



INDUSTRIAS TECHNOFLEX SA

<http://www.technoflex.es/>

Vibrador Interno RABBIT
Internal Vibrator RABBIT
Vibrateur Interne RABBIT
Vibrador interno RABBIT

Motor eléctrico
Electrical motor
Moteur électrique



Motor gasolina
Petrol engine
Moteur essence

Manual de Instrucciones / Lista de Recambios

Instruction Manual / Spare Parts

Manuel d'Instructions / Liste de Pièces de Rechange

Manual de Instruções / Lista de Repostos

MAQUINARIA PARA LA CONSTRUCCIÓN Y OBRAS PÚBLICAS

BUILDING AND PUBLIC WORKS MACHINERY

MACHINERIE POUR LA CONSTRUCTION ET LES TRAVAUX PUBLICS

MAQUINARIA PARA A CONSTRUÇÃO E OBRAS PÚBLICAS

Este manual está compuesto por los siguientes capitulos:

This manual is divided into the sections listed below:

Ce manuel contient les sections suivantes:

Este manual está composto dos seguintes capítulo:

1A- Utilización (Español)

1B- Utilización (Inglés)

1C- Utilización (Francés)

1D- Utilización (Portugués)

2.- Recambios Motor Eléctrico (Español, Inglés, Francés, Portugués)

3.- Recambios Aguja (Español, Inglés, Francés, Portugués)

4.- Recambios Transmisión (Español, Inglés, Francés, Portugués)

5.- Recambios Motor Gasolina (Español, Inglés, Francés, Portugués)

*Este manual contiene información y procedimientos que son necesarios para utilizar y mantener este vibrador modelo **RABBIT**. Para su propia seguridad y protección, por favor lea cuidadosamente, entienda y observe todas las instrucciones de seguridad descritas en este manual. LOS DATOS CONTENIDOS EN ESTE MANUAL SON CORRECTOS EN EL MOMENTO DE SU EDICIÓN. NO OBSTANTE EL FABRICANTE SE RESERVA EL DERECHO DE MODIFICAR LAS CARACTERÍSTICAS, SIN PREVIO AVISO A FAVOR DEL COMPROMISO DE MEJORA CONTINUA.*

*This manual provides information and procedures to safely operate and maintain this vibrator **RABBIT** model. For your own safety and protection from injury, carefully read, understand and observe the safety instructions described in this manual. THE INFORMATION CONTAINED IN THIS MANUAL ARE CORRECT FROM THE MOMENT OF EDITING. HOWEVER THE MANUFACTURER RESERVES THE RIGHT TO MODIFY THE CHARACTERISTICS, WITHOUT PRIOR NOTICE IN CONSIDERATION OF CONTRACT COMMITMENT OF CONTINUOUS IMPROVEMENT.*

*Ce manuel contient les informations et les procédés qui sont nécessaires à l'utilisation et à l'entretien du modèle de vibreur **RABBIT**. Pour votre propre sécurité et protection, lisez attentivement, observez et appliquez toutes les instructions de sécurité décrites dans ce manuel. LES DONNÉES CONTENUES DANS CE MANUEL SONT CORRECTES AU MOMENT DE L'ÉDITION. CEPENDANT LE FABRICANT SE RÉSERVE LE DROIT DE MODIFIER LES CARACTERISTIQUES, SANS AVIS PRÉALABLE EN VUE DE L'AMÉLIORATION CONTINUE.*

*Este manual contém informação e procedimentos que são necessários para utilizar e manter este vibrador, modelo **RABBIT**. Para a sua própria segurança e protecção, faça o favor de ler com cuidado, entender e observar todas as instruções de segurança descritas neste manual. OS DATOS QUE ESTE MANUAL CONTÉM SÃO CORRECTOS NO MOMENTO DA SUA EDIÇÃO. MAS O FABRICANTE RESERVA-SE O DIREITO DE MODIFICAR AS CARACTERÍSTICAS SEM ANTES AVISAR, A FAVOR DO COMPROMISSO DA MELHORA CONTÍNUA.*

