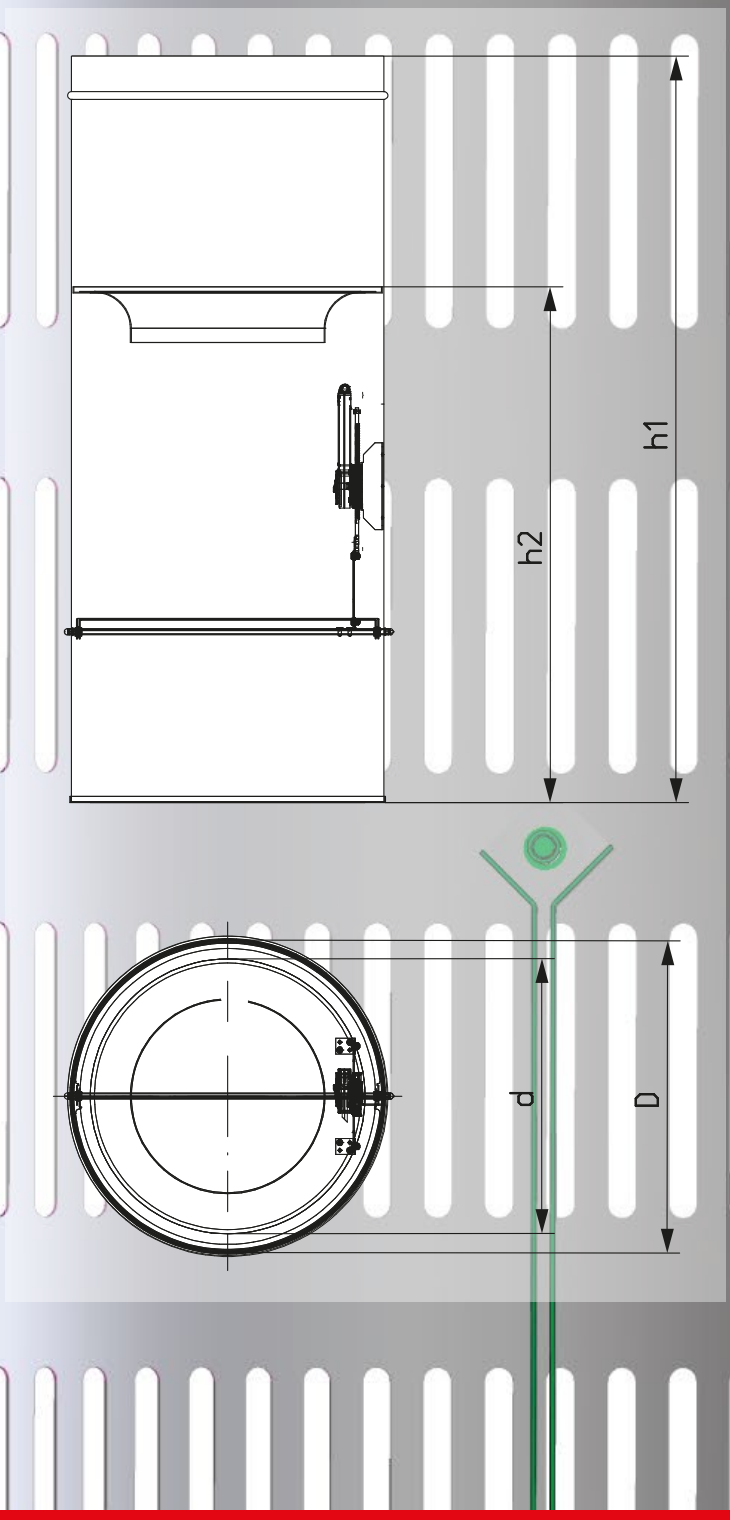

Original installation and operating instructions

emcoair ventilation components

IVA industrial diffusers
English version

EMCO
Klima leben.

I557/01/19 EN | SAP no. 1298780

Please read the manual before starting any work!

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1 Important information and notes

1.1 General information and notes

These operating instructions have been created to the best of the manufacturer's knowledge.

They are intended to familiarise operators, users and maintenance personnel with the structure, function, operation and maintenance of the diffusers, as well as with the relevant safety information. The instructions are also designed to ensure that trained and qualified personnel can operate and service the diffusers in the appropriate manner.

It is essential to read these instructions in full before using diffusers for the first time in order to ensure trouble-free operation.

Please store these operating instructions somewhere safe so that you can refer back to them at any time. You should also remember to share this user information with any subsequent owners.

Unfortunately, these instructions cannot cover every conceivable situation that may arise at the installation location of the diffusers.

Please contact the manufacturer if you have any questions relating to the diffusers or these operating instructions.

1.2 Meanings of symbols and warnings

Please see below for a list of the individual warnings and symbols along with their explanations and hazard classifications.

DANGER!
Refers to a **direct electric shock hazard that presents a high risk** in terms of human life and health.
→ **Failure to observe this information can result in death or serious injury.**

DANGER!
Refers to a **potential hazard** in terms of human life and health.
→ **Failure to observe this information can result in death, serious injury, or property damage.**

1.3 Associated documents

These operating instructions contain non-exhaustive documentation and specialist instructions for emcoair IVA industrial diffusers.

The industrial diffusers described in these operating instructions may only ever be used, operated, assembled and installed together and in conjunction with the applicable control technology in each case.

1.4 Specific use

emcoair IVA industrial diffusers are designed and manufactured in line with the latest state of the art and recognised safety regulations.

Nevertheless, incorrect installation or commissioning of the products may result in hazards or adverse affects for people and equipment.

IVA industrial diffusers are designed exclusively for introducing and distributing preconditioned air within air-conditioned rooms. IVA diffusers are displacement diffusers that have been specially conceived for use in commercial and industrial sectors. They are designed to be used at ambient temperatures of between 0 and 50°C with a maximum humidity level of 90%.

The intended use also includes compliance with all information provided in this manual. The equipment operator shall bear full responsibility for any damage arising from improper use.

DANGER!

- **Any work on and with the product may only be performed by competent, qualified specialists or other trained and authorised personnel whose professional training and experience has provided them with an appropriate level of specialist expertise regarding how to handle ventilation components.**
- **An appropriate level of expertise means that the personnel have completed specialist training and possess sound knowledge of the structure, function and combined effects of the product and its components to the extent that they can assess the work assigned to them and identify any potential hazards.**

→ **Failure to observe this information can result in death, serious injury, or property damage.**

Any mistakes made when assembling the products could lead to equipment damage and personal injury. The manufacturer of the equipment is not liable for any damage arising from improper handling of the product or faulty connections.

2 Safety instructions

2.1 Operator's duty of care

DANGER!

- **For reasons of safety, no unauthorised modifications may be made to the ventilation components.**
- **Only use original spare parts / wear parts / accessories. These parts are specially designed for the respective product. In the case of parts purchased from other manufacturers, there is no guarantee that these are designed and manufactured in a manner that is safe and fit for purpose.**

→ **Failure to observe this information can result in death, serious injury, or property damage.**

2.2 Safety information

DANGER!

