LOEWER

INNOVATIVE DEBURRING AND GRINDING MACHINES

DEBURRING · EDGE ROUNDING · GRAINING · OXIDE REMOVAL · ORBITAL FINISH

loewer-maschinen.de

LOEWER – Disc technology for sheet metal deburring

Finding a suitable solution for deburring and rounding sheet metal depends on a number of factors such as the cutting quality, the sheet material, the dimensions of the part, the number of pieces and the edge quality required. A deburring machine should achieve an even result on all edges, regardless of the contour of the workpiece. The abrasive tools should also wear evenly in order to avoid time-consuming calibrating or readjusting.

In order to meet the above requirements our engineers quickly recognized the advantages of the disc technology. In particular when combined with a large oscillation stroke it delivers a uniform 360° processing of parts together with an even tool wear. Furthermore it is possible to process very small parts in contrast to common wide belt grinders.

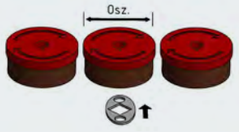
Our disc technology methods

Rotating disc without oscillation

The workpiece is fed through the machine on a feed belt. The disc works from above. Every point on the workpiece is processed from two directions (right to left and left to right).

- processing from two directions
- even tool wear
- economic technique

This method is featured in our CrossMaster models as well as in the BeltMaster TbD.



Rotating disc station with oscillation

The discs oscillate with a stroke the size of approximately the diameter of the single disc. This ensures a 360° processing from all angles and directions for uniform edge rounding.

- 360° uniform processing

This method is featured in our DiscMaster SF models. The planetary head of our DiscMaster P is very similar to this method.

Rotating disc with large oscillation stroke

The disc oscillates over the full width of the feed belt. This method not only ensures a uniform 360° processing but also leads to an even tool wear, regardless of the position of the workpieces on the feed belt.

- 360° uniform processing
- even tool wear

This technology is featured in our DiscMaster models 2TD and 4TD as well as in the BeltMaster K4TD.

Our disc tools

The desired deburring and edge rounding results can only be achieved using the right combination of disc tools and machine. LOEWER has developed several unique discs to achieve optimal results. For example our CompactDisc removes hard burrs of up to 3 mm height effortlessly. And our special MediumDisc with additional hold down rings rounds the edges of very small, lighter parts.

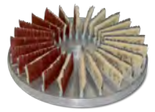
Our disc tools are available in different diameters to suit our different machine models. In particular the DiscMaster 2TD, 4TD and 6TD and the BeltMaster K4TD can use all the different disc tools shown below.

SoftDisc for deburring laser-cut aluminium or steel parts.

The CompactDisc removes high burrs and spatter on stainless steel.

The MediumDisc is the first choice for edge rounding on all materials.

OrbitalDisc for creating a non directional finish with the Löwer Orbital device.



SmartFlexDisc for edge rounding of foiled or zinc-plated parts as well as for 3D-parts with stamped or drawn forms.

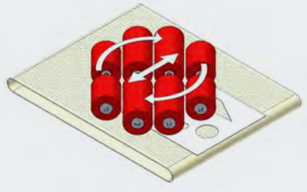
OxideDisc with angled wire brushes to remove oxide on the side edges of laser-cut steel parts.

HammerDisc for knocking off heavy slag before deburring.

LOEWER Cylindrical brush technology

Cylindrical lamella brushes become more agressive with a higher rpm due to the centrifugal force. Compared to disc brushes there is less pressure and less heat on the workpiece surface. For this reason the system works well for rounding foiled parts or zinc-plated parts. It is also possible to run parts with very slow feed speed without any overheating in order to achieve a big edge rounding of 2 mm radius.

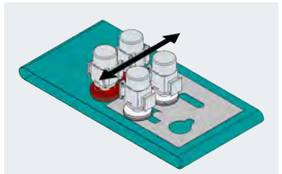
Our multi-directional Rotary Brush head



The Rotary Brush Head features eight counter-rotating brushes on a single head which moves around a vertical axis while oscillating across the workpiece.

