PRODUCT RANGE

The Art of Grinding.

STUDER


GLOBAL
TECHNOLOGY LEADER
EFFICIENCY
PERFECTION
SAFETY
CUSTOMER FOCUS
SOPHISTICATED PROCESSES
PRECISION
The Art of Grinding.
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GLOBAL
SAFETY

STUDER

STUDER makes your company more successful – and has been doing so for over 100 years. Our customers can rely on a global network of representatives and service support centers. Regional contact partners respond to your concerns quickly and simply – irrespective of which machine is involved. As technology leaders in universal, external and internal cylindrical grinding we focus on sophisticated processes and are a reliable partner for your future investments.
If you love perfection. «The Art of Grinding.»

We have been cultivating the art of grinding since 1912

Our success has proved us right

More than 80 engineers and developers continuously question existing standards, so that the limits of what was previously possible are constantly exceeded. We set new standards with groundbreaking developments.
Our substantial investments in research and new technologies reflect our clear profession to market leadership and uncompromising quality. The continuous further training of our staff is part of our policy of regarding quality as a principle, which is why we also actively support our younger generation. Over 10 % of our workforce are apprentices undergoing training in the most varies specialist fields – helping us to set the course now for the competence needed in the future.

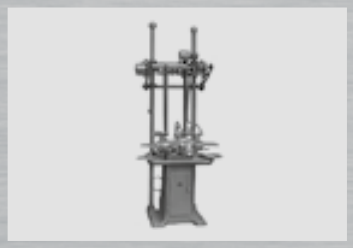
More than 24 000 STUDER machines have been sold worldwide. Our customers appreciate the reliability and safety ensured by working with the latest technology, as well as the guarantee of being able to retrofit older machines with more advanced technology.

We have been shaping and cultivating the art of grinding since our foundation – because, as a system provider, we equip each of our machines with the most modern technology, know-how and extensive services. For decades now, the STUDER logo has been seen as a quality seal for first-class results worldwide. And we will continue to ensure that the state of the art in grinding remains associated with our name in the future.

STUDER

Own research and development
Innovative partner for the future.

Grinding trials
Over 400 customer-specific grinding trials a year.

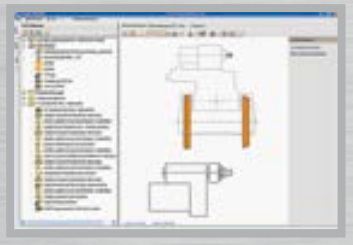


Over 100 years of experience
Extensive knowledge of technology and processes which has grown continuously over the decades.

Customer Care
Global, fast and competent.

Software

StuderWIN
The User Interface
Standardised operation of all STUDER machines thanks to the Windows user interface.

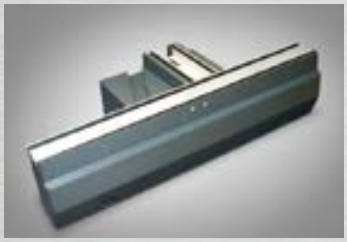


StuderGRIND
The Grinding Software
Efficient creation of grinding programs online and offline.

StuderTechnology
Calculates all relevant process parameters based on the latest grinding technology knowledge.

HSM (High Speed Machining)
Self-learning function (with contouring error correction), C axis with 0.0001 deg resolution, highest precision in form grinding.

Hardware



Granitan® machine bed
Vibration damping and unaffected by temperature fluctuations.

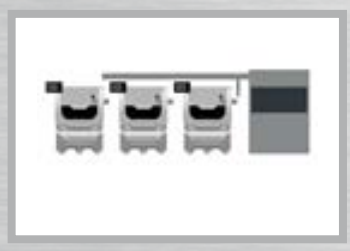
More than 100 wheelhead options
The optimum solution for every grinding job thanks to the modular machine concept.

Motor spindle
The motor spindles make a large contribution to the legendary STUDER precision. They are manufactured entirely in-house.

