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Laboratory planetary grinder

XQM

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Laboratory planetary grinder for grinding, mixing and sample preparation, with published XQM-A configurations from 0.4 L to 16 L.

Overview

The Laboratory planetary grinder is a TENCAN laboratory machine for grinding, mixing and sample preparation. The English catalog publishes nine XQM-A configurations from 0.4 L to 16 L, each with four jar positions.

How it works

The planetary disk revolves while the grinding jars rotate. Impact and friction between the media and sample provide the grinding and mixing action. Select the actual jar, media and process conditions for the material.

Key features

- Four jar positions with model-dependent jar compatibility.
- Variable-frequency speed control and timed forward/reverse operation.

- Published configuration tables identify supply, power, speeds, mass and equipment dimensions.

Specifications

Published English catalog specifications. Nominal jar capacity is not a sample-mass rating. Confirm the supplied configuration in the quotation.

Basic configuration parameters

Model	Specification	Compatible Grinding Jar Specification	Quantity	Compatible Vacuum Grinding Jar Specification	Equipment Weight (kg)	Equipment Dimensions (mm)
XQM-0.4A	0.4L	25-100mL	4 pcs.	Compatible with 50mL Vacuum Grinding Jars	29	500×300×340
XQM-1A	1L	50-500mL	4 pcs.	Compatible with 50-250mL Vacuum Grinding Jars	85	760×470×600
XQM-2A	2L	50-500mL	4 pcs.	Compatible with 50-250mL Vacuum Grinding Jars	85	760×470×600
XQM-4A	4L	250-1000mL	4 pcs.	Compatible with 50-500mL Vacuum Grinding Jars	85	760×470×600
XQM-6A	6L	1-1.5L	4 pcs.	Compatible with 50-1000mL Vacuum Grinding Jars	85	760×470×600
XQM-8A	8L	1-2L	4 pcs.	Compatible with 50-1500mL Vacuum Grinding Jars	150	880×560×642
XQM-10A	10L	1-2.5L	4 pcs.	Compatible with 1-2L Vacuum Grinding Jars	150	880×560×642
XQM-12A	12L	1-3L	4 pcs.	Compatible with 1-2L Vacuum Grinding Jars	150	880×560×642
XQM-16A	16L	2-4L	4 pcs.	Compatible with 1-3L Vacuum Grinding Jars	205	950×600×710

Performance parameters

Model	Power Supply	Power Phase	Motor Power(kW)	Speed Regulation Method	Preset Running Total Time(min)	Alternating Forward/Reverse Running Time(min)	Planetary Disk Speed(rpm)	Grinding Jar Speed (rpm)	Speed Ratio	Noise(dB)
XQM-0.4A	220V 50Hz	Single-phase	0.25kW	Variable-Frequency Speed Control	1-9999	1-999	0-435	0-870	1:2	58±5
XQM-1A	220V 50Hz	Single-phase	0.75kW	Variable-Frequency Speed Control	1-9999	1-999	0-405	0-810	1:2	60±5
XQM-2A	220V 50Hz	Single-phase	0.75kW	Variable-Frequency Speed Control	1-9999	1-999	0-405	0-810	1:2	60±5
XQM-4A	220V 50Hz	Single-phase	0.75kW	Variable-Frequency Speed Control	1-9999	1-999	0-405	0-810	1:2	60±5
XQM-6A	220V 50Hz	Single-phase	0.75kW	Variable-Frequency Speed Control	1-9999	1-999	0-335	0-670	1:2	60±5
XQM-8A	220V 50Hz	Single-phase	1.5kW	Variable-Frequency Speed Control	1-9999	1-999	0-290	0-580	1:2	60±5
XQM-10A	220V 50Hz	Single-phase	1.5kW	Variable-Frequency Speed Control	1-9999	1-999	0-290	0-580	1:2	60±5
XQM-12A	220V 50Hz	Single-phase	1.5kW	Variable-Frequency Speed Control	1-9999	1-999	0-290	0-580	1:2	60±5
XQM-16A	380V 50Hz	Three-phase	3kW	Variable-Frequency Speed Control	1-9999	1-999	0-255	0-510	1:2	65±5

Applications

Laboratory materials research and preparation of ceramic powders, battery materials, catalysts, mineral samples and other compatible materials. Establish the required particle-size measurement and contamination limits before comparing results.

Accessories and options

Confirm compatible planetary mill jars, grinding balls, clamps and any vacuum jar arrangement for the selected XQM-A model. Cooling and ultrasonic assistance require separate configuration confirmation.

Selection guidance

Select the XQM-A model from the published jar sizes, required sample quantity, speed range, supply, installed dimensions and loaded mass. Compare the standard micro and vertical square machines on their dedicated pages.

Choosing a Planetary Mill

Trials and comparisons

Equipment-family reference

Silica

XQM; exact model not recorded · Dry milling

- Sample: 176 g
- Jar: 500 mL alumina/corundum jar
- Recorded sampling / duration: 45 min

Recorded observations

Observation	Sampling time	D50 (μm)	D90 (μm)
Starting sample	Before milling	26.15	58.62
Recorded sample	45 min	1.77	3.69

This is an XQM-family record, not verification of every XQM model. The requested 1 μm target was not demonstrated. Exact ceramic/media grades and measurement/dispersion methods are not supplied.

Equipment-family reference

Copper powder

XQM-0.4A · Wet milling

- Sample: 51 g
- Jar: 100 mL
- Recorded sampling / duration: 60 min

Recorded observations

Observation	Sampling time	D50 (μm)	D90 (μm)
Recorded sample	60 min	9.88	15.28

The exact XQM-0.4A model is recorded. No starting distribution or measurement method is supplied. D90 15.28 μm does not demonstrate that all particles were below the requested 10 μm limit.

How to plan a fair comparison

Compare the same material on candidate platforms with documented jars, media and analytical methods. Family-level workbook examples help frame a test but do not rank all platforms.

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.

Email lichang0516@gmail.com

Phone / WhatsApp +86 19021571516

Product page <https://www.planetaryballmill.com/planetary-ball-mills/laboratory-planetary-grinder.html>

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