Version : 2025 Rev.0

Disk Mill

SH-DISKMILL200

SH SCIENTIFIC

TABLE OF CONTENTS

Please read this manual thoroughly before use.
Incorrect usage may lead to safety hazards or equipment malfunction.

1. General Description

Thank you for purchasing our product.
This manual provides details regarding the features, external structure, installation procedures, operation methods, specifications, and troubleshooting of the Disk Mill.
Please read the manual carefully to ensure safe and effective operation.

Our team is committed to prioritizing customer satisfaction and delivering the highest quality products.

2. Graphic Symbols

Prohibited during use and maintenance

Caution during use and maintenance

Risk of electric shock

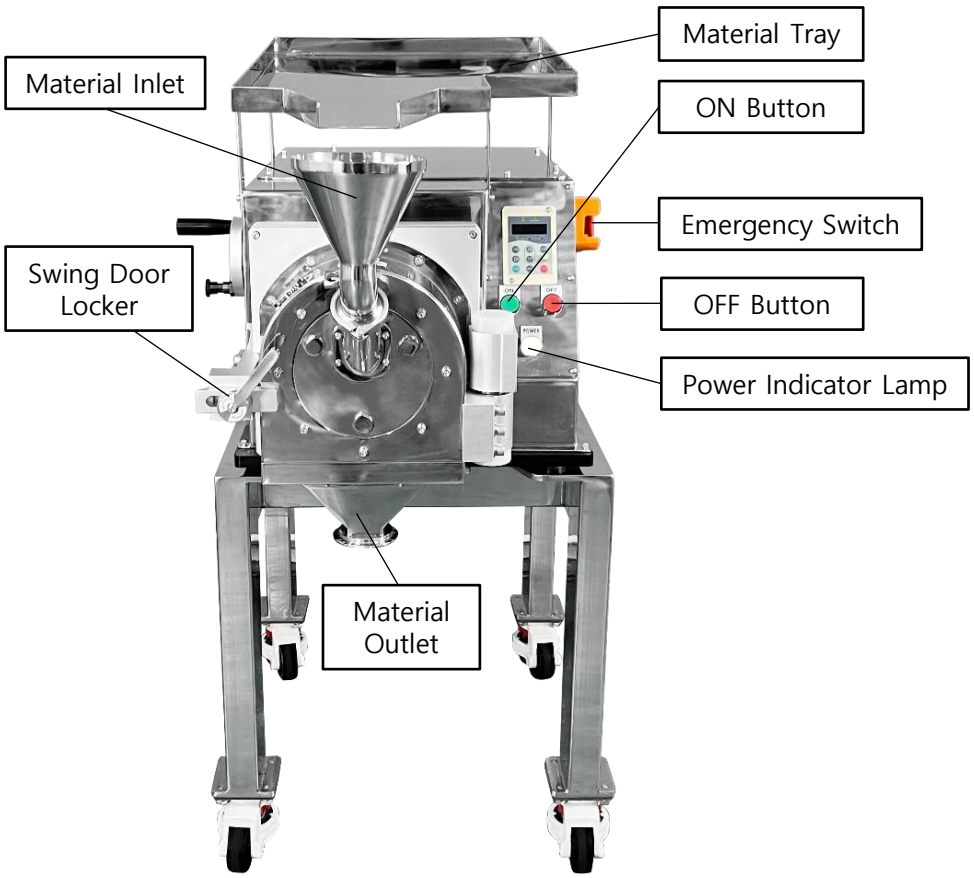
Risk of explosion

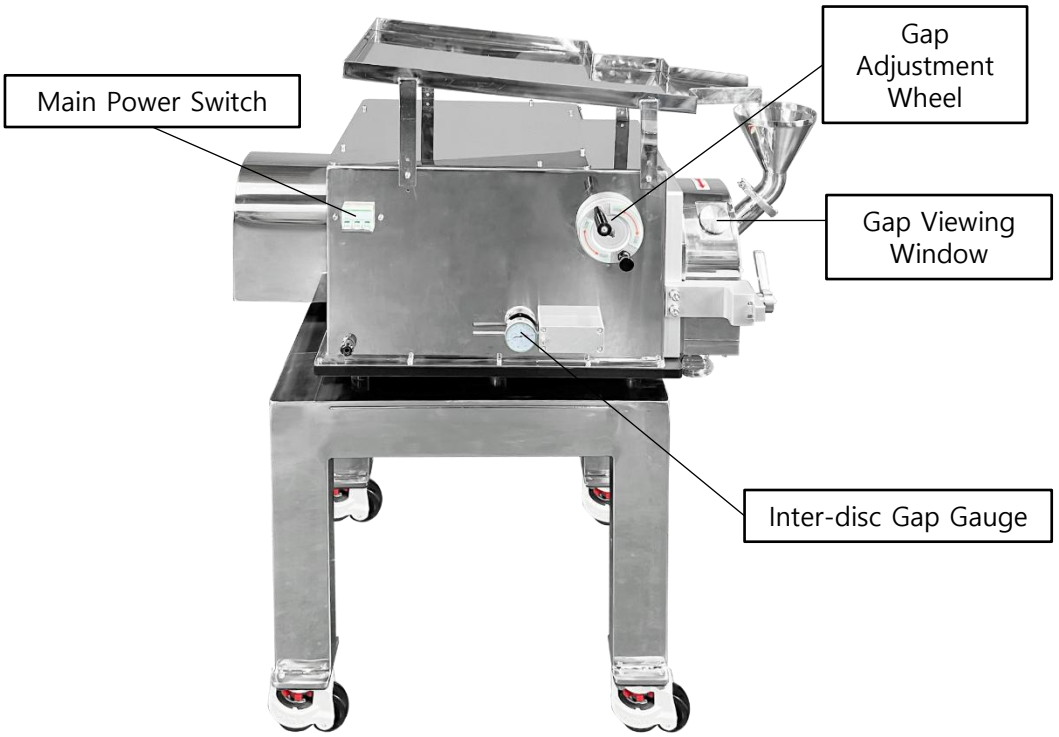
Disassembly prohibited

Fire hazard

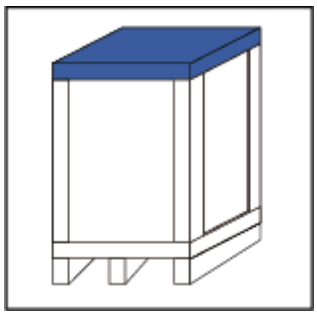
Caution: High temperature / steam

3. External Overview - SH-DISKMILL 200

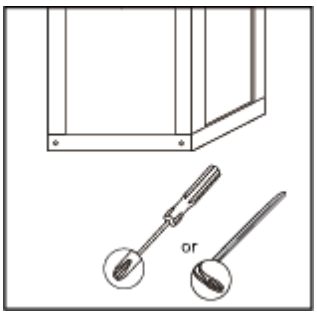




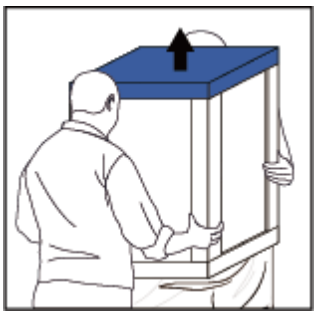
4. Installation



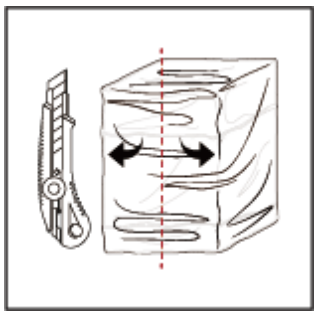