StuderGuide®
Combines the advantages of hydrostatic and hydrodynamic guide systems.

Nanospin®
Infinitely variable B-axis. Repeating accuracy in the nano range, no backlash play. Grind cylinders and tapers without interim dressing.

A-axis
For high-precision thread grinding.



Systems
The machine, encompassing fully automatic peripheral units and STUDER know-how, can be seamlessly integrated into any production operation.

Conventional cylindrical grinding machines

The electrically and hydraulically controlled universal cylindrical grinding machines remain very popular for many grinding tasks.

Our product concept fulfils every need.
In brief: we provide everything to facilitate the highest possible grinding precision for every type of application. From A to Z.
In somewhat more detail: every machine needed for every conceivable task. As a modular standard product or special customised design – with our advice, know-how and extensive services available to you before, during and after purchase. And if your needs grow, your machine can grow with them because our modular production concept ensures that older machines can also be retrofitted and upgraded. A concept which sets standard and makes history, as well as protecting your investment.

	S20	S30
Distance between centres	400 / 650 mm (15.7" / 25.6")	650 / 1 000 mm (25.6" / 39.4")
Grinding length	400 / 650 mm (15.7" / 25.6")	650 / 1 000 mm (25.6" / 39.4")
Centre height	100 mm (3.9")	125 / 175 / 225 mm (4.9" / 6.9" / 8.9")
Workpiece weight	20 kg (44 lbs)	130 kg (286 lbs)
X-asis travel	25 mm (1")	260 mm (10.2")
Z-asis travel	420 / 650 mm (16.5" / 25.6")	700 / 1 050 mm (27.6" / 41.3")
Grinding wheel	350 x 32 (50) mm (14" x 1.3" / 2")	500 x 63 (80) mm (19.7" x 2.5" / 3.1")
Driving power	3 kW (4 hp)	5.5 / 7.5 kW (7.5 / 10 hp)
Machine weight	1 600 / 1 900 kg (3 520 / 4 180 lbs)	3 400 / 3 800 kg (7 480 / 8 360 lbs)

Universal external cylindrical grinding machines

Universal cylindrical grinding machines for medium-sized workpieces. The modular system offers everything the customer requires, from simple machine though to complex grinding system.

	S21	S31	favorit	S33	S41
Distance between centres	400 mm (15.75")	650 / 1 000 mm (25.6" / 39.4")	400 / 650 / 1 000 / 1 600 mm (15.7" / 25.6" / 39.4" / 63")	650 / 1 000 mm (25.6" / 39.4")	1 000 / 1 600 mm (39.4" / 63")
Grinding length	400 mm (15.75")	650 / 1 000 mm (25.6" / 39.4")	400 / 650 / 1 000 / 1 600 mm (15.7" / 25.6" / 39.4" / 63")	650 / 1 000 mm (25.6" / 39.4")	1 000 / 1 600 mm (39.4" / 63")
Centre height	125 mm (4.9")	175 mm (6.9")	175 mm (6.9")	175 mm (6.9")	225 / 275 mm (8.9" / 10.8")
Workpiece weight	30 kg (66 lbs)	80 / 120 kg (176 / 264 lbs)	150 kg (330 lbs)	80 / 120 kg (176 / 264 lbs)	250 kg (550 lbs)
X-asis travel	254 mm (10")	280 mm (9.8")	370 mm (14.6")	285 mm (11.2")	350 mm (13.8")
Z-asis travel	483 mm (19.02")	850 / 1150 mm (33.5" / 45.3")	500 / 800 / 1 150 / 1 750 mm (19.7" / 31.5" / 45.3" / 68.9")	800 / 1 150 mm (31.5" / 45.3")	1 150 / 1 750 mm (45.3" / 68.9")
Grinding wheel	400 x 40 (50) mm 15.7" x 1.5" / 1.9")	500 x 63 (80) mm (20" x 2.5" / 3.1")	500 x 63 (80) mm (20" x 2.5" / 3.1")	500 x 63 (80) mm (20" x 2.5" / 3.1")	500 x 80 (100) mm (20" x 3.1" / 3.9")
Driving power	5.5 kW (7.5 hp)	7.5 kW (10 hp)	7.5 kW (10 hp)	11 kW (15 hp)	15 kW (20 hp)
Machine weight	4 300 kg (9 460 lbs)	5 500 / 6 000 kg (12 100 / 13 200 lbs)	8 800 / 9 500 / 10 500 / 12 000 kg (18700 / 20900 / 23100 / 26400)	4 000 / 5 000 kg (8 800 / 11 000 lbs)	9 000 / 10 200 kg (19 800 / 22 440 lbs)

