

**BKF**

**INSTRUCTION BOOKLET** (Translation of the original instructions)

## **BKF 53**



since  
**1967**



This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

## EC DECLARATION OF CONFORMITY

(All. IIA DIR. 2006/42/CE)

## THE MANUFACTURER

Termotecnica Pericoli S.r.l.

Company

Regione Rapalline 44

Address

17031

SV

ZIP Code

Province

Albenga

City

Italy

State

## DECLARES THAT THE MACHINE

Air circulator

Description

BKF53

Modell

BKF53

Commercial name

Circulation air for industrial, agricultural and poultry applications

Expected use

## COMPLIES WITH DIRECTIVES

Directive 2006/42/EC of the European Parliament and the Council of 15th May 2006 on machinery and amending Directive 95/16/EC.

Directive 2014/30/UE of the European Parliament and the Council of 26th February 2014 on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Directive 2014/35/UE of the European Parliament and the Council of 26th February 2014 on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits.

Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products.

Harmonized reference standards:

UNI EN ISO 4871 / UNI EN ISO 13349:2011 / UNI EN ISO 12100 / UNI EN ISO 60034

Place and date of the document

Campochiesa d'Albenga (SV) IT

09/11/2016

The manufacturer

Company: Roberto Pericoli

Position: Legal Representative



## 1.1 INTRODUCTION TO THE MANUAL

The Instructions Manual for use is the training reference document prepared by the Manufacturer, for specialized operators and technicians who will be in contact with the machine throughout its life cycle.

The purpose of the document is to provide information for proper use of equipment, from installation to disposal, highlighting the dangers that can result from improper use.

To obtain good results in the installation environment, you must carefully follow the instructions in this Manual, particularly avoiding, the occurrence of technical problems and worker exposure to health risks.

In the event of discrepancies between the different translations, the Italian version will exclusively apply.

## 1.2 SAFETY WARNINGS

The following symbols are used in the User Manual to indicate the presence of danger and draw the reader's attention to important information:

### NOTE

This area is included to highlight important notation.

### CAUTION

Indicates a reference to the application of safety practices, or call attention to unsafe practices that could cause personal injury or damage to the equipment or components or the environment.

### WARNING

Indicates the presence of a hazard that can cause serious injury if no appropriate precautions are taken.

## 1.3 PRESERVING THE INSTRUCTIONS FOR USE

There is an obligation to preserve the Owner's instructions manual and all publications attached. The operators and the maintenance personnel must be able to quickly find and consult this document and the annexes in any situation.

On the external side panel of the circulator, a special pocket is located for enclosing the User Manual and its annexes.

### NOTE

The Instructions Manual for use is a safety device of the machine.

It must always stay with the machine throughout the intended life cycle, including changes in ownership.

The phases of the life of the machine are:

1. transportation and lifting;
2. installation;
3. use and operation;
4. decommissioning;
5. scrapping and disposal.

## 2.1 IDENTIFICATION DATA OF THE MACHINE

The EC marking certifies that the product conforms to essential safety requirements laid down by this Directive in the European Community.

The identification plate with the CE mark is applied to the metal structure on the air intake side of the circulator.

It gives the data identifying the Manufacturer, model, serial number and year of manufacture of the machine, in addition to the technical data of the circulator.



## 2.2 INTENDED USE

BKF53 is a ventilator that puts air in circulation for agricultural and industrial applications, he is designed for ventilation of internal spaces for circulation of air with atmospheric pressure. To be installed strictly at a minimum height of 2.7 m.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

### CAUTION

It is absolutely forbidden to make changes to any component of the product or replace with non-original spare parts.

### WARNING

Use of the products that do not conform to that described in this document is considered improper and therefore declared unsafe. These unintended uses can result in equipment damage and serious personal injury. Any other use of the product other than the intended purpose and described in this document is not appropriate; therefore, the manufacturer is not responsible.

### NOTE

TERMOTECHNICA PERICOLI S.R.L. will not be held responsible for any damage to the machine and/or personal injury due to non-compliance with the safety requirements specified in this Manual.

### 3.1 SAFETY PRESCRIPTIONS

It's very important that the safety instructions are always followed and obeyed. Failure to do so could cause injury to persons and/or damage to the machine.

The air circulator must be installed and serviced regularly by qualified and authorized personnel only, since they are able to carry out the operations necessary for the purpose and since they are aware of safety regulations in force in the country of installation.

### 3.2 PERSONAL PROTECTION EQUIPMENT (PPE)

To avoid exposure to risk the personnel that operates the machine during the life cycle phases of the machine such as installation, lifting and transport, maintenance, are required to use the following personal protective equipment:



SAFETY HELMETS



PROTECTIVE CLOTHING



PROTECTIVE GLOVES



PROTECTIVE GOGGLES



ANTI-FALL EQUIPMENT

### 3.3 SAFETY NETS

The air circulator is equipped with a 3 blade propeller that, when in operation, moves with a rotary movement. The driving force is supplied by the electric motor by means of pulleys and drive belt.

To ensure a sufficient degree of protection against accidental contact with moving machine parts, metal safety nets have been provided.

