

Full-Directional Planetary Ball Mill



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Overview

KFD series planetary ball mill has four ball grinding tanks installed on one disc. When the turn disc rotates, the mill pots revolve on their own axis and make 360 degree rotation. And the balls in the tanks grind and mix samples in high speed movement. The product can smash and blend various products of different materials and granularity with dry or wet methods. Minimum granularity of ground samples can be as small as 0.1 micron meter. It is widely used in the fields of Geology, Mining, Metallurgy, Electronics, Construction Material, Ceramics, Chemical Engineering, Light Industry Medicine, Environmental Protection etc.

Planet disk turnover rolling

Motor for turnover rolling can be controlled for stop and lock. 360 degrees turnover makes grinding jars rotating in multiply directions without any dead angle.



Distinct designed gear with good stability and lower noise.

Distinct gear with noise of 15-20db less than that of the same model.bottom for some materials.

Elegant process and fine workmanship

500 thousand high-end mold molding,
3million precision machine manufacturing
exquisite and durable.



Working Principle

KFD series planetary ball mill has four ball grinding tanks installed on one disc. When the turn disc rotates, the mill pots revolve on their own axis and make 360 degree rotation. And the balls in the tanks grind and mix samples in high speed movement. The product can smash and blend various products of different materials and granularity with dry or wet methods. Minimum granularity of ground samples can be as small as 0.1 micron meter. It is widely used in the fields of Geology, Mining, Metallurgy, Electronics, Construction Material, Ceramics, Chemical Engineering, Light Industry Medicine, Environmental Protection etc.



Feature

- The machine makes 360 degree planetary movement without any dead corner, so the ground powder is much smaller and more even
- Gear transmission ensures to keep consistency and repeatability of experiment.
- You may get four different powder samples at one time.
- Variable frequency controlled and program controlled.
- It solves the problems of materials sinking and sticking to the pot.

Advantages

A wide range of powder can be ground by our planetary ball mill with different mill jars and balls, such as ore powder, fluorescent powder, glass powder, pigment powder and so on. Following are some powder samples for your reference.

Application Cases of Planetary Ball Mill



Before grinding



After grinding

Material : Active carbon
 Material weight : 50g
 Mill Jar & Balls : Corundum mill jars and zirconia balls
 Grinding method : Dry grinding
 Rotation speed : 560rpm
 Applied equipment : Planetary ball mill Model No.XQM-0.4A
 Total volume : 1000mlx4=4000ml
 Grinding time : 2hours
 Granularity : 2µm



Before grinding



After grinding

Material : Kaolin
 Material weight : 500g
 Mill Jar & Balls : PTFE
 Grinding method : Dry grinding
 Rotation speed : 450rpm
 Total volume : 1Lx4=4L
 Spent time : 1hour 20 minutes
 Feed size : 2mm
 Granularity of output : 100µm



Material : Green tea (dry)
 Material weight : 0.25kg
 Mill Jar & Balls : Stainless steel
 Grinding method : Dry grinding
 Applied equipment : Planetary ball mill Model No.XQM-2
 Total volume : 0.5Lx4=2L
 Spent time : 1hour

Application Technical parameter

Drive Mode	Gear drive and belt drive
Operation Mode	Two or four grinding jars working together
Maximum Loading Capacity	2/3 of the total volume of milling jars
Feeding Size	Soil material≤10mm, other materials≤3mm
Output Granularity	Smallest granule reaches 0.1µm
Rotational Speed Ratio	1:2
Max.Continuous Operating Time	48 Hours
Materials of Jar	stainless steel,agate,nylon,corundum,zirconia,etc

