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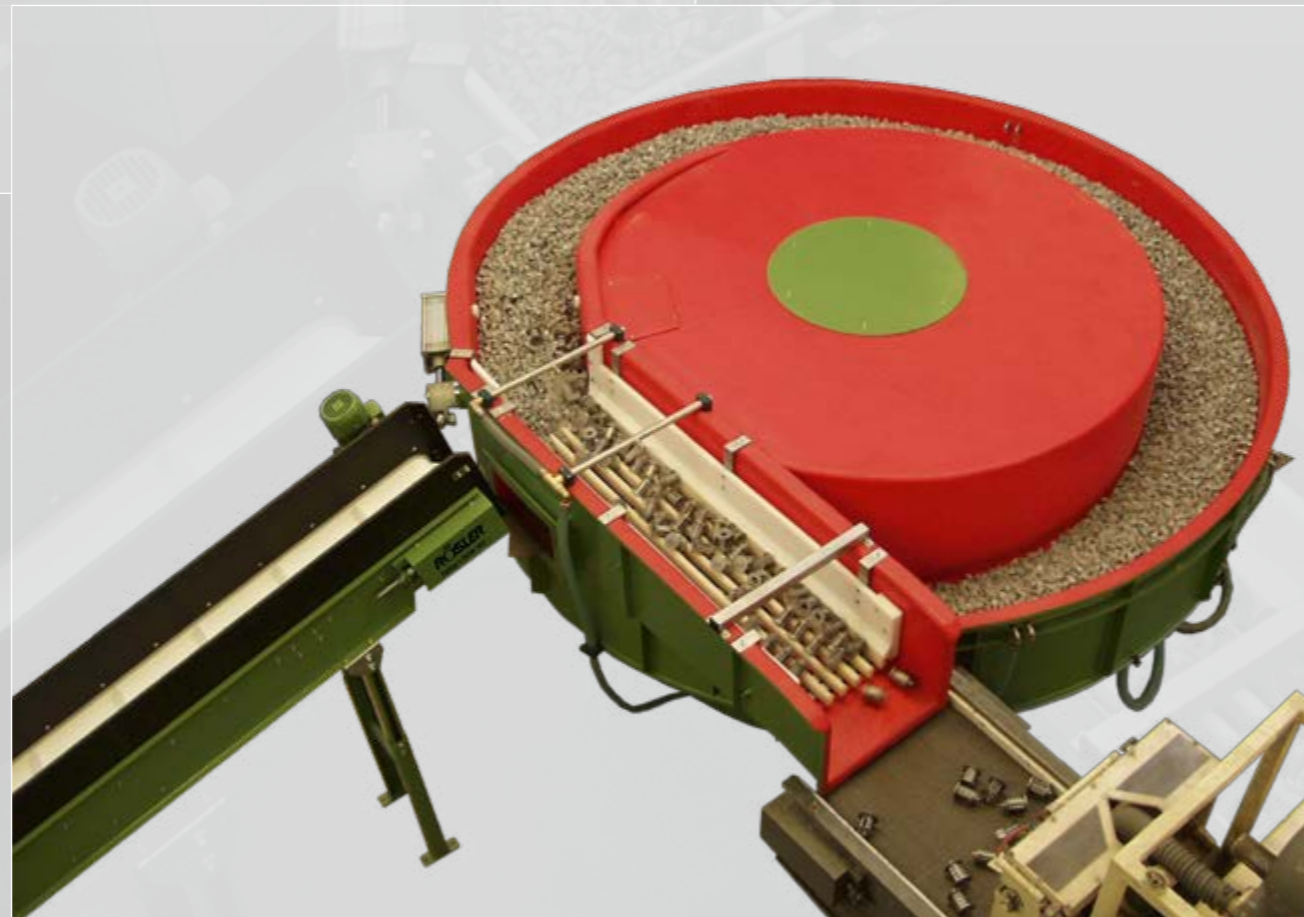


## *Long Radius Vibrators*

*Continuous-Flow and Batch Systems*

## Long Radius Vibrators

Rösler Long Radius vibratory finishing systems allow parts to be processed in either continuous-feed or batch mode. Their high degree of flexibility offers significant advantages for production planning, helping to reduce processing times and make the overall surface finishing process more economical. Last, but not least, their small footprint requires a minimum of floor space.



