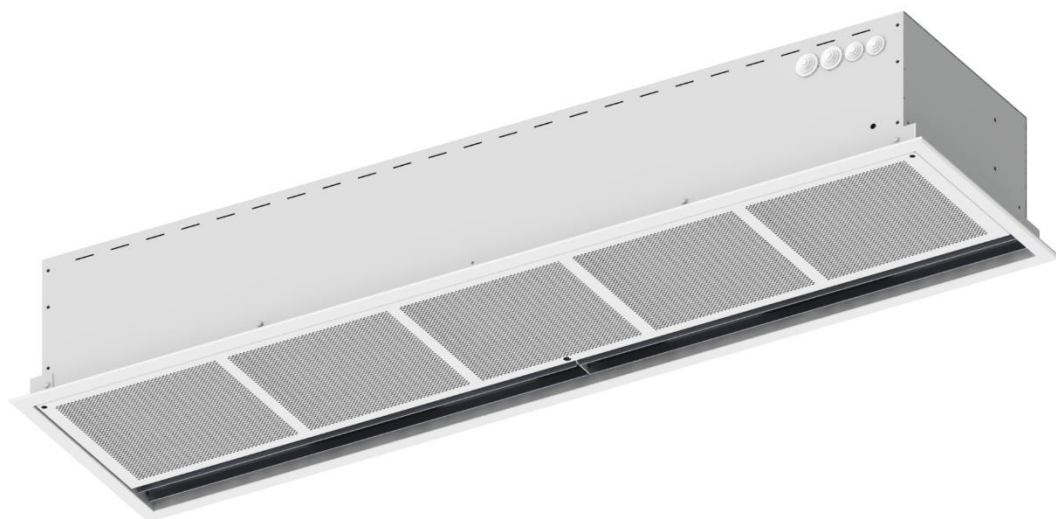


COMFORT AIR CURTAIN **STAVOKLIMA**

Installation and operation manual

Econ-C II mini model





EN



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Explanation of symbols used

 <p>Instructions for mechanical repairs and maintenance.</p>	 <p>Important safety information, technical information, data and device output.</p>
 <p>Important electric information - read carefully - curtain damage hazard in case of wrong installation.</p>	 <p>Important information - please read carefully.</p>

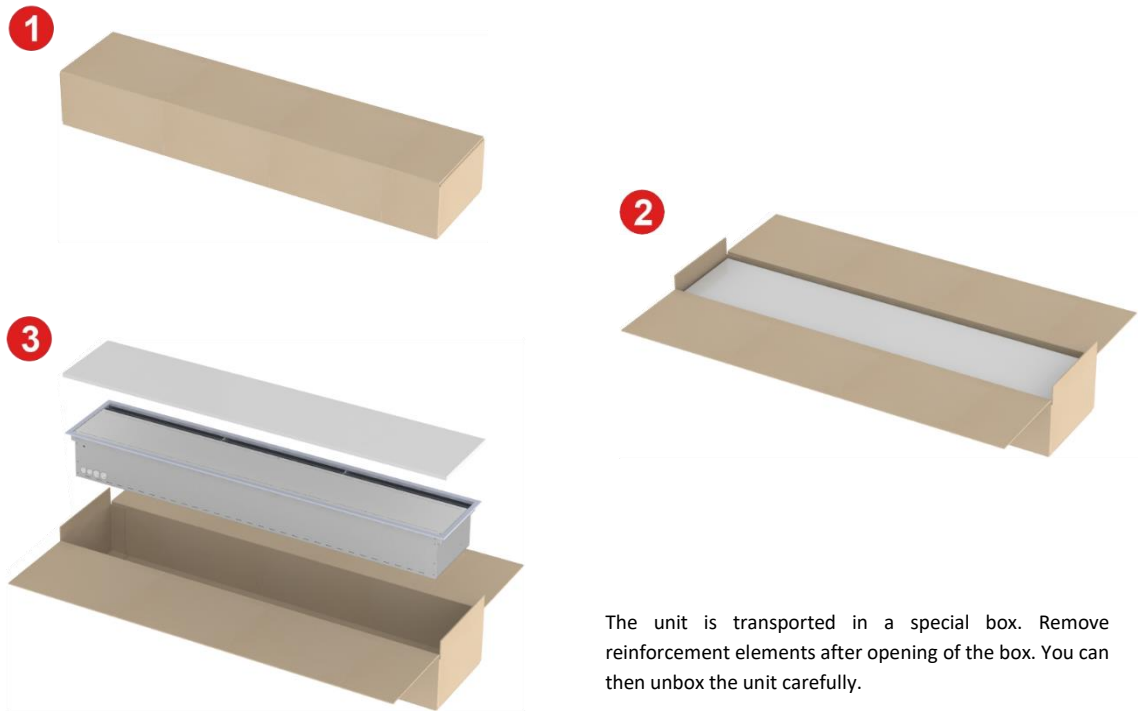
2. Unpacking, check after transport or warehousing

