

Applications

Micro Rapid Mill, Model MS, grinds and homogenizes samples to a fineness of 0.5 to 10 μ , faster than any other mill. Grinding sets made of agate, steel, tungsten carbide or boron carbide enable dry or wet grinding of samples with a final volume of 0.5–50 ml with a minimum of abrasion.

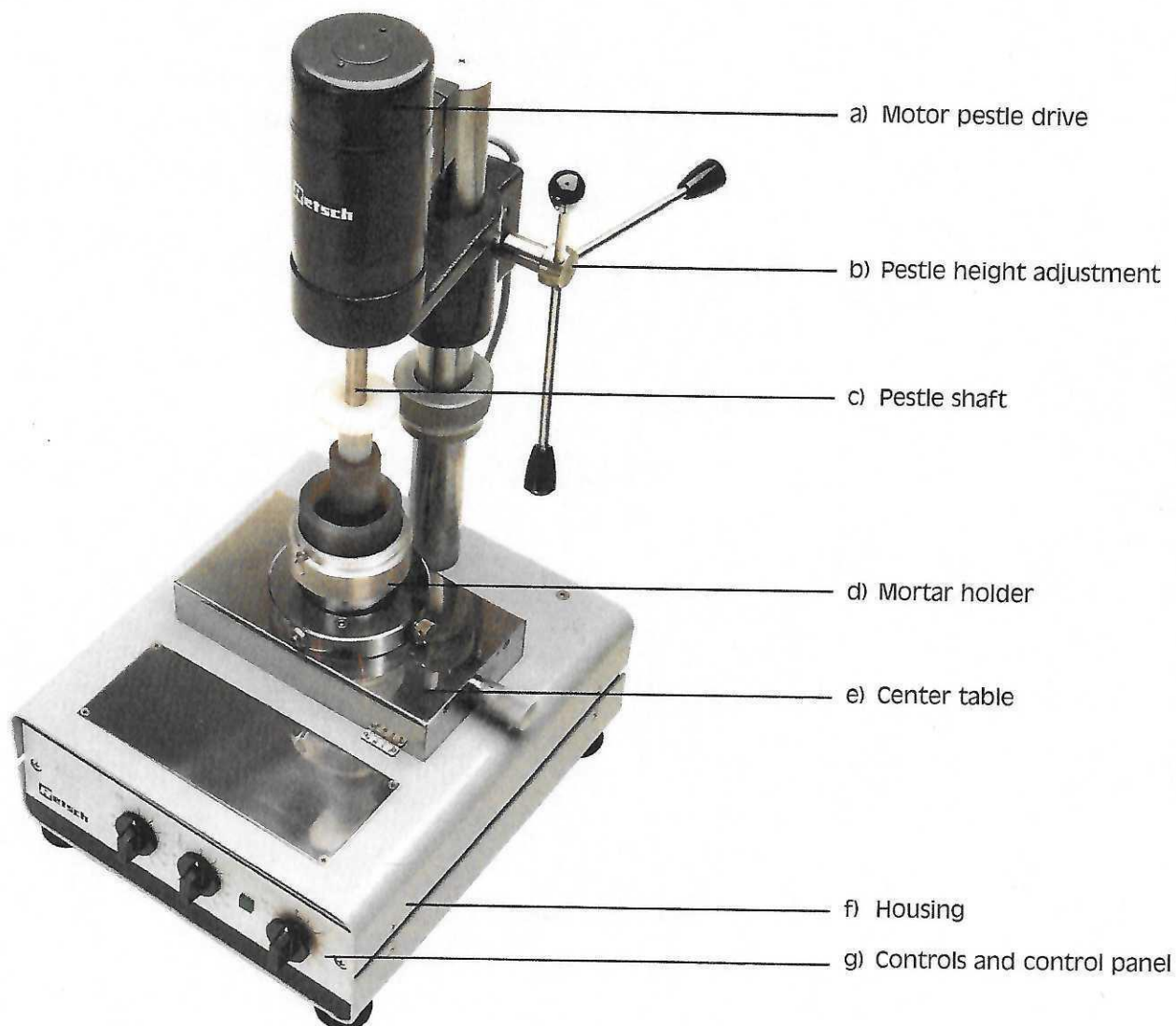
Samples such as diamonds, hair, cement clinker, cereal grains, etc., can be micronized; and two or more components of uneven consistency with a ratio of 1:10,000 can be ground and homogenized in as little as 30–60 seconds.

General

The independent control of mortar and pestle speeds and the stepless grinding pressure adjustment make the mill well suited for most every sample. Depending on the substances and grinding set, the initial grain size may be as large as 8 mm.

