MODEL LM5

Laboratory Ring Mill

Vibratory ring mill for preparing up to 3.5kg of ore for mineral for analysis

The Labtech Essa model LM5 mill is used for pulverising ores, minerals, soils, metallurgical samples, ceramics, aggregates, chemicals and similar particulates. It finds particular application in mineral laboratories needing to prepare larger, more representative samples. Typically, samples of approximately 3 to 3.5 kg mass can be ground to 90 to 95% minus 75 micron, while larger samples up to approximately 4 to 5 kg can be reduced to approximately 0.5 to 0.8 mm particle size (all subject to the physical characteristics of the material. and the condition of the grinding elements). Grinding time will be approximately 5 to 8 minutes.

Labtech Essa are pleased to conduct pre-purchase trials on customer free supplied samples.

PLEASE ASK FOR OUR DEMONSTRATION VIDEO

The vibratory platform of the model LM5 is driven by a universal shaft powered by vee-belts from a standard, stationary (non-vibrating) 4 kW electric motor. This arrangement delivers the power required to drive the large 5 kg nominal capacity grinding bowl integrated in to the head of the mill. The drive motor is inherently protected from direct vibrational loads.

The design of the bowl is based on Labtech Essa internationally patented concept of a single, solid “flying saucer” shaped puck operating in a curved bottom bowl. Only the puck is removed from the bowl during routine operation. A pneumatically actuated “MILLMATE™” hoist is fitted as standard to assist in lifting and lowering the puck. The bowl is filled and emptied manually. Residue is vacuumed from the bowl. A vacuum gun is supplied as standard with each mill for connection to the customer’s dust extraction system.

STANDARD FEATURES:

- Pneumatic bowl lid clamping.
- 4 kW stationary electric motor drive.
- 415 Volt, 50hz, 3 phase power
- Good looking, easy to clean fibreglass cabinet with sound reducing foam lining
- External control box with start & stop push button, motor overload protection, electronic run cycle timer and pneumatic failure protection.
- Lid safety switch de-energises mill when cabinet lid opened
- Integrated Emercency Stop button.

TECHNICAL DATA:

Power requirement	415 Volt, 50hz, 3 phase is standard but a full range of 3 phase power connections is available
Clean, dry air service required for pneumatic lid clamping and MillMate™	450 to 600 Kpa (65 to 90 psi) : 1 litre per minute maximum flow
Space required (approx. only)	1330mm wide x 1030mm deep footprint x 1730mm to top of MillMate™
Shipping mass	720 kg

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The pulverising bowl of the Labtech Essa model LM5 mill is permanently attached to the vibrating platform of the mill during all normal operations. Only the puck is removed; with the aid of the pneumatically actuated MILLMATE™. The bowl is filled and emptied manually.

Residue is vacuumed from the bowl. A vacuum gun assembly is supplied as standard for this purpose, together with 3 metres of flexible hose for connection to the customer's dust collection system. Some customers prefer to connect direct to their dust collection system with an open ended flexible hose as shown in the photo at the bottom of this page and in our demonstration video.

The design of the bowl is based on Labtech Essa internationally patented concept of a single, solid "flying saucer" shaped puck operating in a curved bottom bowl. This concept is recognised to produce a homogeneous sample which only requires a portion of the milled sample to be retained for analytical purposes.

The Labtech Essa model LM5 mill is housed in a durable and good looking fibreglass cabinet lined with sound absorbing foam. A dust extraction point is provided at the rear of the cabinet.

The front half of the cabinet is quickly and easily removed for maintenance access. Major maintenance is facilitated by the ability to remove the mill from the cabinet while leaving the cabinet and MILLMATE™ in their installed location. Sample preparation facilities with multiple numbers of mills make use of this capability to quickly install a spare mill while the original is taken to the workshop.

LM5 mills installed at a commercial assay laboratory in Kalgoorlie, Western Australia. Note this customers preference to install their own (white coloured) flexible vacuum hoses for final bowl cleaning and their introduction of a coarse dust trap between the mills and their dust extraction ducting

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