Mantenga este manual ó una copia de él con la máquina. Si se pierde ó Ud. desea un ejemplar adicional haga el favor de comunicarse con INDUSTRIAS TECHNOFLEX S.A. Esta máquina fue fabricada con la seguridad del usuario en mente; sin embargo, situaciones peligrosas pueden presentarse si la máquina es utilizada inapropiadamente. Siga las instrucciones de utilización cuidadosamente. Si Ud. tiene preguntas ó dudas acerca de la utilización o mantenimiento de este equipo, haga el favor de comunicarse con INDUSTRIAS TECHNOFLEX S.A.

Keep this manual or a copy of it with the machine. If you lose this manual or need an additional copy, please contact INDUSTRIAS TECHNOFLEX S.A. This machine is built with user safety in mind, however, it can present hazards if improperly operated and serviced. Follow operating instructions carefully! If you have questions about operating or servicing this equipment, please contact INDUSTRIAS TECHNOFLEX S.A.

Gardez ce manuel ou une copie avec la machine. En cas de perte ou si vous désirez un exemplaire supplémentaire veuillez vous adresser à INDUSTRIAS TECHNOFLEX S.A. Cette machine a été fabriquée en pensant à la sécurité de son utilisateur; toutefois, des situations dangereuses peuvent se présenter si la machine n'est pas utilisée convenablement. Suivez les instructions attentivement. Si vous avez des questions ou des doutes, au sujet de l'utilisation ou l'entretien de cet équipement, adressez-vous à INDUSTRIAS TECHNOFLEX S.A.

Mantenha este manual ou uma cópia dele com a máquina. Se o perder ou se o senhor desejar um exemplar adicional faça o favor de se comunicar com INDÚSTRIAS TECHNOFLEX S.A. Esta máquina foi fabricada pensando na segurança do usuário; mas se a máquina for utilizada impropriamente poderiam se apresentar em situações perigosas. Siga as instruções de utilização cuidadosamente. Se o senhor tiver perguntas ou dúvidas sobre a utilização ou mantimento de este equipe, faça o favor de se comunicar com INDÚSTRIAS TECHNOFLEX S.A.

CONTENTS

<u>Chapter</u>		<u>Page</u>
1.1	SAFETY NOTES	1B-2
1.2	WARNING AND SAFETY INSTRUCTIONS	1B-2
1.3	TECHNICAL DATA	1B-4
1.4	GENERAL CHARACTERISTICS	1B-5
1.5	SAFETY AT WORK	1B-5
1.6	CONDITIONS OF USE	1B-5
1.7	ASSEMBLY INSTRUCTIONS	1B-6
1.8	USE OF EXTENSION CORDS	1B-6
1.9	INSTRUCTIONS OF USE	1B-7
1.10	MAINTENANCE INSTRUCTIONS	1B-8
1.11	INSTRUCTIONS FOR ORDERING SPARE PARTS	1B-9
1.12	TRANSPORT AND STORAGE	1B-10
1.13	GUARANTEE	1B-10
1.14	TROUBLESHOOTING	1B-11
1.15	WIRING SCHEMATICS	1B-12
2.1	RABBIT MOTOR HOUSING	2-1
2.2	RABBIT ROTOR & SATOR ASSEMBLY	2-3
3.1	RABBIT NEEDLE 25	3-1
3.2	RABBIT NEEDLE 38	3-1
3.3	RABBIT NEEDLE 48	3-3
3.4	RABBIT NEEDLE 60	3-3
4.1	RABBIT TRANSMISSION 25	4-1
4.2	RABBIT TRANSMISSION 38	4-1
4.3	RABBIT TRANSMISSION 48	4-3
4.4	RABBIT TRANSMISSION 60	4-3
5.1	RABBIT PETROL ENGINE	5-1

1.1 Safety Notes

This manual contains CAUTIONS and WARNINGS which must be followed to prevent the possibility of improper service, damaged to the equipment, or personal injury. Read and follow all the CAUTIONS and WARNINGS included in this instructions manual.



