

BSE

UNIVERSAL CYLINDRICAL GRINDING MACHINE

BSE 1500

BSE 3000

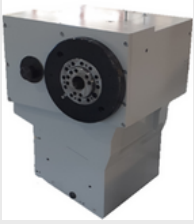
BSE 4000



GRINDEX

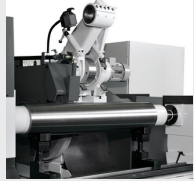
BSE

FOR LARGE SIZE WORKPIECES



UNIVERSAL WORKHEAD

- Live and dead center base
- Speed range 0,1-165 RPM
- Roundness accuracy 0,001 mm



DISTANCE BETWEEN CENTERS

- 1500/3000/4000 mm



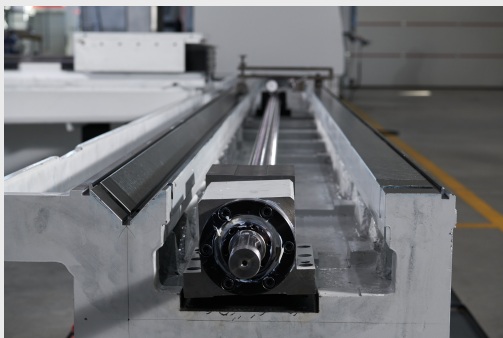
LOAD

- between centers 2500 kg
- chucked 500 kg



TAILSTOCK

- Morse taper 6
- Retraction of sleeve 60 mm
- Micro-adjustment $\pm 0,125$ mm



MACHINE BED

Machine bed made of grey cast iron. Very massive, solid, specially ribbed, naturally aged ensures thermal stability for a long life and complete stability of the process. Flat and "V" guideways hand scraped and coated with antifriction material to ensure continuous movement, high accuracy, positioning and repeatability.

TABLE/SLIDE

X- and Z- slides driven by ball screw spindles and AC servo motors. High resolution linear scales to control the position of X- and Z- axes.



CNC OR NC CONTROLLER

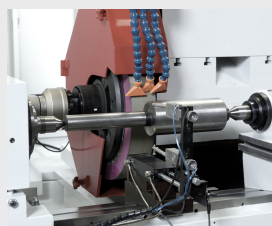
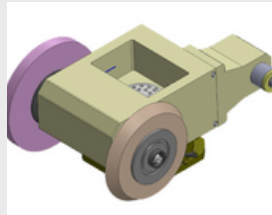
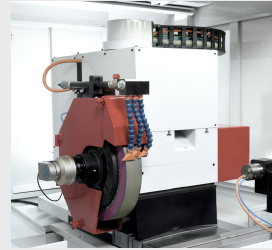
User friendly, with flexible programming options and graphical interface. Availability of input data for analysis and process improvement.

Ergonomic control panel, with touch screen, standard keyboard, USB ports.

Thin Client Operator Panel 22", widescreen TFT display, capacitive touch sensor. Supported protocols: RDP, VNC, Smart Server, HTML5, etc., neutral design, Built-in unit. Alpha numeric key-board and command panel MCP 398C + EM. Protection class IP65 (Front side). Hand terminal with 10" multi-touch display (Screen ratio 16:10). System set-up through Dialogs and Menu, NC programming not required.

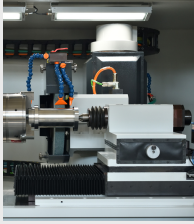
WHEELHEAD

- Grinding head for external cylindrical, internal cylindrical, taper, face and complex profile grinding
- Internal grinding spindle (HF or belt)
- Wheel spindle can be left or right, or fixed for a specific angle. Automatic dynamic system for balancing
- Combination of grinding spindles for external, internal, taper, face, complex profile grinding. Up to four grinding wheels.
- Max. wheel diameter $\varnothing 900 \times 160 \times \varnothing 305$ mm
- Continuous indexing function on wheelhead
- Thermal stability - water cooled motor and optimized permanently lubricated bearings



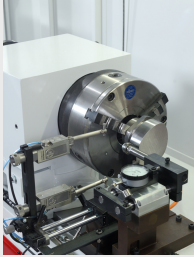
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OPTIONS THAT MAKE THE DIFFERENCE



TAILSTOCK

- CNC W-axis for precise axial positioning and quick set up



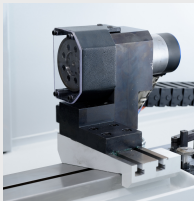
WORKHEAD

- C-axis rotation control
- Hydrodynamic bearing
- Hydrostatic bearings
- Pneumatic or hydraulic clamping
- Custom tooling for clamping



