

HygroMATIK®

WE HUMIDIFY THE AIR

FlexLine

Steam humidifier



New flexibility in proven quality

- A series of units for all applications and performance categories
- Individual configuration
- Easy operation
- Highest quality and energy efficiency
- Environmentally friendly, incorporating reusable components



Air humidification

for industry, commerce, culture and leisure

New flexibility proven quality

The HygroMatik FlexLine as a modular system

Flexibility pays dividends.

The HygroMatik FlexLine represents a new generation of steam humidifiers which consists of a basic model that can be expanded to create an individual humidification solution suitable for all requirements.

Advantages:

- Ease of installation by means of individual pre-configuration ex factory
- Expansion options for retrofitting
- You only invest in the functions you really need

In order to make this flexibility available to our customers quickly, we have developed a **modular system**.

Custom made for every AREA OF APPLICATION.

The FlexLine basic model is the basis for all other configuration options. Through its individual extension capability, FlexLine is able to adapt to the requirements of differing areas of application:

- Optimisation of the indoor climate in industrial, commercial, cultural and leisure facilities
- Autonomous control and stabilisation of air humidity for industry and processes



Shopping centre and department store

Automotive industry

Museums and galleries

Optimum humidification using the best METHODS.

FlexLine is available as an electrode as well as a heater element humidifier – depending on your water quality and the required degree of control accuracy.



Replaceable stainless steel large area electrodes for different conductivities



Resistor type heater elements in highly corrosion-resistant alloy



Always the correct HUMIDIFICATION PERFORMANCE.

Equip HygroMatik FlexLine with the power you need for optimum humidification. 16 performance classes with steam output from 3 kg/h to 130 kg/h selectable in 6 unit sizes. An additional individual performance limitation can easily be programmed at the factory or on site.

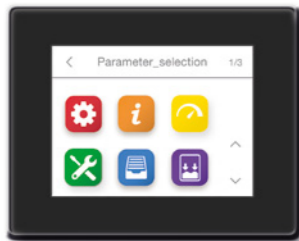
Manifold OPTIONS for a humidification solution that fits perfectly.

Every installation is different and so every project places unique requirements on the humidification solution. The diverse options enable FlexLine to be specifically equipped to create the perfect solution. Whether you choose HyCool, (integrated waste water cooling) or the SuperFlush function (cylinder flushing device) depends entirely on your project. If needed, all options can be retrofitted. We are always pleased to provide advice.

Benefit from extensive functions

Powerful, smart and efficient

Excellent ease of operation.



All HygroMatik FlexLine units are equipped with a capacitive 3.5" touch display. Operation and programming are selected via a flat and intuitive menu structure analogous to modern smartphone logic. In addition to this, subsequent software updates are quickly and easily possible via USB flash.

- At a glance comprehensible pictographs provide information on the operating condition
- Simple and fast navigation
- Information and system messages displayed as plain text
- Readout of service messages with date and time
- Integrated real-time clock



Smart control – powerful and quick response.

The improved control and regulation technology of FlexLine units provides extensive possibilities that are simple and easy to operate.

- **Multi-unit operation management*** caters for optimum allocation and capacity utilisation when operating multiple units and safeguards the humidity even when a unit is being serviced
- **Numerous control and reporting functions** can be assigned to up to 11 relays depending on the unit
- Freely programmable, overload-protected **digital input**
- **Integrated communication** protocol: Modbus RTU or BACnet

* Coming soon



Optimised unit performance for efficient utilisation.

As with all our products, the HygroMatik FlexLine has been developed for an especially long lifespan. The units feature technologies that not only reduce the amount of maintenance required, but also the wear of components. FlexLine offers the highest degree of efficiency where energy and resources are concerned.

- **Adjustable load shedding** between 25 and 100%, in order to adapt operation temporarily or permanently
- **Long-term continuous operation:** A robust base material helps our reusable cylinders to achieve a high temperature resistance and dimensional stability
- The **split cylinder** is easy to open and can be cleaned without using chemicals
- **Extremely durable:** All FlexLine cabinets are manufactured in corrosion-resistant stainless steel; the powder coating of the housing increases the longevity and provides optimal safety protection
- **Robust blowdown pump** for removing scale deposits to ensure long operating life cycles and low maintenance requirement
- **Highest safety standard** for electrode steam generators on the market due to integrated protection switch
- Heater element humidifier with electronic, **proportional level control** with no wear parts



Comprehensive service functions.