- **Installation and maintenance work on electrical equipment and components may only be carried out by a qualified electrician as defined by the VDE.**
- **All system components must be switched off and secured against switching back on prior to performing any work on the equipment.**
- **The necessary protective clothing for performing work on the equipment must be worn.**
- **For reasons of safety, no unauthorised modifications may be made to the equipment.**

→ **Failure to observe this information can result in death, serious injury, or property damage.**

DANGER

- **Do not store any highly flammable substances or liquids in the immediate vicinity of the ventilation components.**
- **Ensure that no highly flammable objects or liquids enter the products.**

→ **Failure to observe this information can lead to fire and result in death or serious injury.**

2.3 Basic hazards

The following section presents residual risks which have been determined by the manufacturer.

To reduce health hazards and to avoid dangerous situations, please follow the safety instructions provided here and the safety instructions in the other chapters of this manual.

2.3.1 Hazards caused by electrical energy

Electric current

DANGER!

Danger of death due to electric current!

Touching live parts causes a direct danger of death from electric shock. Any damage to the insulation or individual components can be life threatening.

- In the event of damage to the insulation, disconnect the power supply immediately and have it repaired.
- Work on the electrical system may only be carried out by qualified electricians.
- Prior to performing any work on the electrical system – including maintenance, cleaning and repairs – ensure that it is completely de-energised, secured against switching back on, and not carrying any voltage.
- Never attempt to bypass or disable fuses. Always observe the correct current specifications when replacing fuses.
- Keep moisture away from live parts. This can lead to a short circuit.

2.3.2 Hazards caused by mechanical parts

Moving components

WARNING!

Risk of injury caused by moving components!

Components moving in a rotating and/or linear motion can cause serious injury.

- Do not attempt to handle or engage with moving components during operation.
- Do not open covers during operation.
- Observe the stoppage time: ensure that all components have stopped moving before opening the covers.

3 Technical data

3.1 Description of the emcoair IVA model

The IVA is a round displacement diffuser made of galvanised or stainless steel, which has been designed for use in industrial applications and multipurpose halls. Its two-part flap mechanism allows infinite adjustments to be made to the blow-out direction between the horizontal radial beam and the vertical beam.
Depending on the heating and cooling loads to be dissipated in various spatial situations, this means there is always an optimal and comfortable flow of air through the room with minimal noise.

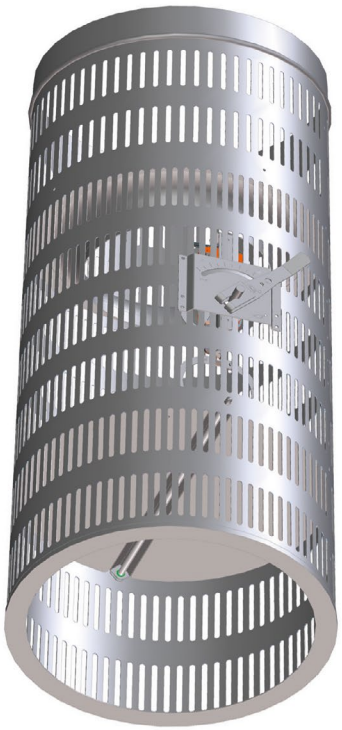


Fig. 1. emcoair IVA industrial diffuser

3.2 Structural design

The IVA comprises a cylinder full of elongated perforations, which ensures optimal jet adjustment from horizontal to vertical. The vent is connected to the air supply duct with a plug connector. The air is focused on the two-part adjustable flap via a flow-optimised inlet nozzle within the cylinder with the elongated perforations.

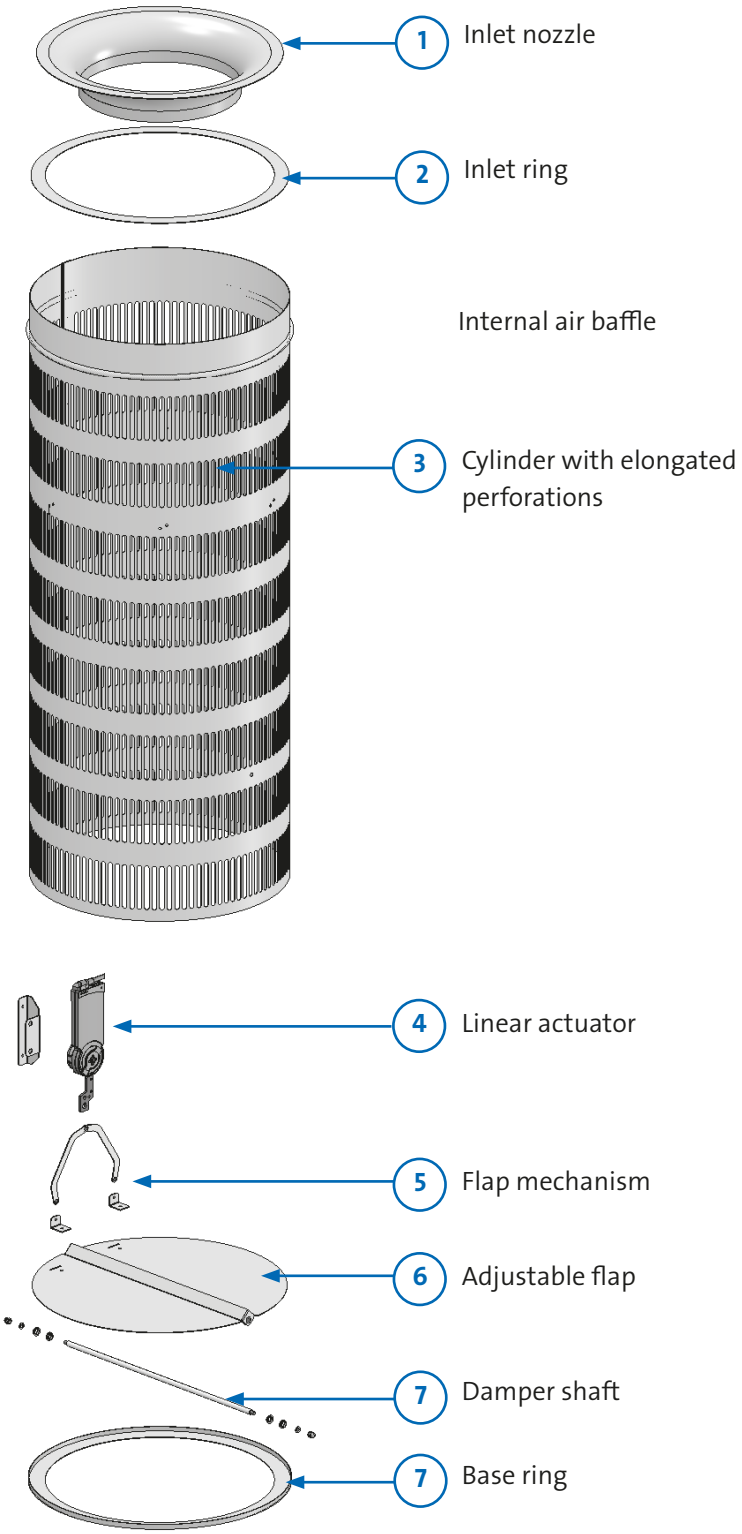


Fig. 2. Structural design of the emcoair IVA industrial diffuser

3.3 Function

3.3.1 Heating mode

If the IVA flap is open, this creates a vertical beam through the open base of the outlet. In this setting, the air escaping from the cylinder with the elongated perforations is swept along by the vertical beam, which results in a deep penetration in heating mode.