The function of the nets is to protect the user from the risk arising from any sudden failure of internal parts in motion.

The protection against any accidental contact with moving parts is guaranteed only if the fan is installed more than 2.7 m height.

#### WARNING

Given the presence of risks arising from moving parts, the user must install the fan at a height greater than 2.7 m

#### WARNING

It is strictly forbidden to remove and/or tamper with safety nets!

Ensure that the fan is switched off from the supply mains before removing the guard!

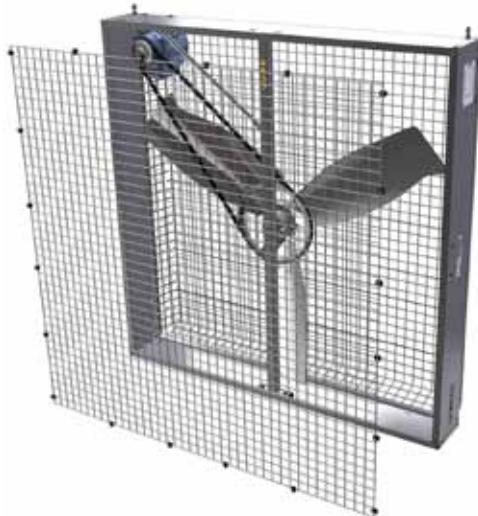
#### WARNING

Safety nets are a safety device. In the event of damage to the nets, proceed with a rapid replacement only with original spare parts because only these are able to guarantee the level of security required by the guidelines and technical standards.

#### WARNING

Before putting the fan into operation, it is required to verify the presence and correct positioning of the safety nets provided.

In the rear part of the circulator (air inlet side) a double metal safety net is positioned (pos. 9) that prevents direct contact with the propeller.



AIR INLET SIDE

Just in front of the ventilator (air outlet side) is positioned as well a dual metal protection grid, (pos. 10), avoiding direct contact with the propeller.



AIR OUTLET SIDE

### 3.4 SAFETY SYMBOLS

On the machine, in a visible location, pictorial danger warnings have been applied to draw attention to the presence of residual risks that can not be avoided or sufficiently limited by work organization measures, methods or systems or technical means of protection.

#### WARNING

The safety symbols applied to the circulator play an important safety function.

#### CAUTION

It is strictly forbidden to remove the safety symbols.

The following shows the position of safety symbols and their meanings.

#### SYMBOLS ON PROPELLER SUSTAINING

The symbols below are placed on the air inlet side, applied to the central propeller sustaining.

The purpose of the symbols is to inform the operator about the dangers arising from the rotational movement and suction of the propeller blades.

#### DANGER

Indicates a residual risk.

#### MOVING PARTS

Presence of moving parts such as such as propeller, pulleys and drive belt.

#### RISK OF CRUSHING

Risk of crushing and/or dragging due to moving parts.

#### PROHIBITION OF REMOVAL OF PROTECTIONS

Prohibition of removal and/or tampering with safety protections (nets).



AIR INLET SIDE

#### SYMBOLS ON SIDE PROFILE

The icons below are located on the sides of the fan.

The purpose of the symbols is to inform the operator about the dangers arising from the rotational movement and suction of the propeller blades.

#### DANGER

Indicates a residual risk.

#### MOVING PARTS

Presence of moving parts such as such as propeller, pulleys and drive belt.

#### RISK OF CRUSHING

Risk of crushing and/or dragging due to moving parts.

#### PROHIBITION OF REMOVAL OF PROTECTIONS

Prohibition of removal and/or tampering with safety protections (nets).

#### HEIGHT OF INSTALLATION

The user must install the fan at an height greater than 2,7m



AIR OUTLET SIDE

## 4.1 TECHNICAL DATA OF THE CIRCULATOR (230/400V 3ph.)



Power Supply	Thrust**	Propeller Speed Rotation	Power Consumed	Thrust Efficiency Ratio	Air flow***	Specific Power	Efficiency
BKF53/1							
50 Hz	14,18 lbf 6,43kgf	446 RPM	924 W	15,30 lbf/kW 6,96 kgf/kW	26.150 cfm 44.430 m <sup>3</sup> /h	20,80 W/(1000 m <sup>3</sup> /h)	28,3 ccfm/W
	14,12 lbf 6,40 kgf			15,50 lbf/kW 7,03 kgf/kW	26.100 cfm 44.350 m <sup>3</sup> /h		
60 Hz	14,12 lbf 6,40 kgf	443 RPM	911 W	15,50 lbf/kW 7,03 kgf/kW	26.100 cfm 44.350 m <sup>3</sup> /h	20,54 W/(1000 m <sup>3</sup> /h)	28,6 ccfm/W

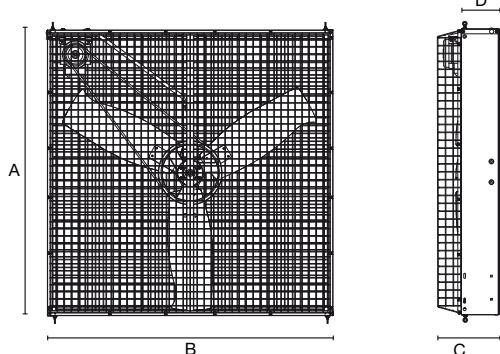
\*\* utilizzando standard ANSI/AMCA e metodo 230-07

