



MULTOTEC

SAG Mill Trommel Screens



Your Specialist in Screening Media



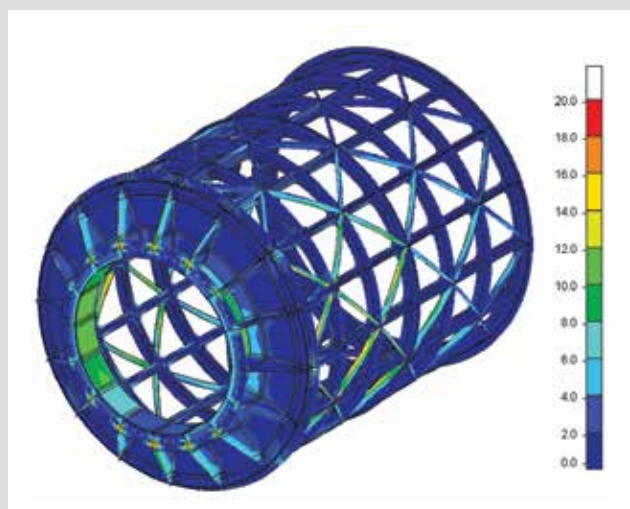
SAG Mill Trommel Screens

The SAG mill trommel screen provides a simple mechanism to classify large volumes of mill product.

Many designers and mill operators believe that the benefits of simplicity and the ability to handle throughputs in excess of 5 000 tph of solids make trommels the preferred equipment for this application.

Multotec has been supplying trommel screens since 1982. Multotec has the process capability to size SAG mill trommels to suit each customer's unique requirements, and supplies this equipment to both mill OEMs and mines in diameters of up to 5.5 m.

Process guarantees are supplied with all trommel screens sized by Multotec.



The latest Finite Element Analysis techniques are used to reduce fatigue stresses and ensure structural integrity



A 5 m diameter x 5.5 m long SAG mill trommel destined for a mine in Mexico

Optimised for extreme SAG Mill duty

Considering the size and complexity of large SAG mill trommel frames, the latest Finite Element Analysis techniques are used to reduce fatigue stresses and ensure structural integrity. The stresses considered are those induced by deformation of the support trunnion, the live load as well as the mass of the trommel screen.

All the frame surfaces that are exposed to the milled product are covered with a wear resistant material, with rubber being the most common option.

- All Multotec trommel frames are either vibratory or thermally stress relieved
- Welds are NDT-tested
- Frames supplied with machined flanges
- Providing that trommel frames have not worn excessively, it is often viable to repair and refurbish the units



Rubber Bolt Down Trommel Panel



The Multotec pin and sleeve system allows for quick and safe replacement of screen panels, reducing down time

Screen Media

The screen panel is recognised as the high wear item in the SAG mill trommel.

While polyurethane screen media is often specified for ball mill trommels, Multotec has developed a range of compression moulded rubber compounds that have achieved excellent results in high wear SAG mill duties.

Multotec is able to offer rubber screen media that can operate successfully at elevated temperatures, these screen panels are also inert to hydrolysis caused by bacteria present in process water.

The careful consideration of the working depth of screen panels is essential for abrasive ores. The design of the internal steel frame caters for both lump size and trommel load.

