NORDMANN
ENGINEERING

Nordmann Omega Pro VE

Steam humidifier

OPERATION MANUAL

2589356 EN 1701

Thank you for choosing Nordmann

Installation date (MM/DD/YYYY):
Commissioning date (MM/DD/YYYY):
Site:
Model:
Serial number:

Contents

1	**Introduction**	**5**
1.1	To the very beginning	5
1.2	Notes on the operation manual	5
2	**For your safety**	**7**
3	**Product Overview**	**9**
3.1	Construction Nordmann Omega Pro VE steam humidifier	9
3.2	Functional description	10
3.3	System overview Nordmann Omega Pro VE for duct humidification	11
3.4	System overview Nordmann Omega Pro VE for direct room humidification	12
4	**Operation**	**13**
4.1	First-time commissioning	13
4.2	Display and operating elements	13
4.3	Commissioning after an interruption of operation	14
4.4	Notes on operation	15
4.4.1	Inspections during operation	15
4.4.2	Remote operating and fault indication (option)	15
4.4.3	Draining of the steam cylinder	16
4.5	Taking the unit out of operation	16
5	**Operating the control software**	**17**
5.1	Standard operating display	17
5.1.1	Operating status indication	18
5.1.2	Maintenance and malfunction indications	18
5.2	Navigating/Operating the control software	19
5.3	Information functions	20
5.3.1	Accessing support informations	20
5.3.2	Accessing system informations	20
5.4	Configuration	24
5.4.1	Accessing the "Configuration" submenu	24
5.4.2	Activating/deactivating and configuration of options – "Features" submenu	24
5.4.3	Humidity control Settings – "Control Settings" submenu	32
5.4.4	Basic settings – "General" submenu	36
5.4.5	Communication settings – "Communication" submenu	37
5.5	Maintenance functions	42
5.5.1	Accessing the "Service" submenu	42
5.5.2	Performing maintenance functions – "Service" submenu	42
5.6	Administration settings	46
5.6.1	Accessing "Administrator" submenu	46
5.6.2	Switching on/off password protection and software updates function - submenu "Administrator"	46

6	**Maintenance**	**48**
6.1	Important notes on maintenance	48
6.2	Maintenance intervals	49
6.3	Maintenance list	50
6.4	Removing and installing components for maintenance	50
6.4.1	Preparing the Nordmann Omega Pro VE for the removal of components	50
6.4.2	Removal and installation of the steam cylinder	51
6.4.3	Removal and installation of the drain cup	54
6.4.4	Removal and installation of the filling cup, the level unit and the water hoses	55
6.4.5	Removal and installation of the drain pump	56
6.4.6	Removal and installation of the inlet valve	57
6.4.7	Removal and installation of the steam cylinder receptacle	58
6.5	Notes on cleaning the unit components	59
6.6	Notes on cleaning agents	61
6.7	Resetting the maintenance counter	62
6.8	Performing software and firmware updates	63
7	**Fault elimination**	**64**
7.1	Important notes on fault elimination	64
7.2	Fault indication	64
7.3	Malfunction list	65
7.4	Saving fault and service histories to a USB memory stick	69
7.5	Resetting the fault indication	69
7.6	Replacing the fuses and backup battery in the control unit	70
8	**Taking out of service/Disposal**	**71**
8.1	Taking out of service	71
8.2	Disposal/Recycling	71
9	**Product specification**	**72**
9.1	Performance data	72
9.2	Operating data	73
9.3	Connections/Dimensions/Weights	73
9.4	Certificates	73

1 Introduction

1.1 To the very beginning

We thank you for having purchased the **Nordmann Omega Pro VE steam humidifier**.

The Nordmann Omega Pro VE steam humidifier incorporates the latest technical advances and meets all recognized safety standards. Nevertheless, improper use of the Nordmann Omega Pro VE steam humidifier may result in danger to the user or third parties and/or damage to property.

To ensure a safe, proper, and economical operation of the Nordmann Omega Pro VE steam humidifier, please observe and comply with all information and safety instructions contained in the present documentation as well as in the separate documentations of the components installed in the humidification system.

If you have questions after reading this documentation, please contact your Nordmann representative. They will be glad to assist you.

1.2 Notes on the operation manual

Limitation

The subject of this operation manual is the Nordmann Omega Pro VE steam humidifier in its different versions. The various options and accessories are only described insofar as this is necessary for proper operation of the equipment. Further information on options and accessories can be obtained in the respective instructions.

This operation manual is restricted to the **commissioning**, **operation**, **maintenance** and **troubleshooting** of the Nordmann Omega Pro VE steam humidifier and is meant for **well trained personnel being sufficiently qualified for their respective work**.

This operation manual is supplemented by various separate items of documentation (installation manual, spare parts list, etc.), which are included in the delivery as well. Where necessary, appropriate cross-references are made to these publications in the operation manual.

Symbols used in this manual

CAUTION!

The catchword "CAUTION" used in conjunction with the caution symbol in the circle designates notes in this operation manual that, if neglected, may cause **damage and/or malfunction of the unit or damage to property**.

WARNING!

The catchword "WARNING" used in conjunction with the general caution symbol designates safety and danger notes in this operation manual 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 operation manual that, if neglected, may lead to **severe injury or even death of persons**.

Safekeeping

Please safeguard this operation manual in a safe place, where it can be immediately accessed. If the equipment changes hands, the documentation must be passed on to the new operator.

If the documentation gets misplaced, please contact your Nordmann representative.

Language versions

This operation manual is available in other languages. Please contact your Nordmann representative for information.

2 For your safety

General

Every person working with the Nordmann Omega Pro VE must have read and understood the Nordmann Omega Pro VE operation manual before carrying out any work.
Knowing and understanding the contents of the operation manual is a basic requirement for protecting personnel against any kind of danger, to prevent faulty operation, and to operate the Nordmann Omega Pro VE safely and correctly.

All icons, signs and markings applied to the components of the Nordmann Omega Pro VE must be observed and kept in readable state.

Qualification of personnel

All work described in this operation manual **may only be carried out by specialists who are well trained and adequately qualified and are authorized by the customer**.
For safety and warranty reasons any action beyond the scope of this manual must be carried out only by qualified personnel authorised by Nordmann.

It is assumed that all persons working with the Nordmann Omega Pro VE are familiar and comply with the appropriate regulations on work safety and the prevention of accidents.

The Nordmann Omega Pro VE steam humidifier may not be used by persons (including children) with reduced physical, sensory or mental abilities or persons with lacking experience and/or knowledge, unless they are supervised by a person responsible for their safety or they received instructions on how to operate the system.
Children must be supervised to make sure that they do not play with the Nordmann Omega Pro VE steam humidifier.

Intended use

The Nordmann Omega Pro VE steam humidifier is intended exclusively for **air humidification via a steam distributor or a blower pack approved by Nordmann within the specified operating conditions**. Any other type of application, without the written consent of Nordmann, is considered as not conforming with the intended purpose and may lead to the Nordmann Omega Pro VE becoming dangerous and will void any warranty.
Operation of the equipment in the intended manner requires **that all the information contained in this operation manual are observed (in particular the safety instructions)**.

Danger that may arise from the Nordmann Omega Pro VE steam humidifier

DANGER!
Danger of electric hazard!

The Nordmann Omega Pro VE is mains powered. Live parts may be exposed when the unit is open. Touching live parts may cause severe injury or danger to life.

Prevention: Before carrying out any work set the Nordmann Omega Pro VE out of operation as described in *chapter 4.5* (switch off the unit, disconnect it from the mains and stop the water supply) and secure the unit against inadvertent power-up.

WARNING!
Hot water vapour - Danger of scalding!

The Nordmann Omega Pro VE produces hot water vapour. There is danger of scalding when coming in contact with hot water vapour.

Prevention: Do not carry out any work on the steam system during operation (steam lines, steam distributor, blower pack, etc.). If the steam system is leaky set the Nordmann Omega Pro VE immediately out of operation as described in *chapter 4.5*. Correctly seal the steam system before putting the unit into operation again.

WARNING!
Danger of burning!

During operation the components of the steam system (steam cylinder, steam distributor, etc.) get very hot (up to 100 °C). There is danger of burning when touching the hot components.

Prevention: Before carrying out any work on the steam system set the Nordmann Omega Pro VE out of operation as described in *chapter 4.5*, then wait until the components have cooled down sufficiently thus preventing danger of burning.

Preventing unsafe operation

If it is suspected that **safe operation is no longer possible**, the Nordmann Omega Pro VE should immediately **be shut down and secured against accidental power-up according to** *chapter 4.5*. This can be the case under the following circumstances:

– if the Nordmann Omega Pro VE is damaged
– if the electrical installations are damaged
– if the Nordmann Omega Pro VE is no longer operating correctly
– if connections and/or piping are not sealed

All persons working with the Nordmann Omega Pro VE must report any alterations to the unit that may affect safety to the owner without delay.

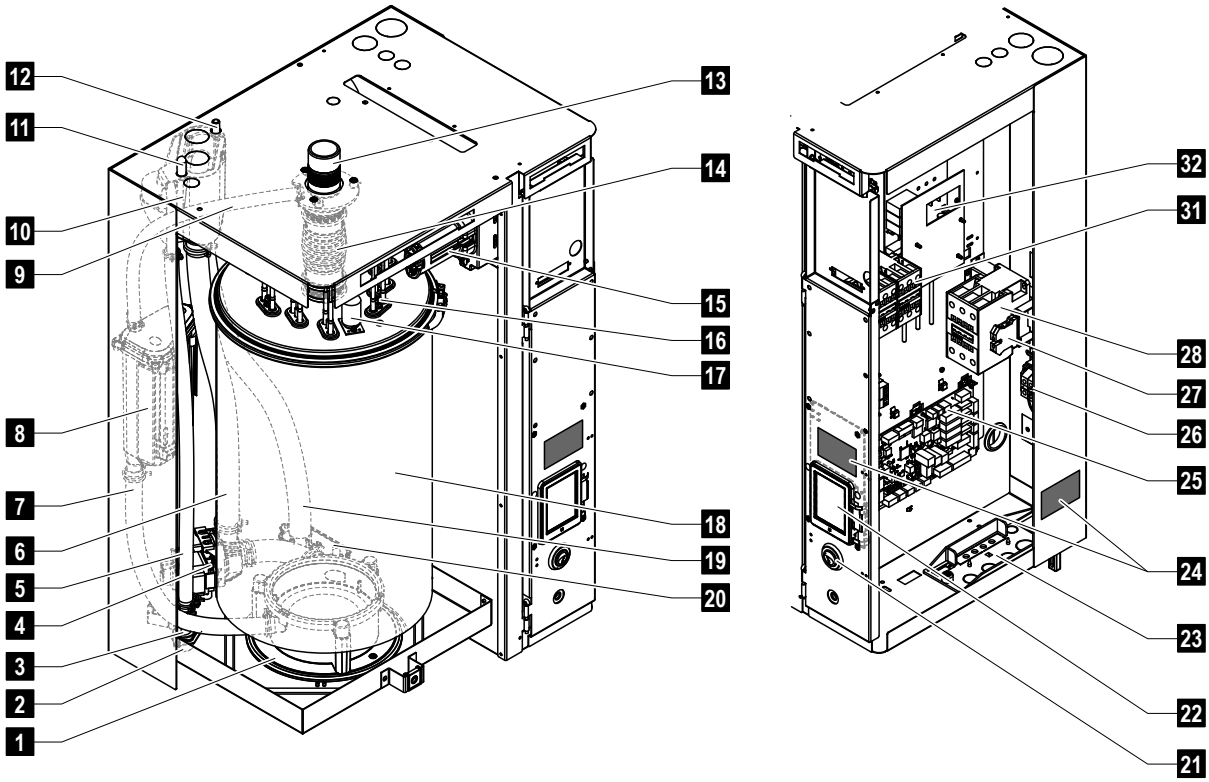
Prohibited modifications to the unit

No modifications must be undertaken on the Nordmann Omega Pro VE without the express written consent of Nordmann.

For the replacement of defective components use exclusively **original accessories and spare parts** available from your Nordmann representative.

3 Product Overview

3.1 Construction Nordmann Omega Pro VE steam humidifier



1 Coupling sleeve
2 Water supply connector (G 3/4")
3 Inlet valve
4 Drain pump
5 Water supply hose
6 Water filling and drain hose
7 Level hose
8 Level unit
9 Pressure equalizing pipe
10 Filling cup
11 Condensate connector (to cylinder)
12 Condensate connector (to drain)
13 Steam connector (ø45 mm)
14 Steam outlet hose
15 Heating cable plug
16 Heating elements
17 Excess temperature switch
18 Steam cylinder
19 Drain hose
20 Drain cup with drain connector (ø30 mm)
21 Unit switch
22 Control board with display and control unit
23 Cable feed throughs
24 Rating plate
25 Driver board
26 Terminals heating volateg supply
27 Ground terminals
28 Main contactor
29 Heating contactors
30 Power board

Fig. 1: Construction Nordmann Omega Pro VE steam humidifier (figure shows medium sized unit)

3.2 Functional description

The Nordmann Omega Pro VE steam humidifier is an atmospheric steam generator. It operates on the resistance heating principle and is designed for direct room air humidification (with blower pack) and indirect humidification (with steam distributor) in ventilating and air-conditioning systems.

Water supply

The water is supplied via a filter valve (accessory "Z261") to the steam humidifier. It reaches the steam cylinder via the level controlled inlet valve and the open filling cup.
Note: the open filling cup is designed in such a way, that the supply water is separated from the unit water. That means, that no unit water can flow back into the supply water line.

Level regulation

The water level in the steam cylinder is continuously monitored with the level unit. If the water level reaches a preset level (due to the evaporation process) the level unit supplies a signal to the controller. This opens the inlet valve and the steam cylinder is filled up. When the preset operating level is reached, the level unit supplies another signal to the controller to close the inlet valve.
The pressure equalizing pipe between the steam connection and the level unit ensures that the water levels are the same in the steam cylinder and the level unit.

Steam generation regulation

The steam is produced in the steam cylinder by several resistance heating elements. An external or the integrated continuous controller control the steam production fully variably from 0 to 100 %.
Alternatively the Nordmann Omega Pro VE can be controlled also via an On/Off controller.

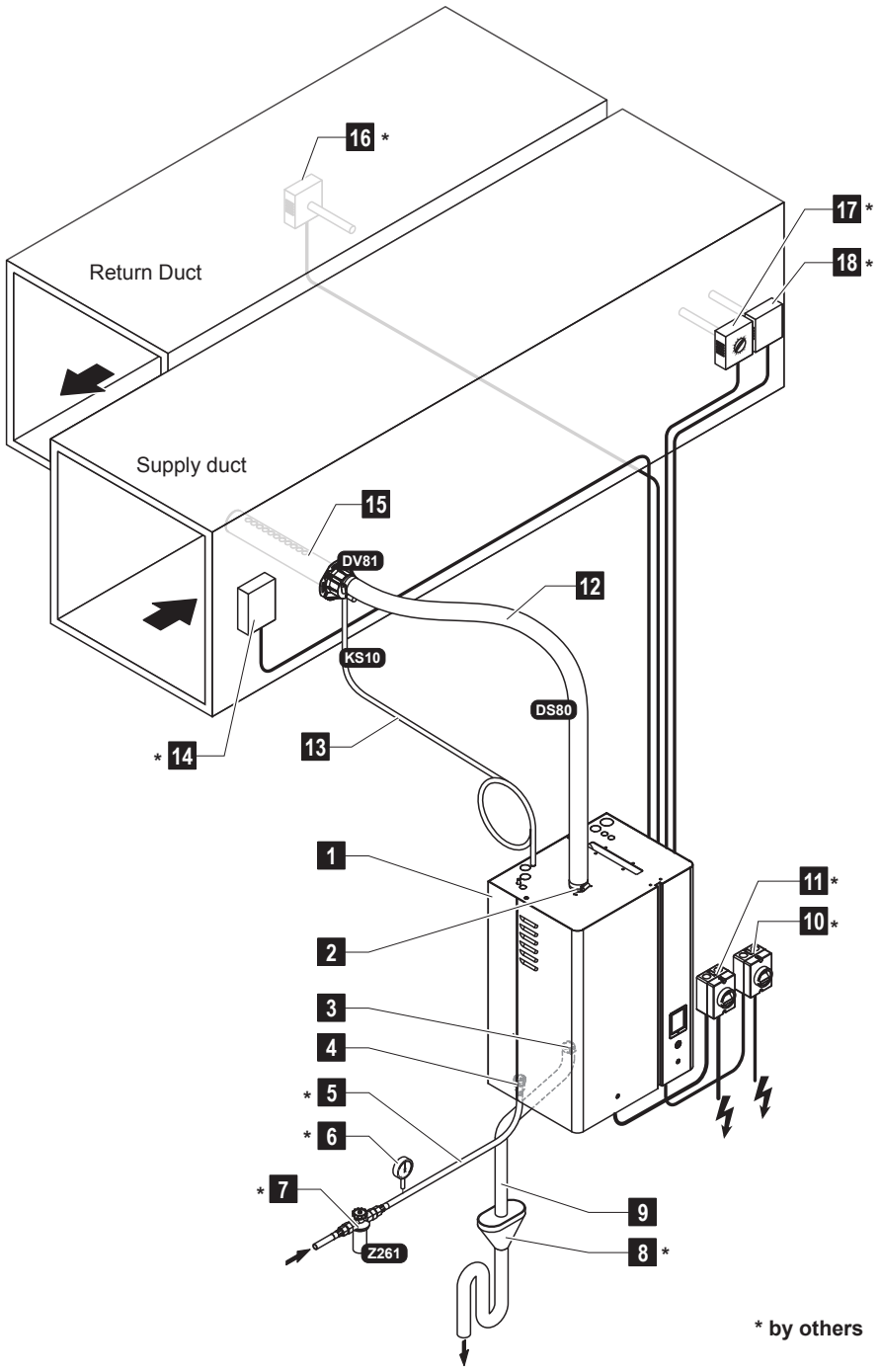
Flushing

The evaporation process increases the concentration of minerals in the water of the steam cylinder. A suitable volume of water must be flushed out of the steam cylinder from time to time and replaced by fresh water to ensure that this concentration does not exceed a specific value unsuitable for operation. The Nordmann Omega Pro VE consists of the following two forms of flushing:

– **Automatic flushing** takes place as soon as the water in the steam cylinder exceeds the upper operating level (e.g. by foaming of the water).
– **Flushing dependent on time** performs the flushing process at preselected time intervals.