2.1. Unpacking and check

Carefully check the delivery note attached to the delivery. For components identified as extra accessories in the delivery note (not included in the curtain or installed therein), please check completeness to the parcel and perfect condition (usually delivered in a separate box). Report any serious damage to packaging or boxes, and make a basic record to the parcel transport documents. Inform the transport company or manufacturer (if the manufacturer arranges transport) immediately.

All packaging material used is environmentally friendly and may be reused or recycled. Dispose of or reprocess the non-environmentally friendly components correctly.

When unpacking, follow the procedure diagrammatically shown below.



2.2. Storing of the curtain, additional transport recommendations



- Observe packaging decals on the curtain. The device in its packaging must not be turned or placed in transport positions other than those supplied and recommended by the manufacturer. Packaging also contains production number and curtain type for easy curtain type identification.
- Use genuine packaging for further transport of the curtain. The packaging is tested for re-use, and a different packaging may cause damage to the curtain.
- Use means with certified sufficient loading capacity for transport and handling; properly qualified persons only may operate the transport means.
- Permissible warehousing conditions: $-10^{\circ}\text{C} \div 50^{\circ}\text{C}$, 50-85% humidity without condensation.
- Do not remove genuine packaging until installation is complete (to avoid device damage). At least 2 persons are recommended for safe handling.



3. Safety measures

The curtain has been manufactured in line with the government decrees and Czech standards harmonized with the EU regulations mentioned in the manufacturer's declaration of conformity.

The above mentioned product complies with the following standards:

ČSN EN 60335-1 ed.3 ČSN EN 60335-2-30 ed. 3
ČSN EN IEC 61000-6-2 ed. 4 ČSN EN 61000-6-3 ed. 2

The above mentioned product complies with the following directives:

- Directive 2009/125/EC of the European Parliament and of the Council establishing a framework for the setting of eco-design requirements for energy-related products.
- Government Decree No. 118/2016 Coll. Directive 2014/35/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.
- Government Decree No. 117/2016 Coll. Directive 2014/30/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.
- Government Decree No. 481/2012 Coll. (Regulation of the European Parliament and of the Council No. 2014/35/EU, Regulation of the European Parliament and of the Council No. 2011/65/EU).
- Government Decree on restriction the use of some hazardous materials found in electrical and electronic products.

Observe generally applicable national provisions and other related regulations. Unplug the curtain from mains before any service intervention. Connection and earthing of the electric device or components thereof must be in line with laws applicable in the country of use. Only qualified staff may carry out any electric service works.

Observe applicable laws, in particular:

- on safety of electric and thermal appliances,
- on central heat distribution systems,
- on fire safety,
- do never exceed working pressure and temperature specified in the production label.



Follow standards and rules applicable in the country of use, in particular the fire safety of appliances and heat sources, and the fire technical properties of materials - flammability levels. Place the curtain 150mm from B, C1, C2 level flammable materials, and 400mm and 1000mm for C3 level easily flammable materials in the radiation direction (air flow from the curtain).

