# Precision surface and profile grinding machine CB 



## Precision surface grinding machine



This machine was conceived especially for individual and small-lot production. In a workshop, it is necessary that surface grinding machines are easy to use. Process modifications must be easily realisable. The CB-control was developed for this scope of operations. Especially for adjustment work, the infeed can be made with $\mu \mathrm{m}$-precision by means of the electric manual wheel - analogue to the manual wheel of a hand-controlled machine.

Thanks to the chain linking of cycles, the machine is also suitable for serial operation.

## Special features



## Guideways

All guideways are constructed as V-flat slideways. The moving elements are coated with TURCITE B®. This coating guarantees a high absorption to reach the best surface finish. The coating is ground and rubbed.


## Electro-mechanical table drive

The electro-mechanical table drive allows regulable table speeds between 1 and $35.000 \mathrm{~mm} / \mathrm{min}$. Therefore, the machine is suitable as well for speed stroke grinding as for creep feed grinding. The working table can also be actuated very precisely to be set up.

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## Central lubrication

The fully automatic circular lubrication system provides the guideways of the axes with lubricating oil.

## Dressing with compensation

Automatic dressing from the table allows highest precision. A dresser can be installed at every place of the working area. The respective dressing amounts are compensated. In combination with the continuous variable rotation speed of the grinding spindle, the peripheral speed of the grinding wheel remains constant. If required, the dressing cycle can be started manually during the grinding process. By means of the twin dresser, it is possible to undercut the grinding wheels and to profile the edges of the grinding wheels.


## Electro-permanent-magneticclamping plate

with regulation of the adhesive force and demagnetisation. Bores for compressed air in the magnetic plate are optional.


## Regulation of the rotation speed

Each machine is equipped with a regulation of the rotation speed of the grinding spindle and with a V-constant control system.

## CB-control



## Advantages

- clear arrangement of the control elements
- dual operating concept
- numerical input of numerical values
- electric manual wheel on the operating satellite
- transfer of machine positions with teach in buttons

In a workshop, many persons frequently operate on one and the same grinding machine. For this reason, the functioning is easy and the configuration clearly arranged. No program skills are necessary.

## Functions of the CB-control

Surface grinding
Plunge grinding
Slot grinding (grinding of several parallel slots)
Multi-surface grinding
Face grinding
Creep-feed grinding
Dressing with compensation
Automatic undercut of the grinding wheel with compensation
Automatic profiling of the edges of the grinding wheel
Digital vertical axis with ball screw and glass scale
Digital transversal axis with ball screw and glass scale
Regulation of the rotation speed of the grinding spindle
Regulation of the adhesive force of the magnetic clamping plate and demagnetisation
Workpiece data storage for 100 units
Grinding wheel data storage for 20 grinding wheels


Interlink possibility for up to 8 grinding cycles
TFT screen, colour, with touch-function
Electric manual wheel on the operating satellite
USB-connection for data storage

## Profiling of the grinding wheel

On the grinding wheels you can realize radii or bevels. The corresponding dressing amounts are compensated, as well diametral as in the width.

## Accessories



## Foldaway dresser

The foldaway dresser offers the same precision as a dresser mounted onto the work table. After termination of the dressing process, the dresser folds away under the surface of the magnetic clamping plate.


