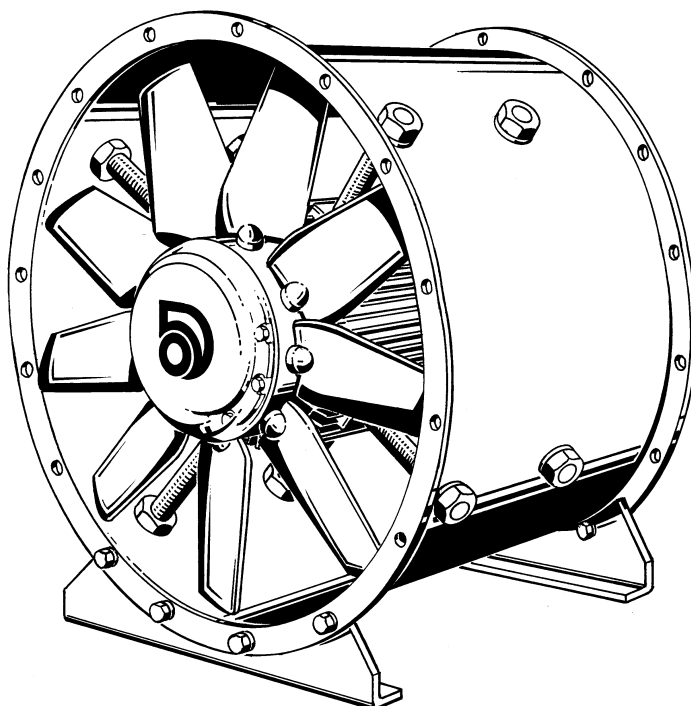


# Operating Instructions for

.....

## **AXV / AXG / BXV / RXV** **Axial Fans**



## Contents

<b>1</b>	<b>General Safety Notes.....</b>	<b>3</b>
1.1	The operator's duty of care .....	3
1.2	Explanation of the safety symbols used .....	3
1.3	Fundamental safety measures .....	3
1.4	Particular kinds of hazards.....	4
<b>2</b>	<b>Product Description.....</b>	<b>4</b>
2.1	Stipulated usage.....	4
2.2	Construction.....	5
2.3	Functional description.....	5
2.4	Technical data .....	6
<b>3</b>	<b>Transportation and Storage .....</b>	<b>7</b>
3.1	Transportation .....	7
3.2	Storage .....	7
3.3	Dimensions.....	7
<b>4</b>	<b>Assembly .....</b>	<b>8</b>
4.1	Frequent errors which occur during assembly .....	9
4.1.1	Inflow .....	9
4.1.2	Outflow .....	9
4.1.3	Bends .....	10
4.1.4	Changes in cross-sectional area.....	10
4.1.5	Flexible connections .....	10
<b>5</b>	<b>Initial Start-up .....</b>	<b>11</b>
5.1	Checks prior to initial start-up .....	11
5.2	Starting the fan for the first time.....	11
5.3	Checks after initial start-up .....	11
<b>6</b>	<b>Help with Malfunctions .....</b>	<b>12</b>
6.1	Tabular overview of possible malfunctions and aids in eliminating those malfunctions.....	12
<b>7</b>	<b>Maintenance .....</b>	<b>13</b>
7.1	Servicing.....	13
7.2	Overhaul.....	15
7.2.1	Dismantling the rotor .....	15
7.2.2	Assembling the rotor .....	15
7.2.3	Impeller blade pitch angle.....	15
7.2.4	Motor bearing service intervals .....	15
7.2.5	Bearing replacement .....	16
<b>8</b>	<b>Disassembly and Disposal .....</b>	<b>16</b>
<b>9</b>	<b>Declaration of Incorporation.....</b>	<b>17</b>
<b>10</b>	<b>EC Declaration of Conformity as defined by Directive 2009/125/EC .....</b>	<b>19</b>

# 1 General safety notes

## 1.1 The operator's duty of care

The fans of the AXV and BXV series have been constructed and built whilst taking into account an analysis of the hazards involved, and after careful selection of the harmonised standards to be observed, as well as other further technical specifications. They thus correspond to the current level of technology and guarantee a high degree of safety.

In operational practice, however, this level of safety can only then be attained if all required measures are taken. It is incumbent upon the operator's duty of care to plan these measures and to monitor their execution.

In particular, the operator must ensure that

- the fan is only used as stipulated (cf. chapter, „Product Description“)
- the fan is only operated in a faultless and functional condition and that safety fittings, especially, are regularly examined with respect to their functionality
- the operating instructions are always maintained in a readable condition and are available at the fan's location of deployment in their entirety
- only sufficiently qualified and authorised personnel operate, maintain and repair the machine
- these members of personnel are familiar with the operating instructions and especially the safety notes contained therein
- no safety and warning signs fitted to the fan are removed, and that they are kept in a readable condition.

## 1.2 Explanation of the safety symbols used

The following symbols are used in these operating instructions. These symbols are, above all, intended to draw the reader's attention to the text contained in the adjacent safety note.



Warning

This symbol indicates that dangers exist which are hazardous to life and health



Mortal danger

Electrical hazard. Serious – and also fatal – injury can result if these notes are disregarded.



Note

Indicates user tips and other useful advice.

## 1.3 Basic safety measures

Wolter axial fans are, at the moment of delivery, manufactured to the current level of technology.

Extensive materials, function and quality checks assure them of a high level of usefulness and long service life! Nevertheless, these machines can be dangerous if they are improperly used by untrained personnel or are used in a non-stipulated manner.



- Read these operating instructions carefully before putting the axial fans into operation!
- Only operate the fan in its enclosed state or with properly assembled protective anti-intrusion fittings, or with protective screens. (We can supply suitable, tested protective screens on request!)



- Assembly, electrical connection and maintenance may only be carried out by trained craftsmen!
- Only operate the fan in the manner stipulated and within the specified output limits (see rating plate) and with approved conveyed media!