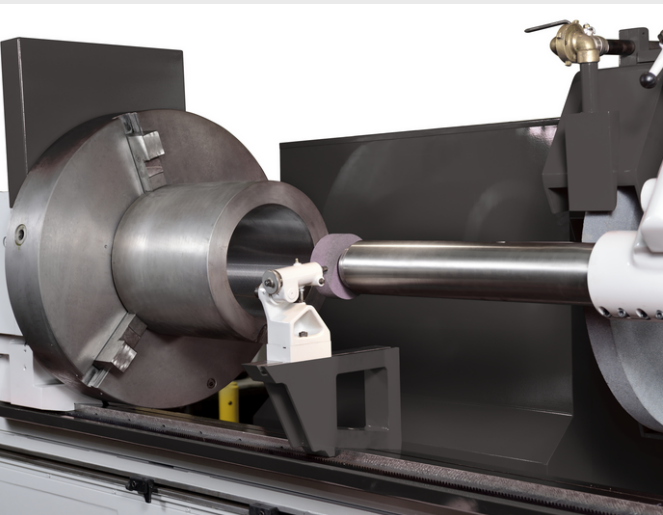
WHEELHEAD

- Hydrodynamic, hydrostatic, hybrid ceramic bearing
- Turret wheel head (B-axis)
- Ceramic, CBN, Diamond grinding wheel



WHEEL DRESSING

- Single point diamond
- Diamond roll/disc
- CNC wheel dresser



HIGHLIGHTS

- Extra long internal grinding spindles for deep holes
- Tailstock air cushion lift-off facilitates simple movement during setup and resetting
- Grinding wheel is equipped with automatic balancing system and vibration control to correct negative effects directly on spindle, increases spindle and wheel life and reduces interval between dressing
- Automatic wheelhead (B-axis) or table swiveling for taper/cone grinding
- 2-points, 3-points or Automatic self-centering steady rests with rapid set-up, fine adjustment, suitable for follow down grinding

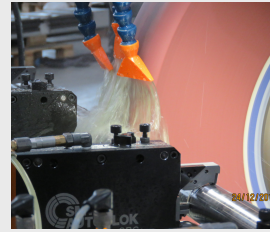


IN-PROCESS DIAMETER GAUGING SYSTEM

The system of measuring in-time significantly improves cycle time, keep the dimensional and geometrical process stability within very narrow tolerance ranges. The machine collects data in real time so it has possibility to correct even smallest deviation immediately.

C-AXIS

The option for non-round applications. Interpolating the transverse X- and part rotation C-axes provides possibility to grind non-round applications such as polygons or eccentric forms.



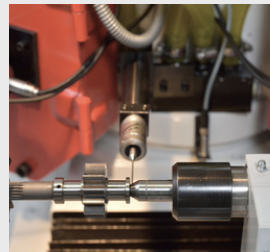
STEADY REST

- Fine adjustment grinding steady rest ideal for follow down grinding
- Self-centering steady rest
- Commercial and Grindex steady rest



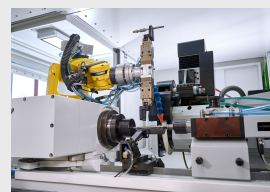
CLAMPING SYSTEM

- Between centers
- Chuck clamping
- Face driver
- Power actuated clamping system
- Collet chuck
- Custom tooling



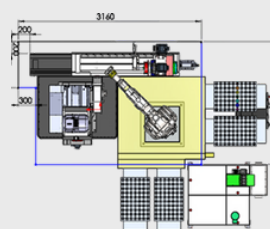
GAUGING AND CONTROL

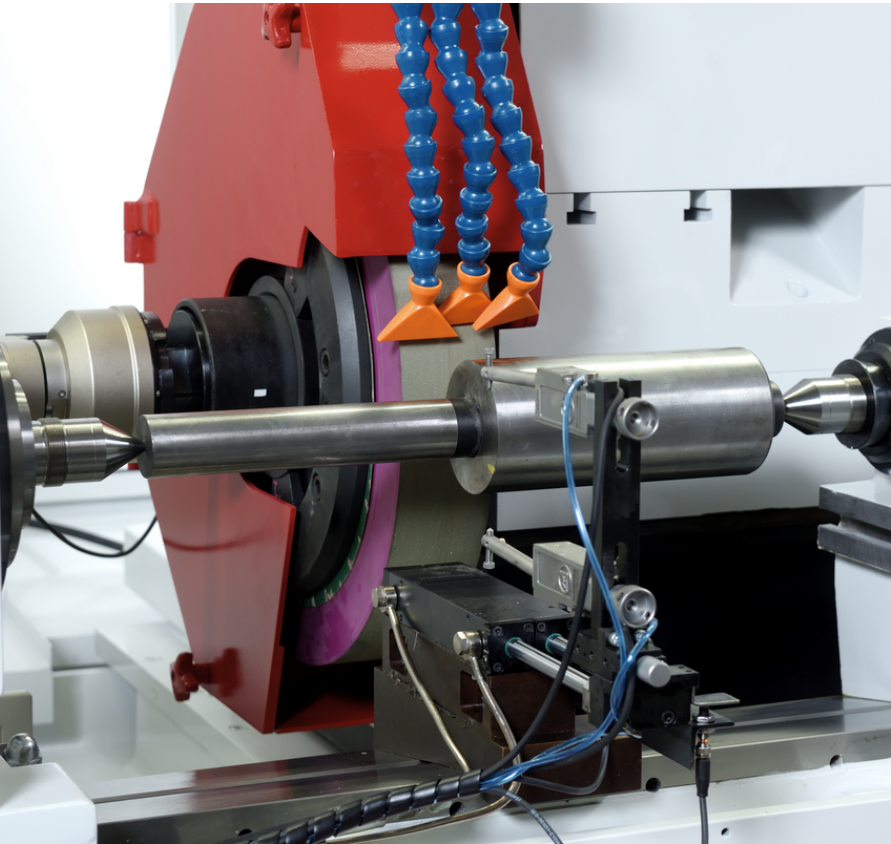
- In-process and post-process gauging system
- Touch probe for workpiece axial positioning
- Gap-crash - gap, crash, dressing and position control for grinding wheel



