

Operating Instruction

# **BALL MILL**

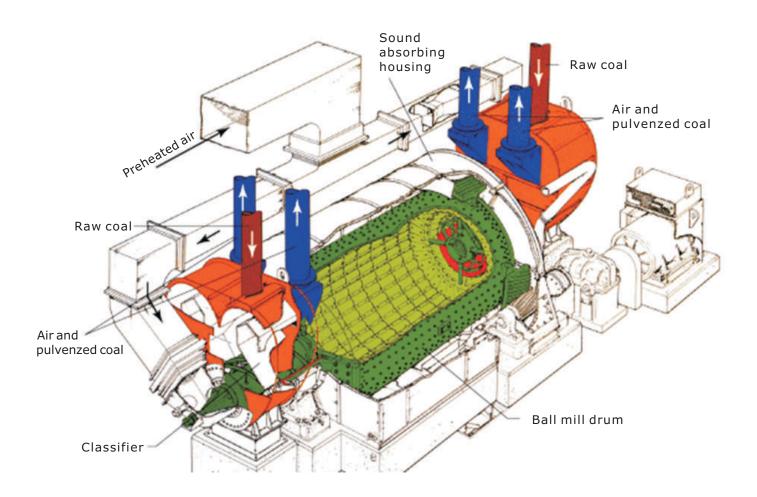


Henan Hongxing Heavy Machinery Co., Ltd.

#### **Overview**

Ball mill is the key equipment for recrushing the materials after they are primarily crushed. It is widely used for the dry type or wet type grinding of all kinds of ores and other grindable materials

in cement, silicate product, new building material, refractory, fertilizer, black and non-ferrous metals and glass ceramic industry.



## The Description and Function of Ball Mill

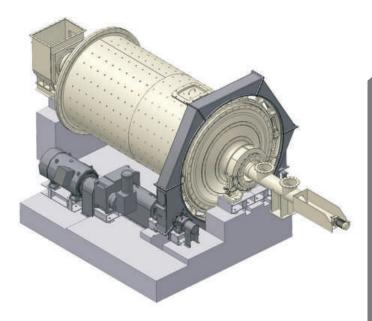
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materials in cement, silicate product, new building material, refractory, fertilizer, black and nonferrous metals and glass ceramic industry.

#### The Inner Structure and Main Types of Ball Mill:

Ball mill is mainly composed of feeding part, discharging part, rotary part and driving part which includes reducer, small drive gear, electrical machine and electronic control.

According the materials and discharging method, ball mill can be divided into dry type ball mill and wet type lattice ball mill.



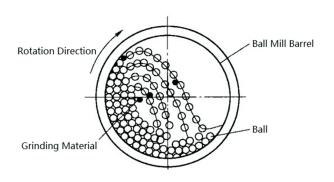
## Working principle:

Ball mill is made of a horizontal cylinder, a feeding and discharging hollow shaft, grinding head and other parts. The cylinder is a cylindrical tube. There is a grinding body in the tube. The cylinder is made of steel and fixed by a steel liner and cylinder. Grinding body is generally steel balls. These steel balls are installed in the tube according to different diameters and a certain proportion. The grinding body can also be steel sections.ls controlled by the screening equipment.

#### **Features**

Ball mill is mainly composed of feeding part, discharging part, rotary part and driving part which includes reducer, small drive gear, lectrical machine and electronic control. The hollow shaft uses steel casting, the inner lining can be dismantled and changed, and the rotary rack wheel uses casting gear hobbing and inside the cylinder there is wear-resisting lining board which has fine abrasion performance. This machine has stable operation and reliable performance.

According the materials and discharging method, ball mill can be divided into dry type ball mill and wet type lattice ball mill.





### **Characteristics:**

Production capacity: 0.5-500t/h

Feeding size:  $\leq$ 25mm

Material handling: cement, silicate, new-type building material, refractory material, fertilizer, ore dressing of ferrous metal and non-ferrous metal, glass ceramics, etc.



