# METAL PROCESSING

## THE ENTIRE WORLD OF GRINDING AND DEBURRING


LISSMAC

METAL PROCESSING

# LISSMAC – METAL PROCESSING

LISSMAC
METAL PROCESSING

CONTENT

# LISSMAC – A STRONG BRAND

Innovations should simplify your work, ensure your processes become profitable and are able to deliver the highest quality. This is why we have committed ourselves to the task of supporting companies from within the construction sector and industry with state of the art technology to help them on their way towards both automated and efficient processes. What type of challenge are you being faced with today? Our specialist team will figure out your operational requirements in conjunction with you. This ensures that our system solutions can gradually maximise your processes from one single source. Individual machinery and specific individual systems produced in series simplify your work processes and assist you in overcoming boundaries.

We see ourselves as a driving force behind modern construction and industrial technology. The system solutions are characterised by their high-quality level of workmanship, their compact design and their user-friendliness. Our sales and service partners will support you throughout the entire life cycle of our products. Our global network allows for rapid and uncomplicated solutions should you face any challenges. The high level of availability of LISSMAC systems and machinery ensures excellent capacity as well making your processes both cost-effective and efficient.

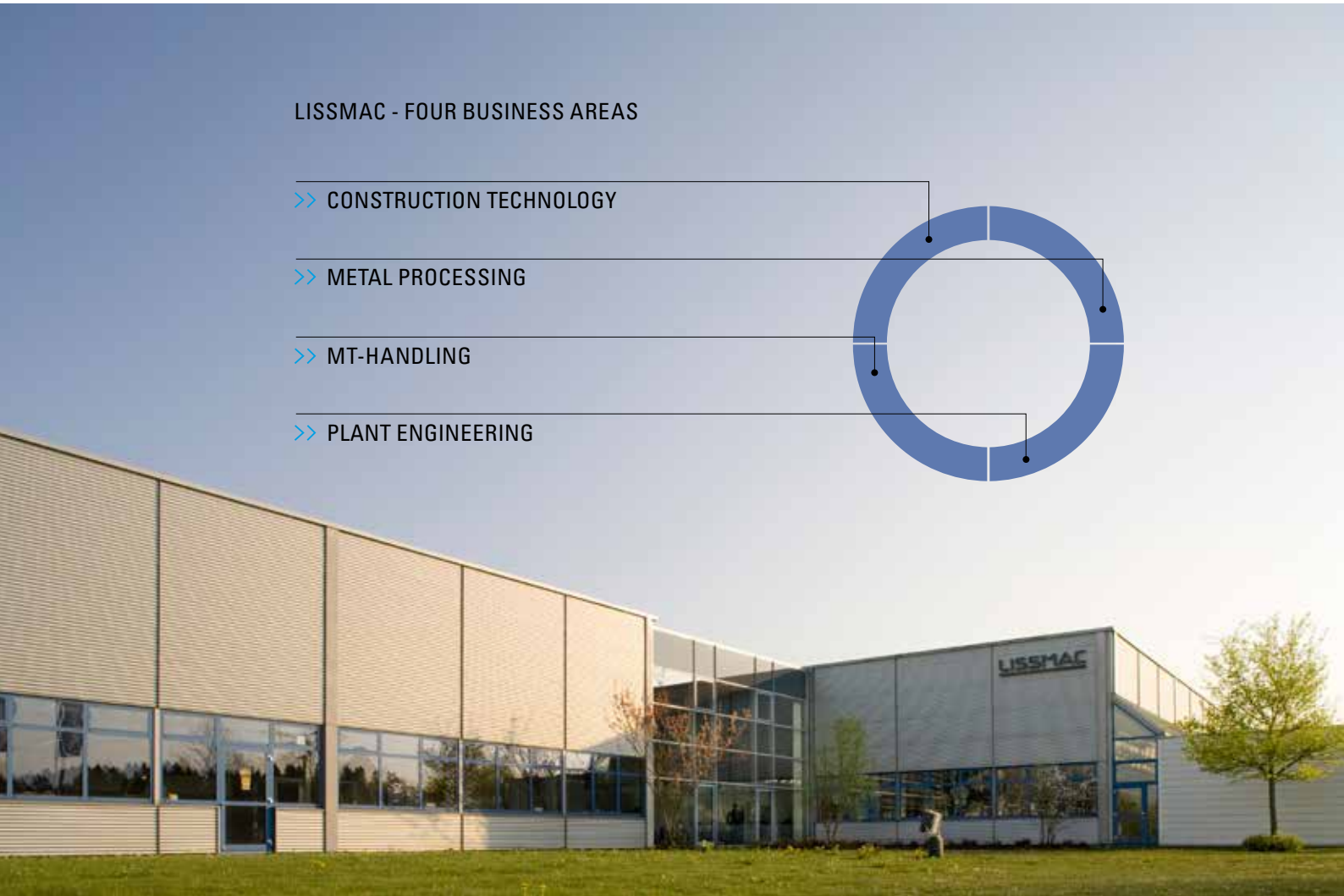
LISSMAC – Innovation. Experience. Quality.

**40+**
YEARS

**350+**
EMPLOYEES

**4**
SUBSIDIARIES

**4**
BUSINESS AREAS



# METAL PROCESSING

## METALWORKING INSTALLATIONS:
## PRODUCTIVE. ECONOMICAL. EXCELLENCE.

Maximum precision levels are required whenever metal is being used. We automate your processes together in conjunction with you so that you can achieve your level of quality, productivity objectives, and create financially viable processes. Integrated complete solutions create revolutionary quality for thick sheet and thin sheet metal processing. Our machine series consisting of steel brushing, grinding and deburring machines are what makes this possible. These are setting new standards in sheet metal processing in just one single operation and have been awarded several innovation prizes.

We are redefining efficiency - thanks to our short processing times and advanced technology, we offer outstanding energy efficiency that not only reduces operating costs but also protects the environment. Our solutions ensure efficient deburring, edge rounding up to a radius of 2 mm, thorough removal of the oxide layer, effective slag removal and precise surface grinding. The processing of small parts is also optimised by our customised processes. Whether laser job shops, stainless steel processing, steel service centres or automotive suppliers, numerous industries are already benefiting from our integrated complete solutions. And you?

# WHY DEBURRING?

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**DEBURRING**

Current sheet metal cutting processes such as laser, plasma or water jet processing, punching, flame cutting, etc. leave burrs. These are sharp edges, protrusions on the cut edges, splashes on the surface, fraying of the material or splinters. One thing is certain: Burrs and sharp edges are undesirable as they can be problematic for further processing of the workpieces. They:

- pose a risk of injury during assembly, cleaning and use.
- cannot be coated properly and the corrosion protection is therefore impaired.
- can cause cable breaks.
- are interfering contours during assembly or welding.
- do not meet today's quality standards and workpiece requirements.

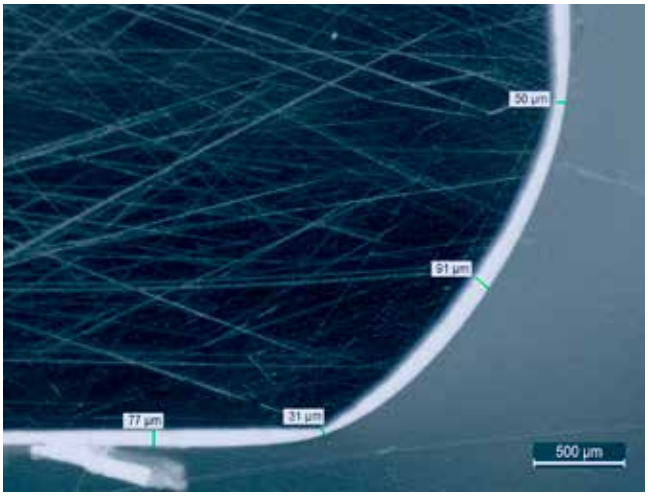
Workpieces are deburred so that they can be further processed in a quality-compliant manner despite the burrs that have formed. The procedure serves to ensure the functionality of machine elements on the one hand and to minimise the risk of injury on the other. Internal and external contours are processed during edge rounding. The protective film on the sheets is not damaged during processing. The result is aluminium, steel and stainless steel sheets that are characterised by high quality for further processing or finishing. Double-sided slag removal from plasma and oxy-fuel cut sheets also improves the surface quality of the sheets and facilitates further processing.
Depending on the shape, material and dimensions of the component, different methods are used to remove the burr.
LISSMAC's current deburring technology is based on three machine concepts. These are:

- double-sided processing of all cutting contours (outer and inner contours) on sheet metal in a single work process
- one-sided dry processing
- one-sided wet processing

Depending on the application, the machine design is customised and precisely implemented.

LISSMAC has a very broad portfolio of grinding and deburring machines and thus offers efficient and customised solutions for a wide range of requirements.


Unprocessed sheet metal coated with powder coating




Deburred sheet metal coated with powder coating

# WHY GRINDING?

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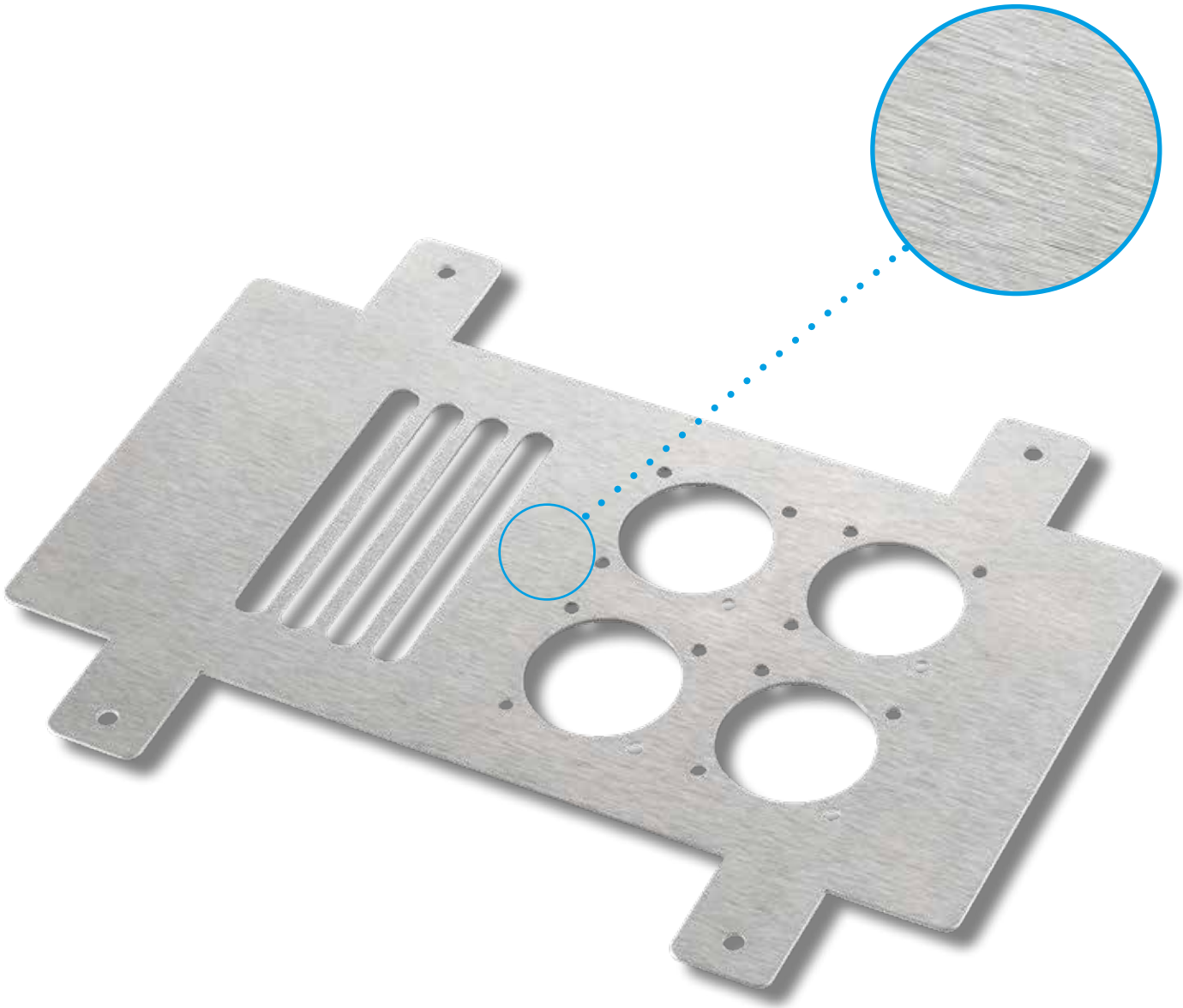
**GRINDING**

Sheet metal is produced using the hot or cold rolling process and then processed accordingly. These manufacturing processes often leave a surface finish that is at odds with the desired end product. For this reason, reworking with a surface grinding machine may be necessary. A surface treatment such as a brushed finish helps to improve the aesthetics, feel and surface roughness. The aim is to finish the surface so that it is even, smooth, matt or high-gloss. Sometimes a roughened surface is also required. It is important that the surface is uniform over the entire workpiece. However, in order to achieve good results, each metal and each application requires its own individual system technology.

