



HygroMATIK[®]
WE HUMIDIFY THE AIR

Pressure steam system DDS

Efficient air humidification with pressurised steam from on-site steam networks



HygroMATIK
MORE THAN
45 YEARS
HUMIDIFICATION



Climate and process humidification
for industry, manufacturing processes, public buildings and offices

HygroMatik pressure steam system DDS

Efficient air humidification with existing pressurised steam

Intelligent and energy-efficient use of existing pressurised steam.

In many facilities and industrial production areas, pressurised steam is used for standard operational processes and applications. The HygroMatik pressure steam system DDS is connected to an existing steam network and makes the pressure steam available for energy-efficient air humidification.

Typical areas of application are e.g.

- Hospitals
- Laboratories and clean rooms
- Pharma
- Chemie
- Food
- Power plants
- And many more

Wherever sufficient pressurised steam is already available, it can be used for air humidification by intelligently integrating the HygroMatik DDS pressure steam system into existing or new building and air conditioning systems.

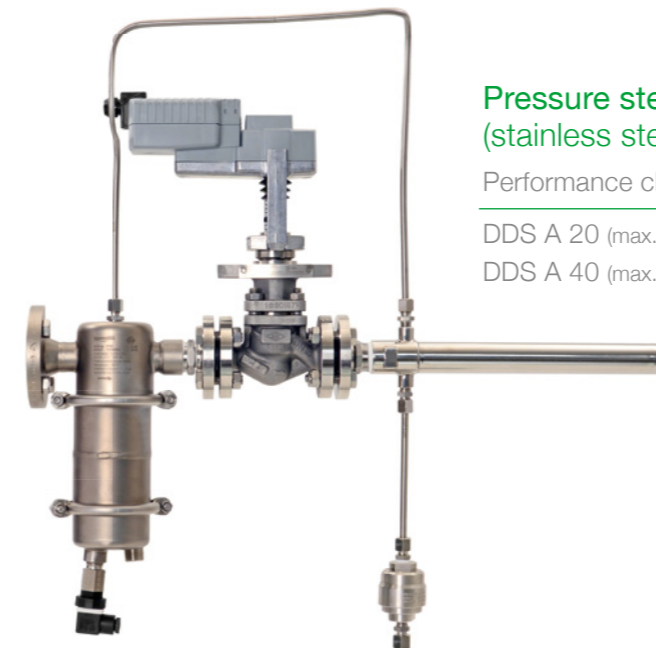
Air humidity is a decisive factor for a healthy indoor climate. In addition, the controllability of air humidity plays an important role in the control of sensitive processes and the optimisation of product quality.

The HygroMatik DDS pressure steam system humidifies with condensate-free saturated steam and enables short humidification distances for space-saving installation.

High performance in quality and hygiene – available in two versions.

All components are developed in Germany and assembled according to requirements for each project. The HygroMatik pressure steam system DDS is available in two versions in order to optimally adapt the system to the respective application areas.

In most areas of application, the **pressure steam system DDS variant C (stainless steel grey cast iron)** meets the requirements for optimum integration into the overall system. Pure steam is used for applications with demanding hygiene regulations (e.g. hospitals, laboratories and clean rooms). The **pressure steam system DDS variant A (100% stainless steel)** meets these increased requirements. All steam-conducting components in this version are made of stainless steel 1.4401 and therefore also fulfil the increased requirements for corrosion resistance in pure steam operation. Variant A is equipped with a flange connection as standard.



Pressure steam system DDS A (stainless steel)

Performance classes:

- DDS A 20 (max. steam output 270 kg/h)
- DDS A 40 (max. steam output 770 kg/h)



Pressure steam system DDS C (stainless steel grey cast iron)

Performance classes:

- DDS C 20 (max. steam output 180 kg/h)
- DDS C 40 (max. steam output 730 kg/h)



Simply clever, sustainable and flexible

The only 4-in-1 system

Compact dimensions and low weight

Best energy values

Easy installation

Flexible construction

Customised solutions

HygroMatik pressure steam system DDS

Convinces with clear advantages and technical details

Stainless steel steam lances with integrated heating piping – light, durable and optimally protected.

The HygroMatik pressure steam system DDS is equipped with a steam lance heating piping. Therefore, an additional sheathing is not necessary for efficient humidification. The amount of condensate that reduces the efficiency is kept to a minimum.

