



ENARCO, S.A.



QP / QPM / QGH / QGR

*REGLAS VIBRANTES FIJAS Y EXTENSIBLES*  
*FIXED AND EXTENSIBLE VIBRATING SCREEDS*  
*REGLES VIBRANTES FIXES ET EXTENSIBLES*  
*AUSDEHNBARE DOPPEL ABZIEHBOHLEN*



**Manual de instrucciones**  
**Instruction manual**  
**Manuel d'instructions**  
**Gebrauchsanweisungen**

es  
en  
fr  
de



# INDEX

1	INTRODUCTION	2
2	CHARACTERISTICS	3
3	USAGE CONDITIONS	5
4	OPERATION AND MAINTENANCE	7
	4.1 GETTING STARTED	7
	4.2 EXTENSION CABLES	7
	4.3 PERIODIC MAINTENANCE	8
	4.4 STORAGE	9
	4.5 TRANSPORTATION	9
5	ELECTRIC SCHEME (QP,QPM)	9
6	LOCATING MALFUNCTIONS	10
7	INSTRUCTIONS TO ORDER SPARE PARTS	10
	7.1 INSTRUCTIONS TO ORDER SPARE	10
	7.2 INSTRUCTIONS TO REQUEST WARRANTIES	10
8	RECOMENDATIONS OF USE	11



## 1 INTRODUCTION

Thank you for trusting the **ENAR** brand.

For the maximum performance of the equipment, we recommend to read carefully the safety recommendations, maintenance, and usage listed in this manual.

Defective parts should be replaced immediately to avoid major problems.

The effective longevity of the equipment will increase if the manual instructions are followed.

We will be glad to help you with any comments or suggestions in reference to our equipment.

en



## 2 CHARACTERISTICS

The vibrating screeds are used for the vibrating and the finishing of the floors in the construction industry and for the finishing of parts in the pre-cas industry. The double beam screed depth-effect is from 15 to 25 cm. For very thick concrete layers, we recommend to use pokers at the same time in order to obtain the right compaction and consistence of the concrete mass as well as its finishing.

The vibrations come from the vibrating group that consists on an exciter powered by a petrol engine or an electric motor.

Double beam screed consists on a set of aluminium or steel beams (sold separately) able to extend from 2,7 or 3,5 meters to 4,5 or 6 meters length. To increase the length it is necessary to free the vibrating group clamps and to pull the beams to get the required length. Then, fix the vibrating group clamps again.

The vibrating group fit in the beams and is fixed to them with two clamps (one on each side).

It is possible to choose a vibrating group powered by an electric vibrator or a petrol engine. In the case of the petrol engine, vibration is produced by an eccentric weight, assembled with bearings, inside a steel housing. This housing also works as an oil tank for lubricating the bearings. A belt transmits the movement from the engine (assembled on four silent-blocks to isolate it from vibrations) to the pulley of the eccentric weight to produce the vibration.

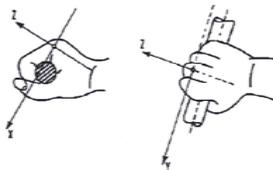
There is a hook on each edge of the beam where the pulling handle must be inserted for pulling the screed while working.