The entire surface of the sheet metal is processed during grinding. In principle, surface finishing can be used to create a precisely fitting, high-quality and highly customised surface finish without the need for time-consuming set-up work. LISSMAC systems offer efficient solutions for a wide range of grinding tasks and can be customised to the respective processing task if required.



# MACHINE CONCEPTS

THE LISSMAC METAL PROCESSING PRODUCT RANGE COMBINES VARIOUS MACHINE CONCEPTS AND THUS OFFERS AN OPTIMUM SOLUTION FOR EVERY CUSTOMER REQUIREMENT.

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**BOTH SIDES - ONE WORK STEP**

In the dry processing method, the highly efficient double-sided processing of all cut contours (outside and inside contours) on sheets is done in only one work process. Double-sided synchronous processing offers highest productivity in the production process of our customers. The LISSMAC system portfolio comprises four machine series. Depending on customer requirements, the SBM - XS, M, L or XL series is used. These series differ in the number ofassemblies for workpiece processing.

**SBM-XS**

-XS

G-aggregate

E-aggregate

**SBM-M**

-M

B-aggregate

S-aggregate

D-aggregate

**SBM-L**

-L

G-aggregate

S-aggregate

**SBM-XL**

-XL

G-aggregate

S-aggregate

B-aggregate

>>

## SINGLE SIDED - DRY

The product range of single-sided dry grinding machines includes the particularly economical entry-level models of the SMD 1 series. Their range of applications extends from deburring and all-round edge rounding to the removal of heavy plasma or flame-cut slag.

In the high-performance segment, the versatile models of the SMD 3 series are convincing. The range of applications extends from slag removal, deburring and uniform edge rounding up to a radius of 2.0 mm to surface finishing and small parts processing.

>>

## SINGLE SIDED - WET

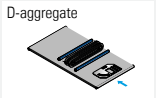
The models in the SMW 1 series are characterised by their compact design and their particularly economical price-performance ratio.

The freely configurable SMW 5 series impresses with perfect processing for high-quality parts and an uncompromising mix of materials. The modular configuration, innovative technology and up to 4 working stations makes the SMW 5-series the ideal solution to meet many different customer requirements.

### SMD 123

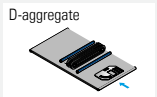



### SMD 133



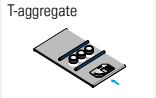

### SMD 3

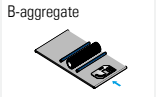





>> Available configurations SMD 3:
S-Edition: REE, RER, REER
P-Edition: REE, DRE, REER, DREE

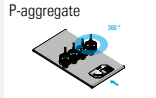
### SMW 1

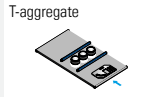




>> Available configurations SMW 1:
SMW 123 RT / SMW 123 RB

### SMW 5



>> SMW 5 flexible configuration

# APPLICATIONS

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## DEBURRING

HIGH-QUALITY PROCESSING OF WORKPIECES FOR BURR REMOVAL

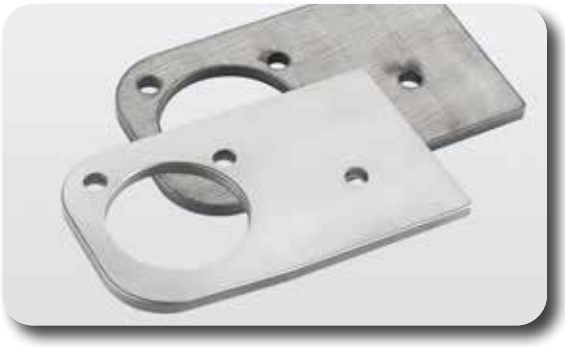
Sheet metal cutting processes such as laser, plasma, water jet cutting and punching leave burrs. The sheet metal is deburred so that it can meet the quality requirements of the product. Depending on the shape, material and dimensions of the component, various grinding and deburring machines are used for mechanical deburring. LISSMAC has developed several machine concepts for automated deburring. In particular, deburring all cutting contours on both sides, i.e. the outer and inner contours of the sheet metal part, in just one work process, making significant savings in cost and time.

>>

## EDGE ROUNDING

BETTER ADHESION OF THE COATING AND LESS RISK OF INJURY

The even edge rounding, also known as edge rounding or edge breaking, is part of the deburring process. Sharp edges are removed and rounded to ensure safe handling. Optimal edge rounding improves the adhesion of a coating to the workpiece and prevents rust from forming. In addition, rounded edges pose less risk of injury. With grinding machines designed to fit each application from LISSMAC, all-round edge rounding up to a radius of 2 mm can be achieved.



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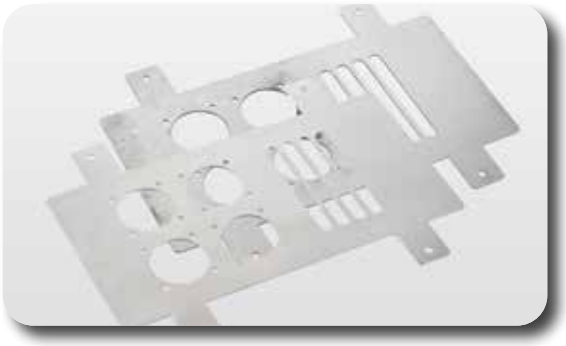
## SURFACE GRINDING

FUNCTIONAL SURFACE GRINDING AND HIGH-QUALITY SURFACE FINISHING

A functional and visually high-quality surface finish is a quality feature for aluminum and stainless steel parts, as is a decorative finish. Ensuring an optimal surface feel and appearance is increasingly one of the customer's requirements. For surface processing and high-quality surface finishing, both dry and wet, LISSMAC has developed various grinding machines that can be individually adapted to customer requirements.



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## SLAG REMOVAL

REDUCED TOOLING COSTS WITH UPSTREAM SLAG REMOVAL

The mechanical chipping off of slag with the LISSMAC slag hammer means that cost-intensive processing is no longer needed. Simultaneous slag removal on both sides of a part saves turning over heavy components. Slag removal from plasma and oxy-fuel cut parts is effective and reduces tooling costs when processing sheet metal. The LISSMAC machine concepts precisely fits the grinding machine to the application and guarantees efficient processing times, the highest processing quality and impressive productivity.

>>

## OXIDE REMOVAL

REMOVING THE OXIDE LAYER IMPROVES THE SURFACE QUALITY OF STEEL PARTS

By removing the oxide layer on the cut edge, the sheet metal parts are perfectly prepared for subsequent processes such as coating. This paint preparation increases the paint adhesion and thus the corrosion protection. The focus is on oxy-cut and laser parts. The LISSMAC steel brushing machines effectively remove the oxide layer on the inner and outer contours of lasered steel parts and can be designed for different applications.

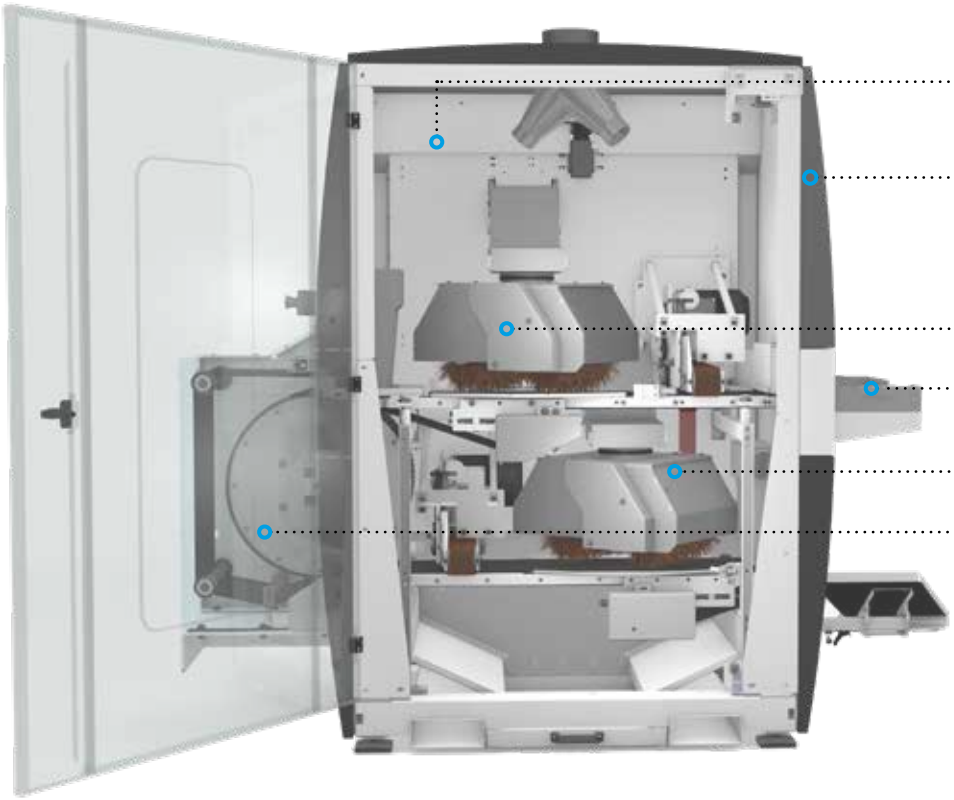

LVDSMAC


## >> SBM SERIES

The SBM series from LISSMAC sets standards in innovative sheet metal processing. In the dry processing method, the highly efficient double-sided processing of all cutting contours (outer and inner contours) on sheet metal takes place in just one work process. Synchronous processing on both sides offers maximum productivity and the best processing results.

# SBM-XS 300 G1E1

DEBURRING AND EDGE ROUNDING ON BOTH SIDES OF SMALL COMPONENTS IN ONE SINGLE PASS



- Extremely space-saving design
- Simple operation
- Processing of long components
- Infeed and outfeed on operator side
- Directionless processing
- Innovative turning station

FURTHER INFORMATION:

| TECHNICAL DATA | SBM-XS 300 G1E1 | SBM-XS 300 G1E1 ALU MIX |
|---|---|---|
| Working width max. | 300 mm | 300 mm |
| Workable material thickness | 1 - 15 mm | 1 - 15 mm |
| Load | 100 kg/rm | 100 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Total current consumption | 13.5 A / 14 A | 24 A / 23 A |
| Total power | 7.5 kW / 8.5 kW | 14 kW / 15.2 kW |
| Insulation class | IP 42 | IP 42 |
| Infinitely variable feed speed | 0 - 2 m/min | 0 - 2 m/min |
| Weight | 1400 kg | 1450 kg |
| Dimensions (W/D/H) | 1300/2300/1900 mm | 1300/2300/1900 mm |

SBM-XS 300 G1E1

- With a magnetic table designed for part dimensions of 25 x 25 x 1 mm up to maximum 200 x 200 x15 mm (geometry-dependent)
- With vacuum table for part dimensions of 45 x 45 x 1 mm up to maximum 200 x 200 x15 mm (geometry-dependent)
- Time consuming turn-over of parts with a second pass is not necessary
- Swinging away of the innovative turning station makes it possible to deburr parts longer than 200 mm
- A higher level of automation ensures an economic and reliable deburring process, also for large quantities of parts
- A high and sustainable deburring quality.
- Dry deburring process (no chemical additives as used in tumblers)
- Small parts are returned to the front of the machine and gathered in a box. No extra walking back and forth for the operator.
- Energy-efficient
- The deburring process ensures an even wear of the belt and brushes across the entire width of the machine
- Fast and simple tool Change
- Simple and intuitive operation of the machine
- Modern, compact machine design

before

after

## OPTIONS

[ 1 ]

