

Tub vibrators



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Mass Finishing



High-performance equipment and innovative technologies – productive and cost-effective

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

>80	More than 80 years of experience
Ŷ	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
24h	Our technical service – round-the-clock support



Transfer of professional knowledge by certified trainers



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TUB VIBRATOR

Vibratory finishing systems for flexible operating conditions

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 COMPOUNDS

In addition to our machine program, we also offer the most comprehensive range of media and compounds in the world. All our consumable products have been developed and produced in-house with "Made in Germany" quality. With over 80 years of experience in the field of surface finishing we can provide our customers with tailormade processes for new applications and solutions for product improvement and cost reductions.

Stable and repeatable finishing processes are our specialty.



The world's largest range of media and compounds

With around 15,000 products our portfolio of consumables is the largest in the world. It includes ceramic and plastic grinding and polishing media, compounds and process water cleaners. All our consumables can be individually adapted to the needs and requests of our customers.





Our ceramic media production

Quality

Our production complies with the most stringent environmental standards and is subject to strict quality controls per DIN EN ISO 9001 and 50001.

Excellent product availability

Our central warehouse in Germany stocks more than 8,000 tons of media and compounds. In addition, our global network of branches and many of our channel partners maintain warehouses with consumables close to our customers.

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

TE-range / Minor-T / RMO:
Direct drive vibratory foot motor,

mounted underneath the work bowl



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



TUD-range:

One drive motor mounted underneath the work bowl. It drives multiple imbalance units placed in-line over the complete work bowl length

• TUM-range:

Drive motor mounted underneath the center of the work bowl. The motor drives multiple In-line imbalance units placed left and right of the drive motor.





TU-range:

Drive motor equipped with special vibration absorption device. The motor drives multiple in-line imbalance units mounted underneath the work bowl.



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)

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

5. Easy to operate controls

- Contactor or PLC control panels
- Variable speed of the drive motor optional
- Precise control of the process water dosing

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.

6. Precise 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

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.









Type A standard work bowl profile



TE - drive system

Tub vibrators, model range TE-30	Туре А	Type B	Drive speed			Dir	Volume Type A	Volume Type B	Drive power				
	Т		3,000 RPM		Work bowl with lining Complete machine								
	A	A	"super speed"	A	A ₁	В	с	D	E	F	Work bowl (l)	Work bowl (l)	(kW)
R 300/600			•	300	240	420	600	890	480	1,070	70	40	1.3
R 360/870	•	-	•	360	-	440	870	1,160	520	1,050	120	-	2.2



Tub vibrators, model range TE-15	Туре А	Туре В	Drive speed				Volume Type A	Drive power				
	В	A ₁ B	1,500 RPM		Work bowl	with lining		Con	nplete mac	hine	(Type B)	
	A	A		А	A ₁	В	С	D		F	Work bowl (l)	(kW)
R 300/600	•	•	•	300	240	420	600	890	480	1,070	70 (40)	0.9
R 360/870	•	-	•	360	-	440	870	1,160	520	1,050	120	1.6
R 400/1200	•	-	•	400	-	490	1,200	1,340	640	1,280	210	1.6
R 430/1100	•	-	•	430	-	540	1,100	1,300	680	1,260	230	1.6
R 500/1000	•	-	•	500	-	580	1,000	1,200	710	1,200	260	2.2
R 500/1500	·	-	•	500	-	580	1,500	1,780	800	1,345	390	2.5
R 500/1750	•	-	•	500	-	620	1,750	1,920	850	1,340	490	3.6
R 580/1100	•	-	•	580	-	640	1,100	1,370	855	1,415	360	1.6
R 600/1000	•	-	•	600	-	680	1,000	1,200	940	1,315	360	2.5
R 650/1500	·	-	•	650	-	730	1,500	1,700	1,030	1,510	640	6.0
R 670/1950	•	-	•	670	-	650	1,950	2,230	1,010	1,470	750	6.0
R 750/1200	•	-	•	750	-	800	1,200	1,420	1,170	1,570	640	7.5
R 800/1500	•	-	•	800	-	850	1,500	1,740	1,195	1,590	910	7.5
R 910/1200	•	-	•	910	-	970	1,200	1,470	1,325	1,710	950	7.5

