



ENARCO, S.A.

*VIBRADORES EXTERNOS TRIFÁSICOS O MONOFÁSICOS*

*SINGLE AND TRIPHASE EXTERNAL VIBRATORS*

*VIBRATEURS EXTERNES TRIPHASÉE OU MONOPHASÉE*

*DREIPHASIG ODER EINPHASIG RUTTLERMOTOR*



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

VET, VEM

es  
en  
fr  
de



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## 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.

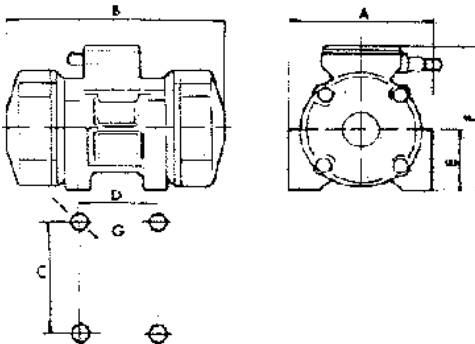
We will glad to help you with any comments or suggestions in reference to our equipment.



## 2 SPECIFICATIONS OF THE CONVERTERS

MODELO, MODEL	VET800	VET600	VET300	VET150	VET60	VEM300	VEM150	VEM60
MODÈLE, MODEL								
POTENCIA, POWER	490	420	180	130	100	240	190	105
PUISSANCE, LEISTUNG								
TENSION, VOLTAGE	3~220V/380V 50Hz					1~220V/50Hz		
TENSION, NENNSPANNUNG								
RPM	3000							
FUERZA CENTRIFUGA (Kg.)								
CENTRIFUGE FORCE (Kg.)	0-800	0-600	0-300	0-150	0-60	0-300	0-150	0-60
FORCE CENTRIFUGE (Kg.)								
FLIEHKRAFT (Kg.)								
PESO, WEIGHT	29	19	9	6,5	4	9	6,5	4
POIDS, GEWICHT (Kg.)								

### DIMENSIONES



MODELO	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)	G(mm)
VEM60-VET60	125	200	106	62	38	140	9
VEM150-VET150	160	215	130	70	63	170	9
VEM300-VET300	165	245	140	90	74	180	11
VET600	190	270	160	100	88	200	13
VET800	225	365	170	120	100	220	15



### 3 USAGE CONDITIONS

WARNING! Read and understand all instruction.

#### 3.1 WORK AREA

KEEP your work area clean and well lit.

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

KEEP bystanders, children, and visitors away while operating a power tool.

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 tool.

NEVER PULL the plug from an outlet.

KEEP cord away from heat, oil, sharp edges or moving parts.

REPLACE damaged cords immediately.

WHEN OPERATING a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

#### 3.2 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.

AVOID accidental starting.

BE SURE switch is off before plugging in.

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.

USE clamps or other practical way to secure and support the work piece to a stable platform.

DO NOT FORCE tool.

USE the correct tool for your application.

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.

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.

### 3.3 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.

### 3.4 SPECIFIC SAFETY RULES

For the proper operation of the motor, **MAKE SURE** that operators have been instructed in the proper management of this machine.

The motor **SHOULD ONLY BE USED** in the specific jobs for with it the help of this manual.

Before connecting the motor to the electrical system, **MAKE SURE** that the voltage and frequency coincide with the ones stated in the characteristics equipment plate, located in the top part of the plastic housing.

**ENSURE** that all frame screws are tight before starting work.

**TO AVOID** the flattening of the cable by heavy machinery with could cause breakage.

**DO NOT WORK** with the plastic housing broken.

**DO NOT PERMIT** untrained personnel to operate the motor or connections.

**MAINTAIN** free ventilation of air.

**KEEP** the motor in a clean and dry area.

**MAKE SURE** that the electrical cable is with the proper section and functioning properly (see section 3.3.2).

**BEFORE DOING** any type of repair, **DISCONNECT** the motor from the electrical system.

**WHEN CONNECTING** to a generator, **MAKE SURE** that the out tension and frequency is stable, right, and has the proper power, (the converter's feeding voltage should not vary more than  $\pm 5\%$  as stated on the motor's plate).

Proper protective equipment **SHOULD BE USED** because the acoustic power level of this machine is 70 dB.

**WHEN FINISHING** the job or when taking a break, the operator **SHOULD UNPLUG**, disconnect it from the electrical system, and have iplaced in such a way that it should not fall or tip

**IN ADDITION, LOCAL COUNTRY STABLISHED ORDINANCES SHOULD BE RESPECTED.**



## 4 OPERATION AND MAINTENANCE

### 4.1 GETTING STARTED

Read item 3 USAGE CONDITIONS.

