

**botek**

DEEP HOLE DRILLING SYSTEMS  
SOLID CARBIDE TOOLS

# Grinding fixtures botek



**Grinding fixtures ZS/PS**  
for regrinding single flute gundrills  
from dia. 0.5 mm



The **botek grinding fixture ZS** is designed for low volume production re-sharpening of single flute gundrills.

The fixture may be installed on a botek grinding machine MS-01, or a standard tool grinding machine. The desired angles are set on the grinding fixture using graduated scales. The gundrill is inserted into the clamping unit and a vee-shaped jaw holds the gundrill securely in the flute.



**Grinding Fixture ZS**

When choosing a grinding fixture, please consider the required flute lengths and gundrill diameter range to be sharpened.

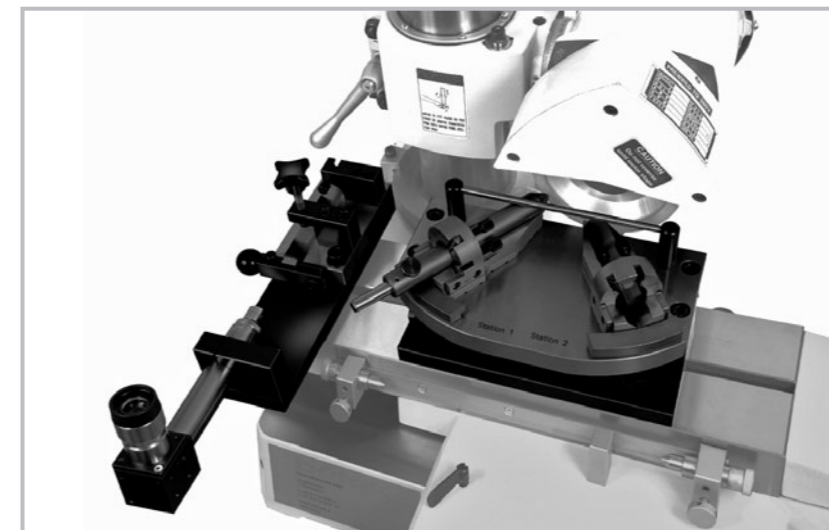
Model	Ordner No.	Clamping range		Minimum flute length of tool
		from	to	
ZS 16/50	729 000 100	2.0 mm	16.0 mm	50.0 mm
ZS 32/110	729 000 101	2.0 mm	32.0 mm	110.0 mm
ZS 32/160	729 000 102	2.0 mm	32.0 mm	160.0 mm
ZS 50/170	729 000 103	5.0 mm	50.0 mm	170.0 mm

The **botek grinding fixture PS** was developed for re-sharpening single flute gundrills within a diameter range from 0.5 - 6.0 mm. The fixture may be installed on a botek grinding machine MS-01 or a standard tool grinding machine.

By changing the grinding stations, our standard nose grinds SA-0009, SA-0002 and SA-0227 can be produced. The angles of the cutting edges are fixed, depending on which grinding stations are chosen.

Single flute gundrills are clamped into a tool holder for re-sharpening. Each tool holder is suitable for one gundrill driver diameter of 10, 12 or 12.7 mm. The tool holder is inserted into each grinding station and pressed against the adjustable stop and passed across a rotating diamond wheel. The relief angles are achieved by moving the grinding station to a second position.

Gundrills are clamped in the tool holder using a pre-setting fixture with microscope. A different tool holder bushing may be ordered for each gundrill diameter. Tool holders are available in specific gundrill diameter ranges and driver types. Please refer to the following page for further details.

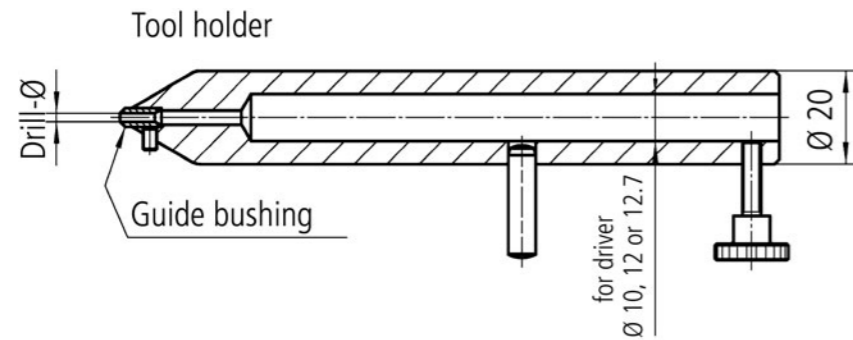


**Grinding fixture PS**

When selecting the grinding fixture PS, the desired nose grind must be specified.

