STEAM HUMIDIFICATION SWISS MADE



NORDMANN
ENGINEERING

AGENCIES IN OVER 50 COUNTRIES



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NORDMANN ENGINEERING

Right from the beginning, the centre and goal of all our efforts was a healthy climate, i.e. just the right controllable air humidification.
Even the first products were used in the professional humidification industry and from day one we specialised in the sterile electrode steam technology.
Innovation and quality was always a driving power at Nordmann Engineering, be it by using modern technologies and materials, or by new methods, like for example, the revolutionary and worldwide-patented SC-System which minimises the amount of lime residues in steam cylinders.
The worldwide distribution of Nordmann products does run exclusively through specially selected, factory trained, independent country representatives. A long list of excellent references from all over the world confirms the good connections to our customers.

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BUILT TO BE ON TOP



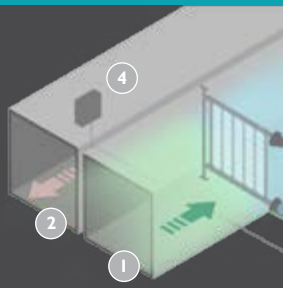


NORDMANN AT4

Setting new standards in humidification
For unmatched precision, reliability and flexibility
Integrated self-cleaning



1 Air intake duct
2 Exhaust air duct
3 Safety humidistat
4 Humidity sensor
5 Steam distributor
6 Exhaust fan
7 Steam humidifier



High performance

The NORDMANN AT4 generates sterilized, hygienic, odour-free steam. Featuring a wealth of innovative technology, it produces 5 to 130 kg of steam per hour, covering the needs of any air quality system.

NORDMANN AT4



Self-cleaning

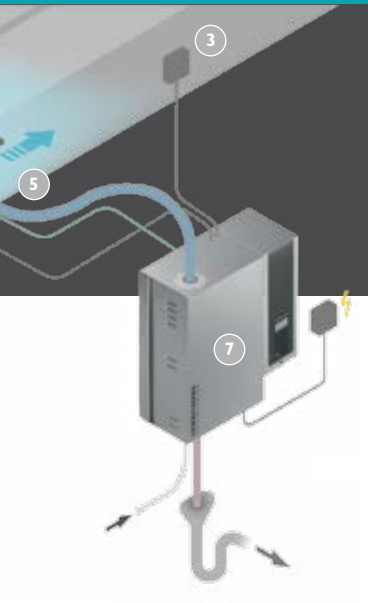
A patented self-cleaning system prevents the formation of limescale on the electrodes and cylinder sides. It is simply removed using the blowdown pump. And for users that means maximum reliability and long service intervals.

Intelligent water management

The water regulator automatically adjusts to local water conditions, keeping water consumption to a minimum.

Easy to install

With a separate control unit, easy accessibility and external water and steam connections, the system could not be easier to install.





Building technology

The AT4 is integrated with existing building technology using the Modbus standard. If preferred, the steam humidifiers can be networked via @Link to BACnet/IP and LonWorks.



Easy to use

A big three-inch display shows steam output and easy-to-follow operating instructions. And with the user-friendly menu, entering the right settings couldn't be simpler.



Optimum steam distribution

For normal requirements NORDMANN supplies stainless-steel steam distributor pipes as standard. If space is restricted, the MultiPipe distributor system, which drastically reduces the distance travelled by the steam, is a practical alternative.



For direct room humidification, the NORDMANN Fan4 system is the ideal choice.

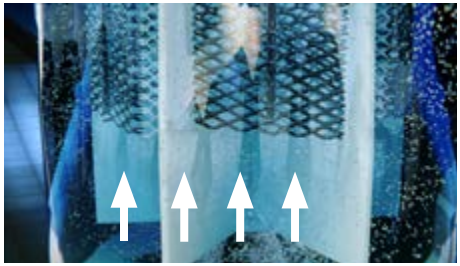


Thanks to the integrated self-cleaning (SC) system, service intervals with the NORDMANN AT4 steam humidifier are twice as long as those for conventional electrode-based humidifiers.



