Machines for
grinding – deburring – polishing – serrating
edge trimming – grooving – profile generating
of pieces and strips
The group

The Berger Gruppe
is a company group located in Wuppertal (Germany). The group is one of the biggest producers of robotic and CNC controlled grinding and polishing machines for industrial purposes. Due to the complementary product range of its six brand marks the Berger Gruppe is suited to offer complete solutions for most different industries.

Heinz Berger Maschinenfabrik GmbH & Co. KG
is responsible for the operational management of the group. It is specialized in the production of CNC controlled grinding and polishing machines for workpieces such as cutlery items, tools, surgical instruments and mechanical knives.

August Nell jr.
is focused on the design and the fabrication of machines for grinding, honing, polishing and serrated grinding of steel strips which are employed for the production of razor blades, scalpel blades, industrial blades and similar workpieces.

Hauschild
has its product focus on rough and final polishing machines for cutlery items. Furthermore robotic systems for the processing of a big range of workpieces such as hollowware, cutlery and die cast parts are part of the product range.

Julius Maschinenbau
has made a name for itself in the field of strip processing by metal-cutting. The strip edging machines trim the strip edges achieving each contour required and optimizing the strip for further production processes such as tube welding.

Werner Peters
is specialized in the production of steel strip processing machines. Processing lines grind, brush, deburr and/or polish steel strips which are used for the production of razor blades, industrial blades and similar workpieces.

LP-Laschet
is a specialist in the field of profile generating centers which are employed for the production of squares, hexagons, screwdriver tools, external teeth, splined profiles and similar workpieces.
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Heinz Berger Maschinenfabrik GmbH & Co. KG is known as specialist in the field of grinding and polishing technology for the production of workpieces of most different industries such as cutlery, hand tool, surgical or wood processing industry.

Since 1957 Heinz Berger Maschinenfabrik GmbH & Co. KG has been building grinding and polishing machines. The product range is completed by machines for complementary production processes such as glazing, deburring or sharpening.

The machines are especially required when CNC or robotic technology has to be introduced as Heinz Berger Maschinenfabrik GmbH & Co. KG is one of the leading companies in this field.

More than 100 different types of CNC grinding machines are part of the product range.

In the last decade Heinz Berger Maschinenfabrik GmbH & Co. KG has acquired five more companies with complementary products.

Six brands are consolidated in a company group, the Berger Gruppe, under the operational management of Heinz Berger Maschinenfabrik GmbH & Co. KG.

In this way the group is able to offer complete innovative solutions for different requirements – all from one source.
Surface grinding

With a three to five axes grinding table, the flat bevel grinding machines achieve surface and bevel grinding of knives, scissors, hand tools, surgical instruments and related workpieces.

*Photo: Flat bevel grinding machine of the series BG-CNC for the machining of surgical forceps*

Flat grinding

The rotary table grinding machines realize with three axes a double-sided flat grinding of parallel surfaces of e.g. spanner wrenches, pliers, hammers, chisels, swords or flat grinding of conical surfaces such as adjustable spanner wrenches by single grinding or continuous process.

*Photo: Rotary table grinding machine of the series HDS-CNC for flat grinding of wrenches*

Scalloped, serrated and fluted edge grinding

The peripheral grinding machines achieve with up to three axes a scalloped, a serrated or a fluted edge grinding at knives, scissors, machine knives or similar workpieces.

*Photo: Peripheral grinding machine of the series WSM-CNC for fluted edge grinding of knives*

Serrated grinding

Peripheral grinding machines of different series achieve a flat bevel grinding or a serrated grinding at circular knives and sawblades with a maximum diameter of 1.200 mm.

*Photo: Peripheral grinding machine of the series RVZ-CNC for serrated grinding of circular knives*
Polishing machines for workpieces
Robotic grinding and polishing systems

For more than six decades Hauschild has made a name for itself in the field of mechanical rough and final polishing of cutlery items. Furthermore robotic grinding and polishing systems are part of the product range.

For more than 60 years the name Hauschild stands for highest quality in the field of mechanical surface finishing with elastic tools.

Machines for rough and final polishing of cutlery items are the core business of Hauschild.

In the last decade Hauschild has developed robotic grinding and polishing solutions for the machining of cutlery, hand tools, hollowware and similar workpieces.

The robotic grinding and polishing systems are applied in different industries such as the household goods, the cutlery, the tool and the surgical industry.

Since 2004 Hauschild is part of the Berger Gruppe taking profit of the synergy effects in development, production and construction.

Deburring of pressure die-casting

The robotic deburring stations machine aluminium cast parts with rotating power tools such as milling burrs, grinding pencils, grinding flap discs or brushes.

Photo: Robotic deburring station of the series RSP3S for the machining of die-casting parts
Rough and final polishing

The double shaft polishing machines are designed for rough and final polishing of cutlery items, knife blades and similar workpieces. The machining is executed in two steps.

