## COMFORT AIR CURTAIN STAVOKLIMA

## Installation and operation manual

# **EASY** model

ΕN



www.stavoklima.cz version E

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## Explanation of symbols used



Instructions for mechanical repairs and



Important safety information, technical information, data and device output.



Important electric information - read carefully - curtain damage hazard in case of wrong installation.



 $Important\ information\ -\ please\ read\ carefully.$ 

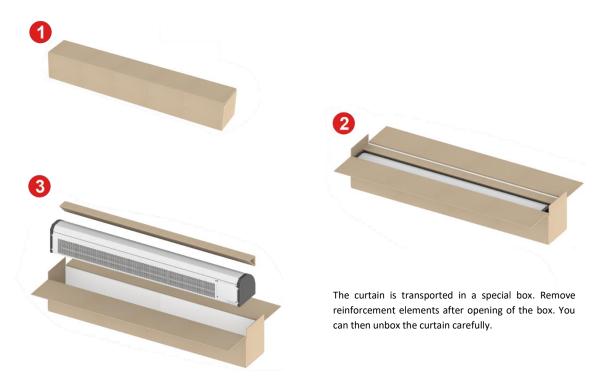
## 2. Unpacking, check after transport or warehousing

## 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°C ÷ 50°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:

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 environment. The permitted temperature range in the space is 5–40 °C.

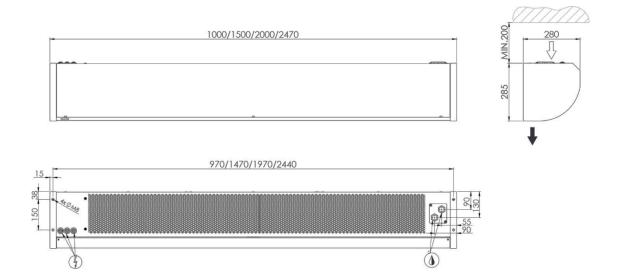
For the curtaining purposes, either circulation air of the environment temperature or the circulation air heated by hot-water or electric heater may be used. The use of the device can save high cooling costs in the air conditioned spaces. Full performance of the curtain may be provided only when maintenance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

Technical conditions for curtain operation:

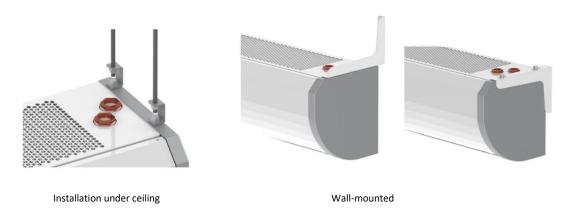


- max. media working temperature 90°C/pressure 1.6MPa unless specified otherwise,
- hot water working voltage 230V/50Hz, electric heater curtain working voltage 400V/50Hz,
- max. surrounding temperature 40 °C,
- IP rating of hot water curtain IP 20/IP rating of electric heater curtain IP 20,
- the curtain is intended for basic and non-aggressive environment,
- minimum pressure difference 23kPa must be provided for use of a 2W valve (applies only to a pressure-independent valve).

## 5. Dimensions of the curtain



## 6. Curtain installation



## 6.1. Additionally arrested ZS-Easy suspensions under ceiling

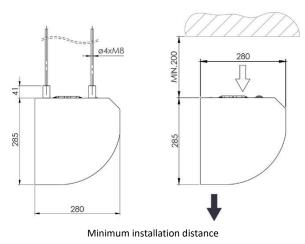


The door curtain is suspended in four suspension points on the curtain casing. The suspension points are accessible from outside and rivet nuts (M8 threads) are installed on the curtain from production plant.

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

4 pcs M8x1000 - 8.8 thread bar, 4 pcs M8/30 anchor, 4 pcs Uprofile, 4 pcs M8x30 - 8.8 bolt, 12 pcs M8 - 8.8 nuts, 12 pcs flat washer size 8, 8 pcs spring washers size 8.

Measure the position of the curtain and its distance from the ceiling, and cut the threaded bars to required length. Mark the anchoring points according to drilling scheme (refer to Chapter 4) and drill the ceiling holes for installation of anchors. Fit the threaded rods into the prepared ceiling anchors and rotate the nuts. Use the bolts and washers to attach the curtain to the prepared holes with U-profile suspension. Position the curtain as required, lead the threaded bars through the U-profiles, and fasten by the washers and nuts.



