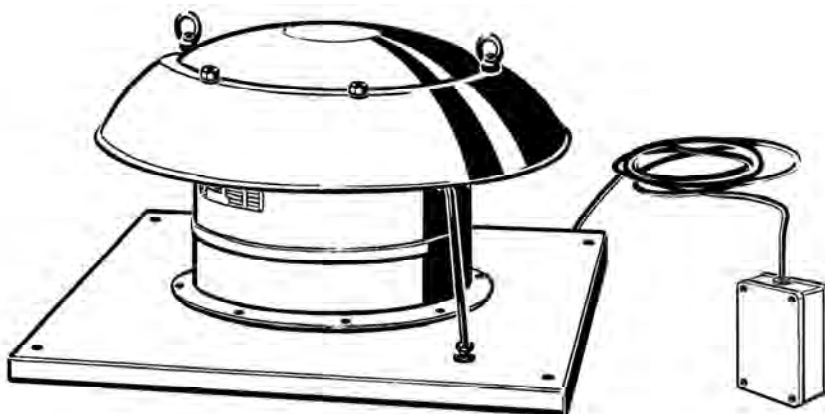


**Axial-Dachventilatoren**  
**Axial roof fans**  
**Tourelles hélicoïdes**

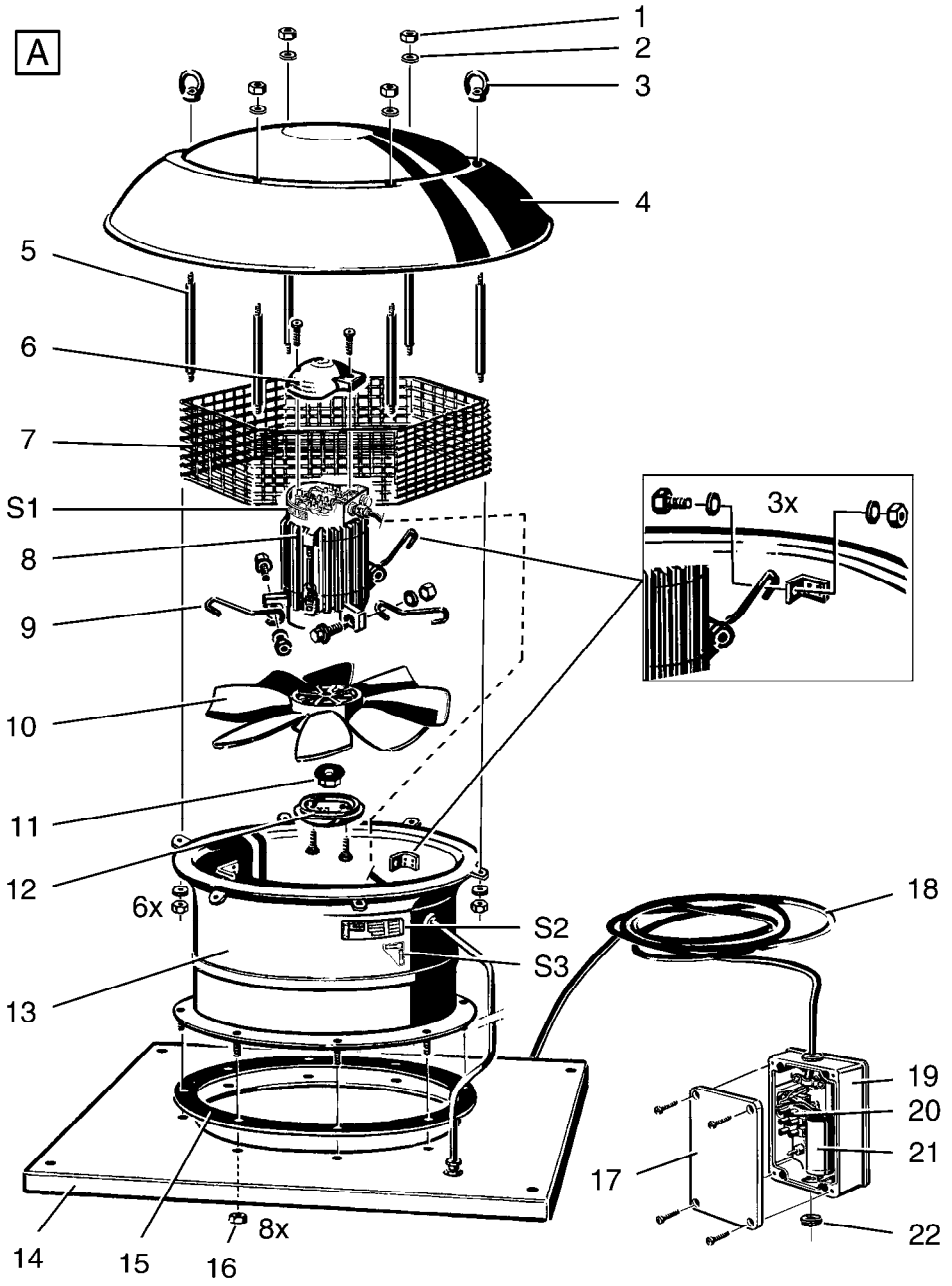


EZD 25/4 E	
EZD 25/4 D	DZD 25/4 D
EZD 25/2 B	DZD 25/2 B
EZD 30/.. B	DZD 30/.. B
EZD 35/.. B	DZD 35/.. B
EZD 40/.. B	DZD 40/.. B
EZD 50/.. B	DZD 50/.. B
EZD 60/.. B	DZD 60/.. B

**Montage- und Betriebsanleitung**  
**Mounting and Operating instructions**  
**Instructions de montage et Mode d'emploi**



A



## Axial roof fans

### EZD ... / DZD ...

#### 1. Scope of delivery

Axial roof fan with connection cable and terminal box, mounting and operating instructions. Terminal block, cable grommet, capacitor (EZD unit type) in terminal box

#### 2. Symbols used

##### 2.1 Warning symbols



**Danger to life**  
Non-observance can lead to death or serious bodily injuries.



**Danger of injury**  
Non-observance can lead to minor or more serious bodily injuries.

**NOTICE** **Property damage.**  
Non-observance can lead to damage to property.

##### 2.2 Other symbols



**INFO symbol:** Text passages marked with this symbol contain important information and tips.

- **List symbol:**  
List with important information about the corresponding subject.

- **Action symbol:**  
List of work to be carried out. Follow the instructions given in the order stated.

#### 3. Product information

##### 3.1 Equipment overview, Figure A

- 1 Cap nut
  - 2 Washer, plastic
  - 3 Eye bolt
  - 4 Roof cowl
  - 5 Stud
  - 6 Cover
  - 7 Protective grille
  - 8 Motor**
  - 9 Strut
  - 10 Impeller**
  - 11 Lock nut**
  - 12 Cover
  - 13 Housing
  - 14 Roof flashing
  - 15 Rubber seal
  - 16 Lock nut (8 items)
