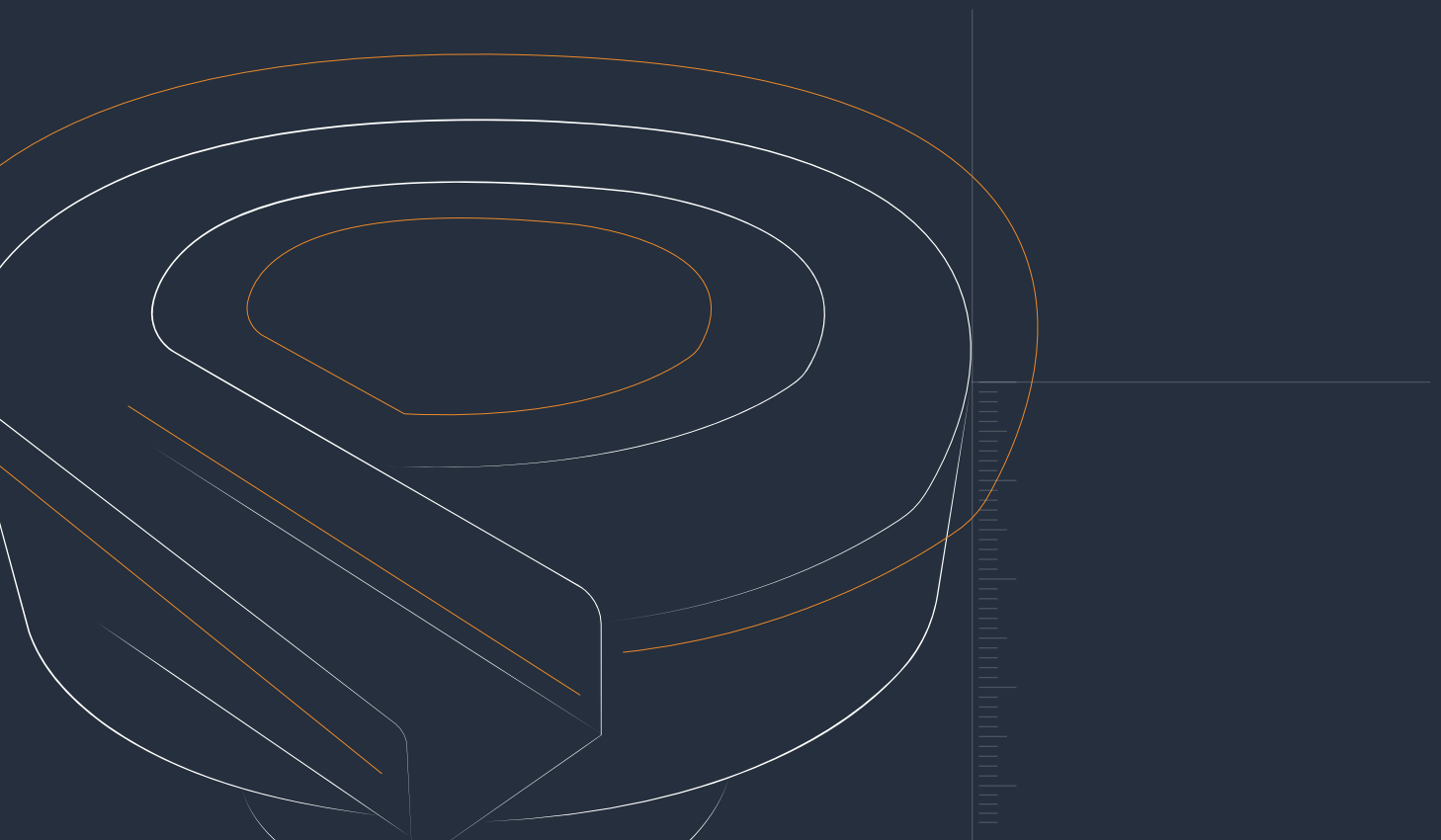


Long Radius Vibrators

Continuous-Flow and Batch Systems

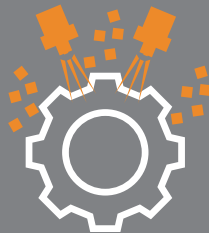


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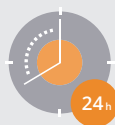
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More than **15,000**
different types of media and compounds



Our technical service –
round-the-clock support



Transfer of professional knowledge
by certified trainers

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Long Radius

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.

