

Metso

Engineered for today's operation

Slurry pump program

POMP DIRECT





- Flow rates from 200 to 13,500 m³/hr – 880 to 60,000 USGPM
- Heads up to 70 m - 230 ft

Typical application:

- SAG/Ball mill discharge pumps
- Tailings pumps
- Hydrocyclone feed

Metso Outotec mill discharge pumps

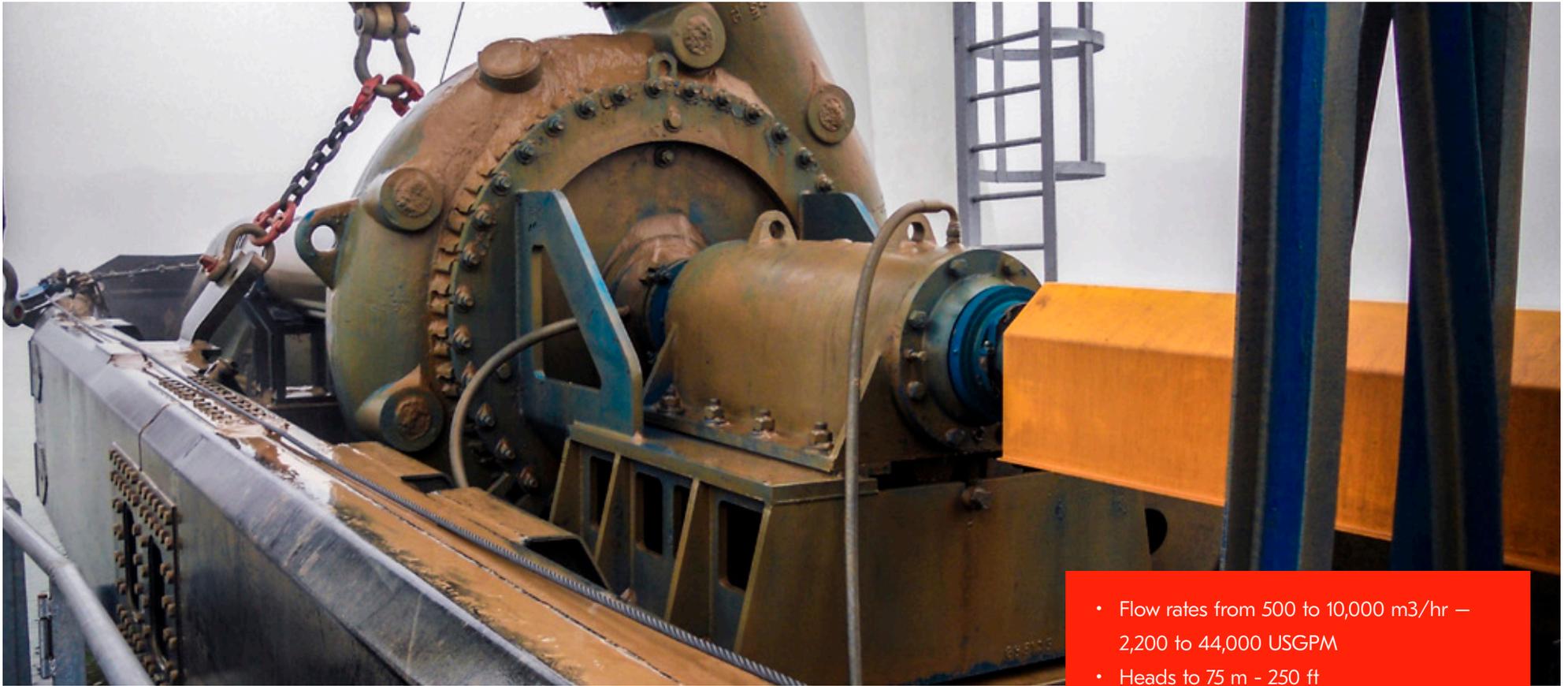
MD series of MDM and MDR slurry pumps

The Metso Outotec MD Mill Discharge pump is designed for efficient operation and long wear life in grinding mill circuits where high density slurries are often encountered.

The rugged wet-end parts are designed to feature heavy metal and rubber sections at points of extreme wear – the extra materials pays off in performance and low maintenance cost. The Metso Outotec global power frame features an oversized shaft and bearing assembly

incorporated into a heavy duty base. Offering global commonality with the Metso Outotec Pump Technologies product line.

Large diameter, high efficiency, high chrome iron impeller designs deliver predictable performance over the life of the parts and ensures operations in the best efficiency range.



- Flow rates from 500 to 10,000 m³/hr — 2,200 to 44,000 USGPM
- Heads to 75 m - 250 ft

Thomas series: horizontal pumps

The Thomas series of heavy duty dredge pumps

The Thomas dredge pump is designed specifically for dredging large and abrasive materials. Its design features allow maximum particle size passage while maintaining high efficiency. The standard pumps can be configured for deck/hull mounting, or ladder/underwater mounting, and in either right hand or left hand rotation.

