



Tub vibrators



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.



DIN EN ISO 9001 and 50001



Test lab mass finishing

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.



Tub vibrator

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

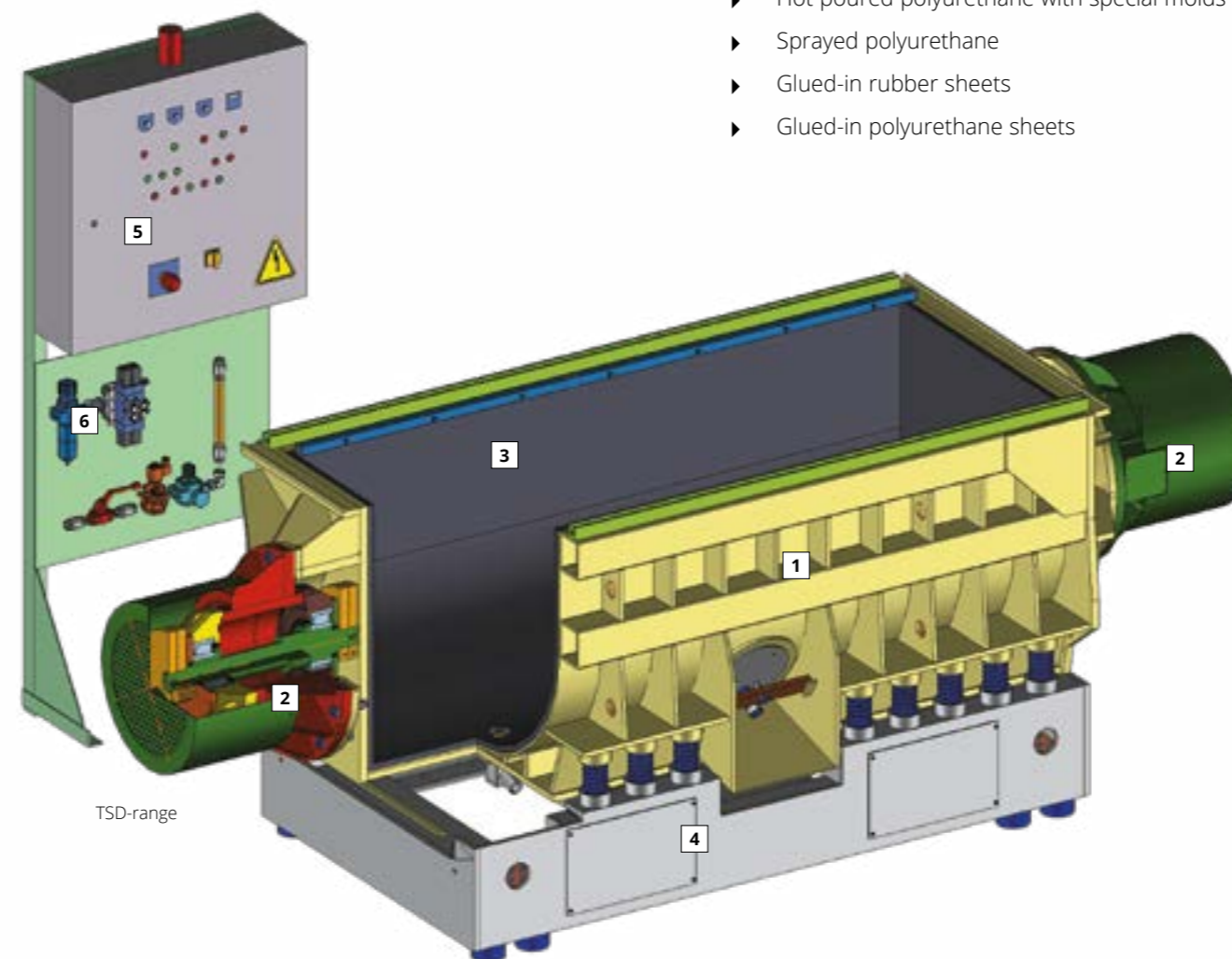
The machine base design of all our Tub vibrators is characterized by heavy-duty and sturdy welding construction. Special coil spring sockets on the machine base ensure that no vibrations are transferred from the work bowl to the machine base. Large service doors allow easy access to any areas that require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



