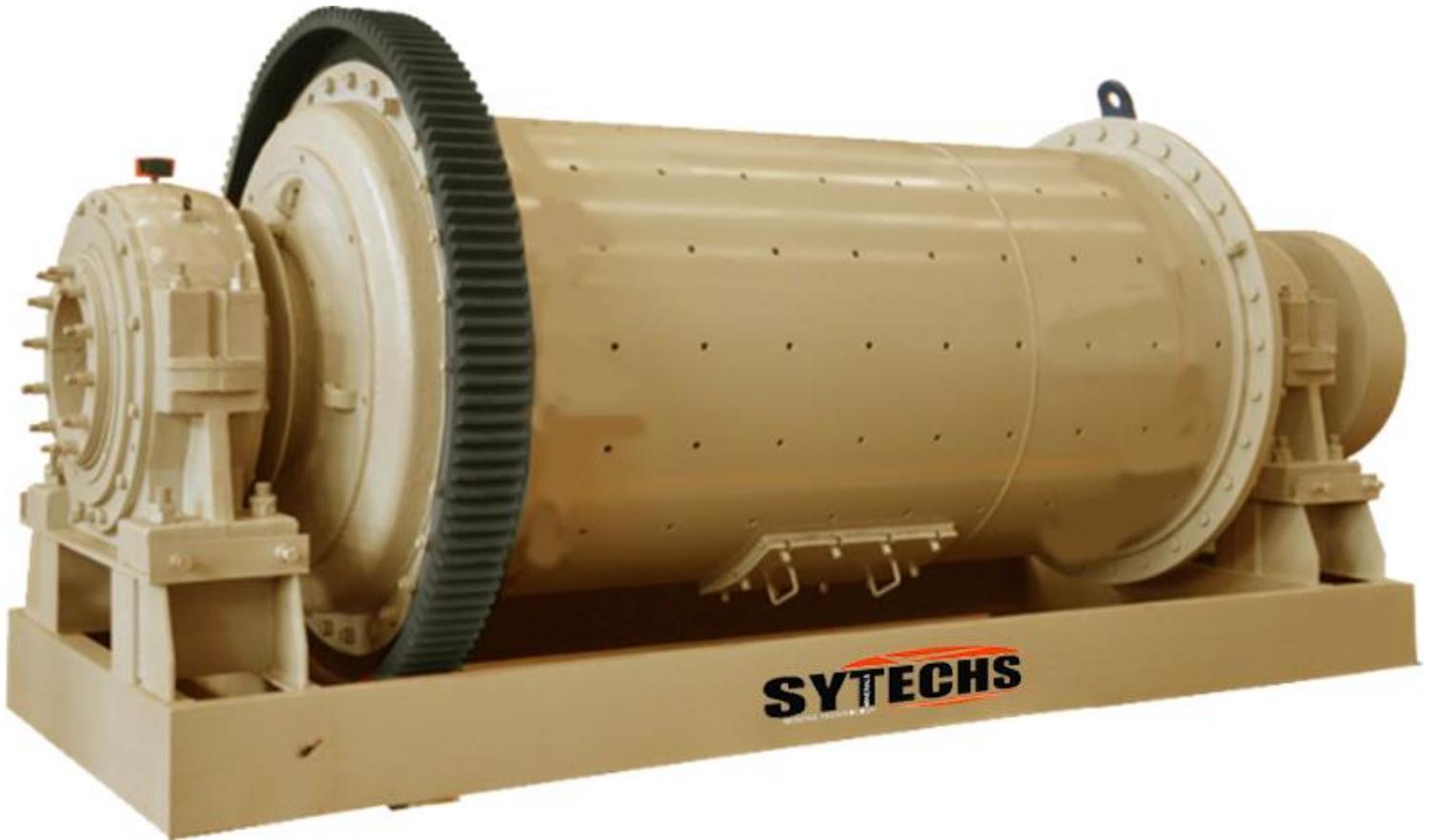


SYTECHS BALL MILLS



BALL MILLS

FEATURES

The ST-M Series Symontechnology (Sytechs) Ball Mills are designed and built for a long trouble free operations. The steel, bearings and every part of the mill are well selected to withstand continuous and long operations. The use of new wear-resistant materials greatly improves the service life of wearing parts.

