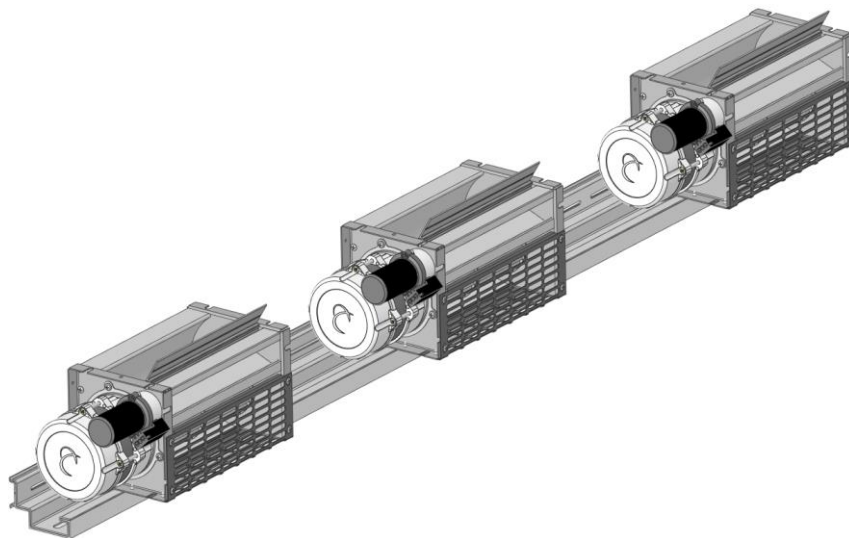


# INSTRUCTION MANUAL

## UNIVERSAL BAR



1MN0206 REV.0



operates with ISO9001 certified quality system

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R. 1.1 18/02/22

ENGLISH

“Translations of the original instructions”

## INTRODUCTION

First of all we wish to thank you for choosing to use a **TECSYSTEM** product and recommend you read this instruction manual carefully: You will understand the use of the bar and therefore be able to take advantage of all its functions.

ATTENTION! THIS MANUAL IS VALID AND COMPLETE FOR THE PRODUCT UNIVERSAL BAR DIAM.80

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## FANS SAFETY REGULATIONS



### ATTENTION:

Read the manual carefully before starting to use the fans. Keep the instructions for future reference.



Do not touch/disassemble the bar or the fans while they are in operation: RISK OF INJURY. The product must be installed in a place with access limited to qualified personnel only. Any work on the equipment must be entrusted to a qualified engineer.



Do not touch the motor or the power cables. Contact with a voltage of 120/230 Vac can be fatal. To reduce the risk of electric shock, do not dismantle or modify the fan motor for any reason. **Before connecting the system to the power supply, make sure that all the connections are correct.** Always disconnect the fan from the power supply before performing any type of maintenance.



**Never touch the motor, danger of burns: RISK OF INJURY.**

### POWER SUPPLY

Before using it, always make sure the power cable is not damaged, knotted or pinched. Do not tamper with the power cable. Never disconnect the unit by pulling the cable and avoid touching the pins. Do not carry out any operations of connecting/disconnecting with wet hands. To disconnect the system, do not use objects such as levers. Immediately disconnect the power supply if it is evident that the system is giving off a smell of burning or smoke and contact the Tecsystem technical assistance.

### LIQUIDS

Do not expose the product to dripping or splashing liquids. Do not place in places with humidity over 90% and never touch with wet or damp hands.

### CLEANING

Before cleaning the fan, always disconnect the power cord. To avoid malfunctions only use compressed air to remove dust and dirt. Do not use lubricants or greases of any kind.

### OBJECTS

Never insert objects into the air inlet or outlet. If this happens disconnect the fan and contact a technician.

### USE RESERVED TO QUALIFIED PERSONNEL

The purchased product is a sophisticated electro-mechanical device that must never be used by non-qualified personnel. Any work must be carried out by a specialist engineer.

### ACCESSORIES

Do not use non-original accessories or spare parts as this could cause damage to the fan and endanger the user. In case of faults, contact technical assistance.

### LOCATION

Install the fan indoors in a place protected from water splashes and from the sun's rays. Do not place near heat sources exceeding the parameters stated in this manual. Place horizontally and on stable surfaces. The product must be installed in a place with access limited to qualified personnel only.

### REPAIRS

Do not repair or modify the fan yourself. For any fault, always use qualified personnel. Opening or tampering with the fan automatically invalidates the warranty.

### PRODUCTION

The date and the production batch of the product are shown on a label placed on the fan. **Removal of the label automatically invalidates the warranty.**

### TECHNICAL OR REPORTING INFORMATION

Mail: [ufficiotecnico@tecsystem.it](mailto:ufficiotecnico@tecsystem.it) - tel.: +39 024581861

## TECHNICAL SPECIFICATIONS

MODEL	1200	1800	3600
BAR LENGTH	1400mm	1800mm	2300mm
NUMBER OF FANS PER BAR	3	3	3
MODEL OF FANS	TG180	TG360	TG500
FAN LENGTH	180mm	360mm	500mm
FAN DIAMETER	80mm	80mm	80mm
FLOW RATE	1380 m3/h	2400 m3/h	3000 m3/h
AVAILABLE POWER SUPPLIES (*)	(230Vac -50Hz) — (230Vac 60Hz) — (120Vac-60Hz)		

(\*) Note: the indicated power supplies are available upon customer request or depending on the model purchased.

