

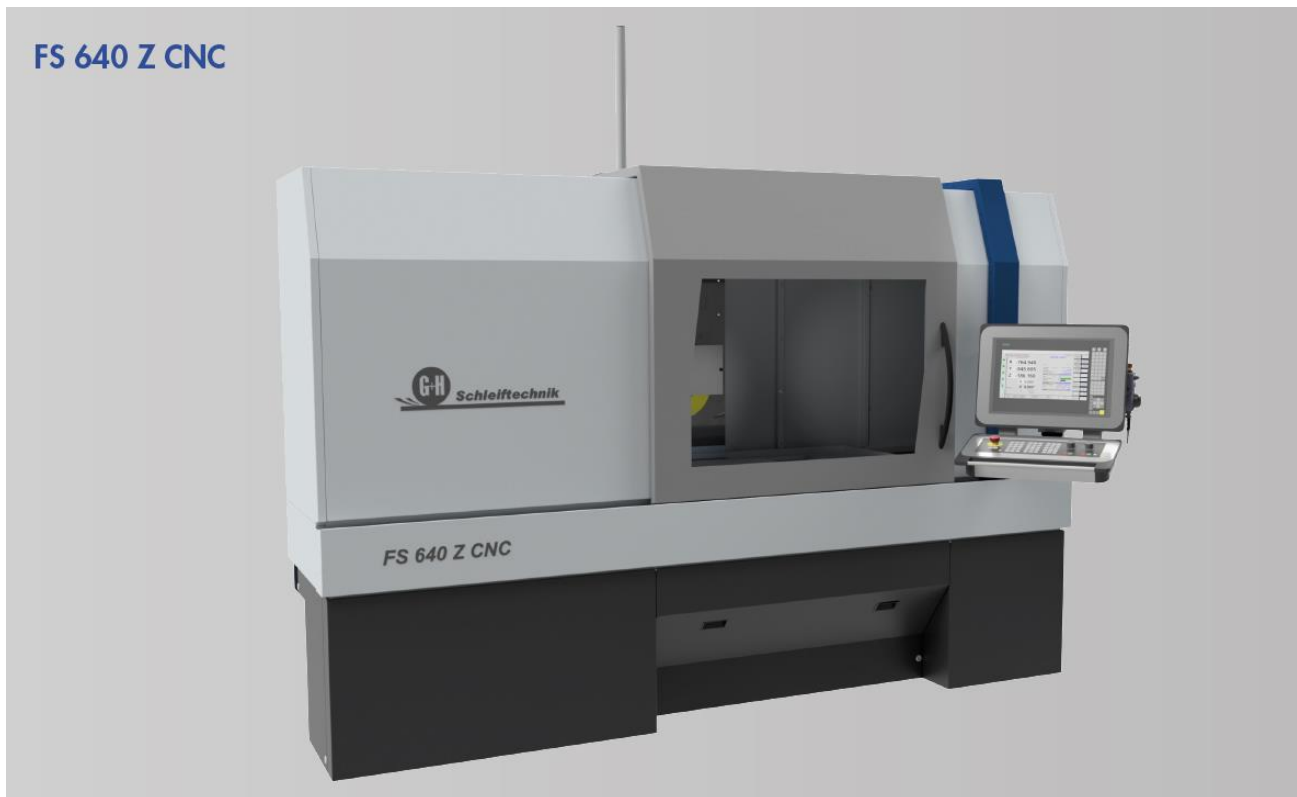


# Precision surface and profile grinding machine CNC



**SURFACE  
GRINDING  
MACHINE**

# Precision surface and profile grinding machine



## CNC-Control

For a quick change-over of the machine, the data of workpieces, grinding wheels and dressers and the profile contours are stored in virtual file cabinets.

The input of all data is dialogue based.

All geometrical data can be entered as absolute values or using the Teach-In process.

For single production or adjustment, all axes can be controlled with the electrical hand wheel.

Different grinding processes are available and belong to the basic equipment of the machine.

The interlinking of several grinding cycles enables the operator to machine workpieces with different grinding tasks fully automatically.





