

# Commissioning // Instruction manual



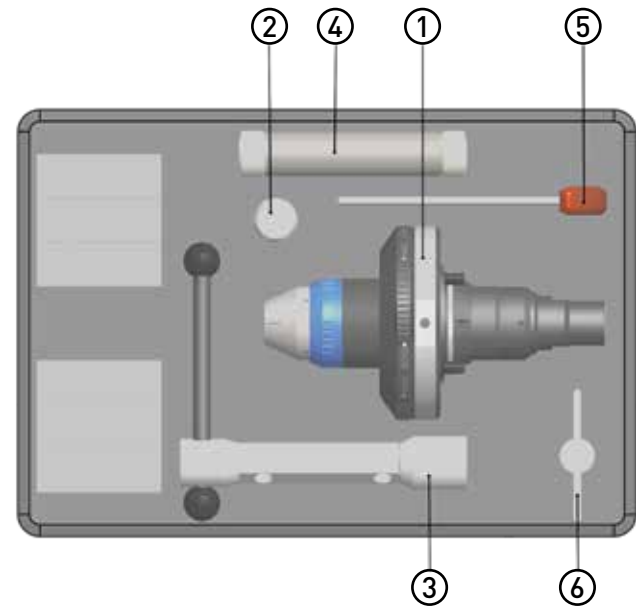
**μGrind booster**

HPS 20 // HPS 20 L

grinding deserves SOLUTIONS

**GDS**<sup>®</sup>  
Made in Germany

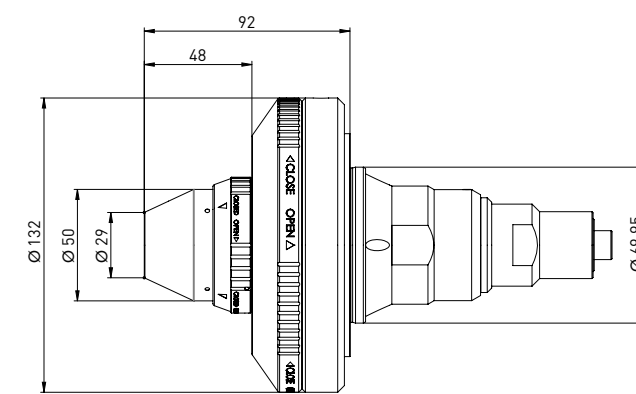
Case includes:



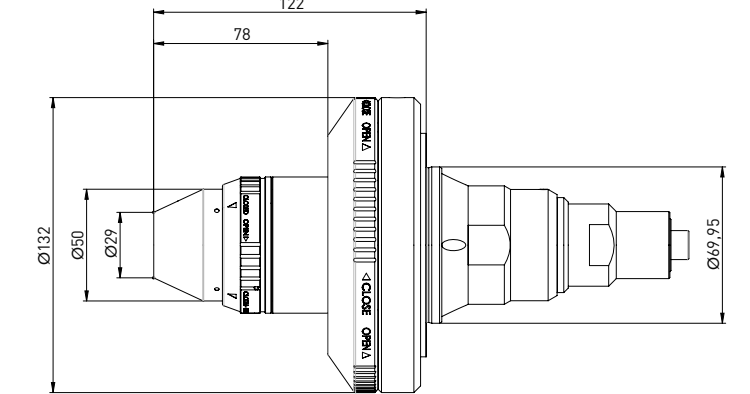
- ① μGrind booster HPS 20 // HPS 20 L
- ② Push rod
- ③ Double socket wrench SW 24 x 27 with handle
- ④ Alignment hammer D 30 x 155
- ⑤ Clamping wrench SW 5x150
- ⑥ Test certificate



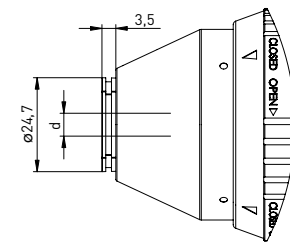
μGrind booster HPS 20



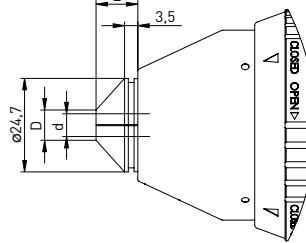
μGrind booster HPS 20 L



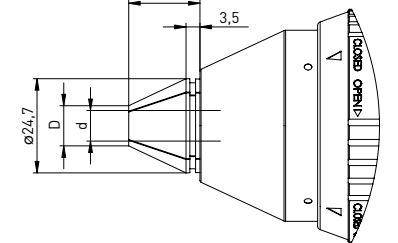
Collets form A:



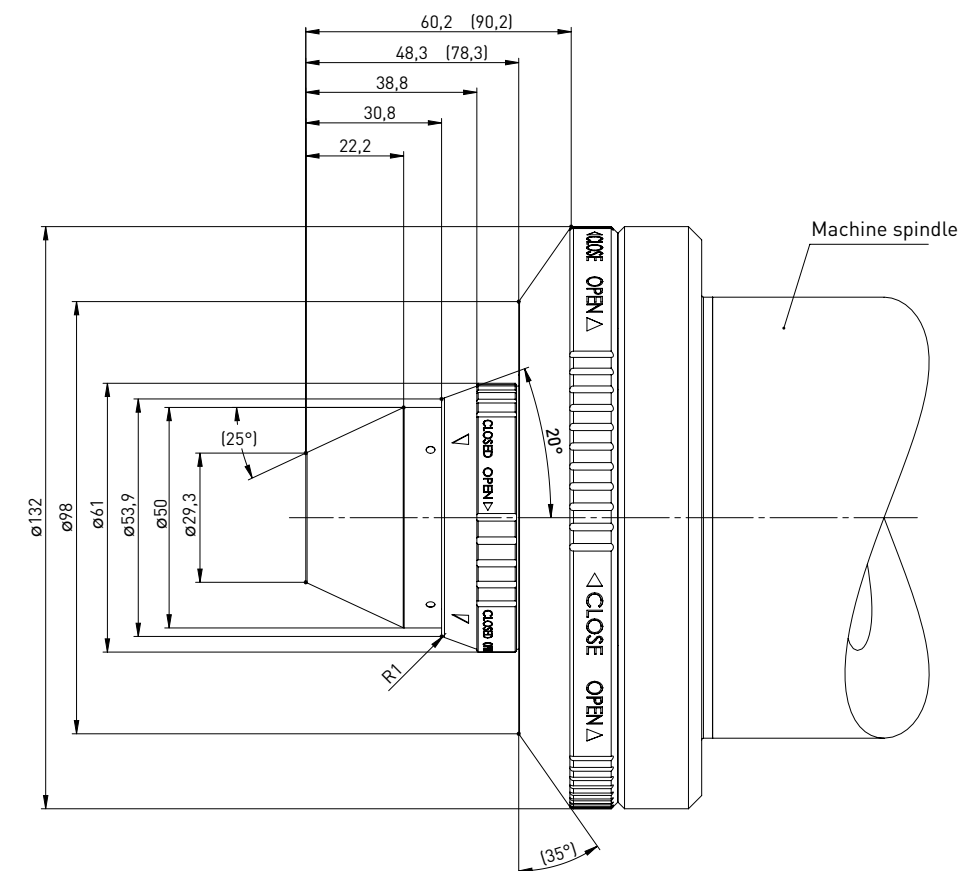
Collets form B:



Collets form C:

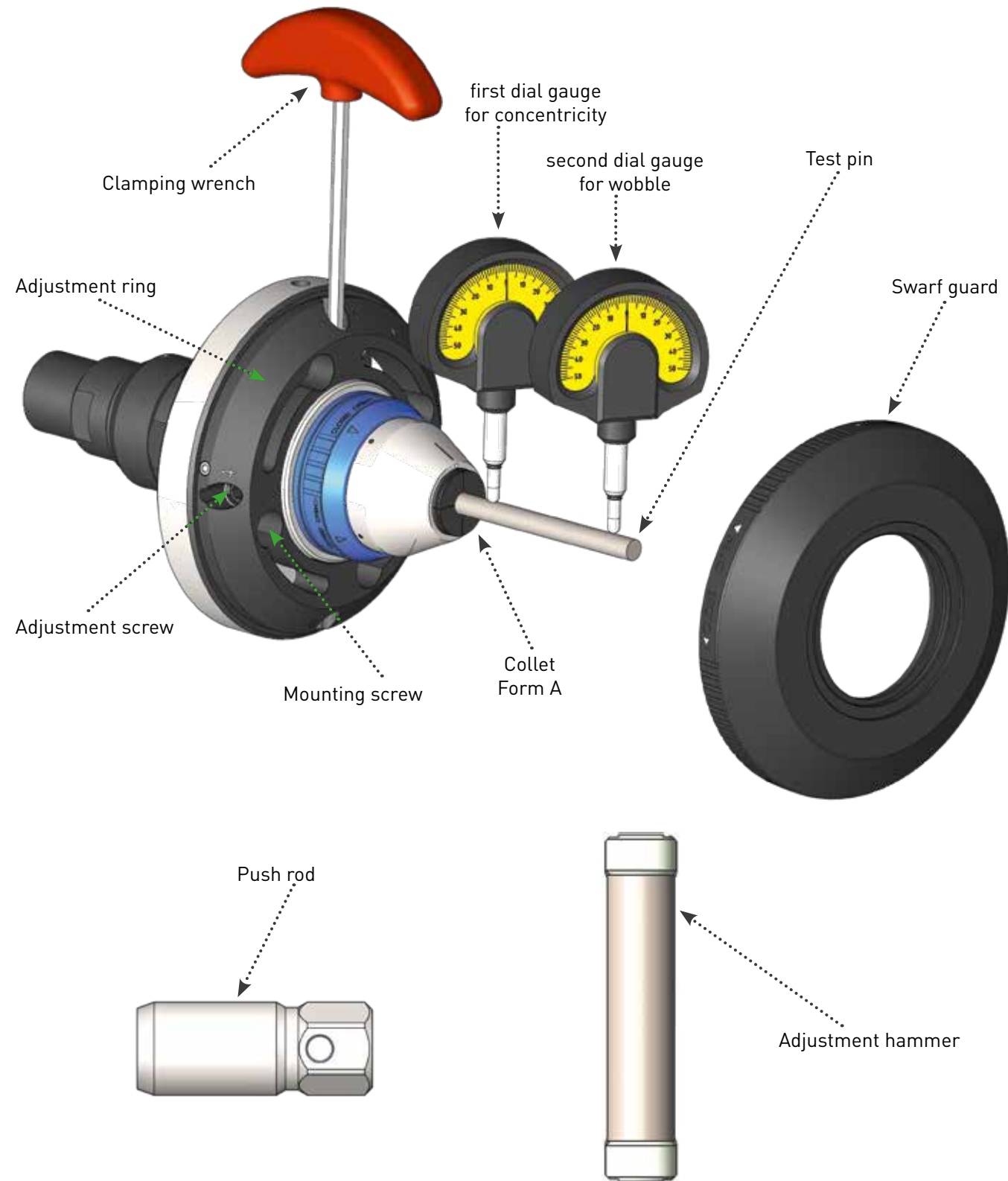


! Collet dimensions see page 11



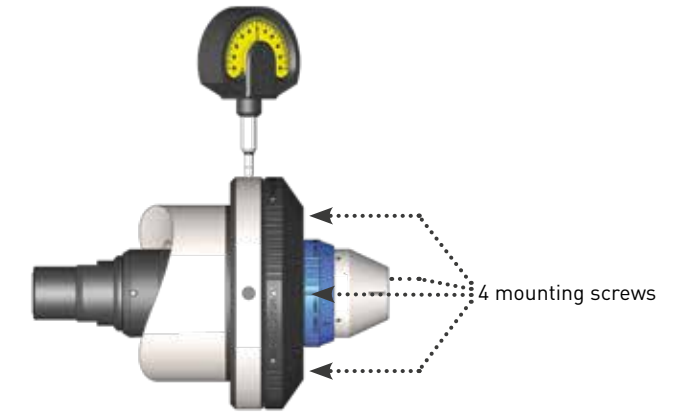
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**Step 1: Preparation of the adapter flange**

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

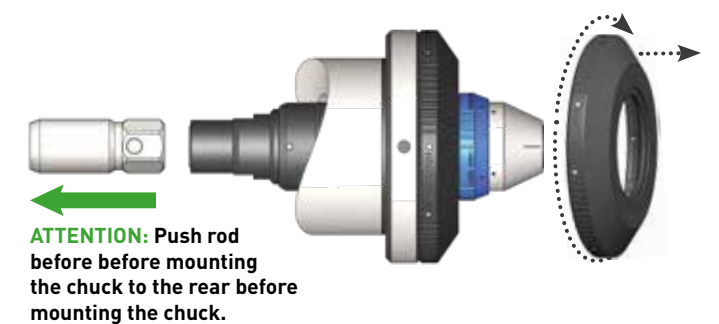


**Step 2: Preparation of the chuck**

1. Make sure that the face of the machine interface machine interface is level and clean.
2. Clean all contact surfaces of the chuck.
3. The  $\mu$ Grind chuck should be at ambient temperature.

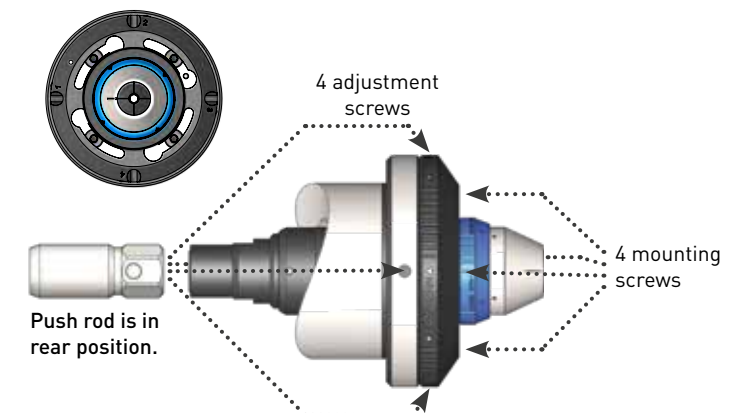
**Step 3: Screw in push rod**

1. Screw the push rod (2) in the case into the machine spindle with the corresponding double socket wrench (3) and tighten it firmly.
2. Remove the splash guard of the chuck. Observe the OPEN & CLOSE markings.
3. Move the push rod with the machine control to the rear.



