

# KDM 系列连续式球磨机

## KDM SERIES CONTINUOUS BALL MILL

### 简介

Brief

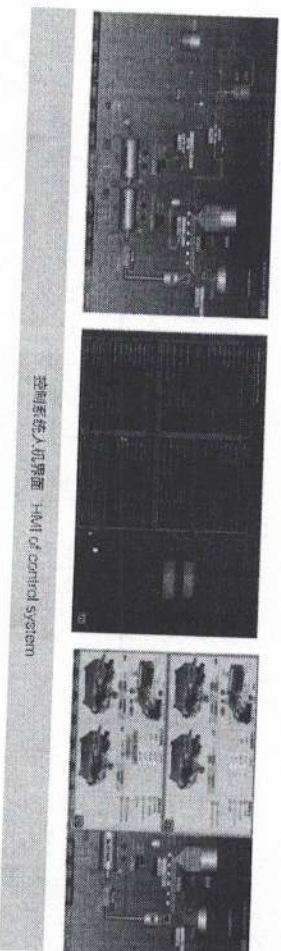
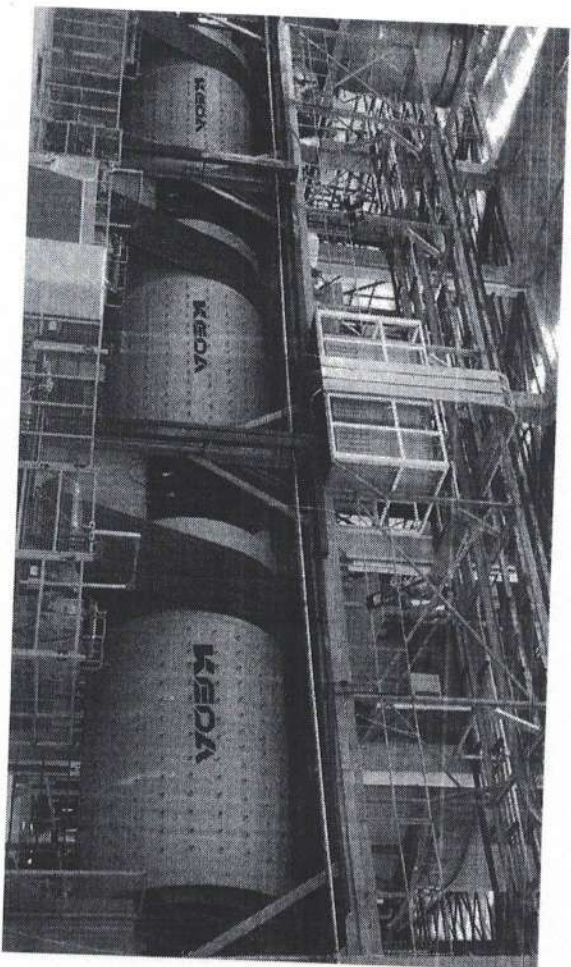
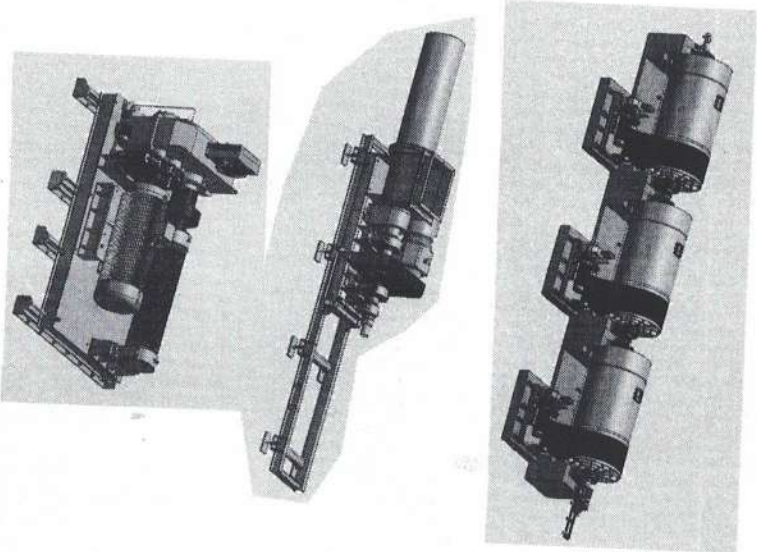
一般由 2 或 5 个单元组成，每个单元有独立的驱动（变频）和球石加入装置，每个单元有独立的转速和球石分配，将研磨到一定细度的浆液送到下一个单元继续球磨。

2~5 units, independent drive (inverter control) and milling ball loading device, different rotation speed and milling ball gradation for different unit.

