



Installation and maintenance instructions

Air-conditioning units KG/KGW Gigant



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General

These installation and maintenance instructions apply exclusively to WOLF KG/KGW Gigant air-conditioning units.

Before installation, commissioning or maintenance, these instructions must be studied by the personnel responsible for the respective operations. The specifications contained in these instructions must be complied with.

Any non-compliance with the installation and maintenance instructions invalidates all guarantees issued by WOLF.

Information signs

These installation and maintenance instructions use the following symbols and information signs:



Non-compliance with information displaying this sign can lead to personal injuries.



Non-compliance with information displaying this sign can lead to damage of the air-conditioning unit or its components.

Apart from the information signs in the installation and maintenance instructions, corresponding labels are also attached to the machine. These have the same importance.

Safety information

- The air-conditioning unit may only be installed, commissioned, maintained and operated by qualified and trained personnel.
- Electrical work may only be carried out by qualified electricians.
- All electrical installation work must comply with the VDE regulations and conditions specified by the local electricity board.
- The air-conditioning unit may only be operated within the performance range specified in the WOLF technical documentation.
- The air-conditioning unit is specified to be used exclusively for ventilation purposes.
The unit may only convey air.
The air may not contain any harmful, combustible, explosive, aggressive, or corrosion-enhancing constituents or constituents representing any other hazards.
(With special "intrinsically safe" air-conditioning units according to VDMA directive 24169/1, the conveyance of air mixed with explosive gases, vapours or mist is permitted in hazardous zones 1 or 2, depending on the type of unit.)
- Safety and control equipment may not be removed, bypassed or taken out of action in any other way.
- Only air-conditioning units in perfect technical condition may be operated. Faults or damage adversely affecting or impairing the safety of the unit, require immediate expert attention.
- Faulty parts and components of the unit may only be replaced by original WOLF spare parts.

Standards

The following standards and regulations apply to the air-conditioning units of the KG/KGW Gigant series:

- EC Directive 89/392/EEC incl. amendment 93/44/EEC
(Ninth Regulation relating to the Safety of Equipment Act)
- EC Directive 89/336/EEC incl. amendment 92/31/EEC
(Electromagnetic Compatibility of Equipment Act)
- EC Directive 73/23/EEC (Low-Voltage Directive)
(First Regulation relating to the Safety of Equipment Act)
- DIN 31001/1 Safe design of technical products
- DIN EN 292 Machine safety; design guidelines
- DIN EN 294 Machine safety; safety distances
- DIN EN 349 Machine safety; minimum distances
- DIN ISO 1940/1 Mechanical vibrations; balance quality
- VMDA 24167 Fans; safety requirements
- VDE 0100 Regulations for the construction of high-voltage installations
up to 1000 V
- VDE 0105 Operation of high-voltage installations
- VDE 0700/500 Safety of electrical equipment used for domestic and similar
purposes
- VDE 0701/1 Maintenance, alteration and testing of electrical equipment
- VGB 5 Powered tools
- VGB 7w Fans

additionally only for intrinsically safe types of air-conditioning units:

- VMDA 24169/1 Directive for fans conveying atmospheres containing
combustible gases, vapours or mists

additionally only for weatherproof types of air-conditioning units:

- VMDA 24175 Roof-mounted central units for air-conditioning systems

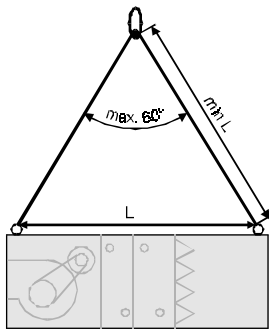
Delivery to site

Air-conditioning units KG/KGW Gigant are supplied in transportable units. Upon arrival on site, the unit or its components must be checked for any transportation damage. In case of damage or suspected damage, this must be specified on the shipping note by the recipient and countersigned by the forwarder. The recipient must relay the respective details directly to WOLF.

Transportation

Caution

Units may only be transported in their fitting position. Exception: KGXD 250 is laid flat (90° turn) for transportation.



Transport units with carrying straps!

When using fork lift trucks or rollers, ensure that the lifting fork or rollers are positioned underneath the frame profiles and not underneath the bottom panels.

When using lifting eye bolts (on request), the length of the lifting cable must correspond to at least the distance L between the eye bolts. Ensure identical cable lengths!

Units with more than 4 eye bolts must be lifted with the aid of a lifting beam!

Required space

For assembly, operation and maintenance, at least a space equivalent to the width of the unit should be available on the operating side (see table below).

Space required for assembly, operation and maintenance:

Fan section	0.8 x unit width
Cooling coil/heating coil and surrounding coil	1 x unit width + 250 mm
Filter section up to KG 100	1 x unit width
from KG 160	0.5 x unit width

For double units installed side-by-side, the above space for assembly, operation and maintenance is required on both sides.

Units requiring a drain trap (washer, humidifier, cooling coils, KGX/KGXD, drop eliminator) must be installed in such a way, that the proper installation and function of the drain trap is guaranteed (pay attention to foundation height).

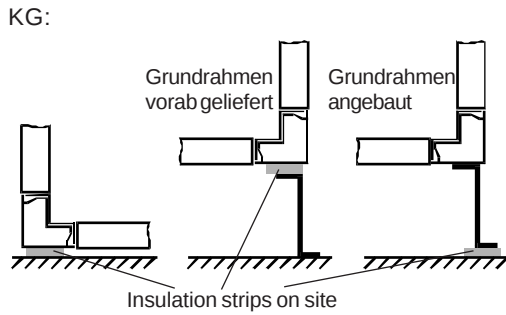
Foundation / Base frame

Caution KG:

For the assembly and installation of the units and unit components, a level and horizontal floor, with the right load-bearing capacity, is required.