**Step 4: Assemble chuck**

1. Loosen the adjustment screws. Turn the black adjustment ring until the mounting screws are visible in the recess.
2. Now you can screw the chuck onto the workpiece spindle with the supplied clamping key (5). When doing so, please tighten the mounting screws only slightly. (The mounting screws will be tightened later during the concentricity adjustments).





## Step 5: Preparation for collet

1. Move the push rod forward with the machine control. The chuck opens (unclamps) automatically.
2. Turn the blue ring to OPEN (Fig. 1).

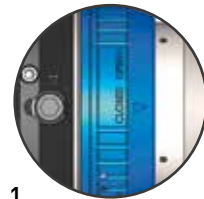
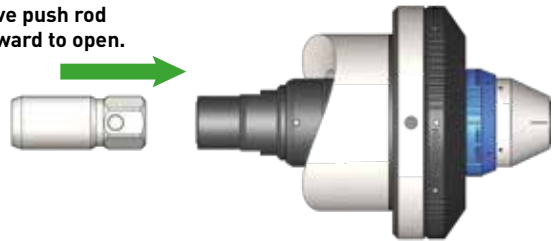


Fig. 1  
View: blue ring open

**ACHTUNG:**  
Move push rod  
forward to open.



## Step 6: Screw in collet

1. Screw in the HPS collet chuck as follows:
2. Turn the collet chuck clockwise until it reaches the stop.
3. Now turn the collet at least 1/4 turn counterclockwise until the next collet slot is aligned with the marking on the chuck (Fig. 2).
4. Turn the blue ring to CLOSE (Fig. 3). Please observe our **note**.

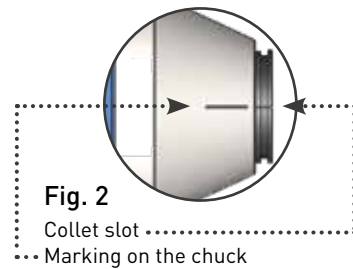


Fig. 2  
Collet slot .....  
Marking on the chuck

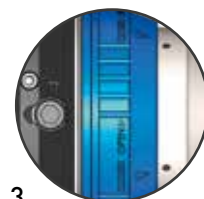
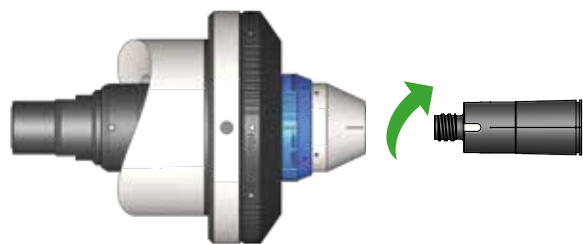


Fig. 3  
View: blue ring closed



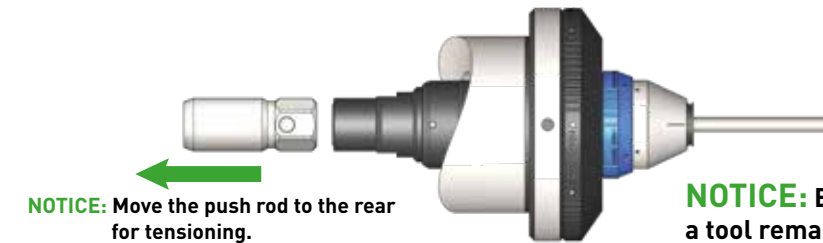
**Hinweis:** When turning the blue locking ring from OPEN to CLOSE, a bolt moves into one of the locking grooves of the collet to secure it.

## Step 7: Insert adjustment pin

1. Slide a suitable setting pin into the collet and move the push rod backward with the machine control.
2. This operation clamps the setting pin.



**Collet must NEVER**  
be clamped empty.



**NOTICE:** Move the push rod to the rear for tensioning.

**NOTICE:** Before each machine shutdown, make sure that a tool remains in the chuck or the collet is removed.

## Adjustment Runout and Repeatability

The more accurately the chuck is set during setup, the more accurately it will behave during collet change.



