OEM2
Steam humidifier

OPERATING INSTRUCTIONS
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1 Introduction

1.1 To the very beginning

We thank you for having purchased the steam humidifier OEM2.

The steam humidifier OEM2 incorporates the latest technical advances and meets all recognized safety standards. Nevertheless, improper use of the steam humidifier OEM2 may result in danger to the user or third parties and/or impairment of material assets.

To ensure a safe, proper, and economical operation of the steam humidifier OEM2, please observe and comply with all information and safety instructions contained in the present operating instructions.

1.2 Notes on the operating instructions

Limitation
The subject of these operating instructions is the steam humidifier OEM2 in its different versions.

These operating instructions are restricted to the commissioning, operation, servicing and trouble shooting of the steam humidifier OEM2 and is meant for well trained personnel being sufficiently qualified for their respective work.

The installation (unit mounting, steam installation, water installation) is not described in this manual. It is assumed, that the steam humidifier OEM2 is installed according to the regulations of the unit supplier.

Symbols used in this manual

CAUTION!
The catchword “CAUTION” designates notes in this documentation that, if neglected, may cause damage and/or malfunction of the unit or other material assets.

WARNING!
The catchword “WARNING” used in conjunction with the general caution symbol designates safety and danger notes in this documentation that, if neglected, may cause injury to persons.

DANGER!
The catchword “DANGER” used in conjunction with the general caution symbol designates safety and danger notes in this documentation that, if neglected, may lead to severe injury or even death of persons.

Safekeeping
Please safeguard these operating instructions in a safe place, where it can be immediately accessed. If the equipment changes hands, the documentation should be passed on to the new operator.

If the documentation gets mislaid, please contact your supplier.

Language versions
The present operating instructions are available in various languages. Please contact your supplier for information.

Copyright protection
The present operating instructions are protected under the Copyright Act. Passing-on and reproduction of the manual (or part thereof) as well as exploitation and communication of the contents are prohibited without written permission by your unit supplier. Violation of copyright terms is subject to legal prosecution and arises liability for indemnification.

The unit supplier reserves the right to fully exploit commercial patent rights.
2 For your safety

General
Every person working with the steam humidifier OEM2 must have read and understood the present operating instructions before carrying out any work.
Knowing and understanding the contents of the operating instructions is a basic requirement for protecting the personnel against any kind of danger, to prevent faulty operation, and to operate the unit safely and correctly.
All ideograms, signs and markings applied to the unit must be observed and kept in readable state.

Qualification of personnel
All actions described in the present operating instructions (operation, maintenance, etc.) must be carried out only by well trained and sufficiently qualified personnel authorised by the owner.
For safety and warranty reasons any action beyond the scope of this manuals must be carried out only by qualified personnel authorised by the unit supplier.
It is assumed that all persons working with the steam humidifier OEM2 are familiar and comply with the appropriate regulations on work safety and the prevention of accidents.

Intended use
The steam humidifier OEM2 is intended exclusively for air humidification via a steam distributor approved by the unit supplier within the specified operating conditions (see chapter 8 "Technical data"). Any other type of application without the express written consent of the unit supplier is considered as not conforming with the intended purpose and may lead to the steam humidifier OEM2 becoming dangerous.
Operation of the equipment in the intended manner requires that all the information in these operating instructions is observed (in particular the safety instructions).

Danger that may arise from the unit

DANGER! Danger of electric hazard!
The steam humidifier OEM2 is operated with mains voltage. One may get in touch with live parts when the unit is open. Touching live parts may cause severe injury or danger to life.
Prevention: Before carrying out any work set the steam humidifier OEM2 out of operation as described in chapter 4.6 (switch off the unit, disconnect it from the mains and stop the water supply) and secure the unit against inadvertent power-up.

WARNING! Danger of burning!
The steam humidifier OEM2 produces steam. When producing steam, the steam cylinder inside the humidifier gets very hot (up to 100 °C). If the unit is opened immediately after having produced steam there is danger of burning when touching the steam cylinder.
Prevention: Before carrying out any work set the steam humidifier OEM2 out of operation as described in chapter 4.6, then wait until the steam cylinder has cooled down sufficiently thus preventing danger of burning.

Behaviour in case of danger
If it is suspected that safe operation is no longer possible, then the steam humidifier OEM2 should immediately be shut down and secured against accidental power-up according to chapter 6.5. This can be the case under the following circumstances:
– if the steam humidifier OEM2 or its electrical installation are damaged
– if the steam humidifier OEM2 is no longer operating correctly
– if connections and/or piping are not sealed
All persons working with the steam humidifier OEM2 must report any alterations to the unit that may affect safety to the owner without delay.

Prohibited modifications to the unit
No modifications must be undertaken on the steam humidifier OEM2 without the express written consent of the unit supplier.
For the replacement of defective components use exclusively original accessories and spare parts available from your supplier.
3  Product Overview

3.1  Models overview

The steam air humidifiers OEM2 are available in a variety of models with different heating voltages and steam capacities ranging from 2 kg/h up to 15 kg/h max.

The following table provides an overview of the various models and their capacity ranges.

<table>
<thead>
<tr>
<th>Heating voltage</th>
<th>Steam capacity</th>
<th>Console with cleanable steam cylinder</th>
<th>Console with exchangeable steam cylinder</th>
</tr>
</thead>
<tbody>
<tr>
<td>230V/1N~/50..60 Hz</td>
<td>1-2 kg/h</td>
<td>OEM2-A140</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3-4 kg/h</td>
<td>OEM2-A240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-8 kg/h</td>
<td>OEM2-A342</td>
<td></td>
</tr>
<tr>
<td>230V/3~/50..60 Hz</td>
<td>2-4 kg/h</td>
<td>OEM2-A243</td>
<td>OEM2-D343</td>
</tr>
<tr>
<td></td>
<td>5-8 kg/h</td>
<td>OEM2-A343</td>
<td>OEM2-D444</td>
</tr>
<tr>
<td></td>
<td>9-15 kg/h</td>
<td>OEM2-A444</td>
<td></td>
</tr>
<tr>
<td>400V/3~/50..60 Hz</td>
<td>2-4 kg/h</td>
<td>OEM2-A263</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5-8 kg/h</td>
<td>OEM2-A363</td>
<td>OEM2-D363</td>
</tr>
<tr>
<td></td>
<td>9-15 kg/h</td>
<td>OEM2-A464</td>
<td>OEM2-D464</td>
</tr>
</tbody>
</table>

