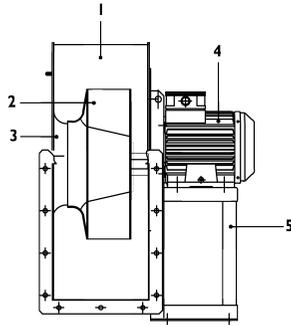
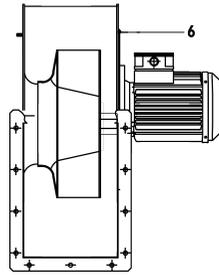


COMPONENTS

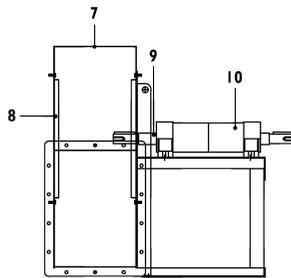
Esec. 4



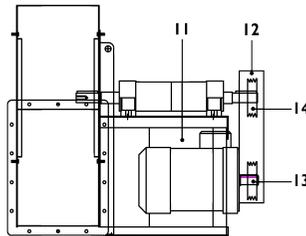
Esec. 5



Esec. 1



Esec. 9



| | |
|----|------------------|
| 1 | SCROLL |
| 2 | IMPELLER |
| 3 | INLET CONE |
| 4 | MOTOR B3 or B5 |
| 5 | MOTOR CHAIR |
| 6 | FLANGED DISC |
| 7 | OUTLET FLANGE |
| 8 | INLET FLANGE |
| 9 | HEAT FAN |
| 10 | MONOBLOCK |
| 11 | BELT TENSIONER |
| 12 | PROTECTION GUARD |
| 13 | PULLEY |
| 14 | BELTS |

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| | |
|------|-------|
| Mod. | KW |
| Or. | Matr. |

TRA-BO VENTILATORI S.r.l.

USER MANUAL FOR CENTRIFUGAL FANS

These instructions are only for standard fans. All fans are balanced and tested before shipment. In case of signs of damage, before or after, opening the package, they must be notified to the carrier and return the good to our site. Do not use or repair damaged equipment. Our company is not responsible for damage during transport.

THIS MANUAL IS CREATED TO ALLOW A SAFE USE AND INSTALLATION OF OUR MACHINES, SO THE INSTRUCTION MUST BE FOLLOWED IN A ABSOLUTE E COMPLETE WAY.

The maintenance and installation of the fans should be performed only by properly trained and experienced staff.

Applying the installation instructions of the manufacturer, must ensure the compliance with all other directives, laws, codes and standards.

The centrifugal **TRM, TRU, TGR, VPMR, TVP, TVG, TVC, TVI, FAM** fans, are suitable for ventilation of areas where the air is very dusty, with temperatures between -20 and +80 °C (150°C for high temperatures versions), +300°C for transmissions fans.

These machines are designed to operate with ducted inlets; when the access to inlets (moving rotating parts) is not ducted or protected in any way, is necessary to instal a protection grid (optional accessory on request), that follow UNI 9219-8 rule. Never access to rotating parts or disassemble the security guards, without ensuring that the fan is not be electrically powered and the impeller is stationary.

TRANSPORTATION AND STORAGE

The fans are equipped without package and for their weight from 20 to 600 kilos they have to be handled by one or more people or lifting equipment.

SETTING

During placing and unpacking operations, don't grab the fan by the impellers or protection grid. Durante le operazione di sbalaggio e sistemazione, non afferrare per la girante e rete. To move the unit to use personal protective equipment (gloves, etc..) follow the 686/89 and subsequent legislation.

Make sure that:

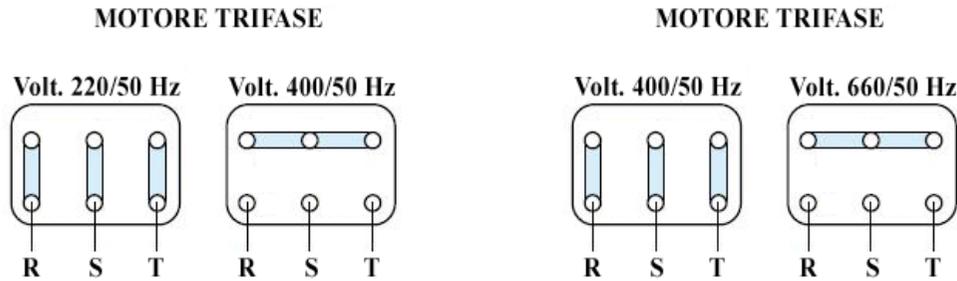
- 1) the impeller has not been damaged or deformed during transportation;
- 2) the impeller is firmly attached to its rotating shaft;
- 3) no foreign body interferes with the impeller;
- 4) the impeller freely rotates on its axis. For installations in cold regions in the winter, do not start rotating with ice formation on the blades;
- 5) all the screw are well tight