### 优点

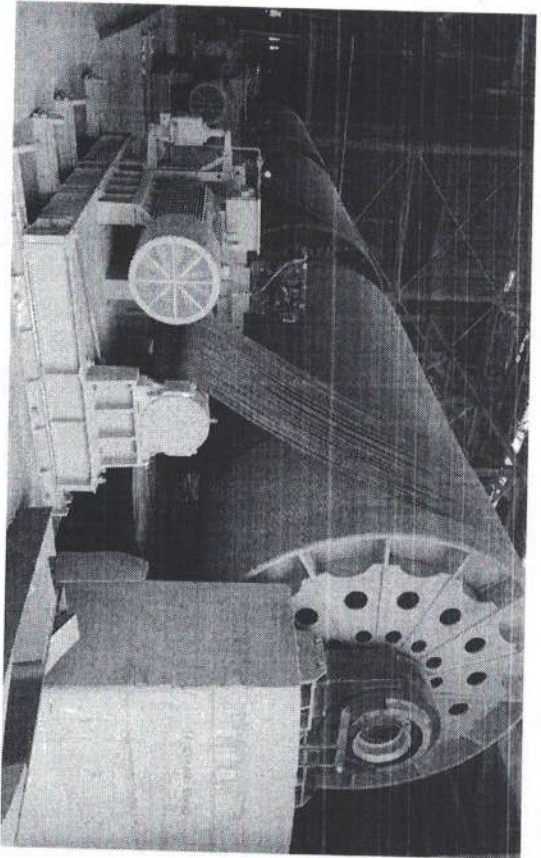
Advantages

- ◉ 出浆浓度均匀、稳定，产量大。
- ◉ 整套设备采用全自动控制，节省人力。
- ◉ 研磨效率高。
- ◉ 节约能源，电力消耗下降 20% 以上。
- ◉ 节约场地面积。
- ◉ Even density of slurry, stable, high output.
- ◉ Full automatic control, labor force saved.
- ◉ High efficiency.
- ◉ More than 20% power saved.
- ◉ Small space occupation.



控制系统人机界面 HMI of control system





连续式球磨机  
Continuous ball mill



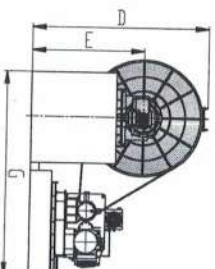
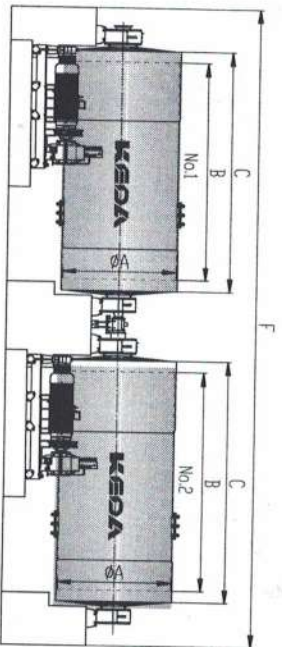
减速机风冷系统  
Reducer air cooling system

中间连接装置  
Intermediate connection device

轴承座密封润滑系统测试  
Oil lubricating system testing

技术参数 Specifications

项目 Item	KDM40×2	KDM40×3	KDM50×2	KDM50×3	KDM65×2	KDM65×3
内腔尺寸 (mm) Inner size	φ3000×5800×2	φ3000×5800×3	φ3200×6200×2	φ3200×6200×3	φ3500×6800×2	φ3500×6800×3
容积 (L) Volume	40000×2	40000×3	50000×2	50000×3	65000×2	65000×3
筒体转速 (r/min) Rotational speed	9-15	9-15	9-15	9-15	9-15	9-15
电机功率 (kW) Motor power	280×2	280×3	315×2	315×3	400×2	400×3
皮带数量 (pcs) Belt quantity	25N-40×2	25N-40×3	25N-45×2	25N-45×3	25N-55×2	25N-55×3
启动方式 Starting method	变频启动 Inverter	变频启动 Inverter	变频启动 Inverter	变频启动 Inverter	变频启动 Inverter	变频启动 Inverter