Automatic or time-dependent flushing takes place depending on the water quality and the operating data. If the lowest operating level is reached during the flushing process, the inlet valve remains open until the water level in the steam cylinder has reached the normal working level again. If the lowest operating level is not reached, the inlet valve is closed.

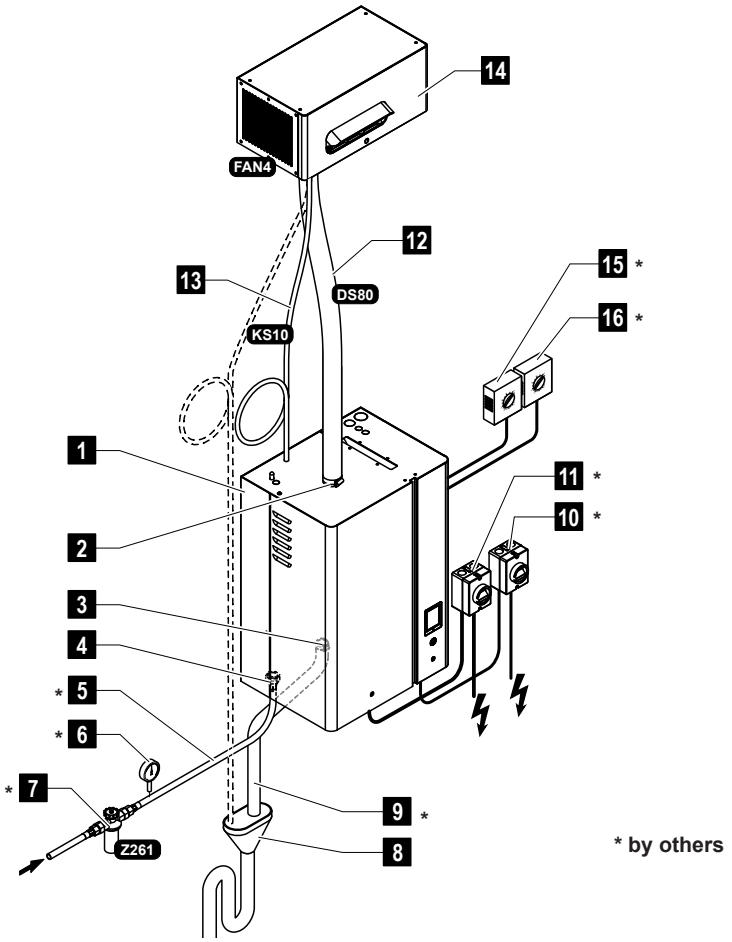
3.3 System overview Nordmann Omega Pro VE for duct humidification



1 Steam humidifier
2 Steam outlet connector
3 Water drain connector
4 Water supply connector
5 Water supply line
6 Manometer (recommended)
7 Filter valve (accessory Z261)
8 Open funnel with water trap
9 Drain hose (supplied)
10 Electrical isolator control voltage supply
11 Electrical isolator heating voltage supply
12 Steam line (accessory DS80)
13 Condensate line (accessory KS10)
14 Air proving switch
15 Steam distributor (accessory DV81)
16 Humidity controller or humidity sensor
17 Humidity controller or humidity sensor
18 High limit humidistat

Fig. 2: System overview Nordmann Omega Pro VE for duct humidification

3.4 System overview Nordmann Omega Pro VE for direct room humidification



1 Steam humidifier
2 Steam outlet connector
3 Water drain connector
4 Water supply connector
5 Water supply line
6 Manometer (recommended)
7 Filter valve (accessory Z261)
8 Open funnel with water trap
9 Drain hose (supplied)
10 Electrical isolator control voltage supply
11 Electrical isolator heating voltage supply
12 Steam line (accessory DS80)
13 Condensate line (accessory KS10)
14 Blower Pack (accessory BP)
15 Humidity controller or humidity sensor
16 High limit humidistat

Fig. 3: System overview Nordmann Omega Pro VE for direct room humidification

4 Operation

The Nordmann Omega Pro VE steam humidifier may be commissioned and operated only by persons familiar with the Nordmann Omega Pro VE steam humidifier and adequately qualified. It is the owner's responsibility to verify proper qualification of the personnel.

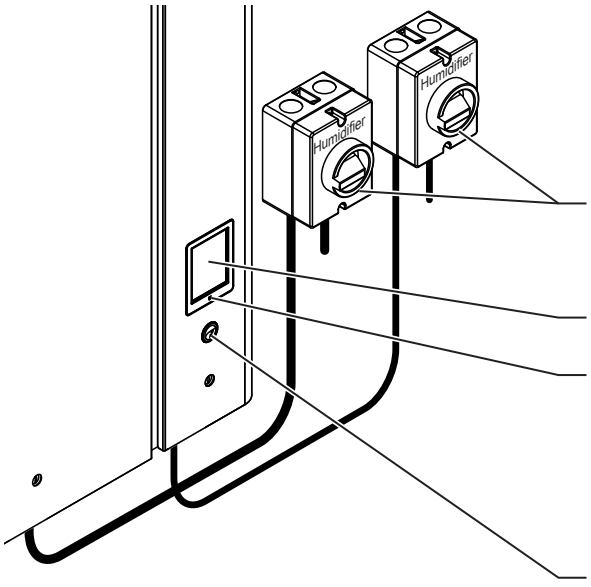
4.1 First-time commissioning

The first-time commissioning must always be done by a service technician of your Nordmann representative or a well trained and authorised person of the customer. Therefore the current manual does not provide detailed information on this procedure.

The following steps are carried out upon first-time commissioning in the specified order:

- Inspecting the steam humidifier for correct installation.
- Inspecting the electrical installation
- Inspecting the water installation
- Inspecting the steam installation
- Flushing the water supply line.
- Configuring the control or the Nordmann Omega Pro VE, respectively.
- Carrying out test runs including checking of the control and monitoring devices.
- Filling in the commissioning protocol.

4.2 Display and operating elements



1 External electrical isolators for heating and control voltage supply (not included in the delivery, must be installed in the mains supply lines)

2 Touchscreen

3 Status LED
- green: Nordmann Omega Pro VE is humidifying
- green pulsing: Nordmann Omega Pro VE is in standby operation
- orange: Warning present or maintenance due
- red: Fault present

4 Unit switch

Fig. 4: Display and operating elements

DANGER!
Risk of electric shock!

After switching off the unit switch, there is still live voltage inside the control compartment of the Nordmann Omega Pro VE. **Therefore, before opening the unit the steam humidifier must be always separated from the mains supplies (heating and control voltage) via the electrical isolators.**

4.3 Commissioning after an interruption of operation

The following description outlines the start up procedure after an interruption of operation (e.g. after servicing the steam humidifier). It is assumed that first-time commissioning has been carried out properly by the service technician of your Nordmann representative and the Nordmann has been configured accordingly.

1. When putting the steam humidifier into operation the first time or when putting the steam humidifier into operation after work has been carried out on the steam system, the operating personnel must check whether the steam pipe is open over the entire length. To do this proceed as follows:
   - Remove the front door on the steam cylinder side of the Nordmann Omega Pro VE.
   - Undo the upper hose clamp of the steam hose in the unit with a screwdriver and pull the hose down to remove it from the steam connection.
   - Start up the ventilation system and check whether the pressure on the open steam connector corresponds to the pressure in the ventilation system.

   DANGER!

   A steam line that is reduced in cross section or completely closed will cause an excessive increase in pressure in the steam cylinder when the unit is operating and could lead to the risk of scalding accidents!

   Therefore: If no draught or only a slight one can be detected the steam line must be checked for blockages and reductions in cross section before continuing with commissioning and you must ensure that the steam line is open across the entire length and through the whole cross section.

2. Examine the steam humidifier and installation for possible damage.

   DANGER!

   A damaged unit or systems with damaged installations may present danger to human life or cause severe damage to material assets.

   Therefore: Damaged systems and/or systems with damaged or faulty installations must not be operated.

3. Mount front doors of the unit and lock it (if applicable).
4. Open the filter valve / shut-off valve in the water supply line.
5. Switch on the electrical isolators in the mains supplies (heating and control voltage).
6. Switch on the unit switch of the steam humidifier.

   The steam humidifier carries out an automatic system test (initialising). If a fault is detected during the system test, a corresponding fault message is shown in the maintenance and malfunction indication field (see *chapter 5.1.2*).

   If the initialization is successful, the steam cylinder fills up and a function check on the level unit is carried out. If a fault is detected during the function check on the level unit, a corresponding fault message is shown in the maintenance and malfunction indication field (see *chapter 5.1.2*).

   If the function check on the level unit is successful, the Nordmann Omega Pro VE will be in **normal operating mode** and the **standard operating display** is shown. The heating current switches on as soon as the humidity controller/humidistat **demands humidity**. The LED lights green and steam is produced after a short delay.

4.4 Notes on operation

4.4.1 Inspections during operation

During operation the Nordmann Omega Pro VE 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. leakages, error indication) or any damaged components take the Nordmann Omega Pro VE out of operation as described in *chapter 4.5*. Then, contact your Nordmann representative.

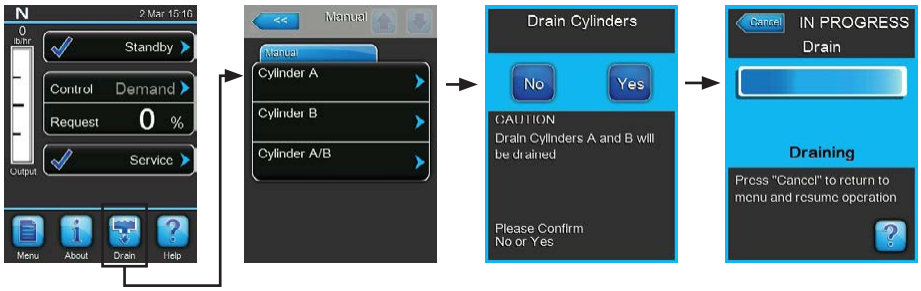
4.4.2 Remote operating and fault indication (option)

Via the relays on the optional operating and fault indication board the following operating status are indicated:

Activated remote indication relay	**When?**
"Error"	An error is present, operation is stopped.
"Service"	The control software has detected that the small or the large maintenance is due. The unit must be serviced according to the maintenance section in this manual (see *chapter 6*).
"Steam"	Demand present/humidification
"Unit on"	The humidification system is switched on and under voltage

4.4.3 *Draining of the steam cylinder*

To perform a draining of the steam cylinder proceed as follows:



1. Press on the **<Drain>** button in the standard operating display. The "Manual" submenu appears.
2. In the "Manual" submenu press on the button of the cylinder(s) to be drained (**<Cylinder A>**, **<Cylinder B>** or **<Cylinder A/B>**).
   Note: on single units **<Cylinder A>** button is shown only.
3. Press on the **<Yes>** button to start the draining of the steam cylinder(s). A possible running humidification process is interrupted, then the drain pump starts and empties the steam cylinder. The progress bar in the display shows the current status of the drain cycle. After draining has finished the unit returns to the "Manual" submenu.
   Note: in order to stop the drain cycle press the **<Cancel>** button in the draining progress window. The drain cycle is stopped and the unit returns to the "Manual" submenu.
4. If you have to carry out work on the Nordmann Omega Pro VE, switch off steam humidifier via the unit switch. Otherwise the steam cylinder is immediately filled again.

4.5 *Taking the unit out of operation*

In order to take the Nordmann Omega Pro VE steam humidifier out of operation (e.g. for maintenance purpose), perform the following steps:

1. Close the shut-off valve in the water supply line.
2. If you have to carry out maintenance work on the steam cylinder perform a cylinder draining (see *chapter 4.4.3*).
3. Switch off unit switch of the steam humidifier.
4. **Disconnect steam humidifier from the mains**: Switch off both electrical isolators in the mains supply lines (heating and control voltage) and secure switches in "**Off**" position against accidentally being switched on, or clearly mark the switches.

5 Operating the control software

5.1 Standard operating display

After switching on the Nordmann Omega Pro VE and the automatic system test the steam humidifier is in **normal operating** mode and the **standard operating display** is shown.
Note: the appearance of the standard operating display depends on the current operating status and the configuration of the humidity control of the system and can deviate from the display shown below.

The standard operating display is structured as follows:

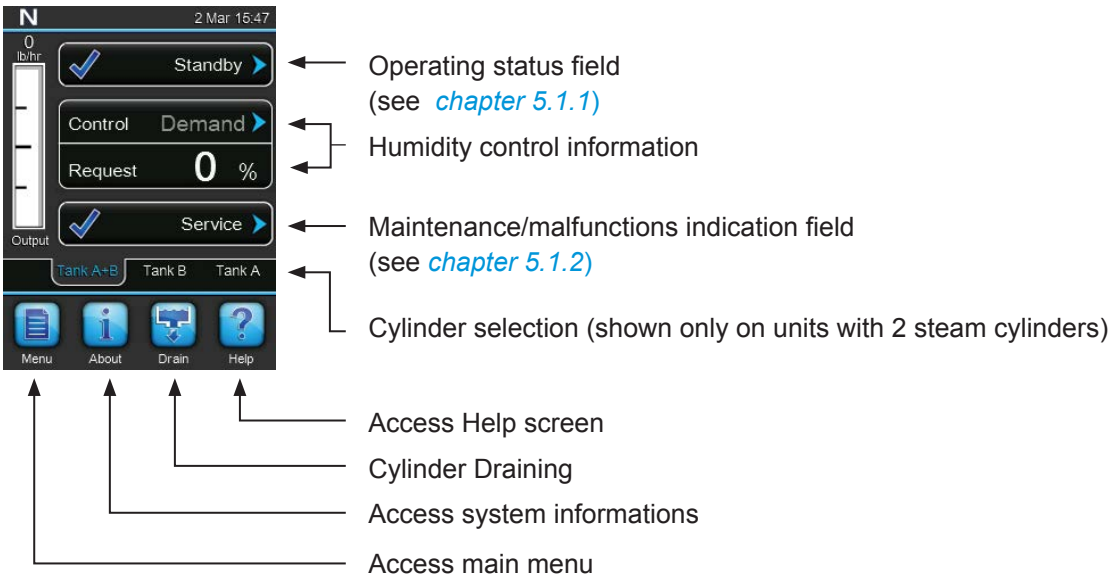
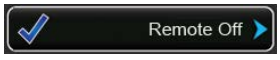
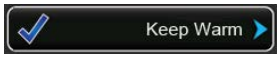


Fig. 5: Standard operating display

5.1.1 *Operating status indication*

The following operation status indications may appear during operation:

Operating status indications	Description
	The control is initialising.
	The Nordmann Omega Pro VE is in standby mode (no demand present).
	The Nordmann Omega Pro VE performs a cylinder flushing.
	The Nordmann Omega Pro VE is producing steam (humidifying).
	The Nordmann Omega Pro VE checks the function of the level unit.
	The Nordmann Omega Pro VE is connected to a BMS, and the BMS has activated the diagnostic mode.
	The Nordmann Omega Pro VE has been stopped via an external enable contact (remote enable/disable).
	The Nordmann Omega Pro VE is in standby mode and the keep warm function is activated.
	The Nordmann Omega Pro VE is stopped due to a malfunction which prevents further operation. Additionally "Warning" or "Fault" is displayed in the maintenance and malfunction field.

5.1.2 *Maintenance and malfunction indications*

The following maintenance and malfunction indications may appear during operation:

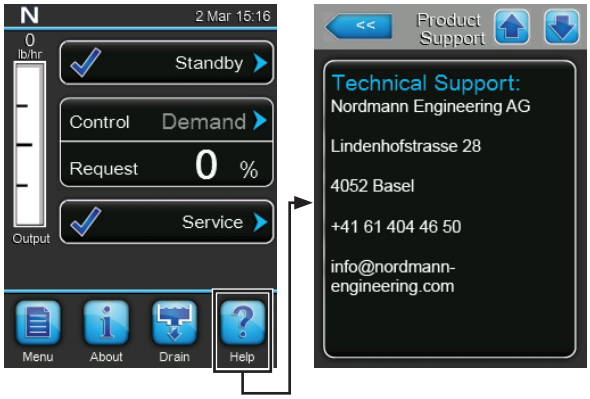
Maintenance and malfunction indications	Description
	No malfunction present. By pressing on the indication field the service menu can be accessed.
	This message appears if the maintenance counter for the large maintenance has elapsed. If the large maintenance is not carried out, and the maintenance counter is not reset within 7 days, a corresponding fault message appears. Carry out the large maintenance, then reset the maintenance counter in the "Service" submenu.
	This message appears if the maintenance counter for the small maintenance has elapsed. If the small maintenance is not carried out, and the maintenance counter is not reset within 7 days, a corresponding fault message appears. Carry out the small maintenance, then reset the maintenance counter in the "Service" submenu.
	A malfunction with status "Warning" is active. Additionally the status LED lights yellow. Depending on the malfunction the Nordmann Omega Pro VE is either be stopped or stays operable for a certain period of time.
	The Nordmann Omega Pro VE was stopped due to a malfunction, which prevents further operation. Additionally the status LED lights red.

5.2 Navigating/Operating the control software

Navigation element	Action
	Accessing main menu
	Accessing system informations
	Performing manual steam cylinder draining
	Accessing help screen
	If you press on a field with a blue arrow symbol a new screen with additional informations or settings appears.
	This symbol on the left side of the operating status field and of the maintenance/malfunctions indication field indicates, that the system is working ok.
	This symbol on the left side of the maintenance/malfunctions indication field indicates, that a Warning is present. Press on the field to get further information.
	This symbol on the left side of the operating status field and of the maintenance/malfunctions indication field indicates, that a Fault is present (additionally the LED lights red). Press on the field to get further information.
	Jumps back to previous screen (Cancel and back)
	Scroll up/down in the present window
	Increase/decrease value
	Delete shown value
	Confirm set value or selected option

5.3 Information functions

5.3.1 Accessing support informations



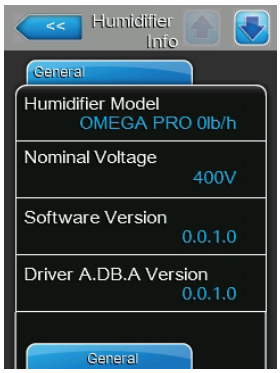
In the standard operating display press the **<Help>** button.
The screen with the support information appears.

5.3.2 Accessing system informations

In the standard operating display press the **<About>** button.