## 1.4 Particular kinds of hazards

The fans of the AXV and BXV series are axial fans. Particular hazards are caused by the rotor and through the flow of air, which can, at times, be considerable. For this reason, the following points must be observed:

- Never reach into the rotor when it is rotating. Do not try to use your hand as a brake for the rotor during maintenance work.
- Loose clothing or light parts can be sucked in by the draught of air. That is why you should always wear tight-fitting clothing during maintenance work and during free-suction operation.
- Larger items (tools etc.) can obstruct or totally ruin the rotor. For this reason you should always fit a protective screen during free-suction or free-blowing operation

## 2 Product description

### 2.1 Stipulated usage

Our axial fans have been specially developed for use in modern ventilation and air conditioning systems. The rotors are statically and dynamically balanced at the factory, and manufacture is subject to the strictest intermediate and end checks and is certified in accordance with DIN/EN/ISO 9001.

#### Conditions of use

The air should correspond to tender specifications, as the corresponding components are determined for this. If these are not listed in more detail, then the following applies:

The axial fans of the AXV and BXV series are suitable for the conveyance of

- clean air
- air which has little dust and grease content
- gases and vapours which are only slightly aggressive in nature
- media up to a maximum density of 1.3 kg/m<sup>3</sup>
- flow volumes at temperatures ranging from -20 °C to + 40 °C
- media up to a max. humidity of 95%

High temperature executions for F300 or F400 are also suitable to convey smoke gases of the respective temperature class.

#### Conditions of fitting

- The fan must either be built into a ducting channel or have inlet and outlet protection elements fitted to it.

The fans are not designated for any types of usage other than those cited here, and any such use shall be considered as improper usage!



In particular, we especially draw your attention to the following points. Non-compliance can either result in considerable material damage or personal injury, or that the demanded fan output values are not attained.

- The fan may not be operated without the necessary safety fittings. Should there be no ducting channel connected at one end, e.g. the suction end, then a protective screen must be fitted at that end in order to prevent access to rotating parts.
- In order to avoid any damage to the fan and specially to the rotor vanes, you must prevent the possibility of loose parts being sucked in by the fan or of other items being able to find their way into the fan.
- The fitting notes regarding intake and outlet flow conditions are to be observed.

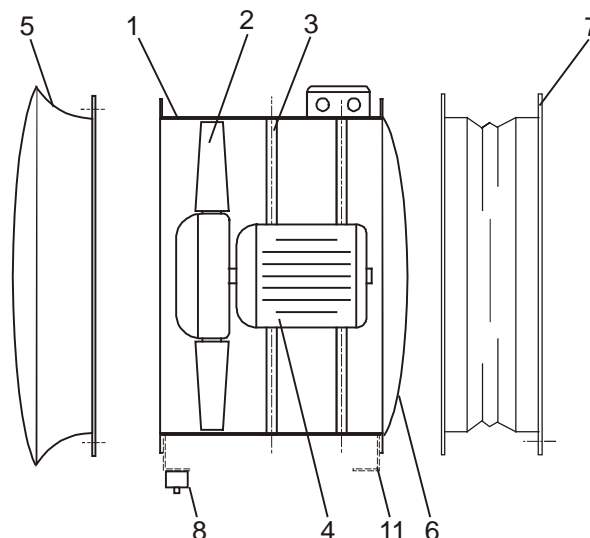
## 2.2 Construction

The axial fan consists of the following main parts:

- (1) Ducting piece as fan housing
- (2) Rotor mounted onto the motor shaft
- (3) Motor support in the form of struts or bracket
- (4) Electric motor

According to the particular use the fan is put to, the following parts may also be included:

- (5) An intake nozzle complete with suction protective screen for free-suction operation
- (6) An outflow protective screen for free-blow operation
- (7) Flexi-connectors are obtainable to prevent de-coupling through vibration
- (8) Vibration dampers (spring or rubber vibration dampers according to the weight of the unit)
- (9) Counter flange
- (10) Fan switch-off facility
- (11) Assembly base supports



In normal circumstances the fan is built into a ducting system. It can, however, be integrated into a box in order to suppress noise, which is then built into the ducting system.

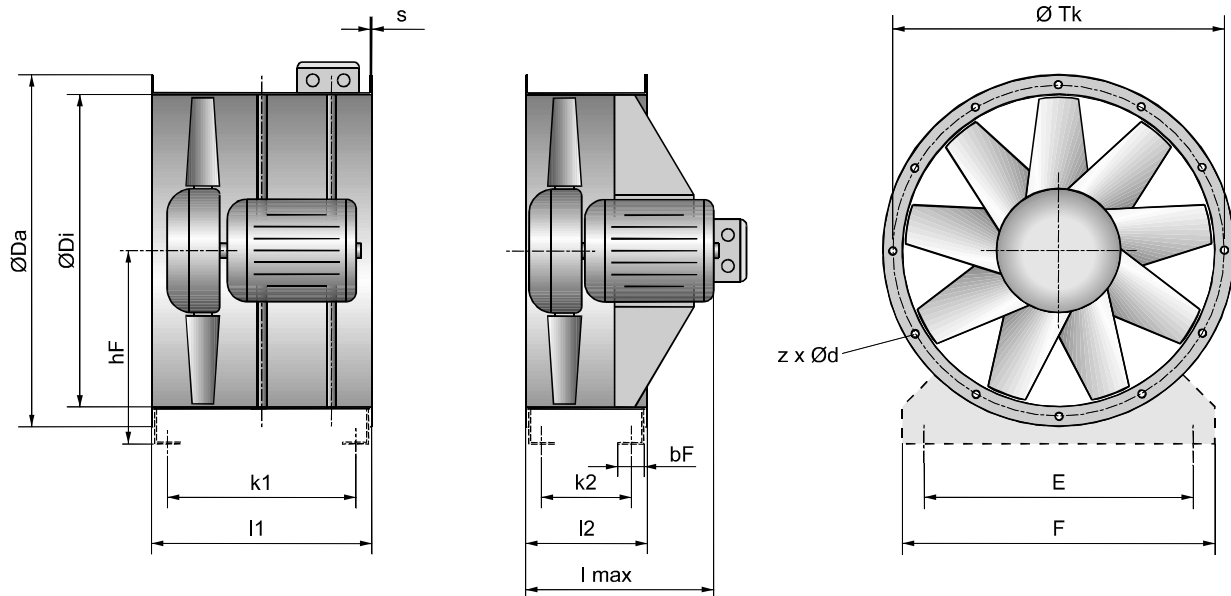
The rotors, made from plastic or aluminium, have fins which can be adjusted when the fan is not running. The fan's characteristic curve can be adapted the required operational point by this means (take note of the motor's loading specification!)