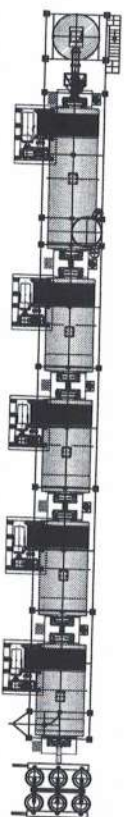
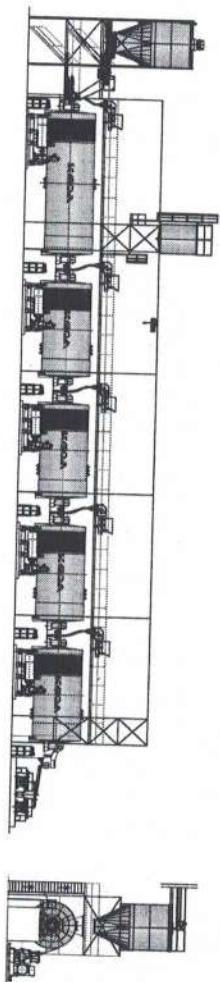
外形尺寸 Dimensions

型号 Model	单元数 Module qty.	单元容积 (L) Module volume	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
KDM40×2	2	40000	3000	5800	6300	4820	3100	17750	5300
KDM40×3	3	40000	3000	5800	6300	4820	3100	26400	5300
KDM50×2	2	50000	3200	6200	6800	5020	3200	18650	5830
KDM50×3	3	50000	3200	6200	6800	5020	3200	27700	5830
KDM65×2	2	65000	3500	6800	7500	5200	3200	19850	6370
KDM65×3	3	65000	3500	6800	7500	5200	3200	29500	6370

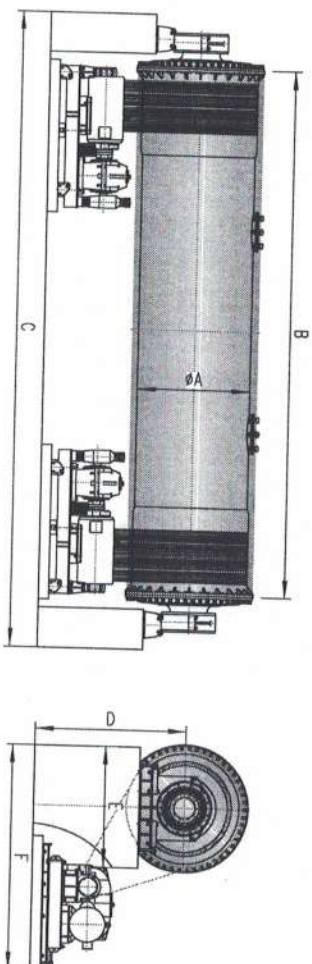
## KSM 系列连续球磨机 KSM SERIES CONTINUOUS BALL MILL

本系列球磨机主要用于对陶瓷坯料进行连续湿法球磨。  
筒体内部设置 1 套或 2 套隔板，形成 2 个或 3 个仓室。标准配置采用橡胶内衬。

The ball mill series is mainly used for continuous milling of the ceramic raw material.  
1-2 set of separating board is set inside the cylinder to form 2-3 chambers, usually rubber lining is configured.



超大量 4 联体 5 联体连续球磨机  
4-5 modules continuous Ball mill - super high output



### 技术参数 Specifications

型号 Model	KDM285	KDM350			
单元 1 Unit	90	90	筒体内尺寸 Inner size (mm)	功率 Power (KW)	转速 Speed (rpm)
单元 2 Unit	65	65	φ3500*8250	400	9-13
单元 3 Unit	65	65	φ3500*6250	400	9-13
单元 4 Unit	65	65	φ3500*6250	400	9-13
单元 5 Unit	-	65	φ3500*6250	400	9-13
合计容积 Total volume	285	350			50
合计功率 Total power	1760	2160			

### 技术参数 Specifications

项目 Item	电机功率 (KW) Motor power	转速 (r/min) Mill speed	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
KSM40	1 × 315	18	2200	10600	13100	3000	2300	3800
KSM450	2 × 270	16	2600	9600	12000	3500	2500	4300
KSM460	2 × 250	16	2600	11300	13800	3500	2500	4500
KSM470	2 × 250	14	2800	11400	13800	3500	2600	4500
KSM480	2 × 315	14	2800	13000	15800	3500	2600	4600
KSM490	2 × 335	12.5	3000	12800	15900	3500	3000	4800
KSM100	2 × 400	12.5	3000	14200	16700	3500	3000	5000