The system information screen appears. Use the arrow buttons to scroll up and down within the system information screens to access the different system information and operating data.

General Tab



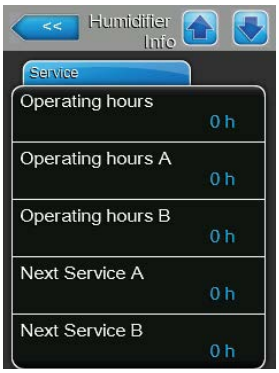
- **Humidifier Model**: Product designation.
- **Nominal Voltage**: Nominal heating voltage in V.
- **Software Version**: Actual version of the control software.
- **Driver A.DB.A Version**: Actual software version of the driver board of unit A (cylinder A).

- **Driver B.DB.A Version**: Actual software version of the driver board of unit B (cylinder B).
  Note: this menu item appears only on double units.
- **Serial Number**: Serial number of the steam humidifier.
- **Graph**: With this function you can access the graphical display of the performance diagram of the Nordmann Omega Pro VE.
- **Export Trend Data**: With this function you can save the data of the performance diagram as .csv file to a USB memory stick (FAT32 formatted).
  Note: before carrying this function, a FAT32 formatted USB memory stick must be connected to the USB port on the control board.

Timer Cylinder A Tab

- **On/Off Timers**: Actual status of the On/Off timer function ("On": On/Off timer function activated, "Off": On/Off timer function deactivated).
- **Capacity Timers**: Actual status of the timer controlled capacity limitation function ("On": timer controlled capacity limitation activated, "Off": timer controlled capacity limitation deactivated).
- **Setpoint Timers**: Actual status of the setpoint timer function ("On": setpoint timer function activated, "Off": setpoint timer function deactivated).

Service Tab



- **Operating hours**: Total operating hours with humidity demand since initial commissioning of the system.
- **Operating hours A**: Operating hours with humidity demand of cylinder A since initial commissioning.
- **Operating hours B**: Operating hours with humidity demand of cylinder B since initial commissioning.
  Note: this menu item appears only on double units.
- **Next Service A**: Remaining time in hours until the next maintenance of the steam humidifier A must be performed related to 100 % capacity.
- **Next Service B**: Remaining time in hours until the next maintenance of the steam humidifier B must be performed related to 100 % capacity.
  Note: this menu item appears only on double units.

Operating Tab

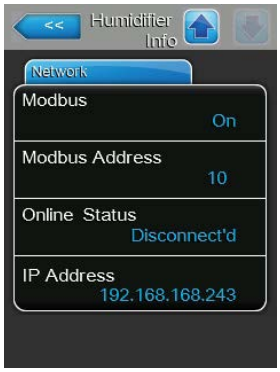
- **Capacity**: Actual total steam capacity of the steam humidifier in kg/h or lb/h.
- **Control Mode CH 1/3:** Actual set control signal type ("On/Off", "Demand", "RH P" or "RH PI").
- **System Demand A**: Actual system demand in %.
- **Signal Type Channel 1/3**: Actual set signal range for the humidity control signal.
- **Signal Type Channel 2/4**: Actual set signal range for the limiter signal. Note: this menu item appears only, if control mode is set to dual signal mode.

Features Tab

- **Manual Capacity A**: Actual set capacity limitation in % of the maximum capacity.
- **Idle Mode**: Actual set standby mode ("Idle Drain", "Keep Warm", "Standby").
- **Softstart Mode**: Actual status of the softstart function ("On" or "Off").
- **Desalt**: Actual status of the desalting function ("On" or "Off").

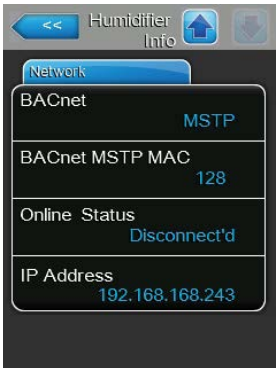
Network Tab

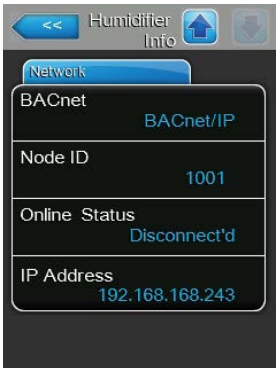
The information shown in the "Network" tab varies depending on whether a BAS (building automation system) communication protocol is enabled, and which communication protocol is selected. If no BAS protocol is enabled, then only "Online Status" and "IP Address" are shown.



Modbus Network

- **Modbus**: shows the current status of the Modbus communications protocol. Note: This menu item appears only if the Modbus communication protocol is enabled. Refer to *Modbus Parameters Tab on page 39* for more details.
- **Modbus Address**: shows the Modbus address of the Nordmann Omega Pro VE.
  Note: This menu item appears only if the Modbus communication protocol is enabled, and the BACnet communication protocol is disabled.
- **Online Status**: shows the connection status of the Nordmann Omega Pro VE to Nordmann Online("Connected" or "Disconnect'd").
- **IP Address**: shows the IP address of the Nordmann Omega Pro VE.





BACnet MSTP Network / BACnet IP Network

– **BACnet**: shows the currently selected BACnet onboard communication protocol ("MSTP" or "BACnet/IP").
Note: This field appears only if the BACnet communication protocol is enabled. Refer to *BACnet Parameters Tab on page 40* for more details.

BACnet MSTP Network

– **BACnet MSTP MAC**: shows the actual BACnet MSTP MAC address for the Nordmann Omega Pro VE.
Note: This field appears only if "BACnet MSTP" is enabled. Refer to *BACnet Parameters Tab on page 40* for more details.

BACnet IP Network

– **Node ID**: shows the actual BACnet node ID for the Nordmann Omega Pro VE.
Note: This field appears only if "BACnet IP" is enabled. Refer to *BACnet Parameters Tab on page 40* for more details.

– **Online Status**: shows the connection status of the Nordmann Omega Pro VE to Nordmann Online ("Connected" or "Disconnect'd").

– **IP Address**: shows the IP address of the Nordmann Omega Pro VE.

5.4 Configuration

5.4.1 Accessing the "Configuration" submenu

Password: **3562**

5.4.2 Activating/deactivating and configuration of options – "Features" submenu

In the "Features" submenu you can determine different operating parameters of the Nordmann Omega Pro VE.

Water Management Tab

– **Water Mode**: with this setting you determine whether the flushing interval time and the maintenance interval time for the small and the extended maintenance are calculated automatically on the basis of parameters water quality and water hardness (Setting: "Calculated") or whether the flushing interval time and the maintenance interval time for the small and the extended maintenance can be set manually (Setting: "Manual").

  Factory setting: **Manual**
  Options: **Manual** or **Calculated**

– **Water Reduction**: with this setting you can activate ("On") or deactivate ("Off") the automatic water reduction function.

  Factory setting: **On**
  Options: **On** or **Off**

The following settings appear only, if **"Water Mode"** is set to **"Manual"**. Note: The settings for the parameters to be selected depend on the supply water quality and the steam capacity of the unit and must be set in accordance with the following table. It may have to be adapted to the actual circumstances during operation.

– **Water Reduction Time**: with this setting you determine the interval time in minutes for the automatic flushing cycle.

  Factory setting: **dependent on the steam capacity**
  Setting range: **5 ... 720 minutes**

– **Maintenance Small**: with this setting you determine the interval time in hours for the small maintenance.

  Factory setting: **dependent on the steam capacity**
  Setting range: **100 ... 3'000 h**

– **Maintenance Extended**: with this setting you determine the interval time in hours for the extended maintenance.

  Factory setting: **dependent on the steam capacity**
  Setting range: **100 ... 6'000 h**

Standard settings dependent on the water quality

Steam capacity	Water reduction time		Maintenance interval time	
			Small Maintenance	Extended Maintenance
	RO water **	DI water ***	RO water ** DI water ***	RO water ** DI water ***
5 kg/h	180 min	360 min	3000 h	3000 h
8 kg/h	180 min	360 min	3000 h	3000 h
10 kg/h	180 min	360 min	3000 h	3000 h
16 kg/h	180 min	360 min	3000 h	3000 h
20 kg/h	180 min	360 min	3000 h	3000 h
24 kg/h	180 min	360 min	3000 h	3000 h
30 kg/h	180 min	360 min	3000 h	3000 h
40 kg/h	180 min	360 min	3000 h	3000 h
50 kg/h	180 min	360 min	3000 h	3000 h
60 kg/h	180 min	360 min	3000 h	3000 h
80 kg/h	180 min	360 min	3000 h	3000 h

* Default settings for water from a reverse osmosis system (RO water) >5 ... ≤ 30 µS/cm

** Default settings for de-ionized water (DI water) ≤ 5 µS/cm

The following settings appear only, if **"Water Mode"** is set to **"Calculated"**. **Important:** the water quality and the water hardness of the supply water must be known. Using wrong values for these two parameters may lead to increased maintenance work and operating malfunctions.

– **Water Quality**: with this setting you determine the water quality of the supply water.

  Factory setting: **Untreat. tap water**
  Options: **Untreat. tap water** (untreated water from tap water network)
  RO water low (RO water with low conductivity <5 µS/cm)
  RO water high (RO water with high conductivity >5 µS/cm)

– **Water Hardness**: with this setting you determine the water hardness of the supply water in °dH (german hardness degree).

  Factory setting: **20.0 °dH**
  Setting range: **1.0 ... 30.0 °dH**

Idle Mode Tab

– **Idle Mode**: with this setting you determine the operational behaviour of the Nordmann Omega Pro VE in standby operation.

  Factory setting: **Idle Drain**

  Options: **Idle Drain** (the steam cylinder is drained and re-filled after a set time in standby operation)

  Keep Warm (the water in the steam cylinder is kept on a set temperature in standby operation)

  Standby (Standby only without active function)

The following settings appear only, if **"Idle Mode"** is set to **"Idle Drain"**.

– **Standstill Time**: with this setting you determine, after which time in the standby operation a level test is triggered.

  Factory setting: **4 h**

  Setting range: **1 ... 72 h**

– **Idle Drain Time**: with this setting you determine, after which time in the standby operation the steam cylinder(s) is/are completely drained and refilled again.

  Factory setting: **24 h**

  Setting range: **1 ... 100 h**

The following settings appear only, if **"Idle Mode"** is set to **"Keep Warm"**. Note: If the keep warm function for standby operation is activated the temperature of the water in the steam cylinder is held on 60 °C (at 20 °C ambient temperature), so that the humidifier can produce steam as fast as possible as soon as a demand is present again. If the ambient temperature is higher or lower than 20 °C the heating power of the heating elements can be increased or decreased via the keep warm offset parameter to hold the keep warm temperature of 60 °C.

– **Keep Warm Offset A**: with this setting you can increase or decrease the heating power of the heating elements of the keep warm function for steam humidifier A by the desired percentage.

  Factory setting: **0 %**
  Setting range: **–5 % ... +5 %**

– **Keep Warm Offset B**: with this setting you can increase or decrease the heating power of the heating elements of the keep warm function for steam humidifier B by the desired percentage.
  Note: this menu item appears only on double units.

  Factory setting: **0 %**
  Setting range: **–5 % ... +5 %**

Softstart Tab

– **Softstart Mode**: with this setting you can activate ("On") or deactivate ("Off") the softstart function.

  Factory setting: **Off**
  Options: **On** or **Off**

Note: activate the soft start function if you are using softened water or water with a high conductivity.

Note: if the softstart function is activated the humidification capacity is reduced to a preset value for a selectable period if a demand is present after restarting the steam humidifier or after more than 4 hours in standby operation (settings see parameters below).

The following settings appear only, if **"Softstart Mode"** is set to **"On"**.

– **Softstart Time**: with this setting you determine how long the softstart functions should remain activated in minutes.

  Factory setting: **30 minutes**
  Setting range: **10 ... 120 minutes**

– **Softstart Power**: with this setting you determine the capacity limitation for the softstart function in % of the maximum capacity of the humidifier.

  Factory setting: **75 %**
  Setting range: **4 ... 100 %**

Desalt Mode Tab

– **Desalt**: with this setting you can activate ("On") or deactivate ("Off") the demineralisation mode.

  Factory setting: **Off**
  Options: **On** or **Off**

  Note: if desalting mode is activated the steam cylinder is drained after the set foam detection counts (see following parameter "Water Desalt Counts") within an hour is reached. Thus preventing the formation of foam in the steam cylinder.

  The following setting appears only, if **"Desalt"** is set to **"On"**.

  – **Water Desalt Counts**: with this setting you determine how many times the maximum level in the steam cylinder can be reached within on hour (foam detection) before a time-controlled flushing cycle will be initiated.

    Factory setting: **3**
    Setting range: **1 ... 8**

Operation Tab

– Manual Capacity A: with this button you can access the settings menu for the capacity limitation. Here you determine whether the Nordmann Omega Pro VE is to be operated with a fix capacity limitation (factory setting) or whether it is to be operated with a timer controlled capacity limitation.
  Note: on double units the capacity limitation is valid for both steam cylinders (A and B).

  – Operation with **fix capacity limitation**

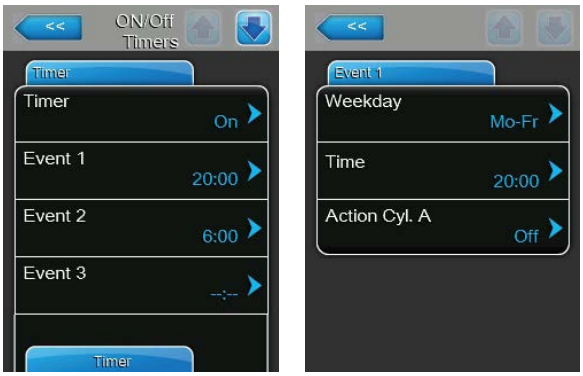
    Let the timer function deactivated (Capacity Timers: "**Off**") or deactivate the timer function if necessary. Then, set the desired capacity limitation of the steam humidifier in % of the maximum capacity via the "Manual Capacity A" parameter (Factory setting: **100 %**, Setting range: **20 ... 100 %**).

– Operation with **timer controlled capacity limitation**

Activate the timer function (Capacity Timers: "**On**"). If the capacity timer is activated, up to eight switching points (Event 1... Event 8) with different capacity limits can be defined. Each switching point is defined by a weekday or weekday range, the switching time and the capacity limitation in % of the maximum capacity.

Configuration notes:
- the settings of an event remain active up to the next event.
- at least two events must be configured
- the software does not c heck the plausibility of the timer settings. Therefore, make sure your settings make sense.
- the On/Off timer overrides the capacity limit timer.

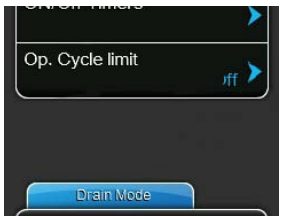
– **ON/Off Timers**: with this button you can access the settings menu for the On/Off timer.



With the "Timer" parameter you can activate ("On") or deactivate ("Off") the On/Off timer.

If the timer is activated, up to eight switching points (Event 1... Event 8) with different On/Off events can be defined. Each switching point is defined by a weekday or weekday range, the switching time and the operating mode of the steam cylinder.

Configuration notes:
- the settings of an event remain active up to the next event.
- at least two events must be configured
- the software does not check the plausibility of the timer settings. Therefore, make sure your settings make sense.
- the On/Off timer overrides the capacity limit timers.



– **Op. Cycle Limit**: with this setting you determine whether the On/Off switching delay is set to optimise the lifetime of the heating contactors ("On") or whether the On/Off switching delay is reduced to optimise the precision of control ("Off" – reduced life of heating contactors).

  Factory setting: **On**

  Options: **On** or **Off**

Drain Mode Tab

Note: the "Drain Mode" tap with the corresponding settings appears only, if the drain cooling option and/or the optional drain valve is installed and activated in the factory level.

– **Drain Cool**: with this setting you can activate ("On") or deactivate ("Off") the drain cooling option.
  Note: if the drain cooling option is activated, the drain water is cooled down below 60 °C.

  Factory setting: **Off**

  Options: **Off** or **On**

– **Complete Drain**: **no function!**

Accessory Board Tab

Note: the "Accessory Board" tap with the corresponding settings appears only, if the optional accessory board (for the control of an external fan of the ventilation system or the optional valve for flushing the water supply line) is installed and activated in the factory level.

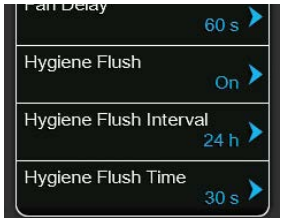
– **Fan On**: with this setting you can activate ("On") or deactivate ("Off") the control of an external fan via the corresponding relay on the optional accessory board.

  Factory setting: **Off**
  Options: **Off** or **On**

  The following setting appears only if the function "Fan On" is activated ("On").

  – **Fan Delay**: with this setting you determine the desired follow-up time of the external fan in seconds.
    Note: the follow-up time serves to remove humidty out of the duct due to post-steaming of the steam humidifier.

    Factory setting: **60 seconds**
    Setting range: **0 ... 300 seconds**



– **Hygiene Flush**: with this setting you can activate ("On") or deactivate ("Off") the control of a water supply line flushing valve (by others) in standby operation via the corresponding relay on the optional accessory board.

  Factory setting: **Off**
  Options: **Off** or **On**

  The following settings appear only if the function "Hygiene Flush" is activated ("On").

  – **Hygiene Flush Interval**: with this setting you determine after which time in standby mode the water supply line shall be flushed.

    Factory setting: **24 hours**
    Setting range: **1 ... 100 hours**

  – **Hygiene Flush Time**: with this setting you determine how long the water supply line shall be flushed.

    Factory setting: **30 seconds**
    Setting range: **1 ... 600 seconds**

5.4.3 *Humidity control Settings – "Control Settings" submenu*

In the "Control Settings" submenu you determine the control settings for the Nordmann Omega Pro VE steam humidifier. The control settings available depend on the selected signal source and the control mode as well as whether the steam humidifier is controlled with supply air limitation.