① After receiving the equipment, place it on a flat, level surface.



② Remove the bolts and nails from the wooden packaging crate.



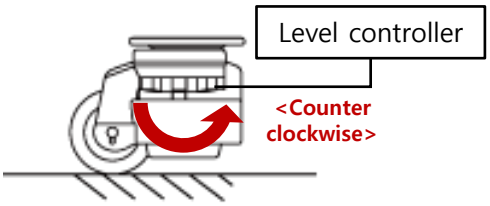
③ Lift the paper packaging box as shown in the diagram.

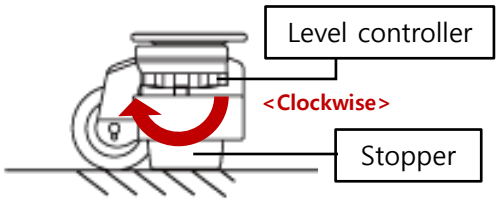


④ Remove the vacuum-sealed protective bag.

⑤ Position the equipment in the desired location.

⑥ Remove any remaining plastic wrap or packaging film.





<Unlock position>
- For equipment relocation

<Lock position>
- When installation is complete or when stationary

When installing equipment, turn the level controller clockwise to secure stopper on the floor.

Pre-Operation Check

1. Conduct a no-load test before starting.
2. Turn Gap Adjustment Wheel to test smooth movement.
3. Ensure the installation site is stable and level to avoid compromising equipment durability.
4. Do not rotate Gap Adjustment Wheel past the zero point on Inter-disc Gap Gauge.
5. Ensure that the material hardness does not exceed that of the grinding discs.

Note: The grinding discs are made of zirconia (ZrO_2) with vickers hardness of 1200–1400 HV.

※ Refer to the material compatibility chart for guidance on grinding requirements.