The steam humidifiers OEM2 are designed for operation with raw water (tap water) with a water conductivity of 125...1250 µS/cm and is equipped with an exchangeable or a cleanable steam cylinder and an ECCM control unit. The steam humidifier can be operated either with a On/Off control via a external humidistat or with continuous control via an external or the internal continuous controller.
### Key model designation console

Example: **OEM2-A140-LH-230V1-W3**

#### Type of steam cylinder:

<table>
<thead>
<tr>
<th>Exchangeable steam cylinder</th>
<th>Heating voltage</th>
<th>Steam capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A140</td>
<td>200-230V/1N~/50..60 Hz</td>
<td>2 kg/h</td>
</tr>
<tr>
<td>A240</td>
<td></td>
<td>4 kg/h</td>
</tr>
<tr>
<td>A243</td>
<td>200-230V/3~/50..60 Hz</td>
<td>4 kg/h</td>
</tr>
<tr>
<td>A343</td>
<td>200-230V/3~/50..60 Hz</td>
<td>8 kg/h</td>
</tr>
<tr>
<td>A444</td>
<td></td>
<td>15 kg/h</td>
</tr>
<tr>
<td>A263 (A243 **)</td>
<td>200-230V/3~/50..60 Hz</td>
<td>4 kg/h</td>
</tr>
<tr>
<td>A363 (A343 **)</td>
<td>200-230V/3~/50..60 Hz</td>
<td>8 kg/h</td>
</tr>
<tr>
<td>A464 (A444 **)</td>
<td></td>
<td>15 kg/h</td>
</tr>
</tbody>
</table>

** Alternative steam cylinder for low water conductivity (<125 µS/cm)

#### Control voltage: *

- **230V1:** 230 V/1N~/50..60 Hz
- **24VAC:** 24 VAC

### Key model designation control unit

Example: **ECCM-230V1**

#### Type of control unit:

**ECCM**

#### Control voltage: *

- **230V1:** 230 V/1N~/50..60 Hz
- **24VAC:** 24 VAC

* The control voltages of the console and the control unit ECCM must correspond.

Note: The individual codes of the model designation can be found on the corresponding data labels of the console, the steam cylinder and the control unit.
3.2 Steam humidifier construction

OEM2-x1xx- ... / OEM2-x2xx- ... / OEM2-x3xx- ...

1 Console
2 Drain connector ø22 mm
3 Drain cup
4 Water supply connector G 3/4"
5 Inlet valve
6 Drain valve
7 Water supply hose
8 Filling hose
9 Overflow hose
10 Water cup
11 Steam cylinder
12 Steam outlet connector ø30 mm
13 Heating electrodes
14 Level sensor
15 Fastening strap steam cylinder
16 Control unit ECCM 230 VAC or ECCM 24 VAC
1. Console
2. Drain connector ø22 mm
3. Drain cup
4. Water supply connector G 3/4"
5. Inlet valve
6. Drain valve
7. Water supply hose
8. Filling hose
9. Overflow hose
10. Water cup
11. Steam cylinder
12. Steam outlet connector ø30 mm
13. Heating electrodes
14. Level sensor
15. Fastening strap steam cylinder
16. Control unit ECCM 230 VAC or ECCM 24 VAC
3.3 Functional description

The steam humidifier OEM2 is a pressureless steam generator that utilizes an electrode heating and is designed for air humidification via a steam distributor (steam distribution pipe, steam nozzle).

**Steam generation**

Any time steam is requested, the electrodes (2) are supplied with voltage via main contactor (1). Simultaneously, the inlet valve (7) opens and water enters the steam cylinder (3) from the bottom via water cup (4) and supply line (5). As soon as the electrodes come in contact with the water, current begins to flow between the electrodes, eventually heating and evaporating the water. The more the electrode surface is exposed to water, the higher is the current consumption and thus the steam capacity.

Upon reaching the requested steam capacity, the inlet valve closes. If the steam generation decreases below a certain percentage of the required capacity, due to lowering of the water level (e.g. because of the evaporation process or drainage), the inlet valve opens until the required capacity is available again.

If the required steam capacity is lower than the actual output, the inlet valve is closed until the desired capacity is achieved by lowering of the water level (evaporation process).

**Level monitoring**

A sensor provided in the steam cylinder cover detects when the water level gets too high. The moment the sensor comes in contact with water, the inlet valve closes.

**Drainage**

As a result of the evaporation process, the conductivity of the water increases due to an escalating mineral concentration. Eventually, an inadmissibly high current consumption would take place if this concentration process were permitted to continue. To prevent this concentration from reaching a value, unsuitably high for the operation, a certain amount of water is periodically drained from the cylinder and replaced by fresh water.

During the drainage process, the drain valve (6) is opened. Following a predetermined time of drainage, the drain valve is closed again.

**Control**

With the **ECCM control unit** either On/Off control (via an external On/Off humidistat) or continuous control (via an external or the built-in PI humidity controller) can be employed for steam production.

Below a minimum controllable steam output, continuous control will work in two-point operation (on/off control).
A1 Continuous controller or humidity sensor
(0...10 V, 0...20 mA, 4...20 mA)
A2 Potentiometric humidity controller
(1kΩ...10 kΩ)
B1 Ventilator interlocking
B2 Airflow monitor
B3 Safety humidstat
B4 On/Off humidstat
B5 Level sensor steam cylinder
F1 Fuse control PCB
F2 Fuses control voltage
F3 Fuses heating voltage
(see table in chapter 4.4.3)
H1 LED red: Error
H2 LED yellow: Service, Warning
H3 LED green: Steam production
J1 Wire bridge, if no unit switch S3 is installed
JP1 Jumper bloc 1
JP2 Jumper bloc 2
Q1 Service switch control voltage
Q2 Service switch heating voltage
S1 Rotary switch Unit type
S2 Drain/Info key
S3 On/Off switch
Sx% Potentiometer Limit switch
%rH Potentiometer humidity value
Y1 Main contactor heating voltage
Y2 Inlet valve
Y3 Outlet valve
T1 Current sensor (see chapter 3.4.4.1)
3.4.2 Fuses F3 for heating voltage supply

