GRINDING MACHINES

FOR STEEL STRIP

grinding | deburring | polishing | serrating

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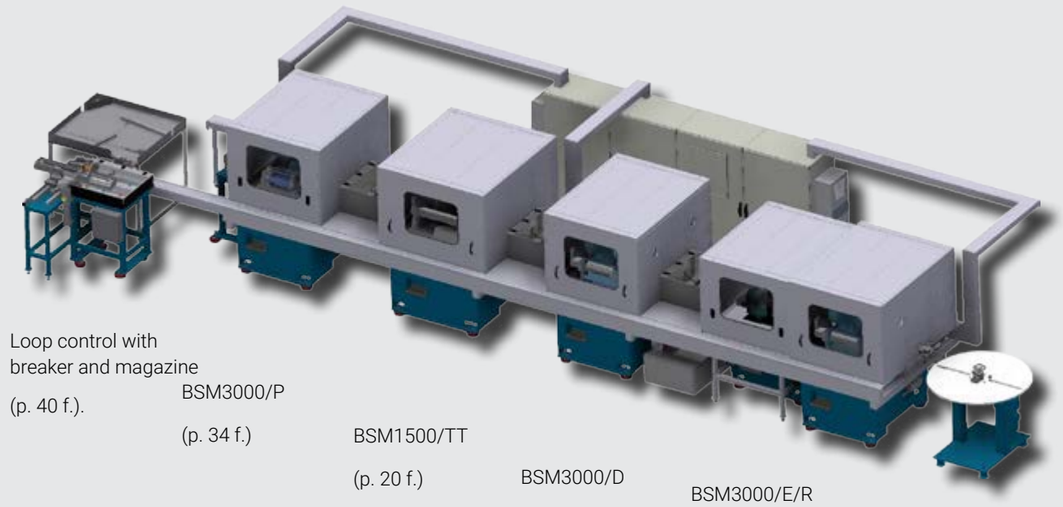
STEEL STRIP GRINDING MACHINES

THE NELL SYSTEM

THE MODULAR SYSTEM

CUSTOM TAILORED SOLUTIONS

Individual processing stations and system components are configured to form a system. The Nell modular system allows a solution tailored to the customer's requirements. Further plant components or processing stations can be retrofitted.



Precision grinding machines for micro grinding on steel strip

- vertical feeding of the strips through the processing stations
- working from coil to coil or from coil into a breaking machine
- strip material processed as slit strip or pre-chamfered at the edge with Julius machines
- processing machines equipped with tools on one or both sides
- angle range 0°–35°, motor adjustable
- constant cutting edge angle on the strip with decreasing grinding wheel diameter
- compensation of grinding wheel wear via guide carriages with precision guides, ball screws and AC servo motor
- determination of the infeed values by means of camera or laser measurement technology
- use of different tools

The modular system

Thanks to the well thought-out Nell modular system, complex grinding and polishing tasks on metal strips can be realised quickly and economically on the basis of standard modules.

System components can also be added after delivery or provided by the customer.

The following series are described below:

- **BSM series**
- **BDG series**
- **BWSL series**
- **SVZ series**
- **BGM series**
- **DEB series**

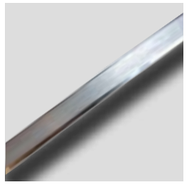
The steel strip grinding and polishing lines can be equipped with various dressing systems, breaking machines, spooling systems, magazine systems, camera and laser measuring technology and other accessories.

STEEL STRIP GRINDING MACHINES

APPLICATIONS

MECHANICAL PROCESSING OF STEEL STRIP

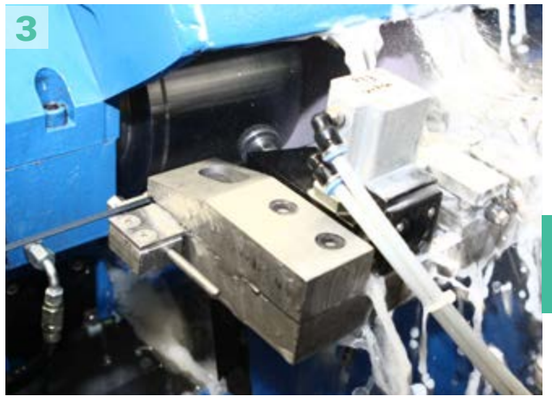
The individual series of steel strip grinding machines process the strip with different mechanical processing methods such as straight finish grinding, scalloped and serrated grinding, saw grinding and plunge grinding.



Applications

The steel strip grinding machines of the BSM3000 series are used for the machining of various workpieces such as

- abrasor strips
- cutting rules
- doctor blades
- kitchen knives
- microtome blades
- pensil sharpeners
- saw blades
- scalpel blades
- technical blades



Examples of use (pictures)

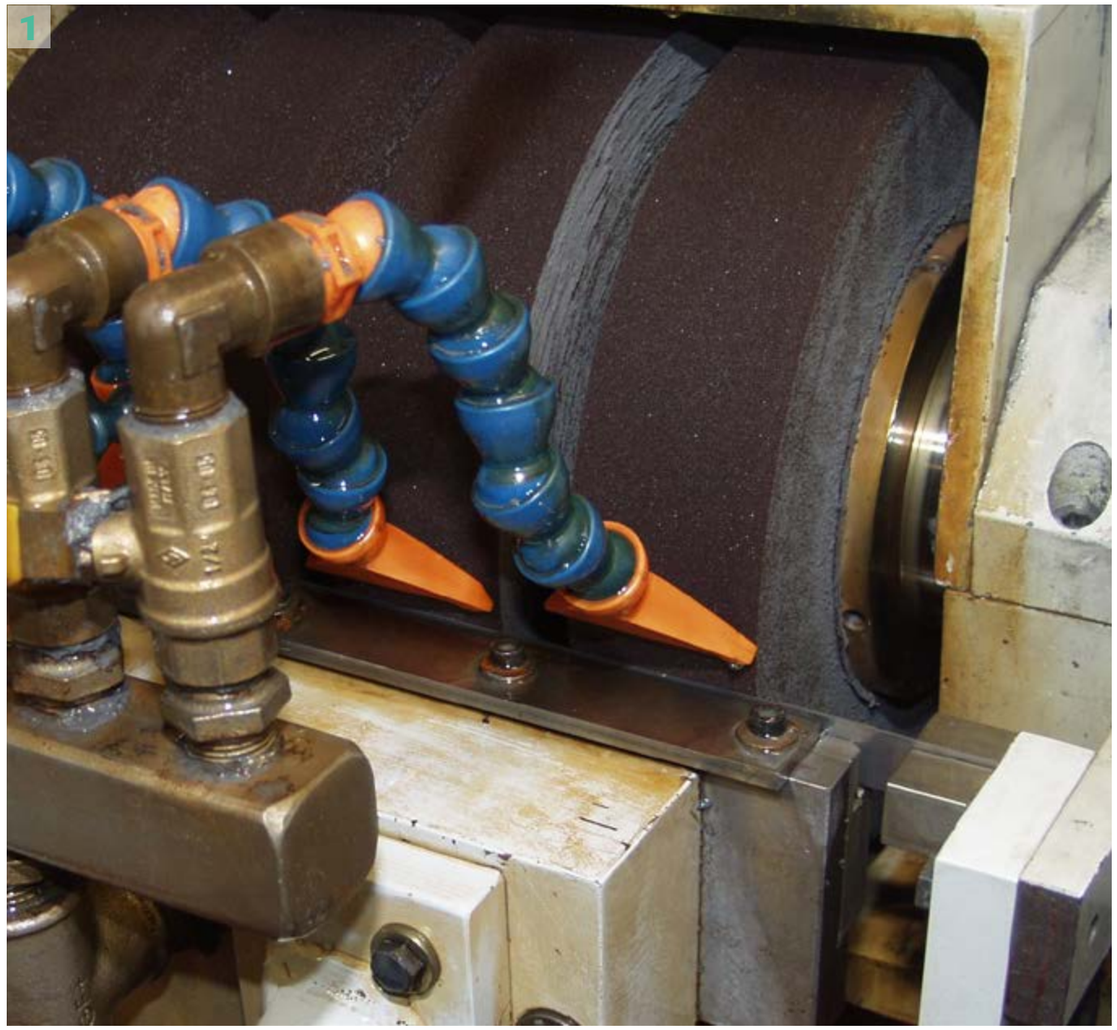
1. BSM3000/D: straight finish grinding of scalpel blades n° 11 (picture 1)
2. BSM3000/E: one-sided straight finish grinding for the production of band knives (picture 2)
3. BSM3000/E: one-sided microserration of strips (picture 3)
4. BSM3000/E: one-sided grinding and polishing of pencil sharpener blades (picture 4)
5. BSM3000/D: double-sided flat grinding on pre-punched toothing for the production of saw blades (picture 5)

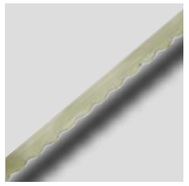
STEEL STRIP GRINDING MACHINES BSM3000

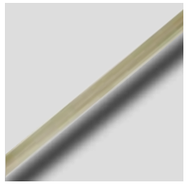
Straight finish grinding, scalloped and serrated grinding

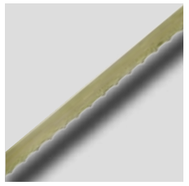
Depending on the application, grinding machines of the BSM3000 series are designed as one- or double-sided grinding stations.

- BSM3000/E: one-sided grinding station
- BSM3000/D: double-sided grinding station









- main engine: 15 kW or 2 × 15 kW
- frequency converter: 18.5 kW for programmable, constant peripheral speed
- peripheral speed: 30–50 m/s (98–164 ft/s)
- motorised angle adjustment: 5°–35° with butterfly wings
- grinding wheel Ø: max. 300 mm (11.8")
- wheel width/grinding width: max. 240 mm (9.84")
- double-sided precision spindle bearing
- cutting speed: max. 50 m/s (164 ft/s)
- central lubrication
- design for wet machining with grinding emulsion
- mounting of guides made of carbide or with carbide inserts
- integration of different dressing systems for profiling the grinding wheels possible

Examples of use (pictures)

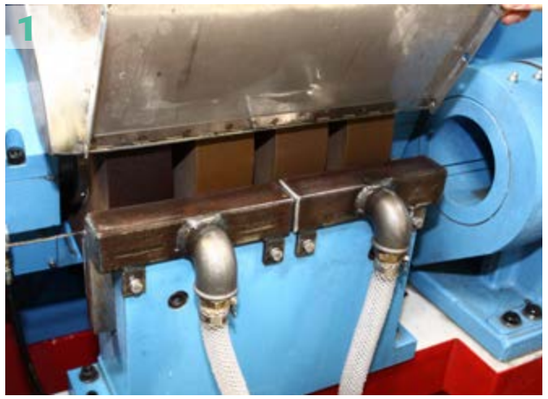
1. One-sided steel strip grinding machine of the BSM3000/E series (picture 1)
2. Double-sided steel strip grinding machine of the BSM3000/D series (picture 2)

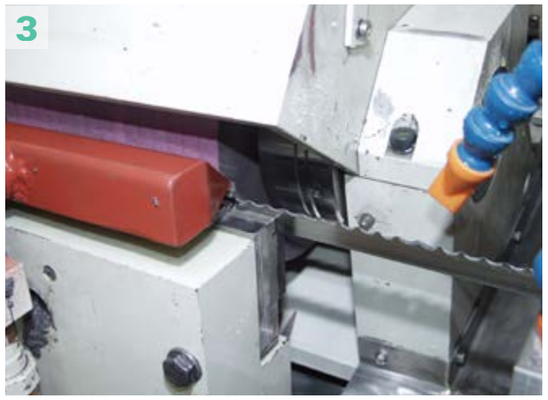
STEEL STRIP GRINDING MACHINES BSM3000/E

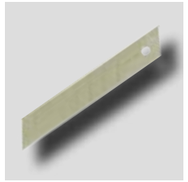
One-sided processing

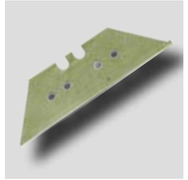
The one-sided grinding station is used e. g. for grinding pencil sharpener blades, curette bands and machine blades.

