

CONTINUOUS FEED SYSTEMS – SHOT BLASTING FOR PLASTICS DEFLASHING

Wire mesh belt machine RSAB 370-T1+1

This Rösler continuous feed wire mesh belt deflashing machine is a compact high performance de-flashing system. Equipped with two blast turbines, it is ideal for continuous feed de-flashing of small to medium size quantities of thermoset and highly filled thermoplastic work pieces.

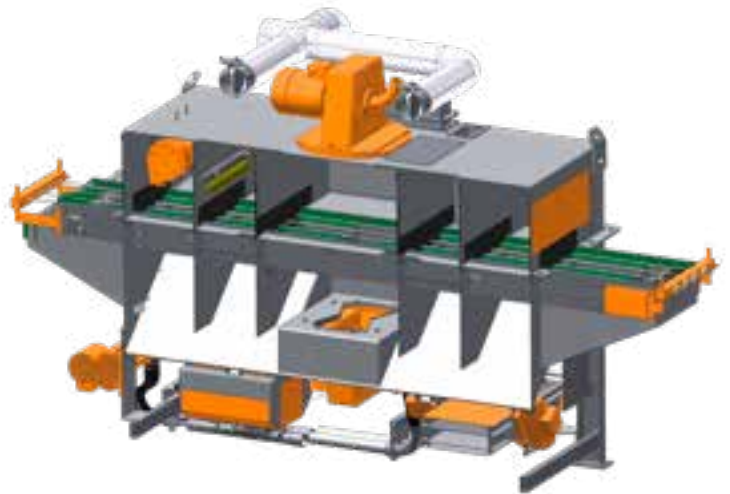


Technical description

The raw work pieces are placed on the wire mesh belt by hand or a handling device. They are passing through the de-flashing zone at a preset, adjustable speed, while being exposed to the blast stream of the two turbines located above and below the belt. After de-flashing the finished work pieces are passing through a blow-off station where any residual blast media is removed from the work piece surface. The work pieces are then discharged through a chute.

For the automatic de-flashing of:

- ▶ Thin walled, fragile work pieces
- ▶ Small to medium size work piece quantities
- ▶ Small to medium size work pieces



Typical applications:

- ▶ Switch housing
- ▶ Pulleys
- ▶ Flat iron components
- ▶ Circuit breakers

Special equipment:

- ▶ Parts carrier system for individual parts which are sensitive to impact and are placed on a parts carrier by handling systems or robots.

Dimensions:

Length:	3.580 mm
Width:	1.285 mm
Height:	1.260 mm
Operating height:	1.180 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



CONTINUOUS FEED SYSTEMS – SHOT BLASTING FOR PLASTICS DEFLASHING

Wire mesh belt machine RSAB 470-T2+2

This Rösler continuous feed wire mesh belt deflashing machine is a high performance de-flashing system. Equipped with four blast turbines, it is ideal for continuous feed de-flashing of large quantities of thermoset and highly filled thermoplastic work pieces.

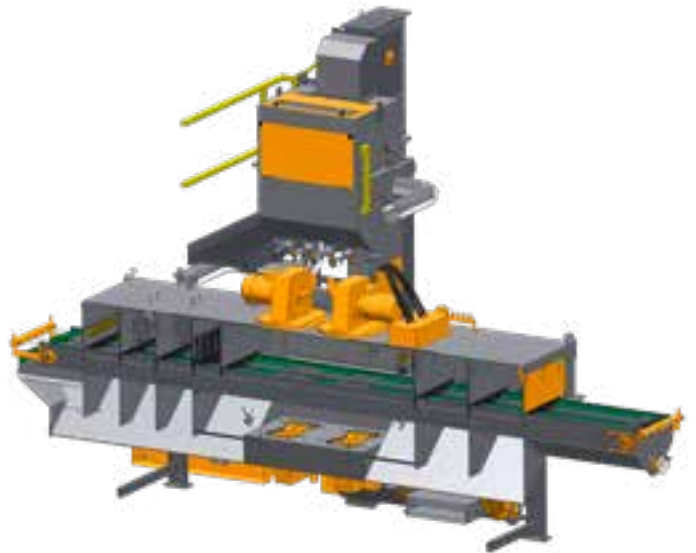


Technical description

Four blast turbines – two placed above and two placed below the wire mesh belt – produce a highly intensive de-flashing process with uniform finishing results. After the turbines have thrown the blast media, a bucket elevator transports it to a cascade air wash separator located above the turbines removing dust and other contaminants from the media.

