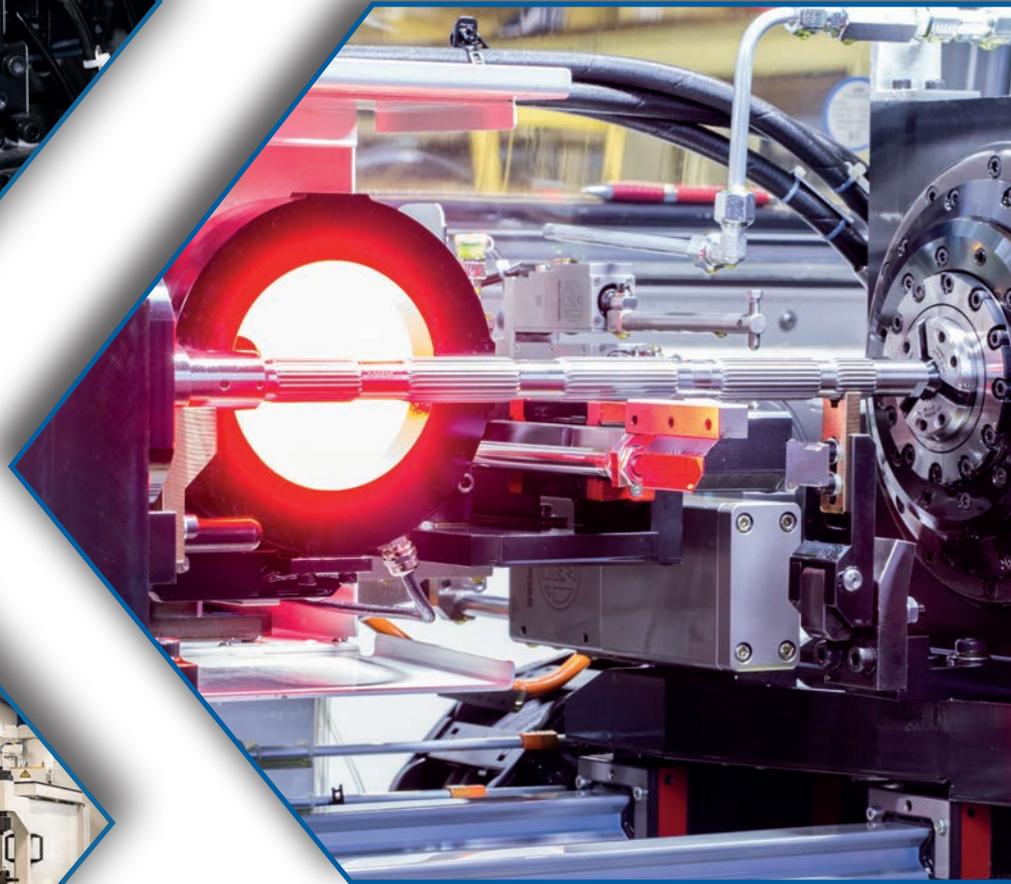




The specialist in cylindrical grinding
Special grinding solutions



GST has developed a **wide variety** of **highly productive** standard and special grinding machines for various grinding operations, entirely **flexible** and focused on customer requirements. Leading manufacturers use our machines in **continuous operation**.

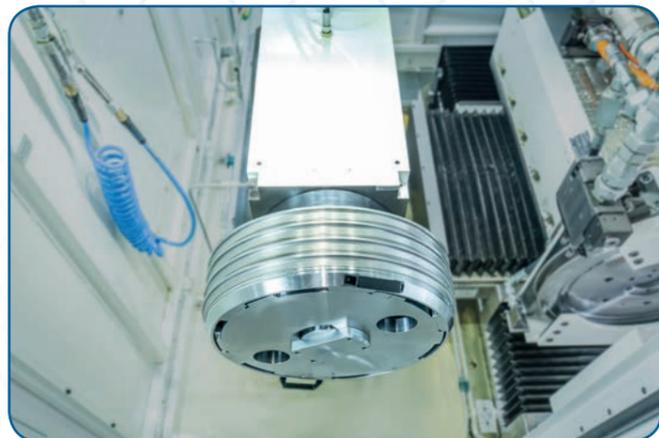
**Standard and special grinding machines
for the most varied grinding tasks**

Ring grinding



External grinding of closed rings by contour-controlled grinding wheel movement. The outer contour of the workpiece is achieved by interpolation of the electroplated CBN forming wheel through the X and Z axes.