Basic Tab

– **Source**: with this setting you determine the source of the control signal.
  Factory setting: **Analog**
  Options: **Analog** (Analog Sensor/humidity controller signal)
  Modbus (Modbus signal)
  BACnet/IP (Signal via BACnet/IP)
  BACnet/MS (Signal via BACnet MSTP)
  LonWorks (Signal via LonWorks)

– **Control Mode CH 1/3**: with this setting you determine the type of controller used with the Nordmann Omega Pro VE.
  Factory setting: **Demand**
  Options: **On/Off** (external On/Off humidistat)
  Demand (external continuous controller)
  RH P (internal P controller)
  RH PI (internal PI controller)

– **Control Mode CH 2/4**: with this setting you determine the type of controller used for supply air limitation control.
  Note: this setting appears only if the parameter "Control Channels" is set to "Dual".
  Factory setting: **Demand**
  Options: **On/Off** (external On/Off humidistat)
  Demand (external continuous controller)
  RH P (internal P controller)
  RH PI (internal PI controller)

– **Control Channels**: with this setting you determine, whether the steam humidifier is controlled without supply air limitation (set to "Single") or with supply air limitation (set to "Dual").
  Factory setting: **Single**
  Options: **Single** (without supply air limitation) or

Dual (with supply air limitation)

– **Signal Type Channel 1/3**: with this setting you determine the control signal with which the steam humidifier is controlled.
Note: this setting appears only if signal source is set to "Analog" and control mode is set to "Demand", "RH P" or "RH PI".

Factory setting: **0-10 V**

Options: **0-5V, 1-5V**, **0-10V**, **2-10V**, **0-20V**, **0-16V**, **3.2-16V**, **0-20mA**, **4-20mA**

– **Signal Type Channel 2/4**: with this setting you determine the limiter signal (supply air limitation) with which the steam humidifier is controlled.
Note: this setting appears only if signal source is set to "Analog", control mode is set to "Demand", "RH P" or "RH PI" and the parameter "Control Channels" is set to "Dual".

Factory setting: **0-10 V**

Options: **0-5V, 1-5V**, **0-10V**, **2-10V**, **0-20V**, **0-16V**, **3.2-16V**, **0-20mA**, **4-20mA**

PI Control Parameters Tab

– **Setpoint Channel 1**: with this button you can access the settings menu for the humidity setpoint. Here you determine whether the Nordmann Omega Pro VE is to be controlled with a fix humidity setpoint (factory setting) or whether it is to be operated timer controlled with different humidity setpoints.
Note: this menu item appears only if the "Control Mode" is set to "RH P" or "RH PI".

  – Control with **fix humidity setpoint**

Let the timer function deactivated (Setpoint Timers: "**Off**") or deactivate the timer function if necessary. Then, set the desired humidity setpoint value in %rF via the "Setpoint Channel 1" parameter (Factory setting: **40 %rh**, Setting range: **5...95 %rh**).

– Operation with **timer controlled capacity limitation**

Activate the timer function (Setpoint Timers: "**On**"). If the setpoint timer is activated, up to eight switching points (Event 1... Event 8) with different humidity setpoints can be defined. Each switching point is defined by a weekday or weekday range, the switching time and the humidity setpoint in %rh.

Configuration notes:
– the settings of an event remain active up to the next event.
– the software does not c heck the plausibility of the timer settings. Therefore, make sure your settings make sense.
– the On/Off timer overrides the humidity setpoint timer.

– **Band Channel 1**: with this setting you set the proportional range for the internal P/PI controller in %rh.
Note: this setting appears only if the "Control Mode" is set to "RH P" or "RH PI".

  Factory setting: **15 %**
  Setting range: **6 ... 65 %**

– **ITime Channel 1**: with this setting you set the integral time for the internal P/PI controller.
Note: this setting appears only if the "Control Mode" is set to "RH PI".

  Factory setting: **5 minutes**
  Setting range: **1 ... 60 minutes**

– **Setpoint Channel 2**: with this setting you set the humidity setpoint for the internal P/PI supply air controller in %rh.
Note: this setting appears only if the "Control Mode" is set to "RH P" or "RH PI" and "Control Channels" is set to "Dual".

  Factory setting: **80 % (rh)**
  Setting range: **0 ... 95 % (rh)**

– **Band Channel 2**: with this setting you set the proportional range for the internal P/PI supply air controller in %rh.
Note: this setting appears only if the "Control Mode" is set to "RH P" or "RH PI" and "Control Channels" is set to "Dual".

  Factory setting: **15 %**
  Setting range: **6 ... 65 %**

– **Damp Channel 2**: with this setting you set the time in seconds after which the supply air controller takes over the control of the demand signal.
Note: this setting appears only if the "Control Mode" is set to "RH P" or "RH PI" and "Control Channels" is set to "Dual".

  Factory setting: **5 seconds**
  Setting range: **1 ... 60 seconds**

RH Alerts Tab

Note: The "RH Alerts" settings appear only, if the internal P or PI controller is activated.

– **RH Alerts**: with this setting you can activate ("On") or deactivate ("Off") the output of a warning upon malfunction of the humidity sensor.

  Factory setting: **On**
  Options: **On** or **Off**

  The following settings appear only if "RH Alerts" function is activated ("On").

  – **RH High**: with this setting you set the upper limit value in per cent of the maximum signal value of the humidity sensor, if exceeded a warning message is triggered.

    Factory setting: **75 %**
    Setting range: **20 ... 95 %**

  – **RH Low**: with this setting you set the lower limit value in per cent of the maximum signal value of the humidity sensor, if undershooted a warning message is triggered.

    Factory setting: **20 %**
    Setting range: **20 ... 95 %**

  – **Sensor Min**: with this setting you set the minimum signal value in per cent of the maximum signal value of the humidity sensor, if undershot a sensor interruption message is triggered.

    Factory setting: **5 %**
    Setting range: **1 ... 10 %**

– **Enable Input**: With this setting you determine wether the Nordmann Omega Pro VE can be enabled and disabled via an external enable contact ("On") or not ("Off").

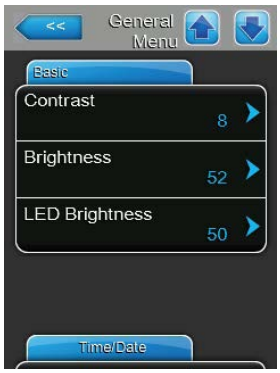
  Factory setting: **On**
  Options: **On** or **Off**

5.4.4 *Basic settings – "General" submenu*

In the "General" submenu you determine the basic settings for operating the Nordmann Omega Pro VE control software.

Basic Tab

– **Date**: with this setting you determine the current date in the set format ("MM/DD/YYYY" or "DD/MM/YYYY").
  Factory setting: **00/00/0000**
– **Time**: with this setting you set the current hour of the day in the set time format ("12H" or "24H", see *Time/Date Tab below*).
  Factory setting: **12:00**
– **Language**: with this setting you determine the dialogue language.
  Factory setting: **depending on the country**
  Options: **various dialogue languages**
– **Units**: with this setting you determine the desired unit system.
  Factory setting: **depending on the country**
  Options: **Metric or Imperial**



– **Contrast**: with this setting you determine the desired value for the display contrast.
  Factory setting: **8**
  Options: **1 (weak contrast) ... 31 (strong contrast)**
– **Brightness**: with this setting you determine the desired value for the display brightness.
  Factory setting: **52**
  Options: **1 (dark) ... 100 (white)**
– **LED Brightness**: with this setting you determine the desired value for the brightness of the operation indication LED.
  Factory setting: **52**
  Options: **1 (weak) ... 100 (bright)**

Time/Date Tab

– **Date Format**: With this setting you determine the desired date format.
  Factory setting: **DD/MM/YYYY**
  Options: **DD/MM/YYYY** or **MM/DD/YYYY**
– **Clock Format**: With this setting you determine the desired time format.
  Factory setting: **12H**
  Options: **24H** (24 hours, display 13:35) or
  12H (12 hours, display: 01:35 PM)

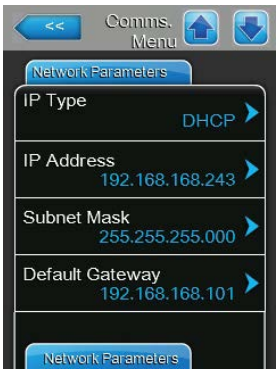
5.4.5 *Communication settings – "Communication" submenu*

In the "Communication" submenu you determine the parameters for digital communication protocols.

Remote Enable Tab

– **Allow Remote Disable**: with this setting you can activate ("Yes") or deactivate ("No") remote blocking via the BMS.
  Factory setting: **Yes**
  Options: **Yes** (Remote blocking permitted)
  No (Remote blocking not permitted)

Network Parameters Tab



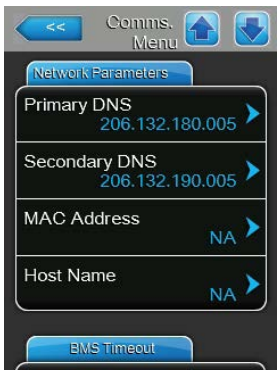
The following network settings are used only for the communication via the integrated BACnet IP interface.

– **IP Type**: with this setting you determine whether you want to assign the IP Address, the Subnet Mask, the Standard Gateway as well as the Primary and Secondary DNS address as fixed values or whether these should be dynamically assigned via a DHCP server.
  Note: after 5 unsuccessful attempts at obtaining an address with DHCP the system will revert to fixed assignment.
  Factory setting: **DHCP**
  Options: **DHCP** (dynamic assignment)
  Fixed (fixed assignment)

– **IP Address**: with this setting you manually enter the IP Address of the Nordmann Omega Pro VE.
  Note: This IP Address is used if "IP Type" is set (or reverts) to "Fixed".

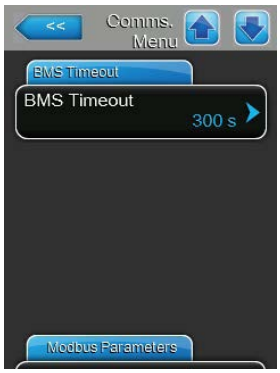
– **Subnet Mask**: with this setting you determine the Subnet Mask of the IP network.
  Note: This Subnet Mask is used if "IP Type" is set (or reverts) to "Fixed".

– **Default Gateway**: with this setting you determine the IP Address of the Default Gateway.
  Note: This IP Address for the Default Gateway is used if "IP Type" is set (or reverts) to "Fixed".



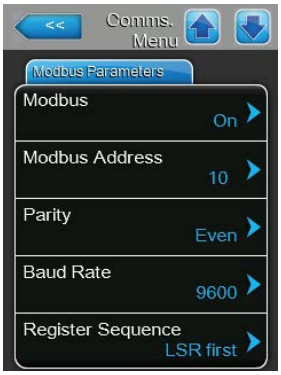
– **Primary DNS**: with this setting you determine the IP Address of the Primary Domain Name Server (DNS).
  Note: This IP Address for the Primary Domain Name Server is used if "IP Type" is set (or reverts) to "Fixed".
– **Secondary DNS**: with this setting you determine the IP Address of the Secondary Domain Name Server (DNS).
  Note: This IP Address for the Secondary Domain Name Server is used if "IP Type" is set (or reverts) to "Fixed".
– **MAC Address**: factory set MAC Address (Media Access Control) of the Nordmann Omega Pro VE. Not modifiable.
– **Host Name**: Host Name of the Nordmann Omega Pro VE automatically generated by the control. Format: "IC_"+"Serial number of the device". Not modifiable.

BMS Timeout Tab



– **BMS Timeout**: with this setting you determine the maximum time the humidifier will wait with no communication from the BMS network before a BMS timeout warning is generated. Exceeding the timeout also stops humidifier operation if the signal source of the humidifier is set to a BMS input.
  Factory setting: **300 s**
  Setting range: **1 ... 300 s**

Modbus Parameters Tab



– **Modbus**: with this setting you can activate ("On") or deactivate ("Off") communication via a Modbus network.
Note: in order to activate the setting of this parameter the Nordmann Omega Pro VE must be switched off and on again.
Factory setting: **Off**
Options: **Off** or **On**

The following parameters appear only if the Modbus function is activated.

– **Modbus Address**: with this setting you determine the Modbus address for the Nordmann Omega Pro VE for the communication via a Modbus network.
Factory setting: **10**
Setting range: **1 ... 247**

– **Parity**: with this setting you set the parity bit for the data transfer.
Factory setting: **Even**
Options: **None, Even** or **Odd**

– **Baudrate**: with this setting you set the Baudrate for the data transfer.
Factory setting: **9600**
Options: **110, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 76800** or **115200**

– **Register Sequence**: with Modbus communication 32 Bit floating-point numbers are transmitted in two registers of 16 Bit each. In order that sender and receiver understand each other (that means both use the identical partitioning of the 32 Bit to the two 16 Bit registers) it must be determined whether the high-order register (MSR = Most Significant Register) or the low-order register (LSR = Least Significant Register) is transmitted first. With this setting you determine which register is transmitted first when transmitting floating-point numbers.
Factory setting: **LSR first**
Options: **LSR first** (low-order register is transmitted first)
MSR first (high-order register is transmitted first)

BACnet Parameters Tab

– **BACnet**: with this setting you can activate ("MSTP" or "BACnet/IP") or deactivate ("Off") the communication via the integrated BACnet interface. Note: in order to activate the setting of this parameter the Nordmann Omega Pro VE must be switched off and on again.
Important! The switching from "BACnet IP" to "BACnet MS/TP" is only taken over after the restart, if the "Source" setting in the "Control Settings" submenu is set to "Analog" or the corresponding BACnet mode! The Integrated Controller does not switch, if for example "BACnet IP" is selected, but the "Source" setting in the "Control Settings" submenu is set to "BACnet MS/TP".

Factory setting: **Off**

Options: **Off** (BACnet interface deactivated)
MSTP (BACnet MSTP Slave node via RS 485 interface, Note: the Nordmann Omega Pro VE is a slave-only BACnet MSTP device)
BACnet/IP (BACnet/IP via RJ45 interface)

The following settings appear only, if the parameter "BACnet" is set to "BACnet/IP".

– **Device Name**: with this setting you determine the name of the Nordmann Omega Pro VE for the communication via the integrated BACnet interface.

– **Device Description**: with this setting you determine a short description of the Nordmann Omega Pro VE.

– **Device Location**: with this setting you determine the designation of the unit location.

– **Node ID**: with this setting you assign a node ID to the Nordmann Omega Pro VE for the communication via the BACnet/IP protocol.

Factory setting: **1001**

Setting range: **1-9999999**

– **BACnet IP Port**: with this setting you assign a IP port number for the Nordmann Omega Pro VE.

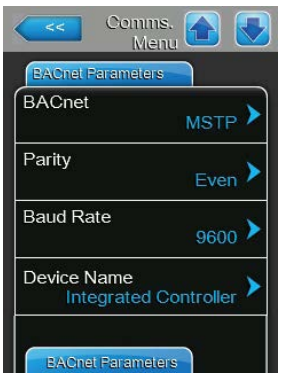
Factory setting: **47808**

Setting range: **——**

– **BACnet MSTP MAC**: with this setting you assign a MSTP MAC address for the Nordmann Omega Pro VE.
Note: this setting does not have any effect for BACnet IP communication.

Factory setting: **128**

Setting range: **128-254**



The following settings appear only, if the parameter "BACnet" is set to "MSTP".
Note: with BACnet MSTP the Nordmann Omega Pro VE acts as a slave node only device.

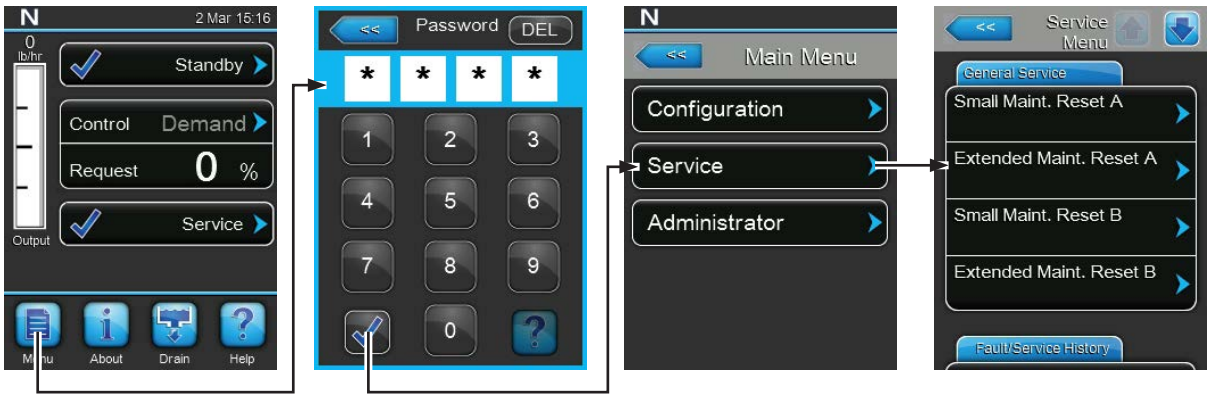
– **Parity**: with this setting you set the parity bit for the data transfer.
  Factory setting: **Even**
  Options: **None, Even** or **Odd**
– **Baudrate**: with this setting you set the Baudrate for the data transfer.
  Factory setting: **9600**
  Options: **9600, 19200** or **38400**
– **Device Name**: with this setting you determine the name of the Nordmann Omega Pro VE for the communication via the integrated BACnet interface.
– **Device Description**: with this setting you determine a short description of the unit.
– **Device Location**: with this setting you determine the designation of the unit location.
– **Node ID**: with this setting you assign a node ID to the Nordmann Omega Pro VE for the communication via the BACnet/MSTP/IP protocol.
  Factory setting: **1001**
  Setting range: **1-9999999**
– **BACnet IP Port**: with this setting you assign a IP port number for the Nordmann Omega Pro VE.
  Factory setting: **47808**
  Setting range: **—**
– **BACnet MSTP MAC**: with this setting you assign a MSTP MAC address for the Nordmann Omega Pro VE.
  Factory setting: **128**
  Setting range: **128-254**

Remote Fault Board Tab

– **Indication**: with this setting you determine whether only maintenance messages ("Service") or all Warning messages ("Warning") are outputted via the service relay of the remote operating and fault indication board.
  Factory setting: **Service**
  Options: **Service** or **Warning**
– **Safety Loop**: with this setting you determine whether a Fault ("Yes") or a Warning ("No") is triggered when the external safety chain is open.
  Factory setting: **No**
  Options: **No** or **Yes**

5.5 Maintenance functions

5.5.1 Accessing the "Service" submenu

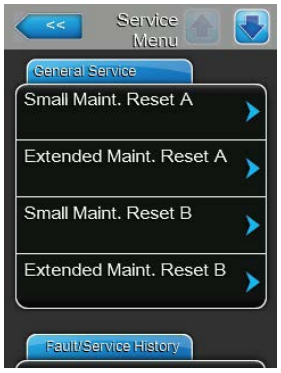


Password: **3562**

5.5.2 Performing maintenance functions – "Service" submenu

In the "Service" submenu you can reset the maintenance counters, access and save the fault and maintenance history and perform different diagnostic functions.