WARNING: Warnings warn of conditions or practices which could lead to personal injury.

1.2 Warning and Safety Instructions



WARNING

Read All Instructions!

When using electric tools, basic safety precautions should always be followed, to reduce the risk of fire, electric shock, and personal injury.

Guard against electric shock!

1. Never operate motor with damaged or worn electrical cords! When using an extension cord be sure to use one heavy enough to carry the current load. See Table 1.8-1 for correct cable size to use.
2. Prevent body contact with grounded surfaces, such as pipes, metal railings, radiators and metal ductwork.
3. When motor is used outdoors, use only extension cords intended for and marked for outdoor use.
4. Always keep power cord away from heat, oil and sharp edges which can damage it.
5. Make certain motor is in good working order and properly **grounded** before starting, as well as the **connection plug** where this will be connected.
6. In any case it will be able to modify the structure of the connector, it can cause electric shocks.
7. They won't be able to be used lower any concept adapters that they are not homologated, faulty or lacking **ground connection** or of a capacity (A.) inferior to the suitable one in this manual..

Save these instructions!

1B OPERATION

Read All Instructions



WARNING

Familiarity and proper training are required for the safe operation of this equipment! Equipment operated or serviced improperly or by untrained personnel can be dangerous! Read all operating instructions and the safety notes below. Familiarize yourself with the proper use of this equipment before operating it.

1. *Keep your work area clean and free of clutter.*
2. *Keep your work area well lit.*
3. *NEVER operate motor in areas exposed to flammable or explosive liquids or gases! The motor brushes spark during operating and could ignite fumes.*
4. *DO NOT allow children or people other than the operator to handle power cables, extension cords or the equipment.*
5. *DO NOT allow non-essential personnel or visitors in the work area.*
6. *NEVER carry motor by cord or pull on it to disconnect it from receptacle. Keep cord away from heat, oil and sharp edges.*
7. *Stay alert! Watch what you are doing. Use common sense. NEVER operate the vibrator motor when you are tired or while under the influence of drugs, alcohol, or medication.*
8. *Keep hands, feet, hair and loose clothing away from moving parts. They can be caught in moving parts.*
9. *Avoid unintentional starting! DO NOT carry motor around jobsite while it is connected to power source. DO NOT carry motor with finger on switch.*
10. *DO NOT operate equipment if switch does not operate properly.*
11. *DO NOT overreach! Keep proper footing and balance at all times. Make sure any supporting structures are strong enough and stable enough to support your weight and the weight of any equipment on it.*
12. *Wear protective clothing when operating equipment. Goggles or safety glasses will protect against eye damage caused by flying debris.*
13. *DO NOT force tool. Use the correct tool for which it is designed.*
14. *NEVER allow untrained personnel to operate or service the equipment.*
15. *Maintain tools with care. Keep vibrator unit clean for better and safer performance. Inspect motor cord periodically and if damaged, have it repaired by an authorized service facility.*
16. *NEVER use the motor with a defective switch. If the switch does not turn the motor "ON" or "OFF", have it repaired by an authorized service facility before using the motor.*
17. *Replace worn or damaged parts with replacement parts designed and recommended for use by **INDUSTRIAS TECHNOFLEX S.A.***
18. *Any servicing, other than that covered in this instruction manual, should be performed by an authorized **INDUSTRIAS TECHNOFLEX S.A** Service Representative.*

Save these instructions!