## 6.2. ZN-Easy wall-mounting suspension

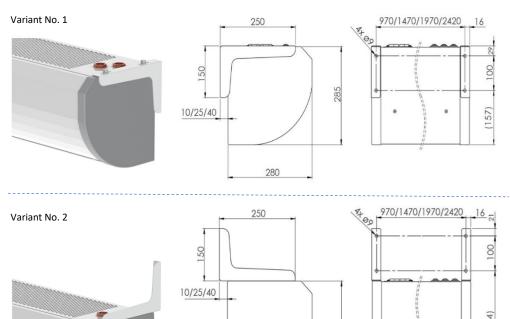


The door curtain is suspended in four suspension points on the curtain casing. The suspension points are accessible from outside and rivet nuts (M8 threads) are installed on the curtain from production plant.

Upon special purchase order, the following is supplied as accessories to the ZN-Easy wall-mounting suspensions:

2 pcs of wall-mounted bracket, 4 pcs rivet washer size 6, 4 pcs M8x30 - 8.8 bolt, 4 pcs flat washer size 8, 4 pcs spring washers size 8.

The wall-mounted suspensions permit installation in two ways.





Measure out the position of the curtain and the wall-mount. Identify the anchoring points and drill holes to the wall to fit the wall plugs. Attach the wall-mounted suspension to the wall using appropriate connection material. Install the wall-mounted hanger to the curtain using the bolts and washers in the supply. Pay attention to fitting of full amount of bolts and all important fixing material.

280

3

## 6.3. Horizontal installation – general information



6

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!

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.

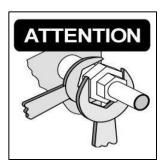
Following the assembly, check for horizontal position in both directions. Make sure that tightening up of individual hangers and sleeves do not cause crossing and twisting of the curtain. Always properly consider loading capacity of the ceiling or of the wall. Install the device to structurally solid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

Always suspend the device to all suspension points.

## 7. Connection of the curtain to heating system



Please check all hot water connections for readiness and perfect condition before connecting media to the curtain. Furthermore, please check the hot distribution for components or other measures to ensure zero transmission of static, dynamic, and dilatation forces at the input and output neck connections. No excessive force may be applied when connecting the hot water circuit of the building to the curtain's heat exchanger. By the neck of the air conditioner there is a mark that notes use of two keys so that no stressing of the necks occurs in the course of tightening or loosening. When bolting and tightening up the screw union of the heat exchanger must be secured by a clamp against undesired rotation that may subsequently result in deformations or damage to pipe necks on the heat exchanger.



In view of the above, the manufacturer clearly recommends brass half-fittings of the appropriate size depending on the connection dimensions of the heat exchanger ( $1^{"} \times 3/4^{"}$ ,  $5/4^{"} \times 1^{"}$ ,  $6/4^{"} \times 5/4^{"}$ ) for connecting the heat exchanger neck to the hot water system. It is also possible to connect flexible connection hoses (can be ordered as PPH accessories, length 300 mm, DN 20, 25, 32) or the so-called bellows compensator.

Any non-compliance with the instructions above results in rejection of any complaint.

By default, neck for the hot water heater is located on the right hand side on the upper part of the curtain (may be placed elsewhere upon request). The inputs are identified by round marks – medium input red with arrow pointing inside, and medium output blue with arrow pointing outside.



Media input

Media output



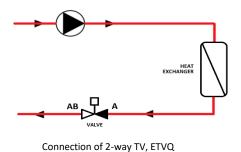
Do not swap the return and supply neck positions - this may cardinally change performance and parameters of the heater with consequent impact on the hydraulic system. Do not exceed max temperature and pressure for which the curtain is rated.

The value of thermostatic head is pre-set, and the function of the electrothermic valve drive is given by a control type. The connection is then made directly on the neck for media input (third neck is blind). For setting up the thermostatic head, refer to article 7.1 of the function of the electrothermic drive, refer to article 7.2.

