Steel fabrication
Steel trader
Shot blast systems, working in perfect harmony

Rösler shot blasting is synonymous with technological leadership in the field of mechanical surface treatment. Besides innovative products and services we offer our customers a comprehensive know-how in surface treatment methods as well as the expertise for integrated manufacturing solutions.

With custom engineered technical solutions we bring a high degree of quality and cost efficiency to our customers, providing them with significant competitive advantages.

When it comes to the two most important surface treatment fields, namely mass finishing and shot blasting, Rösler is the only equipment supplier in the world who can offer both. You simply present your surface treatment problems to us, and we in turn will develop the economically and technically most suitable solution for you in our test and demonstration centres.

Rösler shot blasting machines generally distinguish themselves with many innovative technical details. Our company has successfully transformed decades of experience into modern equipment concepts. In both fields, mass finishing as well as shot blasting, we develop customer oriented solutions, which can be easily integrated into fully automatic manufacturing processes. Our shot blast surface finishing and surface preparation systems are generally characterised by their state-of-the-art technology and with the highest emphasis on cost efficiency.

If special importance are our heavy duty blast turbines, which offer significant increases in productivity with, at the same time, reduced operating costs.

As the only single source manufacturer and supplier of mass finishing and shot blasting systems we are the global market leader for equipment and process technology in the field of surface treatment (deburring, descaling, polishing, grinding, etc.) of component parts made from various metals, plastics and other materials.

Our customers can be found in a wide variety of industries. They all rely on the fact that Rösler offers them by far the best surface treatment solutions in the market. “Innovation is our strength” is not just a slogan. We quickly react to the constantly changing technological market environment with up-to-date processing solutions. At the same time, we are constantly searching for new fields of applications for our technologies and, by doing so, we are able to develop innovative surface treatment processes combining a consistently high quality surface finish at the lowest possible costs.

Global network of test labs

Test labs for mass finishing and shot blasting at the Rösler headquarters in Untermerzbach:

- More than 95 mass finishing and shot blast machines.
- About 2,700 m² (27,000 sqft) workspace.

Our teams in USA, Great Britain, France, Netherlands, Belgium, Spain, Turkey, Romania, Italy, Austria, Switzerland, Russia, Brazil, Serbia and India provide similar test lab services.

Complete solutions

Besides demanding high quality, environmentally safe and efficient products, our customers also prefer to purchase all process components from one single source. That is why we offer not merely the processing equipment but the complete package with perfectly matched consumables. This guarantees the best finishing results and absolute process safety. Our global service teams take care of the delivery and the installation for you. Qualified engineers train our customers right at their location. And, of course, our after-sales service members will answer all of your questions. Quick supply of all spare parts and professional consultation by our experienced process specialists ensure that your finishing processes are always running smoothly.

Rösler Academy

Knowledge transfer in the fields of mass finishing and shot blasting from a single source.

As the only supplier in the world that offers both mass finishing and shot blasting, we are committed to passing our knowledge and knowhow to our customers through seminars covering a wide range of surface finishing subjects. Gain in depth knowledge of how mass finishing works, how blast media passes through a shot blast machine, and how you can increase your efficiency and productivity with optimum control and testing methods for cleaning and recycling your process water. You can find a complete list of our training seminars for mass finishing and shot blasting using the following link: www.roesler-academy.com.
Fields of application / Examples of applications

Overview

Roller conveyor blast machine 6 - 7
Preservation line 8 - 11
Roller conveyor blast machine for weldments 12 - 13
Continuous feed single strand blast machine 18
Continuous feed single strand blast machine 18
Partners 4 Steel 19
Continuous feed single strand blast machine 18
Auxiliary equipment 20 - 21
Continuous feed single strand blast machine 18
Retrofit 22
Continuous feed single strand blast machine 18
After-Sales-Service 23

