

# KVB/F Series

Installation and Operating Instructions for belt driven radial, Smoke and heat Exhaust Fans

CE



■ Deutsche Originalversion

The data stated in these operating instructions are merely for the purpose of describing the product. Information about a certain property or suitability for a certain purpose of use cannot be derived from our information. The information does not release the user from his own assessments and examinations.

Please consider the fact that our products are subject to a natural wear and ageing process.

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An exemplary configuration has been shown on the title page. The product supplied can therefore deviate from the illustration. The original operating instructions have been written in the English language.

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## 1 Information on use of the documentation

To find information quickly, the documentation has been provided with a table of contents at the beginning. The foot line contains the current version of the documentation and the page number.

The safety information has been designed according to ANSI (American National Standards Institute) and the intensity of the risk. Classification according to intensity (degree) of the risk is done according to ANSI Z535 with the following warning levels.

The safety information has the following structure:

Warning level	Use for	Possible consequences if the safety information is ignored:
<b>DANGER!</b> 	Personal damage (direct threat of a risk)	Death or very severe injuries!
<b>NOTE!</b>	Property damage	Material damage to the system or the environment!

- Pictogram according to ANSI Z535 with signal word and signal colour
- Description of the risk (kind of risk)
- Description of the consequences of the risk
- Measures (activities) to prevent the risk



**DANGER!**

Text – kind of risk

Text – consequences of risk

Text – averting the risk

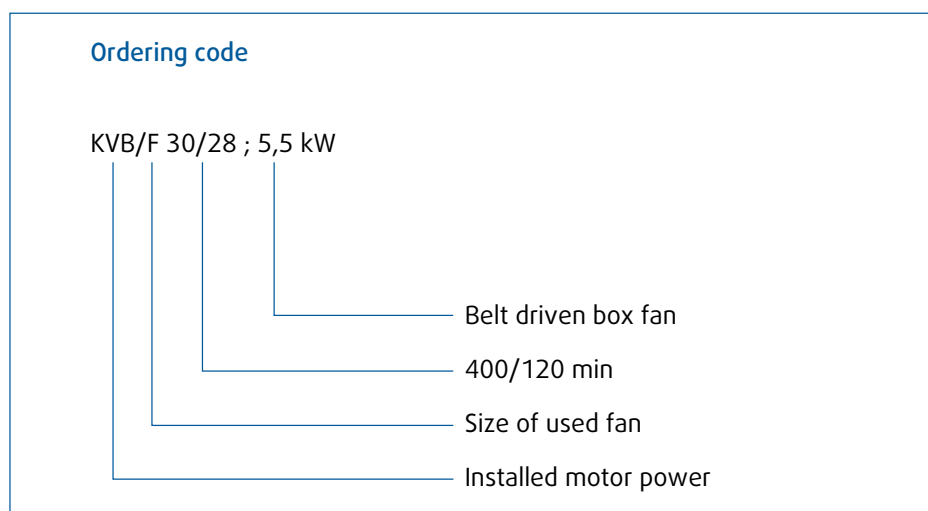
These instructions are a part of the fan supplied and must be available during its entire working life. If the fan is passed on to someone else, these instructions must be given to each subsequent user or operator.

## 2 Technical data

### 2.1 Type key

The type key can be seen on the name plate.




For radial fans which are suited for smoke extraction, the type key contains the following data:



## 2.2 Name plate

The name plate itself has been attached next to the terminal box.  
Here is an example:



Auftrags-Nr.	xxxxxxxxxx
<b>Maschinelles Rauch- und Wärmeabzugsgerät nach EN 12101-3 (2002)</b>	
<b>Typ/Bezeichnung:</b>	<b>AXC 1000-10/xx°-4 (F)</b>
Datum:	xx.xx.xxxx
<b><u>Technische Daten:</u></b>	
Motorfabrikat:	xxxx
Spannung [U]:	400 V D
Frequenz [f]:	50 Hz
cos φ:	0,82
Nennstrom [In]:	15,20 A
Leistung [P2]:	7,50 kW
Nennzahl [n]:	1445 1/min
Iso. Klasse:	H
Schutzart:	IP55
Fördermitteltemperatur:	400°C/2h
Gewicht:	xx kg
Zertifikats-Nr.:	0036 CPD RG04 11
DiBT Zulassungs-Nr.:	Z-78.11-190
Luftrichtung:	S
Laufgradtyp:	AXC
<b>Made in Germany</b>	
	