- 360° uniform edge rounding
- even tool wear
- strong edge rounding up to 2 mm radius

This technology is featured in our RotoMaster 1500 models.

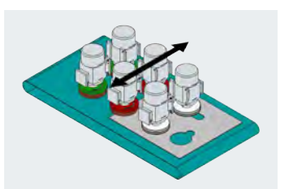


DiscMaster 4TD

Efficient through-feed machine in working widths of 1000 mm, 1500 mm or 2000 mm for laser job shops

The DiscMaster 4TD is equipped with four disc units which oscillate continuously over the full width of the feed belt. This unique technology offers great deburring and edge rounding results at a very low operating cost. A good selection of disc tools for different applications makes the machine very versatile.

- deburring and edge rounding in one pass
- removal of high burrs and spatter
- 360° uniform edge rounding from all angles and directions
- even wear of disc tools
- processing of small parts > 20 mm diameter
- quick change of tools (when processing different materials)
- for punched, laser-cut, water-cut or plasma-cut parts
- special tools available for upformed, foiled or zinc-coated parts or for oxide removal
- processing of steel, stainless steel, aluminium



DiscMaster 6TD

Versatile through-feed machine with three stations in working widths of 1000 mm and 1500 mm

Compared to the DiscMaster 4TD the 6TD model has an additional station. On the one hand the machine can be used with three different tools, for example for deburring, edge-rounding and oxide removal in one pass. On the other hand it is possible to create larger edge rounding or run at a faster feed speed when using standard tools. This makes the DiscMaster 6TD our most powerful and versatile disc machine.

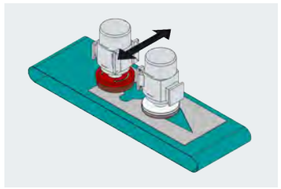
- Offers the same possibilities and advantages as DiscMaster 4TD, but in addition:
  - Is more versatile due to availability of three different tools
  - Features a faster feed speed

DiscMaster 2TD-500

Quick and uniform deburring of small parts in a working width of 500 mm

The DiscMaster 2TD works with two rotating and oscillating discs in a row, one for deburring and one for edge rounding.

- 360° uniform processing
- compact machine with the same advantages as the DiscMaster 4TD

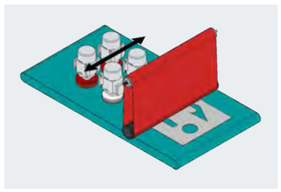


BeltMaster K4TD

Heavy-duty grinding, deburring and rounding machine in a working width of 1350 mm or 1500 mm

The BeltMaster K4TD works with the same disc technology as the DiscMaster 4TD but is equipped with an additional abrasive belt unit, which is used for deburring or to create an optical linear finish.

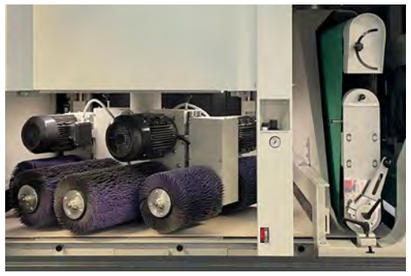
- Innovative floating head system, the abrasive belt follows the workpiece in the event of differences in thickness!
- Intuitive, multilingual HMI with programme memory
- Proven, original 4TD disc unit
- Optional automatic disc calibration



Optional extras for our TD-models

- variable rpm of disc motors
- special dust extraction kit for processing aluminium
- large variety of disc tools for different applications
- quick-change adapters for disc tools
- touch panel control
- magnets for under feed belt and demagnetisation unit
- suitable dust extraction units for steel, stainless steel or aluminium

RotoMaster KR-1500



RotoMaster 1500

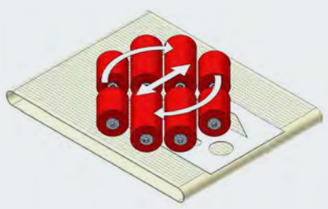
The „allrounder“ machine with rotary brush head for deburring, edge rounding, oxide removal and finishing in a working width of 1500 mm

The RotoMaster 1500 boasts a newly developed rotary brush head featuring eight counter-rotating brushes. The rotary head turns around a vertical axis while oscillating across the work-piece. This results in a very even 360° processing from all angles and directions. Uniform edge rounding up to a radius of 2 mm has now been made possible.