4. Basic information about the curtain and its use

An air curtain is a device, which produces a natural air barrier against penetration of cold air into heat environment (in summer, it operates as a protection against penetration of hot summer air to the spaces being either cooled or air conditioned). These devices are suitable for basic and non-aggressive environments. The permitted temperature range in the space is 5–40 °C.

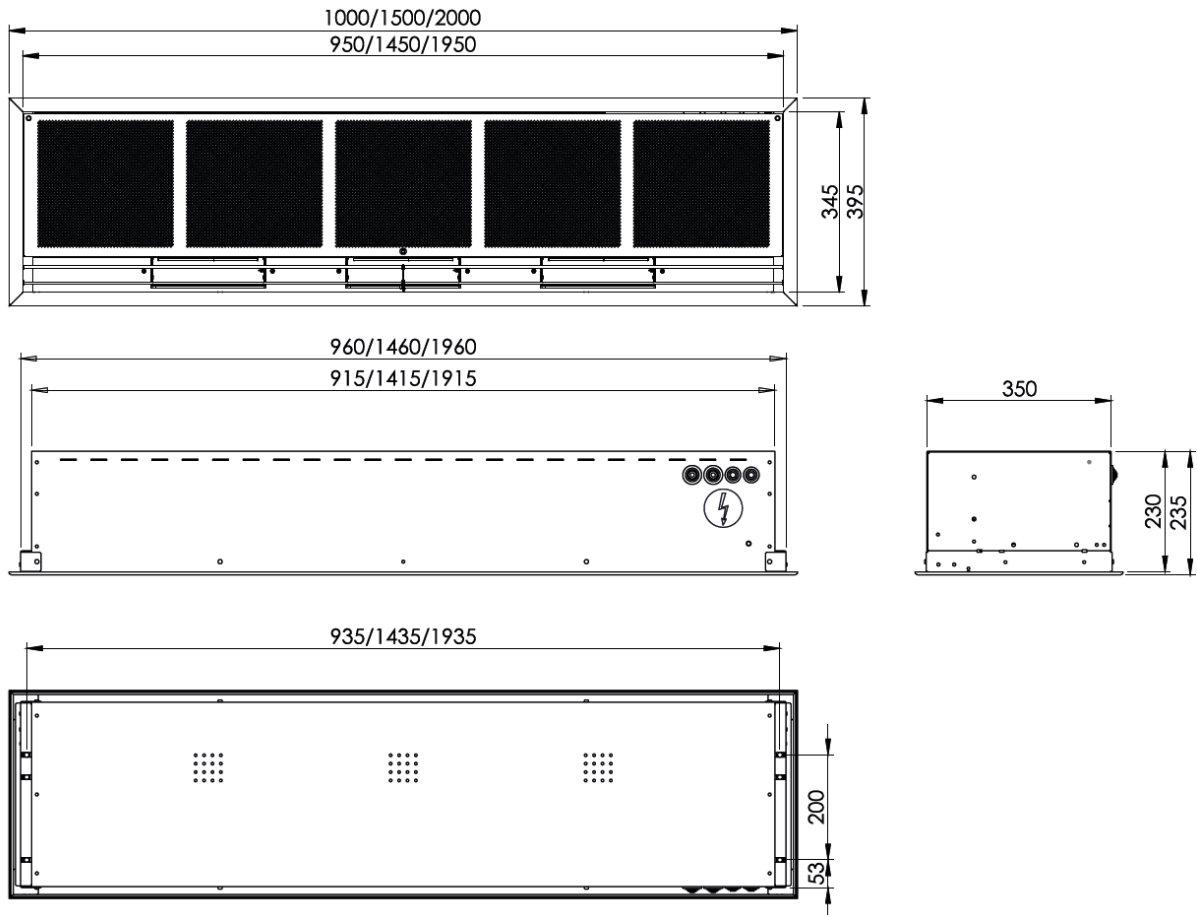
For the curtaining purposes, either circulation air of the environment temperature or the circulation air heated electric heater may be used. The use of the device can save high cooling costs in the air conditioned spaces. Full performance of the curtain may be provided only when maintenance is regular and proper. All controls are accessible and well maintained.

