

MBU 80

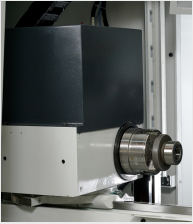
INTERNAL CYLINDRICAL GRINDING MACHINE



GRINDEX

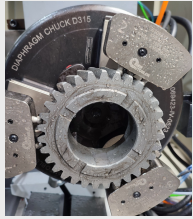
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IDEAL FOR SMALL INTERNAL DIAMETERS



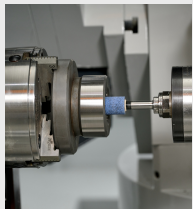
UNIVERSAL WORKHEAD

- Swivel range 0 - 90°
- Speed range 0,1-800 RPM
- Roundness accuracy 0,5 µm



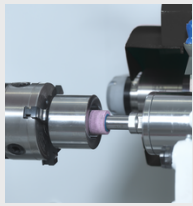
LOAD CHUCKED WORKPIECE

- 15 kg



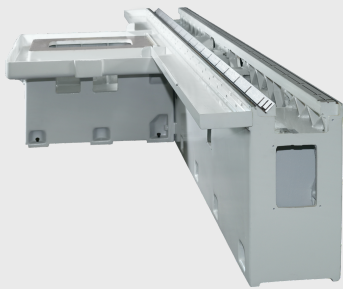
SWING DIAMETER

- 270 mm



WORKPIECE RANGE

- Hole length up to 160 mm
- ID range Ø3-Ø80 mm
- Max. workpiece size
ø270x160 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.

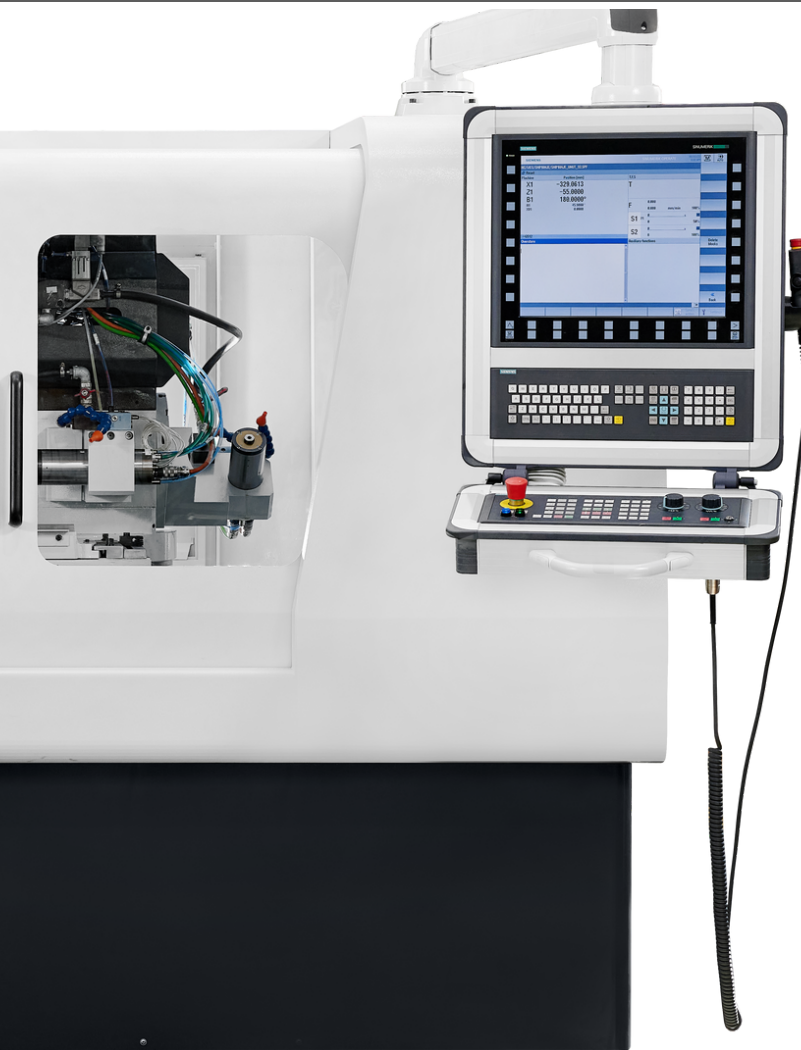
TABLE/SLIDE

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.

Swiveling possibility with the workhead, upper table and wheel slide.

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VERSATILITY



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.