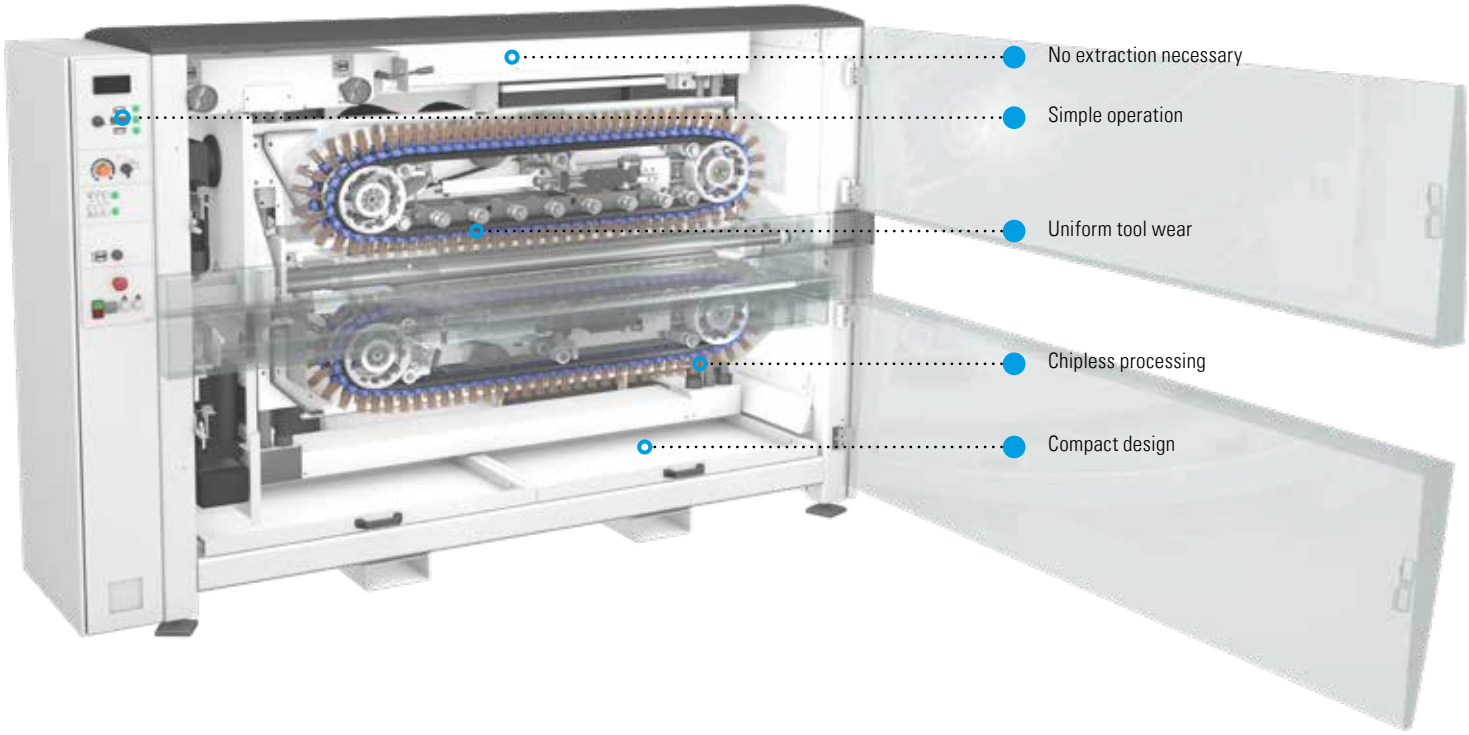
[ 2 ]

[ 1 ] Parts slide

[ 2 ] Table extension

# SBM-M B2

OXIDE LAYER REMOVAL ON BOTH SIDES IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-M 1500 B2 |
|---|---|
| Working width max. | 1500 mm |
| Workable material thickness | 0.5 - 20 mm |
| Load | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~ PEN / 3~ PE+N |
| Total current consumption | 43 A / 37 A |
| Total power | 23.5 kW / 23 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0-4 m/min |
| Weight | 2300 kg |
| Dimensions (W/D/H) | 3100/1400/1800 mm |

- Oxide removal in one single pass on all inside and outside edges of sheet and plate up to 20 mm material thickness
- No need to turn sheets over and running them through the machine again
- Up to 60 % work time savings compared to one-side processing brush machines
- Highest quality during subsequent processing or finishing
- Simultaneous brushing of interior and exterior contours
- All sharp edges blended
- Improved surface quality from removal of rust, scale and dirt
- Protective oil film remains intact
- The cross-processing principle guarantees optimum tool utilisation over the entire working width.
- Simple, intuitive operation
- Faster and simpler tool change within just a few minutes
- Modular and compact in modern machine design - smaller footprint
- Improved work environment - Reduction of dust, dirt and noise

before

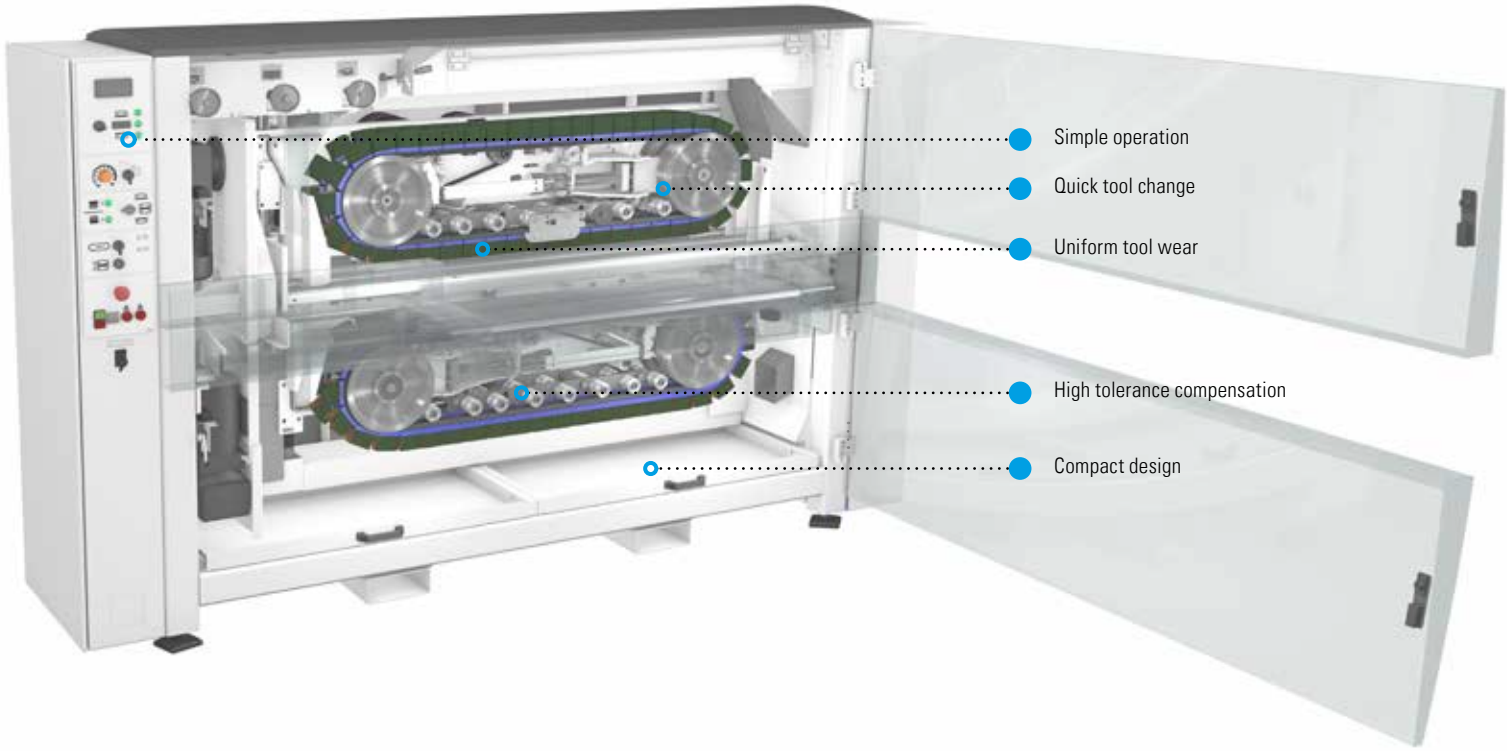
after

## OPTIONS


[ 1 ] Camera system

# SBM-M S2

EDGE ROUNDING ON BOTH SIDES IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-M 1000 S2 | SBM-M 1500 S2 |
|---|---|---|
| Working width max. | 1000 mm | 1500 mm |
| Workable material thickness | 0.5 - 50 mm | 0.5 - 50 mm |
| Load | 300 kg/rm | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Total current consumption | 28 A / 24 A | 28 A / 24 A |
| Total power | 15.2 kW / 15.5 kW | 15.2 kW / 15.5 kW |
| Insulation class | IP 42 | IP 42 |
| Infinitely variable feed speed | 0-4 m/min | 0-4 m/min |
| Weight | 2100 kg | 2300 kg |
| Dimensions (W/D/H) | 2800/1400/1800 mm | 3300/1400/1800 mm |

SBM-M S2

- Deburring and edge rounding of sheet and plate up to 50 mm material thickness
- No need to turn sheets over and running them through the machine again
- Up to 60 % work time savings compared to one-side processing grinding machines
- Highest quality during subsequent processing or finishing
- Simultaneous edge rounding of interior and exterior contours
- The cross-processing principle guarantees uniform tool utilisation over the entire working width.
- Protective foil on the sheets is not damaged during processing
- Dry operation
- Simple, intuitive operation
- Each tool unit can be separately electrically operated and adjusted
- Hydraulic belt tension – fast tool change within only a few minutes
- Modular and compact in modern machine design - smaller footprint
- Improved work environment - Reduction of dust, dirt and noise

before

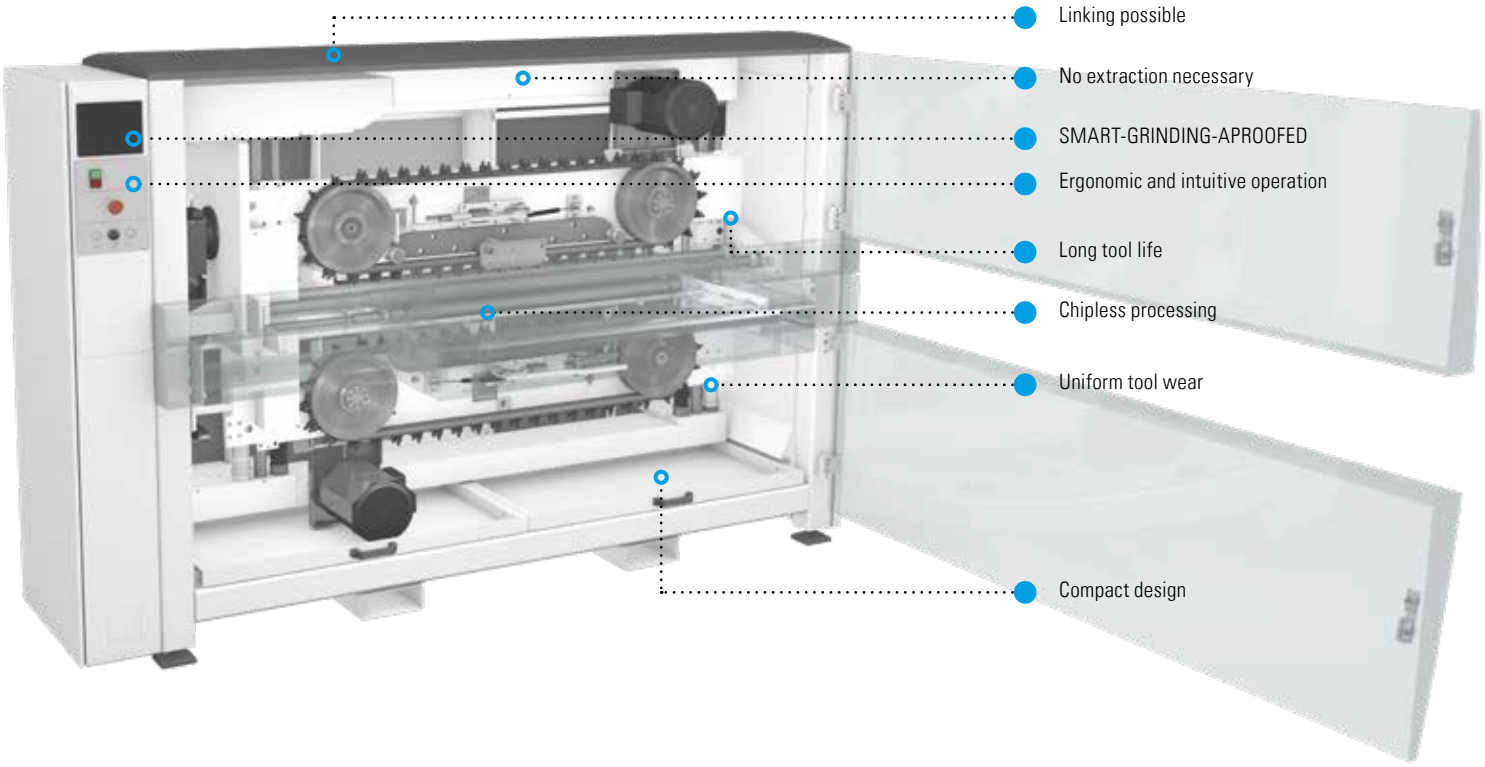
after

## OPTIONS


[ 1 ] Camera system

# SBM-M D2

REMOVAL OF SLAG FROM BOTH SIDES IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-M 1500 D2 |
|---|---|
| Working width max. | 1500 mm |
| Workable material thickness | 5 - 120 mm |
| Load | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~ PEN / 3~ PE+N |
| Total current consumption | 15 A / 13.5 A |
| Total power | 7.7 kW / 8 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0-4 m/min |
| Weight | 2100 kg |
| Dimensions (W/D/H) | 3100/1400/1800 mm |