Technical conditions for curtain operation:



- electric heater curtain working voltage - 400V/50Hz,
- max. surrounding temperature 40°C,
- IP rating of electric heater curtain - IP 20,
- the curtain is intended for basic and non-aggressive environment.

5. Dimensions of the curtain



6. Curtain installation – ZS-Econ C mini suspensions under ceiling

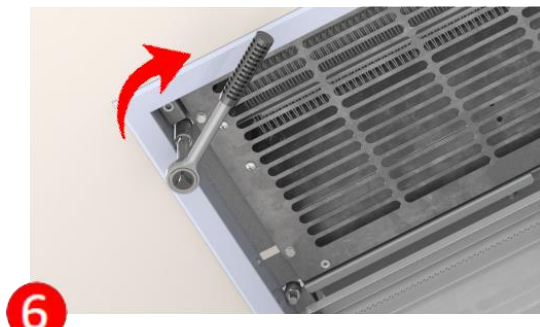
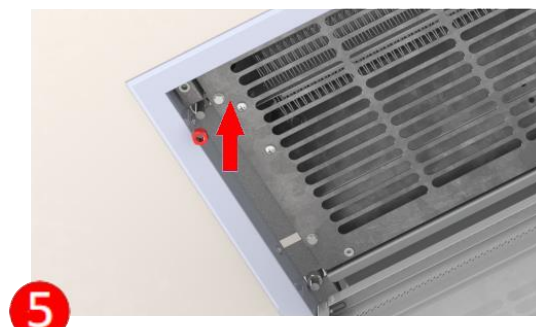
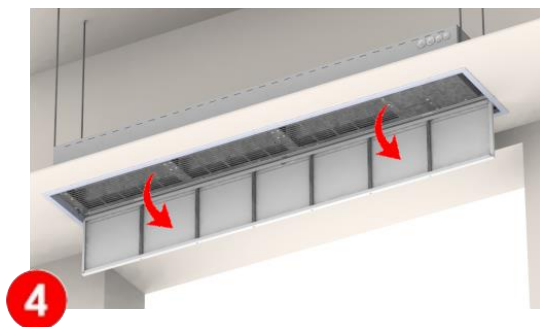
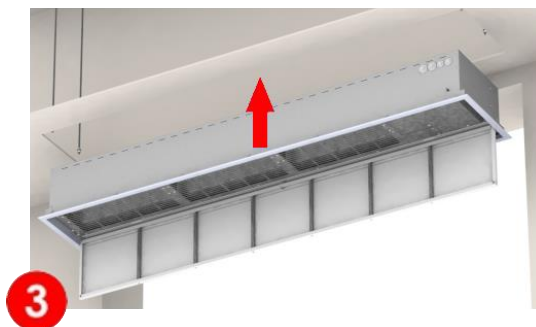
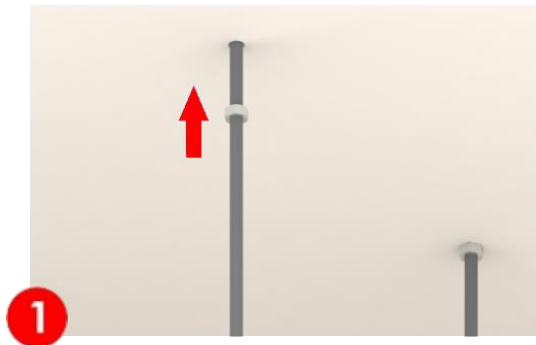
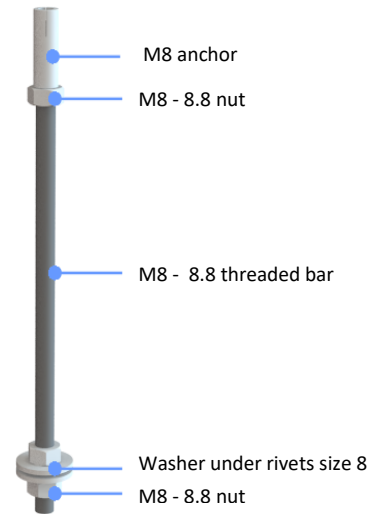


The door curtain is hung through the holes in side walls being accessible after the suction grid is removed. The door curtain is hung on four suspensions.