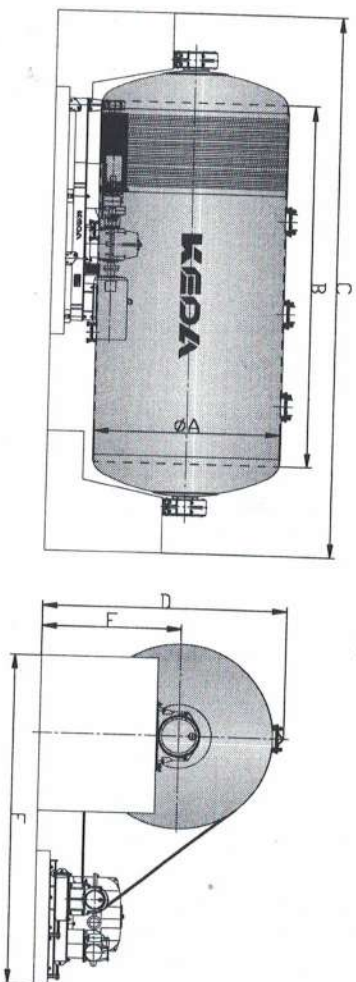
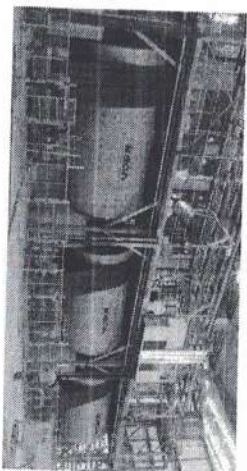


# BM 经典系列球磨机

## BM CLASSICAL SERIES BALL MILL

BM 经典系列球磨机作为湿法研磨物料的一种大型研磨设备，适用于建筑陶瓷、日用陶瓷、卫浴、电表、冶金化工等行业。

Heavy duty milling equipment for materials wet milling, suitable for building ceramics, tableware, sanitaryware, electro-ceramics, metallurgy, chemical industries, etc.



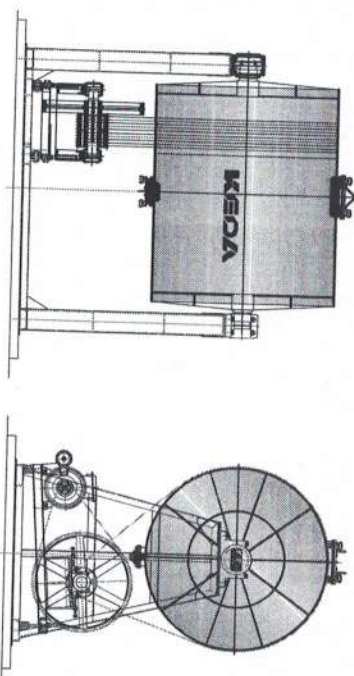
### 技术参数和外形尺寸 Specifications & Dimensions

型号 Model	装料量 Capacity (t)	容积 Volume (L)	筒体转速 Rotational Speed (r/min)	电机功率 Motor power (kW)	选磨衬板 Lining	磨石 Milling Ball	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
BM69RE	40	69000	11.5	160+11	I / III / IV	I / IV	3900	6900	10570	2720	4770	6270
BM68RE	40	69000	11.5	185+11	I / III / IV	I / IV	3800	6900	10570	2720	4770	6270
BM68RE	40	68000	11.5	200+15	I / III / III	II	3600	6800	10570	2720	4770	6270
BM68RE	40	68000	11.5	220+15	II / III	II	3600	6800	10570	2720	4770	6220
BM69RE	60	98000	10.2	200+18.5	III / IV	IV	4000	7800	11670	3000	5260	7090
BM69RE	60	98000	10.2	220+18.5	III / IV	IV	4000	7800	11670	3000	5260	7090
BM69RE	60	98000	10.2	250+18.5	I / III	I / IV	4000	7800	11670	3000	5260	7090
BM69RE	60	98000	10.2	280+18.5	I / III / III	I / IV	4000	7800	11670	3000	5260	7180
BM69RE	60	95500	10.2	315+22	II / III	II	4000	7600	11470	3000	5260	7180
BM69RE	60	95500	10.2	355+22	II / III	II	4000	7600	11470	3000	5260	7310