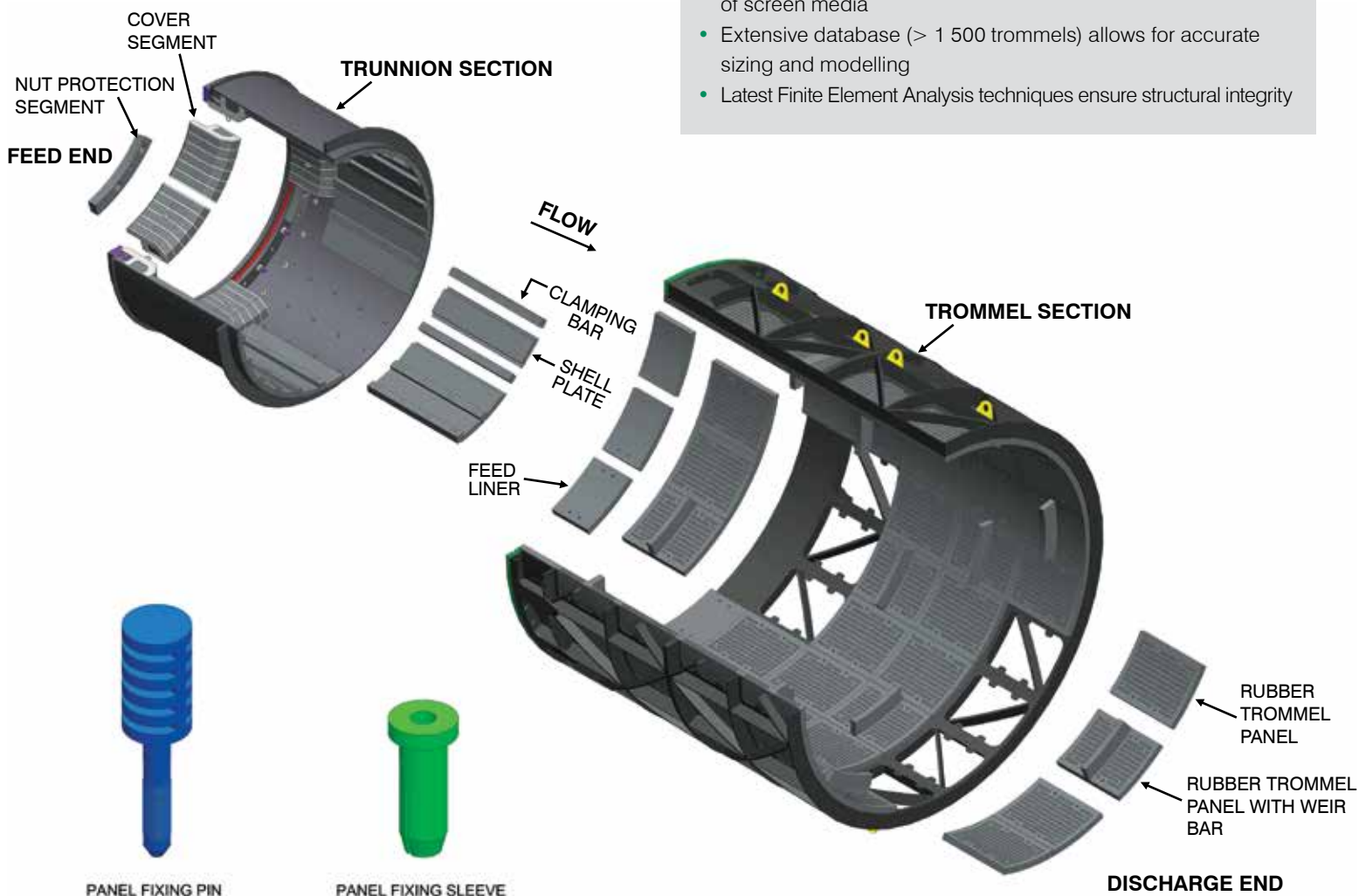


5 000 tph Trommel screen operating in central Africa, note lifter bars and shell plates used as trunnion lining

Fastening Systems

Multotec has designed pin and sleeve attachment systems that allow for the secure installation of large heavy-duty screen panels.

It allows for screen media to be replaced easily from inside the trommel, which makes the process safer, while the ease of installation reduces trommel downtime.



Benefits of the Multotec trommel system

- Modular screen media reduces Opex and down time
- Specially formulated rubber compounds maximise panel wear life
- Attachment systems allow for quick and safe panel change outs
- Modular system allows for support frames to be re-used and refurbished
- Design philosophy optimises both efficiency and wear life of screen media
- Extensive database (> 1 500 trommels) allows for accurate sizing and modelling
- Latest Finite Element Analysis techniques ensure structural integrity

Weir Bars and Scrolls

Action is required to reduce the high velocity of slurry that exits SAG mills, as adequate retention time is required for efficient trommel operation.