  - 17 Terminal box cover
  - 18 Connection cable, approx. 1.7 m long
  - 19 Terminal box
  - 20 Terminal block
  - 21 Capacitor (only EZD ... unit type)**
  - 22 Cable grommet
- 
- S1 Motor rating plate
  - S2 Roof fan rating plate
  - S3 Arrows indicating direction of air flow and rotation for "air extraction"

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## 3.2 Product description

- **EZD 25/4 D and EZD ... B**  
Single-phase AC model with capacitor motor. Can be switched to **ventilation or air extraction** with separate switch.  
Horizontal air outlet. Speed controllable. On/off with separate switch. The fan switches on/off when the switch is operated.
- **EZD 25/4 E**  
Single-phase AC model with shaded-pole motor. For **air extraction**.  
Horizontal air outlet. Speed controllable. On/off with separate switch. The fan switches on/off when the switch is operated.
- **DZD 25/4 D and DZD ... B**  
Three-phase AC version with asynchronous motor. Can be switched to **ventilation or air extraction** with separate switch.  
Horizontal air outlet. Speed controllable. On/off with separate switch. The fan switches on/off when the switch is operated.

### Direction of rotation, air flow direction

- **Air extraction = anti-clockwise (measuring mode)**  
Direction of rotation for impeller anti-clockwise\*. Air flow direction for roof flashing → roof cowl.
  - **Ventilation = clockwise (reversing mode)**  
Direction of rotation for impeller clockwise\*. Air flow direction roof cowl → roof flashing.  
Volumetric flow reduced by approx. 35% compared with measuring mode.
- \* Looking roof flashing [14] to impeller [10].

