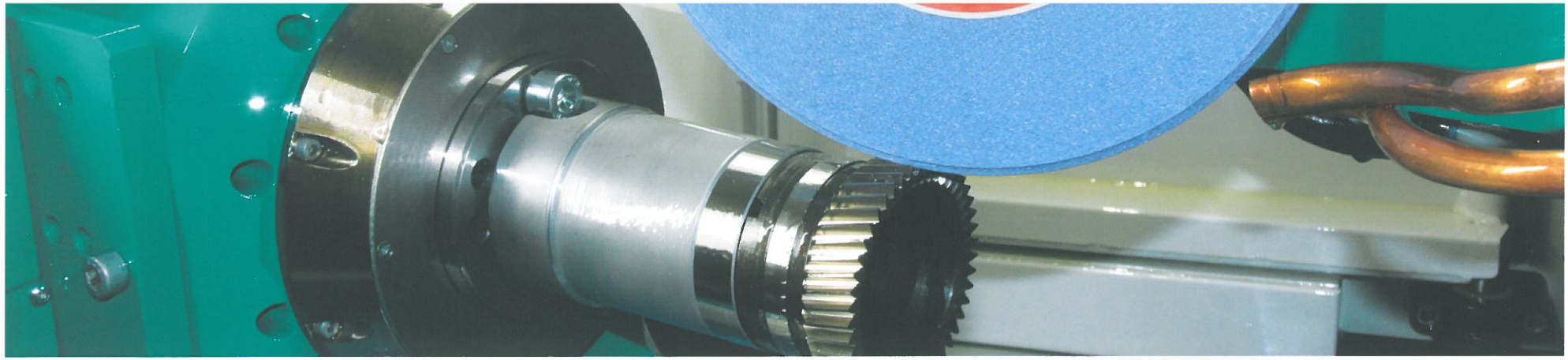
SCHNEEBERGER

siriusNGS

microns or less!



PRECISION ENGINEERING

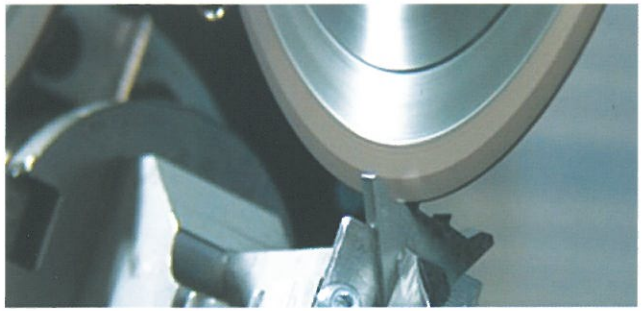
sirius NGS performs dynamic and high-precision grinding. The kinematic design is ideally suited for small workpieces: 6-axis with linear and direct drive motors. Processes for lights out production with grinding wheels up to 300 mm 12" in diameter. Dressing and in-process tool measuring allow flexibility and a great deal of autonomy. The loading robot handles complex parts to be ground on several sides, along with specific tool clamping and palletizing. The machine takes up 3m² 32 ft² of space, well proportioned the high precision parts manufactured.

OUTPUT

High-performance direct drive spindles, internally cooled, 5 or 10 kW, (6.5Hp, 13Hp) HSK50 or HSK 80. The chiller and filtration systems are designed to meet a stable process. It ensures thermal stability even when heavy stock is being removed. adjusted manifolds with coolant nozzles are precisely aimed to the grinding point. The manifolds can be exchanged manually or automatically by the automatic wheel changer.

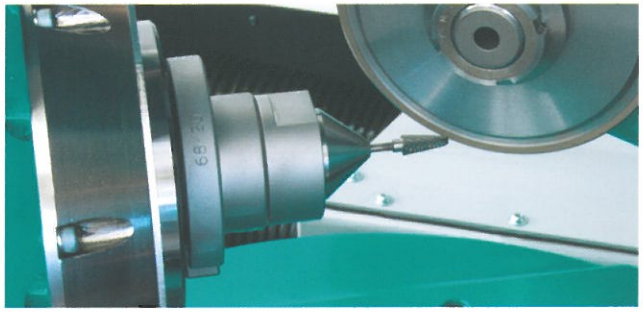
APPLICATIONS

Workpieces where multiple cutting edges have to be ground which also fit the work envelope within a cubical dimension of 150mm are the preferred applications for the ***sirius*** NGS. Linear axis and direct drive motors assure highest accuracy interpolations as well as dynamic processes such as oscillation grinding, relief grinding and profile grinding. The operator access has been ergonomically designed with special attention to getting comfortably inside for the purpose of setting up and production of single pieces. Serial production with robot handling is the intended focus of the ***sirius*** NGS.