Various configurations of weir bars and scrolls are used to increase retention time and regulate the flow of solids through the trommel screen. Multotec has supplied a number of trommel screens for 38' to 40' SAG mills that required 500 to 600 mm-high weir bars to create sufficient retention time.

Super Scroll

Whereas the scrolls on ball mills are cast onto the screen panel, the arduous duty associated with SAG mills requires scrolls to be bolted directly to the steel support frame.

Multotec's patented Super Scroll allows for the scrolls to attach by means of pin and sleeve to piers that bolt directly to the steel frame. This design not only ensures a secure attachment, but the ease of replacement reduces maintenance down time.



Baffle Plates

A baffle plate is a very effective mechanism to create laminar flow in trommels and should be considered for highly turbulent flow conditions.

- Care should be taken not to restrict the mill discharge
- It is important to model the discharge trajectory in order to determine the optimum design and correct positioning
- The option of a baffle for SAG mill trommels should be discussed with the mill OEM



Large SAG mill trommel on its way to a customer in Zambia



The higher open area possible with steel trommels allows for higher throughputs but the life cycle cost of rubber trommels is significantly lower compared to that of steel trommels.

Trunnion Liners

Multotec can supply a range of rubber shell plates and lifter bars to protect the SAG mill trunnion against wear.

Trommel Sizing

The sizing of the SAG mill trommel needs to cater for both the classification of the solids and drainage of the slurry. The trommel sizing needs to balance trommel capacity and screen media wear life.

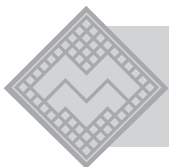
Steel Trommels

Multotec can also supply steel trommels for certain SAG mill duties. The higher open area possible with steel trommels allows for higher throughputs compared to rubber trommels. However, it is Multotec's experience that the life cycle cost of rubber trommels is significantly lower than that of steel trommels in aggressive SAG mill duties.

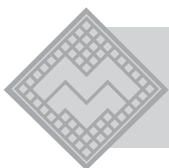
Service and Technical Support

Customers have the option to enter into a service level agreement with Multotec where a Field Service Team will conduct condition monitoring and trommel maintenance.

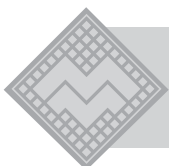
The simplicity and robust nature of trommels make them a viable alternative to vibrating screens in SAG mill scalping and classification applications. Many mill operators keep a complete rotatable standby unit which reduces planned downtime. Since trommels do not operate with high dynamic loads there is no need for robust civil support.



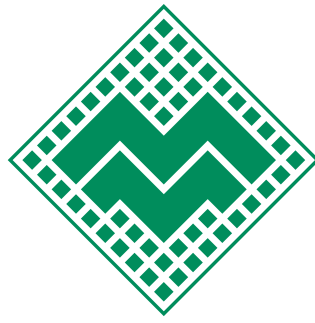
Multotec is a TÜV ISO 9001-certified company and uses extensive quality assurance procedures in the manufacture of trommel screens to ensure the highest-quality products.



Multotec trommel frames meet the BS 7608:2014 guide to fatigue design and assessment of steel products.



Wear life of over 6 months has been achieved in 5 000 tph SAG Mill Trommel applications with Multotec rubber screen panels.



MULTOTEC



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Screening Solutions	Mineral Processing Equipment	Sampling Solutions
Wear Lining Solutions	Mill and Scrubber Linings	Solid / Liquid Separation Solutions
Conveyor System Solutions	Pumps	Process Water Treatment and Metals Recovery



Multotec products are subject to continuous development and Multotec reserves the right to make changes to the specifications and design of its products without prior notification.

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