Surface finishing technologies for the coin industry
Rösler provides total finishing solutions

When it comes to surface finishing, Rösler is known to offer complete, well-engineered process solutions. Based on our comprehensive knowledge of mass finishing and shot blasting technologies, we can provide our customers with practically unlimited finishing solutions. In our state-of-the-art test lab, we conduct meaningful test trials to develop the optimum finishing processes for our customers because only complete solutions yield the best results. We are not simply offering specific surface finishing processes but we also supply perfectly matched auxiliary equipment and consumables. This approach has proven to be highly successful and has established Rösler as the global technological and market leader, with groundbreaking innovations and extremely high quality standards.

In more than 60 countries we support our customers with a comprehensive network of Rösler sales branches and independent distributors.

Rösler is the only supplier in its field maintaining test labs all over the world, where we develop process solutions under actual operating conditions and select the most suitable equipment. This approach saves our customers not only long travel distances and high freight costs, but it also provides them with products and processes that have been extensively tested by our specialists under the most severe operating conditions.

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) of workspace

Our teams in USA, 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 one 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.

DIN EN ISO 9001 and 50001

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Finishing systems for the mints and the coin industry

Fields of application

Rösler offers numerous innovative finishing solutions for the coin industry along with state-of-the-art equipment specifically designed for this field.

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<th>Blanks – for collector and commemorative coins and medals</th>
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<td>Cleaning (mild pickling + polishing + passivation + drying after blanking, rimming and heat treatment)</td>
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<td>Mint polishing system MPA…/A2</td>
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Mint polishing system
Coin polishing system, Mint polishing system, Minting dies; final stage of the motive
Removing of the machining lines
Surface smoothing and polishing after machining
Driller or alternatively, rotary vibratory, type "RL, OZU"
Centrifuge
Circulation coins

Globally, the professional surface finishing of blanks for circulation coins is done in fully automatic Rösler centrifugal disk finishing systems, type MPA. The equipment design, perfected down to the last detail, is available in different sizes and versions and can be adapted to a broad range of finishing tasks.

Loading unit
Loading unit for the raw coin blanks consisting of a part bin discharge unit and a vibratory hopper on weighing cells.

Processing bowl
Designed for optimum material flow and is completely acid resistant.

Intermediate (“vario”) hopper/ vibratory screening machine
Intermediate vibratory hopper includes electronic controls for the inclination angle and vibratory speed. Vibratory screening machine equipped with large separation screens, tumbling steps, undersize media discharge system and work piece spray rinsing unit with water recycling.

Intermediate step after the finishing process
Vibratory transport unit with spray rinsing system for demineralized water; contains a section for pre-drying the finished blanks with an ambient air blowing system.

Capacity:
Average batch size from 100 up to 450 kg (220 up to 1,000 lbs.), depending on the machine size.

Hot air rotary vibratory drier and work piece transfer
Continuous flow hot air drying system for stain- and dust-free drying of the finished coin blanks. Transport unit for transferring the finished blanks into special transport bins.

Dosing station for the pickling, polishing and passivation compounds
Dosing system with electronic volume adjustment and flow control.

Controls
The intuitively designed visualization of the finishing system and the various process stages facilitates its utilization in line with the industry 4.0 standards.
Collector coins

The blanks for collector and commemorative coins as well as medals require an extra careful finishing step prior to coining. Fully automatic processing with multiple treatment programs and extremely gentle workpiece transfer without any tumbling steps allows the perfect, impingement-free processing of the most delicate blanks.

Processing unit, type MPA...E/SA

Compact and versatile... Sturdy, easy to operate systems for small coin batches and special finishing tasks, for example, for blanks and bullions made from gold, etc.

Processing bowl

The special shape and profile of the rotating spinner and stationary work bowl ensures not only the intensive but also gentle movement of the blanks with all kinds of processing media.

Separation unit

The transfer of the coin blank/media mix to the separation area takes place smoothly without any hazardous drops. Vibratory speed and dosing quantity are controlled by the respective treatment programs. Intermediate process stages like workpiece cleaning and pre-drying are fully integrated into the overall system.

Compound dosing unit with numerous safety features

Precise dosing of the compounds for the various process stages is controlled and monitored by PLC programs precisely adapted to a range of different coin blank types.

Linear-textile-dryer

The finished coin blanks, embedded between two exchangeable sheets of moisture absorbent cloth, are gently transported through the linear vibratory drying tunnel. Even the most delicate coin blanks can be dried stain-free and dust-free without any nicking whatsoever.

Controls

Modern electronic components paired with specially developed software make the operation of the coin blank finishing systems easy and foolproof.
Coining dies

Perfect surface finishing of the coining dies is essential for achieving the desired coin qualities. Rösler has developed special surface smoothing and polishing methods for the hubs as well as for the dies with the final motive.

Equipment features - drag finishers/rotary vibrators

Drag finishing, as well as processing in rotary vibrators with the work pieces mounted to special fixtures, offer a wide range of treatment options, from intensive cut-down to surface smoothing to high gloss polishing. Due to the fact that the hubs and dies are mounted to fixtures, they will not touch each other during the process.

Dies with the final motive

Defects, like too rough or irregular surfaces, are eliminated by a multi stage mass finishing process in special rotary vibrators. The result is a mirror polish without any defects whatsoever.

Hubs with a homogeneous high gloss finish are ideal for creating the final coining dies.

Special rotary vibrator

Up to 20 dies can be processed in one single batch. These special rotary vibrators can be used for polishing of the hubs as well as placing the final mirror finish on the dies with the final motive.

Ra~0.3 μm
Rz~2.0 μm

Ra~0.013 μm
Rz~0.080 μm
Media and compounds

Different process technologies with different media and compounds are utilized for finishing the surface of coin blanks and coining dies. Rösler is the world’s leading supplier of media and compounds, all made in house. Our company strives to utilize the most modern, cost efficient manufacturing technologies combined with eco-friendly raw materials. Rösler consumables are designed to allow environmentally compatible process water recycling or the use of evaporators and chemical wastewater treatment systems.

Equipment technology

Rösler fully automatic systems for coin blanks and coining die finishing are in use all over the world. Our equipment is designed and built to meet the specific requirements of our customers.