

Hauser S45-400 & S55-400

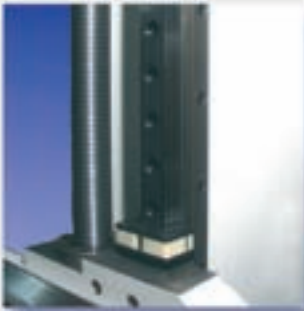
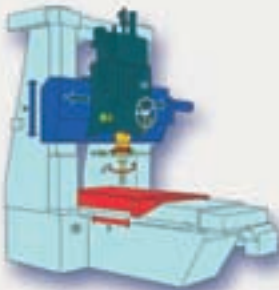
TECHNOLOGY
TO MEASURE



From the simple bore
grinding machine
to the automatic
grinding cell.



Jig grinding machine Hauser S45-400 & S55-400



The basic requirements for high accuracy

- Robust, distortion-resistant module
- Consequent lay-out with regard to thermal stability
- Sliding guideways wherever required
- Linear guideways wherever possible
- Axes drives in the centre of friction
- Measuring systems optimally positioned with regard to the measuring technique
- Absolutely smooth stroke reversal

A clever CNC control

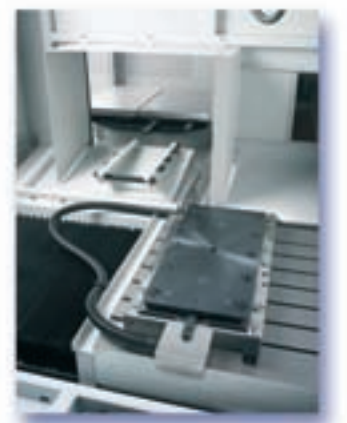
If you appreciate user friendly menu-programming and insist on the advantages of ISO/DIN programming, then the HAUSER product will be the right choice. As standard, the X, Y, C, U and W axes are CNC controlled. Based on the GE-Fanuc 300i with integrated PC, we have created HAUSER SOFTWARE CYCLES, ensuring that the control will perfectly cover all the special requirements of jig grinding. In general, the following HAUSER user software with menu programming support is at your disposal:

- | | |
|--|----------------|
| • Bore grinding cycle U, Planetary grinding | G100 |
| • Bore grinding cycle U, Chop grinding | G120 |
| • Contour grinding cycle X-Y | G140 |
| • Pocket grinding cycle | G160 |
| • Shoulder grinding cycle (carried out by means of the CNC W axis) | G105 |
| • MSS assistance for Grinding wheel calibration | G190/G195/G197 |
| • Dressing cycle assistance (only possible with dressing cycle) | G185 |

Easy and optimal expansion

Your HAUSER S45-400/S55-400 can be automated cost-effectively. The following expansions will be extremely useful:

- ATC automatic tool changer with 12 magazine positions, permitting automatic machining with grinding wheels from $\varnothing$ 3 mm to $\varnothing$ 50 mm (alternatively with grinding wheels from $\varnothing$ 0,3 mm to $\varnothing$ 5 mm).
- Grinding motor 70S ATC with its extremely wide range of application, from 9'000 min⁻¹ to 70'000 min⁻¹. This new grinding motor, and its state-of-the arts design is an absolute must for getting optimal use out of the grinding tool changer.
- Grinding motor 40S with wide range of application, from 4'000 – 40'000 min⁻¹. For the use of large grinding wheels, from diameter 40 to 100 mm. The HSK 40 spindle nose allow the use with the ATC-40 (10 positions magazine).
- Measuring probe for the automatic best fit of work-pieces and for the establishment of measuring protocols.
- MSS – multi-sensor-system for automatic suppression of "air grinding" and for automatic grinding wheel calibration.
- CBN dressing unit with HF drive, for conditioning (dressing) vitrified and resinoid bond CBN grinding wheels.
- HI-CUT system, for the use of grinding oil as coolant/lubricant.
- APC automatic pallet changer: Communication between the machine and the changer by means of a simple M function, or as an intelligent solution for adaptive job administration outside the machine.



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Technical data

	S45-400	S55-400
Work range		
Range of adjustment X,Y	700 x 500 mm	1'300 x 800 mm
Vertical adjustment of the grinding head (W)	500 mm	635 mm
Clearance between the grinding motor (45S) and the table	0 - 600 mm	0 - 750 mm
Clearance between columns	750 mm	970 mm
Ground diameter (with grinding wheel 100 mm):		
• without extension plate	max. 230 mm	max. 230 mm
• with extension plate	max. 360 mm	max. 360 mm
Taper grinding, included angle (divergent and convergent)	max. 16°	max. 16°
Table		
Effective surface	770 x 630 mm	1'440 x 860 mm
6 T-slots, width	14 mm	14 mm
Admissible load (optional)	max. 500 kg	800 kg (1'500 kg)
Feeds		
Table and cross slide X,Y		
• Machining speed	0 - 1'800 mm/min	0 - 1'800 mm/min
• Traversing speed	4'000 mm/min	4'000 mm/min
Vertical traversing speed W		
• Machining speed	0 - 800 mm/min	0 - 800 mm/min
• Traversing speed	2'000 mm/min	2'000 mm/min
Grinding spindle		
Spindle sleeve diameter	100 mm	100 mm
The machine is prepared for the following grinding spindle speeds:		
• Infinitely adjustable and programmable grinding motors	4'500 - 80'000 min ⁻¹	4'500 - 80'000 min ⁻¹
• Grinding turbine adjustable up to	130'000 min ⁻¹	130'000 min ⁻¹
Planetary speed, C axis:		
• Infinitely adjustable and programmable planetary drive	5 - 300 min ⁻¹	5 - 300 min ⁻¹
• Follow-up mode, AC servo drive	bis 20 min ⁻¹	bis 20 min ⁻¹
Alternating speed, Z axis, infinitely adjustable:		
• Alternating stroke motion, infinitely adjustable	V min. 0,500 mm/min V max. 14'000 mm/min	V min. 0,500 mm/min V max. 14'000 mm/min
• Stroke frequency Z	max. 5 Hz	max. 5 Hz
• Stroke length Z, infinitely adjustable	max. 130 mm	max. 170 mm
Radial fine feed, U axis	up to 5,5 mm	up to 5,5 mm
Accuracy		
Positional uncertainty of the axes X,Y and W (approached from ± direction): P corresponding to VDI/DGQ 3441	0,0025 mm	0.0025 mm

All specifications are subject to change without notice.

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