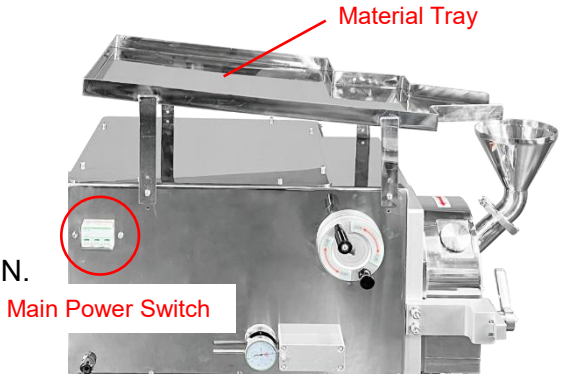
Material type	Description	Recommended Handling
Hard materials such as Tungsten Carbide, Boron Carbide, Silicon Nitride	Harder than Zirconia or similar (HV1800~3200)	Can't be handled so pre-crushing is recommended before introducing to the mill.
Natural Diamond, Lab Diamond	Harder than Zirconia (HV 8000 or above)	Can't be handled
Aluminum oxide	Has similar hardness as Zirconia	Small amount or powders can be used but repeated use can cause wear out of the disk Pre-crushing is recommended to make the size of material to smaller.
Sapphire	Similar hardness as Zirconia and has a hard crystal structure	Can be used with careful attention
Materials mixed with metal such as stainless steel, iron and copper		Need to remove metal before introducing into disk mills.
Large crystal mineral	Low hardness but large materials such as quartz and Feldspar	Pre-crushing is recommended
Slag, metal sludge	Irregular composition and may contain metal material	Need to remove metal before introducing into disk mills.

Important Notes

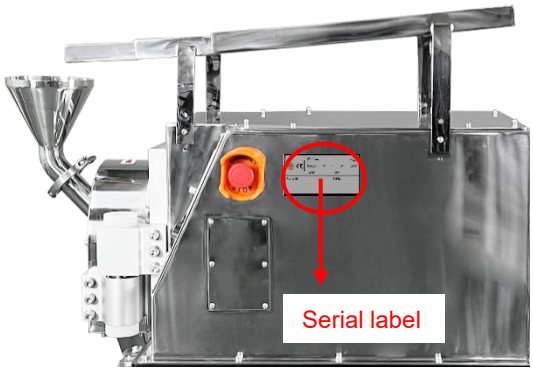
- **Clogging Risk:** Soft, fatty, and fibrous materials can cause buildup inside the grinding chamber. Always evaluate the sample condition before processing.
- **Contamination Control:** Clean the grinding disks thoroughly between samples to prevent cross-contamination.
- **Temperature Sensitivity:** For heat-sensitive or fat-rich samples, freezing reduces smear and improves grinding results.
- **Pre-Grinding:** For very hard materials, using a jaw crusher or pre-crusher extends the disk mill's service life.

5. Operation

1. Place the material to be ground onto the Material Tray.



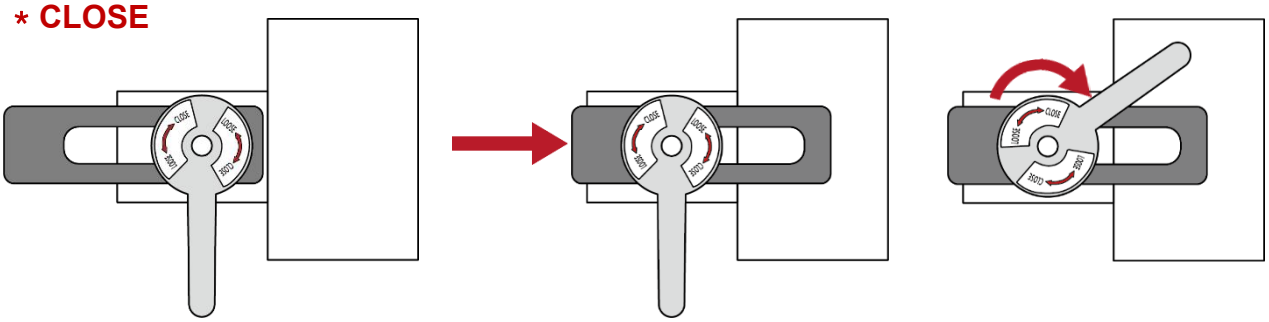
2. Check the power specifications on the Serial Label and connect the power cable. Turn the Main Power Switch to ON.



