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 are 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) 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.rosler-academy.com.
Fields of application / Examples of applications

- Retarder wheel
- Die-cast housing
- Girder
- Roll forming ring
- Bearing cage
- Natural stone
- Plank
- Crankshaft
- Turbine blade
- Transmission housing
- Hydraulic housing
- Retarder wheel

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Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover

Transmission housing

Bearings cage

Die-cast housing

Girder

Retarder wheel

Hydraulic housing

Crankshaft

Retarder wheel

Hydraulic housing

Cylinder head cover
Tub vibrators are mass finishing machines that can be used for a wide range of applications. They are mostly employed for the processing of delicate, heavy, long or bulky work pieces. Even components with lengths of 6,000 mm (20 ft) or diagonal cross sections of 1,000 mm (3.3 ft) can be processed in the powerful Rösler Tub mass finishing machines.

**Fields of application**
Tub vibrators are suitable for all mass finishing objectives, such as: deburring, surface grinding, edge radiusing, polishing, pressure deburring and ball burnishing of stampings, castings, forgings or machined components. They are mainly used for single piece processing but multiple work piece treatment is also possible, for example, in Tubs with built-in dividers, or with the work pieces mounted onto special fixtures.

**Functional description**
Depending on the machine type and size, Rösler Tub vibrators are equipped with different vibratory drive systems. The induced vibration causes a rotational movement of the mix of grinding or polishing media and work pieces in the work bowl. With certain work pieces part-on-part processing, without any media, is also possible. The addition of fresh water or process water cleaned in Rösler centrifugal recycling systems supports the cleaning of the work pieces and ensures stability of the finishing processes.

**Media and compound production**
Rösler produces the most comprehensive range of mass finishing media and compounds in the world. 60 years of R & D and production are the basis for more than 15,000 different types of compounds and ceramic & plastic media. Our global customers can select the right compounds and media for every conceivable surface finishing application.
Technical details of the Rösler Tub vibrator

The diverse use of Tub vibrators requires a particularly efficient machine design. That is why our engineers are working closely with our process specialists to further refine and improve an already excellent equipment concept. At Rösler you will find innovative equipment designs with exceptionally high quality!

1 Quality / Work bowl design
- U-shaped work bowl profile; optional curvature in the work bowl wall improves the movement of the media/work piece mix
- Sturdy welding construction with special ribbing, heat treated for stress relief
- T-groove clamping of the dividers allows easy adjustment of the length of the processing chambers
- Stainless steel process water distribution pipe over the entire work bowl length
- Work bowl placed on special coil springs for optimum transfer of the vibratory energy
- Media unload plug
- Easily replaceable drains with built-in screens in the work bowl bottom

2 Multiple vibratory drive systems
Rösler offers the largest Tub vibrator range in the industry. The various machine types are equipped with different drive systems suitable for a wide spectrum of applications.

- TE-range / Minor-T / RMO:
  Direct drive vibratory foot motor, mounted underneath the work bowl
- TS-range:
  Two imbalance units are mounted to the front and rear walls of the work bowl; driven by electric motors equipped with special vibration absorption device
- TSD-range:
  Two Rösler vibratory motors are directly mounted to the front and rear walls of the work bowl

3 Perfect wear lining
The wear linings of all Rösler machines are made in-house. Before a wear liner is placed into the work bowl, the surface area is shot blasted to improve its adhesion characteristics. Customers can choose between:
- Hot poured polyurethane with special molds
- Sprayed polyurethane
- Glued-in rubber sheets
- Glued-in polyurethane sheets

4 Machine base
The machine base design of all our Tub vibrators is characterized by heavy-duty and sturdy welding construction. Special coil spring sockets on the machine base ensure that no vibrations are transferred from the work bowl to the machine base. Large service doors allow easy access to any areas that require maintenance. Vibration dampers minimize the transfer of vibrations to the building floor.

5 Easy to operate machine controls
- Contactor or PLC control panels
- Variable speed of the drive motor optional
- Precise control of the process water dosing

6 Precise compound and water dosing
- Fresh water dosing with the waste water going to drain, or recycling of the process water
- Control valves for process water dosing
- Water flow meters
- Precise setting of the compound dosing

Adjustment of the process intensity by different machine speeds.

Standard applications:
- Standard speed = 1,500 RPM
- Special applications like ball burnishing/vibro peening and pressure deburring:
  Standard speed = up to 3,000 RPM
- Variable speed:
  Optional with variable frequency drive (VFD)
Tub vibrator, model range TE

‘Economy’ Tub vibrators of the TE-range are equipped with a vibratory foot motor mounted underneath the work bowl. This direct drive system generates a powerful vibratory force at relatively low energy costs and allows for a compact machine design.

