



**RUSSELL**  
MINERAL EQUIPMENT

**PRODUCT FOCUS** PF



## **RUSSELL 7** R Mill Relining Machine

### **RUSSELL 7 Model R AutoMotion™** Mill Relining Machine

#### **World's first semi-automated mill relining machine**

The **RUSSELL 7 MODEL R AutoMotion™ MRM** stands tall as the centrepiece for the most technologically-advanced mill relining system in the mineral processing industry.

This robotised machine has it all – a raft of new safety and productivity features and on-board intelligence for remote and semi-automated control of the industry's most trusted and adopted RUSSELL 7 MRM.

In partnership with RME INSIDEOUT™ Technology, not only does this MRM execute liner exchange with a speed, precision and consistency that surpasses conventional relining, it also achieves a step change in safety by enabling relining from outside of the mill.



**440+**

Mine sites served by RME equipment and services.



**550+**

RUSSELL MRMs engineered, manufactured and delivered.



**860+**

THUNDERBOLT Recoilless Hammers sold.

**fast, reliable, safe**

[rmeGlobal.com](http://rmeGlobal.com)



# RUSSELL 7 MODEL R *AutoMotion*™ MRM

The industry’s most advanced mill relining machine.  
Available in 4500 kg – 9000 kg capacities

**Powered liner cart slew**  
Efficient liner transport via remote control.

**All flat work platform and beam**  
Enter, traverse and exit the mill safely.

**Portable remote-control harness**  
Operate the MRM from better, safer vantages outside the mill.

**Guards and rails**  
Safe working at-height.

**RME *AutoMotion*™ fully-operational**  
Faster and safer semi-automated relining from outside the mill.



**Smart vision-based technologies**  
Fast, efficient travel paths for roboticised liner placement with millimetre-precision accuracy.

**Heavy-duty telescopic boom**  
Reach all mill working heights and extreme angles for high productivity.

**Safer hydraulics and electrical safety.**  
**Enhanced condition monitoring and ease of serviceability.**

**Tie-downs with fail-safe interlock**  
Anchor your MRM securely ready for heavy-duty lifting.

**RME INSIDEOUT™ Technology**  
 The RUSSELL 7 Model R *AutoMotion*™ MRM works in partnership with RME INSIDEOUT™ Technology. This highly-advanced mill relining system enables roboticised worn liner removal and new liner placement without the need for personnel to be inside the mill at faster speeds than before.  
  
 Reach out to RME to learn more.

**New coating technology**  
Better protection in harsh conditions.

**Industry-best safety technology**  
eStops, base drive enable systems, LED work and emergency lighting, boom lift limiting, grapple release safety and more.

**No-lift slide-in operator station**  
Eliminates manual lifting.

**New ergonomic chair**  
For optimum comfort during long shifts.



**Low-backlash turntable**  
Stable and precise movement for robotic operations.

**Fast auto-deploy and retract**  
Smart push-button to robotically deploy for work or retract to store.

**New All-Reach Grapple™**  
Fast lifts, precise control and ready for automating mill relining.

**RUSSELL Claw™ ready**  
The new *master of muck-out* will grab knocked-in liners wherever they fall without manual slinging.

**Compatible with a wide range of grapple options and MRM accessories for boosting productivity and safety**



## BENEFITS

### Redefining risk and safety

Achieves a step-change improvement in mill relining safety by removing crew from the inside the mill and out of harm's way during the hazardous process of liner exchange.

### Faster liner exchange

Optimises liner movements for the shortest travel routes, and controls multiple functions concurrently to exceed the best human operator speeds, and reduce variability related to skill and fatigue.

### Proven reliable technology

Leverages mature, proven technologies and future-proofs them with automation capabilities. Mine sites can adopt advanced relining methodologies easily without risking disruptive costly downtime.

### Extended service lifecycles

RUSSELL MRMs are better for the balance sheet because they are built to last. Autonomous technology extends this service life by optimising machine performance to reduce stress, wear and damage from rough conventional relining.

### Improved mill availability

MILL RELINE DIRECTOR Studies have shown automation can execute liner exchange with a speed, precision and consistency that surpasses traditional methods and improves annual mill availability.

### Comprehensive support

Supported by RME's Mill Relining Optimisation Program, RME 24/7/SERVICE and a collaborative systems engineering journey which leverages our 35+ year trusted evidence-based OEM expertise.

### Applications

Ideal for mine sites with medium to large SAG, AG and ball mills or long-life mines seeking to achieve sustainable step-change improvements in risk, safety and mill availability.