# Technical data:

Model	Shell rotation speed (r/min)	Ball load (t)	Feeding size (mm)	Discharging size (mm)	Capacity (t/h)	Motor power (kw)	Total weight (t)
Ф900× 1800	36-38	1.5	≤20	0.075-0.89	0.65-2	18.5	5.5
Ф900× 3000	36	2.7	≤20	0.075-0.89	1.1-3.5	22	6.7
Ф1200 ×2400	36	3	≤25	0.075-0.6	1.5-4.8	30	12
Ф1200 ×3000	36	3.5	≤25	0.074-0.4	1.6-5	37	12.8
Ф1200 ×4500	32.4	5	≤25	0.074-0.4	1.6-5.8	55	13.8
Ф1500 ×3000	29.7	7.5	≤25	0.074-0.4	2-5	75	16.8
Ф1500 ×4500	27	11	≤25	0.074-0.4	3-6	110	21
Ф1500 ×5700	28	12	≤25	0.074-0.4	3.5-6	130	25.8
Ф1830 ×3000	25.4	11	≤25	0.074-0.4	4-10	130	29
Ф1830 ×4500	25.4	15	≤25	0.074-0.4	4.5-12	155	35.5
Ф1830 ×6400	24.1	21	≤25	0.074-0.4	6.5-15	210	43
Ф1830 ×7000	24.1	23	≤25	0.074-0.4	7.5-17	245	43.8
Ф2100 ×3000	23.7	15	≤25	0.074-0.4	6.5-36	155	34.8
Ф2100 ×4500	23.7	24	≤25	0.074-0.4	8-43	245	42
Ф2100 ×7000	23.7	26	≤25	0.074-0.4	8-48	280	56.6
Ф2200 ×4500	21.5	27	≤25	0.074-0.4	9-45	280	51.8
Ф2200 ×6500	21.7	35	≤25	0.074-0.4	14-26	380	60