The formation of limescale in steam humidifiers is inevitable when ordinary tap water is used. The longer the scale is left to form, the more it affects the efficiency and reliability of the heating electrodes and the steam cylinder walls.

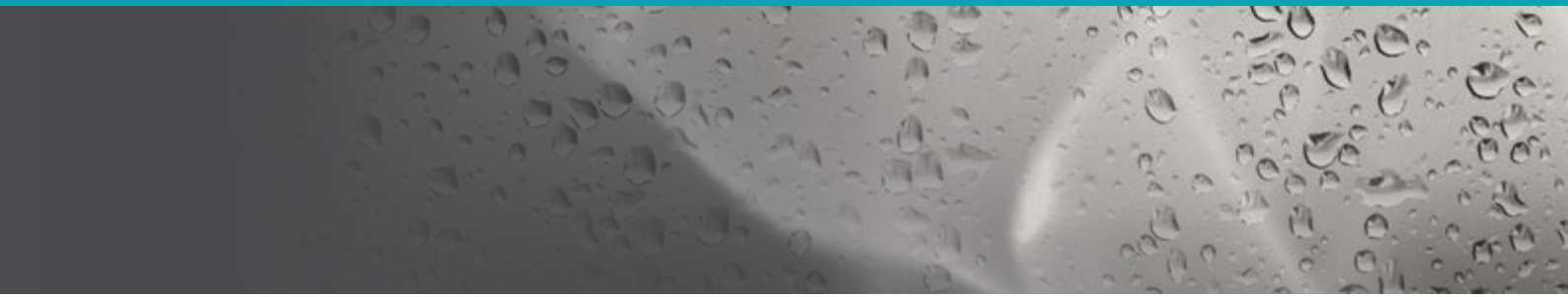
SC system

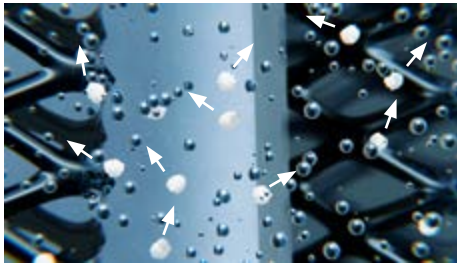


The patented NORDMANN SC system drastically reduces the formation of limescale in steam cylinders and automatically expels the minerals in suspension.

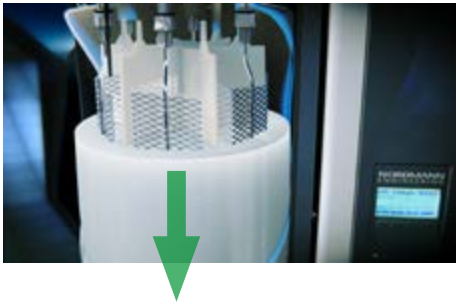
The result: service intervals are much longer and reliable steam production is guaranteed.

The SC system has an unusual, advanced feature that puts it in a class of its own. Air is blown cyclically into the steam cylinder causing the water to swirl. This keeps the particles of limescale in the entire steam cylinder constantly in motion and prevents them from settling on the sides of the cylinder.

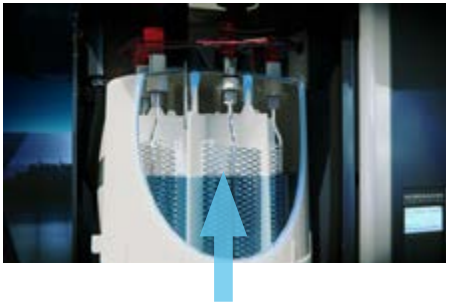




The formation of limescale deposits on the heating electrodes and on the bottom and sides of the cylinder is prevented.