*Photo: Double shaft polishing machine of the series DWP/2K for polishing of the outer edges of cutlery handles and bowls*

CNC controlled polishing

The CNC controlled double shaft polishing machine is designed for rough and final polishing of knife blades up to a length of 650 mm and related parts.

Due to the innovative conception of automation it is possible to run in continuous process or to use separate fixtures.

*Photo: Double shaft polishing machine of the series PC-CNC for rough and final polishing of knife blades*

Robotic polishing

The robotic systems are employed for grinding, sharpening, deburring and polishing of most different workpieces. Various mechanical processing methods can be applied and combined.

*Photo: Robotic grinding and polishing station of the series RSP2B1P for grinding and polishing of hollowware*

Robotic grinding

The robotic grinding and polishing systems can be equipped with different processing stations such as belt grinding stations, polishing machines or stone grinding stations.

*Photo: Robotic grinding and polishing station of the series RSP4B1P for all-around machining of tweezers*
Steel strip grinding machines

The serration and precision grinding machines of August Nell jr. grind razor blades, scalpel blades, saws, technical blades, special blades of the surgical industry and similar workpieces.

Since 1920 August Nell jr. is specialized in precision grinding machines for micro grinding coil material which is guided on edge through the work stations.

The strip grinding and polishing lines can be equipped with different dressing systems, breaking machines, spooling systems, magazine systems, camera and laser measuring systems and other accessories.

The machines are mainly applied in the razor blade, the surgical, the wood processing, the printing and paper and the cutlery industry.

Since 2004 August Nell jr. is part of the Berger Gruppe.

Straight finish grinding

The steel strip grinding machines achieve a onesided or doublesided straight finish grinding at steel strips. The angle can be adjusted from 0 to 35° by motor with butterfly wings.

Photo: Steel strip grinding station of the series BSM3000-CNC for grinding of scalpel blades.
Serrated grinding

The Nell steel strip grinding stations are designed for different mechanical processing methods such as straight finish grinding, scalloped grinding and serrated grinding. The maximum cutting speed is 50 m/s. The stations are designed for wet machining with grinding emulsion.

Photo: Steel strip grinding station of the series BSM3000-CNC/D for doublesided serrated grinding for the production of saw blades

Straight micro-grinding

A special kind of Nell steel strip grinding stations are designed for “gothic arch” grinding at steel strips for the production of razor blades with a convex blade form. The maximum grinding width is 150 mm.

Photo: Steel strip grinding station of the series BSM1500-CNC/TTGB for gothic arch grinding for the production of razor blades

Straight finish grinding

By means of a profiled grinding wheel the Nell steel strip grinding stations can achieve a onesided scalloped grinding at mechanical knives and similar workpieces. The grinding speed is down to 50 m/s with a maximum grinding width of 300 mm.

Photo: Steel strip grinding station of the series BSM3000-CNC/E for the production of mechanical knives

Plunge grinding

A special kind of Nell steel strip grinding stations are designed for plunge grinding of steel strips. It’s a doublesided processing with four grinding units with different grinding angles.

Photo: Steel strip grinding station of the series BSM500-CNC/HK for the production of hooked blades
Steel strip grinding and polishing lines

For more than 30 years the name Werner Peters stands for special grinding machines which are mostly employed for the production of industrial blades, razor blades and machine blades.

In the last century Otto Manderbach was known as a specialist in the field of razor blade grinding. When Werner Peters took over the company 35 years ago the product range was extended to technical blades and machines knives.

The grinding machines are designed for the production of hair clipper blades, doctor blades, serrated machine cutting tools for the food industry, double-sided razor blades and similar workpieces.

Since 2011 Werner Peters is part of the Berger Gruppe. Together with its partners August Nell jr. and Julius Maschinenbau the trade mark offers solutions for the strip processing industry all from one source.
Grinding and polishing

The Werner Peters steel strip grinding and polishing lines achieve a doublesided cutting edge grinding of razor blades with three angles. The line consists of four onesided pre-grinding stations, two doublesided finishing stations, two doublesided deburring stations and four double-sided polishing stations.

Photo: Steel strip grinding and polishing lines of the series DEB1500-CNC for the production of razor blades

Straight finish grinding, scalloped and serrated grinding

Werner Peters steel strip grinding machines are designed for straight finish grinding, scalloped and serrated grinding of cutting rules, knives for the food industry and similar workpieces.

Photo: Steel strip grinding machine of the series BGM1500-CNC/E for scalloped grinding of knives

Brushing and deburring

The brushing and deburring stations machine hair clipper blades, doctor blades, serrated machine cutting tools for the food industry and similar workpieces. They are designed as a spiral brushing station with two spindle bearings installed at a radial arm each.

Photo: Brushing and deburring station of the series BSM3000/SP for brushing and deburring of knives for the food industry

Cross toothing of multiple strips

Specially designed steel strip grinding lines achieve a cross toothing at metal strips. Up to 44 strips with a maximum strip thickness of 1,5 mm can be machined simultaneously.