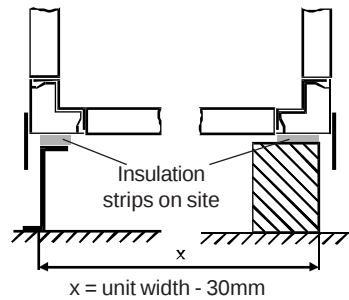
Base frames must be horizontally aligned, foundation bases must be level and horizontal.

The whole underside of the equipment frame must be in contact with the supporting surface; gaps underneath the frame are not permissible.



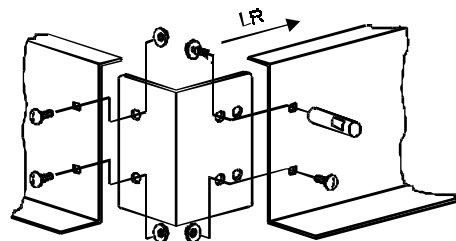
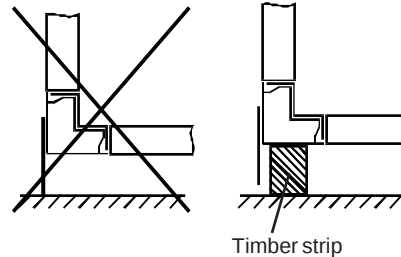
To avoid the transfer of structure-borne sound from the air-conditioning unit to the building, a permanently elastic intermediate layer must be provided between the installation surface or foundation and the air-conditioning unit. This intermediate layer should preferably consist of insulation strips fitted along the frame profiles of the unit.

KGW:



KGW: For the installation and assembly of the units and unit components a base frame or foundation base is required.

The unit may not be placed on level ground as this would damage the throating (see illustration). To avoid any damage, the unit may, if necessary, be placed on timber strips.



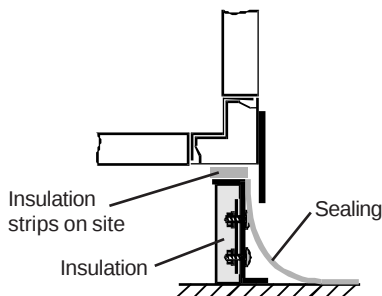
Base frames must be horizontally aligned and the foundation base must be level and horizontal.

The whole underside of the equipment frame must be in contact with the supporting surface; gaps underneath the frame are not permissible.

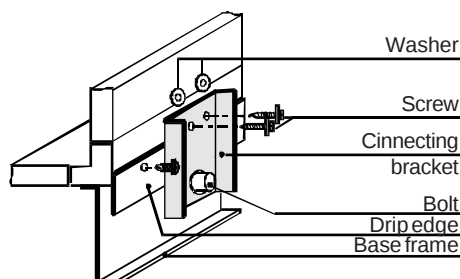
WOLF base frames are supplied either pre-fitted to the unit or as separate modules (shipped in advance).

Separately supplied base frames are supplied as individual sections and must be assembled, aligned and fixed to the installation surface on site, according to the instructions supplied with the base frame.

For units pre-fitted with base frames but supplied in sections, the base frame sections correspond with the relevant unit sections.

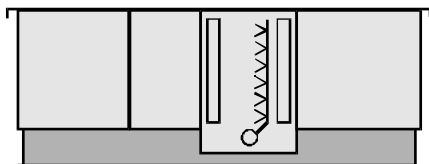


KGW: The insulation of the base frame and its integration into the roof sealing layer must be carried out on site. For base frames supplied in advance, it is recommended to install the insulation on the inside of the base frame, as this makes the integration into the roof sealing layer considerably easier.



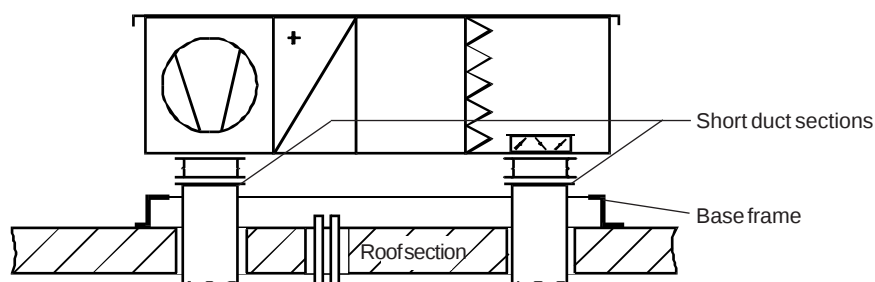
When positioning on the base frame or the foundation base, the units must be aligned in such a way that a gap of approx. 15 mm between the base frame or foundation base and the throating remains on all sides.

After the completion of the assembly, the air-conditioning units must be secured to the base frame foundation base with the brackets supplied.



For units with washers, a base frame or foundation base must be used for KG and KGW units, as the washer protrudes from the bottom of the unit. The required height of the base frame depends on the type of washer and will be separately specified during the design of the housing.

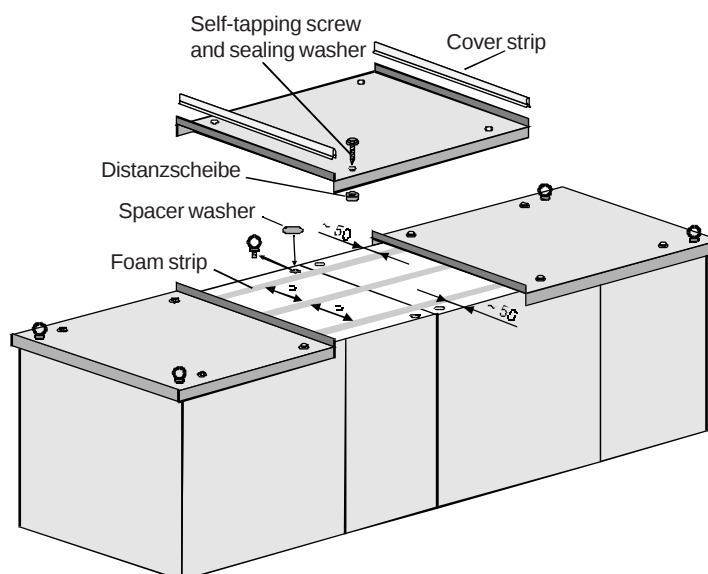
For units that have the inlet and outlet facing downwards, install short duct sections before positioning the units onto the foundation.



