# COMMERCIAL CEREAL MILL SAMAP

PI 220/3 PI 220/4 PI 380/3 PI 380/4

# INSTRUCTION OF USE MAINTENANCE

English translation of the original version in french (Version 01 du 13/02/13)



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#### **RULES - SECURITY**

#### **SAFETY SYMBOLS**

#### Following safety symbols will be used:



This safety symbol indicate important warnings with risk of injury for the user.



This safety symbol indicate important warnings with risk of break or a unapropriate way of use of the the mill.

#### TO KNOW THE MILL



#### Keep this document on a right place known by all users, near the mill.

Before first use , read through carefully the instructions of use, maintenance and safety messages. Follow the instructions and advices :

- Check all tags or signs on the mill. Replace the lost and unreadable tags.
- · Have only qualified person using, install or repair this mill.
- Do not use the mill for other than intended use.
- Do not exceed the maximum capacity.
- All the moving parts are protected. Do not remove those protections.
- Intervention on electric parts have to be done by a qualified person
- The mill is not intended for use by young children or infirm persons without supervision
- Turn the mill off and unplug it from the outlet when not in use, before cleaning or maintenance.
- Only use the mill in a dry and tempered place. Do not use the mill outdoor.

#### INTEGRITY OF THE MILL



To avoid injuries or misuses, **the machine must not be transformed or changed** without approbation of SAMAP ECOSYSTEME.

Any arbitrary modification made to this machine, releases the manufacturer of any responsibility deriving from the damage and possible injuries.

The use of the mill without its protections is prohibited, in particular at the time of the phases of maintenance and cleaning.

#### NOISE



Noise mesurement:  $LpA = 74 \, dBA$ , incertitude KpA = 2,5dB (standart : ISO11201 :1995 et ISO4871 : 1996. Measurement device positioned on a scheme of work :1 m of the ground. Microphone turned towards the mill at 1.30 of the ground and 1 m of distance).

#### WHAT MUST BE AVOID



- Never plug your mill on electric current that do not correspond to the caracteristics of the motor.
- Never run the machine when all the protections or security elements are not on place.
- Never run the mill in any position other than upright.
- Never damage the thread of th fixed upper millstone or mill chamber
- Never grind witout an air filter (6) or collecting bag of the flour (8)
- Never grind cereals withs foreign particuls like stones, metal, .....
- Never grind grain that is damp nor oilseeds.
- Never store the mill in a cold or humid place.
- Never grind wihtout having upper millstone locking bolt tight (4).
- Never let the stone rub too hard and unnecessary together.
- Never wash the millstones with water.

#### **RECYCLING AT THE END LIFECYCLE**

At the end of its lifecycle, this product must be turned in at a collection point for recycling electric and electronic appliances.

By ensuring this product is correct, you will help to prevent potential negatives consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural ressources.

For more detailled information about recycling this product, please contact your local Civic Office, the retailler where you purchased the product, or SAMAP ECOSYSTEME.

Packing material must be recycled or destroyed according of local regulations.

#### **BEFORE FIRST USE**

#### **ASSEMBLY**



- Take the mill carefully out of its packing. Put the mill vertically on a flat surface.
- Attach the flour selector (7) to the mill chamber housing (9) like follow:
  - Place the flour selector (7) on the foreseen holes from the mill chamber housing (9), in order that the outlet hole is directed to the bottom.
  - o Engage the nuts (11) into the flour selector after having slipped the washers.
  - Block the screws with the help of a key.
- Put the feed hopper (5) on its place and screw it onto the fixed upper millstone (10)
- Attach the air filter (6) onto the top of the flour selector (7)
- Attach the flour selctor collecting bag onto the bottom of the flour selector with the flour strap.

#### FIRST STARTING, WAY OF MOTOR ROTATION

The mounting of plug to the outlet has to be done by a qualified person.



- Fit an outlet and connect the phases, neutral (not required) and **earth** (electrical earth is required, wire color: yellow/green).
- Before turning on your mill, check that your installations are abble to support the powersupply of the mill and that the electrical safety fit.
- Check that the overload safety/starter button (3) is in position "OFF" = 0
- · Way of motor rotation.

The motor must turn in ANTI-CLOCKWISE direction.