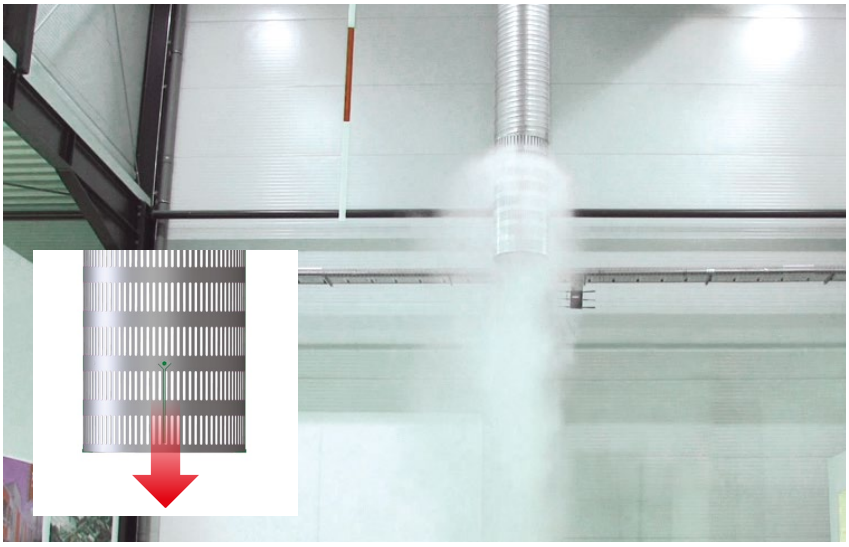


Fig. 3. Heating function

3.3.2 Cooling mode

A horizontal jet is generated by the closed valve, which leads to long throw distances in the cooling mode thanks to a high discharge momentum.

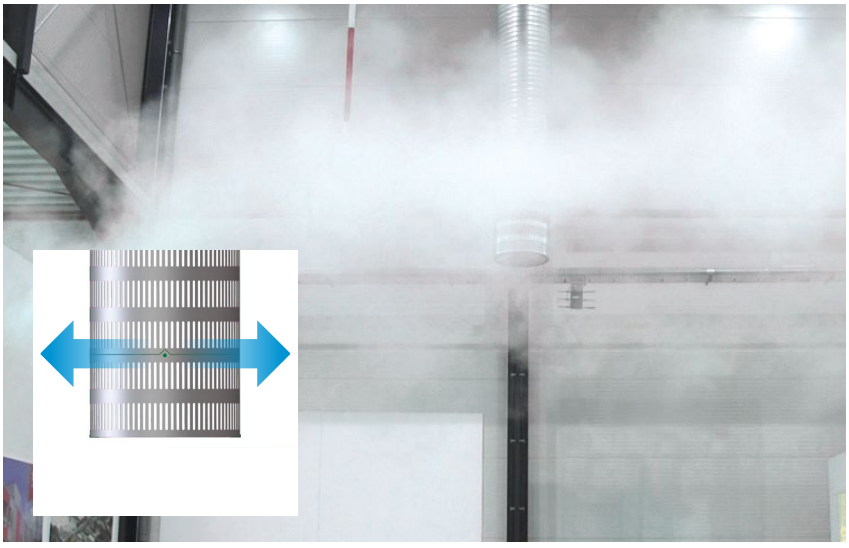


Fig. 4. Cooling function

3.3.3 Intermediate setting

The infinitely variable adjustment mechanism also allows a range of different jet types to be achieved between horizontal and vertical.

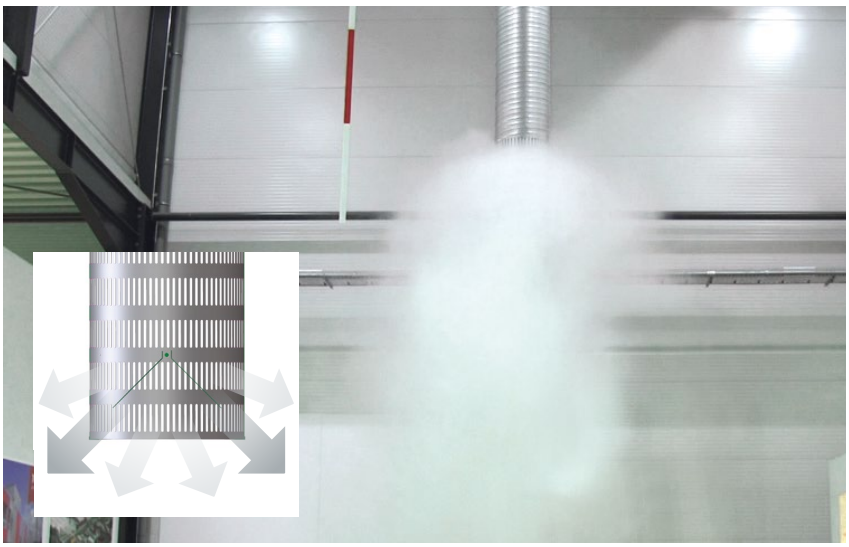


Fig. 5. Intermediate setting function

3.4 Models/adjustment options of the deflection element

emco IVA diffusers are supplied in different models.
The adjustment options for the air deflection valve (throttle valve) are defined in the type/order designation as follows:

HZ = Manual adjustment, central

BK = Adjustment via Bowden cable with chain

BZ = Adjustment via Bowden cable, manual

EI = Motorised adjustment with small actuator motor (continuous), internal

TV = Thermostatic adjustment

.

3.5 Fitting types (accessories)

Wall mounting

emcoair IVA industrial diffusers can also be supplied with wall attachments on request.

3.6 Dimensions

The **IVA model** is supplied in the following nominal sizes (mm):