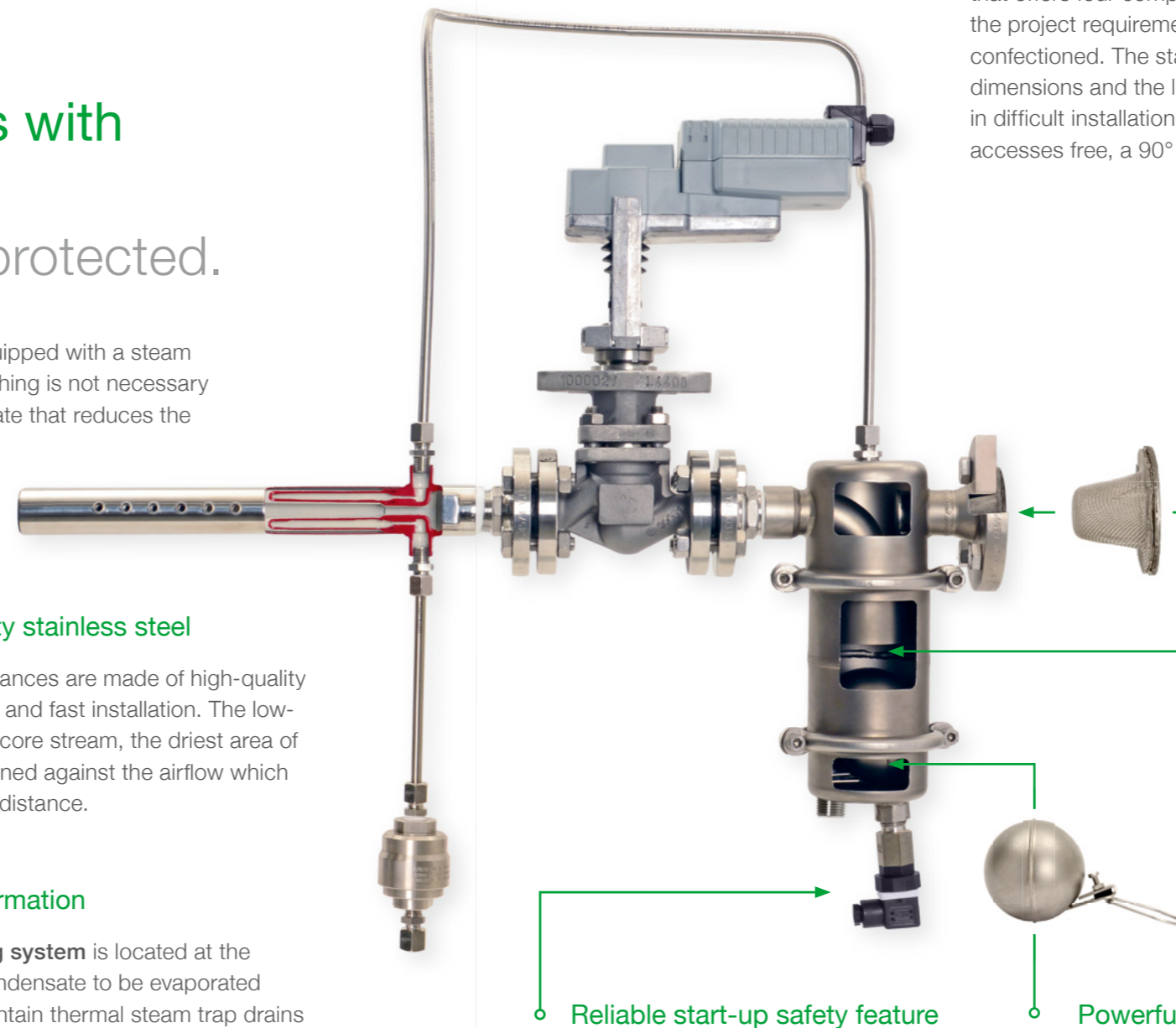
Precise manufacturing made of high-quality stainless steel

In order to guarantee a long service life, the steam lances are made of high-quality stainless steel. Their low net weight allows a simple and fast installation. The low-noise steam nozzles draw steam centrally from the core stream, the driest area of the steam lance. In addition, the nozzles are positioned against the airflow which ensures fast distribution and a short humidification distance.

