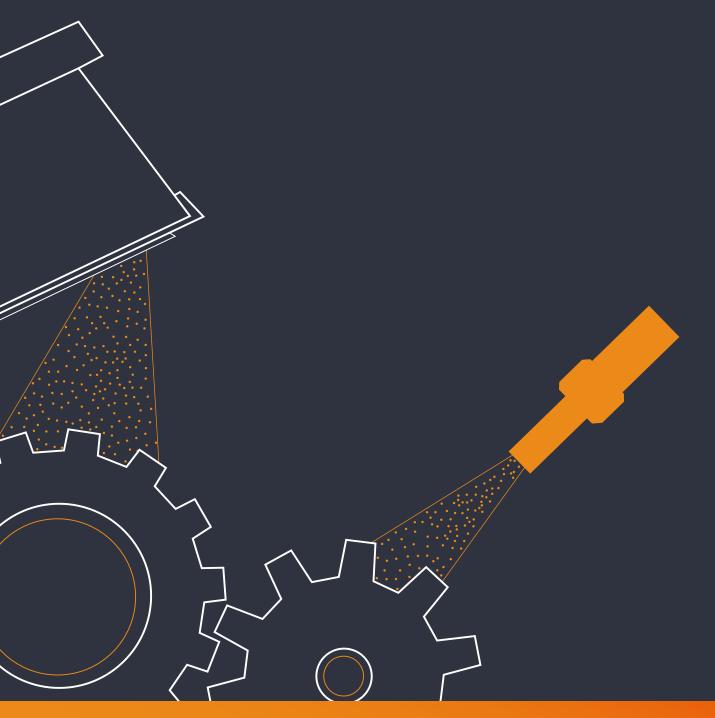


Shot Peening





Mass Finishing



High-performance equipmer and innovative technologies productive and cost-effective

Shot Blasting



Customer-oriented equipment technology and intelligent process solutions – long-lasting and energy-efficient

AM Solutions



Comprehensive solutions for additive manufacturing, especially 3D post processing equipment

>80

More than 80 years of **experience**



15 locations –

over **150** distributors –

over **1,500** employees **across the globe**



Worldwide **Customer Experience Center**



More than **15,000 different types of media and compounds**



Our technical service – round-the-clock support



Transfer of professional knowledge

by certified trainers

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Learning from the global market leader - Rösler Academy	Customer Experience Center
	Learning from the global market leader - Rösler Academy
Rösler Smart Solutions – digitization concepts for the shot blasting technology	Rösler Smart Solutions – digitization concepts for the shot blasting technology

3



SWING TABLE BLAST MACHINE RWT

For shot peening, targeted shot blasting/peening, cleaning, deburring and creating homogeneous surface finishes

This machine is equipped with a rotary table divided into two segments, an external work piece loading/unloading **section** and a blast chamber section. The two segments are separated by a wall in the table center. Depending on the are rotating. The machine design allows loading/unloading required throughput capacity, the two table segments can be equipped with 2, 4 or 8 satellite stations. The work pieces, for example, transmission components, can be placed on the satellite stations by hand or fully automatically by a handling

system or robot. Once the work pieces are loaded on the satellite stations, the table rotates 180° to move them into the blast chamber. During the blast operation the satellite stations the work pieces at one station, while the work pieces at the opposite station are being blasted. This clever concept practically eliminates all unproductive equipment times.



Blast system

Blast chamber

Control of rotational movement

Blast gun movement

Specifications RWT

Model	RWT 10-S2	RWT 10-S4	RWT 13-S4	RWT 13-S8
Max. work piece size Ø x H (mm)	300 x 350	200 x 350	300 x 500	200 x 500
Max. weight single work piece (kg)	25	25	25	25
Number of satellite stations per table segment	1	2	2	4
Number of blast guns, standard	2	2	4	4
Work piece hold-down device	•	•	•	•
Dual peening	0	0	0	0

• = standard | - = not available | o = optional



ROTARY TABLE BLAST MACHINE RDT-S

For shot peening, cleaning, deburring and creating homogeneous surface finishes

chambers. The satellite stations at the front side are accessible by walls forming separate chambers. One chamber contains for easy removal of the finished and loading of the raw work a blow-off station for removing residual blast media from the pieces. After the loading operation the machine rotates by work pieces.

