

## LABORATORY GRINDER

# UDY CYCLONE



- The UDY Cyclone Sample Mill is designed for rapid grinding of a wide variety of soft to medium-hard materials. It is extensively used in milling grains, feeds, forages, leaves and similar materials prior to near-infrared reflectance (NIR) measurement or chemical analysis. Other applications include small to medium volume milling of: pharmaceuticals, detergents, fertilizers, plastics, coal, wood chips, and friable materials.
- UDY Cyclone Sample Mills use a patented method of grinding. High speed rotation of the impeller and air currents throw particles into, and rolls them around the grinding ring. Particles remain in the grinding chamber until impact-shattering and abrasion make them small enough to flow out the exit with the air current. The air flow removes essentially all material and makes clean out unnecessary. The air flow also minimizes heating and therefore eliminates thermal degradation.
- The UDY Cyclone Sample Mill is powered by a 3/4 horsepower, enclosed motor with power transfer and speed step-up to 12,600 rpm using joined belts. The grinding ring has tungsten carbide abrasive particles on a steel base. Ground material is collected in 120 ml glass bottles, fabric bags, or other containers.
- Materials which tend to gum-up and present problems in other dry mills can often be ground in the Cyclone Sample Mill because of its patented grinding action and the low residence time in the grinding chamber. A general guideline is that materials may contain up to 20% oil or 15% moisture. Some materials containing higher levels of moisture or oil can be ground. Marginal cases are substantially aided by use of a vacuum cleaner to increase air flow. This does not result in loss of sample.

- The maximum initial particle size depends on the mass and grinding properties of the material. The standard Mill Cover limits the maximum initial particle dimension to 5 mm (1/4 inch). Low mass materials such as forages, leaves, and wood chips can be introduced in larger initial sizes by using the optional Forage Cover, illustrated. The Forage Cover permits feeding forage core samples directly into the Mill without preliminary grinding.
- Because of the unique grinding method of the Cyclone Sample Mill, the particles exiting the mill are very small and are relatively consistent in size. This makes the Mill especially valuable for sample preparation prior to NIR measurement or other applications dependent on particle size.
- The maximum rate material can be ground depends on the material. The rate for wheat and many other materials is about 3 g/second. Standard 120 ml sample bottles hold 30 to 40 grams. Optional collection containers include 500 and 1,000 ml bottles and a Nylon Fabric Collection Bag, which holds 2 to 3 kg of material
- The UDY Cyclone Sample Mill is designed for long life. Many Mills have been in use over 15 years. The parts subject to wear are all replaceable. The frequency of replacement depends on the abrasiveness of the material used. Please call for assistance on selection of replacement and spare parts.

### **SPECIFICATIONS:**

#### **Cyclone Sample Mill - Belt Drive:**

Dimensions:	26x26x47 cm
Net weight:	13 kg
Motor:	3/4 hp capacitor start, synchronous induction, totally enclosed with cooling fan.
Available in:	115/230V 50 and 60 Hz power models.
Impeller speed:	12,600 rpm with 60 Hz power or 10,400 rpm with 50 Hz.

#### **Seller:**

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