To do this verification:

- Switch the overload safety/starter button (3) in position "ON" = I
- Stop the mill quickly by turning the button (3) in position "OFF" = 0
- $\circ \qquad \text{Check the direction of the agitating spindle which is visible in the bottom of the feed hopper}.$

The motor must turn ANTI-CLOCKWISE direction. If it is the case, the motor is well connected.

- Otherwise, the way of rotation has to be changed:
  - Invert the two wires (phase) on the connecting cable (1).
  - Try again a new verification as described above.
  - When the motor runs in the correct direction, the mill is ready to work in milling.

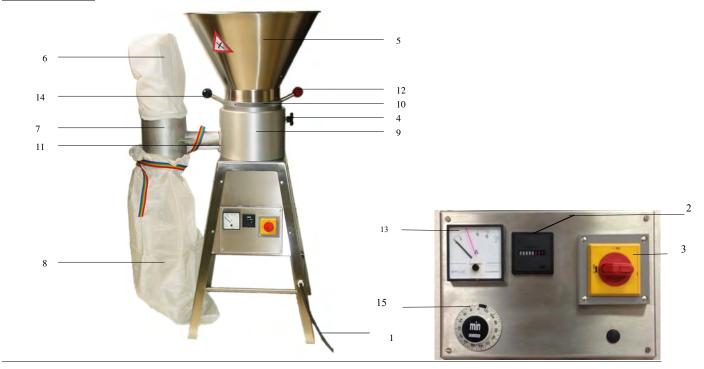
#### **CLEANNING BEFORE FIRST USE**

Clean all the surfaces in contact with foodstuff (except the millstones) with a soft sponge and cleaning product allowed to get in contact with foodstuff.

To clean the millstones, grind 5 kg of cereals to obtain an extra fine flour (see chapter Regulating the fineness of the flour). Throw away this flour and clean the mill chamber and the stones with a vaccum cleaner.

# **YOUR MILL**

# **DESCRIPTION**



- 1 Connecting cable
- 2 Time counter
- 3 Overload safety/starter button and emergency stop
- 4 Upper millstone locking bolt
- 5 Feed hopper
- 6 Air filter
- 7 Flour selector
- 8 Flour collecting bag

- 9 Mill chamber housing
- 10 Fixed upper millstone
- 11 Nut for flour selector fixing
- 12 Grain in-feed lever (red knob)
- 13 Ampmeter
- 14 Driving lever (black knob)
- 15 Timer (only on PI220/4 or PI380/4)

### **SPECIFICATIONS**

	P1380/3	P1220/3	P1380/4	P1220/4
Power supply (V~) threephase	380	220	380	220
Frequency (Hz)	50	50 / 60	50	50 / 60
Power cosumption (kW)	3	3 / 3,6	4	4 / 4,7
Motor speed (tr/mn)	2900	2900/3300	2900	2900 / 3300
Height, length, width (m)	1,35 / 0,8 x,0,5			
Weight	10	5 kg	11	5 kg
Noise LpA (dBA) Incertitude KpA =2,5dB (1)	74			
Feed hopper capacity (kg)	30 to 40 kg			
Millstones				
Diameter (mm)	200			
Weight (kg)	20,5			
Composition	Corundum / Magnesite cement			
Flour output				
Fine grinding (Wheat 10% of moisture)	80 à1	00kg/h	100 à	120kg/h

<sup>(1)</sup> See the measure conditions on chapter RULES - SECURITY.

# ALTERNATIVE ON YOUR MILL

#### INSTRUCTION OF USE

#### TO SWITCH THE MILL ON

- Connect your mill to a power supply.
- Check that the adjustable grain in-feed (12) is closed. FIll the hopper with cereals or grains.
- Switch the overload safety/starter button (3) in position "ON" = I.
- Open the adjustable grain in-feed inlet (12) to allows the cereals to go in the mill chamber
- Check the charge of the motor on the ampmeter (13) (see chapter Ampmeter)
- During functionning, the mill doens't need to be supervised once the grain in-feed and the fineness set.
- Stop the motor as soon as the hopper is empty to avoid an increase of motor temprature.

#### **ADJUSTABLE GRAIN IN-FEED**

The adjustable grain in-feed is obtained by changing the size of the opening situated at the bottom from the feed hopper (5) by the feed inlet control red knob (12).