SBM-M D2

- Two-side slag removal of plasma and thermal cut sheets up to 120 mm
- Saving of tool costs incurred by mechanical deslagging –no time-consuming and expensive grinding
- Two-side slag removal saves the time intensive turning of the often very heavy workpieces or processing of parts twice
- Up to 60 % work time savings compared to one-side processing machines
- Modular and compact in modern machine design - smaller footprint
- Dry operation
- The cross-processing principle guarantees uniform tool utilisation over the entire working width.
- Upper and lower assemblies separated can be adjusted or turned on and off electrically
- Innovative tooling and material feed system allows for optimum handling of burrs and uneven surface of pieces
- Maximum productivity while maintaining processing quality
- Improved work environment - Reduction of dust, dirt and noise

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Bar code scanner for SBM

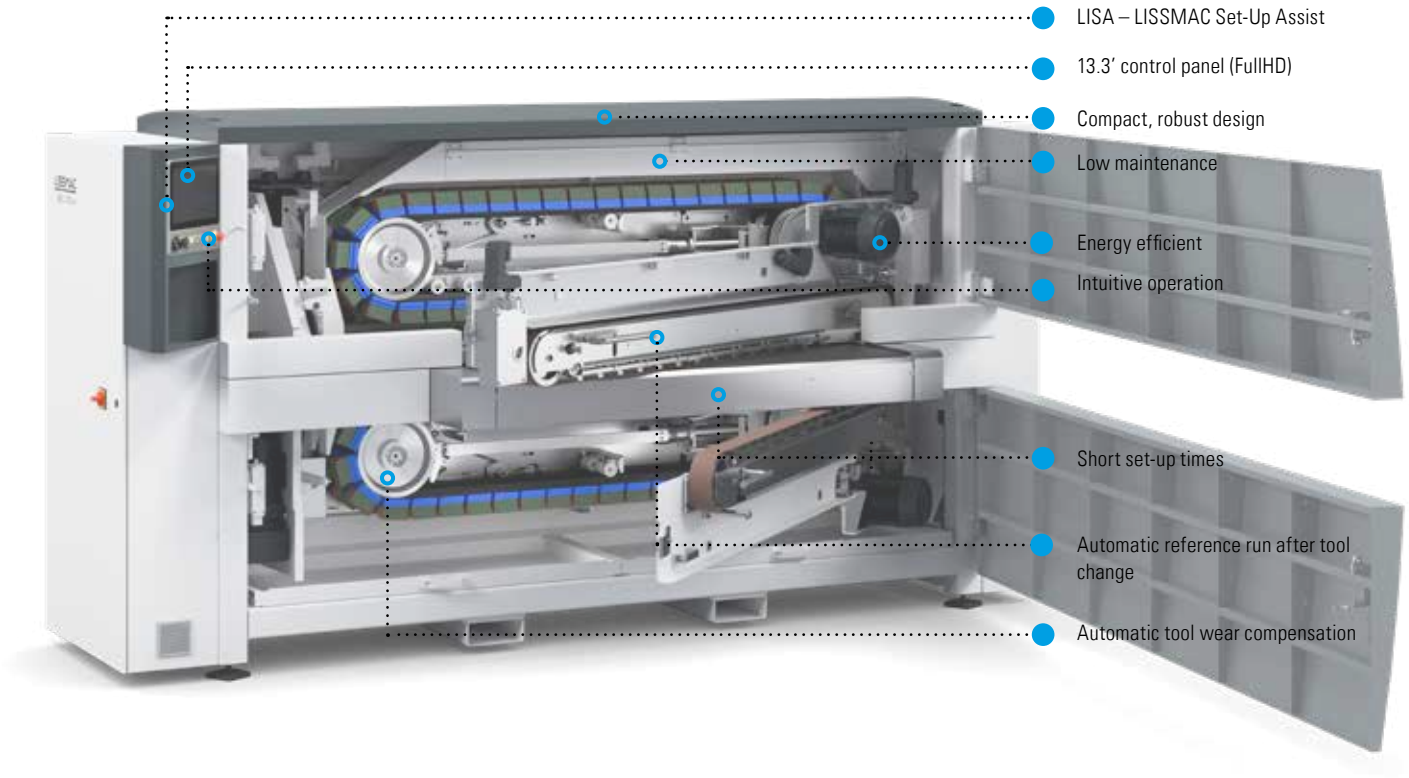
[ 2 ] Wireless thickness caliper ME 5000

[ 3 ] ID-key switch

[ 4 ] Camera system

# SBM-L G1S2 EVO

DEBURRING AND EDGE ROUNDING ON BOTH SIDES IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-L 1000 G1S2 evo | SBM-L 1500 G1S2 evo | SBM-L 2000 G1S2 evo |
|---|---|---|---|
| Working width max. | 1000 mm | 1500 mm | 2000 mm |
| Workable material thickness | 0.5 - 60 mm | 0.5 - 60 mm | 0.5 - 60 mm |
| Load | 300 kg/lfm | 300 kg/lfm | 300 kg/lfm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz | 400 V, 50 Hz / 480 V, 60 Hz | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Total current consumption | 43.7 A / 40.8 A | 43.7 A / 40.8 A | 43.7 A / 40.8 A |
| Total power | 19.2 kW / 20.4 kW | 19.2 kW / 20.4 kW | 19.2 kW / 20.4 kW |
| Insulation class | IP 42 | IP 42 | IP 42 |
| Infinitely variable feed speed | 0-4 m/min | 0-4 m/min | 0-4 m/min |
| Weight | 2500 kg | 2800 kg | 3200 kg |
| Dimensions (W/D/H) | 2890/1480/1790 mm | 3390/1480/1790 mm | 3890/1480/1790 mm |

- Double-sided deburring and edge rounding of punched, laser and plasma blanks
- More than 60% reduction in throughput time thanks to double-sided processing.
- Up to 70% energy savings compared to conventional grinding/deburring machines
- LISA - The LISSMAC Set-Up Assist guides the operator automatically/without prior knowledge to the desired processing result.
- 13.3" FullHD touch panel with intuitive operator guidance
- Simultaneous deburring and edge rounding on the external and exterior contours.
- Double-sided processing eliminates costly material handling (e.g. turning of components) and time-consuming parts logistics
- One-sided processing possible by simply deactivating units (also for components that cannot be machined on conventional machines)
- Optimum tool utilisation across the entire working width due to transverse processing principle
- Quick and easy tool change within minutes with automatic reference run
- Maximum productivity with optimum and consistent processing quality
- Small footprint due to compact design
- Robust design and good accessibility reduce maintenance to a minimum
- Improved working environment due to reduced dust, dirt and noise levels

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Bar code scanner for SBM

[ 2 ] Wireless thickness caliper ME 5000

[ 3 ] Camera system

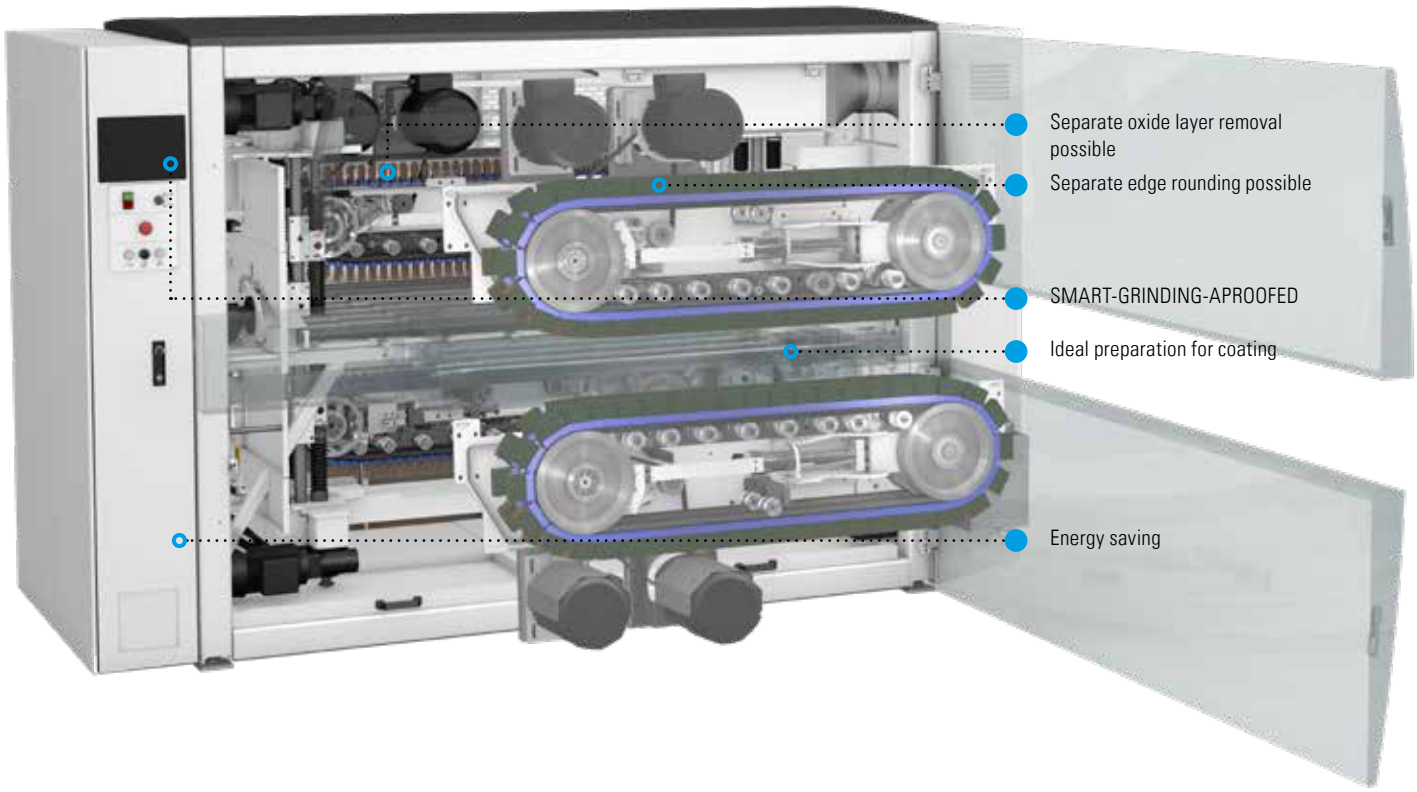
[ 4 ] RFID keys

LIServ 4.0 – package

MP Energy measurement package

# SBM-XL S2B2

EDGE ROUNDING ON BOTH SIDES AND OXIDE LAYER REMOVAL IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-XL 1500 S2B2 |
|---|---|
| Working width max. | 1500 mm |
| Workable material thickness | 0.5 - 50 mm |
| Load | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~PEN / 3~PE+N |
| Total current consumption | 74.3 A / 67.5 A |
| Total power | 33 kW / 32.9 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0-4 m/min |
| Weight | 4200 kg |
| Dimensions (W/D/H) | 3600/2100/2000 mm |

SBM-XL S2B2

- Edge rounding and oxide removal of laser cut parts
- Two-side edge rounding and oxide removal saves the cost intensive turning of often very heavy workpieces or processing of parts twice
- Consistent edges on all outside and inside contours
- Dry operation
- Simple, intuitive operation
- The processing units can be individually adjusted or turned on and off electrically.
- Maximum productivity while maintaining processing quality
- The cross-processing principle guarantees optimum tool utilisation over the entire working width.
- Faster and simpler tool change within just a few minutes
- Modular and compact in modern machine design - smaller footprint
- Improved work environment - Reduction of dust, dirt and noise
- For repeated customer requirements, processing parameters can be called up quickly and easily through predefined programs.
- Up to 60 % work time savings compared to one-side processing grinding machines