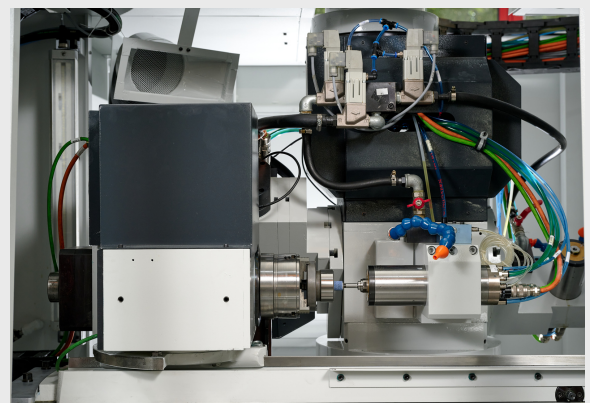
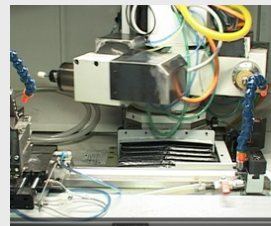
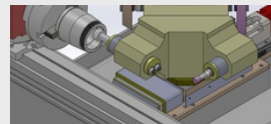
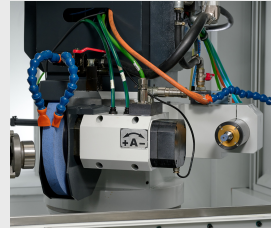
System set-up through Dialogs and Menu, NC programming not required.

B-AXIS

Turret wheelhead with rotary encoder and pneumatic brake for accurate positioning of grinding spindle. With B-axis, up to four grinding spindles can be swiveled to the grinding position. That enables complete grinding to be performed in single clamping. Additionally, touch probe can be mounted for measurement tasks (diameters, face position/distance).

WHEELHEAD

- Grinding head for internal cylindrical, taper, face and complex profile grinding
- HF or belt driven internal grinding spindle
- Combination of high frequency grinding spindles for internal cylindrical, taper, face, complex profile grinding. Up to four grinding wheels.
- Continuous indexing function on wheelhead
- Ceramic, CBN or diamond grinding wheel



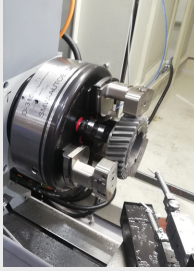
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OPTIONS THAT MAKE THE DIFFERENCE



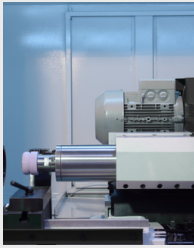
SLIDES

- More robust wheelhead and extended max. slide travel
- X-axis travel driven by linear motor with linear guides



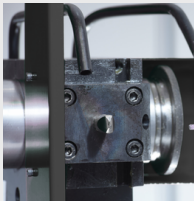
WORKHEAD

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



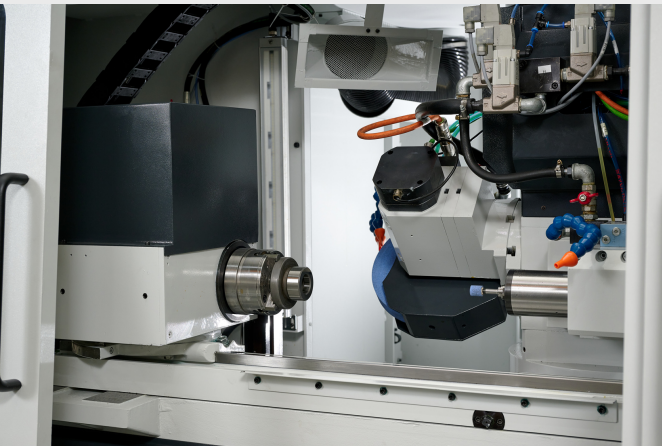
WHEELHEAD

- 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



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.

ADVANTAGES OF LINEAR DRIVE

The option of X-axis travel driven by linear motor. Less wear and minimal maintenance. Extremely high accuracy, positioning and repeatability. Shortened cycle time, superior surface quality, unbeatable grinding accuracy.

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OPTIONS THAT MAKE THE DIFFERENCE



IN-PROCESS DIAMETER GAUGING SYSTEM

The system of measuring in-time significantly improve 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.