1.3 Technical Data

Motors		Electric		Petrol
Voltage (AC)	V	115	230	-----
Current (Maximum)	A	12	6,5	-----
Frequency	Hz	50/60		-----
Power		2.300 W.		5,5 Hp.
Speed (No-load)	rpm	18.000		12.000
Motor	type	Universal Electric Motor		Petrol
Phase		1		-----
Weight	Kg. (lbs.)	6 (13)		17 (37,5)

Needle Type	Ø Needle mm. (in.)	Length mm. (in.)	Capacity Cubic Yards Per Hour	Area of Performance cmt. (in.)	Frequency V.P.M.	Weight Kg. (lbs.)
Rabbit-25	25 (1)	315 (12,5)	1,5	20 (7,8)	12.000	0,8 (1,7)
Rabbit-38	38 (1,5)	455 (18)	10	70 (27,5)	12.000	2,5 (5,5)
Rabbit-48	48 (1,8)	495 (19,5)	17	90 (35,4)	12.000	4 (8,8)
Rabbit-60	60 (2,4)	575 (22,5)	20	110 (43,3)	12.000	6 (13,2)

Flexible Transmission Shaft + Cover		Rabbit-25 Complete Transmission	Rabbit-38 Complete Transmission	Rabbit-48 Complete Transmission	Rabbit-60 Complete Transmission
Length m (ft.)	Weight Kg. (lbs.)	Weight Kg. (lbs.)	Weight Kg. (lbs.)	Weight Kg. (lbs.)	Weight Kg. (lbs.)
1 (3,3)	3,4 (7,5)	4,1 (9)	5,5 (12)	6,5 (14,3)	9,5 (21)
1,5 (5)	3,5 (7,7)	4,1 (9)	5,5 (12)	6,5 (14,3)	9,5 (21)
2 (6,6)	4,3 (9,5)	5 (11)	6,3 (14)	7,3 (16)	10,3 (22,7)
3 (10)	6,4 (14)	7 (15,4)	8,4 (18,5)	9,4 (20,7)	12,4 (27,3)
4 (13,2)	8,5 (18,7)	9,1 (20)	10,5 (23)	11,5 (25,3)	14,5 (32)
5 (16,4)	10,7 (23,6)	11,2 (24,7)	12,7 (28)	13,7 (30,2)	16,7 (37)

1B OPERATION

1.4 General Characteristics

The vibrator will be used by personnel trained for this job, it will only be used in specific jobs for which it has been technically developed, after having read the instructions contained in this manual and which must be followed correctly.

The manufacturer or authorised distributor must be consulted about any doubts.

Industrias Technoflex S.A., will not accept any responsibility derived from incorrect installation, manipulation, or misuse of the vibrator.

1.5 Safety at work

The **RABBIT** vibrator fulfils the E.C. regulation of safety at work, low voltage and vibration in portable machines or hand driven, as well as ISO 6081 regulation, regarding noise at the place of work. However the use of hearing protection during the vibrating time. The manufacturer will not accept responsibilities for accidents if they derive from structure modification.

In addition to our recommendations the safety regulations of each country in force.

1.6 Conditions of Use

The vibrator **RABBIT model**, for concrete is designed to give maximum satisfaction to the user, as long as the instructions of use and maintenance contained in this manual.

The **RABBIT** vibrator is designed to vibrate concrete and be used under the hardest conditions, both environmental as well as use.

The Flexible Transmission is made up of a flexible rotating shaft and its cover.

The highly dimensioned Flexible Shaft, absorbs perfectly both the load applied as well as the high number of turns.

The Flexible Cover protection of the shaft is of neoprene resistant to abrasion and tearing, with intertwining braiding in steel tread and covered inside covered with a spiral steel strapping which the flexible shaft slides down on.

The vibrating Needles is composed of an eccentric / wiper / lever wheel / tappet mounted on two bearings pairs, special for high speed, situated on the inside of a metal tube of high resistance to wearing, on the end of wich is a mounted point of steel specially hardened.

The vibrating needles musn't functioning in contact with solid and ridged prominent objects, for long periods of time.

1.7 Assembly Instructions

Transmission Assembly: To assemble the flexible transmission to the motor, press the locking button down completely, then the transmission coupling is introduced into the coupling of the engine, making the two planes of the terminal cable coincide with the coupling lug, and introduce softly until the locking button coincides with the safety housing of the engine. If it drags **DO NOT FORCE**, make the engine turn slightly to ease the introduction and perfect coupling. (See Fig.: 1.7-1)



Fig.: 1.7-1

Starting of the electric motor:

Before starting the electric motor, it will be checked that the network voltage coincides with the that indicated on the characteristics plate, it will also be verified if the current collection is the same as that of the motor.

