

# Laboratory Mill

LM 3100



Grinding



Wheat



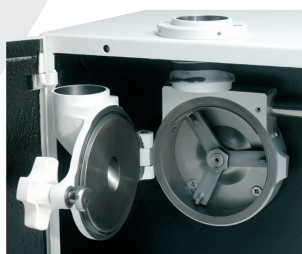
Rye



Barley

The Most Rugged, Long-lived Sample Grinders Made

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## Laboratory Mill 3100

The LM 3100 is designed for grinding samples of grains, pellets, meals, feeds, and forages. The ground sample can then be used for analyses such as NIR, Falling Number, Glutomatic, Kjeldahl etc. The Laboratory Mill 3100 is a hammer type cyclone mill, built into a soundproof casing. An adjustable vacuum feed control regulates the feed rate of the sample into a metallic grinding chamber. A hardened steel hammer rotates at high speed forcing the sample through a stainless sieve. Standard sieve of 0.8 mm is used for Falling Number, Glutomatic System and NIR analyses. Sieves from 0.5 - 2.0 mm are available. The fine, homogeneous sample is separated from air in a cyclone and collected in a quick release stainless steel container. The cyclone principle makes the mill virtually self-cleaning thus increasing lab throughput, accuracy, and efficiency.

## Features & Benefits

**Robust Metal Construction:** Reliable operation and long instrument life.

**Reduced Dust:** Cyclone outlet with filter bag to minimize dust.

**Sound Proof Casing:** Low noise level.

**Large Sample Capacity:** Reduces sampling error - fulfills Falling Number requirement.

**Vacuum Feed Control:** Airflow feeder regulates feeding and facilitates grinding of large samples.

**Homogeneous Particle Size:** Produces a fine, homogenous sample as required for Falling Number, NIR, and Glutomatic analysis.

**High Moisture Grinding:** Adjustable feed rate allows grinding of samples with up to 25 % moisture.

**Self-Cleaning:** Cyclone design minimizes cleaning between samples.

**Safe Operation:** Motor cannot start until door is closed and stops immediately when door is opened.

**Mill Feeder 12V Supply:** Integrated power plug for optional Mill Feeder eliminates external 12VDC transformer.

## Approved for

**Falling Number test:** To determine the alpha-amylase activity in wheat and rye.

**Glutomatic/Gluten Index test:** To determine wet gluten quantity and quality.

**NIR-Analysis:** To determine protein, fat, hardness, ash and moisture after grinding.

## Recommended Accessories

**Mill Feeder:** A motor driven rubber paddle Mill Feeder can be added to provide a consistent feed rate. This improves grinding of high moisture grain and grain with the hull remaining, e.g. barley, oats and rice. The constant feed rate also improves overall mill performance and reduces motor strain caused by overfeeding of sample.



## Specifications

**Power Requirement:** 115 or 230 V, 50 or 60 Hz (specify on order)

**Operation:** Belt drive 1:6, 16,800 rpm

**Capacity:** 300 g in 30-50 seconds depending on moisture content

**Dimensions (HxDxW):** 560x510x630 mm

**Net Weight:** 51 kg

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# Laboratory Mill

LM 120



Grinding



Wheat



Rye



Barley

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## Laboratory Mill 120



The Laboratory Mill 120 is designed for grinding samples of grains, pellets, meals, feeds and forages. The ground sample can then be used for analyses such as NIR, Falling Number, Glutomatic, Nitrogen combustion methods, and other reference analyses. The Laboratory Mill 120 is a hammer type mill built on a stable metal body. An adjustable vacuum feed control regulates feed rate of the sample into the metallic grinding chamber.

A hardened steel hammer rotates at high speed forcing the sample through a stainless steel sieve. The ground product is collected in a filter bag placed below the grinding chamber. Standard sieve of 0.8 mm is used for the Falling Number, Glutomatic/Gluten Index and NIR analysis. Sieves of 0.5 – 2.0 mm are available.

## Features & Benefits

**Robust metal construction:** Reliable operation and long mill life.

**Large sample capacity:** Reduces sampling error – fulfills Falling Number requirement.

**Vacuum feed control:** Airflow feeder regulates feeding and facilitates grinding of large samples.

**Homogeneous particle size:** Produces a fine, homogeneous sample as required by Falling Number, NIR and Glutomatic analysis.

**High moisture grinding:** Adjustable feed rate allows grinding of samples with up to 25 % moisture.

**Safe operations:** Motor cannot start until door is closed and stops immediately when door is opened.

## Approved for

**Falling Number test:** To determine the alpha-amylase activity in grain.

**Glutomatic/Gluten Index test:** To determine wet gluten quantity and quality.

**NIR-Analysis:** To determine protein, fat, hardness, ash and moisture after grinding.

## Recommended Accessories

**Mill Feeder:** A motor driven rubber paddle Mill Feeder can be added to provide a constant feed rate. This improves grinding of high moisture grain and grain with the hull remaining, e.g. barley, oats and rice. The constant feed rate also improves overall mill performance and reduces motor strain caused by overfeeding.