Roof

The weatherproof KGW units have a lid made of galvanised steel panels. On units supplied as a complete unit, all lid sections have been fitted. In the case of separately supplied units, the lid section of the supplied units has been pre-installed. Should the separation points of the unit not correspond with the division of the lid sections, the necessary individual lid section is supplied as a loose part and must be installed on site after the unit has been assembled. The required fixing and sealing material is supplied with the unit.

Use a plastic mallet for fitting the cover strip!

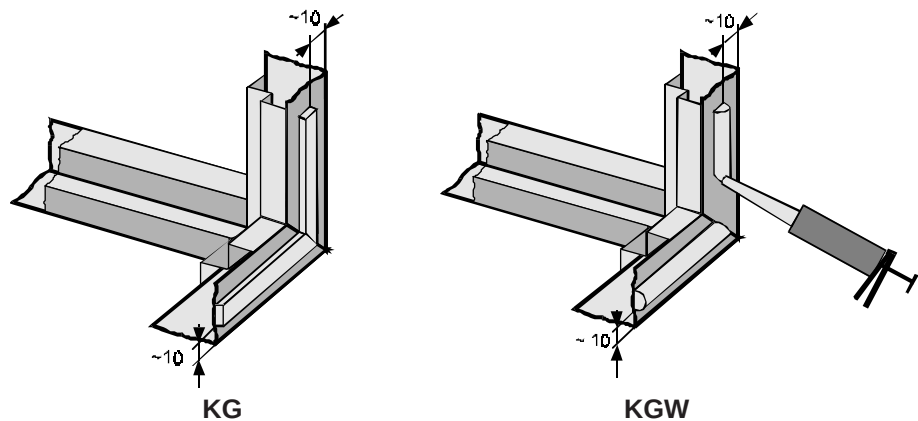


Unit connection

The cubical unit sections are connected to one another with M8 screws. For this purpose, the cubes contain bore holes at respective locations. All small assembly parts and loosely supplied accessory are packed in a component fitted with an inspection door (preferably fan component). The respective component is identified by the label "Accessory inside component".

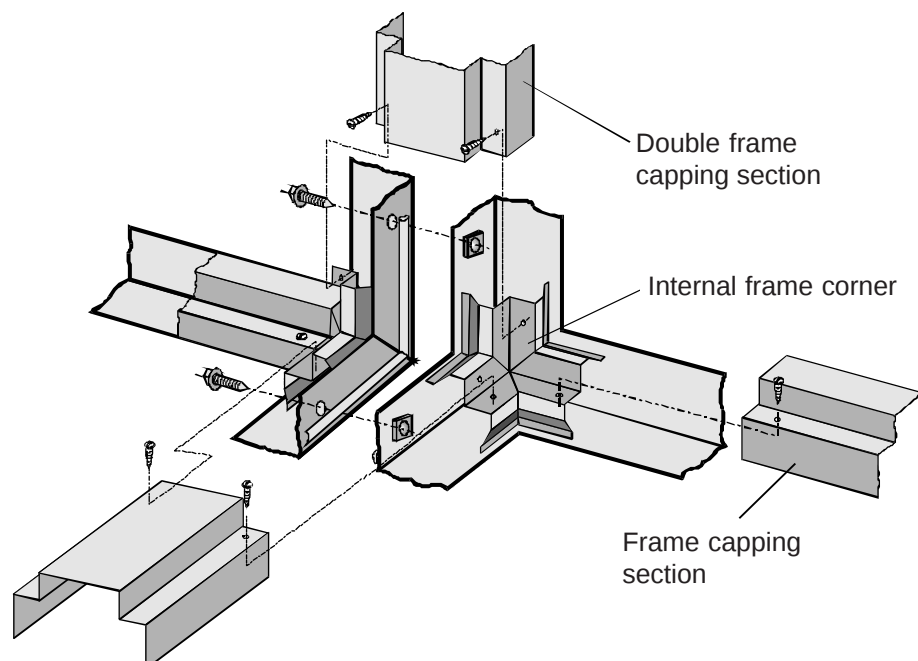
Before screwing together the cubes, the self-adhesive sealing tape (KG) or the permanently elastic sealing material (KGW) must be applied to one side.

To ensure maximum sealing, the dimensions shown in the following illustrations must be observed.



After tightening the connecting screws, the respective loosely supplied frame capping sections must be assembled and secured to the internal frame corners (sheet metal screws).

In cases where, for design reasons, the frame capping sections cannot be removed, respective holes in the frame capping sections will be provided by the manufacturer. These holes must be sealed with the supplied plastic plug after the units have been screwed together.

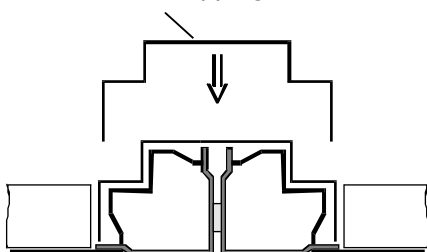


The joints between two unit cubes are covered, as far as possible, with a double frame capping section. In some instances, however, double frame capping sections cannot be used for design reasons. In these cases, single frame capping sections are used and the gap remaining on all sides, is covered with a plastic cover strip or a plastic sealing section.

A sufficient number of parts of the appropriate dimensions, required for the assembly (double frame capping section, plastic sealing strip, plastic sealing section) are supplied with the unit.