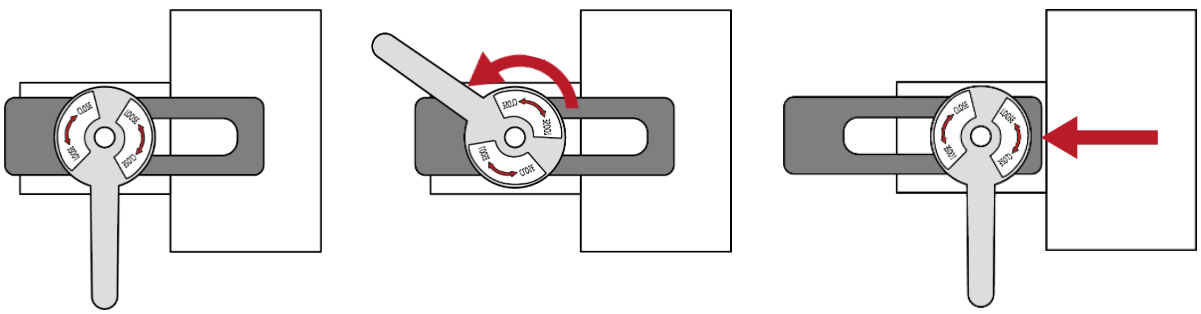
3. The Power Indicator Lamp on the front panel will light up.

4. Rotate the Swing Door Locker clockwise to close it.

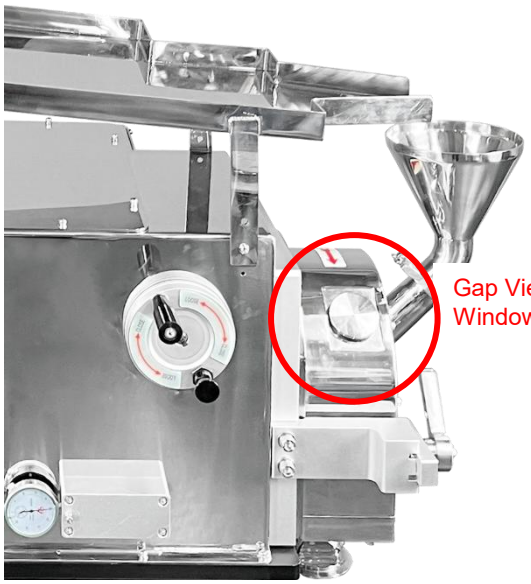
*** CLOSE**



*** OPEN**



5. Open Gap Viewing Window and rotate Gap Adjustment Wheel to adjust the gap between the fixed and rotating disc.



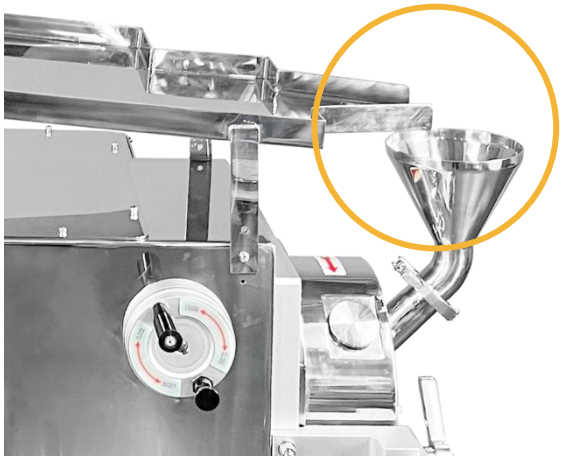
Disc gap opening

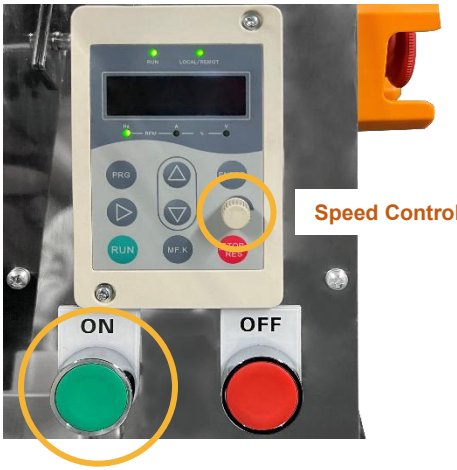
Disc gap closing

6. Use the provided Clearance Gauge to measure the disk spacing. (Note: The set gap does not guarantee final particle size.)

Clearance Gauge

7. Close Gap Viewing Window, insert the material into the Material Inlet, adjust the frequency using the Speed Controller Knob, then press the ON Button to start operation.





Speed Controller Knob

8. Ground material is discharged through the Material Outlet. If the particle size is not as desired, adjust the spacing using Gap Adjustment Wheel.

6. Specifications

Model		SH-DISKMILL200
Maximum Feed Particle Size		Max. 30mm ~ 35mm
Final Particle Size		0.1 ~ 5mm
Material Recovery Rate		≥90%
Material	Rotating Disc Fixed Disc	ZrO_2 (Zirconia), 200 diameter
	External Case	Stainless Steel 304
Clearance Gauge		0~30mm , 0.01mm
Disk Speed		100 ~ 1000 R.P.M (500RPM is ideal) By Inverter
Dimension External (W×D×H)		600 x 960 x 1250 mm
Electrical Power		380V, 3Φ, 1.5KW

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