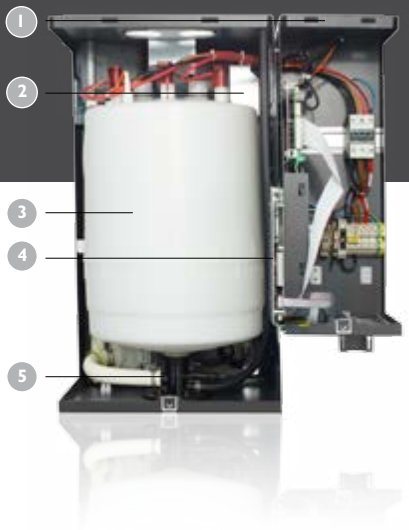
The fine particles of scale suspended in the water are rinsed out and removed during the automatic blowdown phase.



When the blowdown process is complete, the system is automatically refilled with fresh water and no interruption to operations.

The NORDMANN humidifier's SC system does not prevent the formation of limescale completely but it does make the interval between services significantly longer.

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1 **Separate control unit**
2 **Pump self-cleaning (SC) system**
3 **Steam cylinder**
4 **Electrogalvanized housing with powder coating**
5 **Blowdown pump**

NORDMANN AT4

Characteristics	Standard	Option
SC-System	•	
Remote operation and fault indication	•	
RS485 interface with Modbus protocol	•	
Mounting rails	•	
Terminals	•	
5-line graphic display	•	
Multilingual, user-friendly menu structure	•	
Program- , service and info level	•	
Adjustable de-scaling modes	•	
Integrated PI humidity controller	•	
Real-time clock and timer programming	•	
Self diagnostic capabilities		•
Split version		•
Remote control panel		•
Pressure compensation set up to 10'000 Pa		•
Building Management System (BACnet IP / Lon Works)		•



NORDMANN AT4

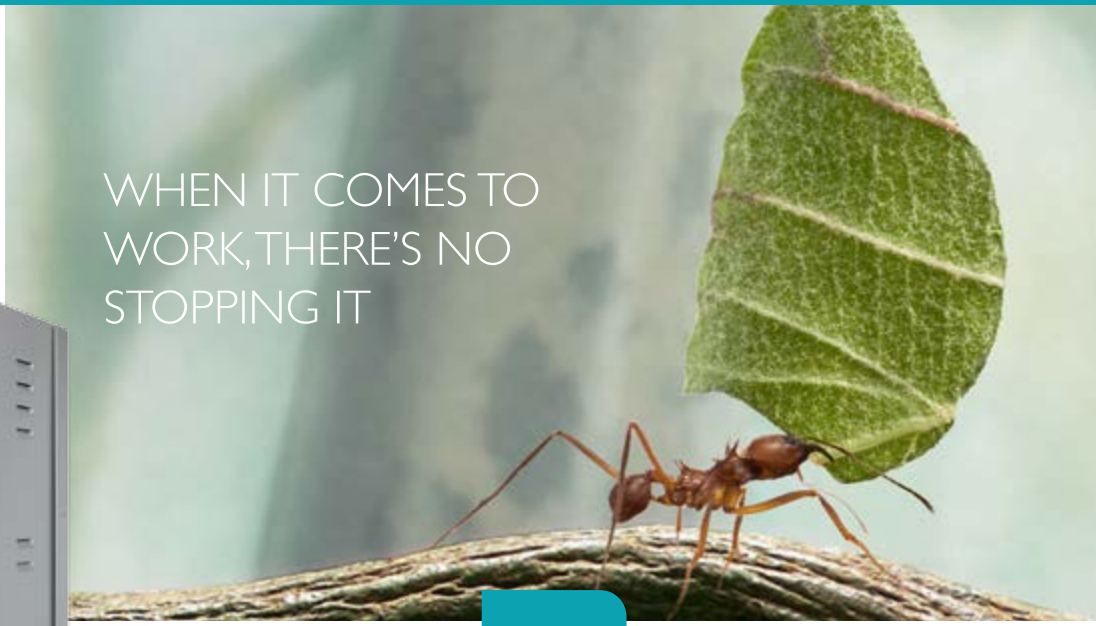
Steam output	kg/h	5	8	15	23	32	45	46	64	65	90	130
Capacity range	kg/h	1–5	1.6–8	3–15	4.6–23	6.4–32	9–45	9.2–46	12.8–64	13–65	18–90	26–90
Nominal power	kW	3.8	6.0	11.3	17.3	24.0	33.8	2x17.3	2x24.0	48.8	2x33.8	2x48.8
Steam cylinder	Quantity	1	1	1	1	1	1	2	2	1	2	2
Heating voltage*	Volt	400V / 3~ / 50..60 Hz										
Nominal current	Ampere	5.4	8.7	16.2	24.9	34.6	48.7		2x34.6	70.4	2x48.7	2x70.4
Classification	Type	534	834	1534	2364	3264	4564		6464	6564	9064	13064
Heating voltage*	Volt	230V / 3~ / 50..60 Hz										
Nominal current	Ampere	9.4	15.1	28.2	43.3	60.2		2x43.3	2x60.2			
Classification	Type	532	832	1532	2362	3262		4662	6462			
Heating voltage*	Volt	400V / 2~ / 50..60 Hz										
Nominal current	Ampere	9.4	15.0									
Classification	Type	524	824									
Heating voltage*	Volt	230V / 1~ / 50..60 Hz										
Nominal current	Ampere	16.3	26.1									
Classification	Type	522	822									
Dimensions	Width mm	388	388	468	468	563	563	966	966	563	966	966
	Height mm	575	575	620	620	640	640	640	640	640	640	640
	Depth mm	255	255	345	345	350	350	350	350	350	350	350
Net weight	kg	12	12	19	19	28	28	62	62	30	64	64
Operating weight max.	kg	17	17	29	29	65	65	116	116	67	116	116