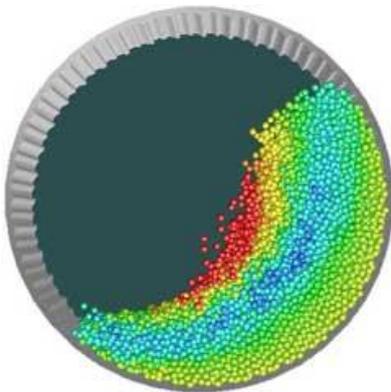
The raw mills have closed structure, so there is less dust spill-over and it is beneficial and friendly to the surrounding environment

A ball mill is a type of grinding equipment used to reduce the size of materials into fine powder. It consists of a cylindrical drum, filled with grinding media such as steel balls, ceramic balls, or rods. The cylinder rotates at a relatively low speed, allowing the balls to cascade through the mill base, thus grinding or dispersing the materials.

The principle of operation of a ball mill involves the following steps:

1. **Loading:** The material to be ground is fed into the cylindrical drum of the ball mill. The drum is usually filled with a certain volume of grinding media, which can be balls or rods. The size and type of grinding media depend on the material being processed and the desired particle size of the final product.
2. **Rotation:** The drum of the ball mill is set into rotational motion by a motor or a gear-driven system. The rotation speed is typically between 4 to 20 revolutions per minute, depending on the diameter of the mill and the desired size reduction.
3. **Cascading and grinding:** As the drum rotates, the grinding media cascade and fall, impacting and grinding the material. The centrifugal force generated by the rotation of the drum lifts the grinding media to a certain height and then allows them to fall back onto the material, crushing and grinding it into smaller particles. This continuous cascading and grinding action result in the reduction of the material size.
4. **Discharge:** The ground material, called the product, is discharged from the ball mill through a discharge chute or a screen. The size of the final product can be controlled by adjusting the duration of the grinding process and the size of the grinding media.

Ball mills are commonly used in various industries, such as mining, metallurgy, ceramics, and pharmaceuticals, for grinding materials into fine powders. They are versatile and can be used for both wet and dry grinding. Additionally, ball mills can be batch or continuous mills, depending on the process requirements.



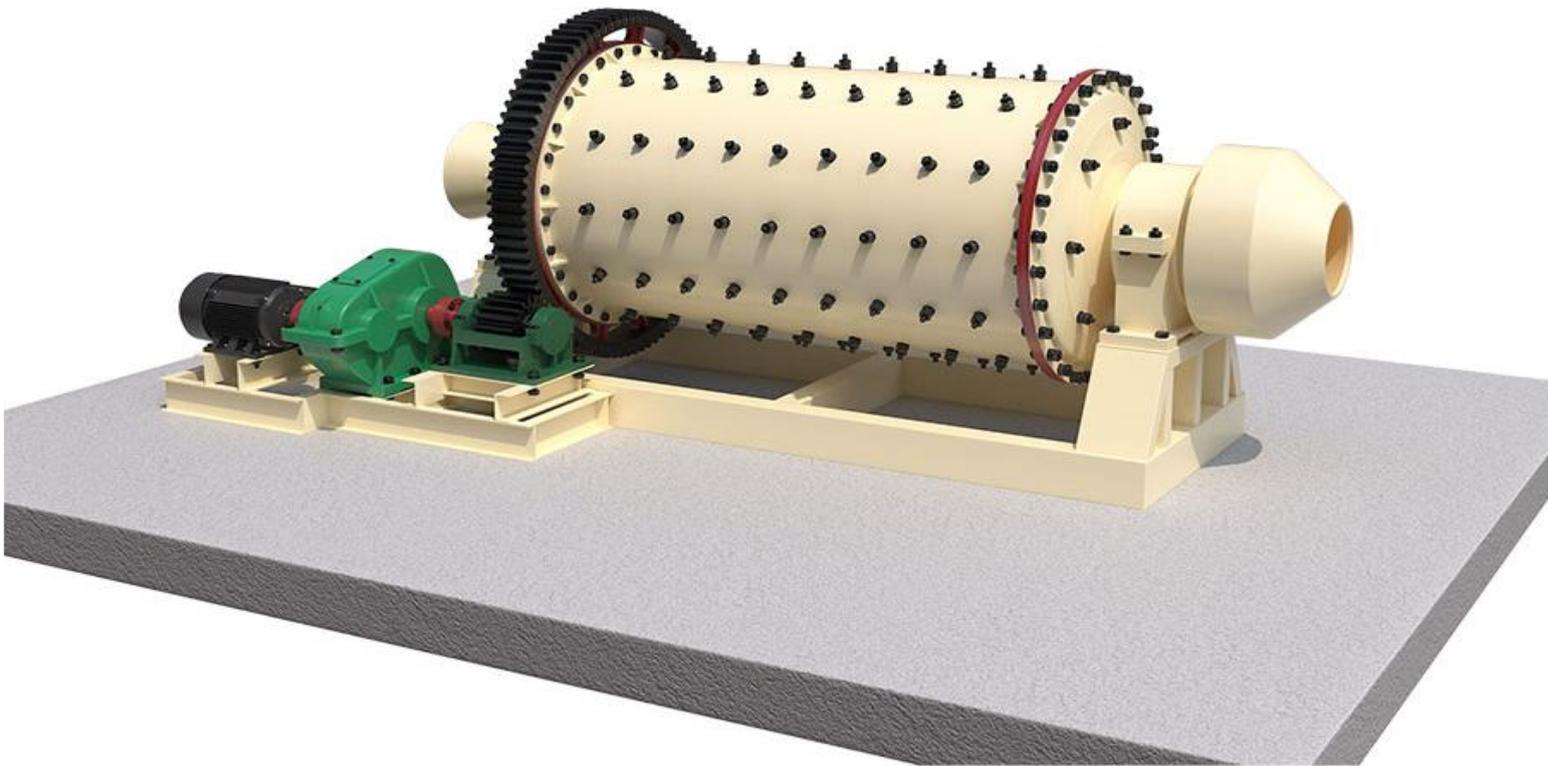
The thickness depends on the model of ball mill, thickness ranges from 10mm to 30mm, the bigger drum, the drum is more thick.