- grinding wheels with Ø 300 mm (11.8") mounted on a double-sided precision spindle
- grinding wheel width max. 240 mm (9.45")
- used for pre-grinding, e.g. for high material removal rates on one side of the strip









Examples of use (pictures)

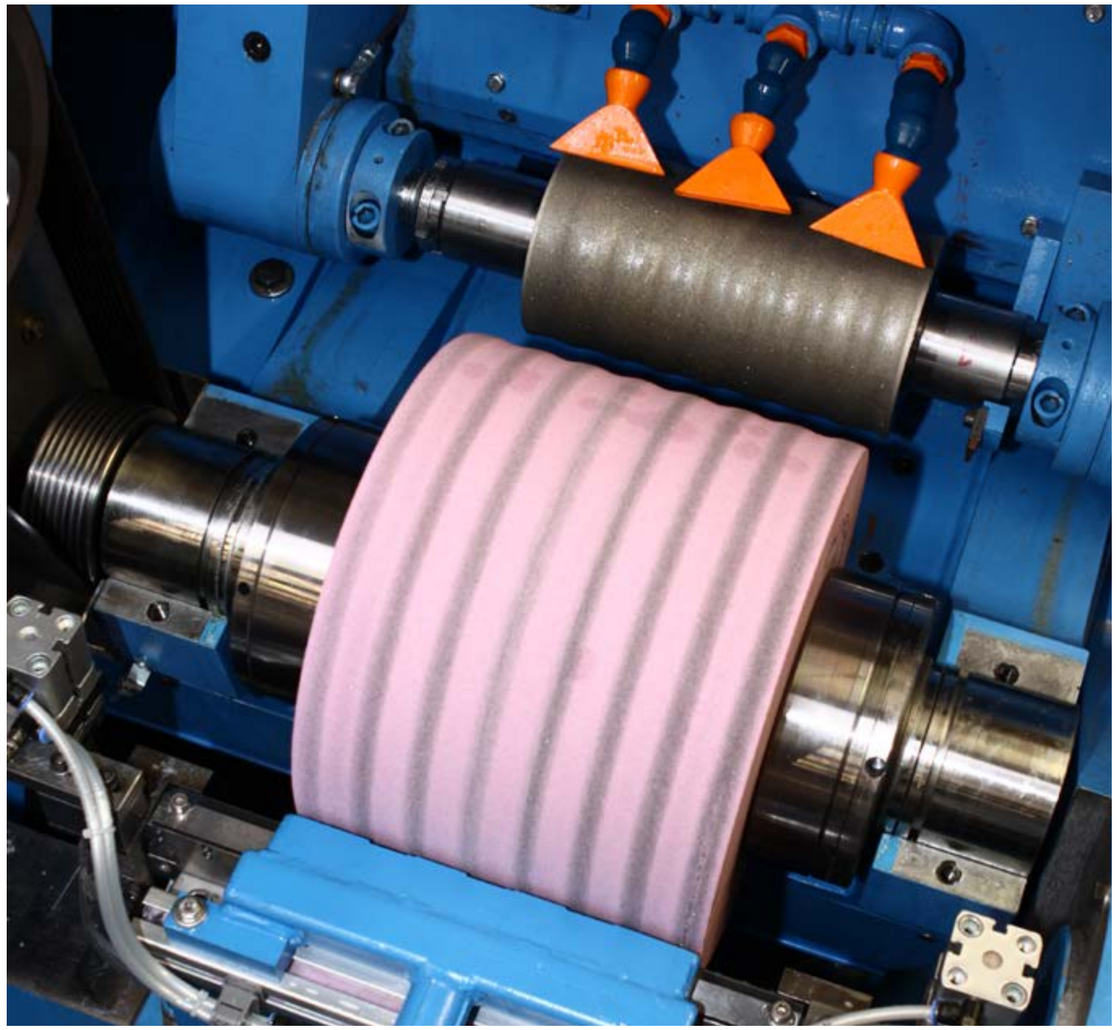
1. Straight finish grinding for the production of curettes (picture 1)
2. Serrated grinding with CBN grinding wheel to produce cutting rules (picture 2)
3. Scalloped grinding for the production of machine knives by means of a profiled grinding wheel (picture 3)
4. Straight finish grinding for the production of industrial blades (picture 4)
5. Straight finish grinding for the production of pencil sharpener blades (picture 5)
6. Steel strip grinding station of the series BSM3000/E (picture p. 10)

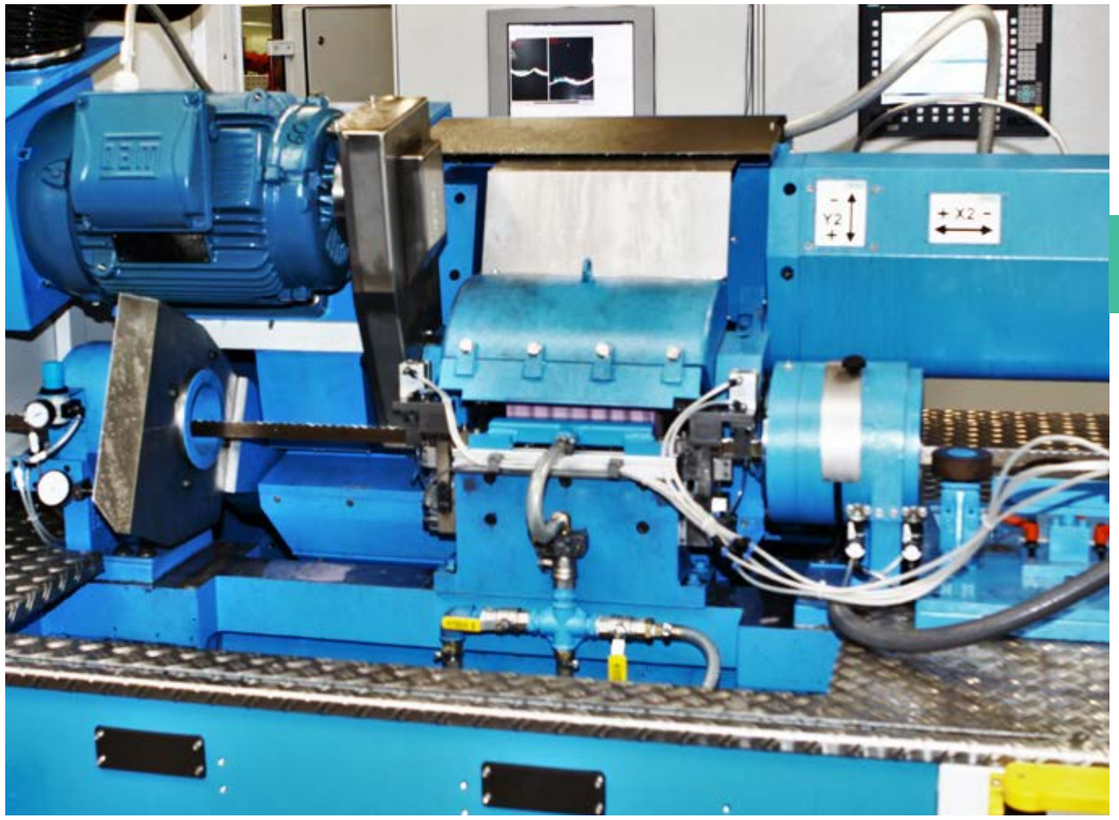
STEEL STRIP GRINDING MACHINES
BSM3000/2E/SP

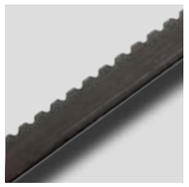
Scalloped and serrated grinding of steel strips

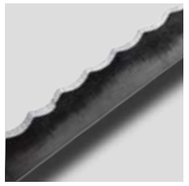
The presented steel strip grinding machine is designed for scalloped and serrated grinding of steel strip.

- serrated grinding on steel strips with angles of 0–30°
- camera measurement of the serration
- camera strip height measurement
- CNC dressing systems with stationary and driven tools

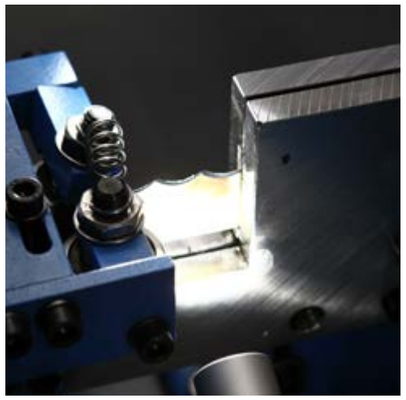








- recoiler with plate Ø 1 250 mm (49.21")
- two single-sided grinding stations of the BSM3000/E series
- deburring station BSM3000/SP
- strip drying
- camera and laser measuring system
- strip pull-through system
- coolant supply
- central lubrication

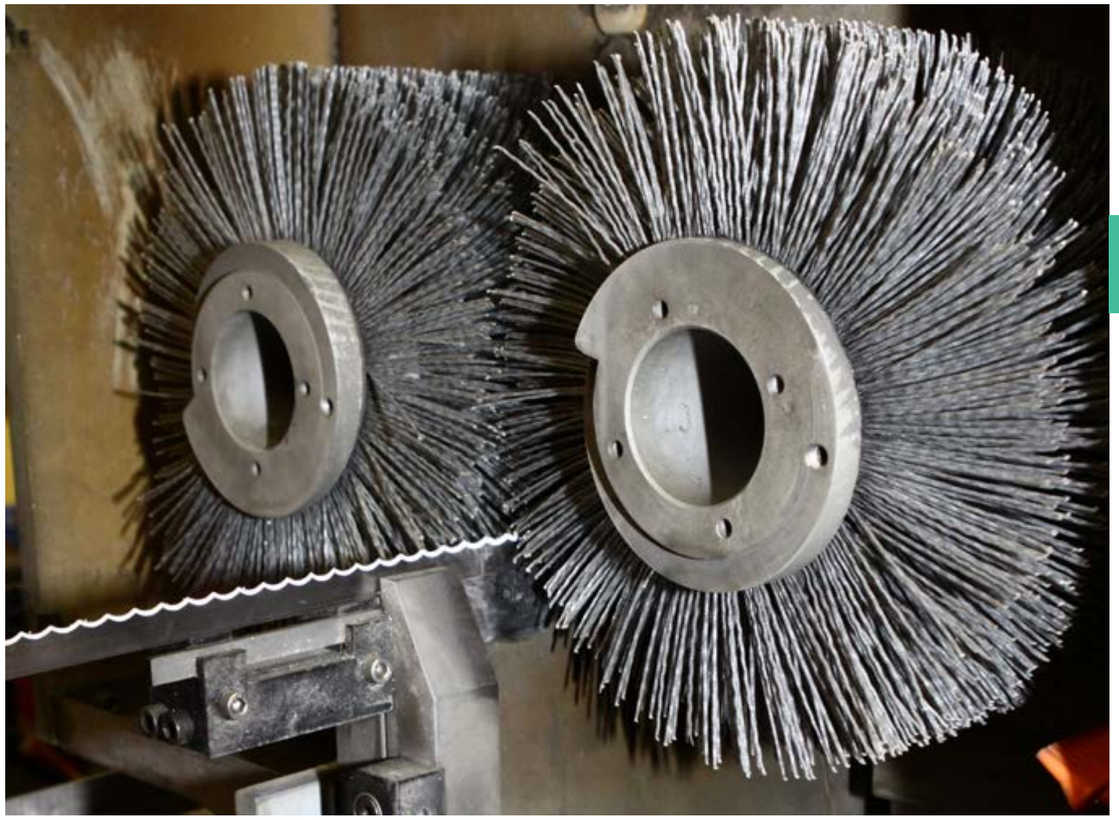


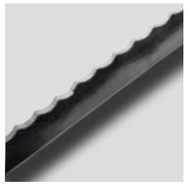
STEEL STRIP GRINDING MACHINES BSM3000/SP

Brushing and deburring

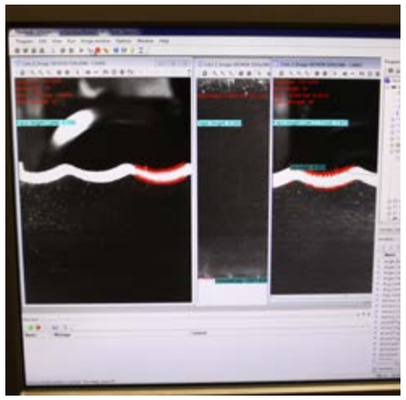
The BSM3000/SP brushing and deburring station processes hair-cutting blades, cutting rules, serrated machine knives for the food industry and similar shaped workpieces.