**TIP** Use 2 precision dial gauges with a resolution of at least 0.001mm.



**Note:** To ensure proper function, disassemble and clean the chuck once a month.



To achieve the highest accuracy when changing collets, use the  $\varnothing 8$  and  $\varnothing 10$  test blanks, as well as the precision dial gauges from the setting set.



Always set the concentricity of the setting pin with two dial gauges and a setting pin that is as long as possible. The longer the setting pin, the higher the accuracy. Pay attention to the quality of the setting pin.

## Step 1: Preparation

1. Attach two dial gauges (Fig. 1).
2. Keep the alignment hammer (4) and clamping wrench (5) handy.
3. Check whether the adjustment screws are loosened.
4. Operate the machine in manual mode.

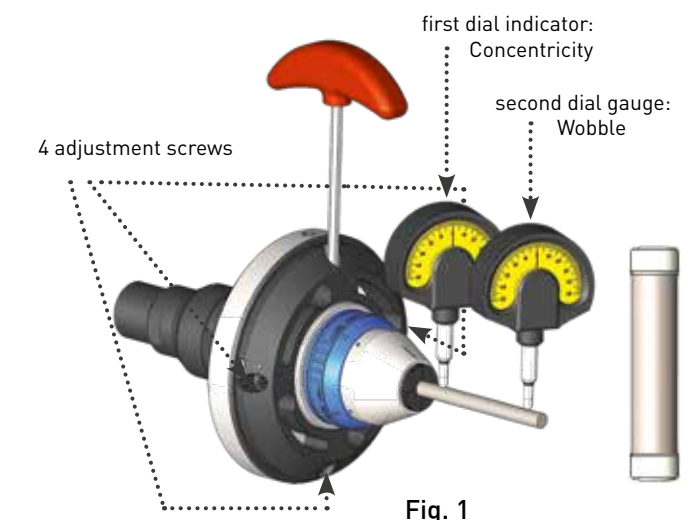


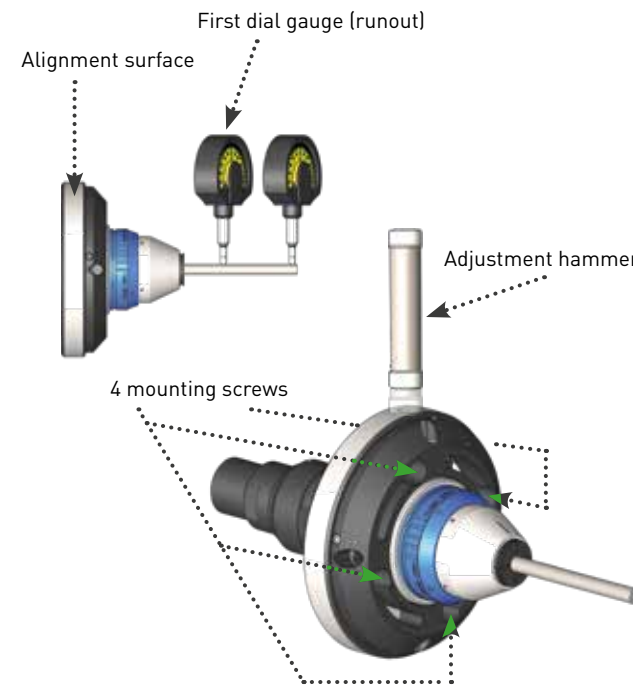
Fig. 1

## Step 2: Runout

Pay attention to the first dial gauge.

Align the concentricity by tapping the alignment surface with the alignment hammer (4) supplied.

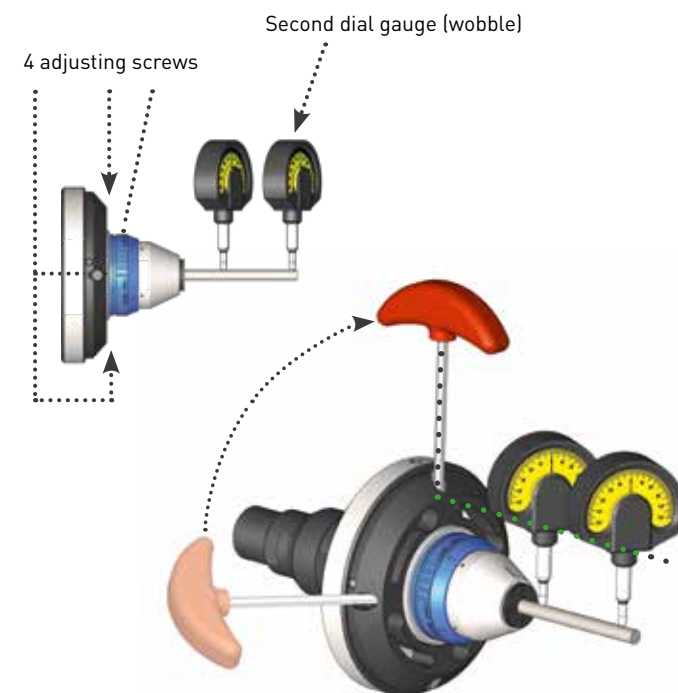
1. Turn the A-axis evenly to the highest clock deflection value. Now reduce this by half the value by tapping.
2. Repeat this process until you have achieved a runout of 0.001mm. Then tighten the 4 mounting screws crosswise with 12Nm.
3. Release and tighten the adjusting pin three to five times so that the chuck settles and assembly tensions are released.
4. Check the concentricity again. Readjust if necessary.