TSD-range

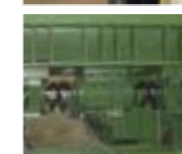
▶ TUD-range:

One drive motor mounted underneath the work bowl. The motor 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:

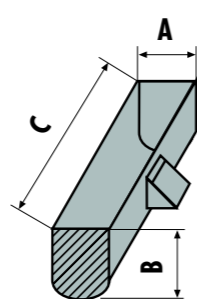
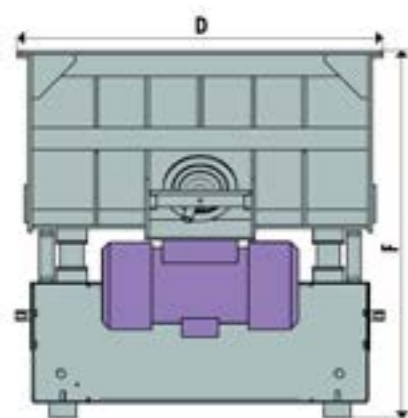
Standard speed = up to 3,000 RPM

Variable speed:

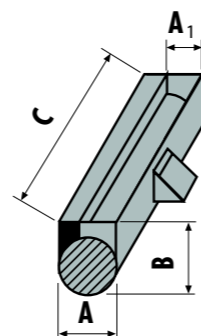
Optional with variable frequency drive (VFD)

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



Type B special work bowl profile

TE- drive system

Tub vibrators, model range TE-30	Type A	Type B	Drive speed 3,000 RPM „super speed“	Dimensions (mm)								Volume Type A Work bowl (l)	Volume Type B Work bowl (l)	Drive power (kW)
				Work bowl with lining				Complete machine						
				A	A ₁	B	C	D	E	F				
R 300/600	•	•	•	300	240	420	600	890	480	950	70	40	1.3	
R 360/870	•	-	•	360	-	440	870	1,160	520	1,000	120	-	2.2	

State: 04/2016 - Special dimensions upon request

Tub vibrators, model range TE-15	Type A	Type B	Drive speed 1,500 RPM	Dimensions (mm)								Volume Type A (Type B) Work bowl (l)	Drive power (kW)
				Work bowl with lining				Complete machine					
				A	A ₁	B	C	D	E	F			
R 300/600	•	•	•	300	240	420	600	890	480	950	70 (40)	0.9	
R 360/870	•	-	•	360	-	440	870	1,160	520	1,000	120	1.6	
R 400/1200	•	-	•	400	-	490	1,200	1,340	640	1,050	210	1.6	
R 430/1100	•	-	•	430	-	540	1,100	1,300	680	1,220	230	1.6	
R 500/1000	•	-	•	500	-	580	1,000	1,200	710	1,150	260	2.2	
R 500/1500	•	-	•	500	-	580	1,500	1,780	800	1,150	390	2.5	
R 500/1750	•	-	•	500	-	620	1,750	1,920	850	1,150	490	3.6	
R 580/1100	•	-	•	580	-	640	1,100	1,370	855	1,370	360	1.6	
R 600/1000	•	-	•	600	-	680	1,000	1,200	940	1,280	360	2.5	
R 600/1500	•	-	•	600	-	680	1,500	1,700	940	1,280	550	6.0	
R 650/1500	•	-	•	650	-	730	1,500	1,700	1,030	1,280	640	6.0	
R 670/1950	•	-	•	670	-	650	1,950	2,230	1,010	1,220	750	6.0	
R 750/1200	•	-	•	750	-	800	1,200	1,420	1,170	1,300	640	6.0	
R 750/1600	•	-	•	750	-	800	1,600	1,870	1,170	1,300	860	7.5	
R 800/1500	•	-	•	800	-	850	1,500	1,740	1,195	1,400	910	6.0	
R 850/1200	•	-	•	850	-	880	1,200	1,470	1,215	1,400	800	6.0	
R 910/1200	•	-	•	910	-	970	1,200	1,470	1,325	1,680	950	7.5	

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).