### Media and compounds

Rösler offers the market's widest range of mass finishing consumables. Thanks to over 60 years of experience in product development, we have a product range of over 8,000 different compounds as well as ceramic and plastic media in all shapes and sizes. This wide array of products is available to customers worldwide.



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### Applications for Long Radius Systems

Long Radius systems are highly effective for deburring, grinding, radiusing (edge breaking) pressure deburring, polishing and ball burnishing of: stampings, castings, forgings and machined parts. Their biggest advantage is that the same machine is capable of both batch and continuous-feed operation.

### Functional principle

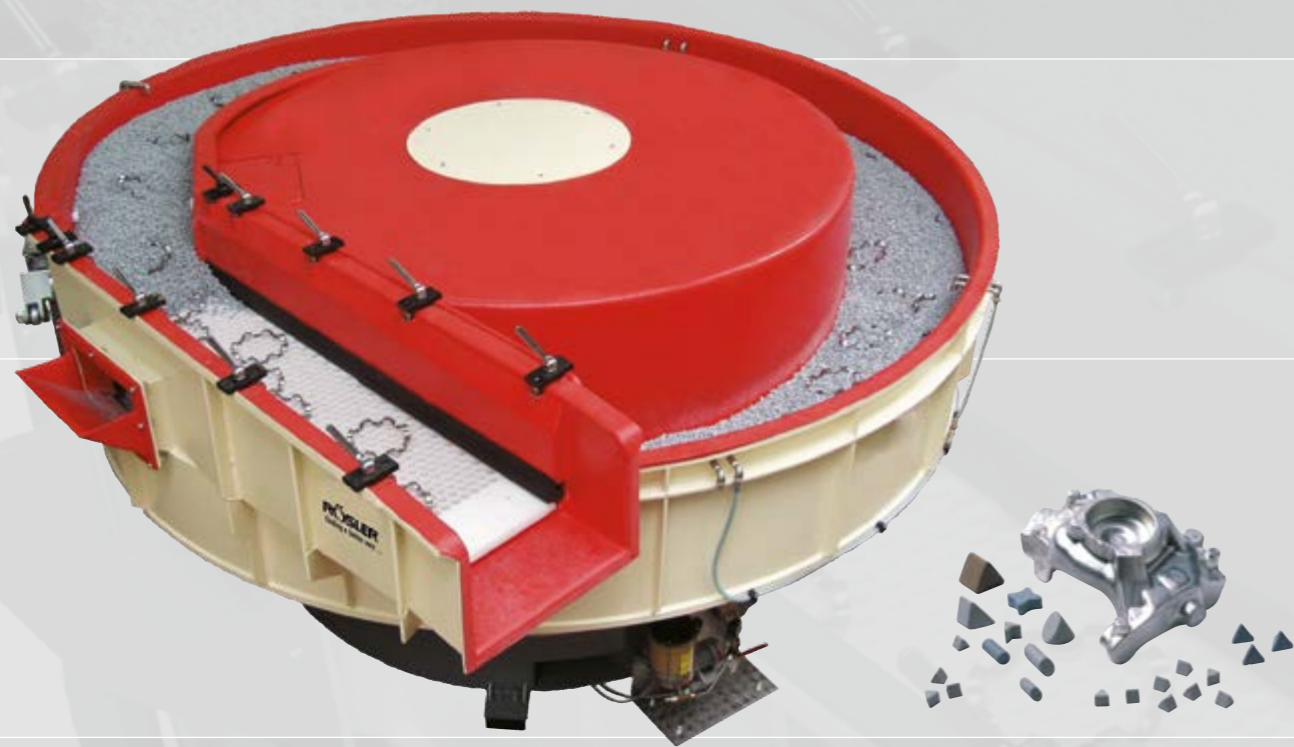
In the machine's work bowl, filled with grinding or polishing media, the parts are surface finished in either batch or continuous-feed mode. In order to finish the parts, vibration is induced, which causes the parts and the media to move against each other in a scrubbing action. Once the finishing process is complete, the internal screening device separates the parts from the media. Long Radius machines provide rinsing of the parts while they are being screened, as well as automatic removal of undersized media from the system.