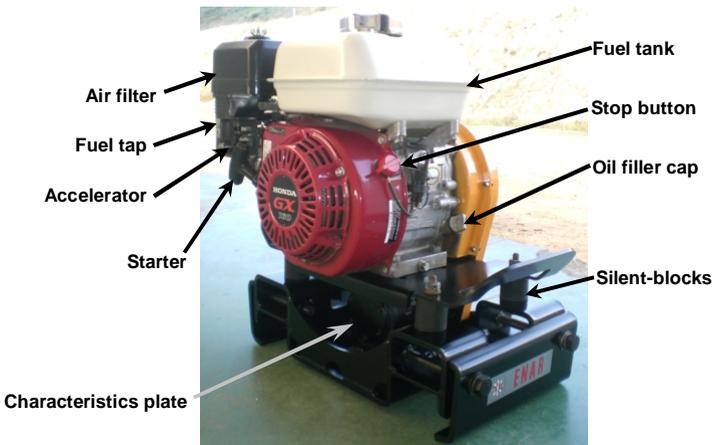
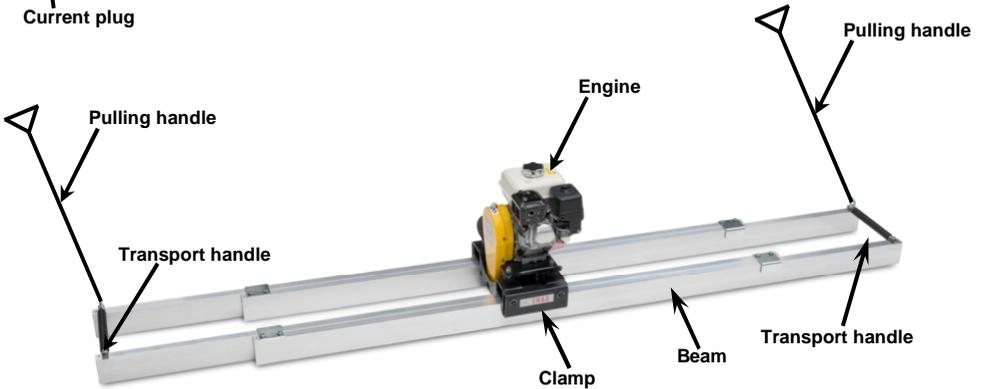
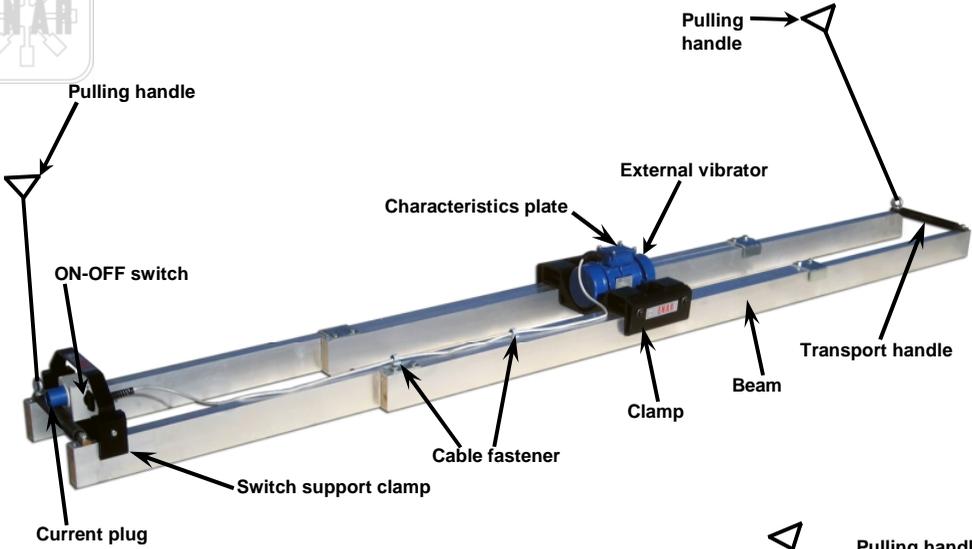
Model ▶ ▼ characteristics	ELECTRIC SCREED		PETROL SCREED	
	QP	QPM	QGH	QGR
Motor	EXTERNAL VIBRATOR BM300	EXTERNAL VIBRATOR BM300/M	HONDA GX160 UT1 QX4	ROBIN EX17
Frequency (rpm)	3000	3000	7000	7000
Beam length (m)	2,5-4,5 / 3,5-6	2,5-4,5 / 3,5-6	2,5-4,5 / 3,5-6	2,5-4,5 / 3,5-6
Vibrating group weight (kg)	29,8	30	47,2	47,5
Centrifugal force (kp)	310	310	300	300
Acoustic pressure Lpa (dB)*	<70	<70	115	115
Acoustic power Lpa (dB)*	-	-	122	122
Hand-arm vibration (m/s <sup>2</sup> )**	9,4	9,4	1,97	1,97
Uncertainly K (m/s <sup>2</sup> )	1,35	1,35	1	1
Time from which precautions must be taken (hours)	0,56	0,56	S/L***	S/L***
Time limit of continued use (hours)	2,26	2,26	S/L***	S/L***

\*\*\*S/L=no time limitation, taking as a reference a working period of 8 hours a day.

\*Noise values measured at the workstation: 1,6m over the floor and 0,2m by the ear of the user.

\*\*Vibration measured in the handle of the vibrating unit (as shown in the picture).





EXTENSIBLE DOUBLE BEAM VIBRATING SCREENS





### 3 USAGE CONDITIONS



**WARNING!**  READ AND UNDERSTAND ALL INSTRUCTIONS.

#### WORKING AREA

KEEP your work area clean and well lit. Cluttered benches and dark areas invite accidents.