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Bar code scanner

[ 2 ] Wireless thickness caliper ME 5000

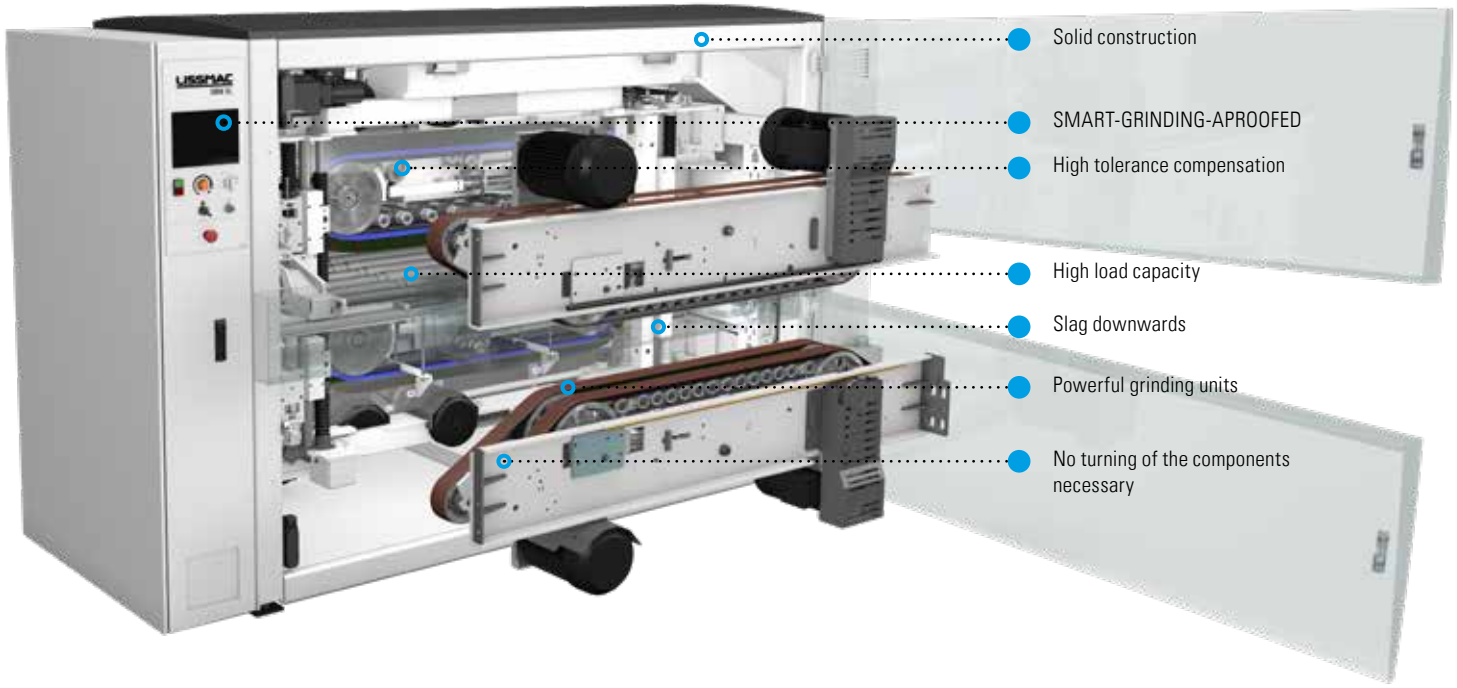
[ 3 ] Camera system

[ 4 ] ID-key switch

Tool wear compensation

# SBM-XL G2S2

DEBURRING AND EDGE ROUNDING ON BOTH SIDES IN ONE OPERATION




FURTHER INFORMATION:

| TECHNICAL DATA | SBM-XL 1500 G2S2 |
|---|---|
| Working width max. | 1500 mm |
| Workable material thickness | 0.5 - 120 mm |
| Load | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60 Hz |
| Network structure | 3~PEN / 3~PE+N |
| Total current consumption | 102.7 A / 89.5 A |
| Total power | 49.8 kW / 49.6 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0-4 m/min |
| Weight | 4200 kg |
| Dimensions (W/D/H) | 3600/2100/2000 mm |

SBM-XL G2S2

- Deburring and edge rounding of parts up to 120 mm material thickness
- Processing both sides of the parts simultaneously eliminates the need of turning heavy parts and processing them for a second time
- Simultaneous deburring and edge rounding on interior and exterior contours
- Dry operation
- Simple, intuitive operation
- The processing units can be individually adjusted or turned on and off electrically.
- Maximum productivity while maintaining processing quality
- The cross-processing principle guarantees optimum tool utilisation over the entire working width.
- Faster and simpler tool change within just a few minutes
- Modular and compact in modern machine design - smaller footprint
- Improved work environment - Reduction of dust, dirt and noise
- For repeated customer requirements, processing parameters can be called up quickly and easily through predefined programs.
- Up to 60 % work time savings compared to one-side processing grinding machines

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Bar code scanner for SBM

[ 2 ] Wireless thickness caliper ME 5000

[ 3 ] ID-key switch

[ 4 ] Camera system

Tool wear compensation

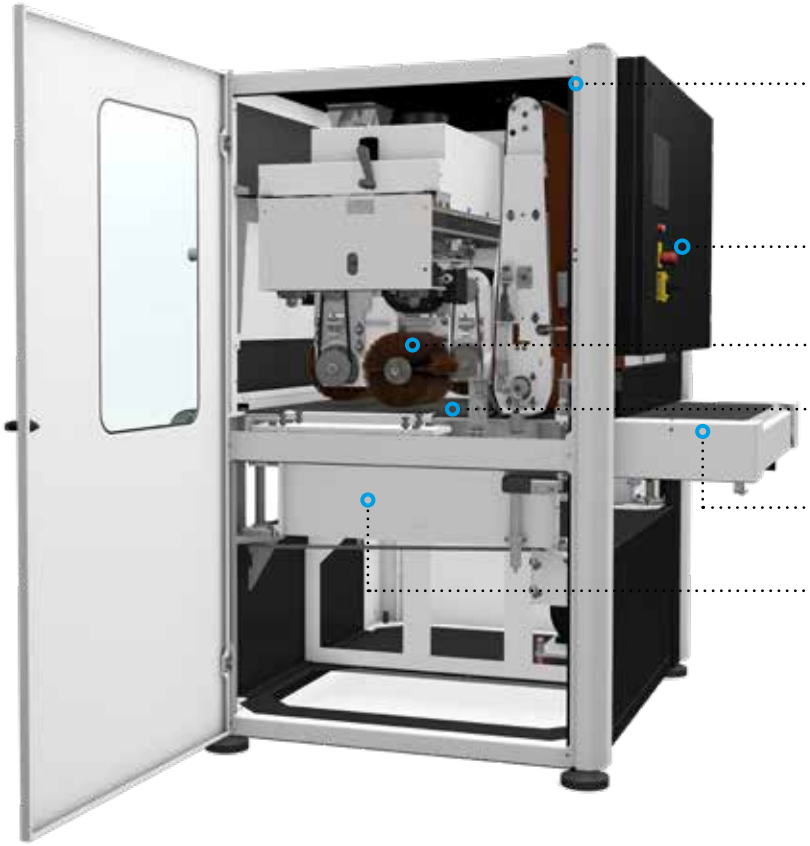

LISSMAC
SMD 133

## >> SMD 1 SERIES

The product range of single-sided dry grinding machines includes the particularly economical entry-level models of the SMD 1 series. Their range of applications extends from deburring and all-round edge rounding to the removal of heavy plasma or flame-cut slag.

# SMD 123 RE

DEBURRING, UNIFORM EDGE ROUNDING ON ALL SIDES AND SURFACE GRINDING



- Compact design
- Ergonomic and intuitive operation
- Directionless processing
- Energy-saving and quiet, as no vacuum is required
- Components from small to large
- Effective/optimal conveyor belt cleaning

FURTHER INFORMATION:

| TECHNICAL DATA | SMD 123 RE |
|---|---|
| Working width max. | 950 mm |
| Workable material thickness | 1-50 mm |
| Load | 200 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60Hz |
| Network structure | 3~PEN / 3~PE+N |
| Total current consumption | 42.3 A / 42.7 A |
| Total power | 19.9 kW / 20.3 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0.5 - 8 m/min |
| Weight | 1750 kg |
| Dimensions (W/D/H) | 1600/1800/1900 mm |

SMD 123 RE

- Versatile entry-level machine
- Removal of burrs (laser/punching/plasma-cutting)
- Two roatary wheels for consistent edge rounding and uniform surface finishing
- Surface polish without complex set-up work
- Suitable for steel, stainless steel, and aluminum
- Suitable for parts with up-forms
- Touch panel for intuitive operation
- Individual aggregates can be operated independently of each other
- Stepless grinding belt speed
- Quick and easy tool change
- Space efficient footprint

before

after

## OPTIONS

[ 1 ]

[ 2 ]

[ 3 ]

[ 1 ] Camera system

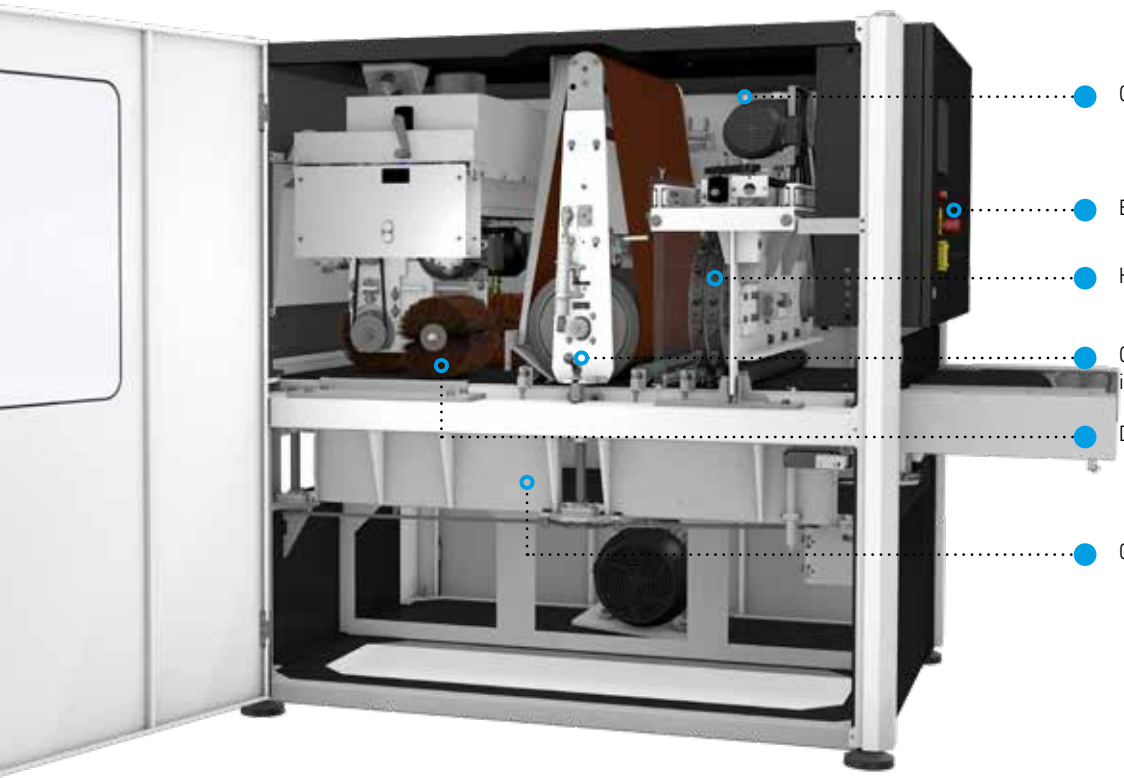
[ 2 ] Conveyor belt cleaning

[ 3 ] Trolley for circular brushes

Interior lighting

# SMD 133 DRE

MECHANICAL SLAG REMOVAL AND EDGE ROUNDING ON THICK SHEETS



- Cost-effective processing
- Ergonomic and intuitive operation
- High stock removal rate
- Cool grinding / hardly any heat input into the workpiece
- Directionless processing
- Compact design

FURTHER INFORMATION:

| TECHNICAL DATA | SMD 133 DRE |
|---|---|
| Working width max. | 950 mm |
| Workable material thickness | 3 - 100 mm |
| Load | 300 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60Hz |
| Network structure | 3~PEN / 3~PE+N |
| Total current consumption | 51.4 A / 51.4 A |
| Total power | 23.5 kW / 23.9 kW |
| Insulation class | IP 42 |
| Infinitely variable feed speed | 0.5 - 8 m/min. |
| Weight | 2900 kg |
| Dimensions (W/D/H) | 1600/2600/1900 mm |

- Removing slag,deburring and edge rounding in one throughfeed pass, saves time.
- The mechanical removal of slag by power-pins gives long tool life and reduces grinding costs enormously
- A soft, large diameter, contact roller, enables to process warped parts and accepts thickness tolerances
- Our 2 rotary heads give a perfectly even edge rounding
- Both mild- and stainless steels can be processed
- Intuitive controls make it easy to operate the machine
- Individual operation of each head
- High quality and solid construction
- The optimum accessibility of the machine enables easy tool change,cleaning and maintenance
- The compact construction of the machine requires limited floor space

before

after

## OPTIONS

[ 1 ]

[ 2 ]

