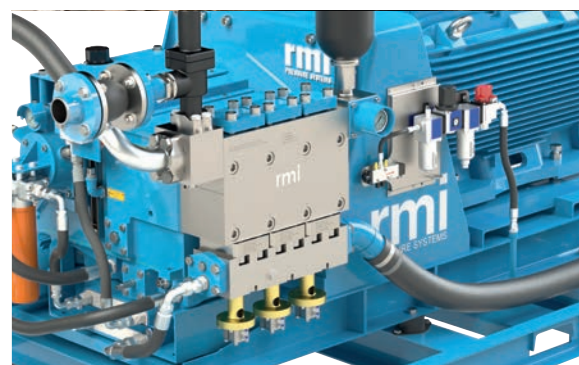


S-Range: High Performance Plunger Pumps

for Mining and Heavy Industry



BROCHURE

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S-Range: Trimax 3 Plunger And Quinmax 5 Plunger Pumps

Whether driven by social, environmental or financial issues, forward thinking organisations must embrace energy saving technologies and practices.

The 'S Range' of plunger pumps are synonymous with high efficiency and quality, making them perfect solution for Industrial Steel applications.

Demand-Based Control

The high efficiency S-range pumps reduce costs by using variable frequency drives using demand-based operation, which means they only consume the energy required based on the current system demand. This results in reduced energy costs and reduced CO₂ emissions without compromising performance.

Variable speed operation allows for controlled ramp up and down, resulting in a smoother system operation and controlled top up of accumulators; reducing pressure spikes and wear on key components; increasing system reliability and longevity.

Our system packages include variable frequency drives and plc controllers that can be tailored to specific site requirements as standard. This coupled with our integral valve lifter technology yields huge potential energy savings particularly when unloading from system demand. Active Performance Management solutions are also available.