Long Radius machines can be easily linked into any production line.



## Long Radius Machine Technology

Rösler's Long Radius machines were designed as "spiral bottom" machines. The processing channel of the work bowl features a continuous ascent through its entire 360° circumference, from the parts infeed chute up to the built-in separation screen. For batch operation, Long Radius machines can be equipped with an optional pneumatically-activated separation flap. The parts infeed chute below the separation screen ensures easy loading of the raw parts into the machine.



### Engineered to the last detail

Evenly distributed process water entry points ensure intensive finishing action in the processing channel. Bottom drains are self-cleaning and easy to change, allowing quick drainage of the process water from the work bowl.



### Separation

Quick and easy exchange of separation screens  
Built-in rinsing station



### Quick and easy media change

Easily accessible media discharge gate allows quick removal of the media from the work bowl.



### Continuous flow or batch operation

Optional built-in pneumatically-activated separation flap allows continuous as well as batch operation.



### Parts loading

Parts load chute for continuous loading of raw parts into the Long Radius machine



### Powerful vibratory drive system

The specially designed Direct-Drive vibratory motor offers ample horsepower to easily drive even the largest LR machines. The proven double cone flange motor mounting system ensures the efficient transfer of the vibratory energy into the processing channel. Easy access to the imbalance weights facilitates quick adjustment of the vibratory intensity. A frequency inverter allowing variable motor speeds offers additional flexibility for controlling the process intensity.



### Machine base

- ▶ Welded construction provides a solid, stable machine base
- ▶ Large access door facilitates easy adjustment of imbalance weights, and other maintenance operations.
- ▶ Vibration dampers minimize the transfer of vibration to the floor



### Occupational safety

Custom-built sound absorbing cabins are available upon request.



### System controls

- ▶ User-friendly contactor controls (optional: PLC controls)
- ▶ Continuous speed adjustment of the motor
- ▶ Continuous control and monitoring of the water/compound dosing



Solenoid valves for control of process water flow and rinsing station. Flow controls and indicators for process water and compound are user-friendly and easy to read.



## Special Long Radius type R.../2 E-LR

With their extra-long processing channel Long Radius vibratory systems can be used for batch as well as continuous feed surface finishing. The work bowl has a double curved wall processing channel with equal channel width and depth. This guarantees excellent rotary movement and immersion of the parts into the media mass.

### Technical highlights:

- ▶ Spiral bottom process channel with continuous incline for easy separation
- ▶ Double curved walls of processing channel
- ▶ Gentle, adjustable "cascade" drop behind separation ramp.
- ▶ Manually insertable separation gate or pneumatically activated separation flap
- ▶ Linear screen area with easy to change separation screen
- ▶ Adjustable imbalance weights allow different grinding intensities
- ▶ Wear resistant lining made from HD 90 polyurethane
- ▶ Media unload plug with integrated effluent drain
- ▶ Flexible design of electrical controls and compound dosing systems
- ▶ Extra bottom drains

### Extras:

- ▶ Undersize media classification segment integrated into separation screen
- ▶ Special separation unit with independent vibratory drive
- ▶ Parts load chute
- ▶ Variable speed of vibratory motor

