



S145

The Universal
for a large range of applications.

The Art of Grinding.



Advantages

S145 – Dimensions

- Grinding length 200 mm (7.9")
- Swing diameter 448 mm (17.6")
- Grinding diameter 200 mm (7.9") internal
- Grinding diameter 180 mm (7.1") external
- Multi-range spindles
Speed range up to 120 000 rpm

Hardware

- Spindle turret – can be configured with up to 4 spindles
- Combination of external and internal grinding possible
- Dressing with stationary or rotary dressing tools
- Acoustic touch sensor technology for the dressing and grinding processes
- Q axis for automatic swivelling of the workhead ± 30 deg

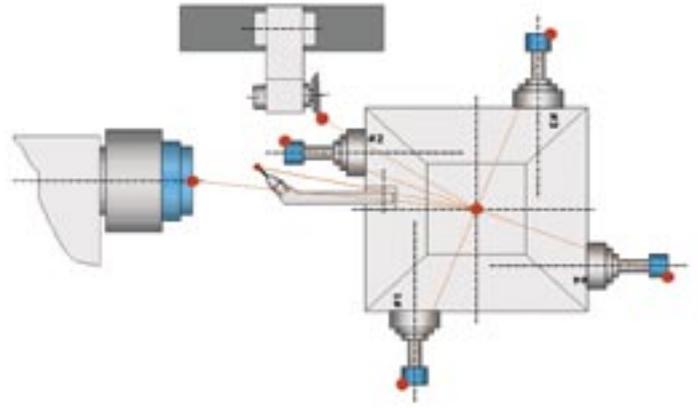
- C axis for efficient form and thread grinding
- Granitan® mineral-casting S103 machine base with integrated V and flat guideways for the Z axis

Software

- Extremely easy programming with Studer Pictogramming
- StuderGRIND programming software for producing grinding and dressing programs on a PC
- Standardized interfaces for loader and peripheral devices

S145





1

The Universal for a large range of applications.

The S145 opens up particularly wide areas of application for the machining of medium-sized workpieces. Especially for workshops producing prototypes and small runs or those involved in toolmaking. With the appropriate configuration, however, the S145 can also be turned into an efficient production machine. The modular machine structures, the modern control and programming techniques, plus the latest grinding technologies guarantee high productivity and production quality, also for the complete machining of workpieces in one clamping. Or with the C axis for form and thread grinding.

The Granitan® S103 machine bed provides the basis for fitting technologically outstanding components to form a cylindrical grinding machine that will ensure the highest precision, performance, safety and reliability over many years. The full enclosure with a large sliding door makes setup easy and permits the use of emulsion or oil as a coolant.

Efficient and reliable programming of grinding and dressing cycles for all users due to the unique Studer Pictogramming Software as well as programming software StuderGRIND for special applications like form and thread grinding. The systematic development, production, assembly and testing of our products are carried out in a process-oriented manner and in strict compliance with the VDA 6.4 and ISO 9001 directives.



2

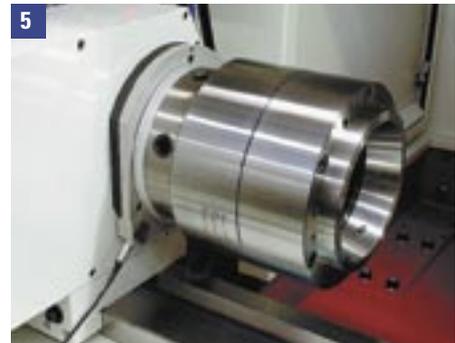
- 1 | Quick-Set
- 2 | Spindle holder
- 3 | Q-axis
- 4 | Dressing
- 5 | Contact detection



3



4



5

Turret spindle wheelhead

With the turret spindle wheelhead, up to 4 high-frequency spindles can be used in the same workpiece program. This enables different internal and external grinding operations in a single clamping. The turret wheelhead has a 3 deg Hirth coupling for positioning. Up to four high-frequency internal grinding spindles or three internal and one external spindle can be mounted.

Q-axis

The automatic Q-axis has a swivel range of ± 30 deg and a resolution of 0.0001 deg. The automatic swiveling action allows grinding of cylinders and various high-precision tapers in a single clamping.