Years of experience have brought about design improvements that have resulted in a pump with the lowest cost of ownership in the industry when dredging abrasive material. The improvements include the Armor-lok seal, oversized bearing/shafts, impeller release mechanism (knock out ring) and cantilever design which contribute to reduced downtime and low maintenance cost.

Typical application:

- Dredging:
 - Sand and gravel
 - Contract dredging
 - Tailings
- Booster pump
- Sand waste pump
- Material transfer pump



Orion series: horizontal slurry pumps

The Orion series of heavy duty slurry pumps HM, HR and HH

The Orion series heavy duty, H-range slurry pumps are designed for the most arduous industrial slurry pumping applications. Available in hard metal HM, rubber lined HR or high head HH versions, the excellent hydraulic design guarantees maximum efficiency throughout the life of the wear parts. The wear materials used are the very best available providing both outstanding wear properties and corrosion resistance for a wide variety of applications. For high wearing applications the double adjust design permits total impeller wear clearance adjustment for continuous performance whilst the single adjust design is a cost-effective solution for general slurry handling. The front and back pull-out feature provides easy access for inspection and maintenance of the wet end wear components. Offering global commonality with the Metso Outotec Pump Technologies product line.

- Flow rates to 2,800 m³/h – 10,000 USGPM
- Heads up to 100 m – 330 ft
- Maintenance slide base available as an option

The Orion series of mining duty slurry pumps MR and MM

The Orion series mining duty, M-range slurry pumps are designed for abrasive duties and medium heads associated with general plant transfer applications. Available in hard metal MM or rubber lined MR, the excellent hydraulic design guarantees maximum efficiency throughout the life of the wear parts. The wear materials used are the very best available providing both outstanding wear properties and corrosion resistance for a wide variety of applications. For high wearing applications the double adjust design permits total impeller wear clearance adjustment for continuous performance whilst the single adjust design is a cost-effective solution for general slurry handling. The front and back pull-out feature provides easy access for inspection and maintenance of the wet end wear components. Offering global commonality with the Metso Outotec Pump Technologies product line.

- Flow rates to 5,000 m³/h – 20,000 USGPM
- Heads up to 60 m – 200 ft
- Maintenance slide base available as an option

Typical application:

- Mining and mineral processing
- Extra heavy duty highly abrasive slurries
- Cyclone feed
- Mine refuse and tailings
- Industrial processing
- Coal and power plant ash
- Sand and gravel
- Medium duty abrasive slurries
- In plant slurry transfer pumps



Orion series of heavy duty gravel pumps HG

The Orion series heavy duty, HG gravel pumps are specifically designed to pass large solids typically found in the sand and gravel industry. The pump is able to pass an increased particle size due to a combination of a larger inlet diameter and impeller design. Offering global commonality with the Metso Outotec Pump Technologies product line. These pumps can be applied to any application that may encounter very large solids.

Orion series of high pressure pumps HP

The Orion series heavy duty, HP high pressure pumps are designed to operate at 40 bar (600psi). The casing incorporates extra thick ribbed sections to withstand the extreme pressures. Pumps are supplied as standard with double dry end bearings, high-pressure flanges and assembled on the double adjust frame to maintain high pump hydraulic efficiencies. The HP casing can also be incorporated into applications that require longer wear life casings. Offering global commonality with the Metso Outotec Pump Technologies product line.

Orion series of heavy duty pumps HT

The Orion series heavy duty, HT tunnel pumps are typically used in conjunction with large boring equipment. Designed to transfer freshly cut material from the face of the tunnel, the pump is specifically designed with a special casing incorporating a cast 90° elbow and a unique frame for a low-profile small footprint to fit into confined spaces. Combined with a direct coupled motor they can also be used in series to transfer material to the entrance of long tunnels. Offering global commonality with the Metso Outotec Pump Technologies product line.

Typical application:

- Sand and Gravel
- Coal processing
- Wood chips

Typical application:

- Tailing lines
- Series pumping

Typical application:

- With large boring machines
- Material transfer in confined spaces

Sala series: vertical pumps

Vertical sump pumps VS

The Sala series vertical sump pumps are strong, tough and the most reliable pumps on the market. For this reason, this range is preferred throughout the world by most mining, aggregate and industrial industries.

The VS pumps is used in floor cleaning and process applications. With an extensive range of interchangeable impellers and casings in abrasion resistant rubber or hard metal, agitation of the slurry in the sump can be encouraged by a casing with spray holes or an extended shaft with a separate slurry agitator. The robust cantilever design without any submerged bearings or shaft seals, has already made this range well known and established in the slurry pump market. Offering global commonality with the Metso Outotec Pump Technologies product line.



Vertical sump pumps VSH and VSM

Metso Outotec has expanded its VS pump range with the introduction of the VSH and VSM models: a perfect marriage of the rugged Sala VS frame with our heavy-duty high efficiency Orion series horizontal pump hydraulics.

The VSH and VSM provide larger diameter impellers designed for slower speeds (lower wear rates) and higher head capability. The commonality of wet end parts for the horizontal and vertical slurry pumps allows for simplified maintenance with reduced spare parts inventory.

A special fully recessed Vortex impeller design is also available on several pump sizes for low slurry shear applications like gold carbon transfer.