Model	Order No.	Clamping range		Grinding angles
		from	to	
PS-001-N	729 000 104	0.50 mm	6.0 mm	Nose grind SA-0009, SA-0002, SA-0227

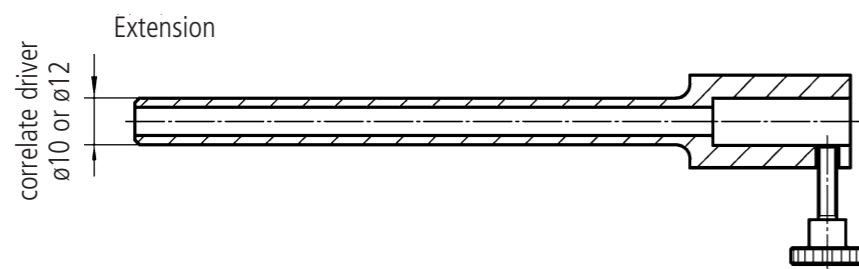
**Tool holder for grinding fixture PS**



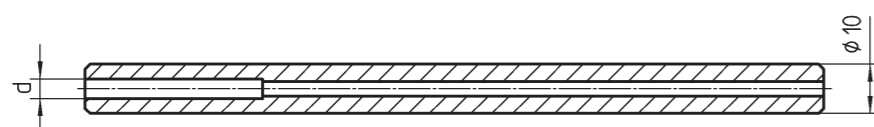
**Dimensions of tool holder** (special dimensions on request)

Tool holder size	Ordner No.	Guide bushing for drill - Ø	
		from	to
1.0	729 000 108	0.5 mm	1.099 mm
1.8	729 000 109	1.1 mm	1.899 mm
2.6	729 000 110	1.9 mm	2.699 mm
3.3	729 000 111	2.7 mm	3.399 mm
4.0	729 000 112	3.4 mm	4.099 mm
5.0	729 000 113	4.1 mm	5.099 mm
6.0	729 000 114	5.1 mm	6.099 mm

**Extension for tool holder** (available as optional accessory)



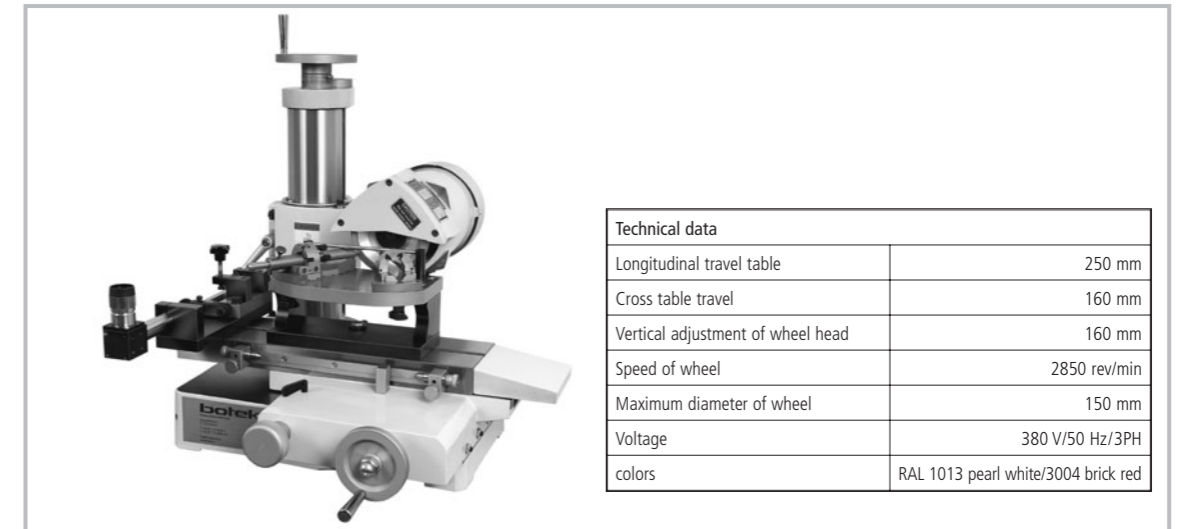
**Grinding adapter for shaft ≤ 6.0mm** (available as optional accessory)



The **grinding machine MS-01** is a very stabile and versatile machine that may be easily installed on a cabinet or workbench. The basic equipment includes a machine lamp and two sockets (220 V).

