commissioning. If the clamping device is changed, it is necessary to adjust the 5-jaw chuck to the new situation with a new stroke check.



REVOLUTION IN TOOLGRINDING



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