We have equipped the HygroMatik FlexLine with smart service functions and innovative features for operational reliability. These provide a new level of safety, control and transparency.

- Diagnosis mode can be actuated directly via the touch screen without having to start the unit
- Service messages are easy to select: Service intervals are calculated and issued based on the quantity of steam produced by the unit
- Smart-controlled status messages avoid damage and expensive service operations
- Detailed messages enable errors to be identified and rectified faster



All in the green zone

- Robust and durable cabinet
- Reusable steam cylinders
- Long and flexible service intervals
- High energy and resource efficiency



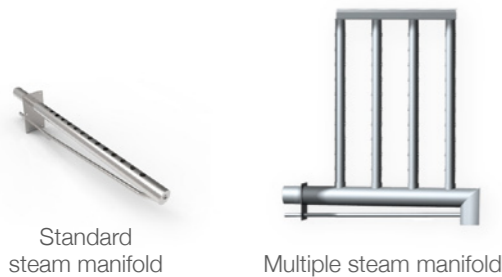
FlexLine electrodes technical data



A higher humidification performance is possible by connecting units together.

Type	FLE05	FLE10	FLE15	FLE20	FLE25	FLE30	FLE40	FLE50	FLE65	FLE80	FLE100	FLE130
Steam output [kg/h]	4.8-5.2	9.5-10.4	14.3-15.6	19.0-20.8	23.9-26.1	28.5-31.2	38.2-41.7	47.8-52.2	62.0-67.5	76.4-83.4	95.4-104.2	124.0-135.4
Electrical connection *	380-415V / 3 / 50-60Hz						380-415V / 3 / 50-60Hz					
Rated power [kW]	3.6-3.9	7.1-7.8	10.7-11.7	14.3-15.6	17.9-19.5	21.4-23.4	28.6-31.3	35.9-39.2	46.3-50.6	2 x 28.6-31.3	2 x 35.9-39.2	2 x 46.3-50.6
Rated current [A]	5.4	10.8	16.3	21.7	27.2	32.5	43.5	54.5	70.4	2 x 43.5	2 x 54.5	2 x 70.4
Fuse [A] **	3 x 10	3 x 16	3 x 20	3 x 25	3 x 32 (35)	3 x 40	3 x 50	3 x 63	3 x 80	6 x 50	6 x 63	6 x 80
Control voltage	220-240V / 1 / N / 50-60Hz						220-240V / 1 / N / 50-60Hz					
Steam hose connection [mm]	1 x 25			1 x 40			1 x 40 with Y-piece	2 x 40		2 x 40 with Y-piece	4 x 40	
Unit size ***												
Height [mm]	535			695			750	785		750	785	
Width [mm]	540			540			580	640		1090	1170	
Depth [mm]	320			320			355	420		355	420	
Water installation	Tap water of varying qualities 1 to 10 bar with 3/4" connection						Tap water of varying qualities 1 to 10 bar with 3/4" connection					

From our accessories range



Standard steam manifold

Multiple steam manifold

FlexLine heaters technical data

Type	FLH03	FLH06	FLH09	FLH15	FLH25	FLH30	FLH40	FLH50	FLH80	FLH100
Steam output [kg/h]	2.7-3.3	5.5-6.5	8.2-9.8	13.7-16.4	22.7-27.1	27.4-32.7	36.5-43.5	45.5-54.3	73.0-87.0	91.0-108.6
Electrical connection *	220-240V / 1 / N / 50-60Hz			380-415V / 3 / 50-60Hz						
Rated power [kW]	2.1-2.4	4.1-4.9	6.2-7.3	10.3-12.3	17.1-20.3	20.6-24.5	27.3-32.6	34.1-40.7	2 x 27.3-32.6	2 x 34.1-40.7
Rated current [A]	9.4-10.2	10.7-11.7	16.0-17.5	15.6-17.1	25.9-28.3	31.3-34.1	41.5-45.4	51.8-56.6	2 x 41.5-45.4	2 x 51.8-56.6
Fuse [A] **	1 x 16	3 x 16	3 x 20	3 x 20	3 x 32 (35)	3 x 35	3 x 50	3 x 63	6 x 50	6 x 63
Control voltage	220-240V / 1 / N / 50-60Hz									
Steam hose connection [mm]	1 x 25			1 x 40		2 x 40		4 x 40		
Unit size ***										
Height [mm]	535			695		785		785		
Width [mm]	540			540		640		1170		
Depth [mm]	320			320		420		420		
Water installation	Fully demineralised water / cleaned condensate: 1-10 bar, 13mm hose partially softened water / tap water of varying qualities 1-10 bar, for 3/4" external thread									

We reserve the right to make technical changes.