Pipe
Tube
Billet
Steel plate
I-beam
Steel section
Flat steel bar
U-shaped beam

If your mobile phone is equipped with a QR-code detection software, you can view the technical data directly; otherwise, you can call them off through http://data.rosler.com
Rösler roller conveyor blast machines are unrivalled in their versatility. Their design reflects many customer requirements and suggestions. RRB's are especially productive for typical shot blast applications like descaling, derusting, paint stripping, general cleaning and surface roughening of steel plates, profiles, beams and pipes. They can handle thin gauge aluminum profiles through to extremely heavy and large steel beams and plates equally well. Work pieces with a maximum width of 5,000 mm (197”) and height of 600 mm (24”) can be perfectly processed. Transport speeds of up to 6 m/min (20 ft/min) are possible. We also offer custom engineered solutions for special finishing requirements and higher speeds.

Our precisely positioned blast turbines, equipped with energy saving IE 3 electric motors, are highly efficient and produce optimum shot blast results. An integrated work piece cleaning station equipped with a rotary brush and a concentrated air blow-off system guarantees that the work pieces exit the blast machine absolutely free of dust and blast media. Accurately sized Rösler dust collectors are utilized for removing dust from the blast chamber and cleaning the blast media. In the case of RRB machines the dust collectors are placed on top of the blast machine, which drastically reduces the overall footprint by up to 20 m² (200 sqft).

By adding components like pre-heaters, automatic paint systems and paint dryers, RRB blast machines can be upgraded to complete preservation lines. They can also be easily integrated into existing manufacturing lines. Through its partnership arrangement with Behringer and Vernet Behringer (partners 4 steel), Rösler can offer complete manufacturing solutions for shot blasting, corrosion protection, painting, saw cutting and/or drilling.

Please contact us for a technical consultation.

External roller conveyors
For the transport of different work pieces Rösler offers suitable roller conveyor transport systems, which are available in several versions, for example, with different pitches and diameters. The modular design of the roller conveyor sections ensures quick and troubleproblem-free installation. The drive system is mounted inside of the roller conveyor frame for protection against damage. Highly precise capacitive sensors signal the arrival of work pieces. Transport speeds of up to 40 m/min (130 ft/min) are possible.

Cross conveyors
Cross conveyors, located between the roller conveyor sections, are utilized for moving the work pieces at a 90° angle to the roller conveyor transport direction. This allows the staging of work piece batches and their quick placement onto and removal from the roller conveyor. Each cross conveyor is equipped with hydraulic lifting bars, which can be individually controlled.

Work piece cleaning station
The work piece cleaning station, located at the exit of the outlet vestibule, consists of a rotary brush and a subsequent air blow-off system. It effectively removes all residual blast media remaining on the work pieces after the shot blast process. An auger below the rotary brush guarantees the complete transfer of the brushed off media back into the media recycling system. Depending on the readings of a height sensor at the machine entrance the cleaning station automatically adjusts its position to the respective work piece height.
The Rösler paint technology is utilized for providing a preliminary or final coating on work pieces after the blast cycle. Its primary purpose is the application of solvent- or water-based welding primers as a temporary corrosion protection for plates and profiles.

A complete preservation line usually consists of the following system components:
Part feeding and unloading systems, blow-off station, pre-heater, roller conveyor blast machine, automatic paint system with dust collector, paint dryer with chain conveyor and a thermal post-combustion system.

A matching cross & chain conveyors as well as roller transport conveyors are used for handling work pieces. Depending on the respective application they can be complemented by inclined/tilting roller conveyors with integrated media return system, centering devices and sorting devices.

The pre-heater in combination with the blow-off station allows the removal of water, ice/snow and other contaminants from work pieces stored outside and increases their surface temperature to a level that allows painting. This also helps prevent moisture getting into the blast media recycling system.

Through a sophisticated air distribution system the high convection heater, operated with gas or oil, warms up the work pieces to an optimum temperature for the subsequent painting process. This helps specifically with the paint adhesion and reduces the drying time contributing to a higher overall line speed and a higher work piece throughput.

The roller conveyor blast machine is the centerpiece of the whole system. In this machine, depending on the respective job, mill scale, rust and other materials are removed from the work pieces, and their surface is simultaneously roughened for better paint adhesion. The high performance turbines, whose position on the blast chamber is determined by computer simulation, guarantee homogeneous blasting results and short cycle times.

