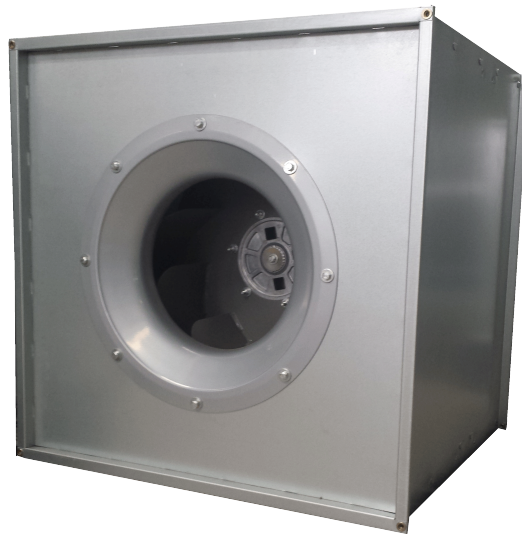




Model: In-Line Duct Fan - EKH / EKHS / DKH / DKHS

Maintenance and Operating Instructions

English Version



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This operation instruction contains important technical advice and information about safety. Therefore please pay attention to this operation instruction before unpacking, installation or any other work is undertaken on this fan!

1. SAFETY

The following symbols refer to particular dangers or give advice for safe operation



Danger



Danger from electric current / high voltage!



Danger! Do not step under hanging load!



Crush danger!



Important Information

Safety advice



Wolter EKH / DKH series are produced in accordance with the latest technical standards and our quality assurance programme, which includes material and function tests, ensures that the final product is of a high quality and durability. Never the less these fans can be dangerous if they are not used and installed correctly, according to the instructions



Before installing and operating this fan please read instructions carefully! Only use the fan after it has been securely mounted or fitted with protection guards and maintenance cover to suit the application (Tested guards can be supplied for all fans from our programme). Installation, electrical and mechanical maintenance and service should only be undertaken by qualified worker! The fan must only be used according to its design parameters, with regard to required performance stated in the name-plate and mediums passing through it!

2. DESCRIPTION

EKH / DKH were especially developed for use in modern ventilation systems. By using high performance induction motor and the installation in a sound absorbing casing there are significant technical advantages, especially in the field of noise emission. The installed fans can suit a number of different outlets to site condition and are statically and dynamically balanced as a complete unit in our factory.

3. CONDITIONS OF USE

EKH / DKH can be used for ventilation of:

- Clean air
- Slightly dusty and greasy air
- Slightly aggressive gases and fumes (please refer to our engineers)
- Mediums up to an atmospheric density of 1,2 kg/m³

- Mediums passing through with a temperature of -30°C up to + 40°C
- Mediums up to a max. Humidity of 95%



4. STORAGE & TRANSPORT

- Store the fan on a dry place and weather protected in its original packing
- Cover open pallets with a tarpaulin and protect the fans against influence of dirt (i.e. Stones, splinters, wires, etc.).
- Storage temperatures between -30°C and + 40°C
- With storage times of more than 1 year, please check the bearings on soft running before mounting.
- Transport the fan with suitable loading means
- Do not damage casing.
- Use suitable assembling means as e.g. scaffolds conforming to specifications.



Danger! Do not step under hanging load!

5. INSTALLATION



Installation and electric work only by skilled and introduced workers and in accordance to applying regulations!



- **Mount fan with suitable fixing means on a stable ground or console. Any mounting position is possible, but opening of maintenance cover must be possible!**
- **Mount tube system either directly on connection flange of fan cabinet (optional) or fix with connection sleeve. Padded connection sleeves considerably reduce noise transmission!**



The duct system must not be supported by the connection flange of the fan cabinet

- Open maintenance cover
- Check impeller on soft running with some rotations (turn by hand)
- Electrical wiring must be in accordance with technical connection regulations and local ordinances and national electric codes as per enclosed wiring diagram in the terminal box or on the casing.
 - Insert motor power supply lead on site in drilled hole of casing (right or left side).
 - Insert cable according to the instruction in junction box and seal.
 - protection according to regulations otherwise guarantee expires!



Do not use metal compression-gland fittings with plastic terminal boxes!



Before control of direction of rotation:
Remove any foreign matter from the fan.

Install protection guards or give no entry to fan.

Check direction of rotation as per direction arrow on the casing by short turning on.



Crush danger! Do not reach into rotating impeller!

