

OUTOTEC MH SERIES GRINDING MILLS

Outotec® MH Series Grinding Mills offer a cost-effective, and easy to operate and maintain grinding solution across the mill lifecycle. The MH Series includes a range of SAG, ball, and rod mills in standardized sizes with a capacity of up to 3.1 MW installed power, and is based on over 100 years of experience with grinding technologies.

BENEFITS

- Proven and robust technology based on Outotec standard design and experience
- Lower CAPEX and shorter delivery lead time
- Easy to operate and maintain
- Compact mill control system with a lot of operational power

SHORTER LEAD TIMES AND LOWER COSTS

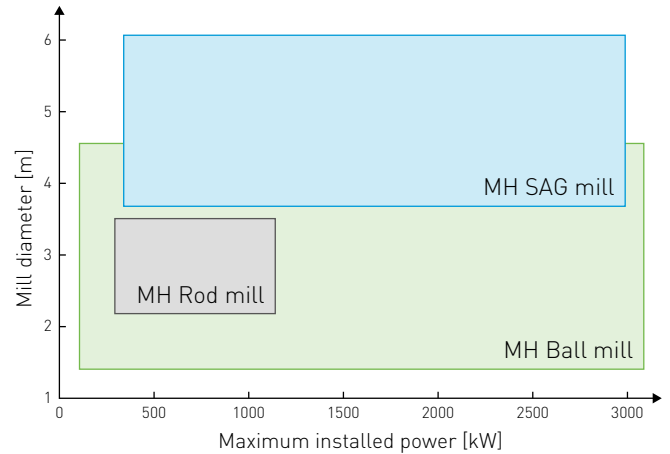
Our MH Series SAG, ball, and rod mills have a standardized design that still allows for some customization, ensuring a flexible and easily deployable solution. The range of configurable options include such elements as:

- Optional split shells to accommodate transport regulations and installation limitations
- Bearing brand option
- Body hole patterns for alternative lining systems
- Rubber or steel feed chute
- Feed rock box with trolley
- Alternative drive arrangements to suit plant layout

Add-on control features such as:

- Bearing vibration monitoring
- Mill weight monitoring
- Automated lubrication systems can be stand-alone or connected to the mill control system

All load-bearing structures in our MH Series mills are designed according to Outotec design standards to ensure safe and reliable operation. In order to keep manufacturing costs and delivery time to a minimum, some design parameters are fixed.



FEATURES

Body design

The body module consists of a shell and cast integrated trunnion heads. The shell can include a transverse split as an option. A 180° split ring gear with gear guard, an automated gear grease lubrication system, and an erection/maintenance cradle with jacks are included in the delivery.

Lining system

The MH Series lining system can comprise rubber, steel, and/or composites for various process conditions. The shells and heads are drilled to accommodate the selected lining.

Main bearing technology

MH Series mills use grease-lubricated spherical roller bearings with a v-ring and labyrinth seal to ensure a long lifetime.

The free-end housing is equipped with rocker technology to accommodate axial movement of the mill. This means fewer spare parts to maintain and improved availability of parts.

Automated lubrication

The automated lubrication systems are either a cabinet or drum type depending on the mill size and the application in question. The systems provide lubrication to the main bearings and seals, pinion bearings and seals, and pinion gear.

Drive

A pinion assembly with lubrication system comes as standard, and includes the drive train with main gear, inching unit, and couplings.

Feed and discharge

The feed includes the trunnion liner and feed chute with support, as well as a feed seal to provide a safely sealed, low-maintenance setup. The standard discharge setup is a trunnion liner and reversible, disposable steel trommel with discharge housing.



Spherical roller bearings with rocker technology mean fewer spare parts.

Mill control system

The optional Outotec mill control system features the latest in state-of-the-art technology and is the preferred control option for all Outotec grinding mills. It comprises a local control panel with a fail-safe PLC and full-color touch screen. The control system provides all required control and monitoring functions to safely operate the mill.

Using a standardized control system reduces project engineering and commissioning risk by speeding up both delivery lead time and equipment commissioning.

