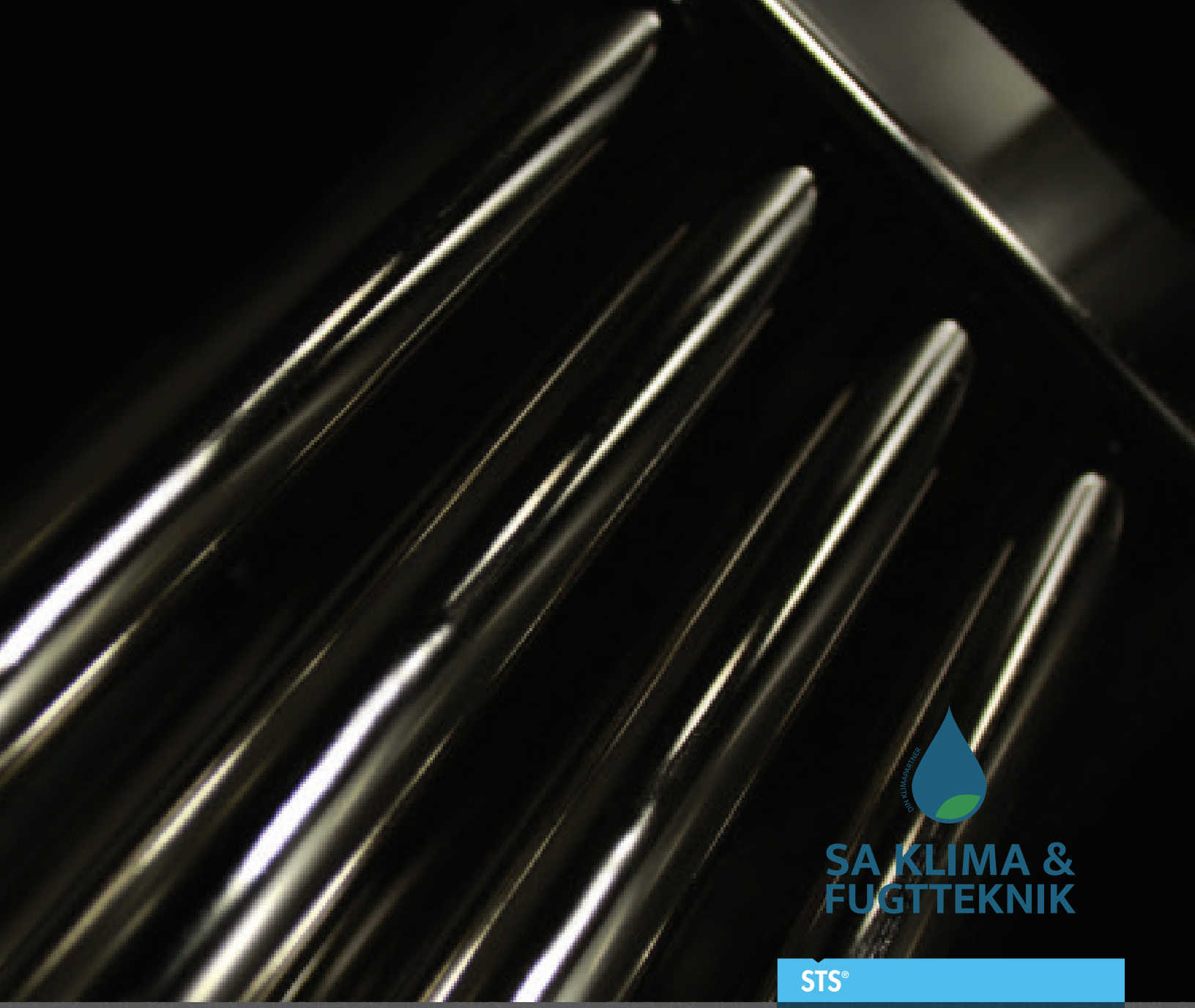


SA KLIMA & FUGTTEKNIK

STS®

Steam-to-Steam Humidifier

Vapor-logic® controller with:

- *Web-enabled access*
- *Interoperability via Modbus® or optional BACnet® or LonTalk®*

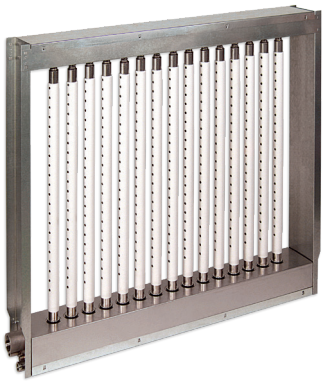
Ultra-sorb® Model XV dispersion option

driSteem™

Chemical-free humidification steam

STS HUMIDIFIER

The STS steam-to-steam humidifier generates chemical-free humidification steam using boiler steam as its energy source. STS is designed for use with tap or softened water and is available with an option for RO/DI water (water that has been treated using reverse osmosis, or deionized water).



Ultra-sorb Model XV disperses STS-generated humidification steam with no condensate loss.