The RotoMaster 1500 can be equipped with an abrasive belt station in front of and/or behind the rotary head for either de-burring or finishing applications. This abrasive belt station fea-tures Loewer´s unique floating head system which allows the entire unit to give way if the grinding pressure gets too high.

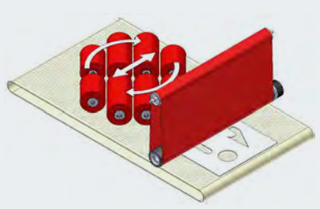
- deburring, edge rounding, oxide reomoval and finishing
- uniform 360° processing of all inside and outside contours
- even tool wear
- quick tool change system
- abrasive belt station with unique floating head system for more safety
- for punched, laser-cut, plasma-cut or waterjet cut parts
- for mild steel, stainless steel, aluminium...

RotoMaster R-1500



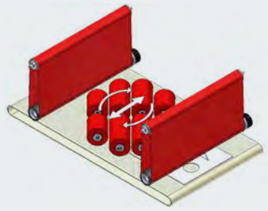
- edge rounding
- edge rounding + oxide removal

RotoMaster KR-1500



- deburring + edge rounding
- deburring + egde rounding + oxide removal
- finishing

RotoMaster KRK-1500



- deburring + edge rounding + finishing
- deburring + egde rounding + oxide removal
- grinding + finishing

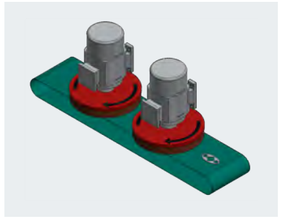
CrossMaster DD 300S

CrossMaster DD 300S

Affordable and quick deburring of small parts in working width of 300 mm

The CrossMaster DD 300S works with two rotating discs arranged in a row, one for deburring and one for edge rounding.

- for small parts > 20 mm diameter
- even wear of disc tools
- variety of disc tools for deburring and edge rounding
- large variety of optional extras like cleaning brush for feed belt, longer conveyor tables, magnets for small parts, demagnetization units...



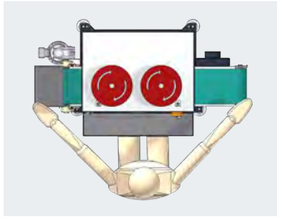
CrossMaster DD 200 Mini

CrossMaster DD 200 Mini

Cost-effective solution for deburring small parts – ideal as an addition next to a large machine.

Our small economic miracle: Low investment, low power consumption, little space requirement and low tool costs.

- disc diameter 2 x 250 mm, working width 200 mm
- for part sizes from 20 mm diameter
- wide range of different tools for deburring, rounding, 3D parts, foiled parts
- well-equipped, low-cost standard version
- compact size, parts can be placed and removed without additional return conveyor system



Compact size

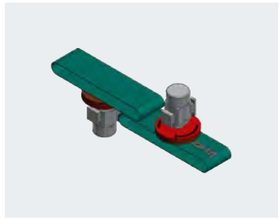
CrossMaster Dx2

CrossMaster Dx2

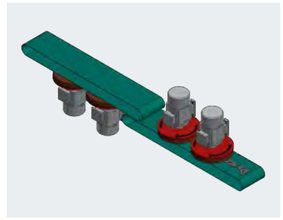
Top and bottom deburring in one pass in a working width of 200 mm

The CrossMaster Dx2 works with one disc from the top and one from the bottom.