<table>
<thead>
<tr>
<th>Steam cylinder type</th>
<th>Steam capacity kg/h</th>
<th>Heating voltage V</th>
<th>Nominal power kW</th>
<th>Nominal current A</th>
<th>Max. current A</th>
<th>Fuses F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>A140</td>
<td>2 kg/h</td>
<td>230 V/1N~50..60 Hz</td>
<td>1.5</td>
<td>6.5</td>
<td>8.2</td>
<td>10 A, slow acting</td>
</tr>
<tr>
<td>A240</td>
<td>4 kg/h</td>
<td>230 V/1N~50..60 Hz</td>
<td>3.0</td>
<td>13.0</td>
<td>16.3</td>
<td>20 A, slow acting</td>
</tr>
<tr>
<td>A342</td>
<td>8 kg/h</td>
<td>230 V/1N~50..60 Hz</td>
<td>6.0</td>
<td>26.1</td>
<td>32.7</td>
<td>40 A, slow acting</td>
</tr>
<tr>
<td>A243</td>
<td>4 kg/h</td>
<td>230 V/3~50..60 Hz</td>
<td>3.0</td>
<td>7.5</td>
<td>9.4</td>
<td>3 x 10 A, slow acting</td>
</tr>
<tr>
<td>A343 (D343)</td>
<td>8 kg/h</td>
<td>230 V/3~50..60 Hz</td>
<td>6.0</td>
<td>15.1</td>
<td>18.8</td>
<td>3 x 20 A, slow acting</td>
</tr>
<tr>
<td>A444 (D444)</td>
<td>15 kg/h</td>
<td>230 V/3~50..60 Hz</td>
<td>11.3</td>
<td>28.2</td>
<td>35.3</td>
<td>3 x 40 A, slow acting</td>
</tr>
<tr>
<td>A263 A243</td>
<td>4 kg/h</td>
<td>400 V/3~50..60 Hz</td>
<td>3.0</td>
<td>4.3</td>
<td>5.4</td>
<td>3 x 10 A, slow acting</td>
</tr>
<tr>
<td>A363 (D363) A343</td>
<td>8 kg/h</td>
<td>400 V/3~50..60 Hz</td>
<td>6.0</td>
<td>8.7</td>
<td>10.8</td>
<td>3 x 16 A, slow acting</td>
</tr>
<tr>
<td>A464 (D464) A444</td>
<td>15 kg/h</td>
<td>400 V/3~50..60 Hz</td>
<td>11.3</td>
<td>16.2</td>
<td>20.3</td>
<td>3 x 25 A, slow acting</td>
</tr>
</tbody>
</table>

** Alternative steam cylinder for low water conductivity (<125 µS/cm)

3.4.3 Unit configuration

All setting components for the unit configuration are located on the control unit ECCM:
- Rotary switch “S1”: unit type
- Potentiometer “Sx%”: capacity limitation
- Potentiometer “%rH”: humidity setpoint value
- Jumper blocs “JP1” and “JP2”: control signal setting and general unit settings

3.4.3.1 Setting the unit type with the rotary switch “S1”

Use the rotary switch “S1” to set the unit type.

**Important**: correct functioning of the corresponding unit implies that the wire L1 is correctly led through the current sensor on the control unit (see column “Current measurement”).

<table>
<thead>
<tr>
<th>Rotation switch Pos. “S1”</th>
<th>Steam capacity kg/h</th>
<th>Heating voltage V</th>
<th>Steam cylinder Type</th>
<th>Current measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>4</td>
<td>400 V/3~50..60 Hz</td>
<td>263</td>
<td>Wire L1 must be led twice (loop) through the current sensor</td>
</tr>
<tr>
<td>1</td>
<td>8</td>
<td>400 V/3~50..60 Hz</td>
<td>363</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>400 V/3~50..60 Hz</td>
<td>464</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>400 V/3~50..60 Hz</td>
<td>674</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>4</td>
<td>33</td>
<td>400 V/3~50..60 Hz</td>
<td>664</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>5</td>
<td>45</td>
<td>400 V/3~50..60 Hz</td>
<td>664</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>230 V/1N~50..60 Hz</td>
<td>140</td>
<td>Wire L1 must be led twice (loop) through the current sensor</td>
</tr>
<tr>
<td>9</td>
<td>8</td>
<td>230 V/1N~50..60 Hz</td>
<td>240</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>A</td>
<td>4</td>
<td>230 V/1N~50..60 Hz</td>
<td>342</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>B</td>
<td>8</td>
<td>230 V/3~50..60 Hz</td>
<td>343</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>C</td>
<td>15</td>
<td>230 V/3~50..60 Hz</td>
<td>444</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>D</td>
<td>21</td>
<td>230 V/3~50..60 Hz</td>
<td>654</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>E</td>
<td>30</td>
<td>230 V/3~50..60 Hz</td>
<td>644</td>
<td>Wire L1 must be led once through the current sensor</td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.4.3.2 Setting the capacity limitation “Sx%”
Use the potentiometer “Sx%” to set the capacity limitation in % of the maximum capacity (setting range: 25...100%, factory setting: 100%).

3.4.3.3 Setting the humidity setpoint value “%rH”
Use the potentiometer “%rH” to set the humidity setpoint value for the internal controller in % relative humidity (setting range: 0...100%, factory setting: 100%).
Note: This setting does not have any effect, if the control unit is configured for operation with a external controller (jumper “CTR” on Jumper bloc “JP2” removed)

3.4.3.4 Setting the control signal
With the jumpers on jumper bloc “JP1” you can set the control signal.

<table>
<thead>
<tr>
<th>Control signal</th>
<th>Jumper positions for the operation with the external controller</th>
<th>Jumper positions for the operation with the internal PI controller **</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 ... 10 VDC *</td>
<td>CTR</td>
<td></td>
</tr>
<tr>
<td>2 ... 10 VDC</td>
<td>SP</td>
<td>SP + CTR</td>
</tr>
<tr>
<td>0 ... 20 mA</td>
<td>mA</td>
<td>mA + CTR</td>
</tr>
<tr>
<td>4 ... 20 mA</td>
<td>mA + SP</td>
<td>mA + SP + CTR</td>
</tr>
<tr>
<td>Potentiometer 1 kΩ ... 10 kΩ</td>
<td>——</td>
<td></td>
</tr>
<tr>
<td>On/Off humidistat</td>
<td>2P</td>
<td></td>
</tr>
</tbody>
</table>

* Factory setting
** Note: The internal PI controller is designed for simple regulation applications (Proportional range Xp: 18 %, Integral reset time Tn: 540 s). The humidity setpoint value must be set using the potentiometer %rH (see chapter 3.4.3.3).