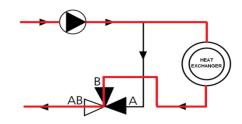
Pay attention to quality of media fed to the curtain; check for installation of cleaning valve downstream the curtain (not included in the supply). Observe max temperature and media pressure to avoid heat exchanger damage. To make sure the heat exchanger operates correctly, drain the exchanger (sludge valve) and purge the cleaning valve because construction or assembly impurities may be present in the system. Deaerate the heat exchanger for perfect operation of the heat exchanger. Install the closing valves on both pipes downstream the curtain (ball valves). Connection thread right above the curtain must be removable and not fixed.

As required by the customer, a not embedded 2-way or 3-way valve with control head can be delivered for the hot water heat exchanger. The valve drive may be either self-acting (thermostatic) or electrothermic.

Instructions for electric connection of the valve is included in the wiring scheme for connection of the curtain. Specific wiring scheme or valve instructions are available upon request only.



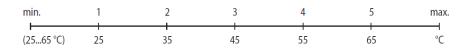
valve



Connection of 3-way TVT, ETVT valve

## 7.1. Heat exchanger control using a valve with thermostatic head

The thermostatic head for 2-way (TV) and 3-way (TVT) valves is always supplied with the sensor separated (temperature range  $25-65\,^{\circ}$ C) – exhaust air temperature control. Setting of the required closing temperature is made on the head scale (1–5). Temperature degrees with respect to the numbers on the head are expressed as follows:





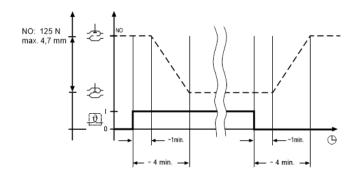
### 7.2. Heat exchanger control with a valve with electrothermic head

The electrothermic valve drive can be supplied to the hot water heat exchanger as not embedded either as 2-way (ETVQ) or 3-way (ETVT).



When the thermal drive is under voltage, the electrically heated sensor heats up Upon "dead time" expiration for continuous opening of thermic drive due to cooling down of the sensor.





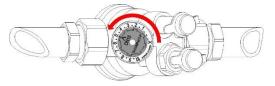
Note:

The time delay (dead time) needs to be considered during the functional test; the opening and closing time depends on surrounding temperature. Electric data: 230V/50Hz-3V, IP 54.

## 7.3. Setting of independent valve flow pressure (ETVQ)

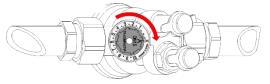
#### Setup

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Turn the setting wheel to required value, e.g., 5.0.

#### Closing



Turn the setting wheel counterclockwise to position X.

 $q_{\text{max}}$  values

#### Setup

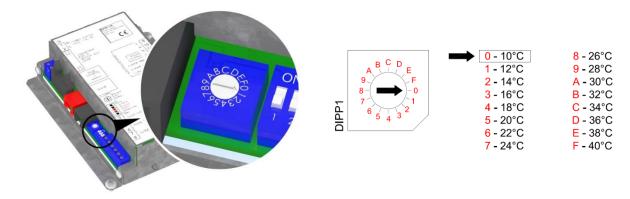
	1	2	3	4	5	6	7	8	9	10
DN 20	210	335	460	575	680	780	890	990	1080	1150
DN 25	370	610	830	1050	1270	1490	1720	1870	2050	2150
DN 32	800	1220	1620	2060	2450	2790	3080	3350	3550	3700

 $q_{\text{\scriptsize max}}$  = I/h for each setting with the control cone fully open

## 8. Types of controllers and options for controlling

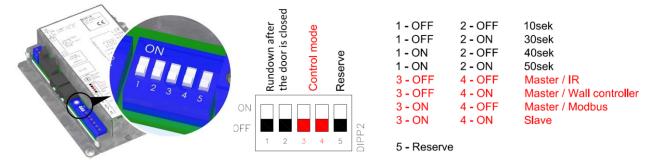
## 8.1. Regulator settings

Before use, it is necessary to set the required parameters on the DIPP-1 or DIPP-2 switches on the regulator inside the screen. You can set the desired exhaust temperature using the DIPP-1 switch.



Configuration of rundown after the door is closed 10, 30, 40, 50 s is made using combination of the switches 1 and 2.

Configuration of the method of control (BASE CONTROL, BASE IR, MODBUS, SLAVE) is made by the combination of switches 3, 4.



#### 8.2. BASE wall-mounted controller



The BASE 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). 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.

modified upon request of the customer or for production reasons depending on a specific request. The connection between the air BASE control board curtain and the controller is made using a UTP cable with RJ 45 connector (available as optional accessories in various

lengths).