In the following automatic painting system paint is applied in various colors at the specified coating thicknesses in an extremely short time. A sophisticated sensor reduces overspray to an absolute minimum. The paint systems offer a wide variety of process options meeting the most challenging customer specifications. The operating parameters of the paint dryer are adjustable. It is fed with exhausted hot air from the pre-heater and normally does not require any additional burners significantly helping reduce overall energy consumption. The length of the paint dryer is determined by the paint used, the coating thickness and the work piece travel speed.

Preservation lines can be easily integrated into whole manufacturing lines and can be completely automated.

Rösler offers comprehensive solutions and many system combinations. We will gladly assist you in resolving your corrosion protection issues.
Preservation line KON

Blow-off station
The blow-off station is placed in front of the pre-heater. With a thin, angled air stream it cleans the work pieces, which may have been stored outside by removing water and other contaminants from their surface. Depending on the machine width one or multiple radial fans generate the required air stream.

High convection heater
A simple physical law, namely ‘high convection’, was applied in the design of the new generation of Rösler pre-heaters: In convective systems (heat flow) the energy migrates in the heated medium from a location with high temperatures to locations with low temperatures. The newly developed air circulating system is heating the work pieces not only on one side but completely envelops them in hot air, thus ensuring an all-around heating effect and a reduction of the overall warming up time. Specially arranged fans remove heated air from the heating chamber and – bypassing the burners -- guide it directly back into the heating chamber. This helps reduce gas or oil consumption and helps limit the number of gas or oil burners to a maximum of two units. The air stream can be adjusted in relation to the mass of the work pieces and their travel speed. This is achieved by turning individual fans on/off or adjusting their rotary speed by frequency inverter. Optimum insulation of the complete unit guarantees low heat losses and constant high temperatures over a long time period. This allows transferring the excess hot air through an insulated air duct to the paint dryer, where it can be re-used.

Automatic painting system
The newly developed, fully automatic Rösler painting system allows travel speeds of up to 8 m/min (26 ft/min). It is characterized by minimal overspray resulting in low paint consumption and an optimized airflow allowing the use of all common solvent- or water-based coating materials irrespective of whether these are 1-, 2- or 3-component paints. Depending on coating requirements the paint can be applied airlessly or with atomized air. Sensors allow the exact recognition of the different work piece sizes contributing to a drastic reduction in paint consumption. The entire inside of the automated paint booth is coated with Teflon preventing the adhesion of paint. This helps significantly reduce the time for cleaning and maintenance. Paint particles dropping to the floor of the booth are collected in a disposable plastic film for easy disposal. To expedite the paint drying of the paint particles, especially in the case of water-based paints, the floor of the paint booth can be heated. Airborne Paint particles are extracted by the optimized linear airflow of the air extraction system and directly transported to the brush pre-separator. This patented system catches most of the paint particles and reduces the dust load of the paint filtration system by 60-80 %.

Chain conveyor
For transporting the freshly painted work pieces through the paint dryer Rösler uses special chain conveyors with minimal contact areas with only 6 contact points per m² (10 sqft). This guarantees a gentle transport of the painted work pieces without risk of damaging the fresh paint layer.

Paint dryer
The paint dryer ensures quick, all-around drying of the newly applied paint on the work pieces allowing their quick use in subsequent manufacturing steps. The paint dryer is heated with the excess exhausted heat from the pre-heater. Its overall length is determined by the drying time of the applied paint, the thickness of the paint layer and the work piece travel speed. Recirculating fans and special air channels provide a consistent and homogeneous flow of hot air around the work pieces.
Roller conveyor blast machine for weldments RRBK

The RRBK is a special version of the roller conveyor blast machine. This machine range was specifically developed for processing of large and complex welding constructions. The unique design of the RRBK allows the all-around descaling/derusting including: welded top and bottom plates, braces, transverse ribs and re-enforcing struts as well as cleaning all welding seams.