The Rösler rotary table blast machine is divided into multiple one station. The individual work piece holders are separated

RDT-S machines are an ideal manufacturing tool thanks to

• flexible turbine placement and special satellite configurations



Magnetic seal

Turbine placement

Optional: Process controls



SATELLITE TABLE BLAST MACHINE RST

For shot peening, cleaning, deburring and creating homogeneous surface finishes

The indexing satellite table blast machine is ideal for processing all kinds of transmission components. The standard machine is equipped with a rotary table containing 15 satellite stations. **The stations at the front side are accessible** for easy removal of the finished and loading of the raw work pieces. After the loading operation the machine rotates by one station. The

blasting zone and the loading/unloading station are separated by lift gates and multiple rubber curtains. During the shot blasting operation the two satellite stations in front of the turbines are rotating. After leaving the blast zone the satellites pass through a blow-off station for removal of any residual blast media from the work pieces.

RST machines are an ideal manufacturing tool thanks to small footprint: Compact, space saving design minimal unproductive times ensure a high operational efficiency RST with expanded maintenance platform and noise absorbing cabin

Turbine placement

- Easy compliance with customer requirements: Flexible turbine placeme
- Excellent accessibility: Turbines mounted onto hinged door

Loading/unloading

- Ergonomic: Ideal position of media collecting funnel and auger
- Flexible: Manual or automatic work piece handling

Equipment maintenance

- Easy: Multiple doors allow quick, easy access to the blast chamber
- Option: Hinged turbine housing allows additional access

Optional: Process controls

- Control of rotational movement
- Control of blast media flow
- Built-in scree
- Media replenishment



SWING CHAMBER BLAST MACHINE RWK

For shot peening, cleaning, deburring and creating homogeneous surface finishes

integrated into all kinds of manufacturing lines. At the heart of drive system and reliable dust collection, guarantees short cycle the RWK machines is a dual chamber system that allows the times. simultaneous loading/unloading of one set of work pieces,

The automatic swing chamber machines can be easily while another set is shot blasted. This, along with a powerful



Design and technical features

Work piece handling

Integration into manufacturing processes

Specifications RWK

RWK 6/12-2
each 300
up to 600
up to 1,200
o
2 x Gamma 300G
7.5
0
3,500

· = standard | o = optional



CONTINUOUS FEED ROTATIONAL PEENING MACHINE RRDK

For shot peening, cleaning, deburring and creating homogeneous surface finishes of chassis coil springs

At the loading station the springs are placed between **two** Depending on the capacity requirements, RRDK machines can rotating shafts. The turbines, placed in the ceiling of the blast chamber, are blasting down onto the rotating work pieces.

be equipped with one or two transport lines.

RRDK peening machines are an ideal manufacturing tool thanks to • a high degree of automation excellent productivity with high work piece throughput RRDK with expanded maintenance platform

Work piece handling

Optional: Automatic operation

Minimal maintenance - high equipment uptime



TUMBLE BELT BLAST MACHINE RMBC

For shot peening, descaling, de-rusting, deburring and creating homogeneous surface finishes

Batch tumble belt machines allow the effective shot blasting the risk of damage. They can handle extremely small as well as of work pieces that can tumble over each other without large, heavy work pieces with a high degree of efficiency.



