TDD TECHNIC

PRODUCT CATALOGUE · 2026

TAM SERIES

BEADS MILL

An agitated bead mill system for dry grinding down to **ultrafine** particle sizes.



MICRONIZED MINERAL PRODUCTION TECHNOLOGIES

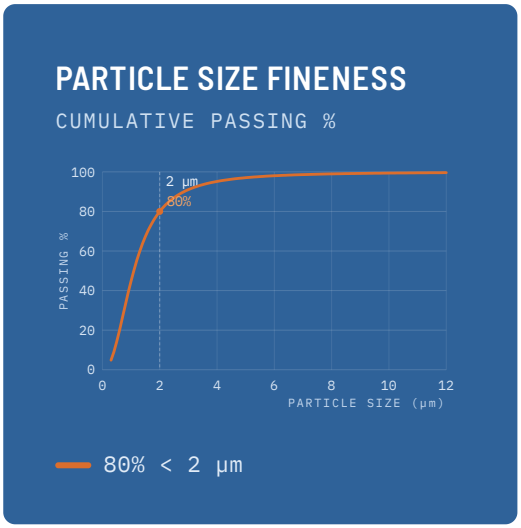
tddtechnic.com

ULTRAFINE DRY GRINDING SYSTEM

The TAM Beads Mill is a high-efficiency agitated bead mill developed for the dry grinding of soft industrial minerals — primarily calcite — down to ultrafine particle sizes. Products with high fineness and high specific surface area can be achieved, down to d50 ≤ 1 µm.

A dedicated agitator geometry and an optimized bead bed transfer the grinding energy directly to the product particles, providing a controlled and stable size-reduction process. The high energy-density design combines optimum energy efficiency with maximum system reliability for economical operation.

Able to operate in a closed circuit with modern air classification systems, it enables the production of high-value micronized products with a narrow particle-size distribution and repeatable process performance.



KEY FEATURES

01

ULTRAFINE RESULT

Controlled, high fineness down to d50 ≤ 1 µm.

02

ENERGY EFFICIENCY

Low specific energy and economical operation through high energy-density grinding.

03

HIGH SPECIFIC SURFACE

Narrow particle-size distribution and high specific surface area.

04

DRY & INTEGRATED

Fully dry process line; closed-circuit operation with the classifier.

05

TAILORED TO SOFT MINERALS

High-efficiency grinding performance on calcite and similar soft minerals.

06

RELIABLE QUALITY

Maximum system reliability and repeatable product quality.

TECHNICAL SPECIFICATIONS & MODELS

MODEL OPTIONS

PARAMETER	TAM-045-D	TAM-090-D
Capacity (calcite)*	0.5 – 1 t/h	1 – 3 t/h
Feed particle size	≤ 100 µm	≤ 100 µm
Product fineness	d50 ≤ 1 µm	d50 ≤ 1 µm
Motor power	200 – 250 kW	355 – 400 kW
Grinding media	Ceramic beads	Ceramic beads
Bead size	3 – 6 mm	3 – 6 mm
Lining material	Al_2O_3	Al_2O_3

* Capacities are approximate values for calcite and vary with material type, feed fineness and target particle size.

APPLICATIONS

- Calcite ($CaCO_3$) — primary application
- Limestone and dolomite
- Talc and similar soft minerals
- Micronized mineral fillers
- Fillers for the paint, plastics and paper industries

WORKING PRINCIPLE

Inside the vertical grinding chamber, the agitator shaft sets a bed of ceramic beads in motion. The high energy-density contact between the beads progressively reduces the product particles to sub-micron sizes. Precise control of grinding-media density and residence time ensures high stability and repeatable quality.

Forms a closed-circuit grinding–classification line together with the **THS Air Classifier**.

WHY TDD TECHNIC

ENGINEERING THE MICRON
UNDER ONE ROOF.

01

ULTRAFINE LEVEL

Original machine design and manufacturing at the ultrafine particle-size level in Türkiye.

02

SINGLE-SOURCE SOLUTION

Engineering, machine manufacturing and spare-part supply under one roof.

03

HIGH EFFICIENCY

An alternative to leading technologies, with energy-efficient and stable process performance.

LET'S BRING YOUR PROJECT TO LIFE

Let's assess your needs with our expert team — request a quotation. →

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