* Other voltages upon request.

** 1.1-fold power consumption after full blowdown.
Observe actuation characteristics of automatic circuit-breakers.
If necessary, select the next highest circuit-breaker level.

*** External width and depth dimensions.
Height including drainage nozzles

Our service for 100% customer satisfaction

- Personal on-site support provided by qualified service partners
- Simple ordering process and short delivery times
- Long availability for replacement parts
- Technical hotline +49 4193 895-293 or hotline@hygromatik.com
- HygroMatik distributes in more than 45 countries
- Operating manuals, planning data and information on workshop events available online at www.hygromatik.com

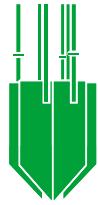


HygroMATIK[®]
WE HUMIDIFY THE AIR

HygroMatik GmbH
Lise-Meitner-Str. 3
24558 Henstedt-Ulzburg
Germany

T +49 4193 895-0
F +49 4193 895-33
hy@hygromatik.de
www.hygromatik.com

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Technical data for StandardLine (electrodes)

Higher humidification load can be achieved by connecting several devices.

Type	SLE02	SLE05	SLE10	SLE20	SLE30	SLE45	SLE65
Steam output [kg/h]	1.9-2.1	4.8 - 5.2	9.5 - 10.4	19.0 - 20.7	28.5 - 31.2	42.7 - 46.8	62.0 - 67.5
Electrical connection *	220-240V / 1 / N 50-60 Hz		380-415V / 3 / 50-60Hz				
Electrical power [kW]	1.4 - 1.6	3.6 - 3.9	7.1 - 7.8	14.3 - 15.5	21.4 - 23.4	32.0 - 35.1	46.3 - 50.6
Power consumption	6.5	5.4	10.8	21.7	32.5	48.8	70.4
Fuse** [A]	1 x 16	3 x 10	3 x 16	3 x 35	3 x 35	3 x 63	3 x 80
Control voltage	230V / 1 / N 50-60Hz separat						
Steam hose connection [mm]	25		40		2x40		
Dimensions ***							
Height [mm]	400	570	730		820		
Width [mm]	350	350	425		590		
Depth [mm]	245	245	320		415		
Water installation	Tap water of different qualities 1 to 10 bar with 3/4" connection						

Subject to technical changes.

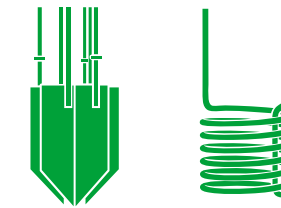
* Other voltages upon request.

** 1.1 times the power consumption after full blow-down. Pay attention to the automatic triggering of the circuit breakers. If required, select the next highest circuit breaker level.

*** Outer width and depth dimensions. Height including outlet connection.

Our service for 100% customer satisfaction:

- HygroMatik distributors in more than 35 countries worldwide
- Technical hotline: +49 4193 895 - 293 or hotline@hygromatik.com
- Personal on-site assistance
- 24-hour spare parts service
- Extended availability of spare parts
- Manuals and information material at www.hygromatik.com



HygroMATIK
WE HUMIDIFY THE AIR

StandardLine

Steam humidifier



- Reliable and cost effective
- Quick and simple installation
- For immediate delivery
- All operational data at a glance
- Proven HygroMatik quality

HygroMATIK
MORE THAN
45 YEARS
HUMIDIFICATION



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HygroMatik GmbH
Lise-Meitner-Str. 3
24558 Henstedt-Ulzburg
Germany