250, 315, 355, 400, 450, 500, 560, 630

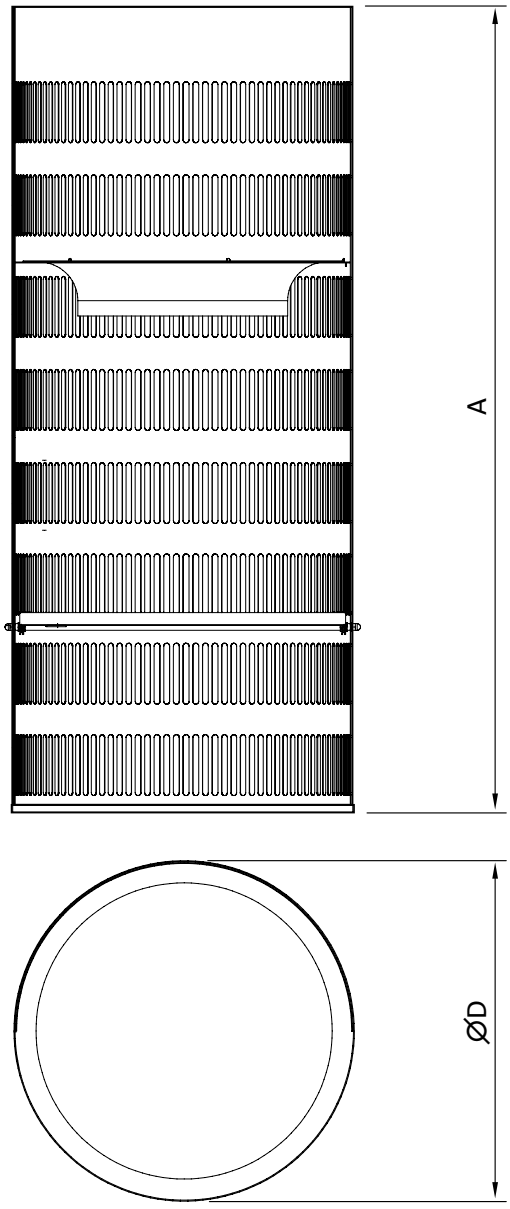


Fig. 6. Dimension sheet for emcoair IVA

Nominal size [mm]	DN 250 [mm]	DN 315 [mm]	DN 355 [mm]	DN 400 [mm]	DN 450 [mm]	DN 500 [mm]	DN 560 [mm]	DN 630 [mm]
Dimension A	841,5	841,5	951	951	951	1059	1167	1167
Dimensions ØD	248	313	353	398	448	498	558	628

4 Control and regulation technology (-EI model only)

The -EI model uses a Belimo standard actuator as described in the appendix as standard.

Prior to operation, be sure to also read through the Belimo data sheet document in the appendix to these operating instructions with regard to the electrical control of the ventilation components.

All of the safety notices, operating instructions and information contained within this document must be observed.

5 Delivery

Check the products for transport damage and completeness and ensure that the correct items have been delivered as soon as they arrive. Shortages or transport damage can only be rectified through transport insurance if the damage is confirmed with the haulage firm (and driver). All identified transport damage – including concealed damage – which only becomes apparent once the packaging has been opened is to be reported to the relevant carrier and, if necessary, a claims officer is to be appointed to establish the level of damage. The delivery firm must be provided with the damage notification no later than six days after delivery of the goods. Please send a copy of this notification to emco Klima GmbH in Lingen. In the event on non-compliance with these instructions, Section 60b of the General German Freight Forwarding Terms and Conditions (Allgemeinen Deutschen Spediteurbedingungen, ADSp.) will apply and the damage will be treated as if it occurred after the delivery. In these instances, the burden of proof is reversed.

Ventilation components are packaged according to the consignment in transportable packaging units and delivered tied to pallets. They are covered with shrink wrap in order to protect them against damage.

6 Assembly and building installation

Working at heights

DANGER!
Risk of injury from working at heights

Falls from a height whilst at work pose a risk of severe or even fatal injury.

- Only use safety-tested ladders, climbing aids, work platforms or personnel-lifting devices when working at heights.
- Always ensure that climbing aids are in a safe and secure position.
- Always wear protective equipment and a safety harness when working at heights.
- Keep work spaces free of dirt and tripping hazards such as objects lying around.

NOTE!
Please note that, in the case of suspended installation, the customer may need to provide additional brackets and supports depending on the dead weight and size of the diffuser.

Before the diffusers are installed, ensure that the installation site meets the following criteria:

- Compliance with local fire protection regulations
- Adequate installation height to avoid risk of collision
- No obstructions due to in-house traffic routes
- Unhindered access to the diffuser slots for cleaning and maintenance purposes

Personnel:
- Trained personnel

Protective equipment:
- Protective gloves
- Safety goggles
- Safety harness

6.1 Duct assembly with mounting on a fitting (free suspension)

The IVA diffusers are designed to hang freely within the room, in the immediate vicinity of the workplace, on a fitting on the on-site ventilation duct. Installation directly next to walls or columns is to be avoided, as this can affect the flow of air.

The IVA diffuser is inserted directly into a fitting on the building's ventilation duct system using the connection piece and then secured to the ventilation duct all the way around using Ø 4 x 8 blind rivets.

The connection diameter of the fitting must match the connection diameter of the relevant diffuser. To create an air-side seal, the connection between the fitting and the diffuser must also be sealed with sealing tape.

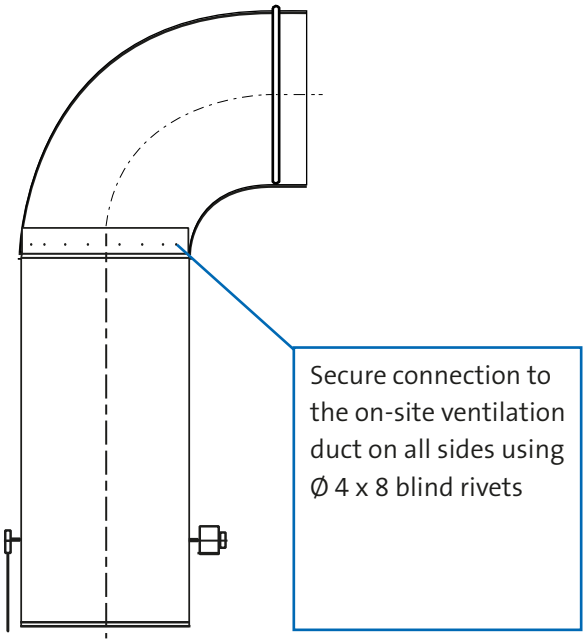


Fig. 7. Free-hanging installation

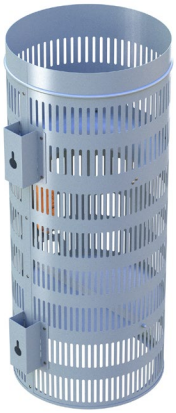
→ 1. Transport the diffuser to the installation location using appropriate lifting equipment.

→ 2. Lift the diffuser to the required height using appropriate lifting equipment and insert the plug connector into the air supply duct.

→ 3. Drill holes through the duct and plug-in connection of the IVA to allow rivets to be inserted.

→ 4. Secure the IVA to the duct using an appropriate number of rivets.

6.2 Installation – wall-mounted suspension

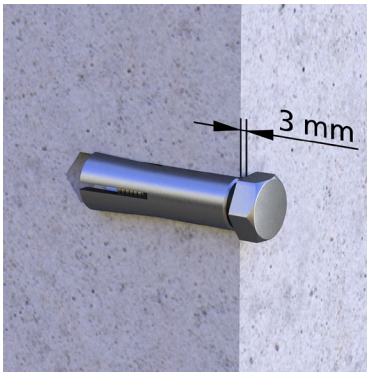


→ 1. Transport the diffuser to the installation location using appropriate lifting equipment.

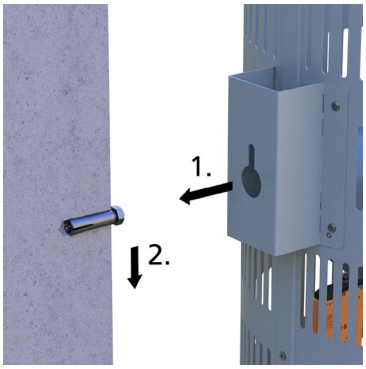
→ 2. Establish the installation height for hanging screws using the positions of the wall fastenings on the IVA

→ 3. Secure the wall hanging screws (on site) underneath the ventilation duct in the wall.