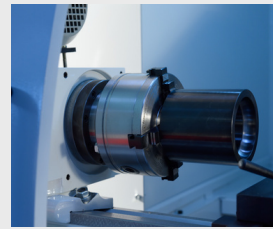
AUTOMATIC WORKPIECE LOADING/UNLOADING SYSTEM

Requirements of completely automated manufacturing processes are fulfilled with the incorporation of customised Grindex automatic loading systems e.g. integrated gantry, robot solutions or custom tailored systems. Grindex offers both internal and external loading systems.



INTERNAL GRINDING SPINDLE

- Belt driven spindle up to 40000 rpm
- HF spindle up to 180000 rpm
- Commercial and Grindex (belt driven) spindles



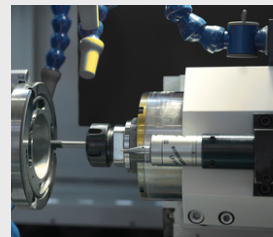
CLAMPING SYSTEM

- 3 or 4 jaws chuck clamping
- Magnetic chuck
- Power actuated clamping system
- Custom tooling



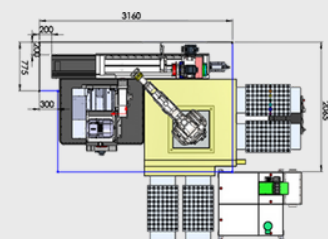
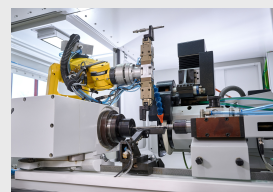
GAUGING AND CONTROL