## Precision surface and profile grinding machine with CNC-control for highest requirements and flexibility

- Dialogue based input of the process parameters
- Taking over of the axes position with Teach-In-process
- Virtual file cabinets for the data of work pieces, grinding wheels and dressing unit for a quick change-over of the machine
- Comfortable realisation of contours for grinding wheels and workpieces
- Addition of further axes
- Addition of further grinding spindles
- Possibility of network connection and remote maintenance

WERKSTÜCK-DATEN : [ Nr. 7 - QUERSCHIEBER\_FS60 ]

OPERATIONS - LISTE

Nr	Typ	Operation	Sp	Zeit	Abr	YMin	YMax	Kommentar
01		EINTECHSCHLEIFEN	H	0:01	---	-0.130	-0.110	
02		PLANSCHLEIFEN	H	0:01	---	0.983	1.043	
03		PASSUNGSSCHLEIFEN [-]	H	0:00	---	0.800	0.000	
04		PLANSCHLEIFEN	H	0:05	---	31.773	31.928	
05		VOLLSCHNITT-KONTUR		---	---	---	---	
06		RUNDSCHLEIFEN EINST.	H	0:00	---	---	---	
07		UNRUNDSCHLEIFEN	H	0:00	---	---	---	
08		KOORDINATENSCHLEIFEN	V	0:00	---	0.800	0.000	
09								
10								

Max: 31.928 mm    Abrichten: -0.130 mm    Ablage: ---    Schleifzeit: 0:06

GEOMETR. DATEN    ZYKLUS DATEN    OPERATION KONFIG    OPERATION SPERREN    OPERATION KOMMENTAR    NACHSCHLEIFEN

WERKSTÜCK-DATEN : [ Nr. 3 - BASIC ]

ZYKLUS - DATEN PROFILSCHLEIFEN Z-Y OP-Nr: 6

Aufmaß	1.000 mm
Abr.[1]	0
Zw.Abr.Maß	0.500 mm
Schrupp-Maß	20 µm
Zustellbetr.[1]	10 µm
Ausfeuern[1]	1 Hübe
Abr.[2]	1
Schicht-Maß	10 µm
Zustellbetr.[2]	5 µm
Ausfeuern[2]	2 Hübe
Abr.[3]	1
Zustellbetr.[3]	2 µm
Ausfeuern[3]	5 Hübe
X-Gesch.	36000 mm/min
Y/Z-Gesch.	100.0 mm/min

Ende Schruppen (bezogen auf Fertigmaß) [µm]

GEOMETR. DATEN    PROFIL DATEN

WERKSTÜCK-DATEN : [ Nr. 3 - BASIC ]

GEOMETRIE - DATEN PROFILSCHLEIFEN Z-Y OP-Nr: 6

X-links	100.000 mm
X-rechts	200.000 mm
Z-Bezug	0
Z-hinten	100.000 mm
Aufmaß	1.000 mm
Y-Fertig	60.000 mm
Konflem = R0	3
Tan.Ein/Aus.	10.000 mm
Schraubst.	0.000 mm
Y-Abheben	50.000 mm

Z-Pendel-Position hinten [mm]

GEOMETR. DATEN    PROFIL DATEN

**Karteikasten Schleifscheiben**

Karte: 45/54 BUTZBACHER\_WELLE

Spezifikation: EK angelegt am: 04/05/15  
 Durchm. (neu): 300,000 akt.Durchmesser: 298,790  
 Breite (neu): 50,000 akt. Breite: 50,000  
 Durchm. (mm): 200,000 Abr. [0] 20-MOLDING\_EX  
 Breite (mm): 19,000  
 Vmax: 35 Kontur Elemente: 11 erstellt: JA

**Karteikasten Abrichter**

Karte: 1/25 SCHWENK\_0,250

Radius: 0,263 Karte angelegt am: 02.09.09  
 Typ: 7  
 Schart (B x L): 8,700 x 10,000  
 Halter (B x T): 68,700 x 30,000  
 Y-Korrektur: 0,000  
 Anreiben: JA

**Karteikasten Werkstücke**

Karte: 3/44 BASIC

Material: ALLES Karte angelegt am: 10/03/16  
 Programmiert sind: 8  
 bisher geschliffen: 3268  
 Zykluszeit: 00:00:01  
 Akt. Scheibe: S2-PRUEFUNGALEX