It is designed as a spiral brushing station with two spindle bearings each mounted on a swinging arm.





- main engines: 1.1 kW with toothed belt drive
- frequency converter for continuous regulation of the spindle speed
- pneumatic, cyclical lifting of the brushes and releasing of the strip clamping for indexing strip feed
- angle correction by mechanical height adjustment
- compensation of brush wear through mechanical stop adjustment
- prepared for wet processing

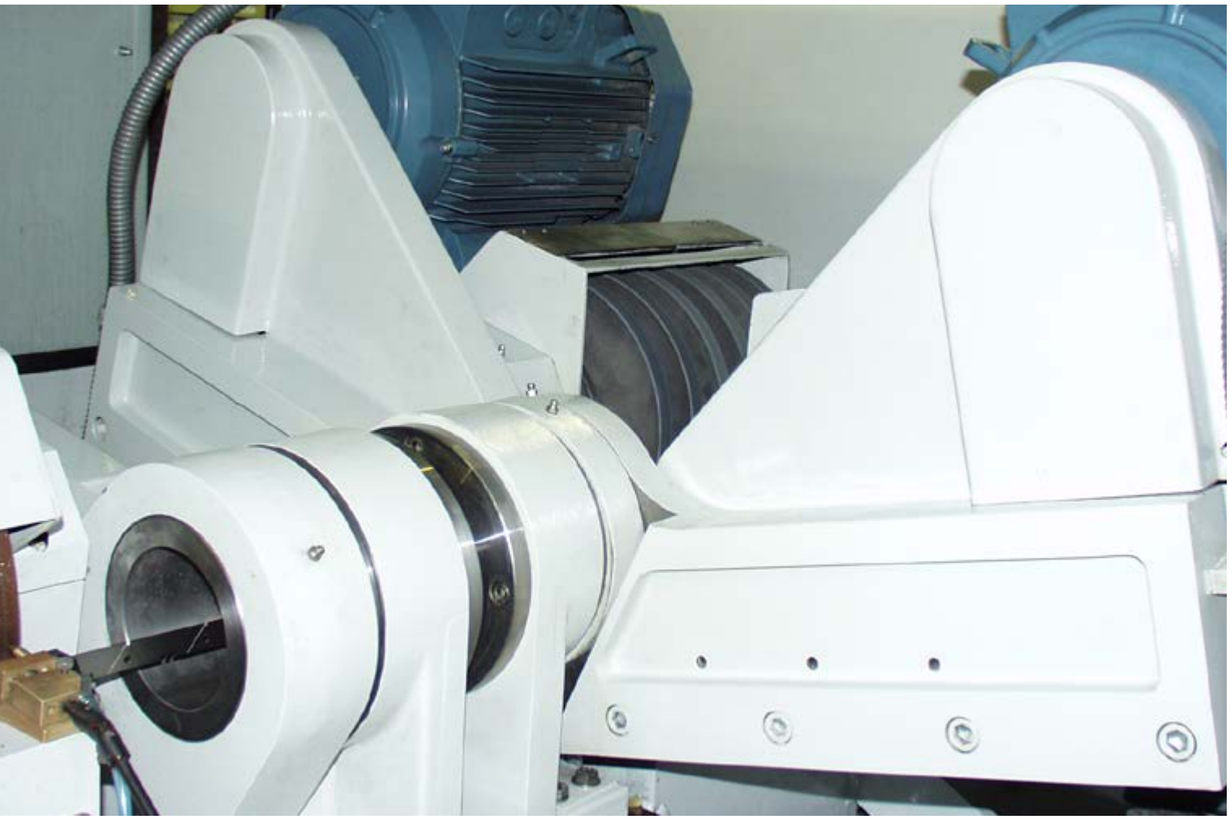


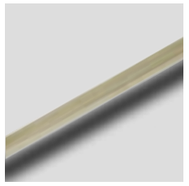
STEEL STRIP GRINDING MACHINES BSM3000/D

Double-sided processing

The double-sided grinding station processes cutting lines, technical blades, scalpel blades and similar shaped workpieces.

- integration of two opposite grinding spindles
- both spindles equippable with six grinding wheels of 20 mm (0.79") width
- spindles for plunging mounted offset against each other
- effective grinding width of 120 mm (4.7") per side (or 240 mm (9.4") in total)
- used for finish grinding on pre-ground or pre-chamfered strips





Examples of use (pictures)

1. Straight finish grinding for the production of scalpel blades on steel strip grinding station of the BSM3000/D series (picture 1)
2. BSM3000/D series steel strip grinding machine for fine grinding on pre-punched or ground saw blades (picture 2)
3. Straight finish grinding for the production of technical blades on steel strip grinding station of the BSM3000/D series (picture p. 10)

STEEL STRIP GRINDING MACHINES BSM3000/2D/TT/TTGB/2DP

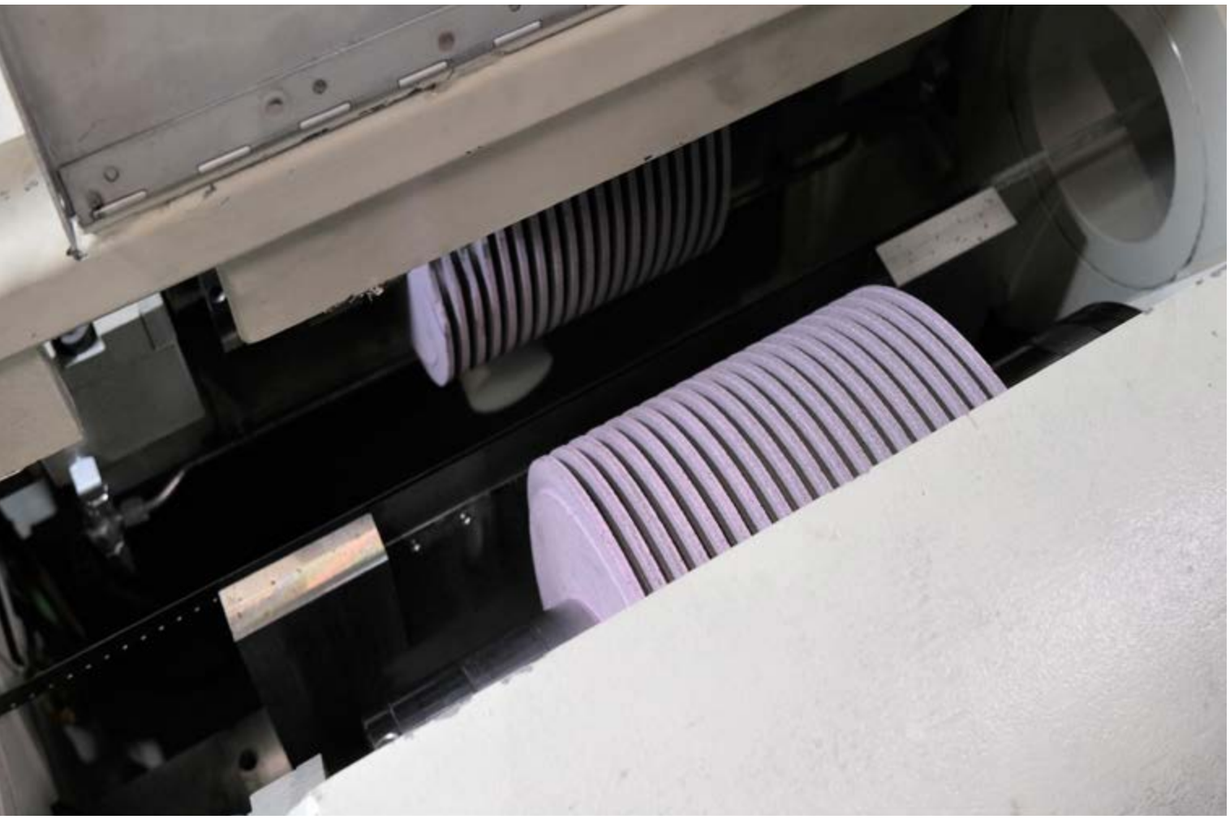
Three-angle grinding on strip material for microtome blades

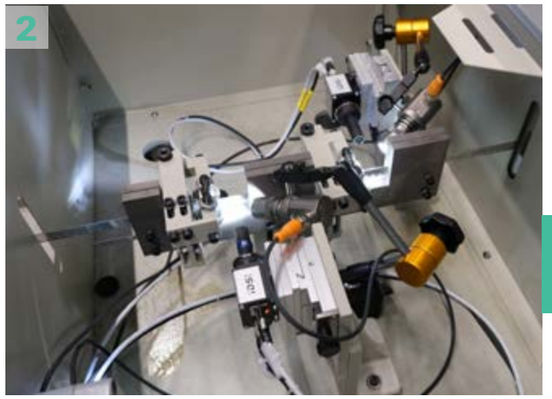
The strip grinding system presented here is designed for the processing of microtome blades. With four grinding and 2 polishing stations, a three-angle section is ground on steel strips.

