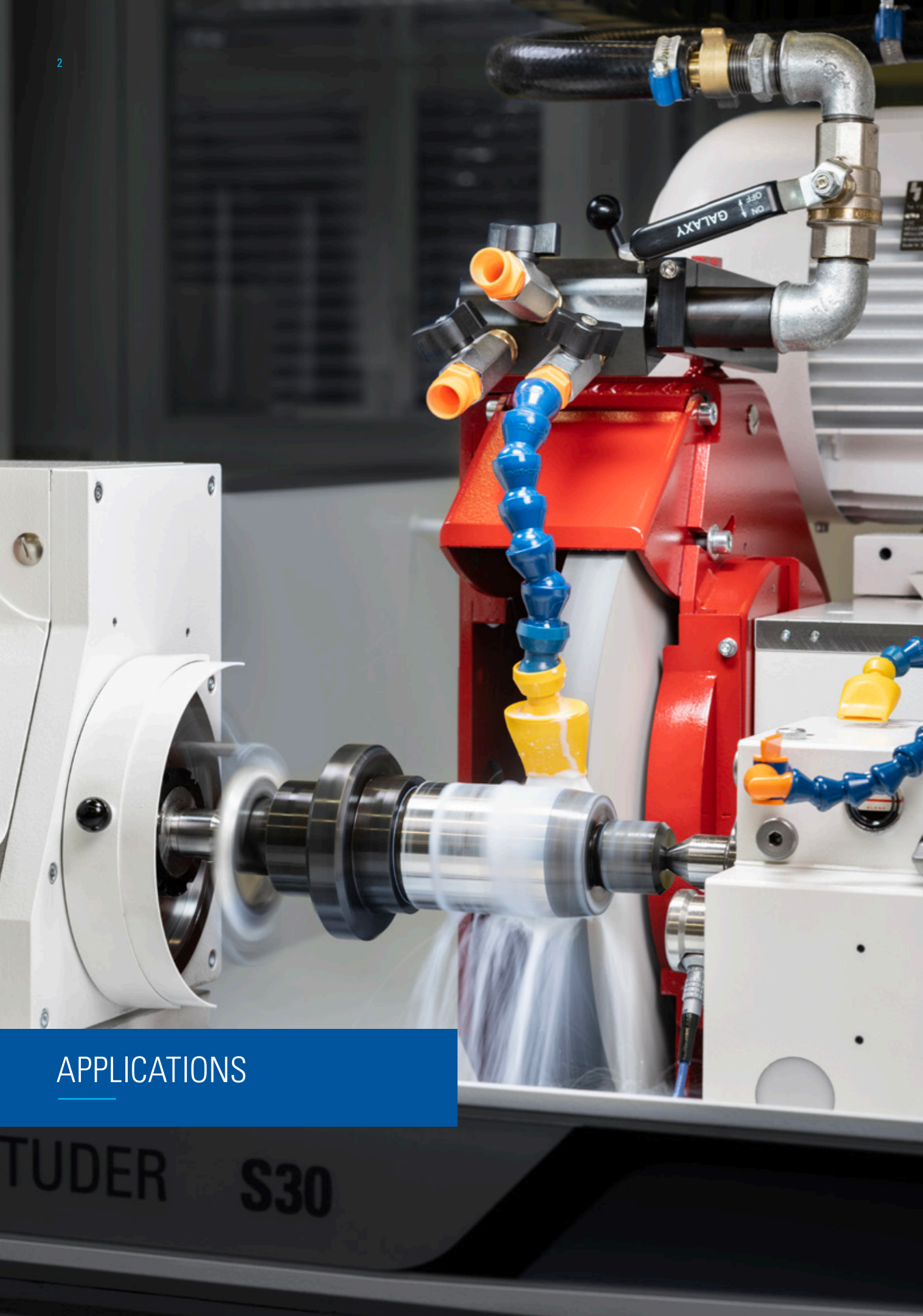


S30

CONVENTIONAL UNIVERSAL CYLINDRICAL GRINDING MACHINE



 **STUDER**



APPLICATIONS

STUDER S30

STUDER S30 IN USE

The S30 is designed for grinding workpieces in single-part and small-series production. It is suitable for any industry where precise medium-sized workpieces are manufactured. All axes and the efficient automatic grinding cycles with automatic switch-off function are controlled hydraulically. The S30 is easy to operate and can be reset quickly. With this, the operator can concentrate fully on the grinding process.