Tub vibrators, model range TE

<table>
<thead>
<tr>
<th>Drive speed</th>
<th>Dimensions (mm)</th>
<th>Volume Type A</th>
<th>Drive power</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,500 RPM</td>
<td>Work bowl with lining</td>
<td>Complete machine</td>
<td>(kW)</td>
</tr>
<tr>
<td>A</td>
<td>A₁</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>R 360/600</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 360/750</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 450/1000</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 450/1100</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 500/1500</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 500/1750</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 580/1100</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 600/1000</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 600/1200</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 650/1500</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 670/1950</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 750/1200</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 750/1600</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 800/1500</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 850/1200</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>R 910/1200</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

State: 04/2016 – Special dimensions upon request

Tub vibrator, model range Minor

The compact Minor model is equipped with the same direct drive system as the TE range. Compact and powerful, this machine can be used for finishing a wide variety of small work pieces produced in relatively small batches. Part-on-part processing without any media is also possible in these machines (for dimensions please refer to the drawings on page 10).

Tub vibrators, model range Minor

<table>
<thead>
<tr>
<th>Drive speed</th>
<th>Dimensions (mm)</th>
<th>Volume Type A</th>
<th>Drive power</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,000 RPM</td>
<td>Work bowl with lining</td>
<td>Complete machine</td>
<td>(kW)</td>
</tr>
<tr>
<td>A</td>
<td>A₁</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>R 306/800</td>
<td>+</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

State: 04/2016 – Special dimensions upon request
Rösler “mobile” Tub vibrators, model range RMO, with built-in separation unit can be easily integrated into manufacturing lines. This machine type, equipped with process water recycling tank, is ideal for any wet mass finishing processes. The RMO allows cost efficient surface finishing in stand-alone operation, directly in the manufacturing line.

The TS-30 Tub vibrators, equipped with two imbalance units mounted to the front and rear walls of the work bowl, are ideal for ball burnishing. This unique vibratory drive system guarantees an intensive, homogeneous movement of the media/part mix over the entire work bowl length.
## Tub vibrator, model range TSD

The TSD drive system, based on special vibratory motors built by Rösler, is very powerful, allows for a compact machine design and can be used for practically any finishing applications. The vibratory energy is directly transferred from the front and rear work bowl walls into the media/part mix.

### Tub vibrators, model range TSD

<table>
<thead>
<tr>
<th>Type A</th>
<th>Drive speed: 1,500 RPM</th>
<th>Dimensions (mm)</th>
<th>Volume</th>
<th>Drive power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>R 425/2700</td>
<td>425</td>
<td>340</td>
<td>2,700</td>
<td>620</td>
</tr>
<tr>
<td>R 500/2200</td>
<td>500</td>
<td>370</td>
<td>2,200</td>
<td>670</td>
</tr>
<tr>
<td>R 600/3000</td>
<td>600</td>
<td>480</td>
<td>2,000</td>
<td>750</td>
</tr>
<tr>
<td>R 690/2500</td>
<td>690</td>
<td>480</td>
<td>2,500</td>
<td>800</td>
</tr>
<tr>
<td>R 690/3000</td>
<td>690</td>
<td>480</td>
<td>3,000</td>
<td>800</td>
</tr>
<tr>
<td>R 690/3000</td>
<td>690</td>
<td>480</td>
<td>3,000</td>
<td>800</td>
</tr>
<tr>
<td>R 750/3000</td>
<td>750</td>
<td>810</td>
<td>2,000</td>
<td>800</td>
</tr>
<tr>
<td>R 890/3000</td>
<td>890</td>
<td>810</td>
<td>2,000</td>
<td>800</td>
</tr>
<tr>
<td>R 890/3000</td>
<td>890</td>
<td>810</td>
<td>3,000</td>
<td>900</td>
</tr>
<tr>
<td>R 1000/2000</td>
<td>1,000</td>
<td>1,050</td>
<td>1,500</td>
<td>0,980</td>
</tr>
<tr>
<td>R 1000/2000</td>
<td>1,000</td>
<td>1,050</td>
<td>2,000</td>
<td>1,000</td>
</tr>
<tr>
<td>R 1000/2000</td>
<td>1,000</td>
<td>1,050</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>R 1000/2000</td>
<td>1,000</td>
<td>1,050</td>
<td>3,000</td>
<td>1,000</td>
</tr>
<tr>
<td>R 1200/2000</td>
<td>1,200</td>
<td>1,300</td>
<td>2,000</td>
<td>0,960</td>
</tr>
<tr>
<td>R 1300/2000</td>
<td>1,300</td>
<td>1,300</td>
<td>2,000</td>
<td>0,960</td>
</tr>
<tr>
<td>R 1400/1800</td>
<td>1,400</td>
<td>1,400</td>
<td>1,800</td>
<td>0,940</td>
</tr>
<tr>
<td>R 1600/1500</td>
<td>1,600</td>
<td>1,400</td>
<td>1,900</td>
<td>0,940</td>
</tr>
</tbody>
</table>