Upon special purchase order, the following is supplied as accessories to the ZS-Econ C mini under-ceiling suspensions:

4 pcs threaded bar M8x1000 - 8.8, 4 pcs anchor M8/30, 12 pcs M8 - 8.8 nuts, 8 pcs washer for rivets size 8, 4 pcs flexible washer size 8 (for assembly refer to figure on the left).

Measure position of the curtain and size of under-ceiling opening for receiving of the curtain. Cut the threaded bars to the length required. Mark the anchoring points by hanging dimensions and drill ceiling holes for installation of the anchors. Fit the threaded bars into the prepared ceiling anchors and secure with nuts (refer to figure 1 and 2 below). Insert the curtain to the prepared ceiling opening (refer to figure 3 below). Lead the threaded bars through the openings on the side wall of the curtain and secure with the nuts. To fix the threaded bars into the curtain, you need to have the suction grid (refer to figure 4 and chapter 11.2) left open. After the nuts are tightened (refer to figures 4 and 5) and correct and safe hanging of the curtain is checked, you may now close the suction grid.





Pay attention to correct fitting of all nuts to all assembly components. Pay attention to the end position of the threads to avoid loosening and falling the curtain by rotation.

Use quality anchors and wall plugs only. Consider installation situation and suitability of anchoring and installation material, including loading capacity of the structure properly. The manufacturer accepts no liability for improperly used wall plugs or other installation and hanging material.

Following the assembly, check for horizontal position in both directions. Make sure that tightening up of individual hangers and sleeves do not cause crossing and twisting of the curtain. Always properly consider loading capacity of the ceiling or of the wall. Install the device to structurally solid beams.

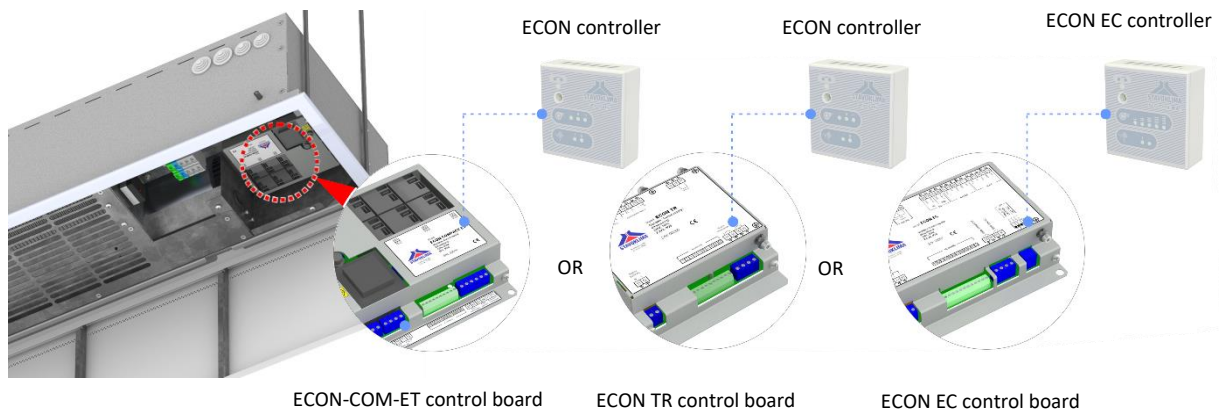
Always suspend the device to all suspension points.

7. ECON controller



The ECON controllers are intended for control of the fan and electric heater (hot water and electric) with possible connection of external components (door contact, room or exhaust thermostat). These types of basic controls do not allow linking of the controllers (except for Econ DUAL). Controller function is defined by type of the electric documentation. The controller is designed for wall-mounted installation and a separate instructions manual is available.

For relevant electric wiring scheme, refer the lid for electric connection in the curtain. The scheme for a supplied product is valid but it may be modified upon request of the customer or for production reasons depending on a specific request. The connection between the air curtain and the controller is carried out using a 10-wire cable (not included in the supply).



