

SCHNEEBERGER

corvus NGB

**any size
goes!**



**corvus
NGB**

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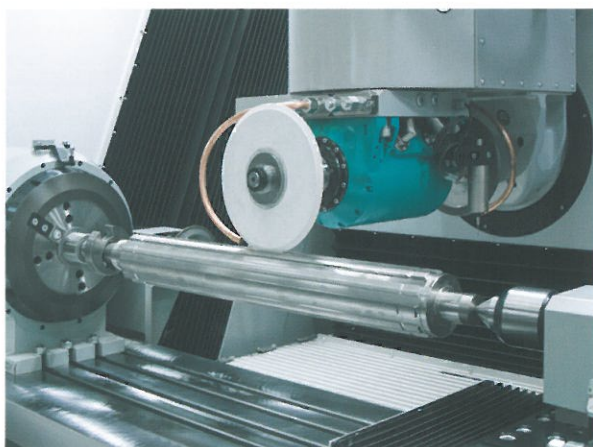


CONCEPT

The **corvus**NGB is a traveling column machine with linear motors. The compact design with the dynamics and precision of modern drive technology fits perfectly with the grinding tasks of this machine family. The machine bed made of polymer concrete provides tremendous stability and is resistant to thermal expansion. Loading large workpieces is very ergonomic. Furthermore, the machine concept allows a good overview of the optimization of the grinding processes.

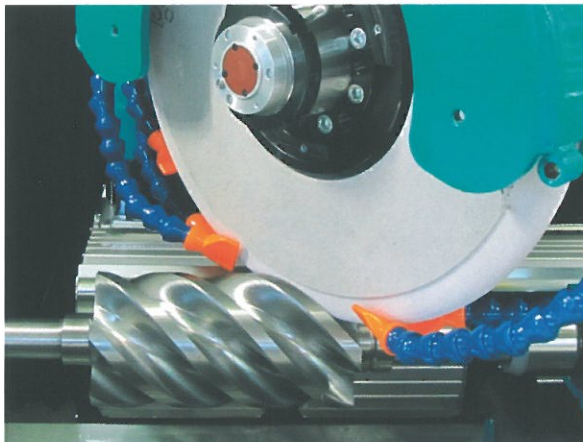
Hob cutter grinding

The largest known hobs with tooth heights over 100mm, such as used in the production of wind turbines, are perfectly ground on the **corvus**NGB. Grinding wheels with diameters up to 450 mm and the precise spindle with high torque ensure the best surfaces. The automatic calculation and profiling of the grinding wheel shape results in optimal results for spiral hobs.



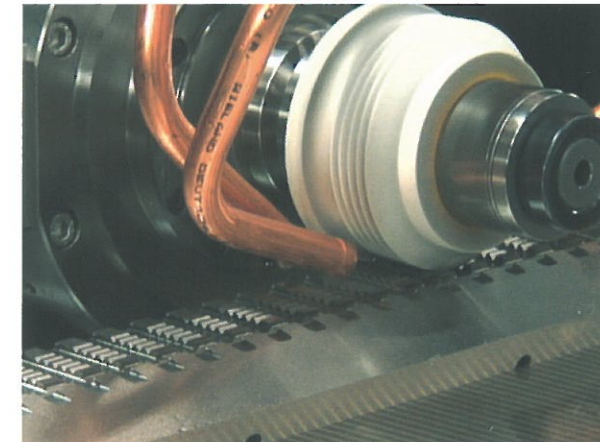
Splines

Production of splines up to diameter 400mm with any geometry including dressing cycles. Production and regrinding of peletizing cutters up to 2'800mm length, of course ground with cylindrical land. Production and regrinding of very large tools such as conical ball nose cutters, sinus-edge cutters and roughing cutters.