- Flow rates to 1,500 m³/h — 6,600 USGPM
- Heads up to 45 m — 150 ft

Typical application:

- Floor sumps in process plants
- Mill scale pumping
- Pumping of machine tool cuttings
- Wood chips pumping



Vertical tank pumps VT

The Sala series vertical tank pumps are designed for abrasive slurry service and feature simple maintenance and robust construction. The design of the pump has no shaft seal, which makes it extremely service friendly and easy to install.

Standard pumps are supplied with wet end parts in wear resistant rubber or hard metal. Parts in different materials are fully interchangeable and can be combined for optimum life. Offering global commonality with the Metso Outotec Pump Technologies product line.

- Flow rates to 1,000 m³/h – 4,400 USGPM
- Heads up to 30 m – 100 ft

Typical application:

- Feed to dewatering cyclones in sand plants
- Screen underflow duties
- Sampling pumps in concentrators
- Permanent, mobile or semi-mobile installations
- In industrial applications
- Mixing/distribution units in applications for flocculent or lime in sewage plants or cement grouting in tunnels or mines

Vertical tank pumps VF

The Sala series vertical froth pump has been designed to increase the pumping ability of frothy slurries. The principle of operation is similar to that of hydrocyclone separation. Air is separated from the slurry in a vortex created by the impeller rotation and the tangential inlet to the pump's conical tank. This results in a more efficient pumping and a smooth operation, free from pulsation caused by air blocking.

Standard wear materials are in natural rubber or hard metal. Other wear materials include synthetic rubbers and polyurethane. Offering global commonality with the Metso Outotec Pump Technologies product line.

- Flow rates to 600 m³/h – 2,600 USGPM
- Heads up to 20 m – 65 ft

Typical application:

- Ideal for all applications involving handling of air entrained slurries, such as flotation froth in base metal concentrators, phosphate and apatite
- Washing plants and calcium carbonate upgrading plants
- Used as a mixing and distribution unit, where dry powder has to be mixed (and wetted) with water
- Can also be used with cement in ready mixed concrete and for grouting







Wet end conversions

Orion wet ends

Metso Outotec offers the Orion series pump hydraulics and shaft sealing options onto competitor's pump frames and bearing assemblies. These conversions can help overcome traditional slurry pump problems such as low hydraulic efficiency, premature component failure, inconsistent performance, ineffective centrifugal seals and difficult maintenance.

The wet ends are the same as those used in the standard Orion series of pumps. They are 100% interchangeable with other Metso Outotec pumps that may be operating in the same installation. The double adjustment feature permits optimum impeller adjustment on both gland and suction sides of the casing, with clearances that result in vastly improved performance and longer pump life.

Thomas wet ends

The Thomas series hydraulics and shaft sealing options are available for conversion onto larger pumps. These conversions are typically installed into dredge and grinding mill discharge applications where wear rates are high and longer life is required. Metso Outotec has many standard hydraulic wet end designs that can move the duty point closer to the best efficiency line of the pump curve which will improve component wear life.

Features:

- Prolongs pump life significantly
- Reduces maintenance costs
- Simple two step impeller adjustment for total wear clearance without dismantling
- Maintains optimum operating efficiency

Metso Outotec slurry pumps

Pump size - inlet flange

Inlet size mm/inch	50/2	75/3	100/4	150/6	200/8	250/10	300/12	350/14	400/16	450/18	500/20	550/22	600/24	650/26	700/28	800/32	900/36
MD series																	
MDM						•	•	•	•	•	•	•		•	•	•	•
MDR						•	•	•	•	•	•	•		•	•		
Orion series																	
MM			•	•	•	•	•	•	•		•						
MM - WFR			•	•	•		•	•									
MR							•	•			•						
HM	•	•	•	•	•	•	•										
HM -WFR	•	•	•	•		•											
HR	•	•	•	•	•	•											
HH					•												
HG			•	•		•											
HG - WFR			•	•													
HP			•	•	•	•											
HT				•	•												

Metso Outotec slurry pumps

Pump size - inlet flange

Inlet size mm/inch	50/2	75/3	100/4	150/6	200/8	250/10	300/12	350/14	400/16	450/18	500/20	550/22	600/24	650/26	700/28	800/32
Thomas series																
XM								•	•		•		•		•	
XR								•	•							
Thomas Dredge				•	•	•	•	•	•	•	•		•			•
Marathon Dredge							•	•	•	•						
MA - Matrix											•					
Sala series																
VSMM			•	•	•	•	•	•	•							
VSMM - WFR			•	•	•		•	•								
VSHM	•	•	•	•	•	•										
VSHM - WFR	•	•	•	•		•										
VSHG			•	•		•										
VSHG - WFR			•	•												

Pump size - outlet flange

Sala series: outlet size mm/inch	25/1	40/1.5	50/2	80/8	100/4	150/6	200/8	250/10	300/12	350/14
VS	•		•	•	•	•	•	•		
VT		•	•	•	•	•	•	•		
VF			•	•	•	•	•	•		•
VASA HD					•	•	•			