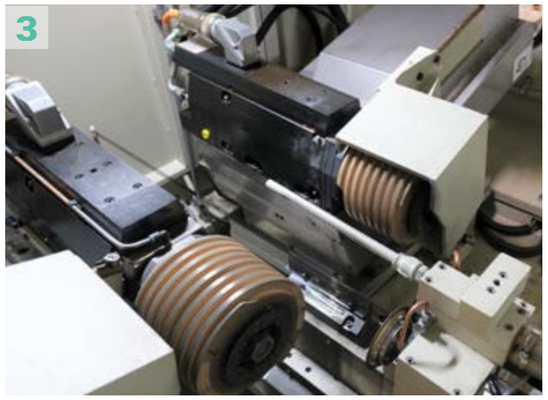
- strip thickness: 0.254–0.317 mm (0.1"–0.12")
- strip height: 8.195–14.195 mm (0.32"–0.56")

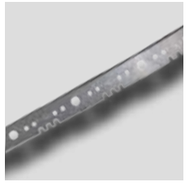
Angle:

- grinding station 1 + 2: pre-grinding with 5°–6°
- grinding station 3: fine grinding with 9°–9.5°
- grinding station 4: gothic-arc-grinding 20°–17° or 18°–17°









The grinding system consists of the following components:

- decoiler with quick release and infeed brake
- two double-sided grinding stations of the BSM3000/2D series for the first pre-grinding operation
- double-sided spiral grinding station of the series BSM1500/TT
- double-sided spiral grinding station of the series BSM1500/TTGB
- two BSM3000/DP series double-sided polishing machines
- six CNC dressing systems
- three measuring stations with laser and camera measuring system
- strip pull-through
- breaker with loop control

Examples of use (pictures)

1. Steel strip grinding system of the series BSM3000/2D/TT/TTGB/2DP (picture 1)
2. Camera and laser measuring station (picture 2)
3. Strip steel grinding station BSM1500/TTGB for gothic-arc-grinding (picture 3)
4. Blade braking machine with integrated magazine unit (picture 4)
5. Strip steel grinding station BSM3000/2D for double-sided cutting edge grinding (picture p. 18)

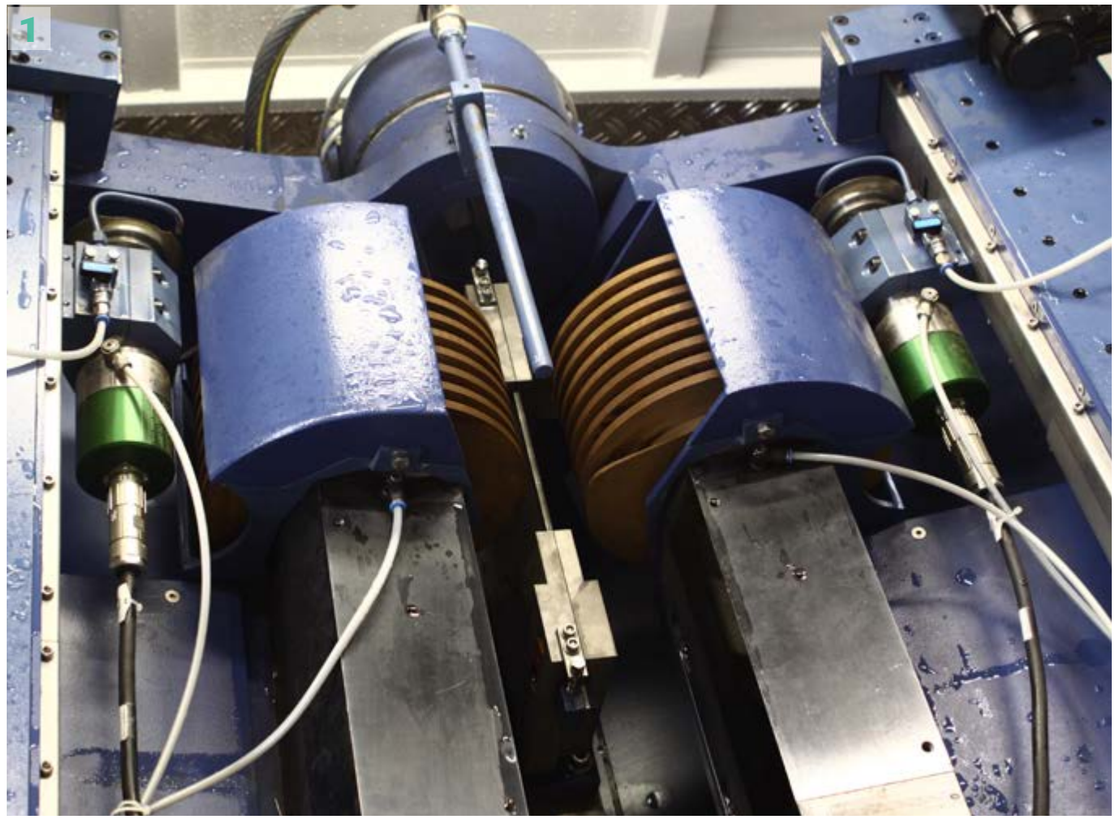
STEEL STRIP GRINDING MACHINES
BSM1500/TT

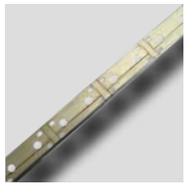
Straight micro-grinding

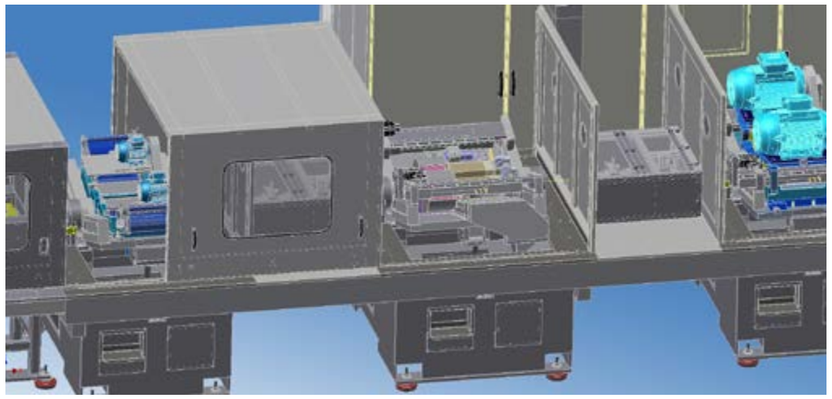
The BSM1500/TT machining station is used for deburring finely ground blades. The steel strip grinding machine works with six CNC axes.

Core application of the station is the micro-grinding of cutting rules with grits up to 1,200.

- mounting of grinding wheels with Ø 150–250 mm (5.9"–9.8")
- electronic synchronization of the spindles with AC servo technology
- additional vibration damping through mineral cast filled machine body for precision grinding of highest quality
- design of the grinding spindle for up to 8,000 rpm, encoder for position synchronization, precision spindle of the highest quality
- spindle bearing arrangement: hydrostatic or roller bearing
- programmable, constant peripheral speed with decreasing grinding wheel Ø
- peripheral speed: 20–65 m/s (66–213 ft/s)
- motorized angle adjustment: 5°–35°.
- grinding width/wheel width: max. 150 mm (5.9")
- spiral grinding wheel Ø: 150–250 mm (5.9"–9.8")







- AC servo motor/drive control unit for synchronisation of the grinding wheels, max. synchronous deviation 2° at 8,000 rpm
- central lubrication
- design for wet machining with grinding emulsion
- mounting of guides made of carbide or with carbide inserts
- integration of different dressing systems for profiling the grinding wheels possible

Examples of use (pictures)

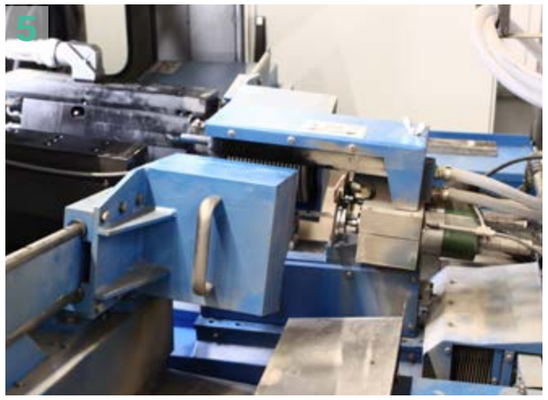
1. Deburring of steel strip for the production of precision knives for the food industry (picture 1)
2. Steel strip grinding plant consisting of two grinding stations BSM3000/E, one grinding station BSM3000/D, one grinding station BSM1500/TT, one decoiler, one recoiler, two camera measuring systems and one laser measuring system (picture 2)

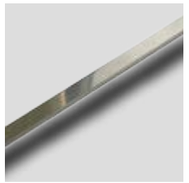
STEEL STRIP GRINDING MACHINES BSM1500/TTGB SERIES

“Gothic arch” grinding

The BSM1500/TTGB machining station is used for deburring finely ground blades.

Important applications of the station are the grinding of the cutting edge of razor blades with convex blade shape (gothic arch).





- mounting of spiral grinding wheels with Ø 150–250 mm (5.9"–9.8")
- electronic synchronization of the spindles with AC servo technology
- additional vibration damping through mineral cast filled machine body for precision grinding of highest quality
- design of the grinding spindle for up to 8,000 rpm, encoder for position synchronization, precision spindle of the highest quality
- spindle bearing arrangement: hydrostatic
- programmable, constant peripheral speed with decreasing grinding wheel Ø
- peripheral speed: 20–65 m/s
- grinding width/wheel width: max. 150 mm (5.9")
- spiral grinding wheel Ø: 150–250 mm (5.9"–9.8")
- AC servo motor/drive control unit for synchronization of the grinding wheels, max. synchronous deviation 2° at 8,000 rpm
- central lubrication
- design for wet machining with grinding emulsion
- mounting of carbide guides
- integration of different dressing systems for profiling the grinding wheels possible

Examples of use (picture)

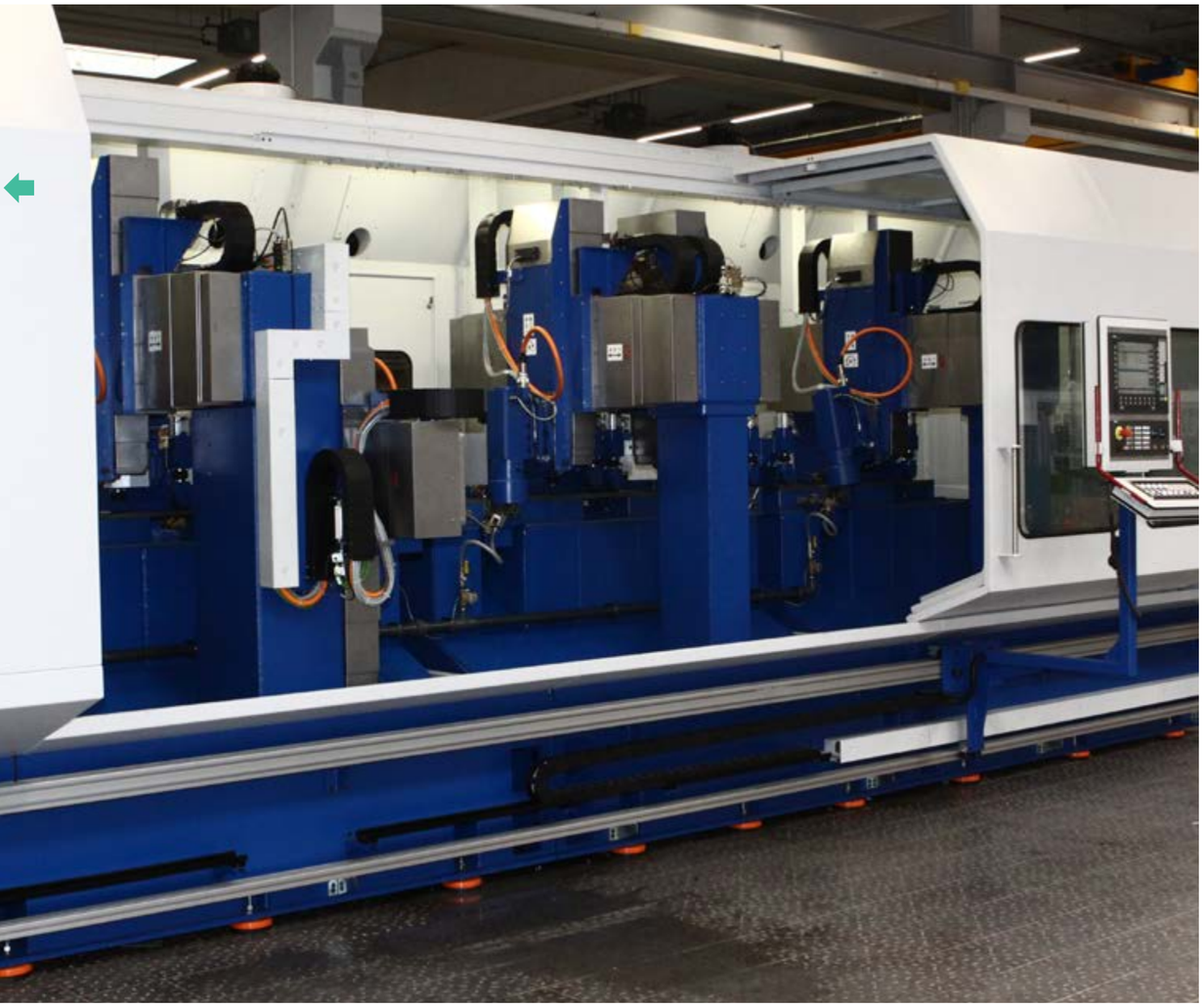
1. Stee strip grinding station BSM1500/TTGB for grinding razor blades (picture 1)
2. Cleaning system for metal strips (picture 2)
3. Drying device integrated in a cleaning system (picture 3)
4. Camera measuring system for measuring the strip height (picture 4)
5. Gothic arch grinding on razor blade strip (picture 5)

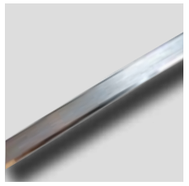
STEEL STRIP GRINDING MACHINES BDG1500

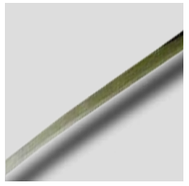
Straight finish grinding

The BDG1500 series steel strip grinding system consists of up to five vertical strip grinding stations and is designed for the production of doctor blades and similarly shaped workpieces.