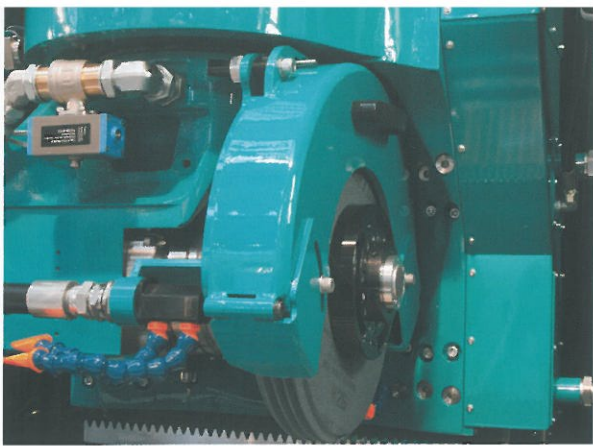
Screws

Compressor screws, worm gears, extruder screws and similar workpieces are ground using electroplated CBN grinding wheels or machine-profiled corundum grinding wheels. The powerful QUINTO software package calculates the required grinding wheel profile based on workpiece CAD data. Measuring cycles are monitoring the grinding processes



Broach

Profiling and regrinding broaching tools. Whether it is flat, cylindrical, spiral or turbine tools, the broadly based know-how enables the user to handle all grinding processes efficiently. Simple entry of the profile data and automatic management of the grinding wheel data. Linear drives for highly dynamic machining and highest precision. Dressing in the grinding area is controlled by the QUINTO grinding program and fully integrated in the grinding process.



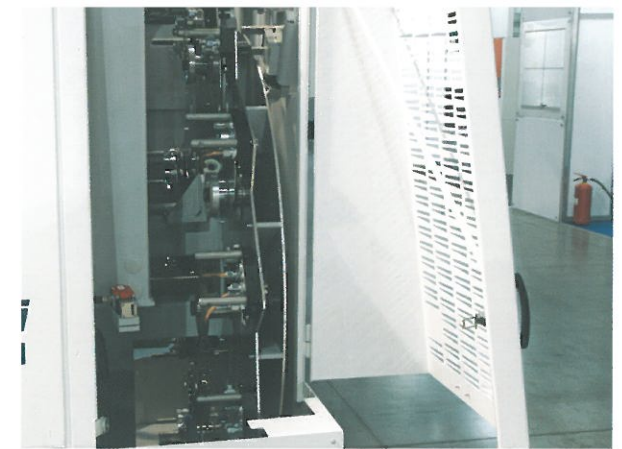
Grinding spindle

Motor spindles from SCHNEEBERGER with optimum torque characteristics for all grinding applications. Available spindle powers from 10 kW (100%) to 40 kW (100%). Spindle interface HSK50, HSK80 or HSK190. A permanent balancing unit is optionally available for HSK190 spindles. The 40 kW spindle can be additionally equipped with a counter bearing and is therefore ideally suited for grinding racks.



Workpiece loader

Large 6-axis FANUC robot with a payload of 35 kg. The tools are presented on 4 pallets of 300 x 300 mm, or in a Arbor Arena.



Wheel changer

Wheel loader with 8 positions for HSK50 or HSK80 grinding wheel holders and coolant nozzle plates, up to 24 wheels can be stored. Data management for wheel geometries, cutting data and processes.