## 2.3 Functional description

The fan draws air from the ducting on the suction side through the rotating rotor and conveys this air in the axial direction to the outflow side via the motor. The motor is positioned in the air flow and is cooled by the flow.

Control and regulation of the system is carried out by an external control unit. This does not form part of the fan itself. The corresponding operating instructions are to be consulted with regard to the control unit's operation. The fan itself requires no operation when it is running.

## 2.4 Technical data



Nominal size	Da [mm]	Di [mm]	hF [mm]	z x d [mm]	Tk [mm]	E [mm]	F [mm]	bF [mm]
315	398	320	205	8 x 12	366	265	315	60
355	438	359	225	8 x 12	405	305	355	60
400	484	401	250	12 x 12	448	350	400	60
450	534	450	280	12 x 12	497	400	450	60
500	584	504	315	12 x 12	551	440	500	70
560	664	565	345	16 x 14	629	500	560	70
630	734	634	400	16 x 14	698	570	630	70
710	814	711	450	16 x 14	775	650	710	70
800	904	797	500	12* x 14	861	730	800	80
900	1004	894	580	12* x 14	958	830	900	80
1000	1105	1003	630	12* x 14	1067	930	990	80
1120	1245	1125	690	16* x 18	1200	1050	1110	100
1250	1370	1250	750	16* x 18	1337	1180	1240	100
1400	1525	1405	830	16* x 18	1475	1330	1390	100
1600	1725	1605	930	20* x 18	1675	1530	1590	100

Nominal size	LH/1 casing				LH/2 casing				SH casing			
	s [mm]	k1 [mm]	l1 [mm]	motor max.	s [mm]	k1 [mm]	l1 [mm]	motor max.	s [mm]	k2 [mm]	l2 [mm]	lmax [mm]
315	2	356	420	80					2	161	225	350
355	2	356	420	80					2	161	225	350
400	2	371	435	90					2	161	225	400
450	2	371	435	112					2	161	225	500
500	2	396	470	112					2	151	225	600
560	2	396	470	112	3	624	700	160	3	224	300	750
630	2	396	470	112	3	624	700	160	3	224	300	750
710	2,5	395	470	112	2,5	490	565	132	2,5	225	300	600
800	2,5	385	470	112	3	614	700	160	3	214	300	750
900	3	479	565	132	4	612	700	160	4	212	300	750
1000	3	479	565	132	4	692	780	180	4	262	350	800
1120	4	592	700	160	4	892	1000	200	4	242	350	800
1250	4	592	700	160	4	892	1000	225	4	242	350	800
1400					4	892	1000	225	4	242	350	800
1600					4	892	1000	280	4	242	350	800

## 3 Transportation and Storage

### 3.1 Transportation

Wolter fans are packed at the factory to suit the respectively agreed mode of transportation.

Transport the fan in its original packaging.

- Only use suitable means of transport, such as pallet trucks or fork-lift trucks.
- If the fan is to be transported by hand, ensure that supporting and carrying loads are kept within reasonable limits for the personnel involved.



The following special hazards must be taken into account when transporting the equipment:

- The transportation packaging does not prevent damage to the equipment through improper transportation. The fans must not be dropped or thrown.
- Sharp, protruding edges can lead to injury through cuts.



- Suspended loads can fall, which then constitutes a fatal hazard – stand well clear of suspended loads!
- Parts which have been stacked too high can collapse.
- If load-carrying devices other than those specified here are used, then this can lead to serious damage to the machine.
- A risk of fire exists due to the easily flammable nature of the packaging materials – do not use naked flames and do not smoke!
- Read the chapter, „General Safety Notes“.

### 3.2 Storage

- Store the fan in a dry, weather-protected location in its original packaging or protect it from the effects of dirt and the weather until final assembly. Cover open pallets with tarpaulin sheets and protect the fans from the effects of dirt and contaminants (e.g. swarf, stones, wire etc.)
- Avoid extremes of cold and heat.
- Avoid lengthy storage periods (a maximum of one year is recommended) and check that the motor bearing assembly is in good functional order prior to fitting.

### 3.3 Dimensions

See chapter „Technical Data“

## 4 Assembly



**Assembly and electrical work is only to be carried out by trained and instructed craftsmen and in accordance with the respectively applicable regulations!**



The following points are to be observed when assembling the fan:

- Secure the fan to the assembly base plates.
- The fans must not be deformed or twisted during fitting! Use spacing plates if the need arises
- The fitting position agreed in the lay-out is to be observed
- Only self-locking screws may be used for securing the outflow flange!



**Attention: Make the electrical connection in accordance with the technical connection conditions and the relevant regulations!**

- Make the electrical connection as per the enclosed terminal plan in the motor connection cabinet or terminal cabinet housing
- The operator must ensure that a motor protection device (e.g. motor protection switch), which is suitable for the motor duty as shown on the motor rating plate, is used and correctly connected.
- Control by frequency inverter is only permissible when the motor is equipped with thermistors. The fan may not be operated at less than 30% of the nominal rpm of the motor for a prolonged period of time.
- If present, connect the thermistor / thermo-contact for motor protection to a suitable trigger device; failure to do so will void the warranty

- **High temperature fans F300/F400 with thermistors:**



The control panel/trigger device to which the thermistors are connected must be programmed to bypass the thermistors in case of fire, as otherwise the motors would shut off prematurely, eliminating their intended function as a smoke removal device!