	0036
	

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### 2.3 Types of fans

KVB.....(F) Smoke exhaust fan, F400, EN12101-3 (400 °C/120 min)

### 2.4 Data of the fans

Weight	See data sheet
Protection class	See data sheet
Voltage/current intensity	See data sheet
Sound pressure level	See data sheet
Admissible ambient temperature	See data sheet
Admissible temperature for conveying	See data sheet
Nominal diameter	See data sheet

### 2.5 Data of the motor

All the necessary data can be obtained from the operating instructions from the manufacturer of the motor.

### 2.6 Electrical connection

All the necessary data can be seen from the name plate in question or from the enclosed data sheet. Admissible voltage tolerances according to IEC38: maximum +6 % or -10 % The measured current may only exceed the nominal current at nominal voltage by a maximum of 5 %. The wiring scheme and the manufacturer's declaration from the manufacturer of the motor have been enclosed with the documentation.

### Motor protection

Type	Motor protection	Thermal protection, standard	Speed regulation
KVB/F	by customer	PTC	possible via frequency inverter.

### 3 Proper use



The fans are intended for installation in ventilation systems!

The fans of the series KVB/F are ready-to-use products and are used as components for ventilation appliances, machines and systems. With these fans, air can be sucked out, inserted or also conveyed. As a standard, the fans are supplied with a thermal motor protection (PTC).

The fans can be installed both in channel systems and also with free suction via an admission nozzle and a suction-side contact protection grid. Free blow-out via a contact protection grid is also possible following prior consideration during design.

The fans may not be used in areas in which an explosion-capable atmosphere can be found. The fans are not suited for suction of dusty or aggressive media or media with such a content of dust that operation of the fan could be impaired by accumulation on the blades and on the fan housing.

- The maximum admissible operating data on the name plate apply to an air density  $\rho = 1.2 \text{ kg/m}^3$  (See level) and a maximum air humidity of 80 %. The fans are suited for an ambient temperature of no more than 55 °C (pay attention to information on name plate). The temperature of the material conveyed may not exceed 55 °C or fall below -20 °C.
- The maximum admissible temperatures stated above can be increased to an ambient temperature of 60 °C, 80 °C or even up to 100 °C (pay attention to precise information on name plate) by use of ISO H motors. The temperature of the material conveyed may then not exceed 100 °C or fall below -20 °C.
- With the use of specific motors (pay attention to precise information on name plate), the fans can also be used up to a maximum air humidity of 95 %.
- The motors cannot be voltage-controlled. Speed regulation is only possible via a customary frequency inverter, e.g. Systemair FRQ or FXDM.

## 4 Personnel

### 4.1 Qualification

The electrical connections of the fans may only be carried out by trained electricians.

### 4.2 Personal protective equipment

Protective working gloves, protective working shoes and goggles for assembly, installation, maintenance and control work are part of the personal protective equipment for assembly, maintenance and repair personnel.