### Tub vibrator, model range TUD

Tub vibrators have been traditionally used for the finishing of long, bulky components that require cost effective deburring, edge radiusing and a homogeneous surface finish. The TUD model range is utilizing a proven drive concept from our continuous feed in-line systems. The combination of a special Rösler drive motor, with multiple imbalance units, ensures the intensive movement of the media/part mix, even in machines with lengths of up to 6,000 mm (20 ft).
### Tub vibrator, model range TUM

The TUM drive concept allows for the building of large Tub vibrators for processing long, bulky components. The large width and length of these machines allows for the efficient treatment of very large work pieces. The location of the powerful drive motor underneath the center of the work bowl, with multiple in-line imbalance units placed left and right, allows for automatic unloading of the work bowl.

#### TUM – drive system

<table>
<thead>
<tr>
<th>Type A</th>
<th>Type B</th>
<th>Drive speed</th>
<th>Dimensions (mm)</th>
<th>Volume</th>
<th>Drive power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work bowl with lining</td>
<td>Complete machine</td>
<td>Work bowl (l)</td>
<td>Work bowl (l)</td>
<td>(kW)</td>
<td></td>
</tr>
<tr>
<td>R 950/1000</td>
<td>1,500 RPM</td>
<td>1,500</td>
<td>1,300</td>
<td>1,500</td>
<td>1,065</td>
</tr>
<tr>
<td>R 1500/2000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

---

### Tub vibrator, model range TU

Ball burnishing and vibro peening require media made from carbon steel or stainless steel. This heavy load requires an especially powerful drive system with a speed of 3,000 RPM. Such a high speed can also be beneficial for other mass finishing applications.

#### TU – drive system

<table>
<thead>
<tr>
<th>Type A</th>
<th>Type B</th>
<th>Drive speed</th>
<th>Dimensions (mm)</th>
<th>Volume</th>
<th>Drive power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work bowl with lining</td>
<td>Complete machine</td>
<td>Work bowl (l)</td>
<td>Work bowl (l)</td>
<td>(kW)</td>
<td></td>
</tr>
<tr>
<td>R 250x4500</td>
<td>3,000 RPM</td>
<td>250</td>
<td>225</td>
<td>440</td>
<td>5.05</td>
</tr>
<tr>
<td>R 350x6000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

---

State: 04/2016 – Special dimensions upon request

Type A standard work bowl profile

Type B special work bowl profile
The work bowl is divided into separate chambers. This is essential for preventing part-on-part contact, when processing several delicate work pieces in a single batch. The T-groove clamping system for fastening the dividers allows for easy adjustment of the processing chamber’s length.

To prevent part-on-part contact, multiple delicate work pieces can be mounted to a special fixture.

Noise protection
The suppression of noise creates a comfortable working environment. The noise level emitted by mass finishing vibrators depends on the machine size, the process intensity, the shape and size of the media and the work pieces. Without noise protection the noise levels can vary between 75 and 140 dB(A). Typically these values range from 80 to 95 dB(A). With noise protection, for example, with complete cabins, the noise levels can be substantially reduced.

Automated Tub vibrators
Machines equipped with automatic work piece unloading and separation systems.

Application: Removal of gates and risers from zinc die-castings with simultaneous deburring and general improvement of the surface finish.

Dividers
The work bowl is divided into separate chambers. This is essential for preventing part-on-part contact, when processing several delicate work pieces in a single batch. The T-groove clamping system for fastening the dividers allows for easy adjustment of the processing chamber’s length.

Special work piece fixtures

To prevent part-on-part contact, multiple delicate work pieces can be mounted to a special fixture.

Tub vibrators with unload gates
*Antiquing*: edge radiusing and changing of the surface pattern - of natural stones with simultaneous separation of the media and the work pieces.

Tub vibrators with special material handling

Loading and removal of high value work pieces into and from the work bowl with custom engineered handling systems.

Noise protection cabin
Sound enclosing lid