MOUNTING:

Secure the machine with bolts or screws and anchors of adequate diameter holes that appear in the four corners of the base. Check if the data voltage on the plate of the motor match the data line connection. The connection between the power supply and motor terminals must be executed like

as shown in the diagram in the terminal box or printed on a label placed on the electric motor (fig. 1). After connecting and after carefully close the terminal bolts to ensure a perfect contact, close the cover of the the box with its gasket. Inside the terminal box is located on the terminal for the earth connection of the unit to be carried out according to regulations. All the engines of our fans are suitable for direct starting at full voltage or star (triangle for powers higher than 5.5 kW). For the series Eex (ADPE) the electrical installation must be made in accordance standard: CEI 64-2.

fig. 1



Warning: indicative patterns, however, refer to the diagram in the motor terminal.

OPERATION

After the electrical wiring connection, start the fan and check that:

- 1) the rotation is correct. The correct direction of rotation is indicated by a special arrow. The electrical connection of the motor must be properly executed to obtain the desired direction of rotation;
- 2) the amperage values must be like as shown on the motor label.

In case of problem, stop immediately the fan. In the early hours of exercise recheck several times the above points and tightening. In the fan-drive you will notice an increase in bearing temperature, this temperature will decline over time.

REGULATIONS

If the fan is used in conjunction with a voltage regulator/speed , be careful that the flow of the voltage regulator is adequate for the current absorbed by the fan motor .

MAINTENANCE AND REPAIR

It is recommended to periodically inspect the cleanliness of the electric motor, the impeller and overall all the component parts of the fan. The frequency of cleaning maintenance will depend on actual operating conditions and this shall be determined by periodic inspections. **Before each intervention to ensure that the electric motor is switched off and safely.** Check that all bolts and screw of the fan are properly tightened and in particular those of the impeller hub and the ones that fix the electric motor to the support. It is advisable to do so after the first **100 hours** of operation, and later at regular intervals of about **6 months** of continuous operation. **Periodically remove deposits from the impeller blades.** Please note that any deposits or other on the rotor blades can cause, in addition to a decrease in aerodynamic efficiency of the machine, even the same imbalance, leading to bearing failure or **breakage of the same.** Any dust or deposits on the electric motor can reduce heat loss and its cooling, and then put it in serious danger with possible fire. **To avoid this you must install vibration sensors that in case of emergency**

stopping and then interrupt the power supply fan. Periodically check the overall installation, to prevent formation of incrustations and obstruction in the ventilation circuit that requiring an excessive increase of aerodynamic performance and bring the fan in a “stall” position. When you need to replace the electric motor on the fan after a normal maintenance or repair, will proceed with great accuracy and verify that every part of the machine is in excellent condition. A hostile environment can create corrosion to the components of the fan if it has not been previously treated with corrosion protection. In the maintenance of the fan verify the status of preservation and corrosion of the bolts and all equipment components. For each type of maintenance that falls outside the usual routine of simple cleaning, you should remove the entire fan from its normal position to install and operate adequate facilities to prevent damage to mechanical parts, and during disassembly, and assembly to. The electric motors in support of the series are equipped with radial ball bearings with double screen, as well as engine blocks transmission. They are lubricated for life and do not need any lubrication operation for the entire duration of the bearing. The indicative duration is 20,000 hours at room temperature of 40 ° C.

COUNTER-INDICATIONS

If the fan impeller should be removed after replacement of the same check the direction of rotation. **If you need to replace the impeller only do it with original impellers.** In the need of a replacement of the electric motor, be extremely careful that it is perfectly compatible with the parts they replace, in particular the speed of rotation (number of electromagnetic poles) should be equal. A peripheral speed greater than the one for which it was designed and built the rotor, causing a rapid decommissioning of the engine, can lead to the disintegration of the same rotor with the possibility of detachment and release of parts or fragments involving danger to persons or property. At the first start and after each replacement or repairs to the electric motor, check that the power consumption is within the range plate, always indicated on the motor.

WARNINGS

If the machine is installed at a distance from the panel and/or point of command, you must provide all-pole switch in the immediate vicinity of the machine. All operations in this manual “INSTRUCTIONS FOR USE” to be executed on the machine and the installation must be performed by **SKILLED OPERATORS.** Otherwise will void the warranty and the Tra-Bo Ventilatori Srl will be excluded from any responsibilities.