- Close maintenance cover

6. OPERATION

Prepare fan for first operation

- Correct mechanical installation
- Electrical installation in accordance with regulations
- Remove foreign matter from inlet and outlet area and from inside of fan
- Protection guard installed, maintenance cover closed, no entry to fan or fan being installed out of arm sweep.



Only commence operation when it is installed in accordance with ordinances!



If the fan is started under free blow conditions, i.e. prior to connecting to ducting system, the current consumption may exceed the normal maximum (forbidden area of performance curve)!



The terminal protection of the motor may activate!

Taking fan cabinet in operation

- Observe correct function (smoothness of running, vibration, unbalance current consumption, possibly controllability)



By regular inspection of the fan inlet make sure debris has not collected on the guard and clean if necessary !

7. Maintenance



Our fan cabinets are maintenance free with normal operation! When using them in the fringe range simple maintenance work may be required!



Before any maintenance work is undertaken:

Stop fan cabinet in accordance to regulations and disconnect all poles from mains supply.



- Wait until impeller is stationary!
- Make sure that is restart is not possible!

Clean fan

- Open maintenance door or cover
- Clean inlet cones and outlet of fan cabinet and fan

If necessary:

- Disconnect electric supply in junction box.
- Unscrew screws on inlet cone and carefully remove the inlet cone
- Unscrew the bolt on hub to remove the impeller
- Lift out the impeller unit.
- Clean inlet, pedestal and impeller.
- Clean the motor shaft and bolt on hub and place the impeller in position. Check alignment and tighten the impeller in position
- Further action see "installation"



Only use usual commercial cleaning material paying attention to the prescribed safety measures and do not use any abrasive tools (surface protection will be destroyed!)

Keep unit dry !

Do not damage impeller, casing & blades!

General controls

- Bearing play too large?
- Grease leaking on bearings?
- Surface protection affected by medium to be ventilated too aggressive?
- Unusual operation noise?
- Fan capacity for possibly exceeded duct system still sufficient causing overloading?

8. REPAIR



Before any repairs are undertaken

Please:



Stop fan in accordance to regulations and disconnect all poles from mains supply. Wait until impeller is stationary!

Make sure that restart is not possible!



Only use original spare parts manufactured and supplied by Wolter!

Change of impeller unit

- Disconnect electrical supply in junction box
- Unscrew screws on the inlet cone and carefully remove inlet cone from ring plate
- On the bolt-on-hub, unscrew two screws with each at 9 and 3 o'clock.. Placed one screw at 12 o'clock to jerk out the fans impeller.

Install of impeller unit

- Clean the motor shaft and bolt-on-hub
- Place the impeller on the motor shaft and insert with the same taper bush
- Unscrew the 12 o'clock screw and place the jam screw each at 9 and 3 o'clock, lightly tighten in position
- Check the impeller and inlet cone in proper alignment and tighten properly in position.
- Goto " Install fan"

Change of electric motor unit

- Follow instruction as per change of impeller unit
- Remove hollow dowel pins and unscrew the motor screws.
- Carefully remove the motor and packing shim.

Install the electric motor unit

- Clean the shim and motor pedestal and place the shim in position
- Carefully place the electric motor on top of the shim and lightly tighten in position
- Dowel the serviced motor into position.
- For replacing of new motor, check and confirm impeller and inlet cone alignment

- trace the pedestal dowel pin holes onto the new motor base, secure dowel pin and tighten screws in position.
- Follow instruction as per install of impeller unit

Install fan

- Connect electrical supply
- Check whether installation is correct, motor impeller must rotate freely!
- Install maintenance cover in necessary

Starting Current Allowed



General rule for starting a fan with:

- Single phase capacitor and Run type
- 4 to 5 time the FLC.
- Three phase A.C. DOL
- 6.5 to 7 times the FLC
- Three phase A.C. Star-Delta start
- 2 to 2.5 times the FLC

Min. MCB should be 1.5 times, preferred D curve type

9. SERVICE, ADDRESS OF PRODUCTER

Wolter products are subject to steady quality controls and are in accordance with valid regulations. In case you have any questions with regard to our products please contact either your local agent of your air handling unit or directly to one of our distributors or:

**Wolter GmbH Co Kg
Am Wasen 11,
D-76316 Malsch
Tel: 49-7204 9210,
Telefax: 49-7204 920111**

Please contact your local Sale & Support Service at:

