

# TOOL & CUTTER GRINDING

## MILLING CUTTERS

Standard end mills, tapered end mills, crest cut cutters, radius end mills, ball nose end mills, roughing end mills, profile end mills, band saw hobs, staggered milling cutters, T-slot cutters, prism cutters

Aries NGP, norma NGC, gemini NGM

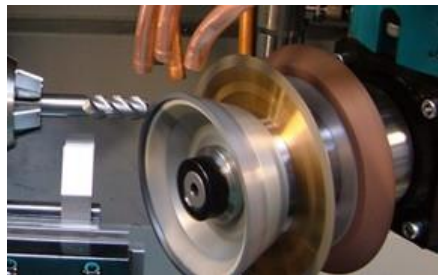
### STANDARD ENDMILLS, STRAIGHT/TAPERED

Cylindrical and conical milling cutters, with and without chamfers. Complete range of common geometries. Available in various versions. Interactive 3D simulation and comprehensive database. Production and regrinding



### RADIUS ENDMILLS

All toric geometries. Production and regrinding. A wide range of different designs is available; they can be selected via a menu. Interactive 3D simulation and comprehensive database.



### BALLNOSE ENDMILLS

For the ball head milling cutter, there are various subtypes relating to the spiral flows of the full radii and the gashing geometry. These can be selected easily via a menu. Various cutting processes can be programmed in the central area, including an S-shaped process. Interactive 3D simulation and comprehensive database. Production and regrinding.



### SINUS-EDGE CUTTERS

Slots and contours are waved with a constant cutting angle for a consistently high cutting volume. These tools are suitable for roughing titanium, aluminium and stainless steel. There are two different options for grinding these tools. Firstly using a grinding pencil and a high-frequency spindle for large amplitude values and a constant cutting angle. Secondly using a cup wheel. There is a scanning program to check the tool's concentricity. Production and regrinding



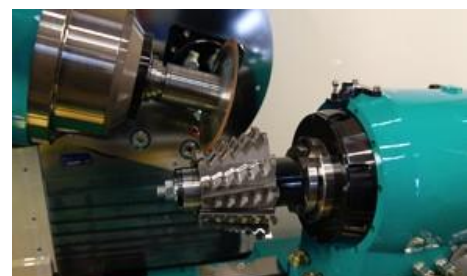
### ROUGHING MILLING CUTTER

Milling cutters for high stripping performance, faceted or relief-ground radially. The gear can be manufactured with a standard disc or a shape disc. Clamping using a precise gripper and a flexible loader enables cost-efficient production. Production and regrinding.



### PROFILED TOOLS

Profile milling cutters are manufactured using the dxf profile, with free definition of the radial and axial setting angle and automatic grinding path calculation. The profile can be distributed over different teeth. The dxf profile is generated directly in the machine or loaded from a file. Production and regrinding.



### **BANDSAW CUTTERS**

These tools are used to manufacture belt and jig saws. The grinding disc shape is calculated and adjusted using the slot shape.



### **STAGGERED TOOTH HELICAL, HEAR ANGLE**

Straight or staggered-tooth disc milling cutters, T-slot milling cutters, dovetail milling cutters, prism milling cutters with chamfer, radii and profile. Automatic loading and clamping systems are available.



### **T-SLOT CUTTERS**

Straight or staggered tooth T-slot milling cutters. Production and regrinding. Parametrised simply and simulated in 3D.



### **PRISM-CUTTERS**

Profile grinding and grinding of the tooth breast for these tools that typically have many teeth takes place via robot loading or individually. The highly-precise internal clamping with supporting surface is available with a  $\varnothing$  of 6 to 100 mm, or customer-specific.



### **SHEET METAL DRILLS**

Complete machining according to manufacturer-specific geometries for production and re-sharpening. Automatic loading and control via test keys in the cycle.



Aries NGP, norma NGC, gemini NGM

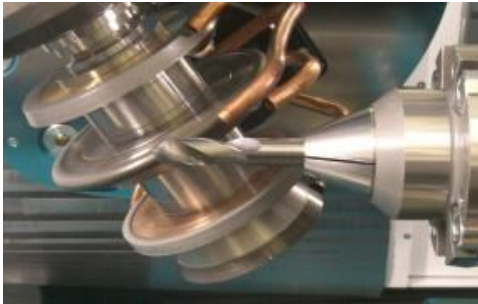
# DRILLS

Drills, step drills, G-drills, center drills, gun drills, counter bores

Aries NGP, norma NGC, gemini NGM

## **DRILLS / DRILL**

High-power drills and standard geometries are available. Production and regrinding. Drill, step and lance drill. Calculation and the drilling grinding disc shape based on the slot geometry can be programmed in QUINTO.



## **DRILLS / STEPDRILL**

Production and regrinding. Can be combined with all geometries of the step drill's drill bit. Comprehensive database and three-dimensional simulation.



## **DRILLS / LANCE DRILL**

These drills are used for high-precision calibration of cylindrical or stepped drill holes. Complete machining including circular grinding chamfer.



## **DRILLS / CENTRE DRILL**

Produce or re-sharpen centre drill efficiently according to manufacturer specification or program freely. Automation and clamping systems for double-sided, fully-automatic production are available.



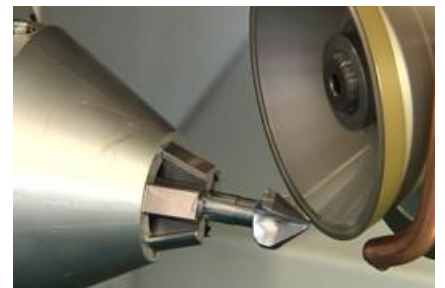
## **DRILLS / GUNDRILLS**

Bevelling the front, touches after the cooling channel and the rotation; unlimited length thanks to the through-loading opening in the dividing attachment. Production and regrinding.



## **DRILLS / COUNTERBORE**

Produce or re-sharpen counterbore and countersink efficiently according to manufacturer specification or program freely. Special clamping fixtures are available for automatic complete machining.



## INSERTS

One Sided Profiled Inserts, Top notch, V bottom indexable inserts, IC or Triangular inserts, Square inserts, Ball nose Inserts, Spade Drill Inserts

Norma NGC, gemini NGM, Sirius NGS

### **INSERTS / INSERTS**

Machining the contour and profile in one clamping, also using pendular grinding. Any profiles, surface types and chip breaker. Database, simulation of the grinding path, three-dimensional simulation. Programming according to DXF or typical parameters for thread cutting, drilling, turning, milling and recessing.



### **INSERTS / ID-TURNING TOOL**

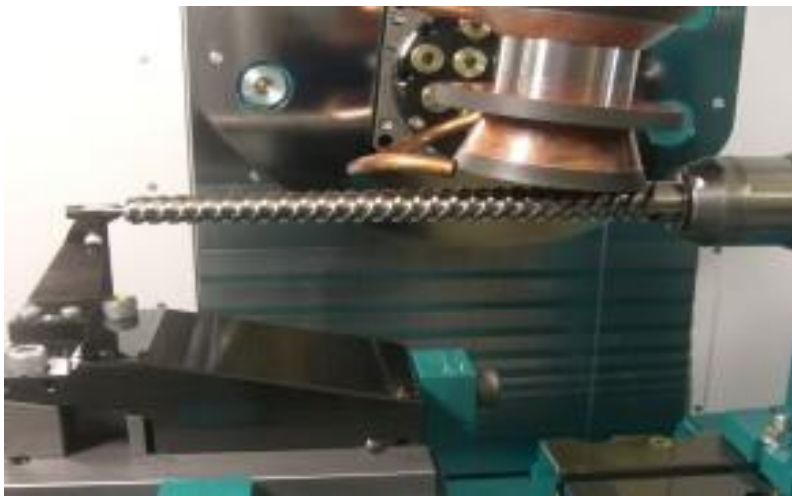
Tools for production of internal threads or bearings for example. Profiling standard moulds for thread or slots. Free profiling via dxf. Finishing the tool with a chip surface and an eccentric tool shaft in one process.



## REAMERS

Helical reamers, Shear Angle Reamers, Form-Reamers

Production and regrinding of standard broaches, reaming heads and shape broaches. Straight, spiral and axis angled slots, left and right hand cutting. Cylindrical chamfer and free chamfer in one process. Oscillating grinding process for the highest finish quality on the chip surface.



Aries NGP, norma NGC, gemini NGM

# BROACHES

Cylindrical Broach, Helical Broach, Prism Broach, Arc Broach, Partial Radius Broach, Christmas-Tree Broach

Production and regrinding of standard broaches, reaming heads and shape broaches. Straight, spiral and axis angled slots, left and right hand cutting. Cylindrical chamfer and free chamfer in one process. Oscillating grinding process for the highest finish quality on the chip surface.



Corvus bba, corvus gds, corvus bpp

# THREADING TOOLS

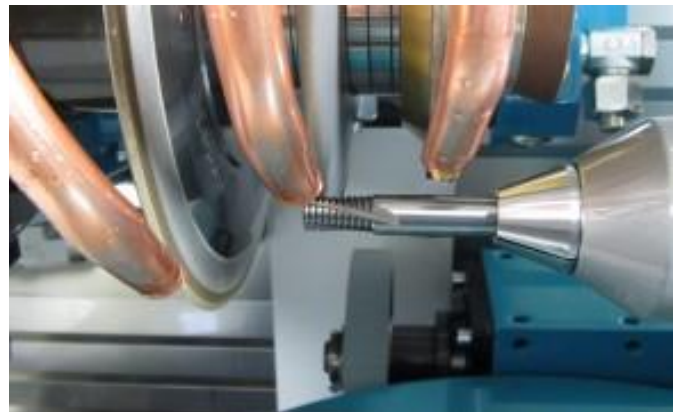
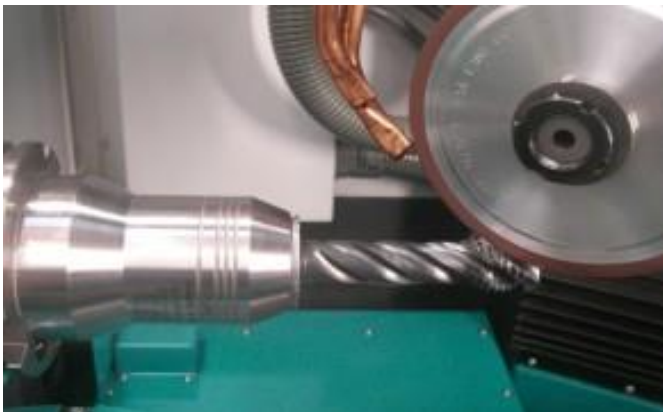
Taps, Forming Taps, Threading Endmills

## TAPS

For tools in HSS or carbide. Complete machining of threaded profile, slots and first cut in one clamping. Optimum thread grinding thanks to linear motors and a 400mm profile disc. The truing cycles for the profile disc and the slot disc are integrated into the process. A diamond roller dresser and a full mount diamond roller are used. The combination of this and the robot loading process results in highly-efficient production.

## THREADING ENDMILLS

Threading endmills made of carbide are used for modern thread production in CNC machines. The working steps, drilling, countersinking, rear countersinking and thread cutting are merged into one tool. Schneeberger can supply a machine to produce and regrind these tools. The thread is ground using a pointed disc according to the dx profile or using a profiled disc. Threading endmills can be produced in one clamping and, of course, in automatic loading mode as well.



Norma NGC, gemini NGM, gemini TAP

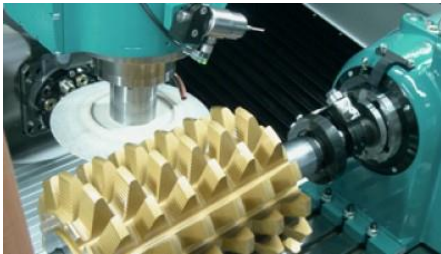
# GEAR TOOLS

Gear-Hob, Helical Shaper Cutters, Shaper Cutter, Spiral Bevel Gear Stickblades, Inserted Spiral Bevel Gear Blades, Solid Bevel Gear Cutters, Rolling Rack

Aries NGP, norma NGC, gemini NGM

## GEAR HOBS

Manufacturing module 0.5 - 20 with shape relief grinding up to accuracy class AAA. The tools are profiled using highly dynamic special machines. Regrinding on the tooth breast using all Schneeberger grinding machines. Software and hardware for truing the discs for chip flutes with a large spiral angle.



