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PRODUCT CATALOG / Planetary Mills

Laboratory Full-Directional Planetary Ball Mill

QXQM laboratory series

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An full-directional planetary mill that adds a tumbling motion to the revolving disc and rotating jars.

Overview

An full-directional planetary mill that adds a tumbling motion to the revolving disc and rotating jars. It is intended for laboratory work where sample movement, settling or adhesion needs closer attention.

How it works

Planetary milling continues while the assembly changes orientation through a 360° tumbling motion. This changes the direction of gravity relative to the jar contents; it does not guarantee that every material will remain dispersed.

Key features

- Published laboratory QXQM models range from 0.4 L to 12 L nominal capacity.

- The tables list four jar positions, compatible jar sizes and model-specific speed, power and mass.
- The product information offers conventional or touchscreen/PLC control arrangements, subject to the supplied configuration.

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.

Model specifications — 1

Model	Nominal capacity	Compatible jar volume	Jar positions	Compatible vacuum jar volume
QXQM-0.4	0.4L	25-100mL	4	—
QXQM-1	1L	50-250mL	4	—
QXQM-2	2L	50-500mL	4	50-250mL
QXQM-4	4L	0.25-1L	4	50-500mL
QXQM-6	6L	1-1.5L	4	50-1000mL
QXQM-8	8L	1-2L	4	50-1500mL
QXQM-10	10L	1-2.5L	4	1-2L
QXQM-12	12L	1-3L	4	1-2L

Model specifications — 2

Model / nominal volume	Electrical supply	Motor power (kW)	Programmable run time (min)	Reversing interval (min)	Adjustable speed / Revolution speed (rpm)
QXQM-0.4	220V-50Hz	0.25	1-9999	1-999	45-435
QXQM-1	220V-50Hz	0.75	1-9999	1-999	0-405
QXQM-2	220V-50Hz	0.75	1-9999	1-999	0-405
QXQM-4	220V-50Hz	0.75	1-9999	1-999	0-405
QXQM-6	220V-50Hz	0.75	1-9999	1-999	0-335
QXQM-8	220V-50Hz	1.5	1-9999	1-999	0-290
QXQM-10	220V-50Hz	1.5	1-9999	1-999	0-290
QXQM-12	220V-50Hz	1.5	1-9999	1-999	0-290

Model specifications — 3

Model / nominal volume	Adjustable speed / Jar rotation speed (rpm)	Published noise level (dB)
QXQM-0.4	90-870	—
QXQM-1	0-810	60±5
QXQM-2	0-810	60±5
QXQM-4	0-810	60±5
QXQM-6	0-670	60±5
QXQM-8	0-580	60±5
QXQM-10	0-580	60±5
QXQM-12	0-580	60±5

Model specifications — 4

Model / nominal volume	Motor power	Speed control	Revolution : rotation ratio	Machine mass (kg)	Dimensions (mm)
QXQM-0.4	250W	Variable-frequency control	1:2	136	900*570*667
QXQM-1	0.75kW	Variable-frequency control	1:2	305	1330*810*860
QXQM-2	0.75kW	Variable-frequency control	1:2	305	1330*810*860
QXQM-4	0.75kW	Variable-frequency control	1:2	305	1330*810*860
QXQM-6	0.75kW	Variable-frequency control	1:2	305	1330*810*860
QXQM-8	1.5kW	Variable-frequency control	1:2	430	1360*850*930
QXQM-10	1.5kW	Variable-frequency control	1:2	430	1360*850*930
QXQM-12	1.5kW	Variable-frequency control	1:2	430	1360*850*930

Model specifications — 5

Parameter	Published reference
Drive	Gear drive
Jar arrangement	Two or four jars simultaneously
Published combined sample + media limit	Up to two-thirds of jar volume, sample and media combined
Speed control	Stepless variable-frequency control

Applications

Powder mixing, materials research and trials involving samples that settle, cake or adhere during conventional planetary milling.

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

Accessories and options

Discuss compatible jars, media, vacuum arrangements and the control interface. Cooling and other assistance need to be specified for the chosen QXQM model.

- 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](#) · [Low temperature planetary grinding machines](#) · [Ultrasonic planetary ball mills](#)

Selection guidance

Consider the sample's flow and adhesion behaviour, jar size and the permitted mass of the complete jar assembly. Review a trial before assuming that tumbling will solve a material-specific problem.

[Work through the selection guide](#) · [Request a configuration quotation](#)

Trials and comparisons

Equipment-family reference

Lithium iron phosphate

QXQM; exact capacity not recorded · Dry milling; horizontal configuration recorded

- Sample: 120 g
- Jar: 500 mL
- Recorded sampling / duration: 150 min

Recorded observations

Observation	Sampling time	D50 (μm)	D90 (μm)
Recorded sample	150 min	1.33	2.74

The record identifies QXQM, not WXQM or a production QXQM capacity. D99 was requested but not reported. Atmosphere, contamination and measurement methods need confirmation.

How to plan a fair comparison

Request a matched comparison of conventional and tumbling operation. Keep the sample, jar, media and measurement procedure consistent, and record wall adhesion and temperature as well as particle size.

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/laboratory-full-directional-planetary-ball-mill.html>

Sample grinding www.planetaryballmill.com/sample-testing/