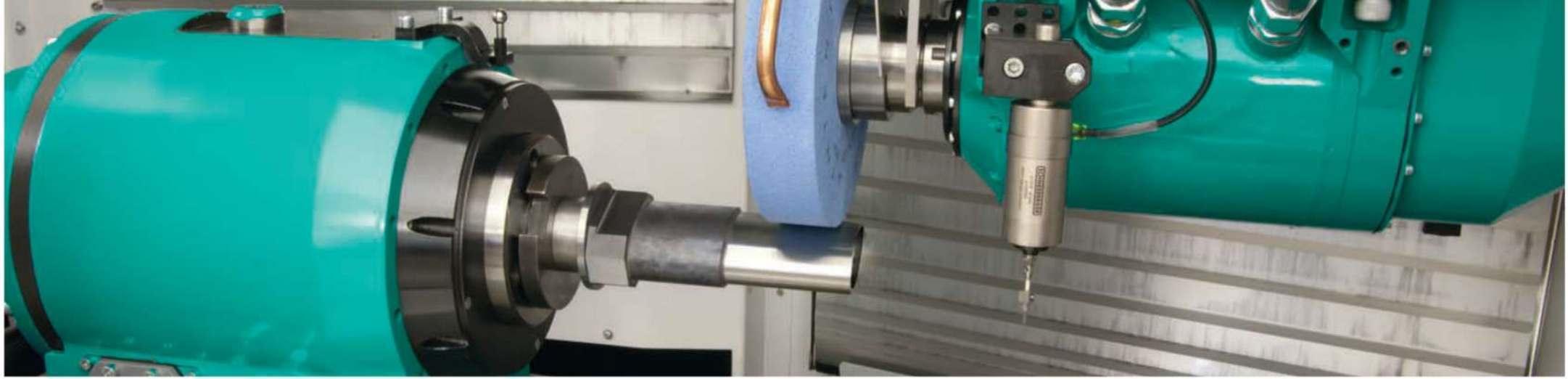
SCHNEEBERGER

geminiNGM

you name it!



STRONG CONCEPT

gemini NGM represents a large grinding volume in a compact machine with efficient automation.
The possible configurations range from high-powered flute grinding to profiling of hobs with high-frequency relief grinding.
Generous axis travel don't just cover the workpiece dimensions, but allow plenty of space to include processes such as dressing, measuring and loader access.

POWER AND STABILITY

Remarkable features of the ***gemini*** NGM are power, mechanical and thermal stability and absolute precision. The dynamically relevant axes can be configured with linear motors, supporting oscillating processes or the rapid change over of auto loading or dressing processes rendering the work effortless.

EFFICIENT PRODUCTION

Thanks to the compact machine design, the high-performance geminiNGM is also highly efficient. The robot compartment is located very close to the tool holder. Tools are changed reaching through the rapid collapsing doors in seconds. The loader space can be conveniently observed from the outside. The swiveling control console allows accessibility to make loading or creating production jobs easier all around. The wheel magazine for 8, 14 or 24 wheel packages with wheels of up to 250mm (10") in diameter offers absolutely no limit for designing complex grinding processes.

Standard and Profile Tools

Production of standard tools with default data from Quinto or the user's own database: End mills, boring tools, drills, reamers, milling cutters.
Special tools with either special dimensions or profiled tools are easy to produce.

Gear Tools

Grinding of hobs, and high helix hobs. Integrated calculation of convex wheel profiles and automated dressing cycles. Probe programs with measuring report. Regrinding of straight and helical shaper cutters. Profiling of bevel gear blades, using automated robot loader.

Threads

Production or reforming of thread sections and rolls, threads with standard profiles or special profiles. Grinding cycles can be a combination of a CBN roughing wheel and a vitrified finishing wheel. Carbide threaded parts with single tooth form wheel, profiling of diamond grinding wheel using p-dressing.

Worm Gear Shaft

Worm gear thread up to 450 mm (17 3/4") grinding length, calculation of wheel shape from the flute cross-section, dressing cycles.

COMPLETE OPTIONS

Specific accessories ensure that the ***gemini*** NGM can handle any production task presented.

- A-Rapid: Interpolation and cylindrical grinding
- CNC grinding wheel dresser
- 3D grinding wheel probe
- Manual or automatic tailstock
- Manual steady rest or CNC steady rest
- Coolant filtration and temperature control
- Mist extraction with electrostatic mist collection
- CO2 extinguishing systems
- Laser marking
- Ultrasonic part cleaning

gemini NGM

AWL Grinding Wheel Loader

Grinding wheel loader with 8, 14 or 24 positions for HSK50 grinding wheel holders and coolant nozzle manifolds, up to 24, 42 or 72 wheels can be stored. Data management for grinding wheel geometries, grinding data and processes.