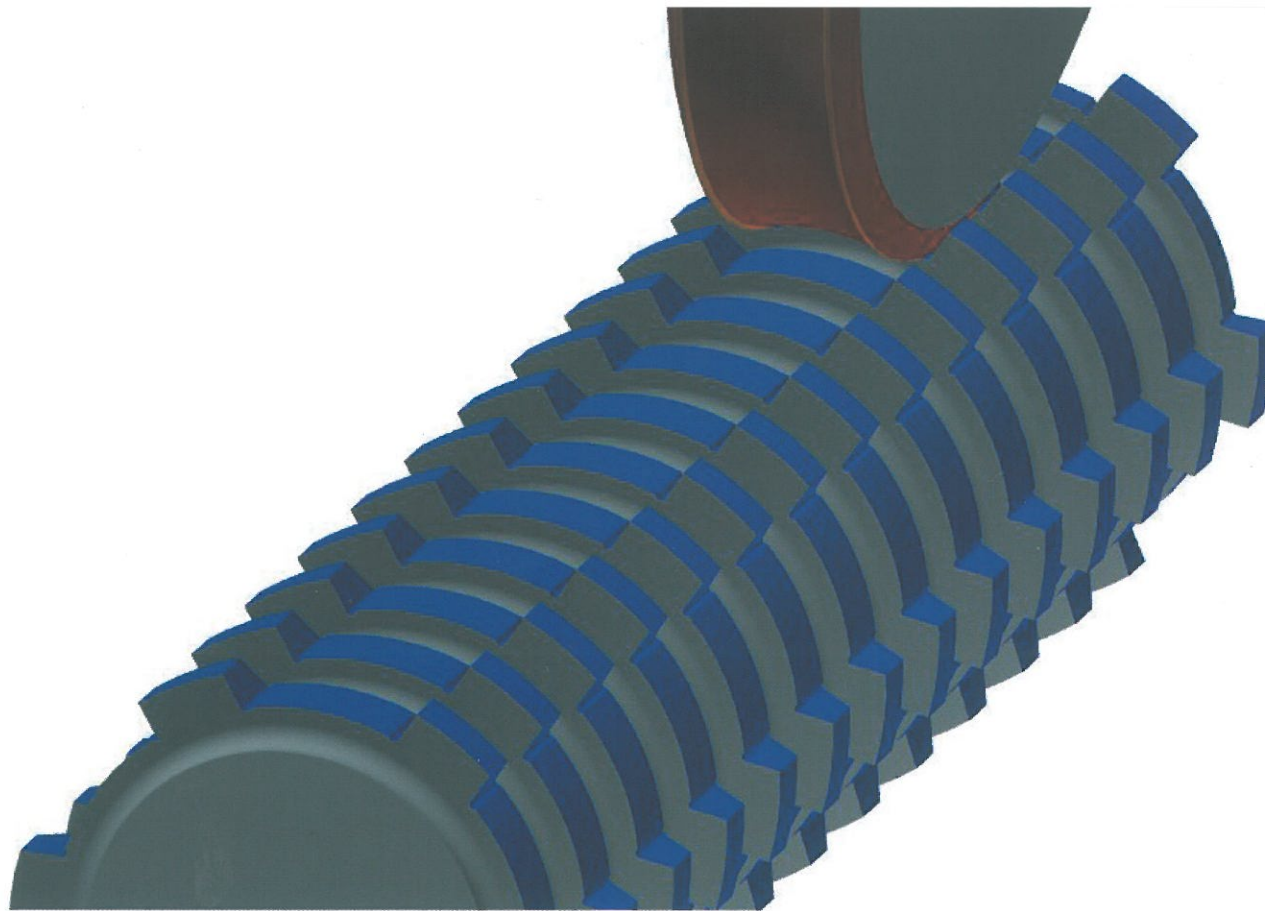


CORVUS NGB

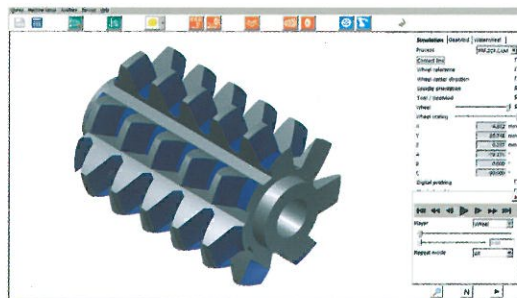
COMPLETE OPTIONS

With specific accessories the **corvus** NGB is trimmed for individual production tasks.

- Cylindrical grinding axis with up to 1200 Nm
- CNC grinding wheel dresser
- 3D Grinding Wheel Probe
- Manual or automatic tailstock
- Steady rest, CNC steady rest
- Magnetic clamping plate
- Coolant filter and temperature control
- Electrostatic mist absorber
- CO2 extinguishing system

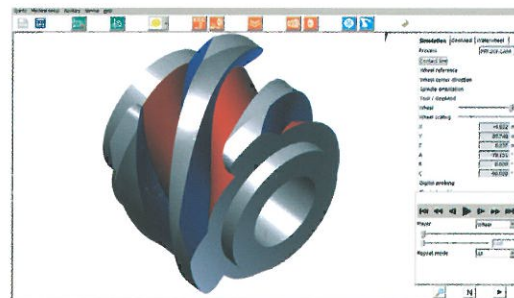


Quinto-Qg1 offers the user interactive graphics from the first input. From the geometry inputs, a solid 3D model is created, which then forms the basis for numerous grinding processes. These are immediately visible and can be adapted in pathCreator to the specific requirements of the operator if required.