In the Rösler RRBK blast machines the turbines are placed in two “rings” around the circumference of the blast chamber. They are mounted at an angle and arranged at a 90° offset relative to the work piece transport direction. Depending on the blast chamber size the turbines are placed on the roof, the bottom and the walls of the blast chamber. This turbine arrangement creates an overlapping blast pattern that even extends to difficult-to-reach undercuts on the work pieces and produces optimum blast cleaning results. An optional cleaning unit in the outlet vestibule allows the removal of any media carried out on the work pieces. For operational safety multi-layer rubber curtains in the inlet and outlet vestibules prevent flying media from escaping to the machine surroundings. Large inspection doors and platforms allow easy access to all critical equipment components facilitating maintenance and keeping down times at a minimum.

Media collection funnel below the roller conveyor transport system

On their outlet side RRBK systems are always supplied with collection funnel below the roller conveyor transport system.

Complex weldments contain many corners and cavities, which can carry blast media out of the shot blast machine, thereby increasing the risk of accidents! With these collection funnel any blast media dropping from the work pieces can be automatically returned to the media recycling system.
Continuous feed spinner hanger blast machine RHBD-K

Rösler RHBD-K spinner hanger blast machines can process high work piece volumes as well as large, heavy single components. They can be either supplied as stand-alone machines with a closed loop transport system or integrated into already existing work piece transport networks. The work pieces are suspended from the trusses of manual hanger transport units or ‘powered & free’ and closed loop systems. In case of heavier components electrical transport and lift trolleys are utilized.

This machine type is always equipped with an inlet and outlet chamber. The first 2 m (7 ft) extending from the blast chamber is made from manganese steel. Any further extensions are made from mild steel. The inside of the inlet and outlet chambers is equipped with multilayer rubber curtains for better insulation.

Pneumatically activated doors at the machine entrance and exit prevent blast media escaping to the machine surroundings during the blast process.

The complete blast chamber is welded from manganese steel. In addition it is lined with replaceable wear plates, also made from manganese steel.

Optimum turbine placement for perfect blast cleaning results

The turbine placed on both sides of the blast chamber make sure that the work pieces travelling continuously through the blast machine are perfectly cleaned, even in difficult-to-reach surface areas. The work piece shape and size, the processing aims and the called for travel speed determine the required turbine quantity. The patented seal of the blast chamber roof with labyrinth seal keeps the roof absolutely tight to prevent blast media escaping.

Touchup station

Upon customer request the outlet chamber can be designed as a blast room with its own exhaust system and equipped with air blast guns. The utilization of high performance suction systems including the automatic blast media return allows the highly effective removal of residual blast media from difficult-to-reach surface areas. Of course, the direct linking of the shot blast machine with painting booths and dryers can be easily implemented.
Continuous feed tube and bar blast machine RDR

RDR machines are employed for descaling/derusting of tubes, pipes, round bars, raw forgings and other round work pieces. The single strand transport concept allows the easy integration of these machines into complete lines with manufacturing steps such as; saw cutting, drilling, welding, painting, corrosion protection and/or marking, for example, stenciling. Components with diameters of up to 1,000 mm (39") can be easily processed. Compared to competitive systems the space saving equipment concept has a much smaller footprint and requires no foundation pit. The high quality machine housing made from manganese steel and the additional lining of the blast chamber with replaceable manganese steel plates guarantees a long equipment life. Large inspection doors facilitate access to the blast chamber reducing the time required for maintenance.

Turbine arrangement

The turbines on pipe and tube blasters are arranged lengthwise with the work piece transport direction ensuring a higher blast efficiency compared to turbines arranged at an angle. Depending on the machine size one or several turbines with different capacities are installed. The work pieces are rotating 2.5 times in the “hot spot” created by the turbines. This guarantees complete coverage of the work piece surface and perfect blast cleaning results.

Work piece transport

The inclined rollers of the diablo roller transport system cause the work pieces to move forward and rotate at the same time. The conically shaped rollers placed outside of the blast area are coated with polyurethane for gentle and quiet work piece transport. Inside of the blast chamber the rollers are heat treated for better wear resistance. Depending on the pitch distance between rollers these are either driven individually or in groups with chains. The work pieces are loaded on the roller conveyor by crane, lift truck or manually.