T +49 4193 895-0
F +49 4193 895-33
hy@hygromatik.de
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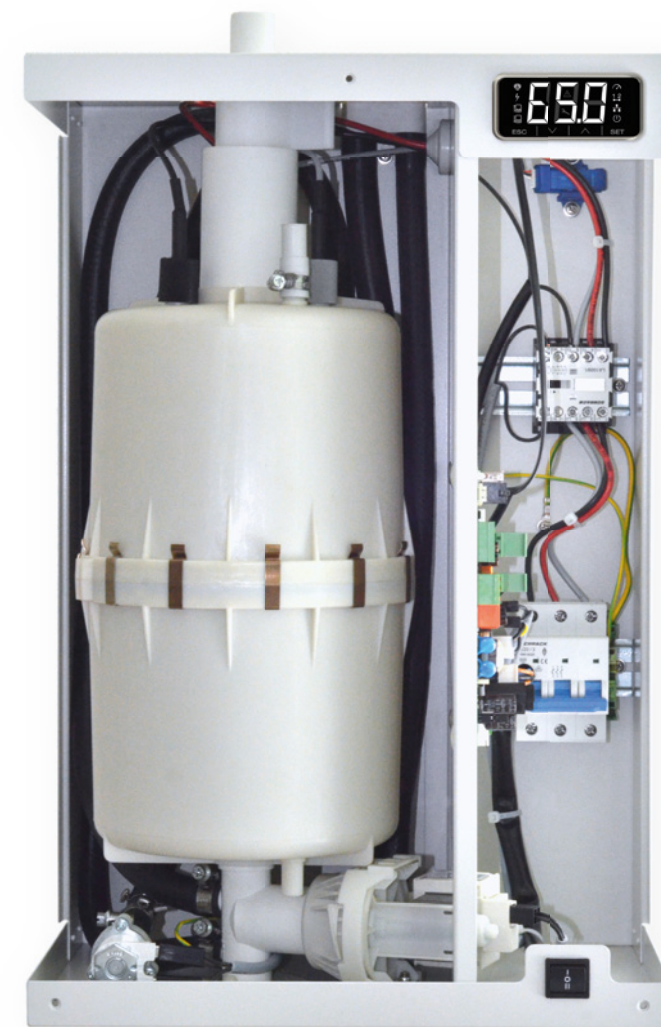
Humidification for best conditions.
for industry, manufacturing processes, public buildings and offices.

07/2017

The economical, high-quality solution

Do you need a reliable steam humidifier – one that is especially good value for money?

Then the StandardLine from HygroMatik is just what you have been looking for: a well-designed, quality steam humidifier that is easy to maintain – and with short delivery times.



Picture shows StandardLine (electrodes)

Heavy-duty blow-down pump



The heavy-duty blow-down pump supports the combined rinsing and scale collection system by draining the scale deposits. The deposits are discharged, before accumulating in the first place. This reduces the quantity of scale in the filter and lengthens servicing intervals.



Best by design

- Reliable steam humidification at a reasonable price
- Compact and space-saving
- Very easy to maintain
- Cabinet basin made from corrosion-resistant stainless steel
- Auto-adaptive water management
- Hygienic humidification with mineral-free steam

Well served – All necessary information at a glance

With the clear LED display of the StandardLine series you always have important humidifier and process data at hand. The simple display icons immediately show the status of the steam humidifier. The operating buttons ensure quick, intuitive navigation through the clear, easy to understand menu.



Reusable, cleanable steam cylinder



In all of its products HygroMatik places top priority on finding sustainable solutions that have as little impact as possible on humans and the environment. This is why we never use disposable cylinders, but only reusable and cleanable steam cylinders.



One Humidifier – two variants

The StandardLine can be used as an electrode or heater element steam humidifier.



Full-surface electrode



Electrode steam humidifiers are the ideal solution if you need simple, reliable steam humidification. Because of solid stainless steel, the full-surface electrodes from HygroMatik are especially durable and have no problems with tap water. The electrodes do not have to be replaced so often. This keeps maintenance costs low.

Heater elements



Steam cylinders with resistance type heater elements are suitable for many water qualities, especially for treated water. They ensure an extremely high degree of control precision and guarantee operation with virtually no disruptions or need for maintenance.



Technical data for StandardLine (heater elements)

Type	SLH03	SLH06	SLH09	SLH15	SLH25	SLH40*	SLH50*
Steam output [kg/h]	2.7-3.3	5.5-6.5	8.1-9.7	13.7-16.4	22.7-27.1	36.5-43.5	45.5-54.3
Electrical connection**	220-240V / 1 / N 50-60 Hz	380-415V / 3 / 50-60 Hz					
Electrical power [kW]	2.1-2.5	4.1-4.9	6.1-7.3	10.3-12.3	17.1-20.4	27.4-32.6	34.1-40.7
Power consumption	9.4-10.2	10.7-11.7	16.0-17.5	15.7-17.1	25.9-28.3	41.6-45.4	51.9-56.7
Fuse [A]	1 x 16	3 x 16	3 x 20	3 x 20	3 x 32	3 x 50	3 x 63
Control voltage	220-240V / 1 / N 50-60 Hz separat						
Steam hose connection [mm]	1 x 25		1 x 40		2 x 40		
Dimensions ***							
Height [mm]	570		730		820		
Width [mm]	350		425		590		
Depth [mm]	245		320		415		
Water installation	Tap water of different qualities 1 to 10 bar (100 x 103 to 1000 x 103 Pa), 13 mm hose						

Subject to technical changes.