[ 1 ] Camera system

[ 2 ] Trolley for circular brushes

Interior lighting

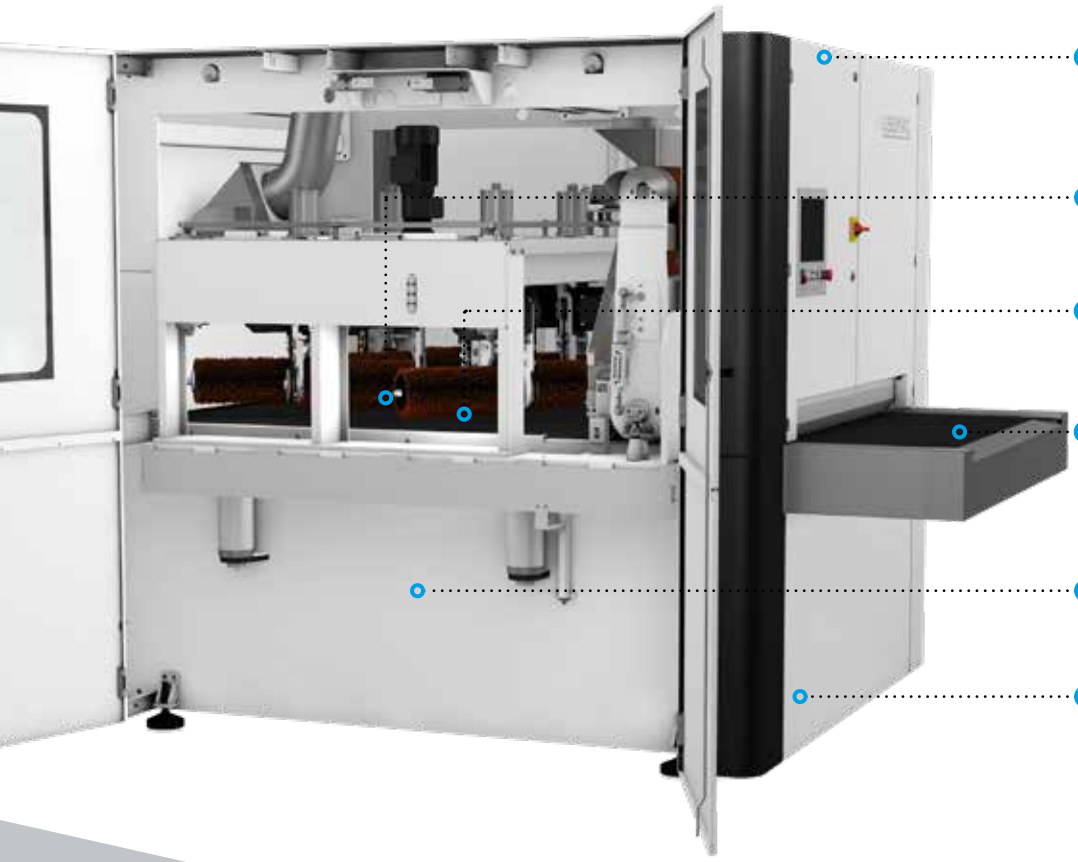

LISSMAC
SMD 345

## >> SMD 3 SERIES

In the high-performance segment, the versatile models of the SMD 3 series are convincing. The range of applications extends from slag removal, deburring and uniform edge rounding up to a radius of 2.0 mm to surface finishing and small parts processing.

# SMD 3 S-EDÍCIA

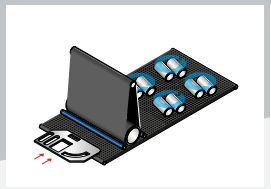
OUTSTANDING RESULTS ON THE EDGE AND ON SURFACE



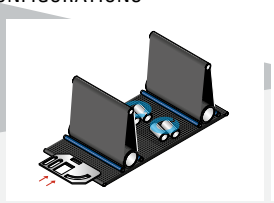
- Versatile for all customer requirements - from R2 edge rounding to finishing
- Uniform edge rounding and multi-directional finish thanks to several brush heads
- 40% higher tool contact for outstanding results on edges
- Processing of very small workpieces by PowerGrip belt, magnetic track or vacuum table
- 30% less installation spaces thanks to space-saving design of the units
- Possibility of automation & integration in production lines

FURTHER INFORMATION:

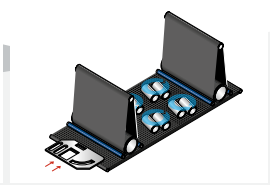
>> S-EDITION: AVAILABLE CONFIGURATIONS



SMD 335 REE



SMD 335 RER



SMD 345 REER

| TECHNICAL DATA | SMD 335 REE | SMD 335 RER | SMD 345 REER |
|---|---|---|---|
| Working width max. | 1350 mm | 1350 mm | 1350 mm |
| Workable material thickness | 1 - 120 mm | 1 - 120 mm | 1 - 120 mm |
| Load [1] | 500 kg/rm | 500 kg/rm | 500 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60Hz | 400 V, 50 Hz / 480 V, 60Hz | 400 V, 50 Hz / 480 V, 60Hz |
| Network structure | 3~PEN / 3~PE+N | 3~PEN / 3~PE+N | 3~PEN / 3~PE+N |
| Total current consumption | 58.2 A / 58.2 A | 76.5 A / 76.5 A | 86.2 A / 86.2 A |
| Total power | 26.9 kW / 26.9 kW | 37.5 kW / 37.5 kW | 41.9 kW / 41.9 kW |
| Insulation class | IP 42 | IP 42 | IP 42 |
| Infinitely variable feed speed | 0.3 - 8.0 m/min | 0.3 - 8,0 m/min | 0.3 - 8,0 m/min |
| Weight | 4700 kg | 5200 kg | 5800 kg |
| Dimensions (W/D/H) | 2170/3300/2260 mm | 2170/3800/2260 mm | 2170/3800/2260 mm |

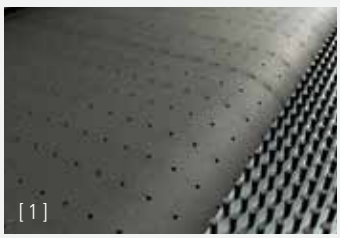
Specifications apply to the basic machine (PowerGrip-belt), without vaccum table/magnetic track / [1] load with vacuum table 300 kg/rm

- Versatile for all customer requirements - from R2 edge rounding to finishing
- Uniform edge rounding and multi-directional finish thanks to several brush heads
- Creation of high-end grinding patterns and strong edge rounding
- Processing of sheets with coating, laser foil, imprints or punched-out holes
- Suitable for processing various materials including steel, stainless steel and aluminium
- Simultaneous processing of different material thicknesses is possible (E-units)
- The thought-out design of the rotary heads ensure an even processing result over the whole working width.
- Maximum tool contact with the workpieces for perfect edge rounding up to 2 mm radius
- Efficient processing of small parts (down to 50x50 mm), whatever the geometry of the pieces
- Stationary machine table - Constant table height for ergonomic work
- Intuitive operation thanks to clear touch panel
- Fast machine setting by automatic positioning of the tool axes.
- Program memory takes care of automatic machine settings and reproducible processing results
- Fast tool-changing system keeps set-up times to a minimum
- Optimal machine accessibility facilitates cleaning and maintenance
- Window in the machine doors allows to monitor the process
- Appropriate options and features for individual customer requirements

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Vacuum table

[ 2 ] Conveyor belt cleaning brush

[ 3 ] Wireless thickness caliper ME 5000

[ 4 ] Camera system

Brush infeed table

Magnetic track 400 mm

Automatic conveyor belt cleaning

EMZR - electro-motor positioning grinding head

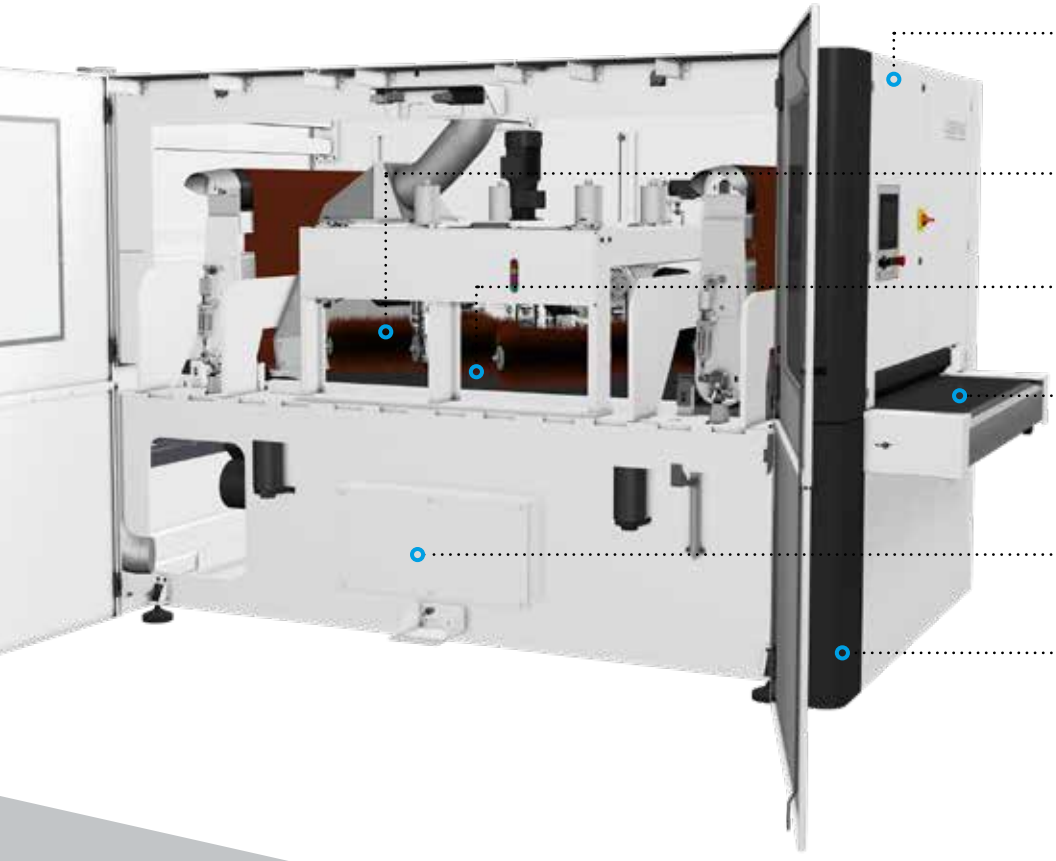
Bar code scanner

ID-key switch

Tool wear compensation E-aggregate

# SMD 3 P-EDÍCIA

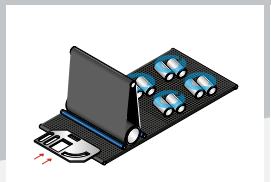
HIGHEST-END EDGE ROUNDING



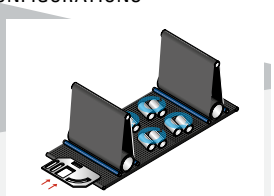
- Versatile for all customer requirements - from R2 edge rounding to finishing
- Uniform edge rounding and multi-directional finish thanks to several brush heads
- 40% higher tool contact for outstanding results on edges
- Processing of very small workpieces by PowerGrip belt, magnetic track or vacuum table
- 30% less installation spaces thanks to space-saving design of the units
- Possibility of automation & integration in production lines

FURTHER INFORMATION:

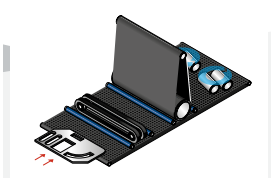
>> P-EDITION: AVAILABLE CONFIGURATIONS



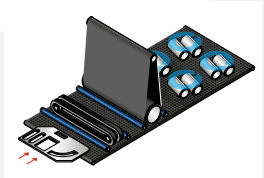
SMD 335 REE



SMD 345 REER



SMD 335 DRE



SMD 345 DREE

| TECHNICAL DATA | SMD 335 REE | SMD 345 REER | SMD 335 DRE | SMD 345 DREE |
|---|---|---|---|---|
| Working width max. | 1350 mm | 1350 mm | 1350 mm | 1350 mm |
| Workable material thickness | 1 - 120 mm | 1 - 120 mm | 1 - 120 mm | 1 - 120 mm |
| Load | 500 kg/rm | 500 kg/rm | 500 kg/rm | 500 kg/rm |
| Voltage | 400 V, 50 Hz / 480 V, 60Hz | 400 V, 50 Hz / 480 V, 60Hz | 400 V, 50 Hz / 480 V, 60Hz | 400 V, 50 Hz / 480 V, 60Hz |
| Network structure | 3~PEN / 3~PE+N | 3~PEN / 3~PE+N | 3~PEN / 3~PE+N | 3~PEN / 3~PE+N |
| Total current consumption | 58.9 A / 59 A | 87.6 A / 87.6 A | 56 A / 55.6 A | 68.1 A / 67.7 A |
| Total power | 26.9 kW / 26.9 kW | 41.9 kW / 41.9 kW | 25.5 kW / 25.5 kW | 30 kW / 30 kW |
| Insulation class | IP 42 | IP 42 | IP 42 | IP 42 |
| Infinitely variable feed speed | 0.3 - 8.0 m/min | 0.3 - 8.0 m/min | 0.3 - 8.0 m/min | 0.3 - 8.0 m/min |
| Weight | 5000 kg | 6000 kg | 5200 kg | 6000 kg |
| Dimensions (W/D/H) | 2170/3300/2260 mm | 2170/3800/2260 mm | 2170/3800/2260 mm | 2170/3800/2260 mm |