I - 中铝 / 中铝铝 Alu aluminum II - 高铝 High aluminum III - 橡胶 Rubber IV - 天然石 Natural stone

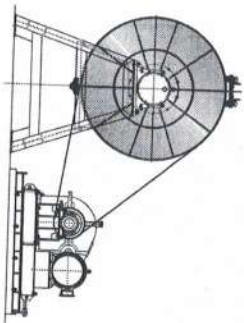
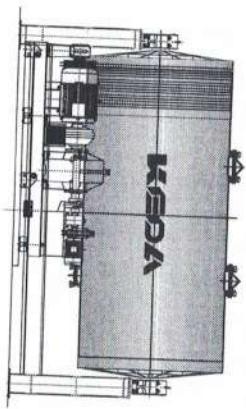
### 皮带传动球磨机

### Belt drive ball mill



### 技术参数 Specifications

项目 Item	BM005BE	BM016BE	BM030BE	BM050BE	BM060BE	BM080BE	BM110BE	BM120BE
装料量(t) Capacity	0.2	0.5	1	1.5	2	3	4	5
筒体尺寸 (ΦA×B) Inner size	600×950	1200×1400	1600×1700	1900×2100	1600×2000	2100×2300	2180×3000	2250×3100
容积(L) Volume	500	1600	3000	5000	6000	8000	11000	12000
筒体转速 (r/min) Rotational speed	45	30	25	22	20	19	18	18
电机功率 (kW) Motor Power	2.2	7.5	15	22	30	37	45	55
整机重量(t) (不含衬板) Weight (t) (excluding expeller)	2	2.5	3.5	4.5	5	6.5	8	9.5

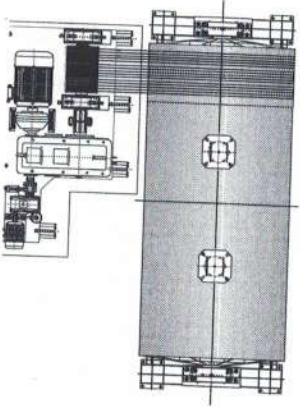


根据客户的需求和原料的实际情况, 依托科达现有的国家认证技术中心, 科达可以为客户提供适合的连续球磨机的使用方案, 并提供全套技术服务。

Offer suitable plan with complete technology service.

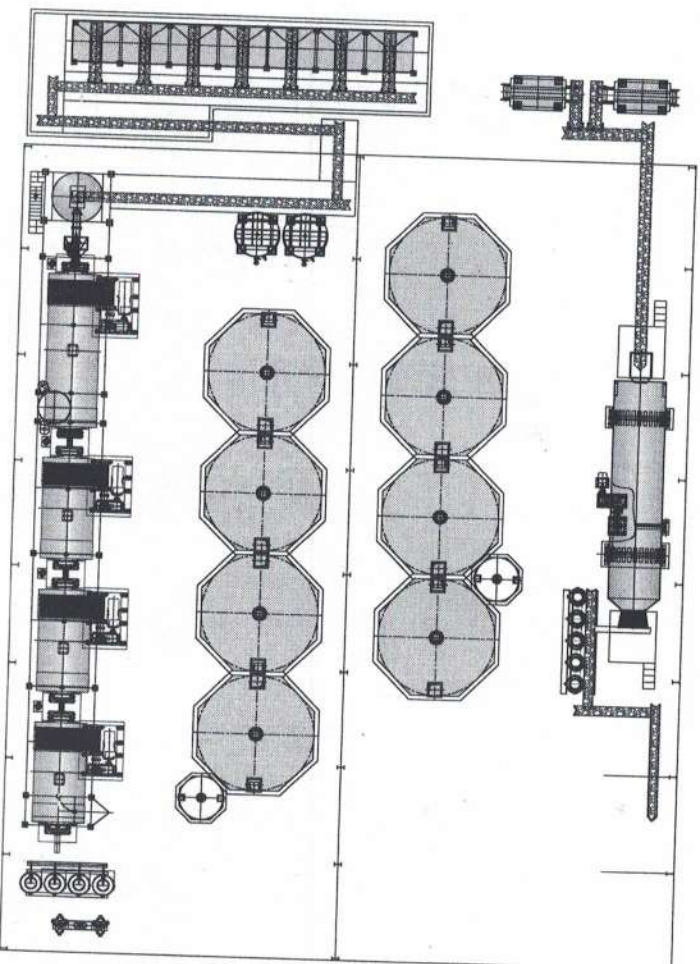
模式 1: 粘土球磨化浆 + 硬质料直接进入连续球磨机  
Mode 1: clay milling + hard material feeding directly