* Available 4th quarter, 2017

** Other voltages upon request.

*** Outer width and depth dimensions. Height including outlet connection.

MORE

quality of life and work
with the right

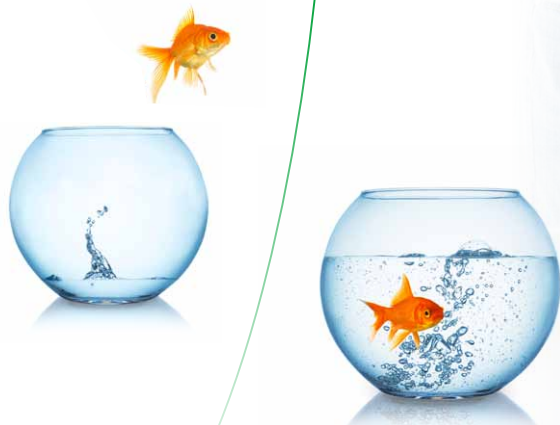
HUMIDIFICATION

Humidification systems humidify room air hygienically, reliably and precisely.

Controlled humidification is important not only to ensure a constant quality of production processes or to guarantee consistent conditions for the storage of food. With the right humidity, you also improve quality of life in buildings, offices and rooms with special climate conditions, such as laboratories and operating theatres.

HygroMatik has been successfully focusing on individual humidification solutions for more than 45 years.

Contact us – we have the ideal solution for your humidification needs.



HygroMATIK®

WE HUMIDIFY THE AIR

HUMIDIFICATION

Quality „Made in Germany“

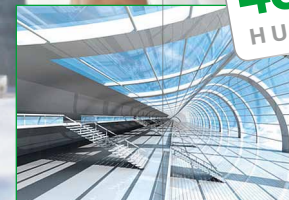
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Lise-Meitner-Str. 3
24558 Henstedt-Ulzburg
Germany
T +49 4193 895-0
F +49 4193 895-33
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MORE THAN
45 YEARS
HUMIDIFICATION



Electrode steam humidifiers from HygroMatik

Electrodes, through which a current flows, heat conductive water in a cylinder to generate unpressurised, hygienic steam.

Electrode steam humidifiers generate steam from tap water in an environmentally friendly, safe and efficient manner.

HyLine

In a cabinet with lockable cover. All devices are certified according to VDE and GS and are CE compliant. With especially large cylinder volume.



CompactLine

The space-saving, compact and inexpensive solution.

Heater element steam humidifier from HygroMatik

Heater elements heat water in a cylinder to generate unpressurised, hygienic steam according to the immersion heater principle. This type of humidification is suitable for almost all water qualities to 15°d.H. (German degree of hardness).

HeaterLine

Sturdy design: housing and cylinder made from corrosion-resistant stainless steel.



The HeaterLine can be operated with fully demineralised, partially softened, or tap water and requires almost no maintenance.

HeaterCompact

Optimum accessibility to the components saves installation and maintenance time. The plastic cylinder ensures especially low thermal stress for rooms and the environment.



But that's not all: adiabatic humidification systems

The humidification water is atomised to form tiny droplets (aerosols). The atomisation has a cooling (adiabatic) effect on the room temperature.

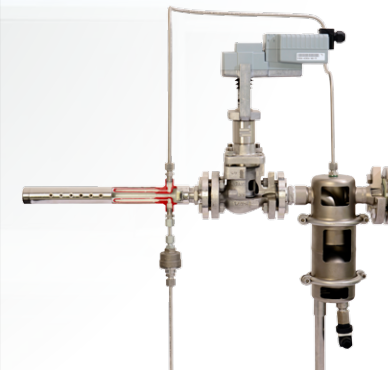


HPS

High-pressure nozzle system for fully demineralised water with a very high level of efficiency and very high humidification performance.

LPS

Low-pressure nozzle system for fully demineralised water for humidification and to cool the exhaust air.



DDS

Pressurised steam system for existing steam systems.