S30

DIMENSIONS

- Distance between centers
650 mm/1000 mm (25.6"/39.4")
- Center height 125/175/225 mm
(4.9"/6.9"/8.85")
- Max. workpiece weight 130 kg (286 lbs)

FEATURES

- Wheelhead versions:
 - Wheelhead with grinding wheel left, right, and internal grinding attachment (option). Manual swivel in increments of 5° with Hirth coupling and limit stops at 0° and 180°
 - External wheelhead, grinding wheel left
- Machine table with swivel range:
 - Up to 10° with a center distance of 650 mm (25.6")
 - Up to 8,5° with a center distance of 1000 mm (39.4")
- Workhead with hydrodynamic or roller bearings for grinding between fixed and live centers
- Tailstock with adjustable center pressure and fine adjustment for quick and easy cylindricity correction
- Electrical enclosure permanently connected to the machine. Can be expanded for measuring systems and Sensitron
- Granitan® S103 mineral-cast machine base
- Automatic grinding cycles with automatic cut-out:
 - Rapid infeed
 - Grinding feed 1 and 2
 - Spark-out
- Rapid retraction of the infeed handwheel to the set grinding allowance
- Plunge and traverse grinding with or without rapid infeed
- External and internal grinding possible in one setup
- Wide range of accessories

YOUR BENEFIT

- Intuitive, operator-friendly, and efficient operation as well as easy changeover in a short time
- Machine base made of Granitan® S103, the basis for the adaptation of technologically advanced components
- Efficient, hydraulically controlled automatic grinding cycles with automatic switch-off function
- Pre-installed automatic grinding cycles for efficient grinding
- Ecological thanks to targeted measures for low energy consumption
- Fully compliant with the CE requirements

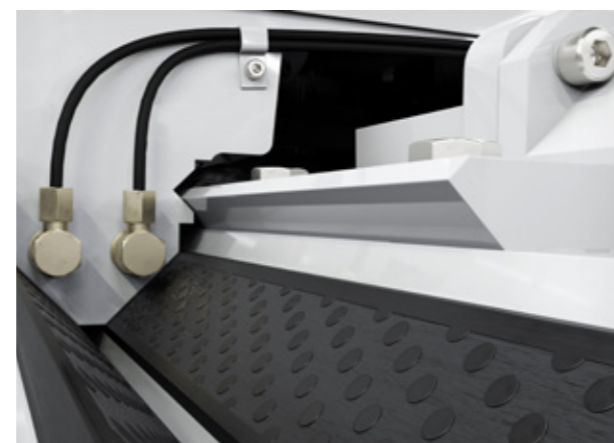
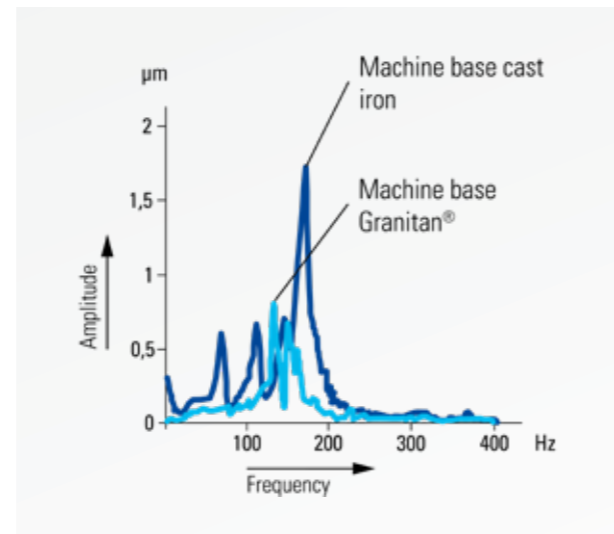
«The hydraulic solution
for precise, medium-size
parts.»





GRANITAN® S103 MINERAL CASTING MACHINE BASE

The material structure developed by STUDER, which has proved its worth over many years based on the company's formula, is produced in a plant using the most modern industrial techniques. The excellent damping properties of the machine base ensure outstanding surface quality in the ground workpieces. The life of the grinding wheel increases, leading to reduced non-productive times. Temporary temperature fluctuations are extensively compensated by the favorable thermal behavior of Granitan®, resulting in a high level of dimensional accuracy throughout the day. The StuderGuide® guide system for the longitudinal and cross slides is molded directly into the machine base and finished with a wear-resistant Granitan® S200 surfacing material. The guideways offer the highest possible accuracy through the entire speed range with high load capacity and dampening levels. Thanks to the robust and maintenance-free design, these excellent guideway properties are hardly subject to wear.