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



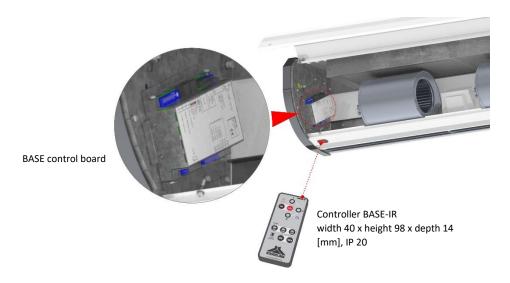
BASE controller width 86 x height 86 x depth 25 [mm]

#### 8.3. BASE IR remote controller



The BASE IR wireless remote 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). Controller function is defined by type of the electric documentation. The controller is designed as wireless remote controller for which no installation is required. 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.



## 8.4. Control using the Modbus function

The condition for the MODBUS activation is activation of this feature on the DIPP-2 switch (page 9). Using the BASE regulator, the air conditioning unit may be controlled remotely via RS 485 port.

Port: RS 485 - RJ45 type connector



Modbus protocol mode: RTU

**Supported features:** Reading of the registers MODBUS feature 3 (read

holding registers).

Writing of the registers MODBUS feature 16 (write multiple registers).

(write maniple registers).

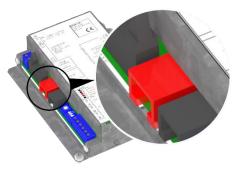
Communication parameters: Communication symbol rate - 9600 Bd

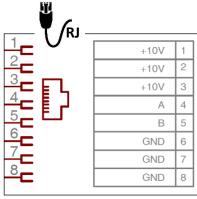
Data bits – 8

Stop bit - 1

Parity - even

Slave ID – 10





#### Read-only registers:

DEC address	HEX address	Туре	Meaning	Note
1000	0x03E8	UINT16	SW version code	e.g., 1230 refers to 1.23.0
1001	0x03E9	UINT16	Status word	Bit0on/off Bit1door contact status Bit3room thermostat status Bit4heating thermostat status Bit5heating enabled
1002	0x03EA	UINT16	Fan speed	0 to 3
1003	0x03EB	UINT16	Heating level	0 to 6 for BASE-E 0/1 for BASE-W
1004	0x03EC	INT16	Temperature of temperature sensor (x0.1°C)	-30°C up to +150°C -30.0 = -300 +150.0 = 1500
1005	0x03ED	INT16	Set temperature (x0,1°C)	Depending on rotary DIPP 10.0 = 100 40.0 = 400
1006	0x03EE	UINT16	Set delay of door contact (s)	Depending on DIPP position 1 and 2
1007	0x03EF	UINT16	Relay configuration	1 for BASE-W 4 or 6 pro BASE-E depending on DIPP position 5
1008	0x03EE	UINT16	Mode configuration	1 - IR, 2 - WALL, 3 - MODBUS, 4 - slave
1009	0x03EE	UINT16	Door contact configuration	0 off, 1 NC enabled
1010	0x03F0	UINT16	Status of HW inputs	Bit0Emergency thermostat Bit1Room thermostat Bit2Door contact
1011	0x03F1	UINT16	Status of HW outputs	Bit0RE1 Bit1RE2 Bit2RE3 Bit3RE4 Bit4RE5 Bit5RE6
1012	0x03F2	UINT32	Relay on count 1	
1014	0x03F4	UINT32	Relay on count 2	
1016	0x03F6	UINT32	Relay on count 3	
1018	0x03F8	UINT32	Relay on count 4	
1020	0x03FA	UINT32	Relay on count 5	
1022	0x03FC	UINT32	Relay on count 6	

## Registers for writing:

DEC address	HEX address	Туре	Meaning	Note		
2000	0x07D0	UINT16	Control word	Bit0on/off Bit1door contact enabled Bit2polarity of door contact (0=NO, 1=NC)		
2001	0x07D1	UINT16	Required fan speed when door is open	13		
2002	0x07D2	UINT16	Required fan speed when door is closed	03 – not in use yet!		
2003	0x07D3	UINT16	Required heating mode	0=OFF, 1=AUTO, 2=MAX		
2004	0x07D4	UINT16	-	Not in use yet!		
2005	0x07D5	INT16	Temperature sensor correction (x0.1°C)	Within +/-10°C		

#### 9. 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.

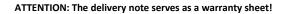
The electric cable orifices are located always on the left hand side of the curtain. When installing the electric wiring for hot water curtains and those without heating, use the Allen key to open the lid of the curtain and guide the cables through the cable orifices. For the curtains fitted with the electric heater, use the Allen key to open lid of the box on top side of the curtain (next to the cable orifices).