The regulating of the inlet has only few influence on the fineness of the flour but allows to control:

- the temperature of the flour
- the optimal charge from the motor thanks the indication of the ampmeter (see chapter Ampmeter).

#### SETTING THE FINENESS OF THE FLOUR

The fineness of the flour is obtained by adjusting the distance from the fixed upper millstone (10) to the lower moving millstone fixed on the motor axle. This setting can be done without level from coartse to the finest milling.

#### Instruction:

- Close the feed inlet hole by turning the grain in-feed lever-red knob (12).
- Run the mill by switching the starter button (3), position ON = I
- Firmly maintain the fixed upper millstone (10) by holding the grain in-feed lever-red knob (12) or driving lever- lack knob (14). Then unscrew the upper millstones locking bolt (4).

#### Fine grinding:

- With the lever, turn the fixed upper millstone (10) slowly clockwise until you hear a very slight scrapping of the millstone agains each other.
- As soon as your hear the noise of friction, stop turning and eventually come back from some millimeters.
- While firmly maintaining with a hand the upper millstone (10), screw up the locking bolt (4) to maintain the millstone in the chosen position. After screwing the locking bolt (4), you schould only hear the scraping of the millstones quite lightly.
- o After this, open the inlet hole by unscrewing the grain in-feed lever-red knob (12) to let the grain going in the mill chamber.
- o Before turning the motor off, close the inlet aperture by screwing the inlet knob (12).

#### Coarse grinding:

- With regard to the fine milling, you must take apart the millstones. More you take the millestones apart and more you
  will obtain coarse grinding.
- Unscrew from two revolutions the locking bolt (4) and maintain firmly with one hand the fixed upper millstone (10) by holding the inlet knob (12).
- Turn slowly the fixed millstone anti-clockwise.
- Lock the bolt (4), to use the mill.

#### Extrafine grinding:

- o Put the mill in fine grinding position.
- Once the fine grinding setting done, motor running and grains in the mill chamber, re-open the the locking bolt (4) and hold the driving lever black knob (14).
- Turn slowly clockwise the upper millstone until you hear again the millstones rubing agains each other. With this operation, you
  remove
- As soon as the grinding is finish, **stop the mill** to avoid that the millstones rub together without grains.

#### **AMPEMETER**

The ampmeter (13) allows to control the charge of the motor during the milling, in view to avoid the releasing of the thermal security.

The engine charge makes it possible to obtain an optimal balance between grinding output and heating of the engine/room of grinding. The goal is to limit the rise in temperature of the flour in order to preserve the food values of them.

With this object, it is important not to go beyond following intensity:



- Motor 380V threephased 3 kW: 5.7 amp
- Motor 380V threephased 4 kW: 7.5 amp
- Motor 220V threephased 3 kW: 9.9 amp
- Motor 220V threephased 4 kW: 13.3 amp

To obtain the good intensity, you will have to increase or reduce the inlet from grains, as indicated in the chapter of Adjustable grain in-feed opening".

A mark on the ampmeter allows to see the intensity that has not to be overcrossed.

#### **TIME COUNTER**

The mill is equiped with a time counter to be abble to follow the hours of use.

#### TIMER (PI380/4 and PI220/4 only)



A timer allows to give a milling time. Once the time is ellasped, the motor will automatically stop.

During this milling time, take care that the hopper is full enough to avoid the mill working wihtout grains.

#### TO STOP THE MILL

At the end of the milling and before to stop the motor, we adwise to close the opening hole with the feed inlet knob (12). This measure allow an automatic cleaning from the mill chamber..

Turn the starter button (3) in position OFF = 0

This instruction goes also for emergency stops.

#### CLEANING

After each use of the mill:

- Unplug the connecting cable before each cleaning of the mill.
- Shake the air filter (6) The filter has to be keep as clean as possible to facilitate the evacuation of the air coming from the millchamber.
- Clean the aera of the mill from all flour.

#### **MILLSTONES**

The millstones are made of natural components as:

- Corundum, extremely hard. It is the working part of the mill.
- Binding agent or cement, made upon terrestraial and nautical magnesite.