General Service Tab



- **Small Maint. Reset A**: with the "Small Maint. Reset A" function you can reset the service message or the service counter, respectively for the small maintenance of unit A. After pressing on the "Small Maint. Reset A" button a confirmation window appears where the resetting must be confirmed.
- **Extended Maint. Reset A**: with the "Extended Maint. Reset A" function you can reset the service message or the service counter, respectively for the Extended maintenance of unit A. After pressing on the "Extended Maint. Reset A" button a confirmation window appears where the resetting must be confirmed.
- **Small Maint. Reset B**: with the "Small Maint. Reset B" function you can reset the service message or the service counter, respectively for the small maintenance of unit B. After pressing on the "Small Maint. Reset B" button a confirmation window appears where the resetting must be confirmed.
  Note: this menu item appears only on double units.
- **Extended Maint. Reset B**: with the "Extended Maint. Reset B" function you can reset the service message or the service counter, respectively for the Extended maintenance of unit B. After pressing on the "Extended Maint. Reset B" button a confirmation window appears where the resetting must be confirmed.
  Note: this menu item appears only on double units.

Fault/Service History Tab

Note: the fault and maintenance events stored can be correctly analysed only if the data and the time of day are correctly set.

– **Fault History**: with this function you can access the fault history list where the last 40 fault events are stored. After pressing on the "Fault History" button the fault history list appears.
– **Service History**: with this function you can access the service history list where the last 40 service events are stored. After pressing on the "Service History" button the service history list appears.
– **Export History**: with the function "Export History" you can export the fault and service history list to a FAT32 formatted USB memory stick via the USB port on the control board. Detailed information can be found in *chapter 7.4*.

Diagnostics Tab

– **Input Diagnostics**: with this function you can access the "Input Diagnostics" submenu where you can view different current input values the control system is using. Detailed information can be found in *chapter 5.5.2.1.*
– **Relay Diagnostics**: with the "Relay Diagnostics" function you can access the "Relay Diagnostics" submenu where you can activate or deactivate the relays of the optional remote operating and fault indication board and the optional accessory board. Detailed information on the individual relay diagnostic functions can be found in *chapter 5.5.2.2.*

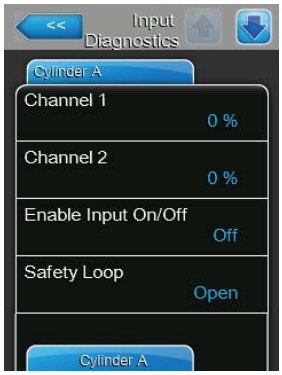
  Note: By accessing the "Relay Diagnostics" submenu the humidification system is automatically switched to standby operation.

5.5.2.1 Input diagnostic functions – "Input Diagnostics" submenu

The following input values can be viewed after accessing the "Input Diagnostics" submenu.
Note: the input values can be accessed and viewed too, via the "Service Info" selection field in the standard operating display.

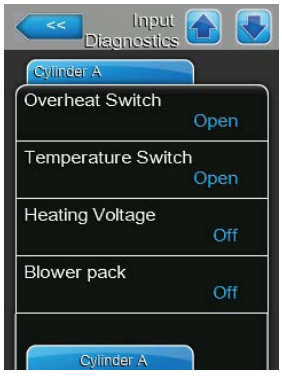
Cylinder A Tab (Cylinder B Tab)

Note: the tabs of the input diagnostics for Cylinder B appear only on double units.



- **Channel 1**: Set humidity setpoint in %rh for humidity contol.
- **Channel 2**: Set humidity setpoint in %rh for supply air limitation.
- **Enable Input On/Off**: Actual status of the external enable switch, if present ("Off"= switch open, "On"= switch closed).
- **Safety Loop**: Actual status of the external safety chain ("Open"= safety chain open, "Closed"= safety chain closed).

- **Level High**: Actual status of the "Level High" detection ("Off"= Level is not high, "On"= Level is high).
- **Level Mid**: Actual status of the "Level Mid" detection ("Off"= Level is not in the middle, "On"= Level is in the middle).
- **Level Low**: Actual status of the "Level Low" detection ("Off"= Level is not low, "On"= Level is low)
- **Leakage Sensor**: Actual status of the optional leakage monitoring device ("Off"= no leakage present, "On"= leakage detected).



- **Overheat Switch**: Actual status of the excess temperature switch on the steam cylinder ("Open"= Excess temperature switch has triggered, "Closed"= Excess temperature switch has not triggered).
- **Temperature Switch**: Actual status of the of the temperature switch ("Open"= Temperature switch has triggered, "Closed"= Temperature switch has not triggered).
- **Heating Voltage**: Actual status of the heating voltage ("Off"= heating voltage not activated, "On"= heating voltage activated).
- **Blower Pack**: shows the status of the blower pack security loop (status shows"Off" when the blower pack is connected and powered, and "On" when it is not.
  Note: When no blower pack is connected, a jumper wire must be installed in the blower pack security loop, and the status should show "Off".

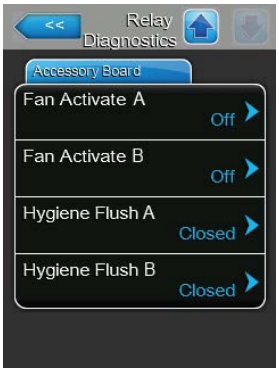
- **24V External Supply**: Actual voltage of the external 24 V supply.
- **10V External Supply**: Actual voltage of the external 10 V supply.

5.5.2.2 Relay diagnostic functions – "Relay Diagnostics" submenu

Remote Fault board Tab

- **Running**: with this function you can activate ("On") and deactivate ("Off") the relay "Steam" on the remote operation and fault indication board.
- **Service**: with this function you can activate ("On") and deactivate ("Off") the relay "Service" on the remote operation and fault indication board.
- **Fault**: with this function you can activate ("On") and deactivate ("Off") the relay "Error" on the remote operation and fault indication board.

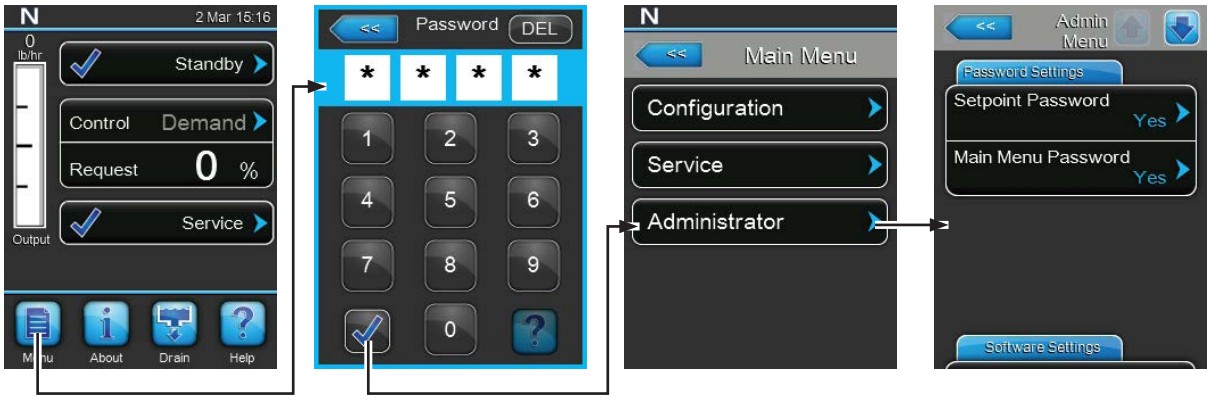
Accessory Board Tab



- **Fan Activate A**: with this function you can activate ("On") and deactivate ("Off") an external fan of the AHU connected to unit A via the relay "FAN A" on the accessory board.
- **Fan Activate B**: with this function you can activate ("On") and deactivate ("Off") an external fan of the AHU connected to unit B via the relay "FAN B" on the accessory board.
- **Hygiene Flush A**: with this function you can activate ("Open") and deactivate ("Closed") the optional valve for flushing the water supply line of unit B via the relay "Hyg. Valve A" on the accessory board.
- **Hygiene Flush B**: with this function you can activate ("Open") and deactivate ("Closed") the optional valve for flushing the water supply line of unit A via the relay "Hyg. Valve B" on the accessory board.

5.6 Administration settings

5.6.1 Accessing "Administrator" submenu



Password: **3562**

5.6.2 Switching on/off password protection and software updates function - submenu "Administrator"

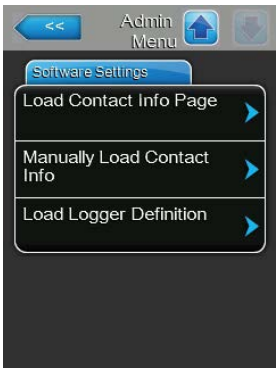
In the "Administrator" submenu you can activate and deactivate the password protection for the main menu and the setpoint, and download software updates via a USB stick connected to the USB connector.

Password settings Tab

- **Setpoint Password**: with the function "Setpoint Password" you can protect the setpoint input screen with the user password "3562" against unauthorised access ("Yes") or not ("no").
- **Main Menu Password**: with the function "Main Menu Password" you can protect the access to the main menu with the user password "3562" against unauthorised access ("Yes") or not ("no")

Software Settings Tab

- **Software Update**: with the function "Software Update" you can update the control software of the integrated controller. See information in *chapter 6.8.*
- **Driver A.DB.A Update**: with the function "Ext.A.DB.A Update" you can update the driver board software of steam humidifier A.See information in *chapter 6.8.*
- **Driver B.DB.A Update**: with the function "Ext.A.DB.A Update" you can update the driver board software of steam humidifier B.See information in *chapter 6.8.*



- **Load Contact Info Page**: this function allows you to upload new contact information data (which are displayed when pressing the <Help> button) from a USB memory stick connected to the USB port on the control board.
- **Manually Load Contact Info**: this function allows you to manually change/ enter contact information data (which are displayed when pressing the <Help> button).
- **Load Logger Definition**: this function allows logging of system parameters with a FAT32 formatted USB memory stick connected to the USB port on the control board. A factory supplied access file is required to enable operation.

6 Maintenance

6.1 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 Nordmann spare parts to replace faulty parts.

Safety

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

DANGER!
Danger of electric hazard!

You may get in touch with live parts when the unit is open. Touching live parts may cause severe injury or even lethal violation.

Prevention: Before carrying out any maintenance work set the Nordmann Omega Pro VE out of operation as described in *chapter 4.5* (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.

Prevention: Before carrying out any maintenance work to the electrical or electronic equipment of the humidifier, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

WARNING!
Danger of burning!

The water in the steam cylinder can be hot (up to 95 °C). There is danger of burning when the steam cylinder(s) is/are dismounted shortly after steam has been produced.

Prevention: Before carrying out any work on the steam system set the Nordmann Omega Pro VE out of operation as described in *chapter 4.5*, then wait until the components have cooled down sufficiently thus preventing danger of burning.

6.2 Maintenance intervals

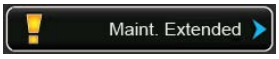
To maintain operational safety the Nordmann Omega Pro steam humidifier must be maintained at regular intervals. The control software of the Nordmann Omega Pro features two maintenance counters one for the "Small maintenance" and one for the "Extended maintenance" (Cleaning of the steam cylinder and other components of the steam and water system). The maintenance counters are set at the initial commissioning based on the water condition on site, however the maintenance counters can be adjusted at any time later to the actual operational conditions.

If one of the maintenance counters has elapsed, a maintenance message is shown in the standard operating display indicating that the corresponding maintenance must be carried out.

Maintenance indication "Small maintenance"

The maintenance counter for the "Small maintenance" has elapsed.
Carry out the "Small maintenance" and reset afterwards the maintenance counter in the "Service" submenu.

Maintenance indication "Extended maintenance"



The maintenance counter for the "Extended maintenance" has elapsed.
Carry out the "Extended maintenance" and reset afterwards the maintenance counter in the "Service" submenu.

Important! Independently of the maintenance counter the **"Extended maintenance" is to be carried out at least once a year**.

6.3 Maintenance list

Adjacent you can find an overview of the maintenance work to be carried out on "Small maintenance" and "Extended maintenance".

Components	Extended maintenance	Work to be done
Steam cylinder	X	Remove, disassemble and clean, replace if necessary.
Steam cylinder receptacle	X	Inspect, clean if necessary.
Drain pump	X	Remove, disassemble and clean, replace if necessary.
Inlet valve	X	Remove and clean filter insert, replace if necessary.
Filling cup	X	Inspect, clean if necessary.
Level unit	X	Inspect, clean if necessary.
Drain cup	X	Inspect, clean if necessary.
Drain pipe and siphon	X	Inspect, clean if necessary (decalcify and rinse out).
Steam installation	X	Inspect steam and condensate hoses for cracks and ensure that they are correctly attached, replace defective hoses.
Water installation	X	Inspect water hoses in the unit for cracks and to see that they are correctly attached, replace defective hoses. Check supply pipe is tight, tighten it if necessary. Clean water filter, if available.
Electrical installation	X	Have all cables in the unit checked by an electrician that they are correctly fixed and that the insulation is not damaged

6.4 Removing and installing components for maintenance

6.4.1 Preparing the Nordmann Omega Pro VE for the removal of components

Before starting any removal work set the Nordmann Omega Pro VE out of operation and drain the steam cylinder. Proceed as follows:

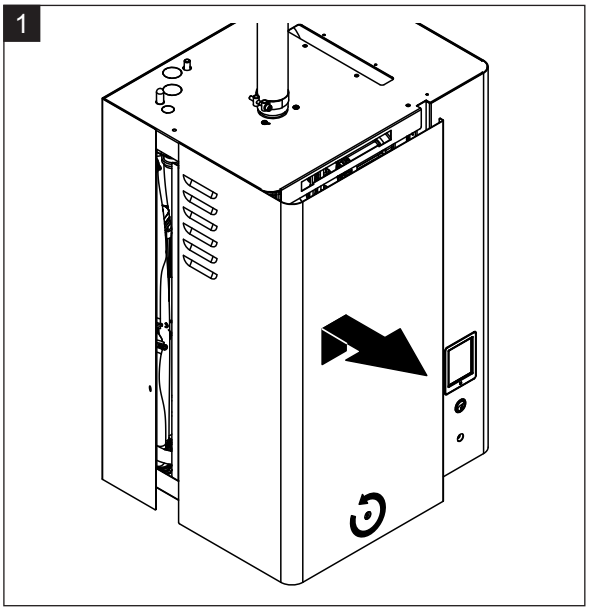
1. Nordmann Omega Pro VE must be switched on. Perform a draining of the steam cylinder (see *chapter 4.4.3*).
2. Set the steam humidifier out of operation as described in *chapter 4.5*.

6.4.2 Removal and installation of the steam cylinder

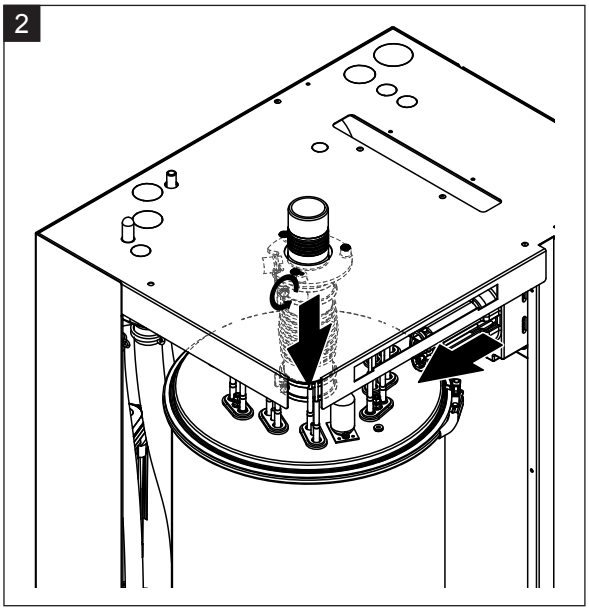
WARNING!
Danger of burning!

Before removal of the steam cylinder ensure the steam cylinder is empty and has cooled down, that no more burning danger exists.

1

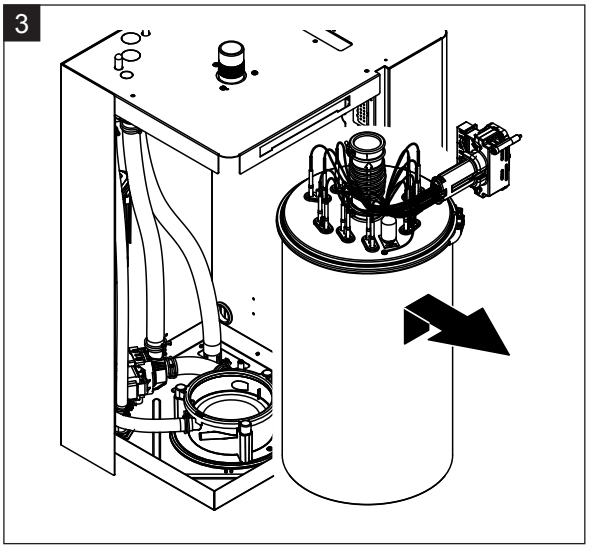


2

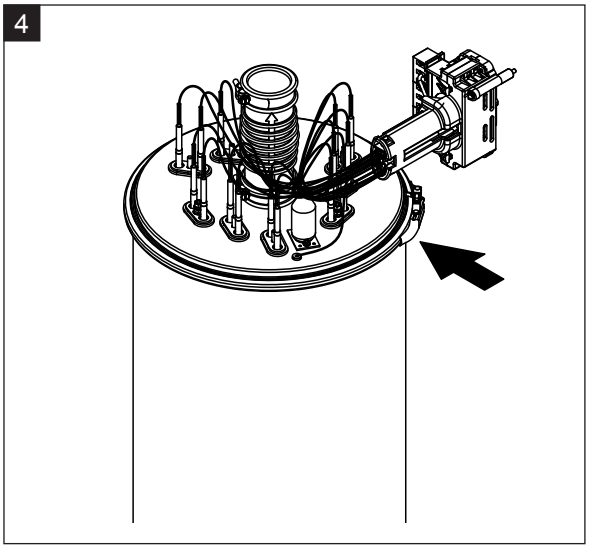


1. Loosen retaining screw on front door on the steam cylinder side of the unit using a screwdriver, then remove the front door.
2. Free the upper hose clamp of the steam outlet hose using a screwdriver and pull the hose downwards from the steam connector. Then, loosen the two screws fixing the heating cable plug to the plug socket and remove heating cable plug from the plug socket.

