



INSTRUCTION MANUAL

MICRO BALL MILL M-MBM-100



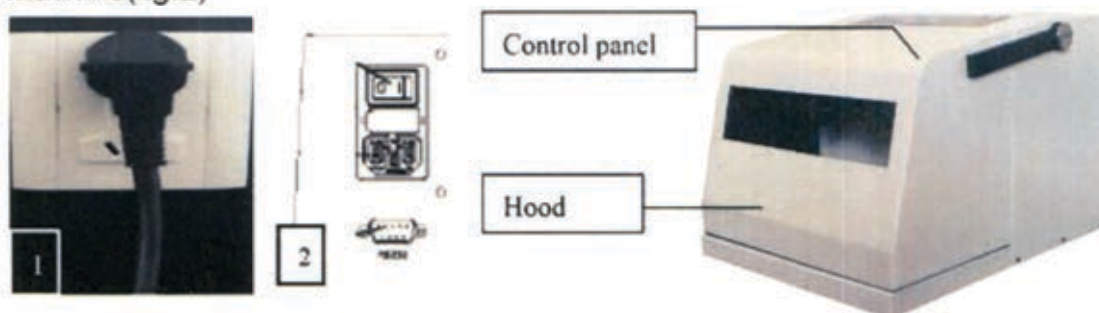
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Oscillating ball mill

Before use this guide ,please thoroughly read the operating instructions .This guide is designed for the convenience of using personnel operation . Do not assume any legal liability!

1. Ensure the voltage and frequency for the MBM-100 are given on the type plate , connect the machine to the power supply system using the supplied connection cable(fig.1), and turn on the power switch on the back of the machine(fig.2)



2. Fill the appropriate grinding ball to the jar according the below table ,Generally,1/3 sample , 1/3 grinding ball , 1/3grinding space , then screw the grinding jar

Milling cup volume in ml	Milling material quantity in ml min-max	Ball filling optional number dia.in mm	Max.charging grain size in mm							
			ø5m m	ø7mm	ø9/10mm	ø12mm	ø 20mm	ø 25mm	ø 30 mm	
1.5 ml	0.2 - 0.5 ml	1mm	1-2pc							
5.0 ml	0.5 - 2.0 ml	2mm		1-2pc						
10.0 ml	2.0 - 4.0 ml	4mm			1-2pc	1-2pc				
25.0 ml	4.0 - 10.0 ml	6mm				2pc	1pc			
35.0 ml	6.0 - 15.0 ml	6mm					1pc	1pc		
50.0 ml	8.0 - 20.0 ml	8mm						1pc	1pc	

3. open the hood of the machine, clamp the grinding jar to the clamping device centering points:

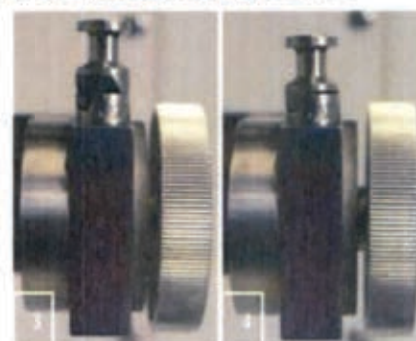
A. Remove the locking pin upwards from the groove and turn through 90° (fig.3)

B. Turn the handwheel counter clockwise until the max . Clamping range is reached

C. Turn the locking pin back through 90° until it engages in the groove again

D. Insert milling cup and press lightly into the centering point, turn the handwheel clockwise with

two fingers until the milling cup just fits, free of play , in the holder, then continue to turn the handwheel clockwise ,while at the same time the locking pin is raised and lowered with clearly audible clicks.



To remove the milling cup lift the locking pin and turn the handwheel in the opposite direction to

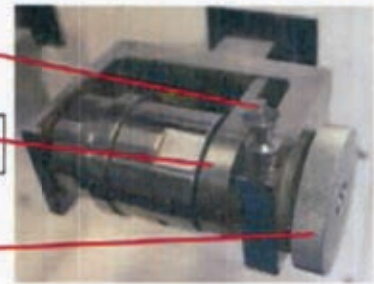
tighten. If the locking pin is hard to lift, you can tighten the handwheel, the pin will be easy to lift.

Attention: In order to guarantee quiet running of the MBM-100 both milling positions must be loaded with approximately the same mass.

locking pin

centering points

handwheel



4. Close the hood, and set the milling parameter:(fig6)



After connect to the power supply, You can set below parameter 

increase  decrease

5. Press the START button, the milling is starting until the milling time is completely elapsed. During the milling process, you can press Stop to suspend the milling.

6. Open the hood, screw the handwheel and remove the grinding jar, collect the sample. then clean the grinding jar and ball and dry in air or in 80° to prevent corrosion. At the last, turn off the power switch, unplug the power cable.

7. If the sample need cryogenic milling, please put the filled grinding jar into the liquid nitrogen for 5-7 minutes, after the ebullition end, use the special clamp to fit the grinding jar to the machine. If you use the Eppendorf tube to process the biological sample, you need suitable PTFE accessories.

More information please see the detailed operating instruction.