Design and technical features

Work piece handling

Blast media recycling and cleaning

Specifications RMBC

Model	RMBC 1.1-HD	RMBC 2.1-HD	RMBC 4.2-HD	RMBC 6.2-SB	RMBC 8.2-SB	RMBC 10.3-SB
Troughed belt	Rubber belt	Rubber belt	Rubber belt	Belt made from steel slats	Belt made from steel slats	Belt made from steel slats
Standard belt perforation (mm)	8	8	8	8	10	10
Turbines, standard	1 x Gamma 300G	1 x Gamma 300G	2 x Gamma 300G	2 x Gamma 300G	2 x Gamma 400G	3 x Gamma 400G
Turbine power, standard (kW)	5,5	7,5	7,5	11	22	22
max, batch volume (dm³)	90	160	370	550	800	1,000
max, batch weight (kg)	400	700	1,000	1,500	2,800	3,000
Pneumatic lift gate	•	•		•	-	-
Hydraulic lift gate	-	-	-	-		
Vibratory conveyor	•	•	0	0	0	0
Capacity dust collector (m³/h)	2,000	2,000	3,000	5,000	7,500	10,000

• = standard | - = not available | o = optional



MULTI-TUMBLER RMT

For shot peening, descaling, surface texturing, cleaning and creating homogeneous surface finishes

Whenever work pieces that can tumble over each other must special drum design guarantees optimal and gentle mixing of be processed, multi-tumblers ensure high process stability. The the work pieces and, thus, consistent shot blasting results.



Design and technical features

Blast media recycling and cleaning

Specifications RMT

Model	RMT 8	RMT 20	RMT 40	RMT 70	RMT 100
Standard drum perforation (mm)	6	8	10	10	12
Turbines, standard	1 x Gamma 300G	1 x Gamma 300G	1 x Gamma 400G	1 x Gamma 400G	1 x Rutten Gamma 520
Turbine power, standard (kW)	7,5	11	30	30	37
max. batch weight (kg)	200	500	1,000	1,800	3,000
max. batch volume (dm³)	80	200	400	700	1,000
max. work piece dimensions, measured diagonally (mm)	220	300	350	450	550
max. weight of single work pieces (kg)	10	25	60	100	100
Drum made from manganese steel	•	•	•	•	•
No foundation required	•	•	•	•	•
Capacity dust collector (m³/h)	1,200	2,000	3,000	3,000	4,000

• = standard



ACCESSSORIES & EQUIPMENT MODERNIZATION

the shot blasting operations resulting in lower costs, less material input and reduced manual work piece handling.

Numerous accessories can be added to further **optimize** Our technical experts will gladly assist you in planning your new shot blast machine.

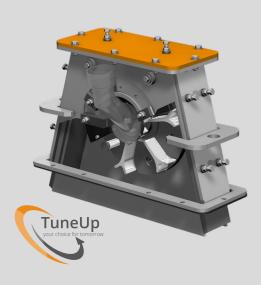


Equipment modernization

Under our brand name "TuneUp" we focus specifically on the modernization of shot blast machines supplied by Rösler or any other equipment manufacturer. For this purpose we can offer a broad portfolio of different blast turbines and accessories for a broad range of applications. The use of low-maintenance and energy-saving components allows us to adapt your shot blasting equipment to changed market conditions and, at the same time, save costs.

All components marked with the "TuneUp" symbol are fully suitable for the modernization of shot blast equipment supplied by different manufacturers.

Please find more information on the subject of equipment modernization under www.rosler.com.



Turbines

With the precisely calculated curvature of the throwing blades our Gamma G and Rutten range of turbines produce maximum throwing speeds. They are further characterized by an extremely precise blast pattern and high operational efficiency.

Gamma G - Easy to maintain

- ▶ Compared to conventional turbines 3 times higher uptimes of the throwing blades
- ▶ Their special design allows the use of both sides of the throwing blades
- Opening of the top lid of the turbine housing allows easy access for changes of the throwing blades
- Easy change of the rotational direction of the turbines

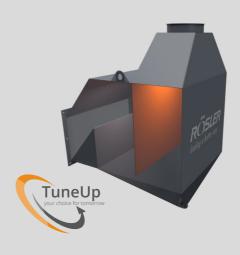
Rutten - The "long-life" turbines

- ▶ Up to 25% more energy-efficient blast media acceleration
- ▶ Throwing blades, made from wear resistant steel alloys, guarantee a high uptime
- ▶ Their special design allows the use of both sides of the throwing blades
- Easy change of the rotational direction of the turbines
- ▶ Depending on the blast media 10 to 16 times higher blade uptimes



Blast media transport and cleaning systems

Modern blast media recycling systems ensure the optimal transport of the blast media through the entire machine. This guarantees a stable operating mix and excellent blast results. Various safety devices quickly discharge foreign objects from the recycling system. The components of the media recycling system like augers, elevator units, air wash and magnetic separators, are specially adapted to your shot blast equipment.