For the automatic de-flashing of:

- ▶ Medium size to large work piece quantities
- ▶ Medium size to large work pieces
- ▶ Delicate work pieces



Typical applications:

- ▶ Parts made from moist polyester (SMC / BMC) such as reflectors, meter cases, etc.
- ▶ Flat iron components
- ▶ Switch housing
- ▶ Circuit breaker housing
- ▶ Pan handles
- ▶ Parts for the «automotive» industry

Special equipment:

- ▶ Parts carrier system
- ▶ Inlet zone extension
- ▶ Can be additionally equipped with up to four blasting nozzles

Dimensions:

Length:	5.825 mm
Width:	2.985 mm
Height:	3.940 mm
Operating height:	1.225 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



CONTINUOUS FEED SYSTEMS – SHOT BLASTING FOR PLASTICS DEFLASHING

Loop belt machine RSBS 1201

The Rösler continuous feed loop belt deflashing machine is ideal for the continuous feed de-flashing of medium quantities of bulk produced, relatively small thermoset and highly filled thermoplastic work pieces.



Technical description

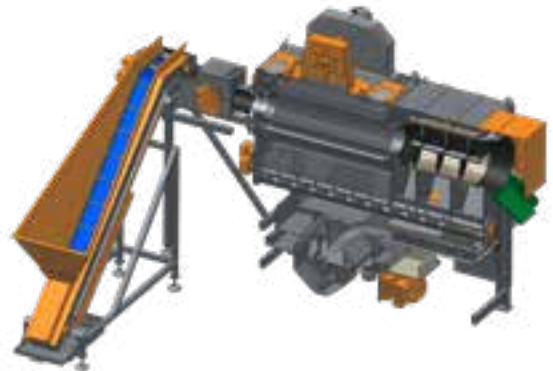
The raw work pieces are transferred into the de-flashing machine by an angled belt conveyor in combination with a vibratory feed chute. The rubber loop belt is equipped with cams that are arranged in an auger-like fashion. While the work pieces are constantly tumbling over each other, the cams are gently pushing them forward through the blasting zone at a preset speed. The RSBS is equipped with one blast turbine placed in the roof of the machine housing above the loop belt.

With its compact design and small footprint the RSBS 1201 offers the efficient de-flashing of bulk produced, small work pieces in tight spaces.

After de-flashing the finished parts are passing through an integrated separation drum for removal of any residual blast media. This allows transferring the work pieces to the next manufacturing process without any intermediate cleaning step.

For the automatic de-flashing of:

- ▶ Medium size quantities of bulk produced work pieces
- ▶ Small work pieces



Typical applications:

- ▶ Rocker switches and push-buttons for electrical installation components
- ▶ Water pump impellers
- ▶ Valves and their components

Special equipment:

- ▶ Vibrating conveyor instead of the separation drum
- ▶ Loop belt made from perforated steel slats

Dimensions:

Length:	3.365 mm
Width:	3.050 mm
Height:	2.210 mm
Operating height:	1.070 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



CONTINUOUS FEED SYSTEMS – SHOT BLASTING FOR PLASTICS DEFLASHING

Loop belt machine RSBS 1702

The Rösler continuous feed loop belt deflashing machine is ideal for the continuous feed de-flashing of medium quantities of bulk produced, relatively small thermoset and highly filled thermoplastic work pieces.



Technical description

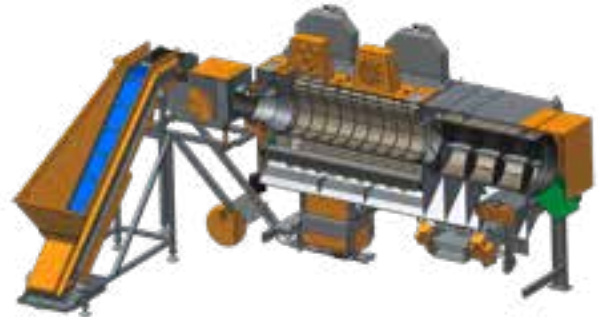
The raw work pieces are transferred into the de-flashing machine by an angled belt conveyor in combination with a vibratory feed chute. The rubber loop belt is equipped with cams that are arranged in an auger-like fashion. While the work pieces are constantly tumbling over each other, the cams are gently pushing them forward through the blasting zone at a preset speed. The RSBS is equipped with two blast turbines placed in the roof of the machine housing above the loop belt.