\*\*\* utilizzando standard ANSI/AMCA e metodo 230-99

Model BKF 50Hz	$\eta_e$	Measurement category	N	P <sub>e</sub>	P <sub>sf*</sub>	q <sup>*</sup>	Rpm	Specific Ratio
53/1	29,6%	A - Static	36	0,991 kW	31 Pa	34.251 m <sup>3</sup> /h	441	1

\* utilizzando standard ANSI/AMCA e metodo 230-12

## 4.2 CIRCULATOR DIMENSIONS



DIMENSIONS	BKF53
Dimension A	1380 mm
Dimension B	1380 mm
Dimension C	300 mm
Dimension D	180 mm

## 4.3 MOTOR INCORPORATED INTO THE CIRCULATOR

The electric motor installed inside the circulator (pos.13) provides kinetic energy to the propeller blades via the drive belt (pos.12).

## NOTE

For specific information relating to extraordinary maintenance on the electric motor and related spare parts, please contact your local Distributor or Sales representative.

## 4.4 LIMITS OF USE OF THE CIRCULATOR

The machine has been designed to work in the following conditions:

- Environmental temperature between 0°C and +40°C.
- Maximum relative humidity 80% at a maximum temperature of +40 °C.
- Maximum altitude 1000 m a.s.l

## 4.5 SOUND EMISSIONS GUIDELINES

The noise level of the BKF53 air circulator, if used according to instructions in this Manual shall not exceed 70,3 dB Lpa

## 5.1 TRANSPORT AND LIFTING

### CAUTION

During the loading, unloading, transport, handling and assembly phases of the machine, there are mechanical type risks. Loss of stability problems may occur during transport phases for installation purposes.

Therefore, transport and lifting operations must be performed by qualified and properly trained personnel, equipped with suitable means for the purpose such as pallet trucks, lift trucks and aerial platforms.

### CAUTION

To not be exposed to risk the personnel used for lifting and transport of the machine has prescribed the use of personal protective equipment (PPE).

### NOTE

The weight of the machinery or each package is also indicated on the sticker specifications.

### NOTE

In no event shall TERMOTECNICA PERICOLI S.R.L. be held responsible for damage to property and/or persons due to improper handling procedures of the machine or use of unsuitable equipment.

The circulator is delivered by TERMOTECNICA PERICOLI SRL in one of the following ways, according to the supply contract:

### 1. PRE-ASSEMBLED PRODUCT

Single module packaged and placed on a standard pallet, in the case of multiple machines, the packaging may have different configurations on standard pallets.

### 2. PRODUCT TO BE ASSEMBLED

Various modules categorized according to content components and of various sizes, packaged and placed on pallets.

### CAUTION

In the manual lifting phases, objects can pose risks to health caused by improper lifting technique.

Therefore, it is prescribed that the lifting of objects weighing more than 20 kg is carried out by 2 or more operators.

## 5.2 PACKAGING AND DISPOSAL CHECK

The machine must be delivered securely packed and in perfect condition. Despite the caution exercised, it is possible that both the packaging and its contents are damaged during transport.

Upon receipt of the equipment, examine the transport container to check for any visible damage.

Open the transport container and examine the contents for any signs of damage inside. If damage is found, contact TERMOTECNICA PERICOLI S.R.L. to determine the appropriate type of intervention.

TERMOTECNICA PERICOLI S.R.L. reserves the right to carry out an inspection.

The packaging must be disposed of with due respect for the environment. Recycling of packaging in the production cycle saves raw materials and decreases the amount of waste.

Refer to the requirements of standards in force in the country of installation of the machine.

## 6.1 INSTALLATION

### WARNING

Only suitably trained personnel can carry out installation and maintenance on the circulator.

Failure to observe these instructions could cause product malfunction, equipment damage and serious personal injury.

### CAUTION

The ventilator can be mounted in perfectly vertical or slightly inclined position.

Ensure an open area on the air inlet side, without obstacles and/or buildings, up to a distance of 10 m.

Do not obstruct in any way, even partially, the air inlet section of the circulator.

### WARNING

The lifting of the machine for installation purposes to an elevated position must be carried out in safe conditions. Therefore, these operations should be entrusted to professionals.

Given its weight, the circulator will be lifted by self-propelled aerial platforms or forklift with sufficient elevation capacity.

The lifting means must have performance characteristics greatly exceeding what is required for the lifting of the circulator.

In the case of using ropes for lifting, these must have a bearing capacity of at least three times the weight of the circulator.

The use of individual safety devices is required, particularly:

- protective gloves and clothing resistant to cutting due to the presence of sharp materials such as metal profiles;
- Safety belts for high installation in case you do not have a self-propelled aerial work platform with safety railing.

### WARNING

Given the presence of risks arising from moving parts and the air processed by the circulators, the user is obliged to install the circulator at a height above ground of more than 2.7 meters.

### WARNING

That precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.