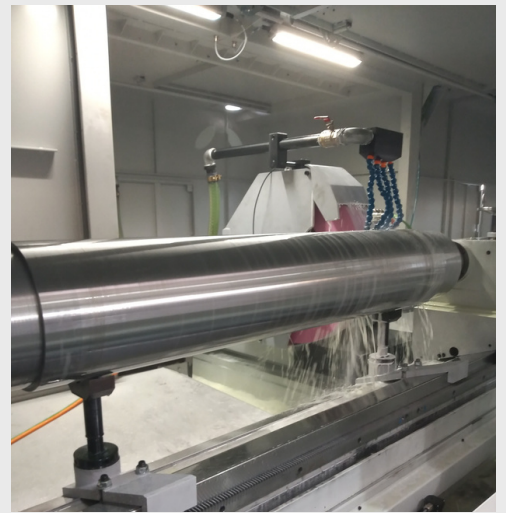
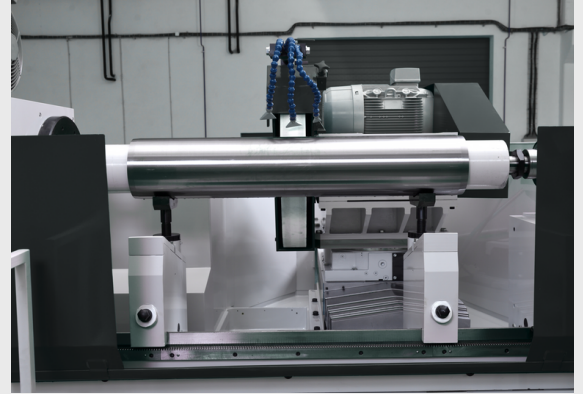
AUTOMATION SYSTEM

- Robot
- Gantry loader





MACHINING EXAMPLES



TECHNOLOGICAL EXPERTISE

We strive to talk to the customer. Our engineers and technicians cooperate with customer in order to supply perfect machine. Grindex provides technological expertise with flow of operations, grinding and dressing method, chuck system proposal, control/gauging system proposal, automation system proposal etc. with priority to reduce cycle time and achieve the best possible workpiece quality.

TECHNICAL DATA

| | |
|---|---|
| Main data | |
| · Distance between centers | 1500/3000/4000 mm |
| · Center height | 315/400/650 mm |
| · Max. workpiece diameter | Ø1300 mm |
| · Max. workpiece weight (between centers/chuck) | 2500/500 kg |
| Wheelslide X-axis | |
| · Travel | 400/600/650 mm |
| · Max. speed | up to 6000 mm/min |
| · Resolution | 0,0001 mm |
| Work table Z-axis | |
| · Travel | 1650/3150/4150 mm |
| · Max. speed | up to 6000 mm/min |
| · Resolution | 0,0001 mm |
| Wheelhead | |
| · Motor power | 25 kW |
| · Periphearal speed | 45 m/s |
| · Max. grinding wheel dimensions | ø900x180xø305 mm |
| B-axis | |
| · Swivel range | -30° /+210 ° |
| · Resolution | 2" |
| · Max. speed | 3 600 °/min |
| Internal grinding attachment | |
| · ID range | Ø80 - ø200 mm |
| Workhead | |
| · Rotation speed | 15-165 rpm |
| · Motor power | 11 kW |
| · Interface | A6DIN 55026/MT6 |
| · C-axis resolution | 20" |
| Tailstock | |
| · Fitting taper | MT6 |
| · Micro adjustment | ± 0,125 mm |
| Controller | Siemens Sinumerik One, Siemens Simatic, NUM |



GRINDEX



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