

Operating manual for Guhring Expansion Toolholders (manually actuated)

Dear Customer,

Thank you for choosing a Guhring product. Please follow our assembly and operating instructions carefully, as this will not only save you time but is also the best way to avoid errors. Additional technical data is provided on the appropriate pages of our current catalog GM 300. Should you have any queries or complaints, our staff is always ready to provide telephone assistance. We feel sure that if you follow our instructions, this Guhring product will give you every satisfaction.

Yours faithfully,
Guhring oHG

1. Safety

Besides their excellent technical characteristics, the Guhring Expansion Toolholders are maintenance free and, compared to other tools, much easier to handle. In order to assure proper function of the toolholder's intended use, please consider our operating instructions!



1.1 Symbolic explanation

If this sign should be used, improper handling can expose people and things to danger.

1.2 Proper Use

Guhring Expansion Toolholders are suitable for clamping rotation-symmetrical tools. Smooth cylindrical shank tools up to \varnothing 32 mm may be clamped. Additionally, tool shanks with recesses as per DIN 6535 and DIN 1835 shape B may also be clamped.



This product may only ever be employed within the restrictions of its technical specifications (see chapter 3, chart of technical data). Appropriate use also includes compliance with the conditions the manufacturer has specified for commissioning, assembly, operation, environment and maintenance. Using the system with disregard to even a minor specification will be deemed inappropriate use. The manufacturer assumes no liability for any injury or damage resulting from inappropriate use.

1.3 Safety instructions

1. When using the tools, the values indicated in chapter 3, must not be exceeded!



2. If our tools are used during rotation, safety covers as per EEC Machine Guide Line § 1.4.2.2. B have to be installed.

3. If the minimum clamping depth is not respected, the tool may break and the accuracy can't be maintained.

4. Before initial use, after appr. 100 tool actuations and every 3 months the clamping force should be controlled by using our SENSO 3000 clamping force measuring instrument (Guhring No. 4038) or by a clamping force test with Carbide proofing arbor and torque wrench. If clamping force is not high enough, the Expansion Toolholder shouldn't be used any more and has to be returned to Guhring for repair.

Please note: SENSO 3000, Carbide proofing arbor and torque wrench do not belong to the scope of delivery and have to be ordered separately (see current GM 300 catalogue).

5. Clamping of tools and the insertion of the Expansion Toolholder into the machine always has to be done by technically skilled personnel which has complete read and understood the operating manual.



6. Always properly tighten the actuation screw by turning it in completely with an allen wrench until it "bottoms out".

7. Additional bores, threads or attachments which are not offered as an accessory by Guhring, may only be used with the written allowance of the Guhring oHG.

8. The air outlet screw with artificial lacquer is part of the Hydraulic system. **Don't remove it!**

9. The Guhring drill chamfer tool system FS 300 has not to be used without chamfer or protection collar!

2. Warranty

The warranty period is 24 months after delivery date from factory assuming appropriate use and respecting the recommended operating and maintenance regulations.

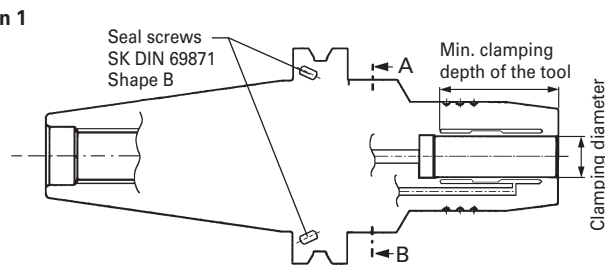
3. Chart of technical data

Clamp- ing \varnothing	max. RPM	Admissible trans- missible torque	Minimum- clamping depth of the tool	max. Adjust. range l_3	Admissible radial force F on the tool- holder at an overhang length of 50 mm	Operating- temperature	Max. Coolant pressure	Shank- \varnothing
	in 1/min							
\varnothing 6	50 000	16	27	10	225	20 - 50	80	6 h ₆
\varnothing 8	50 000	26	27	10	370	20 - 50	80	8 h ₆
\varnothing 10	50 000	50	31	10	540	20 - 50	80	10 h ₆
\varnothing 12	50 000	82	36	10	650	20 - 50	80	12 h ₆
\varnothing 14	50 000	125	36	10	900	20 - 50	80	14 h ₆
\varnothing 16	50 000	190	39	10	1410	20 - 50	80	16 h ₆
\varnothing 18	50 000	275	39	10	1580	20 - 50	80	18 h ₆
\varnothing 20	50 000	310	41	10	1860	20 - 50	80	20 h ₆
\varnothing 25	25 000	520	47	10	4400	20 - 50	80	25 h ₆
\varnothing 32	25 000	770	51	10	6500	20 - 50	80	32 h ₆