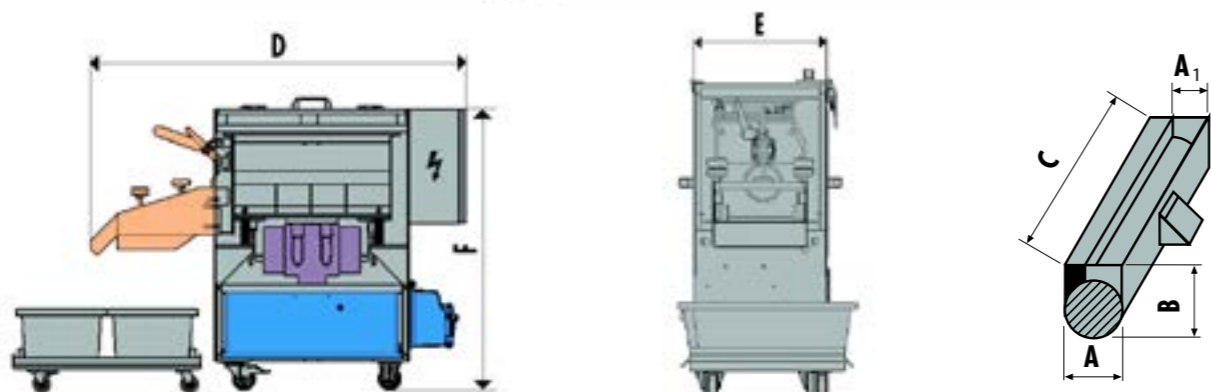


Tub vibrators, model range Minor	Type A	Drive speed 3,000 RPM „super speed“	Dimensions (mm)								Volume Work bowl (l)	Drive power (kW)
			Work bowl with lining				Complete machine					
			A	A ₁	B	C	D	E	F			
R 180/530 TE-30	•	•	•	180	120	230	530	650	360	600	10	0.65
R 210/530 TE-30	•	•	•	210	150	270	530	660	330	670	20	0.65


State: 04/2016 - Special dimensions upon request

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.



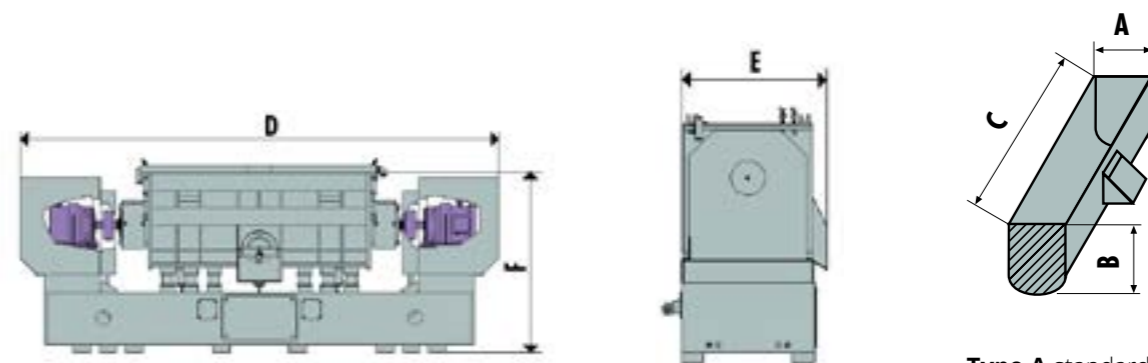
RMO - drive system Recycling system Separation unit