The MS-01 can be combined either with a ZS or PS grinding fixture (offered separately)

Order No: 729 000 105



**Grinding machine MS-01-T**

The MS-01-T includes a complete cabinet with lockable drawer and cupboard.

The cabinet is made out of multiplex plywood.

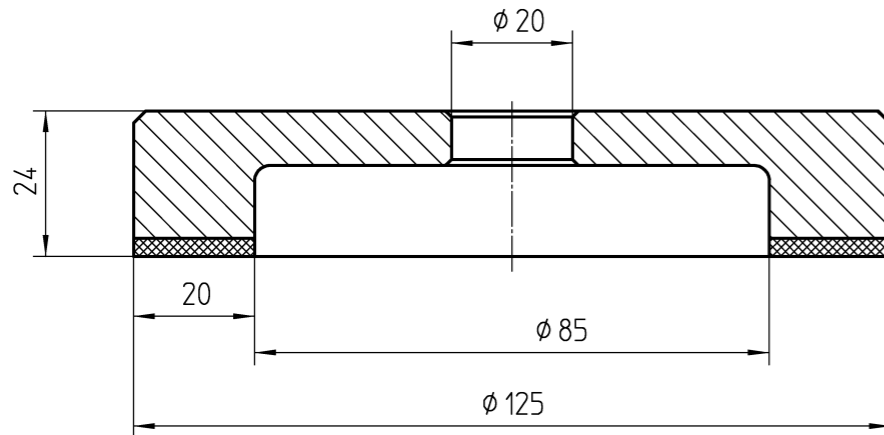
Order No: 729 000 106



**Cup wheel**

For re-sharpening single flute gundrills within a diameter range from 0,5 to 2,0 mm a cup wheel is most suitable. The gait of the wheel is chosen to keep an excellent grinding quality and sufficient stock removal without overheating the tool.

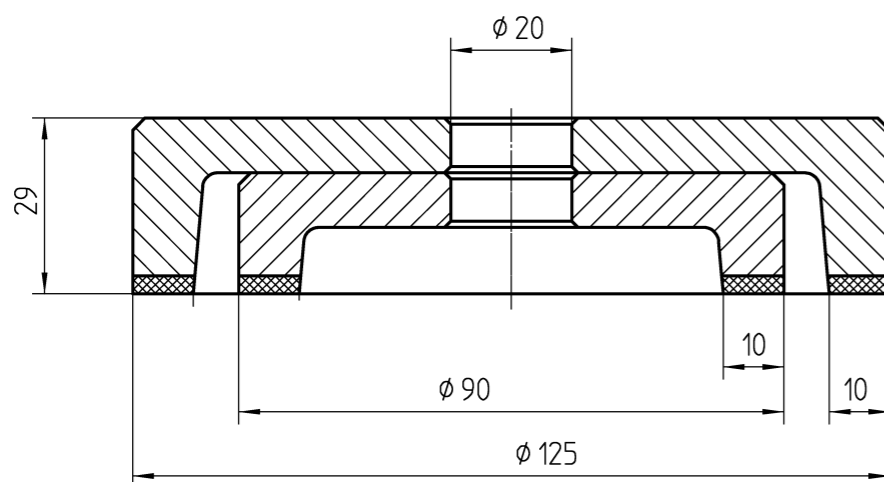
Order No: 125 000 218



**Double grinding wheel**

The double grinding wheel is ideal for re-sharpening single flute gundrills up to 45 mm diameter. The coarse grit of the outer wheel is for roughing the tool with high stock removal and minimum heating of the tool. The fine grit of the inner grinding wheel provides optimum surface finish with light stock removal.

Order No: 729 00 107



Remark: We recommend re-sharpening gundrill diameters greater than 32 mm on larger machines.

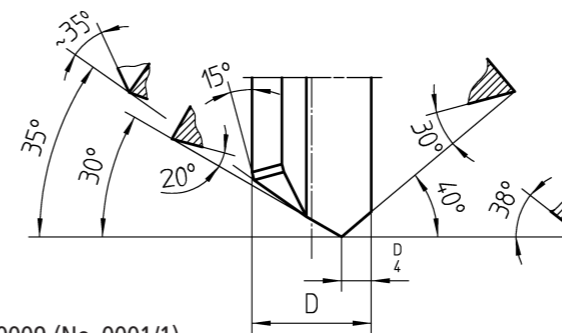
**Standard nose grinds for botek single flute drills**

The nose grind geometry affects the following: chip formation, drilling tolerance, centerline deviation (drift) and tool life.

