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# Vibratory Finishing Technology





# finding a better way



When it comes to dealing with surface finishing and surface preparation problems, Rösler offers the process solution! Our customers can choose between two processing technologies, Vibratory finishing or Shot blasting, which offer virtually unlimited possibilities. Through extensive processing trials, we always find the right finishing solution for our customer's needs. This includes not only the development of a specific finishing process, but also the selection of the right equipment and consumables. We deliver the solution to satisfy your surface finishing requirements. Our success in the market proves that we are right. It is not by chance that our innovative developments and our high quality standards have established Rösler as the world technology and market leader in surface finishing and shot blasting.

In more than 60 countries we support our customers with a closely-knit network of Rösler subsidiaries and sales representatives.

We are the only company in our field operating test and demonstration centres throughout the world. This allows us to run test trials under real production conditions close to our customers. This offers several advantages: Our customers save time and money, and at the same time – through our professional processing trials and advice – they are assured of receiving the best process solutions and products available on the market!

#### Worldwide Demonstration The Total Process and Test Centres

Our main test centers for vibratory finishing and shot blasting are located at the Rösler headquarters in Untermerzbach, Germany:

- more than 95 vibratory finishing and shotblasting systems
- working space: approx. 2,700 square meters

Similar test centres are located in the United States, Great Britain, France, the Netherlands, Belgium, Switzerland, Russia, Spain, Italy, Austria, South Africa and Brazil.

# Solution

Consumables, machines and process safety in perfect combination:

- The optimum interaction between consumables, machinery and process stability produces excellent finishing results
- Cost saving automation allows running multiple process steps without any operator interven-
- Comprehensive training of your operators and maintenance staff
- After-sales service guarantees high uptimes for your equipment

#### **Environmental Protection Team Spirit** — Top Quality

The consideration of environmental issues guaranteesa high level of product quality and environmental protection.

For example, circulating the process water is a key feature of our mass finishing technology. In this case, the positive effect on the environmentis reflected in savings of compound and water of up to 95%. At the same time, a high level of process reproducibility and finishing quality is quaranteed.

The consideration of ecological aspects in all our manufacturing processes results in eco-friendly and – at the same time – high quality products. In this respect the recycling of the process liquids is a central feature of our state-of-the-art mass finishing systems.

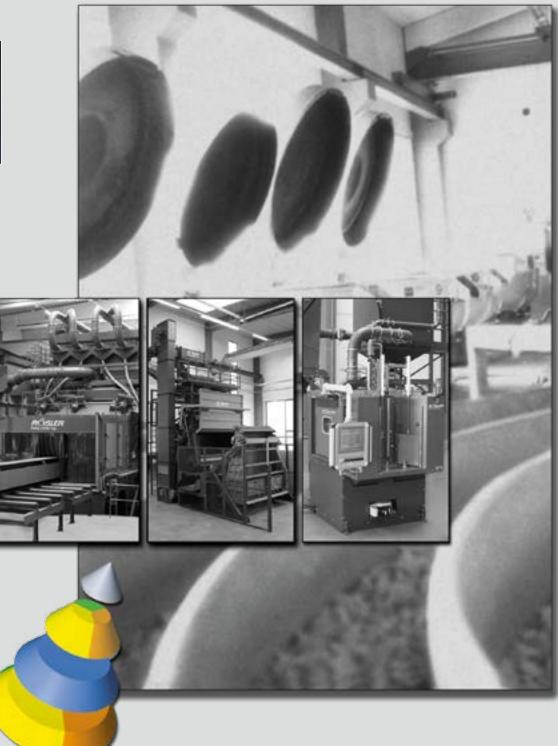
The positive environmental impact of these recycling systems is directly reflected in compound and water savings of up to 95% compared to conventional mass finishing processes. Furthermore, such recycling systems guarantee high quality finishing results and absolute process repeatability which are an essential requirement for today's high volume industrial production.