3



4



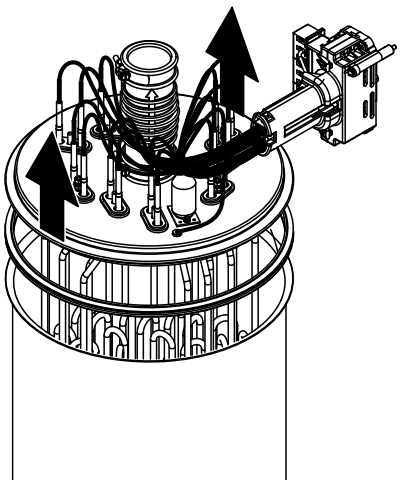
3. Carefully lift the steam cylinder out of steam cylinder receptacle and remove it towards the front of the unit.

CAUTION!

Set down the steam cylinder carefully to ensure the funnel on the bottom side of the cylinder is not damaged!

4. Undo the steam cylinder cover clamping ring.

5



5. Carefully lift off the cover with the heating elements.

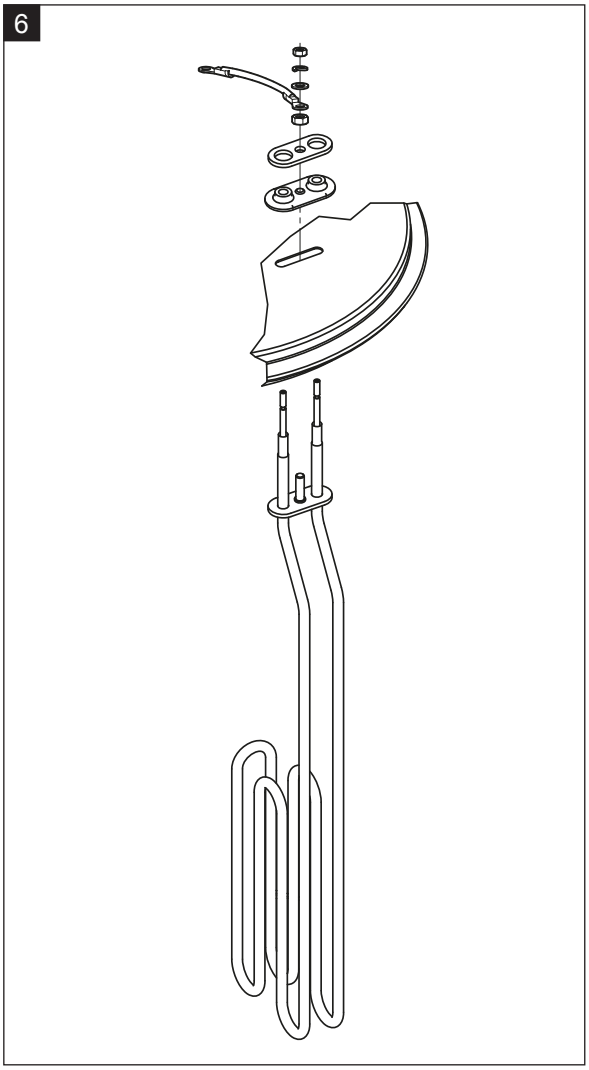
CAUTION!

Take care with the cover while it is removed, so as not to damage the heating elements.

CAUTION!

Observe instructions on the safe use of this cleaning agent

6



6. If during maintenance one or more heating elements must be replaced:
   - First note position of the connecting cables inside the heating cable plug.
   - Then, loosen the corresponding cable inside the heating cable plug and remove.
   - Undo nuts on the fixing flange of the appropriate heating element and remove heating element.
   - Install new heating element and connect connecting cables to the heating cable plug according with the notes of step 1.

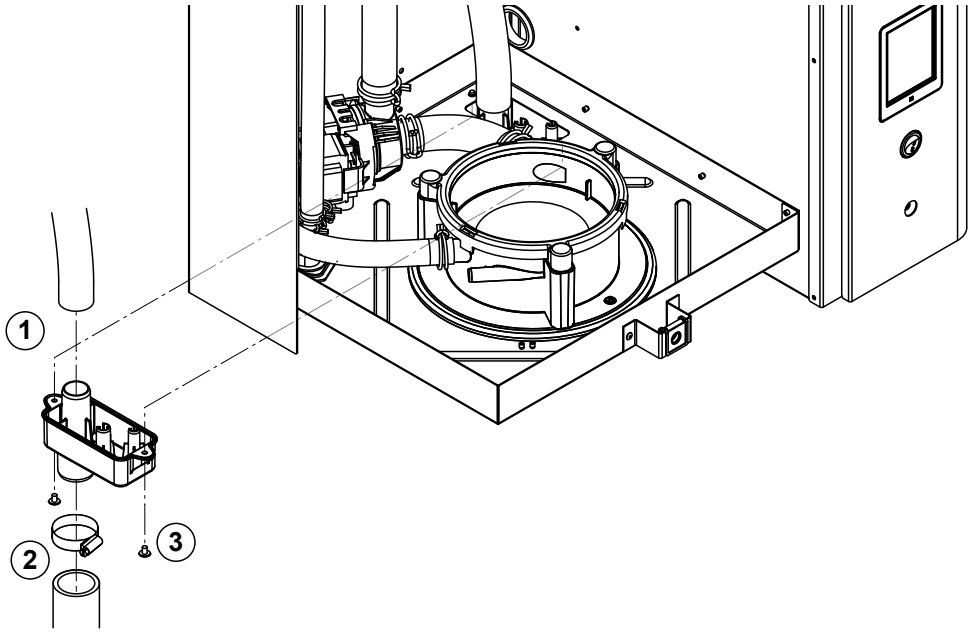
Assembly and installation of the steam cylinder

Assembly of the steam cylinder takes place in reverse sequence of the removal. Please note the following instructions:

– Installation of any heating elements which have been removed should follow the figure of step 7. Please take care that the heating elements are correctly positioned and the cables are correctly connected (according to your notes).
– Before installation of the steam cylinder cover place the Duro sealant around the edge of the cover. The Duro sealant must be clean and undamaged (replace if necessary).
– Before installation of the steam cylinder in the unit check O-ring in the steam cylinder receptacle and the snap ring for damage and replace if necessary.
– Moisten the O-ring of the steam cylinder receptacle with water (do not use grease or oil), then insert steam cylinder into the steam cylinder receptacle and push it down to the stop.
– Insert steam cylinder in the unit correctly and fasten with clamping ring.
– Connect steam outlet hose to steam connector and fasten with hose clamp. A leaky steam outlet hose can cause damp damage in the interior of the unit.
– Plug in heating cable plug into the plug socket and secure it with the two fixing screws.

6.4.3 Removal and installation of the drain cup

For removing the drain cup the steam cylinder must be removed first (see *chapter 6.4.2*).

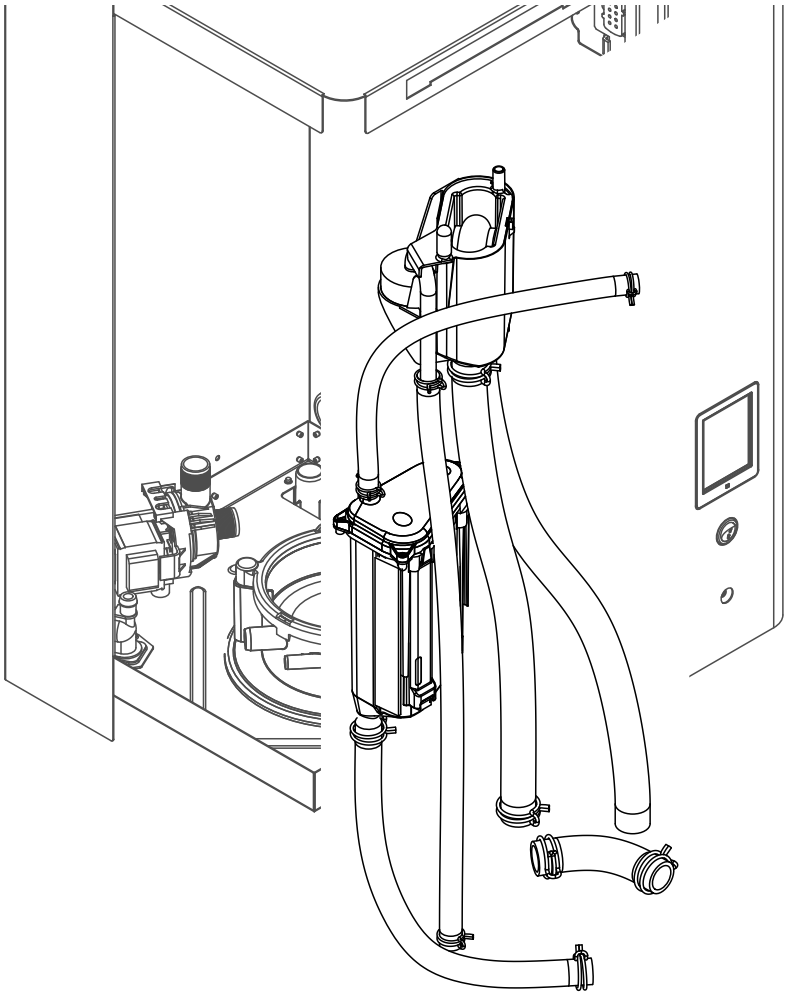


1. Remove drain hose from the connector on the drain cup.
2. Release the hose clamp, then remove water drain hose from the connector on the drain cup.
3. Undo the two screws fixing the drain cup to the unit using a screwdriver, then remove the drain cup downwards.

Installation of the drain cup follows the reverse sequence of the removal.

6.4.4 *Removal and installation of the filling cup, the level unit and the water hoses*

For removing the filling cup, the level unit and the water hoses the steam cylinder must be removed first (see *chapter 6.4.2*).

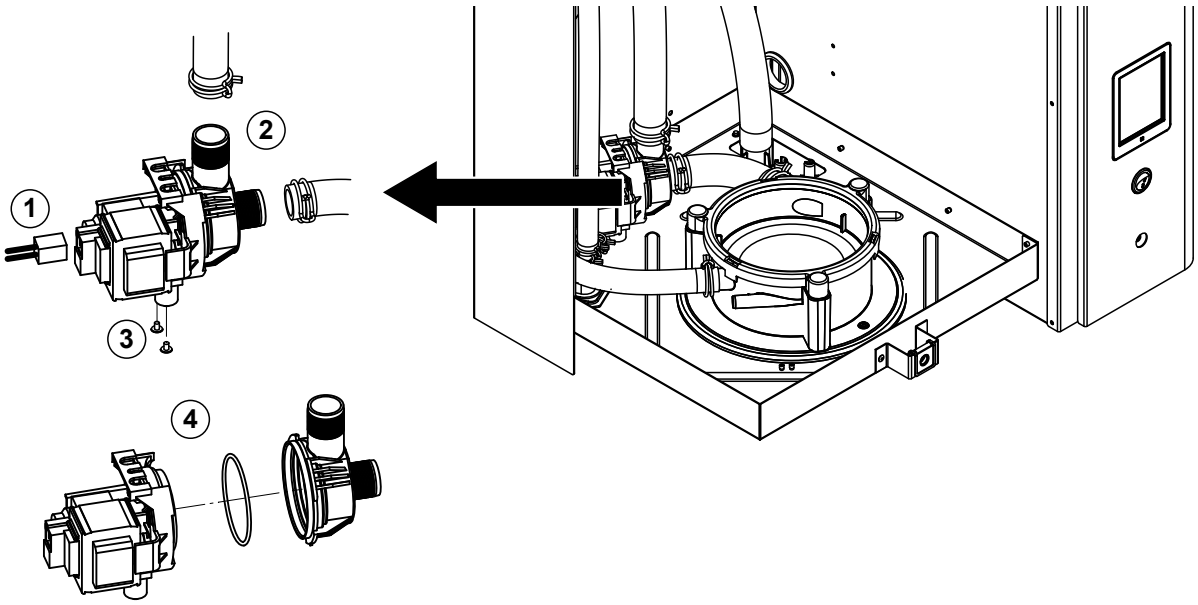


1. Release hose clamps, then disconnect all hoses from the corresponding connectors and remove the hoses.
   Note: The hoses connected to the filling cup and the level unit may also be removed together with the filling cup and the level unit (see illustration) and then disconnected from the connectors outside the unit.
2. **Carefully** pull fixing clip of the filling cup to the front, then push filling cup downwards until it comes to a stop and remove it to the front.
3. **Carefully** remove the two control boards (left control board with LED's) from the level unit. Then, **carefully** pull fixing clip of the filling cup to the front, then push filling cup upwards until it comes to a stop and remove it to the front.

The installation of the filling cup, the level unit with control boards and the water hoses follows the reverse sequence of the removal. Before fixing the water hoses to the connectors with the hose clamps, align the hoses in a way that they are not twisted.

6.4.5 *Removal and installation of the drain pump*

For removing the drain pump the steam cylinder must be removed first (see *chapter 6.4.2*).

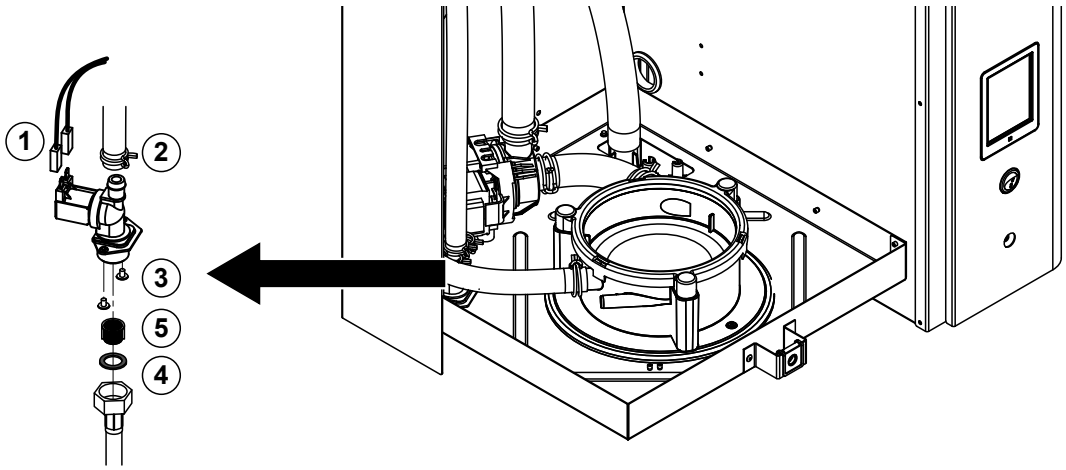


1. Detach electric cables (polarity of the cables must not be observed).
2. Release hose clamps and remove the hoses from the connectors.
3. Undo the two screws on the bottom of the housing with Phillips screwdriver, then remove drain pump.
4. Separate the electric motor from the pump body: release the lock on the bayonet catch, then counter-rotate the electric motor and the pump body. Remove O-ring.

The assembly and the installation of the drain pump follows the reverse sequence of the removal. Before assembling the pump, check O-ring for damage and replace if necessary. Then, place the O-ring on the centering collar and moisten the O-ring with water.

6.4.6 *Removal and installation of the inlet valve*

For removing the inlet valve the steam cylinder must be removed first (see *chapter 6.4.2*).

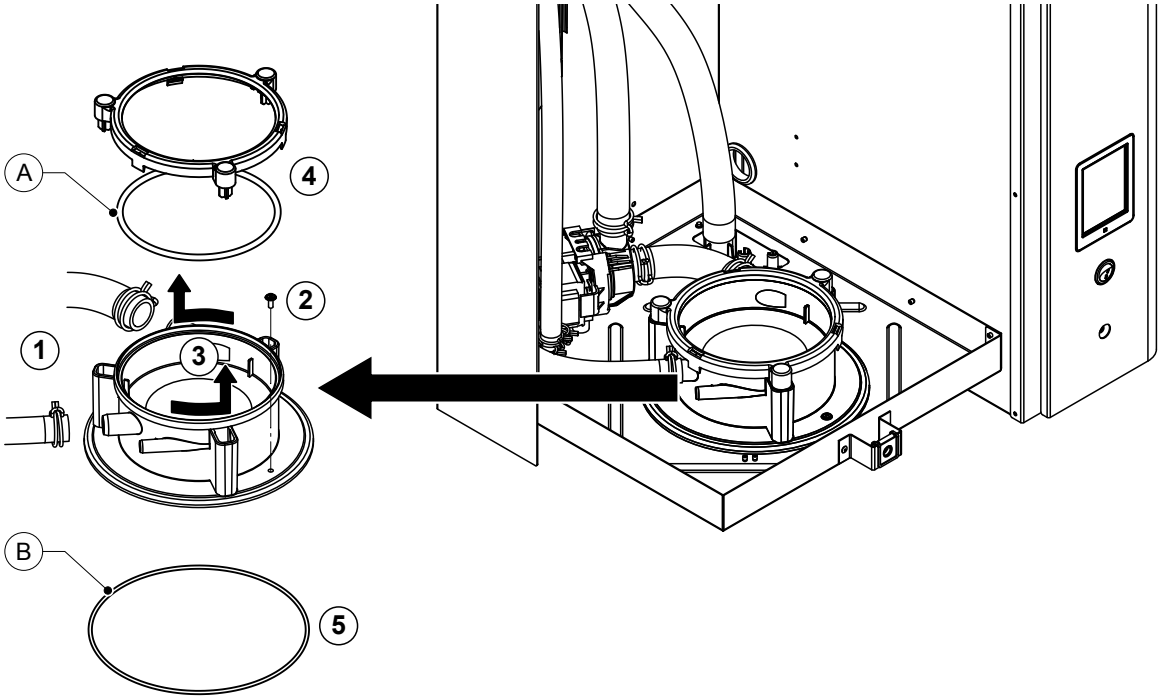


1. Detach electric cables (polarity of the cables must not be observed).
   Important: on multiple valves (units with increased control accuracy or units with option drain cooling) ensure to reconnect the connecting cables to same valve (note position).
2. Release hose clamp(s) and remove the hose(s) from the connector(s).
3. Undo water supply pipe and remove.
4. Undo the two screws on the bottom of the housing with Phillips screwdriver, then remove inlet valve.
5. Remove strainer insert with pointed pliers.