## 5 General safety information

- During assembly, commissioning, maintenance and controls, secure both the assembly area and also the premises for any preparations against access by unauthorised persons.
- A residual risk due to faulty conduct, malfunction or effects of force majeure in the operation of the fan cannot be completely ruled out. The planner, operator or builder of the appliance, machine or system must take suitable safety measures pursuant to DIN EN 12100 to prevent the occurrence of a risk situation.
- Please observe the general occupational safety directives.
- Ensure access to the fan for the purpose of upkeep and maintenance.
- Assembly and electrical installation may only be done by trained personnel complying with the relevant directives.
- The electrical connection may only be carried out by trained electricians. Before maintenance and repair work, switch the energy supply off.
- Rule out any risk by undesired switching on of the fan or undesired contact with the rotor during any work.
- The housing of the fan may not be deformed during assembly.
- Any risk by touching the rotor during operation must be ruled out.
- To avoid disturbances and to protect the motor, the latter must be disconnected from the mains by the integrated resistor in the event of a disturbance in operation (e.g. inadmissibly high media temperature) pursuant to Council Directive 94/9/EC.
- Maximum testing voltage of the resistors is 2.5 V.
- The motors contain triple resistors. More than two resistor chains may not be connected in series, as this can lead to an undefined cut-out.
- When checking the direction of rotation of the rotor, wear goggles.
- Safety elements, e.g. protective grids, may not be dismantled, circumvented or put out of function. They are to be checked for their secure positioning.
- Compliance with EMC Directive 89/336/EEC only relates to this product if it has been connected directly to the customary electricity mains. If this product is integrated into a system or completed and operated with other components (e.g. regulation and control appliances), the manufacturer or operator of the overall system is responsible for compliance with EMC Directive 89/336/EEC.
- The name plate states the electrical figures approved by the registration office in the EC type test (declaration of conformity) for the motor when optimally cooled.
- Prevent suction of foreign bodies, this can destroy the fan.
- Guarantee uninhibited and even flowing into the appliance and free blowing out again.
- The fans may not be used in explosive or hazardous areas.



## 6 Safety devices

The motors have been provided with thermal protection via resistors (PTC) as a standard.

## 7 Constructional set-up

These fans are belt driven fans with a sturdy design. The motors are running outside the air stream.

The outside of the fans is galvanized steel with a sturdy construction.

The centrifugal forward curved impeller is made by galvanized steel.

In B3 conventional motors, the motorsupport console is of galvanized steel sheet.

As a default, the fans are provided with three phase motors (400 V, 50 Hz) with integrated resistor. The electrical motor protection class is at least IP 54, ISO F.

The fans can be run in permanent operation from -20 °C to 55 °C ambient and conveying temperature.

The dynamic counterbalancing is done according to ISO 1940 T1, Class G 6.3.

The electrical connection is via a terminal box positioned direct at the motor.

The standard motors suited for operation with a frequency inverter.

If the fans are controlled with a frequency inverter, connection of the thermal protection, resistor (standard PTC) or also thermocontacts (TC) in the motor is necessary.

The KVB/F fans have been developed as a standard for horizontal, mounting direct on the floor. For outdoor installation a weather protection is needed.

**KVB/F fan with accessories**

## 8 Mode of operation

The fans can be run in permanent operation at a maximum ambient temperature of 55 °C and also a maximum conveying temperature of 55 °C with ISO F motors.  
For the operation of the motor, the embossed standard frequency is to be complied with.

## 9 Inspection

Before a fan is handed over to the customer, there is a trial run with the manufacturer as well as an operation test necessary.

## 10 Transport, storage, assembly

**DANGER!**

Risk of injury if the fan falls down.  
Use suitable lifting equipment and fitting devices.  
Do not stand underneath the load!

**NOTE**

Risk of damage to the fan or parts of the fan.  
Do not transport the devices by the connection wire, the terminal box, the rotor, the protective grid or the admission nozzle.  
Use suitable lifting equipment and fitting devices!

**NOTE**

Risk of deformation of the fan!  
Load and unload the fan carefully.  
Pay attention to the transport arrows on the packaging.

## 10.1 Transport

The fans are supplied on wooden pallets they are packed in plastic foil. Transport the fan to the place of assembly in its original packaging.

Do not transport the devices on the connection wire, the terminal box, the rotor, the protective grid or the admission nozzle.

Load and unload the fan carefully, in order to avoid possible damage.

Use suitable lifting equipment. Use a four point suspension with straps in crane transport.

In transport and loading, pay attention to the weight of the fan.

Guidelines (without accessories) can be seen from the following table:

Size	approx. weight with min./max. motor output in kg
<b>KVB/F</b>	
9/9	
10/10	
12/12	
15/15	
18/18	
20/20	
22/22	
25/25	
30/28	

Upon receipt, carry out a visual check of the fan and examine the consignment for completeness.

## 10.2 Storage

### NOTE

Risk of damage to the fan!

If it is stored for more than 3 months, turn the rotor by hand at intervals of 14 weeks.

In the packaging is intact (PE foil with space under the base) and without formation of condensation, the fans can be stored out in the open for up to a month.