When operated on a frequency converter, the fans must be switched to direct mains operation in case of fire.

- Feed in and seal the cable into the connection cabinet properly



**Before checking the direction of travel:**

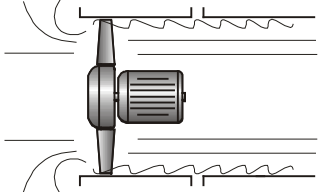
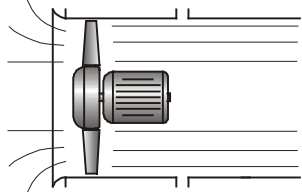
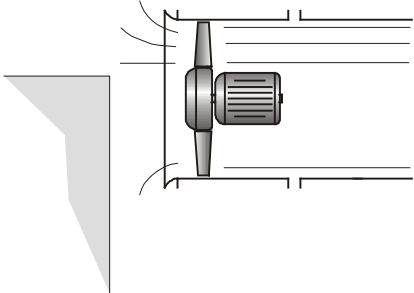
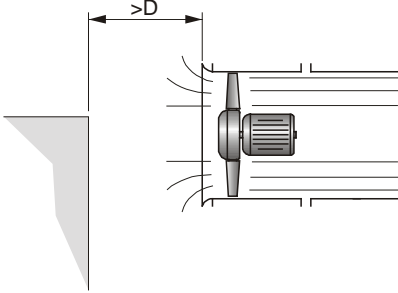
- Remove foreign bodies from the fan area
- Assemble contact protector, protective screen (see accessories), or box in fan
- Turn the rotor through a few revolutions by hand in order to test its ease of movement
- Check the direction of travel in accordance with the arrow on the housing by switching on and off very quickly
- If necessary, alter the direction of travel for AC motors by swapping 2 phases
- In the case of single-phase motors, reverse the direction of travel by swapping Z1 with Z2 (attention: the direction of current flow in the auxiliary winding also changes)



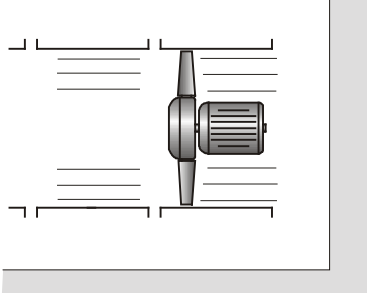
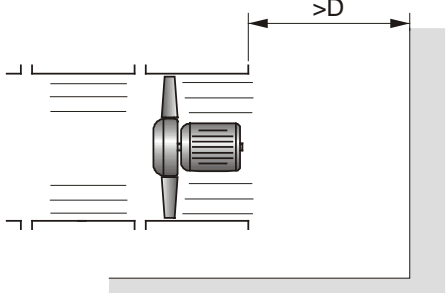
## 4.1 Common errors which occur during assembly

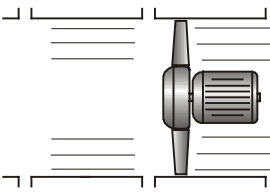
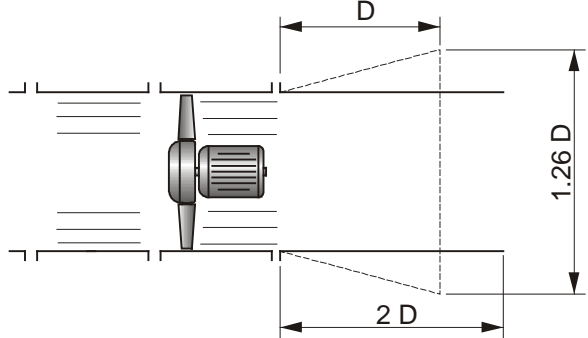
The following points must always be observed in order to achieve the desired duty and efficiency and to guarantee the fan's safe operation.

### 4.1.1 Inlet

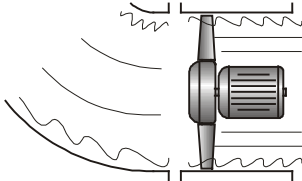
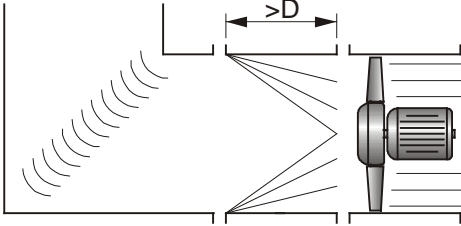
Incorrect	Correct
 <p><u>INCORRECT:</u> No intake nozzle – Result: The vane edges are not in the air flow, the air output is reduced, noise output becomes greater. This can cause permanent damage to the rotor blades.</p>	 <p><u>RECOMMENDED:</u> The intake nozzle enables an even flow to be achieved over the whole cross-sectional area.</p>
 <p><u>INCORRECT:</u> The fan output is reduced if an obstacle is situated too close to the intake</p>	 <p><u>RECOMMENDED:</u> The distance must be at least as great as the fan diameter</p>

### 4.1.2 Outlet

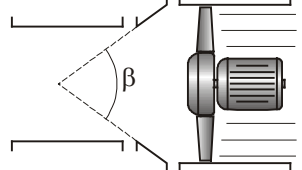
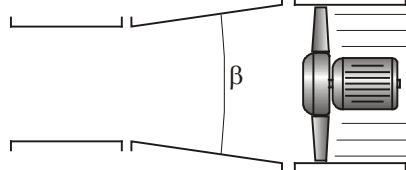
Incorrect	Correct
 <p><u>INCORRECT:</u> Any blockage of the outflow must be prevented</p>	 <p><u>RECOMMENDED:</u> The distance must at least be as great as the fan diameter</p>