Tender specification

Electrode steam humidifier **FlexLine Electrode**

Ready-to-connect compact steam humidifier for fully automatic and intrinsically safe generation of mineral-free, odourless and sterile steam for air-conditioning and production technology applications. Steam output 4 – 130 kg/h per individual device. Installation and maintenance friendly design, for wall mounting. Completely stainless steel cabinet for optimum handling additionally powder-coated with lockable stainless steel cover and separate areas for steam generation and electrics.

With VDE and GS certification; CE- CSA C/US- and EAC-compliant. Developed and produced in Germany. For direct connection to all standard tap water mains. No water treatment necessary.

Powerful control electronics for fastest possible steam delivery with optimal energy utilisation and low maintenance operating mode. Comprehensive operational reliability through continuous self-monitoring of all device functions. The control processes all common signals and is modularly extendible.

Standard equipment:

- Graphic capacitive 3.5 " touchscreen with simple menu structure for intuitive operation and clearly laid out display of all operating and service messages in plain text mode and as icons
- Separable plastic cylinder, cleanable without using chemicals, re-usable and with especially long service life: the PP/GRP composite material with exceptional wall thickness provides increased heat insulation and especially high wear resistance to mechanical loads during cleaning. For ecological and economic reasons neither disposable steam cylinders nor cylinders without fibre reinforcement are used
- For especially long service lives, only large solid electrodes are used; standard solid stainless steel material, quickly replaceable without the need for tools. Dependent on conductivity of feed water, optimized solid material geometries are possible (no perforated plates or grids)
- Integrated stand-alone electro-mechanical circuit breaker for the highest standards of safety: The units are equipped with certified, discrete and software-independent components and as verification of the highest standard of intrinsic safety are tested and certified by an independent body in compliance with the current product safety legislation of 17/03/2016 based on the low voltage directive (2014/35/EU)
- Powerful blow-down pump to extend service lives through pumping out scale deposits and hardeners
- Good component accessibility from three sides facilitated by unit's removable cover
- Roomy electric compartment
- Assembly materials
- Freely programmable overload protected digital input; amongst others load dumps or limited power decreases for reduction of power surges are consequently easily achieved

Performance characteristics:

- Automatic system test incl. power-up diagnosis to check all functions and device components
- Load-dependent and/or time-based service interval display
- Support of preventative maintenance by maintenance-required messaging in good time BEFORE the occurrence of a possible malfunction by means of selective component monitoring with three alarm levels
- Integrated PI controller for top control quality
- Variable maximum humidity limitation for improved control in case of input air humidity
- Continuous or single-stage control selectable
- proportional controllability in the range of 10-100% of the nominal output (0-100% possible)
- Analogue output 0-10 V for simultaneous use of several devices
- The selectable operating modes "energy optimised", "load optimised" and "quick control" allow easy adaptation to differing supply networks
- Blow-down performance individually adjustable via touchscreen
- Individual adjustment to the respective water quality
- Stand-by blow-down to prevent stationary cylinder water according to VDI 6022
- DVGW compliant flushing of dead-end line to prevent tap water stagnation
- Standby heating for quick steam production
- Integrated galvanically isolated serial interface RS-485 (EIA-485)
- Integrated communication protocol Modbus RTU and BACnet MS/TP

- 2 potential-free relay signal functions; one of them freely parametrisable from 53 functions (factory preset: operating and collective fault)

Please select option:

- Cylinder flushing system for significant extension of the service lives of cylinders by means of increased discharging of screenable scale deposits or hardeners
- Preventive device type AB in accordance with DIN EN 1717 for potable water protection; DVGW certified; allows a local backflow preventer to be dispensed with
- Galvanised electrodes for optimised service lives of electrodes where the chloride content of the feed water is high
- Integrated waste water cooling to limit waste water temperature to max. 60 °C, when using PVC waste water pipes or pumping equipment
- Up to 7 additional relay signal functions freely parametrisable from 53 functions, for optimum integration in superordinate building technology

Tender specification Heater element steam humidifier **FlexLine Heater**

Ready-to-connect compact steam humidifier for fully automatic and intrinsically safe generation of mineral-free, odourless and sterile steam for air-conditioning and production technology applications. Steam output 3 – 100 kg/h per individual device. Installation and maintenance friendly design, for wall mounting. Completely stainless steel cabinet for optimum handling additionally powder-coated with lockable stainless steel cover and separate areas for steam generation and electrics.

With VDE and GS certification; CE- (CSA C/US-) and EAC-compliant. Developed and produced in Germany. The FlexLine heater can be operated with completely demineralised softened water or tap water.

