

# Metso:Outotec

Industry's robust solution built for sustained efficiency and uptime

## MD series mill discharge pumps

Best suited for highly abrasive slurries in grinding mill circuits.



Metso Outotec MD series mill discharge pumps are based on our rich history, extensive know-how and experience of working with grinding mill circuits in a wide variety of mineral processing applications around the world. With excellent resistance to abrasion and erosion, the MD series pumps are known for their durability in pumping highly abrasive slurries with the latest in wear reduction technology.

### Modular and compact design

The modular design ensures easy inter-changeability of all metal and rubber parts. The back pull out design features an optional maintenance slide base for fast, easy and safe inspection. Maintenance friendly design together with the durability of critical parts means that service intervals are long and maintenance shutdowns short.

### Sustained efficiency and uptime

The hydraulic design of MD series pumps is consistent across the entire range and reduced impeller overhang restricts shaft deflection across a wide range of flows. All these factors help ensure sustained efficiency, reduce wear, and extend the life of components and the entire installation.

### Latest in wear technology

Our MD series slurry pumps offer latest in wear technology with usage of high-performance materials having excellent resistance to abrasion and erosion. Special emphasis has been placed on components that have to withstand exceptional wear from coarse heavy solids and flow turbulence. An oversized robust steel shaft and extra thick casings and liners are just some of the heavy-duty components equipped with the MD Series pumps.

### The tailor-made solution for you

Our extensive range of pumps cover flows of up to 13500 m<sup>3</sup>/h. With inlet sizes currently ranging from 250mm to 900mm with either metal or rubber lining, we ensure that you will always find the correct mill discharge pump for your process needs. Our experts are always ready to assist you in everything from pump selection to maintenance and services.



## Benefits

- Modular and robust design
- Highest impeller aspect ratio in the industry
- Increased pump uptime with longer runs between maintenance
- Reduced inlet velocities of under 5.5 m/s
- Lowest total cost of ownership
- Fast and safe maintenance
- Extensive range of complimentary products

Read more at [mogroup.com](http://mogroup.com)

## Why choose MD series pumps

# High performance pump offering lower operating costs and increased uptime

Low velocity, high wear life	Advanced impeller design minimizing entrance losses	Loose steel flange connections separate from pump casing	Inlet anti rotation vanes restricting pre rotation	Impeller release mechanism for safe and simple impeller removal
Excellent sustained efficiency across a broad flow range	High performance materials that resist abrasion, erosion and corrosion	Reduced impeller overhang restricting shaft deflection	Various shaft seal options including Metso EnviroSet™	Modular design with interchangeability of metal & rubber parts
High impeller aspect ratio minimizing rotational speed for a given duty	Double adjustment features for optimum continuous pump performance	Self contained oil or grease lubricated bearing assembly	Split stuffing box and gland with safe adjust gland guard	

## MD Pump size based on Inlet size

Inlet size	(mm)	250	300	350	400	450	500	550	650	700	800	900
	(inch)	10	12	14	16	18	20	22	26	28	32	36
MDM		•	•	•	•	•	•	•	•	•	•	•
MDR		•	•	•	•	•	•	•	•	•		

Wear Parts	Casing	Inlet liner	Impeller	Back liner	Shaft sleeve	Shaft	Seals
MDM	HC	HC	HC	HC	HC	CS	Various
MDR	NR	NR	HC	NR	HC	CS	Various

HC - High Chrome  
NR - Natural Rubber





# Promising results

## 20% power savings, 0.5% higher recovery at Bucim copper mine

The right pump for the job improves results. This is something that the Bucim copper mine witnessed when they replaced their existing pump with Metso's MDM300 mill discharge pump.

### Challenge

In 2014, the mine experienced serious control issues with its hydrocyclone pump, resulting in dry running, inconsistent feed and low throughput. Bucim aimed to stabilize its flotation process, increase recovery, reduce power consumption and prolong the wear life of its pumps. The mine knew that the pumps were at the heart of its flotation process.

### Solution

We analyzed the process to determine the right pump size to maximize wear life and to operate at the highest efficiency. The MDM300 was selected, since its hydraulic design limits the inlet velocity, enabling operation at the best efficiency point. Its high-performance materials provide resistance against abrasive, corrosive and erosive slurries, and its low-noise design easily meets the decibel level requirements.

The MDM300 pump was packaged along with a variable frequency converter which enabled the mine to regulate the pump rotational speed and control the inlet tank level, stabilizing the process and eliminating the dry running.

### Results

By having improved control over the process, the mine achieved better separation and an impressive 0.5% increase in metal recovery rate. Since dry running was no longer an issue, pump wear life improved by 10% and overall power savings of 20%.

Metso Outotec is a frontrunner in sustainable technologies, end-to-end solutions and services for the aggregates, minerals processing, metals refining and recycling industries globally. By improving our customers' energy and water efficiency, increasing their productivity, and reducing environmental risks with our product and process expertise.

**Partner for positive change**