Control voltage	230VAC/1, 50..60Hz
Control signal	On/Off (24VDC), 0..5VDC, 0..10VDC, 1..5VDC, 2..10VDC, 0..16VDC, 3.2..16VDC, 0-20mA, 4-20mA
Admissible duct air pressure	-0.8 kPa...1.5 kPa; overpressure kit (option) up to 10.0 kPa
Water quality	Untreated drinking water with a conductivity of 125...1250 µs/cm
Type of protection	IP21
Conformity	CE,VDE, GOST

* other heating voltages on request

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WHEN IT COMES TO WORK, THERE'S NO STOPPING IT

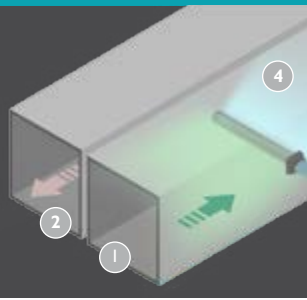


NORDMANN ES4

The smart solution:
Economical, robust, efficient



1 Air intake duct
2 Exhaust air duct
3 Humidistat
4 Steam distributor
5 Exhaust fan
6 Steam humidifier



Air humidification with hygienic steam

The ES4 generates sterilized, hygienic, odour-free steam. Available with seven practical power levels and in two different sizes, the NORDMANN ES4 produces between 5 and 65 kg of steam per hour.

NORDMANN ES4

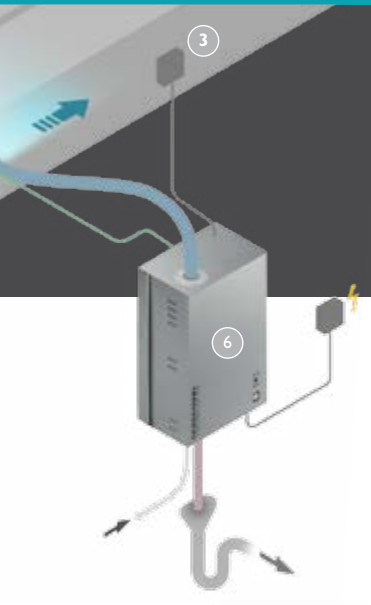


Durable and rugged

The high-quality finish guarantees a long service life. A robust, hot-dip galvanized housing contains NORDMANN's time-tested steam cylinders. All in all, an affordable and highly reliable humidification solution.