**Karteikasten Konturzüge**

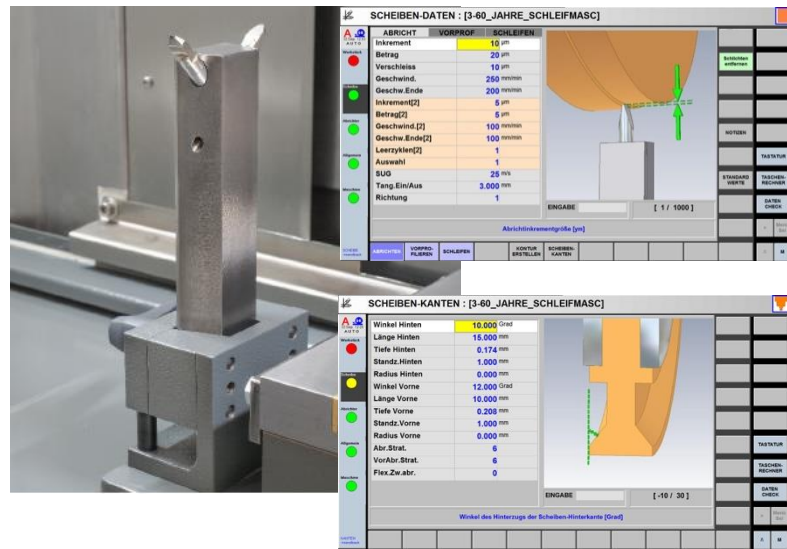
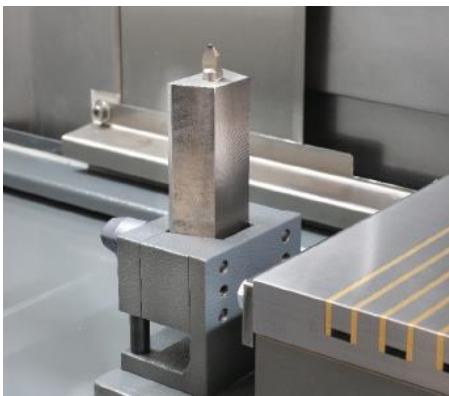
Karte: 1/27 TEST

angelegt am: 10.05.11 Breite: 258,700  
 Tiefe: 27,474  
 Tiefe-Über: 27,474  
 Tiefe-Unter: 0,000  
 Typ: elbe/Werkstück  
 Kontur Elemente: 9

# DRESSING TECHNOLOGY



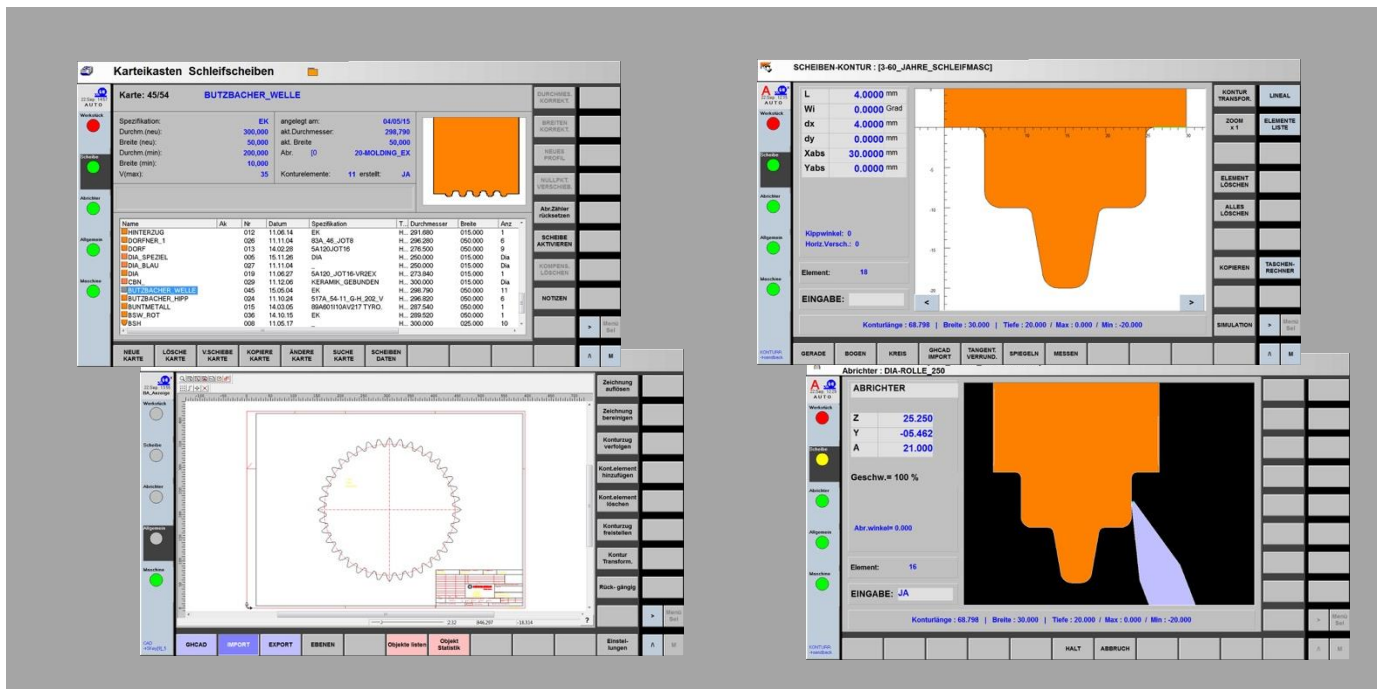
Automatic dressing from the table allows highest precision. All dressing amounts are compensated. The undercutting of the grinding wheel for face, plunge or gap grinding is achieved by a twin dresser. Profiles can be realised most simply by means of a standard data library or as contour lines.



