



INDUSTRIAL Y COMERCIAL MARSE S.L.

HANDBOOK

LOADERS

VP series :

MA 2vp

MA 3vp

MA 7vp

MAT 7P3vp

MAT 7P4vp

MAT 14P5vp

MAT 30P6vp

MAT 40P7vp

MAT 50P8vp

Serial number :

Year :

TECHNICAL SAFETY RECOMMENDATIONS

These hopper loaders are machines designed to use the vacuum principle to carry non-toxic plastic granules. They are not suitable for use in any other applications (e.g. for carrying powdered plastics, explosive mixtures, flammable products, foodstuffs or hazardous products of any kind).

This handbook is to provide instructions on the proper use and maintenance of the machine.

It is consequently essential to read the whole of the handbook carefully in order to prevent the onset of any problems that might interfere with the machine's proper operation or cause irreparable damage to the machine.

The following is a set of general considerations that you are urged to bear constantly in mind.

- The machine is fitted with all necessary safety devices for controlling its operation and preventing accidents. These devices tend to prevent accidents, but they cannot rule them out altogether. Never take any potentially hazardous action in any situation without first making sure that the safety devices are in perfect working order and that you are operating in conditions of total safety.**
- The machine must not be used for any purposes other than those for which it was designed and constructed.**
- This handbook describes the machine's technical characteristics and working performance. Said performance must not be altered in any way to increase the working rate of the machine beyond the specifications.**
- The productivity and proper operation of the machine are guaranteed providing the water, air and electricity supplies to the machine comply constantly with the characteristics and connection methods specified in this handbook.**
- The user must have a thorough understanding of the technical features and operation of the machine.**

Any problems or failures caused by misuse or erroneous maintenance shall make the guarantee null and void.

INTRODUCTION :

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--1.0 MANUFACTURER

Registered and administrative offices:

INDUSTRIAL Y COMERCIAL MARSE

Tel. 00 34934902040

Fax 00 34 934902155

Email marse@marse.es

Web www.marse.es

--2.0 INTRODUCTION

This handbook provides information on the use and proper maintenance of the following machines:

- **SINGLE-PHASE HOPPER LOADERS**
- **THREE-PHASE HOPPER LOADERS**
- **CENTRALIZED HOPPER LOADERS FOR LOADING MORE THAN ONE PRESS**

You will not find detailed descriptions of the various component parts, or detailed explanations on how they work, unless they are needed specifically for the purposes of the machine's use and safety. Instead, you will find all the information you need about the safe use and maintenance of the machine, which will also help you to obtain the best possible performance and ensure the longest possible working life for your machine.

--3.0 NAMEPLATES AND SAFETY SIGNS

3.1 NAMEPLATES



Model : Serial number : Year : Volt / Hz.: Motor power :

3.2 COMPRESSED AIR



3.3 CLEANING THE FILTER

IMPORTANTE: LA PULIZIA DEL FILTRO VA ESEGUITA A MACCHINA FERMA E DOPO L'ARRESTO DELLA SOFFIANTE.

IMPORTANT: LE NETTOYAGE DU FILTRE DOIT ETRE FAIT SEULEMENT QUAND LA MACHINE EST ARRETEE ET APRES L'ARRET DE LA SOUFFLANTE.

IMPORTANT: STOP THE BLOWER OF THE DRYER BEFORE CLEANING THE FILTER.

WICHTIG: DER FILTER DARF NUR BEI STILLSTAND DER MASCHINE UND BEI AUSGESCHALTETEM GEBLASE GEREINIGT WERDEN.

3.4 DISCONNECTING THE MAINS POWER SUPPLY



	<p>ATTENZIONE! PRIMA DI APRIRE IL PANNELLO TOGLIERE LA TENSIONE.</p>
	<p>ATTENTION! AVANT D'OUVRIR LA PROTECTION OTER LA TENSION.</p>
	<p>WARNING! SWITCH OFF THE MACHINE BEFORE OPENING PANEL.</p>
	<p>ACHTUNG! VOR DEM ÖFFNEN DER SCHALTAFEL MUSS DIE STROMZUFÜHR UNTERBROCHEN WERDEN.</p>

--4.0 GENERAL

4.1 DESCRIPTION OF THE MACHINE AND ITS INTENDED USE

These HOPPER LOADERS are for collecting non-toxic plastic granules from various containers (sacks, silos, hoppers, etc.) and loading other containers (presses, hoppers, preheaters or dryers, etc).