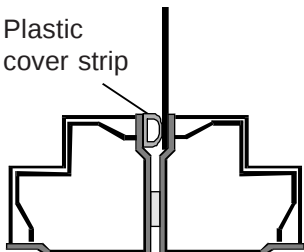
To ensure their correct assignment to the individual components of the unit, they are numbered accordingly.

Double frame capping section

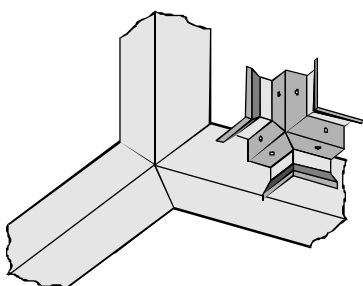


The **double frame capping section** is screwed to the internal frame corners after the assembly of the unit sections.

Plastic cover strip



The **plastic cover strip** is glued to the unit cube frame before the unit cubes are assembled. For this purpose, it has an adhesive strip on one side.



In the case of disassembled units, for which the frame capping cannot be installed by the manufacturer and which at the same time use plastic internal frame corners, these internal frame corners cannot be pre-installed in the cube.

In this case, the required number of plastic internal corners - labelled accordingly- are supplied with the unit.

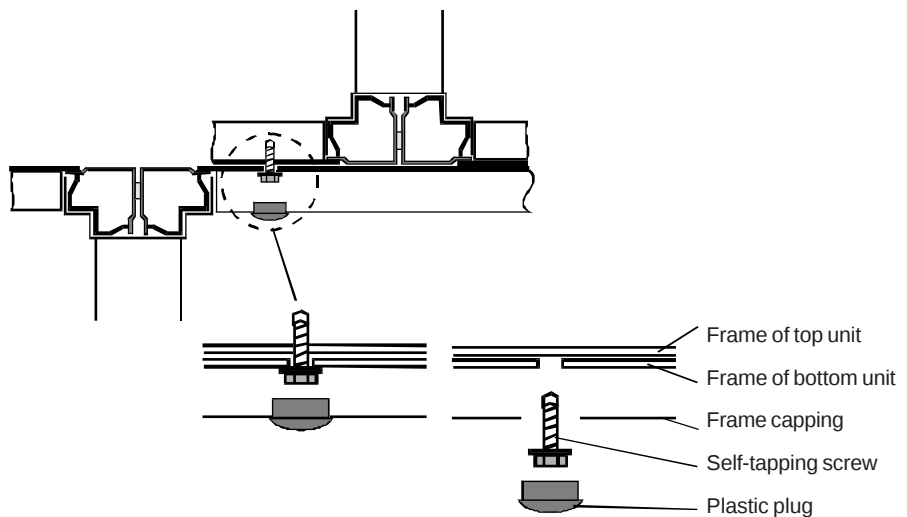
For assembly, the internal plastic corners are, after removal of the unit panels, inserted into the corners of the unit frame and screwed to the frame with the capping sections.

Piggyback units

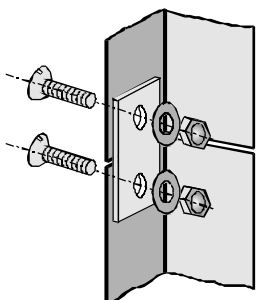
For piggyback units, where the top and bottom units are supplied separately, the units must be secured to each other on site. The manufacturer makes provisions for the connections to be made with self-tapping screws. The required number of self-tapping screws are supplied with the air-conditioning unit.

The top and bottom unit can only be screwed together after the individual cubes of the top and bottom units have been assembled. In some cases, permanent elastic sealing strips or plastic sealing strips must be applied before positioning the top onto the bottom unit (see page 8/9). To simplify the assembly, the manufacturer provides holes in the cube frame and frame capping of the bottom unit at the intended joints. The holes in the frame capping must be sealed with the supplied plastic plugs after the top and bottom unit have been screwed together. In some cases, plastic sealing sections must also be applied (see page 9).

The areas intended to be joined are identified by the manufacturer with a label on the covering panels on the external side of the unit ("Remove cover panel for assembly of unit"). The label can be removed from the panel without leaving any marks.



Demountable version (on request)

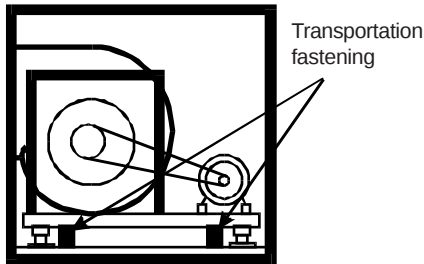


The units are supplied in assembled condition. They may be demounted before transportation and be reassembled on site.

The frame sections of the demountable version are separated in the centre and bolted together with a steel plate. For demounting, the internal frame cover must be removed and reassembled after assembly of the cubes.

Fan section

Caution The fan shaft must remain horizontal at all times.



Remove transportation fastening from fans seated on anti-vibration struts.

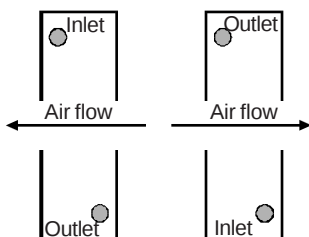
Canvas couplers

Remove transportation fastening.

When installing, it should be noted that the gap between the connecting flanges is permitted to be up to 100 mm, thus enabling full movement of the canvas couplers.

Canvas couplers may have to be insulated on site against sound radiation and condensation formation.

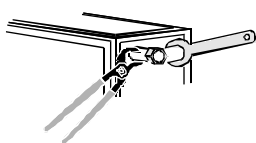
Heat exchanger



Caution The heat exchangers must be connected in such a way that no mechanical tension from the pipe system is transferred to the heat exchanger. It must also be ensured that there is no transfer of vibration between the air-conditioning unit and the pipe system.

Care must be taken that the connecting pipes do not obstruct the access to other components (fan, filter, washer, etc.)