- 超大产量, 20-60t/小时 (干料重量)
- 原料要求: 硬质原料粒度小于 5mm, 粘土原料易于化浆。
- 粘土化浆后, 与硬质原料一起输送到连续球磨机中, 连续研磨得到成品混浆。
- Large output, 20-60t/h (weight of dry material)
- Raw material property: hard material granule size < 5mm, clay easily mix with water.
- After clay mixed with water, feed it into continuous ball mill together with hard material, then mill continuously for finished slurry.



技术参数 Specifications

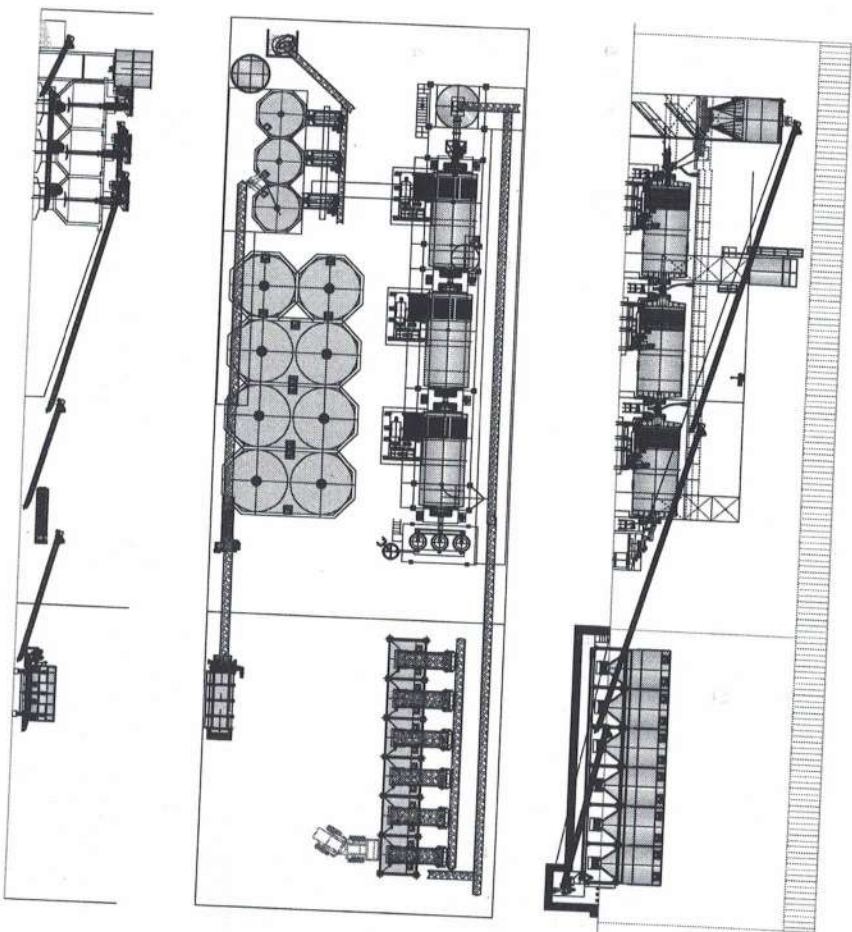
项目 Item	BM080RE	BM110RE	BM120RE	BM160RE	BM260RE
装机容量 (t) Capacity	3	4	5	8	12
内腔尺寸 (ΦA × B) Inner size	2100 × 2300	2180 × 3000	2250 × 3100	2250 × 4500	3000 × 4000
容积 (L) Volume	8000	11000	12000	18000	28000
筒体转速 (r/min) Rotational speed	19	18	18	17	14
电机功率 (kw) Motor power	37	45	55	75+7.5	90+7.5
整机重量 (t) (不含衬) Weight (inling excluded)	6.5	8	9.5	13.5	16.8