Usage

The Micro Rapid Mill is used in research, development and industrial laboratories. Easy to change and clean grinding sets, small final particle size in very short time with no sample loss or contamination, and reliability are the reasons for the universal acceptance and use of these mills in control laboratories.



For fast grinding and homogenizing of samples to a

Construction

The sturdy housing keeps the mill stable, covers the mortar drive, and has easy to operate electronic controls. The various sizes and materials of grinding sets can be easily changed.

Drive

The height of the pestle drive is easily adjusted by a handwheel and the position of the mortar is easily adjusted with a caliper wheel. These adjustments enable the selection of the best possible grind for each sample.

Homogenizing

The pestle is normally operated in the concentric position, but can be operated in the eccentric position to facilitate more intensive mixing of the sample.

Grinding sets

The pestle is designed to ensure the grinding-homogenizing effect without sticking or sample loss.

The grinding sets are made of four different kinds of materials: agate, tungsten carbide, carbon steel and boron carbide, and are available in five different sizes from 0.5 to 50 ml.

Superfine grinding of biological materials for the extraction of cell content.

Mechanical treatment of human and animal tissues as well as micro organisms and algae cultures is possible with pestle homogenizers.

The treatment of plants, however, is more difficult because depending on the age of the cells, contain more or less solid reinforcement substances such as lignin, cellulose, etc., which are highly resistant to disintegration. For this reason, tedious mortar-and-pestle process by hand is still being used frequently today.

The Micro Rapid Mill was developed at the Institute for Vegetable Nutrition, Liebig University in Giessen by Prof. Dr. H. Linser, for the superfine grinding and homogenizing of solid substances (powders, ores, minerals, spectrochemical samples, etc.) now solves this problems quickly and easily. Extensive research work on activity of vegetable enzymes, preventing any denaturing effect in the recovery of such highly unstable substances, has proved this unit, with its agate mortars and pestles, to be almost perfect for grinding biological materials.

The grinding and homogenizing of soft materials (young plant parts and leaves) only takes up to 3 minutes and about 5 to 7 for hard substances (stalks, flowerheads, fruits). The smallest mortars with volumes of 0.5 ml—2 ml are best suited for very small samples (individual small leaves, parts of leaves, stalk knobs, etc.). For larger amounts there are mortars with a volume of 8 ml, 25 ml, and 50 ml.



Because of the separately regulated pestle and mortar drives the desired fineness can be reached with a minimum of abrasion. Therefore, the Micro

Many accessories such as mortar hol-

Order data

Micro Rapid Mill, Model MS

complete with 2 independently controlled motors for pestle rotation (0—3000 rpm) and mortar rotation (0—500 rpm), timer switch, operation with 110 V, 60 Hz. Mortar, pestle, cover and mortar holder must be ordered separately.

Order No. 27-16-800-1

Mortar and Pestle Grinding Sets

Material	Volume (ml)	Mortar Order No.	Pestle Order No.
Agate	0.5	27-16-826-4	27-16-828-1
	2	27-16-820-5	27-16-821-3
	8	27-16-827-2	27-16-825-6
	25	27-16-829-9	27-16-836-1
	50	27-16-837-0	27-16-838-8
Steel	0.5	27-16-818-3	27-16-819-1
	2	27-16-808-6	27-16-809-4
	8	27-16-823-0	27-16-824-8
	25	27-16-840-0	27-16-841-8
	50	27-16-831-1	27-16-832-9
Tungsten Carbide	0.5	27-16-813-2	27-16-814-1
	2	27-16-815-9	27-16-816-7
	8	27-16-817-5	27-16-822-1
	25	27-16-803-5	27-16-804-3
	50	27-16-801-9	27-16-802-7
Boron Carbide	0.5	27-16-839-6	27-16-842-6
	2	27-16-843-4	27-16-844-2
	8	27-16-845-1	27-16-846-9
	25	27-16-833-7	27-16-834-5

Accessories / Spare Parts

Article	Order No.
Spare rubber sleeve for pestle	27-16-805-1
Mortar holder , for grinding sets 0.5—2 and 8 ml	27-16-810-8
Mortar holder , for grinding sets 25 and 50 ml	27-16-830-2
Mortar cover , plexiglas, for grinding sets 0.5—2 ml	27-16-811-6
8 ml	27-16-812-4
25 ml	27-16-807-8
50 ml	27-16-806-0
Mortar holder with cover and bayonet catch, for grinding sets 0.5—2 ml	27-16-870-1
8 ml	27-16-871-0
25 ml	27-16-872-8
50 ml	27-16-873-6



Dimensions and Weights

Micro Rapid Mill	Net weight	60 Kg
	Gross weight	85 Kg
	Box dimensions	80 x 55 x 80 cm
	Volume	0.35 m ³