It grinds a bevel on both sides and a straight edge grinding with 90° to the workpiece.





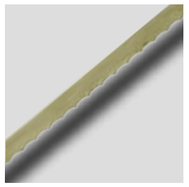


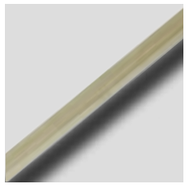
- cutting speed: up to 50 m/s (164 ft/s)
- pull-through speed: 5 m/min (16.4 ft/min)
- CBN cup wheel Ø: 125 mm
- precision-bearing grinding motor spindle driven by a special motor
- frequency converter for programming the spindle speed
- design for wet machining with grinding emulsion
- central lubrication
- direct measuring system integrated in the guides of Z- and Y-axis

STEEL STRIP GRINDING MACHINES BWSL1000/E

Straight finish grinding, scalloped and serrated grinding

The grinding stations of the BWSL1000/E series achieve one-sided straight edge grinding, scalloped and serrated egde grinding on steel strip.





The strips can be used in the food industry, the paper and packaging industry or for the production of saws, among others.

- achieve any cutting edge angle by interpolation of the Y- and Z-axes
- dressing the grinding wheel by means of diamond dressing rolls or single grain dressers
- integration in a strip grinding system as BWSL

STEEL STRIP GRINDING MACHINES
SVZ

Serrated grinding simultaneously on multiple strips

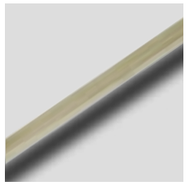
The grinding machine of the SVZ series achieves serating on metal strips.

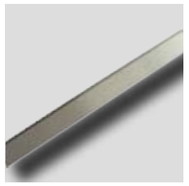
On the machine shown here, up to 44 strips with a maximum strip thickness of 1.5 mm (0.06") are processed simultaneously.

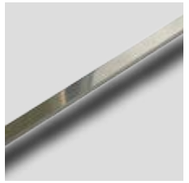
If required, the system can be designed to process even more strips.

The line consists of two vertical decoilers, a steel strip grinding station of the SVZ series and a recoiler.

- grinding width: 120 mm (4.72")
- grinding length in package: 66 mm (2.6")
- max. strip width: 30 mm (1.18")
- grinding wheel Ø: 500 mm (19.69")







Four CNC axes:

- Z-axis: horizontal axis for the grinding movement, drive with linear motor and direct measuring system for highest precision
- Y-axis: vertical axis for moving in the direction of the workpiece, drive with ball screw and servo motor
- C-axis: programmable axis for a relief grinding from 0°–18°
- X-axis: cycle feed of the strip, drive with linear motor and direct measuring system for highest precision

- diamond-coated profile roll, bearings on both sides of the dressing roll
- precision-bearing shaft with 30 kW main drive
- pre-programmable dressing intervals with automatic compensation of the grinding wheel wear

STEEL STRIP GRINDING MACHINES
BGM3000/E/D

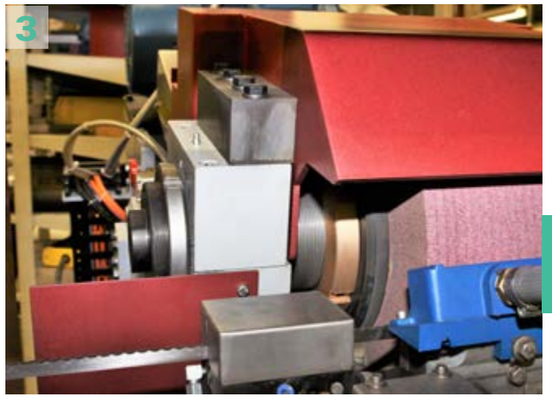
Straight finish grinding, scalloped and serrated grinding

The grinding machines of the BGM1500 series are suitable for grinding cutting rules, knives for the food industry and similar shaped work-pieces.

- designed as one-sided (BGM3000/E) or double-sided (BGM3000/D) grinding station
- strip heights over 50 mm (1.97") possible
- grinding wheel Ø: 400 mm (15.75")
- grinding wheel width: 150 mm (5.9")
- stations can be used for continuous grinding as well as for plunge grinding for scalloped and serrated grinding


1


2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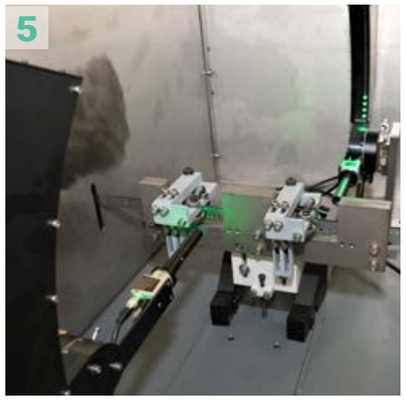
4

- dressing system and accessories
- main engine: 15 kW
- frequency converter: 18,5 kW
- motorized angle adjustment: 4°–25°
- grinding wheel Ø: 400 mm (15.75")
- wheel width/grinding width: max. 150 mm (5.9")
- double sided precision spindle bearing
- cutting speed: max. 40 m/s (131 ft/s)
- central lubrication
- design for wet machining with grinding emulsion
- mounting of guides made of carbide or with carbide inserts
- integration of different dressing systems for profiling the grinding wheels possible
- 18.5 kW for programmable, constant peripheral speed with decreasing grinding wheel Ø between 30–50 m/s (98.4–164 ft/s)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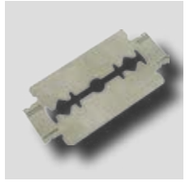
STEEL STRIP GRINDING MACHINES
DEB1500

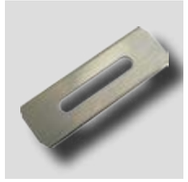
Grinding and polishing of double-sided razor blades

The solid grinding and polishing machine of the DEB series is designed for processing the classic double-sided razor blade with three angles.

The system consists of

- four one-sided pre-grinding stations
- two double-sided finish grinding stations
- two double-sided honing stations
- four double-sided polishing stations





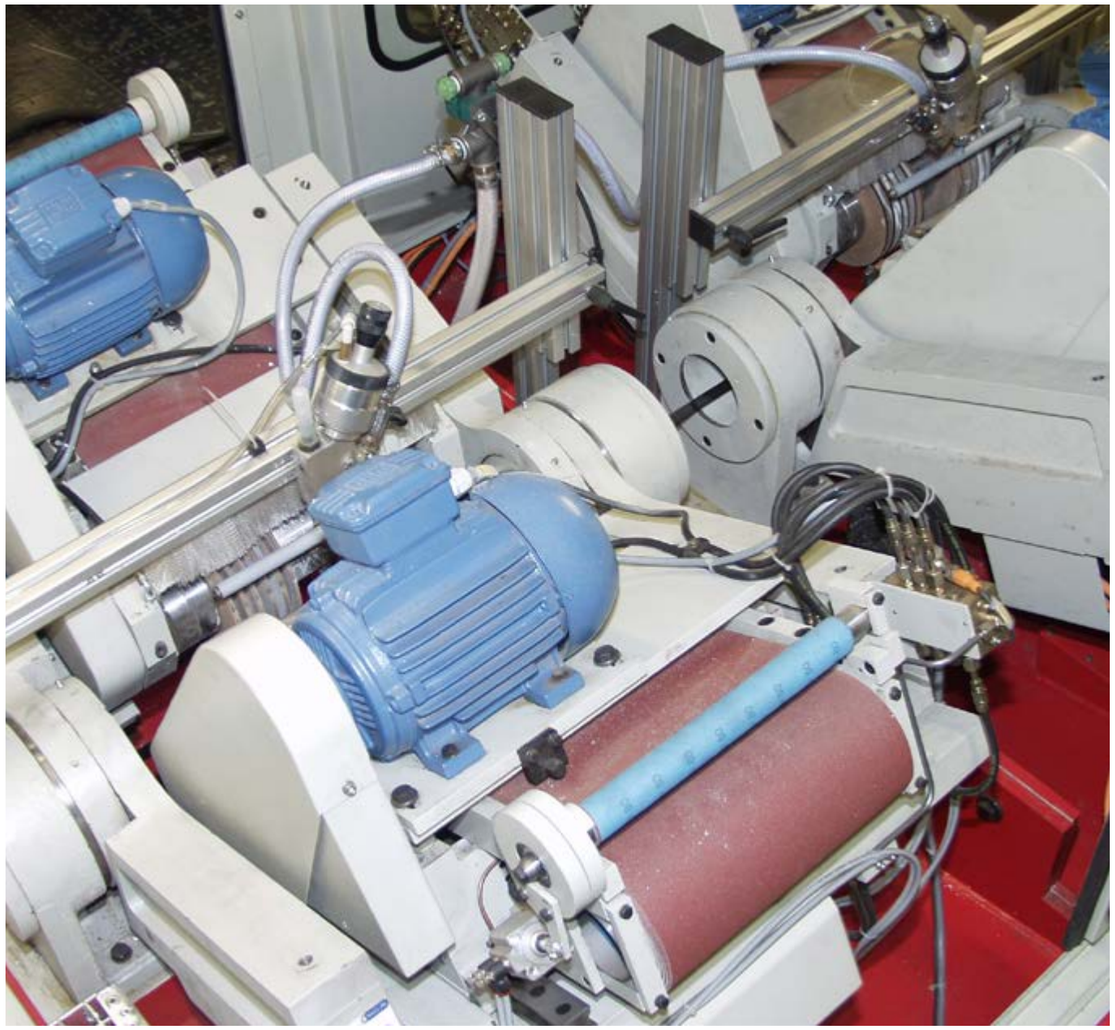
- manual wear compensation of the tools by means of servo motors and NC control
- monitoring of the strip height
- transportable dressing device for dressing the grinding wheels
- breaker with integrated magazine for up to 400 blades/min
- angle adjustable:
  - 3°–13° (grinding machines)
  - 6°–16° (polishing machines)
- spindle drive: 2.2 kW or 0.37 kW
- designed to accommodate grinding wheels with Ø 160 mm (6.3") and width of 180 mm (7.1")
- spiral grinding wheel Ø: 152.4 mm (6"),
- grinding wheel width 127.3 mm (5")
- polishing wheels 150 mm × 50 mm × 5 mm (5.9" × 1.97" × 0.2")

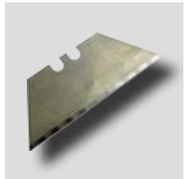
STEEL STRIP GRINDING MACHINES
BSM3000/P

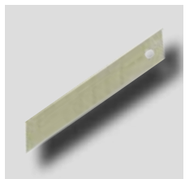
Polishing and deburring

The polishing station BSM3000/P is designed for polishing and deburring of microground blades such as cutting rules, scalpels, pencil sharpener blades, technical blades and related workpieces.