### Learn more

- RME *AutoMotion*™ Product Brief
- RUSSELL Claw™ Product Brief
- RME BOLTBOSS Product Brief

## Choose your RUSSELL 7

The RUSSELL 7 is the industry's most trusted and adopted mill relining machine. They embody everything RME has learnt over 35+ years and 550+ MRMs manufactured to deliver superior productivity, serviceability, safety and lower total cost of ownership.

And now, RME's modular systems engineering approach offers more models, for mills large, medium and small, so you are certain to find a solution to match your mine site needs.

It's never been easier to enter the world of advanced relining and achieve visible, defensible and sustainable improvements in concentrator performance and mill relining safety.

	RUSSELL 7 Model S	RUSSELL 7 Model S+	RUSSELL 7 Model R
Capacity	2500 kg – 9000 kg	4500 kg – 9000 kg	4500 kg – 9000 kg
7-axes of movement	Standard	Standard	Standard
RME <i>AutoMotion</i> ™	Upgrade-ready	Hardware-equipped	Fully-operational
Radio Remote Control	Standard	Standard	Standard
No-lift operator station	Optional for <i>AutoMotion</i> ™ mode	Optional for <i>AutoMotion</i> ™ mode	Optional for <i>AutoMotion</i> ™ mode
Hydraulic system redundancy	Levers – Standard	Levers – Standard	Levers – Standard
Power Slew Linercart	Optional	Standard	Standard
Motor	Single WEG W22	Dual WEG W22	Dual WEG W22
Automated Park / Deploy	Upgrade-ready	Standard	Standard
Liner visual detection camera	Upgrade-ready	Hardware-equipped	Fully-operational
RUSSELL All-Reach Grapple™ (ARG)	Optional	Standard	Standard
Additional Grapple options	HKS / Cylinder / Small Entry	HKS / Cylinder	All-Reach Grapple™ Standard
Grapple Pins	2-pin / 4-pin	2-pin / 4-pin	2-pin / 4-pin
Wheel Drive (WD)	2WD Standard / 4WD Optional	2WD Standard / 4WD Optional	2WD Standard / 4WD Optional
4 Wheel Steer (WS)	Standard	Standard	Standard
Tie-downs with safety interlock	Standard	Standard	Standard
Safety & productivity accessories	Upgrade-ready	Upgrade-ready	Upgrade-ready
SKYWAY / SKYPORT	Upgrade-ready	Upgrade-ready	Fully-operational
RUSSELL Claw™	Optional	Optional	Optional
RME BOLTBOSS	Optional	Optional	Standard





## Creating the future of mill relining

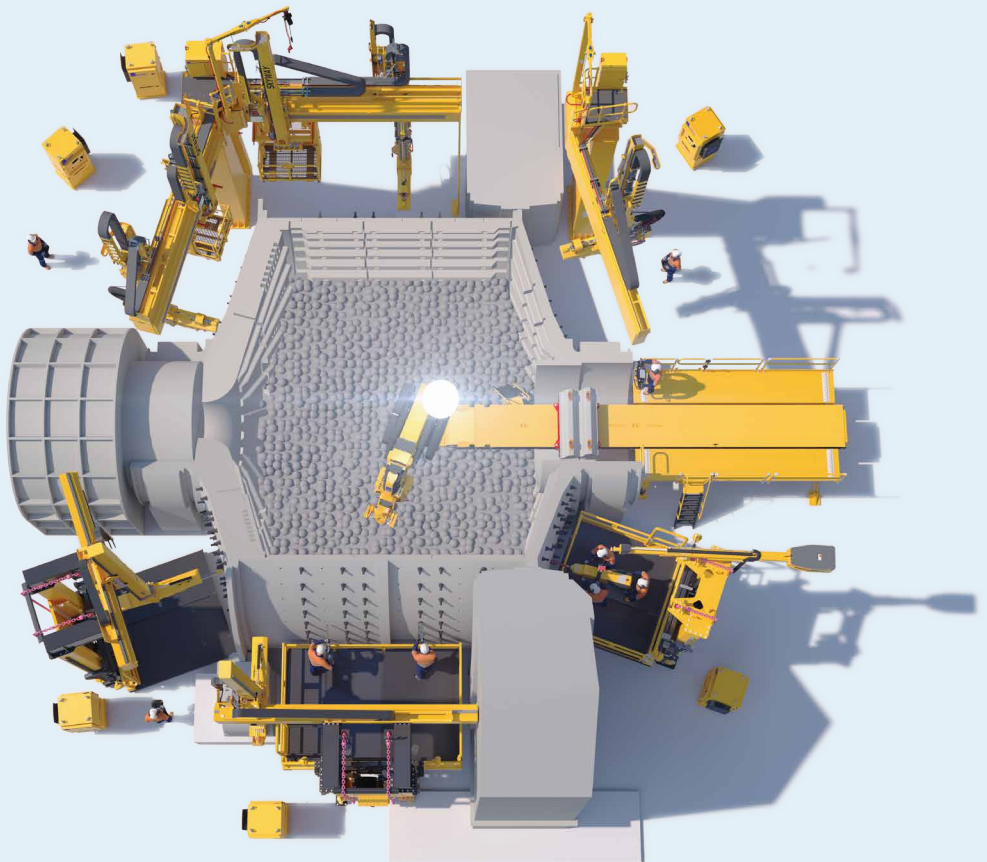
Mineral processors need to address issues that are more challenging and more urgent than ever.