Photo: Steel strip grinding line of the series SVZ-BGM-CNC for cross toothing of metal strips
Strip processing by metal-cutting machines

When the cut edge has to be the outer edge of a final product the quality of slit strips doesn’t correspond to requirements. In the field of strip edging by metal-cutting Julius Maschinenbau is known as a specialist for more than 35 years.

Julius Maschinenbau produces machines and lines for strip edge trimming by metal-cutting which are employed in most different industries such as the automotive, the electrical, the tube and the steel industry.

Strip surface processing machines, levelling and calibrating machines and traverse winding systems with strip tension regulation complete the product range.

Since 2007 Julius Maschinenbau is part of the Berger Gruppe taking profit of the synergy effects in development, production and construction.
Strip edging by metal-cutting

The strip edging machines of Julius Maschinenbau trim the strip edges by metal-cutting. The burr is removed and each contour required can be processed at the strip edge. Due to the modular system an edging machine with one module (UNO) can be extended to two (DUO), three (TRIO) or more modules.

*Photo: Strip edging by metal-cutting with one tool*

Grooving

With up to three tools, the grooving machines chamfer up to three grooves into the strip surface by metal-cutting procedure. The machines are employed e.g. for the production of transformer plates or hollow profiles.

*Photo: Grooving machine of the series TRI-NU for chamfering of two grooves*

Levelling and calibrating

For numerous further operating processes (e.g. the machining of the edge and the surface) the strip must be flat and straight. Edge bow, coilset and waviness must be adjusted to allow downstream operation to process optimally. In this case, levelling and calibrating machines are integrated into a strip processing line.

*Photo: Double aperture roller of the series FW*

Coiling and traverse winding

Traverse winding systems are often integrated into a strip processing line to increase the economic efficiency. It is possible to work from coil to coil, from slit strip packet to coil or from multicoil to spool coil.

*Photo: Julius traverse winding system at the recoiler side*
LP-Laschet is known as a specialist in the field of profile generating. The systems are applied for the production of hexagons, front lugs, squares, tapered tooth profiles and similar workpieces.

The LP profile generating centers streamline the machining processes in the field of polygonal generating and tooth profiling. They are conceived for medium and heavy-duty machining of polygons, special shapes and radial profiles.

Different production methods are applied such as milling, drilling, turning, plunge-cutting and deburring.

The profile generating centers are mainly applied in the tool industry for the production of screwdriver tools.

Since 2011 LP-Laschet is part of the Berger Gruppe.
Rotative profile generating

The profile generating center of the series LP110-CNC combines drilling and milling technology. The machines incorporate an electronic synchronisation system which controls the workpiece spindle and the tool spindle. The fully integrated CNC control is easily programmable and guarantees maximum positioning accuracy.

Photo: Profile generating center of the series LP110-CNC for the machining of screwdriver tools

Fabrication of the cross-hole

The profile generating center of the series LP130-CNC is designed for medium and heavy-duty machining of polygons, special shapes and radial profiles. The fabrication of the cross-hole are realised by VHM tools.

Photo: Profile generating center of the series LP130-CNC with integrated drilling of cross-holes

Drilling and turning

The manual swivelled universal generating system is easily changed from vertical to horizontal with a minimum of downtime. For machining polygons, the generating head is swivelled to the horizontal position. To machine outside teeth, the generating head is swivelled to the vertical position. The short changeover time illustrates the high flexibility of the machine.

Photo: Universal generating system

Generating of the square

The profile generating center of the series LP130-CNC can be employed e. g. for the production of socket wrench extensions. The fabrication of extensions is realized in three operations: turning, machining of the square, drilling.

Photo: Generating of the square with LP130-CNC
Strong partners under one roof ...

The brand marks Heinz Berger, Hauschild, August Nell, Julius Maschinenbau, Werner Peters and LP-Laschet stand for highest quality in the field of machining and refining metal coils and tools, e.g. household and machine blades, cutting tools, surgical instruments, cast or forged tools. Their in-house robotic capabilities provide solutions to automation and process integration tasks.

Trend-setting innovations in the fields of robotics and CNC machines for grinding and polishing tools, as well as state-of-the-art technology for strip edge trimming by metal-cutting and surface finishing, are available for coil stock and tools that demand high quality.

The first automatic grinding machines from Berger in 1957, the development of the Julius edge trimming machine in 1980, the first CNC controlled double-shaft polishing machine by Hauschild in 1987, the use of more than 300 robots for automating Berger grinding machines since 2000, as well as Nell’s development of the BSM3000 CNC grinding machine for micro-grinding coil stock with camera control – all important milestones for the group and key driving forces for the metalworking industry.

Thanks to a broad product line, the synergistic effects in our engineering, R&D and production departments and a competent customer service team, the Berger Gruppe provides complete solutions – particularly for custom requirements – all from a single source.

Heinz Berger Maschinenfabrik
Hauschild
August Nell jr.
Julius Maschinenbau
Werner Peters
LP – Laschet

... the Berger Gruppe!