BILZ

formbore-
System Tools

a new development
to inspire you both technically and economically

Leitz Metalworking Technology Group
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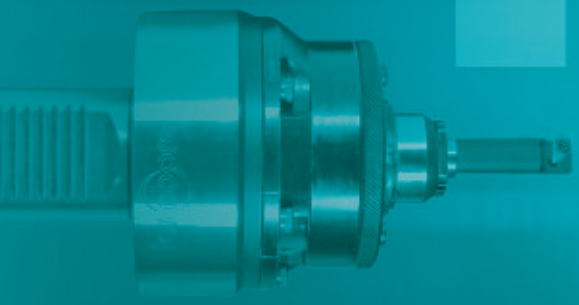
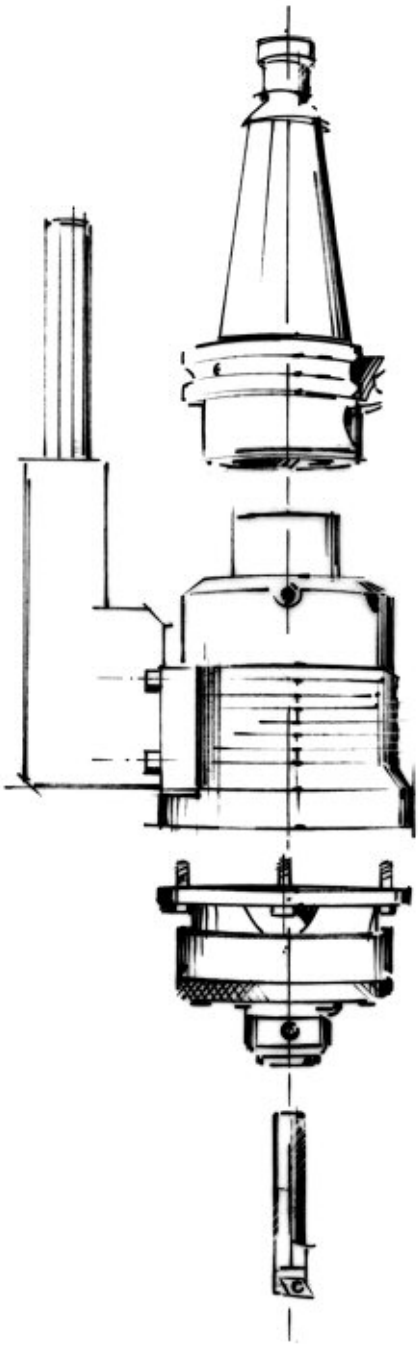


formbore
The basic concept - simple but brilliant

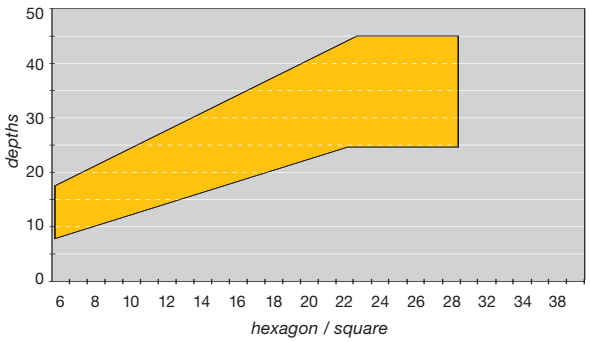


Design and mode of operation

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/mm² 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.

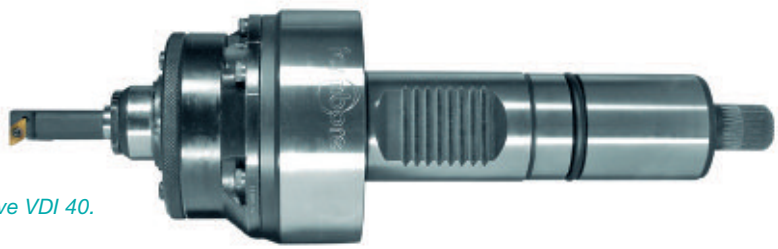
Machining depths



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.



example:
with central drive VDI 40.

Technical Data

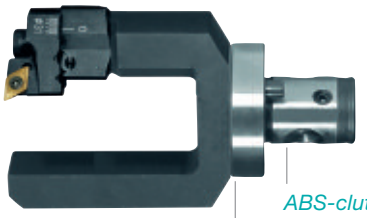
formbore-system tools are available in two standard sizes. Size 1 is suitable for speeds up to n^{max} 1000 min^{-1} and form sizes as a square from 4 - 14 mm and as a hexagon from 4 - 21 mm. Size 2 is suitable for speeds up to n^{max} 500 min^{-1} and form sizes as a square from 4 - 22 mm and as a hexagon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

the minimum edge radius for
square SW x 0,10 = 10 % SW,
hexagon SW x 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.

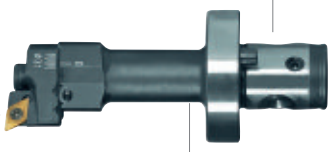
formbore
Simply versatile



cutter body
GCT-1819

over turning steel
ASA...ABS 40

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



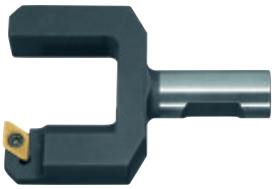
Insert holder
ASA-26...
ASA-31...
ASA-38...

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

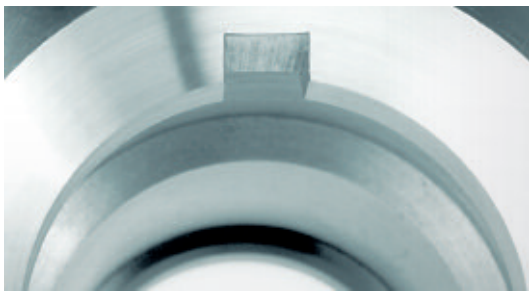
Ordering recommendation for a formbore system tool with cam block, eccentric bushing, insert holder and cutting bodies. The system for practical versatility, flexibility, time saving and cost reduction in daily work.

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.

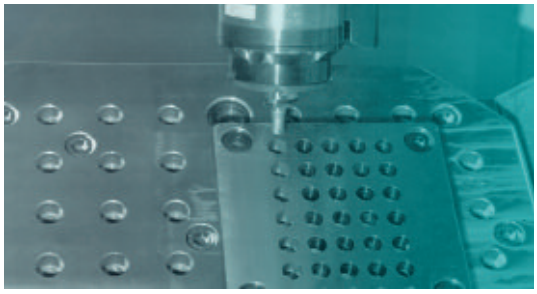
formbore
The advantages are simply unsurpassed

outer hexagonal profile SW 22 mm, interrupted cut.

Inner square profile SW 12 mm.



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.

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.

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
Homepage: www.LMT-tools.de
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
Homepage: 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
Homepage: 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
Homepage: 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
Homepage: 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
Homepage: 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
Homepage: www.onsrud.com

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