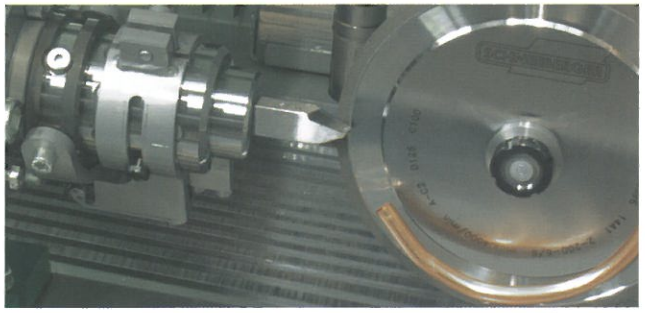
Inserts

Processing of the cutting face, circumference and profile all in one clamping. Face grinding, peripheral grinding or oscillating make a wide variety of types of clearances possible. Interactive 3D design of processes is a valuable tool for production specialists, who can optimize precision, edge quality, cycle time and dimensional consistency for the intended result. Parameter programs are available for standardized inserts.



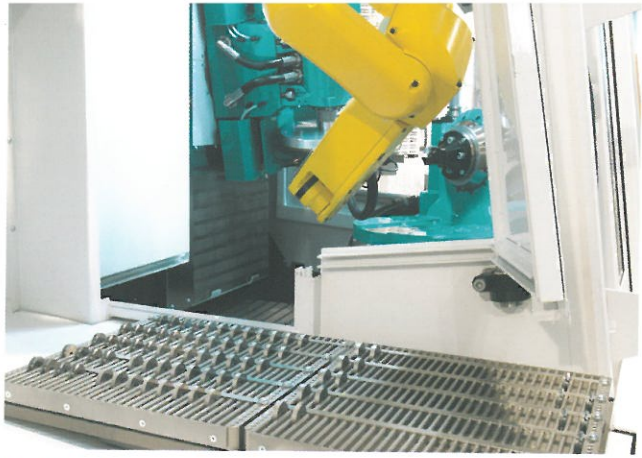
Multi-Tooth Cutters

Profile, helix and tooth form appear in any versions on multi-tooth cutters. Not a problem for ***sirius*** NGS. The programming directly computes the solid 3D model, while dynamic 5-axis interpolations and optimal grinding types ensure maximum productivity.



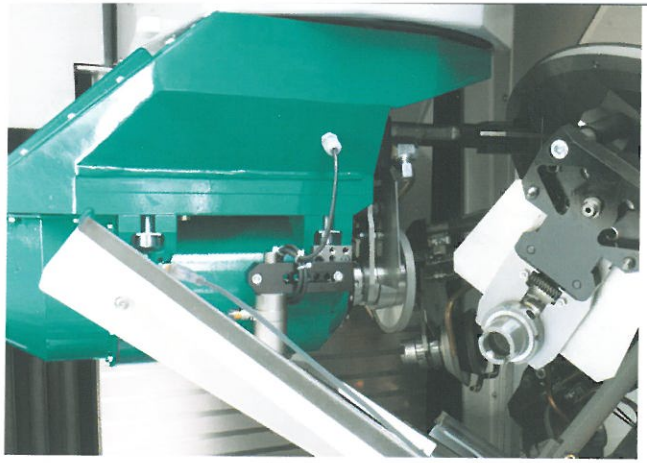
Bevel Gear Cutter

Production from the formed blank and regrinding on the profile and cutting face. All known tool types are pre-programmed. The programming is based on summary data and a master tool. Testing, analyzing and compensating are done with the help of the 3D probe and corresponding software. Workpiece clamping and robot handling meet the high standards of the gear industry.