On one hand they must reduce the risks that remain associated with hazardous mill relining. On the other, maximise mill availability for meeting the world's mineral needs.

It is this pursuit to improve safety and productivity that drives RME to innovate for our industry.

This has led us to envision a future where relining is performed with no one inside the mill at faster speeds than ever before.

And now this future is here.



## ADVANCE YOUR MILL RELINING – SAFELY

For almost 40 years, RME has led the world in the engineering of fast, reliable, safe technologies and processes for every step on the mill relining path.

Today the integrated RME Mill Relining System has advanced to incorporate autonomous capabilities.


At its centre is the RUSSELL MRM with an expanded range, a modular future-proofed platform and RME *AutoMotion*™ optionality.

Supporting it, stands the industry-proven THUNDERBOLT worn liner removal solutions and innovative RME *INSIDEOUT*™ Technology.

Together, they move operators out of harm's way and relining off the shutdown critical path.

Best of all, RME's carefully-staged systems engineering maximises current investments by enabling mine sites to adopt automation progressively at their pace, and as needs dictate.



RME's approach to mill relining automation prioritises safety at every step. First, we take mature and proven technologies and future-proof them with automated capabilities. Second, we take a systems approach to ensure no new risks are introduced inside and outside the mill. Third, we've developed a carefully staged and fully-supported implementation program which minimises technical and cultural change risks. Our approach is fast, reliable and ensures the safety of your reline crew. 

### Tarnya McBurney

Global Product Portfolio Manager,  
RUSSELL MINERAL EQUIPMENT

## WE ARE RME





**RUSSELL**  
MINERAL EQUIPMENT

# RME delivers innovation to the world

RUSSELL MINERAL EQUIPMENT (RME) is the global leader in the manufacture and supply of grinding mill relining technologies, services and support.

RME operates across 12 international Sales and Service Centres with a global reach of over 440 mine site locations.

RME's commitment to industry is to visibly, defensibly and sustainably improve our Customers' concentrator performance. We enable our Customers to remove fatal risk through innovative solutions.



## HEADQUARTERS

### Toowoomba

149 Hursley Road  
Glenvale, Toowoomba  
Queensland 4350 Australia  
p: +61 7 46 989 100  
e: sales@rmeGlobal.com

## REGIONAL SERVICE CENTRES

### Toowoomba

149 Hursley Road  
Glenvale, Toowoomba  
Queensland 4350 Australia  
p: +61 7 46 989 100

### Perth

Unit 3, 73 Discovery Drive cnr Tidal Way  
Bibra Lake  
Western Australia 6163 Australia  
p: +61 7 46 995 712

### Panama City

Torres De Las Americas,  
Torre B, Piso 3, Oficina 301 Panama  
Republica de Panama  
p: +50 76 674 6101

### Johannesburg

22 Spartan Road,  
Spartan, Kempton Park  
Gauteng 1649 South Africa  
p: +27 87 809 2830

### Santiago

Las Garzas 950, Galpón G-H  
Quilicura  
Santiago, Chile  
p: +56 2 2963 7860

### Salt Lake City

4303 South 590 West  
Murray  
Utah 84123 USA  
p: +1 801 871 0500

## REGIONAL SALES CENTRES

### Toowoomba

2 Russell Street  
Toowoomba City, Toowoomba  
Queensland 4350 Australia  
p: +61 7 46 989 100

### Lima

Calle Las Orquideas 585, Edificio Fibra  
Piso 13, Oficina 1316  
San Isidro, Código Postal 15046  
Lima 27 Peru  
p: +51 914290694

### Antofagasta

General Borgoño 934,  
Piso 2, Of. 202  
Antofagasta, Chile  
p: +56 2 2963 7860

### Accra

C/- Regus, Private Mail Bag  
(PMB), CT 460  
Cantonments  
Accra p, Ghana  
p: +233(0)307010963; Ext. 721

### Vancouver

777 Hornby Street, Suite 600,  
Vancouver  
BC V6Z 1S4, Canada  
p: +1 250 682 2815

### London

10 John Street  
London WC1N2EB UK  
p: +44 787 396 5558

fast, reliable, safe

**rmeGlobal.com**