Grinding Spindle

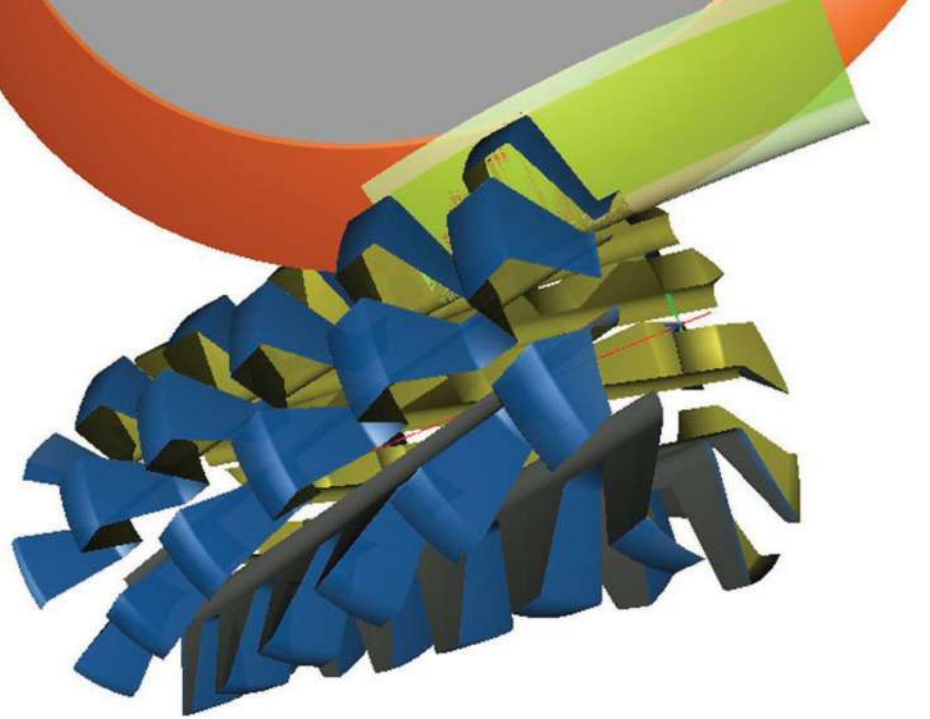
SCHNEEBERGER electric spindle with optimized performance curve for carbide or HSS tools. Options of 10 kW 13Hp (100%) to 24 kW 31Hp (100%) with HSK-50 or HSK 80 wheel flange manual on both spindle sides or for the automatic wheel loader on one spindle side. Liquid cooling for optimum thermal stability.

Tool Loader

FANUC robot with 6 axes, 2 pallets, 4 pallets or stack loader with up to 10 pallets, area of 300 x 300 mm, (12"x12") for shank tools, inserts or any production parts. The robot's flexibility is enhanced with double tool clamp for fast loading. A tool turning station can be used inside the robot room, as can another options such as laser marking.

Workpiece Clamping

A wide range of automatic tool clamping systems to choose from.
Collet chucks for ultra-precise concentricity, internal clamping, zero point systems, shafts with driver and drive dog, systems for drilling tools. The center height of 210 mm (8") offers room for customized tool holders.



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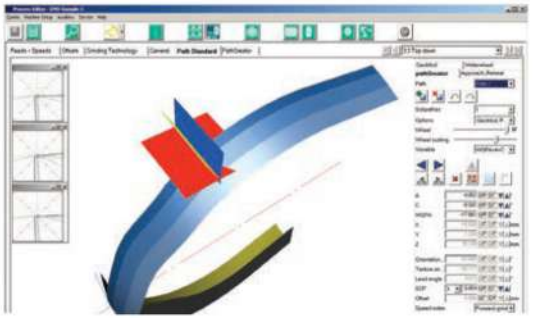
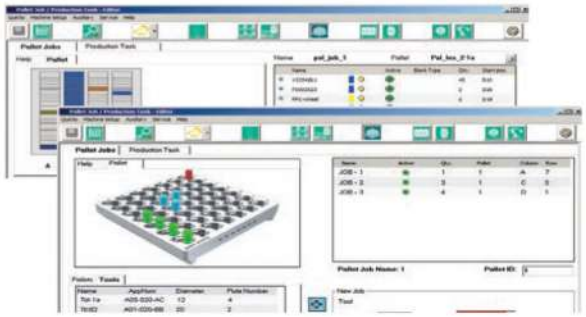
Qg1, the CAD-CAM Grinding Software

The Quinto-Qg1 programming mode is in line with the manufacturing industry's most advanced standards. Individually programming of the tool geometry definition and grinding process is completely possible for both tools and other production parts. The engineering and manufacturing tasks of a product are often the responsibility of several members of the design staff, the clear data structure and Quinto's internal interfaces make open program development and best cooperation possible. In our GeoMode, the tool geometry interacts with the 3D Graphics and common to grinding technology. An expert can use Qreator's various software tools to implement his ideas of geometries and fine tune grinding processes.