| Type |  | FS 420 ZCB | FS 640 Z CB | FS 840 Z CB | FS 850 GT CB | FS 1050 GT CB | FS 1250 GT CB | FS 1550 GT CB | FS 2050 GT CB |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grinding length | mm | 400 | 600 | 800 | 800 | 1.000 | 1.200 | 1.500 | 2.000 |
| Grinding width | mm | 200 | 400 | 400 | 500 | 500 | 500 | 500 | 500 |
| Grinding height | mm | 300 | 375 | 375 | 425 | 425 | 425 | 425 | 425 |
| Grinding height (Option) | mm | 450 | 575 | 575 | 625 | 625 | 625 | 625 | 625 |
| Table load | kg | 150 | 600 | 700 | 1.100 | 1.380 | 1.650 | 1.970 | 2.930 |
| X-Axis - longitudinal movement of the grinding table |  |  |  |  |  |  |  |  |  |
| Table longitudinal movement | mm | 10-420 | 10-650 | 10-850 | 50-850 | 50-1.050 | 50-1.250 | 50-1.550 | 50-2.050 |
| Table speed | $\mathrm{m} / \mathrm{min}$ | 0,001-35 | 0,001-35 | 0,001-35 | 0,001-35 | 0,001-35 | 0,001-35 | 0,001-35 | 0,001-35 |
| Y-Axis - vertical movement |  |  |  |  |  |  |  |  |  |
| Distance table to grinding spindle | mm | 110-415 | 140-525 | 140-525 | 180-625 | 180-625 | 180-625 | 180-625 | 180-625 |
| Distance table to ginding spindle (option) | mm | 110-565 | 140-725 | 140-725 | 180-825 | 180-825 | 180-825 | 180-825 | 180-825 |
| Vertical speed | mm/min | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 |
| Z-Axis - transversal movement |  |  |  |  |  |  |  |  |  |
| Transversal movement (max.) | mm | 200 | 400 | 400 | 500 | 500 | 500 | 500 | 500 |
| Transverse speed | mm/min | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 | 50-4.000 |
| C-Axis - Grinding spindle |  |  |  |  |  |  |  |  |  |
| Power of grinding spindle motor | kW | 4 | 4 | 4 | 11 | 11 | 11 | 11 | 11 |
| Power of grinding spindle motor (Option) | kW | 5,5\|7 | 719 | 719 | 15\|17 | 15\|17 | 15\|17 | 15 \| 17 | 15 \| 17 |
| Rotation speed of grinding spindle | $\mathrm{min}^{-1}$ | 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 | mm | $225 \times 25 \times 51$ | $300 \times 50 \times 76,2$ | $300 \times 50 \times 76,2$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ |


| Type |  | FS 1060 GT CB | FS 1260 GT CB | FS 1560 GT CB | FS 2060 GT CB | FS 1070 GT CB | FS 1570 GT CB | FS 2070 GT CB | FS 15100 GT CB | FS 20100 GT CB |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Grinding length | mm | 1.000 | 1.200 | 1.500 | 2.000 | 1.000 | 1.500 | 2.000 | 1.500 | 2.000 |
| Grinding width | mm | 600 | 600 | 600 | 600 | 700 | 700 | 700 | 1.000 | 1.000 |
| Grinding height | mm | 425 | 425 | 425 | 425 | 600 | 600 | 600 | 750 | 750 |
| Grinding height (Option) | mm | 625 | 625 | 625 | 625 | 800 | 800 | 800 | 950 | 950 |
| Table load | kg | 1.560 | 1.850 | 2.380 | 3.110 | 1.560 | 2.380 | 3.110 | 2.380 | 3.110 |
| X-Axis - rotative movement of the grinding table |  |  |  |  |  |  |  |  |  |  |
| Table longitudinal movement | mm | 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 | $\mathrm{m} / \mathrm{min}$ | 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 |
| Y-Axis - vertical movement |  |  |  |  |  |  |  |  |  |  |
| Distance table to grinding spindle | mm | 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) | mm | 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 | mm/min | 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 |
| Z-Axis - transversal movement |  |  |  |  |  |  |  |  |  |  |
| Transversal movement (max.) | mm | 600 | 600 | 600 | 600 | 700 | 700 | 700 | 1.000 | 1.000 |
| Transverse speed | mm/min | 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 |
| C-Axis - Grinding spindle |  |  |  |  |  |  |  |  |  |  |
| Power of grinding spindle motor | kW | 11 | 11 | 11 | 11 | 15 | 15 | 15 | 15 | 15 |
| Power of grinding spindle motor (Option) | kW | 15\|17 | 15\|17 | 15 \| 17 | ${ }^{15} \mid 17$ | 17\|22 | 17\|22 | 17\|22 | 17\|22 | 17\|22 |
| Rotation speed of grinding spindle | $\mathrm{min}^{-1}$ | 800-2.380 | 800-2.380 | 800-2.380 | 800-2.380 | 800-2.380 | 800-2.380 | 800-2.380 | 600-1.520 | 600-1.520 |
| Grinding wheel, standard | mm | $400 \times 100 \times 127$ | 400x100×127 | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | $400 \times 100 \times 127$ | 500x100x203,2 | 500x100x203,2 |

Technical modifications reserved

## CHI




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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.