- Vibration-damping
- Thermally stable
- Wear-free

LONGITUDINAL AND CROSS SLIDES

The cross and longitudinal slides are made of high-quality gray cast iron and feature high-precision, ground V and flat guideways with guideway distances that are optimal for the overall machine stiffness. The guideway coating Granitan® S200 ensures a precise movement of the slides. The slides rest completely on the guideways of the machine base through the entire traversing range. You benefit from excellent straightness of 0.0025 mm (0.0001") over a measuring length of 630 mm (24.8").

Z-Axis Longitudinal Slide

The longitudinal slide with swiveling worktable is driven manually through a handwheel or automatically by a hydraulic cylinder with infinitely variable speed control. The responsive hydraulics with smooth and very precise reversing ensure high accuracy on extreme speed changes. Option: Fine adjustment and air liftoff for the swiveling table for fast cylindricity corrections and precise setting of taper angles. Digital display for longitudinal slide position.

X-Axis Cross Slide

The slide is driven manually through a handwheel or automatically via a recirculating ball screw. The cross slide features a fine adjustment that enables infeed corrections in the micro range. Option: Sensitron contact control unit, OD measuring, digital display of cross slide position.



- Low coefficient of friction
- Hydraulic rapid approach
- Backlash-free infeed system
- Low wear
- Accurately repeatable

WHEELHEAD

Several variants are available for the universal use of external, face, and internal grinding. The grinding wheel position can be manually indexed with high precision within the swivel range of 0 to +180 degrees with a hirth coupling (5 degrees).

Grinding Spindle Bearing

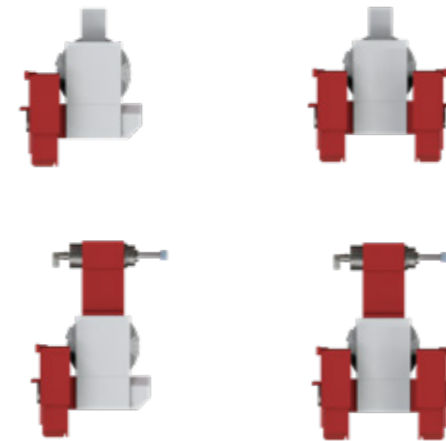
The hydrodynamic plain bearing of the external grinding spindle guarantees many years of excellent run-out with minimal maintenance. It is wear-free, without backlash adjustment, and low-maintenance.