## TECHNICAL SPECIFICATIONS TG80/2 230Vac 50Hz

MODEL	TG180	TG360	TG500
POWER SUPPLY	230Vac -50Hz		
CURRENT	0.34A	0.45A	0.54A
POWER	75W	95W	120W

## TECHNICAL SPECIFICATIONS TG80/2 230Vac 60Hz

MODEL	TG180	TG360	TG500
POWER SUPPLY	230Vac - 60Hz		
CURRENT	0.57A	0.74A	0.85A
POWER	114W	160W	187W

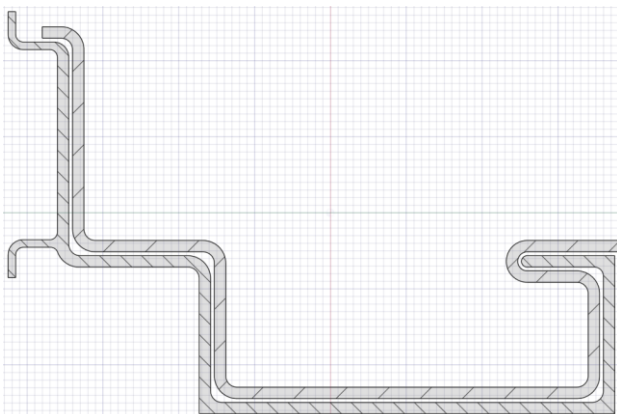
## TECHNICAL SPECIFICATIONS 120Vac 60Hz (UL)

MODEL	TG180	TG360	TG500
POWER SUPPLY	120Vac - 60Hz		
CURRENT	1.24A	1.65A	1.88A
POWER	132W	188W	210W

## UNIVERSAL BAR PRESENTATION

The new Tecsystem universal bar has been designed to simplify the positioning of the fans immediately under the columns of the resin transformers and also allows better adaptability to the dimensions of the transformer from 1250KVA to over 2500KVA.

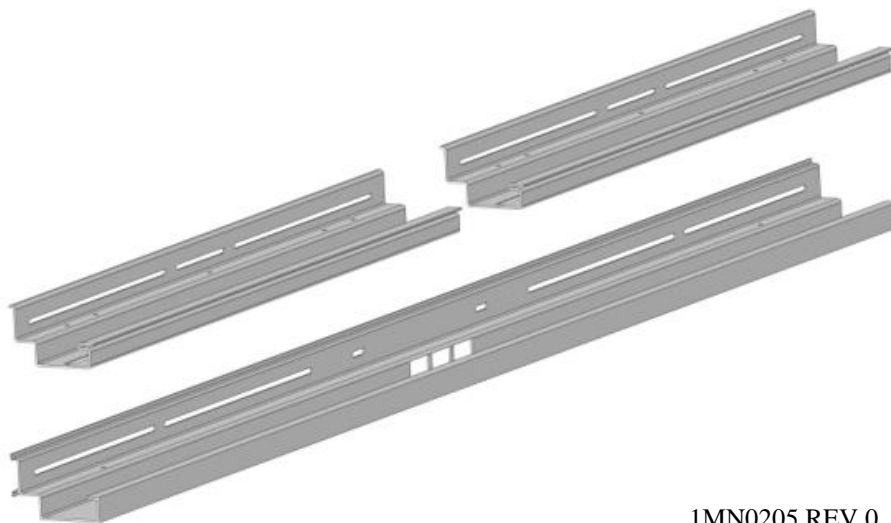
The aluminium construction has allowed us to obtain a very light bar but that is, at the same time, robust and resistant even in the most extreme environments.



1MN0204 REV.0

The bottom of the bar is used to house the power cables of the fans. The wiring of the fans has been designed to satisfy all sizes of 1200-1800-3600 bars.

The central profile also has an integrated 35mm DIN RAIL, useful for the attachment of any optional connection terminals.