Easy to install

The front of the housing is removable, providing convenient access to all components. Installation and servicing work is quick and simple.



The central element in the ES4 air humidifier is the NORDMANN steam cylinder.

The exchange cylinders are designed for use with ordinary tap water. The extra-large, galvanized electrodes have proved their reliability over many years of practical use.



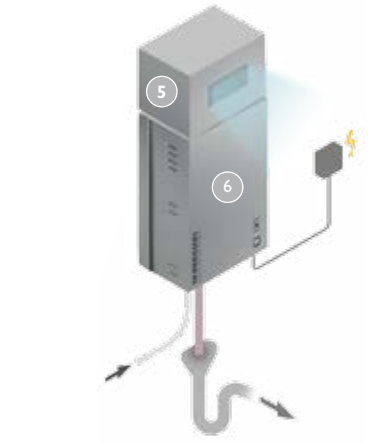
In tandem with the electronically controlled water management system, the steam cylinder adapts perfectly to local water quality. This guarantees safe, reliable operation while reducing water consumption to a minimum. The cylinder can be changed in seconds and downtimes are kept as short as possible.



Optimum steam distribution

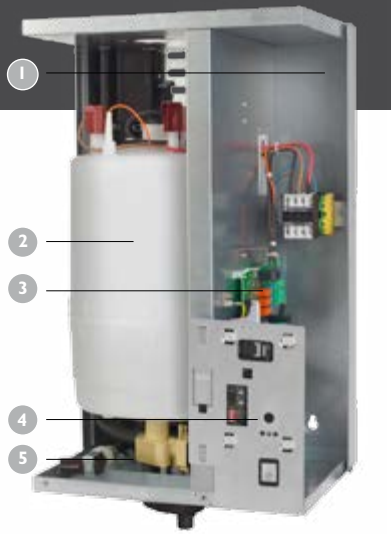
For normal requirements NORDMANN supplies stainless-steel steam distributor pipes as standard. Where space is restricted the MultiPipe distribution system, which drastically reduces the distance travelled by the steam, is a practical alternative.





When direct room humidification is required, the NORDMANN Fan4 system is the ideal choice.





NORDMANN ES4

1 **Hot-dip galvanized housing**
2 **Steam cylinder**
3 **Control electronics**
4 **LED showing operating functions**
5 **Blowdown valve**



NORDMANN ES4

Steam output	kg/h		5	8	15	23	32	45	65
Capacity range	kg/h		1–5	1.6–8	3–15	4.6–23	6.4–32	9–45	13–65
Nominal power	kW		3.8	6.0	11.3	17.3	24.0	33.8	48.8
Heating voltage*	Volt		400V / 3~ / 50..60 Hz						
Nominal current	Ampere		5.4	8.7	16.3	24.9	34.7	48.8	70.4
Classification	Type		534	834	1534	2364	3264	4564	6564
Heating voltage*	Volt		230V / 3~ / 50..60 Hz						
Nominal current	Ampere		9.4	15.1	28.2	43.3	60.2		
Classification	Type		532	832	1532	2362	3262		
Heating voltage / *	Volt		400V / 2~ / 50..60 Hz						
Nominal current	Ampere		9.4	15.1					
Classification	Type		524	824					
Heating voltage / *	Volt		230V / 1~ / 50..60 Hz						
Nominal current	Ampere		16.3	26.1					
Classification	Type		522	822					
Dimensions	Width mm		377	377	377	492	492	492	492
	Height mm		612	612	612	670	670	670	670
	Depth mm		279	279	279	351	351	351	351
Net weight	kg		19	19	19	28	28	28	28
Operating weight max.	kg		24	24	30	65	65	65	65
Control voltage	230VAC/1, 50..60 Hz								
Control signal	On/Off (24VDC), 0...10V								
Admissible duct air pressure	-0.8 kPa...1.5 kPa; overpressure kit (option) up to 10.0 kPa								
Water quality	Untreated drinking water with a conductivity of 125...1250 µs/cm								
Type of protection	IP20								
Conformity	CE, VDE, GOST								