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.

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.





Depiction of cable orifices for hot water curtains



Depiction of cable orifices for the curtain fitted with electric heater

## 9.1. 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. To open, remove the plastic plugs on the front panel of the suction grille of the unit and use an Allen key to loosen the screws securing the suction grille, then you can flip it out.

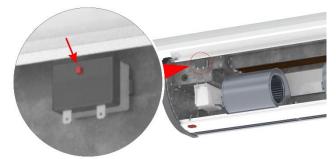


When permitted limit temperature inside the curtain is exceeded, heating circuit is turned off by the emergency thermostat = pushbutton sprung up. The button is used to unlock the safety thermostat in case of the device failure. After cooling down the

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!!!

## 10. 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,
- fixing of thermostatic head and its setting,\*/\*\*
- function of circulating pump (not included in the device),\*\*
- correct connection of media and tight connections,\*\*
- tightness and function of the valves,\*/\*\*
- · availability of power voltage,
- · correct connection of all curtain cables,
- fitting and setting of a pre-circuit breaker (not included in the device),
- free from mechanical impurities or objects.
- \*- if installed
- \*\*- hot-water version only

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

## 11. Optional accessories - depending on equipment level



The most frequent accessories include thermostatic or electrothermic valves for the temperature control (chapter 7.1 and 7.2). The valves are supplied as **not embedded**, for all available valve types refer to the catalogue.

Another accessory 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 and more. Selection of an appropriate type of accessories must be supported by the controller type.

For all accessories offered for the EASY curtain, refer to the catalogue documentation.

## 12. 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 EASY 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.
- Heat exchanger space check and remove dirt or foreign objects (use vacuum cleaner for dedusting, or steam for stuck dirt). When using steam for removal of dirt, always proceed downstream the air flow. Set as lowest temperature as possible and as lowest steam pressure as possible for not to damage the heat exchanger by cleaning (remove filter before cleaning filter damage hazard).\*
- 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!
- Before winter, check the function, superior circulating pump (not included in the supply of the device), setting of thermostatic or electrothermic valve.\*
- Re-test tightness of the curtain or of installed fittings on the water side. If a sludge filter is installed before the curtain clean the filter and check deaeration of the heat exchanger.\*
- 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).
- \* if installed

#### 12.1. Troubleshooting

Problem	Possible cause	Remedy
	Curtain circuit-breaker is off	Turn on
	Mains failure	Inspection
The curtain cannot be turned on	Fuse in the curtain	Inspection
The curtain cumot be turned on	Door contact	Check connection or interconnection
	Controller position "0"	Check, > position than "0"
	External contact	Check connection or interconnection
Noisy motor	Defective motor mount	Check - replacement
	Defective motor mount or winding	Replace fan curtain
Motor overheats (motor thermal	Heavily soiled motor – insufficient cooling	Check, clean
contact turns off)	Excessive temperature of intake air	Inspection
	Excessive temperature of intake medium	Check setup, remove
The fan delivers little air only	Soiled heat exchanger	Check - replacement
	Broken or clogged medium supply	Check - replacement
	Little air flows through the heat exchanger	Check - remove
	Soiled heat exchanger splines	Remove
Curtain is not heating	Insufficient media temperature	Remove
Curtain is not neating	Medium does not circulate	Check, deaerate
	Temperature achieved in line with	Controller setup
	controller setup	
	Defective drive of electrothermic valve	Check setup, or replace if defective
	Overheated motor	Find out and clear the cause
	Door contact	Check correct function (refer to
Automatic operation disconnection		controller description)
	External clock	Check correct function (refer to
* :£:		controller description)

<sup>\*</sup> if installed

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## 13. 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.

## 14. 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.

Before the start of the heating season, it is necessary to provide the required amount of heating medium with the design values for curtains with the hot water heater.

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



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