

# BILZ



## formbore- System Tools

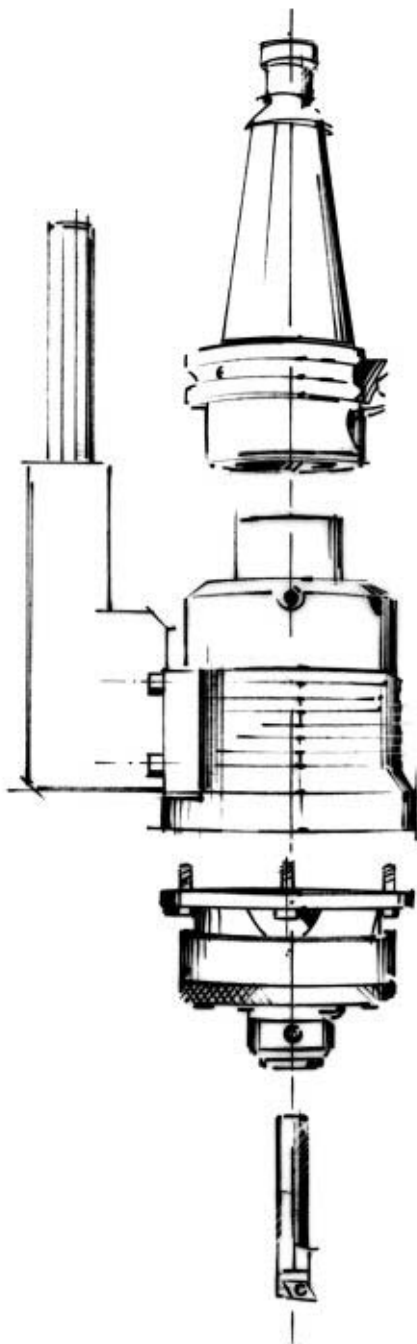
a new development  
to inspire you both technically  
and economically



Leitz Metalworking Technology Group  
**BELIN • BILZ • BOEHLERIT •**  
**FETTE • KIENINGER • ONSRUD**



## formbore The basic concept - simple but brilliant

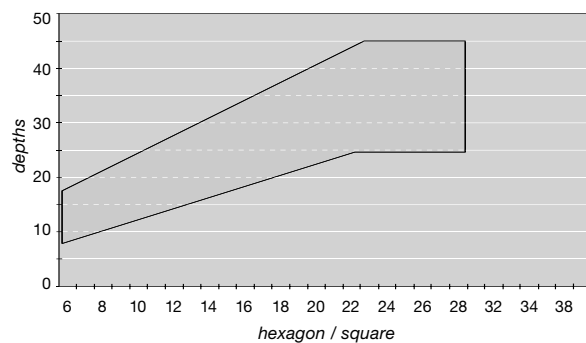


### Design and mode of operation

formbore system tools consist of three components: drive shaft, case and drill chuck. The rotating drive shaft is located in the case. The torque driven control determines the movement sequence of the drill chuck. The deflection of the blade is by means of entirely rolling elements. Formbore system tools therefore operate practically wear and maintenance-free and make machining of most materials up to 900N/mm<sup>2</sup> strength possible.

Initially, a pre-bore is machined up to a maximum of 0,5 mm diameter smaller than the key width. The actual form drilling operation is carried out in a single process with profile adjusted speed and feed appropriate to the material being machined.

### Machining depths





## formbore Simply a more economical concept



*formbore-system tool  
for use on turning machines  
with driven tools.  
Example:  
with angle driven*



*formbore-system tool  
for use on a machining centre,  
boring – and milling machines.  
Example:  
with SK 40 shank,  
DIN 69871, form A.*

## Technical Data

formbore-system tools are available in two standard sizes. Size 1 is suitable for speeds up to  $n^{\max}$  1000 min<sup>-1</sup> and form sizes as a square from 4 - 14 mm and as a hexagon from 4 - 21 mm. Size 2 is suitable for speeds up to  $n^{\max}$  500 min<sup>-1</sup> and form sizes as a square from 4 - 22 mm and as a hexagon from 4 - 38 mm. Tools for other forms and size ranges are available on request.

the minimum edge radius for  
square  $SW \times 0,10 = 10\% SW$ ,  
hexagon  $SW \times 0,04 = 4\% SW$ .

## System variations

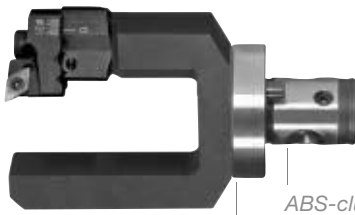
formbore-system tools are designed for use on turning machines, machining centres as well as drilling and milling machines. The photographs (left) show three typical system variations. Special designs for special machines and automatic lathes are available on request.



*example:  
with central drive VDI 40.*

# formbore Simply versatile

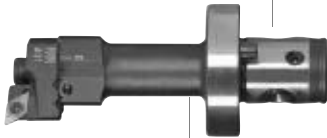
*cutter body*  
GCT-1819



*over turning steel*  
ASA...ABS 40

ABS-clutch system  
KOMET licence  
(formbore  
Size 2 only)

*Insert holder*  
ASA-26...  
ASA-31...  
ASA-38...