Dropout box

Installed in the air duct to the dust collectors, the dropout box discharges undersized blast media from the exhaust air by slowing down the airflow. The exhaust air enters the dropout box equipped with an impact plate. As the air loaded with dust und undersized media hits the impact plate, the air flow is drastically slowed down. As gravity overcomes the energy of the air flow, heavier particles are dropping to the ground through a rubber hose.



Special wear linings

Whenever blast media with larger pellet sizes is utilized in shot peening operations, the area in the blast chamber directly exposed to the blast stream must be lined with wear plates made from wear resistant cast steel instead of manganese steel.





Dust collectors

Rösler offers different dust collectors, for example, collectors with dry filter cartridges or explosion protected dry filter cartridges and wet dust collectors. With dry filter cartridges the residual dust load in the clean air can be as low as <1mg/Nm³, considerably lower than what is mandated by the German regulations, which stipulate 3 – 5 mg/Nm³. The air flow capacities of the Rösler collectors range from 1,000 bis 25,000 m³ per hour.



MagnaValves – Dosing of ferromagnetic blast media by the creation of an electromagnetic field

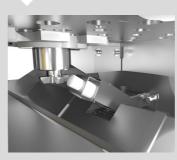
MagnaValves offer maximum process stability and accuracy for the precise dosing of the blast media to the turbines as well as for the media replenishment into the media recycling system. MagnaValves use a permanent magnet and an electromagnet for controlling the blast media flow. During the blast operation the magnetic field is neutralized so that media can freely flow through the valve. Since no moving parts are utilized, the system does not wear and is easy to maintain. In MagnaValves with sensor coil the media flow can be precisely measured.





Screening device

To produce consistent shot peening results the blast media must frequently pass through a screen, thus ensuring a stable mix of blast media pellet sizes. This screen classification is frequently part of a company's shot peening standards. In case of pressure blast systems the entire blast media quantity may have to pass through such a screening device. With less stringent specifications only a portion of the media may have to be screened in bypass mode. Because of the high media volumes used in turbine blast systems only a portion of the media can be screened in bypass mode.





Control of rotational movement

Extensive process controls ensure consistent shot peening results. Since peening operations frequently require the work pieces to rotate, this movement must be monitored and controlled. Whenever possible, the movement should not just be checked at the rotational drive, but the work piece rotation itself should be monitored.





Spiral separators

Especially when spherical steel shot is used as peening media, it is essential to not only control the size of the steel pellets but also their shape. To account for the fact that blast media tends to shatter, spiral separators are utilized to discharge the shattered, unusable media. The blast media is fed into the top section of the spiral separator and rolls downward through the spirals. Round media quickly accelerates, and the generated centrifugal force drives it towards the outer edge of the spiral. Shattered, unround media remains at the center of the spiral, from where it is automatically discharged. Because of their limited capacity the media classification in spiral separators usually takes place in bypass mode.





Control of the media hose

Wear of the peening components, especially of the media hose, will negatively impact the peening results. To minimize the overall costs for process control, a special media hose control is utilized. For this purpose, the blast hose is placed in a special "wrapping" hose, and a pressure sensor is installed. As soon as the blast hose develops a leak, an alarm is set off, and the peening process is terminated.



Visualization

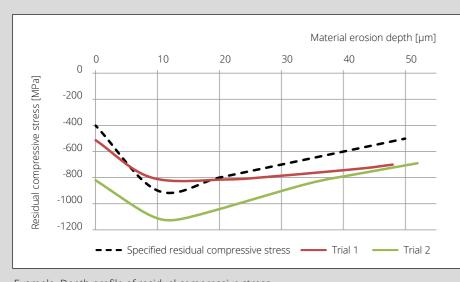
Besides good "hardware" an easy to use and intuitive process visualization in the control panel is essential. For shot peening operations an expanded visualization with additional screen shots guarantees easy operation and quick information about the process status. Depending on the size of the shot peening equipment, portable operating panels can be used.