→ 4. Insert the screw in the mounted dowel (both on site) and tighten, making sure to leave a gap of around 3 mm between the wall and the screw head.



→ 5. Lift the IVA to the required height using appropriate lifting equipment and insert the plug connector into the air supply duct.



→ 6. Slide the IVA keyhole suspension mount over the screw and lower the unit until it sits securely in place.
The distance to the wall is 50 mm.

6.3 Connecting the energy supply

DANGER!
The electrical connection between the actuator and the control voltage (power supply 24 V AC / 230 V) may only be established by qualified electricians in compliance with electro-technical regulations.

- **Failure to observe this information can result in death, serious injury, or property damage.**

→ Only allow qualified electricians to establish connections.

→ Observe the connection diagram!

6.3.1 Notes on connecting to the power supply

- Observe the maximum number of components that can be connected in parallel as specified in the connection diagram.
- Always lay cables along the shortest possible route.
- Prevent the potential for damage caused by sharp edges – for example, to the cable ducts.
- Use appropriate cables in line with local regulations.

Personnel: ■ Qualified electrician

→ Establish connections according to the connection diagram (see appendix)

6.4 Safety inspection following assembly and prior to start-up

Once all fitting and installation work is complete, the following checks must be completed, especially for suspended units:

→ Check all the screws, fastening elements and brackets to make sure that they are all there and are secure.

→ Particularly where the equipment has been mounted on a duct using quick-release locks, make sure that the fall arresting device is present and that it has been properly secured.

→ Use suitable internal measures to identify, and where applicable, protect all edges where there is a potential risk of collision (by taking measures such as applying warning paint and/or erecting additional barriers in traffic areas).

→ Make sure that no tools have been left behind either on or inside the equipment. This is particularly important in the case of diffusers that have been suspended.

→ Carry out a functional check on the flap mechanism.
In the case of the -EI (electrical adjustment) model, the control voltages need to be calibrated by a qualified electrician.

→ Check the diffuser for damage prior to each start-up operation.

7 Maintenance

7.1 Safety

Danger!

Servicing, maintenance and repair work on the diffusers may only be carried out by trained and authorised experts. All information in these operating instructions and the applicable prerequisites and conditions of the installation location of the device must be met and observed by the experts.

7.2 Maintenance

Due to their design and when working within their performance parameters, type IVA diffusers with manual or electric adjustment are nearly maintenance-free. Lubrication is not required due to the materials used for the valve adjustment. Consequently, the only servicing and maintenance work required consists of cleaning the diffusers regularly and having them repaired where appropriate.

7.3 Cleaning

→ 1. Firstly, disconnect diffusers with motor adjustment from the power supply.

NOTE!

Risk of damage through improper cleaning

The diffusers may be damaged by improper cleaning.

- Never clean diffusers with corrosive or solvent-containing detergents.
- Do not clean diffusers with brushes, scrapers or similar aids.
- Never use force when cleaning.

→ 2 Depending on the type of contamination, clean the diffusers with a soft, slightly damp cloth and a mild cleaning agent suitable for steel components.

8 Decommissioning and dismantling

Prior to commencing all decommissioning and dismantling work:

→ 1. In the case of adjustable, motor-operated diffusers, switch off the equipment and secure it against reconnection.

→ 2. Disconnect the entire energy supply from the equipment and discharge any stored residual energy.

→ 3. During transportation, observe the safety instructions (Section 2) and transport notes (Section 4) in these operating instructions.

9 Appendix

BELIMO

Technical data sheet **CH24-SX-R100**

Modulating linear actuator for adjusting dampers and slide valves in technical building installations

- **Air damper size up to approx. 0.8 m²**
- **Actuating force 125 N**
- **Nominal voltage AC/DC 24 V**
- **Control modulating DC 2...10 V**
- **Position feedback DC 2...10 V**
- **Length of Stroke Max. 100 mm, adjustable in 20 mm increments**
- **Adaption**

Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 19.2...28.8 V
	Power consumption in operation	1 W
	Power consumption in rest position	0.5 W
	Power consumption for wire sizing	1.5 VA
	Connection supply / control	Cable 1 m, 4 x 0.75 mm²
	Parallel operation	Yes (note the performance data)
Functional data	Actuating force motor	125 N
	Operating range Y	DC 2...10 V
	Position feedback U	DC 2...10 V
	Position feedback U note	Max. 1 mA
	Position accuracy	±5%
	Direction of motion motor	cw rotation
	Direction of motion note	Y = 0 V: extended
	Manual override	with magnet
	Length of Stroke	Max. 100 mm, adjustable in 20 mm increments
	Stroke limitation	can be limited on both sides with mechanical end stops
	Running time motor	380 s / 100 mm
	Adaption setting range	manual with magnet (automatic on first power-up)
	Sound power level, motor	35 dB(A)
Safety	Protection class IEC/EN	III Safety Extra-Low Voltage (SELV)
	Protection class UL	UL Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2, UL Enclosure Type 2
	EMC	CE according to 2014/30/EU
	Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14
	Certification UL	cURus according to UL 60730-1A, UL 60730-2-14 and CAN/CSA E60730-1:02
	Mode of operation	Type 1
	Rated impulse voltage supply / control	0.8 kV
	Control pollution degree	3
	Ambient temperature	-30...50 °C
	Non-operating temperature	-40...80 °C
	Ambient humidity	Max. 95% r.h., non-condensing
	Maintenance	Maintenance-free
Weight	Weight	0.40 kg

Safety notes

- The device must not be used outside the specified field of application, especially not in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea)water, snow, ice, insolation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.

CH24-SX-R100

Linear actuator, modulating, AC/DC 24 V, 125 N

BELIMO

Safety notes

- Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The device may only be opened at the manufacturer's site. It does not contain any parts that can be replaced or repaired by the user.
- Cables must not be removed from the device.
- The rotary supports and coupling pieces are available as accessories and must always be used if transverse forces are likely. An additional installation sheet is required in accordance with the installation instructions. In addition, the actuator must not be tightly bolted to the application. It must remain movable via the rotary support (refer to "Assembly notes").
- If the actuator is exposed to severely contaminated ambient air, appropriate precautions must be taken on the system side. Excessive deposits of dust, soot etc. can prevent the gear rod from being extended and retracted correctly.
- If the actuator is not installed horizontally, the magnet-operated gear disengagement may only be actuated when there is no pressure on the gear rod.
- To calculate the actuating force required for air dampers and slide valves, the specifications supplied by the damper manufacturers concerning the cross section, the design, the installation site and the ventilation conditions must be observed.
- If a rotary support and/or coupling piece is used, actuation force losses are to be expected.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

Mode of operation
The actuator is connected with a standard modulating signal of DC 0...10V and drives to the position defined by the positioning signal. Measuring voltage U serves for the electrical display of the damper position 0...100% and as slave control signal for other actuators.