Efficient heating system: hygienic protection against condensate formation

The **internal, self-contained steam lance heating system** is located at the lowest point of the steam lance. This allows any condensate to be evaporated again immediately. The lightweight and easy to maintain thermal steam trap drains condensate from the heating system. The heating system is fed directly from the steam dryer.

- Low space requirement due to internal heating system
- Fast regulation during start-up by preheating the steam lances
- Low heating of the air flow
- Protection against deposition



Four components, one system – compact and flexible.

The HygroMatik DDS variant A is the only pressure steam system that offers four components in one compact unit. Depending on the project requirements, the DDS is individually configured and confectioned. The standard flanged connections, the compact dimensions and the low net weight allow easy installation – even in difficult installation conditions. In order to save space or keep accesses free, a 90° angled mounting is optionally possible.

Replaceable strainer

The high-quality stainless steel strainer protects the control valve and the steam trap from contamination from the steam network. The internal fine mesh strainer can be easily replaced if necessary.

High-performance steam dryer

The stainless steel steam dryer separates the condensate from the steam using a spiral-shaped control system.

Reliable start-up safety feature

The start-up safety feature activates humidification only after a certain operating temperature has been reached. This effectively prevents condensate from the steam network from entering the air-conditioning duct.

Powerful steam trap

The robust, tight-closing ball float steam trap drains off the condensate. Due to the fast reacting principle and the high capacity, even larger quantities of condensate can be safely discharged, e.g. when starting up the system. The closed system prevents steam losses.

HygroMatik pressure steam system DDS

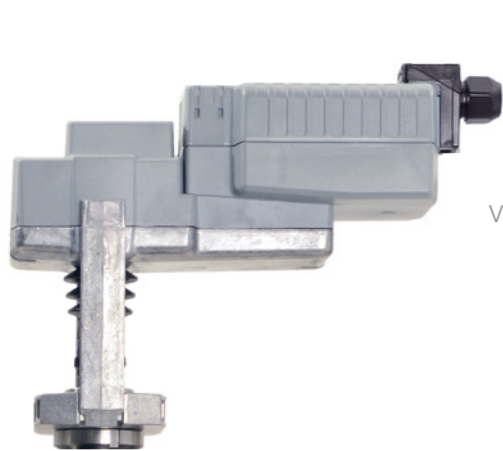
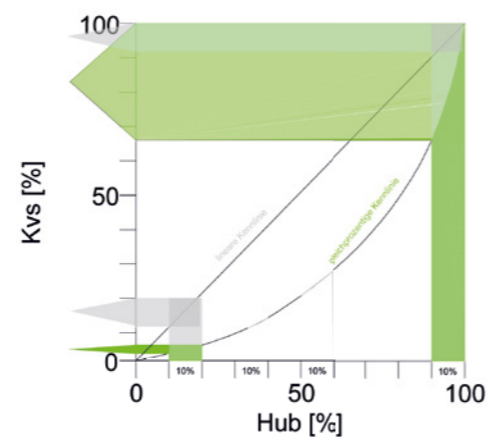
Convinces with clear advantages and technical details

Optimum control of steam quantity – fast and precise.

The bus-capable actuator ensures optimum automatic control through direct connection - without adapter. The special HygroMatik control valve controls the steam quantity with **equal-percentage characteristic curve**.

The advantages:

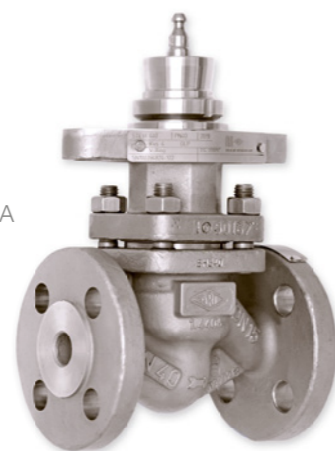
- A particularly precise control **in the lower control range**
- Fast adaptation to high humidity requirements **in the upper control range**



Variant A

Bus-capable DDS actuator

Safety through automatic emergency control function, optionally pneumatically controlled (0.2-1 bar)



Variant C

DDS control valves

check the steam quantity with equal-percentage characteristic curve

Optional accessories



Variant A



Variant C

DDS shut-off valves

The recommended optional shut-off valve ensures that, if required, the steam flow can be 100% shut off for any duration, independent of the control valve.