1MN0205 REV.0

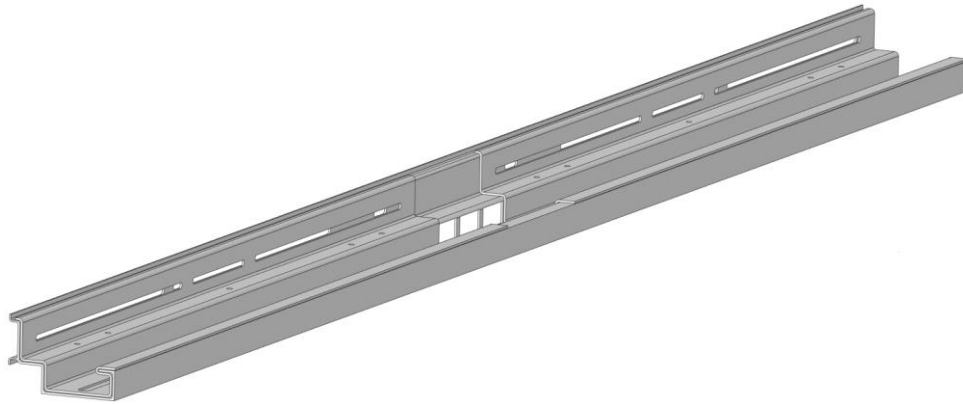
The bar consists of:

- two side profiles 645mm
- a central profile length 1400mm

The two side profiles have been designed to slide inside the central profile in order to guarantee an extension from 1400mm to 2300mm. The same bar can be used to compose the bars: **1200-1800-3600**, installing on it the models of fans: **TG180 - TG360 - TG500** depending on the bar model to be assembled.

## BAR AND FANS ASSEMBLY

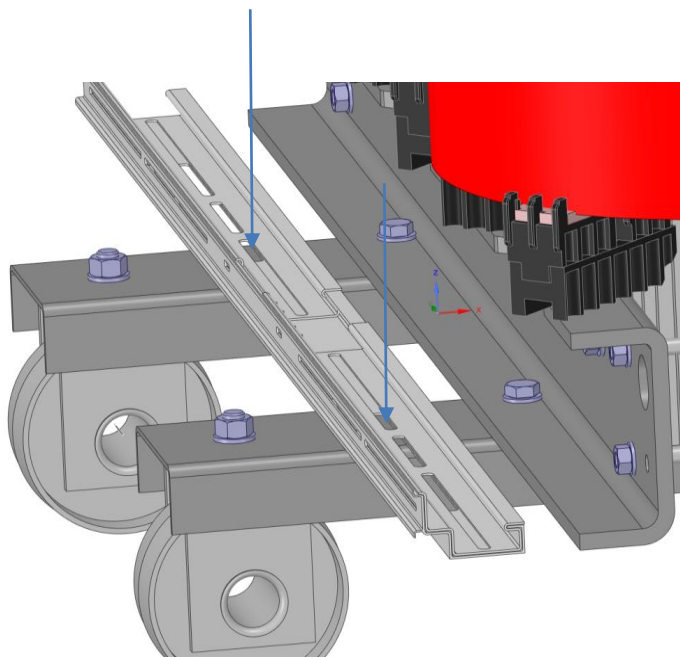
Position the closed bars on the sides of the transformer (BAR1-BAR2).



1MN0233 REV.0

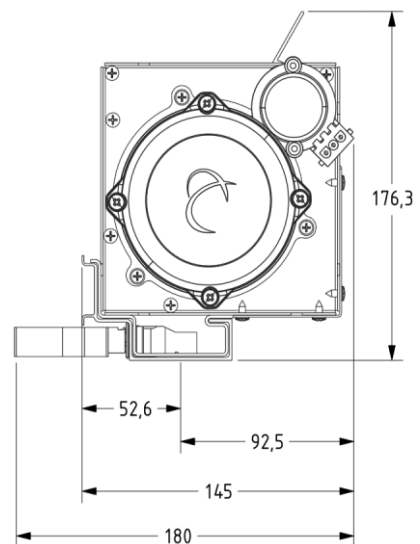
Arrange the bar on the transformer carriage and centre the positioning of the bar using the central column of the transformer as a reference.

Remove the bar locking screws and detach the cables, bar initial position 1200, and if necessary slide the side profiles up to the desired dimension 1800-3600. The M4 locking screws are used to fasten the bar at the desired length 1200-1800-3600 and must be inserted in the appropriate 4mm diameter holes.