3.4.3.5 General unit settings
With the jumpers on the jumper blocs “JP1” and “JP2” you can set different unit parameters.

<table>
<thead>
<tr>
<th>Pos</th>
<th>Jumper positions with Jumper</th>
<th>Jumper positions without Jumper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fi</td>
<td>Connection to a mains supply with ground fault interrupter</td>
<td>Connection to a mains supply without ground fault circuit interrupter *</td>
</tr>
<tr>
<td>DRN</td>
<td>Increased drain operation factor</td>
<td>Regular drain operation factor *</td>
</tr>
<tr>
<td>CDY</td>
<td>Low water conductivity (&lt;125 µS/cm)</td>
<td>Normal water conductivity (≥125 µS/cm) *</td>
</tr>
<tr>
<td>DSP</td>
<td>Exchangeable steam cylinder *</td>
<td>Cleanable steam cylinder</td>
</tr>
<tr>
<td>K</td>
<td>Fault No. 4 “steam cylinder maintenance due”: the unit triggers a warning only.</td>
<td>Fault No. 4 “steam cylinder maintenance due”: 72 hours after the warning an error is triggered and the unit is switched off. *</td>
</tr>
<tr>
<td>L</td>
<td>Fault No. 3 “Fill time”: a warning is triggered after 20 minutes filling time exceedence. After 220 minutes filling time exceedence an error is triggered and the unit is switched off. *</td>
<td>Fault No. 3 “Fill time”: the unit directly triggers an error after 20 minutes filling time exceedence. However, the unit is switched off after 220 minutes filling time exceedence.</td>
</tr>
<tr>
<td>Z, M, N</td>
<td>no function (spare)</td>
<td></td>
</tr>
</tbody>
</table>

* Factory settings

3.4.4 Notes on electric installation
All work concerning the electric installation must be performed only by adequately qualified and authorised personnel (electrician or workman with equivalent training).
For the electrical installation all regulations according to “DIN EN 60335-1” and “DIN EN 60335-2-98” standards regarding the safety of electrical devices must be strictly adhered to. In particular, it must be made sure that there is sufficient protection against inadvertent contact with life parts.
4 Operation

4.1 Important note on operation

Initial commissioning: Before the steam humidifier OEM2 is put into operation for the first time, all installations and the unit configuration must be inspected by the responsible persons to see that everything is correct and the local regulations are observed. Any defects must be expertly dealt with before commissioning.

The steam humidifier OEM2 may only be started and operated by persons who are familiar with the unit and who have adequate qualifications for this work.

4.2 Function of the display and operating elements on the control unit ECCM

1 On/Off switch
2 Drain/Info key
   - press key **shortly**: opens and closes the drain valve (manual draining).
     Note: the drain valve is automatically closed after 10 minutes.
   - press key for a **extended period of time**: activating the info mode.
3 Error indication (red LED)
   - in normal operating mode
     The LED lights in case of a malfunction of the unit. Further operation is no longer possible, the heating voltage is interrupted.
   - in info mode
     LED blinks in intervals if a malfunction is present. The number of “blinks” per interval indicates the number of the error (see chapter 6.2).
4 Warning and info indication (yellow LED)
   - in normal operating mode
     - The LED blinks, if manual draining is in progress.
     - The LED lights if the cylinder maintenance is due or the maintenance indication is not reset after the maintenance.
   - in info mode
     LED blinks in intervals if a malfunction with status warning is present. The number of “blinks” per interval indicates the number of the error (see chapter 6.2).
5 Steam production (green LED)
   - in normal operating mode
     The LED lights if the unit produces steam.
   - in info mode
     LED blinks in intervals. The number of “blinks” per interval multiplied by 10 indicates the current steam output in % (see chapter 4.4.1).
Proceed as follows when putting the unit into operation:

1. **Examine the steam humidifier and installation for possible damage.**

   **DANGER!**

   Damaged devices or devices with damaged installation may present danger to human life or cause severe damage to material assets. **Damaged units and/or units with damaged or faulty installation must not be operated.**

2. Open the shut-off valve in the water supply line.

3. Verify the set humidity value at the humidity controller or at the humidistat, and readjust as required.

4. Switch on the steam humidifier: Switch on the service switches for mains supplies (heating and control voltage) and if present the installation switch.

   **DANGER!**

   Danger of electric hazard!

   Before switching on the service switches in the mains supplies (heating and control voltage), make sure the unit in which the steam humidifier OEM2 is build in (e.g. air conditioning cabinet) is correctly locked and no energized parts can be touched.

After switching on the control unit ECCM carries out a system test, during which all the LEDs on the control unit light up in sequence.

If, after the system test:

- **the yellow LED blinks permanently**, manual draining is in progress (drain/info key has been pressed).
- **the yellow LED lights permanently**, steam cylinder maintenance is due (see chapter 5) or the maintenance indication has not been reset (see chapter 5.7).
- **the yellow LED and the red LED light permanently**, the steam cylinder maintenance (see chapter 5) has not been executed or the maintenance indication has not been reset (see chapter 5.7).
- **the red LED light permanently**, a fatal malfunction has occurred (see chapter 6).

In this case press the drain/info key (at least 3 seconds) until the info mode is activated (see chapter 4.4.1) and consult the information given in chapter 6 “Fault elimination”.

After switching on the steam humidifier is **ready for operation**. As soon as the humidity controller or the humidistat requires humidity, power is switched on and the green LED lights on the control unit ECCM. The inlet valve opens after approx. 60 seconds and the steam cylinder fills with water. The submerged electrodes heat the water up and after a few minutes (approx. 5–10 minutes, depending on the conductivity of the water) steam is produced. **Note:** If the water has low conductivity, it is possible in the first few hours of operation that the maximum steam output is not achieved. This is normal. As soon as the water reaches adequate conductivity through the vaporization process, the steam humidifier will work at maximum output.

### 4.3 Commissioning

### 4.4 Notes on operation

#### 4.4.1 Function of the LED's in info mode

The info mode is activated by pressing the drain/info key for an extended period of time (> 3 seconds). In info mode the LED’s on the control unit indicate the current operating status of the steam humidifier.