Software PERFORMANCE

The digital geometry definition in the CAD model provides the surfaces to be ground for all grinding processes. Qg1 offers a selection of pre-programmed processes, which are used depending on the desired surface quality, material or existing discs. The immediately achievable grinding result is significantly more precise than with classical programming, which converts geometric parameters directly into machine movements



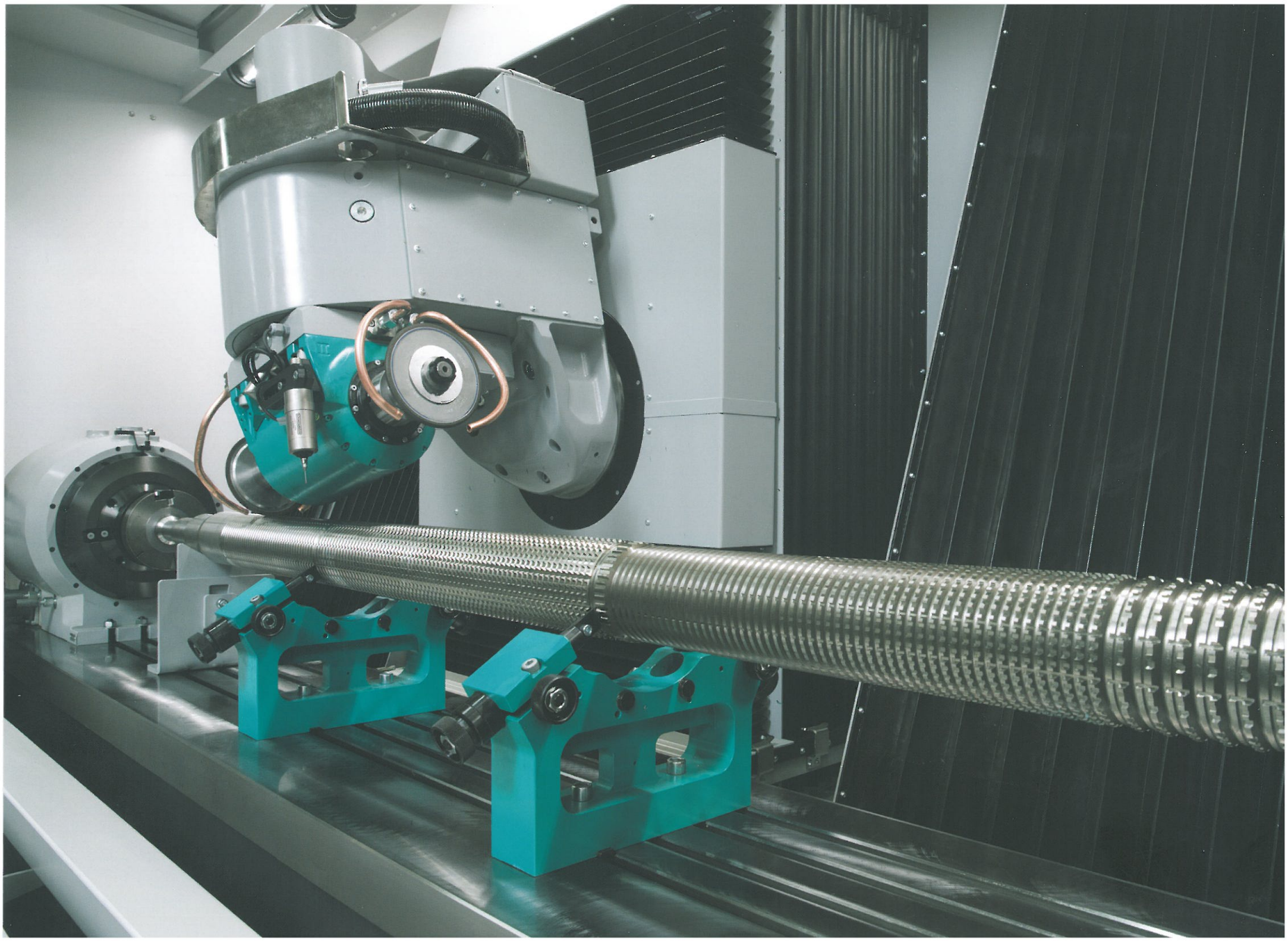
STEP, DXF, ISO

Interfaces for STEP, DXF, GDX are used for integration into larger production organizations and data exchange with customers and suppliers. Qg1 demonstrates its strength as a CAM system and does not require re-programming of already defined workpieces. User-own ISO programs can also be read in; the flexibility to program on the machine remains with the specialist.