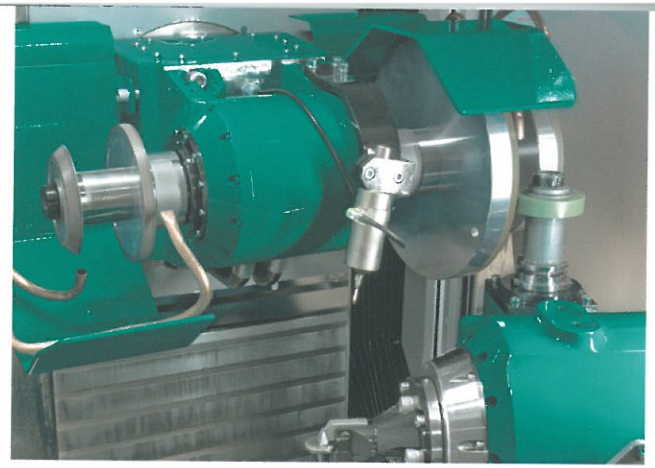
Tool Loader

FANUC robot with 6 axes, 2 pallets or stack with up to 10 pallets, each with an area of 300 x 300 mm 12"x12", specifically for round tools, inserts or other production parts. Software: Loader programs can be stored for an almost unlimited number of pallet configurations, organization for flexible production of multiple batches per pallet.



AWL Grinding Wheel Loader

Grinding wheel loader with 7 positions for HSK50 grinding wheel holders and coolant nozzle manifolds, up to 21 wheels can be stored. Data management for grinding wheel geometries, grinding data and processes.

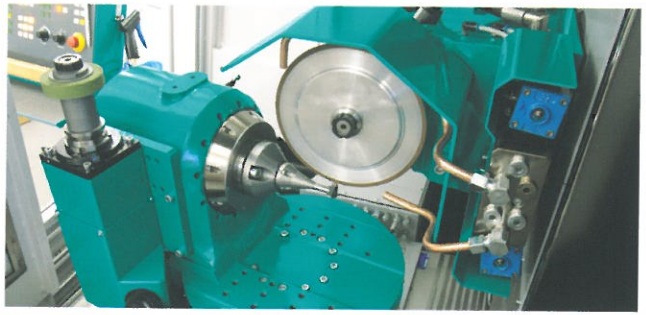


CNC Dresser

Automatic linear or profile dressing for diamond grinding wheels, CBN and vitrified. 0.55 kW motor, 200-4000 RPM. Software for generating and maintaining of the wheel profile, used as stand-alone or integrated in the auto production cycle.

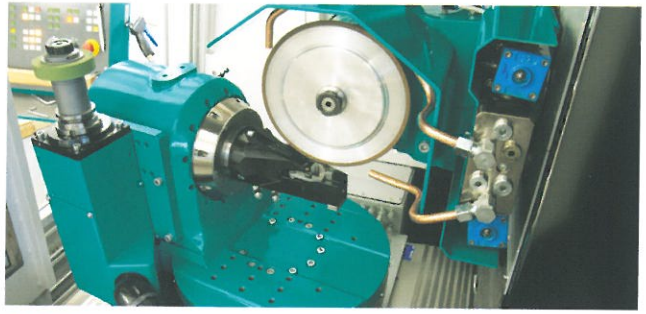
sirius NGS

COMPLETE OPTIONS: Configuration of ***sirius*** NGS depends on the production requirements. Other determining parameters are the desired degree of automation and additional functions such as laser marking or ultrasonic cleaning. Central systems for coolant filtration and grinding mist extraction are just as useful as small local systems. Production will only be successful if the efficient ***sirius*** NGS is equipped with equally productive fixturing, robot clamps and optimized pallets. Known solutions are the norm however, for new application challenges, Schneeberger is open and very flexible to customer specific engineering.



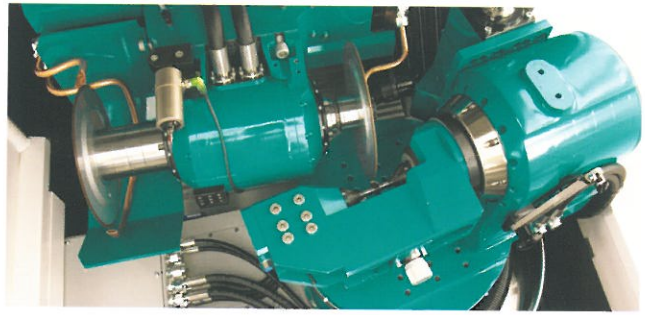
TTC Clamping System

Through hole Tool Clamping. Inserts with center hole. For open accessibility from all sides, multi-edge grinding of profiles in one clamping.