Dressing

With its highly stable single- or double-swivel dressing devices which can be equipped with fixed dressing tools, dressing spindles and diamond dressing discs, the S145 is suitable for all grinding tasks.

Reliable contact detection

Even with small diameters, gap elimination can be achieved with the integrated contact ring sensor. Individual sensitivity for each wheel can be programmed in the CNC control. Dressing is also optimized with the contact sensor technology. The visualization of the dressing process enables working with smaller dressing amounts, which in turn increases the life of the grinding wheel.

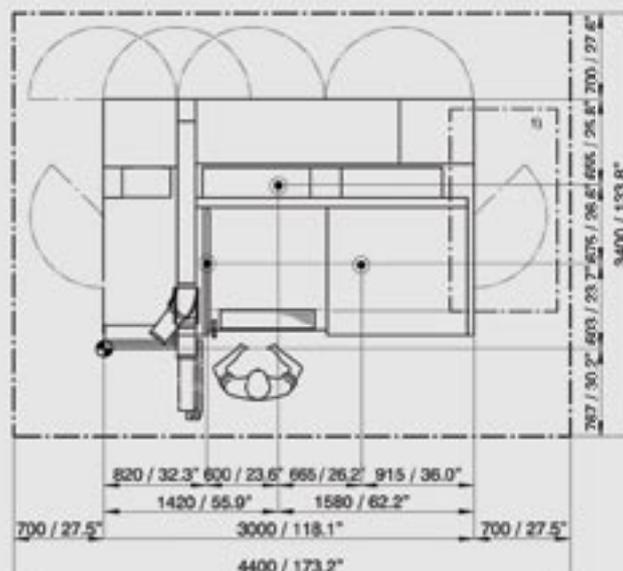
Set-up with Quick-Set

Change-over times are reduced by up to 90 percent with the proven grinding wheel measurement software.

Automation

Loading systems are available for the Studer S145, which can be precisely adapted to the machine application and the machining processes thanks to their modular design.

Main dimensions	
Swing	448 mm (17.6")
Grinding length	200 mm (7.85")
Grinding diameter	200 mm (7.85")
Max. workpiece weight	80 kg (176 lbs)
Cross-slide	
Longitudinal axis (Z)	
Max. travel	500 mm (19.6")
Speed	0,001–10 000 mm/min (0.000,04–394 ipm)
Resolution	0,0001 mm (0.000,004")
Transverse axis (X)	
Max. travel	120 mm (4.7")
Speed	0,001–5000 mm/min (0.000,04–197 ipm)
Resolution	0,0001 mm (0.000,004")
Turret spindle wheelhead with 4 tool positions	
B-axis automatic with Hirth serration	3 deg
Position of swivelling	0/90/180/270 deg ±3 deg/±6 deg
Spindle diameters	dia. 100/120 mm (3.9/4.7")
External grinding wheel	dia. max. 250 mm (9.8")
Workhead	
Fitting taper	ISO 50
External cylindrical spindle nose to accept chucks	dia. 110 mm (4.3")
Spindle bore	dia. 50 mm (1.95")
Drive power	2,8/3,8 kW (3.8/5 hp)
Speed range	1–1000 rpm
Max. load for chuck applications	250 Nm (186 ft lbs)
Roundness accuracy during live grinding	0,0004 mm (0.000,016")
Option	0,0002 mm (0.000,08")
Control unit	
Fanuc 16i-TA	
Connected loads	
Total connected loads	33 kVA
Air pressure	5,5–7 bar (80–102 psi)
Total weight	5700 kg (12540 lbs)



The information given is based on the technical levels of our machine at the time of this brochure going to print. We reserve the right to further develop our machines technically and make design modifications. This means that the dimensions, weights, colours, etc. of the machines supplied can differ. The diverse application possibilities of our machines depend on the technical equipment specifically requested by our customers. The equipment specifically agreed with the customer is therefore exclusively definitive for the equipping of the machines, and not any general data, information or illustrations.



KÖRBER
SCHLEIFRING

Fritz Studer AG
CH-3602 Thun
Telephone +41-33-439 11 11
Fax +41-33-439 11 12



VDA6.4
certified