 <p><b>INCORRECT:</b> The outflow should not end at the same point as the fan.</p>	 <p><b>RECOMMENDED:</b> An outflow passage having a length of <math>2xD</math>, or an outflow diffuser, as shown, both reduce outflow losses</p>
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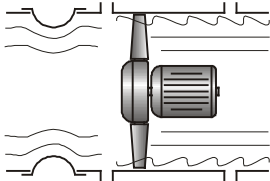
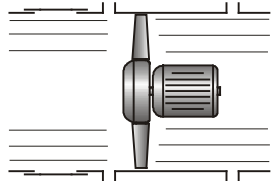
#### 4.1.3 Bends

Incorrect	Correct
 <p><b>INCORRECT:</b> Bends with a small radius of curvature reduce fan output and increase noise levels if fitted too close in front of the vane.</p>	 <p><b>RECOMMENDED:</b> A quadratic channel corner with short guide vanes is preferred.</p>

#### 4.1.4 Changes in cross-sectional area

Incorrect	Correct
 <p><b>INCORRECT:</b> Diffusers or nozzles having an angle greater than <math>30^\circ</math> should not be used.</p>	 <p><b>RECOMMENDED:</b> If possible the angle should be less than <math>15^\circ</math>.</p>

#### 4.1.5 Flexible connections

Incorrect	Correct
 <p><b>INCORRECT:</b> Loose, flexible connections in front of the fan obstruct the available cross-sectional area, fan output is reduced and noise levels increase.</p>	 <p><b>RECOMMENDED:</b> Flexible connections should be tensioned to such a point that they only permit the movement required for insulation.</p>


## 5 Initial Start-up

The following points are to be observed in order to avoid damage to the machinery or life-threatening injury during initial start-up:

- Only qualified personnel may carry out the machine's initial start-up and this must take place in compliance with the safety notes.
- Prior to initial start-up, check that all tools and foreign bodies have been removed from the machine.
- Activate all safety devices and Emergency Stop switches prior to initial start-up.
- Check the motor's direction of travel prior to initial start-up.
- Read the chapter, "General Safety Notes".

### 5.1 Checks prior to initial start-up

Proceed with the fan's initial start-up in the following sequence:

- Check that the mechanical assembly has been carried out properly
- Remove foreign bodies located in the suction and outflow areas and in the fan space
- 
  - Check that the electrical installation has been completed in accordance with regulations
    - Does the mains voltage match the motor voltage specified on the rating plate?
    - Is the switchgear used suitable for the motor both with respect to the switching functions to be carried out and also to the switching conditions and switched output of the motor?
  - Is the motor protection system set correctly with regard to the motor's nominal current? The setting must be carried out in accordance with the corresponding details contained on the motor output plate.
  - Has the motor been connected correctly in accordance with the wiring diagram?  
The connection schematic supplied by the motor suppliers applies for the connection of the motor. The special connection regulations are to be observed for explosion-protected models.



#### Accident prevention

- Protective anti-intrusion fittings, protective screens (see accessories) mounted, fan boxed in or assembled out of reach.
- If the fan is assembled for free inlet, the inlet side must be covered by a protective guard, in order to comply with the accident prevention regulations regarding protection from contact.

### 5.2 Starting up the fan for the first time

Only put the fan into operation after it has been assembled in accordance with the regulations!

- Put the fan into operation.
- Monitor its correct function (quiet running, vibration, imbalance, power consumption, controllability)
- The thermo-protection system may be triggered if the motor power consumption is too high!



Always keep inlet openings clear! Check protective guards or protective anti-intrusion fittings for dirt, and clean if necessary!

### 5.3 Checks after initial start-up

Check the mechanical connections after initial start-up, especially the joints at the fan.

## 6 Help with Malfunctions

The following points must be observed in order to avoid damage to the machinery or life-threatening injury when eliminating machine malfunctions:

- Only eliminate any malfunction if you have the specified qualifications necessary for the task.
- First of all ensure that the machine cannot be switched on inadvertently, by locking the equipment's off switch or control cabinet by means of a padlock.
- Secure the hazardous area with respect to moving machine parts.
- Read the chapter, "General Safety Notes".

### 6.1 Tabular overview of possible malfunctions and aids in eliminating those malfunctions

Symptom	Cause	Elimination
Motor or motor control system switches off	Motor too hot, thermo-contact activates.	Allow the motor to cool off. Depending upon the control equipment in use, the fan will either start itself up or will have to be re-started again. Check whether: <ul style="list-style-type: none"> <li>- The conveyed medium is too hot</li> <li>- All phases are evenly loaded and connected</li> <li>- Operating point does not match the lay-out</li> <li>- Rotor blocked</li> </ul>
Air output incorrect	Incorrect direction of travel of the fan	Change the direction of travel (see electrical assembly)
	Fan assembled incorrectly	Either the rotor is incorrectly mounted on the motor shaft or the whole fan has been incorrectly fitted into the installation. Switch off the fan. Correct the incorrect assembly (rotor or complete fan).
	Rotor blocked	Switch off the fan. Remove the blockage. Ensure that the accident prevention regulations are observed in the process.
	Rotor defective	Switch off the fan. Dismantle the rotor and fit a new one.
	Lay-out does not match installation resistance	Clean or replace filters if dirty; In the event of an erroneous lay-out, the fan's output can be altered by changing the vane angle within limits. In this case the shaft output must be checked for the required vane, so that the motor is not overloaded. The rotor should be re-balanced after any alteration to the vane angle.
Fan is labouring under load, air flow is periodically interrupted	Fan is operating within an unfavourable range of the fan curve (stall)	If possible, reduce the installation resistance. Operation in the stall area of the fan curve can cause severe damage to the fan.