## Specifications

**Power requirements:** 115 or 230 V, 50 or 60 Hz (specify on order)

**Operation:** Belt drive 1:6, 16,800 rpm

**Capacity:** 300 g in 30-50 seconds depending on moisture content

**Dimensions (HxDxW):** 545x460x240 mm

**Net weight:** 28 kg

# Laboratory Mill

LM 3310



Grinding



Whole Grains



Oilseeds



Pellets

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## Laboratory Mill 3310

The Laboratory Mill 3310 is a disc type mill for grinding grains, peas, corn, soybeans and other products. The sample is rapidly crushed/sheared between sharp steel discs and collected in a quick release plastic sample cup. The disc design and the rapid grinding minimize heat development. Loss of water is thus virtually eliminated. Typical sample size is 5-50 g for general applications and 10-15 g for grain moisture determinations.



## Features & Benefits

**Rapid Grinding:** Grinding for accurate moisture content analysis.

**Practical Sample Collection:** Sample is collected in 250 ml cups. Extra cups with lids are available for convenient handling and storage.

**Adjustable Disc Setting:** Particle size distribution is easily adjusted by changing distance between discs with the knob on the front.

**Robust Metal Construction:** Reliable operation and long mill life.

**One Hand Operated Door:** Easy access to grinding chamber for quick and easy cleaning.

**Low Noise Motor and Housing:** Can be easily placed in the lab.

## Hardened Steel Disc

Particle size is dependent upon disc type and inter-disc distance. The distance between discs is adjustable and there are three different types of discs available.

**Type 1 – Medium:** Used for determination of moisture content.

**Type 2 – Fine:** Used for Particle Size Index (PSI) or when a fine particle size is required.

**Type 3 – Coarse:** Used for oats and other high moisture grains.

The Laboratory Mill 3310 is delivered with type 1 disc set.

## Applications

The Laboratory Mill 3310 is suitable for sample preparation for oven and NIR moisture tests and is adopted by the AACC International, standard No. 55-30.01 to determine wheat hardness by PSI (Particle Size Index). The mill is used to grind low fat materials (less than 20 %) and for sample preparation for NIR protein analysis.

## Recommended Accessories

**Mill Feeder:** A motor driven rubber paddle Mill Feeder can be added to provide a constant feed rate. This improves grinding of high moisture grain and grain with the hull remaining, e.g. barley, oats and rice. The constant feed rate also improves overall mill performance and reduces motor strain caused by overfeeding.



## Specifications

**Power Requirements:** 115 or 230 V, 50 or 60 Hz (specify on order)

**Operation:** Direct drive

**Capacity:** 50 g in 10-15 seconds

**Dimensions (HxDxW):** 440x550x260 mm

**Disc Diameter:** 75 mm

**Net Weight:** 33 kg



# Laboratory Mill

LM 3610



Grinding



Whole Grains



Oilseeds



Pellets

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## Laboratory Mill 3610

The Laboratory Mill 3610 is a disc type mill designed to prepare samples for oven and NIR moisture tests of grains, pellets and other raw materials. The Laboratory Mill 3610 has capacity to grind large samples thus minimizing sampling error of heterogeneous materials. The sample is rapidly crushed/sheared between sharp steel discs and collected in a quick release plastic sample cup. The disc design and rapid grinding minimize heat development. Loss of moisture is thus virtually eliminated. Typical sample size is 10 – 250 g of sample for general applications and 10 – 15 g for grain moisture determinations.



## Features & Benefits

**Large sample inlet:** Large inlet allows grinding of pellets and large sized grain.

**Large sample capacity:** Grinds up to 250 g sample.

**Rapid grinding:** Sample preparation for accurate moisture content analysis.

**Practical sample collection:** Sample is collected in 500 ml cups. Extra cups with lids are available for convenient handling and storage.

**Adjustable disc setting:** Particle size distribution is easily adjusted by changing distance between discs.

**Robust metal construction:** Reliable operation and long mill life.

**One hand operated door:** Easy access to grinding chamber for quick and simple cleaning.

**Low noise motor:** Can be easily placed in the lab.

## Hardened Steel Disc

Particle size is dependent upon disc type and inter-disc distance. The distance between discs is adjustable and there are three different types of discs available.

**Type 1 – medium:** Used for determination of moisture content

**Type 5 – fine:** Used when a finer particle size is required

**Type 4 – coarse:** Used for oats and other high moisture grains

The Laboratory Mill 3610 is delivered with type 1 disc set.

## Applications

The Laboratory Mill 3610 is suitable for sample preparation for oven and NIR moisture tests of grain, pellets and other low fat (less than 20% fat) materials. Products include: soy beans, soy meal, corn products, finished pasta, wheat, nuts and many other grains and products.

## Recommended Accessories

**Mill Feeder:** A motor driven rubber paddle Mill Feeder can be added to provide a constant feed rate. This improves grinding of high moisture grain and grain with the hull remaining, e.g. barley, oats and rice. The constant feed rate also improves overall mill performance and reduces motor strain caused by overfeeding.



## Specifications

**Power requirements:** 115 or 230V, 50 or 60 Hz (specify on order)

**Operation:** Direct drive

**Capacity:** 50 g in 10-15 seconds

**Dimensions (HxDxW):** 470x620x280 mm

**Disc diameter:** 100 mm

**Net weight:** 50 kg