After de-flashing the finished parts are passing through an integrated separation drum barrel for removal of any residual blast media. This allows transferring the work pieces to the next manufacturing process without any intermediate cleaning step.



For the automatic de-flashing of:

- ▶ Large quantities of bulk produced work pieces
- ▶ Small to medium size work pieces



Typical applications:

- ▶ Housing and switch covers for electrical installation components
- ▶ Housing for circuit breakers and contactors
- ▶ Ash trays
- ▶ Pan handles

Special equipment:

- ▶ Larger turbines
- ▶ Vibrating conveyor instead of the separation drum
- ▶ Loop belt made from perforated steel slats

Dimensions:

Length:	4.590 mm
Width:	3.370 mm
Height:	2.210 mm
Operating height:	1.010 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



MANUFACTURING CELLS – SHOT BLASTING FOR PLASTICS DEFLASHING

Swing table machine RWS 1200

The Rösler swing table machine is ideal for the gentle de-flashing of different quantities of thermoset and highly filled thermoplastic work pieces.



Technical description

The rotary system, consisting of two firmly connected satellite tables with their own rotary drive, allows the de-flashing of single or multiple parts on one table, while finished parts are removed and raw parts loaded at the other table. By a 180° system rotation the satellite tables move from the blast zone into the load / unload zone and vice versa. Depending on their size, up to eight work pieces can be placed on each satellite table.

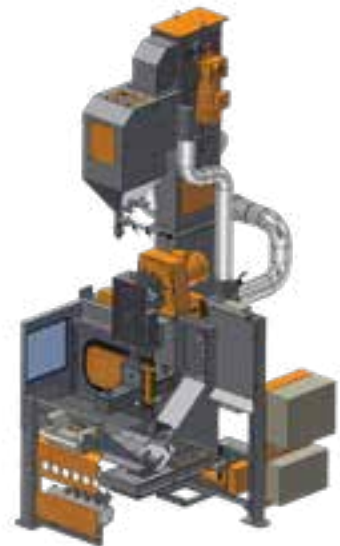
Depending on the utilized blast system – injection blasting, turbine blasting or a combination of both – the swing table machine can be equipped with or without an elevator.

Swing satellite table machines can be easily integrated into manufacturing cells for the fully automatic de-flashing of work pieces coming from one or multiple injection molding machines or presses.



For the automatic de-flashing of:

- ▶ Delicate work pieces
- ▶ Work pieces with complex, difficult to reach contours
- ▶ Medium size to large work piece quantities



Typical applications:

- ▶ Throttle valve housing
- ▶ Pump housing
- ▶ Reflectors
- ▶ Connector parts
- ▶ Parts for the «automotive» industry

Special equipment:

- ▶ Adapted handling systems
- ▶ Modularly designed workpiece changer system

Dimensions:

with / without elevator
Length: 1.672 mm / 1.672 mm
Width: 2.234 mm / 2.234 mm
Height: 3.550 mm / 2.280 mm
Operating height: 1.149 mm / 1.149 mm