## 4. Technical data

See rating plate [S2]

- Maximum permitted temperature of the air medium + 60 °C.

## 5. Essential safety instructions

### 5.1 General safety instructions

- Read the operating instructions through carefully before starting up.
- **The device must not be used as a toy.**
- Keep the instructions.
- **Installation is only permitted when carried out by trained specialists.**
- **Electrical connections and repairs are only permitted when carried out by trained specialists.**
- Only use fitters and electricians who are sure-footed and comfortable working at height.
- The degree of protection stated on the rating plate is only guaranteed
  - if installation is undertaken correctly and
  - if the cables are correctly guided into the terminal box.
- **Permanent electrical supply cable.**  
Only connect the unit to a permanent electrical installation (cable cross section max. 1.5 mm<sup>2</sup>). This must be equipped with a mains isolation device with contact openings of at least 3 mm at each pole.
- A service switch must be fitted at the installation location such that the unit on site can be completely disconnected from the power supply for cleaning, maintenance or repair work. It must be possible for the service switch to be secured against being switched back on.
- The unit may only be operated using the voltage and frequency shown on the rating plate.
- Only operate the unit when it is completely installed.
- Modifications and alterations to the unit are not permitted and release Maico from any guarantee obligations and liability.
- Ensure that foreign bodies cannot be sucked into the unit and duct.
- Never operate without protective grille with free inlet. For example, fit a Maico protective grille SG... .

## 5.2 Intended use

- Fans for **air extraction or ventilation** from production facilities and workplaces, commercial premises, restaurants, showrooms, industrial buildings etc. They can also be used as air extraction systems for machine sites or workplaces. ESD 25/4 E only for air extraction.
- For the roof system (flat, sloping, corrugated or trapezoidal roof).
- Horizontal installation position.
- Fan with roof flashing [14] fitted on suitable roof socket (Maico roof socket SDS..., SOK..., SOWT...) or base frame.

## 5.3 Predictable misuses

Maico is not liable for damages caused by use contrary to the intended purpose.

**Under no circumstances should the unit be used:**

- if there is no protection against accidental contact in accordance with EN 294 with a free inlet.
- if there is no thermal overload protection, see chapter 8.2.
- for conveying greasy air.
- if the intake opening or ducts are blocked.
- close to flammable materials, liquids or gases.
- for conveying chemicals, aggressive gases or vapours.
- in areas subject to explosion hazards.

## 5.4 Safe and correct practices during operation

- **Danger of injury.** Do not poke objects into the air channel or unit.
- **Danger from rotating impeller.** Do not get too close to the unit, to avoid hair, clothing or jewellery being drawn into the unit.

- The unit is not intended to be used by people whose physical, sensory or mental capabilities are not sufficient for them to understand and put into practice the safety information provided in these instructions. This restriction also applies to children. The unit may however be safely used by such persons if they are supervised by someone responsible for their safety or if they are instructed in a suitable way.

## 6. Transport



**DANGER**

**Danger to life during transport. Unit may fall if wrong means of transport or lifting gear is used.**

- Observe the maximum permitted loading capacity for lifting gear and means of transport.
- Do not stand under a suspended load.



### Notes

- Use suitable ropes or chains for transport.
- Only attach ropes or chains to the two eye bolts [3].
- If possible, at the installation site use a crane to position the unit on the roof.

## 7. Installation preparation

### 7.1 Requirements at the installation site

- Construction only permitted on flat, sloping, corrugated or trapezoidal roof with sufficient roof load.
- Construction only permitted on roof socket suitable for roof shape and roof pitch.
- Construction only permitted with suitable base frame to avoid leakages.

### 7.2 Installation preparations

- Lay a permanent power cable to the installation location.
- Ensure the base frame is suitable and level.
- Use suitable insulation, sound-deadening and installation material between the unit and roof socket.
- If there is a free inlet in front of the housing [13], fit a protective grille, for example Maico protective grille SG...

### 7.3 EZD... units:

#### Operation with speed controller

- Use speed controller STU 1, ST 1 or STS 2.5 from the Maico range of accessories.