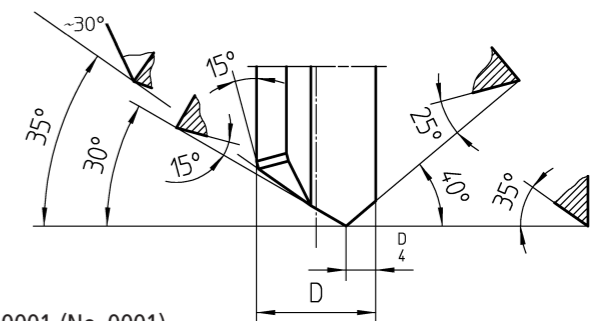
Over the years, botek has successfully tested a number of different nose grinds for drilling various materials.

botek's experience has formed the foundation for the development of our standard nose grind geometries. This meets the requirements of most drilling applications. Deep-hole drilling of especially long chipping materials and difficult to machine materials usually call for special nose grind geometries, and in some cases, made to order chip breakers.

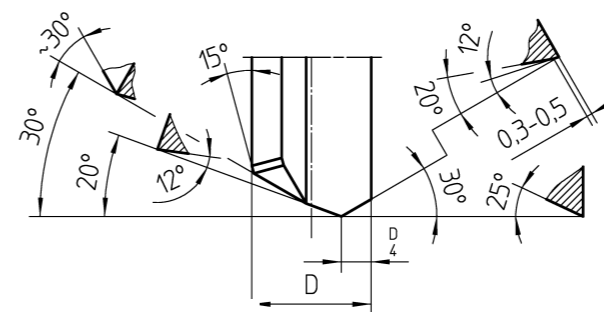
Regrinding instructions can be provided from case to case. If there is no other information given, botek single flute drills will be reground as per nose grind SA-0001, SA-0002, SA-0003 and SA-0009 as shown below.



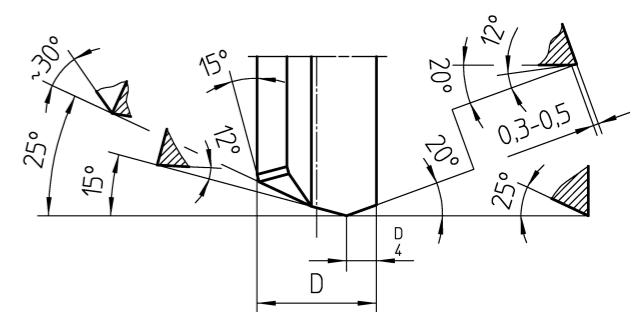
SA-0009 (No. 0001/1)  
Drill-Ø 0.5 - 4.000 mm



SA-0001 (No. 0001)  
Drill-Ø 1.85 - 4.000 mm



SA-0002 (No. 0002)  
Drill-Ø 4.001 - 20.000 mm



SA-0003 (No. 0003)  
Drill-Ø 20.001 - ... mm

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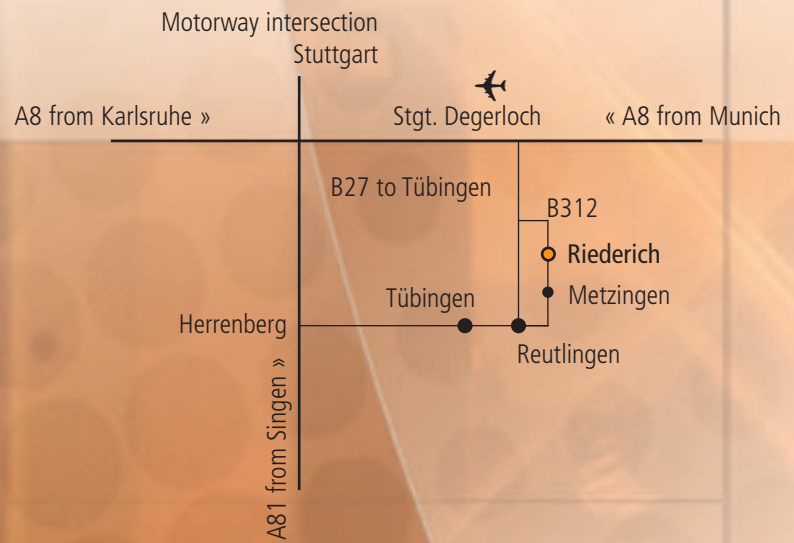
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