NO OTHER USES ARE ALLOWABLE

N.B.: The manufacturer accepts no liability in the event of the machine that it has manufactured not being used for its intended purpose.

4.2 OPERATING PRINCIPLES

The various versions can be summarized as follows:

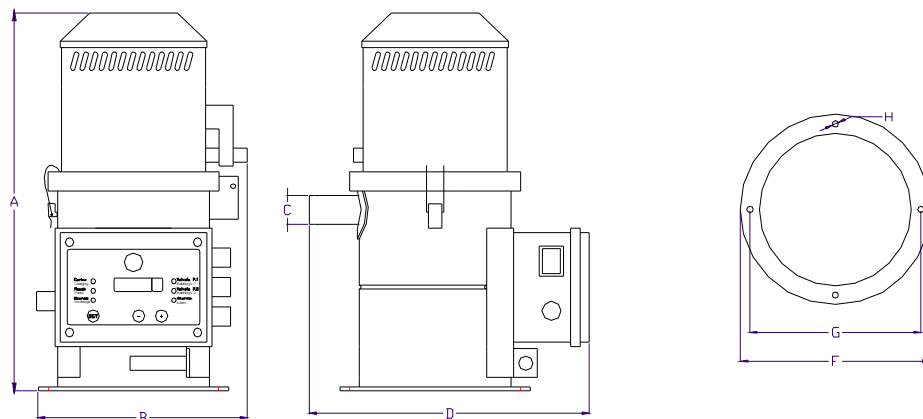
4.2.1) SINGLE PHASE HOPPER LOADERS

These are composed of the following fundamental parts:

- hopper loader body;
- control panel;
- piping connection;
- antistatic, non-toxic flexible conduit with metal probe;
- top containing single-phase carbon brushes motor with fans
- valve for opening/closing compressed air supply with storage capacity inside filter

The single-phase hopper loaders come in three versions:

Technical features	U.M	MA2VP	MA3VP	MA7VP	
Max qty collected	Kg/h	55	110	180	
Motor power	Kw	0,9	1,1	1,1	
Cooling		by-pass	by-pass	by-pass	
Vaccum	KPa	20	22	22	
Noise level (max)	dbA	<80	<80	<80	
Weight	Kg	10	12	14	
Dimensions					
	A	mm	465	550	670
	B	mm	220	302	302
	C	Φmm	40	40	40-50
	D	mm	300	390	390
	F	Φmm	200	290	290
	G	Φmm	180	265	265
	H	Φmm	7	7	7



4.2.2) THREE-PHASE HOPPER LOADERS

These are composed of the following fundamental parts:

• **Control unit**; comprising:

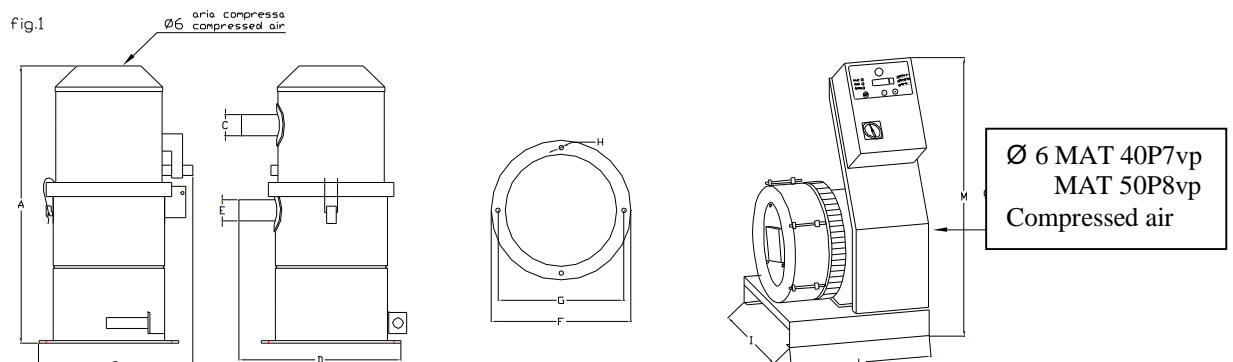
- base;
- motor with fan;
- control panel.

• **Hopper loader body**; comprising:

- hopper loader body or container;
- piping connection;
- air opening/closing valve.

There are six standard versions of the three-phase hopper loaders:

Technical features	U.M.	MAT7P3	MAT7P4	MAT14P5	MAT30P6	MAT40P7	MAT50P8	
Max qty collected	Kg/h	200	275	550	800	900	1000	
Motor power	Kw	0,75	1,5	2,2	3	4	5,5	
Cooling	KPa	15	20	20	25	25	26	
Noise level (max)	dbA	<80	<80	<80	<80	<80	<80	
Weight cyclone	Kg	12	14	15	20	20	20	
Weight control unit	Kg	25	30	40	50	/	/	
Dimensions cyclone	A	mm	550	670	810	1000	1000	1000
	B	mm	302	302	360	450	450	450
	C	Φmm	40	40	50	50	50	50
	D	mm	300	300	360	450	450	450
	E	Φmm	40	40	50	50	50	60
	F	Φmm	290	290	320	320	320	320
	G	Φmm	265	265	300	300	300	300
	H	Φmm	/	7	7	7	8	8
	Dimensions control unit	I	mm	400	400	400	400	500
L		mm	350	350	350	350	400	450
M		mm	780	780	780	780	780	780



4.2.3) CENTRALIZED HOPPER LOADERS

These are composed of the following main parts:

- supporting base;
- motor with air suction fan;
- control panel;
- air filter;
- a set of hopper loader bodies connected to the control unit with a suction pipe, which is connected behind the motor.

4.2.4) OPTIONAL ACCESSORIES

•Proportional valve

This is a system for batching and mixing two materials. It comes in two versions:

- VP-1** : for Comercial Marsé electronic versions with no control panel
- VP-2** : for electromechanical versions with a control panel

The valves are installed in the pipe connection.

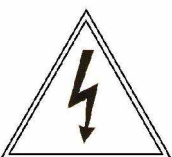
N.B.: - The features of the machine can be adapted to suit a given customer's needs.

4.3 SAFETY SYMBOLS

The following table shows the various hazard symbols. All operations that may potentially carry a risk to the user/technician are identified by one or more of these symbols, which are also followed by some necessary wording emphasized in block letters.



GENERIC HAZARD



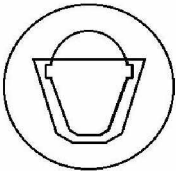
HAZARDOUS ELECTRIC VOLTAGE



SAFETY FOOTWEAR



SAFETY GLOVES



SAFETY VISOR

4.4 TRANSPORT

!!!!!!!!!!!! IMPORTANT !!!!!!!!!!!!!

The means for loading, unloading and transporting the machine must comply with current legislation. The machine must be moved only by inserting the forklift truck's forks and lifting it from underneath. **Do not use ropes or chains to sling up the machine.**

4.5 UNPACKING

The machine is delivered inside a cardboard box or on a pallet.

The contents include:

- hopper loader
- flexible connection conduits
- use and maintenance handbook



While unpacking the machine, the operator must use gloves and protective clothing to avoid any risk of being cut or scratched due to the presence of wooden parts and plastic strapping.

4.6 DISPOSAL

The machine is mainly composed of steel, aluminium, stainless steel, rubber and plastic.

When the machine comes to the end of its useful working life, it must be disconnected from all supply lines, removed from the workplace and stored in an area suitable for said purpose until it is dismantled.

It must be disposed of entirely in compliance with current waste disposal regulations.