Rösler Consumables

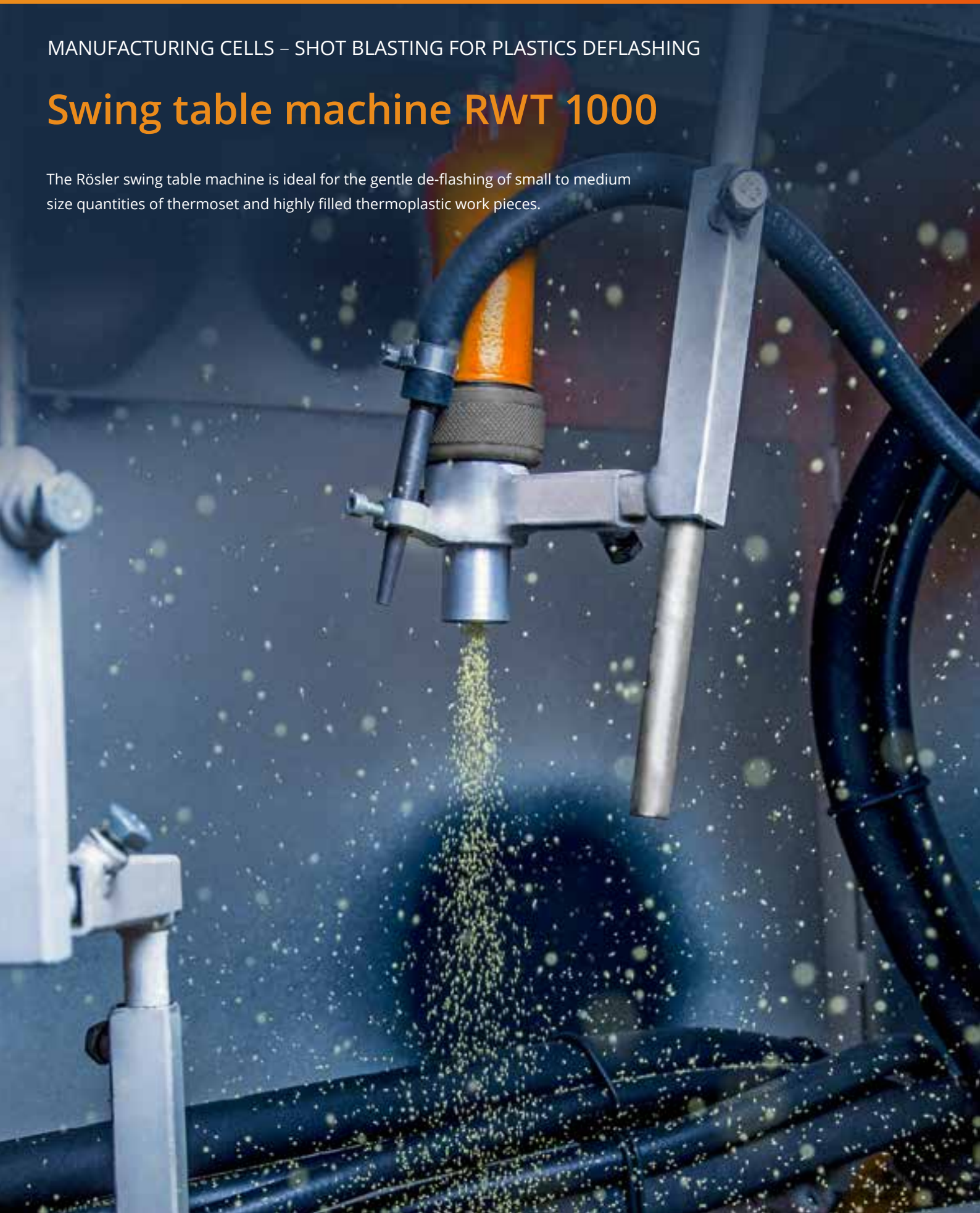
Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



MANUFACTURING CELLS – SHOT BLASTING FOR PLASTICS DEFLASHING

Swing table machine RWT 1000

The Rösler swing table machine is ideal for the gentle de-flashing of small to medium size quantities of thermoset and highly filled thermoplastic work pieces.



Technical description

The rotary table, divided into 2 zones, allows the de-flashing of single or multiple parts at one station, while finished parts are removed and raw parts loaded at another station. By a 180° table rotation the zones move from the blast station into the load / unload station and vice versa. Up to two work pieces can be placed in each zone.

Swing table machines can be easily integrated into manufacturing cells for the fully automatic de-flashing of work pieces coming from one or multiple injection molding machines or presses.



For the automatic de-flashing of:

- ▶ Delicate work pieces
- ▶ Work pieces with complex, difficult to reach contours
- ▶ Small to medium size work piece quantities



Typical applications:

- ▶ Rotor / Stator
- ▶ Water pump impellers
- ▶ Connector parts

Special equipment:

- ▶ Can be equipped with a blasting system having up to four blasting nozzles
- ▶ Vertical nozzle movement

Dimensions:

Length:	1.880 mm
Width:	1.245 mm
Height:	3.485 mm
Operating height:	1.250 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



MANUFACTURING CELLS – SHOT BLASTING FOR PLASTICS DEFLASHING

Indexing satellite table machine RSA 1400

The Rösler indexing satellite table blast machine is ideal for the gentle de-flashing of thermoset and highly filled work pieces. It allows the processing of high part volumes and of parts requiring long blasting times.