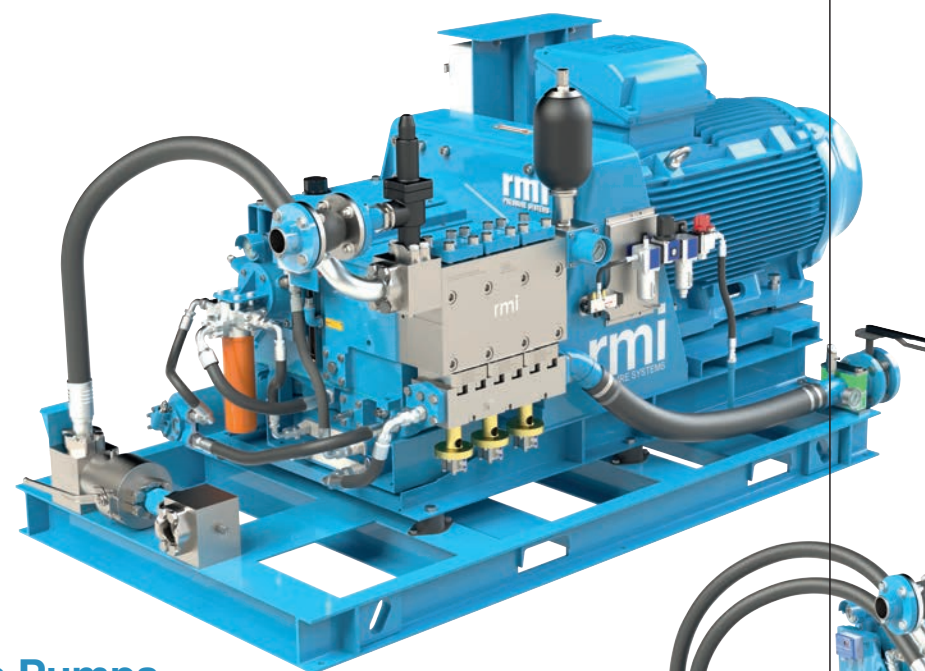
LOWER
INSTALL &
MAINTENANCE COST



LOWER
OPERATING COSTS



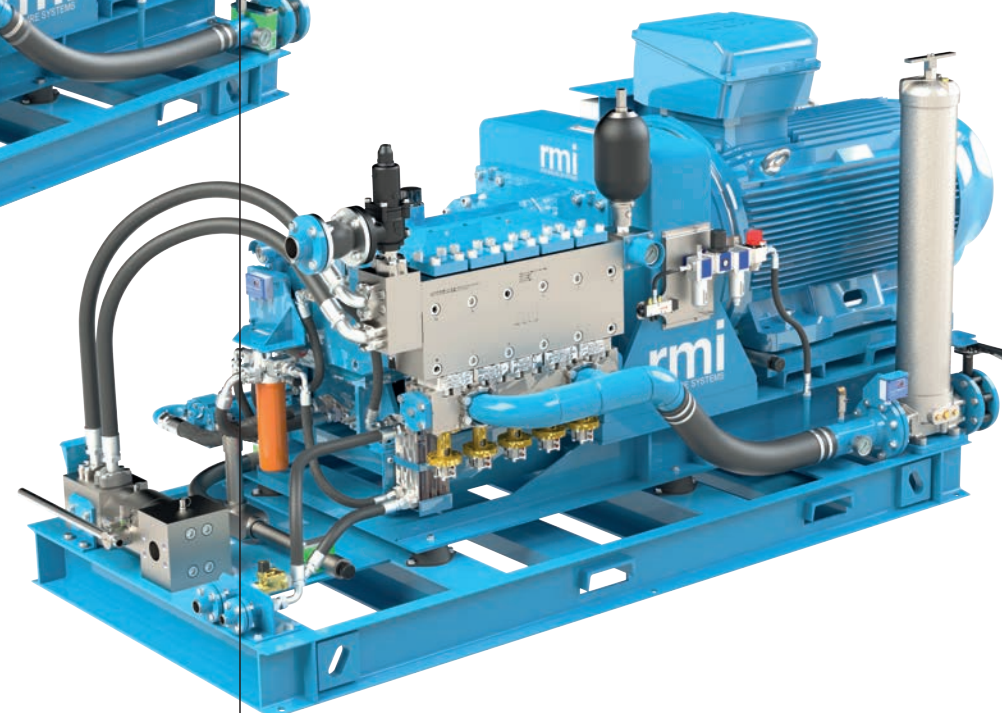
REDUCED
PROJECT RISK



S Series Pumps

The "S" range of plunger pumps are synonymous with quality in the industry and consists of the Trimax range 3 plunger pumps and the Quinmax range 5 plunger pumps.

- Solid ceramic or tungsten carbide coated plungers are combined with kevlar fibre seals to provide durable, high-pressure sealing.
- Pumps undergo rigorous in-house testing, including oil temperature and pressure checks, in conjunction with standard pump performance criteria.



High Energy Efficiency

- Variable speed controls using demand-based operation

High Performance

- Power ratings up to 500kW.
- Proven volumetric efficiencies up to 98%.
- Fluid end components designed with Computational Fluid Dynamics to maximise efficiency

Maximum Reliability

- Designed for continuous duty, 24/7

Extended Operational Life

- A smooth pressure profile, reduces wear and tear on system components (hoses, seals, valves) caused by destructive pressure surges

Compact Footprint

- Compact horizontal 3 or 5 plunger design

Quinmax S500

The Quinmax S500 pump, 5 cylinder design pump has the following benefits over a 3 cylinder design pump:

- Enhanced flow rate (up to 878 l/min).
- Reduced crankshaft and bearing loads leading to longer life and time in between service intervals.
- A 40% reduction in the fluid velocity per plunger resulting lower hydraulic noise.
- Slower crank speeds reducing mechanical wear and noise.
- Smoother pressure profile reducing the impact of surges on other critical items of equipment within the system.

These features attribute to greater reliability and available uptime of the pumps and components within the system.

System Upgrades And Servicing



HIGHEST
AVAILABILITY & UPTIME



HIGHEST
OPERATING
PERFORMANCE



LOWEST
OPERATING COST



REDUCED
OPERATING RISK

RMI maintenance kits are specifically designed to help you to keep your pump running at optimum performance for longer and to maximise available uptime.

One Stop Maintenance For Maximised Uptime

Our range of kits have been designed to ensure our pump mechanisms can quickly and easily be replaced, upgrading all key components at the same time, reducing the need for repeat maintenance strip downs and maximising valuable uptime.

Latest Specification Upgrades

As a market leading innovative engineering company, RMI constantly improves the quality, reliability and performance of our products by utilising state-of-the-art design, materials and technology.

All of our maintenance kits contain the latest components of the highest specification to give you complete peace of mind that when you overhaul your pump, you'll be doing much more than replacing like for like. You will upgrade your pump, increasing reliability and performance to today's high performance standards.