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4. Operation

Illustration 1



Cut A - B

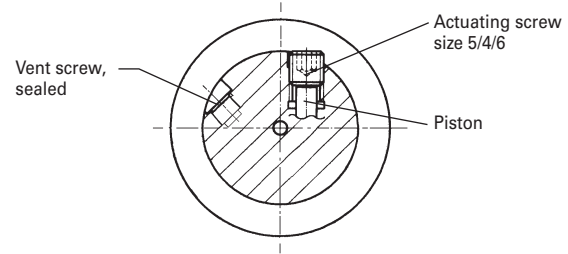
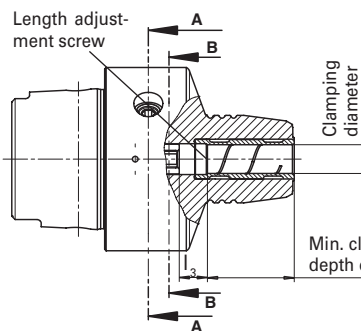
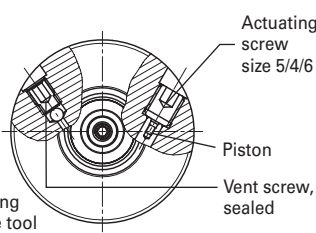


Illustration 2



Cut A - A



Cut B - B

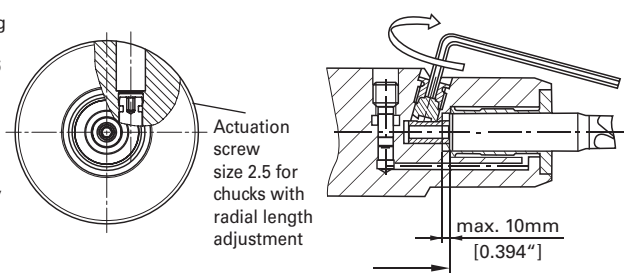
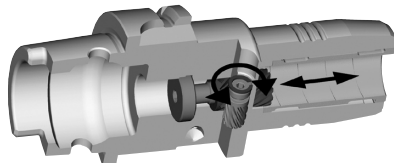
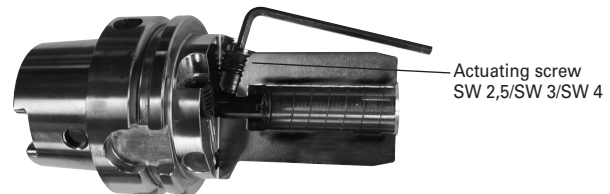


Illustration 3



Cross sections of Guhring expansion toolholders with radial length adjustment.



4.1 Clamping

1. The tool should not have burrs and must be clean.
2. The tool must be clamped into the toolholder at a minimum clamping depth (see chart, chapter 3).
HINT: Insert the tool in vertical position into the Expansion Toolholder.
3. Turn in the actuation screw until **it bottoms out** and tighten it slightly. Tightening torque: 10 – 12 Nm, (7 – 9 ft lbs).
4. For unclamping appr. 3 – 6 key rotations (depending on the clamping diameter) are necessary.



CAUTION: The clamping screw must be secured against falling out!

4.2 Length adjustment »axial«

Actuation is done via the bore of the clamping diameter or taper mounting with an Allen wrench.

4.3 Length adjustment »radial« (see illustr. 2, cut B - B and illustr. 3)

1. The length adjustment screw is adjusted via the actuation key with the socket wrench supplied.
2. The maximum starting torque for actuation screws shouldn't exceed 3 Nm.



CAUTION:

- Always use the supplied wrench. Wrench breaks if the maximum starting torque is exceeded and therefore avoid a damage of the components (predetermined breaking point).
 - Never actuate the length adjustment screw while the tool is clamped.
3. For covering the whole path appr. 20 rotations are necessary.

5. Modification of a steep taper DIN 69871 from shape A to shape B

Remove both seal screws (see illustr. 1 in chapter 4). Screw in the pull-back bolts for shape B into the steep taper. The modification from shape B to shape A is done in reverse order by using the pull-back bolt for shape A and replacing the two seal screws.

6. Care, Storage and Maintenance

1. After every exchange of tool the clamping bore and the groove should be cleaned with a cleaner containing solvent. This helps to maintain the clamping force. Matching cleaning units (Guhring No. 4918) for \varnothing 6 to 32 mm have to be ordered separately (see current GM 300 catalogue).
2. Before storage, the whole surface of the Expansion Toolholder should be oiled slightly.
3. Always stock the Expansion Toolholder in unclamped position.
4. Basically repair works should be done at Guhring. If you should do the repair works on your own or have it done by a third party, the warranty expires.