Unpacked fans may not be stored out in the open.

In dry, aired rooms without the risk of formation of condensation, the fans can be stored for a maximum of up to 6 months.

If the period of storage is longer than 3 months, the rotor must be turned by hand at intervals of 4 weeks.

### Storage temperatures:

-20 °C up to max. 60 °C

### 10.3 Assembly

Before delivery, each fan is examined in the factory.

After removing the packaging and before the start of assembly, you must:

- establish any possible transport damage,
- examine manually whether the fan wheel runs freely,
- examine the standard distance between the blade tip and the housing and
- check that no condensation has formed.

**DANGER!**

Move the rotor of the fan by hand before you install it in order to check whether it moves freely. Please pay attention that the fixing screws of the fan can stick out of the casing.

Attention should be paid on this especially!

**DANGER!**

Risk of injuries if the safety directives are not observed.

In assembly, please observe the general occupational safety directives!

**DANGER!**

Risk of injury if the fan falls down!

During assembly, secure both the assembly area and also the premises for any preparations against access by unauthorised persons.

**DANGER!**

Risk of injuries from electric shocks!

Switch the energy supply off before you make the electric connection of the fan.

Make sure that the energy supply cannot be switched on again prematurely.

The electrical installation may only be done by trained personnel.

**DANGER!**

Risk of injuries from rotating parts!

Rule out any risk by undesired switching on of the fan or undesired contact with the rotor during assembly.

- NOTE** Risk of damage to the fan!  
The fan housing may not be deformed during assembly.  
Carry out the assembly carefully!
- NOTE** Risk of damage to the fan!  
Check by hand whether the rotor can be moved freely!  
Do not fit the fan if the rotor cannot be moved freely. Notify the manufacturer.
- NOTE** Risk of damage to the fan!  
Prevent foreign bodies from being sucked in.
- NOTE** Risk of damage to the fan!  
If the flow gets jammed, there is the risk of overheating.  
Guarantee uninhibited and even flowing into the appliance and free blowing out.

- Provide the fan at least with an IP 20 protective grid with free intake and free blow-out.
- Prevent the possibility of foreign bodies being taken in!
- Guarantee uninhibited and even flowing into the appliance and free blowing out!
- Fit the fan in such a way that access to the fan for the purpose of maintenance work is always guaranteed and the fan can be dismantled without disproportionate efforts being necessary.
- Ensure sufficient free space in the vicinity of the fan in order to be able to carry out any necessary maintenance work.
- Fit the fan in the correct direction of air flow (in accordance with the arrow on the device).

To avoid vibration transmissions to the channel system, installation of compensators with the corresponding registrations (if necessary) is recommended.

In order to avoid vibration transmissions to surrounding components, installation of vibration dampers and canvas supports is recommended.

- NOTE** Risk of damage to the fan.

#### 10.4 Electrical connection

**DANGER!**

Risk of injuries from electric current!

Switch the energy supply off before you bring about the electrical connection of the fan. Make sure that the energy supply cannot be switched on again prematurely. The electrical connection may only be carried out by trained electricians.

**DANGER!**

Risk of injuries from electric voltage!

Check whether the electrical data on the name plate match up with the local mains connection, e.g. of the switch cabinet.

The electrical connection is to be done according to valid directives and only by a qualified fitter with matching safety devices for the protection of the motor (start and overload).

The nominal data on the name plate of the device must match up with the mains voltage and frequency.

Voltage tolerances are admissible with a maximum of +6 % or -10 % according to IEC38.

The measured current may only exceed the nominal current at nominal voltage by a maximum of 5 %.

Fans provided with resistors (PTC) must always be connected to an external motor protection.

The motors cannot be voltage controlled. Speed regulation is only possible via a customary frequency inverter.

The wiring scheme and the manufacturer's declaration from the manufacturer of the motor have been enclosed with the documentation.

- Carry out the electrical connection directly on the connection box according to the wiring scheme in the lid of the connection box and comply with local directives.
- Please find the electrical data on the name plate or the enclosed data sheet.

It is recommended that all motors are to be provided with a protective motor switch (not included in the scope of delivery). Nothing may be fitted to the fan housing.

The correct connection picture can be seen on the basis of the name plate for the motor on the fan.

**Connection pictures standard motor / wiring diagrams**

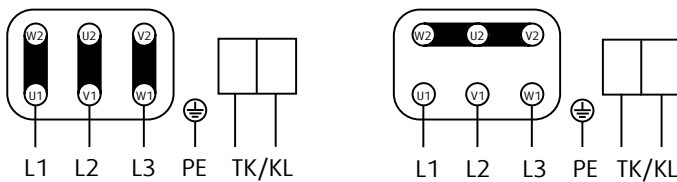
Motor 230 V  $\Delta$  / 400 VY  
Anschluss Y / Connection Y

Motor 400 V  $\Delta$  / 690 VY  
Anschluss  $\Delta$  / Connection  $\Delta$

**Dreiphasenmotor optional mit Thermokontakte oder Kaltleiter**

Three phase motor with optional thermal contacts or cold conductor  
Moteur triphasé avec comme option thermocontact branché ou résistance PTC

single speed



D Schaltung  
Delta connection  
Branchement en triangle

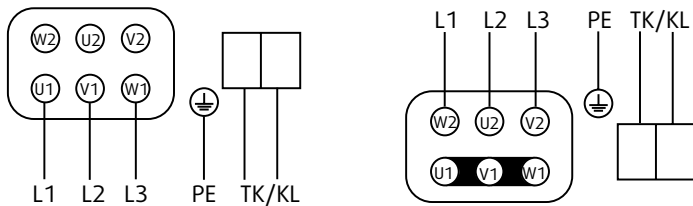
Y Schaltung  
Star connection  
Branchement en étoile

Drehrichtungsänderung durch Vertauschen von 2 Phasen  
Changing of direction of rotation by interchanging of two phases  
Changement de sens de rotation par inversion de deux phases

Typenschild beachten! See label! Voir plaquette! 300N

**Dahlermotor optional mit Thermokontakte oder Kaltleiter**  
Dahlander motor with optional thermo contacts or cold conductor  
Moteur Dahlander avec comme option thermocontact branché ou résistance PTC

2/4-pole / 4/8-pole / 6/12-pole



Y  
Anschluß für niedere Drehzahl  
Connection for low speed  
Branchement pour vitesse à bas

YY  
Anschluß für hohe Drehzahl  
Connection for high speed  
Branchement pour vitesse grande

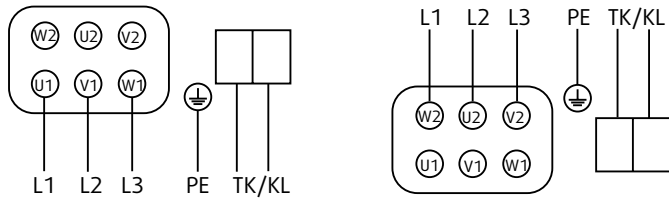
Drehrichtungsänderung durch Vertauschen von 2 Phasen  
Changing of direction of rotation by interchanging of two phases  
Changement de sens de rotation par inversion de deux phases

303125

301N

Motor, 2 Wicklungen optional mit Thermokontakte oder Kaltleiter  
 Motor, separate windings with optional thermal contacts or cold conductor  
 Moteur, deux bobine avec comme option thermocontact branché  
 ou resistance PTC

4/6-pole / 6/8-pole



Y  
 Anschluß für niedere Drehzahl  
 Connection for low speed  
 Branchement pour vitesse á bas

Y  
 Anschluß für hohe Drehzahl  
 Connection for high speed  
 Branchement pour vitesse grande

303126

Drehrichtungsänderung durch Vertauschen von 2 Phasen 302N  
 Changing of direction of rotation by interchanging of two phases  
 Changment de sens de rotation par inversion de deux phases

## 11 Commissioning



### DANGER!

Risk of injury and risk of damage to the fan. Before commissioning, read the operating instructions carefully and check the following:

- positioning of the device (fitting, possible deformations)
- assembly residue and foreign bodies removed from fan area and connected channel
- safety devices fitted
- leakage test carried out
- correct performance and correct connection to the electrical installation
- correspondence of the connection data with the information on the name plate



### DANGER!

Risk of injuries to the eyes by residue or dust being swirled out when checking the direction of rotation. When checking the direction of rotation of the rotor, wear protective goggles!