For steam registers, the steam inlet must always be positioned at the top (large connection Ø) and the condensate drain always at the bottom.



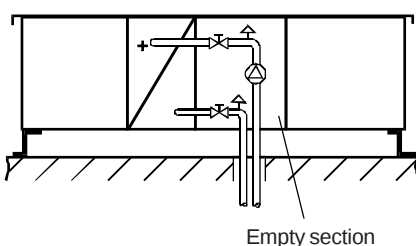
Caution The threaded connection pieces of the heat exchanger must be held when connecting the inlet and outlet ducts, to protect them from torsion.

Observe on-site ventilation and drainage requirements!

A drain trap must be connected to the condensate drain section of the cooling trough (see drain trap)!

KGW: With internal heat exchanger connections, the pipework must be installed in the empty section provided, following the heat exchanger component. Provide ventilation!

To run the pipework into the unit, the required holes must be drilled into the unit base on site. After insulation of the pipework, these openings must be sealed in a suitable manner.



The weatherproof projected part is not heat insulated. The pipework and fittings must consequently be adequately insulated on site.

To run the pipework into the unit, the necessary holes must be drilled on site into the removable floor of the projected part.

Washer section

Caution

During assembly of the washer, neither dirt nor other solid matter may enter this section.

For normal requirements, the water used for the washer must have the following minimum quality:

Appearance	clear, colourless, no sediments
pH value	7 to 8,5
Total salt content	< 800 g/m ³
Electric conductivity	< 100 mS/m (bei 20°C)
Calcium-ion content	> 0,5 mol/m ³
Carbonate hardness	< 4,0 °d
Carbonate hardness when using hardness stabilising agents	< 20 °d
Chloride content	< 180 g/m ³
Sulphate content	< 290 g/m ³
KMnO ₄ -consumption	< 50 g/m ³
Germination index	< 1000ml ⁻¹

For connection of the washer to the public water mains, the regulations of DIN 1988 apply.

Drain trap

A drain trap must be connected to the condensate drain section of the cooling trough and the KGX/KGXD trough to ensure drainage of the condensate.

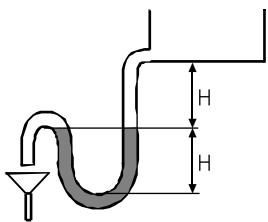
It should, however, be noted that one drain trap must be connected to each condensate drain section.

It is not permissible to join several drain sections onto a common drain trap.

WOLF supplies the drain trap as an accessory. The required drain trap height must, in this case, be determined on site.

If the drain trap is provided by the customer, the drain trap height must be determined according to the adjacent illustration.

The effective drain trap height H (mm) must exceed the max. vacuum or overpressure (mm WC) in the air-conditioning unit (1 mm WC = 10 Pa). The height differential between the outlet of the unit and the drain trap overflow should also be H (mm).



Drain trap connection R 1 1/4"
External thread

Always ensure adequate foundation height to enable the installation of the drain trap.

The drain pipe of the drain trap may not be directly connected to the waste water system but must drain freely (see illustration). In case of longer drain pipes, the pipes must be ventilated to prevent condensate accumulation in the pipe.

Before initial start-up of the unit and after long periods of inactivity, the drain trap must be filled with water!

Electrical connection

The electrical connection may only be carried out by a qualified electrician in accordance with the valid regulations (VDE, EVU, etc.)!

In case of switch-off or breakdown of the supply or exhaust fan, all control valves, the warm/cold water and the washer pump must be shut off automatically! Only use control valves which are closed, when contact is interrupted, and frost protection thermostats without reclosure preventing device.

To ensure the secure switching off of the air-conditioning unit, a lockable repair switch must be installed for every drive motor.



After completing the electrical connection, a technical safety test of the installation must be carried out in accordance with VDE 0701 part 1 and VDE 0700 part 500.

Caution

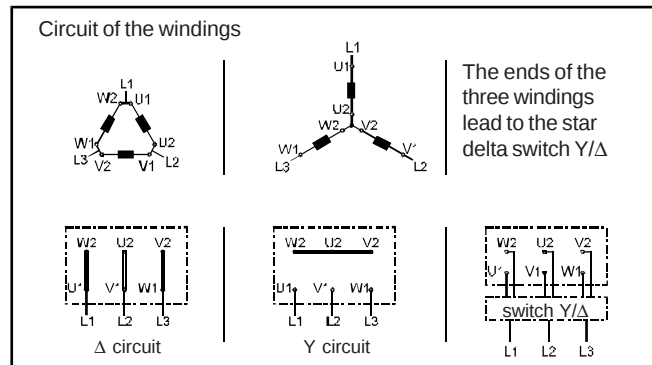
Only electric motors designed to drive fans may be used.

Pay attention to wiring diagram shown in the terminal box!

Motors with PTC thermistors must be fitted with release devices, motors with thermal contacts must be equipped with a locking contactor and motors without PTC thermistors or thermal contacts must be fitted with a thermal overload relay!

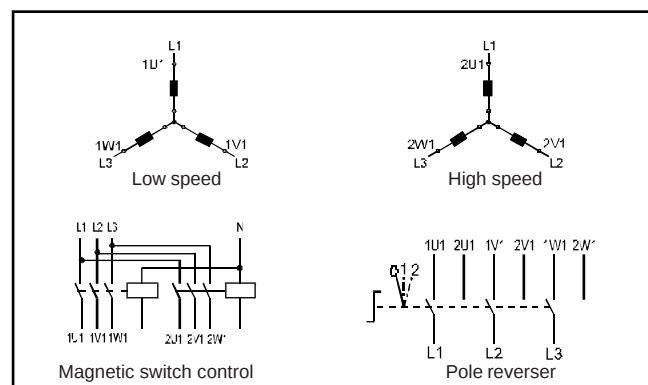
Circuit for single speed

Motors up to 2.2 kW are generally started directly on line, from 3 kW star delta starting is used.