**Note:** The info mode is automatically reset after 15 minutes, or manually by pressing the drain/info key again.

- **the green LED blinks.** The number of blinks indicates the **current steam output in % of the maximum steam capacity:**

<table>
<thead>
<tr>
<th>green LED blinks...</th>
<th>1x</th>
<th>2x</th>
<th>3x</th>
<th>4x</th>
<th>5x</th>
<th>6x</th>
<th>7x</th>
<th>8x</th>
<th>9x</th>
<th>10x</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam capacity in %</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
<td>80</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>

- **The blinking yellow LED** shows that there is a **malfunction with status warning** which the control unit ECCM is trying to remedy. The blinking frequency of the LED indicates the type of problem (fault number). In-depth details are found in chapter 6.

- **The blinking red LED** shows that there is a fatal malfunction which the control unit ECCM cannot remedy. The blinking frequency of the LED indicates the type of problem (fault number). In-depth details are found in chapter 6.
4.4.2 Remote fault indication

Via the error switch on the control unit ECCM a possible malfunction (error only) is transmitted to a remote indication (e.g. signal light).

4.4.3 Inspections during operation

During operation the steam humidifier OEM2 and the humidification system have to be inspected weekly. On this occasion check the following:

- the water and steam installation for any leakage.
- the steam humidifier and the other system components for correct fixing and any damage.
- the electric installation for any damage.

If the inspection reveals any irregularities (e.g. leakage, error indication) or any damaged components take the steam humidifier OEM2 out of operation as described in chapter 4.6. Then, contact your unit supplier.

4.5 Carrying out manual draining

Proceed as follows to drain the unit manually:

1. Briefly press the drain/info key. The heating voltage is interrupted and the drain valve opens. The yellow LED blinks.
   Note: the drain valve closes after 10 minutes automatically
2. To stop the drain cycle briefly press the drain/info key again.

4.6 Taking the unit out of operation

In order to take the steam humidifier out of operation, perform the following steps:

1. If the unit has to be switched off because of a malfunction, please activate the info mode (see chapter 4.4.1) and note the number (number of blinks of the red LED) of the actual error.
2. Close the shut-off valve in the water supply line.
3. Start manual draining (see chapter 4.5) and wait until the steam cylinder is empty (approx. 5-10 minutes).
4. Disconnect steam humidifier from the mains: Switch off all service switches to mains supplies (heating and control voltage) and secure switches in “off” position against accidentally being switched on, or clearly mark the switches.

⚠️ WARNING! ⚠️ Danger of burning!

If steam was produced just before the unit is taken out of operation, wait before opening the unit and let the steam cylinder cool down to prevent danger of burning.
5 Maintenance

5.1 Important notes on maintenance

Qualification of personnel
All maintenance work must be carried out only by well qualified and trained personnel authorised by the owner.
It is the owner’s responsibility to verify proper qualification of the personnel.

General note
The instructions and details for maintenance work must be followed and upheld.
Only the maintenance work described in this documentation may be carried out.
Only use original spare parts of your unit supplier to replace faulty parts.

Safety
Some maintenance work requires removal of the unit cover. Please note the following:

DANGER! Danger of electric hazard!
Before carrying out any maintenance work set the steam humidifier OEM2 out of operation as described in chapter 4.6 (switch off the unit, disconnect it from the mains and stop the water supply) and secure the unit against inadvertent power-up.

CAUTION!
The electronic components inside the humidifier are very sensitive to electrostatic discharge. Before carrying out any maintenance work to the electrical or electronic equipment of the unit, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

5.2 Maintenance list

To maintain operational safety the OEM2 steam humidifier must be maintained at regular intervals. This is differentiated between the first maintenance after approx. 500 operating hours (I), replacement of the steam cylinder (or steam cylinder maintenance with steam cylinder type D... after the yellow LED lights (II) and annual maintenance (III).

Below you will find a summary of the work to be carried out for each of the three maintenance stages.

<table>
<thead>
<tr>
<th>Components</th>
<th>Interval</th>
<th>Work to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleanable steam cylinder type D.</td>
<td>I</td>
<td>Clean steam cylinder and electrodes and check for damage, replace if necessary.</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>Note: The steam cylinder must be replaced after a maximum operating time of 5,000 h.</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Electrode plug</td>
<td>X</td>
<td>Check to see firmly positioned (remove cover and tighten fixing screw with hexagonal head socket wrench).</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>Warning! This work should only be carried out by an electrician.</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Replacement steam cylinder type A.</td>
<td>X</td>
<td>Remove and replace.</td>
</tr>
<tr>
<td>Inlet valve</td>
<td>X</td>
<td>Remove and clean filter insert, replace valve if necessary.</td>
</tr>
<tr>
<td>Drain valve</td>
<td>X</td>
<td>Remove, disassemble and clean, replace if necessary.</td>
</tr>
<tr>
<td>Drain cup</td>
<td>X</td>
<td>Remove, inspect, clean if necessary.</td>
</tr>
<tr>
<td>Components</td>
<td>Interval</td>
<td>Work to be done</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Drin pipe and siphon (building side)</td>
<td>X</td>
<td>Inspect, clean if necessary (decalcify and rinse out).</td>
</tr>
<tr>
<td>Steam installation (building side)</td>
<td>X</td>
<td>Inspect steam and condensate hoses for cracks and to see that they are correctly attached, replace faulty hoses.</td>
</tr>
<tr>
<td>Water installation (building side)</td>
<td>X</td>
<td>Inspect water hoses in the unit for cracks and to see that they are correctly attached, replace faulty hoses Check supply pipe is tight, make tight if necessary. Clean water filter, if available.</td>
</tr>
<tr>
<td>Electrical installation</td>
<td>X</td>
<td>Check all cables in the unit are firmly positioned and examine status of insulation.</td>
</tr>
</tbody>
</table>

### 5.3 Replacement/cleaning of steam cylinders

**Life time**

The life time of the steam cylinders and electrodes depends on various factors (water quality, conductivity, average steam output).

**The following apply in general:** When the yellow LED on the control unit ECCM lights up:

- Replacement steam cylinder **Type A... should be replaced**.
- Cleanable steam cylinder **Type D... should be cleaned**, or replaced if the maximum life time (5,000 hrs) has already been reached.

**Note:** Only the cleanable steam cylinder Type D... can be cleaned. The replacement steam cylinder Type A... must always be replaced on expiry of the tool life.