The Ball mill lining plates are mostly made of High manganese steel material as well as of ceramic material lining plates for grinding specific material.

The thickness of lining plates Thickness varies depending on the model, of ball mill. The thickness ranges from 30 to 80mm.

Many aspects should be considered while selecting the right ball mill in order to control the size of discharge grinded material: A. control the steel balls size, B. ball mill drum length, the longer length, the output size will be more fine. C. use spiral classifier or cyclone after ball mill for particle size classification, will have much more fine output size.

The minerals Feeding size to the ball mill should be below 20-25mm while the discharge output size can be 200 mesh to 1 mm depends on customer's requirement.



APPLICATIONS OF BALL MILLS

- Metallic Powders (Steel)
- Gypsum Wallboard Additives
- Bronze Powders and Minerals
- Carbon and Coal
- Limestone milling
- Clinker milling
- Quartz & feldspar milling
- Paint pigments milling
- Gold recovery
- Coir
- Mineral grinding

M	Q	XX		
Machine	Ball	G-Dry Grate S-Wet Grate Y-Overflow	Shell Diameter	Shell Length

Model	ST-MQS		ST-MQS		ST-MQS		ST-MQS		
	0909	0918	1212	1224	1515	1530	2122	2130	
Drawing No	K9272	K9273	K9261	K9260	K92513	K92514	K9245	K92411	
Shell Diameter	900		1200		1500		2100		
Shell Length	900	1800	1200	2400	1500	3000	2200	3000	
Fed Media	0.96	1.92	2.4	4.8	5	10	15	20	
Capacity (CM)	0.22 - 1.07	0.44 - 2.14	0.17 - 4.0	0.4 - 5.8	1.4 - 4.3	2.8 - 9	-		
Main Motor	Type	Y225S-8	Y225M-8	Y250M-8	Y315S-8	JR115-8	JR125-8	JR128-8	JR137-8
	Power	17	22	30	55	60	95	155	210
	Speed	720	730		725		730	735	
	Voltage	380/460							
Overall Dimensions	length	4.75	5.00	5.2	6.5	5.77	7.6	8	8.8
	Width	2.21	2.28	2.8		3.3		4.7	
	Height	2.05		2.54		2.7		4.4	
Total Weight	4.62	5.34	11.4	13.43	1.39	1.74	42.2	45	

MQY OVERFLOW GRINDING MILLS

Model	ST-MQY	ST-MQY	ST-MQY	ST-MQY	ST-MQY	
	0918	1212	1530	2130	2136	
Drawing No	K9274	K9264	K92519	K9247	K2112	
Shell Diameter	900	1200	1500	2100		
Shell Length	1800	2400	3000		3600	
Rotation	N/A					
Fed Media	1.66	4.8	8	18	20	
Capacity (CM)	0.37 - 1.8	0.36 - 5.18	-			
Main Motor	Type	Y225-8	Y315S-8	JR125-8	JR137-8	JR1410-8
	Power (kw)	22	55	95	210	
	Speed (rpm)	730		725	735	
	Voltage (V)	380/460				
Overall Dimensions	Length (m)	5.08	6.63	7.44	8.8	9.3
	Width (m)	2.3	2.8	3.34	4.7	
	Height (m)	2.02	2.5	2.76	4.7	
Total Weight (Tons)	5.4	12.24	16.28	43.2	46.8	

GUARANTEED PERFORMANCE WHEN ORIGINAL SYMONSTECHNOLOGY (SYTECHS) PARTS ARE USED, A LONG LIFETIME OF YOUR EQUIPMENT IS GUARANTEED.