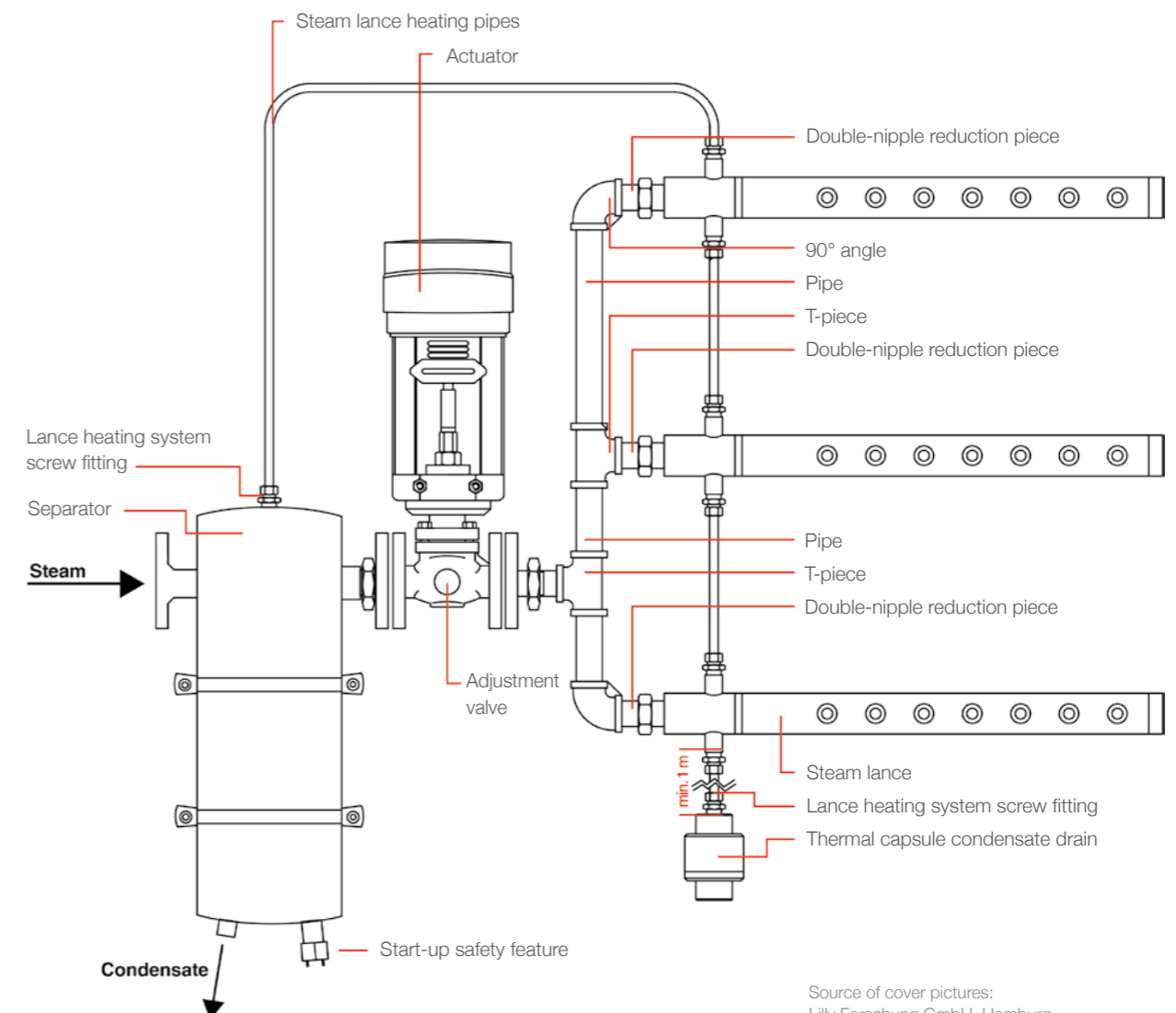


DDS manometer

The manometer for pressure indication allows the current operating pressure to be checked.



Installation schematic pressure steam system DDS variant A



Source of cover pictures: Lilly Forschung GmbH, Hamburg

Our service for 100% customer satisfaction

- Long availability of 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



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