**DO NOT OPERATE** power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.

**KEEP** standers, children, and visitors away while operating a power tool. Distractions can cause you to lose control.

#### ELECTRICAL SAFETY



**GROUNDING TOOLS MUST BE PLUGGED INTO** an outlet properly installed and grounded in accordance with all codes and ordinances.

**NEVER REMOVE** the grounding prong or modify the plug in any way.

**DO NOT USE** any adaptor plugs.

**CHECK** with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.

**AVOID** body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.

**DON'T EXPOSE** power tools to rain or wet conditions.

**DO NOT ABUSE** the cord. **NEVER USE** the cord to carry the tools or the plug from an outlet. **KEEP** cord away from heat, oil, sharp edges or moving parts.

**REPLACE** damaged cords immediately. Damaged cords increase the risk of electric shock.

**WHEN OPERATING** a power tool outside, use an outdoor extension cord marked "W-A", "W" or "H07RN-F".

#### PERSONAL SAFETY



**STAY ALERT**, watch what you are doing and use common sense when operating a power tool.

**DO NOT USE TOOL** while tired or under the influence of drugs, alcohol, or medication.

**DRESS** properly.

**DO NOT WEAR** loose clothing or jewellery.

**CONTAIN** long hair.

**KEEP** your hair, clothing, and gloves away from moving parts. Loose clothes, jewellery, or long hair can be caught in moving parts.

**AVOID** accidental starting.

**BE SURE** switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.

**REMOVE** adjusting keys or switches before turning the tool on.

**DO NOT** overreach.

**KEEP** proper footing and balance at all times.

**USE** safety equipment.

Always **WEAR** eye protection. Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

#### TOOL USE AND CARE

**USE** clamps or other practical way to secure and support the workpiece to a stable platform.

**DO NOT FORCE** tool.

**USE** the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

**DO NOT USE** tool if switch does not turn it on or off.

**DISCONNECT** the plug from the power source before making any adjustments, changing accessories, or storing the tool.

**STORE** idle tools out of reach of children and other untrained persons.

**MAINTAIN** tool with care. **KEEP** cutting tools sharp and clean.



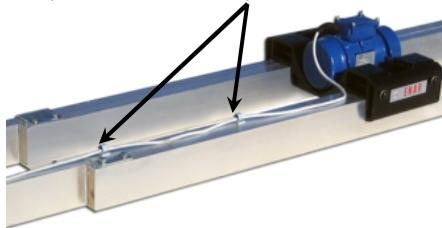
CHECK for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using.  
USE only accessories that are recommended by the manufacturer for your model.

### SERVICE

-  Tool service **MUST BE PERFORMED** only by qualified repair personnel.  
When servicing a tool, USE only identical replacement parts.  
FOLLOW instructions in the maintenance section of this manual.

### SPECIFIC SAFETY RULES

-  1.- For the proper use of this device, please assure that the operator has been correctly informed of the content of this manual before using it.
- 2.- This screed can be used only under the applications for which it has been designed and according to these safety instructions.
-  3.- Do not touch any part of the vibrating group when the motor is running.
- 4.- Do not work in an area exposed to flammable liquids or gases.
- 5.- Do not allow inexperienced or not trained personal to use the poker alone.
- 6.- Always keep the vibrating screed clean and dry.
- 7.- Please secure all the threads and bolts before working.
- 8.- Do not stop the screed until the concrete mass is fully vibrated.
- 9.- Do not work with the screed if any type of dysfunction, even small, has been observed until repair.
-  10.- When working with a petrol screed:
  - Read the motor manufacturer's manual before working.
  - Do not work in closed rooms, the exhaust fumes may be toxic.
  - Wait 2 minutes for the petrol refill until the motor gets colder.
-  11.- When working with an electric screed:
  - Before connecting the motor to the power source, check that the Voltage and Frequency match the specifications appearing in the plate.
  - Make sure that the cables are of the correct section and are in good condition.
  - If the screed is connected to a generator, please make sure the Output and voltage specifications are the convenient ones for the model as showed in the specifications plate. The voltage must not vary more than 5%.
  - Install the cable fasteners supplied to avoid the cable is in the ground while working. These parts are self-adhesive and must be placed as shown in the picture:



-  12.- The acoustic power level of this machine could be a risk for health (see table of characteristics at point 2). Proper protective equipment must be used.
-  13.- Hand-arm vibration caused by machinery is a risk for health. The machine must always be handled using isolated gloves and all the necessary safety equipment. Besides, the user must rest each hour of effective work. Vibration levels for each type of double beam screed are shown in the characteristics table of the point 2. The parts that isolate from vibrations must be always in good condition. When they get damaged, replace them immediately.
- 

**FUTHERMORE, THE OPERATOR IS COMPELLED TO RESPECT ADDITIONAL REGULATIONS ENFORCED**



## 4 OPERATION AND MAINTENANCE

### 4.1 GETTING STARTED



1.- Before working, make sure that all the security devices are operating under normal conditions.