Profiling

Qg1 CAD-CAM allows the calculation of complex grinding wheel shapes for flute or gap grinding. This can be done from the part section, or using parametric user input. The grinding wheel profile is then dressed directly on the machine. After grinding, the shape can be scanned using PPC (probe profile control) and compared with the nominal shape.



TECHNICAL SPECIFICATIONS

CORVUSNGB

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Versions:
C-type: A / X Y Z C, universal machine
B-type: A / X Y Z B, universal machine, threaded parts
BBA: A / X Y Z B BC, double swivel head, broaches
F-type: F / X Y Z B, production grinding of cubic parts up to 400 x 400 x 300 mm

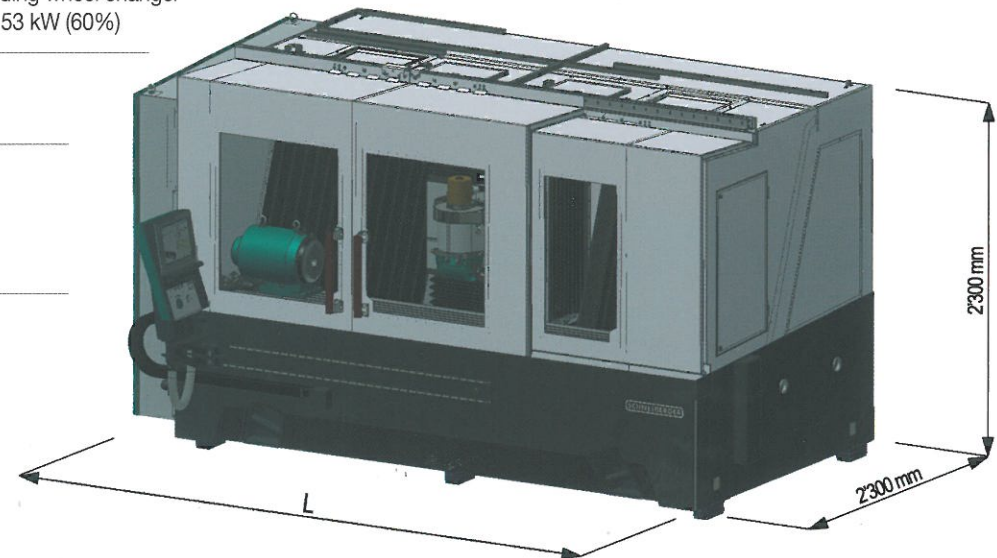
Axes:
X: 850, 1'250, 2'100 or 3'100mm, longitudinal axis, linear motor, resolution 10nm
Y: 400 mm, cross slide, ball screw or linear motor, resolution 50 nm or 10 nm
Z: 400 mm, vertical axis, ball screw or linear motor, resolution 50 nm or 10 nm
A: ∞ ISO 50 tool carrier, resolution 0.000045°
C: 365°, rotation of the grinding head, resolution 0.000045°
B: 220°, tilting of the grinding head, resolution 0.000045°
BC: 290°, rotation of the grinding head, resolution 0.000045°
F: ∞, turntable, resolution 0.000045°

Control: FANUC 3x Series, 4, 5 or 6 controlled axes
19 TFT color monitor, touch screen, USB 3.0"

Grinding head: Double grinding spindle with direct drive, HSK50 / HSK80 or grinding spindle HSK190 with permanent balancing unit, grinding wheels from Ø 30 to Ø 450mm
Optional: Grinding spindle with automatic clamping HSK50 / HSK80, for grinding wheel changer 10 kW (100%), 13 kW (60%), 24 kW (100%), 32 kW (60%) or 40 kW (100%), 53 kW (60%)

Loader options: Fanuc robot, 4 pallets or Arbor Arena with 24 positions
8-position wheel changer for 24 grinding wheels

Height and weight:
X-stroke 850: L 2'885mm, weight 12'000 kg
X-stroke 1'250: L 3'285mm, weight 13'500 kg
X-stroke 2'100: L 4'135mm, weight 17'000 kg
X-stroke 3'100: L 5'365mm, weight 20'500 kg



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