!!!!!!!!!!!! IMPORTANT !!!!!!!!!!!!!

After uninstalling the machine, it is important to attach a sign with the wording:

MACHINE AWAITING DISPOSAL, NOT FOR USE.

4.7 NOISE

The noise level has been measured in compliance with current requirements pertaining to noise.
Noise level 80 dBA.

4.8 RISK ASSESSMENT

1) Motor cooling fan. **Cutting** risk for hands.

A protective plastic grid has been installed to overcome this risk.

2) Internal suction fan (in the event of the lid being opened while the motor is running).

Cutting or scratching risk for hands.

The cavity containing the fan has been protected by a mesh cover to overcome this risk.

3) Electric control panel. This has no red mushroom-head emergency button because it is unnecessary.

The control panel is not approved for outdoor use. It is bolted shut and can be opened only with the aid of a special tool.

4) **Burning** risk (limited) on the motor in the MA and MAT range.

The motor is fitted with an auto-cooling system that prevents its temperature from exceeding 80°C.

5) The tests conducted indicate a noise level below the established limits.

Although the allowable threshold is not exceeded, the operator is nonetheless advised to use earplugs.

4.9 SAFETY REQUIREMENTS, RECOMMENDATIONS AND OBLIGATIONS FOR THE USER

- You are **ALWAYS** urged to read **ALL** of this chapter before undertaking any maintenance and before you use the machine for the first time.

IT IS STRICTLY FORBIDDEN FOR ANY UNAUTHORIZED PERSONS TO COME WITHIN THE RANGE OF ACTION OF THE MACHINE

- 1: It is compulsory for the operator to use protective gloves to avoid burns and earplugs to avoid damaging his hearing.
- 2: Never remove the safety devices installed.
- 3: Do not smoke near the hopper loader.
- 4: Provide for fire-fighting measures in the vicinity of the hopper loader (extinguisher and/or others).
- 5: It is strictly forbidden to work in unprotected areas: the electric system is not approved for outdoor use.
- 6: Avoid removing the signs provided.
- 7: Any servicing must be done with the machine at a standstill after disconnecting the power supply.

RECOMMENDATIONS

N.B.: Before taking any action for the purpose of ordinary or extraordinary maintenance on the machine, carefully read the chapter:

--5.0 INSTALLATION

The machine must be installed by qualified personnel and complying scrupulously with all current requirements. All installation measures must be undertaken in complete safety both for the person doing the work and for anyone in the vicinity. To ensure these conditions, operators must be equipped with all necessary tools, they must mark off the working area with hazard warning tape and they must provide hazard warning signs in strategic places.

The machine has been designed to operate in the following limit conditions:

•ambient temperature	+5°C	+40°C
•storage temperature	-10°C	+50°C
•relative humidity with no condensation	30%	95%
•maximum altitude	2000 m	a.s.l.

5.1 ELECTRIC CONNECTIONS

!!!!!!!!!!!! IMPORTANT !!!!!!!!!!!!!

ELECTRIC CONNECTIONS MUST BE MADE BY QUALIFIED PERSONNEL. CHECK THE DETAILS ON THE MACHINE'S NAMEPLATE AND MAKE SURE THE POWER SUPPLY LINE IS CAPABLE OF WITHSTANDING THE MAXIMUM POWER INSTALLED ON THE MACHINE. PROVIDE A SUITABLE CIRCUIT-BREAKING AND PROTECTION SYSTEM UPSTREAM FROM THE MACHINE. THE MACHINE MUST BE CONNECTED TO AN EFFICIENT EARTHING SYSTEM.

The machine must be connected using the power cord provided on the machine itself. Should it prove necessary to replace this with a new cable, the latter must have the same characteristics.

PLUG AND SOCKET CONNECTION: if the machine is powered from a SOCKET, you need to fit the power cord with a **PLUG in compliance** with the current regulations in the country where the machine is to be used.

FIXED CONNECTION: the machine's power supply cord can be connected to the fixed system using a **device that assures protection against short circuits and ground faults** bearing in mind that the maximum short-circuit current allowable in the machine's circuit is 10kA.