### Applications:

#### Continuous feed mode

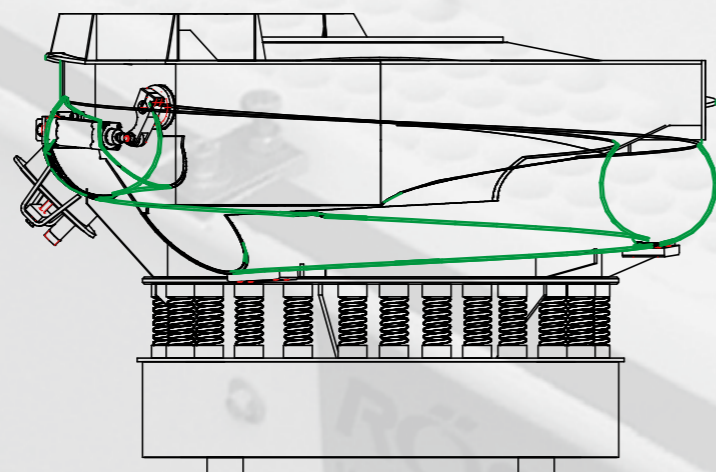
- ▶ Gentle de-burring and radiusing of delicate parts
- ▶ Cleaning

#### Batch mode

- ▶ Intensive grinding/de-burring/radiusing
- ▶ RÖSLER Keramo-Finish® / REM Isotropic Superfinish ISF®
- ▶ Polishing/smoothing
- ▶ Ball burnishing



Optimum immersion of parts into media mass; protection against parts nicking each other on the channel incline



### Technical details:

#### Parts loading

Load chute for feeding parts in continuous feed operation



#### Continuous or batch operation

Separation package with automatic control of separation flap



Pneumatically activated separation flap



Manually insertable separation gate

#### Separation of media from finished parts

Easy to change screens requiring no tools allow quick ex-change of separation screens.



**Option:** Integrated rinse station over screening area for spray rinsing of the finished parts

- ▶ Available upon request: Special linear separation unit with independent vibratory drive; can be linked to a rotary storage table



### Long Radius- KP ball burnishing systems

#### For extra heavy loads:

Specially designed for ball burnishing or high-pressure deburring with steel/stainless steel media:

- ▶ Re-enforced coil springs
- ▶ Lining of work bowl: sprayed polyurethane
- ▶ Recommended accessories: Suction pump and splash guard



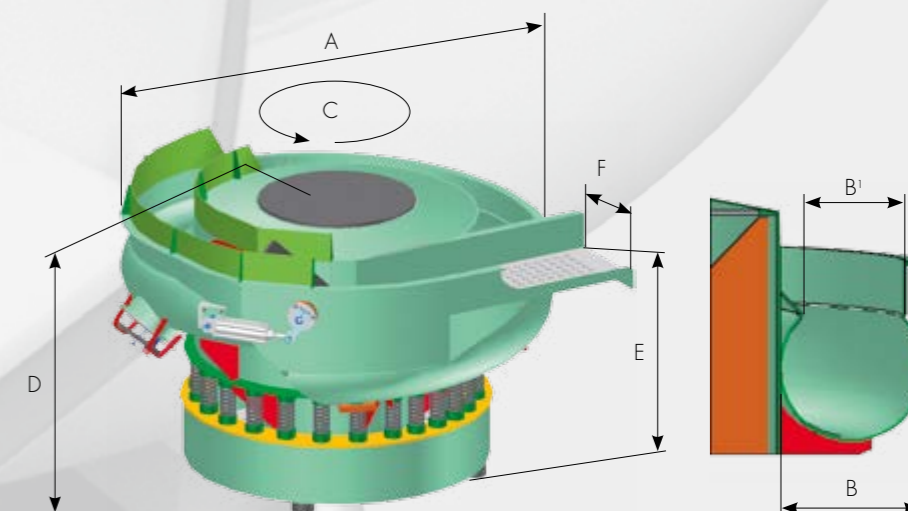
### Type:

		R 480/2E-LR	R 780/2E-LR
Process bowl	l	350	680
Total volume			
External diameter max.	mm A	1900	2380
Process bowl width	mm B	270	395
Workpiece loading width	mm B 1	185	320
Overall length of processing channel	mm C	5350	6100
Machine height	mm D	1230	1570
Unload height	mm E	1010	1200
Screen width	mm F	280	340

Drive power			
Speed*	RPM	1500	1500
Connected load	kW	7,5	7,5
Media unload plug	Ø mm	200	200

\* Standard speed: 1500 and 1000 RPM  
Variable speed with frequency inverter on request

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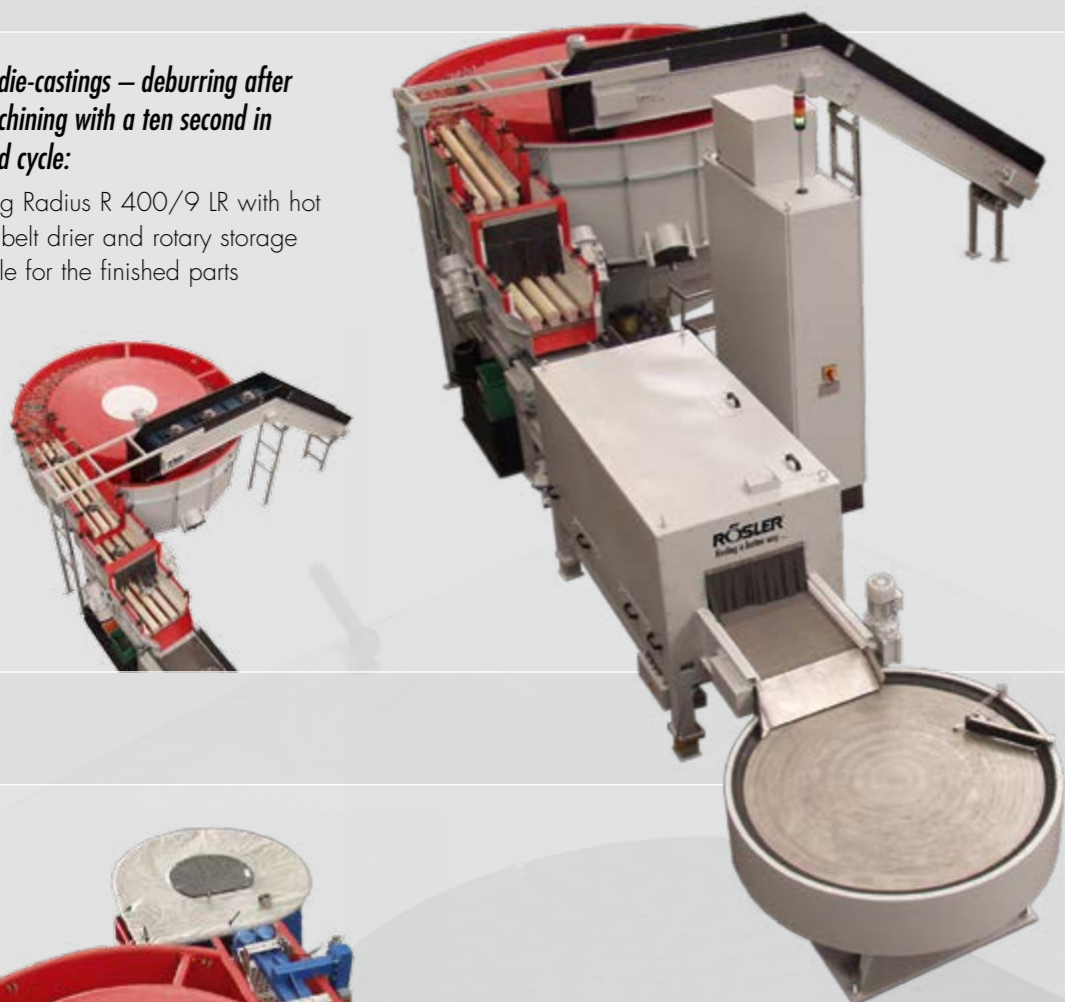


## Linked Systems and Automation

The Long Radius systems can be easily integrated into manufacturing cells. Very delicate parts can be processed in continuous feed mode at pre-determined cycle times without touching each other, while somewhat less delicate parts can be processed in gentle batch mode. Large volumes of parts not prone to impingement or nicking can be processed in continuous feed or batch mode.