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ISO 9001: 2008



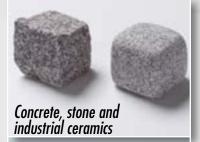














For over 60 years, Rösler has perfected the art of vibratory finishing by developing successful applications for customers around the world! Vibratory finishing, a mechanical surface finishing process, consists of parts to be finished, a vibratory finishing machine, media, water and a chemical compound put into motion by a vibratory drive system which causes a constant relative movement of the media and the components. The interaction of water, compound, media and machine produces the required surface finish.

Our test centers can provide you with the optimum vibratory finishing solution for your needs

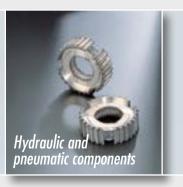




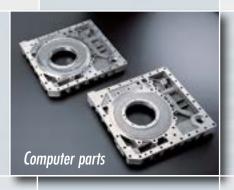








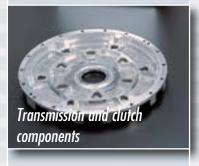








- Descaling and Cleaning
- Degreasing and Oil Removal
- Grinding
- Pickling
- Satin Finishing

















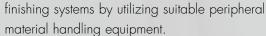
## Vibratory Finishing Technology

With continuous expansion and improvement of our machine and process engineering we have become the largest supplier of vibratory finishing systems in the world. Our range of finishing media and compounds – consisting of over 8 000 different products – is unmatched by any other company in our field. Rösler is the only manufacturer in the world who has been awarded the DIN EN ISO 9001 certificate for the complete field of vibratory finishing.

#### **Rotary Vibrators**

Rotary vibrators are the most commonly used vibratory finishing systems. They can be used for a wide range of applications, and with more than 10000 units sold, they have thoroughly proven themselves in the marketplace.

Rotary vibrators can be expanded into fully automatic







#### High Energy Disc Systems

Compared to vibratory equipment, high energy disc systems provide 15 to 20-times more processing intensity in terms of metal removal and processing time. Fully automated double-batch systems or semi-automatic machines can be custom-engineered to suit any surface finishing requirement.













#### Rotomatic Systems

With a working channel length of  $15-27\,\mathrm{m}$  these continuous-feed machines are ideal for finishing delicate parts which cannot touch each other during the finishing process. They are most often configured for fully automatic operation. Multi-Channel machines can also be utilized as stand-alone systems.





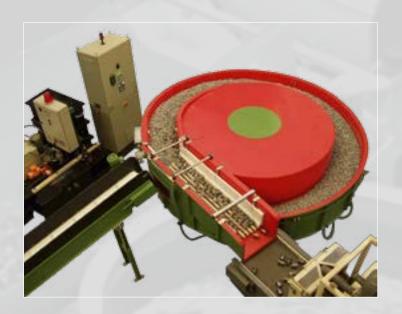






#### Long-Radius Vibrators

LR machines are used for batch and continuous-feed operation. They are characterized by a spiral-bottom type of work channel and an internal separation mechanism. LR machines are true continuous vibratory finishing systems that require a minimum of space. With processing times of up to 15 minutes, deburring, cleaning, deflashing or light radiusing of round sharp edges can be easily achieved in one pass. For heavy-duty radiusing, the LR machines can also be run in batch mode.



#### **Tub Vibrators**

Custom work bowl dimensions allow the processing of practically any part size. With bowl widths of 180-1500 mm and bowl lengths of 540-6000 mm, we can cover virtually any part size and process requirement. Dividers allow the parts to be processed in individual chambers. Very delicate parts can be mounted on special fixtures.





#### **Linear Continuous Systems**

Deburring, radiusing, cleaning and ball burnishing are the most common applications for continuous, linear flow-through units. Work bowl dimensions with a usable width ranging from 300 to 850 mm and a usable length of up to 6600 mm offer a wide variety of finishing solutions. With the addition of parts loading equipment and other peripheral components, linear flow systems can be fully automated, requiring limited operator involvement.