## 6.2 UN-ASSEMBLED PARTS

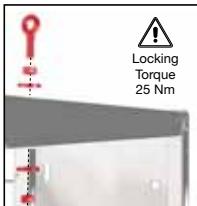
## NOTE

The following operations are performed only before installation of the circulator.

1. In the case of preassembled machine, remove the cable cover (pos. 14) from the envelope of the User Instructions Manual and insert it manually in the hole on the side panel as shown in figure.



2. Remove the safety netting, air inlet side, by loosening the screws present on the net fastening devices (pos. 15).



Fixing the suspension hook as shown in figure.



3. Pass the motor cable in the previously installed cable cover (pos. 14).

## NOTE

Make sure, at the end of the procedure, you have completely removed the motor cable from the circulator and that it is intact and free of cuts and/or deformations.



4. Relocate the safety netting and tighten the screws.



5. With the motor cable extracted and the safety netting fixed, proceed with the installation of the circulator at the wall or frame.

## 6.3 INSTALLATION OF THE CIRCULATOR

The air circulator can be installed with chains (not included) using eyebolts included or different frames (not included).



The maximum deflection recommended is 12° from the vertical position. Do not install the air circulator more inclined.

### NOTE

The vertical support to fix the circulator to in an elevated position must have suitable resistance and stability characteristics to support the weight and vibrations induced of the circulator.

The determination of the characteristics of the support is delegated to the installer and only the latter can assess their suitability.

It is forbidden to install the circulator on movable supports, such as doors or shutters, with strength and rigidity, not fit for purpose.

In no event shall TERMOTECNICA PERICOLI S.R.L. be held responsible for damage to property and/or persons caused by installation of one or more circulators on unsuitable supports.

## 6.4 ELECTRICAL CONNECTION

### WARNING

The power supply connection must be made by trained qualified personnel in compliance with safety regulations currently in force in the country in which the equipment is being installed.

Before attempting to connect to the mains supply, power down the power supply line by opening the main switch.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

In case it is necessary to replace the cord please follow the connections shown in the wiring diagram in the end part of this manual.

1. The fan is supplied with no electrical actuating and control devices.
2. The label placed under the motor cable outlet indicates the type of supply voltage for which the motor has been configured.
3. Check that the power supply available at the installation location, correctly provides the required voltage and frequency values.
4. The installer must provide a control panel that complies with the requirements of International Electrotechnical Commission standard IEC 61439 and proper wiring that complies with IEC 60204 and IEC 60364.
5. The following power system protection devices must be installed:
  - Safety lockable isolating switch
  - A Miniature Circuit Breaker (MCB) (correctly-sized referring to the motor nameplate data) and a possible Residual Current Device (RCD) (to be assessed depending on the system configuration).
  - A start/stop switch
  - An emergency stop button with mechanical lock and manual reset.
6. It is necessary to correctly size the cables in relation to the motor nameplate data, their length and to the installation conditions.

7. The machine shall be properly connected to Earth via a dedicated yellow/green cable in such a way as to create an equipotential bonding circuit that is effective against the risk of electrocution. The choice of whether to install an RCD which will intervene if there is a discharge to earth is left to the installer (reference standard IEC 64-8).

## 6.5 SPEED ADJUSTMENT (Only for 3-phase type motors)

The fan motor speed can be controlled by means of suitable frequency converters.

If frequency converters are used, in order to ensure that the machinery complies with Electromagnetic compatibility (EMC) requirements replace the cable and the cable gland supplied with shielded symmetrical cables and EMC cable glands (i.e. cable glands providing 360 ° bonding between the cable shield and the motor housing).

You also need:

- to use shielded symmetrical cables and EMC glands along the entire line between the frequency converter and the machine, for example on the converter, possible junction boxes, safety switches, motor etc...;
- do not exceed the motor/propeller rotation speed indicated in the technical data table;
- set the converter so that the speed can be regulated within the two limits:
  - maximum speed - indicated in the technical data table;
  - minimum speed - greater than or equal to 50% of the rated speed.
- the design and sizing of the electrical system are delegated to the installer or to a deputy; all work must comply with the rules in force in the destination country.
- Comply with the provisions laid down in the frequency converter manufacturer's installation manual.

## 6.6 INITIAL START-UP

Before starting the fan:

- make sure you have not left any object or tool inside the machine;
- ensure that cement or lime residues have not been deposited on the blades during installation work; the resulting fan imbalance would cause to harmful vibrations causing rapid wear of the propeller bearing;
- ensure that the wire mesh safety guards are securely fitted to the machine;
- ensure that staff keep a safe distance (at least 30 metres) from the machine.
- check that the electrical protection and safety devices are operating correctly.

Once the fan has been started:

- verify that it has been correctly installed checking to see that there is no unusual vibration and/or noises. If there any of these are present then switch off the machine, identify the problem and rectify it;
- check that the fan rotation direction is anticlockwise when viewed from the fan air inlet side; if the rotation direction is clockwise and hence erroneous then invert the two wires in the power line (three-phase motors).

## 7.1 MAINTENANCE REQUIREMENTS

Air circulators made by TERMOTECNICA PERICOLI S.R.L. are designed and manufactured for long life even under the most severe service conditions.