## 7 Maintenance

The following safety notes must be observed when maintaining the machine – life-threatening injuries to personnel, damage to the machine and other material damage, as well as environmental damage, will be avoided in this way.

- Cleaning, lubrication and maintenance work may only be carried out by authorised operating personnel – operating instructions are to be observed.
- Repair work may only be carried out by authorised craftsmen – accident prevention regulations are to be observed.
- Secure the operational area over a large area prior to the commencement of maintenance work.
- The specified sequence of the working stages is to be observed exactly.
- All work on the machine's electrical equipment may only basically be carried out by trained electricians.
- Self-locking screws and nuts are always to be renewed.
- All specified screw torque settings are to be observed precisely.
- Read the chapter, "General Safety Notes ".

### 7.1 Servicing

The rotor and housing are subject to natural wear and tear through the action of dust, acidic and corrosive vapours, as well as the gases which are mixed into the conveyed flow. The type and concentration of the dust, as well as the gases and vapours, can lead to deposits, abrasion and corrosion at the rotor and housing.

The materials can be attacked so much by this natural wear and tear that they can no longer stand up to the demands made of them. Deposits on the rotor, which have never been evenly distributed, lead to an imbalanced state and thus to noisy running, which in turn can result in damage to the motor bearing. Deposits in the housing lead to a narrowing of the available cross-sectional area or to a roughening of the housing panels and can thus have an unfavourable effect on the fan's output data. Should the checks, the regularity of which depend on the conveyed media and other operating conditions which differ in each individual case, only reveal slight wear and tear, then the individual parts can be cleaned in good time, or replaced if necessary.

#### Prior to all servicing work:

- Bring the fan to a halt in the prescribed manner and completely isolate the fan from the mains supply!
- Wait until the rotor has come to a halt!
- Ensure that the machine cannot be switched on again!
- Clean the fan
- Clean the inlet area
- Clean the rotor (if necessary dismantle the protective anti-intrusion fitting)



Only use cleaning agents generally available through the trade and in compliance with the prescribed safety measures. Do not use scratching or scraping tools (protective surface coating will be damaged)

- Do not overload the motor!
- Do not bend the rotor or vanes!
- Assemble the protective anti-intrusion fitting

---

**Recommended periodic inspection intervals**

- |  |           |
|--|-----------|
| - Axial fans for standard temperature 40°C :   | 12 months |
| - High temperature axial fans F300 / F400,<br>which are also used for regular daily ventilation: | 6 months  |
| - High temperature axial fans F300 / F400,<br>which are used for emergency smoke removal only:   | 3 months  |

**Periodic inspection checks**

- Visual inspection of motor, impeller, accessories and electric connection for damages, dirt and dust deposits, foreign matter
- Fan performance as desired?
- Excessive bearing play?
- Lubricant leaking from the bearings?
- Unusual noise or vibration during operation?

## 7.2 Overhaul

Prior to all overhaul work:

- Bring the fan to a halt in the prescribed manner and completely isolate the fan from the mains supply!
- Wait for the rotor to come to a halt!
- Ensure that the machine cannot be switched on again!

Only use spare parts which have been tested and approved by us!

### 7.2.1 Dismantling the rotor

- Remove hub cover if fitted.
- Slacken off securing screw (Allen key), completely undo one grub screw and slacken off the tension cone using the forcing drilling.
- Pull off the impeller from the motor shaft (use puller tool if necessary)

Bushes		Torque	
Type	Drilling	Tightness	
	[mm]	[Nm]	
1008	12, 19, 24	6	2 threaded studs
1108	19, 24, 28	1/4" sw 3	
1210	16, 19	20 3/8" sw 5	
1215	24, 32		
1310	14, 25, 35		
1610	19, 24		
1615	38, 42		
2012	24, 38, 50	32 7/16" sw 6	
2517	38, 48, 60	49 1/2" sw 6	

*Torque settings for taper hubs*

### 7.2.2 Assembling the rotor

- Push the rotor onto the motor shaft
- Tighten both grub screws evenly, whilst observing the torque settings given in the adjacent table.
- Fit the hub cover if equipped

Screw	M 4	M 5	M 6	M 8	M 10	M 12	M 16	M 20
Torque setting	3.7	7.5	12	31	60	108	265	510
+0% / -10%	Nm	Nm	Nm	Nm	Nm	Nm	Nm	Nm

*Torque settings for screws*

### 7.2.3 Impeller blade pitch angle

The blade pitch angle has been factory-adjusted to the optimum setting with a special tool. Do not attempt to change this factory setting, as this is unnecessary. Doing so can result in damage to the motor and impeller, will influence the performance of the fan, and will void the warranty.

In rare cases where the fan is operating at an unfavourable duty point (see 7.1), please contact Wolter for assistance.

### 7.2.4 Motor bearing service intervals

#### Standard 40°C motors:

The roller bearings of the standard AC motors are basically equipped with a permanently sealed lubrication system consisting of a high-quality, temperature-resistant, lithium-based roller bearing grease (melting point approximately 160°C). The amount of lubricant supplied to the bearing by the motor manufacturer is sufficient for 10,000 to 20,000 operating hours.

Unfavourable operating conditions, such as permanently lengthy operating periods, changes in bearing loads etc., require that the motor bearings are monitored carefully. The service intervals or lubrication deadlines and amounts depend on the motor's operating conditions, the rotary speed and size of bearing.

Motor size	Service intervals in operating hours for		
	3000 min <sup>-1</sup>	1500 min <sup>-1</sup>	1000 and 750 min <sup>-1</sup>
56	20000	20000	20000
63	20000	20000	20000
71	20000	20000	20000
80	18000	20000	20000
90	16000	20000	20000
100	14000	20000	20000
112	14000	20000	20000
132	11000	20000	20000
160		20000	20000
180		20000	20000
200		18000	20000
225		18000	20000

*Service intervals for standard motor (40°C) bearings*

As only the construction size and rotary speed of the motors are usually known, the service intervals specified in the adjacent table should be applied. They refer to a coolant temperature of 40°C in the case of horizontal fitting (construction form B3). The service intervals are to be put back by 1/3 in the case of vertical fitting.