Powerful control electronics for fastest possible steam delivery with optimal energy utilisation and low maintenance operating mode. Comprehensive operational reliability through continuous self-monitoring of all device functions. The control processes all common signals and is modularly extendible.

Standard equipment:

- Graphic capacitive 3.5 " touchscreen with simple menu structure for intuitive operation and clearly laid out display of all operating and service messages in plain text mode and as icons
- Separable plastic cylinder, cleanable without using chemicals, re-usable and with especially long service life: the PP/GRP composite material with exceptional wall thickness provides increased heat insulation and especially high wear resistance to mechanical loads during cleaning. For ecological and economic reasons neither disposable steam cylinders nor cylinders without fibre reinforcement are used
- Individually replaceable resistance heaters in Incoloy; extremely heat resistant and corrosion proof even with aggressive water qualities
- Electronic level control – exceptionally tough due to non-wearing contact- free continuous proportional water level recording with no moving parts. Non-use of conventional float switches is deliberate in order to eliminate any risk of failure due to limescale, swollen or leaking floats
- Units are equipped with certified, discrete and software-independent components and as verification of the highest standard of intrinsic safety are tested and certified by an independent body in compliance with the current product safety legislation of 17/03/2016 based on the low voltage directive (2014/35/EU)
- Powerful blow-down pump to extend service lives through pumping out scale deposits and hardeners
- Good component accessibility from three sides facilitated by unit's removable cover
- Roomy electric compartment
- Assembly materials
- Separate inputs for voltage, current and resistance signals
- Freely programmable overload protected digital input; amongst others load dumps or limited power decreases for reduction of power surges are consequently easily achieved

Performance characteristics:

- Automatic system test incl. power-up diagnosis to check all functions and device components
- Support of preventative maintenance by maintenance-required messaging in good time BEFORE the occurrence of a possible malfunction by means of selective component monitoring with three alarm levels
- Load-dependent and/or time-based adjustable service interval display
- Integrated PI controller for top control quality
- Variable maximum humidity limitation for improved control in case of input air humidity
- Continuous or single-stage control selectable
- Control accuracy of $\pm 1\%$
- Proportional controllability in the range of 5-100% of the nominal output (0-100% possible)
- Analogue output 0-10 V for simultaneous use of several devices
- Greatest operational reliability through thermal protection of the heater elements
- Thermal overload protection of the power semiconductor relay
- Practically maintenance-free when operated with completely demineralised water
- Cylinder flushing system for significant extension of the service lives of cylinders by means of increased discharging of screenable scale deposits or hardeners
- Blow-down performance individually adjustable via touchscreen
- Stand-by blow-down to prevent stationary cylinder water according to VDI 6022

- DVGW compliant flushing of dead-end line to prevent tap water stagnation
- Standby heating for quick steam production
- Integrated galvanically isolated serial interface RS-485 (EIA-485)
- Integrated communication protocol Modbus RTU and BACnet MS/TP
- 2 potential-free relay signal functions; one of them freely parametrisable from 53 functions (factory preset: operating and collective fault)

Optional:

- Integrated waste water cooling to limit waste water temperature to max. 60°C, when using PVC waste water pipes or pumping equipment
- Up to 7 additional relay signal functions, freely parametrisable from 53 functions for optimum integration in superordinate building technology

Tender specification

Electrode steam humidifier **StandardLine electrode**

Ready for connection compact steam humidifier system for fully automatic and intrinsically safe generation of mineral-free, odourless and sterile steam. Steam output 5 – 65 kg/h per individual device. Installation and maintenance friendly design, for wall mounting. Corrosion-protected housing completely powder coated, stainless steel housing trough with separate areas for steam generation and electrics.

With VDE and GS certification mark, CE and EAC compliant. Developed and manufactured in Germany.

For direct connection to all standard tap water mains. No water treatment necessary.

Standard equipment scope:

- Separable plastic cylinder - durable, easily cleaned without chemicals and reusable
- Massive large area stainless steel electrodes – especially long service life, replaced quickly and without tools
- Integrated circuit breaker
- Powerful blow-down pump to extend the service life by pumping out hardeners
- Steam hose adapter for fast installation and removal of the cylinder
- Device components easily accessed from three sides with removable device cover
- Assembly material.

Powerful control electronics for fastest possible steam delivery with optimal energy utilisation and low maintenance operating mode. Comprehensive operational reliability through continuous self-monitoring of all device functions. The control processes all established control signals.