### 4.2 ELECTRIC MOTOR CONECTION TO THE SYSTEM

Turn off the motor switch before connecting it.

### 4.3 EARTH CONNECTION

To protect the user from an electrical shock, the motor should be correctly connected to earth.

The motors are equipped with three or four wires and their respective plugs. The adequate earth box should be used to connect the motors. If the boxes are not available, an earth adaptor should be used, before connecting the plugs.

### 4.4 EXTENSION CABLES

Always use extension cables with earth wire and its respective plug with earth in the female and male switches, those which will use the male switch on the motor.

Do not use damaged or worn out cables.

To avoid heavy loads on top of cables.

To determine the transversal section, follow the following procedure:

#### PROCEDURE TO DETERMINE THE NECESSARY TRANSVERSAL

##### SECTION IN CABLE EXTENSION

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 5%,  $\cos\phi=0.8$  trough the frequency and voltage curve

i.e. *Voltage nominal:* 1- 220 V 50 Hz

*Nominal current:* 10 A

*Cable length:* 100 m

*Entering the curve with the product: Intensity x Length=10x100=1000 Am*

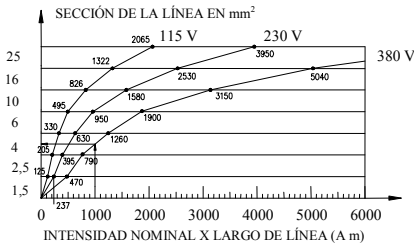
*We obtain a 4 mm section*



2. The permitted heating of the cable according to VDE standard ( minimum transversal section table required).

1. e. For 10 A, according to table for 15 A or less, the section is of 1 mm.

Therefore, the section chosen is equal to 4 mm, Always choose the highest transversal section of the two verifications



Secciones mínimas según normas VDE		
Sección (mm <sup>2</sup> )	Carga máx. (A)	Fusible máx. (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

#### 4.5 INSPECTION

Before starting the job, check the correct working of all handling and safety devices

Inspect regularly the good conditions of the feeding cables.

Inspect regularly the connection voltage.

The converter should only be used in conjunction with all safety elements.

If defects are found in the safety devices or other defects which could reduce the safe handling of the equipment, notify immediately the proper responsible person.

#### 4.6 PERIODIC MAINTENANCE

Only an expert shall work on the electrical parts.

Make sure that the current is off during repairs.

In all maintenance operations, original parts will be used.

A periodic lubrication of the motor bearings is not necessary.

The electrical earth wire (green-yellow) should be longer to avoid being the first one in cutting in case of breaking of wires. After maintenance, control the current through the earth cable .

Clean the ventilation vents in the front and back part of the converter periodically to avoid overheating.

After maintenance job and service, all safety devices should be assembled correctly.

After working 40 hours inspect the frame holding bolts.

Every 12 months or more frequently, depending on the usage conditions, it is recommended an inspection be done by an authorized dealer.





#### 4.7 STORAGE

When the converter has not been used for long periods of time, it should always be stored in clean, dry, and protected areas.

#### 4.8 TRANSPORTATION

When transporting by vehicles, ensure the converter is safe against slipping, overturning and blows.

### 5 LOCATING MALFUNCTIONS

#### PROBLEM

**The unit is not working**

**The motor works slowly and it overheats**

**The converter makes excessive noise**

#### CAUSE/SOLUTION

- 1- See if it has power
- 2- Plug or cord defective
- 1-Verify the voltage of the electrical system
- 2- One phase is broken
- 3- Check the cable specification.
- 1- Defective bearings
- 2- Loose bolts



## 6 INSTRUCTIONS TO ORDER SPARE PARTS

### 6.1 INSTRUCTIONS TO ORDER SPARE PARTS

1. All spare parts request must include PART CODE NUMBER AS STATED IN THE PART LIST. We recommend to include ITEM'S MANUFACTURE NUMBER.
2. The identification plate with manufacture and model number is located in the top part of the motors' plastic frame. The transmission and pokers have the manufacture number engraved outside.
3. Let us to know the correct shipping instructions, including the wished route and the address and consignee's complete name.
4. Do not return the parts without authorization, the return are done freight prepaid.

### 6.2 NSTRUCTIONS TO REQUEST WARRANTIES

1. The warranty is valid 1 year after the purchasing of the machine, The warranty will cover parts with manufactures' defects. In no case the warranty will cover a malfunction due to improper usage of the equipment. Labour and shipping fees will always be paid by the customer.
2. In all warranty requests THE MACHINE MUST BE SENT TO ENARCO, S.A. or to an AUTHORIZED SHOP, always including the complete address and name of the consignee.
3. The Technical Assistance Service will immediately notify you if it accepts the warranty 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.