Technical description

At the load / unload station finished work pieces are removed from the special work piece fixtures, and raw work pieces are placed onto these fixtures.

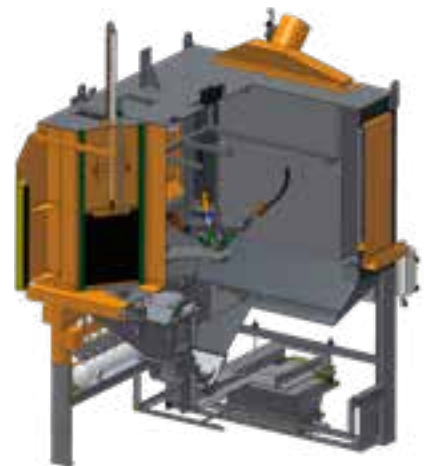
By the indexed rotation of the table the work pieces are passing through the different processing stages like loading / unloading station, buffer station, blasting stations and blow-off station.

Automatic linear, vertical and horizontal movement of the blast nozzles enhances the system's process flexibility and ensures complete and efficient de-flashing of the work pieces.



For the automatic de-flashing of:

- ▶ Small to medium size work pieces
- ▶ Delicate parts
- ▶ Work pieces with complex, difficult to reach contours



Typical applications:

- ▶ Engine covers
- ▶ Pump housings and impellers
- ▶ Intake manifolds
- ▶ Pulleys
- ▶ Thin-walled circuit breaker housing

Special equipment:

- ▶ Vertical nozzle movement
- ▶ Up to 12 blasting nozzles
- ▶ Up to 4 different blasting positions

Dimensions:

Length:	1.620 mm
Width:	2.115 mm
Height:	2.740 mm
Operating height:	1.185 mm



Rösler Consumables

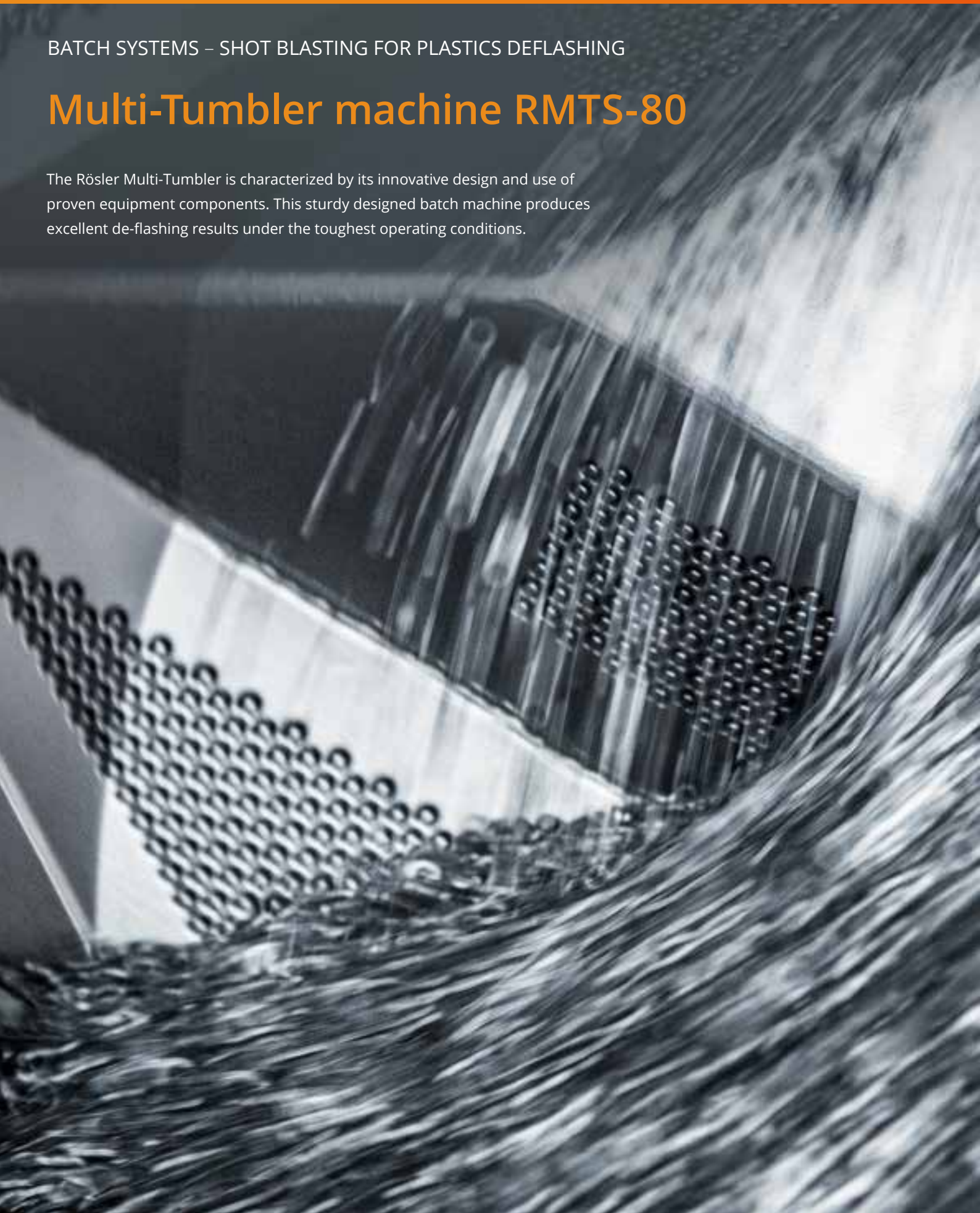
Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