The ECON DUAL permits controlling of two curtains at the same time.

8. Electric connection of the curtain



The curtain must be protected by a suitable circuit breaker according to its electric parameters – refer to attached electric wiring. Connect the ready-to-install cables to the terminals following the attached electric wiring schemes, make connection check, equipotential bonding, and finally turn the power supply on. Use the cable wires with cross section suitably rated according to the current load – refer to electric wiring documentation.

The electric grommets for the electric heater curtains are normally located on the right hand side. To connect the electric wiring, open the suction grid. To connect the electric heater curtain, tip out the heater and lead the cables through the grommets to the heater box.

Make sure the cable is neither twisted nor deformed in any way. Keep free ends of the cable wires sufficiently long for easy handling and cut the wire only after you are sure the wire is long enough.



Location of the cable grommets

Observe generally applicable national provisions, particularly ČSN 12 2002 and other related regulations. Unplug the curtain from mains before any service intervention. Provisions of ČSN 332190, 332000-5-51 ed. 3, and 33 2000-5-54 ed. 3 must be observed for connecting and earthing of the electric devices. Qualified electrician only may perform any electric service works (qualification according to Section 6 of Decree of ČBU No. 50/78 Coll.).



During assembly, carefully check everything and carry out the initial review of the device. Check operation of the FU1-FU3 electric fuses (Ditronic) for interior circuits (for fuse values, refer to the box of electronics), and make sure that the external components (accessories), which may have an essential impact on correct function of the device, operate.

ATTENTION: The delivery note serves as a warranty sheet!

8.1. Unlocking of emergency thermostat for curtains with the electric heater

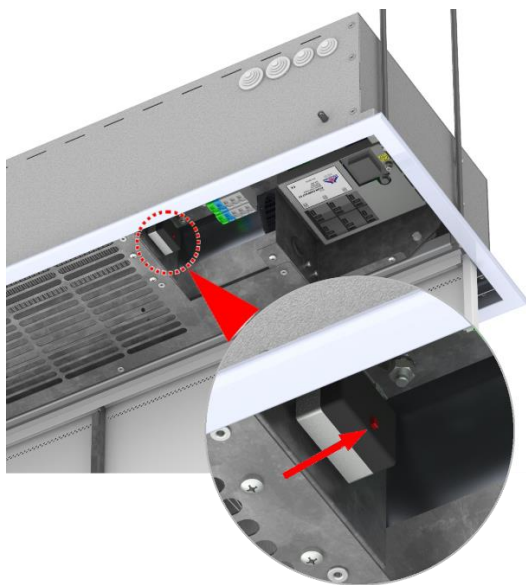


The curtains fitted with the electric heater are provided with operation thermostat with automatic reset feature (located on each heater) and emergency thermostat with manual reset.

When permitted limit temperature inside the curtain is exceeded, heating circuit is turned off by the emergency thermostat = pushbutton sprung up. The button is used to unlock the safety thermostat in case of the device failure. After cooling down the thermostat button needs to be pressed back to default position. (refer to figure).



ATTENTION – unblocking of the emergency thermostat does not resolve failure of the curtain! Always remedy the cause of the thermostat overheating!!!



Covering of the air curtain with any strange objects is prohibited ► risk of fire!!!

9. Commissioning, starting of the curtain



Before commissioning make and check:

- covers and shell of the curtain are in perfect condition,
- mechanic fixing and anchoring of the curtain,
- correct connection of all curtain cables,
- availability of power voltage,
- fitting and setting of a pre-circuit breaker (not included in the device),
- free from mechanical impurities or objects.

Initial review of the electric appliance according to ČSN 331500 and ČSN 33 2000-6-61 ed. 2 must be made upon commissioning.

10. Optional accessories - depending on equipment level



The most frequent accessories include used is the door contact (either magnetic or mechanic). The contacts are placed on the door wings or door parts in order to signal the position of the door.