*Boring bar*  
ASI ... ABS40

*cutter body*  
GCT-1814  
GCT-1815

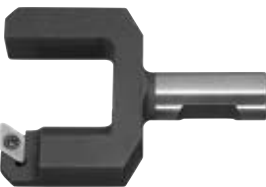


*bore out steel*  
ASI-12.1  
ASI-16.1



*Eccentric bushing*  
for fine adjustment  
of the bore out steel  
and over turning steel  
Range +/- 0,2 mm  
Ø 10, Ø 12, Ø 16.

*cutter body*  
GCT-1814  
GCT-1815



*over turning steel*  
ASA-12.1  
ASA-16.1



*formbore cam block*  
Size 1 FBK-10...  
Size 2 FBK-20...

## Flexible accessories

Ordering recommendation for a formbore system tool with cam block, eccentric bushing, insert holder and cutting bodies. The system for practical versatility, flexibility, time saving and cost reduction in daily work.



Let us know your processing requirements. You will receive our specific tool recommendation and our offer will convince you of the advantages of the new formbore development.



## formbore The advantages are simply unsurpassed



*outer hexagonal profile  
SW 22 mm,  
interrupted cut.*

*Inner square profile  
SW 12 mm.*



## The most significant advantages

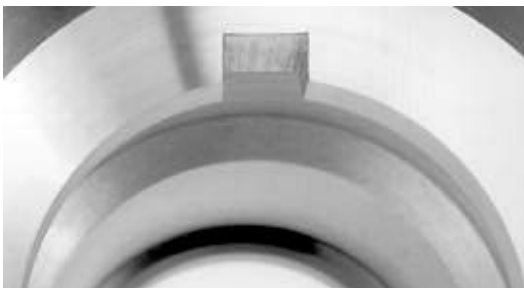
for the first time you can produce a large variety of inner and outer profiles with the highest possible precision by means of simple drilling and turning processes on normal machining centres.

formbore-system tools can be used on milling machines, machining centres, turning machines and special machines.

formbore-system tools work independently of the machining spindle. It is not necessary to calculate and program the synchronous coordination to the machine spindle.

formbore-system tools are designed for different profiles and profile sizes. It is possible to make changes to the working process, for example to separate reaming, erosion or milling.

formbore-system tools reduce the working time considerably in comparison to the processes currently being used. Further advantages are blind holes without residual chips, the constant accuracy is due to the correction of the cutter wear. The torque support and the modular tool holders are identical to the ones used on the Bilz tapping GNCK/GNCN tapping attachments.



*Technical refinement:  
Key groove with 8 mm width,  
machined on a lathe without resetting.*



*formbore-tool application  
on a machining centre  
SK 40, DIN 69871, form A.*



LMT Deutschland GmbH  
Heidenheimer Strasse 108  
DE-73447 Oberkochen  
Tel. +49 (0) 73 64/95 79-10  
Fax +49 (0) 73 64/95 79-30  
E-mail: [lmtd@LMT-tools.com](mailto:lmtd@LMT-tools.com)  
Homepage: [www.LMT-tools.de](http://www.LMT-tools.de)  
[www.LMT-tools.com](http://www.LMT-tools.com)

## BELIN

Belin Yvon S.A.  
FR-01590 Lavancia, France  
Tel. +33 (0) 4 74 75 89 89  
Fax +33 (0) 4 74 75 89 90  
E-mail: [belin@belin-y.com](mailto:belin@belin-y.com)  
Homepage: [www.belin-y.com](http://www.belin-y.com)

## BILZ

Bilz Werkzeugfabrik GmbH & Co. KG  
Vogelsangstrasse 8  
DE-73760 Ostfildern, Germany  
Tel. +49 (0) 711 3 48 01-0  
Fax +49 (0) 711 3 48 12 56  
E-mail: [zentrale@bilz.de](mailto:zentrale@bilz.de)  
Homepage: [www.bilz.de](http://www.bilz.de)

## BOEHLERIT

Boehlerit GmbH & Co. KG  
Werk VI-Strasse  
Deuchendorf  
AT-8605 Kapfenberg, Austria  
Tel. +43 (0) 38 62 300-0  
Fax +43 (0) 38 62 300-793  
E-mail: [blk@boehlerit.com](mailto:blk@boehlerit.com)  
Homepage: [www.boehlerit.com](http://www.boehlerit.com)

## FETTE

Fette GmbH  
Grabauer Strasse 24  
DE-21493 Schwarzenbek, Germany  
Tel. +49 (0) 41 51 12-0  
Fax +49 (0) 41 51 37 97  
E-mail: [tools@fette.com](mailto:tools@fette.com)  
Homepage: [www.fette.com](http://www.fette.com)

## KIENINGER

Kieninger GmbH  
An den Stegmatten 7  
DE-77933 Lahr, Germany  
Tel. +49 (0) 7821 943-0  
Fax +49 (0) 7821 943-213  
E-mail: [info@kieninger.de](mailto:info@kieninger.de)  
Homepage: [www.kieninger.de](http://www.kieninger.de)

## ONSRUD

Onsrud Cutter LP  
800 Liberty Drive  
Libertyville, Illinois 60048, USA  
Tel. +1 (847) 362-1560  
Fax +1 (847) 362-5028  
E-mail: [info@onsrud.com](mailto:info@onsrud.com)  
Homepage: [www.onsrud.com](http://www.onsrud.com)