Please remember however that this equipment HAS moving parts, and as such they need to be checked regularly.

It is therefore recommended to implement a preventive maintenance program, which will be entrusted to skilled and competent personnel.

The daily inspection must be performed to prevent any failure due to adverse effects of the working environment such as temperature, humidity, dust, dirt and vibration, and other factors.

### WARNING

Never perform cleaning operations with the circulator running. Also for external cleaning of the machine, the safety nets and the shutter blades, prior disconnection from the mains supply required.

### WARNING

The maintenance of the circulator must be performed only by trained personnel in compliance with safety standards and requirements set forth in this Manual.

Before connecting to the mains, isolate the power line by opening the main switch.

### WARNING

In the machine maintenance and inspection phases there is a risk of entanglement and cutting of clothes, limbs, hair or other parts of the body by the fan.

During these phases acquire the PPE, in particular safety clothing and gloves, tie long hair back and do not wear rings, bracelets or necklaces.

### CAUTION

To ensure a high level of safety, use only original spare parts available from your supplier. In case of using non-original parts, full functionality and compliance with EC directives regarding electrical safety and electromagnetic compatibility are not ensured.

### WARNING

When working on the machine, it is necessary to make all personnel aware of this.

In the event of maintenance work, affix a warning sign onto the power supply switch to inhibit accidental operation by a second operator.

Regularly carry out the following operations:

- Ensure that the inlet and outlet openings are clean and free of objects.
- Ensure the circulator is always dry. If the circulator appears wet, dry it immediately; identify the cause and remedy to prevent corrosion.
- Check the cable connections and connectors. In the event of loose connections, damaged cables, or other abnormalities, stop the circulator immediately and seek specialised assistance or technicians.
- Check for any loosen or rusted bolts or nuts, due of the environmental conditions, paying particular attention to the conditions of the devices used to hang the machine. If case is needed, tighten or replace.
- Check for any deposits inside the equipment. In the case, remove the deposits by compressed air jets.

The following table specifies the periodic routine checks that the user must perform to maintain the machine in good condition.

INTERVENTION	FREQUENCY
LUBRICATION OF THE MACHINE	never
CLEANING OF THE MACHINE	weekly
ADJUSTMENT OF THE DRIVE BELT TENSION	quarterly
SCREW TIGHTNESS CHECK	quarterly
REPLACEMENT OF THE DRIVE BELT	when necessary

## 7.2 MACHINE CLEANING

### WARNING

Never perform cleaning operations with the circulator running. Also for external cleaning of the machine, the safety nets and the shutter blades, prior disconnection from the mains supply required.

Observe the following provisions, to be performed regularly to ensure proper cleaning and proper operation of the product.

- Clean the motor casing regularly with a brush or compressed air (do not spray water or steam).

Regular cleaning of the motor is particularly important when the circulator operates in dusty or dirty environments, because the motor must be able to dissipate the heat generated.

On the motor models where they are present, use the plastic caps placed on the cover and on the drawer of the motor to discharge any condensate accumulated inside the motor itself; at the end of the operation, restore the initial conditions.

- On the bottom of the bearing structure of the circulator, there are 2 holes to discharge any water formed; keep the bottom clean and free holes to avoid corrosion.
- The propeller blades do not require special maintenance because they are self cleaning.
- When using a high pressure cleaner for cleaning, do not direct the jet of water or steam directly on the motor or central pulley or above the opening mechanisms.

## 7.3 MACHINE LUBRICATION

The ball bearing inserted into the driven pulley (pos. 11) is permanently lubricated and requires no special care; the same applies to the motor bearings.

## 7.4 ADJUSTMENT OF THE BELT TENSION DRIVE

### WARNING

Never perform maintenance with circulator running.

Before any operation is required prior disconnecting the circulator from the mains power supply.

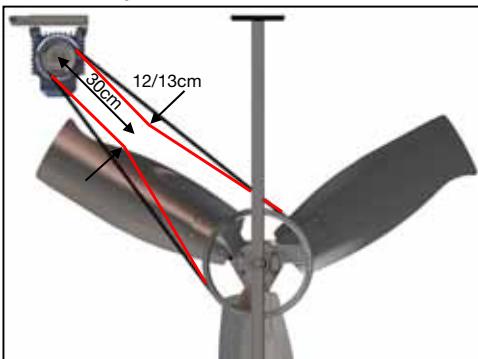
The circulator, in the preassembled versions, comes with correct tensioning of the drive belt (pos.12).

In the versions to be assembled, the following procedure must be followed for correct belt tensioning during installation.

To ensure greater duration of the circulator, it is advisable to check the tensioning of the belt at the end of installation and each time a maintenance cycle is performed.

1. Remove the safety netting, air inlet side, by loosening the screws present on the net fastening devices (pos. 15).

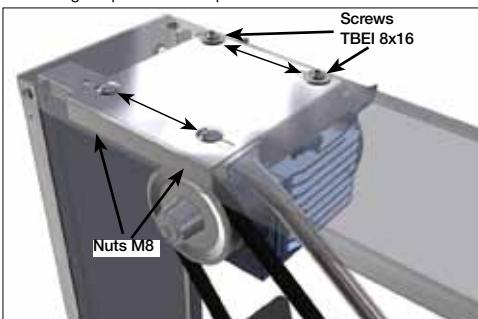
2. Press the branches of the belt in the intermediate zone, about 30 cm from the motor pulley, and if there is a distance between the branches of the belt of about 12/13 cm, it means that the tension is correct. If there is a lower distance, it means that the tension is below the design value.