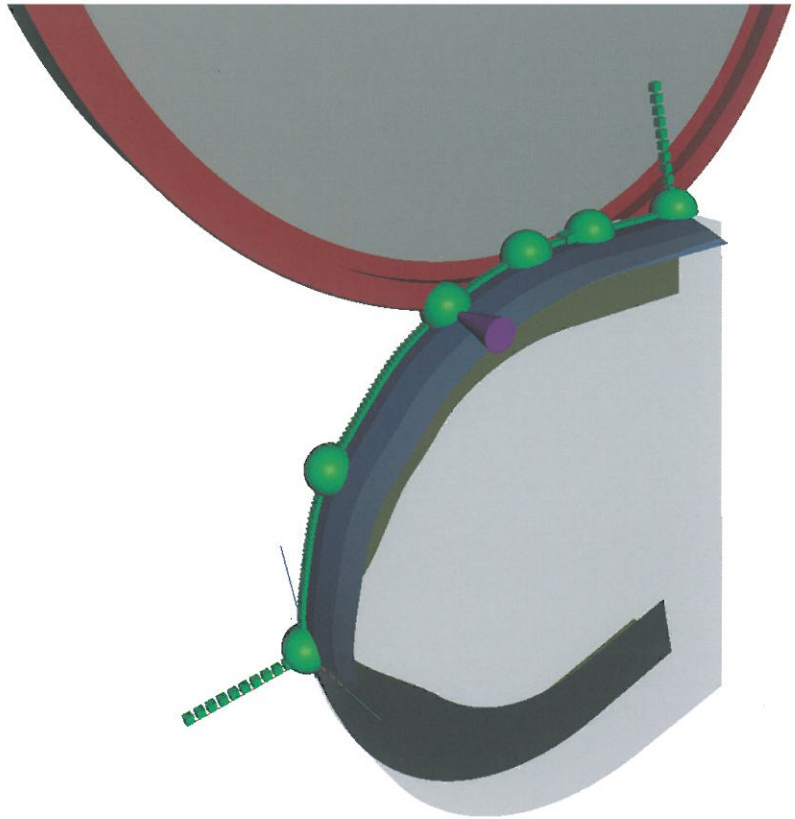
CARTRIDGE

Interchangeable cartridges with sophisticated reference geometries both between the cartridge and holder and for the workpiece in the cartridge. Inserts to be ground on both sides typically utilize this clamping system.



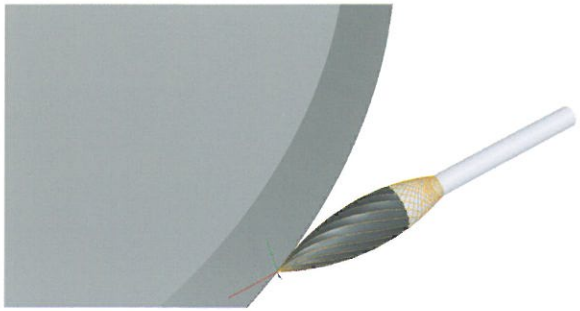
ANVIL Clamping System

Inserts without center hole, clamping between mandrels. Steady rest with automatic positioning for fast and precise loading of inserts.



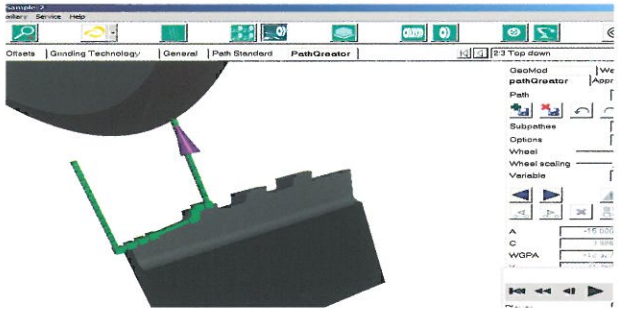
Qg1, the CAD-CAM Grinding Software

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.



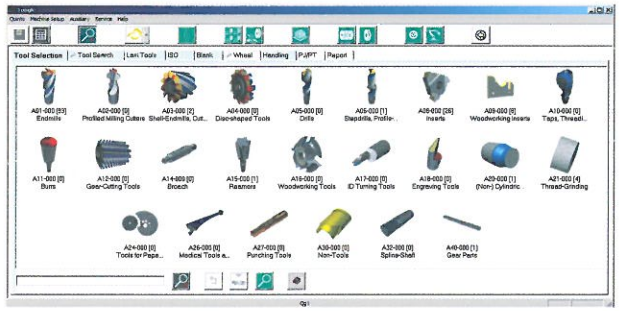
Software PERFORMANCE

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.