Performance characteristics:

- Automatic system test incl. self-diagnosis checking all functions and device components
 - Continuous or 1-step control selectable
 - Integrated PI controller
 - Display
 - 4 function keys
 - 10 symbols for displaying operating and service messages
 - 2 potential-free remote signals, one of them freely programmable from 15 options
 - Stand-by blow-down to prevent stationary cylinder water according to VDI 6022
 - Dead leg flushing to prevent stationary tap water
 - Self-adaption to the respective water quality
 - Integrated communication protocol Modbus RTU
 - Integrated galvanically insulated serial interface / RS-485 (/ EIA-485)
 - Switch between the operating modes "energy-optimised", "load-optimised" and Separate inputs for voltage, current and resistance signals
 - Analogue output 0-10 V for simultaneous use of several devices
-

Technical specifications:

Steam output	.....	kg/h (max.)
Electrical connection	..... / ..... / .....	V / phases / (N)
Nominal power rating	.....	kW (max.)
Nominal current	.....	A (max.)
Control voltage	230V / N 50-60Hz separately	
Make	HygroMatik	
Type	StandardLine E	

Accessories

- Stainless steel steam manifold with condensate recirculation

Quantity	.....
Diameter	.....	(25 or 40 mm)
Length	(220, 400, 600, 900, 1200 or 1450 mm)

 - Steam hose

Diameter	(25 or 40 mm)
Length	

 - Condensate hose

Length	
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 - Water drain hose

Length	
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-

Tender specification

Heater element steam humidifiers **StandardLine Heater**

Fully wired compact steam humidifier system for fully automatic and intrinsically safe generation of mineral-free, odourless and sterile steam. Steam output 3 – 50 kg/h per individual device. Installation and maintenance friendly design for wall mounting. Corrosion-protected housing completely powder coated, stainless steel housing trough with separate areas for steam generation and electrics.

With VDE and GS certification mark, CE and EAC compliant. Developed and produced in Germany. StandardLine Heater can be operated with completely demineralised, softened water or tap water.

Standard equipment scope:

- Separable plastic cylinder - durable, easily cleaned without chemicals and reusable
- High-quality exchangeable resistance heaters
- Electronic level control - non-wearing, contact-free continuous water level recording
- Powerful blow-down pump to extend the service lives by pumping out hardeners
- Steam hose adapter for fast installation and removal of the cylinder
- Device components easily accessed from three sides with removable device cover
- Assembly material.

Powerful control electronics for fastest possible steam delivery with optimal energy utilisation and low maintenance operating mode. Comprehensive operational reliability through continuous self-monitoring of all device functions. The control processes all established control signals.

Performance characteristics:

- Automatic system test incl. power-up diagnosis to check all functions and device components
- Continuous or single-stage control selectable
- Separate inputs for voltage, current and resistance signals
- Integrated PI controller
- Control accuracy of $\pm 1\%$
- Proportional controllability in the range of 5-100% of the nominal output
- Display
- 4 function keys
- 10 symbols for displaying operating and service messages
- 2 potential-free remote signals, one of the freely programmable from 15 options
- Greatest operational reliability through thermal protection of individual heater elements
- Thermal overload protection of the power semiconductor relay
- Practically maintenance-free when operated with completely demineralised water
- Where particularly hard water is concerned a water analysis is required
- Adaptation of blow-down via menu
- Stand-by blow-down to prevent stationary cylinder water according to VDI 6022
- Flushing of dead-end line to prevent mains water stagnation in accordance with VDI 6022
- **eS**standby heating for quick steam production
- Integrated galvanically isolated serial interface RS-485 (EIA-485)
- Integrated communication protocol Modbus RTU
- Analogue output 0-10 V for simultaneous use of several devices

Technical specifications:

Steam output	.....	kg/h (max.)
Electrical connection	..... / ..... / .....	V / phases / (N)
Nominal output	.....	kW (max.)
Nominal current	.....	A (max.)
Control voltage	230V / N 50-60Hz separately	
Make	HygroMatik	
Type	StandardLine H	

Accessories

- Steam manifold with stainless steel condensate recirculation

Quantity	.....
Diameter	.....	(25 or 40 mm)
Length	(220, 400, 600, 900, 1200 or 1450 mm)

- Steam hose

Diameter	(25 or 40 mm)
Length	

- Condensate hose

Length	
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- Outlet hose

Length	
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