1MN0210 REV.0

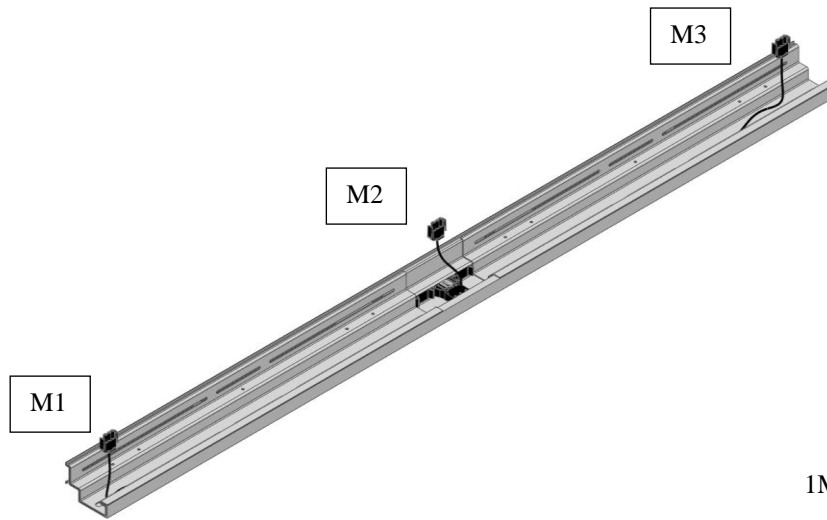
SIDE BAR VIEW



1MN0258 REV.0

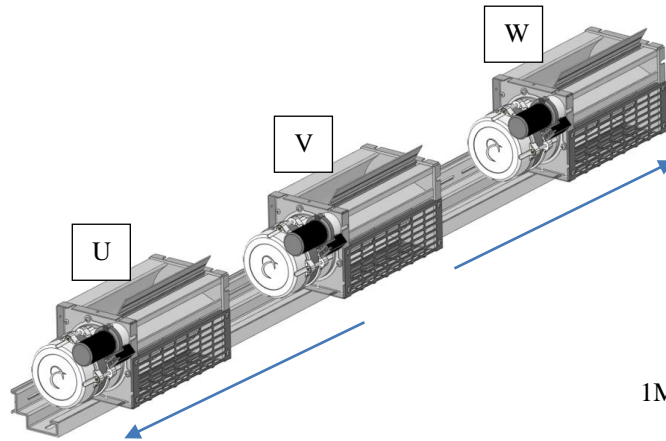
Fasten the bar on the transformer carriage using the dedicated fixing slots, suggested M8 bolts plus washer.

NOTE: insert the bolts, locking both profiles: central and lateral on the transformer carriage.



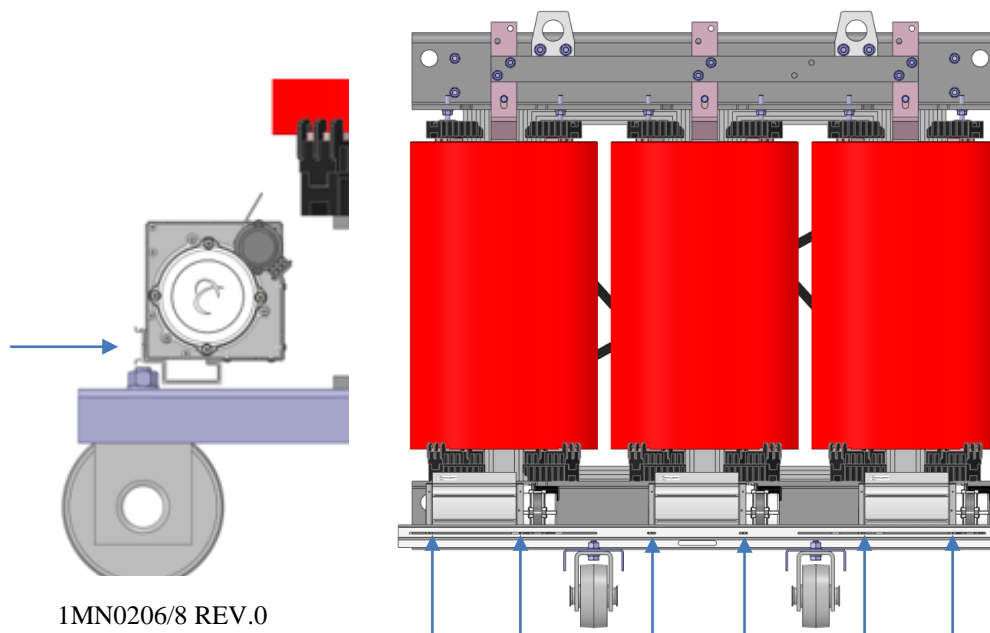
1MN0234 REV.0

Appropriately position the wiring for the fans, M1-M2-M3. Place any excess wiring back into its casing reclamping the cables. Connect the power cord to each installed fan.



1MN0207 REV.0

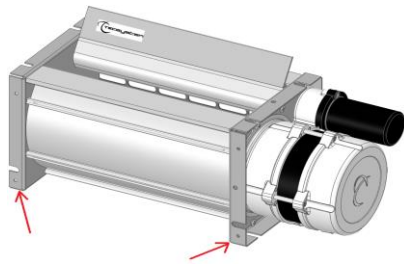
Place the fans on the bar and centre each individual fan with the U-V-W reference column.



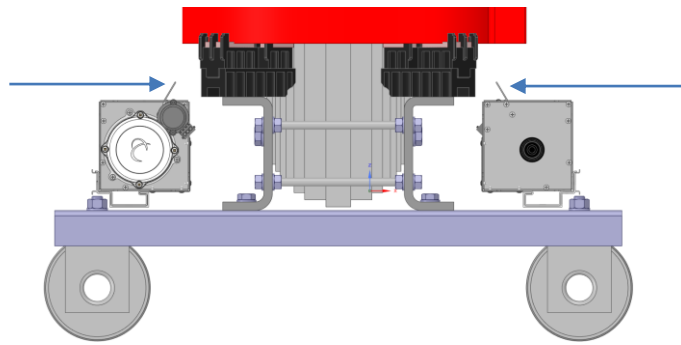
1MN0206/8 REV.0

Use the dedicated slots on both profiles and the self-drilling screws, supplied, to lock the fans in the desired position.

