

ALL PRODUCTS BROCHURE



Who we are

EXPERTS

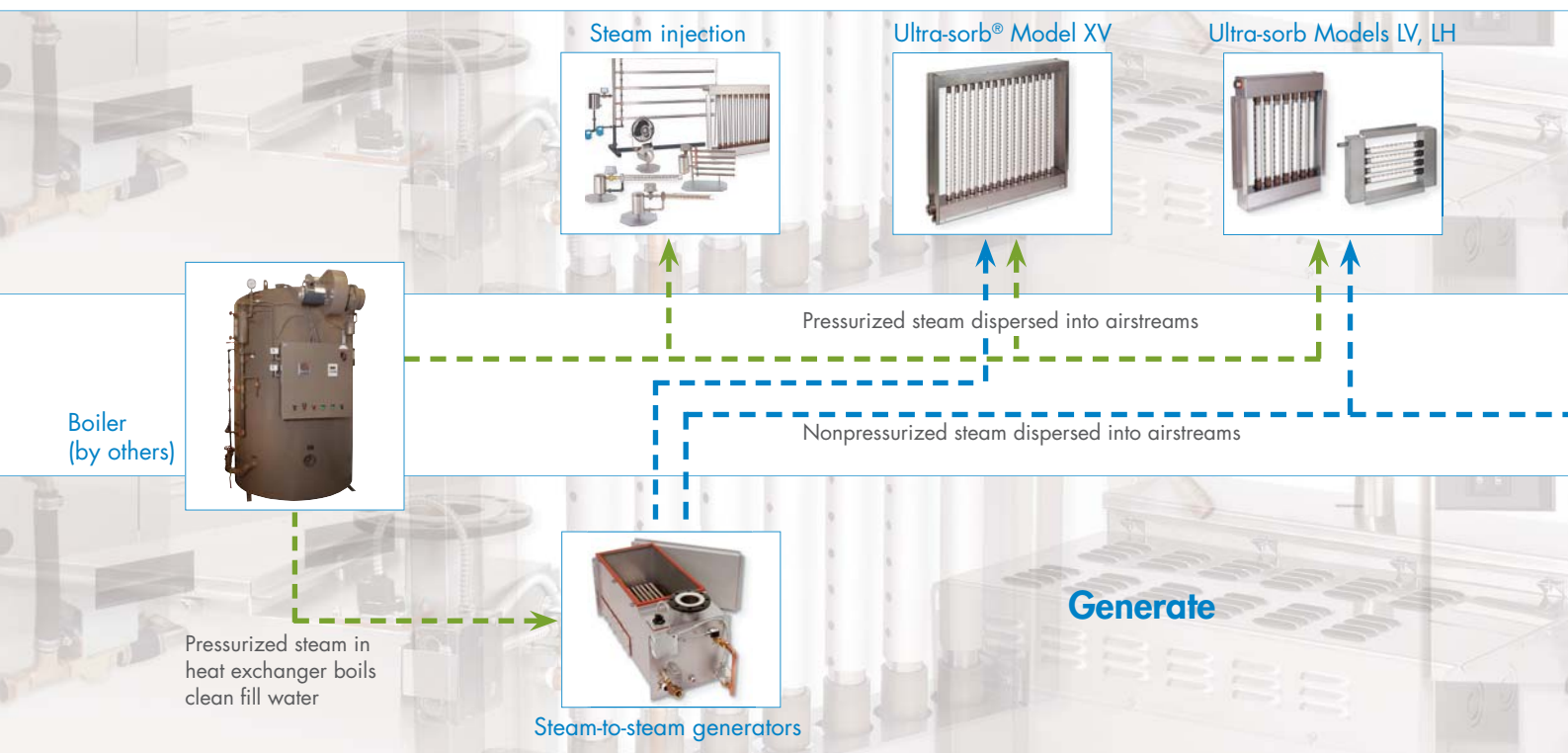
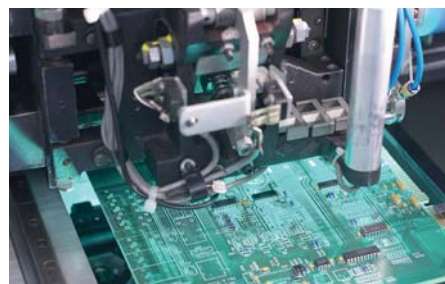
We design and manufacture humidification systems to meet your unique humidification requirements. We have earned our reputation as the humidification experts by supporting customers' unique commercial, health care, industrial, and process-critical applications for over 45 years.

INNOVATORS

Through extensive research and development, we continue to develop industry-leading innovations that greatly improve methods for adding moisture to air with precise control.

ON A MISSION

Our mission is to provide customers with exceptional service and superior products that condition or control air for HVAC applications.