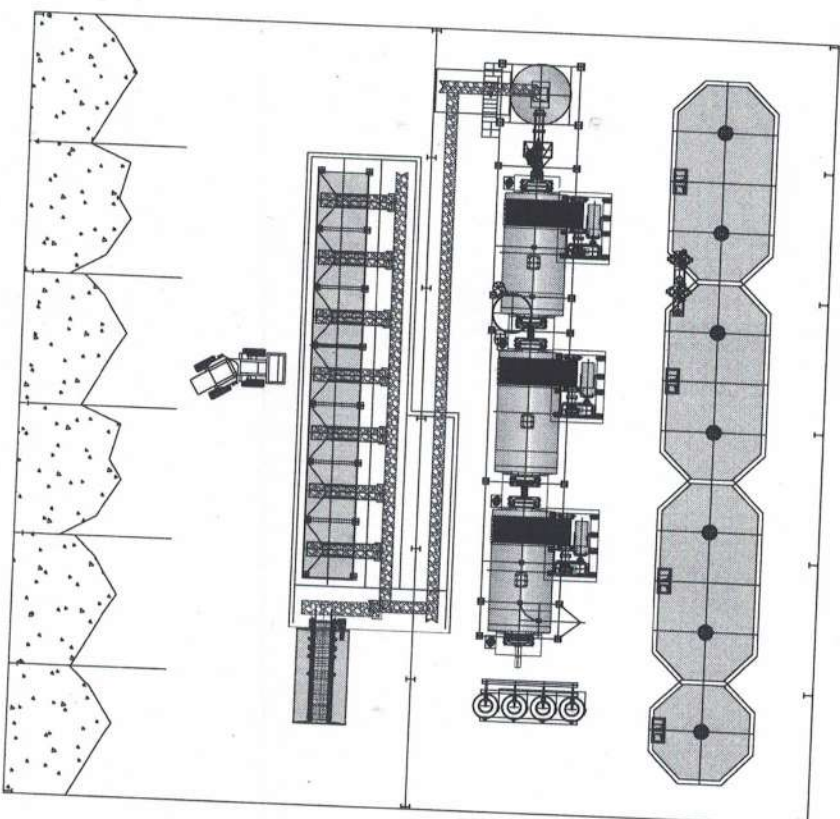
▼ 模式 2：粘土搅拌化浆 + 硬质料直接进连续球磨机  
Mode 2: clay stirring + hard material feeding directly

- 原料要求：硬质原料粒度小于 5mm，粘土原料易于化浆。
- 粘土化浆后，与硬质原料一起输送到连续球磨机中，连续研磨得到成品泥浆。
- Raw material property: hard material granule size < 5mm, clay easily mix with water.
- After clay mixed with water, feed it into continuous ball mill together with hard material, then mill continuously for finished slurry.



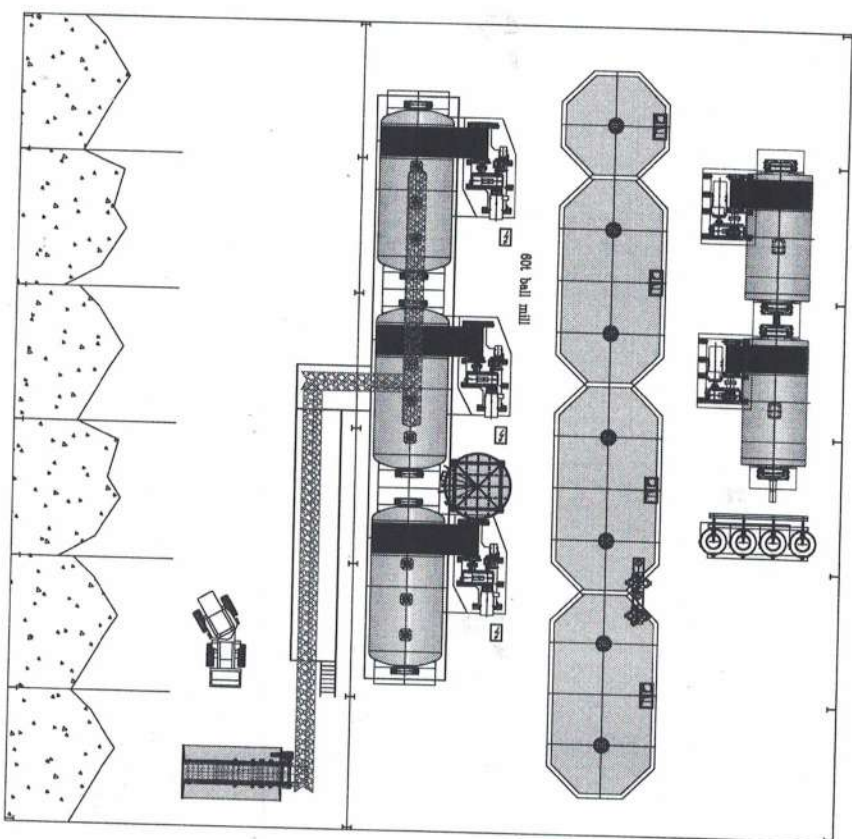
▼ 模式 3：所有原料直接进连续球磨机  
Mode 3: all raw materials feeding directly