Φ2200 x7000     21.7     35     ≤20     0.075-0.89     15-28     380     62       Φ2200 x7500     21.7     35     ≤20     0.075-0.89     15-30     380     64.8       Φ2400 x4000 x4500     21     23     ≤25     0.075-0.6     7-50     245     58       Φ2400 x4500     21     30     ≤25     0.074-0.4     8.5-60     320     69       Φ2700 x4500     20.7     40     ≤25     0.074-0.4     12-80     380     94       Φ2700 x4500     20.7     48     ≤25     0.074-0.4     12-90     480     102       Φ3200 x4500     18     65     ≤25     0.074-0.4     As per process conditions     630     137       Φ3600 x500     17     90     ≤25     0.074-0.4     As per process conditions     1250     175       Φ3800 x6000     18     131     ≤25     0.074-0.4     45.8-256     1800     252       Φ4000 x5000     16.9     121     ≤25     0.074-0.4     45-208     1500							
x7500   21.7   35   ≤20   0.075-0.89   15-30   380   64.8     Φ2400 x3000   21   23   ≤25   0.075-0.6   7-50   245   58     Φ2400 x4500   21   30   ≤25   0.074-0.4   8.5-60   320   69     Φ2700 x4500   20.7   40   ≤25   0.074-0.4   12-80   380   94     Φ2700 x4500   20.7   48   ≤25   0.074-0.4   12-90   480   102     Φ3200 x4500   18   65   ≤25   0.074-0.4   As per process conditions conditions   630   137     Φ3600 x6000   17   90   ≤25   0.074-0.4   As per process conditions   158     Φ3600 x6000   18   131   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x6000   16.9   121   ≤25   0.074-0.4   45.8-256   1800   203     Φ4000 x6000   16.9   146   ≤25   0.074-0.4   45-208   1500   238     Φ4000 x6000   16.9   149   ≤25   0.074-0.4   45-252	21.7	35	≤20	0.075-0.89	15-28	380	62
x3000   21   23   ≤25   0.075-0.6   7-50   245   58     Φ2400 x4500   21   30   ≤25   0.074-0.4   8.5-60   320   69     Φ2700 x4000   20.7   40   ≤25   0.074-0.4   12-80   380   94     Φ2700 x4500   20.7   48   ≤25   0.074-0.4   12-90   480   102     Φ3200 x4500   18   65   ≤25   0.074-0.4   As per process conditions   630   137     Φ3600 x5000   17   90   ≤25   0.074-0.4   As per process conditions   850   158     Φ3600 x8500   18   131   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x8500   16.9   121   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x6000   16.9   146   ≤25   0.074-0.4   45-208   1500   238     Φ4000 x6000   16.9   149   ≤25   0.074-0.4   45-252   1800   238     Φ4500 x6400   15.6   172   ≤25   0.074-0.4   <	21.7	35	≤20	0.075-0.89	15-30	380	64.8
x4500   21   30   ≤25   0.074-0.4   8.5-60   320   69     Φ2700 x4000   20.7   40   ≤25   0.074-0.4   12-80   380   94     Φ2700 x4500   20.7   48   ≤25   0.074-0.4   12-90   480   102     Φ3200 x4500   18   65   ≤25   0.074-0.4   As per process conditions   630   137     Φ3600 x6000   17   90   ≤25   0.074-0.4   As per process conditions   850   158     Φ3600 x8500   18   131   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x8500   16.9   121   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x6000   16.9   146   ≤25   0.074-0.4   45-208   1500   203     Φ4000 x6000   16.9   149   ≤25   0.074-0.4   45-252   1800   238     Φ4500 x6400   15.6   172   ≤25   0.074-0.4   54-306   2000   280     Φ5030 x6400   14.4   216   ≤25   0.074-0.4	21	23	≤25	0.075-0.6	7-50	245	58
x4000   20.7   40   ≤25   0.074-0.4   12-80   380   94     Φ2700 x4500   20.7   48   ≤25   0.074-0.4   12-90   480   102     Φ3200 x4500   18   65   ≤25   0.074-0.4   As per process conditions   630   137     Φ3600 x6000   17   90   ≤25   0.074-0.4   As per process conditions   850   158     Φ3600 x8500   18   131   ≤25   0.074-0.4   As per process conditions   1250   175     Φ4000 x8500   16.9   121   ≤25   0.074-0.4   45.8-256   1800   252     Φ4000 x6000   16.9   146   ≤25   0.074-0.4   45-208   1500   203     Φ4000 x6000   16.9   149   ≤25   0.074-0.4   45-252   1800   238     Φ4500 x6400   15.6   172   ≤25   0.074-0.4   54-306   2000   280     Φ5030 x6400   14.4   216   ≤25   0.074-0.4   88-500   3300   403     Φ5500   13.8   338   ≤25 <td< td=""><td>21</td><td>30</td><td>≤25</td><td>0.074-0.4</td><td>8.5-60</td><td>320</td><td>69</td></td<>	21	30	≤25	0.074-0.4	8.5-60	320	69
x4500     20.7     46     ≤25     0.074-0.4     12-90     480     102       Φ3200 x4500     18     65     ≤25     0.074-0.4     As per process conditions     630     137       Φ3600 x4500     17     90     ≤25     0.074-0.4     As per process conditions     850     158       Φ3600 x8500     18     131     ≤25     0.074-0.4     As per process conditions     1250     175       Φ4000 x8500     16.9     121     ≤25     0.074-0.4     45.8-256     1800     252       Φ4000 x6000     16.9     146     ≤25     0.074-0.4     45-208     1500     203       Φ4000 x6000     16.9     149     ≤25     0.074-0.4     45-252     1800     238       Φ4500 x6400     15.6     172     ≤25     0.074-0.4     54-306     2000     280       Φ5030 x8300     14.4     266     ≤25     0.074-0.4     88-500     3300     403       Φ5500     13.8     338     ≤25     0.074-0.4     408-615	20.7	40	≤25	0.074-0.4	12-80	380	94