Technical Parameter Table

Main Parameters of Full-Directional Planetary Ball mill								
Model No	Power (KW)	Voltage	Dimension (mm)	Revolution Speed (rpm)	Rotation Speed (rpm)	Noise <db	Total Timing (min)	Alternating Run Time of Forward & Reversal Rotation(min)
KFD-2	0.75	220V-60Hz	1330x770x850	35-335	70-670	60±5	1-9999	1-999
KFD-4	0.75	220V-60Hz	1330x770x850	35-335	70-670	60±5	1-9999	1-999
KFD-6	0.75	220V-60Hz	1330x770x850	35-335	70-670	60±5	1-9999	1-999
KFD-8	1.5	220V-60Hz	1360x850x930	35-290	70-580	60±5	1-9999	1-999
KFD-10	1.5	220V-60Hz	11330x770x850	35-290	70-580	60±5	1-9999	1-999
KFD-12	1.5	220V-60Hz	1330x770x850	35-290	70-580	60±5	1-9999	1-999
KFD-16	3	220V-60Hz	1530x940x1100	30-255	60-510	60±5	1-9999	1-999
KFD-20	4	220V-60Hz	1700x1210x1300	25-215	50-430	60±5	1-9999	1-999
KFD-40	5.5	220V-60Hz	1900x1450x1480	20-195	40-390	60±5	1-9999	1-999

Measurement of Full-directional Planetary Ball Mill				
Model No	Motor (KW)	Control Mode	Net Weight(kg)	Dimensions(mm)
KFD-2	0.75	Frequency Contro	317	1330x770x850
KFD-4	0.75	Frequency Contro	317	1330x770x850
KFD-6	0.75	Frequency Contro	317	1330x770x850
KFD-8	1.5	Frequency Contro	420	1360x850x930
KFD-10	1.5	Frequency Contro	420	1330x770x850
KFD-12	1.5	Frequency Contro	420	1330x770x850
KFD-16	3	Frequency Contro	550	1530x940x1100
KFD-20	4	Frequency Contro	1150	1700x1210x1300
KFD-40	5.5	Frequency Contro	1400	1900x1450x1480

Available Size of Mill Jar for Full-directional Planetary Ball Mill				
Model No	Specifications	Volume of each matched pot	Quantity	Remarks
KFD-2	2L	50-500ML	4pcs	Can be matched with 50ml-250ML vacuum mill jar
KFD-4	4L	250-1000ML	4pcs	Can be matched with 50ml-1000ML vacuum mill jar
KFD-6	6L	1-1.5L	4pcs	Can be matched with 50-1000ML vacuum mill jar
KFD-8	8L	1-2L	4pcs	Can be matched with 50--1500ML vacuum mill jar
KFD-10	10L	1-2.5L	4pcs	Can be matched with 1-1.5L vacuum mill jar
KFD-12	12L	1-3L	4pcs	Can be matched with 1-2L vacuum mill jar
KFD-16	16L	2-4L	4pcs	Can be matched with 2-3LL vacuum mill jar
KFD-20	20L	2-5L	4pcs	Can be matched with 2-4LL vacuum mill jar
KFD-40	40L	5-10L	4pcs	Can be matched with 5L vacuum mill jar

Accessory

We provide all kinds of mill pots in any matched size, which are made from following materials of agate, Alumina corundum ceramics, zirconia ceramics, silicon nitride ceramics, carborundum ceramics, stainless steel, high wear resistant steel, manganese steel, nylon, PU, cemented carbide, crystal glass, and etc.

Material	Volume of Mill Jar	Diameter of Mill Ball	
Stainless Steel	50ml,100ml,250ml,500ml,1L,1.5L,2L,2.5L,3L,4L	1-30mm	
Stainless Steel (for vacuum)	50ml,100ml,250ml,500ml,1L,1.5L,2L,3L,4L,5L	1-30mm	
Zirconia	50ml,100ml,250ml,500ml,1L,1.5L,2L,3L,4L	1-30mm	
Alumina	50ml,100ml,250ml,500ml,1L,1.5L,2L,3L	1-50mm	
Tungsten Carbide	50ml,100ml,250ml,500ml,1L,1.5L	3-10mm	
Agate	50ml,100ml,150ml,250ml,300ml,400ml,500ml,1L,1.5L,2L	6-35mm	
Nylon	50ml,100ml,250ml,500ml,1L,1.5L,2L,2.5L,3L,4L	\	
PU	50ml,100ml,250ml,500ml,1L,1.5L,2L,2.5L,3L,4L	\	
PTFE	50ml,100ml,250ml,500ml,1L,1.5L,2L,2.5L,3L,4L	\	