* other heating voltages on request

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READY, AND ACTION…





NORDMANN RC4 DC4

Space-saving, secure, reliable
And a snap to operate



1 **Air duct**
2 **Humidistat**
3 **Humidity sensor/regulator**
4 **Steam distributor pipe**
5 **Direct room humidification**



The NORDMANN RC4/DC4 adapts perfectly to your requirements. It backs up your ventilation system or provides direct humidification in laboratories, conference and storage facilities, offices, humidors, cold stores, wine cellars and galleries.

NORDMANN RC4 DC4



Safe and simple

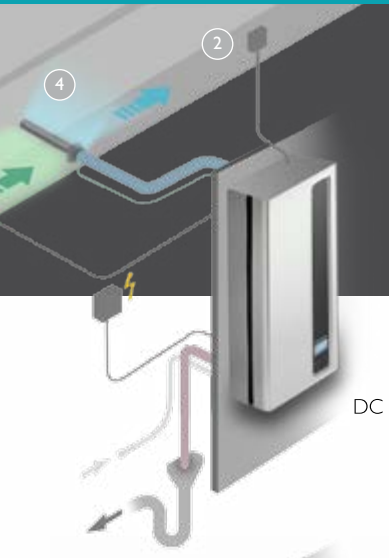
You don't have to be a technical wizard to understand the NORDMANN RC4/DC4: the housing lifts off completely and the cylinder can simply be removed and exchanged. The current-bearing components and electronics are so well protected that it is impossible to touch them when changing the cylinder.

The soul of discretion

Thanks to its simple, clear-cut design, relatively small size and – if desired – concealed water and power connections, the NORDMANN RC4/DC4 blends in perfectly with any environment.

Economy itself

The NORDMANN RC4/DC4 works to maximum efficiency with ordinary, untreated tap water.
The integrated water management system ensures that even blowdown operations require a minimum of additional water.



Easy to use

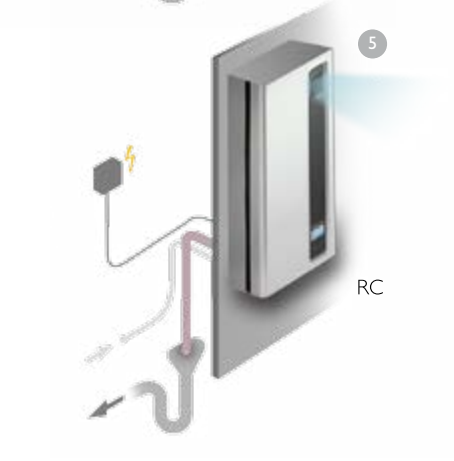
On the NORDMANN RC4/DC4, all control values and instructions can be read off from the large liquid crystal display. The desired settings are entered in cleartext using the intuitive menu.



The system of your choice: duct or direct room humidification

The NORDMANN DC distributes steam via a hose and distributor pipe directly into the duct. The NORDMANN RC with integrated ventilator guarantees perfect steam distribution throughout the entire room. The direction of the stream can be controlled with the help of slats.





Fast, simple servicing

The humidifier's smart, revolutionary design permits safe, easy replacement of the cylinder. The electronics and other current-bearing components are effectively protected against water and cannot be touched.

Completely cable-free

An optional humidity sensor can be installed which transmits the room's relative humidity level wirelessly to the NORDMANN RC4/DC4, which then automatically adjusts output.