Tub vibrators, model range RMO		Drive speed 3,000 RPM „super speed“	Dimensions (mm)							Volume Work bowl (l)	Drive power (kW)
			Work bowl with lining				Complete machine				
			A	A ₁	B	C	D	E	F		
RMO 180/530 TE-30	•	•	180	120	230	530	1,250	485	990	10	0.65
RMO 210/530 TE-30	•	•	210	150	270	530	1,250	525	1,025	20	0.65

State: 04/2016 – Special dimensions upon request


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

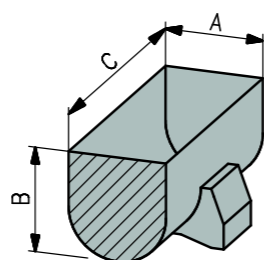
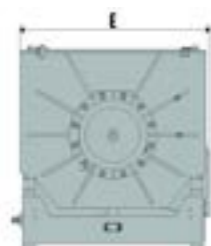
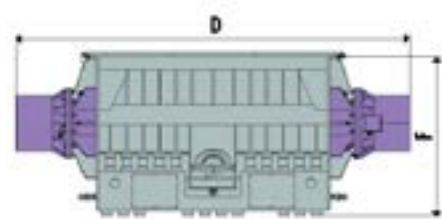
TS - drive system

Tub vibrators, model range TS-30		Drive speed 3,000 RPM „super speed“	Dimensions (mm)						Volume Work bowl (l)	Drive power (kW)
			Work bowl with lining			Complete machine				
			A	B	C	D	E	F		
R 250/1150	•	•	250	400	1,150	2,710	600	970	100	2 x 3.0
R 300/1200	•	•	300	400	1,200	2,730	550	950	130	2 x 3.0
R 400/1200	•	•	400	480	1,200	2,910	640	1,040	210	2 x 4.0
R 500/800	•	•	500	580	800	2,355	715	1,100	210	2 x 4.0
R 500/1000	•	•	500	580	1,000	2,590	715	1,100	260	2 x 4.0
R 500/1500	•	•	500	610	1,500	3,525	840	1,100	410	2 x 7.5

State: 04/2016 – Special dimensions upon request


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

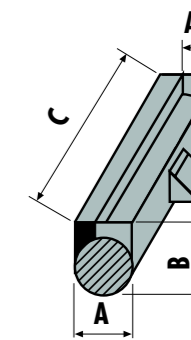
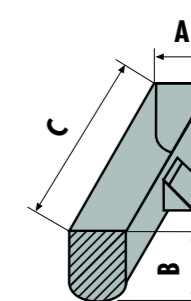
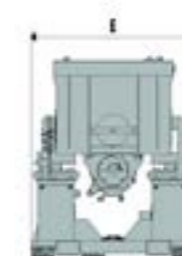
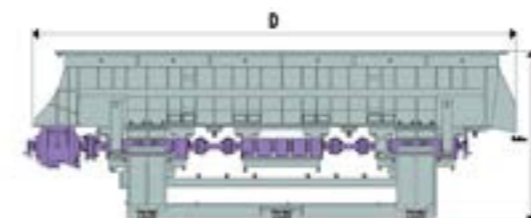
TSD - drive system

