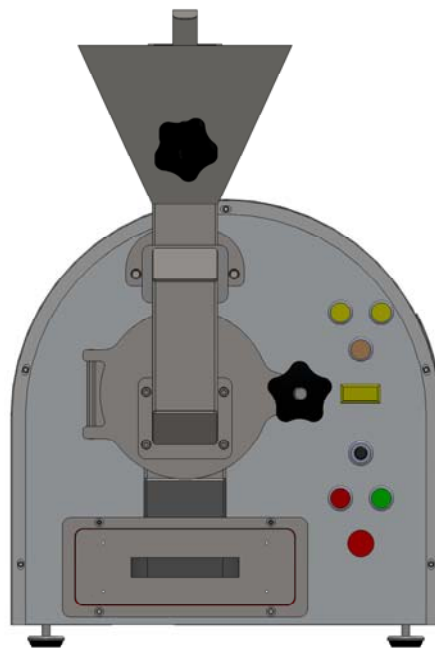




QAQC LAB

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OPERATING INSTRUCTIONS MANUAL



GRINDING MILL WITH INTERCHANGEABLE SIEVES

FML-2000

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SECTION 1: DESCRIPTION AND MAIN CHARACTERISTICS

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1. PRESENTATION

This operating instructions manual has the information and all the necessary to know how to install the equipment manufactured for FILTRA VIBRACIÓN, S.L. and its use and maintenance.

All included in this operating instructions manual is not a complete description about the different aspects of the equipment operation. However, the user will find here important information for a correct installation, good use and the equipment conservation.

The good working and the long life of the equipment depends on all the explained in these pages.

Not to pay attention about the norms described in this operating instructions manual, the negligence or a not appropriate use of the equipment, can cancel the warranty. FILTRA VIBRACIÓN, S.L. will also not assume damages or injuries for these reasons.

FILTRA VIBRACIÓN, S.L. responsibility is limited to the repair or the replacement of defective spare parts of the equipment.

When you receive the equipment you must control the following:

- The packing is not damage.
- The supply corresponds with the specifications order.
- There is no damage in the outer part of the equipment.

In case of supply does not correspond to the order you have to contact with the transport agency and FILTRA VIBRACIÓN, S.L. or your distributor. You have to do the same in case of damages in the outer part of the equipment.

Please, retain the packing until you are sure that the equipment works correctly. If you may resend the equipment, the original packing is the most suitable.

1.2. WARRANTY

- The warranty of the equipment is for two years since the delivery date.
- The warranty includes pieces, spare parts and labour for any repair in the installations of FILTRA VIBRACIÓN, S.L. (except for perishable parts like mesh, rubber joint, cleaner rings,...).
- The warranty does not include the shipment. It has been paid by the customer.
- The warranty does not cover possible damages caused during the transportation and/or installation of the equipment.
- Repairs due to an incorrect use of the equipment will not be included in the warranty.
- Any modification or manipulation of the equipment without FILTRA VIBRACIÓN, S.L. authorization will invalidate the warranty.

1.3. IDENTIFICATION

The serial number of the equipment is stucked on it with a label or a plate. It shows:

- Equipment model.
- Serial number.
- Manufacture year.

This information always must be communicated in case of order spare parts for the equipment o for other request about it.

1.4. EQUIPMENT DESCRIPTION

The grinding mill FML-2000 has been designed for the milling of a great variety of solid products: wheat, plastics, resins, minerals, vegetable matter, etc. Designed for laboratories in the food, chemicals, pharmaceuticals and ceramics industries.

The drum, together with the anti-wear stainless steel blades, allow the fast milling of a multitude of semi-hard and hard products with an input particle size with 25mm maximum.