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		Drive speed			Din	nensions (m	ım)			Volume	Drive power
		3,000 RPM		Work bowl	with lining		Con	nplete mach	ine		
	AB	"super speed"		A ₁		с				Work bowl (l)	(kW)
R 180/530 TE-30	•	•	180	120	230	530	650	360	615	10	0.6
R 210/530 TE-30	•	•	210	150	20	0.6					

TUB VIBRATOR, MODEL RANGE RMO

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.





Tub vibrators, model range RMO		Drive speed			Dir	mensions (m	ım)			Volume	Drive power
	721 A1 F	3,000 RPM		Work bowl							
	AB	"super speed"	A	A ₁	в	с	D	E	F	Work bowl (l)	(kW)
RMO 180/530 TE-30	•	•	180	120	230	530	1,250	485	960	10	0.6
RMO 210/530 TE-30	•	•	210	150	270	530	1,250	525	985	20	0.6



TUB VIBRATOR, MODEL RANGE TS

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.









Type A standard work bowl profile

TS – drive system

Tub vibrators,		Drive speed			Dimensi	ons (mm)			Volume	Drive power
inouclifunge 13-30	The second secon	3,000 RPM	Worl	k bowl with li	ining	Co	mplete mach	ine		
	A	"super speed"	A		с	D	E	F	Work bowl (l)	(kW)
R 250/1150	•	•	250	400	1,150	2,710	600	955	100	2 × 3.0
R 300/1200	•	•	300	400	1,200	2,730	550	950	130	2 × 3.0
R 400/1200	•	•	400	480	1,200	2,910	640	1,080	210	2 × 4.0
R 500/800	•	•	500	580	800	2,355	715	1,130	210	2 × 4.0
R 500/1000	•	•	500	580	1,000	2,590	715	1,020	260	2 × 4.0
R 500/1500	•	•	500	610	1,500	3,525	840	1,090	410	2 x 7.5

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.









Type A standard work bowl profile

TSD – drive system

Tub vibrators, model range TSD	Туре	Drive speed			Dimensio	ns (mm)		Volume	Drive power	
	Т	1,500 RPM	Worl	k bowl with	lining	Com	plete mach	ine		
	A		A	В	с	D	E	F	Work bowl (l)	(kW)
R 425/2700	•	•	425	540	2,700	4,240	715	1,370	560	2 × 4.0
R 550/2200	•	•	550	670	2,200	3,730	900	1,470	730	2 × 4.0
R 600/2000	•	•	600	680	2,000	3,550	950	1,380	730	2 × 4.0
R 600/3000	•	•	600	680	3,000	4,570	950	1,210	1,100	2 × 7.5
R 750/3000	•	•	750	810	3,000	4,580	1,120	1,210	1,640	2 x 15
R 800/2000	•	•	800	810	2,000	3,700	1,180	1,595	1,150	2 × 7.0
R 800/2200	•	•	800	810	2,200	3,840	1,180	1,385	1,270	2 × 15.0
R 800/3000	•	•	800	810	3,000	4,620	1,180	1,490	1,730	2 × 15.0
R 1000/1500	•	•	1,000	1,050	1,500	3,180	1,360	1,465	1,410	2 × 15.0
R 1000/3000	•	•	1,000	1,050	3,000	4,620	1,380	2,115	2,820	2 × 15.0
R 1100/2000	•	•	1,100	1,050	2,000	3,560	1,455	2,180	2,050	2 x 15.0
R 1200/2300	•	•	1,200	1,300	2,300	3,960	1,600	1,755	3,230	2 × 15.0
R 1300/2000	•	•	1,300	1,150	2,000	3,600	1,690	1,935	2,620	2 x 15.0



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).