In this case the the adjustment of slippage system allows the correct value to be restored.

3. Loosen the 2 screws TBEI 8x16 and the 2 M8 nuts that secure the motor plate (pos. 5).

4. Slide the motor plate in the opposite direction to the propeller until reaching the position with optimum belt tension.



5. Retighten the 2 nuts and the 2 screws to the torque required by section 7.5 "Screw tightness check."

6. Relocate the safety netting and tighten the screws to the locking of the device

## 7.5 SCREW TIGHTNESS CHECK

### WARNING

Never perform maintenance with circulator running.

Before any operation is required prior disconnecting the circulator from the mains power supply.

Regularly check the tightness of the bolts and nuts in the following points:

- Screws M8 motor mounting and motor plate, specified torque:
  - 18 Nm
- screw between the pulley and motor, torque required:
  - 10 Nm (M6 screws) using threadlocker (medium strength)

### CAUTION

Incorrect values in the torque can cause damage to the equipment!

## 7.6 REPLACEMENT OF THE DRIVE BELT

### WARNING

The maintenance of the circulator must be performed only by trained personnel in compliance with safety standards and requirements set forth in this Manual.

Before connecting to the mains, isolate the power line by opening the main switch.

When the belt is frayed, with obvious signs of wear, or in the case of tears, it is necessary to replace it.

1. Remove the safety netting, air inlet side, by loosening the screws present on the net fastening devices (pos. 15).
2. To remove the worn belt, push the branches of the belt in the intermediate area to the pulleys towards the inside of the fan (toward the air outlet side) and simultaneously rotate the propeller. Once freed from the pulleys, remove the belt between a propeller blade and the orifice by repeating this process for the other two blades.
3. Insert a new drive belt between a propeller blade and the orifice, working accordingly for the other 2 blades.
4. Fit the belt on the motor pulley and as far as possible on the driven pulley, then rotate the propeller with force to lift the entire belt into the groove of the driven pulley.
5. Check the deflection of the V-belt, if the tension is too low please adjust. The motor plate position to obtain the deflection indicated in the preceding paragraph.
6. Relocate the safety netting and tighten the screws to the locking of the device

## 7.7 TROUBLESHOOTING

### WARNING

The repairing of the circulator must be performed only by trained personnel in compliance with safety standards and requirements set forth in this Manual.

Before any type of repair, isolate the power line by opening the main switch.

Problems of non-operation may be due to the following causes:

- the main switch is off;
- incorrect adjustment or failure of the automatic control;

- defective fuses;
- dirt in the propeller and/or the inner ring of the conveyor;
- open circuit in the connection box or outlet.

If assistance or service is necessary by TERMOTECNICA PERICOLI S.R.L. technical personnel, contact your local sales representative or Distributor.

#### CAUTION

In the event of repair, exclusive use of original spare parts is required.

The original spare parts are guaranteed by the manufacturer for 12 months.

On any non-original spare parts used, there is no guarantee that they can withstand the stresses to which they would be subject during normal operation.

#### 10. INTERNATIONAL WARRANTY - SALES TO BUSINESSES HAVING THEIR SEAT OUTSIDE ITALY

TERMOTECNICA PERICOLI S.r.l. undertakes to remedy any non-conformity (defect) of the products for which he is liable, occurring within 12 Months from invoicing date of the products to the purchaser, provided he has been notified timely about such defect in compliance with the terms and conditions hereinafter set out.

In addition, the present warranty is conditional on both the following conditions:

A) the compliance with the instructions guide supplied by TERMOTECNICA PERICOLI S.r.l. and

B) payment in full at due date of the sale price agreed for the products.

In such case TERMOTECNICA PERICOLI S.r.l. will, at his choice, either replace or repair the products (or parts of the products) which result to be defective. This warranty (i.e. the obligation to replace or repair the products) replaces any other legal guarantee or liability provided by law. It is consequently agreed that, except in case of fraud or gross negligence of TERMOTECNICA PERICOLI S.r.l., any other TERMOTECNICA PERICOLI S.r.l. 's liability (both contractual or extra-contractual) which may arise from the products supplied and/or their resale (e.g. compensation of damages, loss of profit, etc.) is expressly excluded.

Any complaints concerning the conditions of packing, quantity or outward features of the products (apparent defects) must be notified to the Supplier in writing within 8 days from receipt of the products; failing such notification the purchaser's right to claim the above defects will be forfeited. Any complaints relating to defects which cannot be discovered on the basis of a careful inspection upon receipt (hidden defects) must be notified to TERMOTECNICA PERICOLI S.r.l. in writing within 8 days from discovery of the defect; failing such notification the Purchaser's right to claim the above defects will be forfeited. The notice must indicate precisely the defect and the products to which it refers. TERMOTECNICA PERICOLI S.r.l. does not accept return of products lacking its express written authorization. Where TERMOTECNICA PERICOLI S.r.l. accepts such return of the products the purchaser shall deliver the products to TERMOTECNICA PERICOLI S.r.l. at purchaser's risks and costs.