1 **Powerful control electronics**
2 **Steam cylinder**
3 **Water inflow and outflow**
4 **User-friendly keypad and display**

NORDMANN RC4 DC4

Characteristics	RC4	DC4
Built-in fan for direct room humidification	●	
Steam connection for duct humidification		●
5-line graphic display	●	●
Multilanguage, user-friendly menu structure	●	●
Adjustable de-scaling modes	●	●
Real time clock	●	●
Timer programming	●	●
Internal PI controller	●	●
Self-diagnostic system	●	●
Control signal input	●	●
Mounting bracket for easy installation	●	●
Remote operation and fault indication	■	■
Hose set for concealed mains connections	■	■
Wireless humidity sensor control	■	

● Standard ■ Option



RC4 DC4

NORDMANN RC4/DC4

	NORDMANN RC4		NORDMANN DC4	
Heating voltage	230V1~/50..60Hz 240V1~/50..60Hz 200V2~/50..60Hz			
Steam output	2 kg/h	4 kg/h	2 kg/h	4 kg/h
max. electrical output	1.6 kW	3.1 kW	1.6 kW	3.1 kW
Fan air volume	22 m^3/h			
Sound pressure level	37 dB(A)			
max. room size (guideline)	200 m^3	400 m^3		
Operating weight empty	6.2 kg			
Operating weight filled	11 kg			
Dimensions (W x H x D)	265 mm x 650 mm x 175 mm			
Control signals	on/off (24VDC), 0-5VDC, 1-5VDC, 0-10VDC, 0.20mA, 4-20mA			
Water quality	untreated drinking water with a conductivity of 125..1250µS/cm			
Admissible water pressure	1..10 bar			
Admissible water temperature	1..40 °C			
Admissible ambient temperature	1..40 °C			
Admissible ambient humidity	max. 75 %rF			
Admissible duct air pressure			-0.8..0.8 kPa	
Protection	IP20			
Conformity	CE,VDE, GOST			

RC = for direct room humidification DC = for duct humidification

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Steam distribution

NORDMANN MultiPipe



Optimum steam distribution

The MultiPipe system is geared ideally to humidifiers made by NORD-MANN Engineering. The steam distribution pipes and jets are made of stainless steel.

Steam has to travel only half – or as little as a quarter – of the distance required by conventional steam distribution systems. Which makes the humidification system perfectly suited to premises where space is at a premium.

MultiPipe distributes the steam evenly and drip-free throughout the entire cross-section of the air duct.

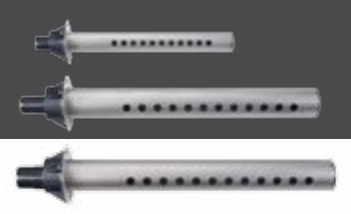
Ready for connection

MultiPipe is custom-made to fit the dimensions of the air duct. It is supplied ready for connection and reduces fitting time to a minimum.

MultiPipe System	Steam connection	Steam output	Duct dimensions [mm]	
			width	height
1	1	32	450...2700	450...1650
2	2	65	450...2700	450...2200
4	4	130	450...2700	800...3200

Systems 1 and 2 for single units only
system 4 for double units only

Steam distributor pipes



Steam distributor pipes for the air duct

Stainless-steel steam distributor pipes with integrated condensate return come in lengths suitable for any duct cross-section.

NORDMANN Fan4



NORDMANN Fan4 – Exhaust fan

The NORDMANN steam fan is designed to provide simple, effective humidification and can be placed directly on the appliance or installed separately.

Accessories

NORDMANN @Link



The AT4 air humidifier integrates quickly and simply into existing building technology systems with BACnet/IP and LonWorks.

The interface is preconfigured, which makes integration child's play.

The humidifier reports incidents such as service notifications to the control unit and also receives instructions about humidification levels.

	AT4
Communication protocol	
BACnet / IP	●
LonWorks	●
Modbus	Standard
Functions	
Monitor Unit status (Standby, Humidifying Mode)	●
Monitor of maintenance / service indications	●
Monitor fault indication	
Monitor analog demand request (%) / sensor (%rF)	●
Monitor unit type	●
Monitor system requirement	●
Control enable / disable	●
Control demand (%) / Sensor setting (%rF)	●
Output limitation	●
Nominal input (% r.h. / internal controller)	●
P-band setting	●
I-time setting	●