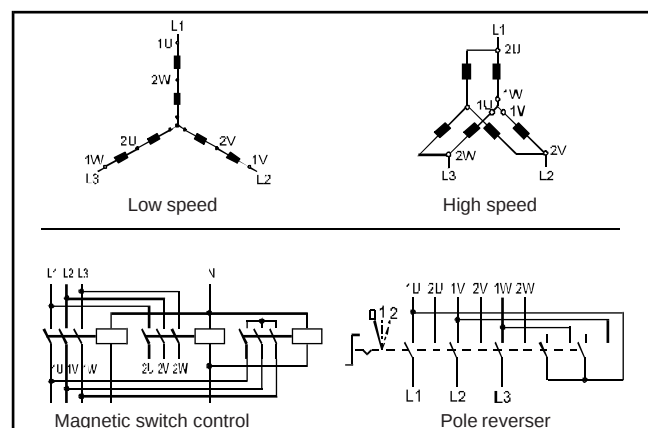
Circuit for 2 speeds

(2 separate windings)
Design for i.e. 1000/1500 min⁻¹ or 750/1000min⁻¹



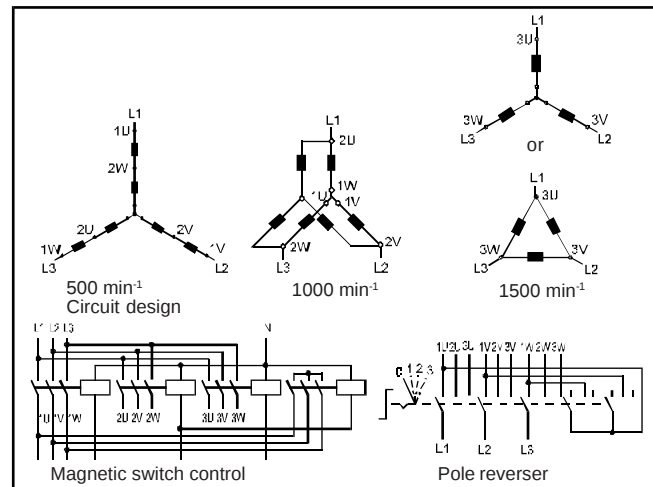
Circuit for 2 speeds, proportion 1:2

(winding type: Dahlander)
Design for i.e. 1500/3000 min⁻¹ or 750/1500min⁻¹



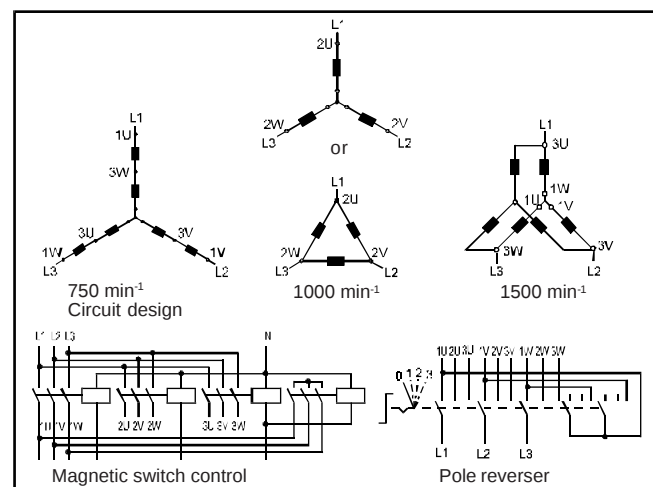
Circuit for 3 speeds

(2 separate windings - 1 of which being a Dahlander winding)
Design for fan drives 500/1000/1500 min⁻¹ or 8/6/4 poles;
500/1000 min⁻¹ in Dahlander winding.



Circuit for 3 speeds

(2 separate windings - 1 of which being a Dahlander winding)
Design for fan drives 750/1000/1500 min⁻¹ or 8/6/4 poles;
750/1500 min⁻¹ in Dahlander winding.

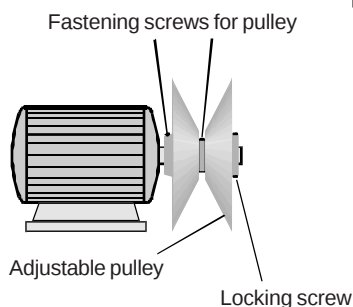




Wait until the fan(s) has (have) stopped before opening the inspection doors.

Check for correct installation of safety and control equipment.

Fan section



Caution

- The unit may only be started once the ductwork is connected and the inspection doors are closed. Otherwise the motor may be overloaded.
- Check for secure seating of pulley. For pulleys in tensioning bushings, check also the locking screws of the bushings.

Adjustable pulleys are not set by the manufacturer and must be adjusted accordingly on site before starting the air-conditioning unit.

These pulleys allow a fan speed variation of 10%.

Adjustment:

To adapt the pulley diameter, the adjusting pulley can be axially moved on a threaded section (see adjacent illustration).

For this purpose, the V-belts must be loosened and the securing hexagonal locking socket screws of the adjustable pulley must be unscrewed.

After adjustment of the pulley, the locking screws must be re-tightened and the V-belt must be retensioned. During tightening, both locking screws must lie on the flattened threaded section.

- Check V-belt for correct tension (for retensioning see page 18 / maintenance),

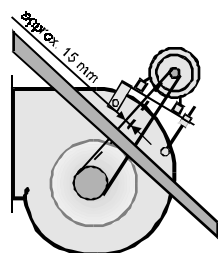
V-belt pulleys must be completely aligned.

- Switch on main switch.

- Check for correct rotational direction of fan rotor by briefly switching on the drive motor. Change rotational direction, if necessary.

Extreme care should be taken as the doors of the fan must be opened for this operation.