Fan fixing holes

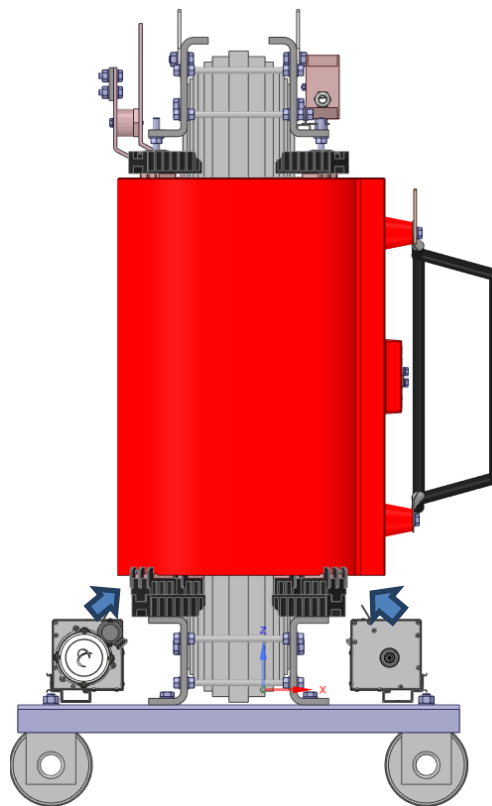


1MN0232 REV.0



1MN0208 REV.0

Use the fan flappers to correctly direct the air inside the transformer columns.



1MN0209 REV.0

Air flow direction inside the transformer



**ATTENTION:** always maintain the safety distance from the windings, indicated by the transformer manufacturer.

#### NOTES ON ASSEMBLY

Fasten the fans on the bar using the dedicated holes on the back; do not modify the fixing holes of the fan.  
When handling the fans, avoid deforming the impeller fins. Never modify the positioning of the motor.  
If the fan/bar is mounted on a transformer, the working position of the fan must respect the safety distance indicated in the manual of the transformer on which the fan is being installed.  
The fan must be positioned horizontally; always make sure, using a spirit level, that the fan is positioned correctly.  
The maximum permitted vibration level is 60Hz.

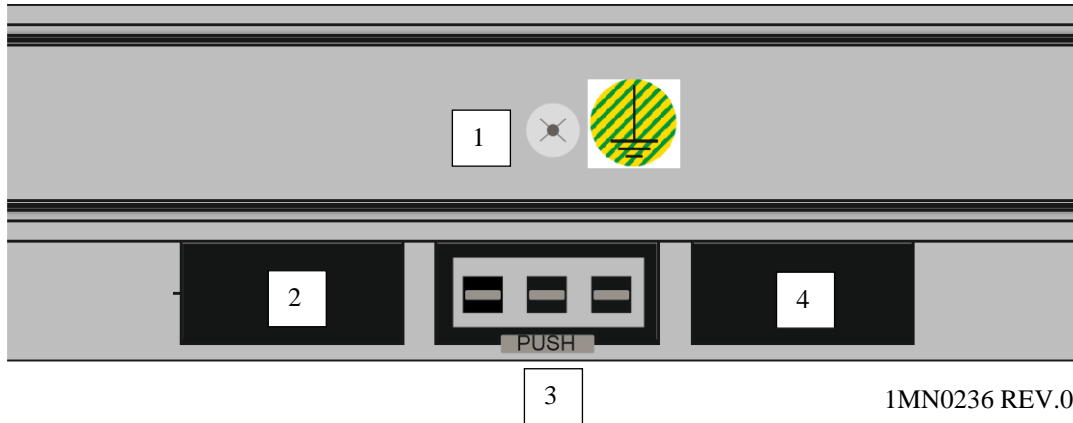


# ELECTRICAL CONNECTIONS

## BAR WIRING

The bar has a recessed plug connector for powering of the fans: M1-M2-M3 (\*). By using the socket connector + casing, it will be possible to connect the fans electrically, following the assembly procedure.

(\* ) the wiring with dedicated connector for the single fan is available on request.



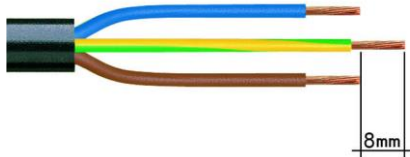
1MN0236 REV.0

1)	Bar earth connection screw	3)	Power plug connector
2)	Cap	4)	Cap

## BAR CONNECTOR

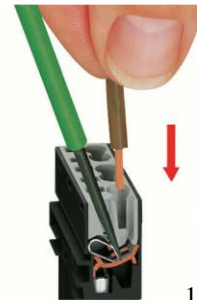
Assemble the socket connector + casing following what is reported below.