- designed as a double-sided polishing station for holding polishing tools up to Ø 250 mm (9.84")
- polishing result can be influenced by adding hard or liquid paste by means of high-pressure guns







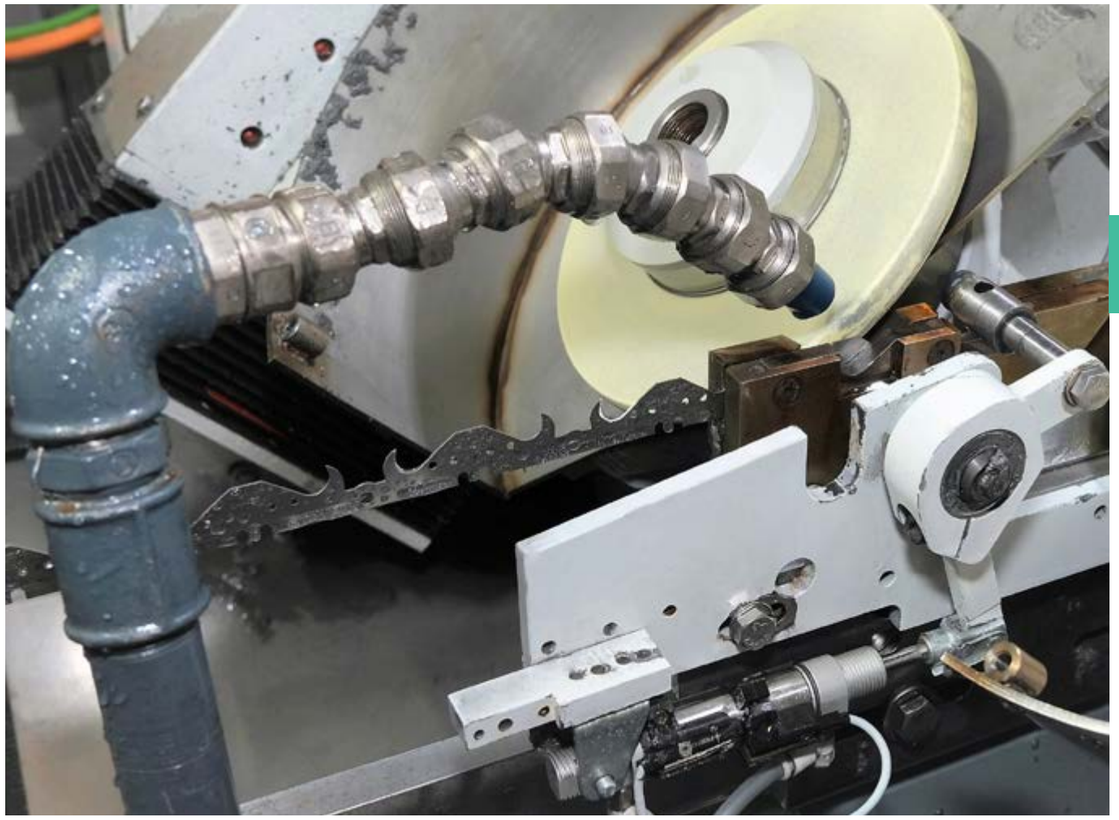
- constant polishing result ensured by intelligent pressure control of the polishing tools with constant motor power
- adjustment via structure-borne sound transducer
- main engine: 1 kW
- frequency converter: 1.5 kW for programmable, constant peripheral speed with decreasing wheel Ø
- peripheral speed: 6–14 m/s (6–45.9 ft/s)
- motorized angle adjustment: 5°–35° with butterfly wings
- max. strip height: 50 mm (2"), alternatively 100 mm (3.9")
- polishing wheel Ø: 175 mm (6.89")
- shaft equipment, e.g. with 12 polishing wheels, each 5 mm (0.2"9 wide, i.e. a total of up to 24 polishing wheels per station
- double-sided spindle bearing arrangement
- dressing the polishing wheels with the aid of indexing grinding belt

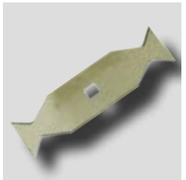
STEEL STRIP GRINDING MACHINES BSM500/HK

Plunge grinding and polishing

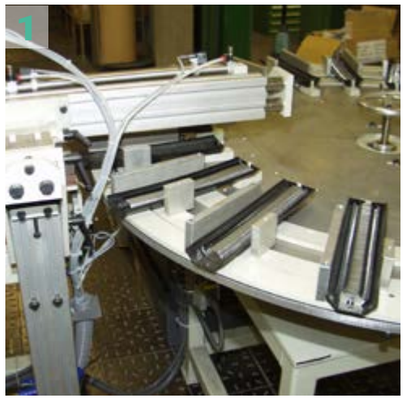
The processing station BSM500/HK is specially designed for grinding and polishing of hook blades.

- double-sided grinding operation with four grinding units, each arranged at different grinding angles
- definition of the grinding wheel geometry via dressing unit with diamond-coated rolls
- polishing of the cutting edge using felt or leather wheels in a second, similarly constructed processing station
- constant polishing result ensured by intelligent pressure control of the polishing wheels
- automatic feeding of the polishing agent





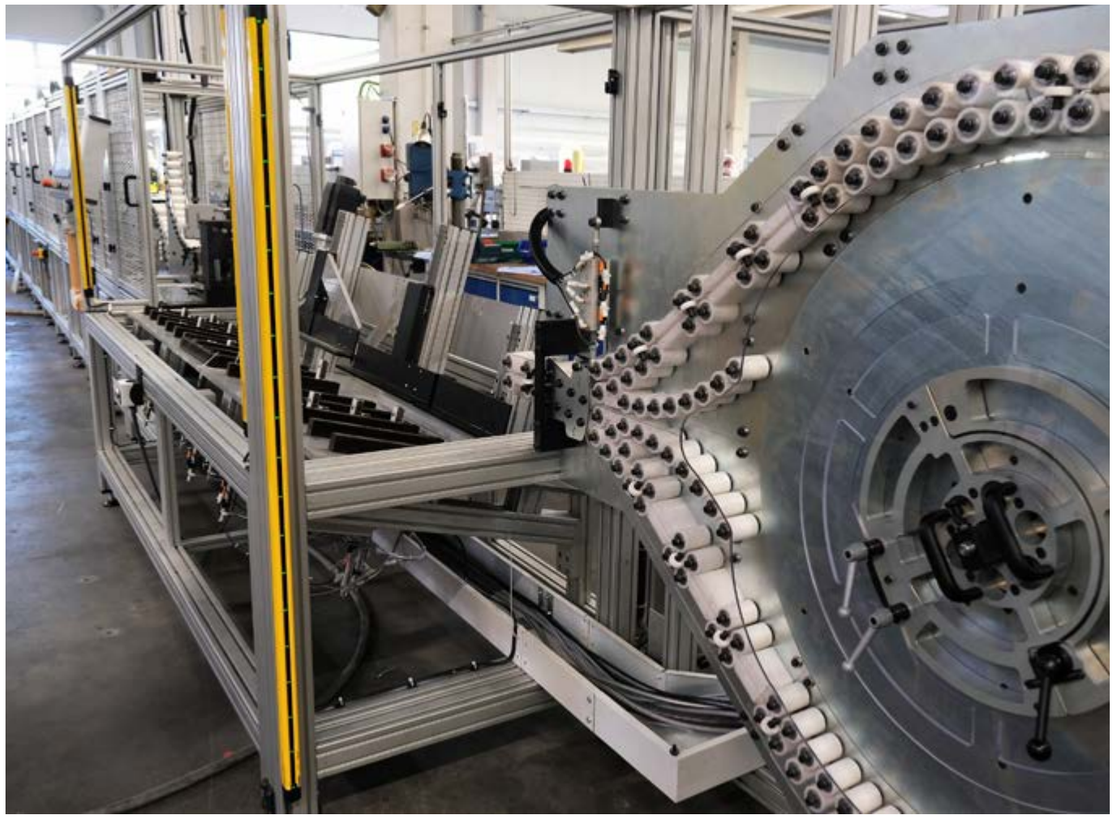
- main engine: 4 × 2.6 kW
- frequency converter: 4 × 4 kW for programmable, constant peripheral speed with decreasing grinding wheel Ø 30–50 m/s (1.2"–2")
- dressing motor: 4 × 0.8 kW
- one-sided precision spindle bearing arrangement
- central lubrication
- designed for wet processing with grinding emulsion or for use of polishing paste
- breaker with sliding magazine (picture 1)
- horizontal decoiler plate (picture 2)

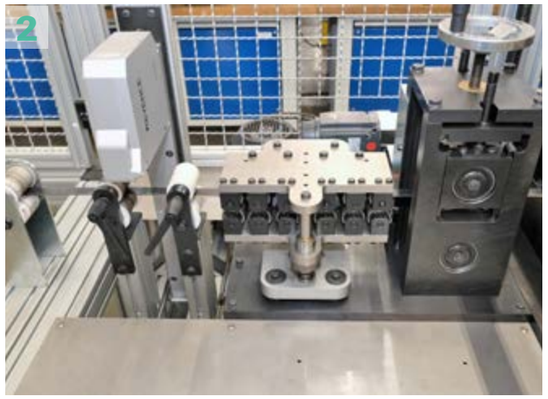


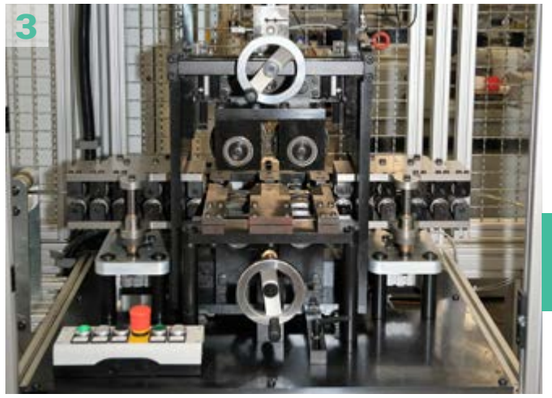
STRAIGHTENING MACHINES

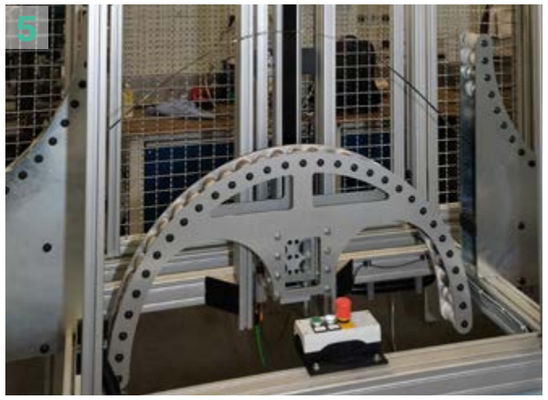
FOR STEEL STRIPS

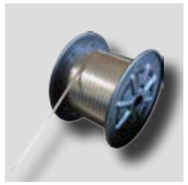
SERIES FLS The FLS series longitudinal straightening machine is designed for straightening the edge bow of steel strips.

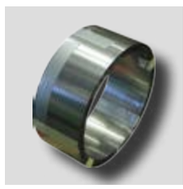












Integrated into the system are::

- decoiler
- strip cleaning station
- strip drying station
- three edge straightening stations
- flat levelling station
- three measuring stations
- hydraulic shear
- loading via magazine
- double recoiler

The edge bow of the strip is straightened by three edge straightening stations and one flat straightening station.

