

Air humidification systems flexibly configured

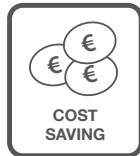
According to need and possibility



Even the basic version of our FlexLine series is characterised by solid basic functions, long operating times and a long service life. As an option, all FlexLine units can be customised at the factory **with over 100 additional function combinations** to meet the needs of the installation environment. Most FlexLine options can also be retrofitted or activated later. This means that you only invest in the humidifier version that you actually need.



FlexLine options



Effective protection for the steam cylinder SuperFlush or HyFlush

The FlexLine options SuperFlush and HyFlush are intelligent cylinder flushing functions that effectively protect the **cylinder and supply lines** of your FlexLine steam humidifier from deposits. These are caused by mineral ingredients (e.g. calcium, magnesium, etc.) in the tap water during heating and evaporation. During the blow-down process, **a powerful jet of water loosens** hardness formers from the cylinder base, whirls them up and thus ensures improved discharge.

HyFlush works with a stronger water jet than SuperFlush. This ensures an even more effective cleaning process and faster refilling of the cylinder. The SuperFlush cylinder flushing function is already integrated as standard in the FlexLine FLH and FLP versions.

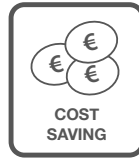


With clear advantages

- Execution of cylinder flushing during operation reduces the downtimes of the system
- Less maintenance work and longer maintenance intervals
- Longer service life
- Lower operating costs



FlexLine options
SuperFlush or HyFlush



Maximum protection for cylinders and lines HyFlush, HyCool and stub line flushing

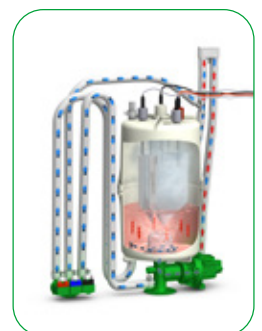
The FlexLine options HyFlush and HyCool effectively protect the **cylinder and waste water pipes** from deposits. Depending on requirements, HyFlush and HyCool can also be installed individually. In addition, **a stub line flush** is also possible, which prevents the supply line from becoming contaminated by standing water during longer downtimes in accordance with VDI 6022.

The HyFlush flushing function dissolves and removes deposits in the cylinder caused by mineral substances (e.g. calcium, magnesium etc.) in the tap water during heating and evaporation. This enables an even longer operating time between maintenance intervals.

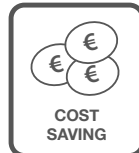
The FlexLine HyCool option protects the waste water pipes by reducing the waste water temperature to below 60°C. This is particularly important if, for example, the waste water pipe is not made of high temperature resistant material on site or if a lifting unit is used. The lower waste water temperature also significantly reduces vapour formation in the free outlet of the drain funnel. This enables installation in narrow niches or poorly ventilated technical cabinets.

With clear advantages

- Lower operating costs due to less wear
- Less maintenance work and longer maintenance intervals
- Protection of waste water pipes from excessive thermal loads
- Improved hygiene thanks to stub line flushing
- Longer service life



FlexLine options
HyFlush, HyCool, stub line flushing



Flexible voltage specification

Safety chain 12V / 24V / 230V

To prevent damage and overloading of the air humidification system and to ensure the safety of people and property, different safety sensors such as flow monitors, leakage monitors or thermostats are integrated in a safety chain of the control system. Only when all sensors confirm safe operation the safety chain is closed and the steam humidifier can start.

Depending on the voltage specified by existing sensors or the BMS system, you can choose between 12V / 24V and 230V. With this FlexLine option, we offer the right solution for every standard voltage in the safety chain.