1MN0209 REV.0



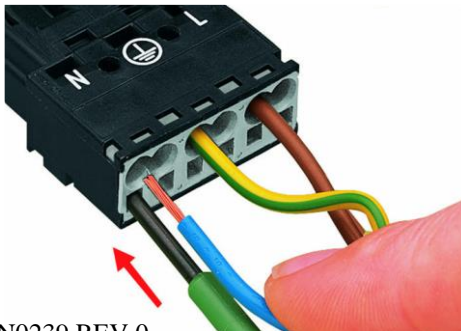
1MN0237 REV.0

Strip the outer sheath of the multipolar cable (L-EARTH-N) to a length of 55mm. Strip the three conductors 9mm. Keep the earth conductor with an increased length of 8mm.



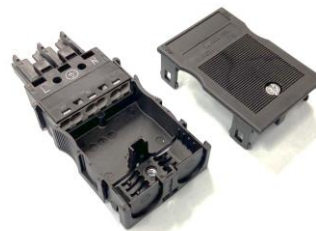
1MN0238 REV.0

Using a 2.5mm slotted screwdriver, press the internal spring of the connector. Insert the stripped conductor MAX 4mm, preferably with a dedicated ferrule, inside the reference terminal with the respective marking L, EARTH or N.



1MN0239 REV.0

Terminate the connection by inserting the other L-EARTH-N conductors.



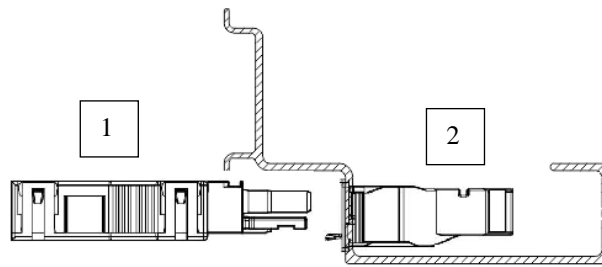
1MN0240 REV.0

Apply the protective casing supplied and tighten the locking screw.



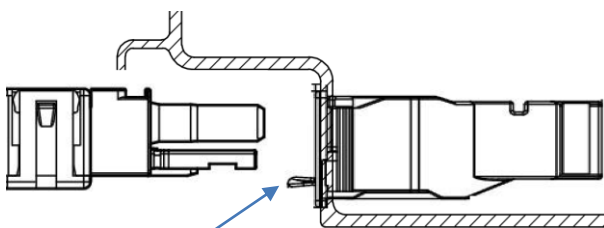
ATTENTION: the 120VAc 60Hz fans have a different wiring therefore consult the quick guide manual available inside the package of the purchased product.

Insert the socket connector + assembled casing (1) inside the plug connector (2) arranged on the bar.



1MN0241 REV.0

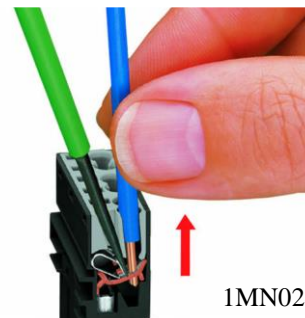
Should it be necessary, modify the wiring or disconnect the connectors.



PUSH

1MN0241 REV.0

Using a 2.5mm slotted screwdriver, press the PUSH spring under the connector. Move the socket connector slightly left and right and pull.



1MN0242 REV.0

Using a 2.5mm slotted screwdriver, press the internal spring of the connector. Pull out the conductor.

## POWER SUPPLY

Before connecting the ventilation bar to the power supply, always check that: the voltage and frequency parameters shown on the fan label correspond to the values available on the system.

## ENVIRONMENTAL CONDITIONS OF USE

Absence of fine dusts.

Absence of flammable or corrosive gases.

Relative humidity: 90% non-condensing (for short periods).

N.B.: maximum temperature as prescribed by the IEC 60076-11 standard.

Installation in a marine environment is not recommended, unless after specific treatment of the metal parts.

**NOTE: failure to comply with the assembly notes and possible use in extreme environmental conditions such as: lengthy periods of standstill, high humidity, high temperatures, excessive dustiness and excessive vibrations, can anticipate deterioration of the mechanical parts of the fans.**

## MAINTENANCE

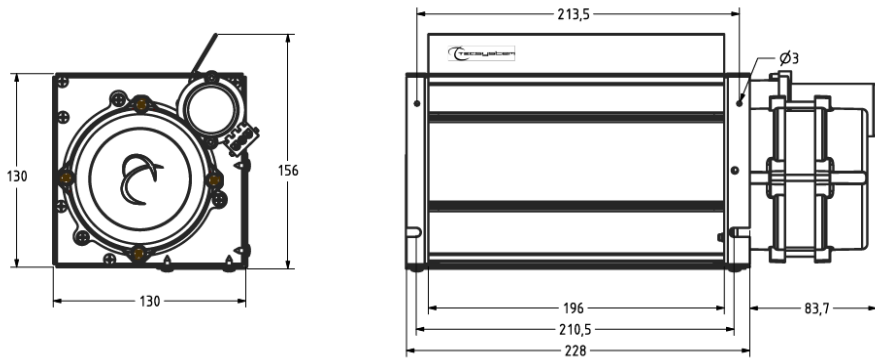
In order to maintain the efficiency of the fans, clean them periodically (every 6 months) using only compressed air. Do not use lubricants or greases of any kind.