Loading/unloading device

A special loading device transfers the raw work pieces from a parallel or transport roller conveyor over the chain cross conveyor to the transport system of the shot blast machine. The unloading device lifts the cleaned work pieces from the outlet roller transport system via the chain cross conveyor either onto a length and/or weight measuring station, a bundling station or another roller conveyor to transport them to the next manufacturing step.

Tube bundling station

The unload device places the finished work pieces in a collection funnel, which, similar to the parallel transport roller conveyor on the loading side, is positioned along the outlet roller conveyor. Above the collection funnel runs a belt whenever a batch is complete, this belt is lowered and bundles the batch in trapezoidal shape. The bundles can be strapped automatically and if required, also marked.
The REDL machines are true high-performance blast systems. Depending on the workpiece type, processing speeds of up to 180 m/min (590 ft/min) can be achieved.

REDL equipment allows the fully automatic blast cleaning of round, square, and hexagonal steel bars in integrated manufacturing lines. Steel wire can also be descaled and cleaned in continuous mode. The workpieces are guided through the blast system with precisely arranged transport rollers made from hardened tool steel. When lightweight or thin-gauge material is blasted, special pressure rollers prevent slippage of the workpieces and guarantee a secure transport through the blast chamber. Wire from coils is placed under tension and guided through the shot blast machine on special slide skids. After shot blasting, the wire is again reeled into coils.

The REDL machine design is very compact, consisting of several sequentially arranged blast chambers, which operate independently from each other. Depending on the workpiece characteristics and processing aims, the turbines in the second (or third) blast chamber are either turned on or off. This saves energy and minimizes wear. The turbines mounted on the blast chamber are arranged such that the blast stream always hits the workpiece surface at a 90° angle, yielding the maximum impact energy.

Depending on the specified travel speed or workpiece throughput, REDL blast systems can be equipped with different turbine types with different performance characteristics.

The experts in the fields of drilling, saw cutting, and shot blasting are working together... To your benefit!

Three renowned companies, founded in the early 20th century, are cooperating to the advantage of steel manufacturers and steel traders.

Vernet Behringer, the leading manufacturer of drilling equipment with headquarters in France, Behringer GmbH in Kirchardt, Germany, global supplier of saw cutting systems and Rösler Oberflächentechnik GmbH, global market leader in shot blasting and mass finishing, are pooling their resources to offer complete saw cutting, drilling, shot blasting, and painting systems. On a global scale, the partners are sharing their know-how within a close network of branches and international sales agencies for the benefit of our customers.

Precise saw cutting technologies combined with high-performance drilling centers are the core competency of the two process specialists Behringer and Vernet Behringer. Complemented by custom-engineered shot blast technology, the three partners can offer manufacturing lines (saw cutting, drilling, shot blasting, and painting), which are precisely adapted to customer requirements—all from one single source! Detailed technical analysis and coordination among the three partners allow precise formulation of technical parameters already in the project phase. While in the past, the customers had to define the interface between the various line components in tedious, painstaking work, all this is now taken care of by the partners 4 steel! This saves time and also provides a quick overview of issues including the costs for the various line components and the underlying operating conditions. Renowned global companies in the steel industry have already placed their trust in the partners 4 steel experts.
Auxiliary equipment

Dust collectors
Rösler offers a broad range of different dust collector systems. These include cartridge filters, explosion protected cartridge filters and wet dust collectors. All collector types guarantee an optimum filter effect irrespective of which blast machine they are connected to. With a residual dust load of ≤ 1 mg/Nm³ the cleaning performance of our dry collectors is significantly below the German standard residual dust values of 3 - 5 mg/Nm³ in the clean air. This completely eliminates the need for additional fine and post filters. In the case of roller conveyor machines, preservation lines and RRB machines for complete weldments the cartridge dust collectors are placed above the blast chamber. This "backpack" concept drastically reduces the overall footprint of these systems. The dry cartridge collectors can also be supplied with rotary valves. Wet collectors are also available with sludge scrapers.