BATCH SYSTEMS – SHOT BLASTING FOR PLASTICS DEFLASHING

Multi-Tumbler machine RMTS-80

The Rösler Multi-Tumbler is characterized by its innovative design and use of proven equipment components. This sturdy designed batch machine produces excellent de-flashing results under the toughest operating conditions.



Technical description

The rotary drum of the Rösler Multi-Tumbler is made in steel. Wave like tumbling cams and a pyramid shaped bottom ensure excellent mixing of the parts during the shot blasting process.

A turbine, mounted on the roof of the blasting chamber onto the drum, produces the required blast intensity. Since the rotary drum has no pinch points whatsoever, it allows the de-flashing of extremely flat and small work pieces with no damage to the parts.

The RMTS allows the batch processing of small work pieces with a minimum size of 3.5 mm. However, it can also be utilized for de-flashing of relatively large, desensitized parts. Multi-Tumblers can be used as stand-alone machines, or they can be upgraded into fully automatic systems with sophisticated material handling equipment for loading and unloading the parts. Optional equipment like automatic media replenishers guarantee a high process reliability and reduce operator intervention to an absolute minimum.



For the automatic de-flashing of:

- ▶ Very small to relatively large bulk produced work pieces
- ▶ Small to large work piece quantities



Typical applications:

- ▶ Cam shafts
- ▶ Tappets
- ▶ Contactors

Special equipment:

- ▶ With injector- (I) or pressure blasting technology (D)
- ▶ Specified design of the rotary drum (adapted to the workpieces to be blasted)

Dimensions:

Length:	1.530 mm
Width:	1.920 mm
Height:	2.170 mm



Rösler Consumables

Blasting media made of different materials (e.g. Polyamide filled or unfilled, Polycarbonate, Thermoset, Nutshells) as well as antistatic agent, that are optimized for the deflashing of plastics parts by shot blasting technology



TECHNOLOGY – SHOT BLASTING FOR PLASTICS DEFLASHING

De-flashing of thermoset materials

The path to the de-flashing of thermoset and highly filled thermoplastic workpieces leads through the sophisticated complete solutions offered by Rösler. By performing highly informative field tests, we always find the ideal solution for the wide-ranging requirements of our customers. Along with the decision for a specific machining process, this also includes the selection of the proper auxiliary equipment and consumables.