Internal Grinding Spindles

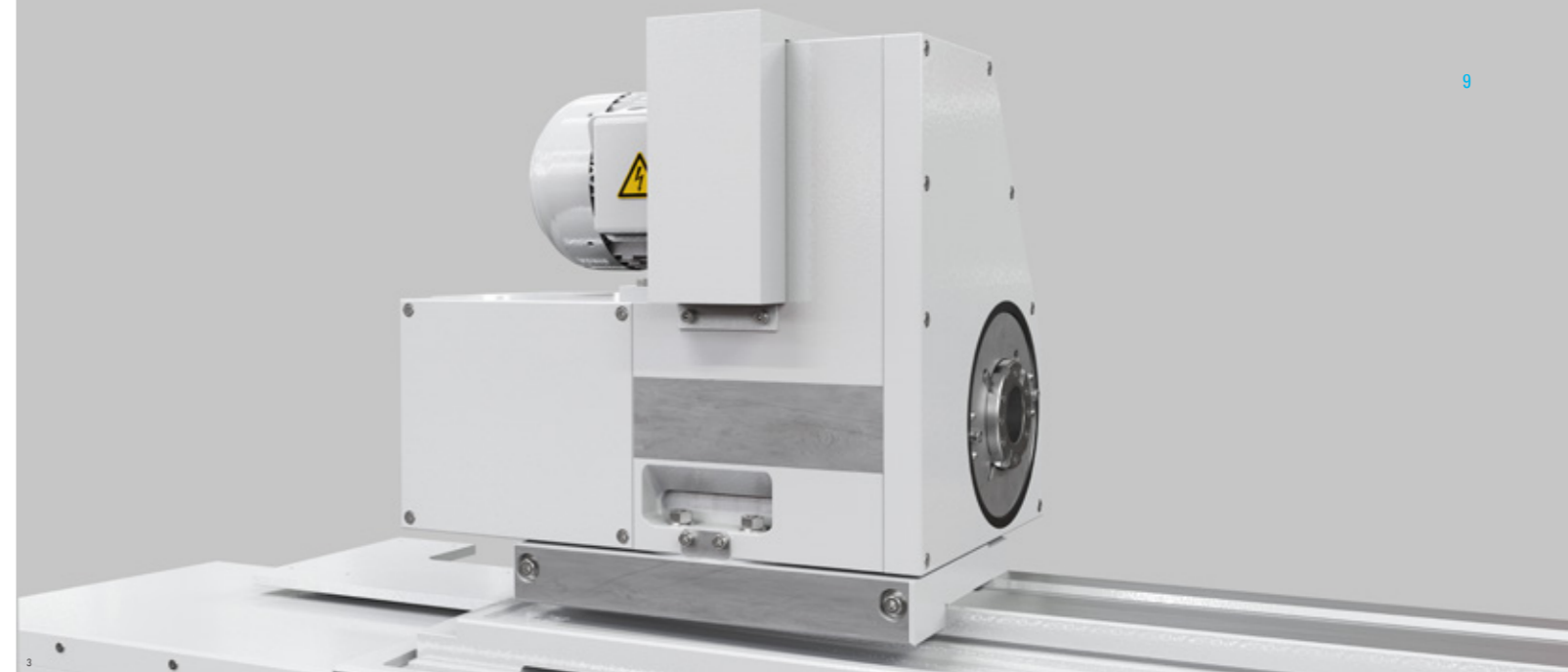
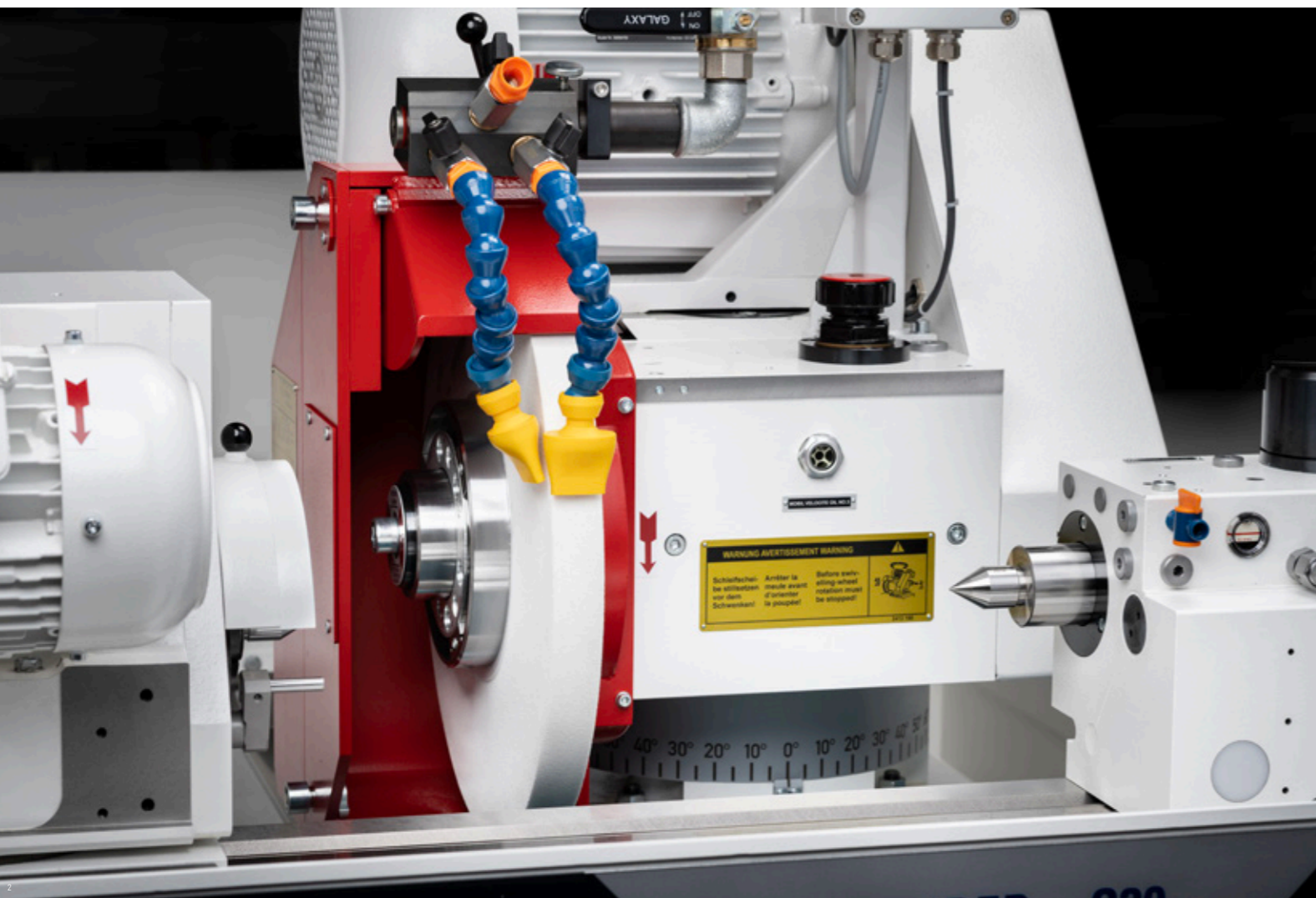
Belt spindles can be used for the internal grinding attachment.