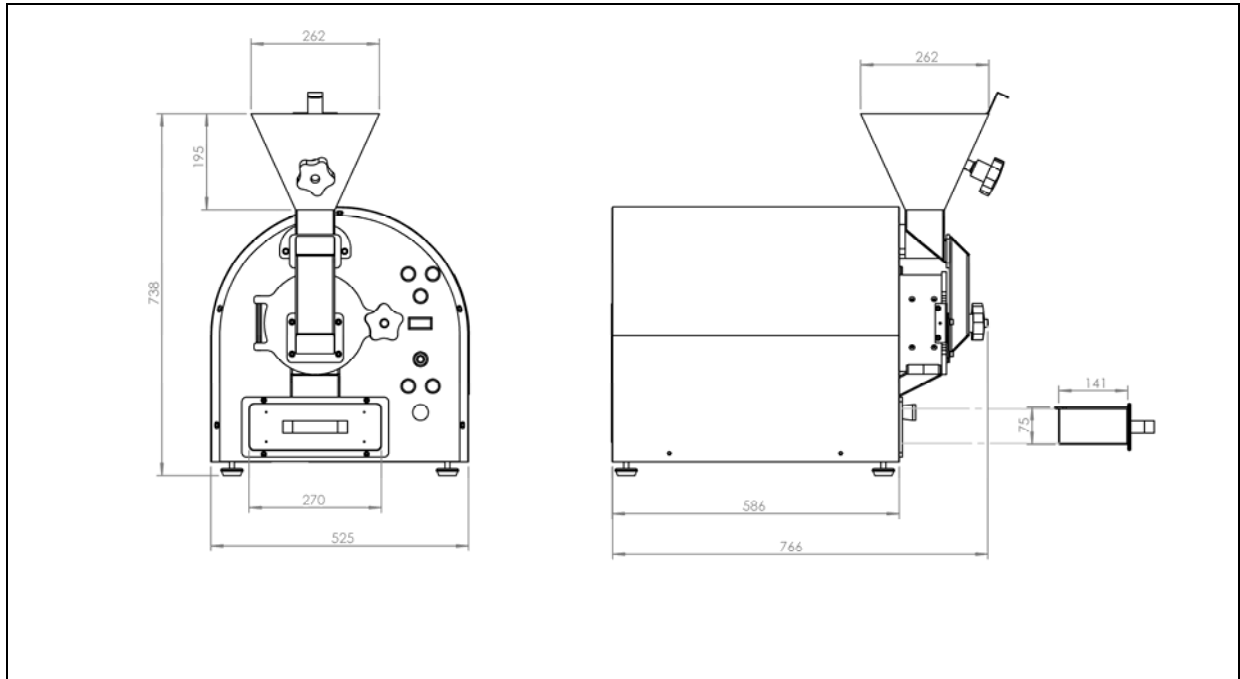
The ring gear and hammers are manufactured with AISI 431 stainless steel tempered.

It incorporates a frequency converter which allows the starting and stopping of the motor without sudden movements.

1.5. APPLICATIONS

This grinding mill is used to mill wheat, plastics, resins, minerals, vegetable matter, etc. Designed for food laboratories, chemicals, pharmaceuticals and ceramics industries.

1.6. TECHNICAL CHARACTERISTICS



Technical characteristics

Electrical three-phase motor: 1,5 kW 2840 rpm adapted to work in a 230V single electricity main.

Frequency converter: single phase -> three phase

230 V (50 Hz)

1,5 kW 2840 r.p.m.

Maximum particle size to mill: < 25mm.

SECTION 2: SAFETY NORMS

2.1. Safety

2.2. General safety norms

2.1. SAFETY

Pay attention and read these instructions carefully and, specially, the safety norms and the dangerous operations.

The manufacturer refuses all kind of responsibility caused by not to follow the safety norms that are described in this operating instructions manual. Moreover, the manufacturer refuses all kind of responsibility for injuries or an inappropriate use of the equipment or whatever modification without the manufacturer's consent.



Pay special attention to this sign in this operating instructions manual:

This sign shows a dangerous risk

2.2. GENERAL SAFETY NORMS

When you use electrical machines, it is necessary to take the appropriate safety precautions to reduce fire risks, electrical shocks and possible injuries to people.

Before to use the machine, read carefully and memorize the following safety norms. After read preserve this operation instructions manual to future consults.

- Keep the work zone clean and tidy.
- Verifications, controls, cleaning, maintenance, changes of spare parts, have to be done with the machine off and the plug unplugged from the electrical main.
- It is absolutely forbidden children or inexperienced people work with the machine.
- Verify the electrical installation fulfils with the standards and norms of the country where the machine will work.
- This machine has to be connected to an electric main with earth wire.

SECTION 3: MANIPULATION AND INSTALLATION

3.1. Installation requirements

3.2. Installation

3.1. INSTALLATION REQUIREMENTS

The room temperature must to be from 5 to 40°C. When the room temperature is out of these limits the electronic and mechanicals components can be damaged.

3.2. INSTALLATION

Set up the equipment in a plane and solid surface to avoid the transmission of unpleasant vibrations.

Look the information available in the data label and check that these values agree with your power supply. The incorrect observation of the data label can damage electric and mechanical components of the machine.



The incorrect observation of the data label can damage electric and mechanical components of the machine.

SECTION 4: HOW TO WORK

4.1. Preparation

4.2. Feeding or loading the grinding mill

4.3. Milling

4.1. PREPARATION

Place de grinding mill on a solid and plane surface.

The maximum size of the product particles is 25 mm.

4.2. FEEDING OR LOADING THE GRINDING MILL



You have to do this procedure with the grinding mill unplugged from the electric main.

- Check the equipment is disconnected from the electric main.
- Check the mill chamber is completely closed.
- Fill the load hopper with product (size particle lower than 25mm).

4.3. MILLING

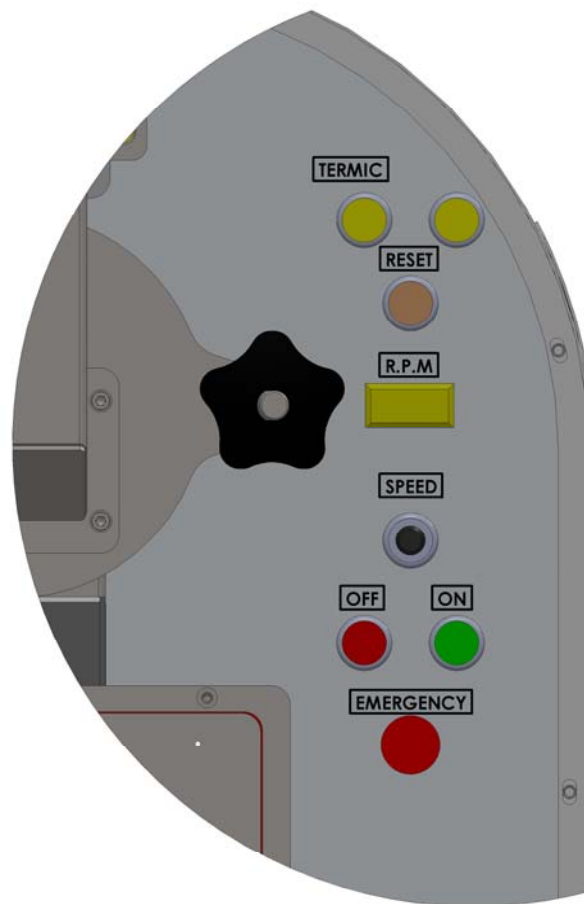
Depending on the kind of product to mill you must load the load hopper progressively for avoid to saturate the mill chamber. You have to regulate the product flow with the door situated in the load hopper.

The product goes into the mill chamber and it is milled. After that, when the milled product has a size lower than the sieve, it goes through the sieve and goes down to the container.

When the load hopper is empty the grinding mill must to work a few minutes. So all the product placed into the mill chamber will be milled. This is a good way to obtain the maximum milling product.