Reduced Spares Stock Holding

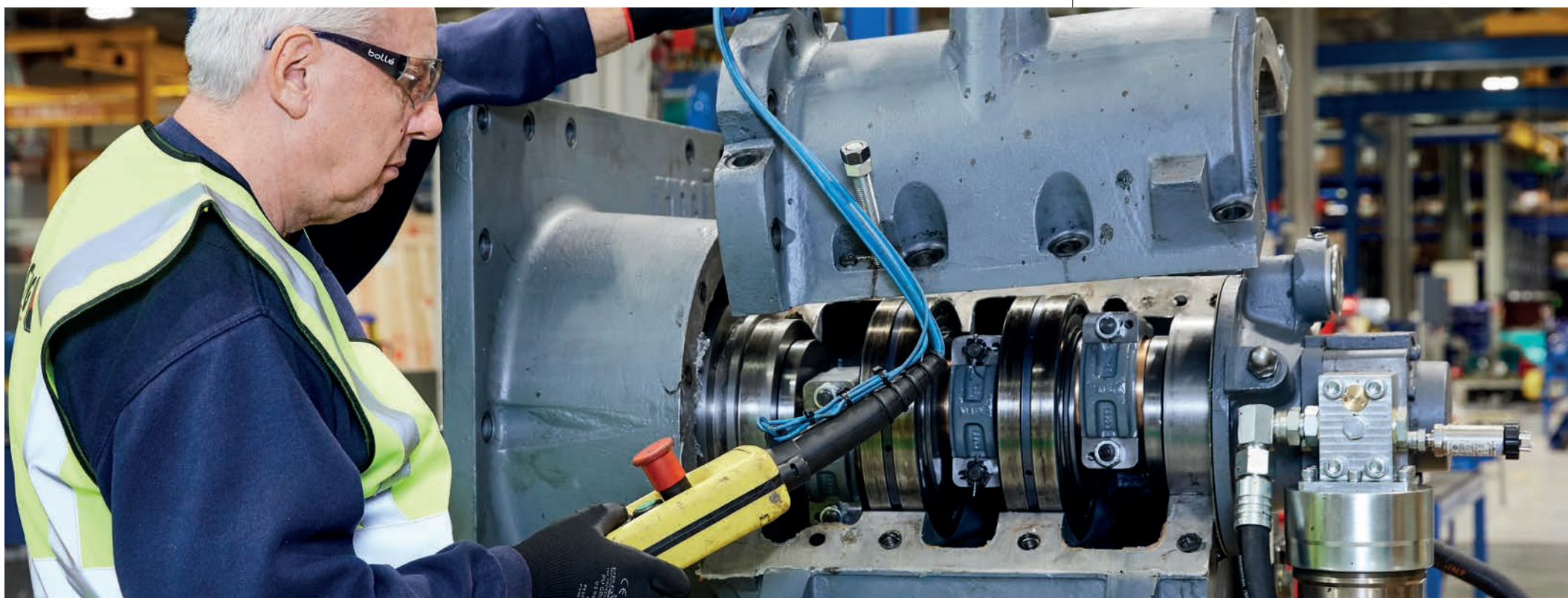
The convenience of maintenance kits means the right set of components are on hand, reducing potential delivery delays and significantly reducing your spare part inventory holding.

Service Structured To Suit You

RMI also offer a comprehensive package of service support solutions, to suit your specific site needs.

Service Solutions

- On-site set-up and commissioning
- On/Off site training
- Routine health checks and monitoring
- Scheduled upgrades and repairs
- Emergency on-site repairs
- Full equipment upgrade advice



Service Benefits

- Tailored service solutions to suit individual site needs and budget
- Original manufacturer service and support
- Highly skilled, expert technical service engineers
- Scheduled predictive maintenance to maximise system reliability and uptime
- Detailed reports, quotations and schedules of work
- Genuine, latest generation RMI spare parts

Case Study

Metso Minerals is the rock and mineral processing business area of the global Metso Corporation. Metso Minerals supplied a tube press system to a steel mill service contractor and subsequently approached RMI, to provide a replacement and more efficient high-pressure system, to help improve productivity, at a reduced energy consumption rate and lower environmental impact.



Background

Tube press systems remove waste iron from a furnace exhaust, along with other waste by-products, through a variable volume filter, using flexible membrane to apply high-pressure mechanical compression to the slurry that is dewatered. By applying high pressure or “driving” force of up to 100 bar, to the filtration process, a drier filter cake with better handling characteristics can be produced, for immediate storage or for disposal.

The existing Metso tube press system was based on a high-pressure rotary pump with a 75kW motor, with low efficiency and a high risk of failure.

Challenges

The RMI replacement system needed to comply with the following requirements:

- The pump unit had to cycle on load-off load, every five seconds.
- The accumulators had to operate within 10% of the system's nominal pressure, with the option to adjust this to down 5%.
- The system had to be extremely reliable, operating seamlessly 24 hours a day, 7 days a week.

Solution

Working in collaboration, Metso and RMI developed a more effective system, which offered immediate improvements, including reduced energy savings and an improved carbon footprint. Our solution provided a highly efficient positive displacement pump – a bespoke system designed for reliability, comprised of S75 Trimax pumps, with a set of accumulators and nitrogen-charged back-up bottles. The system was fitted with adjustable flow mechanisms and safety devices to ensure that the tight hysteresis of the system is achieved.

Benefits

- The enclosed construction of the pumps prevents the ingress from contaminants and integral water-cooling aids.
- Positive displacement pumps manage demand far more efficiently than rotary pumps with a smaller motor – just 45kW instead of 75kW – offering a 40% reduction in the power required and reducing operating costs significantly.
- In addition to being inherently more reliable, as a result of its design, the RMI system incorporates built-in health monitoring. System performance data is fed to a remote PLC enabling engineers to anticipate and remedy any potential system failures, before they may occur.
- The enclosed construction of the pump systems prevents the ingress from contaminants and integral water-cooling aids economical operation, even in confined or hot spaces.
- Variable speed drive technology provides an additional 5%-10% saving in power.

Energy Cost
Saving
Per Annum
£24,192

Service Savings
£7,390

“ We have traditionally used rotary pumps for this application, but the RMI Engineers convinced us of the reliability we could expect from their positive displacement pumps, we have not been disappointed! ”



For more information, contact
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