Nominal rpm

20,000, 40,000, and 60,000 rpm, external and internal grinding are possible in one setup.



- Flexible
- Compact
- Internal grinding attachment



WORKHEAD

The swiveling, hydrodynamic workhead allows grinding between fixed centers as well as live spindle grinding. The powerful workpiece spindle, which is relieved of belt tension, rotates in a hydrodynamic multi-surface plain bearing. Roundness during live spindle grinding is 0.0003 mm (0.000,012"), as an option 0.0001 mm (0.000,004").

- Frequency converter for infinitely variable speed (option)
- A swiveling workhead with roller bearings is available as an option

- High roundness accuracy
- Low-maintenance
- Grinding between centers and live spindle grinding

TAILSTOCK

The rigid tailstock has a generously dimensioned barrel for mounting MT3 centers. The barrel slides in covered plain bearings, and the center pressure can be very finely adjusted. The taper fine adjustment enables rapid and simple cylindricity corrections (option), as is required when machining high-precision workpieces.

- The tailstock can be equipped with a hydraulic barrel retraction and an adjustable dressing unit



- 1 Wheelhead variants
- 2 Wheelhead with wheel left
- 3 Workhead
- 4 Tailstock

MACHINE CONTROL AND OPERATION

The control cabinet is permanently connected to the machine. This means it is ready for operation immediately. The control unit is reliable and requires no maintenance. The clear panel layout guarantees optimum ease of operation.

Automatic Grinding Cycle with Automatic Switch-off Function:

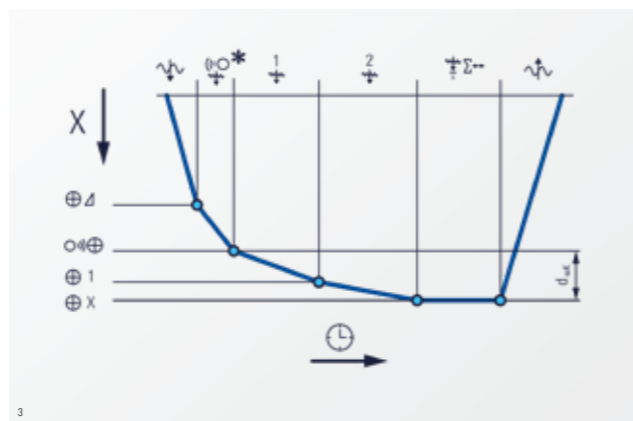
- Rapid infeed
- Grinding feed
- Spark-out
- Rapid retraction of the rapid approach and infeed handwheel to the set grinding allowance

Grinding programs:

- Plunge grinding with short table oscillation of the longitudinal slide or traverse grinding with continuous infeed
- Traverse grinding with intermittent infeed on the left, right, or both ends of the stroke

The contact detection sensor enables the automatic switch-over from the rapid approach to the grinding infeed.