- NOTICE** **The fan may stop and suffer functional problems if the output voltage on the speed controller is too low.**
- Observe information in speed controller operating instructions.
  - Always set the minimum speed on the speed controller such that the motor starts up again after power failure.

**i** The technology in the phase angle controller may cause a humming noise.

### 7.4 DZD... units: operation with transformer

- For DZD... units (400 V, 3-phase), use a suitable transformer from the Maico range of accessories, for example:

TR 0,4-1	TRV 1,0-1
TR 0,8-1	TRV 1,7-1
TR 2,5-1	TRV 2,5-1

## 8. Installation



**Danger to life if unit is insufficiently attached to the roof!**

- Screw unit tightly to the roof socket or roof.
- Provide mounting material of a sufficient size (screws with diameter of 10 mm, min. strength class 8.8).



**Risk of cuts from metal housing plates with sharp edges**

- Wear protective gloves.

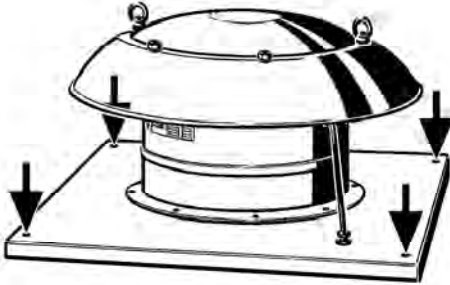
#### NOTICE

**Risks of leakages if unit not sealed tightly enough!**

- Screw unit tightly with all screws.
- Fit suitable insulation, sound-deadening and installation material.

## 8.1 Installing the fan

- Use suitable means of transport or lifting gear to position unit on the installation site, see chapter 6, Transport.



- Mark and drill 4 mounting holes and insert dowels.
- Lift unit and fit suitable insulation and sound-deadening material.
- Position unit and roof flashing [14] and screw tightly to the roof socket.

## 8.2 Electrical connection



### Danger to life from electric shock

- Switch the mains fuse off.
- Position a warning notice to avoid the unit being accidentally switched back on.

### **i** Notes

- Always note the relevant specifications for electrical installations and when fitting the equipment. In Germany observe DIN VDE 0100 and the corresponding parts in particular.
- Tightening torques for screws:
  - on the terminal block [20]: 0.7 Nm
  - on terminal box cover [17]: 1.0 Nm

- Use a frequency converter with the following performance data for speed control:
  - $U_{peak} < 1000 \text{ V}$
  - $du/dt < 500 \text{ V}/\mu\text{s}$
 Use a sine filter if these value limits are exceeded.

### Thermal overload protection

- **DZD ... B** are fitted with thermal overload protection as standard (temperature sensor in the motor winding). The connections are potential-free terminal connections.
- For **DZD 25/4 D**, install a **motor overload protection (motor protection switch)**. This should be supplied **by the customer**.
- **EZD ... E, EZD ... D and EZD ... B** are equipped with a thermal switch as standard, which is placed in the motor winding. The thermal switch opens during overload, but does not disconnect the fan from the mains. The fan starts up again automatically once the motor has cooled.

### Connecting the unit

- Remove the terminal box cover [17].
- Drill mounting holes for the terminal box [19], insert dowels and screw terminal box down tightly at installation location.



Connection cable [18] is approx. 1.7 m long. For individual distances, always replace the entire connection cable.

- Pierce cable grommet [22] with a nozzle pin.



**Danger of short circuits and damage to unit! Water will penetrate if the power cable is incorrectly fed into the terminal box or if the cable grommet [22] is not fitted correctly.**

- Pierce cable grommet with a nozzle pin such that it tightly clasps the power cable.
- Guide power cable correctly into terminal box through cable grommet.
- Guide power cable into terminal box through cable grommet.
- Connect power cable to terminal block [20] according to wiring diagram. For wiring diagrams, see chapter 14 at the end of these instructions or the terminal box cover.
- Put the terminal block cover on and screw it into place.
- Fit service switch on the roof, near to the unit.
- Fit on/off switch.
- Fit speed controller if necessary.
- Fit reversing switch to air flow direction reverser if necessary.

### 8.3 Start-up

- Ensure that the unit is correctly connected and that the air can flow unhindered.
- Check that the technical data has been adhered to, see rating plate S2.
- Switch on unit. The fan must run quietly.
- Switch off unit.