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



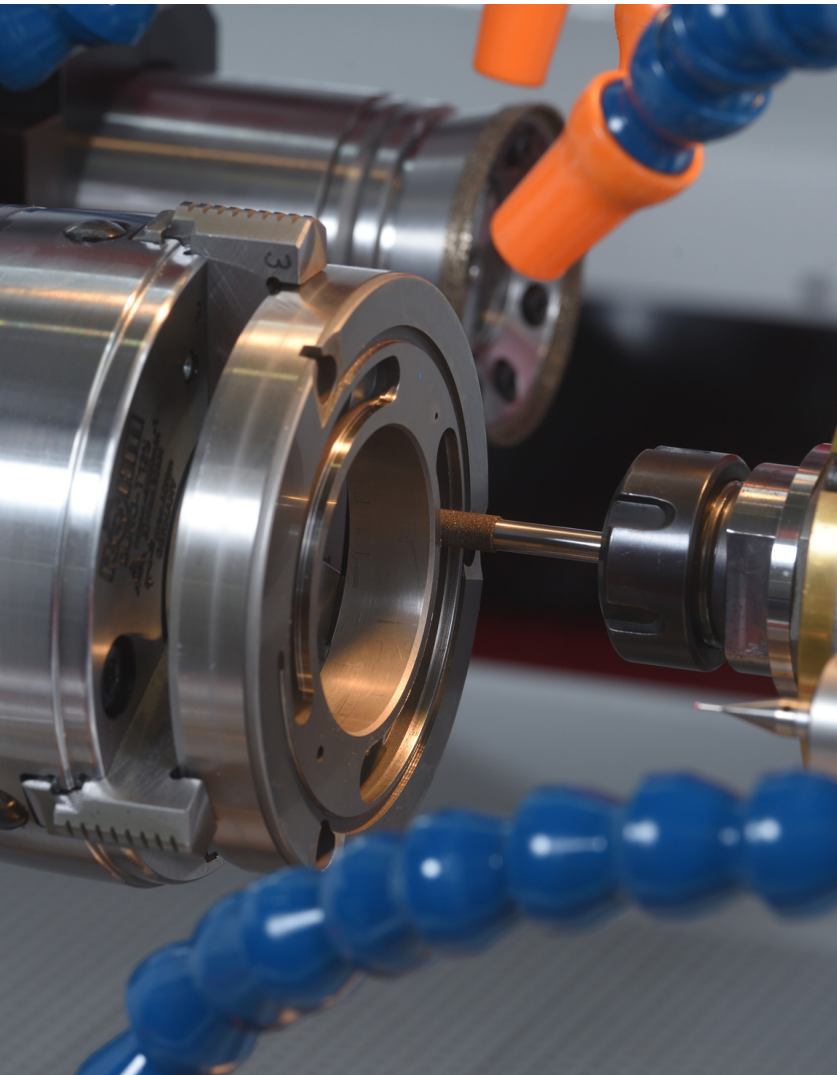
AUTOMATION SYSTEM

- Robot
- Gantry loader



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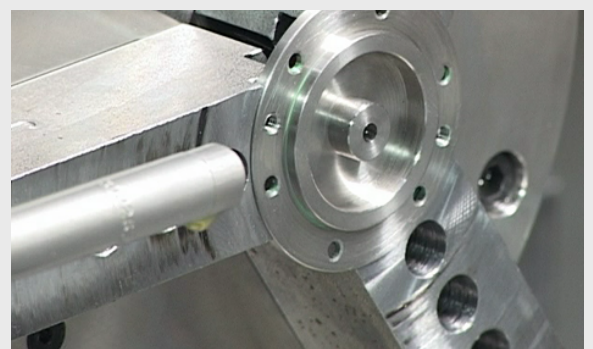
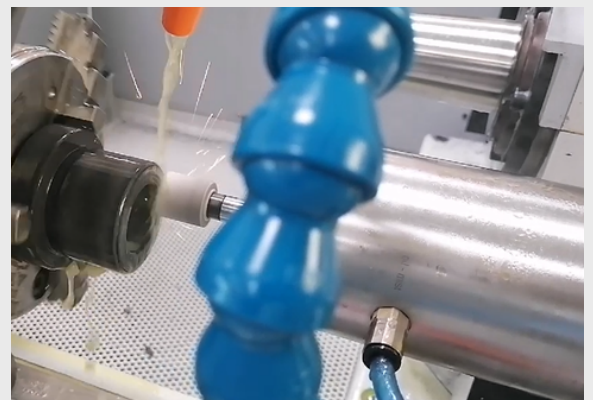
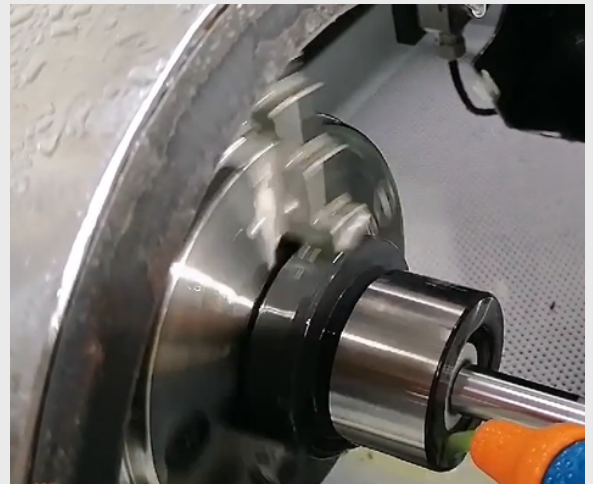
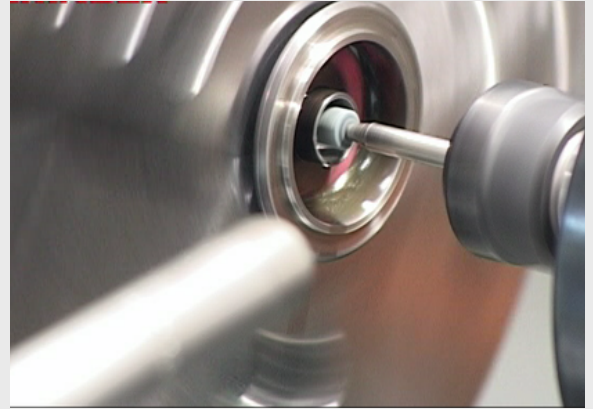
CUSTOMIZED SOLUTIONS



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.

MACHINING EXAMPLES



TECHNICAL DATA

Main data	
· Internal diameter range	ø3 - ø80 mm
· Swing diameter	270 mm
· Max. workpiece dimensions	ø270x160 mm
· Max. internal grinding length	160 mm
· Max. workpiece weight	15 kg
Wheelslide X-axis	
· Travel	80/250/400 mm
· Max. speed	up to 10000 mm/min
· Resolution	0,0001 mm
Work table Z-axis	
· Travel	550 mm
· Max. speed	up to 10000 mm/min
· Resolution	0,0001 mm
· Swivel angle	up to 10°
Wheelhead	
· Max. internal grinding spindle speed	180000 rpm
B-axis	
· Swivel range	-30° / +210°
· Resolution	1"
· Max. speed	3 600 °/min
Workhead	
· Rotation speed	64-800 / 0,1-800 rpm
· Motor power	0,75 / 3 kW
· Interface	A3 DIN 55026/MT4
· C-axis resolution	20"
· Swivel angle	0 - 90°
Controller	
	Siemens Sinumerik One, Siemens Simatic, NUM

GRINDEX



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