## Step 3: Wobble error

Pay attention to the second dial gauge.

1. Turn the A-axis evenly up to the highest clock deflection value, as soon as this is reached, turn the black adjustment ring onto the dial gauge axis using the tension wrench (5).
2. Using the tension wrench (5), tighten the adjustment screw by half the value.
3. Relax and tighten the adjusting pin three to five times so that the chuck settles and mounting tensions are released.
4. Turn the A-axis 2-3 turns. If there is still a wobble error, correct it by half the value with the adjustment screws until a runout and wobble error of less than 0.001 mm is achieved.
5. Slightly tighten the remaining adjustment screws.
6. Now mount the splash guard.
7. Done, now you can start grinding.



Depending on the application, it is advisable to check the concentricity at regular intervals.



**Notice:** During grinding operation, ensure that there is no contact of any kind between the blue ring and coolant hoses, etc.

## Change collet

### Step 1:

- Advance the push rod to release the chuck. Remove the blank.

### Step 2:

- Turn the blue locking ring from CLOSE to OPEN and turn out the collet.

### Step 3:

- Turn the new collet into the chuck and secure it as described on page 6.

### Step 4:

- Clamp a new blank and, if necessary, check the run-out/wobble with two dial gauges. If necessary, adjust again as described on pages 7 and 8.

## Remove chuck

### Step 1:

- Advance the push rod to release the chuck. Remove the blank.

### Step 2:

- Turn the blue locking ring from CLOSE to OPEN and turn out the collet.

### Step 3:

- Remove the splash guard and loosen the four adjustment screws using the supplied tension wrench.

### Step 4:

- Move the push rod to the rear.
- Turn the black adjustment ring until the mounting screws are visible in the recess and loosen them.
- Remove the chuck from the machine and pack it in the original bag. **Make sure that it is protected against corrosion.**
- Remove the push rod from the machine spindle.
- Stow the chuck and accessories safely in the µGrind case.



**Notice:** When you remove the chuck with collet, there must be a blank in the collet.

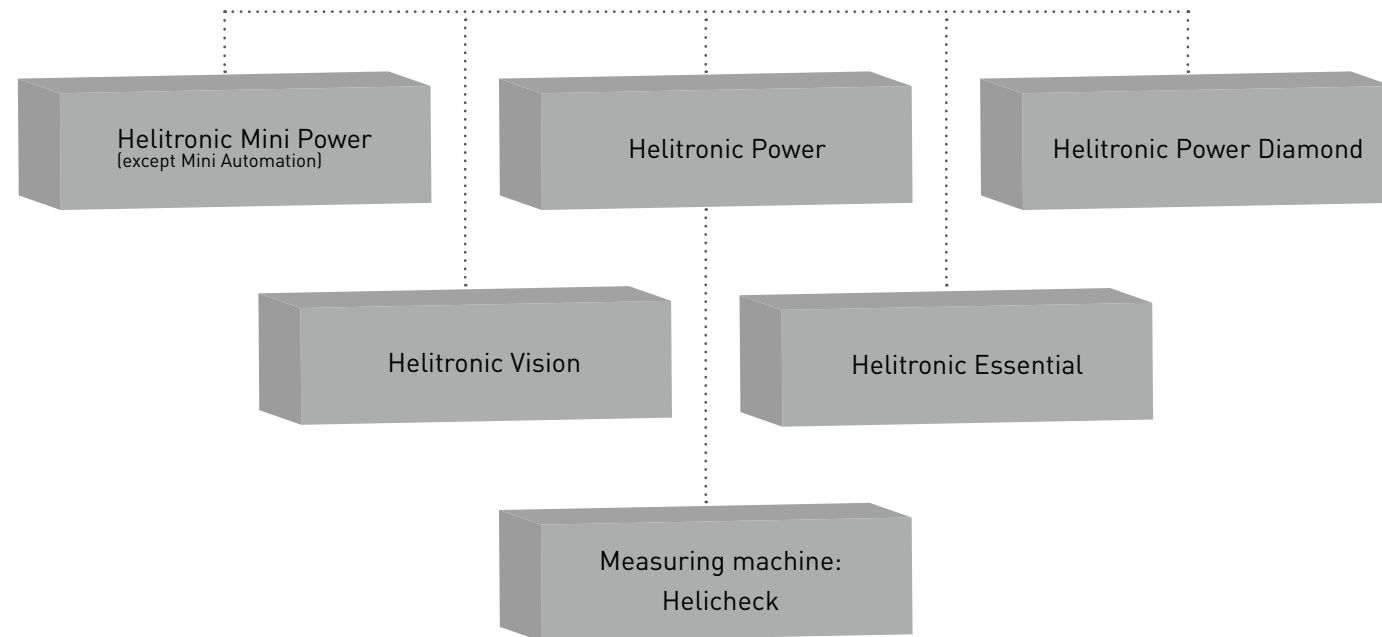
The μGrind booster HPS 20 and HPS 20 L can be used in the following machines:



μGrind booster HPS 20  
400001000

μGrind booster HPS 20 L  
400001001

Applicable in these **WALTER** machines:



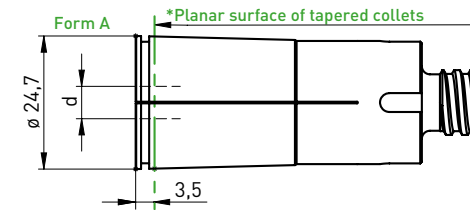
Also available for these machines on request:

- ANCA
- ISOG
- JOERG S-techplus
- Reinecker
- Saacke
- Schütte
- Star
- TGT
- Utsunomiya-Seisakusho
- Vollmer



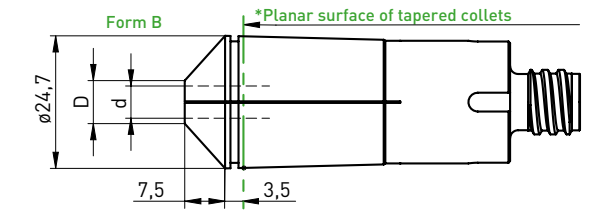
High compatibility with all common machine manufacturers.

Accessories flat collets:

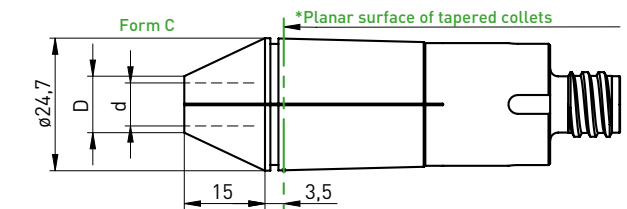


Item No.	Name - $\phi$ d	Form
350260003	HPS collet 20 - $\phi$ 3 mm	A
350260004	HPS collet 20 - $\phi$ 4 mm	A
350260005	HPS collet 20 - $\phi$ 5 mm	A
350260006	HPS collet 20 - $\phi$ 6 mm	A
350260007	HPS collet 20 - $\phi$ 7 mm	A
350260008	HPS collet 20 - $\phi$ 8 mm	A
350260009	HPS collet 20 - $\phi$ 9 mm	A
350260010	HPS collet 20 - $\phi$ 10 mm	A
350260011	HPS collet 20 - $\phi$ 11 mm	A
350260012	HPS collet 20 - $\phi$ 12 mm	A
350260013	HPS collet 20 - $\phi$ 13 mm	A
350260014	HPS collet 20 - $\phi$ 14 mm	A
350260015	HPS collet 20 - $\phi$ 15 mm	A
350260016	HPS collet 20 - $\phi$ 16 mm	A
350260017	HPS collet 20 - $\phi$ 17 mm	A
350260018	HPS collet 20 - $\phi$ 18 mm	A
350260019	HPS collet 20 - $\phi$ 19 mm	A
350260020	HPS collet 20 - $\phi$ 20 mm	A
350260201	HPS collet 20 - $\phi$ 1/8"	A
350260202	HPS collet 20 - $\phi$ 3/16"	A
350260203	HPS collet 20 - $\phi$ 1/4"	A
350260204	HPS collet 20 - $\phi$ 5/16"	A
350260205	HPS collet 20 - $\phi$ 3/8"	A
350260206	HPS collet 20 - $\phi$ 7/16"	A
350260207	HPS collet 20 - $\phi$ 1/2"	A
350260208	HPS collet 20 - $\phi$ 9/16"	A
350260209	HPS collet 20 - $\phi$ 5/8"	A
350260210	HPS collet 20 - $\phi$ 11/16"	A
350260211	HPS collet 20 - $\phi$ 3/4"	A

Accessories tapered collets:



Item No.	Name - $\phi$ d	Form
350260130	HPS collet 20K - $\phi$ 2,35 mm	B
350260103	HPS collet 20K - $\phi$ 3 mm	B
350260104	HPS collet 20K - $\phi$ 4 mm	B
350260105	HPS collet 20K - $\phi$ 5 mm	B
350260106	HPS collet 20K - $\phi$ 6 mm	B
350260301	HPS collet 20K - $\phi$ 1/8"	B
350260302	HPS collet 20K - $\phi$ 3/16"	B
350260303	HPS collet 20K - $\phi$ 1/4"	B



Item No.	Name - $\phi$ d	Form
350260107	HPS collet 20K - $\phi$ 7 mm	C
350260108	HPS collet 20K - $\phi$ 8 mm	C
350260109	HPS collet 20K - $\phi$ 9 mm	C
350260110	HPS collet 20K - $\phi$ 10 mm	C
350260111	HPS collet 20K - $\phi$ 11 mm	C
350260112	HPS collet 20K - $\phi$ 12 mm	C
350260304	HPS collet 20K - $\phi$ 5/16"	C
350260305	HPS collet 20K - $\phi$ 3/8"	C
350260306	HPS collet 20K - $\phi$ 7/16"	C
350260307	HPS collet 20K - $\phi$ 1/2"	C



Minimum clamping depth of 2,5 x  $\phi$  from \*clamping chuck's plane surface.

### To note:

- The µGrind series (chuck) was designed for loading and changing rotationally symmetrical blanks and tools with shank tolerance h6 or more accurate.
- For shank tools, all shanks according to DIN 1835 Form A, B, E or DIN 6535 Form HA, HB, HE can be clamped.
- The µGrind series (chucks and collets) may only be used within the scope of their 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.



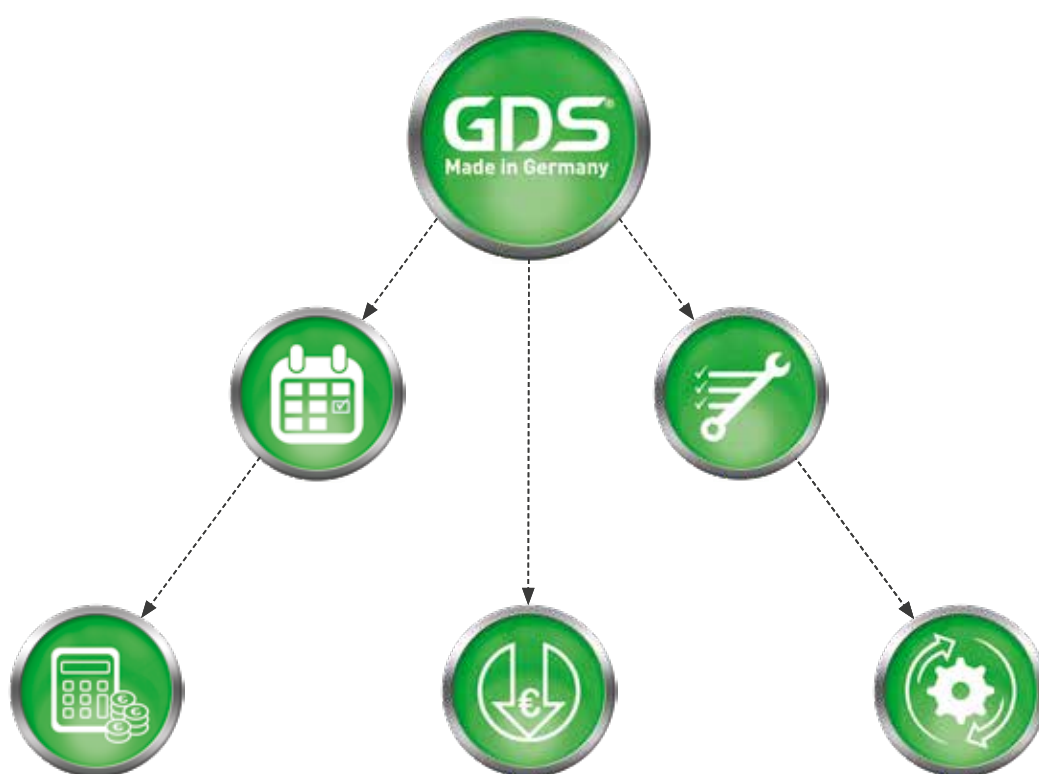
### Check the following points:

- Check clamping pressure
- Check blank
- Contamination
- Locking mechanism (blue ring) correctly closed
- All mounting and adjusting screws correctly tightened
- Push rod correctly mounted
- Chuck requires room temperature
- Open everything again, clean and start again step by step from the beginning





# REVOLUTION IN TOOLGRINDING



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