2.- **WITH PETROL ENGINE:**



- Read the motor manufacturer's manual.

- Do not work in rooms with scarce ventilation.

- Make sure there is no flammable substance near to the exhaust.

Check the petrol level in the fuel tank (unleaded gas only).

Check the oil reservoir of the motor is full (see engine's manual) in the 4 stroke engine (SAE10W40).

3.- **WITH ELECTRIC MOTOR:**

Before working, switch the motor off with the handle switch.

Check the Current specifications of the power source.

Make sure the cables are in good condition.

Secure the power source is ground connected.

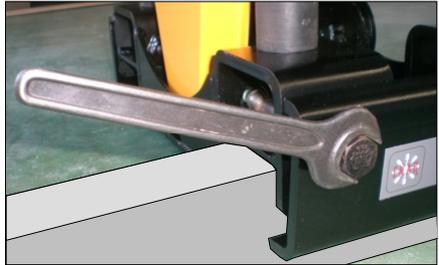
In the case of using extension cables, read the section 4.2.

4.- Check all the bolts are well tighten. The bolts that fix the clamps to the beam must be strongly tightened up with a n°22 wrench:

5.- Start the motor, regulate the speed with the accelerator (Petrol) until it reaches a good vibration.

6.- Vibrate the floor by pulling the screed from the pulling handles.

7.- When the work is finished, always remove the fresh concrete that has been settling on the beams and the motor before it gets dry.



8.- When a defect or a malfunction has been detected, endangering the use of this machine or not, stop the work and make the correspondent maintenance to avoid any danger or bigger damage.

### 4.2 EXTENSION CABLES

In order to protect the operator from an electric shock, please make sure that the screed is ground connected.

The motors are fitted out with 3 ways cables (2 Phases + Earth) and the correspondent plug. The convenient socket must be used.

Do not use damaged cables.

Avoid heavy loads on cables

To determine the transversal section, follow the following procedure:



**Procedure to determine the necessary transversal section in cable extensions:**

Do the following verifications and take the highest section of cable:

1.- The ohmic resistance and inductive resistance of the cable with the permitted loss of voltage of 2%,  $\cos \phi = 0.8$  through the frequency and voltage curve.

I.e.:	Nominal voltage:.....	1- 230 V 50 Hz
	Nominal current:.....	10 A
	Cable length:.....	100 m

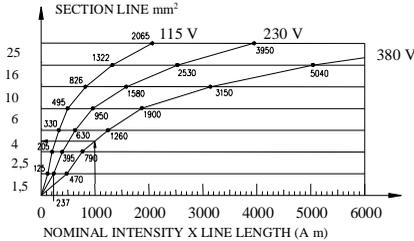
Entering the curve with the product: Intensity x Length = 10 x 100 = 1000 A m.

We obtain a 4 mm<sup>2</sup> section.



2.- The permitted heating of the cable according to VDE standard (minimum transversal section table required).  
 I.e.: For 10 A, according to table for 15 A or less, the section is of 1 mm<sup>2</sup>.

Therefore, the section chosen is equal to 4 mm<sup>2</sup>, always chose the highest transversal section of the two verifications.



Minimum section according VDE rules		
Line (mm <sup>2</sup> )	Maximum (A)	Max fuse (A)
1	15	10
1,5	18	10/3-16/1-
2,5	26	20
4	34	25
6	44	35
10	61	50
16	82	63
25	108	80

### 4.3 PERIODIC MAINTENANCE

#### MAINTENANCE WITH PETROL ENGINE



1.- **Daily (8 hours).**

Clean the motor and the beams, check the bolts & nuts, check and fill the motor's reservoir with oil.

2.- **Weekly (50 hours).**

Change the motor oil (first 20 hours), clean the sparking plugs and the air filter.

3.- **Monthly (200 hours).**

Clean the oil filter, clean and adjust the sparks plugs.