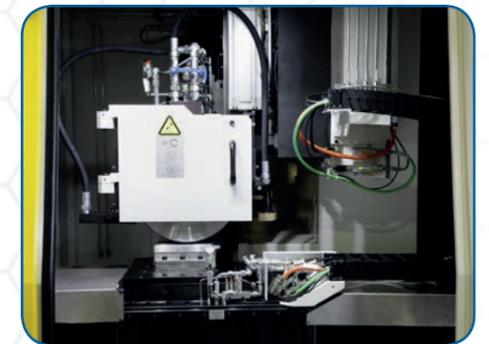
- Electroplated CBN grinding wheel
- Compound slide with linear motors
- Workpiece spindle drive with torque motor (made by GST)



- Center height
- Largest clamping- grinding length
- Max. workpiece weight incl. holder
- Max. grinding wheel dimensions
- Max. circumferential speed
- Grinding spindle drive power
- Machine weight
- Installed power
- Space requirements

500 mm
 ~ 30 mm
 100 kg
 500 x 30 mm
 140 m/s
 80 kW
 ~ 14,000 kg
 ~ 90 kW
 3.5 x 4.0 m

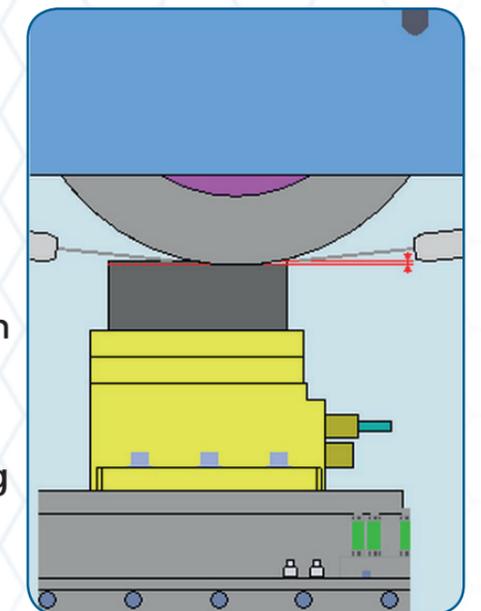
Surface grinding



Surface grinder for high cutting speeds and high workpiece speeds with pendulum grinding function.

Surface grinding machine for ceramic CBN and corundum grinding wheels, for max. peripheral speed of 200 m/sec. with a wheel diameter of 400 mm.

- Weight-reduced Z-axis
- Compound slide (X/Y) with ballscrews
- Travel range 500 mm
- Max. Speed 200 m/min
- Largest clamping height 100 mm
- Largest clamping-grinding length 400 mm
- Max. workpiece weight 2.5 kg
- Max. grinding wheel dimensions 400x30 mm
- Max. peripheral spindle speed 200 m/s
- Grinding spindle drive power 35 kW
- Machine weight ~ 12,000 kg
- Installed power ~ 65 kW
- Space requirements 4.0 x 4.0 m

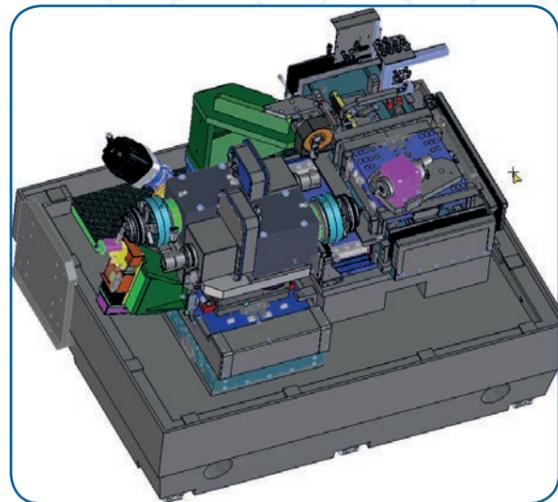


Profile grinding

Grinding

Ball Raceway

- Grinding of ball raceways in three-shift operation, capacity utilization 85%.
- 277.248 parts/year, cycle time 1.24min
- High-speed spindle S1
- Compound slide with linear motors X/Z
- Rotary table B1
- Vitrified CBN mounted point for the ball raceway