Standard features:

- Interface to plant control system
- Interface and safety outputs to main drive/starter and upstream switchgear
- Interface and safety outputs to motor control center
- Connectivity to all mill instrumentation via remote I/O
- Remote connectivity hardware

Optional features:

- Integrated mill weight monitoring
- Infrared temperature monitoring of pinion gear
- Integrated condition monitoring system

Services to ensure reliable mill performance

Our industry-leading expertise is at your service. An MH Series service agreement helps you to maximize mill availability with:

- A capital spare-part package
- Subscription for wear parts
- 24/7 field technician support
- Scheduled inspection services

Direct-driven MH Series mills

Pre-assembled range of ball mills for smaller capacities with the following features and benefits:

- Bolt-on trunnion and drive shaft with integrated discharge ports
- Single-piece fabricated mill shell with integral heads
- Drive shaft arrangement. Drives mill centrally at discharge end – no girth gear/pinion required
- Mill supplied pre-assembled on foundation frame for fast installation
- Mill easier to demount and move if needed



Outotec is one of the largest mill suppliers in the world and has over 100 years of experience with grinding technologies.

Since the year 2000, Outotec has delivered more than 130 mills with SRB technology.

MILL SIZES

SAG MILL RANGE

MODEL NUMBER	DIAMETER (M)	LENGTH - EGL (M)	MAX INSTALLED POWER (KW)
MH3815s	3,80	1,50	300
MH3826s	3,80	2,65	500
MH3838s	3,80	3,80	700
MH3849s	3,80	4,95	900
MH4217s	4,20	1,70	450
MH4229s	4,20	2,95	725
MH4242s	4,20	4,20	1000
MH4254s	4,20	5,45	1250
MH4719s	4,70	1,90	650
MH4730s	4,70	3,05	1000
MH4742s	4,70	4,25	1350
MH4751s	4,70	5,15	1600
MH4761s	4,70	6,10	1900
MH5020s	5,00	2,00	800
MH5032s	5,00	3,25	1250
MH5045s	5,00	4,50	1650
MH5055s	5,00	5,50	2000
MH5065s	5,00	6,50	2350
MH5522s	5,50	2,20	1150
MH5536s	5,50	3,60	1750
MH5549s	5,50	4,95	2300
MH5560s	5,50	6,05	2800
MH6124s	6,10	2,45	1650
MH6130s	6,10	3,05	2000
MH6136s	6,10	3,65	2300
MH6142s	6,10	4,25	2650
MH6149s	6,10	4,90	3000

ROD MILL RANGE

MODEL NUMBER	DIAMETER (M)	LENGTH - EGL (M)	MAX INSTALLED POWER (KW)
MH2437r	2,40	3,70	260
MH2741r	2,70	4,10	375
MH3046r	3,00	4,60	550
MH3250r	3,20	5,00	725
MH3453r	3,40	5,30	900
MH3656r	3,60	5,60	1100

BALL MILL RANGE

MODEL NUMBER	DIAMETER (M)	LENGTH - EGL (M)	MAX INSTALLED POWER (KW)
MH1628b*	1,60	2,80	75
MH1832b*	1,80	3,20	110
MH2035b*	2,00	3,50	150
MH2234b*	2,20	3,40	185
MH2240b*	2,20	4,00	220
MH2437b	2,40	3,70	260
MH2438b*	2,40	3,80	260
MH2443b	2,40	4,30	300
MH2444b*	2,40	4,40	300
MH2741b	2,70	4,10	375
MH2742b*	2,70	4,20	375
MH2748b	2,70	4,80	450
MH2749b*	2,70	4,90	450
MH3046b	3,00	4,60	550
MH3053b	3,00	5,30	650
MH3250b	3,20	5,00	725
MH3256b	3,20	5,60	800
MH3453b	3,40	5,30	900
MH3460b	3,40	6,00	1000
MH3656b	3,60	5,60	1100
MH3663b	3,60	6,30	1200
MH3859b	3,80	5,90	1300
MH3866b	3,80	6,60	1450
MH4062b	4,00	6,20	1550
MH4070b	4,00	7,00	1750
MH4265b	4,20	6,50	1900
MH4274b	4,20	7,40	2100
MH4569b	4,50	6,90	2300
MH4578b	4,50	7,80	2600
MH4774b	4,70	7,40	2800
MH4783b	4,70	8,30	3100

Please contact your local Outotec sales representative for the latest model range and specification details.

* Direct-driven mills

Outotec provides leading technologies and services for the sustainable use of Earth's natural resources. As the global leader in minerals and metals processing technology, we have developed many breakthrough technologies over the decades for our customers in metals and mining industry. We also provide innovative solutions for industrial water treatment, the utilization of alternative energy sources and the chemical industry. Outotec shares are listed on NASDAQ OMX Helsinki. www.outotec.com