KG 40 - 100



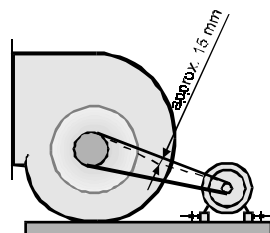
- Measure the air volume. Check the pressure loss.

- Measure the current drawn by the fan motor: The current may not exceed the value specified on the motor rating plate.

KG 160 - 400

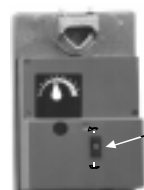
Caution

For air-conditioning units with controllable motors and/or variable recirculating air content, the highest current take-up throughout the entire control range must be measured.



If necessary, correct the air volume by changing the pulley (in case of adjustable pulleys, readjust the pulley(s), see above).

Shutter flaps



Sliding switch S
for changing the rotational
direction

Check that shutter flaps and linkages move easily.

Check for correct rotational direction of drive motor(s) of the shutter flap(s) and correct with sliding switch S (see illustration).

For internal flaps, pay attention to the assembly instructions for the flap actuating motor supplied separately.

Heater

(Warm water/hot water/steam)

Before starting the unit, check pipework for possible leaks.

- Bleed heat exchanger and pipework.
- For steam registers, ensure that a condensate drainage is provided to avoid damage of the register by steam impact.
- Switch on the heating water pump or open the water/steam valve only whilst the fan is running to avoid overheating due to insufficient heat dissipation.
- Check blowing out temperature: maximum blowing out temperature for heaters mounted on the inlet side is 40°C, as otherwise the motor may overheat.



Take care, as heat exchangers and connection sections contain hot surfaces.

Electric heater

To avoid overheating, the following minimum air volumes (in m³/h) must be maintained:

Unit type	KG/KGW	40	63	100	160	250	400
Air flow	horizontal + vertical ↑	1600	2500	4000	6300	12500	22500
	vertical ↓	2200	3200	5700	9000	12500	22500



For multi-speed or speed-controllable motors these air volumes must be maintained at the lowest motor speed, irrespective of the heating performance of the electric heater.



All standard safety regulations must be observed!



It is vital to ensure that in case of loss of air flow, the electric heating register automatically switches off. Additionally, the electric heating register may only be switched by one or several contactors, whose control circuit passes through temperature safety controllers (TSC) connected in series. Note that at least one TSC should be fitted on top of the internal heater side.

The electric heating register must be protected against moisture and water.

Cooler

(Cold water)

Before starting the unit, check pipework for possible leaks.

- Bleed heat exchanger and pipework system.
- Ensure that condensate drainage is provided to avoid the condensate trough from overflowing.
- If applicable, check that the concentration of the anti-freezing agent in the cooling water is sufficient for the designated temperature range before starting the cold-water cooler. When adding an anti-freezing agent to the cold water, the performance of the cooler decreases proportionally with the increased concentration of the mixture.
- Check the cold water temperature; the cold water temperature may not fall below +2°C, as there is a danger that at temperatures of < +2°C the heat exchanger may freeze up.



Anti-freezing agents are generally harmful. The safety information supplied by the manufacturer of the anti-freezing agent used on site must be observed.

Cooler
(Direct evaporator)

Before filling the cooling circuit with refrigerant, take appropriate measures to ensure that the pipework contains no residual moisture (i.e. by evacuating or flushing with dry nitrogen).

Check evaporation temperature: the evaporation temperature may not fall below +2°C, as there is the danger that at evaporation temperatures of < +2°C the heat exchanger may freeze up.

Note: The specified performance can only be achieved with the refrigerant on which the design was based (R22 or R134a).



Do not let refrigerant escape into the environment. Use suitable suction unit.

Washer

- Check pipework and pump for possible leaks
- Check for secure seating of nozzle connection and nozzle
- Check that drain pipe of the drain trap is not blocked
- Fill drain trap with water
- Fill washer trough until water flows into the drain trap
- To check the rotational direction, briefly start the washer pump and correct the rotational direction, if necessary
- Check power draw of pump motor

Caution

Do not allow washer pump to run dry as this will destroy the pump!

- Switch on supply air fan
- Switch on washer pump
- Adjust float: water level in the trough must be at least 10 mm over the pump inlet opening and no less than 10 mm below the overflow opening
- if applicable: adjust automatic dry-operation protection and desalination system (see instructions supplied separately)

Note: Drop eliminators buckle for a limited period due to their production-related surface structure.

This is not a technical fault!



Before starting any maintenance work, the main switch of the system and the repair switch must be switched off and safeguarded against reactivation!

The inspection doors may only be opened once the fan has stopped moving.

Fan section

Fan bearings requiring lubrication must be greased with saponified lithium-based grease every 2500 operating hours. Maintenance-free bearings are permanently lubricated and identified by appropriate labels.

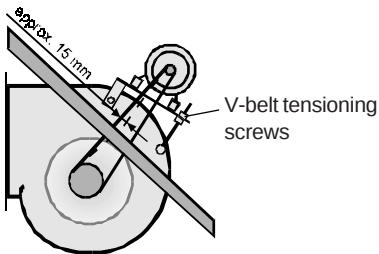
Standard three-phase motors are maintenance-free.

For special motors, observe the maintenance instructions of the manufacturer.

Caution

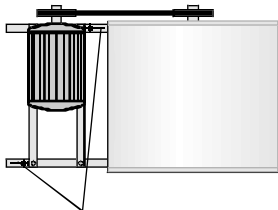
The V-belts must be retightened for the first time after 50 operating hours. Thereafter regular checks, depending on the operating conditions, are required. The belts require, however, only to be checked every 4 months or less frequently.

For multiple-groove pulleys, all V-belts must be replaced if any one V-belt requires replacing!



The drive motor of the KG 40-100 Gigant is fixed on a rocker. To tension the V-belt, undo the locknut of the tensioning screw, tighten the tensioning nut until the correct pulley tension has been achieved and retighten the locknut.