CAD-CAM

Customers' own developments require suitable programing tools. Qg1 CAD-CAM allows free programming of profiling tools with a very wide variety of clearances. Grinding types are combined with specific clearances. For the programmer, the grinding wheel in relation to the workpiece is only of interest for grinding. However, the related machine positioning is automatically managed by Qg1 and calculated to exactly 13 decimal places. Qg1 works with any grinding wheel geometry, either from the default database or customer data input, and equaly with the actual tool geometry using the measured profile.



STEP, DXF, ISO

Qg1 is an open system. Data exchange with external design programs is concepit. Popular formats like STEP, DXF or GDX, but also users' own ISO programs, can be used in Qg1. Quinto-Qg1 is also open for production control. Available hardware for data transfer, from bar codes and QR codes to pallet memory chips, all combined with WLAN, Intranet or Internet. The grinding machine provides information about progress at any time.

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TECHNICAL DATA

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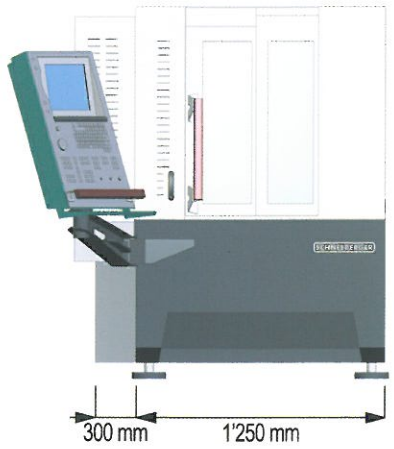
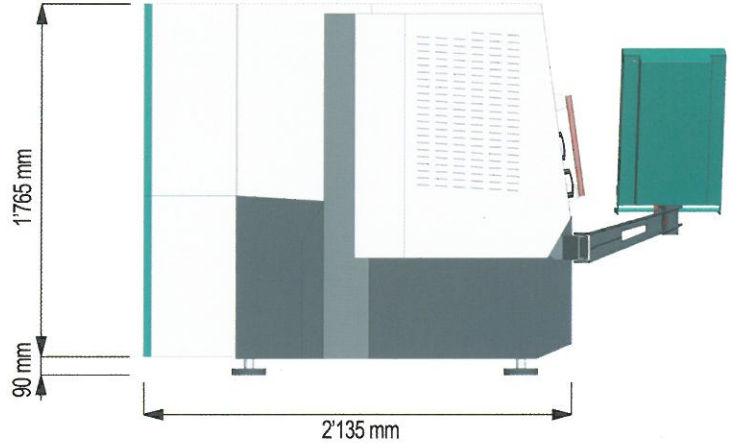
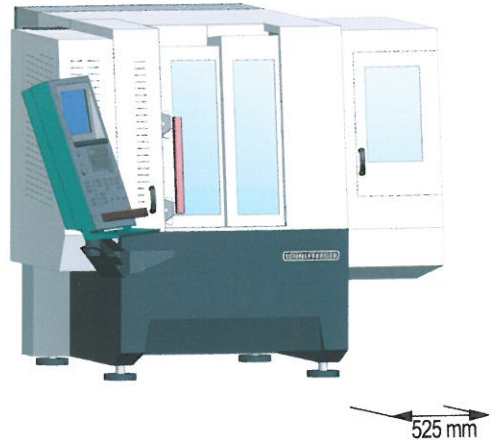
Axes:	**X: 400 mm / 15.75”**, longitudinal axis, linear motor, resolution 10 nm **Y: 350 mm / 13.75”**, cross slide, linear motor, resolution 10 nm **Z: 280 mm / 11”**, vertical axis, linear motor, resolution 10 nm **A: Workholder**, infinite rotation with direct motor drive, **HSK80**, resolution 0.000045° **B:** Swivel axis, **270°**, resolution 0.000045° **F:** Rotary axis, **270°**, direct motor drive, resolution 0.000045°
Control:	FANUC 3x Series, 6 controlled axes, 15” TFT color monitor, touch-screen, USB 2.0
Grinding head:	Double grinding spindle, HSK50, 5 kW 6.5Hp (100%), 7 kW 9Hp (60%), direct drive, liquid-cooled, or automatic clamping HSK50, single ended spindle for automatic wheel loading. Optional double grinding spindle HSK80, 10 kW 13Hp (100%), 13 kW 17Hp (60%), direct drive, liquid-cooled
Loader Options:	FANUC robot, 2 pallets, 300 x 300 mm pallets or stack with 10 pallets, automatic grinding wheel loader with 7 positions for up to 21 grinding wheels
Weight:	4,000 kg (9,000lbs)







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