Using the graphic support for the profile setup process and the integrated CAD program, virtually every grinding wheel profile can be created conveniently and rapidly.

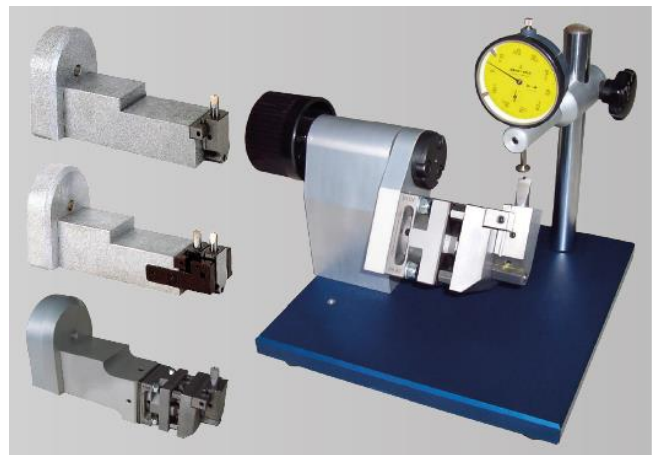
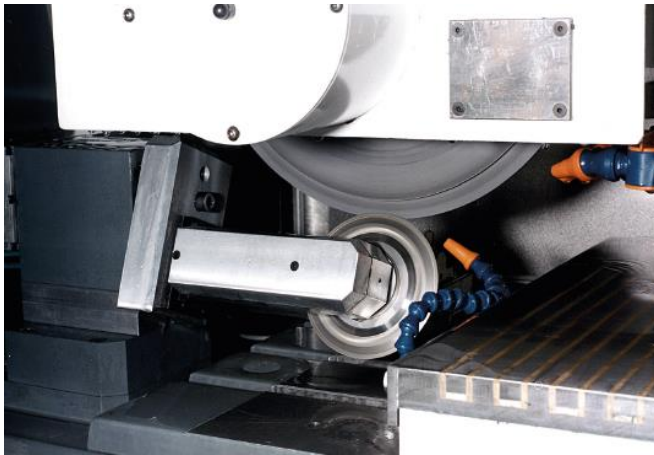
The transfer of existing CAD-data is possible (CAD/CAM- interface).

The simulation enables to control of the dressing process and the time-optimised pre-dressing process for collision.



The swivel dresser is used for the profiling of grinding wheels with steep contours. Beside the conventional form-diamond, the device is equipped with a twin-diamond for highest precision. For serial production, a powered diamond disc gives the tool a long life. A maximum of flexibility and precision in combination with a very short setup time is made possible by the diamond precision fast change system (DPS).

Other dressing devices can be integrated into the machine on demand.



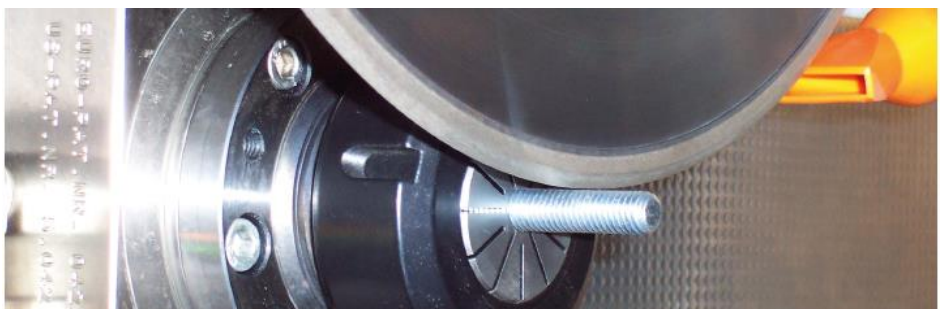
## Vertical grinding spindle

A vertical grinding spindle allows internal round and coordinate grinding. With such a grinding spindle, it is also possible to treat T-slots or dovetail guides.