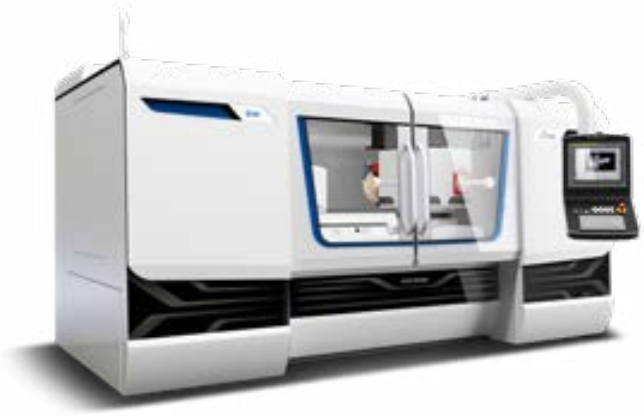
Production external cylindrical grinding machines

For large scale production, STUDER offers single-purpose machines with optimized grinding cycles and maximum availability.

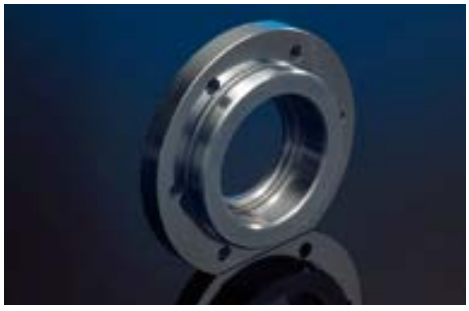
	S11	S22
Distance between centres	200 mm (7.9")	650 (max. 1 100) mm (25.6" max. 43.3")
Grinding length	80 – 150 mm (3.15" – 5.9")	max. 800 mm (31.5")
Centre height	125 mm (4.9")	175 / 225 mm (6.9" / 8.9")
Workpiece weight	3 kg (6.6 lbs)	150 kg (330 lbs)
X-asis travel	210 mm (8.3")	310 mm (13.4")
Z-asis travel	210 mm (8.3")	850 mm (33.5")
Grinding wheel	dia. 508 / 203 x 63 mm (20" / 8" x 2.5")	up to 610 x 160 mm (24" x 6.3")
Driving power	9 kW (12.2 hp)	15 kW (20.5 hp)
Machine weight	2 300 kg (5 060 lbs)	8 500 kg (18 700 lbs)

Universal internal cylindrical grinding machines

The right machine for every application. Whether in individual production or series production. Whether for large or small workpieces. With up to 4 spindles on the turret any task can be handled.