20 2

OUR SHOT PEENING SERVICES AT A GLANCE

the entire process is absolutely essential. In our customer experience centers, equipped with suitable peening equipment

For shot peening operations extensive knowledge about and the latest analytical tools, we can assist you with the development of your shot peening processes and their control.





Example: Depth profile of residual compressive stress

electropolishing and measuring technologies to document the ASTM E915 and EN 15305. Other measurements are possible compressive residual stress curves.

Besides our in-house x-ray diffractometer we also utilize suitable
Our measurements are made in compliance with the standards upon request.

Service overview

1. Development phase

- Determination of the process parameters in our customer experience center
- Measurement of residual compressive stress values during processing trials, including sample preparation
- Documentation of the peening trials and the test results
- Development of detailed machine concepts based on the results of the peening trials

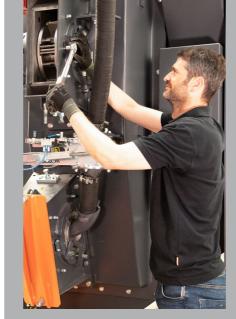
2. Project implementation

 Measurement of the achieved residual comprehensive stress values prior to the date of commissioning and equipment delivery

3. After sales support

- Measurement of the achieved residual compressive stress values at the customer location during volume production to check the peening quality
- Additional measurements at Rösler and other equipment during production

AFTER-SALES-SERVICE



Twenty-four-seven technical support throughout the life of your machine!

Irrespective of what surface treatment issues you might have, we offer professional support and meet all your requirements:

- Spare and wear parts, also for equipment supplied by other manufacturers
 - Tailormade maintenance contracts
- Control and calibration of dust collectors
- Modernization and relocation of existing equipment
- Expert advice for all process questions
- Blast media analysis
- ▶ Support in meeting the operating standards for your equipment
- Protective ground wire tests (in accordance with EN 60204-1 / VDE 0113)
- BUS measurements
- Customer Experience Centers and process labs around the world
- Training courses for operators and maintenance personnel
- Added value through service contracts: 24 h emergency hotline



Maintenance and repair service

Our professional service team stands ready to serve you, be it helping with an emergency, a repair or a scheduled maintenance. With quick response times and well-equipped service vehicles we are able to maintain your onsite equipment or get it running again.



Spare and wear parts – also for equipment supplied by other manufacturers

By nature all shot blast machines are subject to wear! Rösler maintains a large stock of spare parts. This guarantees quick delivery and a high equipment uptime. If needed, we will arrange for delivery overnight.

Please find more information to our service for shot blast machines at www.rosler.com

CUSTOMER EXPERIENCE CENTER SHOT BLAST TECHNOLOGY

approach to surface treatment challenges. Equipment and processes are not only tailored to the respective finishing task but also optimally integrated into the overall manufacturing from our customers in our CEC's. operation. Practically all our Rösler locations have their own

A special feature of the Rösler philosophy is our integrative Customer Experience Center (CEC) equipped with state-ofthe-art machinery. To develop the best processing solutions we conduct comprehensive processing trials with the work pieces







Process development and optimization

equipment selection to an excellent after sales service, we provide "total" solutions from one single source. In can demonstrate all shot blasting processes under actual production conditions. Ultramodern physical and chemical measuring technologies support the process development and optimization. The process and design engineers from our development and engineering departments develop

From the processing trials, the process development and custom-engineered solutions on a daily basis. For the development of shot blasting solutions the processes are frequently planned with computer simulations. Thanks our well-equipped Customer Experience Centers (CEC) we to ultramodern software we are able to electronically reproduce the possible finishing results on the surface of the work pieces. These simulations allow us to optimize the physical arrangement of the media acceleration systems relative to the work pieces that must be blasted.