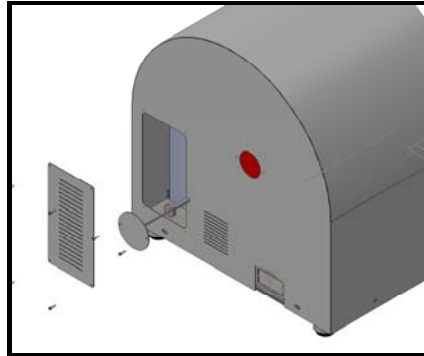
- With the load hopper full with product check the mill chamber is completely closed. If the mill chamber was not closed the grinding mill will not work.
- Press the "Reset" button to re- arm (or set) the grinding mill.
- Press the "On" button to begin to mill.

- You can set the motor r.p.m. with the wheel placed under the display (maximum 3000 r.p.m.).
- Open the door to regulate the product flow.
- When all the product is milled press the "Off" button.
- Wait the grinding mill stop working and switch off the button placed in the rear part of the equipment.
- The milled product is placed in the container.
- If you want you can open the mill chamber to clean with a brush.

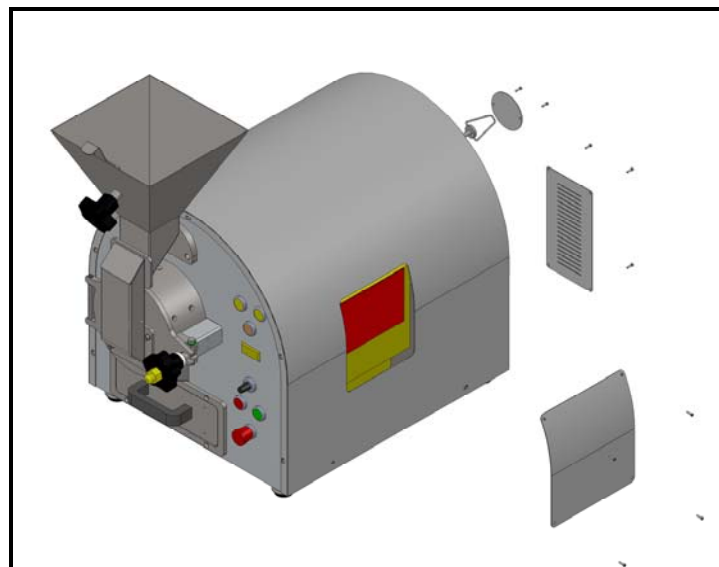




The grinding mill has a motor with a safety brake. **If for any reason the motor was blocked**, you have to use the key provided to unblock the motor. To do this, please, unscrew the two screws placed in the rear part of the grinding mill to retire the cover and use the key.



The grinding mill has a **power control switch** (PCS). In case of the equipment consume more power than the allowed the PCS will act. To connect again the PCS you must to unscrew the four screws placed on the right cover to switch on the PCS.





The grinding mill is protected by a glass fuse (8A) placed in the rear part of the equipment. In case of the grinding mill does not work, first of all, check that the fuse is ok.



SECTION 5: MAINTENANCE

5.1. Maintenance

5.2. List of spare parts

5.1. Maintenance

The periodic inspections, depending on the machine use hours, are the better way to keep your grinding mill in good conditions to work. Pay special attention to strange noises or vibrations.

The periodicity of inspections and maintenances depends on the working conditions (use hours, number of starts and stops, dusty atmospheres, etc). So we only can comment general indications.



All the maintenance works have to do with the grinding mill unplugged from the electric main.

In normal conditions, the fat placed in the bearings is enough for a few years.

5.2. List of spare parts

DENOMINACIÓN	REFERENCIA	CANTIDAD x MAQ.
BAKELITE KNOB M16 (CIERRE)	COM-0134	1
BAKELITE KNOB M12 (LOAD HOPPER)	COM-0316	1
SIEVE	FML-2000-0002	1
PASTILLA TEMPLADA AISI 431	FML-2000-1122-P02	5
COVER O-RING	FML-2000-1212	1
CUCHILLA MOLINO AISI 431	FML-2000-1502-P02	3
CONTAINER	FML-2000-1800-T99	1
PLAIN JOINT COVER	FML-2000-3003	1
JUNTA ESTANCA PRODUCTO	FML-2000-3005	1