- Max. clamping diameter **174 mm**
- Max. length **100 mm**
- Max. workpiece weight **8 kg**
- Spindle 1 **~ Ø 6 mm**
- Max. speed (S1) **105,000 U/min**
- Drive power (S1) **2 kW**
- Machine weight **18,000 kg**
- Installed power **50 kW**
- Required floor space **8.0 x 5.0 m**



Differential gear case

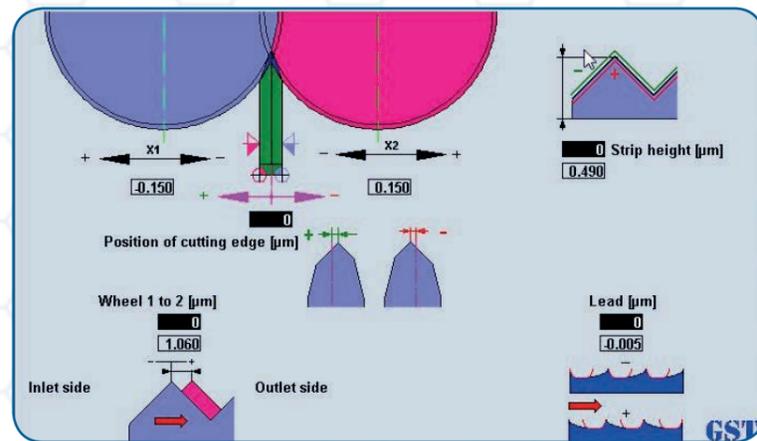
- Diameters
 - Plane surfaces
 - Radii
- Grinding

- Grinding of inner and outer diameters in three-shift operation with capacity utilisation of 80%: 706 parts/day, cycle time 1.63 min.
 - CBN grinding wheel S1 (outer diameter, plane surfaces)
 - High-speed spindles S2/S3 (inner bores, plane surfaces)
 - Compound slide X/Z for S1/S2 with linear motors
 - Z axis for S3
 - Workpiece drive: center drive with servomotor
 - Workpiece clamping: Diaphragm chuck in the center drive
 - 3 dressers
- | | |
|-------------------------------|--------------------|
| ■ Max. clamping diameter | 190 mm |
| ■ Max. clamping length | 200 mm |
| ■ Max. workpiece weight | 5 kg |
| ■ Grinding spindle power (S1) | 31 kW |
| ■ Max. speed (S1) | 4,500 rpm |
| ■ Grinding spindle power (S2) | 15 kW |
| ■ Max. speed (S2) | 45,000 rpm |
| ■ Grinding spindle power (S3) | 10.5 kW |
| ■ Max. speed (S3) | 60,000 rpm |
| ■ Machine weight | 17,000 kg |
| ■ Installed power | 90 kW |
| ■ Required floor space | 7.9 x 6.7 m |

Belt grinding (Endless belt)

Grinding — Double-sided cutting edges

- Grinding on both sides and producing tooth profiles with cutting edge on endless belts, in a continuous process on a smooth unmachined belt
- Grinding and producing the cutting edge by means of two grinding units (2 grinding wheels)