## 9. Maintenance

EZD.../DZD... units require no maintenance.

If maintenance work is required, please observe the following:



**Danger to life from electric shock**

- Before undertaking cleaning work, completely disconnect unit from the power supply or switch the service switch to the "off" position and secure against being switched back on.
- Position a warning notice to avoid the unit being accidentally switched back on.



**Danger of injury from rotating impeller after switching off!**

- Switch service switch to off position before removing the roof cowl.
- Wait until the impeller is stationary.



**Risk of cuts from metal housing plates with sharp edges.**

- Wear protective gloves.

## 10. Fault rectification

- Call on the services of a trained electrician any time there is a fault.
- Repairs should only be carried out by a trained electrician.



**Danger to life from electric shock when working on electrical equipment!**

- Before removing the terminal box cover or the roof cowl, switch the service switch to the "off" position and secure against being switched back on.
- Position a warning notice to avoid the unit being accidentally switched back on.



Fault	Countermeasure
Unit doesn't run	Check whether the mains fuse is switched on. If necessary, also check the service switch.
Thermal overload protection switches the unit off.	Put the on/off switch to the "off" position. Let the motor and the temperature limiter cool down before switching the unit back on. It may take several hours to cool down. Only switch unit back on once cool. If the fault persists, call on the services of a trained electrician.
Deposits on the impeller and in the housing caused by dust in the air.	Call on the services of a trained electrician. Install an air filter in the ducting. Under no circumstances should the inside of the unit be cleaned with water or a high-pressure cleaner.
Impeller not turning.	Switch off unit. Ensure that the impeller is not blocked by foreign bodies.

## 11. Spare parts

Spare parts are listed in bold in chapter

**3.1. If ordering spare parts, please provide:**

1. Print no. of instructions 0185.0089.0001.
2. Production date, see stamp on housing [13], e.g. 039208.
3. No. of rating plate [S1] and [S2],  
= no. on side of rating plate.
4. Item number in chapter 3.1.

## 12. Dismantling



**DANGER**

**Danger to life from electric shock**

- Before dismantling, completely disconnect unit from the power supply or switch the service switch to the OFF position and secure against being switched back on.
- Position a warning notice to avoid the unit being accidentally switched back on.



**DANGER**

**Danger to life from improper transport!**

- Observe information in chapter 6, Transport.



**Dismantling should only be carried out by a trained electrician.**

## 13. Disposal



**Not in domestic waste.**

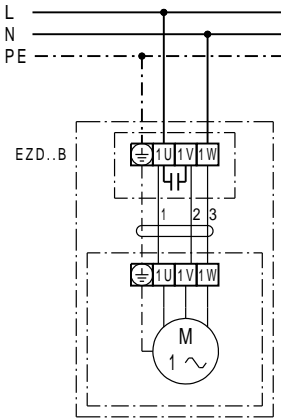
The unit contains in part material that can be recycled and in part substances that should not end up as domestic waste.

- Dispose of the unit once it has reached the end of its working life according to the regulations valid where you are.

## 14. Schaltbilder, Wiring diagrams, Schémas de câblage

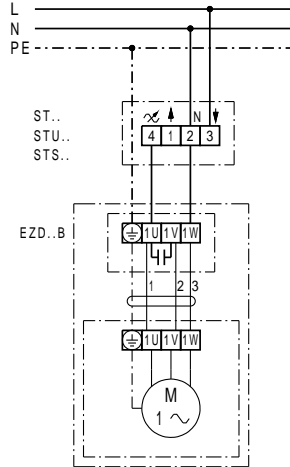
### EZD ../. B

Linkslauf (Entlüftung) = Standard  
 Rotation, ccw. (air extraction) = Standard  
 Rotation à gauche (évacuation d'air) = Standard



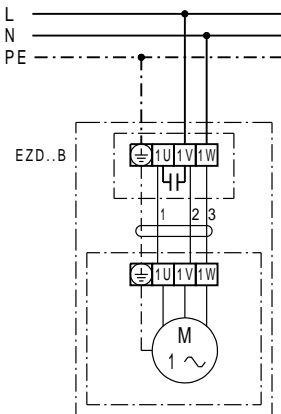
### EZD ../. B

mit Drehzahlsteller ST../STU../STS..  
 with speed controller ST../STU../STS..  
 avec variateur de vitesse ST../STU../STS..