4.- **Every 500 hours.**

Clean and set the carburettor, clean the cylinder's head, set the valves.

5.- Always use original parts by every maintenance operation.

6.- The safety fittings have to be checked after every maintenance.

7.- **Every 12 months** or more frequently, the screed has to be sent to an authorized workshop for service according to the intensity of the usage.

8.- Do not fill the fuel tank while smoking or near any other potential source of danger.

Lock the petrol admission key when filling, use unleaded gas, clean the gas spelt.

9.- Idle speed of the motor must not exceed 3.000 rpm (standard set).

By every maintenance operation, the idle speed of the engine has to be checked and adjusted at 3.000 rpm. See the engine's manual to set the engine speed, starting and stopping.

10.- Check the oil level in the exciter reservoir every 100 hours (10W 40 non foaming).

#### MAINTENANCE WITH ELECTRIC MOTOR



1.- The operating of the electric parts must be done by a specialist.

2.- During the maintenance, make sure that the device is disconnected from the power source.

3.- Always use original parts by every maintenance operation.

4.- The bearings of the motor do not need a periodic maintenance.

5.- Inspect the plug, the socket as well as the cables every 100 Hours.

6.- Periodically clean the housing of the motor to prevent an overheating.

7.- The safety fittings have to be checked after every maintenance.

8.- **Every 12 months** or more frequently the screed has to be sent to an authorized workshop for service according to the intensity of the usage.

9.- Re-screw the nuts and bolts daily.





#### 4.4 STORAGE

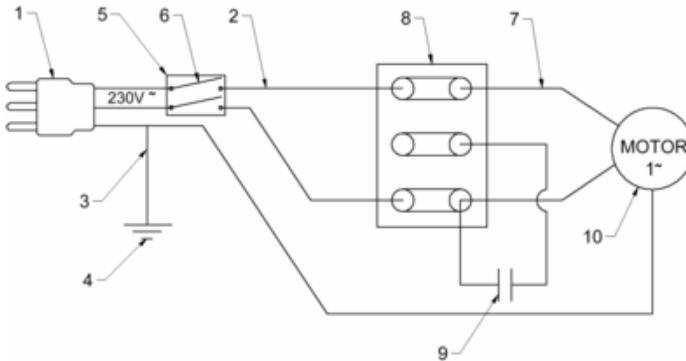
Always stock the screed in a clean and dry area when not used for a long period of time.

#### 4.5 TRANSPORTATION

Make sure the screed won't suffer any ripping or shock that could cause any damage.

### 5 ELECTRIC SCHEME (QP,QPM)

#### CABLE SCHEME FOR ONE PHASE MOTOR CONNECTED AT 220 V (QPM)



1.- PLUG 2P+Earth

3.-EARTH CABLE (green-yellow) 1,5mm<sup>2</sup>

5.-SWITCH BOX

7.-CABLE FROM SWITCH TO MOTOR SECTION 1,5 mm<sup>2</sup>

9.-CONDENSATOR 15μF/450V

2.-CABLE TO SWITCH SECTION 1,5 mm<sup>2</sup>

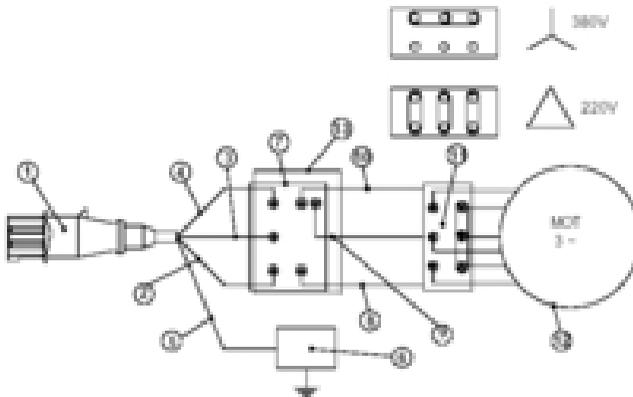
4.-EARTH CONNECTION POINT

6.-SWITCH

8.-TERMINAL BOX

10.- MOTOR

#### CABLE SCHEME FOR THREE PHASES MOTOR CONNECTED AT 380 V (QP)





- 1- PLUG 3Ph+Earth
- 3- CABLE TO SWITCH SECTION 2,5 mm2
- 5- EARTH CABLE (green-yellow)
- 7- SWITCH
- 9- CABLE DE INTER. A MOTOR SECCION 2,5 mm2
- 11- TERMINAL BOX
- 13.- SWITCH BOX
- 2- CABLE TO SWITCH SECTION 2,5 mm2
- 4- CABLE TO SWITCH SECTION 2,5 mm2
- 6- EARTH CONNECTION POINT
- 8- CABLE FROM SWITCH TO MOTOR SECTION 2,5 mm2
- 10- CABLE DE INTER. A MOTOR SECCION 2,5 mm2
- 12- MOTOR