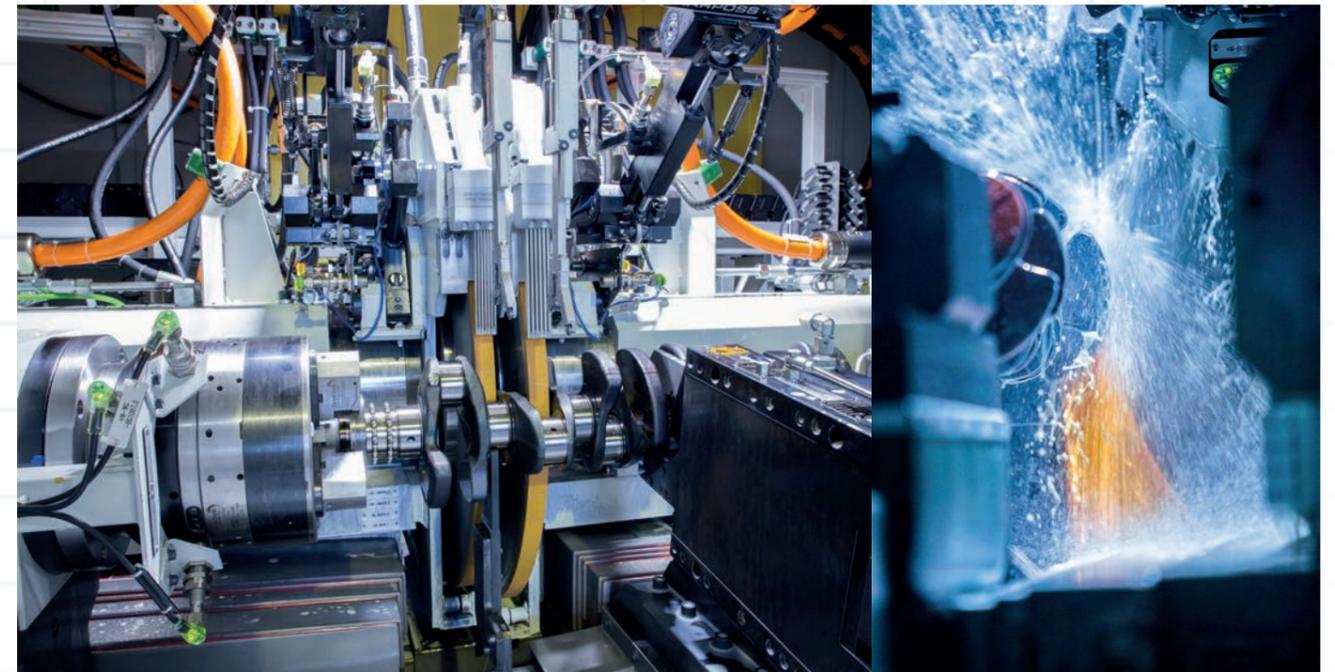


- High-speed spindle S1
- Compound slide X1/X2 axes
- Z axis

- Belt speed: 50 m/min
- Belt dimension: $h = 15 - 100$ mm; $w = 0.35 - 2.84$ mm
- Wheel head position: $90 + 90^\circ$
- Wheel left/right: 750 mm \pm x 304.8 mm / 100 mm
- Max. Circumferential speed: 50 m/s
- Drive power of the grinding spindles: 15 kW each
- Machine weight: 18,000 kg
- Installed power: 75 kW
- Space requirements: 4.8 x 6.0 m

GST Machine features

- Complete machining in a single clamping set-up
- Full CNC control of all axes
- Automatic process measurement incl. roundness compensation
- Solid GST grinding spindles with roller bearings
- Linear drive technology of the highest precision
- Workpiece spindle or center drive for workpiece driving with speed control
- Compound-slide configuration (depending on requirements)
- Feed slides with recirculating roller guides or hydrostatic guideways
- Self-centering steady rests
- Additional compound slide with internal grinding spindle for simultaneous grinding of the needle bearing bore (optional)
- Coolant: emulsion or oil
- High energy efficiency due to compact design
- Short set-up times due to wheel changing devices, automatic set-up and automatic adjustment of table assemblies
- Stand-alone solution with GST loader and workpiece magazine, or integration into an interlinked system

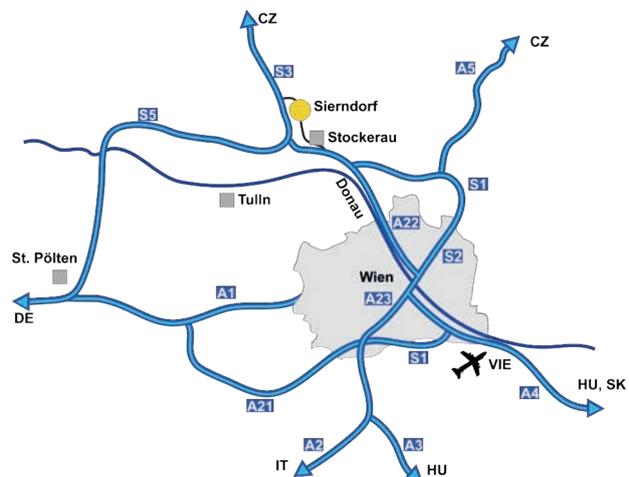




GST GRINDER GmbH

Industriepark 6 | 2011 Sierndorf | Austria

Phone: +43 (0)2267 / 3250-0 | Fax: +43 (0)2267 / 3250-99 | Mail: office@gst.at



GST Grinder GmbH. All rights reserved. office@gst.at
UID-Nr.: ATU74383213 - FN.Nr.: 512421 k - Landesgericht Korneuburg - CEOs: Günter Hacker, Franz Hejn