Notwithstanding the above the present warranty does not cover the normal wear and tear of the products and the defects deriving from modifications made by the purchaser without TERMOTECNICA PERICOLI S.r.l.'s consent.

With respect to possible consumer claims involving the application of domestic rules implementing the European directive 1999/44/CE of 25 May 1999 on certain aspects of the sale of consumer goods and associated guarantees, the purchaser accepts to bear the exclusive responsibility for any obligation arising within such context. Consequently the parties expressly agree to exclude any right of redress by the purchaser against TERMOTECNICA PERICOLI S.r.l. based on the above Directive and the purchaser undertakes to hold TERMOTECNICA PERICOLI S.r.l. harmless against any such action of redress made by subsequent sellers of the distribution chain.

#### 8. PROLONGED MACHINE INACTIVITY

If the circulator is placed out of service and kept inactive for an extended period, it must be protected from humidity and bad weather.

Disconnect the circulator from the mains power supply.

#### NOTE

For correct storage of mechanical parts and the electric motor, it is recommended to eliminate the humidity and conservation at a temperature not lower than -20 ° C.

#### 9. DEMOLITION AND DISPOSAL

Any demolition of the machine must be done by qualified personnel who are trained for the job.

#### CAUTION

During the deinstallation and demolition of the machine, use of personal protective equipment (PPE) is required.

Strictly adhere to the same instructions and recommendations already presented in this Manual in the installation section.

During the demolition of the machine, particular attention must be paid to the disposal of the various components that it comprises of.

To dispose of the machine it is necessary to follow the different procedures provided for in the country of installation of the material for disposal.

The materials used in the construction of the machine are mainly metal alloys, for the structural parts, and the electric motor.

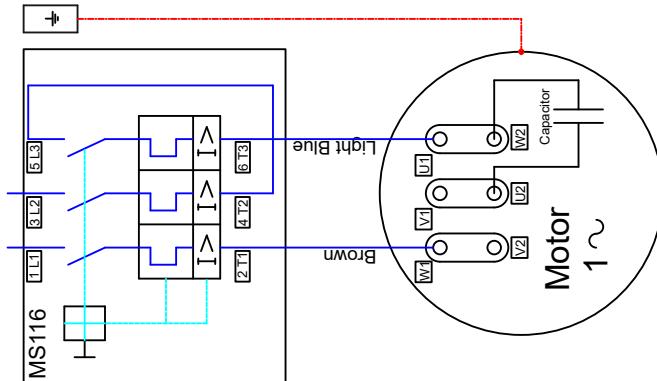
The machine is not made with special materials which require any special disposal process. However, in case of destruction, the materials that make up the machine must be disposed of in a differentiated manner in the appointed collection centres.

For the majority of the metal mass, it is sufficient to subdivide the stainless steels parts and those in other metals and alloys, to correctly send to be recycled by melting.

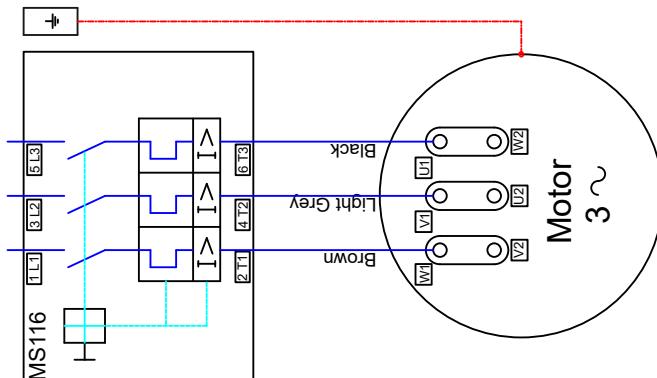
To dispose of the electric motor, comply with that indicated by the manufacturer.