## 6 LOCATING MALFUNCTIONS

PROBLEM	CAUSES/SOLUTIONS
<b>The motor doesn't work</b>	Check the gas level
	Check the gas admission key is open.
	Check the de choke position (gas).
	Check the power source (electric).
	Check the cables, the switch and the plug electric.
<b>The screed doesn't vibrate</b>	Check the oil level of the exciter
	Check the exciter's belt.
<b>The electric motor is overheating</b>	Check there is not dust inside the motor.
	Check the power supply type.

## 7 INSTRUCTIONS TO ORDER SPARE PARTS

### 7.1 INSTRUCTIONS TO ORDER SPARE PARTS

- 1.- Every spare parts order must include PART CODE NUMBER AS STATED IN THE PARTS LIST. We recommend including the MACHINE SERIAL NUMBER.
- 2.- The identification plate with serial and model number is located as shown in the point 2 of this manual.
- 3.- Let us to know the right shipping instructions, including the wished route, the address and the consignee complete name.
- 4.- Do not return the parts without authorisation, the return is done with freight prepaid.

### 7.2 INSTRUCTIONS TO REQUEST WARRANTIES

- i** 1.- The warranty is valid for 1 year after the purchasing of the machine, the warranty will cover parts with manufacturing defects. In any case the warranty will cover a malfunction due to improper usage of the equipment.
- 2.- In all warranty requests THE MACHINE MUST BE SENT TO ENARCO, S.A. or to an AUTHORIZED DEALER, always including the complete address and name of the consignee.
- 3.- The Technical Assistance Service will immediately notify to the customer if the warranty is accepted and, if requested, it will send a technical report.
- 4.- The warranty will be void if any equipment has been previously handled by personnel outside of ENARCO, S.A. or not authorized by it.

**NB:** ENARCO, S.A. reserves the right to modify any part of this manual without prior notice.





## 8 RECOMENDATIONS OF USE

**i**

The screeds are used to the vibration and the finishing of the floors. You can work directly on the surface with guides. Before starting the guides must be adapted. Then the steel structure is posed on the concrete mass. The screed is laid over the guides and the work can start. (two operators are demanded). Thanks to its weight and to its mechanism producing a powerful vibration, the screed is ideal to smooth rapidly and easily the floors (more than 15 cm).

For the floors which measure more than 30 cm the concrete mass is also vibrated with vibrating equipment before the finishing with the screed.

In order to get a good finishing of the concrete surface, we recommend you to follow these instructions:

- 1.- Before pouring the concrete mass on the structure, it is necessary to properly level the concrete mass. To an easier compaction of the concrete, you should use the vibrating pokers additionally. It's important to take references or levels out of the mass to see the level objective clearly. The markings of the feet and tools disappears after the last pass of the screed. The vibration wave produced reaches a depth until 18 cm depending on the type of concrete mass.
- 2.- When the mass is prepared, the screed is laid over the concrete mass with the motor running at the top speed and you must pull the handles slightly in order not to spring over the surface and not create "waves" and "markings" with edges. Pull constantly the screed, it is important to get a smooth surface. The screed must be always in contact with the concrete when working. The screed must not show a big resistance to pulling, it must slip over the concrete. The speed to pull the screed depends on the depth and the consistency of the mass.
- 3.- To judge the quality of the vibration, the markings of the feet and of the beam must disappear. In the case of the concrete is not really smooth repeat the previous instruction.
- 4.- Then, we see a mix that we call "milk" on the surface (3-4 mm water, concrete, small sand particles).
- 5.- The water will evaporate quickly and the surface becomes dull. The fine layer called "milk" is acting as a cinder paper for the under layers and avoids the sweating effect. The water stays in the under layers and the surface moistens.
- 6.- Some hours later, the concrete is ready for additional finishing operations. You can use a trowel (single or double ride-on-type) or re-vibration equipment (double roller unit with integrated vibrating system). The machines provide a higher resistance to wearing but are not required for all the types of floors.