LOEWER

BeltMaster K4TD

GRINDING, DEBURRING AND EDGE-ROUNDING MACHINE

FOR LASER-CUT, PLASMA-CUT AND PUNCHED SHEET METAL - FOR FOILED, ZINC-PLATED AND 3D PARTS - FOR STEEL, STAINLESS STEEL, ALUMINIUM

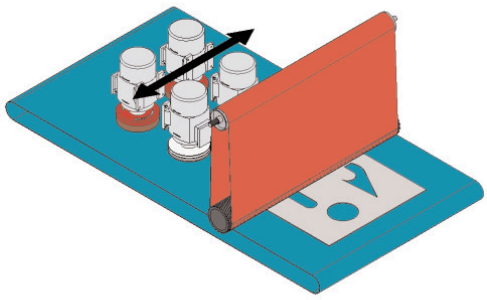
loewer-maschinen.de

LOEWER BeltMaster K4TD
Grinding, deburring and edge rounding machine

The BeltMaster K4TD is equipped wiith one abrasive belt unit followed by two oscillating disc units, each with two large rotating discs, making it ideal for grinding, deburring, edge rounding and oxide removal.

The 360° processing principle

The work pieces are placed on a conveyor belt. The abrasive belt unit will remove higher burrs. Two rotating discs in the centre of the machine followed by two rotating discs at the out feed side oscillate continuously over the full width of the work piece. Inside and outside edges are
processed from all angles and directions. The result is uniform deburring and edge rounding independent of the orientation of the cutting contours.
It is possible to use different disc tools in the centre and on the outfeed discs, depending on the application.



The tools

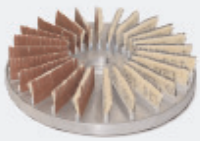
The belt unit uses either abrasive belts or nylon abrasive belts. For the disc unit we offer a great variety of different disc tools. Depending on the application the disc unit will be equipped with the right combination of disc tools.

The SoftDisc with surface conditioning abrasives for deburring aluminium or steel parts.

Our protected CombiDisc with ceramic abrasive removes high burrs and spatter on stainless steel.

The MediumDisc is the first choice for edge rounding and is available in different compressions and grit sizes.

The OrbitalDisc creates a non-directional orbital finish on stainless steel or aluminium (patent pending).



The SmartflexDisc is very open and works well for edge rounding on zinc-plated, foiled or 3D-parts.

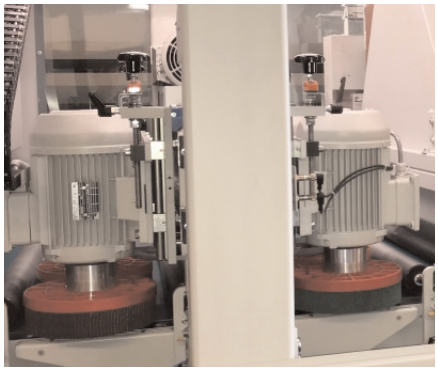
The OxideDisc with angled wire brushes removes oxide on the side edges of laser-cut steel parts.

The abrasive belt unit
removes higher burrs or creates a grinding finishl. A large variety of abrasive belts and nylon abrasive belts are available for different applications. The speed of the abrasive belt can be changed by frequency converter.

Abrasive belt unit with floating head system

The floating head system
Processing bended parts or applying too much pressure can result in damaging the contact drum of the abrasive belt unit. With our optional floating head system the abrasive belt unit can move out of the way when the pressure gets too high. The pressure is adjustable pneumatically. This unique technology is a great safety feature when it comes to keep the contact drum in good shape.

The 4TD-Discstation
Four rotating discs oscillate continuasly over the full width of the workpiece. This enables a uniform 360° edge rounding as well as a uniform wear of the tools. There is a large variety of disc tools for different applications. The motorized height adjustment of the disc station is independant of the abrasive belt adjustment.

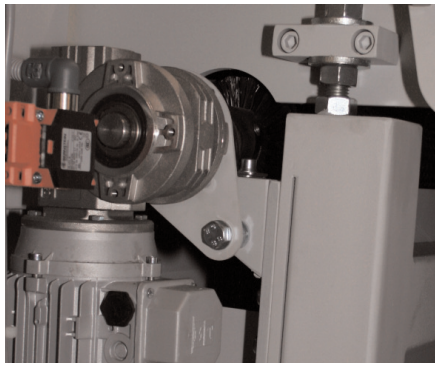

Disc station with four big discs

Deburring and edge rounding
The abrasive belt will be used for deburring hard burrs. The CombiDiscs will be used for deburring small parts. The first choice for edge rounding are our MediumDiscs. The big diameter of 250mm and the unique kinematics of the machine result in a very uniform and strong edge rounding.