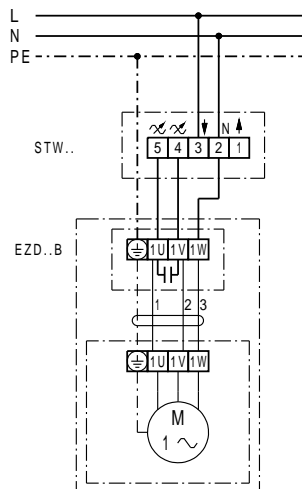
### EZD ../. B

Rechtslauf (Belüftung)  
 Rotation, clockwise (ventilation)  
 Rotation à droite (insufflation)



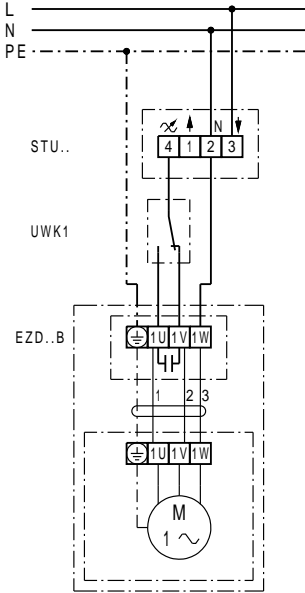
### EZD ../. B

mit Drehzahlsteller STW..  
 with speed controller STW..  
 avec variateur de vitesse STW..



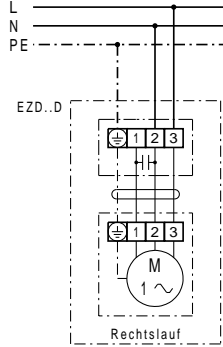
**EZD ../. B**

mit Drehzahlsteller STU.. und UWK 1  
 with speed controller STU.. and UWK 1  
 avec variateur de vitesse STU.. et UWK 1

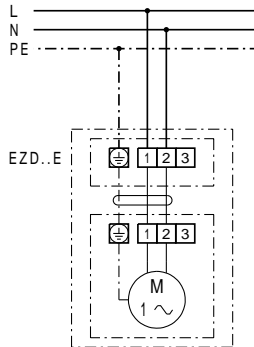


**EZD 25/4 D**

Rechtslauf (Belüftung)  
 Rotation, clockwise (ventilation)  
 Rotation à droite (insufflation)

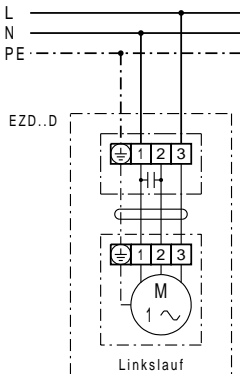


**EZD 25/4 E**



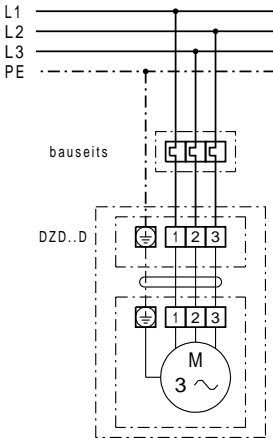
**EZD ../. D**

Linkslauf (Entlüftung) = Standard  
 Rotation, ccw. (air extraction) = Standard  
 Rotation à gauche (évacuation d'air) = Standard



### DZD 25/4 D

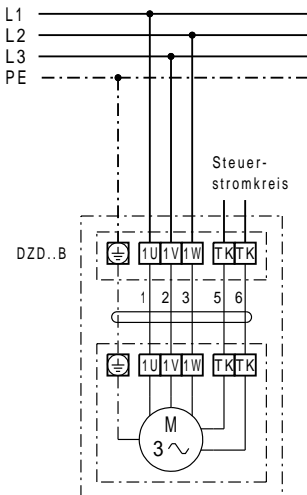
Linkslauf (Entlüftung) = Standard\*  
 Rotation, ccw. (air extraction) = Standard\*  
 Rotation à gauche (évacuation d'air) = Standard\*



- \* Für Rechtslauf am Ventilatoranschluss 2 Phasen tauschen.
- \* Replace 2 phases for clockwise rotation on fan connection.
- \* Pour la rotation à droite, échanger 2 phases au branchement électrique.