## SHAPER CUTTER WITH STRAIGHT CUTTING

Profile production of straight cutting wheels and sharpening on the front. The involute shapes are produced by oscillation grinding. Automatic path calculation based on the disc shape and the tool geometry. The machines with linear drives are equipped in the best way for the highest precision and short production times. Straight and stepped cutting wheels can be reground on all universal Schneeberger machines.



## SHAPER CUTTER WITH STEPPED CUTTING

Profile production stepped cutting wheels and sharpening on the front. The involute shapes are produced by oscillation grinding. Automatic path calculation based on the disc shape and the tool geometry. The machines with linear drives are equipped in the best way for the highest precision and short production times. Straight and stepped cutting wheels can be reground on all universal Schneeberger machines.



## SPIRAL BEVEL STICKBLADES

Profile production and regrinding on the profile according to profile points or parameter entries, as well as grinding the chip surface. Any possible geometry can be ground. Production according to "Summary data". A 3D sensor is available for testing, analysis and compensation. Roughing and finishing cycles are ground using a 1A1 disc. An automatic loading system is also available.



## SOLID BEVEL CUTTERS

Regrinding: Touching the inner and outer profile teeth. Regrinding both tooth groups in one program. Profiling: The disc shape defined by gear technology is shaped using a CNC truing process. Thanks to the high speed spindle and the grinding pencil, profile production is economical.



Norma NGC, gemini NGM

# WOODWORKING TOOLS

Compression Cutters, Single Tooth Cutter, Brazed Tools, HSS-Knives, Router Bits, Finger-Joint - Cutters, Brad Point Drills and other wood Drills, profile inserts.

Aries NGP, norma NGC, gemini NGM

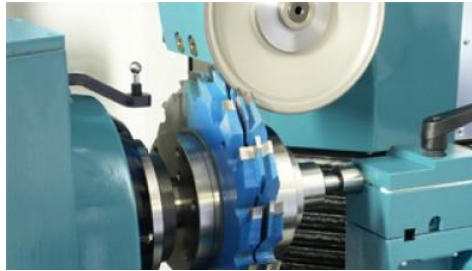
## UP-DOWN MILLING-CUTTERS

Tools for fibre-reinforced materials and wood. With positive and negative spiral cut. Complete machining on slots and flank. A large database and 3D simulation are available.



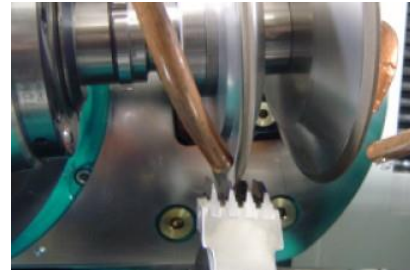
## BRAZED TOOLS

Profiling and sharpening milling cutters with a hole and routers, according to dxf data, paying attention to axis, chip and seating angle. Scanning programs for several tooth groups and their chip and axis angle.



## FINGER-JOINT - CUTTERS

Production in contour grinding or, alternatively, in a full mould on high-efficiency machines. Complete machining, including grinding for the tooth breast.



## HOLZ-BOHRER

Spiral drill, pin drill for stud or clearance holes, also available as step drill, fitting drill or cylinder head drill and masonry drill. Production according to manufacturer's specifications or regrinding.



## WOODWORKING CARBIDE-INSERTS

Tools for wood machining with a faceted or constant flank. Profile projections according to milling data. Optional sensor software for automatic check and compensation.



## ROUGHING MILLING CUTTER

Milling cutters for high stripping performance, faceted or relief-ground radially. The gear can be manufactured with a standard disc or a shape disc. Clamping using a precise gripper and a flexible loader enables cost-efficient production. Production and regrinding.



## BURRS

Cylindrical burrs, tapered burrs, radius burrs, oval burrs, flame burrs

Multi-tooth milling cutters are special tools for de-burring, polishing, etc. They are normally used for machining non-ferrous metals, plastic, rubber, stone and wood. Any tool geometry, spiral flow, and number of teeth can be produced using standard grinding discs and also in loading mode of course. If required, the tools can also be reground.



Aries NGP, norma NGC