### DANGER!

Live wires and connections!  
 Risk of injuries from electric current!  
 Have all electrical work done by a trained electrician only!

- If the direction of rotation is wrong, interchange two phases in order to set the correct direction of rotation.
- As soon as you have put the fan into operation, check flawless functioning (free movement of the rotor, measurement of the current consumption, check for possible vibrations and noises).



**NOTE** Risk of damage to the fan!  
If the fan is operated outside the characteristic stated, there is the risk of unstable running and inadmissible vibrations, even possibly its destruction.  
Do not operate the fan outside the characteristic stated.

- Do not operate the fan outside the characteristic stated. This can happen in the case of a bad flow or excessively high resistance in the system. The fan must run on its prescribed operating point.
- Fill in the attached commissioning record sheet and present it in the event of a warranty claim.

## 12 Operation

When operating the fan, pay attention to the operating instructions from the motor manufacturer. Regularly check the flawless functioning of the fan (free movement of the rotor, measurement of the current consumption, check for possible vibrations and noises).

### 12.1 Speed-controlled fan operation

#### General:

Fans can be speed-controlled to reach the required operation point of the installation and user requirements.

#### Speed-control, maximum speed:

The speed specified on the name plate must not be exceeded.

#### WARNING!

Risks due to resonance frequencies!

Avoid continuous fan operation at speeds with increased oscillation values. These speeds must be skipped or deactivated during operation. Make sure that these stages will be passed quickly during start-up to avoid transient oscillation and exceeding of the admissible oscillation of the resonance frequency. A permanent oscillation monitoring is recommended to ensure a safe and continuous fan operation.

Take a close look on oscillation damages during fan inspection and maintenance. It is recommended to change or increase the maintenance cycle to apply the operating conditions during normal operation speed. In these cases, it is usual to start with short maintenance rates after commissioning. If no damages occur, the rates can be changed stepwise to meet the specified maintenance rates from the operating instructions. This decision has to be made by the installation owner.

#### Commissioning of speed-controlled fans

It is necessary to check out the fan for oscillations at all normal operation speeds during commissioning. Oscillations on housing and bearing areas have to be determined and evaluated in accordance with DIN ISO 14694 depending on motor power and positioning. The admissible oscillation velocities can be requested from Systemair.

Measurable oscillation velocities depend e.g. on following factors:

- positioning
- bottom section/foundation state
- flow conditions

The operation point of the fan as well as used external devices and accessories also influence the running characteristics. Thus, an evaluation is only possible when the machine is installed for the proper operation. This evaluation must be done by trained personnel!

#### Speed-control, special regulations

- Changing of the speed causes additional loads on the fan components.
- Speed changing during normal regulation must not exceed the admissible motor temperature and the bearing load.
- Spin-up time should be at least 60 seconds.

- The service life of fans can be extended by quick passing of the resonance frequencies.
- Speed changings should be at max. 16,7 U/sec (1,75 rad/sec) (exception: passing of the resonance frequencies).
- The operating instructions of the control device manufacturer must be observed.
- Comply with EMC Directive 2004/108/EG (1st March 2005).

**General information:**

- The fan and the frequency inverter should be installed as near as possible to one another.
- Use shielded and coated cables.
- All components (fan, frequency inverter and motor) should be earthed.
- The use of all-pole sinusoidal filters is recommended.

### 13 Maintenance and upkeep

**DANGER!** Live wires and connections!  
 Risk of injuries from electric current!  
 Have all electrical work done by a trained electrician only!

Periodically check the following according to official requirements, however at least once a year (the first four points only with the fan switched off!):

- screw connections, specifically the rotor fitting
- is there dirt in the fan wheel? If so, remove it.
- have accumulations formed on the rotor? If so, remove them.
- function of the safety components
- function of the control elements
- coil resistance
- operating current
- vibrations which may occur
- noises which may occur in the bearings of the electric motor
- Motors with extended nipples needs to be re-greased (grease type please take from motor name tag or IMO from the motor manufacture) according to manufacturers' instructions.