Together with this contact detection, contact speeds of 0.06 to 30 mm/min (0.0024 to 1.18 ipm) can be achieved with the machine. Thanks to this option, grinding and setup times can be reduced to a minimum.



1 Position display
 2 Control panel with installation option of contact detection and/or measuring control
 3 Graphical display of the grinding infeed
 4 Grinding program infeed movements

CUSTOMER CARE – WE ARE HERE FOR YOU

Our products are designed to meet customer demands for as long as possible, to operate efficiently, reliably, and be available at any time.

From "start up" to "retrofit" – our Customer Care is there for you throughout the working life of your machine. That's why over 200 expert service contacts working around the world in 10 different languages are available locally.

- We provide fast, uncomplicated support.
- We help to increase your productivity.
- We work professionally, reliably, and transparently.
- We provide professional solutions to your problems.

UNITED GRINDING DIGITAL SOLUTIONS™

We develop solutions to support you in simplifying processes, boosting your machines' efficiency and increasing overall productivity under the "UNITED GRINDING Digital Solutions™" brand.

We are continuously expanding our solution portfolio in the key areas of CONNECTIVITY, USABILITY, MONITORING, and PRODUCTIVITY to make your work in the digital age significantly easier.

Find out more about UNITED GRINDING Digital Solutions™ services on our website in the Customer Care section.



Start up
 Commissioning
 Warranty extension



Qualification
 Training
 Product support



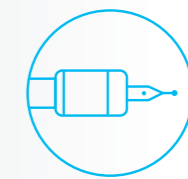
Prevention
 Maintenance
 Inspection



Service
 Customer service
 Customer consultation
 HelpLine



Digital solutions
 Remote Service
 Service monitor
 Production Monitor



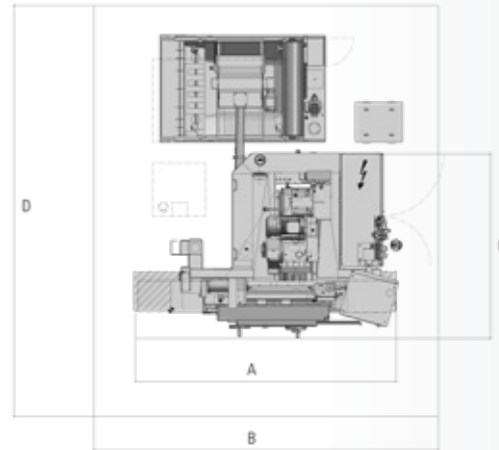
Material
 Spare parts
 Replacement parts
 Accessories



Rebuild
 Machine overhaul
 Assembly overhaul



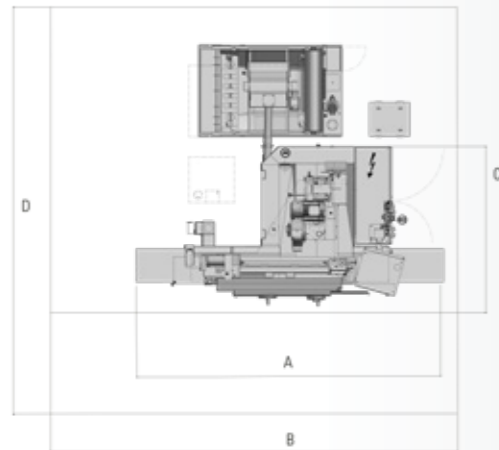
Retrofit
 Modifications
 Retrofits



Distance between centers: 650 mm (25.6")

DIMENSIONS

A	B	C	D
2385 mm (93.9")	3700 mm (145.6")	1968 mm (77.5")	4200 mm (165.4")



Distance between centers: 1000 mm (39.4")

DIMENSIONS

A	B	C	D
2735 mm (107.7")	4190 mm (165")	1970 mm (77.6")	4200 mm (165.4")

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 binding for the equipping of the machines, and not any general data, information, or illustrations.