TUD – drive system

A

Type A standard work bowl profile

Type B special work bowl profile

Tub vibrators, model range TUD	Type A	Type B	Drive speed			Din		Volume	Volume	Drive power			
	Б	A ₁ B	1,500 RPM		Work bowl	with lining		Con	plete macl	hine	Туре А	Туре В	
	A	Å		А	A ₁	В	С	D	E	F	Work bowl (l)	Work bowl (l)	(kW)
R 425/4600	•	•	•	425	330	520	4,600	5,115	1,420	1,580	920	650	18.0
R 425/6600	•	•	•	425	330	520	6,600	7,115	1,460	1,600	1,330	930	18.0
R 550/4000	•	•	•	550	430	650	4,000	4,900	1,370	1,700	1,300	950	22.0

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





Type A standard work bowl profile



Type B special work bowl profile

Tub vibrators, model range TUM	Type A	Type B	Drive speed			Din	nensions (m	Volume	Volume	Drive power			
		12 A1	1,500 RPM		Work bowl with lining Complet						Туре А	Туре В	
	A	A		А	A ₁	В	с	D	E	F	work bowl (l)	work bowl (l)	(kW)
R 1500/3300	•	-	•	1,500	-	1,360	3,300	3,860	1,965	2,195	5,930	-	40.0



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





Type A standard work bowl profile



Typ B special work bowl profile

Tub vibrators, model range TU	Type A	Type B	Drive speed			Din	nensions (m	ım)			Volume	Volume	Drive power
			3,000 RPM		Work bowl	with lining		Con	nplete macl	nine	Туре А	Туре В	
	AB	AB	"super speed"	А	A ₁	В	с	D	E	F	Work bowl (l)	Work bowl (l)	(kW)
R 350/4000	•	•	•	350	295	440	4,000	5,530	780	1,275	560	380	18.5

TUB VIBRATOR – THE PERFECT MACHINE CONCEPT

Special Tub vibrator solutions

Finishing and washing of airplane components with lengths of up to 6,000 mm (20 ft).





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.





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.





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.





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 special material handling



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

CUSTOMER EXPERIENCE CENTER MASS FINISHING

A major strength of the Rösler business approach is that **we look at all aspects of a finishing task**. The equipment and the processes are individually tailored to the respective finishing requirements, but also to their optimal integration into the customer's manufacturing operation. Most of the Rösler sales

branches have their own **Customer Experience Centers (CEC)**, equipped with the latest finishing equipment.

To investigate the various finishing possibilities, in our CEC we are conducting **processing trials** with the work pieces of our respective customers.



Process development and process optimization

Our all-around approach guarantees perfect finishing solutions. This includes processing trials, process development, selection of the right machinery and a professional after sales service.

In our CEC, equipped with ultra-modern equipment, we can run practically any mass finishing process. State-of-the-art **physical and chemical measuring** equipment represents a vital tool for process development and optimization.

The entire focus of our specialists in the engineering and R & D departments is on developing **tailormade finishing solutions**.

Product development and optimization

The enormous depth of the Rösler product range, **CEC around the world** and our well-equipped laboratory at the Untermerzbach location in Germany are an excellent basis for the development of innovative and cost-efficient products in the field of mass finishing. All our products, be it consumables, finishing equipment, vibratory motors, process water cleaning centrifuges, as well as work piece handling systems and post processing equipment like dryers, are **developed and manufactured** in-house. Such a high manufacturing depth is unparalleled in our industry.



LEARNING FROM THE GLOBAL LEADER

Our comprehensive mass finishing know-how is founded on over 80 years of experience. As the global technology and market leader in the field of surface treatment we can offer proven

solutions ranging from a broad equipment and consumables portfolio to round-the-clock after-sales service. In our training seminars we are passing our extensive knowledge on to you.







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.



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

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





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