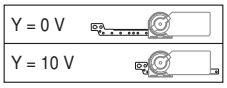
Simple direct mounting
The actuator can be directly connected with the application using the enclosed screws. The head of the gear rod is connected to the moving part of the ventilating application individually on the mounting side or with the Z-KS2 coupling piece provided.

Manual override
Manual override with magnet possible (gear disengagement as long as the magnet adheres to the magnet symbol). The Z-MA magnet for the gear disengagement is enclosed.
After a manual override, it is mandatory that an adaption via magnet be triggered at the position intended for this purpose.

Adjustable stroke
If a stroke limitation will be adjusted, the mechanical operating range on this side of the gear rod can be used starting with an extension length of 20 mm and then can be limited respectively in increments of 20 mm by means of mechanical end stops Z-AS2. If the stroke limiters are used with the motor (with end stop clip Z-ESCM), the operating range can be limited on both sides. It can be adjusted in increments of 0.5 mm (calculatory 0.55 mm) von 0...40/60/67.5 mm.

High functional reliability
The actuator is overload protected, requires no limit switches and automatically stops when the end stop is reached.

Home position
The first time the supply voltage is switched on, i.e. at the time of commissioning, the actuator carries out an adaption, which is when the operating range and position feedback adjust themselves to the mechanical setting range.
The actuator then moves into the position defined by the positioning signal.



Adaption and synchronisation
An adaption can be triggered manually through use of the magnet at the position intended for this purpose.
The actuator then moves into the position defined by the positioning signal.

CH24-SX-R100

Linear actuator, modulating, AC/DC 24 V, 125 N

BELIMO

Product features

Hidden synchronisation

If the actuator drives to the lower end stop during ongoing operation, then it performs a synchronisation of the positioning signal at DC 2 V. This ensures that the signal range also corresponds to the effective functional range in ongoing operation. The bottom end stop is actively approached as soon as the positioning signal is < DC 2.1 V. The actuator drives to the new specified position as soon as the positioning signal is once again > DC 2.3 V.

Accessories

Mechanical accessories

Description	Type
End stop set for LH	Z-AS2
Rotary support for compensation of transverse forces	Z-DS1
End stop clips CM.. und CQ..	Z-ESCM
Spring bracket CH..	Z-FKCH
Coupling piece M6 for LH..A / CH..	Z-KS2
Magnetic gear disengagement	Z-MA

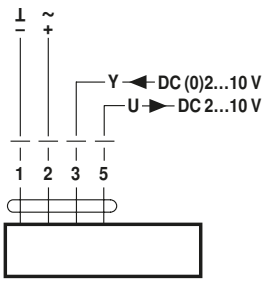
Electrical installation

Notes

- Connection via safety isolating transformer.
- Parallel connection of other actuators possible. Observe the performance data.

Wiring diagrams

AC/DC 24 V, modulating



Cable colours:
1 = black
2 = red
3 = white
5 = orange

Installation notes

Notes

- If a rotary support and/or coupling piece is used, losses in the actuation force losses are to be expected.

Applications without transverse force

The linear actuator is screwed directly to the housing at two points. Afterwards, the head of the gear rod is fastened to the moving part of the ventilation application (e.g. damper or slide valve).

Applications with transverse forces

Connect the coupling piece with the internal thread (Z-KS2) to the head of the gear rod. Screw the rotary support (Z-DS1) to the ventilation application. Afterwards, the linear actuator is screwed to the previously mounted rotary support with the enclosed screw. Afterwards, the coupling piece, which is mounted to the head of the gear rod, is attached to the moving part of the ventilating application (e.g. damper or slide valve). The transverse forces can be compensated for to a certain limit with the rotary support and/or coupling piece. The maximum permissible swivel angle of the rotary support and coupling piece is 10°, laterally and upwards.

Negative torque

If end stop clips (Z-ESCM) are used the following applies: ≤50% of the actuating force (Caution: Use possible only with restrictions. Please contact your supplier.)
If end stops are used on the gear rod or at the application no restrictions apply.

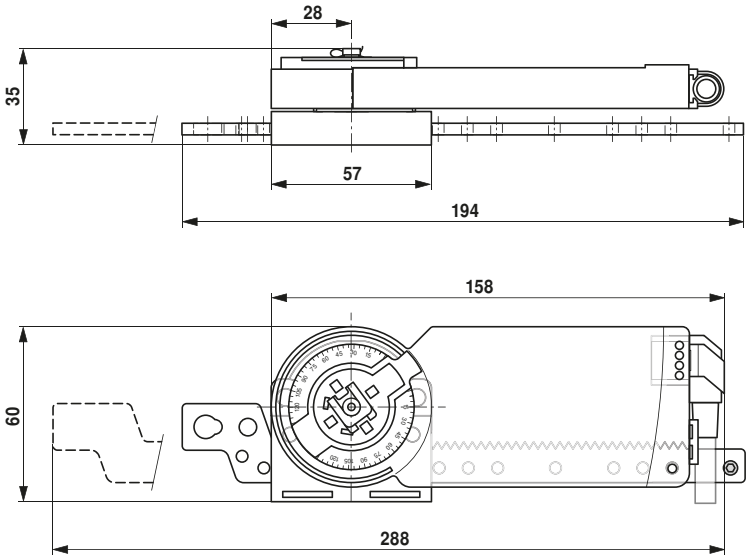
CH24-SX-R100

Linear actuator, modulating, AC/DC 24 V, 125 N

BELIMO

Dimensions [mm]

