Drum Mill TM 300

General Information

The TM 300 Drum Mill is used for the preparation of granules and powders. The grinding process is performed either in dry or wet conditions. The drum mill can be operated either as a Ball or as a Rod Mill by using the corresponding module. A sufficient number of balls or rods is required for an effective grinding process. Typically, a final fineness below 20 microns is obtained.

The drum mill consists of a gear motor mounted on a solid steel frame complete with outlet funnel and a set of separation screens plus sample collector. The TM 300 features a yoke and locking mechanism for easy access to the sample. The drum cover is easily removed for cleaning thanks to a quick release locking mechanism.

Adjustment of grinding parameters:
Parameters like grinding time or start and stop are set conveniently via the display. The following factors have an influence on the final particle size: Sample characteristics, maximum feed size and capacity. We will gladly support you in working out the most suitable configuration for your specific application.

Application Examples

alloys, bentonite, bones, carbon fibres, catalysts, cellulose, cement clinker, ceramics, charcoal, chemical products, clay minerals, coal, coke, compost, concrete, electronic scrap, fibres, glass, gypsum, hair, hydroxyapatite, iron ore, kaolin, limestone, metal oxides, minerals, ores, paints and lacquers, paper, pigments, plant materials, polymers, quartz, seeds, semi-precious stones, sewage sludge, slag, soils, tissue, tobacco, waste samples, wood, ...

Product Advantages

- powerful and quick grinding of large quantities
- suitable for dry and wet grinding
- variable speed, reproducible results
- suitable for long-term operations
- ball mill and rod mill modules available
- easy tilt to empty the grinding jar
- solid steel frame
- removable sample collector
- convenient parameter setting via display
- standard sizes of grinding drums from 5 to 43.4 l
- separation grid to separate sample from grinding balls (only for Ball Mill)
- funnel with handles
- guide rail allows for ergonomic removal of drum
- grinding jar with gasket for lossfree operation
- solid noise-protection hood
- emergency switch

Drum Mill TM 300

Features

Applications	pulverizing, mixing
Field of application	agriculture, biology, Chemistry, construction materials, engineering / electronics, environment / recycling, geology / metallurgy, glass / ceramics, medicine / pharmaceuticals
Feed material	soft, hard, brittle, fibrous - dry or wet
Size reduction principle	friction
Material feed size*	< 20 mm
Final fineness*	< 20 µm
Batch size / feed quantity*	minimum 1 l / maximum 20 l
Rotation speed	15 - 80 min^{-1}
No. of grinding stations	1
Material of grinding tools	hardened steel
Grinding drum sizes	5 l / 10 l / 21.7 l / 43.3 l
Setting of grinding time	digital
Drive	3-phase asynchronous motor with frequency converter
Drive power	0.75 kW
Electrical supply data	different voltages
Power connection	1-phase
Protection code	IP 50
Power consumption	~ 750 W (VA)
W x H x D closed	1500 x 1200 x 700 mm
Net weight	~ 295 kg
Standards	CE

Please note:

*depending on feed material and instrument configuration/settings

Videolink

http://www.retsch.com/tm300

Function Principle

In a drum mill the sample (usually pre-crushed material) is placed inside the drum with the grinding media (grinding balls or rods) and subjected to external forces. The Ball Mill and Rod Mill Modules are used for fine grinding of solid matter by impact and friction, in wet or dry condition. The drum, which contains the sample and grinding balls or rods, rotates around a horizontal axis. Whereas particles break more easily when larger grinding ball resp. rod diameters are used, smaller diameters lead to a substantially higher final fineness. The motor of the drum mill incorporates a solid-state controller with internal overload protection which is used

Drum Mill TM 300

to set and accurately control different drum speeds.