Routinely check the motor carbon brushes for wear and tear and change them as and when necessary.

For any spare parts, comply scrupulously with the list of recommended materials attached, making replacement with items exactly identical to the originals. It is advisable to order these spares from COMERCIAL MARSE S.L.

5.2 COMPRESSED AIR CONNECTION

The compressed air coupling is for connecting to a dia. 6 flexible conduit.

The compressed air supply must be dry, unlubricated and at a maximum pressure of 6/8 bar.

5.3 CONNECTION TO THE MACHINE

Drill holes in the lid on the machine's hopper, copying the holes already cut in the bottom flange on the hopper loader body, and fit the container in place.

If our all-purpose fixing bracket is used, adjust the sliding clamps to suit the dimensions of the hopper and then tighten all the fixing screws.

Couple the flexible conduit for carrying the granules to the bottom inlet on the hopper loader body, connect the suction probe on the side opposite the flexible conduit.

6.0 OPERATION

6.1 OPERATING CYCLE

When you turn on the main switch, the equipment starts to work. The cycle begins with a burst of compressed air to clean the filter. Then the motor begins to turn. Air and material are simultaneously sucked through the hose and enter the cyclone, where the air is separated from the material by the filter and released into the outside atmosphere, while the material is deposited. After the suction time has elapsed, the bottom door in the cyclone (hitherto kept closed by the negative pressure) opens (and the led C comes on) and the material slides into the hopper.

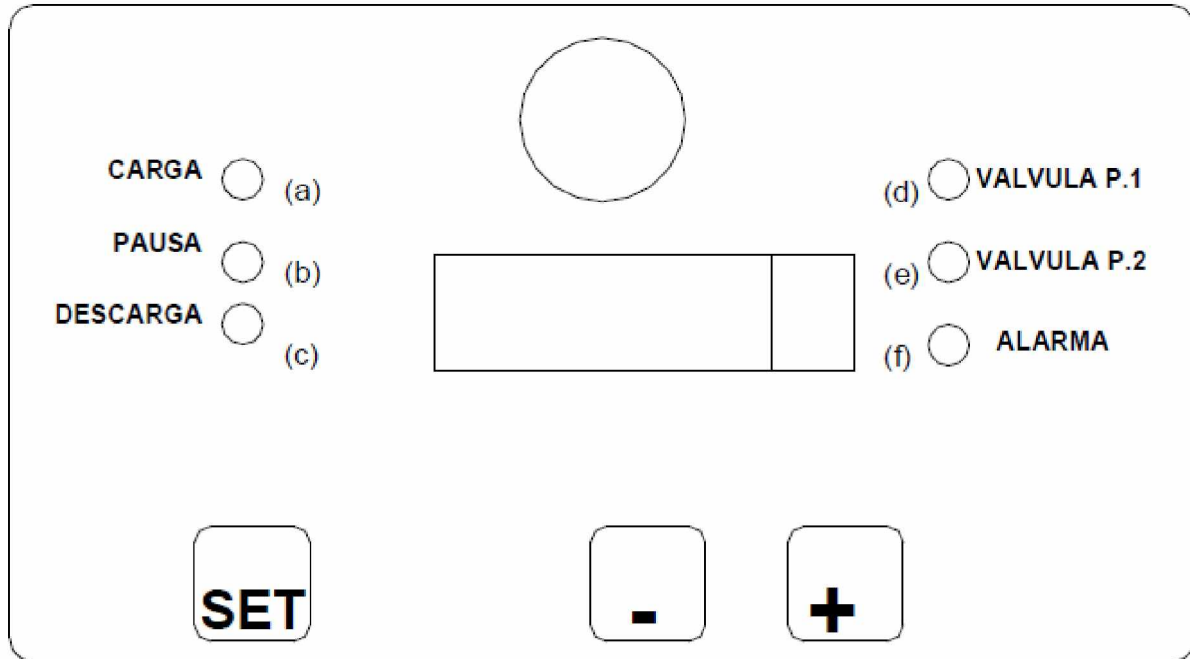
When the suction motor stops, the display shows the material unloading time. If the door fails to open within 7 sec, a burst of air is delivered to release it. If the door opens and the material is unloaded, then the cycle begins again (after the unloading time has elapsed) with a burst of air to clean the filter. If the door fails to open despite the burst of air delivered to release it, this means that no material has been loaded by the hopper loader. Thirteen seconds after the burst of air has been delivered to release the door, the cycle begins again with the burst of air to clean the filter and a red warning light begins to flash on and off to indicate that no material was loaded during the previous cycle.