Dimensional drawings



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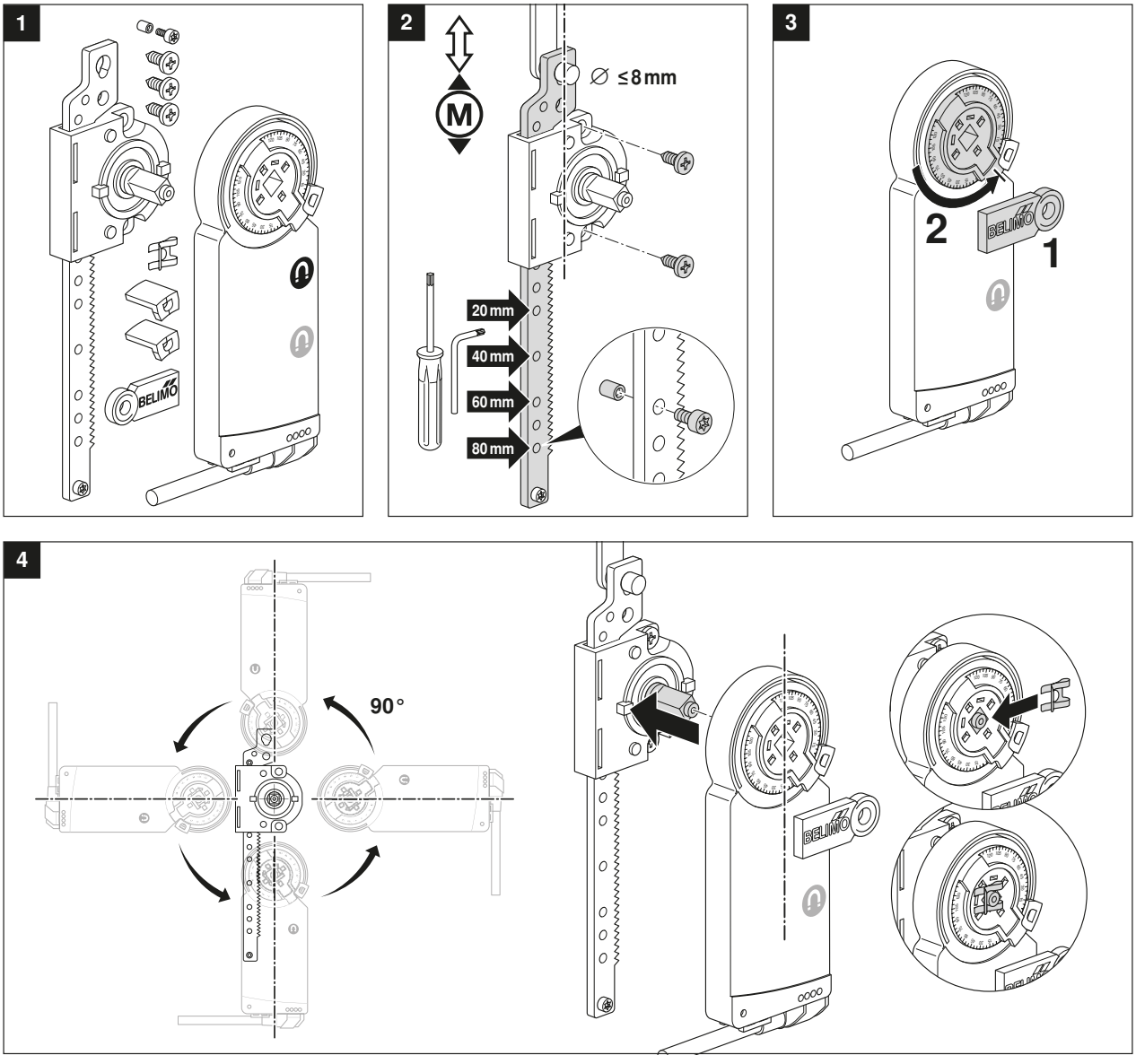
CH..-..100

T1226-00001.B



CH..-..100

BELIMO

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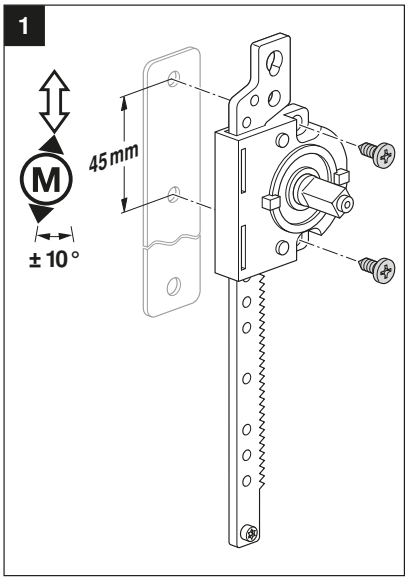

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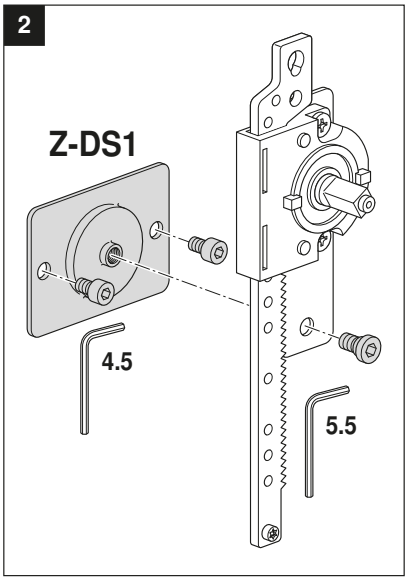

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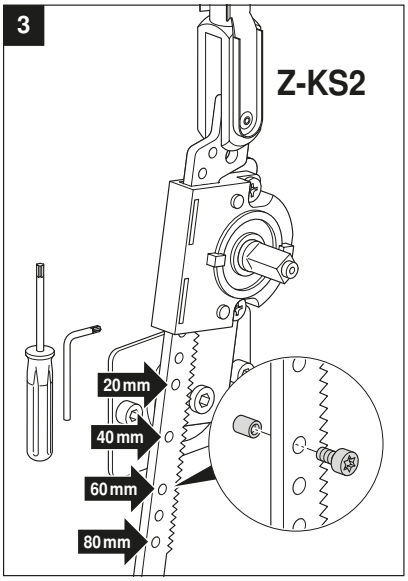

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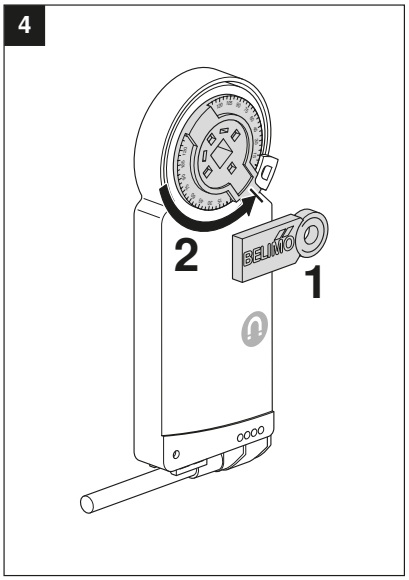

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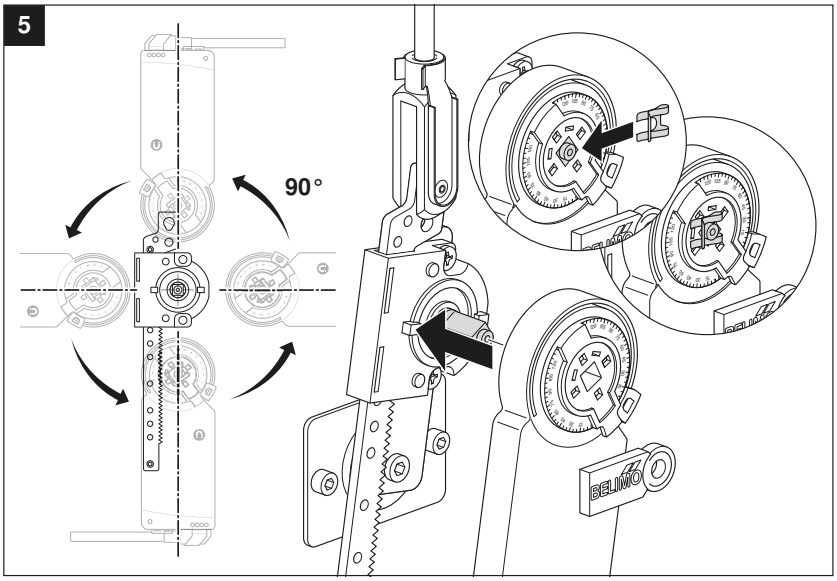