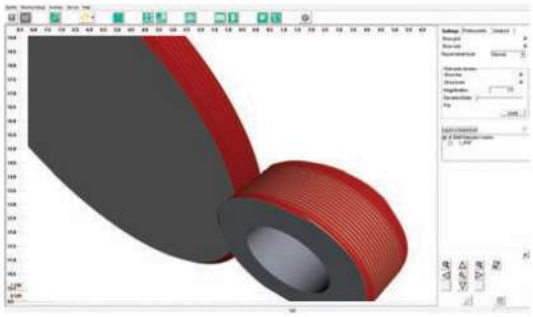
Software Performance

The definition of the tool geometry in a digital CAD format enables any grinding process to be used for any surface to be ground. Qg1 offers a choice of grinding processes whose usage depends on the desired surface quality, specific material or of the existing wheels.
The instantly available grinding result is much more accurate compared to conventional programming which directly converts geometric parameters into machine movements.
With Quinto Qg1, 5-axis grinding departs from the art of grinding and moves closer to grinding technology.



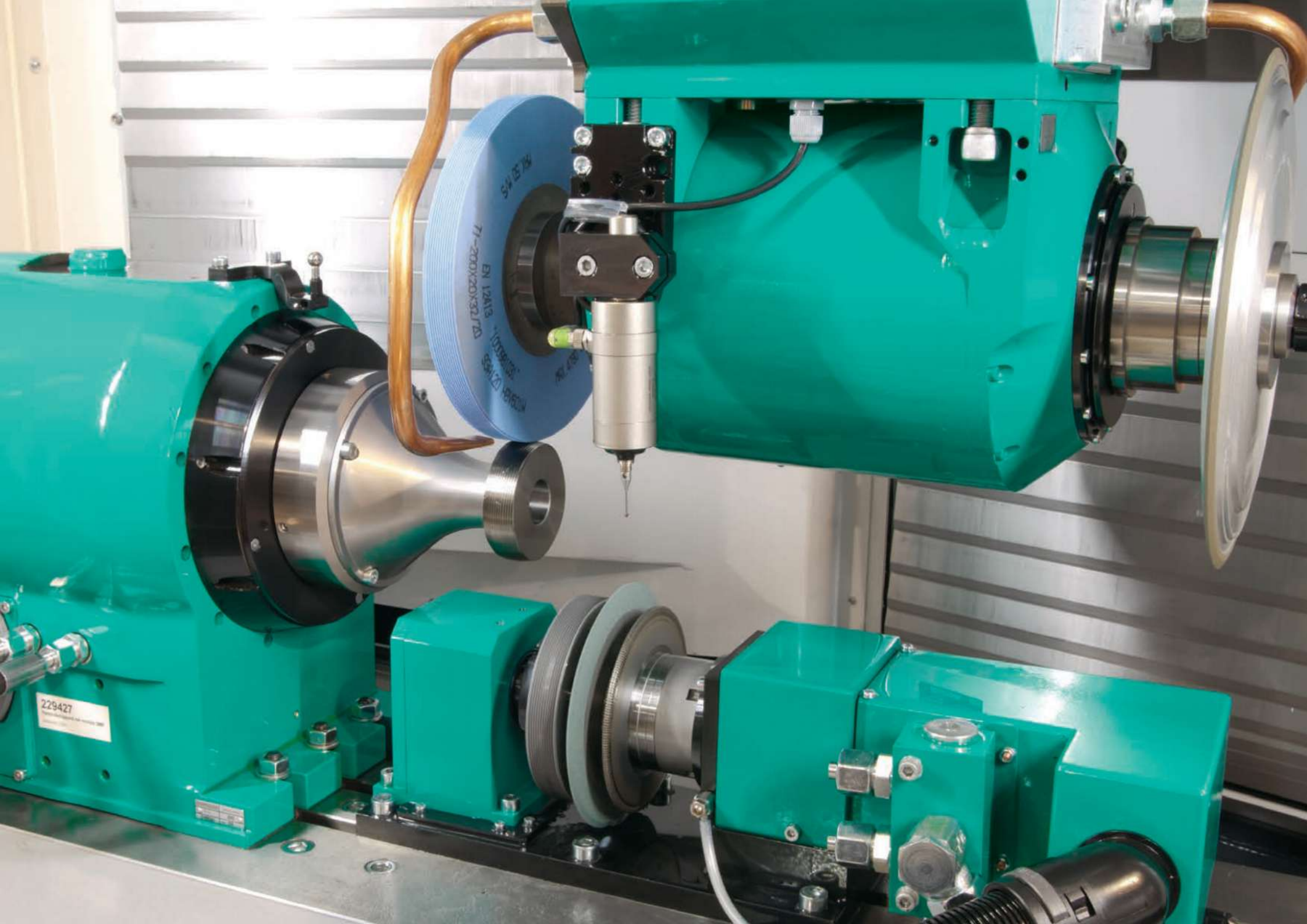
Production Control

The robot programming offers conceptual flexibility as well. Within a pallet configuration, the production sequence can be individually defined, all supported by colorful graphics. Tool batches of various sizes are randomly strung together. Each pallet can be stacked in a different way, and the individual data can be accessed for the purpose of monitoring.
Intranet or Internet monitoring guarantees a successful production.



STEP, DXF, ISO

STEP, DXF, GDX interfaces are used for integration into bigger manufacturing companies and exchanging data with customers and suppliers.
Qg1 plays to its strength as a CAM system and does not require reprogramming of workpieces that have already been defined. Users own ISO programs can also be implemented, with the flexibility to program at the machine is still retained for the expert.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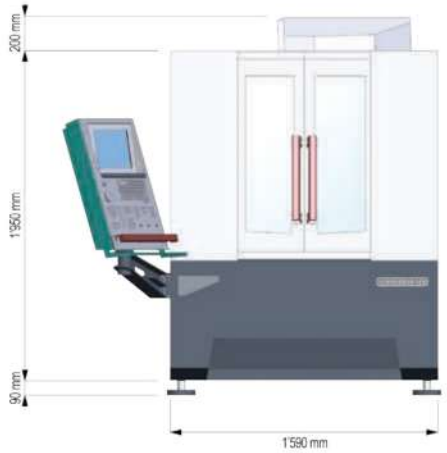
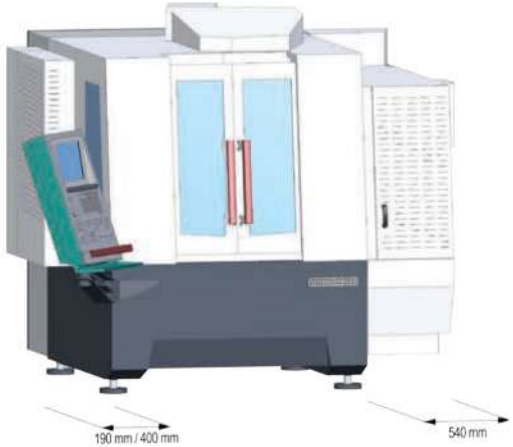
TECHNICAL DATA