If the hopper loader succeeds in loading some material in one of the cycles following the one when no material was loaded, then the red warning light goes off and the normal cycle is restored. If, on the other hand, the hopper loader fails to load any material in the next eight cycles, then the motor stops, the red light continues to flash on and off and the display shows the wording "bL".

To restore the appliance to normal operation, open and close the main switch.

6.2 FINE ADJUSTMENT

Fig.1



A- LOAD B- PAUSE C- UNLOAD D- VALVE P.1 E- VALVE P.2 F- ALARM

The Comercial Marsé hopper loader is complete with a device for adjusting the suction time.

It is important to adjust the suction time by means of the keyboard situated on the control panel (see Fig.1), depending on the type of material and the distance it is carried.

Turn on the hopper loader by turning on the main switch, then press and release the SET button once: the green led (a) begins to flash and the display shows the wording "A 10", which means a suction time of 10 sec. Use the "+" and "-" buttons to increase or decrease the suction time in order to obtain the maximum load at each cycle.

Complete the procedure by pressing and holding the SET button until you exit programming mode, or press the SET button once to confirm the setting and then wait about 30 sec for the programming mode to be abandoned automatically.

It is important to adjust the suction sensor as a function of the distance the material is carried and the type of material in question.

Do not thrust the suction sensor into the material inside the container.

Make sure that the filter is in position and the doors are closed.

6.2.1 ADDING A PAUSE

The Comercial Marsé hopper loader has a program for including a pause in the process. Should you wish to load the machine with a small amount of material at a time - e.g. in the case of essicated or dehumidified materials, to avoid their contamination by the ambient air - you can include a pause between one cycle and the next. Press and release the SET button twice: the yellow led (b) begins to flash on and off and the display shows the wording: "b 0.0", which means a pause lasting 0 min. Use the + and – buttons to increase or decrease the duration of the pause (in minutes).

Complete the procedure by pressing and holding the SET button until you exit programming mode, or press the SET button once to confirm the setting and then wait about 30 sec for the programming mode to be abandoned automatically.

The fact that a pause has been inserted is indicated by the led (b) coming on.

6.2.2 ENABLING THE PNEUMATIC VALVE TYPE VP1

The Comercial Marsé hopper loader has a program for enabling the pneumatic batching valve. First of all, make the electric connection for the batching valve in the space provided on the electronic board. Turn on the hopper loader, then press and release the SET button three times: the wording "C 00" appears and the led (d) begins to flash on and off. Use the + and – buttons to adjust the pure new material time (in sec.).

Then press and release the SET button again: the wording "d 00" appears and the led (e) begins to flash on and off. Use the + and – buttons to adjust the material to mix time (in sec.).