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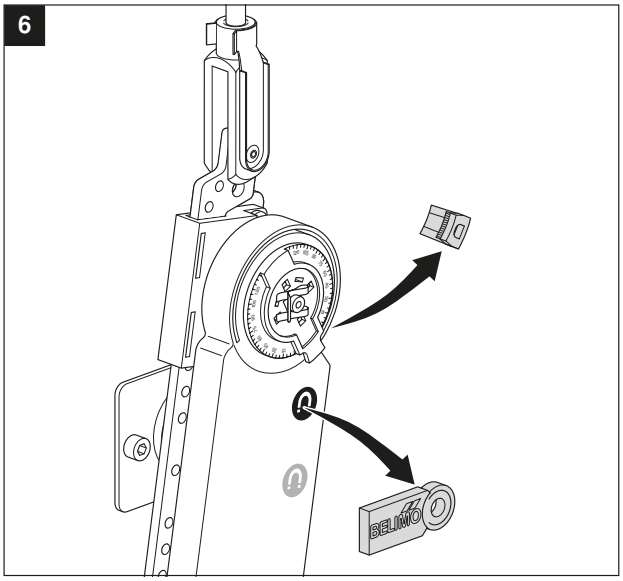

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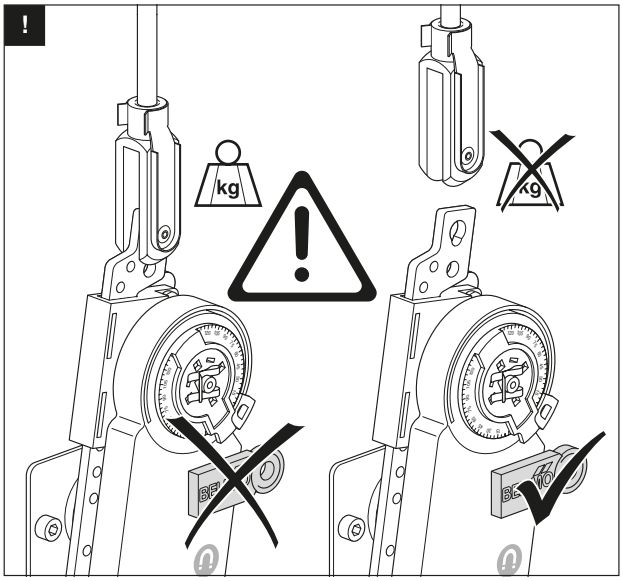
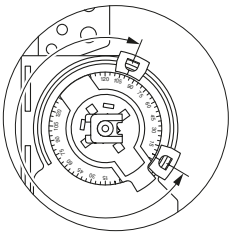


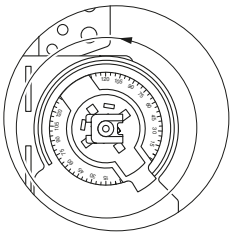
CH..-..100

BELIMO

CH24-SX-..

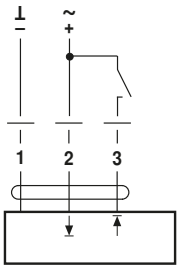


0 ... 67.5 mm

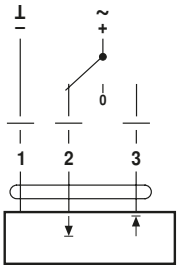


0 ... 100 mm

AC 24 V / DC 24 V

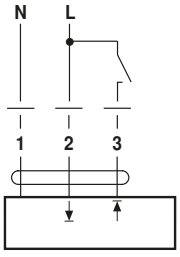


CH24-L100

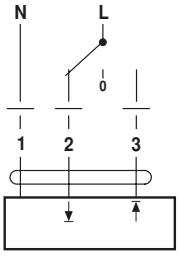


CH24-L100

AC 100 ... 240 V ⚠



CH230-L100



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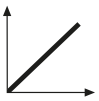
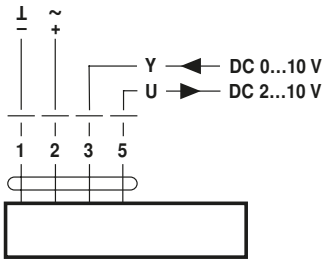


AC 24 V / DC 24 V



CH24-SR-L100
CH24-SR-R100
CH24-SX-L100
CH24-SX-R100

EU-Konformitätserklärung

EU Declaration of Conformity
Déclaration de Conformité CE
Deklaracja zgodności CE
EU prohlášení o konformite

Wir (Name des Anbieters, Anschrift):
We (Supplier's Name, Address):
Nous (Nom du Fournisseur, Adresse):
My (Nazwa Dostawcy, adres):
My (Jméno dodavatele, adresa):

Emco Klima GMBH
Friedrich-Ebert-Str. 128-130
49811 Lingen (Ems)

erklären in alleiniger Verantwortung, dass das Produkt:
declare under sole responsibility, that the product:
déclarons sous notre seule responsabilité, que le produit:
deklarujemy z pełną odpowiedzialnością, że produkt:
deklarujeme, vědomi si své odpovědnosti, že produkt:

Type, Modell, Artikel-Nr.:
Type, Model, Articles No.:
Type, Modèle, N° d'article:
Typ, Model, Nr artykułu:
Typ, Model, Číslo výrobku:

IVA, VLD, VLV, LDI, LUWIRO, WKD380, WKD381

auf das sich diese Erklärung bezieht, mit der / den folgenden Norm(en) oder normativen Dokumenten übereinstimmt:
to which this declaration relates is in conformity with the following standard(s) or other normative document(s):
auquel se réfère cette déclaration est conforme à la (aux) norme(s) ou autre(s) document(s) normatif(s):
do którego odnosi się niniejsza deklaracja, jest zgodny z następującymi normami lub innymi dokumentami normatywnymi:
na který se tato deklarace vztahuje, souhlasí s následující(mi) normou/normami nebo s normativními dokumenty:

DIN EN 55014-1; -2	**Elektromagnetische Verträglichkeit**
DIN EN 61000-3-2; 3-3	**Elektromagnetische Verträglichkeit**
DIN EN 61000-6-1; 6-2; 6-3	**Elektromagnetische Verträglichkeit**

Gemäß den Bestimmungen der Richtlinien:
Following the provisions of Directive:
Conformément aux dispositions de Directive:
Zgodnie z postanowieniami Dyrektywy:
Odpovídající ustanovení směrnic:

2014/30/EU	**EMV-Richtlinie**
2014/35/EU	**Niederspannungsrichtlinie**

Bevollmächtigter für die Zusammenstellung der relevanten technischen Unterlagen:
Person authorized to prepare the relevant technical documentation:
Personne autorisée pour constituer la documentation technique importante:
Osoba upoważniona do zestawienia dokumentów technicznych:
Zplnomocněná osoba pro sestavení důležitých technických podkladů:

KAMPMANN GMBH
Abteilung Qualitätsmanagement
Herr Ludger Hüsken
Friedrich-Ebert-Straße 128-130
49811 Lingen

Frank Bolkenius

Lingen (Ems), den 08.11.2018

Ort und Datum der Ausstellung
Place and Date of Issue
Lieu et date d'établissement
Miejsce i data wystawienia
Místo a datum vystavení

Name und Unterschrift des Befugten
Name and Signature of authorized person
Nom et signature de la personne autorisée
Nazwisko i podpis osoby upoważnionej
Jméno a podpis oprávněné osoby

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Klima leben.