Check the function of the system and controls (all poles) according to the system maintenance book at least every 3 months, if not required more often.

Make the checks of the first four points with the fan switched off.

The parameters of the other points may not deviate from the initial figures measured in installation.

If one of the parameters deviates from the initial figures, replace the motor or the fan wheel or have them repaired by the manufacturer.

In the event of unauthorised interventions, warranty becomes ineffective.

Maintain the electric motor according to the enclosed instructions from the manufacturer.

Use the enclosed maintenance record.

**NOTE** Risk of damage to the fan by cleaning with high pressure devices.  
 Only clean the fan manually, with a vacuum cleaner or with compressed air!

**NOTE** Risk of damage to the fan!  
 Systemair assumes no liability for damage caused by using outside parts.



Only use original Systemair spare parts.

## 14 Fault table, remedying faults


**DANGER!**

Live wires and connections!  
Risk of injuries from electric current!  
Have all electrical work done by a trained electrician only!


**DANGER!**

Risk of injuries to the eyes by residue or dust being swirled out when checking the direction of rotation. When checking the direction of rotation of the rotor, wear protective goggles!

Fault	Remedy
Fan does not start	Check energy supply and motor protection. If in order, check motor. In motors with separated coils, check both speeds.
Volume flow too low	Check direction of rotation. If necessary, change direction of rotation of motor by interchanging two phases. Check whether the intake area is blocked. Check working point and version of the system.
Motor protection is triggered	Compare the motor data. If in order, check energy supply and motor (short circuit, bearing damage, rotor blocked or grinding), contact after-sales service.
Abnormal noises occur	<p>As a matter of principle: noise development in a fan greatly depends on the installation situation and the operating conditions. For this reason, no generally valid noise data can be given, they always relate to the measured conditions. They can be seen from our data sheets.</p> <p>Possible source of fault:</p> <ul style="list-style-type: none"> <li>• bearing damage on the motor, rotor blocked or grinding</li> <li>• rotor imbalanced or damaged</li> <li>• rotor runs in the breakdown area</li> <li>• loose components.</li> </ul> <p>Have the motor or possibly the entire fan repaired.</p>
Vibrations	<p>Check working point and version of the system. If the actual total resistance of the system is higher than planned, this may result in the fan working in the breakdown area for some types.</p> <p>Contact the manufacturer's after-sales service.</p> <p>Damage or dust accumulations on the rotor.</p> <p>Check welding seams on the housing.</p>

If in doubt, get in touch with the manufacturer's after-sales service.

## 15 Stoppage, disposal

**DANGER!**

Live wires and connections!  
Risk of injuries from electric current!  
Have all electrical work done by a trained electrician only!

**DANGER!**

Risk of injury if the fan falls down.  
During dismantling, secure the assembly area against unauthorised access!  
Use suitable lifting equipment and fitting devices.  
Do not stand underneath the load.

- To take the fan out of operation, disconnect the electrical connections from the mains.
- Take the motor out of operation according to the operating instructions from the manufacturer and dispose of it as stated there.
- After the fan has finally been stopped, dispose of all the materials according to valid directives and laws!

## 16 Spare parts

Defective fans must be completely replaced.  
Repairs may only be done on the manufacturer's premises and by the manufacturer.

## 17 After-sales service

Our after-sales service is at your disposal under the following contact data:

**Systemair HVAC Spain S.L.U.**

C\Montecarlo, 14 P.I. Uranga  
ES-28942 Fuenlabrada

Tel: +34 (0) 91 600 29 00

Fax: +34 (0) 91 607 03 09

Mail: [general@systemair.se](mailto:general@systemair.se)

Homepage: [www.systemair.es](http://www.systemair.es)