You should consult the manufacturer without fail in the event that motor repairs are required within the warranty period.

#### Attention:

**High temperature fans AXV / AXG F300 / F400** are equipped with special motors certified for smoke exhaust operation. No service, repair or modification may be performed by the user, as such action will void the certification of the motor and the complete fan as a smoke exhaust ventilation device.

The bearings are lifetime-greased with special lubricants and do not require relubrication. In case of bearing damage or wear, the motor must be replaced by Wolter. Please contact the Wolter technical staff for support.

### 7.2.5 Bearing replacement

Only allow work on the electric motor to be carried out by a craftsman or by a suitable motor winding workshop.

#### High temperature axial fans AXV / AXG F300 / F400:

Any repair or service work on the special high temperature motors, including bearing replacement, may only be done by the motor manufacturer, otherwise the high temperature certification of the motor and fan will be void. Please contact the Wolter technical staff for support.

## 8 Disassembly and Disposal



**Disassembly, electrical work and disposal is only to be carried out by trained and instructed craftsmen and in accordance with the respectively applicable regulations!**



**The fan and its components are of high weight. Therefore, each component must be thoroughly secured prior to disassembly, in order to avoid hazards by falling or shifting parts.**

Preparation:

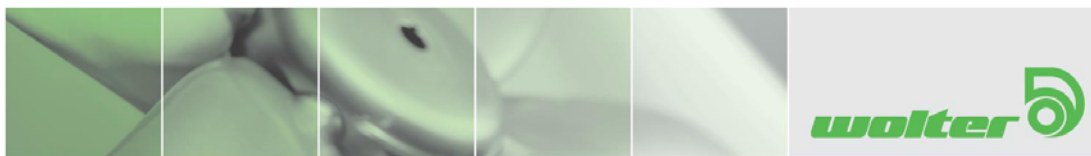
- Bring the fan to a halt in the prescribed manner and ensure that it can not be switched on again.
- Secure fan against falling or shifting
- Disconnect fan from mains supply and connected ducting components.

Disassembly and disposal:

- The fan can be disassembled into its components with regular manual tools (wrenches, screwdrivers, pulling tool if required)
- If present, remove any operating supplies such as grease or oil and dispose in accordance with local environmental regulations.
- The fan mainly consists of metallic materials (steel, aluminum, non-ferrous metals), as well as possibly small amounts of plastics, ceramic (connecting board) and electrical cables. These components shall be separated and sorted.
- The fan shall be disassembled into its correctly sorted materials, and shall be disposed of in accordance with local environmental regulations. If necessary, contact a certified waste management company for further assistance.



## 9 Declaration of Incorporation



Air in Motion. **Wolter Fans.**

### Einbauerklärung (Original-Einbauerklärung)

Im Sinne der Maschinenrichtlinie 2006/42/EG Anhang IIB für unvollständige Maschinen

### Declaration of Incorporation (Original Declaration of Incorporation)

As defined by the Machinery Directive 2006/42/EC Annex IIB for Partly Completed Machinery

#### Bauart der Maschine / Type of machinery:

- Axialventilator / Axial fan

AXV, BXV, RXV, AXG

#### Hersteller / Manufacturer:

Wolter GmbH  
Maschinen und Apparatebau KG  
Am Wasen 11  
76316 Malsch / Germany

Hiermit erklären wir, daß die oben bezeichnete unvollständige Maschine zum Zusammenbau mit anderen Maschinen / Maschinenteilen zu einer Maschine bestimmt ist, und daß ihre Inbetriebnahme solange untersagt ist, bis festgestellt wurde, daß die durch den Zusammenbau erstellte Maschine den Bestimmungen der EG-Maschinenrichtlinie 2006/42/EG entspricht.

We hereby declare that the partly completed machinery named above is intended to be assembled with other machinery / machinery components to constitute machinery, which may not be put into operation until the assembled machinery has been declared in conformity with the provisions of the Machinery Directive 2006/42/EC.

Folgende Anforderungen der Maschinenrichtlinie 2006/42/EG kommen zur Anwendung und werden eingehalten:

- 1.1.1 Allgemeines - Begriffsbestimmungen
- 1.1.2 Grundsätze für die Integration der Sicherheit
- 1.1.3 Materialien und Produkte
- 1.1.5 Konstruktion der Maschine im Hinblick auf die Handhabung
- 1.3.2 Bruchrisiko beim Betrieb (Schutz vor Gefahren durch ausgeworfene Bruchstücke besteht nur, wenn saug- und druckseitige, fertig montierte Schutzgitter zum Lieferumfang gehören)
- 1.3.4 Risiken durch Oberflächen, Kanten und Ecken
- 1.3.7 Risiken durch bewegliche Teile (gilt nur wenn vollständiger und fertig montierter Berührungsschutz zum Lieferumfang gehört)
- 1.4.1 Anforderungen an Schutzeinrichtungen – Allgemeine Anforderungen (gilt nur wenn vollständiger und fertig montierter Berührungsschutz zum Lieferumfang gehört)
- 1.4.2.1 Feststehende trennende Schutzeinrichtungen (gilt nur wenn vollständiger und fertig montierter Berührungsschutz zum Lieferumfang gehört)
- 1.6.3 Trennung von den Energiequellen (gilt nur wenn ein fertig montierter und angeschlossener abschließbarer Reparaturschalter zum Lieferumfang gehört)
- 1.7.3 Kennzeichnung der Maschinen (ausgenommen CE-Kennzeichnung, da es sich um eine unvollständige Maschine handelt)

The following essential requirements of the Machinery directive 2006/42/EC are applied and fulfilled:

- 1.1.1 General Remarks – Definitions
- 1.1.2 Principles of safety integration
- 1.1.3 Materials and products
- 1.1.5 Design of machinery to facilitate its handling
- 1.3.2 Risk of break-up during operation (Protection from hazards caused by ejected fragments is only given when protection guards on the inlet and outlet side are part of the scope of delivery)
- 1.3.4 Risks due to surfaces, edges or angles
- 1.3.7 Risks related to moving parts (only when complete and readily installed protection guards are part of the scope of delivery)
- 1.4.1 Required characteristics of guards and protective devices – General requirements (only when complete and readily installed protection guards are part of the scope of delivery)
- 1.4.2.1 Fixed guards (only when complete and readily installed protection guards are part of the scope of delivery)
- 1.6.3 Isolation of energy sources (only when readily mounted and connected repair switch is part of the scope of delivery)
- 1.7.3 Marking of machinery (except for CE marking, as the product named above is partly completed machinery)

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GmbH: Amtsgericht Mannheim HRB 360928  
Geschäftsführer: Hans-Rudolf Kresse  
USt.-IdNr.: DE143182039



ISO 9001



Air in Motion. **Wolter Fans.**

## Folgende harmonisierende Normen finden Anwendung:

### EN 60204-1

Sicherheit von Maschinen - Elektrische Ausrüstung von Maschinen - Teil 1: Allgemeine Anforderungen

### DIN EN ISO 12100-1

Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 1: Grundsätzliche Terminologie

### DIN EN ISO 12100-2

Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 2: Technische Leitsätze

### DIN EN ISO 13857

Sicherheit von Maschinen - Sicherheitsabstände gegen das Erreichen von Gefährdungsbereichen mit den oberen und unteren Gliedmaßen

### Hinweis:

Die Einhaltung der DIN EN ISO 13857 bezieht sich nur auf den montierten Berührungsschutz, sofern dieser zum Lieferumfang gehört. Für die vollständige Erfüllung der DIN EN ISO 13857 ist der Anlagenbauer als Hersteller der Gesamtmaschine verantwortlich.

### DIN EN 60034-1

Drehende elektrische Maschinen - Teil 1: Bemessung und Betriebsverhalten

## The following harmonised standards are used:

### EN 60204-1

Safety of machinery - Electrical equipment of machines - Part 1: General requirements

### DIN EN ISO 12100-1

Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology

### DIN EN ISO 12100-2

Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles

### DIN EN ISO 13857

Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.

### Note:

The compliance with DIN EN ISO 13857 refers to the fitted contact safety device only when it is part of the scope of delivery. The total compliance with DIN EN ISO 13857 is in the responsibility of the system manufacturer as the manufacturer of the complete machinery.

### DIN EN 60034-1

Rotating electrical machines - Part 1: Rating and performance

Dokumentationsbevollmächtigter (zu kontaktieren über den Hersteller):

Authorised person for the compilation of the relevant technical documentation (to be contacted through the manufacturer):

Martin Kresse

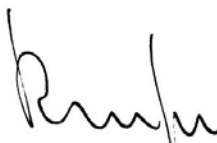
Die speziellen technischen Unterlagen nach Anhang VII Teil B der Maschinenrichtlinie 2006/42/EG wurden erstellt.

The relevant technical documentation has been compiled in accordance with Annex VII Part B of the Machinery Directive 2006/42/EC.

Wir verpflichten uns, einzelstaatlichen Stellen auf begründetes Verlangen die speziellen technischen Unterlagen der unvollständigen Maschine in elektronischer oder gedruckter Form zu übermitteln.

We undertake to transmit, in respond to a reasoned request by national authorities, the relevant information on the partly completed machinery in electronic or printed form.

Malsch, 02.02.2009



Hans Rudolf Kresse  
Geschäftsführer / Managing Director

Wolter GmbH Maschinen- und Apparatebau KG

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ISO 9001

## 10 EC Declaration of conformity as defined by Directive 2009/125/EC



Air in Motion. **Wolter Fans.**

### EG-Konformitätserklärung

*Im Sinne der ErP-Richtlinie 2009/125/EG*

### EC Declaration of conformity

*As defined by the ErP Directive 2009/125/EC*

#### Bauart der Maschine / Type of machinery:

- |                                      |  |
|--------------------------------------|--|
| • Axialventilator / Axial fan        | AXV, BXV, AXG, RXV                           |
| • Radialventilator / Centrifugal fan | TRZ, HRZ, TRE, HRE, TN, HN, DRS, ERS, EB, DB |

#### Hersteller / Manufacturer:

Wolter GmbH  
Maschinen und Apparatebau KG  
Am Wasen 11  
76316 Malsch / Germany

Hiermit erklären wir, daß die oben bezeichneten Maschinen den grundlegenden Anforderungen entsprechen, die in den nachfolgenden Harmonisierungsrechtsvorschriften festgelegt sind.

- ErP-Richtlinie 2009/125/EG
- ErP-Verordnung 327/2011/EU

We hereby declare that the machinery named above meets the essential requirements that are laid down in the harmonization legislation designated below.

- ErP Directive 2009/125/EC
- ErP Regulation 327/2011/EU

Folgende technischen Normen finden Anwendung:

- DIN EN ISO 5801 / AMCA 210

The following technical standards are used:

- DIN EN ISO 5801 / AMCA 210

Diese Konformitätserklärung zur Einhaltung der Richtlinie 2009/125/EG und der Verordnung 327/2011/EU gilt nur für entsprechend als konform gekennzeichnete Produkte, in Verbindung mit den ErP-bezogenen Daten in der Produktinformation und auf dem Typenschild.

This declaration of conformity acc. to Directive 2009/125/EC and Regulation 327/2011/EU is valid only for products respectively marked as compliant, in conjunction with the ErP-related data in the product information and on the type plate.

Malsch, 05.01.2015

  
Martin Kresse  
Geschäftsführer / Managing Director

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