Specifications apply to the basic machine (PowerGrip-belt), without magnetic track

- Reduced tool costs by mechanical slag removal; no expensive grinding necessary
- Cool grinding - hardly any heat entry into the workpiece
- Warpage and tolerance compensation by large, soft contact roller
- Perfect edge rounding up to 2 mm radius
- Suitable for processing various materials including steel, stainless steel and aluminium
- Simultaneous processing of different material thicknesses is possible (E-units)
- The thought-out design of the rotary heads ensure an even processing result over the whole working width.
- Maximum tool contact with the workpieces for perfect edge rounding up to 2 mm radius
- Efficient processing of small parts (down to 50x50 mm), whatever the geometry of the pieces
- Stationary machine table - Constant table height for ergonomic work
- Intuitive operation thanks to clear touch panel
- Fast machine setting by automatic positioning of the tool axes.
- Program memory takes care of automatic machine settings and reproducible processing results
- Fast tool-changing system keeps set-up times to a minimum
- Optimal machine accessibility facilitates cleaning and maintenance
- Window in the machine doors allows to monitor the process
- Appropriate options and features for individual customer requirements

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]


[ 4 ]

[ 1 ] Automatic conveyor belt cleaning

[ 2 ] Conveyor belt cleaning brush

[ 3 ] Wireless thickness caliper ME 5000

[ 4 ] ID-key switch

Brush infeed table

Magnetic track 400 mm

EMZR - electro-motor positioning grinding head

Bar code scanner

Camera system

Tool wear compensation E-aggregate


LISSMAC
SMW 123

## >> SMW 1 SERIES / SMW 5 SERIES

The models in the SMW 1 series are characterised by their compact design and their particularly economical price-performance ratio.
The freely configurable wet-grinding models of the SMW 5 series are particularly convincing due to precise-fit processing for high-quality components and material mix. Thanks to the modular design and up to four processing units, these machines can also be flexibly adapted to changing customer requirements.

# SMW 1

GRINDING MACHINE IN WET EXECUTION FOR THE PERFECT SURFACE FINISH

- Processing of mixed material and oily pieces
- Ergonomic and intuitive operation with integrated programme memory
- Hardly any heat input
- Short set-up times with material mix
- Clean, corrosion-resistant components
- Integrated filter and drying system
- Compact design

FURTHER INFORMATION:

| TECHNICAL DATA | SMW 123 RB | SMW 123 RT |
|---|---|---|
| Working width max. | 950 mm | 950 mm |
| Workable material thickness | 0,5 - 120 mm | 0,5 - 120 mm |
| Load | 450kg | 450kg |
| Voltage | 400 V / 50 Hz | 400 V / 50 Hz |
| Network structure | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Total current consumption | 41,8 A | 41 A |
| Total power | 23,2 kW | 22,9 kW |
| Insulation class | IP 42 | IP 42 |
| Infinitely variable feed speed | 1,2 - 10 m/min. | 1,2 - 10 m/min. |
| Weight | 3000 kg | 3000 kg |
| Dimensions (W/D/H) | 2390/2205/2130 mm | 2390/2205/2130 mm |

SMW 1

- Universal and flexible use for deburring and finishing
- Our tried-and-tested wide-belt grinding unit is used in the first processing step
- The second processing unit can be fitted alternately with a disc brush or round brush cassette
- Perfectly suited for material mixes and processing critical materials such as aluminium, magnesium or titanium
- No material carry-over ensures optimum component quality and reduces set-up times and reworking
- The cooling processing process reduces the heat input into your workpieces.
- Effective processing of oily components
- Clean, corrosion-protected components after processing
- Intuitive operating with a touch panel
- The efficient, integrated cooling lubricant system guarantees a long service life of the cooling lubricant and the best processing results
- Dust-free processing provides a clean workplace for your employees and reduces health risks.
- No dust extraction necessary

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]

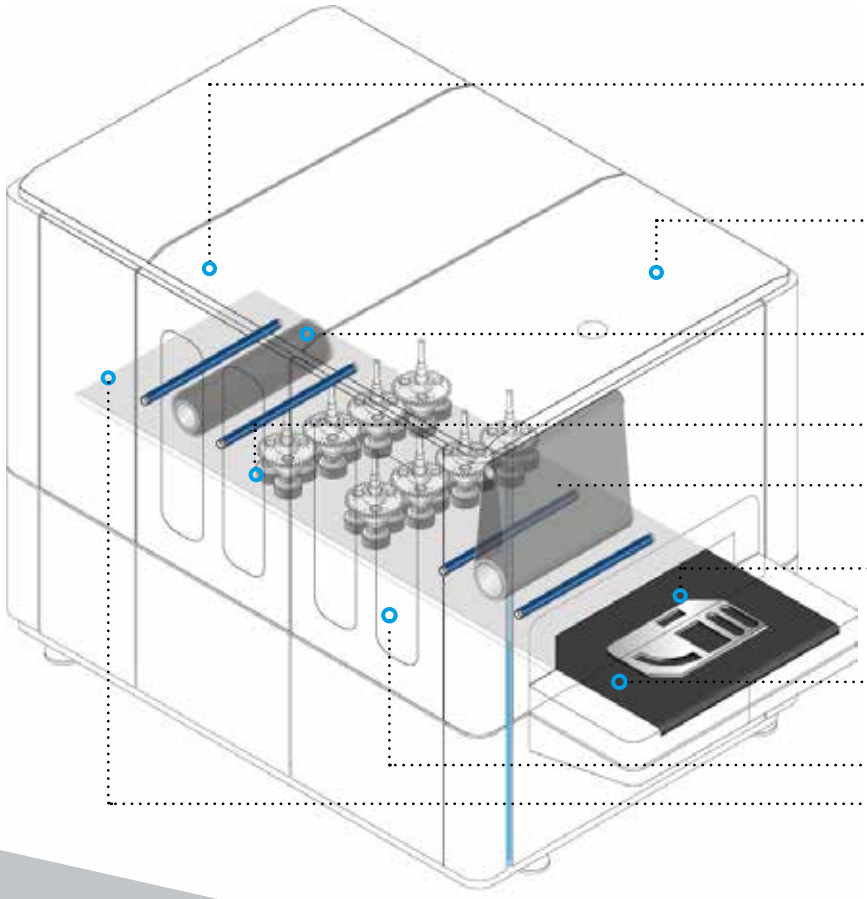
[ 1 ] Wireless thickness caliper ME 5000

[ 2 ] Camera system

[ 3 ] ID-key switch

# SMW 5

GRINDING MACHINE IN WET EXECUTION FOR THE PERFECT SURFACE FINISH



- Freely configurable machine concept
- Safe processing of explosive materials
- Unique finishing
- Short set-up times with material mix
- Maximum flexibility for changing applications
- Processing of mixed material and oily pieces
- Ergonomic and intuitive operation with integrated programme memory
- Hardly any heat input
- Clean and dry components

FURTHER INFORMATION:

| TECHNICAL DATA | SMW 5 |
|---|---|
| Working width max. | 950 / 1350 / 1650 mm |
| Workable material thickness | 0.5- 120 mm |
| No. of heads | 3-4 (950 / 1350 mm) / 3 (1650 mm) |
| Voltage | 400 V, 50 Hz |
| Network structure | 3~ PEN / 3~ PE+N |
| Insulation class | IP 42 |

SMW 5

- Time saving operation when deburring and finishing in one pass
- The freely configurable machines adapt optimally and flexibly to customer applications
- Wet grinding gives excellent results
- Maximum protection when mixing critical parts such as aluminium, magnesium or titanium.
- No material contamination gives high quality parts, reduces tool change times and avoids re-work
- The cool process reduces the heat development in your parts
- Effective processing of oily components.
- Clean, dry and corrosion-protected components after processing
- The efficient, external filtration unit gives long life of coolant and optimum working results.
- Intuitive operation via touch panel
- The dust free process keeps the working area clean for the operator and reduces health risks
- No extraction necessary

before

after

## OPTIONS


[ 1 ]


[ 2 ]


[ 3 ]

[ 1 ] Bar code scanner

[ 2 ] Camera system

[ 3 ] Brush outfeed table

KSS filter unit

# DUST EXTRACTORS

Grinding and deburring machines generate dust particles that are harmful to the health of employees. However, the small dirt particles also affect the quality of the further processing of the components and the mechanics of the machines. It is therefore important that grinding and deburring machines are equipped with extraction and dust removal technology.

LISSMAC systems are therefore always equipped with a dust extractor, without which they cannot work. Specifically, all grinding and deburring machines are equipped with a vacuum sensor. The machine can only transport and process workpieces once the dust collector has created the required vacuum in the machine.
LISSMAC offers a wide range of dust extractors. These include the dry dust extractors from the "DDE" product line, which are used for processing steel, stainless steel and other non-explosive metals. The wet dust extractors in the "WDE" product line, on the other hand, were developed for processing explosive metals such as aluminium or titanium alloys.
The powerful and economical dust extraction systems promote a smooth production process and are suitable as extraction systems for individual machines, small machine groups or stand-alone solutions. The dust extractors are low-maintenance and their compact design makes them versatile and flexible in use.
Machine manufacturer LISSMAC is liable for the complete system (machine + dust extractor) and supplies the corresponding CE certificate.

## >> WET DUST EXTRACTORS

| TECHNICAL DATA | WDE 3002 | WDE 4502 | WDE 7002 | WDE 10002 |
|---|---|---|---|---|
| Negative pressure (max.) | 3500 Pa. | ca. 3400 Pa. | ca. 3700 Pa. | ca. 3750 Pa |
| Effective volume flow | 3000 $m^3/h$ | ca. 4500 $m^3/h$ | ca. 7000 $m^3/h$ | ca. 10000 $m^3/h$ |
| Motor | 4,0 kW | 6,6 kW | 11 kW | 15 kW |
| Voltage | 400 V, 50 Hz | 400 V, 50 Hz | 400 V, 50 Hz | 400 V, 50 Hz |
| Net shape | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Sound power level | 70 dbA | 70 dbA | 70 dbA | 75 – 78 dbA |
| Filter area | 17 $m^2$ (27 $m^2$ H14) | 34 $m^2$ | 34 $m^2$ | 80 $m^2$ |
| Unladen weight approx. | 500 kg | 650 kg | 750 kg | 850 kg |
| Water tank capacity approx. | 170 l | 350 l | 350 l | 700 l |
| Weight filled approx. | 670 kg | 1000 kg | 1200 kg | 1450 kg |
| Dimensions (W/D/H) approx. | 980/850/3130 mm | 1470/800/3230 mm | 1470/800/4035 mm | 1470/1300/4035 mm |

## >> DRY DUST EXTRACTORS

| TECHNICAL DATA | DDE 1502 MIX | DDE 3002 | DDE 5502 | DDE 8502 | DDE 11002 |
|---|---|---|---|---|---|
| Negative pressure (max.) | 2800 Pa. | 2600 Pa. | ca. 3400 Pa. | 3800 Pa. | 3750 Pa. |
| Effective volume flow | 1500 $m^3/h$ | 3000 $m^3/h$ | ca. 5500 $m^3/h$ | 8500 $m^3/h$ | 11000 $m^3/h$ |
| Motor | 2,2 kW | 3,0 kW | 5,5 kW | 7,5 kW | 11 kW |
| Voltage | 400 V, 50 Hz | 400 V, 50 Hz | 400 V, 50 Hz | 400 V, 50 Hz | 400 V, 50 Hz |
| Net shape | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N | 3~ PEN / 3~ PE+N |
| Sound power level | 71,5 dbA | 71 dbA | 74,5 dbA | 74,5 dbA | 75 – 78 dbA |
| Filter area | 7,5 $m^2$ | 20 $m^2$ | 40 $m^2$ | 40 $m^2$ | 80 $m^2$ |
| Weight approx. | 160 kg | 390 kg | 600 kg | 600 kg | 700 kg |
| Dimensions (W/D/H) approx. | 600/600/1500 mm | 980/850/3130 mm | 1470/800/3310 mm | 1470/800/3310 mm | 1470/800/4110 mm |

# CONVEYOR TECHNOLOGY

Light and heavy loads are transported between different areas in production using customised conveyor technology. In this way, different production zones can be effectively connected with each other and the workload of employees in the process can be significantly reduced. The return of parts ensures efficient material logistics, which not only improves the material flow but also reduces the need for personnel – a major advantage, especially in times of a shortage of skilled labour.
LISSMAC technology ensures ergonomic, reliable and efficient workpiece transport before and after processing. The conveyor belts and roller conveyors therefore ensure that the overall processing process is optimised and that piece goods are transported economically.