- *Zero water waste from condensate loss*
- *High-efficiency tubes and insulated header provide up to 85% reduction in wasted energy*
- *Steam capacity up to 450 lbs/hr (204 kg/h) per dispersion panel when used with STS*
- *Dispersion option for all STS models*

HUMIDIFY USING AN ECONOMICAL ENERGY SOURCE

The STS steam-to-steam humidifier creates chemical-free humidification steam using boiler steam as its energy source. It accomplishes this by using boiler steam in its heat exchanger to vaporize clean fill water into humidification steam. It's a closed-loop system, so no boiler steam or chemicals enter the humidified space; they return to the boiler.

NO DIRECT INJECTION OF BOILER CHEMICALS

Another way to use boiler steam for humidification is to disperse it directly into the air. However, humidifier owners are learning that chemically treated, boiler-generated steam is unsuitable for direct injection humidification for the following reasons:

Boiler water is usually treated with anticorrosion chemicals that can contaminate spaces humidified by direct steam injection.

Airborne boiler chemicals have been found to irritate eyes and skin, and to aggravate respiratory disorders. In addition, they accelerate the aging of certain materials like paper and wood, an issue especially relevant to museum owners.

To ensure chemical-free humidification while taking advantage of economical on-site boiler steam, consider using an STS humidifier.

INTEROPERABILITY, WEB-ENABLED ACCESS WITH VAPOR-LOGIC CONTROL

STS humidifiers are fully interoperable via Modbus or optional BACnet or LonTalk. The Vapor-logic Web interface provides the capability to set up, view, and adjust humidifier functions via Ethernet, either directly or remotely through a network.

NO DISPERSION-GENERATED CONDENSATE WITH ULTRA-SORB MODEL XV

DriSteem's Ultra-sorb Model XV is an STS steam dispersion option, delivering chemical-free humidification steam with no condensate loss. That's because Ultra-sorb Model XV has a single header with an integral heat exchanger. Boiler steam in the heat exchanger instantly flashes dispersion-generated condensate back into humidification steam while returning pressurized condensate to the boiler without additional pumps, valves, or controls.

Table 3-1: STS humidifier features and benefits	
Reliable	• Control RH to ±3% of set point; control to ±1% of set point with available options for specific applications. Consult DriSteem for recommendations. • Electronically monitored water level ensures continuous, safe operation. • Closed-loop system results in less wear on the boiler — no need to chemically treat make-up water for humidification.
Efficient	• Utilizes energy from existing plant steam. • Most energy-efficient means of producing chemical-free steam with pressurized steam as the energy source.
Flexible	• Easy retrofit for steam injection humidifiers • Broad capacity range from 10 to 1600 lbs/hr (4.5 to 726 kg/h), link up to 16 units for capacity up to 25,600 lbs/hr (11,612 kg/h). • Supports all fill water types: tap, softened, reverse osmosis, and deionized; easy field conversion if water type changes. • Suitable for all dispersion options. • Robust outdoor enclosure or weather cover options available for outdoor operation in any climate.
Easy to maintain	• Cleanout plate and removable cover provide access to heat exchanger and tank without removing steam dispersion piping. • User-adjustable water skimmer eliminates floating minerals, while automatic drain and flush removes precipitated minerals; softened fill water significantly reduces maintenance requirements. • Heat exchanger sheds mineral buildup automatically. • End-of-season autodrain.

Table 3-1:
STS humidifier models and capacities with copper heat exchangers

STS models	Steam pressure at connection to STS steam valve (valve provided by DriSteem)							
	5 psi (34 kPa)		10 psi (69 kPa)		13 psi (90 kPa)		15 psi (103 kPa)	
	lbs/hr	kg/h	lbs/hr	kg/h	lbs/hr	kg/h	lbs/hr	kg/h
25C	20	9	70	32	100	45	120	54
50C	50	23	150	68	200	91	240	109
100C	100	45	300	136	400	181	480	218
400C	300	136	580	263	720	327	790	358
800C	650	295	1275	578	1500	680	1600	726

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Table 3-2:
STS humidifier models and capacities with stainless steel heat exchangers

STS models	Steam pressure at connection to STS steam valve (valve provided by DriSteem)							
	5 psi (34 kPa)		10 psi (69 kPa)		13 psi (90 kPa)		15 psi (103 kPa)	
	lbs/hr	kg/h	lbs/hr	kg/h	lbs/hr	kg/h	lbs/hr	kg/h
25S	10	5	25	11	30	14	35	16
50S	30	14	55	25	75	34	80	36
100S	60	27	110	50	140	64	150	68
200S	150	68	290	132	360	163	390	177
400SNC	170	77	392	178	552	250	637	289
800SNC	212	96	825	374	1095	497	1223	555

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For use with tap/softened or RO/DI water:
- STS models ending in C (copper heat exchangers with a nickel coating)
- STS models ending in S (stainless steel heat exchangers with a Teflon coating)

For use with RO/DI water option only:
STS models ending in SNC (stainless steel heat exchangers with no coating)

DRI-STEEM Corporation
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DriSteem U.S. operations are ISO 9001:2015 certified

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EXPECT QUALITY FROM THE INDUSTRY LEADER
Since 1965, DriSteem has been leading the industry with creative and reliable humidification solutions. Our focus on ease of ownership is evident in the construction of the STS humidifier. DriSteem leads the industry with a Two-year Limited Warranty and optional extended warranty.

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For the most recent product information visit our website:
www.dristeem.com