An optional accessories may be e.g., room thermostat, hanging of the curtain, 0–10V signal control of the curtain over the superior BMS, and more. Selection of an appropriate type of accessories must be supported by the controller type.

For all accessories offered for the Econ-C II mini curtain, refer to the catalogue documentation.

11. Basic service and maintenance information



All curtains are thoroughly checked and tested by the manufacturer before dispatch. The most frequent errors root from misunderstanding of the curtain function or incorrect cabling and connection. For this, observe instructions from the manufacturer to avoid complex troubleshooting. In no case try to operate the curtain when connected in a different way - the curtain may operate for a while as you wish or expect but this irreversible step may result in damage beyond repair and loss. No warranty claims can be accepted with respect to this damage.

The Econ-C II mini air curtains are made of quality materials that require no special maintenance. However, we recommend that maintenance in required or shorter (depending on your observations due to operation in a specific application) intervals is carried out for long lifecycle of the curtain.



Before any work with the curtain, disconnect the electric power supply, mains supply for the curtain. Electric shock hazard!!!

Observe generally applicable national provisions, particularly ČSN 12 2002 and other related regulations. Unplug the curtain from mains before any service intervention. Provisions of ČSN 332190, 332000-5-51 ed. 3, and 33 2000-5-54 ed. 3 must be observed for connecting and earthing of the electric devices. Qualified electrician only may perform any electric service works (qualification according to Decree of ČBU No. 50/78 Coll., § 6 is required).

Please contact your vendor or distributor for a service agreement. You will get regular service and excellent care of your curtain.



Quarterly checks:

- Curtain positioning and tightening of all bolt connections. Then, check tightening of bolts of exhaust splines.
- Check the space of electric heat exchanger, or dirt or objects (vacuum clean dust). Do never touch the electric spirals when removing the dirt – heating body damage hazard. Follow all occupational health and safety principles related to electric shock hazard – the curtain must always be turned off and disconnected (applies to the electric heater curtains).
- Check cleanliness of the motor body and inner or outer parts of the curtain. Do not wash the motor body with water! Wipe with lukewarm towel only – motor winding damage hazard; after the motor is cleaned, do not turn the curtain on for 60 minutes – let it dry properly. Proceed carefully when wiping of the exhaust splines - fragile splines - danger of damage!!
- Check curtain safety with respect to electric shock hazard according to applicable ČSN or national standards, including earthing inspection.
- Thorough cleaning of the suction grid, exhaust splines (tighten up, if necessary).

11.1. Troubleshooting

Problem	Possible cause	Remedy
The curtain can not be turned on	Curtain circuit-breaker is off	Turn on
	Mains failure	Inspection
	Fuse in the curtain	Inspection
	Door contact	Check connection or interconnection
	Controller position "0"	Check, > position than "0"
Noisy motor	External contact	Check connection or interconnection
	Defective motor mount	Check - replacement
Motor overheats (motor thermal contact turns off)	Defective motor mount or winding	Replace fan or motor curtain
	Heavily soiled motor – insufficient cooling	Check, clean
	Excessive temperature of intake air	Inspection
Curtain is not heating	Temperature achieved in line with controller setup	Controller setup
Automatic operation disconnection	Overheated motor	Find out and clear the cause
	Door contact	Check correct function (refer to controller description)
	External clock	Check correct function (refer to controller description)