**18 Commissioning certificat**

<b>Date:</b>				
Name:				
Systemair Ordering Code:				
Ventilator Type:				
<b>Characteristics</b>	<b>actual</b>		<b>unit</b>	<b>remarks</b>
Motor type				
Motor No.				
Power Consumption			[V]	
Power Supply			[A]	
Frequency			[Hz]	
Output Power			[kW]	
RPM			[rpm]	
Electr. Fuse (e.g. 3-pole, A,B,C)				
Controlled (e.g. Frequency Convert.)				
Motor Therm. Protection (e.g. PTC)				
Connection (e.g. Star-Delta)				
<b>Measurement Data</b>	<b>actual</b>	<b>ideal value</b>	<b>unit</b>	<b>remarks</b>
RPM			[rpm]	
Density			[kg/m <sup>3</sup> ]	
Air Volume			[m <sup>3</sup> /h]	
Total Pressure losses			[Pa]	
Power Consumption			[V]	
Power Supply Mains L1			[A]	
Power Supply Mains L2			[A]	
Power Supply Mains L3			[A]	
Temperature			[°C]	
<b>Installation Figures</b>		<b>yes / no</b>		<b>remarks</b>
Stand By				
Daily Ventilation				
Smoke Exhaust				
Installation	horizontal			
	vertical			
Duct Mounted	low pressure side			
	high pressure side			
Flex Connectors	low pressure side			
	high pressure side			
Back Draft Damper				
<b>Notice:</b>	<b>company</b>	<b>date</b>	<b>sign</b>	
Name				
Owner				

**The electrical connections of the fans may only be carried out by trained electricians.**

## 19 Declaration of conformity

### EG-Konformitätserklärung EC Declaration of Conformity



Der Hersteller:  
*The Manufacturer* Systemair GmbH  
Seehöfer Str. 45  
D-97944 Windischbuch  
Tel.: +49-79 30 / 92 72-0

erklärt hiermit, dass folgende Produkte:  
*certified herewith that the following products:*

Produktbezeichnung: Radialventilatoren  
*product designation Radial fans*  
Typenbezeichnung: KVB/F  
*type designation*

Ab Baujahr: 2012  
*Since year of manufacture*

allen einschlägigen Bestimmungen der Maschinen Richtlinie RL 2006/42/EG entspricht.  
*ensure all relevant regulations of machinery directive RL 2006/42/EG.*

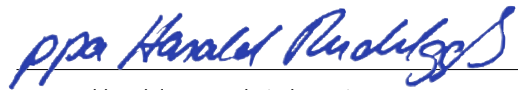
Die Maschine entspricht weiterhin allen Bestimmungen der Richtlinien Elektrische Betriebsmittel (2006/95/EG), Elektromagnetische Verträglichkeit (EMV) (2004/108/EG) und RoHS-Richtlinie 2011/65/EU.  
*The products ensure furthermore all regulations of directives electrical equipment (2006/95/EG), electromagnetic compatibility (EMC) (2004/108/EG) and RoHS-Directive 2011/65/EU.*

Folgende harmonisierte Normen sind angewandt:  
*The following standards are used:*

EN ISO 12100-1:2003	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze, Teil 1: Grundsätzliche Terminologie, Methodik <i>Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology</i>
EN ISO 12100-2:2003	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze, Teil 2: Technische Leitsätze und Spezifikationen <i>Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles</i>
EN EN 12101-3:2002	Rauch- und Wärmefreihaltung, Teil 3: Bestimmungen für maschinelle Rauch- und Wärmeabzugsgeräte <i>Smoke an heat control systems, Part 3: Specification for powered smoke and heat exhaust ventilators</i>
DIN EN 60204-1:2011	Sicherheit von Maschinen - Elektrische Ausrüstungen von Maschinen, Teil 1: Allgemeine Anforderungen <i>Safety of machinery - Electrical equipment of machines - Part 1: General requirements</i>
DIN EN 61000-6-1:2007	Elektromagnetische Verträglichkeit (EMV) - Teil 6-1: Fachgrundnormen - Störfestigkeit für Wohnbereich, Geschäfts- und Gewerbebereiche sowie Kleinbetriebe <i>Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments</i>
DIN EN 61000-6-2:2005	Elektromagnetische Verträglichkeit (EMV) - Teil 6-2: Fachgrundnormen - Störfestigkeit für Industriebereiche <i>Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments</i>

Boxberg,

30.12.2011  
Datum/date

  
ppa. Harald Rudelgass, Technischer Leiter  
ppa. Harald Rudelgass, Technical director

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