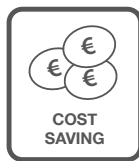
With clear advantages

- Adaptation of the voltage in the safety chain to existing components or a BMS system
- Avoidance of time-consuming and costly adaptation measures to existing technology, national regulations and standards
- Prepared for quick installation of the safety chain



FlexLine option

Safety chain 12V / 24V / 230V



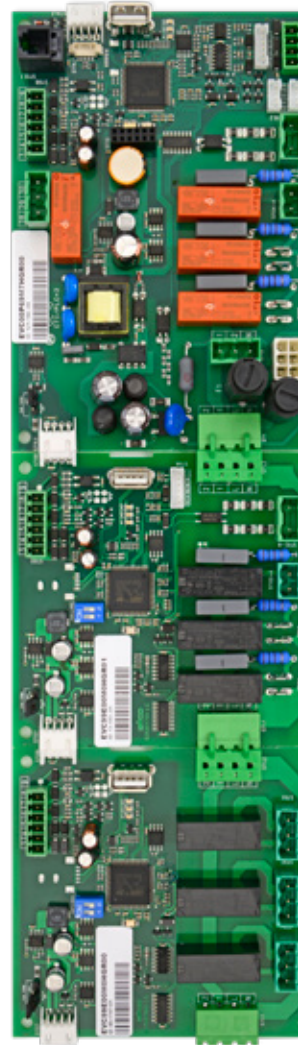
System monitoring and control via BACnet or Modbus

With this FlexLine option, the humidifier can be integrated into an existing bus network via an RS485 interface as a BACnet MSTP server or as a Modbus RTU server. The RS485 interface is adjustable and galvanically isolated.

If integration takes place via BACnet, error messages and values can be read out and made available in the network. If the connection is made via Modbus, additional control functions are also available.

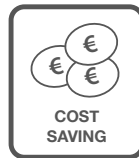
With clear advantages

- Simple connection to an existing network or BMS system
- Centralised integration of several building systems through standardised communication protocols
- Information and values can be clearly prepared and displayed
- Centralised monitoring and control functions



FlexLine options

Communication via BACnet / Modbus



Control of parallel devices via one device unit

If several individual humidifiers are required for a **high humidification output**, they can be operated in parallel (all run simultaneously at the same output) or in sequence (1st unit starts, from e.g. 25% demand the 2nd unit is switched on, etc.) with this FlexLine option with one single control signal and one release like a large humidifier. To be able to use this retrofittable FlexLine option, all humidifiers must be equipped with the option.

With clear advantages

- Simple scaling of the humidification capacity
- Less effort required for installation, commissioning and configuration
- Time and cost savings when adapting the system
- Only one release contact required in the BMS control system



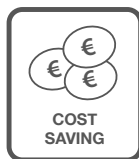
FlexLine option
Control of parallel devices



INTELLIGENT
PROTECTION



EASY
MOUNTING



COST
SAVING



SUSTAINABLE



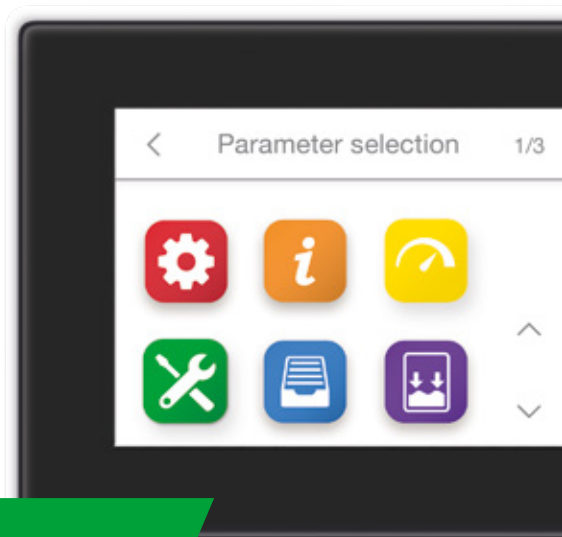
Digital input for service messages from the safety chain

The switching contacts of the hygrostat, air vane, pressure box or a leakage monitor are often connected in series and connected to terminals 1 and 2 for safety shutdown. In the event of an open safety chain, it is not possible to determine which switching contact has opened due to the series connection.