Noise reducing cabins
Rösler offers a range of noise reducing cabins, which are perfectly matched to the various shot blast machine models. Depending on the machine type and the quantity of turbines the noise level without noise protection can significantly exceed 80 dB(A). Noise reducing cabins are made from high quality double walled segments with special inner lining. They are bespokely designed to guarantee the noise level specified by the customer. Rösler noise reducing cabins and elements are normally only built around those components emitting the highest noise. This keeps costs within an acceptable level and does not impede the efficiency of the shot blast machine. Usually, noise reducing cabins are equipped with multiple windows and double wing doors for easy access to the blast machine. In cases where a complete enclosure is required, the cabin will be supplied with a roof panel.

‘Powered & Free’ (P&F) chain transport systems
The P&F chain transport systems connect multiple processing stations with each other, for example, shot blasting, painting, assembly, quality control and packing. Usually, special transport trolleys running on raised rails are utilized to transport the work pieces from location A to B. As with railways the P&F chain transport systems are also equipped with switching points, crossings, buffering stations as well as lifting and lowering stations. Their flexible and modular design allows the creation of even the most complex work piece transport systems. Trolleys are pulled through the rails by an endless chain. Electronic sensors control the traffic at critical intersections and monitor the movement of each single trolley.

RTO thermal oxidation
RTO units are required, if the VOC content (volatile organic compound) of the sprayed paint material exceeds a specified limit, and this VOC content cannot be released to the environment without additional filtering measures. In addition, depending on the composition of solvent based paints and their VOC contents, certain emission limits must be met. These may vary from country to country and must be ascertained for every project. The RTO units are available as dual or triple chamber versions. During the warm-up phase a gas burner heats up multiple ceramic elements located in the combustion chamber to about 800°C (1,470°F). At such a high temperature the volatiles from the paint ignite and start a chain reaction creating a steady-state condition without requiring any additional energy input.
Higher productivity and cost efficiency – these are hot subjects in the field of surface treatment. To remain competitive, the owners of older shot blast machines must update their shot blast systems to bring them up to modern technical standards. Our “TuneUp” division is specialised in the technical modernisation of shot blast machinery of all makes. As market leader we can offer a wide portfolio of blast turbines and upgrade solutions for practically every conceivable application. This means not only exploiting cost saving possibilities by utilising energy efficient and low maintenance components, but also the cost effective adaptation of existing shot blast machines to changed operational requirements such as, for example, improved blasting results or higher work piece throughput.

### Technical possibilities – blast turbines
Rösler possesses the technical knowhow and system components to optimise your shot blast equipment. This includes the ingenious “RUTTEN-Gamma” and “Gamma G” high performance turbines.

Take advantage of the benefits of our equipment modernisation program:
- Lower maintenance costs
- Lower cycle times
- Lower energy consumption
- Lower blast media consumption

### After-Sales-Service
Round the clock technical support - for the entire life of the machine!
Whatever problems or questions you may have, we will provide you with expert support in practically any area:
- Conducting of BUS measurements
- Technical support for all kinds of processing issues
- Test centers and laboratories all over the world
- Blast media analysis
- 24 hour hot line - round the clock problem solving support
- Spare and wear parts, also for equipment not supplied by Rösler
- Customised maintenance agreements
- Training of operating and maintenance personnel
- Modernisation and relocation of existing equipment
- Support in fulfilling all relevant legal requirements
- Control and calibration of dust collectors
- Conducting tests for ground wires
- Regulations for accident prevention

### Maintenance and repair service
Our qualified service team stands ready to serve you in case of an emergency, as well as for scheduled repairs or maintenance work. With short reaction times and well-equipped service vehicles we can quickly repair your machine or perform maintenance work on site.

### Spare and wear parts – also for non-Rösler equipment
All shot blast machines are exposed to a certain amount of wear. Rösler maintains a large part inventory to guarantee a high availability combined with a quick delivery. If necessary we also deliver over night.