Tub vibrators, model range TSD	Type A 	Drive speed 1,500 RPM	Dimensions (mm)						Volume Work bowl (l)	Drive power (kW)
			Work bowl with lining			Complete machine				
			A	B	C	D	E	F		
R 425/2700	•	•	425	540	2,700	4,240	715	1,050	560	2 x 4.0
R 500/2000	•	•	500	620	2,000	3,550	810	1,065	560	2 x 4.0
R 550/2200	•	•	550	670	2,200	3,730	900	1,130	730	2 x 4.0
R 600/2000	•	•	600	680	2,000	3,550	950	1,135	730	2 x 4.0
R 600/2500	•	•	600	680	2,500	4,040	950	1,135	920	2 x 4.0
R 600/3000	•	•	600	680	3,000	4,570	950	1,180	1,100	2 x 7.5
R 650/2000	•	•	650	740	2,000	3,550	1,000	1,155	870	2 x 4.0
R 750/3000	•	•	750	810	3,000	4,580	1,120	1,210	1,640	2 x 7.5
R 800/2000	•	•	800	810	2,000	3,700	1,180	1,250	1,150	2 x 7.0
R 800/2200	•	•	800	810	2,200	3,840	1,180	1,250	1,270	2 x 7.0
R 800/3000	•	•	800	810	3,000	4,620	1,180	1,250	1,730	2 x 15.0
R 1000/1500	•	•	1,000	1,050	1,500	3,180	1,360	1,470	1,410	2 x 7.0
R 1000/2000	•	•	1,000	1,050	2,000	3,600	1,380	1,470	1,880	2 x 15.0
R 1000/3000	•	•	1,000	1,050	3,000	4,620	1,380	1,470	2,820	2 x 15.0
R 1100/2000	•	•	1,100	1,050	2,000	3,560	1,455	1,470	2,050	2 x 15.0
R 1200/2300	•	•	1,200	1,300	2,300	3,960	1,600	1,720	3,230	2 x 15.0
R 1300/2000	•	•	1,300	1,150	2,000	3,600	1,690	1,500	2,620	2 x 15.0
R 1400/1800	•	•	1,400	1,240	1,800	3,400	1,800	1,770	2,740	2 x 15.0
R 1600/1500	•	•	1,600	1,400	1,500	3,160	2,040	1,920	2,940	2 x 15.0

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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).



Type A standard work bowl profile

Type B special work bowl profile

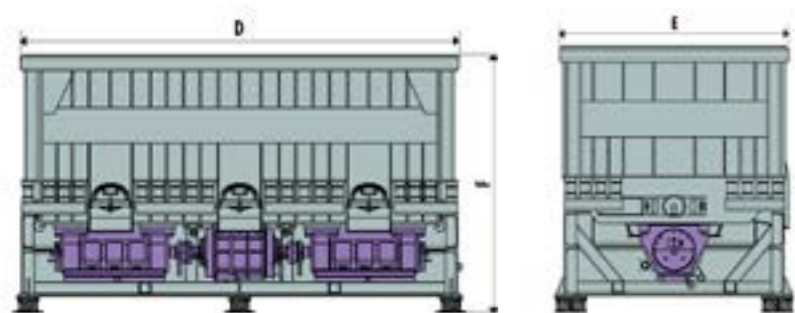
TUD - drive system

Tub vibrators, model range TUD	Type A 	Type B 	Drive speed 1,500 RPM	Dimensions (mm)							Volume Type A Work bowl (l)	Volume Type B Work bowl (l)	Drive power (kW)
				Work bowl with lining			Complete machine						
				A	A ₁	B	C	D	E	F			
R 425/4600	•	•	•	425	330	520	4,600	5,115	1,420	1,490	920	650	18.0
R 425/6600	•	•	•	425	330	520	6,600	7,115	1,460	1,490	1,330	930	18.0
R 550/4000	•	•	•	550	430	650	4,000	4,900	1,370	1,670	1,300	950	18.0
R 550/6000	•	•	•	550	430	650	6,600	6,775	1,370	1,670	2,140	1,560	22.0
R 650/4000	•	•	•	650	490	720	4,000	4,865	1,370	1,670	1,690	1,320	18.0
R 650/6000	•	•	•	650	490	720	6,000	6,775	1,370	1,670	2,530	1,990	22.0
R 850/6000	•	•	•	800	680	930	6,000	7,060	1,885	2,400	4,050	3,010	40.0

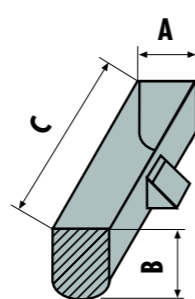
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Tub vibrator, model range TUM

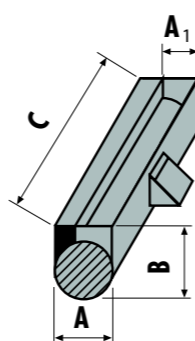
The TUM drive concept allows for the building of large Tub vibrators for processing long, bulky components. The large width and length of these machines allows for the efficient treatment of very large work pieces. The location of the powerful drive motor underneath the center of the work bowl, with 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



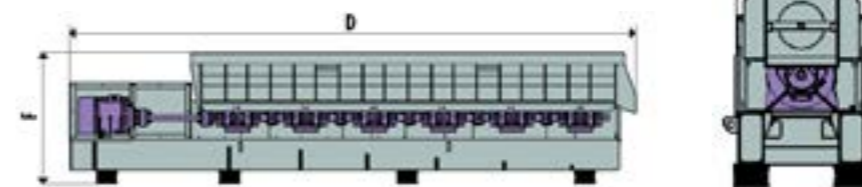
Type B special work bowl profile

Tub vibrators, model range TUM	Type A	Type B	Drive speed 1,500 RPM	Dimensions (mm)								Volume Type A work bowl (l)	Volume Type B work bowl (l)	Drive power (kW)
				Work bowl with lining				Complete machine						
				A	A ₁	B	C	D	E	F				
R 850/4000	•	•	•	850	680	930	4,000	4,500	1,885	2,400	2,850	2,260	40.0	
R 1500/3300	•	-	•	1,500	-	1,360	3,300	3,860	1,965	2,190	5,930	-	40.0	

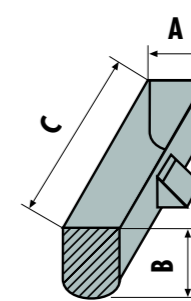
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Tub vibrator, model range TU

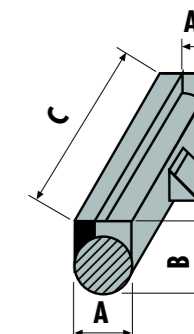
Ball burnishing and vibro peening require media made from carbon steel or stainless steel. This heavy load requires an especially powerful drive system with a speed of 3,000 RPM. Such a high speed can also be beneficial for other mass finishing applications.



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 3,000 RPM „super speed“	Dimensions (mm)								Volume Type A Work bowl (l)	Volume Type B Work bowl (l)	Drive power (kW)
				Work bowl with lining				Complete machine						
				A	A ₁	B	C	D	E	F				
R 250/4200	•	-	•	250	-	310	4,200	5,530	660	1,030	290	-	18.5	
R 350/4000	•	•	•	350	295	440	4,000	5,530	780	1,270	560	380	18.5	
R 350/6000	•	•	•	350	295	440	6,000	7,530	780	1,270	840	570	18.5	

State: 04/2016 - special dimensions upon request

Tub vibrator – the perfect machine concept for many applications

Special Tub vibrator solutions

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



Automated Tub vibrators

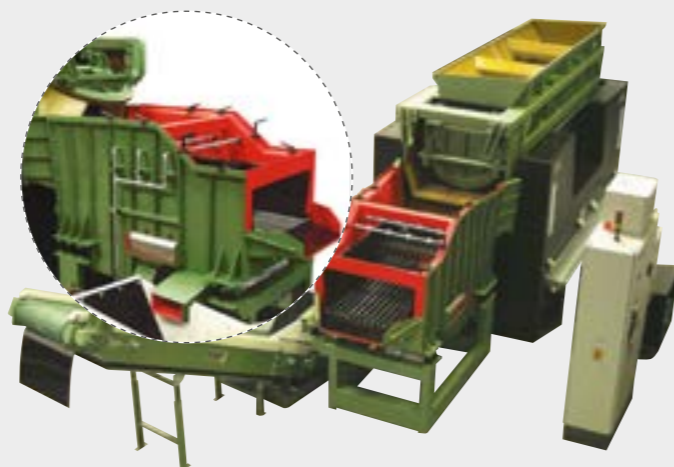
Machines equipped with automatic work piece unloading and separation systems.

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.



Noise protection cabin



Noise protection cabin



Sound enclosing lid

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.



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