Axes:	**X: 500 mm / 20”**, longitudinal slide, ball screw or linear motor, resolution up to 10 Nanometer **Y: 400 mm / 15 3/4”**, cross slide, ball screw or linear motor, resolution up to 10 Nanometer **Z: 380 mm / 15”**, vertical axis, ball screw or linear motor, resolution up to 10 Nanometer **A: ISO50**, tool tray, resolution 0.000045° **C: 365°** rotation of the grinding head, resolution 0.000045°
Control:	FANUC 3x Series, 5 controlled axes, 15” TFT color monitor, touch-screen, USB 2.0
Grinding head:	Double end grinding spindle, direct drive, HSK50 or HSK80 Optional: Grinding spindle, direct drive with HSK50 automatic clamping, for grinding wheel loaders, 10 kW (100%), 13 kW (60%) or 24 kW (100%), 32 kW (60%), liquid-cooled
Loader Options:	Fanuc robot, 2 pallets, 4 pallets or stack with 10 pallets, each 300 x 300 mm (12”x12”) Grinding wheel loader with 8, 14 or 24 positions for 24, 42 or 72 grinding wheels
Weight:	7,000 kg (15,400 lbs)





www.schneeberger.ch

Registered office:
J. SCHNEEBERGER Maschinen AG
CH-4914 Roggwil, Switzerland
Tel. +41 (62) 918 4400
info@schneeberger.ch

Subsidiaries:
France J. Schneeberger Machines SARL, +33 (299) 351 035, schneeberger.fr@wanadoo.fr
Germany J. Schneeberger Maschinen GmbH, +49 (7044) 901 820, deutschland@schneeberger.ch
Italy J. Schneeberger Service Italia srl, +39 (045) 627 0565, info@schneeberger-italia.com
USA J. Schneeberger Corp, +1 (847) 888 3498, info@schneeberger-us.com
China J. Schneeberger (Nanjing) Co. Ltd., +86 (25) 5210 2235, china@schneeberger.cn

Tel: 01332 865232
Mob: 07909 445348
Email: sales@ssptech.co.uk
Web: www.ssptech.co.uk

SSP Technology Limited

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