Starting of the petrol engines for the first use:

- A) **For measuring of security in the transport of shipment, all the machines are given without oil and without fuel in the motors.**
- B) **Fuel:** Filling the tank of fuel, all the petrol engine of the RABBIT Vibrator, it use gasoline for automobile that is clean, of 95 unleaded octanes.
- C) **Oil:** Filling the tank of oil of the motor, following the instructions of respective lubrication of the maker of the motor that are attached to this manual.

With temperatures below 3°C., the vibrator may present difficulties to start after a long period stopped, this is due to the solidifying of the grease bearings and of the shaft, it must start letting the vibrator run light long enough for normal vibration to be achieved.

1.8 Use of Extension Cords

The extension cords are often required on jobsites to connect the motor. When choosing an extension cord make sure it has adequate wire size for safety. An undersized cord will cause a drop in line voltage resulting in a loss of power and overheating. In the **Table 1.8-1** It shows the correct wire size to use depending on cord length. If in doubt, use the next heavier cord size.

On motors being used outdoors, use extension cords rated for outdoor use.

1B OPERATION



CAUTION

Inproper use of an extension cords can cause of overheating or create serious fire or shock hazards. **Never** use worn or damaged cords.

See Table below for recomended extension cord sizes
mm² (AWG)

	LENGHT OF CORD – m. (ft.)					
	7,5 m. (25')	15 m. (50')	30 m. (100')	45 m. (150')	55 m. (175')	60 m. (200')
RABBIT (115V)	1,5 (16)	1,5 (16)	2,5 (14)	4 (12)	6 (10)	6 (10)
RABBIT (230V)	1,5 (16)	1,5 (16)	1,5 (16)	2,5 (14)	2,5 (14)	2,5 (14)

Table 1.8-1

1.9 Instructions of Use

Be careful to avoid that the flexible Transmission works forming knots or interlacing, also with very closed bend, this produces premature and unnecessary wearing of the flexible shaft, causing even their immediate breakage.

Avoid the flexible Transmission being near heat sources, or that it slips to where there are objects with sharp edges, it must also be protected from heavy machines and other objects which may cause its deterioration.

The concrete must vibrate in horizontal layers, the needle must never be used to move the concrete laterally.

With the needle of $\varnothing 25$ mm. (1") the maximum layer to vibrate will be of 15 cm. (6 in.) in thickness, with the needle of $\varnothing 38$ mm. (1,5") it will be of 20 cm. (8 in.) and with needles of $\varnothing 48$ mm. (1,75") and $\varnothing 60$ mm. (2,4") it will be of 30 cm. (12 in.).

The vibrator must **NEVER** be stopped while it's introduced into the concrete, to stop it must be taken out of it first.

Protect the electrical cord from heat, oils, grease, objects with sharp edges, heavy objects and other objects which may cause damaged or rupture.

Always work with the needle totally submerged in the concrete, the refrigeration takes place by means of the contact with the concrete. Do not make at this way, can produce irreversible damages in the bearings.

DO NOT allow personnel not capable to make use of the vibrator or manipulate the electric parts.

1.10 Maintenance Instructions

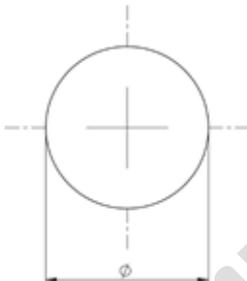


WARNING

Before performing any maintenance on this unit, ALWAYS MAKE CERTAIN that the switch is in the "OFF" position and the power cord is disconnected from the power source.

That must be carried out every 100 hours of functioning or depending on the conditions of use and at the maximum every six months, to a complete overhauling of the vibrator.