Any prolonged standstill of the fan could cause malfunctions. Installation of the fans combined with the Tecsystem thermometric control units avoids any prolonged shutdowns. By enabling the HFN function present in the Tecsystem control units, it is possible to program fan activation cycles from 1 to 200 hours, recommended setting every 24 hours (for further information on the HFN function, check the manual of the control unit purchased).

**NOTE: Periodic maintenance and activation of the HFN will allow you to extend the efficiency of the fans. Maintenance operations on the fans must be scheduled according to the environmental conditions in which they operate.**

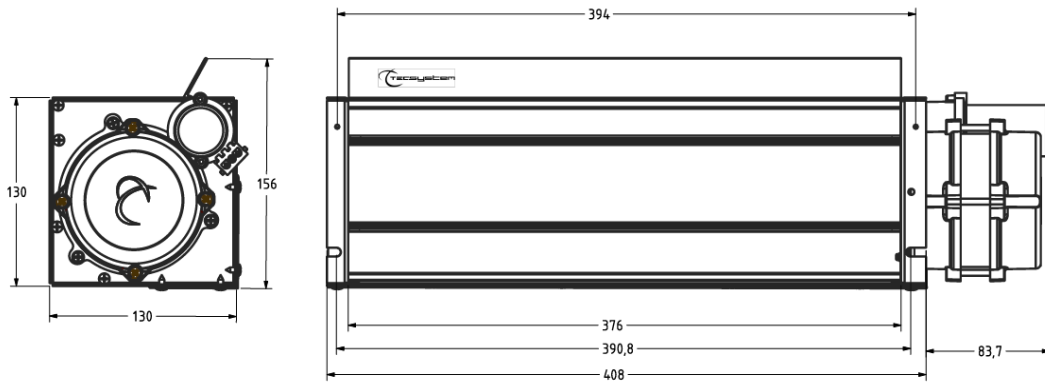
# FAN DIMENSIONS

TG180 1VN0006



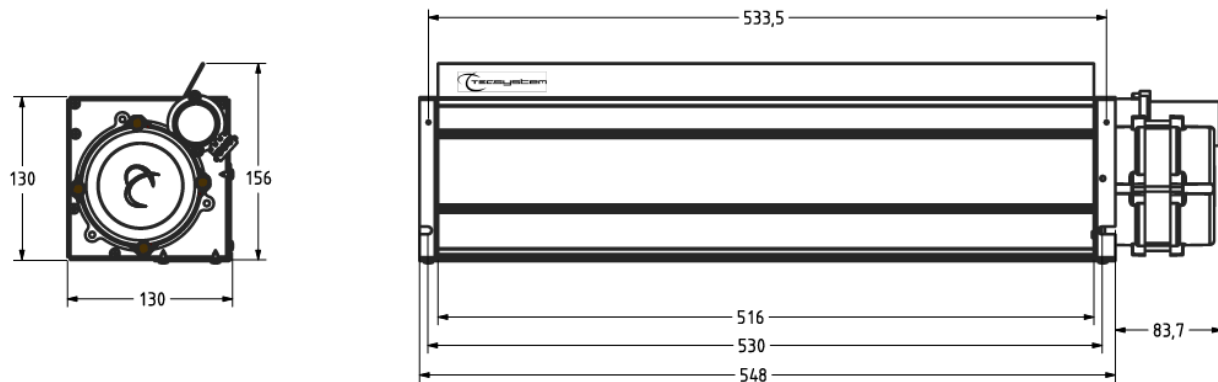
TG360 1VN0010

1MN0229 REV.0



TG500 1VN0016

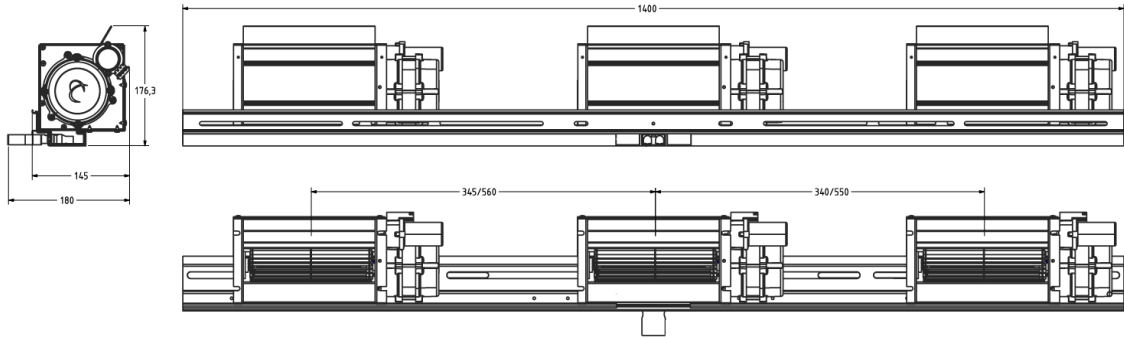
1MN0230 REV.0



1MN0231 REV.0

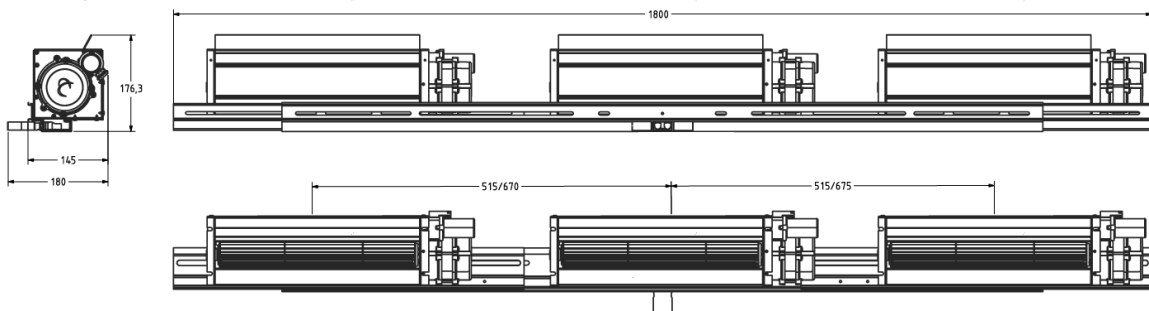
## BAR DIMENSIONS

BAR 1200



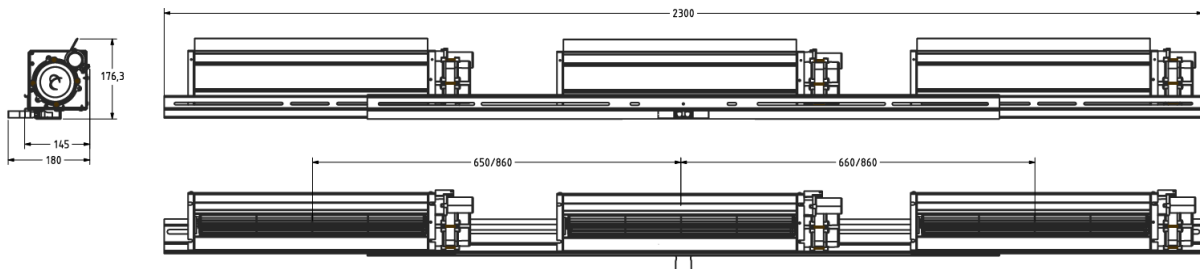
1MN0235 REV.0

BAR 1800



1MN0243 REV.0

BAR 3600



1MN0244 REV.0

NOTE: dimensional tolerance of bar drawings  $\pm 10$ mm

## WARRANTY REGULATIONS

The purchased Product is covered by the manufacturer's or seller's warranty under the terms and conditions indicated in the "Tecsystem s.r.l. General Sales Conditions", which can be consulted on the website [www.tecsystem.it](http://www.tecsystem.it) and/or in the stipulated purchase contract.

The warranty is considered valid only when the product is damaged by causes attributable to TECSYSTEM srl, such as manufacturing or components defects.