Protection from the elements



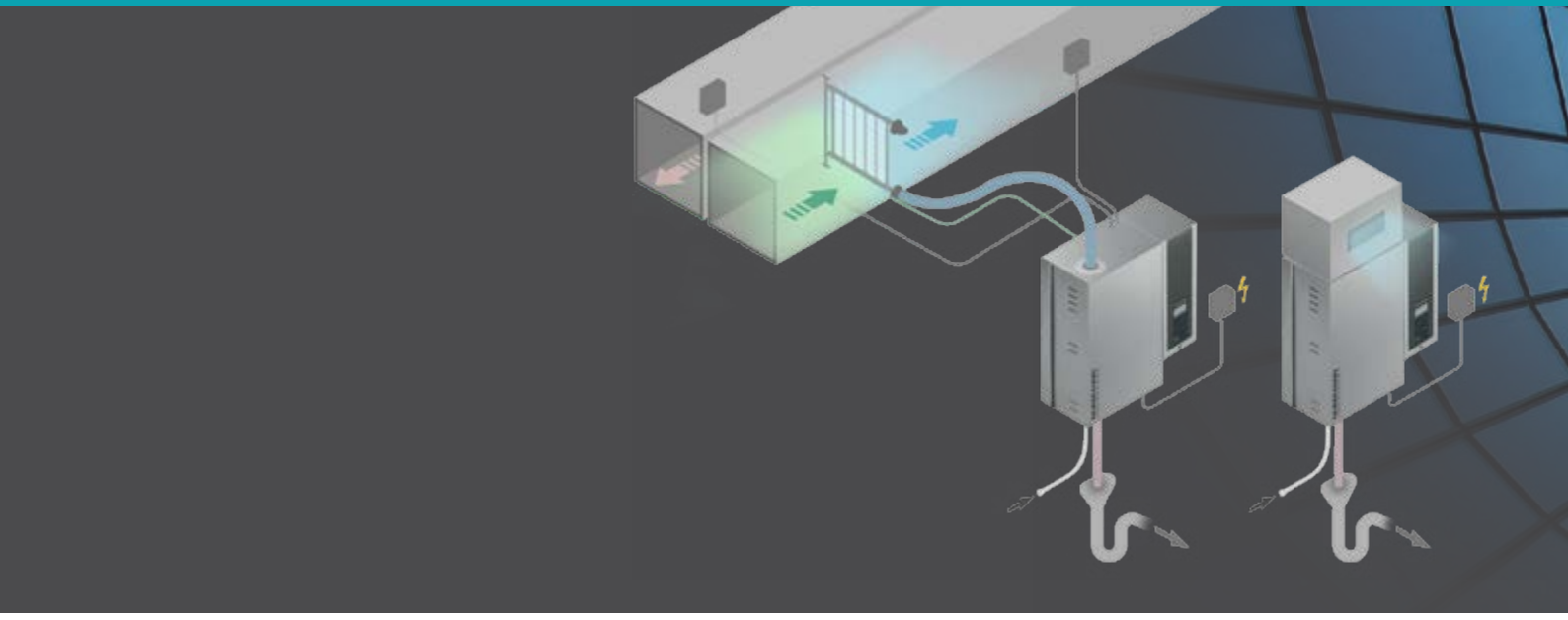
If space is in short supply, steam humidifiers can also be installed outside. And that's when the appliance requires a housing to protect it from the weather. These are supplied on request with heating for the winter months and a ventilator for summer operation. The compact housing is made entirely of aluminium and has an IP54 rating.

Humidity sensors/regulators



Precise, reliably functioning humidity sensors save energy and reduce running costs. NORDMANN supplies a full range of intelligent sensors, regulators and humidistats.

	AT4	ES4	DC4	RC4
Humidity sensor for duct mounting NDC	●		●	
Humidity sensor for room mounting NRC	●			●
Humidistat for duct mounting NHD	●	●	●	
Humidistat for room mounting NHR	●	●		●
Humidity sensor for duct mounting and PI controller NDP		●		
Humidity sensor for room mounting with int. PI controller NRP		●		



MIX
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