- **Needle:** The overhauling will be carried out by dismantling all the components, checking the their state and substituting the part which is deteriorated, clean and grease the bearings.
- **Change case and point:** They should change when the wear from use, in LESS than measures of TABLE:



Type	Nominal size	Maxium extent of wear
Rabbit 25	25	23.5
Rabbit 38	38	35
Rabbit 48	48	45
Rabbit 60	60	57

- **Flexible Shaft and Cover:** In each overhauling, the shaft will be fattened cleaning first with a dry cloth and spreading a fine covering of fat in the outside of the shaft with a brush.
- **The greasing of the bearings** must be done with special high speed bearing grease, **Staburags NBU-4** or **Isoflex NBU-15** from the firm KLÜBER LUBRICATION or any other equivalent one.
- When the needles are manipulated or dismantled the close joints must be changed and the screws sealed with LOCKTITE 243. Wait for one hour before using.
- **Electric Motor:** The state of the plug, electric cable, switch, bearings must be checked. The motor brushes is the only element subject to wearing, to check the state, you should open the housings **Pos. A** and **B**, then you must open the leg of spring **Pos. C**, and remove the brush **Pos. D**, it must be verify, if there is a lot of wearing substitute it. It will be carried out in the same way for both. (See Fig.: 1.10-1).

The motor is fitted with automatic brushes, this means that once one of them gets to maximum wearing the motor will stop working, this prevents major breakdowns in the motor.

- **Petrol Engine:** See maintenance Instructions of the manufacturer of the engine, which accompany this manual.

Before starting the engine check the oil level, if it is low refill it, if it is dirty substitute it.

The parts which are seen to have excessive wearing, the loose bearings, heat up or make too much noise, must be substituted and always remember **ORIGINAL SPARE PARTS MUST BE USED.**

1B OPERATION

Once the vibrated has ended, it is convenient to disconnect the transmission of the motor.

For safety reasons and so as to avoid accidental starting, DO NOT forget to disconnect the electric motor from the network, when some kind of operation or part substitution is made.