The portfolio includes conveyor belts and roller conveyors. The LISSMAC conveyor belts are suitable for laser, punched or water jet-cut sheets. The LISSMAC roller conveyors, on the other hand, were developed as a "heavy duty" solution for heavy plasma and flame-cut sheets. The conveyor solutions are available in working widths of 1000, 1500 and 2000 mm.

Most LISSMAC deburring machines are equipped with a frequency converter as standard. The conveyor technology therefore only needs to be positioned in the infeed or outfeed area and connected directly to the machine plug. Thanks to the Plug&Play connection, processing can begin immediately. This constructive system principle also makes it possible to procure LISSMAC conveyor solutions at a later date.

## >> CONVEYOR BELT STRAIGHT

| TECHNICAL DATA | BELT 1000 | BELT 1500 | BELT 2000 |
|---|---|---|---|
| Effective width | 1000 mm | 1500 mm | 2000 mm |
| Length | 1000 / 2000 / 3000 mm | 1000 / 2000 / 3000 / 4200 mm | 2000 mm / 3000 mm |
| Max. loading | 750 kg / lfm | 750 kg / lfm | 300 kg / lfm |
| Height | 850 mm - 1000 mm +/- 25 mm | 850 mm - 1000 mm +/- 25 mm | 850 mm - 1000 mm +/- 25 mm |
| Feed speed | adapted to machine | adapted to machine | adapted to machine |

## >> ROLLER CONVEYOR STRAIGHT

| TECHNICAL DATA | CONVEYOR 1000 | CONVEYOR 1500 |
|---|---|---|
| Effective width | 1000 mm | 1500 mm |
| Length | 2000 mm / 3000 mm / 4000 mm | |
| Max. loading | 750 kg / lfm | 750 kg / lfm |
| Height | 850 mm - 1000 mm +/- 25 mm | |
| Feed speed | adapted to machine | |
| Minimum part size | 350 x 50 mm | 350 x 50 mm |
| Roller distance / diameter | 150 mm / 80 mm | 150 mm / 80 mm |

## >> CONVEYOR BELT CURVE

| TECHNICAL DATA | BELT CURVE 1100 | BELT CURVE 1700 |
|---|---|---|
| Conveying angle | 180 ° | 180 ° |
| Effective width | 1100 mm | 1700 mm |
| Belt inside radius | 570 mm | 570 mm |
| Belt outside radius | 1670 mm | 2270 mm |
| Loading total | 150 kg | 150 kg |
| Height | 850 mm - 1000 mm +/- 25 mm | |
| Max. size of piece (l/w) | 800/700 mm | 800/1200 mm |

# PROCESS-SAFE, EASY AND SMART

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## SMART CAPABILITIES

Tool wear, tool breakage or faulty machine states and incorrect material handling are disruptive factors that are undesirable in efficient series production.
In addition to regular maintenance, LISSMAC therefore offers a range of options for certain systems that ensure convenient and reliable work processes. These smart tools also make it easy to integrate the machines into an automated process chain:

- Automatic wear compensation, for example, can be realised through tool and process monitoring.
- Electronic and wireless material thickness measurement is also possible.
- RFID user identification ensures clear access authorisations and thus reduces operating errors.
- Stored data can be retrieved using a barcode scanner.
- In the case of recurring workpieces, product-specific parameters can also be stored in a parameter database and can therefore be called up again quickly using predefined programmes.

Last but not least, the Lissserv 4.0 software offers extensive functions that increase the machine's connectivity and make it Industry 4.0-capable. This includes machine data acquisition, an order manager, remote maintenance and energy monitoring. And a PN/PN coupler is used to integrate the machine into an automated production chain.


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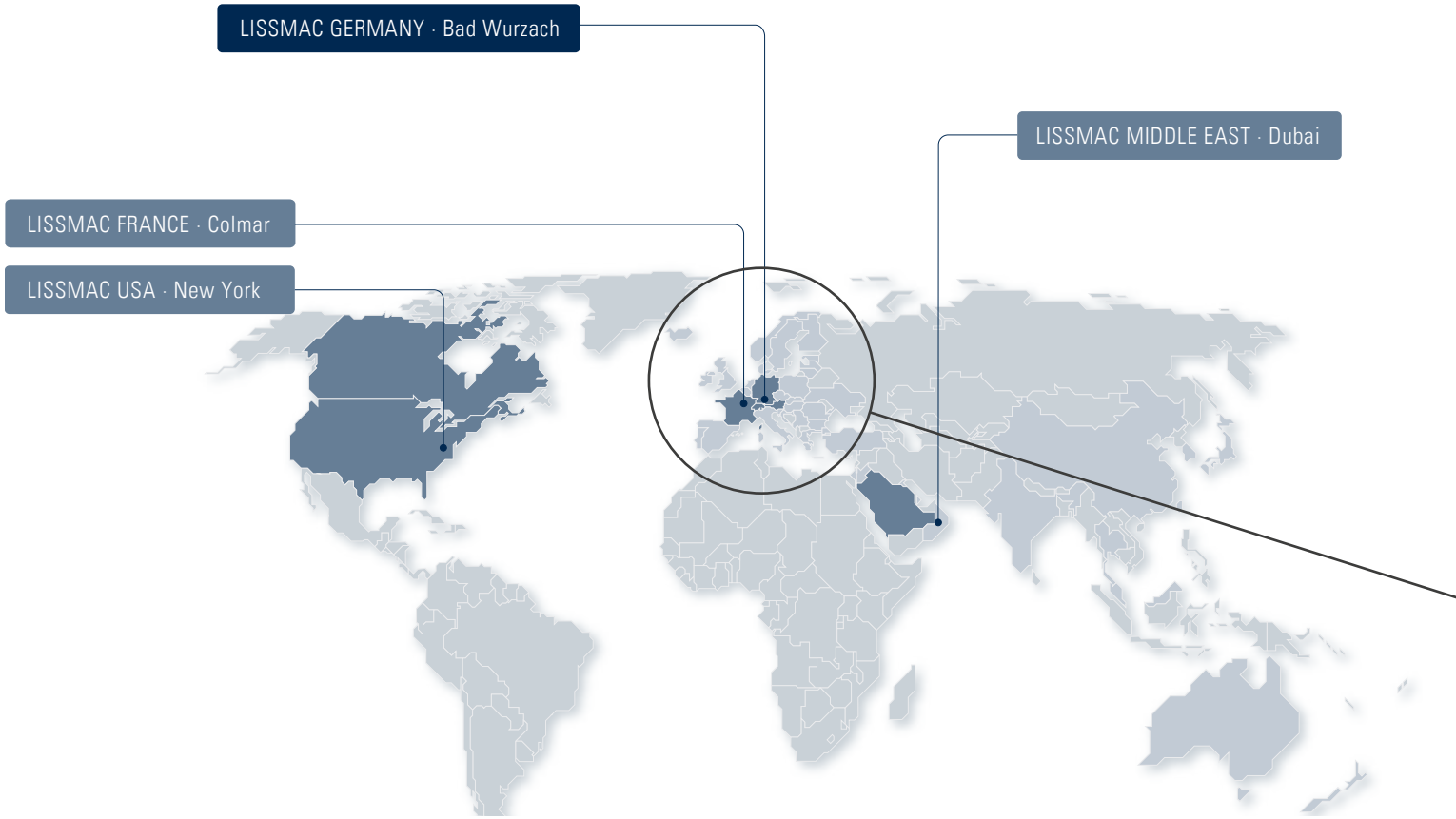
## HANDLING TECHNOLOGY

In addition to grinding and deburring machines, LISSMAC's portfolio also includes handling solutions that support the handling of workpieces, loads or products. LISSMAC offers different solutions for sheet handling before and after deburring to improve ergonomics and safety for the operator.

LISSMAC handling technology is used for the flexible loading of machine tools, presses or processing centres as well as for the safe handling of heavy or bulky goods. LISSMAC has already realised numerous projects with a wide range of requirements, particularly for the automotive industry. Depending on the task at hand, customised automation solutions are developed and implemented that are tailored to individual customer requirements. Hand-operated pneumatic, manual pneumatic and manual balancers are available for different load weights and different working environments. The LISSMAC handling devices can be easily integrated into different process sequences and are suitable for use in the automotive industry as well as in mechanical engineering, the furniture, glass, textile, metal or packaging industries.

# LISSMAC WORLDWIDE

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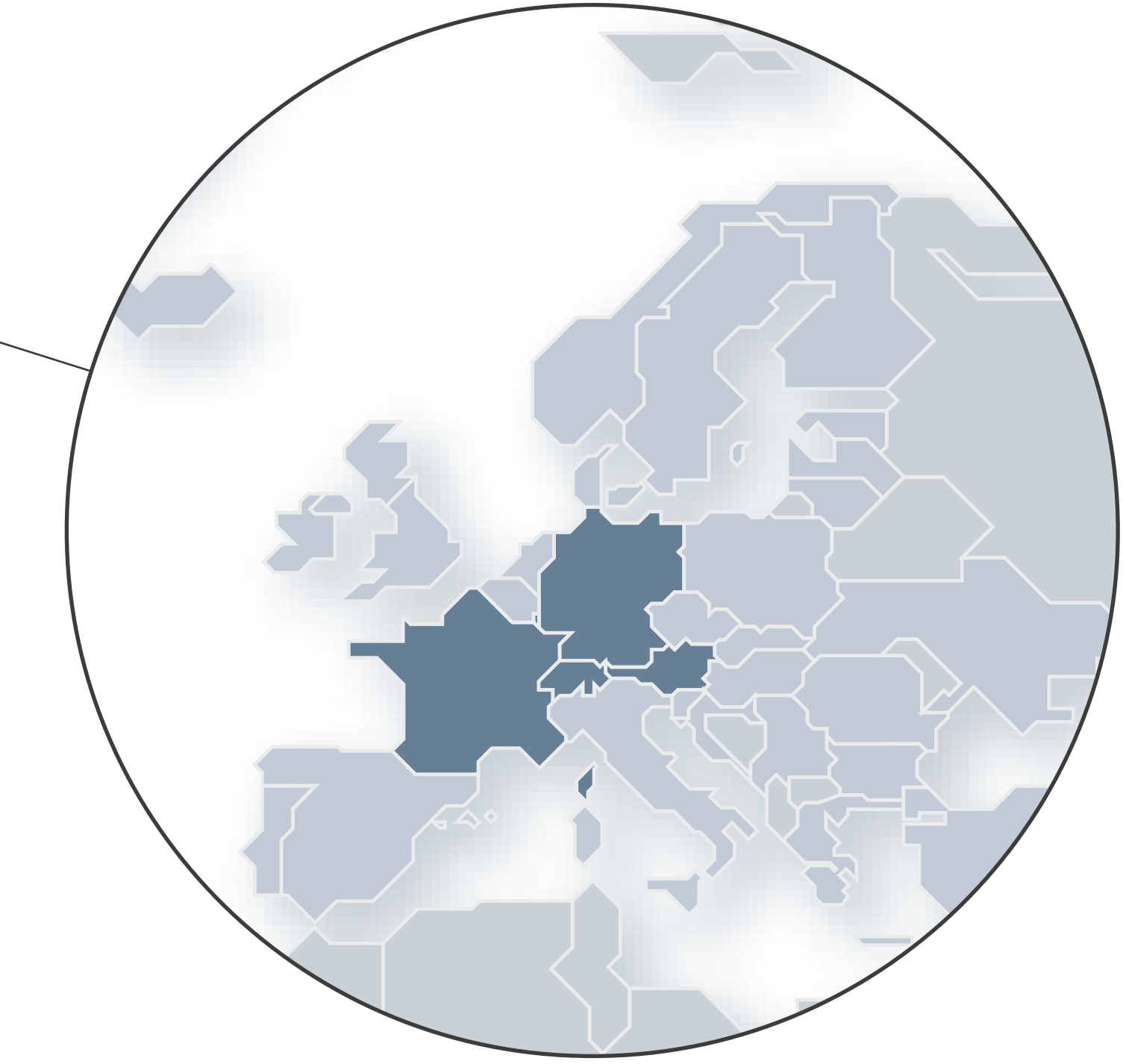
Over 350 employees at various locations around the worl densure your maximum satisfaction. Thanks to our global sales and service network, we are always close to our customers.
This global presence enables optimised pre- and aftersales.

LISSMAC headquarters

LISSMAC location

LISSMAC sales partner



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