TECHNICAL DATA

MAIN DIMENSIONS

Distance between centers	650 / 1 000 mm (25.6" / 39.4")
Centre height	125/175/225 mm (4.9"/6.9"/8.85")
Max. workpiece weight between centers	130 kg (286 lbs)

CROSS SLIDE: X AXIS

Rapid approach	60 mm (2.36")
Max. travel	255 mm (10") (plunge depth 3.4 mm (0.134"))
Speed	0.012–6 mm/min (0.000,48–0.24 ipm)
Feed increments	0.001–0.05 mm (0.000,040"–0.002")
Spark-out time	adjustable
Handwheel feed	4 mm/dia. (0.1575" per revolution)

LONGITUDINAL SLIDE: Z AXIS

Max. travel	700/1,050 mm (27.5"/41.3")
Speed	50-5,000 mm/min (1.97–197 ipm)
Reverse delay	0–6 s
Smallest automatic table travel	1.5 mm (0.059")
Reversing accuracy at constant speed	0.02 mm (0.007,850")
Machine table swivelling range	10°/8,5°

WHEELHEAD

Swivel angle	0° to 180°
Fitting taper	dia. 63 mm (2.48")
Driving power	5.5 kW (7.4 hp) (7.5 kW (10.1hp) option)
Grinding wheel on left, dia. x width x bore	400 x 63 (80F5) x 127 mm (16" x 2.5" (3.15" F5) x 5") (dia. 500 mm /20" option)

Grinding wheel right, dia. x width x bore	400 x 40 x 127 mm (16" x 1.5" x 5")
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Circumferential Speed	35 m/s or 50 m/s (6890 to 9840 sfpm)
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Internal grinding attachment for pulley spindles Option

Mounting bore	100 mm
Speeds	20-40-60'000 rpm
Drive power	1.5 kW (2 hp)

SWIVELING WORKHEAD

	HYDRODYNAMIC	ROLLER BEARING
Speed range	30–1000 rpm	10–600 rpm
Fitting taper	MT5	MT5
Spindle bore (feedthrough)	dia. 30 mm (1.18")	dia. 38 mm (1.49")
Driving power	0.55 kW (0.74 hp)	0.55 kW (0.74 hp)
Load during live grinding	100 Nm (74 lbf.ft)	100 Nm (74 lbf.ft)
Roundness accuracy during live spindle grinding	0.0003 mm (Option 0.0002 / 0.0001 mm) (0.000,012" (Option 0.000,008"/0.000,004"))	0.0004 mm (Option 0.0002 mm) (0.000,016" (Option 0.000,008"))

TAILSTOCK

Fitting taper	MT3
Travel of barrel	35 mm (1.375")
Diameter of barrel	50 mm (1.97")
Fine adjustment for cylindricity corrections	±40 µm (±0.0016")

CONTROL UNIT

Hydraulic control

GUARANTEED WORKING PRECISION

Gauge length 610 mm (24")	0.0025 mm (0.0001")
Gauge length 950 mm (37.4")	0.003 mm (0.000,120")

CONNECTED LOAD

Total connected load	13 kVA
Air pressure	5 bar. (72.5 psi)

TOTAL WEIGHT

Center distance 650 mm (26")	3,400 kg (7495 lbs)
Center distance 1 000 mm (40")	3,500 kg (7700 lbs)

FRITZ STUDER AG

The name STUDER stands for more than 110 years of experience in the development and production of precision cylindrical grinding machines. "The Art of Grinding." is our passion, highest precision is our aim and top Swiss quality is our benchmark.

Our product line includes both standard machines, as well as complex system solutions in high-precision cylindrical grinding for machining small and medium-sized workpieces. In addition we offer software, system integration and a wide range of services. As well as receiving a complete tailor-made solution, the customer also benefits from over 110 years of know-how in relation to the grinding process.

Our customers include companies from the machine tool industry, automotive engineering, tool and die makers, the aerospace industry, pneumatics/hydraulics, electronics/electrical engineering, medical technology, the watch industry and job shops. They value maximum precision, safety, productivity and longevity. As one of the market and technology leaders in universal, external, internal cylindrical, and contour grinding, with 25,000 systems delivered, STUDER has stood for precision, quality, and durability for decades. STUDER's products and services include hardware, software, and a wide range of services in the pre-sales and after-sales sector.

