

NEW

**Retsch**<sup>®</sup>  
MILLING SIEVING ASSISTING

# The new MM 500 – Best in class for sample mixing and pulverization

The new Mixer Mill MM 500 is a versatile bench-top unit which has been developed specially for high sample throughput in dry, wet and cryogenic grinding of small sample amounts. This powerful mill mixes and pulverizes powders and suspensions efficiently and quickly down to the nanometer range in shortest time.

## Benefits at a glance:

- Powerful grinding with up to 35 Hz
- Grinding jar volumes 50 ml, 80 ml, 125 ml, pressure-tight up to 5 bar
- New jar design allows full use of volume, also for wet grinding
- 3 different grinding modes (dry, wet or cryogenic)
- Memory for 12 SOPs and 4 program cycles
- Can be controlled via the optional RETSCH App

High  
Performance:  
90 nm in 2 h  
TiO<sub>2</sub>



The robust high-performance drive makes the MM 500 suitable for applications like **mechanical alloying** and **mechanochemistry**. The user-friendly clamping system facilitates safe operation. For periodic sample extraction, the jars remain conveniently clamped.

## At a glance

|                              |  |
|------------------------------|--|
| <b>Application</b>           | Mechanochemistry, mechanical alloying, size reduction, mixing, homogenization, cell disruption, cryogenic grinding   |
| <b>Fields of application</b> | Agriculture, biology, chemistry / plastics, construction materials, engineering / electronics, environment / recycling, food, geology / metallurgy, glass / ceramics, medicine / pharmaceuticals, material science |
| <b>Feed material</b>         | hard, medium-hard, soft, brittle, elastic, fibrous   |

### Performance data

|   |  |
|---|--|
| <b>Size reduction principle</b>         | impact, friction   |
| <b>Material feed size*</b>              | ≤ 10 mm  |
| <b>Final fineness*</b>                  | ~ 0.1 μm   |
| <b>Batch size / feed quantity*</b>      | max. 2 x 45 ml   |
| <b>No. of grinding stations</b>         | max. 2   |
| <b>Setting of vibrational frequency</b> | digital, 3 – 35 Hz (180 – 2100 min <sup>-1</sup> )                 |
| <b>Grinding modes</b>                   | dry, wet, cryogenic  |
| <b>Grinding under inert gas</b>         | yes  |
| <b>Grinding down to nanometer range</b> | yes  |
| <b>Material of grinding tools</b>       | hardened steel, stainless steel, tungsten carbide, zirconium oxide |
| <b>Grinding jar sizes</b>               | 50 ml / 80 ml / 125 ml   |
| <b>Grinding time</b>                    | 5 s – 99 h, digital setting  |
| <b>Storable SOPs</b>                    | 12   |
| <b>No. of storable program cycles</b>   | 4 (with 99 repeats)  |
| <b>Control via RETSCH App</b>           | optional   |

### Technical data

|                          |                    |
|--------------------------|--------------------|
| <b>Power connection</b>  | 1-phase            |
| <b>Protection code</b>   | IP 30              |
| <b>Power consumption</b> | 1 kW               |
| <b>W x H x D closed</b>  | 690 x 375 x 585 mm |
| <b>Net weight</b>        | ~ 90 kg            |
| <b>Standards</b>         | CE                 |

\*depending on feed material and instrument configuration

## Dry grinding of basalt

Grinding of basalt in the MM 500 results in better fineness compared to classic Mixer Mills thanks to the increased frequency of 35 Hz instead of 30 Hz (50 ml jar + 12 x 12 mm grinding balls).

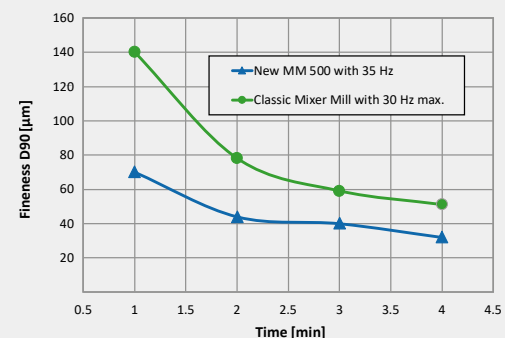
## The new RETSCH App

As the leading solution provider for sample preparation equipment, RETSCH has taken operating convenience to the next level and created the new RETSCH App. This tool makes working with your RETSCH mill easy and convenient:

- Operate your devices via your smart phone or tablet
- Control your devices based on your own application routines
- Access information from the RETSCH database
- Get in touch with the RETSCH service team via the app



Grinding of basalt



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