The installation of the inlet valve follows the reverse sequence of the removal. Before installing the valve make sure the strainer insert is installed in the inlet valve.

6.4.7 *Removal and installation of the steam cylinder receptacle*

For removing the steam cylinder receptacle the steam cylinder must be removed first (see *chapter 6.4.2*).

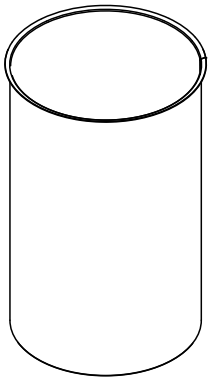
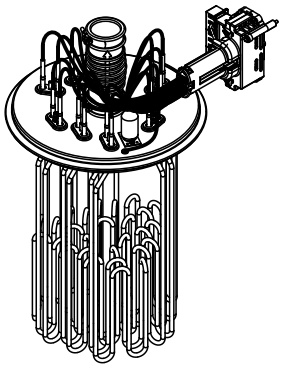
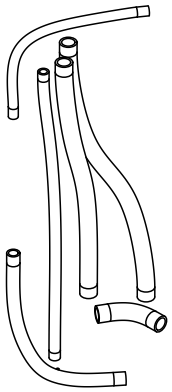


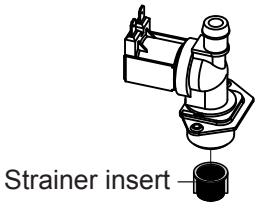
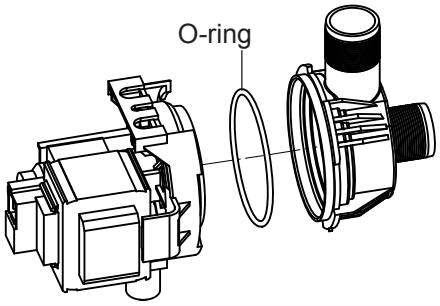
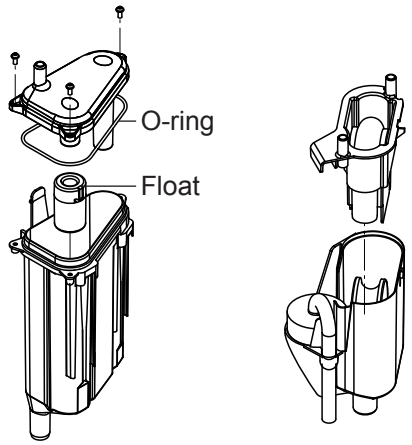
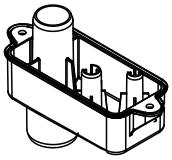
1. Release hose clamps and remove hoses from the connectors.
2. Undo the screw fixing cylinder receptacle to the bottom of the housing with Phillips screwdriver.
3. Turn cylinder receptacle counterclockwise to the stop and remove cylinder receptacle upwards.
4. Remove snap ring and O-ring.
5. Remove O-rings on the bottom side of the steam cylinder receptacle.

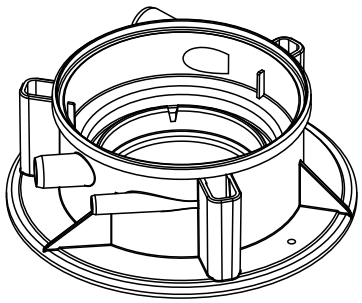
The installation of the steam cylinder receptacle follows the reverse sequence of the removal. Before mounting the steam cylinder receptacle, check O-rings and snap ring for damage and replace if necessary.

Note: Do not grease PTFE coated O-ring "A". But we recommend to grease the O-ring "B" with silicone free grease to ease the mounting of the steam cylinder receptacle.

6.5 Notes on cleaning the unit components

Unit component	What to clean and how to clean
Steam cylinder 	• Carefully knock off any limescale from the steam cylinder. • Wash steam cylinder with a lukewarm soap solution, then rinse well with tap water.
Heating elements 	• Immerse cover with heating elements fitted to 2 cm below the rim of the cover in a container with 8-percent formic acid (**observe safety notes in** *chapter 6.6*). Allow the acid to take effect until the scale coating has dissolved. Note: The heating elements do not have to be entirely free from scale. • Rinse heating elements thoroughly with fresh water. **CAUTION!** Ensure that the electrical connections remain dry. **CAUTION!** On no account remove scale coating on the heating elements with tools (screwdriver, scraper, etc.) or by striking. This could damage the heating elements.
Hoses 	• Remove any limescale by slightly knocking on the tubes using a rubber hammer. Then, rinse the tubes well with hot tap water.

Unit component	What to clean and how to clean
Inlet valve  	• Use a soft bristled brush (do not use a wire brush) to remove any limescale inside the inlet valve and on the strainer. • Wash inlet valve and strainer insert with a lukewarm soap solution, then rinse well with tap water. Let the inlet valve dry before reinstallation!
Drain pump  	• Use a soft bristled brush (do not use a wire brush) to remove any limescale from the pump housing and the pump wheel. • Wipe pump wheel with a damp cloth. Wash the pump housing with a lukewarm soap solution and rinse well with tap water. Let the drain pump dry before reinstallation!
Level unit and Filling cup  	• Disassemble level unit and filling cup. • Remove any limescale from the level unit and the filling cup and its connectors using a soft bristled brush (do not use a wire brush). • Wash level unit and filling cup with a lukewarm soap solution and rinse well with tap water. • Reassemble level unit and filling cup.
Drain cup 	• Use a soft bristled brush (do not use a wire brush) to remove any limescale from the drain cup and its connectors. • Wash the drain cup and the receptacle on the bottom side of the unit with a lukewarm soap solution, rinse the parts well with tap water.

Unit component	What to clean and how to clean
Steam cylinder receptacle 	• Remove any limescale from the cylinder receptacle and its connectors using a soft bristled brush (do not use a wire brush). • Wash the cylinder receptacle with a lukewarm soap solution and rinse well with tap water.
Interior of the unit (water side only)	Wipe the interior of the unit with a damp cloth without using any cleaning agent. **CAUTION**: Take care that the electrical connections and the electronic components remain dry!

6.6 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 clean drinking 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!

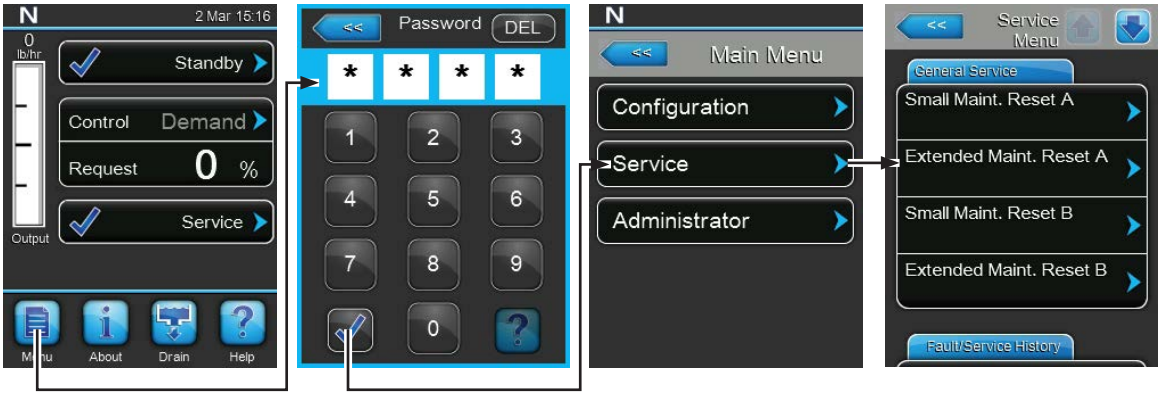
Do not use any solvents, aromatized or halogenized hydrocarbons or other aggressive substances as they may cause damage to the components of the unit.

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.

6.7 Resetting the maintenance counter

After completing the "Small maintenance" or the "Extended maintenance", the corresponding maintenance indication or maintenance counter (for module A or module B or for both), respectively must be reset. Proceed as follows to reset the maintenance counter:

1. Select in the "Service" submenu the corresponding reset function.



Password: **3562**

2. The reset dialogue appears:

- Press the **<Yes>** button to reset the corresponding maintenance counter. The maintenance counter and the maintenance indication are reset.
- Press the **<No>** button if the maintenance work has not been completed and you want abort the reset procedure. The control unit returns to the "Service" submenu.

6.8 Performing software and firmware updates

To update the control software or the driver board firmware, proceed as follows:

1. Set the On/Off switch on the front side of the steam humidifier to the Off position, then switch off the voltage supply to the steam humidifier via the external disconnect switch (electrical isolator) and secure switch in the off position to prevent it from inadvertent power up.
2. Unlock the door panel on the control compartment side of the steam humidifier and remove it.
3. Swing control panel assembly open.
4. Carefully insert FAT32 formatted USB memory stick containing the software updates into the USB port on the control board. Make sure that the maximum length of the memory stick does exceed 75 mm.
   Note: in order to update the control software or the firmware of the driver board a USB stick with a valid software update (the update files must be on the highest level outside of any folder) must be connected to the USB port on the control board. Otherwise, an appropriate fault message appears when starting the software update.
5. Close control panel assembly, then close the door panel of the control compartment and lock it with the screw.
6. Remove the lock and tag from the external disconnect switch. Then, switch on external disconnect switch to restore power to the humidifier.
7. Set the On/Off switch on the front side of the steam humidifier to the On position.
8. When the standard operating display appears, select the **<Menu>** button, then enter the password (3562) to login.
9. Select "Administrator > Software Update tab", then select the desired update function:
   - select "**Software Update**" to update the control software,
   - select "**Driver A.DB.A**" update the firmware for the driver board of Module A
   - select "**Driver B.DB.B**" update the firmware for the driver board of Module B (on double units only).

   The update starts. A progress bar is shown in the display. If the update has completed the control unit returns to the standard operating display.

   CAUTION!

   Do not interrupt a software or firmware update once it has started. Wait until updating is completed. Corrupted control software or firmware can render the humidifier unusable.
   Note: If software update is accidentally interrupted, the humidifier will not operate, but the software update can be resumed by leaving the USB key inserted in the control board and power cycling the unit. The integrated controller will detect the software was not properly installed, and restart the update.
10. Repeat steps 1 to 3, then carefully remove the USB memory stick.
11. Close control panel assembly, then close the door panel of the control compartment and lock it with the screw.
12. Repeat Step 6 and 7 to power up the humidifier.

7 Fault elimination

7.1 Important notes on fault elimination

Qualification of personnel

Repair work must be carried out only by **qualified and well trained professionals authorised by the owner**.

Repair work relating to the electrical installation must be carried out by an electrician or professionals authorised by the owner.

General notes

Only use original spare parts from your Nordmann representative to replace defective parts.

Safety

Before starting repair work on the Nordmann Omega Pro VE set the unit out of operation and disconnect it from the mains (see *chapter 4.5*).

DANGER!

Make sure the Nordmann Omega Pro VE is separated from the mains (check with voltage detector) and the shut-off valve in the water supply line is closed.

CAUTION!

The electronic components inside the control compartment of the Nordmann Omega Pro VE are very sensitive to electrostatic discharge.

Prevention: Before carrying out any repair work to the electrical or electronic equipment of the Nordmann Omega Pro VE, appropriate measures must be taken to protect the respective components against damage caused by electrostatic discharge (ESD protection).

7.2 Fault indication

Malfunctions during operation detected by the control software are indicated by a corresponding **Warning** message (operation still possible) or **Fault** message (operation not longer possible) in the maintenance and fault indication field in the standard display of the control unit.

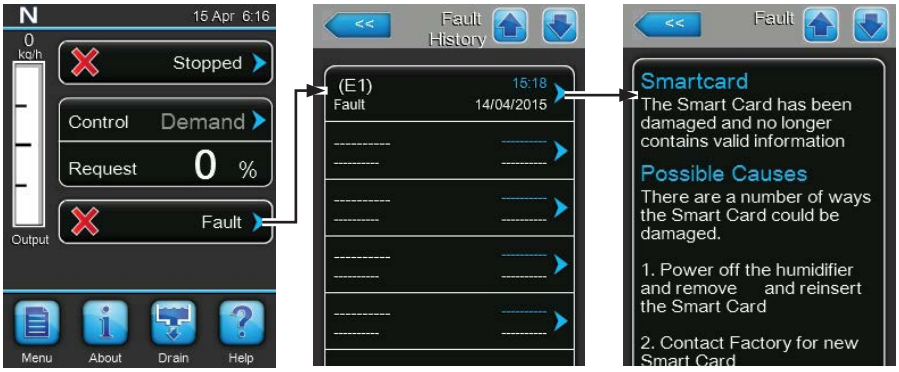
Warning

Temporary problems (e.g. water supply interrupted for a short time) or malfunctions which cannot cause damage to the system are indicated with a warning message. **If the cause of the malfunction disappears of its own accord within a certain period of time, the alarm message will automatically switch off otherwise an fault message is triggered.**
Note: warnings can be indicated also via the service relay of the remote operating and fault indication. Therefore the warning indication via the service relay must be activated in the communication menu of the control software (see *chapter 5.4.5*).

Fault

Operational states where further operation is not possible, or where further operation would damage the system are indicated with a fault message, additionally the fault indicator LED below the touch panel will lights up red. If such a malfunction occurs, the steam production of the Nordmann Omega Pro VE will be **stopped automatically**.

By pressing on the maintenance and malfunction indication field in the standard operating display the error list shown with all active warning and fault messages. By pressing on the corresponding Warning or Fault entry additional information regarding the malfunction are displayed (see display on the far-right).



7.3 Malfunction list

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 (e.g. hose connections, humidity control system, etc.).

Code		Message	Information	
Warning	Fault		Possible causes	Remedy
W02	——	BMS Timeout	BMS (Modbus, BACnet, LonWorks) has stopped sending humidity/demand updates.	
			Signal cable from BMS not connected correctly or defective.	Correctly connect or replace signal cable.
			Interfering signal present.	Eliminate source of interfering signal.
			Address conflict with other units in the chain.	Correctly set unit addresses.
W20	E20	Safety Loop	External safety chain is open, humidification is stopped! Note: as soon as the safety chain is closed again the humidification system Nordmann Omega Pro VE continues to work normally.	
			Ventilation interlock open.	Check/switch on fan of the AHU.
			Air proving switch has triggered.	Check fan/filter of the AHU.
			High limit humidistat has triggered.	Wait, check/replace high limit humidistat.
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.

Code		Message	Information	
Warning	Fault		Possible causes	Remedy
——	E22	Max. Filling Time	The Nordmann Omega Pro VE is monitoring the filling process with different levels which have to be reached within a preset time during filling. If a certain level is not reached within the preset time the fault message "Max. Filling Time" is triggered. Note: the inlet valve remains open. .	
			Water feed blocked, shut-off valve in the water supply line closed, filter valve closed or blocked). Water pressure too low.	Check water feed (filter, pipes, etc.), check/open shut-off valve, Check water pressure.
			Inlet valve blocked or defective.	Check strainer inside the inlet valve, clean if necessary. Replace valve.
			Excessive back pressure in the steam line (duct pressure too high, steam line too long or kinked), causing water loss via filling cup.	Check duct pressure, inspect steam installation. If applicable install pressure compensation kit (available as option).
			Water system leaky.	Check/seal water system.
——	E26 **	Contactor Jammed	There is voltage on the power board, even though the main contactor is not activated!	
			Main contactor jammed.	Check the main contactor and replace it if necessary.
W28	E28	Small maintenance	The maintenance interval for the "Small maintenance" has elapsed. If the "Small maintenance" is not performed and the maintenance message is not reset within one week after the maintenance message has been triggered a fault message is triggered! Note: The Nordmann Omega Pro remains operable. The maintenance message is shown until the maintenance counter is reset.	
			"Small maintenance" due.	Perform "Small maintenance" and reset maintenance counter.
W28	E29	Extended maintenance	The maintenance interval for the "Extended maintenance" has elapsed. If the "Extended maintenance" is not performed and the maintenance message is not reset within one week after the maintenance message has been triggered a fault message is triggered! Note: The Nordmann Omega Pro VE remains operable. The maintenance message is shown until the maintenance counter is reset.	
			"Extended maintenance" due.	Perform "Extended maintenance" and reset maintenance counter.
——	E32	Demand Snsr	Demand signal invalid, humidification is stopped!	
			Humidity sensor or external controller not or not correctly connected.	Check/correctly connect humidity sensor/external controller.
			Sensor/controller wrong configured (e.g. mA signal instead of V signal set).	Correctly configure sensor/controller via the configuration menu.
			Sensor/controller defective.	Replace sensor/controller.
——	E33	Limit.Snsr	Signal of the external limiter controller invalid, humidification is stopped!	
			Limiter controller not or not correctly connected.	Check/correctly connect limiter controller.
			Limiter controller wrong configured (e.g. mA signal instead of V signal set).	Correctly configure limiter controller via the configuration menu.
			Limiter controller defective.	Replace limiter controller.
W34	E34	Max. Drain Time	The level in the steam cylinder has not dropped to the preset level within the preset time. The Nordmann Omega Pro VE carries out a level test. This procedure is repeated three times if maximum drain time is exceeded again, then a fault message is triggered and humidification is stopped!	
			Drain pump not or not correctly connected.	Check/correctly connect drain pump.
			Drain hose inside the unit kinked or blocked.	Check/Cclean drain hose inside the unit, replace if necessary.
			water drain obstructed (external drain line or funnel blocked.	Clean external drain line and funnel.
			Hoses to level unit blocked.	Clean or replace hoses.
			Drain pump defective.	Replace drain pump.