Φ3500 +3600     18     65     ≤25     0.074-0.4     process conditions conditions conditions conditions     630     137       Φ3600 +3600     17     90     ≤25     0.074-0.4     As per process conditions conditions     850     158       Φ3600 +8000     17     110     ≤25     0.074-0.4     As per process conditions     1250     175       Φ3600 +8500     18     131     ≤25     0.074-0.4     45.8-256     1800     252       Φ4000 +8000     16.9     121     ≤25     0.074-0.4     45-208     1500     203       Φ4000 +8000     16.9     146     ≤25     0.074-0.4     65-248     1600     218       Φ4000 +8600     16.9     149     ≤25     0.074-0.4     45-252     1800     238       Φ4500 +8600     15.6     172     ≤25     0.074-0.4     54-306     2000     280       Φ5030 +8300     14.4     266     ≤25     0.074-0.4     88-500     3300     403       Φ5500     13.8     338     ≤25	20.7	48	≤25	0.074-0.4	12-90	480	102
Φ3600 ×4500     17     90     ≤25     0.074-0.4     process conditions conditions     850     158       Φ3600 ×6000     17     110     ≤25     0.074-0.4     As per process conditions     1250     175       Φ3600 ×8500     18     131     ≤25     0.074-0.4     45.8-256     1800     252       Φ4000 ×5000     16.9     121     ≤25     0.074-0.4     45-208     1500     203       Φ4000 ×6000     16.9     146     ≤25     0.074-0.4     65-248     1600     218       Φ4000 ×6700     16.9     149     ≤25     0.074-0.4     45-252     1800     238       Φ4500 ×6400     15.6     172     ≤25     0.074-0.4     54-306     2000     280       Φ5030 ×8400     14.4     216     ≤25     0.074-0.4     88-500     3300     403       Φ5500     13.8     338     ≤25     0.074-0.4     418-615     4500     525	18	65	≤25	0.074-0.4	process	630	137
Φ3600 x6000     17     110     ≤25     0.074-0.4     process conditions     1250     175       Φ3600 x8500     18     131     ≤25     0.074-0.4     45.8-256     1800     252       Φ4000 x6000     16.9     121     ≤25     0.074-0.4     45-208     1500     203       Φ4000 x6000     16.9     146     ≤25     0.074-0.4     65-248     1600     218       Φ4000 x6700     16.9     149     ≤25     0.074-0.4     45-252     1800     238       Φ4500 x6400     15.6     172     ≤25     0.074-0.4     54-306     2000     280       Φ5030 x6400     14.4     216     ≤25     0.074-0.4     68-386     2500     320       Φ5030 x8300     14.4     266     ≤25     0.074-0.4     88-500     3300     403       Φ5500     13.8     338     ≤25     0.074-0.4     108-615     4500     525	17	90	≤25	0.074-0.4	process	850	158
★8500 18 131 €25 0.074-0.4 45-208 1500 232   ★4000 ★5000 16.9 146 €25 0.074-0.4 45-248 1600 218   ★4000 ★6700 16.9 149 €25 0.074-0.4 45-252 1800 238   ★4500 ★6400 15.6 172 €25 0.074-0.4 54-306 2000 280   ★5030 ★8400 14.4 216 €25 0.074-0.4 68-386 2500 320   Φ5030 ★8300 14.4 266 €25 0.074-0.4 88-500 3300 403   Φ5500 13.8 338 ≤25 0.074-0.4 108-615 4500 525	17	110	≤25	0.074-0.4	process	1250	175
x5000 16.9 121 ≤25 0.074-0.4 43-208 1300 203   Φ4000 ×6700 16.9 146 ≤25 0.074-0.4 65-248 1600 218   Φ4000 ×6700 16.9 149 ≤25 0.074-0.4 45-252 1800 238   Φ4500 ×6400 15.6 172 ≤25 0.074-0.4 54-306 2000 280   Φ5030 ×6400 14.4 216 ≤25 0.074-0.4 68-386 2500 320   Φ5030 ×8300 14.4 266 ≤25 0.074-0.4 88-500 3300 403   Φ5500 13.8 338 ≤25 0.074-0.4 108-615 4500 525	18	131	≤25	0.074-0.4	45.8-256	1800	252
★6000 16.9 149 ≤25 0.074-0.4 45-252 1800 238   ★4500 ★6400 15.6 172 ≤25 0.074-0.4 54-306 2000 280   ★5030 ★6400 14.4 216 ≤25 0.074-0.4 68-386 2500 320   ★5030 ★8300 14.4 266 ≤25 0.074-0.4 88-500 3300 403   Φ5500 13.8 338 ≤25 0.074-0.4 108-615 4500 525	16.9	121	≤25	0.074-0.4	45-208	1500	203
★6700 16.9 149 ≥25 0.074-0.4 49-232 1600 238   ★4500 ★6400 15.6 172 ≥25 0.074-0.4 54-306 2000 280   ★5030 ★6400 14.4 216 ≥25 0.074-0.4 68-386 2500 320   ★5030 ★8300 14.4 266 ≥25 0.074-0.4 88-500 3300 403   Φ5500 13.8 338 ≥25 0.074-0.4 108-615 4500 525	16.9	146	≤25	0.074-0.4	65-248	1600	218
★6400 15.6 1/2 ≥25 0.074-0.4 54-306 2000 280   ★5030 ★6400 14.4 216 ≥25 0.074-0.4 68-386 2500 320   Φ5030 ★8300 14.4 266 ≥25 0.074-0.4 88-500 3300 403   Φ5500 13.8 338 ≥25 0.074-0.4 108-615 4500 525	16.9	149	≤25	0.074-0.4	45-252	1800	238
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×8300 14.4 266 ≤25 0.074-0.4 88-500 3300 403 Ф5500 13.8 338 ≤25 0.074-0.4 108-615 4500 525	14.4	216	≤25	0.074-0.4	68-386	2500	320
	14.4	266	≤25	0.074-0.4	88-500	3300	403
	13.8	338	≤25	0.074-0.4	108-615	4500	525





Pre-sale services: enthusiasm

We provide you with the prophase plan, process flow design and manufacturer equipment according to your special demand.

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Send technicians to the jobsite for guiding the installation and adjustment, training operators and finishing the check and accept together with you.

After-sale services: faithfulness

To establish long term friendship, we will regularly pay return visit to customers. Supplying technique, building design, instruction, installation