- top and bottom processing in one pass
- even wear of disc tools
- optional magnets for holding down small parts
- also available as DDx2 with two discs on top and two discs bottom



CrossMaster Dx2



CrossMaster DDx2

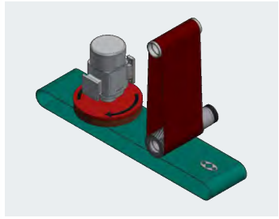
BeltMaster KD 300

BeltMaster KD 300

Deburring, edge rounding and finish grinding in 300 mm working width

The BeltMaster KD 300 is equipped with one abrasive belt unit followed by a large disc unit.

- possibility to use abrasive belts and nylon abrasive belts
- pneumatically controlled oscillation of abrasive belt
- large disc diameter 400 mm for intensive edge rounding



BeltMaster TbD 600

BeltMaster TdTbTd 600

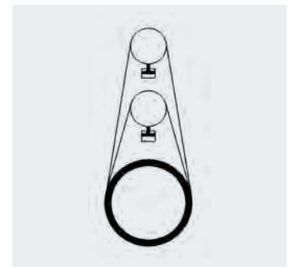
BeltMaster TbD 600

Heavy deburring machine for flame-cut parts in a working width of 600 mm

- ideal for parts with varying degrees of thickness and high burrs
- unique TwinBelt unit for high deburring power
- optional floating head system to compensate for distortions of up to 6 mm
- quick change of abrasive belt
- large disc unit for rounding edges
- magnet over full working width for holding down smaller parts
- optional unit for slag removal

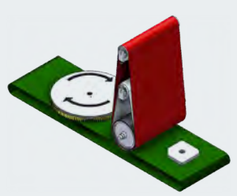
The unique TwinBelt unit

The core of the BeltMaster TbD is the patented TwinBelt unit. The abrasive belt in combination with a very soft contact drum leads to a lot of pressure on the inside and outside contours of the workpiece. At the same time the unit is very flexible and can compensate for variations in workpiece thickness. An additional pressure belt which runs between the abrasive belt and the contact drum creates even more pressure on the burrs without comprimising on flexibilty. It also protects the abrasive belt and the drum against cuts and tears, thus making it ideal for deburring flame-cut and plasma-cut parts.

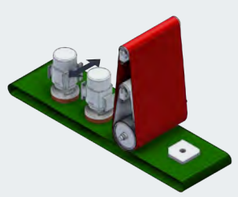


The BeltMaster 600 is available in three different versions. The top version TdTbTd 600 is suitable for removing slag, power deburring, edge rounding and oxide removal in one pass.

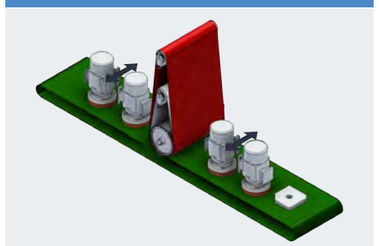
BeltMaster TbD



BeltMaster TbTd



BeltMaster TdTbTd

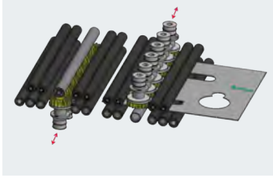


DiscMaster SF

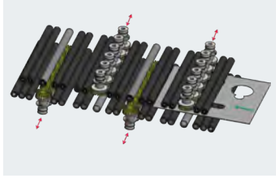
Top and bottom deburring, edge rounding and/or oxide removal in one pass, in working widths of 1000 mm or 1500 mm

The DiscMaster SF works with oscillating disc stations on the top and bottom.

- high output due to top and bottom processing
- 360° uniform edge rounding from all angles and directions
- ideal for zinc-coated or foiled parts due to flexible SmartflexDiscs
- ideal for upformed 3D-parts due to soft feed rollers and SmartflexDiscs
- available in working widths of 1000 mm or 1500 mm
- possibility for edge rounding and oxide removal in one pass



DiscMaster SF 1/1



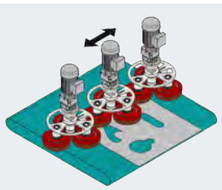
DiscMaster SF 2/2

DiscMaster P

Planetary head technology for high through-put in a working width of 1350 mm

Deburring and edge rounding or finishing of welded aluminium frames.

