



# Precision Surface Grinding Machine SD



**SURFACE  
GRINDING  
MACHINE**

# 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 SD-control was developed for this scope of operations. Especially for adjustment work, the infeed can be made with  $\mu\text{m}$ -precision by means of the electric manual wheel – analogue to the manual wheel of a hand-controlled machine.

## 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.



### Hydraulic table drive

The machine is equipped with an energy-efficient, demand actuated hydraulic system. The exact volumetric flow rate of hydraulic oil which is necessary for the movement of the table is provided. This driving system allows table speeds which are regulable from 2.000 to 28.000 mm/min.



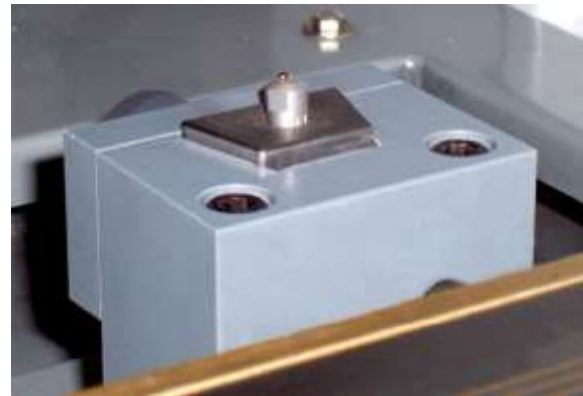


## Central lubrication

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. 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.

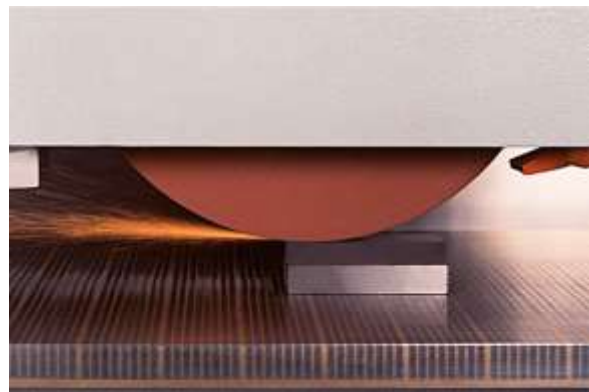


## Magnetic clamping plate

with regulable adhesion force and demagnetisation. Bores for compressed air in the clamping plate can be selected optionally.

## 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.



# The control for surface grinding

## Advantages

- clear arrangement of the control elements
- dual operating concept
- numerical input of numerical values
- electric manual wheel
- transfer of machine positions with teach in buttons
- surface grinding, plunge grinding and multi-surface grinding

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

## Functions of standard and comfort controls



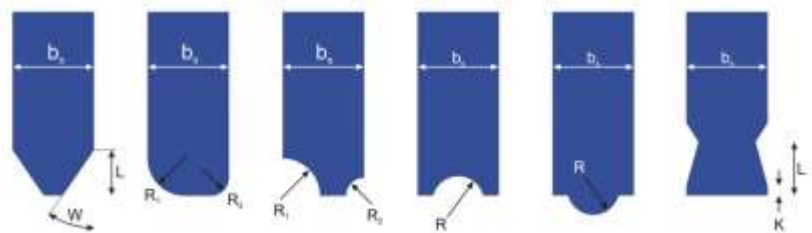
	STANDARD	COMFORT
Surface grinding	X	X
Plunge grinding	X	X
Slot grinding (grinding of several parallel slots)		X
Multi-surface grinding	X	X
Face grinding	Option	X
Dressing from table with compensation	X	X
Automatic undercutting of the grinding wheel	Option	X
Automatic profiling of the wheel edges		X
Digital vertical axis with ball screw	X3	X
Digital transverse axis with ball screw	X	X
Vertical axis with glass scale	Option	X
Transverse axis with glass scale	Option	X
Speed regulation of the grinding spindle	X	X
Regulation of the adhesive force of the magnetic plate and demagnetisation	X	X
Work piece data storing		X
Interlinking of up to 8 grinding cycles		X
TFT monitor, colour, with touch-function	7"	10,4"
Electrical hand-wheel on the operating satellite	Option	X

## FS 1050 SD with comfort control panel and complete encapsulation



### SD Comfort

The edges of the grinding wheel can be provided with radii or angles. The corresponding dressing amounts are compensated as well for the diameter as for the gauge of the grinding wheel.



Up to 8 different grinding cycles can be interlinked.

## Accessories



### Universal paper filter system

The universal paper filter system assures the continuous cleaning of the coolant by filtering impurities.

Electronically regulated pumps improve operating comfort and reduce energy consume. The coolant volume flow can easily be regulated from the control panel.

### Permanent-magnetic filter system

The permanent-magnetic filter system is conceived for the continuous cleaning of the coolant by means of separating the ferro-magnetic impurities. Magnetic and non-magnetic materials (p. e. abrasive particles) are retained by the filter.



### Fold away dresser

The fold-away dresser assures the precision of a dresser that is mounted onto the working table. At the end of a dressing process, the system automatically folds away under the surface of the magnetic plate.

### Compact air cleaning set

The compact air cleaning set helps to reduce the pollution of the atmosphere with coolant mist.

Example illustration:



Models of Machines	FS 420 SD	FS 640 SD	FS 840 SD	FS 850 SD	FS 1050 SD	FS 1250 SD	FS 860 SD	FS 1060 SD	FS 1260 SD
Grinding length	mm 400	600	800	800	1.000	1.200	800	1.000	1.200
Grinding width	mm 200	400	400	500	500	500	600	600	600
Grinding height	mm 300	375	375	425	425	425	425	425	425
Grinding height (Option)	mm 450	575	575	625	625	625	625	625	625
Table load	kg 150	600	700	1.100	1.380	1.650	1.280	1.560	1.830
<b>X-Axis – longitudinal movement of the grinding table</b>									
Table longitudinal movement	mm 420	650	850	850	1.050	1.250	850	1.050	1.250
Table speed	m/min 2-28	2-28	2-28	2-28	2-28	2-28	2-28	2-28	2-28
<b>Y-Axis – vertical movement</b>									
Distance table to grinding spindle	mm 110 – 415	140 – 525	140 – 525	180 – 625	180 – 625	180 – 625	180 – 625	180 – 625	180 – 625
Distance table to grinding spindle (option)	mm 110 – 565	140 – 725	140 – 725	180 – 825	180 – 825	140 – 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	50 – 4.000
<b>Z-Axis – transversal movement</b>									
Transversal movement (max.)	mm 200	400	400	500	500	500	600	600	600
Transversal 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
<b>C-Axis – Grinding spindle</b>									
Power of grinding spindle motor	kW 2	3,7	3,7	11	11	11	11	11	11
Power of grinding spindle motor (Option)	kW 3,7   7	7   9	7   9	15   17	15   17	15   17	15   17	15   17	15   17
Cutting speed	m/s 32	32	32	32	32	32	32	32	32
Cutting speed (Option)	m/s 50	50	50	50	50	50	50	50	50
Grinding wheel (Standard)	mm 225x25x51	300x50x76,2	300x50x76,2	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127	400x100x127



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



## Geibel & Hotz GmbH

P.O. Box 11 61  
D-35311 Homberg (Ohm)

Frankfurter Str. 102-104  
35315 Homberg (Ohm)  
GERMANY

Tel. +49 6633 1 81 -0  
Fax +49 6633 1 81 -18

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

## 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 location of our company, every place in Germany can be reached by car within 8 hours. Service visits can be arranged optimally for our customers from our location.