- 原料要求：硬质原料粒度小于 5mm，粒度越小越有利于提高产量。
- 粘土原料：粒度小于 50mm，水分小于 15%。
- 所有原料通过自动称重的连续配料机配料，去中转动，经电子皮带秤输送到连续球磨机，研磨得到成品泥浆。
- 自动化程度最高。
- Raw material property: hard material granule size < 5mm, smaller granule is beneficial to high output.
- Clay: granule size < 50mm, water content < 15%.
- After material batching through automatic continuous feeder, all raw materials are conveyed to transfer tank, then conveyed to continuous ball mill through electronic belt scale, and then be milled for finished slurry.
- Highest automation.

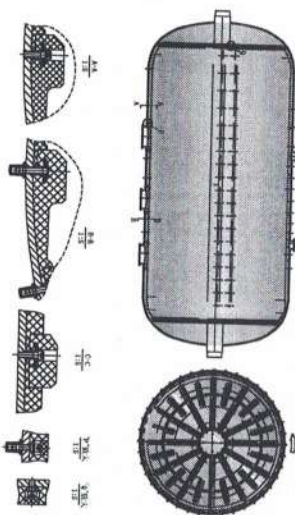


模式 4: 所有原料先粗磨再连续球磨  
Mode 4: all raw materials rough milling first, then continuous milling

- ① 适合所有各种原料情况，及不想采用化学方式和连续喂料时的陶瓷厂。
- ② 所有原料先经过普通球磨至合适的细度后，再泵送到连续球磨机，研磨得到成品泥浆。
- ③ 现有陶瓷厂，如果采用的是普通球磨机，通过增加连续球磨机，产量可以增加 1 倍以上。
- ④ Suitable for all raw materials or ceramics factory that not use slurry/homogenation or continuous feeder.
- ⑤ After milling by the common ball mill to certain fineness, the materials are pumped into continuous ball mill for finished slurry milling.
- ⑥ More than one time of output can be increased if continuous ball mill is used.



球磨机内衬  
BALL MILL LINING



铝含量 Alumina Content	比重 Specific Gravity (g/cm <sup>3</sup> )	莫氏硬度 Mohs Hardness	抗压强度 C-Compression Strength (kgf/cm <sup>2</sup> )	磨耗 Milling Loss (%/24h)	吸水率 Water Absorption (%)
93	3.65	9	2000	0.1	0.05
90	3.55	9	2000	0.1	0.01
85	3.35	9	1400	0.15	0.01
75	3.25	8	1190	0.15	0.01
65	2.95	7	1000	0.25	0.015

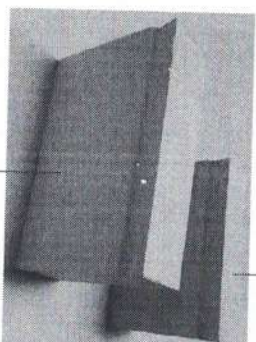
项目 Item	氧化铝 Alumina (%)	体积密度 Volume Density (t/m <sup>3</sup> )	莫氏硬度 Mohs Hardness	颜色 Color	磨损率 Wearing Consumption (%/h)	衬砖磨耗 Lining Brick Consumption (%/h)
氧化铝 Alumina (%)	65	3.9	7-8	白或象牙白 White or Ivory White	≤ 0.05	≤ 0.02
氧化铝 Alumina (%)	75	3.25	7-8	棕色 Dark Brown	≤ 0.02	≤ 0.02



橡胶衬  
Rubber lining



高铝衬砖  
High aluminum lining tile



中铝衬砖  
Mid aluminum lining tile

中高铝衬砖  
Mid-high aluminum lining tile