### AL die-castings – deburring after machining with a ten second in feed cycle:

Long Radius R 400/9 LR with hot air belt drier and rotary storage table for the finished parts



### Continuous surface finishing of gear parts:

LR system with a processing channel length of nine meter (30 ft) linked with vibratory rotary drier



### Multi functional finishing system near the die-casting cell:

Processing of mass-produced as well as delicate, large parts with a processing time of ten minutes. Linked with hot air belt drier and rotary storage table for the finished parts

### Gentle surface finishing in a single pass:

Long Radius R 480/2E LR linked with an external media separation system and vibratory rotary drier



### Batch processing of very delicate parts:

Long Radius R 480/2E LR linked with a linear drive discharge system and rotary storage table for the finished parts

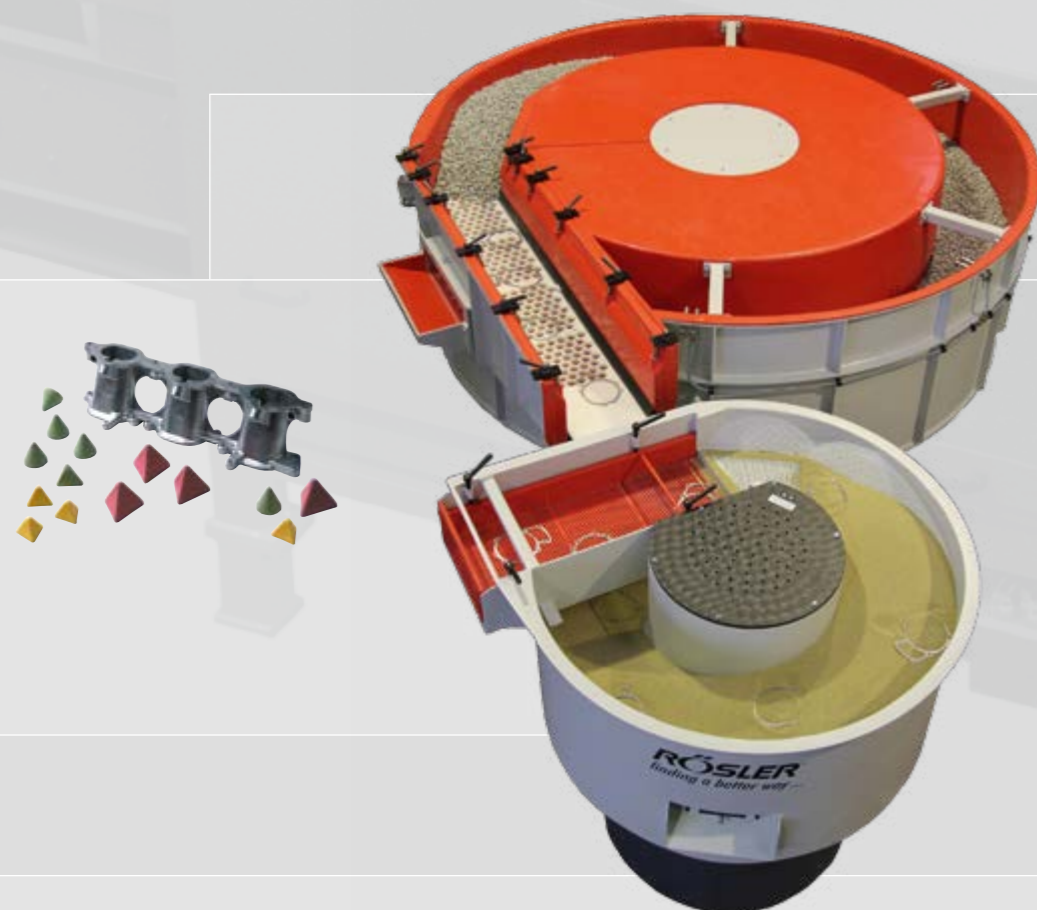
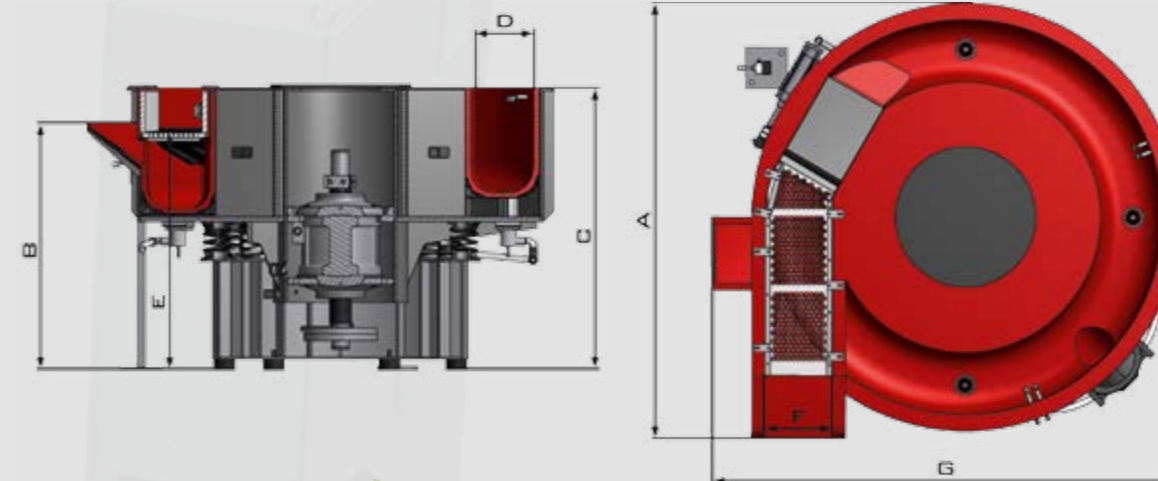
## Big results – with a small footprint