## Rotative or swivelling axes

With integration of a rotative axis in form of a dividing head or a workpiece spindle, it is possible to realise multiple size operations, threads, circular or non-circular works.



## Automation

An automatic workpieces infeed is also possible. The interface can be determined with the automation manufacturer.



Type	FS 420 Z CNC	FS 640 Z CNC	FS 840 Z CNC	FS 850 GT CNC	FS 1050 GT CNC	FS 1250 GT CNC	FS 1550 GT CNC	FS 2050 GT CNC
Grinding length	400	600	800	800	1.000	1.200	1.500	2.000
Grinding width	200	400	400	500	500	500	500	500
Grinding height	300	375	375	425	425	425	425	425
Grinding height (Option)	450	575	575	625	625	625	625	625
Table load	150	600	700	1.100	1.380	1.650	1.970	2.930
<b>X-Axis – longitudinal movement of the working table</b>								
Table longitudinal movement	10 – 420	10 – 650	10 – 850	50 – 850	50 – 1.050	50 – 1.250	50 – 1.550	50 – 2.050
Table speed	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35
<b>Y-Axis – vertical movement</b>								
Distance table to grinding spindle	110 – 415	140 – 525	140 – 525	180 – 625	180 – 625	180 – 625	180 – 625	180 – 625
Distance table to grinding spindle (option)	110 – 565	140 – 725	140 – 725	180 – 825	180 – 825	180 – 825	180 – 825	180 – 825
Vertical speed	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000
<b>Z-Axis – transversal movement</b>								
Transversal movement (max.)	200	400	400	500	500	500	500	500
Transverse speed	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000
<b>C-Axis – Grinding spindle</b>								
Power of grinding spindle motor	3,7	7	7	11	11	11	11	11
Power of grinding spindle motor (Option)	7	9	9	17	17	17	17	17
Rotation speed of grinding spindle	1.000 – 4.240	1.000 – 3.180	1.000 – 3.180	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380
Grinding wheel, standard	225x25x51	300x50x76,2	300x50x76,2	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127

Type	FS 1060 GT CNC	FS 1260 GT CNC	FS 1560 GT CNC	FS 2060 GT CNC	FS 1070 GT CNC	FS 1570 GT CNC	FS 2070 GT CNC	FS 15100 GT CNC	FS 20100 GT CNC
Grinding length	1.000	1.200	1.500	2.000	1.000	1.500	2.000	1.500	2.000
Grinding width	600	600	600	600	700	700	700	1.000	1.000
Grinding height	425	425	425	425	600	600	600	750	750
Grinding height (Option)	625	625	625	625	800	800	800	950	950
Table load	1.560	1.850	2.380	3.110	1.560	2.380	3.110	2.380	3.110
<b>X-Axis – longitudinal movement of the working table</b>									
Table longitudinal movement	50 – 1.050	50 – 1.250	50 – 1.550	50 – 2.050	50 – 1.050	50 – 1.550	50 – 2.050	50 – 1.550	50 – 2.050
Table speed	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 35	0,001 – 30	0,001 – 30
<b>Y-Axis – vertical movement</b>									
Distance table to grinding spindle	180 – 625	180 – 625	180 – 625	180 – 625	180 – 800	180 – 800	180 – 800	240 – 1.000	240 – 1.000
Distance table to grinding spindle (option)	180 – 825	180 – 825	180 – 825	180 – 825	180 – 1.000	180 – 1.000	180 – 1.000	240 – 1.200	240 – 1.200
Vertical speed	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000
<b>Z-Axis – transversal movement</b>									
Transversal movement (max.)	600	600	600	600	700	700	700	1.000	1.000
Transverse speed	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000	50 – 4.000
<b>C-Axis – Grinding spindle</b>									
Power of grinding spindle motor	11	11	11	11	17	17	17	17	17
Power of grinding spindle motor (Option)	17	17	17	17	22	22	22	22	22
Rotation speed of grinding spindle	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380	800 – 2.380	600 – 1.900	600 – 1.900
Grinding wheel, standard	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127	500x100x203,2	500x100x203,2

Technical modification reserved.



[www.gh-schleiftechnik.de](http://www.gh-schleiftechnik.de)



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## Who we are:

On our site in Homberg (Ohm) in Hessen, precision grinding machines and their accessory equipment are being produced since 1956. Now, more than 10.000 manufactured machines are in action all over the world.

All machines that are supplied by Geibel & Hotz are assembled, put into service and subjected to an extensive quality control on our site in Homberg.

Thanks to the central situation of our company, every place in Germany can be reached by car within 8 hours. Service interventions can be arranged optimally for our customers from our location.