The warranty is invalid if the Product proves to have been tampered with/modified or incorrectly connected and causing voltages outside the set limits and does not comply with the technical data for use and assembly, as described in this instruction manual.

The warranty is always ex Corsico as stated in the "General Conditions of Sale".

## EQUIPMENT DISPOSAL

The European directive 2012/19/EU (WEEE) has been approved to reduce the waste of electrical and electronic appliances and to encourage the recycling and reuse of materials and components of these appliances, thereby reducing the disposal of harmful residues and compounds originating from electrical and electronic material.



All the electrical and electronic equipment supplied after 13 August 2005 is marked with this symbol, pursuant to European directive 2012/19/EU on electrical and electronic waste (WEEE). Any electrical or electronic equipment marked with this symbol must be disposed of separately from normal domestic waste.

Returning of used electrical appliances: contact TECSYSTEM or the TECSYSTEM agent to receive information on correct disposal of the appliances.

TECSYSTEM is aware of the impact its products have on the environment and asks its customers active support in the correct and environmentally-friendly disposal of its devices.

## USEFUL CONTACTS

TECHNICAL INFORMATION: [ufficiotecnico@tecsystem.it](mailto:ufficiotecnico@tecsystem.it)

COMMERCIAL INFORMATION: [info@tecsystem.it](mailto:info@tecsystem.it)