The drive motor of KG 160-400 is arranged to slide on rectangular profiles. To tension the V-belt, undo the fastening screws of the rectangular profiles and loosen the locknuts on the tension screws. Adjust the tension screws until the correct belt tension is achieved, observing at the same time the correct alignment of the pulley. Tighten the locknuts and fastening screws.



V-belt tensioning screws

Correct V-belt tensioning:

After tensioning, the central point of the V-belt between the motor and the fan shaft should give way by approx. 15 mm when depressing with a thumb.

Check alignment of the pulleys.

Heat exchangers (heater / cooler)

These units should be periodically checked for dirt and cleaned, when necessary.

Clean the heat exchangers by:

- Vacuuming
- Blowing out with compressed air
- Spraying with water or steam

Caution

Air/water/steam pressure used for cleaning may not exceed 5 bar!

Check condensate drain.

Open, clean and refill drain trap.

Clean drop eliminator profiles with standard limescale-removing agent.

Shutter flaps

Do not oil the flap shafts!

Clean with compressed air, otherwise maintenance-free.

Washer

The washer and drop eliminator must be cleaned regularly. The cleaning frequency depends on the operation, air condition and water quality. For maintenance, the trough must be emptied and flushed with clear water or a pressure-jet cleaner.

Caution Spray-clean pipes and nozzle connector only with reduced water pressure, as they may otherwise break!

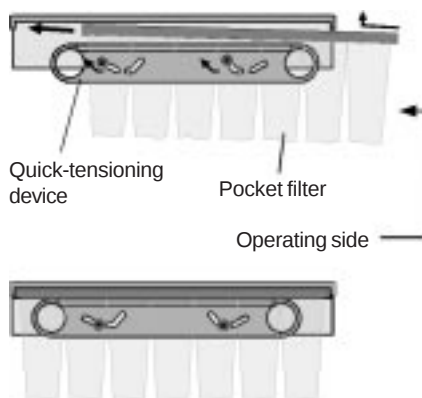
Standard lime-scale removing agents may be used.

Foaming cleaning agents are unsuitable.

The washer pump is maintenance-free.

It is, however, recommended to flush the pump and pipework with clean water whilst cleaning the washer.

Caution During prolonged inactivity of the washer, run the pump for approx. 5 minutes once a week, to prevent the bearings from ceasing up (do not operate without water!).

Filter


For cleaning or replacing, the filter inserts of the KG 40-400 Gigant are pulled out from the side of the unit housing after opening the inspection door.

The synthetic fibre matting - quality class G4 - used for the filter inserts, are reusable. They can be cleaned by beating, blowing out with compressed air or by vacuuming or washing with standard washing liquid in lukewarm water. Do not wring out mats!

Pocket filters are not reusable. They must be replaced once the permitted pressure loss has been exceeded due to soiling.

For replacing, the pocket filter inserts are pulled out of the side of the unit housing after opening the inspection door and undoing the quick-tensioning device.

Frost protection measures
Heat exchanger

Warm/hot water heater, cold water cooler:

- Operate with standard anti-freezing agents and frost protection thermostat.
- If heater system is switched off, drain all water-filled parts and blow out the remaining water with compressed air!

Steam register

- If heater system is switched off, drain all water-filled parts and blow out the remaining water with compressed air!

Electric heater:

- No frost protection measures required.

Washer section

Insulate on-site water supply, install pipe heating system, if necessary.

Empty trough and pipework, blow out pipework with compressed air!

Drain pump (see instructions of the pump manufacturer supplied separately).

Drain trap

Protect the drain trap on site against freezing up.

EC DECLARATION OF CONFORMITY

Wolf GmbH
Industriestraße 1
D-84048 Mainburg
Germany

We hereby declare that on account of their design and construction and in the versions placed in circulation by us, the machines listed below are in compliance with the applicable basic health and safety requirements of the EC Directive. Modifications to the machines undertaken without our prior consent void this Declaration of Conformity.

Designation of equipment:	Airconditioning units for indoor installation	
	Airconditioning units for outdoor installation	
	Airconditioning units with indirectly fired air heater	
Type designation:	KG	
	KGW	
	KG/WO	
Applicable EC directives	EC Machinery Directive	89/293/EEC as amended 93/44/EEC
	EC Explosion-Protection Directive	94/9/EC (explosion-proof devices)
Applied harmonised standards:	DIN EN 292 Part 1 and 2	Safety of machines – Basic terms, general design principles
	DIN EN 294	Safety distances to prevent upper limbs from touching danger points
	DIN EN 349	Safety of machines – Minimum distances to prevent crushing of body parts
	DIN EN 418	Safety of machines – EMERGENCY STOP device
Applied national standards, e.g.	DIN 31001 Part 1	Protection devices
	DIN VDE 0700 Part 1	Safety of electric equipment (IEC 335-1)
	BG Chemie explosion protection guideline	(explosion-proof devices)
	VDMA 24169 Part 1	Structural measures for explosion protection in fans (explosion-proof devices)

We hereby declare that the electrical equipment for Wolf airconditioning units type KG, KGW and KG/WO including the special control cabinets for said products and the control accessories:

room thermostats, room-thermostat timers, remote-control units, actuating motors, valves, valve drives, channel sensors, room-temperature sensors, room-temperature sensors with setpoint generators, antifreeze thermostats, remote setpoint generators, differential-pressure sensors, safety temperature monitors, double safety thermostats airflow monitors, repair switches, auxiliary switches, mixer motors, mixers, pumps and motors

are in compliance with the following guidelines, standards and directives:

Low Voltage Directive:	73 / 23 / EWG
EMC Directives:	89 / 336 / EWG EN 50081-1 EN 50082-2
Product standards:	EN 60730

Mainburg, 16.10.2000


Norbert Gruber
Managing director sector air handling - ventilation