After several years of use, it is known and normal that the millstones wear out. Some. Users take a fright as soon as they see some wear traces near the center of the lower moving millstone and some other, after years of use without never any look to their millstones, find out a less fine milling. To take care of your millstones in order to achieve a much longer life of them, keep in mind the following: the finer the flour required, the less wear on the stones.

Indeed, in fine milling there is a **self sharpen** on the stones, when by coarse milling the tendency is on a more baring of the stones. Consequently, it is good, regulary, to sharpen the stones by doing an extra fine milling where the stones lightly touch together.

#### **HUMIDITY** = Enemy number one of the millstones



- It is absolutely indispensable to use cereals or grains which are very dry.
   The use of grains, which are not dry enough can provoke the soilling from the millstones and the stop of the motor by the releasing of the thermal security.
- You can regognize a dry grain when it cracks between the teeth.
- The cereals have to be stocked in preference in a dry room, heated and ventilated.
- Stored outside or in a humid room, or not ventilated, the grains can absorb humidity and provoke the soilling from the millstones.
- In case of a long time of inutilisation, it is important to store the mill in a dry place, well cleaned and disencumbered of the flour and the grains.
  - An excess of humidity while period of storage can be damageable for the millstones.

#### **MAINTENANCE**

#### **USUAL MAINTENANCE**

Of a solid construction and built to last, your cereal mill don't require complicated maintenance.



Before overy operation of maintenance, stop the mill and unplug the connecting cable (1) Never use the mill before all the safety measures and protections are positioned back.

On regular intervals of time (every 40 hours) or before a long period of use, the following maintenance has to be done:

- Cleaning the air filter:
  - O Shake the air filter (6) who ensure the evacuation of the ve, tilation air. It efficiency depends on its state of cleanness.
  - Wash the air filter with lukewarm water, gently, without to outstretch the fiber of the air filter. Don't hesitate the change your air filter if the filter is not flourproof anymore.
- After taking off the fixed upper millstone (10), clean the inside of the mill chamber housing (9) with a vaccum cleaner.
- Clean the threads of the millstones (inside and outside) with a soft brush to remove all the flour.
- With a cloth, apply a thin film of vaseline oil (or sewing machine oil) on the threads.
- Clean the flour selector with the furnished brush.
- Clean the mill (motor mill chamber) and all his surounded area with a vacuum cleaner.

#### **SPARE PARTS**



It is disadvised using spare parts other than those of origins of the manufacturer.

The bearings and motor are life-lubricated.

For all inquiries or spare parts order, please give us following informations:

- · The model of the mill
- The serial number and year of built
- The electric specifications of the motor.

Threephased motor 230/400V 3KW Threephased motor 230/400V 4KW Fixed upper millstone assembly
Fixed upper millstone assembly
Turning millstone
Flour selector
Mill chamber (body of the mill)
Ampmeter 15-75 A
Time counter 50 hz
Time counter 60 hz
Overloadsafety/starter button 4-6,3A
Overloadsafety/starter button 6,3-9A
Overloadsafety/starter button 9-12,5 A
Mill support inox
Undervoltage release to motorstarter 415 V
Undervoltage release to motorstarter 230 V
Feed hopper
Grain feed adjustment bolt
Upper millstone locking bolt
Flour collecting bag
Air filter
Flour bag strap

Code	Designation
F01.246	Cleaning brush
F00.622	Joint for upper millstone
S00.721	Plastic ferrule
F01.389	Electric box for PI
F01.033	Timer 50Hz
F01.034	Timer 60Hz
F01.035	Timer 50Hz
F01.128	Motor bearing 6205-2RS1
F01.129	Motor bearing 6206-2RS1
S00.615	Motor felt washer
S00.566	Flour selector insulated felt
F01.125	Screw 5 x 16 for plates
F01.123	Washer ø 5 for plates
F00.885	Nut ø 5 for plates
F01.115	Screw 8 x 25 for flour selector
F01.116	Screw inox 8 x 16 for motor
F01.122	Round ø 8 for flour selector
F00.889	Connecting cable 5x1,5mm2
F01.184	Connecting cable 4x1,5mm2
F01.146	Feed hopper protective grille
F01.390	Plate for mill support

#### IF PROBLEM OCCUR



Always unplug the outlet when not use or before maintenance and cleaning operations.

Never use the mill before all the safety measures and protections are positioned back

SAMAP ECOSYSTEME or your retailler will answer to all your technical questions. Do not hesitate to contact us for further details or advices.