The following diagram gives you guide values for the tool life of the replacement steam cylinder and the cleaning intervals for the cleanable steam cylinder.

![Diagram showing service intervals for steam cylinder depending on steam production in hours.](image)

**GH:** Gesamthärte
**DT:** Dureté totale
**TH:** Total hardness
5.4 Removing and installing parts for maintenance

**DANGER!** Danger of electric hazard!
Before starting to remove parts, set the steam humidifier out of operation, separate it from the mains as described in chapter 6.4 and secured against accidental switching on.

**WARNING!** Danger of burning!
If steam was produced until shortly before switching off, the steam cylinder will be hot. Therefore you should wear well-insulated gloves or wait until the steam cylinder is cool to remove parts.

5.4.1 Removal and installation of the steam cylinder

1. Release the hose clamp on the steam hose using a screwdriver, then detach the steam hose from the steam outlet connection of the steam cylinder.
2. Remove all plugs from the electrodes and from the level sensor.
3. Detach fastening strap. Carefully lift steam cylinder out of the cylinder receptacle, then remove it to the front.

**CAUTION!**
Put steam cylinder down carefully to avoid damage to the lower connection piece!
Installation of the steam cylinder follows the reverse sequence. Observe the following:

- Before installing the steam cylinder in the unit, check the O-ring in the drain valve for damage and replace if necessary.
- Moisten the O-ring in the drain valve with water (do not use grease or oil), then insert steam cylinder into the drain valve and push it down to the stop.
- Attach the electrode plugs and the level sensor plug to the respective electrode and sensor connections according to the following table.

<table>
<thead>
<tr>
<th>Steam cylinder type</th>
<th>A140</th>
<th>A240</th>
<th>A342</th>
</tr>
</thead>
<tbody>
<tr>
<td>A243</td>
<td>A263</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A343 / D343</td>
<td>A363 / D363</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A444 / D444</td>
<td>A464 / D464</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Refix steam cylinder with the fastening strap.
- Fasten steam hose on the connector of the steam cylinder with hose clamp.

**CAUTION!**

A leaky steam hose can cause damage due to moisture inside the unit.

**CAUTION!**

The outlet connector of the steam cylinder is made of plastic. Do not overtighten the hose clamp on the steam connector of the steam cylinder.
5.4.2 Disassembly and assembly of the cleanable steam cylinder type D...

1. Pinch electrode snap fastenings and push electrodes approx. 2 cm downwards into the steam cylinder.
2. Release clamp clips of the cylinder cover and raise cover.
3. Remove carefully electrodes by lifting upwards.
4. Remove O-rings from the electrodes.
   Note: Intact O-rings can be reused.

The assembly of the cleanable steam cylinder follows the reverse sequence. Observe the following:

- Before assembling the steam cylinder, check the O-ring in the steam cylinder cover and the O-rings on the electrodes for damage, and replace if necessary. Make sure to relocate O-rings correctly.
- Insert electrodes into steam cylinder cover and push them upwards until the snap fasteners engage.
- Place the cylinder cover (with mounted O-ring) in the correct position (align the two cams on the steam cylinder body with the corresponding grooves in the cylinder cover) on the cylinder body and secure cover with the fastening clips.
5.4.3 Removal and installation of the water cup, the drain cup and the water hoses

Before removing the water cup and the water hoses we recommend to remove the steam cylinder (see chapter 5.4.1).

1. Release hose clamps using pliers, then disconnect all hoses from the corresponding connectors and remove the hoses.
   Note: The hoses connected to the water cup may also be removed together with the water cup (see illustration) and then disconnected from the connectors of the water cup outside the unit.

2. Carefully pull fixing clip of the water cup to the right, then pull water cup out of the holding device.

3. Undo the three screws, then remove drain cup downwards.

The installation of the water cup, the drain cup and the water hoses follows the reverse sequence. Replace O-ring in the drain cup if necessary. Before fixing the water hoses to the connectors using the hose clamps, align the hoses in a way that they are not twisted.

**CAUTION!**

*For safety reason, hoses with heavy deformation in the attachment area must be replaced!**
5.4.4 Removal and installation of the drain valve

Before removing the drain valve the steam cylinder must be removed (see chapter 5.4.1).
1. Detach electric cable.
2. Release hose clamp and remove the hose from the connector.
3. Loosen the two screws with Phillips screwdriver, then remove the drain valve.
4. Disassemble the drain valve.

The assembly and the installation of the drain valve follows the reverse sequence. Before assembling the valve, check valve components for damage and replace if necessary.

**CAUTION!**
Tighten the anchor rod **" by hand only!**

5.4.5 Removal and installation of the inlet valve

Before removing the inlet valve we recommend to remove the steam cylinder (see chapter 5.4.1).
1. Detach electric cables (polarity of the cables must not be observed).
2. Release hose clamp and remove the hose from the connector.
3. Unlock union nut of the water pipe and remove water pipe.
4. Loosen the two screws with Phillips screwdriver, then remove inlet valve.

The installation of the inlet valve follows the reverse sequence.

**CAUTION!**
The union nut of the water pipe must be tightened by hand only.
### 5.5 Notes on cleaning the unit components