Product development and optimization

Customer Experience Centers (CEC) around the world and development in the field of shot blasting. our well-equipped lab in Untermerzbach, Germany, are

The unique depth of our Rösler equipment portfolio, our ideal conditions for innovative and cost-effective product

LEARNING FROM THE GLOBAL MARKET LEADER

based on over 80 years of experience. As global technology and market leader in the refinement of surfaces we offer excellent

Our expertise in the field of mechanical surface treatment is complete solutions – from equipment and accessories, all the way to after sales service. We are happy to pass this unique knowledge to you in our training seminars.







Rösler Academy

The central training center of the Rösler Oberflächentechnik GmbH

- ► An area of more than 1,350 m² for learning and working
- Equipped with the latest digital media and communication technologies
- Certified professional trainers
- ▶ Specialized fields: Mass finishing, shot blasting, lean management
- ▶ More than 10 different training seminars
- ► Focus on hands-on learning
- Training seminars in German and English
- ▶ Customized training seminars at customer locations upon request

Our professional trainers

All our trainers are certified and are among the best in their respective fields. In our training seminars you will benefit from the extensive experience of our trainers, who will provide you with first-hand practical knowledge.







You can find more information about our seminars, dates and registration procedures under www.rosler-academy.com or scan the QR-Code.



¹ Source: Evaluation questionnaires filled out by participants, Status 31/12/2022

RÓSLER[®]

RÖSLER SMART SOLUTIONS

A digital added value to meet your challenges



Now is the time to promote **the digital transformation** and develop innovative digitization solutions for the shot blasting technology! Under our new brand **Rösler Smart Solutions** we have developed comprehensive digitization modules that will allow you to make **your shot blasting processes** and **their**

parameters more transparent and to define the potential for substantial cost savings. Our software package helps taking advantage of the potential for optimization and significant reduction of operating costs.















Transparency of processes and costs

Realtime process monitoring and recording of data Quick correction of deviations and faults

Intelligent equipment operation with uptime projections Optimized utilization of resources and cost reduction

The **digitization portfolio for shot blasting equipment** was developed for our entire equipment range. It contains soft- and hardware packages that can be utilized for the following topics:



WORK PIECE QUALITY

- Combination of all shot blasting parameters into one common metric called "shot blast performance"
- Recording of all process data that influence the work piece quality
- Individual evaluation of the achieved production volume

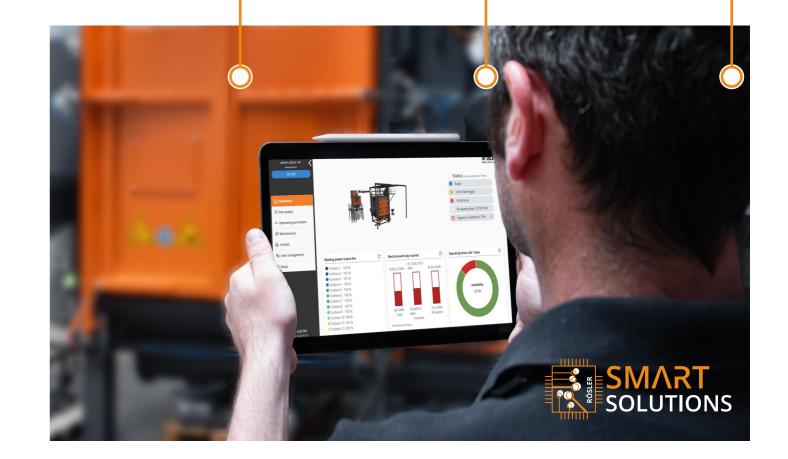


- Realtime monitoring of all consumption values
- Digital archiving of all recorded data. This allows the identification of operating patterns and trends
- Visualization of individually defined time periods



MAINTENANCE

- Collection of the uptime history for each turbine facilitates preventive maintenance
- Operating times and equipment availability are displayed in a simple, easy-tounderstand format
- Spare part orders prepared in advance, including mail-to function



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Mass Finishing

Shot Blasting

AM Solutions

www.rosler.com

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and over 150 additional distributors