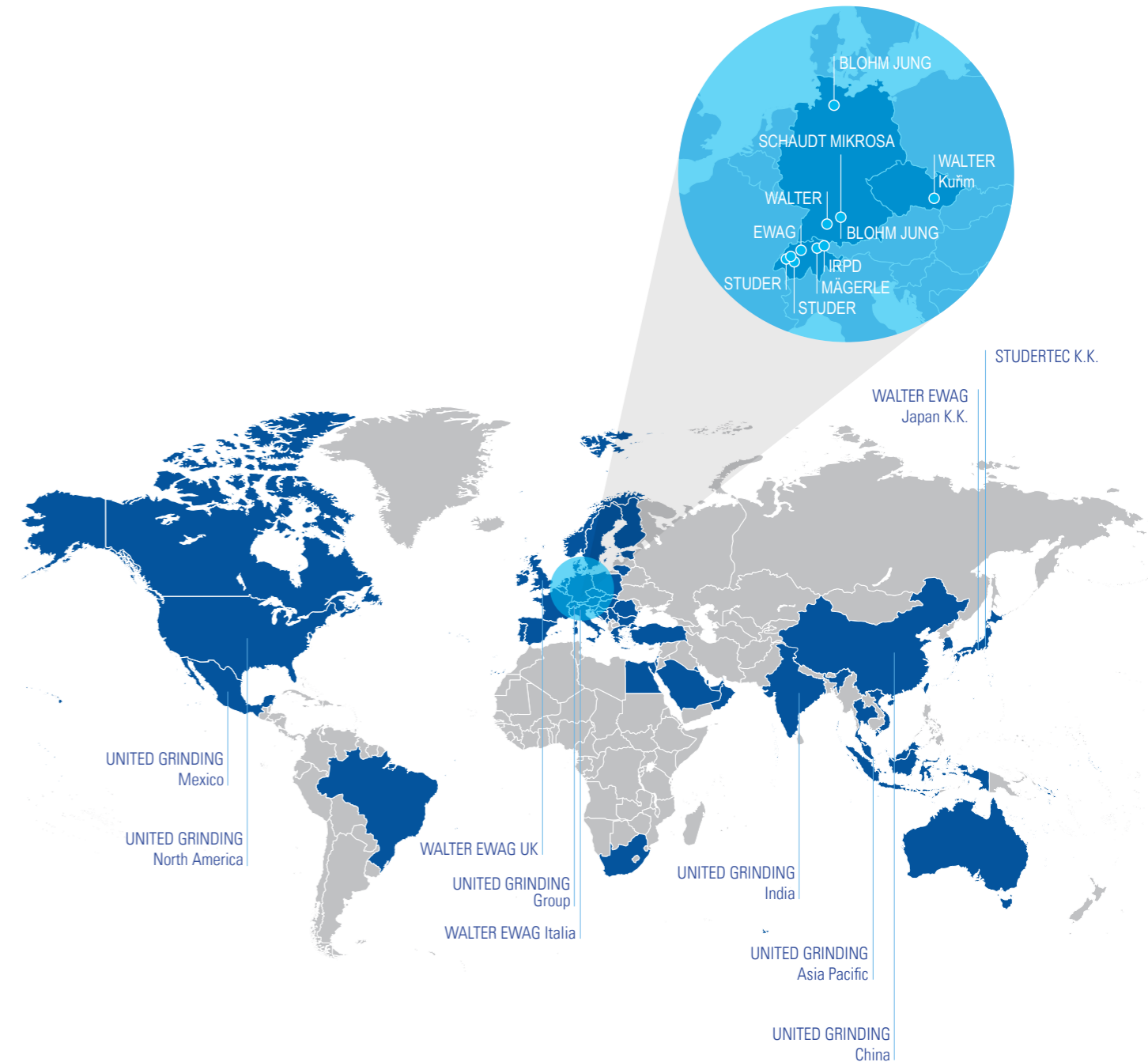


UNITED GRINDING GROUP

UNITED GRINDING Group is one of the world's leading manufacturers of grinding, eroding, laser, and measuring machines, as well as machine tools for additive manufacturing. With roughly 2.300 employees at more than 20 manufacturing, service, and sales locations, the group is organized in a customer-oriented and efficient way.

Through its MÄGERLE, BLOHM, JUNG, STUDER, SCHAUDT, MIKROSA, WALTER, EWAG, and IRPD brands, as well as competence centers in America and Asia, UNITED GRINDING offers broad application expertise, a large product portfolio, and a full range of services for the production of high-precision components.

«We want to make our customers even more successful – UNITED FOR YOUR SUCCESS»





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