## WIRING DIAGRAM

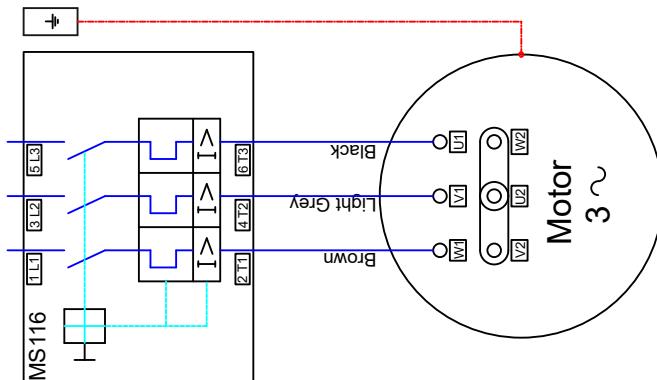
200 ÷ 250V 1~

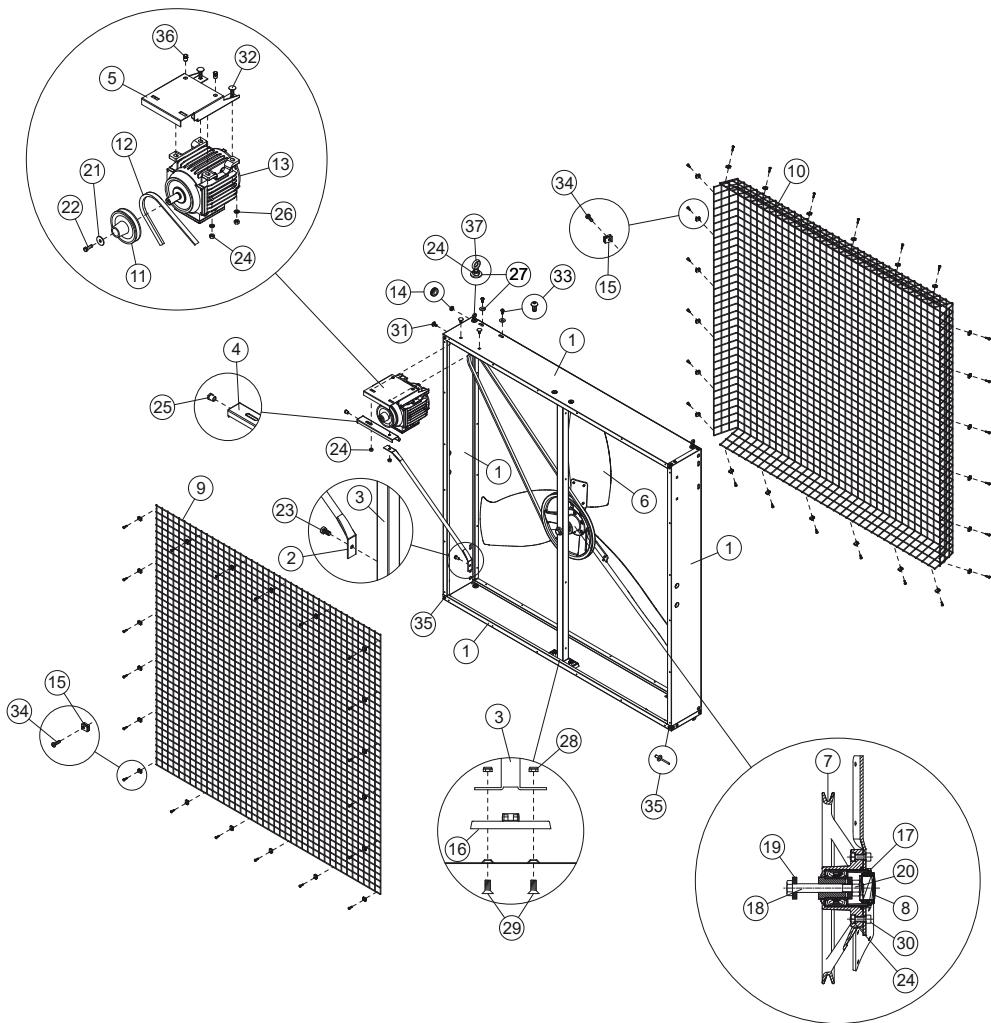


200 ÷ 250V 3~



380 ÷ 460V 3~





## TECHNICAL FEATURES

Model	BKF53/1	
Nominal air displacement	m <sup>3</sup> /h	48.200
Propeller revolution	min <sup>-1</sup>	440
Propeller diameter	mm/in	1320/53
Motor power	HP/kW	1,00/0,75
Noise level (7 m)	dB(A)	65
Length x Height	mm	1380x1380
Width	mm	300
Weight fan	Kg	43

## BKF53

Pos.	Description	Notes	Pcs
1	Wallhousing panel	10/10 Galvanised	4
2	Motor strut		1
3	Propeller sustaining		1
4	Motor plate reinforcement	20/10 Galvanised	1
5	Motor plate	20/10 Galvanised	1
6	Assembled propeller	53" ALU	1
7	Pulley assembly		1
8	Cover plug	Nylon	1
9	Safety netting		1
10	Safety netting	SK	1
11	Motor pulley		1
12	V-Belt		1
13	Motor		1
14	Cable cover		1
15	Clip		44
16	Feet for support		2
18 (B)	Screw	TE 14x110	1
19 (N)	Washer	14x35x7	2
20 (R)	Nut	M14	1
21 (K)	Washer	6x24	1
22 (A)	Screw	TE 6x20	1
23 (C)	Screw	TE 8x16	1
24 (P)	Nut	M8	20
25 (O)	Special nut	M8 S	1
26 (L)	Washer	8x16	4
27 (M)	Washer	8x24	10
28 (Q)	Self-blocking nut	M10 AU	4
29 (D)	Screw	TSPEI 10x25	4
30 (E)	Screw	TCEI 8x25	6
31 (F)	Screw	TTQST 8x15	3
32 (G)	Screw	TTQST 8x25	4
33 (H)	Screw	TBEI 8x16	2
34 (I)	Screw	4,8x19	44
35 (J)	Rivet	4,8x10 TL	12
36 (S)	Threaded bush	M8	2
37 (T)	Suspention hook	M8	4







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