#### **MILL DOESN'T START**

- Check that the electric cable is proprely connected to the outlet. Check if the electric cable is not damaged.
- For the model PI380/4 or PI220/4, check that the timer is not on 0.

#### INSUFFICIENT FINENESS

If the finess of the flour is insufficient:

- Check that your cereals or grains are dry enough. With humid cereals, you won't reach a good fineness.
- Ajust the distance the millstones (see chapter Setting the FINENESS)
   After several tons of flour, it is normal that the millstones wear out a little. By changing the distance between the millstones you will find again a high fineness.
- Check that the millstones are not damaged because of grinding foregns bodies (metal, stone,....). In this case, you will see. In this case, you can send us picture of the two millestones to see if they need a rough sharpening or need to be replaced.

#### **UPPER MILLSTONE THREAD IS BLOCKED**

Sometime, a small amount of flour is able to come along the thread. After a while this flour is reacting like glue: it is not possible or hard to screw/unscrew the upper millstone. It is not possible to change the grinding fineness anymore.

To avoid this problem, respect the maintenance instructions (see chapter Usual maintenance).

If the upper millstone is blocked

- Heat the mill chamber housing with a hair dryer all around during a 10 minut period. This rise in temperature will allow a light dilation of
  the mill chamber housing compared to the upper millstone.
- Unscrew the upper millstone with small movement of going return to free the thread from this glue. Take off the upper millstone.
- Never use a hammer or give a shock to unscrew the millstone. This could damage the threads.
- Clean the threads (mill chamber and upper millstone) with the help of a soft brush. With a cloth, apply a thin film of vaseline oil (or sewing machine oil) on both threads.
- Screw on the fixed upper millstone (10), taking good care of the threads.

When it is not possible to move the millstone even after heating the mill chamber housing, the mill will have to return to your dealer or our factory.

#### IN CASE OF MOTOR OVERLOAD

In the event of motor overload, the switch (3), turns automatically in position "OFF" = 0. This safety overload protect the motor.

When the temperature of the motor is too high, you will have to wait a few minutes until the the temperature of the motor drops down to be able to turn the switch again in postion 1 = 0N.

The repeated shutdowns of the overload safety button are often the insufficiently dried cereal symptom.

To cure this problem:

- Check the moisture of the cereals and grains as a damp grain will ask to many efforts for the motor to be grind. Dry the grains to avoid an overload of the motor.
- Check if the millstones are not soiled ( -see chapter soiling the millstones). Clean the millstones or do coarse grinding with very dry cereals.
- Check the quality of your grains (presence of foreign particules like stones, iron, ....). Clean the cereals

#### **SOILING THE MILLSTONES**

In case of soiling of the millstones and stop of the motor, proceed as follow:

- Empty the hopper (5) from all grains
- Unscrew the locking bolt (4) from the fixed upper millstone (10)
- Unscrew the fixed upper millstone (10) by turning i tant-clockwise.
- Remove the upper millstone (10) from the mill chamber (9). Take good care to the threads.
- Clean the millstones with the help of a screw-driver or a pointed knife, in order to take out the agglutinated pasty crust on the surface. Take also care to take out the cavities in the millstones.
- Never wash the millstones.
- If they get wet accidentaly, leave them apart somewhere to dry.

9

- Before reassembly, clean the two threads with the help of a soft brush. With a cloth, apply a thin film of vaseline oil (or sewing machine oil) on both threads.
- Screw on the fixed upper millstone (10), taking good care of all threads.

In case of soft soiling, it is also possible to try a cleaning of the millstones by doing a coarse milling, with dry grains. When this operation succeed, this avoid the removing from the fixed upper millstone (10).

#### **CHANGING THE MILLSTONES**

#### Disassembling

- Take off the feed hopper and the flour selector
- Take off the upper millstone
- Turn the lower millstone so that the retaining nut holding the millstone on the motor axle is opposite the hole where the flour is ejected.
- Put the box banner n°13 into the hole, fit it over the nut and turn it anti-clockwise to unscrew it from at least two full turn.
- Put a lever through the flour selector (the handle of universal pliers are perfect for this) and lever up the millstone a little. Take out the lever, turn the millstone abnd lever again. Repeat until the millstone is fulli freed.
- Take the felt washer who is around the motor axle. Clean it or change it and put it on the same place.

#### Reassembling

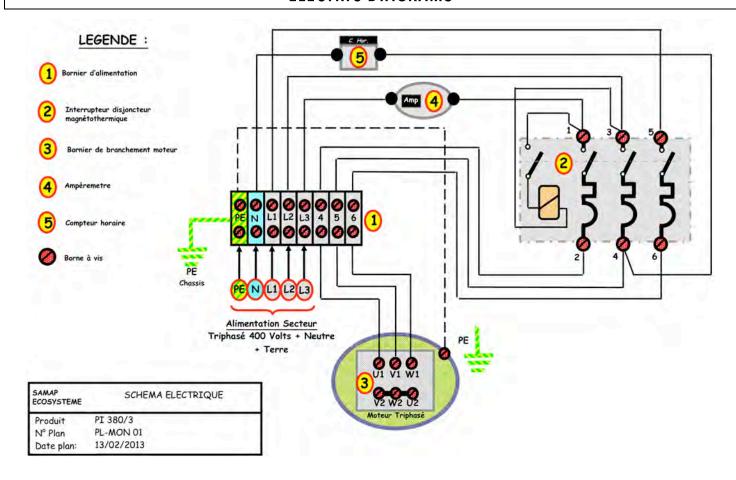
- Put the nut on the millstone.
- Mount the millstone on the axle. If the fit of the millstone is too tight, rub the motor axle down with emery paper all around. Grease lightly the axle, this will make the millstone easier to remove in the future.
- Tight the millstone nut firmly to the motor axle.
- Clean the two threads (mill chamber and upper millstone) with the help of a soft brush. With a cloth, apply a thin film of vaseline oil (or sewing machine oil) on both threads.
- Screw on the fixed upper millstone (10), taking good care of all threads.
- Mount every dissambled parts, especially the protective parts.
- Plug yoyr mill and do a fine grinding by rubing the millstones slightly together.

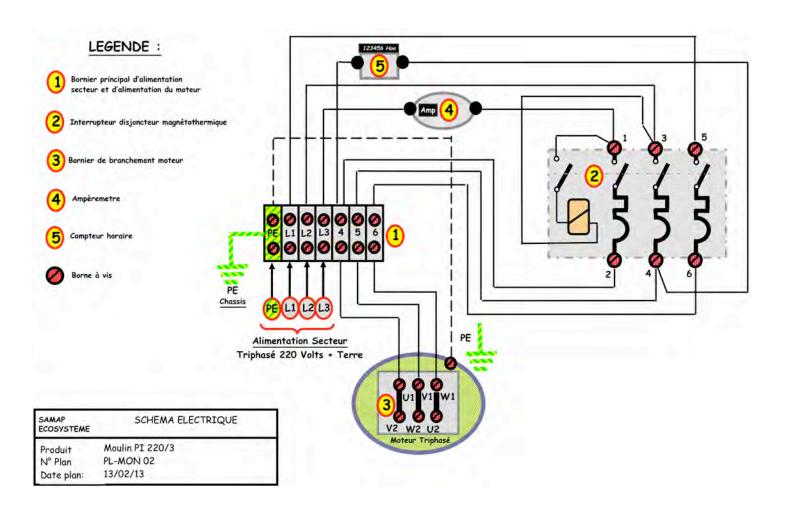
#### **MILLSTONES SHARPENING**

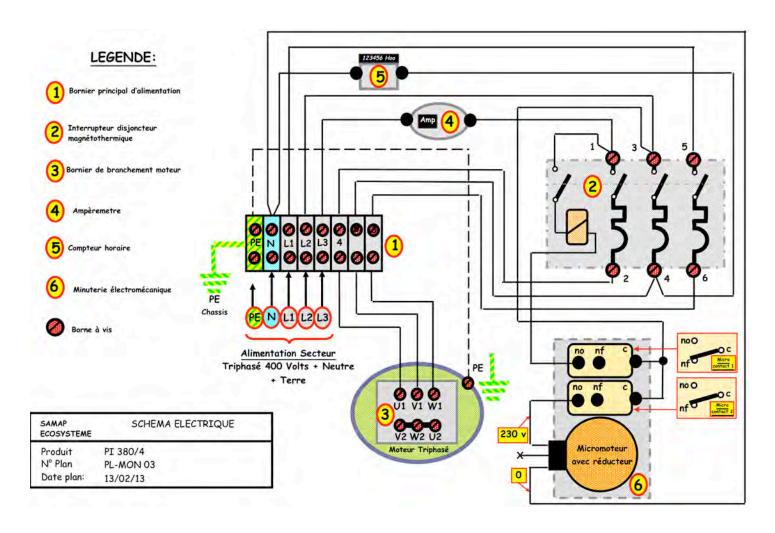
Before changing millstones and find again a high level of fineneness, it is posible to do a rough millstones sharpening to find again the right grinding profile.