#### Plunge Finishing Systems

One or more components are mounted on a rotating spindle and dragged through a stationary bed of abrasive medium. The large variety of system parameters and available processing media provides highly specialized solutions to all kinds of surface finishing problems – from extremely aggressive grinding to high gloss polishing.







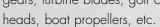


#### **Drag Finishing Systems**

Drag finishing is the most intensive type of mass finishing technology in terms of metal removal and processing time. A drag finisher consists of a rotating spinner (carousel) and stationary work bowl filled with grinding or polishing media. The spinner is equipped with up to 12 work stations. The parts are mounted onto these work stations with specially designed fixtures. As the rotating spinner is lawared into the work bowl the parts.

fixtures. As the rotating spinner is lowered into the work bowl the parts are dragged through the media. Drag finishers are ideal for precision

finishing of delicate and high-quality parts such as gears, turbine blades, golf club







#### Washing and Drying Systems

Two-in-one integrated washing and drying system reduces manual parts handling. Typical mass finishing processes of the WTA are deburring, edge breaking/radiusing, smoothing & polishing, cleaning & degreasing of small bulk parts. This system was specifically developed for part-on-part processing without any grinding or polishing media. WTA systems are available as rotary vibrators as well as centrifugal disk finishing systems. Both machine types allow the complete unloading of a batch of finished parts to take place either by tilting the work bowl or by activating an unload gate in the bottarn of the work bowl.



#### Rösler Wheel Polishing System FBA 24 Turbo

The compact wheel finishing system is ideally suited for surface grinding, smoothing and polishing small batches of high-value automotive wheels with a diameter of up to 24". Ease of operation and quick media change capabilities help produce a repeatable mirror finish in just a few hours.

Of course, Rösler also offers surface finishing solutions for wheels that are larger than 24 inches.







#### Our compact solutions for cleaning, drying and polishing of cutlery

The cutlery cleaner (RCC) in combination with the cutlery dryer (RCD) work together to provide a germfree cleaning of "dirty" cutlery as well as the subsequent drying and polishing. Our results are excellent, even if the cutlery has been sitting for a while after being used. This unique machine combination replaces a dishwasher, saves electricity and does no longer require any manual cleaning. Our equipment range starts with small, mobile driers/polishers and goes all the way up to fully automatic and integrated cleaning and drying/polishing systems. Depending on your specific quality and capacity requirements we can offer you a cutlery cleaning, drying and polishing system that exactly suits your needs.





#### **Process Water Circulation Systems**



Most vibratory finishing applications allow the recycling of the process water, thus drastically reducing water and compound consumption.

Rösler offers special centrifugal cleaning systems for cleaning and recycling the process water. Choose between fully automatic and highly economical semi-automatic centrifugal systems.

With our economical HA range, the separated solids (sludge) are easily and quickly removed from the rotary drum by simply exchanging the sludge basket. The fully automatic Z 1000 "peeling" centrifuge peels the sludge from the rotary drum according to preset time intervals and dumps it into the sludge container below the drum.



#### Post Finishing Systems — Drying · Washing · Passivation

Many mass finishing applications require rinsing, drying or passivating of the finished parts. These additional treatment units are usually directly linked to the mass finishing machine(s) by various types of transport systems, such as vibratory conveyors or conveyor belts. This ensures a quality finish with minimal labor costs.







#### Media and compounds — Development, Production and Expertise

The wide range and quality of our media and compounds is the basis for achieving optimum and cost effective finishing results in an environmentally friendly manner. For over 60 years we have been developing and manufactu-



ring high-quality media for use in vibratory finishing. These are complemented by compounds as well as polishing and drying media. With more than 8 000 different products we offer our customers a variety of products which will help solve the most difficult finishing tasks. We process only environmentally friendly raw materials and set high ecological standards for our media and compound production.