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.

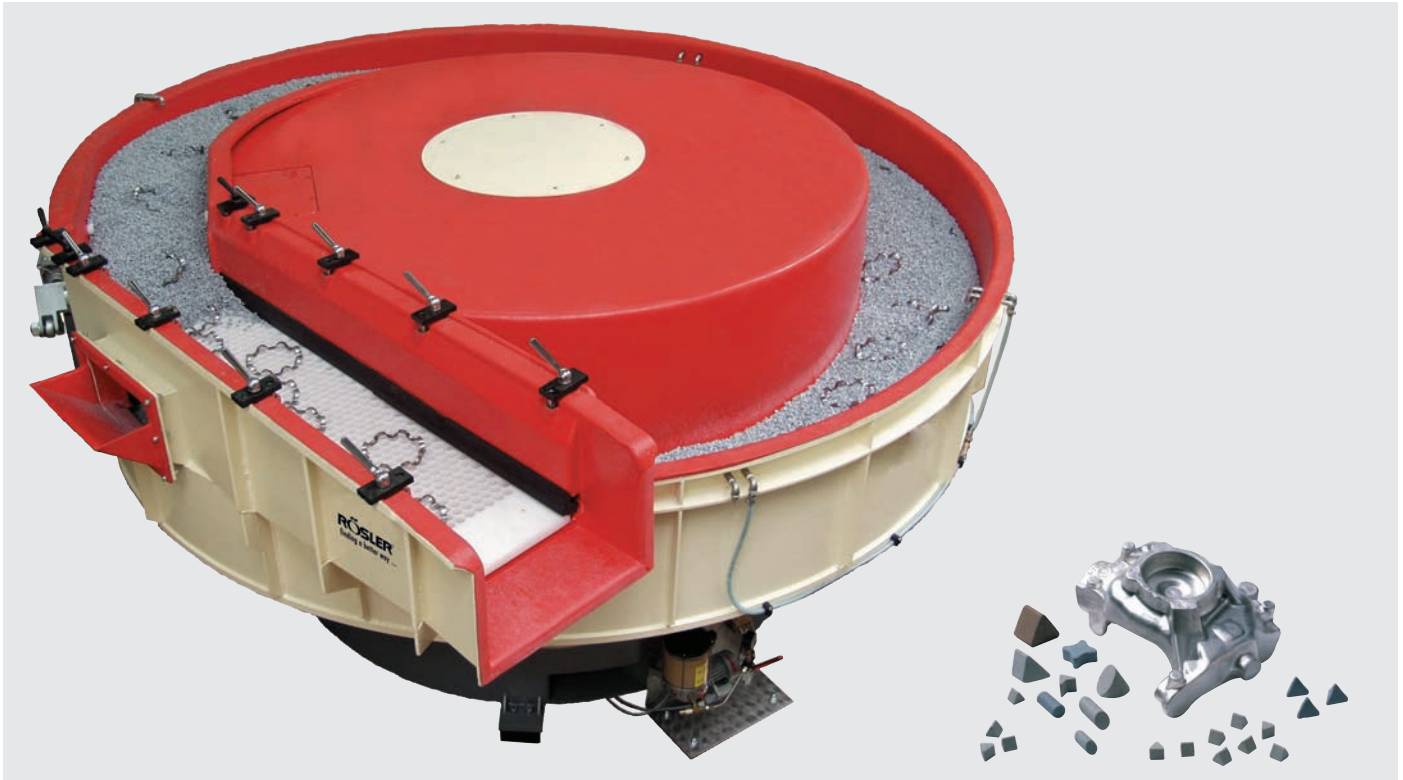
Applications

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.

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.



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.



System controls

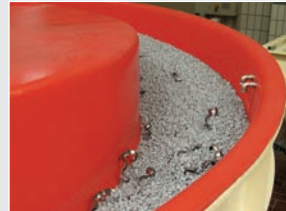
- ▶ User-friendly contactor controls (optional: PLC controls)
- ▶ Continuous speed adjustment of the motor
- ▶ Continuous control and monitoring of the water/compound dosing

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.



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



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.