After each edge straightening station, a measuring station is positioned to scan the edge bow with a laser system.

After the straightening process, the strip is continuously coiled by a double recoiler or cut by a hydraulic shear and deposited in a stacking magazine.

The line is designed for strips with a width of 20 to 50 mm (0.79"–2")and a thickness of 0.45 to 1.42 mm (0.018"–0.056").

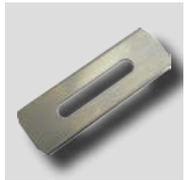
Examples of use (pictures)

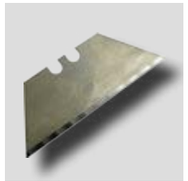
1. Longitudinal straightening system of the FSL series (picture 1)
2. Guides with measuring station (picture 2)
3. Edge straightening station (picture 3)
4. Double recoiler (picture 4)
5. Loop operation for processing with hydraulic shears (picture 5)

ACCESSORIES

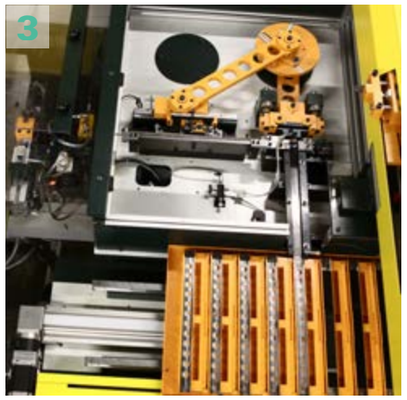
FOR STEEL STRIP GRINDING MACHINES

BREAKERS The breaking machines can be integrated into existing steel strip grinding plants or used as a separate breaking unit with decoiler.





- use as single station or integration of blade breaking machines into a total system
- stacking the blades in magazine units
- up to 500 breaking cycles per minute
- designed for one- and double-sided blades



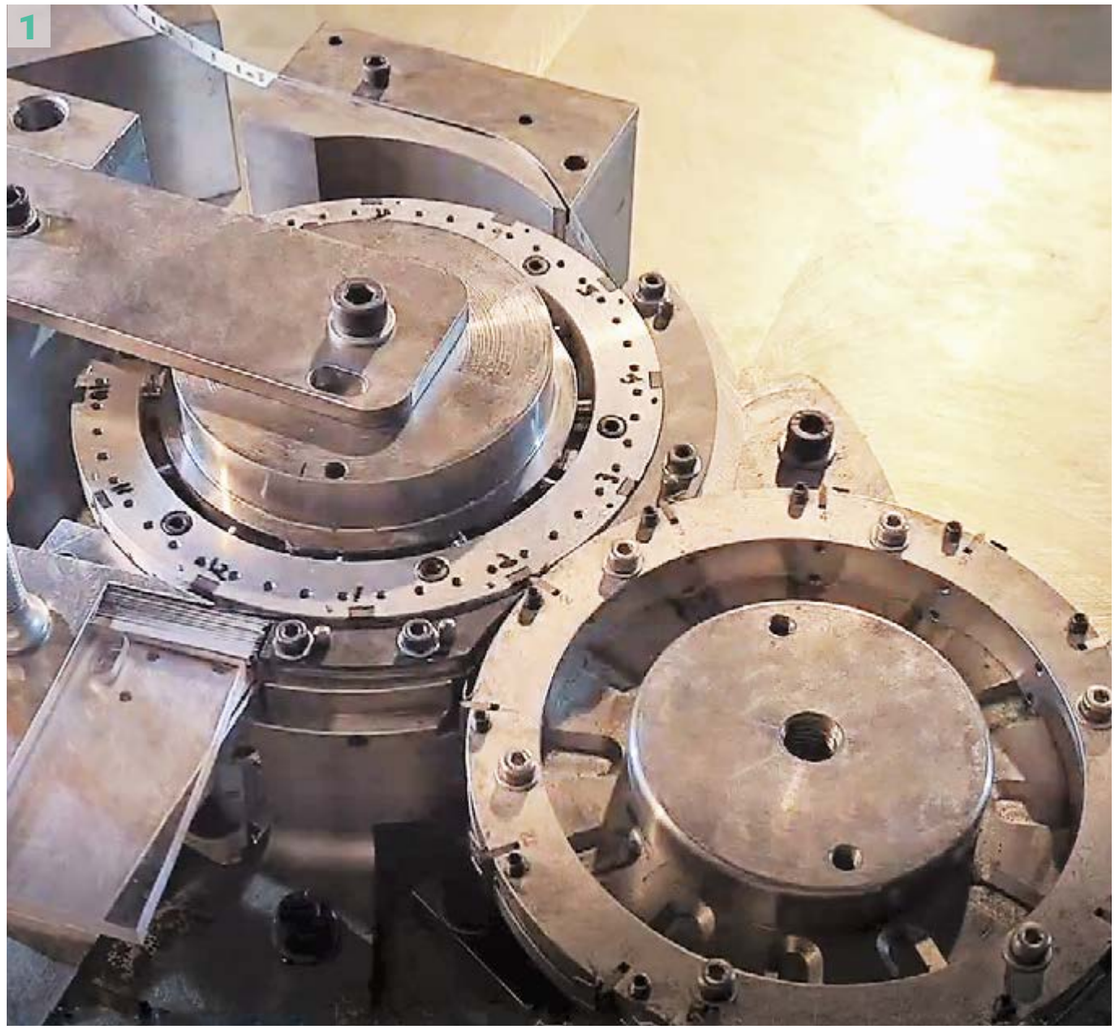
Examples of use (pictures)

1. Magazine table Ø of 1,500 mm (59.1") for holding up to 65 magazines (picture 1)
2. Breaker with horizontal rotary table for holding magazine cassettes (picture 2)
3. Breaker with sliding magazine (picture 3)
4. Separate breaker decoiler (picture 4)

BREAKERS
BR8

Breaking of razor blades

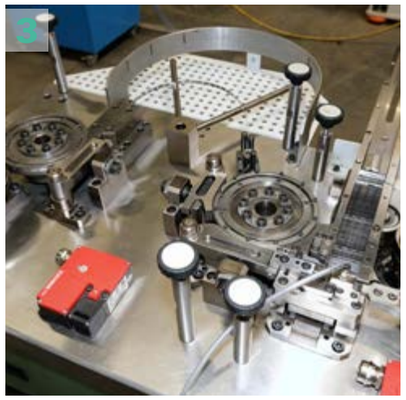
The BR8 blade breaker – here integrated into a steel strip grinding machine of the series BSM1500/TTGB – is designed for breaking single-sided razor blades.



- breaking up to 2,000 blades/minute
- integration with BSM1500/TTGB
- breaking speed: 70–80 m/min (229.7 –262 ft/min)
- designed for single-sided razor blades
- strip thickness: 0.075–0.099 mm 0.003"–0.0039")
- stacking magazine, length 500 mm (19.7")

Examples of use (pictures)

1. Blade breaker of the BR8 series; breaking up to 2,000 blades per minute (picture 1)
2. Inline breaker integrated in a steel strip grinding machine of the series BSM1500/TTGB (picture 2)
3. Inline breakter of the series BR (picture 3)



ACCESSORIES
FOR STEEL STRIP GRINDING MACHINES

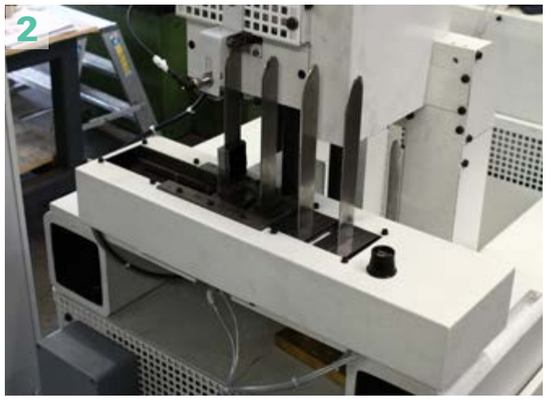
Magazine systems

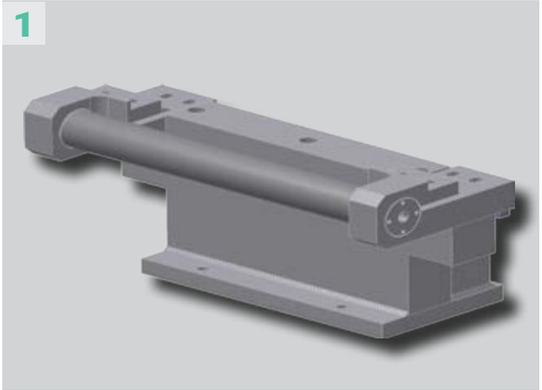
The Berger Gruppe offers various magazine devices for different applications

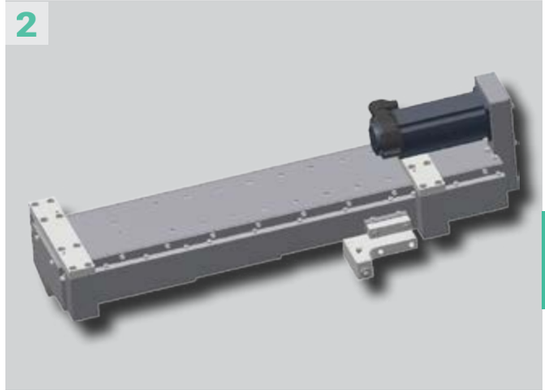
- horizontal rotary table magazines for holding magazine cassettes
- magazine for breakers
- magazine devices for operator assistance
- pneumatic indexing
- variable number of swords
- vertical stacking magazines
- fully automatic blade magazines

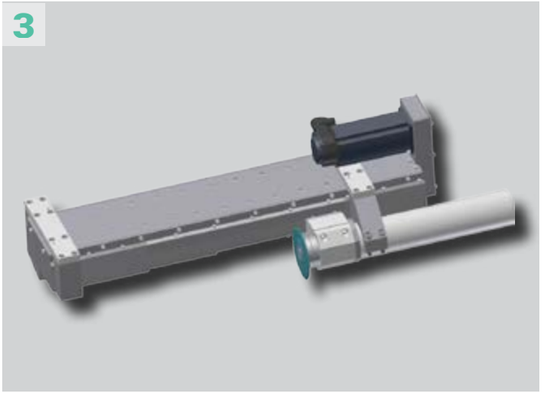
Examples of use (pictures)

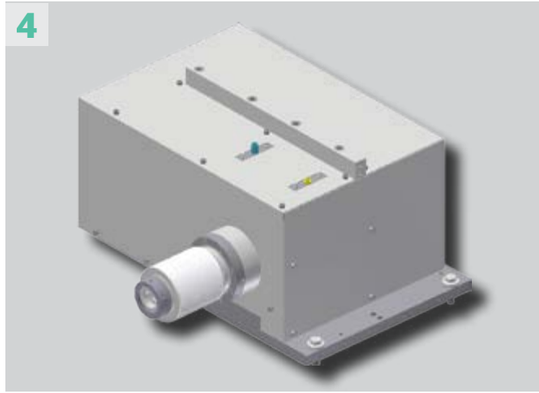
1. Horizontal rotary table magazine for holding magazine casettes (picture 1)
2. Vertical stacking magazine for storing double-sided razor blades (pictures 2)
3. Vertical stacking magazine for storing scalpel blades (picture 3)
4. Horizontal rotary table magazine (picture 4)











Dressing systems

Various types of dressing systems for steel strip grinding machines are part of the Berger Gruppe product range such as