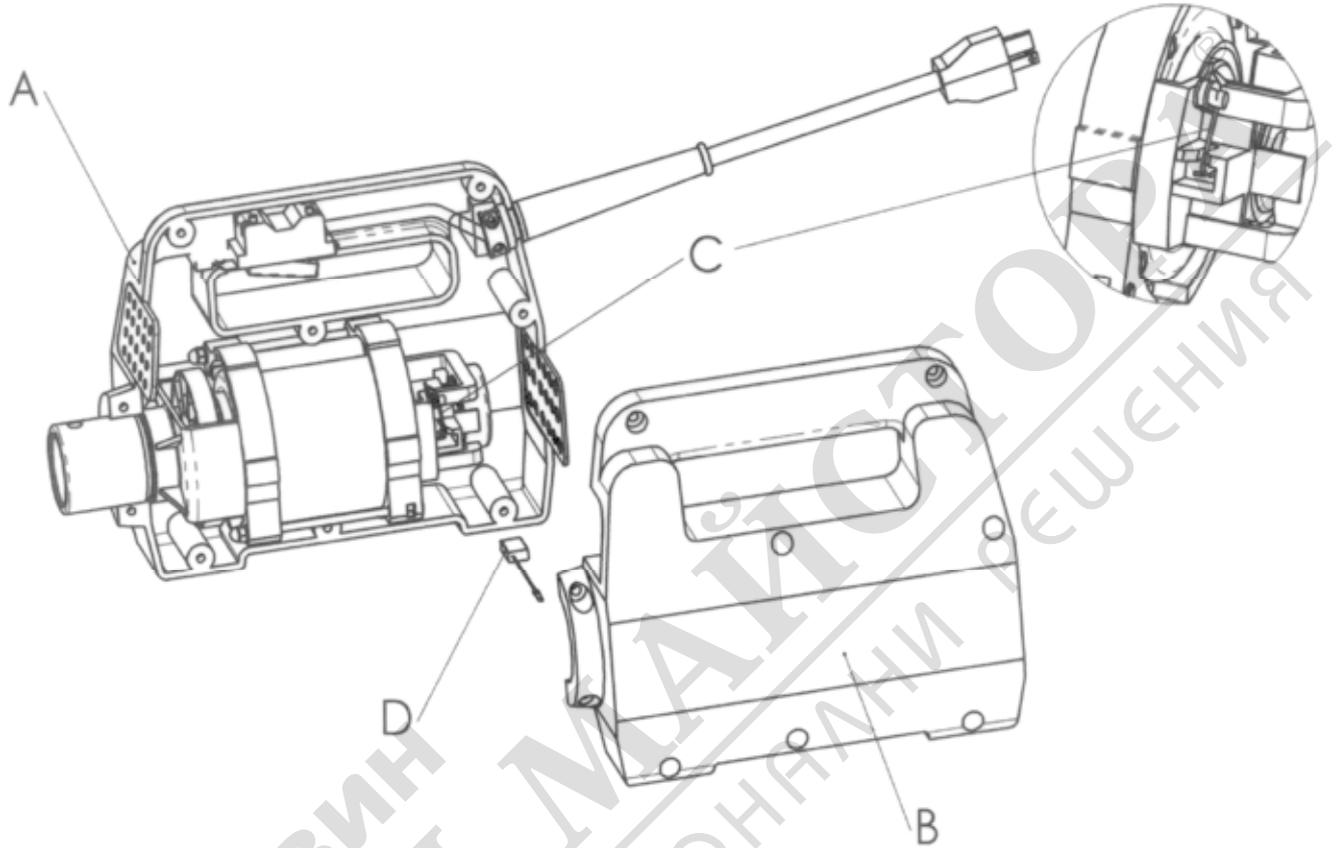


Fig.: 1.10-1

1.11 Instructions for Ordering Spare Parts

Spare parts are on sale through the official services and in the brand distributors in your locality.

When you order spares do not forget to indicate:

- Type of machine
- Units ordered, code and description of parts requested , and whenever possible, the series number of the machines
- When equipment or spare parts have to be returned to the factory its necessary to contact with **Industrias Technoflex S.A.** for prior agreement, "AN ABSOLUTE NECESSITY FOR THEIR RECEPTION".

1.12 Transport and Storage

- **Conditions for transport and storage:**

The packaging of the **RABBIT** vibrator allows its easy transport without taking any special precaution.

Its storage the **RABBIT** vibrator if it is for a long period of time, its storage will be in a safe dry place and it is convenient to do it in a way that the flexible transmission is in an extended position, with the aim that permanent deformations in the neoprene covering.

Before storage and after use the transmissions must be perfectly cleaned outside, taking all the concrete leftovers off, this operation can be carried out by hydro jet avoiding the electric parts of the motor. The greasing of the coupling of the transmission to the motor is recommendable so as to avoid rusting.

1.13 Guarantee

A) Period of Guarantee

Industrias Technoflex S.A., guarantees the products and components they manufacture, for a period of 6 months.

B) Coverage of Guarantee

The guarantee covers all the defects from manufacturing of the components of the product, as well as their replacement or substitution, on behalf of the Technical After Sales Service.

C) Cancellation of Guarantee

The guarantee does not cover the misuse or inadequate manipulation, on behalf of the use of the vibrator, nor the incorrect connection, knocks, maltreatment or repairing by unauthorised personnel.

The RABBIT electric motor can only be connected to monophase current of 115V. 50/60Hz. or 220/230V. 50/60Hz.

During the period of guarantee the breakdowns must be repaired by personnel from **Industrias Technoflex S.A.**, authorised to do so, if this is not so the right given by the guarantee will be lost.

The equipment which has been dismantled or manipulated previously by personnel unauthorised by **Industrias Technoflex S.A.** will not be in guarantee.

In all the cases of application for guarantee, **prior notice** must send the equipment to **Industrias Technoflex S.A.** or where they indicate.

IMPORTANT NOTICE:

Industrias Technoflex S.A., are not responsible for damage caused to the product or persons due to their misuse or bad manipulation.