Various applications
The four discs can be exchanged very quickly in order to set the machine for a different application. The BeltMaster can be used for removing the oxide layer on the side edges or for deburring upformed parts, zinc coated parts or foil covered sheet metal. Abrasive belts or nylon abrasive belts will be used to achieve a straight graining finish. And the OrbitalDiscs will create a non directional orbital finish on stainless steel.

Touch panel control

Possible one pass operations
For the standard application deburring + edge rounding the BeltMaster will be used with 4 MediumDiscs in different gritsizes which makes the machine very efficient.
Other possible one pass operations are:
- Deburring, oxide removal and edge rounding in one pass
- Deburring higher parts of burrs, additional disc-deburring and edge rounding in one pass
- Deburring and edge rounding of small parts with discs only
- Graining with abrasive belt only
- edge rounding and orbital finish with discs only

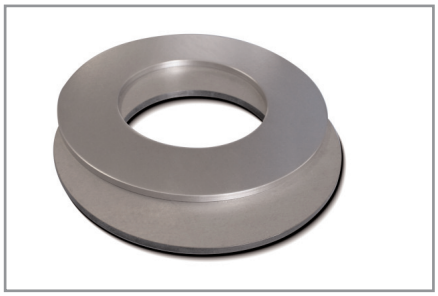

Optional cleaning brush for feed belt

The Controls
The BeltMaster is equipped with a modern touch panel control. All parameters can be set with the touch panel and it is possible to store workpiece depending machine programs.

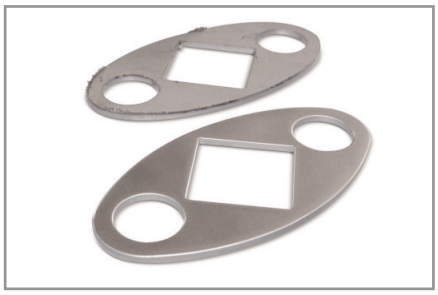
Technical Data

BeltMaster K4TD-1350

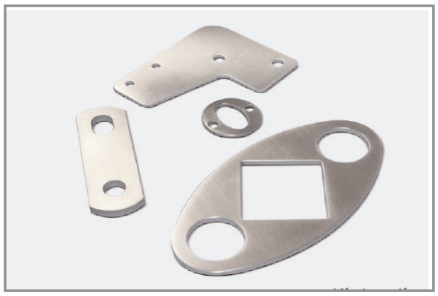
grained part



Steel



Stainless steel



Small parts

- abrasive belt size 1350mm x 1900mm, max. working width 1320mm
- abrasive belt motor 15kW, contact drum D=180mm, with spirally grooved rubber roller
- variable abrasive belt speed 8-16m/s by 15kW frequency inverter
- excentric height adjustment for setting abrasive belt thickness
- pneumatically controlled oscillation of abrasive belt
- pneumatic tensioning of abrasive belt
- motorized height adjustment of abrasive belt unit
- emergency off switches left and right of abrasive belt and when belt tears
- two strong spring loaded rubber covered hold down rollers

- Two discs in the centre, two discs at the outfeed, disc diameter 250mm, 4 x 2,2kW
- Separate height adjustment with digital read-out of each individual disc for compensation of tool wear and different tool thickness
- Oscillation by gear motor and tooth belt drive, variable oscillation speed using frequency inverter
- Oscillation with two strokes (full width or small parts)
- Spring loaded hold down rollers, pneumatic lifting at disc area
- Motorized height adjustment of disc station using gear-motor

- Conveyor belt feed using gear motor, variable feed speed 1-8m/min using frequency inverter
- Automatic tracking of conveyor belt, pneumatically-controlled
- brush strip under conveyor belt for removing loose dust
- modern touch panel control, three main machine programs: 1: abrasive belt only, 2: discs only, 3: abrasive belt + discs. Setting of all machine parameters, storing of workpiece depending machine programs.
- Dust extraction connection 1 x 180mm, 1 x 150mm diameter
- 400V, 50Hz, 3P, 8 bar air supply
- Length 2650mm, width 2200mm, height 2100mm
- CE

Optional Extras

- Floating head system for abrasive belt unit, pneumatically controlled. Adjustable grinding pressure allowing the abrasive belt unit to move out of the way if grinding pressure gets too high
- sensor for measuring work piece thickness an automatic setting of thickness
- Variable rpm of disc units using two frequency inverters (seperetaly for centre and outfeed discs)
- Integrated rotating brush for cleaning conveyor belt
- Magnetic track 250mm wide, (oxide removal of small parts)
- LED light inside machine
- Suitable dust extraction units
- Abrasive belts and nylon abrasive belts 1350 x 1900mm

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