With this FlexLine option, each switching contact has its own connection terminal and is recorded separately from the control system via a digital input. Each digital input is assigned a switching contact function in the parameterisation. When the switching contact is open, the corresponding message is shown on the display as a service message. The parameters can be set directly via the 3.5" touch display on the humidifier.

With clear advantages

- Detailed system information available at a glance
- Simplified troubleshooting and faster response times in the event of faults
- Avoidance of long downtimes or operational failures
- Reduced service costs



FlexLine option

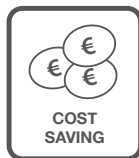
Digital input for service messages



INTELLIGENT
PROTECTION



EASY
MOUNTING



COST
SAVING



Freely programmable signalling relays for extensive signalling functions

Depending on the application and connection to higher-level or upstream/downstream components and systems, the humidifiers can trigger numerous signalling and control functions via relays. If the standard signalling relay (factory used for signalling a collective fault) is not sufficient, this FlexLine option can be used to install up to 2 x 2 additional relays for switching further functions or messages.

The relays are simply mounted on the top-hat rail in the humidifier. The switching function of the relays is freely programmable. The parameters for this can be conveniently set directly via the 3.5" touch display on the humidifier.

With clear advantages

- Extended monitoring function provides additional system information
- Freely programmable, customised configuration
- Messages can be sent directly to the customer



FlexLine option

Freely programmable signalling relays



Wide range control (electrode version)

Large performance range - precisely controllable

This FlexLine option enables single-cylinder devices of the FlexLine series to have a wider range of steam output control. The smallest electrically controllable output of the FlexLine humidifier is halved by this option. This doubles the control accuracy of the humidifier.

Larger humidifiers with 6 electrodes receive a controllable power reduction to reduce the surface load of the electrodes at low requirements below 15% and at the same time double the control accuracy and the time between filling cycles.

The smart FlexLine control system ensures even wear of the electrodes.

This FlexLine option can be activated retrospectively.

With clear advantages

- Despite a large output range, the wide range control enables precise and stable control of the humidification output with low power output
- Ideal for use in test laboratories and simulation systems



FlexLine option

Wide range control (electrode version)



Wide range control (heater version)

Large performance range - precisely controllable

With this option, FlexLine heater humidifiers have a controllable power reduction to reduce the heat output for low requirements below 33%. This triples the control accuracy of the humidifier in this range and the humidifier can also control significantly lower outputs very precisely.

With this T-PRO option, the FlexLine heater wide range control reduces the smallest controllable steam output by 300% compared to a standard humidifier.

This FlexLine option can only be activated at the factory.

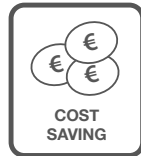
With clear advantages

- Despite a large output range, the wide range control enables precise and stable control of the humidification output with low power output
- Ideal for use in test laboratories and simulation systems



FlexLine option

Wide range control (for FL PRO)



Operation with demineralised water for electrode steam humidifiers

Electrode steam humidifiers are usually operated with ordinary tap water. In addition to pure H₂O, tap water also contains minerals (e.g. calcium, magnesium, etc.). When water is heated and vaporised, these precipitate as sludgy or crystalline deposits that remain in the steam cylinder and must be removed during regular maintenance. As the water must have a certain conductivity for the vaporisation process using electrodes, it is often not possible to use demineralised water purified of these mineral ingredients in electrode steam humidifiers, despite the many advantages.

This FlexLine option uses a patented process to add demineralised water to the tap water in an optimum ratio, which ensures the conductivity required for stable operation. At the same time, however, the loss of hardness formers is reduced to a minimum, which enables a significantly longer operating time between two maintenance intervals.

With clear advantages

- Lower investment costs than when using heating elements
- Lower operating costs due to less wear and tear
- Lower maintenance costs and longer maintenance intervals
- Longer service life



FlexLine option
Electrode version with demineralised water

Our service for 100% customer satisfaction

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HYGROMATIK[®]
member of CAREL group 

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