- planetary head features rotating discs with additional head rotation and oscillation
- 360° processing of parts from all angles and directions
- diffuse, non-directional finish



SwingGrinder – The Original

Quick manual deburring and edge rounding

Deburring and edge rounding machine for smaller and medium sized production runs.

- 3 - 4 times faster than manual deburring
- easy to use with swinging arm and weight compensation
- high friction table cover, dust drawer and extraction outlet
- rotatable head with deburring and edge rounding tools
- optional vacuum hold-down device for small and light parts
- optional pneumatically adjustable grinding pressure
- safety features include automatic motor shutdown when head is tilted and pneumatic brakes for swinging arm

SwingGrinder M

The SwingGrinder M offers a lot of advantages when processing mild steel. With two permanent magnets under the table mat it is possible to hold down smaller workpieces for deslagging and oxide removal. The magnets are held in linear guides and move up and down thanks to a pneumatic cylinder. In the upper position the magnets are active, in the lower position they are not. The magnets automatically move up when the grinding motor is switched on.

- includes magnets for holding down ferritic workpieces in order to use HammerDiscs or OxideDiscs

MiniSpin ME

Manual brushing unit

- quick deburring of smaller sheet metal parts or 3D punched parts
- edge rounding of outside contours on sheet metal parts
- edge rounding of foil-covered or zinc-plated parts without destroying the surface
- deburring pipe ends or profile ends after sawing

MiniSpin Joint

Quick and safe removal of micro joints

- the small table is rectangular to the abrasive disc, thus avoiding irregular rounding of the edges
- for processing very small parts as well as longer narrow parts
- height adjustable cover for increased safety

Suitable conveyor technology

Clever workpiece conveyor technology can make work considerably easier.
Depending on the part sizes and machine type, we offer suitable conveyor solutions.

Small parts return conveyor with two belts for a wide machine.

Return conveying of medium-sized parts with two belts on one level for a wide machine.

Synchronised infeed and outfeed conveyors.

Small parts return conveyor with slide and belt for a narrow machine.

Dust extraction units

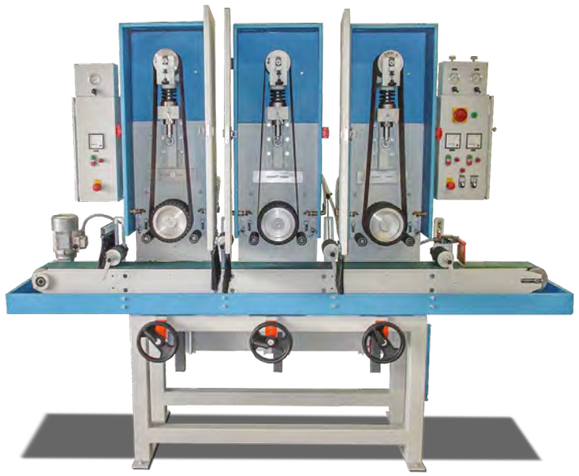
We offer suitable wet or dry dust extraction solutions for all our machines. The units can be delivered with tubing and electrical connections to the machines if required.

SmartGrinder SG

Abrasive belt grinding machines for perfect finishing

The SmartGrinder SG models are straightforward, sturdy and easy-to-use abrasive belt grinding machines „Made in Germany“. The modular concept with one to four stations in a row together with some useful optional extras make the machine adaptable to different grinding tasks. The SmartGrinder SG is especially suitable for graining or finish grinding of flat bar and hollow sections.