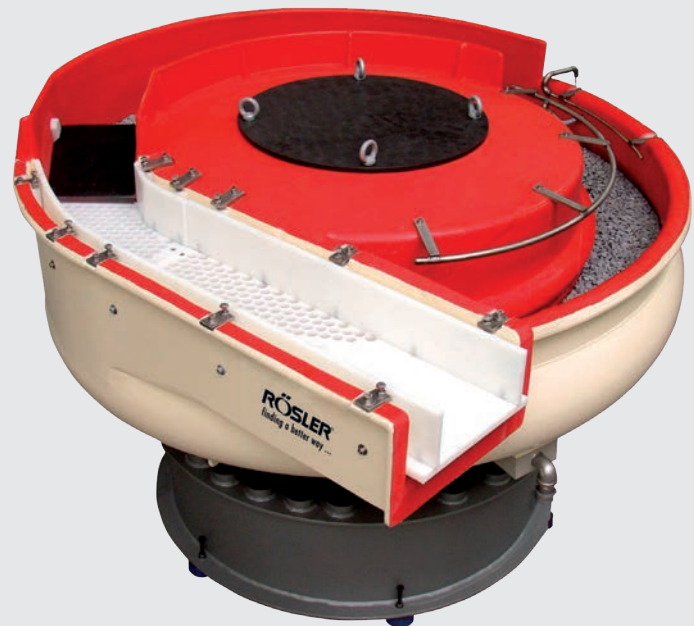
SPECIAL LONG RADIUS TYPE R.../2 E-LR

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.

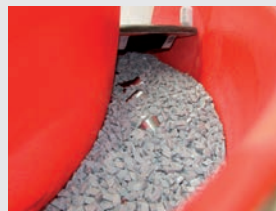
Technical highlights:

- ▶ 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



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

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



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

Technical data

Model	R 480/2 E-LR	R 780/2 E-LR
Total volume	350	680
A (mm)	1,900	2,380
B (mm)	270	395
B1 (mm)	185	320
C (mm)	5,350	6,100
D (mm)	1,230	1,570
E (mm)	1,010	1,200
F (mm)	280	340
Speed*	1,500	1,500
Connected load (kW)	7.5	7.5
Media unload plug Ø	200	200

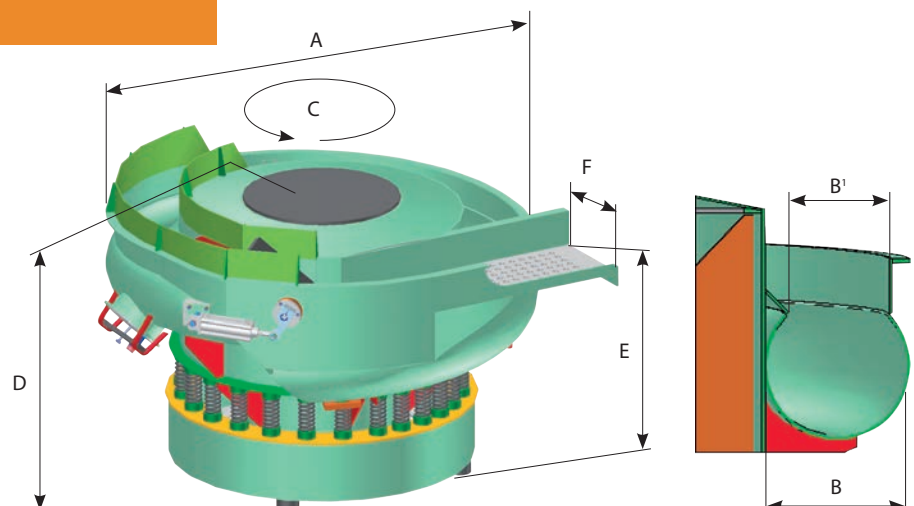
* Standard speed: 1500 and 1000 RPM
Variable speed with frequency inverter on request