Code		Message	Information	
Warning	Fault		Possible causes	Remedy
——	E47	Invalid Level	Invalid level detected, humidification is stopped! Note: As soon as the level is within the valid range again, the Nordmann Omega Pro VE continuous normal operation.	
			Magnetic field in vicinity of level unit.	Eliminate magnetic field.
			Level unit defective.	Replace level unit
——	E52 **	Unstable Level	Unstable level detected, humidification is stopped	
			Check hose connections between level unit and steam cylinder receptacle and between level unit and steam outlet hose.	Check/clean hose connections, clean if necessary.
——	E56	Int. Safety Loop	Internal safety loop interrupted, humidification is stopped! Note: As soon as the internal safety loop is closed again, the Nordmann Omega Pro VE continuous normal operation.	
			Connection between heating cable plug and electronic interrupted.	Let have the heating cable plug and cable connections to heating cable plug socket be checked by an electrician.
——	E57	Activation	Activation code has not been entered yet.	
			Activation code has not been entered yet.	Enter activation code (code available from your Nordmann representative).
——	E58	No Water Pressure	Not implemented yet.	
			——	——
——	E74 **	Keep Alive	Communication between control board and driver board interrupted.	
			Driver board not connected.	Correctly connect driver board.
			Wrong driver board installed.	Install and connect correct driver board.
			Driver board defective.	Replace driver board.
	E80	USB Logger	USB data logger fault.	
			USB data logger not connected or defective.	Check/replace USB data logger.
——	E82 **	Driver Missing	Communication with driver board interrupted.	
			RS485 Bus to driver board interrupted.	Contact your Nordmann representative.
——	E83 **	Slave Address	The driver board of the slave unit has a wrong address. The control can not differ between Master and Slave.	
			Rotary switch on the driver board of the slave unit set wrong.	Set rotary switch on the driver board of the slave unit to position "1".
——	E84 **	Driver defective	Unknown fault on driver board	
			Driver board defective.	Let have the driver board be replaced by an electrician.
——	E85 **	Driver ID wrong	Driver board ID wrong.	
			Wrong driver board connected or SAB address wrong.	Contact your Nordmann representative.
——	E86 **	Driver Incompatible	Wrong version of driver board.	
			Wrong version of driver board.	Contact your Nordmann representative.
——	E87 **	Local 24VSupply	Local 24V voltage on driver board out of valid range!	
			Short circuit on supply module or supply module defective.	Contact your Nordmann representative.
——	E88 **	Local 5V Supply	Local 5V voltage on driver board out of valid range!	
			Short circuit on supply module or supply module defective.	Contact your Nordmann representative.
——	E89 **	Local Ref Supply	Local reference voltage out of valid range!	
			DC supply faulty or supply line interrupted.	Contact your Nordmann representative.

Code		Message	Information	
Warning	Fault		Possible causes	Remedy
——	E95	No Heating voltage	Heating voltage missing although a demand is present. Note: As soon as the heating voltage is present again, the Nordmann Omega Pro VE continuous normal operation.	
			Main contactor defective.	Let have the main contactor be checked/ replaced by an electrician
			Phase failure heating voltage supply.	Check/switch on electrical isolator in the mains supply line. Let have fuses in the mains supply line be checked/replaced by an electrician.
——	E97 **	Ext. 24V Supply	External 24 V supply faulty. Voltage too high or too low.	
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
			Short circuit on external connection.	Remedy short circuit.
			Overload on external connection.	Disconnect load on terminal X16.
——	E98 **	Ext. 10V Supply	External 10 V supply faulty. Voltage too high or too low.	
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
			Short circuit on external connection.	Remedy short circuit.
			Overload on external connection.	Disconnect load on terminal X16.
——	E100 **	IO Inlet 1	Fault on inlet valve 1.	
			Valve electrically not connected or coil defective.	Correctly connect valve or replace coil .
——	E111 **	IO Drain 1	Fault on the optional drain water cooling valve.	
			Valve electrically not connected or coil defective.	Correctly connect valve or replace coil .
——	E112 **	IO Drain 2	Fault on the optional drain valve of the scale collector tank.	
			Valve electrically not connected or coil defective.	Correctly connect valve or replace coil .
W120	E120 **	Fill time min.	If the minmum fill time is underrun the Nordmann Omega Pro VE carries out a level test. This procedure is repeated three times if minmum fill time is underrun again, then a fault message is triggered and humidification is stopped!	
			Level unit is scaled.	Clean level unit.
			Hose connections from the level unit to the steam cylinder are clogged.	Check hose connections from the level unit to the steam cylinder and clean if necessary.
W121	E121 **	Max. vaporization time	If the maximum vaporization time is exceeded the Nordmann Omega Pro VE carries out a level test. This procedure is repeated three times if maximum vaporization time is exceeded again, then a fault message is triggered and humidification is stopped!	
			Individual heating elements faulty.	Replace faulty heating elements.
			Fuses on the power board defective.	Let have fuses on the power board be replaced by an electrician.
			Mains voltage too low or failure of a phase (L1, L2 or L3).	Let have the mains voltage and connections be checked by an electrician.
			Steam lead too long or not insulated.	Maintain maximum steam line lengths (max. 4 m), Insulate steam line.
			This error may also occur upon a cold start	Enable Soft start function.
——	E300	Blower security contact open	Enable contact of the blower pack open.	
			Jumper wire "J1" not connected to terminal block "X12" on driver board.	Connect jumper wire "J1" to terminal block "X12" on driver board.

** These fault messages must be reset by switching the Nordmann Omega Pro VE off and on again (see *chapter 7.5*)

7.4 Saving fault and service histories to a USB memory stick

The fault and service histories of the Nordmann Omega Pro VE can be saved to a USB memory stick for logging and further analysis. For this purpose proceed as follows:

1. Set the On/Off switch on the front side of the steam humidifier to the Off position, then switch off the voltage supply to the steam humidifier via the external disconnect switch (electrical isolator) and secure switch in the off position to prevent it from inadvertent power up.
2. Unlock the door panel on the control compartment side of the steam humidifier and remove it.
3. Swing control panel assembly open.
4. Carefully insert FAT32 formatted USB memory stick into the USB port on the control board. Make sure that the maximum length of the memory stick does exceed 75 mm.
5. Close control panel assembly, then close the door panel of the control compartment and lock it with the screw.
7. Remove the lock and tag from the external disconnect switch. Then, switch on external disconnect switch to restore power to the humidifier.
7. Set the On/Off switch on the front side of the steam humidifier to the On position.
8. When the standard operating display appears, select the **<Menu>** button, then enter the password (3562) to login.
9. Select "**Service > Fault/Service History Tab > Export History**". The last 40 humidifier fault and service history events are then downloaded to the memory stick as separate .csv files labelled "WARNING_FAULT.csv" and "SERVICE_HISTORY.csv".
   Note: the CSV tables can be processed with a spread-sheet program on a PC
10. Repeat steps 1 to 3, then carefully remove the USB memory stick.
11. Close control panel assembly, then close the door panel of the control compartment and lock it with the screw.
12. Repeat Step 6 and 7 to power up the humidifier.

7.5 Resetting the fault indication

To reset the error indication (red LED light, operating status indication shows "Stop"):

1. Switch off the Nordmann Omega Pro VE via the unit switch.
2. Wait approx. 5 seconds, then switch on the Nordmann Omega Pro VE again.

Note: If the fault has not been eliminated, the fault indication reappears after a short while.

7.6 Replacing the fuses and backup battery in the control unit

The fuses of the control unit must be replaced by **authorized personnel only** (e.g. electrician).

Replace fuses of the control unit only with fuses matching the specifications below with the appropriate nominal current capacity .

Never use refurbished fuses. Do not bridge the fuse holder.

To replace the fuses or the backup battery proceed as follows:

1. Disconnect control unit from the mains by switching off the electrical isolator and secure electrical isolator in "Off" position against inadvertent switching on.
2. Undo the screw of the front cover of the control unit, then remove the front cover.
3. Swivel control board assembly 90°outwards.
4. Replace desired fuse or the backup battery.

DANGER!

The contact protection of fuse "F2" must mandatory be relocated after the fuse has been replaced.

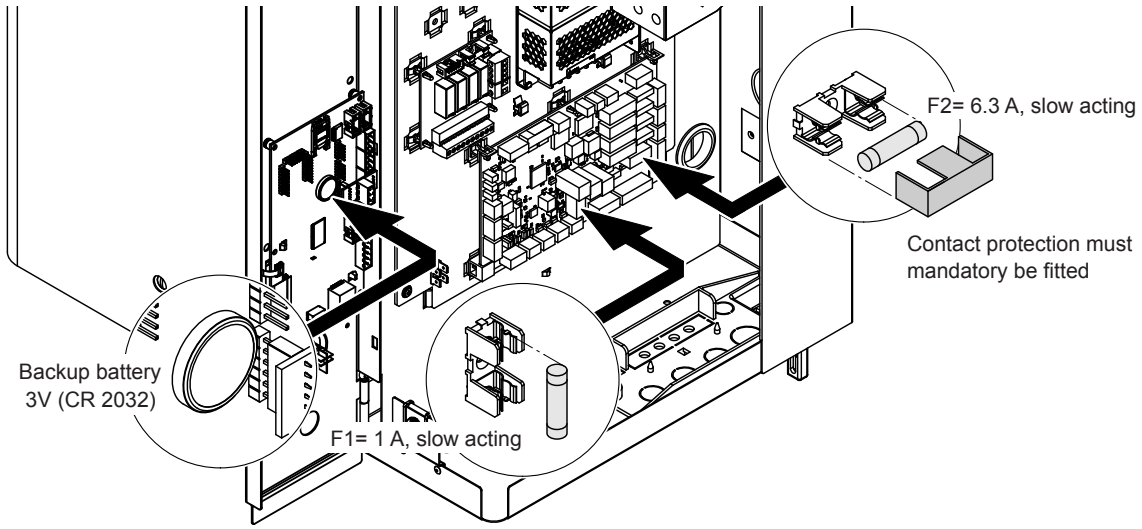


Fig. 6: Position of the backup battery and the fuses on the driver board

5. Swivel control board assembly 90°inwards.
6. Relocate front cover on control unit and lock it with the retaining screw.
7. Reconnect Nordmann Omega Pro VE to the mains by switching on the electrical isolator.

8 Taking out of service/Disposal

8.1 Taking out of service

If the Nordmann Omega Pro VE must be replaced or if the Nordmann Omega Pro VE is not needed any more, proceed as follows:

1. Take the Nordmann Omega Pro VE out of operation as described in *chapter 4.5*.
2. Have the Nordmann Omega Pro VE (and if applicable othe system components) unmounted by a qualified service technician.

8.2 Disposal/Recycling

Components not used any more must not be disposed of in the domestic waste. Please dispose of 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 local Nordmann representative.

Thank you for your contribution to environmental protection.

9 Product specification

9.1 Performance data

	Omega PRO	230V/1~/50...60 Hz					200V/3~/50...60 Hz					230V/3~/50...60 Hz					380V/3~/50...60 Hz					400V/3~/50...60 Hz					415V/3~/50...60 Hz				
		Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)
S	5	8.0	4.0	16.5	4.0	20	—	—	—	—	—	5.0	3.8	9.4	1.5	16	4.6	3.4	5.2	1.5	10	5.0	3.8	5.5	1.5	10	5.4	4.1	6.0	1.5	10
S	8	8.0	6.5	26.0	6.0	32	—	—	—	—	—	8.0	6.0	15.0	2.5	20	7.3	5.4	8.3	1.5	10	8.0	6.0	8.7	1.5	10	8.7	6.5	9.0	1.5	10
S	10	9.8	8.0	32.0	10.0	40	—	—	—	—	—	9.8	7.4	18.5	6.0	32	9.0	6.7	10.2	1.5	16	10.0	7.5	11.0	1.5	16	10.7	8.0	11.5	1.5	16
M	16	—	—	—	—	—	14.9	11.2	32.2	10.0	40	16.0	12.0	30.1	10.0	40	14.5	10.9	16.6	2.5	20	16.0	12.0	17.4	2.5	20	17.3	13.0	18.1	2.5	20
M	20	—	—	—	—	—	18.1	13.6	39.2	16.0	63	19.7	14.8	37.1	16.0	63	17.9	13.4	20.4	6.0	25	20.0	14.9	21.5	6.0	25	21.4	16.0	22.3	4.0	25
M	24	—	—	—	—	—	22.3	16.7	48.3	16.0	63	24.0	18.0	45.1	16.0	63	21.8	16.3	24.8	6.0	32	24.0	18.1	26.2	6.0	32	26.0	19.5	27.2	6.0	32
M	30	—	—	—	—	—	30.0	22.5	65.0	25.0	80	29.5	22.1	55.6	25.0	80	26.9	20.1	30.6	10.0	40	30.0	22.3	32.3	10.0	40	32.0	24.0	33.5	10.0	40
M	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.1	27.1	41.1	16.0	63	40.0	30.0	43.3	16.0	63	43.1	32.3	45.0	16.0	63
2*M	40	—	—	—	—	—	2*18.1	2*13.6	2*39.2	2*16.0	2*63	2*19.7	2*14.8	2*37.1	2*16.0	2*63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2*M	50 A + B	—	—	—	—	—	18.1 + 30.0	13.6 + 22.5	39.2 + 65.0	16.0 + 25.0	63 + 80	19.7 + 29.5	14.8 + 22.1	37.1 + 55.6	16.0 + 25.0	63 + 80	17.9 + 26.9	13.4 + 20.1	20.4 + 30.6	6.0 + 10.0	25 + 40	20.0 + 30.0	14.9 + 22.3	21.5 + 32.3	6.0 + 10.0	25 + 40	21.4 + 32.0	16.0 + 24.0	22.3 + 33.5	4.0 + 10.0	25 + 40
2*M	60	—	—	—	—	—	2*30.0	2*30.0	2*65.0	2*25.0	2*80	2*29.5	2*22.1	2*55.6	2*25.0	2*80	2*26.9	2*20.1	2*30.6	2*10.0	2*40	2*30.0	2*22.3	2*32.3	2*10.0	2*40	2*32.0	2*24.0	2*33.5	2*10.0	2*40
2*M	80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2*36.1	2*27.1	2*41.1	2*16.0	2*63	2*40.0	2*30.0	2*43.3	2*16.0	2*63	2*43.1	2*32.3	2*45.0	2*16.0	2*63

	Omega PRO	440V/3~/50...60 Hz					460V/3~/50...60 Hz					480V/3~/50...60 Hz					500V/3~/50...60 Hz					600V/3~/50...60 Hz				
		Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)	Max. steam capacity in kg/h	P_N max. in kW	I_N max. in A	Cable cross section A_L min. in mm^2	Fuses "F3" in A, quick acting (gR)
S	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
S	10	10.8	8.1	10.6	1.5	16	11.8	8.8	11.1	1.5	16	12.8	9.6	11.5	1.5	16	13.9	10.4	12.0	1.5	16	10.3	7.7	7.4	1.5	16
M	16	15.3	11.5	15.1	2.5	20	16.7	12.6	15.8	2.5	20	18.2	13.7	16.4	2.5	20	19.8	14.8	17.1	2.5	20	14.2	10.7	10.3	1.5	16
M	20	17.2	12.9	16.9	2.5	20	18.8	14.1	17.7	4.0	25	20.5	15.4	18.5	4.0	25	22.2	16.7	19.2	4.0	25	21.3	16.0	15.4	2.5	20
M	24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
M	30	24.0	18.0	23.6	6.0	32	26.2	19.7	24.7	6.0	32	28.6	21.4	25.8	6.0	32	31.0	23.3	26.9	6.0	32	32.0	24.0	23.1	6.0	32
M	40	36.0	27.0	35.4	16.0	63	39.4	29.5	37.1	16.0	63	42.9	32.1	38.7	16.0	63	46.5	34.9	40.3	16.0	63	42.7	32.0	30.8	10.0	40
2*M	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2*M	50 A + B	17.2 + 24.0	12.9 + 18.0	16.9 + 23.6	2.5 + 6.0	20 + 32	18.8 + 26.2	14.1 + 19.7	17.7 + 24.7	4.0 + 6.0	25 + 32	20.5 + 28.6	15.4 + 21.4	18.5 + 25.8	4.0 + 6.0	25 + 32	22.2 + 31.0	16.7 + 23.3	19.2 + 26.9	4.0 + 6.0	25 + 32	21.3 + 32.0	16.0 + 24.0	15.4 + 23.1	2.5 + 6.0	20 + 32
2*M	60	2*24.0	2*18.0	2*23.6	2*6.0	2*32	2*18.8	2*19.7	2*24.7	2*6.0	2*32	2*20.5	2*21.4	2*25.8	2*6.0	2*32	2*22.2	2*23.3	2*26.9	2*6.0	2*32	2*21.3	2*24.0	2*23.1	2*6.0	2*32
2*M	80	2*36.0	2*27.0	2*35.4	2*16.0	2*63	2*39.4	2*29.5	2*37.1	2*16.0	2*63	2*42.9	2*32.1	2*38.7	2*16.0	2*63	2*46.5	2*34.9	2*40.3	2*16.0	2*63	2*42.7	2*32.0	2*30.8	2*10.0	2*40

A= Module A, **B**= Module B

9.2 Operating data

Control accuracy	±5 %rh (with PI-control and use of untreated drinking water) ±2 %rh (with PI-control and use of de-ionized water)
Control steam output	
– active	0…5 VDC, 1…5 VDC, 0…10 VDC, 2…10 VDC, 0…20 VDC, 0…16 VDC, 3.2…16 VDC, 0…20 mADC, 4…20 mADC
– passive	all potentiometric humidity sensors from 140 Ω…10 kΩ
– On/Off control	<2.5 VDC --> Off; ≥2.5 VDC…20 VDC --> On
Duct air pressure	Overpressure max. 1500 Pa, Underpressure max. 1000 Pa (for duct pressures outside these values contact your Nordmann representative)
Admissible ambient temperature	1...40 °C
Admissible ambient humidity	1...75 %rh (non-condensing)
Water supply	
– Admissible water supply pressure	1...10 bar (with optional drain water cooling 2...10 bar)
– Admissible Feed temperature	1...40 °C (with optional drain water cooling 1...25 °C)
– Water quality	RO water or de-ionized water
Water drain	
– Drain water temperature	60...90 °C
Protection class	IP21

9.3 Connections/Dimensions/Weights

Water supply connector	G 3/4"
Water drain connector	ø30 mm
Steam connector	ø45.0 mm
Housing dimensions	
– Small unit (S) - HxWxD	670 mm x 420 mm x 370 mm
– Medium unit (M) - HxWxD	780 mm x 530 mm x 406 mm
Unit weights	
– Small unit (S) - Net weight/operating weight	27.2 kg / 40.2 kg
– Medium unit (M) - Net weight/operating weight	40.3 kg / 65.8 kg

9.4 Certificates

Certificates	CE, VDE

Notizen

CH94/0002.01

Nordmann Engineering AG
Lindenhofstrasse 28, CH-4052 Basel
Phone +41 61 404 46 50, Fax +41 61 404 46 79
www.nordmann-engineering.com,
info@nordmann-engineering.com

NORDMANN
ENGINEERING