- working widths of 150 mm or 300 mm
- one to four stations in a row
- belt units for abrasive belts, nylon abrasive belts or nylon abrasive drums
- available for wet or dry processing
- optional „floating head“ for grinding hollow sections (no bending, no blue surface)



SmartGrinder SG 150 3K

- three stations
- 150 mm working width
- wet processing
- floating heads

SmartGrinder SG 150 K

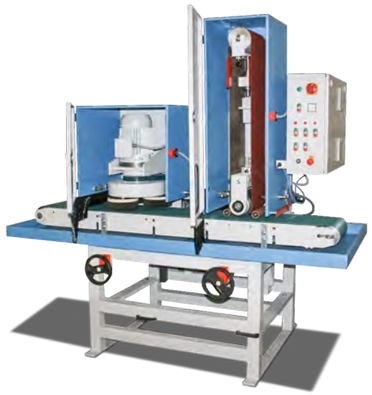
- one station
- 150 mm working width
- dry processing

SmartGrinder FST

The individual, custom-built model

The SmartGrinder FST models are custom-built abrasive belt grinding machines for finishing or deburring. A large variety of different units and optional extras make it possible to tailor the machine exactly to individual requirements.

- working widths of 150 mm or 300 mm
- one to four stations in a row
- abrasive belt or drum units or planetary heads
- dry or wet processing
- large range of optional extras such as floating heads, magnets, demagnitisation, longer tables, stainless steel casing, variable spindle rpm, motorized height adjustment



SmartGrinder FST 300 KP

- one abrasive belt unit
- one planetary head unit for 360° uniform edge rounding
- 300 mm working width
- magnets underneath feed belt
- wet processing

SmartGrinder FST 150 3P

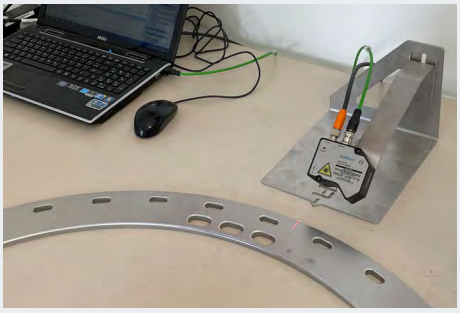
- three planetary heads
- 360° processing with even tool wear
- 150 mm working width
- wet processing
- stainless steel casing
- magnets and demagnitisation

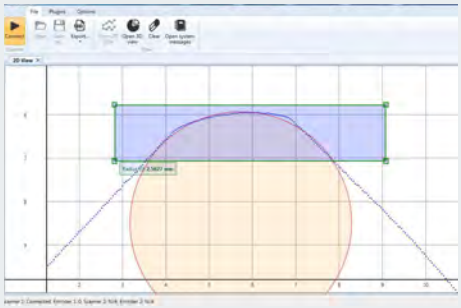
SmartGrinder FST 150 4K

- four abrasive belt units
- 150 mm working width
- wet processing
- floating heads
- control panels at each station
- additional hold-down rollers
- return roller conveyor inside upper collection basin

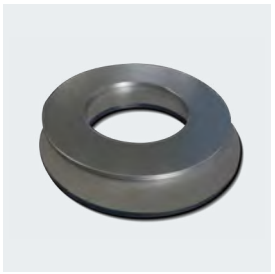
Testing and Evaluation

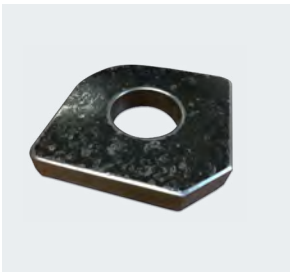
Most deburring and finishing tasks can be solved using our standard machines. In some cases however it is better for our customers to try out the machines for themselves and this is exactly what we offer in our technical centre. Not only can customers bring their own samples but they can also try out various abrasives and tools on different machines and actually see and feel the results first hand. What´s more they can also speak directly with our qualified engineers and technicians about individual problems or customised solutions.





Send us your parts and we will help you find the best solution for your specific needs. We can process your parts with abrasive belt units, disc stations or the rotary brush head and measure the final rounding of the edges with a laser. The processed parts will be returned with a complete documentation of the testing methods and results.





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