	S121	S131	S141	S151
Swing diameter	400 mm (15.7")	250 mm (9.8")	400 mm (15.7")	550 mm (21.6")
Length of parts including clamping devices max.	300 mm (11.8")	300 mm (11.8")	300 / 700 / 1 300 mm (11.8" / 27.5" / 51.1")	700 / 1 300 mm (27.5" / 51.1")
Internal grinding length/dia. max.	175 / 360 mm (6.9" / 14.1")	160 / 250 mm (6.3" / 9.8")	250 / 400 mm (9.8" / 15.7")	390 / 550 mm (15.3" / 21.6")
External grinding length/dia. max.	100 / 360 mm (3.9" / 14.1")	125 / 250 mm (4.9" / 9.8")	150 / 400 mm (5.9" / 15.7")	150 / 550 mm (5.9" / 21.6")
Max. number of spindles on turret	2	4	4	4
HF spindle dia.	100 / 120 / 140 mm (3.9" / 4.7" / 5.5")	100 / 120 mm (3.9" / 4.7")	120 / 140 mm (4.7" / 5.5")	120 / 140 mm (4.7" / 5.5")
External grinding wheel	dia. 300 / 127 x 32 mm (12" / 5" x 1.26")	dia. 250 / 50 x 25 mm (10" / 2" x 1")	dia. 300 / 127 x 32 mm (12" / 5" x 1.26")	dia. 300 / 127 x 32 mm (12" / 5" x 1.26")
X-axis travel	350 mm (13.8")	350 mm (13.8")	425 mm (16.7")	500 mm (19.7")
Z-axis travel	350 mm (13.8")	400 mm (15.7")	500 mm (19.7") (model 300 / 700 mm) 700 mm (27.5") (model 1 300 mm)	500 mm (19.7") (model 700 mm) 700 mm (27.5") (model 1 300 mm)
Swiveling range spindle turret	0 deg / 180 deg	-50 to +280 deg	-50 to +280 deg	-50 to +280 deg
Load on spindle nose	300 Nm (224 ft lbs)	300 Nm (224 ft lbs)	400 Nm (298 ft lbs)	400 Nm (298 ft lbs)
Machine weight	5 200 kg (11 440 lbs)	5 200 kg (11 440 lbs)	8 100 kg (17 820 lbs) (model 300 mm) 9 100 kg (20 020 lbs) (model 700 mm) 11 400 kg (25 080 lbs) (model 1 300 mm)	9 200 kg (20 240 lbs) (model 700 mm) 11 500 kg (25 300 lbs) (model 1 300 mm)



Production internal cylindrical grinding machines

In the area of internal-, surface-, and external grinding of chucking components we set standards. The modular, flexible arrangement of spindles enables optimal dimensioning of the machine ranging from the machining of individual parts to large-scale production. Integrated and autonomous loading systems are supported.

	S110	S120	S122
Swing diameter	205 mm (8")	300 mm (11.8")	220 mm (8.6")
Length of parts	max. 230 mm (9")	max. 650 mm (25.6")	max. 120 mm (4.7")
Grinding length	max. 120 mm (4.7")	max. 150 mm (5.9")	max. 110 mm (4.3")
Max. number of spindles (in-line)	3	3	3
HF spindle dia.	45/60/80/100/120 mm (1.7"/2.4"/3.1"/3.9"/4.7")	80/100/120 mm (3.15"/3.9"/4.7")	100/120 mm (3.9"/4.7")
Belt-driven spindle dia.	80 mm (3.1")	80 mm (3.1")	–
External grinding wheel	max. 305 mm (12")	max. 305 mm (12")	max. 150 mm (5.9")
X-axis travel	450 mm (17.7")	520 mm (20.5")	350 mm (13.8")
Z-axis travel	200 mm (7.9")	250 mm (9.8")	350 mm (13.8")
B-axis setting angle (manual)	±2 deg (Opt. +21 deg)	+1 to -1 deg	0.1 deg
Load on spindle nose	150 Nm (111 ft lbs)	300 Nm (223 ft lbs)	25 Nm (19 ft lbs)
Machine weight	2600 kg (5720 lbs)	3200 kg (7040 lbs)	4350 kg (9570 lbs)