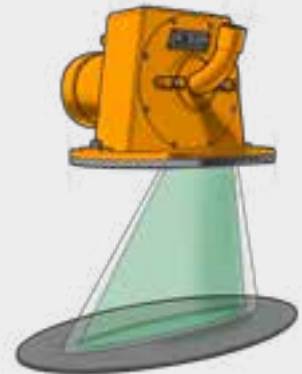


Process technology

Blast turbines

To be effective the blast media must be accelerated to very high speeds. Rösler achieves this by constantly improving the turbine technology, especially the throwing blades, which are key to achieving the required media throwing speeds.

The centrifugal force of the turbine accelerates the blast media to the required throwing speed. Compared to air blast systems turbines require a relatively low energy input and provide a very high level of energy efficiency.



Air blast systems

Air blast systems are used in application requiring an intense targeted de-flashing. They require relatively small amounts of blast media. Air blasting is occasionally used in conjunction with turbine blasting for the de-flashing of difficult to reach work piece areas like small openings.



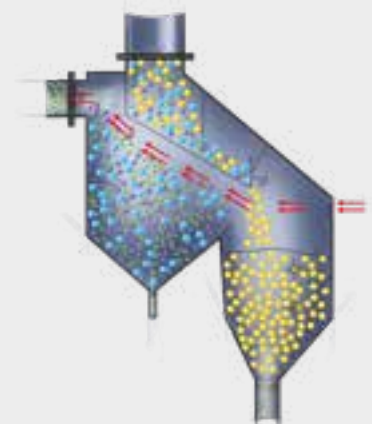
Cleaning and recycling of the blast media

The complete batch of blast media in the system is constantly re-circulated. In a first step the negative pressure produced by the fan of the dust collector is used to remove the air loaded with dust and small media & work piece particles from the blast chamber.

In a second step the airflow causes the thrown blast media and flashes to fall onto an integrated multi level-screening device where any larger contaminants are discharged from the system.

In a third step the remaining blast media is passing through a cascade air wash separator. Here the airflow from the dust collector separates undersize media and remaining contaminants (e. g. dust) from the 'good' blast media which is transferred to a media hopper for re-use in the blast cycle.

Finally, in a fourth step, an optional automatic media replenishment system is feeding fresh media into the system to replace any media lost during the previous blasting cycles.



Part cleaning and quality

The cleaning and blown off after processing are specially designed for their particular range of parts.

All of the machines are equipped with an antistatic spray device to prevent stubborn dust deposits due to static charge. Spray nozzles are used to spray antistatic fluid from a storage tank. The optionally available automatic antistatic dosing equipment eliminates the need to manually mix water and antistatic agents. The desired mixing ratio can be set on the control panel.



Exhaust air purification

Highly efficient specialised filter cartridges are used to clean the exhaust air. The filter purification is carried out with automatic interval control during operation and thus guarantees continuous operation around the clock. Rösler can offer various customised filter solutions for this purpose.

Operational safety and user friendliness

We equip the control system as follows to ensure a high level of operational safety:

- ▶ SIEMENS PLC control unit with safety monitoring (other manufacturer on request)
- ▶ Operating state and malfunction displays in the plain text dialogue system
- ▶ Easy-to-install design with plug connections between the machine and control cabinet
- ▶ Emergency-Off switches at easily accessible



Consumables

Blast media

The various de-flashing applications require a wide range of different media. Low media consumption combined with the shortest possible cycle times are the most important selection criteria.

The constant search for suitable media, regular shot blasting trials with customer work pieces and on site inspections of customer de-flashing systems ensure that these formerly underestimated 'auxiliary consumables' have become essential tools for not only achieving the best possible de-flashing results but also for achieving considerable cost efficiencies.

Rösler stocks an extensive range of different media types in different grain sizes for testing purposes in our test lab. Generally, de-flashing machines can be operated with the following media:

- ▶ Polyamide (PA), in cubical or cylindrical shape
- ▶ Polycarbonate (PC), cylindrical
- ▶ Filled polyamide media for special de-flashing applications
- ▶ Organic media like crushed nut shells or fruit pits (peach, apricot, etc.)
- ▶ Thermoset



Antistatic compound

Maintaining a consistent quality of the antistatic compound is essential for the effectiveness, quality, required processing time and environmental compatibility of the de-flashing process. We use only eco-friendly raw materials and place high ecological standards on the production of our antistatic compounds.