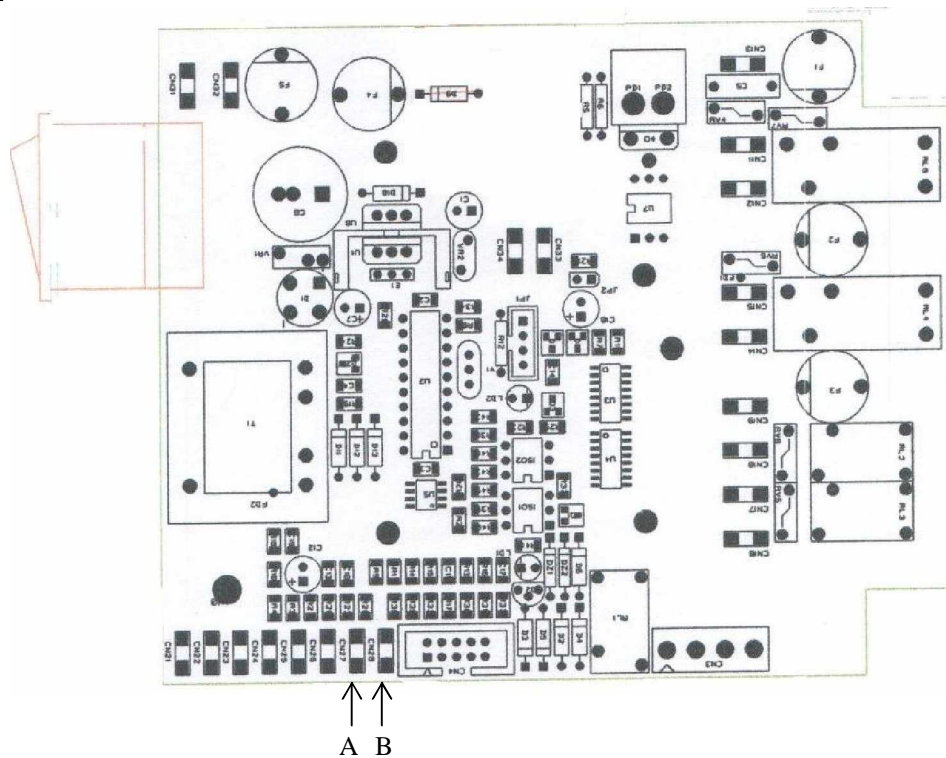
Complete the procedure by pressing and holding the SET button until you exit programming mode.

6.2.3 MOTOR BRUSHES ALARM (for single-phase models)

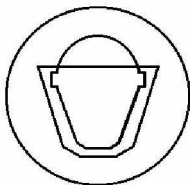
The Comercial Marsé hopper loader has a program for monitoring wear on the motor brushes. When the red "alarm" led (f) flashes on and off, this means that the brushes have reached the maximum limit and need to be changed without delay to avoid damaging the motor. The brushes must be replaced by a qualified technician and in compliance with current regulations.

After changing the brushes, in order to reset the board you need to switch off the machine by means of the main switch, open the cover on the control board and, referring to fig. 2, connect the contacts "CN27" and "CN28" indicated as A and B with one another. Switch on the machine for a few seconds, again by means of the main switch, then switch it off again and remove the connection between A and B. Finally, put the cover back and fix it in place with the four screws.

Fig.2



--7.0 SERVICING



Any machine servicing must be done by qualified personnel and in complete compliance with all current regulations. All installation measures must be undertaken in complete safety both for the person doing the work and for anyone in the vicinity. To ensure these conditions, operators must be equipped with all necessary tools, they must mark off the working area with hazard warning tape and they must provide hazard warning signs in strategic places.

The routine servicing schedule is established on the assumption of the ideal conditions for the machine, the way it is operated and the environment in which it is normally used. It is consequently essential to establish and follow a regular inspection and maintenance program.

Comercial Marsé accepts no liability for any damage to persons and/or property deriving from failure to comply with the above recommendations or from any unsuitable and/or improper use of the machine.

WEEKLY

Clean the hopper loader filter every day.

To do so proceed as follows:

-Loosen the covers on the hopper loader body, lift the suction head, remove the filter inside, shake it and clean it with a jet of compressed air, then reinstall all the components. Clean the filter more frequently if you are handling very dusty materials. Before re-installing the filter it is important to check for any signs of damage, in which case it must be replaced immediately. When you change color, clean the inside of the hopper loader body as well as the filter. Dirty and clogged filters reduce the machine's performance.

THREE-MONTHLY

-Check the hopper loader filter and, if necessary, replace it.

ANNUALLY

-Check the hopper loader motor and, if necessary, replace it.
-Check the blower solenoid valve and, if necessary, replace it.