<table>
<thead>
<tr>
<th>Unit component</th>
<th>What to clean and how to clean</th>
</tr>
</thead>
</table>
| Cleaning the components of the steam cylinder type D... | • Knock off or brush away any limescale in the **steam cylinder cover**, in the **steam cylinder** and on the **steam cylinder strainer** (do not use a wire brush). If the parts are heavily calcified, place them in an 8% formic acid solution (**observe safety notes in chapter 5.6**), until the limescale comes off.  
  • Finally wash parts in a lukewarm soap solution and rinse well with tap water. |
| Heating electrodes                                  | • Immerse the heating electrodes (up to 2 cm below the snap fastening) in a container with 8-percent formic acid (**observe safety notes in chapter 5.6**). Allow the acid to take effect until the limescale has dissolved.  
  Note: The heating elements do not have to be entirely free from scale.  
  • Finally rinse the heating electrodes well with tap water and let them dry.  
  **CAUTION:** On no account remove limescale from the heating electrodes using tools (screwdriver, scraper, etc.) or by striking. This could damage the heating elements! |
| Water hoses                                         | • Remove any limescale by slightly knocking on the tubes using a rubber hammer. Then, rinse the tubes well with hot tap water. |
| Inlet valve                                         | • Remove strainer insert with pointed pliers. Use a brush (do not use a wire brush) to remove any limescale.  
  • Wash strainer insert with a lukewarm soap solution, then rinse well with tap water.  
  • Remount strainer insert.  
  **Let the inlet valve dry before reinstallation!** |
<table>
<thead>
<tr>
<th>Unit component</th>
<th>What to clean and how to clean</th>
</tr>
</thead>
</table>
| Drain valve    | • Use a brush to remove any limescale from the valve housing, the bores and the valve seat on the valve stem (do not use a wire brush).  
• Wash the valve housing and the valve stem with a lukewarm soap solution, rinse the parts well with tap water and let them dry. |
| Water cup      | • Remove any limescale from the water cup and its connectors using a brush (do not use a wire brush).  
• Wash the water cup with a lukewarm soap solution and rinse well with tap water. |
| Drain cup      | • Remove any limescale from the drain cup using a brush (do not use a wire brush).  
If the parts are heavily calcified, place them in an 8% formic acid solution (observe safety notes in chapter 5.6), until the limescale comes off.  
• Wash the drain cup with a lukewarm soap solution and rinse well with tap water. |
| Console        | Wipe the console with a damp cloth without using any cleaning agent.  
CAUTION: Take care that the electrical connections and the electronic components remain dry! |

### 5.6 Notes on cleaning agents

Only use cleaning agents stated in the table above. The use of disinfectants is only permitted if they do not leave any toxic residues. In any case the parts must be thoroughly rinsed with water after cleaning.

**WARNING!**

Formic acid is indeed harmless to the skin, but it attacks the mucous membranes. Therefore prevent your eyes and respiratory tracts from getting in touch with the acid and its vapours (wear goggles and work in a well ventilated room or outside).

**CAUTION!**

Do not use any solvents, aromatised or halogenised hydrocarbons or other aggressive substances as they may cause damage to the components of the unit.

It is mandatory to observe and comply with the information and instructions regarding cleaning agents. Observe in particular: all information relating to the protection of personnel, environmental protection and restrictions regarding usage.

### 5.7 Resetting the maintenance indication

After completing maintenance work, the **maintenance indication** (yellow LED lights) must be reset as follows:

• Press drain key with the unit switched off and hold down.  
• Switch on steam humidifier via the unit switch.  
• Hold drain key down until the system test is completed (approx. 10 seconds).
6 Fault elimination

Important! Most operational malfunctions are not caused by faulty equipment but rather by improper installation or disregarding of planning guidelines. Therefore, a complete fault diagnosis always involves a thorough examination of the entire system. Often, the steam hose connection has not been properly executed, or the fault lies with the humidity control system.

6.1 Fault indication

<table>
<thead>
<tr>
<th>LED on control unit ECCM yellow</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>blinks permanently</td>
<td>Drain/info key has been pressed shortly (manual draining in progress)</td>
</tr>
<tr>
<td>lights</td>
<td>Steam cylinder maintenance due or maintenance indication not reset.</td>
</tr>
<tr>
<td>lights</td>
<td>Steam cylinder maintenance not executed or maintenance indication not reset.</td>
</tr>
<tr>
<td>---</td>
<td>Fatal malfunction.</td>
</tr>
</tbody>
</table>

If the yellow or red LED lights, press drain/info key (at least 3 seconds) until yellow (“Warning”) or red (“Error”) LED starts blinking intermittently (info mode). The amount of “blinks” per interval indicates the type of malfunction.

- **Yellow LED “Warning” blinks intermittently**
  A malfunction is present. The control unit checks whether there is a temporary problem (e.g. water supply interrupted for a short time) or whether it can resolve the problem by taking necessary measures.

- **Red LED “Error” blinks intermittently**
  The control unit, after several attempts, fails to solve the problem (number of attempts depends on the type of malfunction) or the problem obstructs further operation. In this case the heating voltage is interrupted via the main contactor.
### 6.2 Malfunction lists

<table>
<thead>
<tr>
<th>“Warning” yellow LED blinks</th>
<th>“Error” red LED blinks</th>
<th>Cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x External safety chain interrupted</td>
<td>---</td>
<td>Ventilation interlock open.</td>
<td>If applicable, check/turn on ventilation system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Air flow monitor triggered.</td>
<td>Check ventilator/filter of the ventilation system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Safety humidistat triggered.</td>
<td>Wait. If applicable, check, adjust or replace safety humidistat.</td>
</tr>
</tbody>
</table>

| 2x Max. filling level of steam cylinder reached | --- | Water conductivity too low (after initial operation). | Wait. |
|  |  | Water conductivity too low for type of steam cylinder. | Select correct steam cylinder type. |
|  |  | Phase failure heating voltage. | Check mains fuse(s) and replace if applicable. |

**Note:** if the Jumper “L” is removed from the ECCM control unit, the unit automatically triggers an error without prior warning if the permissible filling time has been exceeded for more than 20 minutes (red LED lights and the error switch on the control unit ECCM is activated). However the unit switches off after 220 minutes of filling time exceedance (see chapter 3.4.3.5).

| 3x Permissible filling time exceeded for more than 20 minutes (first automatic cleaning cycle) | 3x Permissible filling time exceeded for more than 220 minutes. | Phase failure heating voltage. | Check mains fuse(s) and replace if applicable. |
|  |  | Water supply obstructed, water pressure too low, inlet valve defective. | Open shut-off valve in the water supply pipe, clean water inlet filter, check water pressure, inspect/replace inlet valve. |
|  |  | Excessive steam back pressure, through it water loss via filling cup. | Inspect steam installation. |
|  |  | Drain valve is leaking. | Clean/replace drain valve. |

