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PRODUCT CATALOG / Planetary Mills

Air-Cooled Planetary Ball Mill

Air-cooled planetary configuration

Generated 2026-10-21 22:41:41 CST (UTC+08:00)
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TENCAN / PRODUCT INFORMATION

Air-Cooled Planetary Ball Mill

Air-cooled planetary configuration | Generated 2026-10-21 22:41:41 CST (UTC+08:00)

A planetary mill combined with a refrigerated air-cooling unit.

Overview

A planetary mill combined with a refrigerated air-cooling unit. It provides a way to manage the working environment around the milling assembly when heat generation is part of the selection problem.

How it works

Refrigerated air circulates around the milling area to remove heat. The product information describes a 5–15 °C working-area reference, while actual sample temperature depends on the base mill, cooling capacity and operating conditions.

Key features

- Air cooling is a system configuration, rather than a single universal mill model.
- The product information describes compatibility proposals for vertical, omnidirectional and horizontal planetary platforms.

- Working-area temperature and temperature inside the sample are separate quantities.

Specifications

Published catalog references are reproduced below. Nominal volume is not a sample-mass rating. Confirm the selected model, material grade, electrical supply and complete supplied configuration in the quotation.

Air-cooled system reference

Item	Published description
Cooling method	Refrigerated air circulation around the working area
Working-area temperature reference	5–15 °C; depends on equipment and operating conditions
Permitted base platforms	Vertical, omnidirectional and horizontal proposals; confirm the exact configuration
Drive reference	Gear-driven planetary base
Jar arrangement reference	Two or four jars operating together
Published combined sample + media limit	Up to two-thirds of jar volume; actual working load must be checked
Cooling power / supplied utilities	Confirm for the selected base mill and cooling unit
Sample-temperature measurement	Location and test conditions to be agreed

Applications

Temperature-sensitive milling studies and processes in which frictional heating changes sample behaviour.

Suitability depends on the actual sample, process and analytical requirements; a listed application is not a guaranteed final-particle-size result.

Accessories and options

Specify the base planetary platform, cooling unit, jar and media combination, and required controls. Confirm the supplied electrical arrangement and installation requirements for the complete system.

- Jar and media: confirm material, volume, holder fit and the complete working load.
- Vacuum or gas requirements: specify the complete jar, lid and seal arrangement; no pressure

rating is assumed.

- Utilities and supply scope: state voltage, frequency, phase, destination and required documents; confirm included versus optional items.

Compare milling jars · Compare grinding media · Air-cooled systems · Ultrasonic-assisted systems

Selection guidance

Provide the sample temperature limit, room conditions, intended operating schedule and proposed base mill. Agree where temperature will be measured before comparing cooling arrangements.

Work through the selection guide · Request a configuration quotation

Trials and comparisons

Recorded process configuration

Ammonium bicarbonate

XQM with air-cooling equipment · Wet milling with air assistance

- Sample: 60 g
- Jar: Volume not recorded
- Recorded sampling / duration: 60 min sample

Recorded observations

Observation	Sampling time	D50 (µm)	D90 (µm)
Recorded sample	60 min	9.40	18.20

Air-cooling equipment is explicitly mentioned, but no base-model number, jar temperature or uncooled control is reported. The 80 min total includes further processing after the 60 min measured sample.

Recorded process configuration

Polyethylene glycol

XQM with air-cooling equipment · Successive dry-milling observations

- Sample: 12 g
- Jar: 250 mL PTFE jar; agate media
- Recorded sampling / duration: Four successive 30 min stages

Recorded observations

Stage	Speed setting (as recorded)	Recorded jar temperature (°C)
1	100	20
2	200	19
3	300	20
4	500	25

The speed reference/unit and temperature sensor position are not fully documented. Speed and cumulative processing time both changed, so this is not a controlled speed-only experiment. No particle-size result was obtained. It illustrates why cooling-area and sample/jar temperatures must be distinguished.

How to plan a fair comparison

Request matched cooled and uncooled runs with sample-temperature logging. Existing air-cooled records are observations under their recorded conditions, not a controlled proof of a universal cooling advantage.

These anonymous records are not operating instructions. Measurement and dispersion methods are not fully specified in the test summaries; results apply to the reported samples and conditions.

Discuss a matched sample evaluation

Plan your milling configuration.

TENCAN develops and manufactures planetary milling equipment, with application support in Changsha and a production base in Wushi, Hunan.
Share your material, batch size, target particle size and contamination limits. Our team can help confirm the mill, jars, media and electrical requirements, or arrange a sample grinding evaluation.
Reference information applies to the described models and conditions. Confirm the final specification and supplied accessories with TENCAN before ordering.
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Product page https://www.planetaryballmill.com/planetary-ball-mills/air-cooled.html
Sample grinding www.planetaryballmill.com/sample-testing/