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



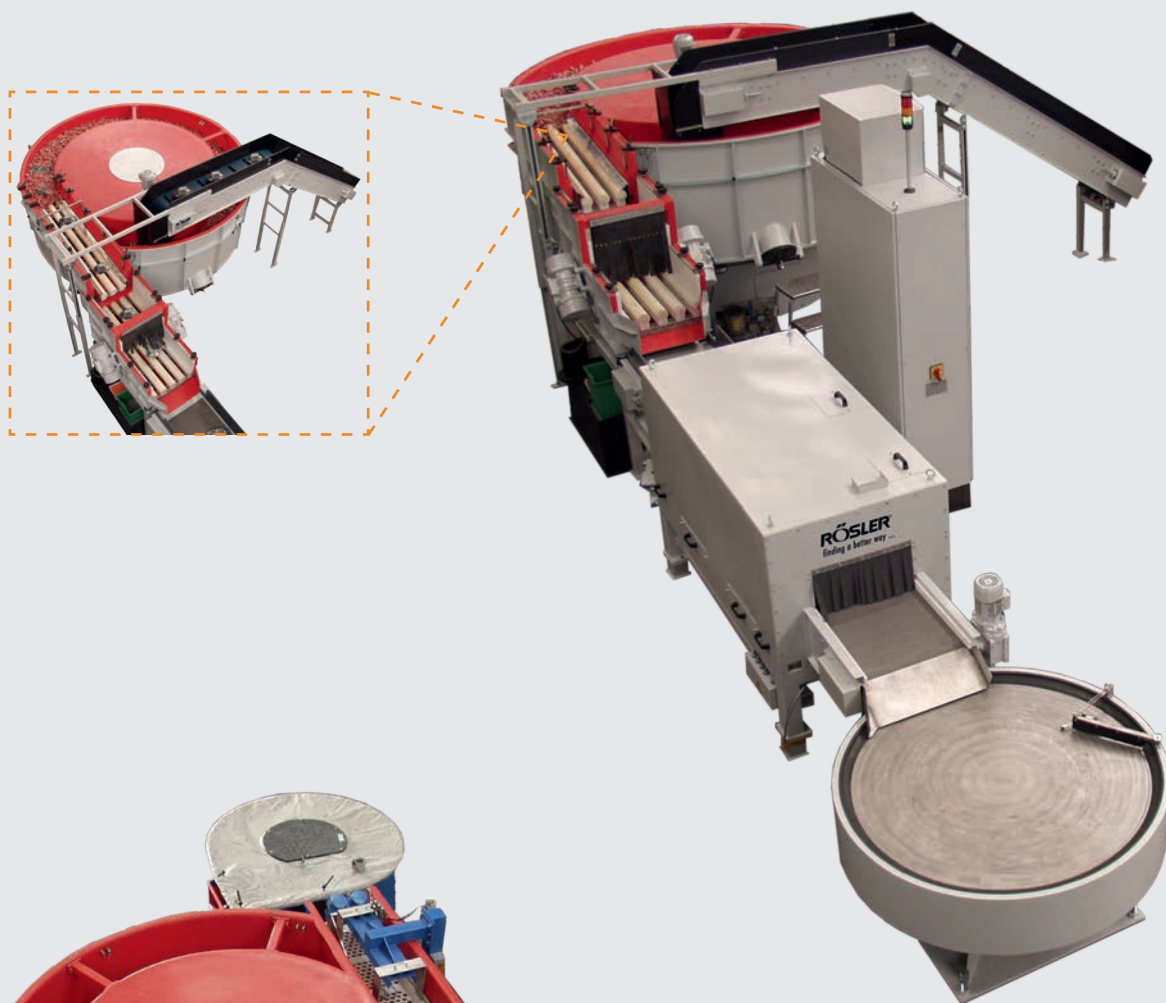
LINKED SYSTEMS AND AUTOMATION

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

gentlebatch mode. Large volumes of parts not prone to impingement or nicking can be processed in continuous feed or batch mode.

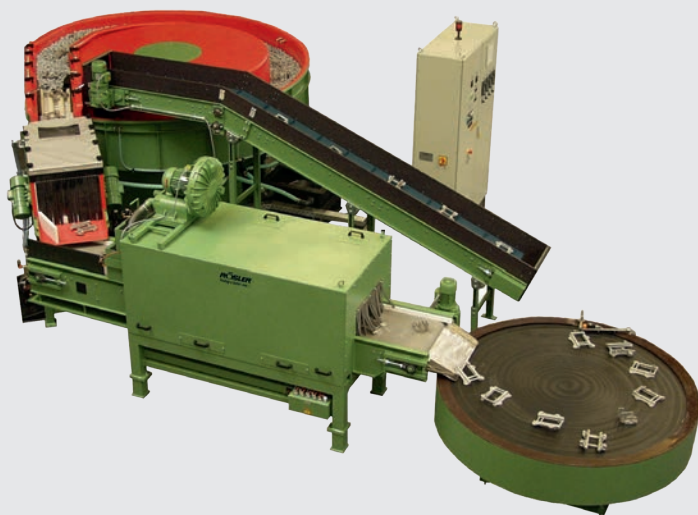
AL die-castings – deburring after machining with a ten second in feed cycle:

Long Radius R 400/9 LR with hot air belt dryer 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 dryer



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 dryer and rotary storage table for the finished parts

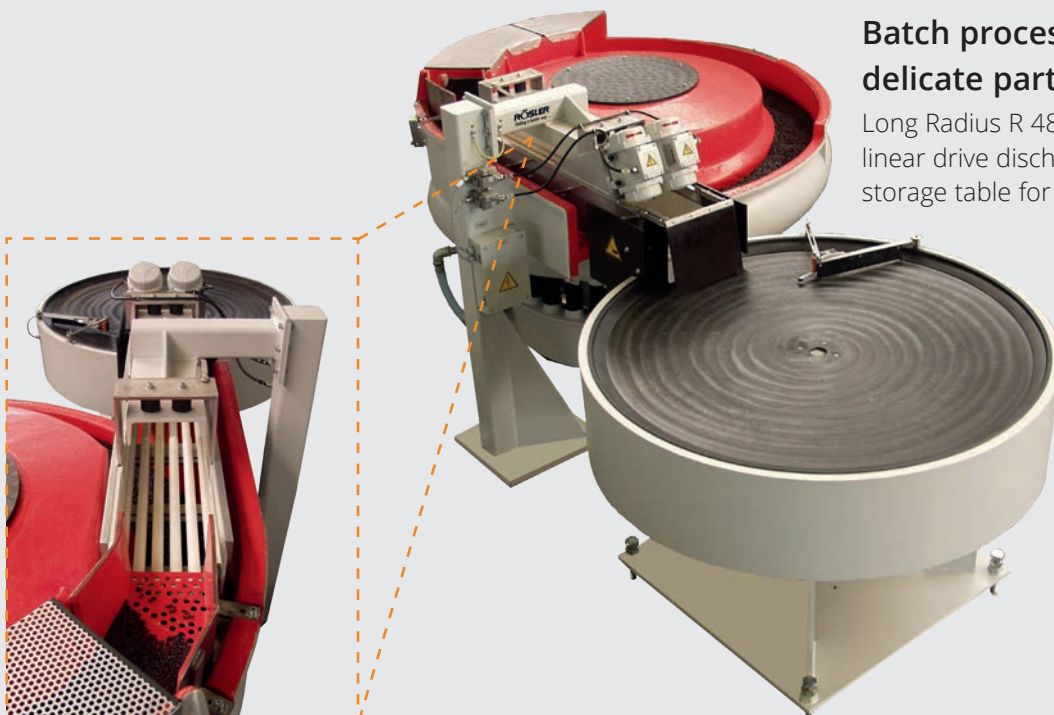
Gentle surface finishing in a single pass:

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



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



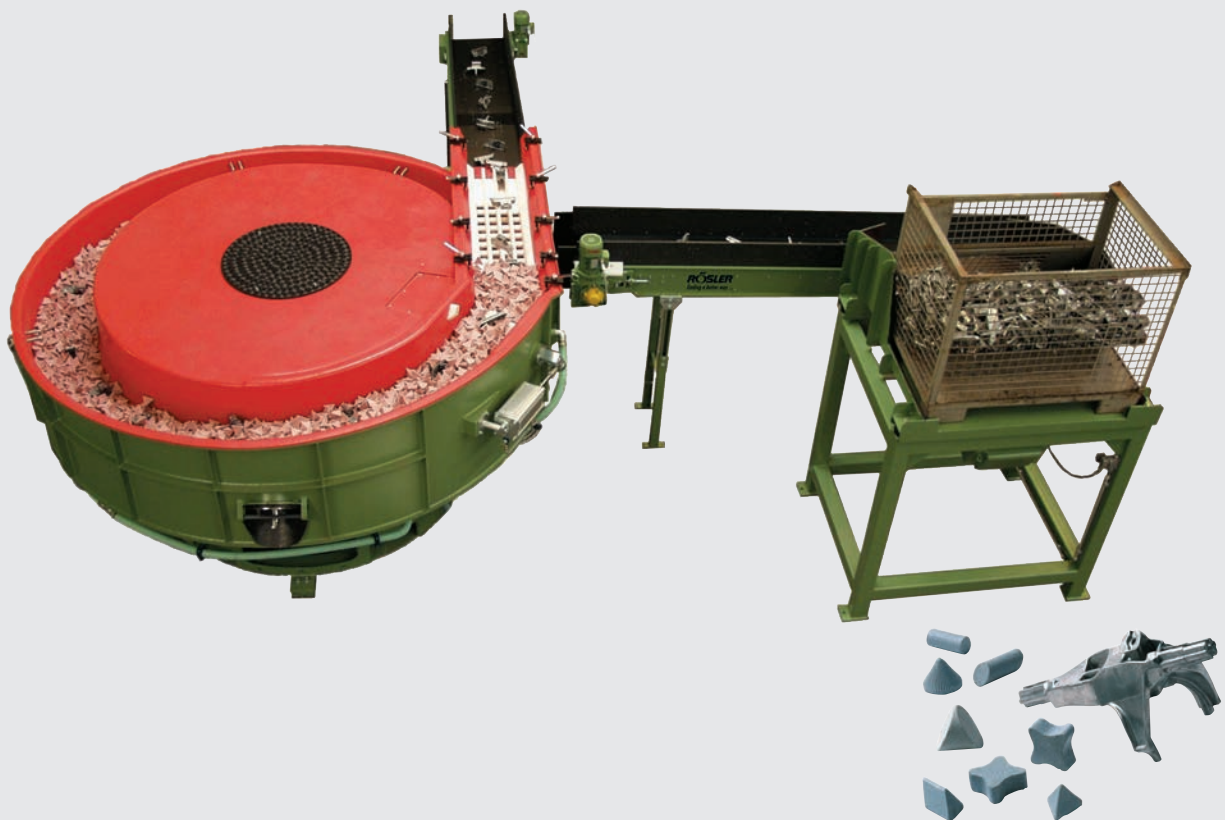
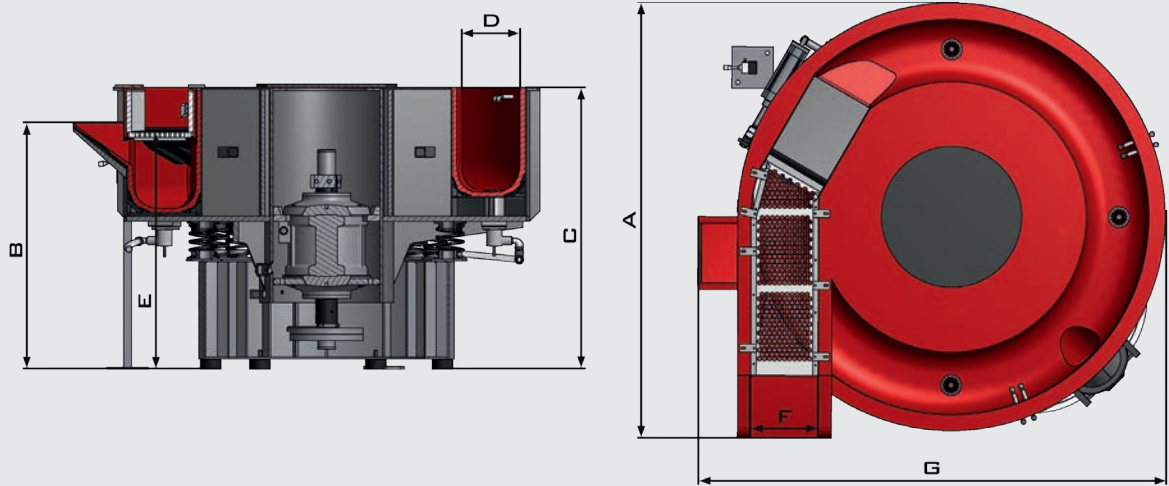
BIG RESULTS – WITH A SMALL FOOTPRINT

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:

Model	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)	5,200	5,000	9,200	8,500	8,000
A (mm)	2,075	2,075	3,430	3,055	3,300
B (mm)	1,150	1,170	1,370	1,480	1,450
C (mm)	1,355	1,360	1,786	1,865	1,675
D (mm)	240	295	320	400	480
E (mm)	1,074	1,080	1,240	1,510	1,400
F (mm)	230	270	300	390	480
G (mm)	2,230	2,230	3,505	3,175	3,200
Total volume in liter	175	300	475	1,000	1,470
Drive power in kW	7.5	7.5	7.5	22	22





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