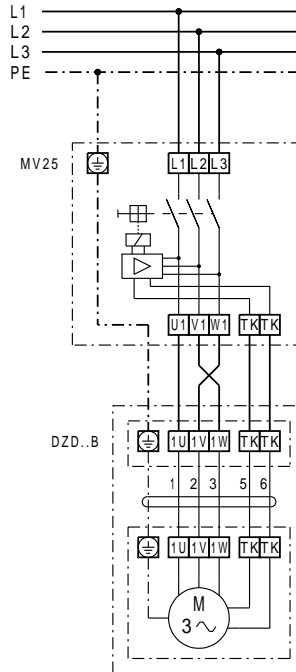
### DZD ../. B

Linkslauf (Entlüftung) = Standard\*  
 1 Drehzahl  
 Rotation, ccw. (air extraction) = Standard\*  
 1 speed  
 Rotation à gauche (évacuation d'air) = Standard\*  
 1 vitesse



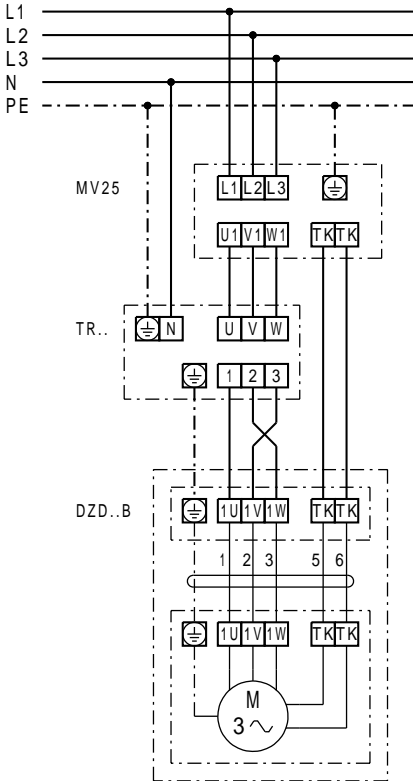
### DZD ../. B

Linkslauf (Entlüftung) = Standard\*  
 mit MV25  
 Rotation, ccw. (air extraction) = Standard\*  
 with MV25  
 Rotation à gauche (évacuation d'air) = Standard\*  
 avec MV25



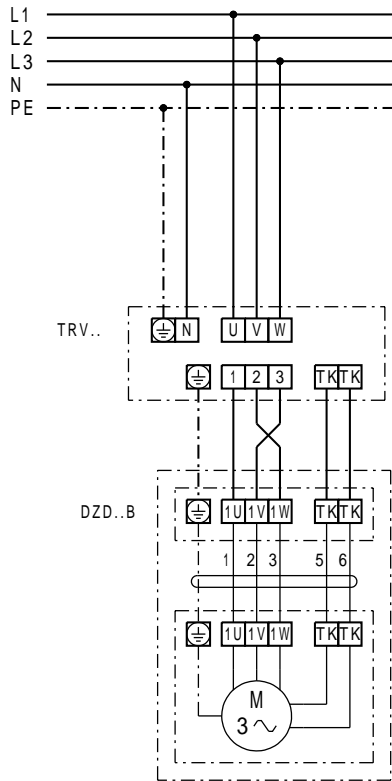
**DZD ../. B**

Linkslauf (Entlüftung) = Standard\*  
 mit 5-Stufentransformator TR..  
 Rotation, ccw. (air extraction) = Standard\*  
 with with 5-step transformer TR..  
 Rotation à gauche (évacuation d'air) =  
 Standard\*  
 avec transformateur de tension à 5 plots TR..



**DZD ../. B**

Linkslauf (Entlüftung) = Standard\*  
 mit 5-Stufentransformator TRV..  
 Rotation, ccw. (air extraction) = Standard\*  
 with with 5-step transformer TRV..  
 Rotation à gauche (évacuation d'air) =  
 Standard\*  
 avec transformateur de tension à 5 plots TRV..



- \* Für Rechtslauf am Ventilatoranschluss 2 Phasen tauschen.
- \* Replace 2 phases for clockwise rotation on fan connection.
- \* Pour la rotation à droite, échanger 2 phases au branchement électrique.