Whether as a stand-alone machine, or as part of a fully-automated system integrating proven Rösler loading and unloading components, Long Radius machines offer superior solutions to a wide variety of finishing requirements.

### Technical Data:

	R 250/5 LR	R 310/5 LR	R 310/9 LR	R 400/9 LR	R 480/8 LR
Total length of processing channel (mm)	5200	5000	9200	8500	8000
A (mm)	2075	2075	3430	3055	3300
B (mm)	1150	1170	1370	-	1450
C (mm)	1355	1360	1786	1865	1675
D (mm)	240	295	320	400	480
E (mm)	1074	1080	1240	1510	1400
F (mm)	230	270	300	390	480
G (mm)	2230	2230	3505	3175	3200
Total volume in dm <sup>3</sup>	175	300	475	1000	1470
Drive power in kW	7.5	7.5	7.5	22	22

State: 07/15



### Clean environment – our commitment

A clean environment is an essential part of our company philosophy. In our production we use natural raw materials and recycled materials. Long maintenance intervals, the ease of maintenance of our equipment, concentrated compounds, and wear-resistant media, save valuable natural resources and contribute to a clean environment. The prevention of hazardous waste and the recycling of packing materials are an integral part of our production and sales policies.

### Quality – made in Germany

For Rösler the word quality has deeper meaning than just faultless, reliable and long living products. Quality is an essential part of our work philosophy and is expressed in the personal sense of duty and quality found in each of our employees. Certification according to DIN ISO 9001 is living proof of our commitment to quality.



DIN EN ISO 9001



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