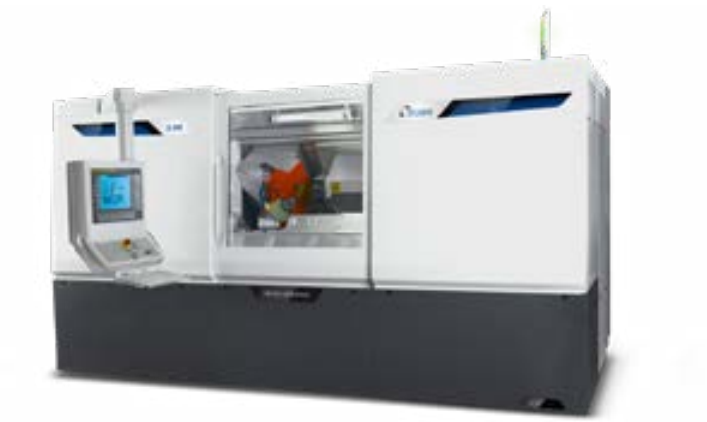
Radius internal cylindrical grinding machines

Machines with an automatic B-axis in the area of internal grinding, surface grinding, external-, cone-, and radius grinding for extremely flexible machining of chucking components. Thanks to offline simulation programming and the sophisticated set-up philosophy, set-up time is significantly reduced.

	S121	S131	S141
Swing Diameter	300 mm (11.8")	300 mm(11.8")	300 mm (11.8")
Length of parts including clamping devices max.	300 mm (11.8")	300 mm (11.8")	400 mm (15.7")
Grinding length	165 / 250 mm (6.5"/ 9.8")	165 / 250 mm (6.5"/ 9.8")	165 / 250 mm (6.5"/ 9.8")
External grinding length / diameter max.	120 / 150 mm (4.7"/5.9")	120 / 160 mm (4.7"/ 6.3")	120 / 160 mm (4.7"/ 6.3")
Max. number of spindles on turret	2	4	4
HF spindle dia.	100 / 120 mm (3.9"/4.7")	100 / 120 mm (3.9"/4.7")	100 / 120 mm (3.9"/ 4.7")
External grinding wheel	dia. 250 / 50 x 25 mm (10"/2"x1")	dia. 250 / 50 x 25 mm (10"/2"x1")	dia. 250 / 50 x 25 mm (10"/2"x1")
X-axis travel	350 mm (13.8")	350 mm (13.8")	500 mm (19.7")
Z-axis travel	400 mm (15.7")	400 mm (15.7")	500 mm (19.7")
B-axis swiveling range	-20 to +91 deg	-60 to +91 deg	-60 to +91 deg
Load on spindle nose	300 Nm (223 ft lbs)	300 Nm (223 ft lbs)	300 Nm (223 ft lbs)
Machine weight	5 050 kg (11 110 lbs)	5 700 kg (12 540 lbs)	7 400 kg (16 280 lbs)

Fine machining system

For efficient hard fine machining, STUDER offers a combined machine tool for process optimization.



S242

Distance between centres	400 / 1 000 mm (15.7" / 39.4")
Grinding length	max. 1 000 mm (39.4")
Centre height	90 / 125 mm (3.5" / 4.9")
Workpiece weight	60 kg (132 lbs)
X-asis travel	220 mm (8.7")
Z-asis travel	850 / 1 600 mm (33" / 63")
Grinding wheel	400 x 50 (63) mm (15.7" x 2" / 2.5")
Driving power	8 / 12 kW (10.9 / 16.3 hp)
Machine weight	7 600 / 12 000 kg (16 720 / 26 400 lbs)

Customer Care

STUDER cylindrical grinding machines should fulfil the customer's requirements for as long as possible, work cost-effectively, function reliably and be available at all times. From «start up» through to "retrofit" – our Customer Care is there for you throughout the working life of your machine. 30 professional helplines and more than 60 service technicians are available in your area, wherever you are in the world.

- We will provide you with fast, uncomplicated support.
- We will help to increase your productivity.
- We work professionally, reliably and transparently.
- We will provide a professional solution to your problems.

Start up
Commissioning
Warranty extension

Qualification
Training
Production support

Prevention
Maintenance
Inspection

Service
Customer service
Customer consultation
HelpLine
Remote service

Material
Spare parts
Replacement parts
Accessories

Rebuild
Machine overhaul
Assembly overhaul

Retrofit
Modifications
Retrofits

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