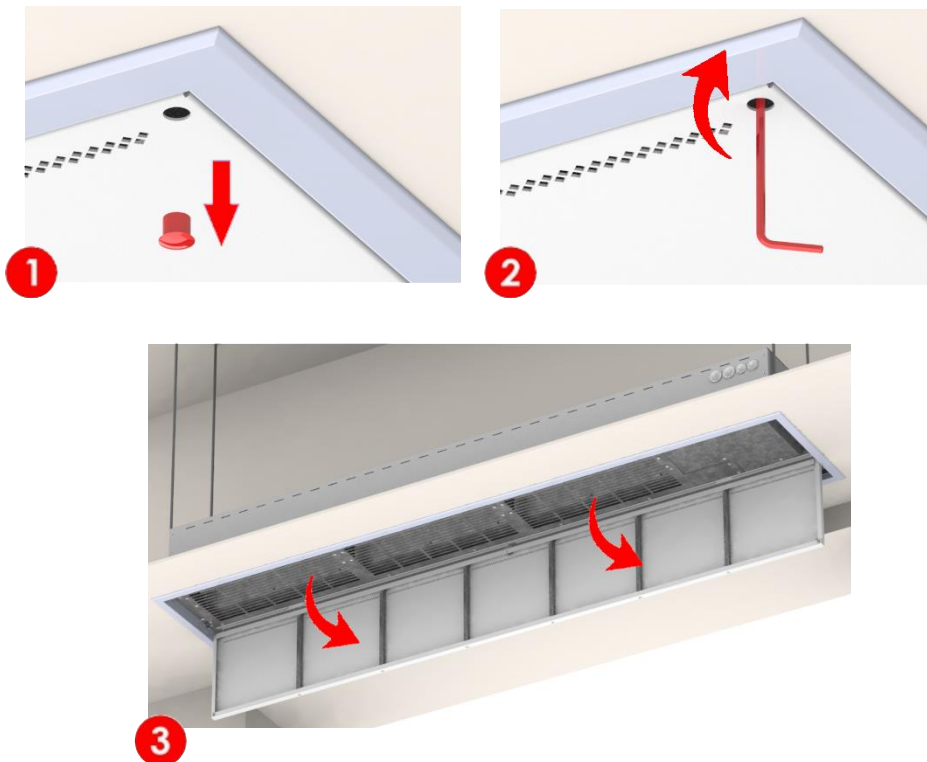
11.2. Opening of the suction grid

Following hanging of the curtain and to access the inner components of the curtains, open the suction grid.



Open the suction grid as follows:

1. Use a flat screwdriver to remove blinds for Allen screws that secure the grid.
2. Loose the bolts using the Allen wrench.
3. Open the grid by tipping it out.



11.3. Tipping out the electric heater and heat exchanger for inspection and maintenance



To tip out the electric heater and the hot water heat exchanger, open the suction grid of the curtain first.

Disconnect the curtain from the power source before tipping out the electric heater. Then, remove the screws that keep the electric heater inside the curtain. Proceed carefully when tipping out to avoid either damage or pulling out the cables of the heater.



11.4. Removal and assembly of exhaust grid



Procedure:

1. Loosen exhaust grid bolts using Allen wrench (size 4). The bolts are located in the ends and central grid brackets.
2. Remove the screws.
3. Slide out the exhaust grid carefully in vertical direction.

Proceed in opposite way to assemble the frame.

12. Decommissioning – disposal



After the expiration of the service life, the curtain must be disassembled and disposed of. Only qualified company may disassemble the device. The product or components thereof must be disposed in environmentally-friendly manner at the end of its service life.

The components of the curtain must be separated and sorted out by type of material for disposal. Dispose of the metal and plastic components at your local collection yard. The transport packaging of the product is made of common recyclable material (paper, polyethylene, wood) and is labelled as such according to ČSN 77 0052-2.

As far as disposal is concerned, it is operator's responsibility to comply with applicable national provisions in the country of use. In addition, follow regulations and laws of your country applicable to waste disposal. Separated collection and recycling of the products may help to protect environment and human health.

13. Important notes



The door curtains are intended to avoid heat or cold loss, filtration, and heating, or for ventilation in combination with mixing accessories. Other uses are not intended. The manufacturer accepts no liability for damage resulting from use other than intended. Observe this manual in operation of the curtains.

Installation, electric connection, and repairs must be carried out by qualified persons according to § 6 of Decree No. 50/78 Coll. or according to applicable national standards and regulations. An expert company is needed to connect the heating medium.

The manufacturer reserves right to changes for marketing or production reasons without prior notice!



STAVOKLIMA s.r.o.
Budějovická 450, 370 01 Homole
Tel.: +420 387 001 931
e-mail: info@stavoklima.cz
www.stavoklima.cz