- diamond-coated dressing roller for straight dressing of new grinding wheels (non-driven dressing unit)
- CNC movable single grain diamond or diamond fleece for dressing the grinding wheel
- CNC dresser for contour dressing of the grinding wheel, e.g. for shaft or tooth profiles with a driven diamond dressing wheel
- dresser for the use of diamond-coated dressing rolls up to 100 mm (3.94") or up to 300 mm (11.8") wide for scalloped or serrated grinding

Examples of use (pictures)

1. Diamond coated dressing roll (picture 1)
2. CNC single-point diamond dresser (picture 2)
3. CNC diamond wheel dresser (picture 3)
4. Diamond roll dresser (picture 4)

ACCESSORIES
FOR STEEL STRIP GRINDING MACHINES

Angular Blade Inspection System (ABISY)

Inline inspection system for quality assurance in the grinding process of strip steel and in robot cells after the grinding process consisting of:

- two camera measuring systems
- LED system

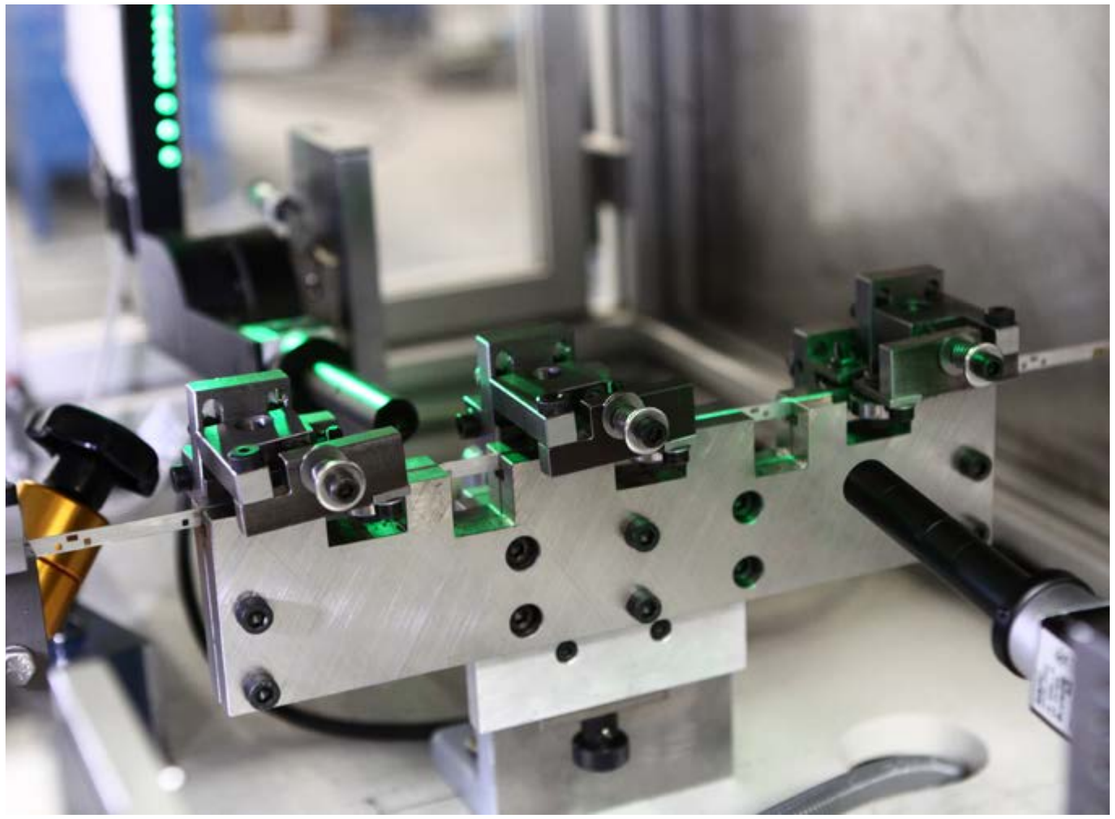
Examples of use (picture here below)

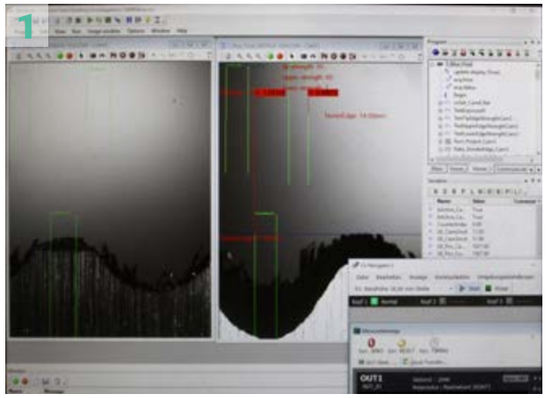
- Angular Blade Inspection System (ABISY) integrated in a BSM3000/TTGB series steel strip grinding machine to inspect the gothic arch grinding of razor blades

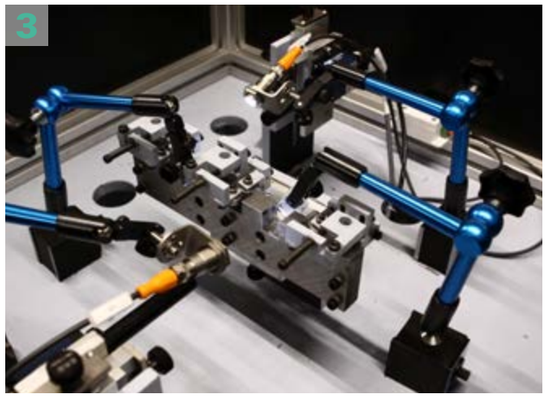
Quality control during processing of strip steel

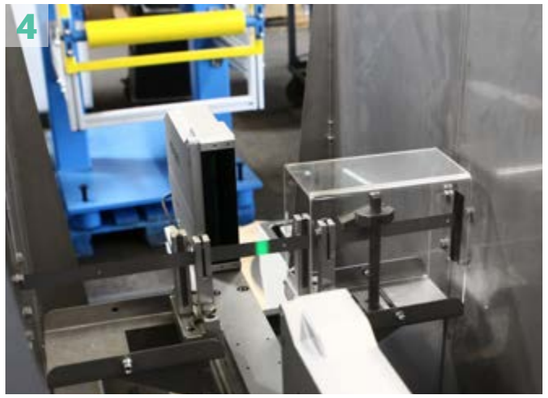
Inline inspection system for checking the part to be produced during the grinding process of strip steel

- monitoring of the blade contour during the running process
- information to operators for safe control of the plant
- quick setup of the system for optimum grinding results
- readjustment of the machine in good time before reaching the tolerance limits
- minimization of rejects at machine start-up and due to errors in the grinding process









Camera/laser measuring technique

For quality monitoring, each processing station can be equipped with laser measuring technology and a camera measuring station.

The grinding height is monitored with laser measuring technology and the symmetry of the grinding width on both sides with cameras.

The measuring results are visualized, evaluated, documented and processed in a closed control loop.

Example of applications (pictures)

1. Camera measuring system, screen display: visualization of the facet width (picture 1)
2. Laser measuring system, screen display: visualization of the strip height (picture 2)
3. Camera measuring system with two cameras (picture 3)
4. Laser measuring system (picture 4)

Camera measuring system

- two cameras with lens and two lights
- industrial PC
- screen display for visualization of the facet width
- license for Sherlock image processing program
- enclosure of the measuring system
- cabling
- creation of circuit diagram/documentation

Laser measuring system

- laser measuring system for up to 30 mm (1.18") strip height
- enclosure of the measuring system
- screen display for visualization of the strip height
- cabling
- creation of circuit diagram/documentation

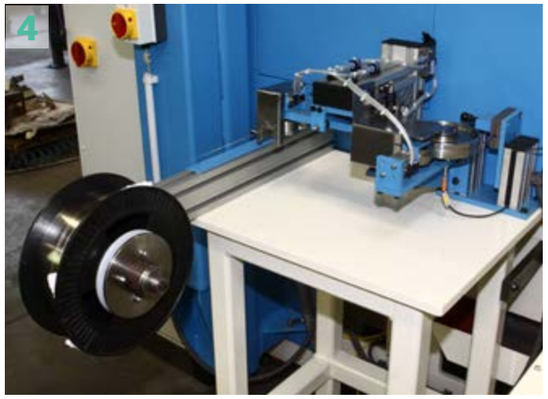
ACCESSORIES
FOR STEEL STRIP GRINDING MACHINES

Spooling systems

- guidances in the area of the working stations
- spool plate outer Ø max. 1.200 mm (47.2")
- inner Ø 200–600 mm (7.87"–23.6") (other dimensions available by agreement)
- cycled configuration (gear motor 0.12 kW)
- quick release for clamping the coils
- motor-driven swivelling of spool plate from vertical to horizontal
- spool equipped with protective cover
- spool decoiler for decoiling from cassettes

Examples of use (pictures)

1. Vertical decoiler integrated into a steel strip serrating line (picture 1)
2. Spool plate (picture 2)
3. Spool plate rotatable from horizontal to vertical position by motor (picture 3)
4. Spool decoiler for decoiling from cassette (picture 4)
5. Aspiration of cooling lubricant mist integrated in steel strip grinding machine (picture 5)
6. Pulling system (picture 6)
7. Guide rails (picture 7)
8. Strip welding system (picture 8)



Exhausting for cooling lubricant mist

The Berger Gruppe offers a device with which cooling lubricant mist is extracted and thus a good view of the processing machine can be guaranteed.

The device can be integrated into steel strip grinding machines and can also be retrofitted..

Guide rails

- guide rails in work station areas are solid carbide or with carbide inserts
- coolant supply in grinding area
- default configuration for two coil heights, continuously adjustable via slotted hole

Pulling system

- transport of the strip material via CNC controlled rollers with programmable speed of 0–100 m/min (0–328 ft/min)
- both continuous strip feed for straight finish grinding as well as indexing mode for serrated or saw cut can be programmed
- guarantee of tolerance values of ±0.015 mm (0.00059") for indexing

Strip welding

- strip width: 2–50 mm (wider on request)
- strip thickness:
  - Plasma Arc Welding: up to 1 mm (0.039")
  - Butt Welding: 0,4–4 mm (0.016"–0.16")
- cutting the beginning and end of the strip (option)
- grinding off the bead seam (option)

ACCESSORIES
FOR STEEL STRIP GRINDING MACHINES

Cleaning systems

The cleaning systems are designed for cleaning coils in a continuous process.

- cleaning and drying with a max. speed of 50 m/min (164 ft/min)
- cleaning by means of a high-pressure module (high-pressure cleaner) followed by a drying unit
- impurity separator
- particle filter
- high pressure circuit
- differential pressure measurement at the filter

Coolant systems

The design of coolant systems used in grinding machines depends on the requirements for water quantity, pressure and purity of the water.

Options:

- flow monitor
- magnetic switch
- float switch

These components can be combined depending on the requirements. Water recooling must be taken into account as required.

Additionally can be installed:

- flow monitor (for monitoring the level of the coolant flow)
- magnetic switch (water level/stop)
- float switch (level monitoring)
- cooling unit for constant temperature of the coolant

REQUEST FOR QUOTATION

QUESTIONNAIRE FOR TECHNICAL DATA

Company	_____
Contact	_____
E-Mail	_____
Phone/Fax	_____

Please send me a quote for:

	STEEL STRIP DATA Strip width Strip thickness Strip material Final product Acceptance model	
	TYPE OF PROCESSING Straight finish grinding Straight micro-grinding Gothic arch grinding Scalloped grinding Serrated grinding Deburring/brushing Polishing Plunge grinding	PAGE 8–11 20–21 22–23 30–31 28–29 14–15 34–35 36–37
	Pre-grinding angle Fine grinding angle Honing angle Polishing angle	

Please send the questionnaire to sales@bergergruppe.de.

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