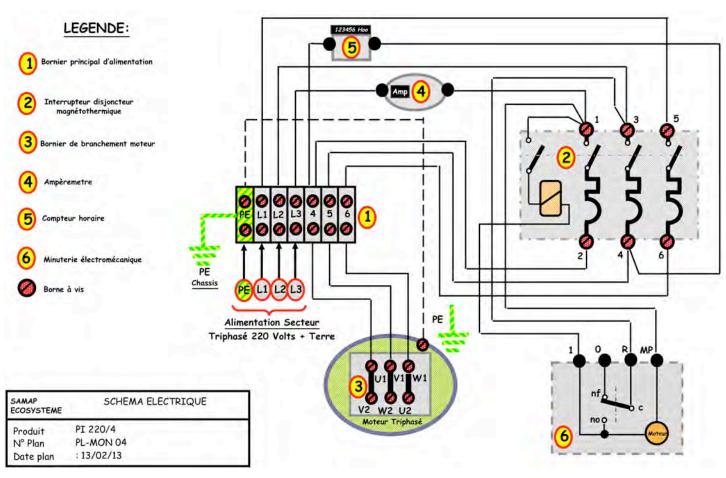
This operation has to be done in our factory with sharpening sand. Depending to the state of wear out of your millstones, we will confirm you if this operation is possible or if the change of the millstones have to be done.

# **ELECTRIC DIAGRAMS**









#### CE CONFORMITY CERTIFICATE

WE, SAMAP ECOSYSTEME SARL - 34, CHEMIN DE LA SPECK 68000 COLMAR, France

DECLARE UNDER OUR OWN RESPONSABILITY, THAT OUR MACHINE (MODEL, SERIAL NUMBER AND YEAR ON THE RATING PLATE) COMPLIES WITH EC DIRECTIVES:

- 2006/42/EG (Directive machine)
- 2006/95/CE (Directive basse tension)
- 2004/108/CE (Directive CEM)

.

#### THE FOLLOWING STANDARDS HAVE BEEN APPLIED:

- NF EN 12100 : Décembre 2010. Sécurités des Machines Principes généraux de conception
- NF EN 60204-1/A1: Mai 2009. Sécurités des machines -Equipement électriques des machines Règles générales

Colmar, 03/01/2013

Name: ZIMMER Michael Titel: Head manager

Signature

#### WARRANTY

Before delivery, SAMAP mills pass by motor and grinding tests and a millstones sharpening.

We guarantee the buyer that our mills:

- PI220/3
- PI380/3
- PI220/4
- PI380/4, are trouble free from material and functionning.

The guarantee period is:

- Millstones: 150 hours of use, limited to a two years period, time counter or date of first purchase as reference.
- Motor and structure: 5 years from the date of original purchase.

The warranty is limited to the exchange of defected parts recognized by ourselves.

The guarantee applies to the millstones only if clean, dry grains are used, free from any stones, nails, metal chips or foreign particules.

Inapropriate use (e.g. operating faults, mechanical damages, incorrect operating voltage, ....) are excluded from guarantee claims.

The guarantee is void if the mill is manipulated by non-authorised persons or for milling other products than dried grains and cereals.

The mill and the defected parts have to be send to our company. All the shipping and handling costs are in charge of the user. The defected parts have to be adequatly packed.

In the event of repairs, no claims will be accepted for indeminties concerning lost time or loss of use during repair.

In all cases, the legal guarantee is applicable agains all faults and consequences of hidden vices.

SAMAP ECOSYSTEME 34, chemin de la Speck 68000 COLMAR