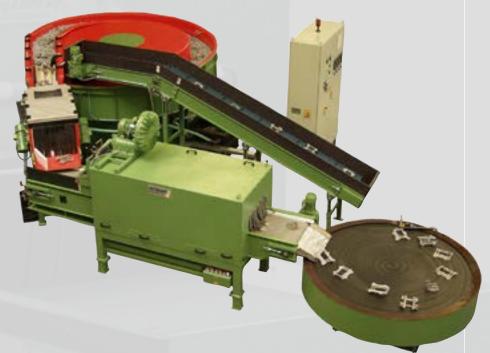


#### **Automation**

#### Long Radius Vibrators

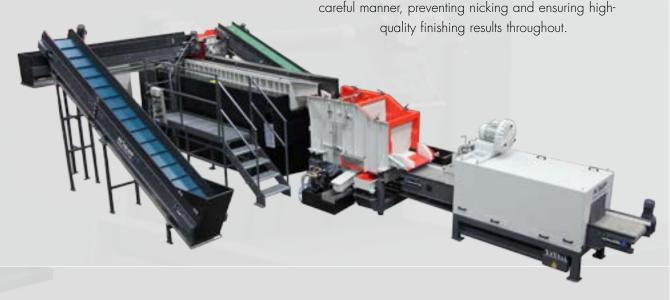
This machine series was specifically designed by Rösler for companies where space is at a premium. The integrated screening unit and the processing channel (with a length of up to 9000 mm) guarantee a high throughput rate. The Rösler direct drive system with its powerful unbalance motor achieves excellent surface finishes within a maximum processing time of 15 minutes.

As a special feature, the models from this series are also equipped with an integrated separation flap that provides the option of operating them in batch mode. This feature allows the customer to process components that require a process time in excess of 15 minute allowing the Long Radius machines to be even more flexible and economically efficient.



#### **Linear Flow Continuous Systems**

Linear flow continuous systems are the standard finishing strategy for processing large batches of components in a quick bowl's inclination and the rotational speed can be controlled via frequency converters. These options in combination guarantee the highest possible throughput rates. Since continuous line facilities can be linked with designated loading, drying and storing equipment high degrees of automation can be achieved. On top of that, components of almost all dimensions and degrees of delicacy can be processed. Customized dosing and parts loading systems can be used to dose even mass-produced components in a precise and



## finding a better way...

#### Our commitment to our Customers

The name Rösler means technological excellence in the field of mechanical surface finishing. For several decades, we have been supplying our customers with high-quality and innovative products and services, and comprehensive expertise in process and equipment engineering. We know, however, that even the most reliable systems require first-class and competent service!

#### Test our Top Service!

- ▶ Professional consulting "Our experience your benefit"
- ▶ 24-hour hotline service (incl. Sun. and public holidays)
- Fast supply of spare parts
- ▶ Field service
- ▶ Maintenance and service contracts
- ▶ Rental units to bridge over the time for repairs
- Relines with full warranty







#### Repair Services

In addition to maintenance and repair service and process consultation, Rösler also offers relines and repairs for mass finishing equipment made by other manufacturers. The thermo strip method allows the removal of worn liners in an environmentally-friendly manner. The thermal liner removal process also reduces stresses in the work bowls, reducing the risk of cracks and increasing the bowl life. We offer different types of wearresistant liner material tailored to customer's requirements. While your equipment is being serviced, we provide rental units to prevent lost manufacturing time. We offer on site lining services for large mass finishing bowls which are difficult to remove and transport.

#### Quality

Our manufacturing facilities are certified according to DIN EN ISO 9001 standards. For many years, we have been fully compliant with the most stringent customer specifications. Our quality procedures – in line with DIN ISO 9001 standards – provide complete documentation and constant improvement of all our manufacturing operations.





#### **Test Centres**

At our headquarters in Untermerzbach, and all of our branches, we operate test centres equipped with an extensive range of machinery to provide sample processing for our customers. Specialist process engineers advise customers on which process to select or help them to develop custom finishing solutions.



Test centres for vibratory finishing





Own welding department

Laboratory for the development of media and compounds



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