WEARING PARTS ARE AVAILABLE WITH HIGH MANGANESE MN13%, MN18%, MN21%

Model	Shell Diameter (mm)	Shell Length (mm)	Capacity (CM)	Speed (r/min)	Max Ball Load (Tons)	Main Motor Power (KW)
ST-MQY3245	3200	4500	32.8	18.5	61	630
ST-MQY3254	3200	5400	39.5	18.5	73	1000
ST-MQY3260	3200	6000	43.7	18.5	81	1000
ST-MQY3545	3600	4500	41	17.5	76	1000
ST-MQY3650	3600	5000	46.2	17.3	86	1250
ST-MQY3660	3600	6000	55	17.3	102	1250
ST-MQY3690	3600	9000	83	17.3	145	1800
ST-MQY3862	3800	6200	64	16.8	118	1500
ST-MQY4060	4000	6000	70	16.8	113.4	1500
ST-MQY4067	4000	6700	78	16.2	138	1600
ST-MQY4361	4270	6100	80	15.7	144	1750
ST-MQY4385	4270	8500	110	15.7	205	2500
ST-MQY4561	4572	6100	93.3	15.1	151	2200
ST-MQY4564	4500	6400	97	15.1	134	1950
ST-MQY4576	4500	7600	111.7	15.1	180	2200
ST-MQY4669	4600	6900	105.9	15	185	2300
ST-MQY4870	4800	7000	118.9	15	208	2500
ST-MQY4883	4800	8300	138	15	240	3000
ST-MQY5064	5030	6400	121	14.4	224	2600
ST-MQY5067	5030	6700	123.2	14.4	227	3000
ST-MQY5070	5030	7000	128.8	14.4	227	3000
ST-MQY5074	5030	7400	136	14.4	240	3300
ST-MQY5080	5030	8000	147.2	14.4	246	3300
ST-MQY5583	5500	8300	182	13.7	296	4100
ST-MQY5585	5500	8500	185	13.7	300	4500
ST-MQY5588	5500	8800	191.5	13.7	335	4500

MQG BALL MILLS (DRY GRATE)

Model	ST-MQG		ST-MQG		ST-MQS		ST-MQS	
	0909	0918	1212	1224	1515	1530	2122	
Shell Diameter (mm)	900		1200		1500		2100	
Shell Length	900	1800	1200	2400	1500	3000	2200	
Rotation	N/A							
Fed Media	0.96	1.92	2.4	4.8	4	8	16	
Capacity (CM)	0.16 - 0.8	0.33 - 1.6	0.16 - 2.6	0.26 - 6.15	1 - 3.5	2 - 6.8	-	
Main Motor	Type	Y225S-8	Y225M-8	JQO282-8	JQO292-8	JR115-8	JR125-8	JR128-8
	Power	18.5	22	30	55	60	95	155
	Speed	730				725		730
	Voltage	380/460						
Overall Dimensions	Length	3.12	3.62	5.1	6.5	5.665	7.48	8.07
	Width	2.21	2.23	2.8		3.26	3.3	4.839
	Height	2.02		2.5		2.7		3.794
Total Weight	4.39	5.36	10.5	12.545	13.48	18	46.9	

Advantages

High chromium cast ball

High chromium cast ball is an alloy white cast iron ball with high chromium content (more than 10% Cr), which is wear-resistant, heat-resistant and corrosion-resistant, and has considerable toughness. The martensitic matrix high-chromium cast iron ball surface hardness HRC can reach 58-66. The wear resistance of high chromium cast iron balls is 8 to 12 times that of ordinary carbon steel balls

Liner plate

The cylinder is lined with high-manganese steel lining and multi-element alloy wear-resistant lining, which has good impact resistance and wear resistance.

- Wide applicability and high capacity
- Maintains a specific capacity for a long time to achieve the durability of the specified grinding fineness (add balls regularly to compensate for its wear)
- Reliability and safety, easy maintenance.
- The machine runs smoothly and works reliably. The internal structure can be adjusted according to customer requirements.
- Suitable for batch grinding, continuous grinding, open circuit grinding and closed circuit grinding, suitable for all kinds of hardness materials.

EXTENDED WARRANTY POLICY (OPTIONAL)

For more complete information on Symonstechnology (Sytechs) products, dealer services, and industry solutions, please contact sales@sytechs-minerals.com

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ISO 9001
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