**Important!** Refer to chapter 5.7 for resetting the maintenance indicator.

| 4x Steam cylinder needs servicing | 4x Interval for steam cylinder service exceeded for more than 72 hours | Interval for steam cylinder service exceeded. | Replace steam cylinder type A, clean steam cylinder type D (see chapter 5). |
|  |  | Mineral deposits and/or electrodes spent. | Inspect installation/control system. |
|  |  | Steam cylinder (electrodes) defective. | Replace drain valve/coil. |
|  |  | Faulty auto-drain function. | Clean/replace steam cylinder. |
|  |  | Faulty drain valve/coil. | Select correct steam cylinder type. |
|  |  | Steam cylinder outlet obstructed. | |
|  |  | Water conductivity too high for type of steam cylinder. | |

| 5x Foam detection in the steam cylinder | 5x Foam control impossible | Formation of foam in steam cylinder. | Empty/flush steam cylinder. |
|  |  | Set jumper on “DRN” (see chapter 3.4.3). |

| 6x Electrode current too high | 6x Electrode current too high | Steam cylinder (electrodes) defective. | Replace steam cylinder or electrodes |
|  |  | Faulty auto-drain function. | Inspect installation/control system. |
|  |  | Faulty drain valve/coil. | Replace drain valve/coil. |
|  |  | Steam cylinder outlet obstructed. | Clean/replace steam cylinder. |
|  |  | Water conductivity too high for type of steam cylinder. | Select correct steam cylinder type. |

| 7x Foam detection in the steam cylinder | 7x Foam control impossible | Formation of foam in steam cylinder. | Empty/flush steam cylinder. |
|  |  | Set jumper on “DRN” (see chapter 3.4.3). |

| 8x Main contactor jammed in activated position. | 8x Main contactor jammed | Main contactor jammed in activated position. | Check/replace main contactor. |

| 9x Drain valve blocked | 9x Drain valve blocked | Drain valve blocked or defective. | Clean/replace drain valve. |
|  |  | Steam cylinder outlet blocked. | Clean steam cylinder outlet. |

| 10x Rotary switch in wrong position | 10x Rotary switch in wrong position | Rotary switch on control unit ECCM is set to an invalid position. | Set rotary switch on control unit ECCM to the position for the corresponding steam cylinder type (see chapter 3.4.3). |
6.3 Notes on fault elimination

**DANGER!** Danger of electric hazard!
For the elimination of faults set the steam humidifier out of operation as described in chapter 4.7, separate the unit from the mains (test with voltage tester) and secure it against inadvertent power-up.

**CAUTION!**
Electrical components are very sensitive to electrostatic discharge. Measures must be taken to protect these components against electrostatic discharge during all repair work (ESD protection).

Repair work and the replacement of faulty components must be carried out by your supplier’s service technician or authorised personnel only!
Only use original spare parts from your unit supplier for the replacement of faulty components.

6.4 Replacement of fine-wire fuse on the control unit ECCM

If the fine-wire fuse on the control unit ECCM blows this is usually due to a faulty coil of the inlet or drain valve or the main contactor. Therefore you should test these components before replacing the fuse.

To replace the fine-wire fuse proceed as follows:
1. Set the steam humidifier OEM2 out of operation as described in chapter 4.6, separate the unit from the mains and secure it against unintentional switching on. Take care that the electricity supply to the control unit ECCM is disconnected (check with voltage tester).
2. Replace fine-wire fuse (see figure below) with a fuse of the given type with the specified nominal current strength.

**CAUTION!**
It is not permitted to use repaired fuses or to short-circuit the fuse holder.

2 A, slow acting (24 VAC version)
250 mA, slow acting (230 VAC version)

6.5 Resetting fault indication (red LED lights in normal operating mode)

To reset the error indication:
Disconnect the steam air humidifier from the mains. Wait approx. 5 seconds, then reconnect the unit to the mains.

Note: If the fault has not been eliminated, the error indication reappears after a short while.
7 Taking out of service/Disposal

7.1 Taking out of service

If the steam humidifier OEM2 must be replaced or if the humidification system is not needed any more, proceed as follows:

1. Take the unit out of operation as described in chapter 4.6.
2. Have the unit (and all other system components, if necessary) unmounted by a qualified service technician.

7.2 Disposal/Recycling

Components not used any more must not be disposed of in the domestic waste. Please dispose of the unit or the individual components in accordance with local regulations at the authorised collecting point.

If you have any questions, please contact the responsible authority or your unit supplier.

Thank you for your contribution to environmental protection.
## 8 Technical data

<table>
<thead>
<tr>
<th>Heating voltage 200...230V/1N~/50..60Hz</th>
<th>OEM2-A140-...</th>
<th>OEM2-A240-...</th>
<th>OEM2-A342-...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steam cylinder type</td>
<td>A140</td>
<td>A240</td>
<td>A342</td>
</tr>
<tr>
<td>Steam capacity in kg/h</td>
<td>2.0</td>
<td>4.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Nominal power max. in kW</td>
<td>1.5</td>
<td>3.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Nominal current in A</td>
<td>7.5 ... 6.5</td>
<td>15.0 ... 13.0</td>
<td>30.1 ... 26.1</td>
</tr>
<tr>
<td>Max. current in A</td>
<td>9.4 ... 8.2</td>
<td>18.8 ... 16.3</td>
<td>37.6 ... 32.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heating voltage 200...230V/3~/50..60Hz</th>
</tr>
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<tbody>
<tr>
<td>Steam cylinder type</td>
</tr>
<tr>
<td>Steam capacity in kg/h</td>
</tr>
<tr>
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<td>Nominal current in A</td>
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<tr>
<td>Max. current in A</td>
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<th>Heating voltage 380...415V/3~/50..60Hz</th>
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</tr>
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<td>Nominal current in A</td>
</tr>
<tr>
<td>Max. current in A</td>
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</tbody>
</table>

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<tr>
<th>Dimensions/Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>Console (BxHxT)</td>
</tr>
<tr>
<td>Net weight</td>
</tr>
<tr>
<td>Operating weight</td>
</tr>
</tbody>
</table>

| Control voltage                       | 24 VAC or 230 V/1~/50-60Hz |
|---------------------------------------|
| Operating conditions                  |
| Admissible water pressure             |
| Water quality                         |
| Admissible water temperature          |
| Admissible ambient temperature        |
| Admissible ambient humidity           |
| Adm. back pressure at steam connection|
| Type of protection                    |
| Conformity                            |

Control voltage 24 VAC or 230 V/1~/50-60Hz

- **Admissible water pressure**: 1...10 bar
- **Water quality**: Drinking water with a conductivity of 125 - 1250 µS/cm
- **Admissible water temperature**: 1...40 °C
- **Admissible ambient temperature**: 1...50 °C (control unit 1...40 °C)
- **Admissible ambient humidity**: max. 75 %rh, non-condensing
- **Adm. back pressure at steam connection**: -0.5kPa..1.0kPa
- **Type of protection**: IP00
- **Conformity**: produced according VDE regulations 0700 and 0700 part 98