CREATE HEALTHY ENVIRONMENTS

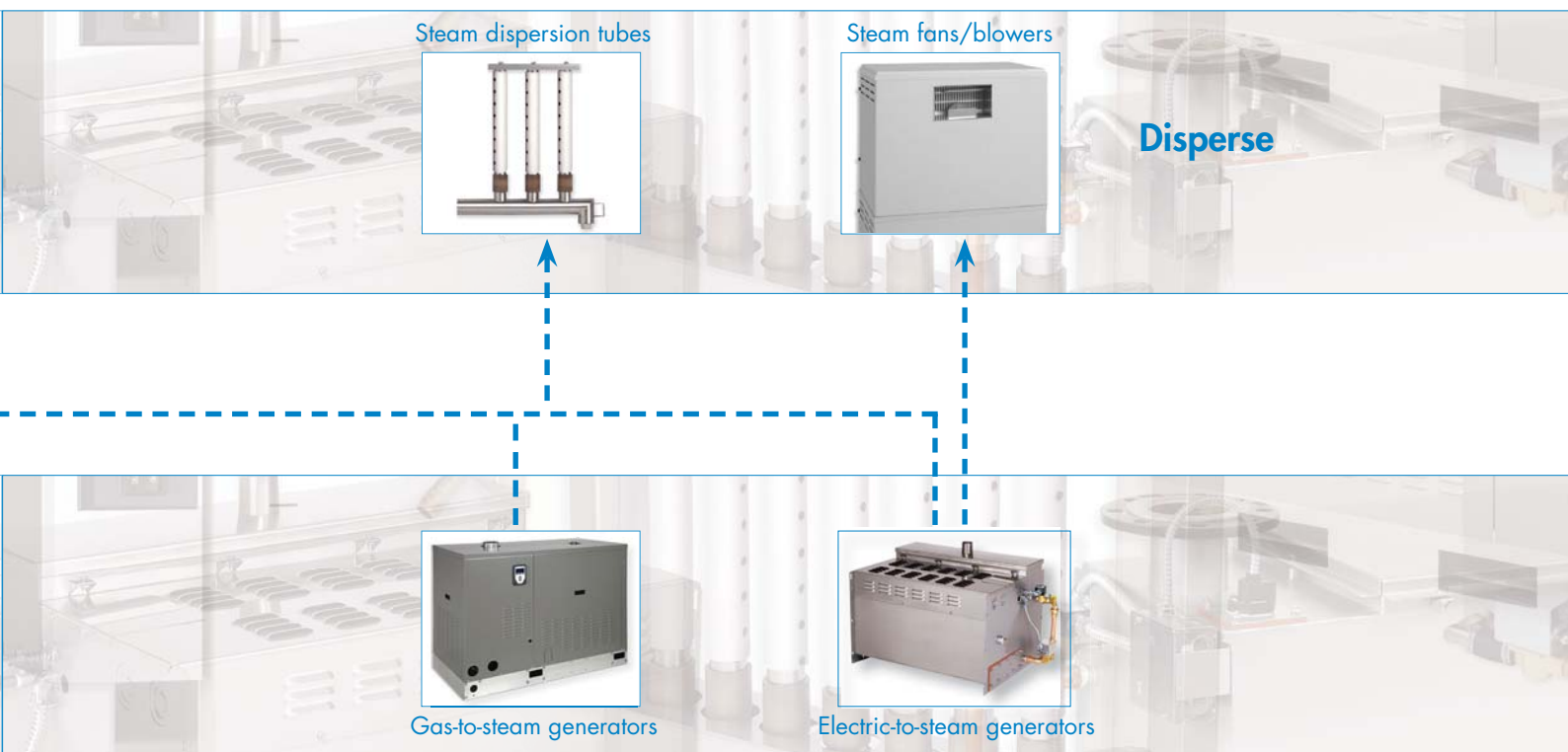
Bacteria and viruses thrive in dry air. Studies show that when room RH drops below 40 percent, respiratory illness increases. Proper humidification can significantly reduce student and employee absenteeism.

IMPROVE PRODUCTION PROCESSES

Controlling a building's RH significantly improves production processes. RH affects the moisture content of hygroscopic materials, such as wood, textiles, paper, leather, fibers, and foods. Such materials either absorb or release moisture to reach equilibrium, which can negatively affect production processes.

PRESERVE MATERIALS AND ARTIFACTS

Fluctuating RH causes material to repeatedly absorb and release moisture. These changes affect a material's weight, strength, and appearance, which can damage material and shorten its longevity.



Steam generation

GAS-TO-STEAM GENERATOR

GTS® humidifier

Lowest operating cost for a steam-generating humidifier

The robust GTS humidifier provides a broad capacity range and is compatible with all water types. Application flexibility and full burner modulation make GTS the ideal choice for almost any application.

- Vapor-logic® controller (see Page 11)
- Lowest operating cost for a steam-generating humidifier (calculate potential savings with the EnergyCalc program; see "Tools" on Page 15)
- Indoor and outdoor enclosures
- Integral drain water tempering

Capacity range: 34–272 kg/h for each unit;
link up to 16 units for capacity up to 4354 kg/h



STEAM-TO-STEAM GENERATOR

STS® humidifier

Chemical-free steam

The STS 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. STS is compatible with all water types.

- Vapor-logic controller (see Page 11)
- Control to $\pm 1\%$ RH with available options for specific applications
- Most energy-efficient means of producing chemical-free steam with pressurized steam as the energy source
- Available Outdoor Enclosure and weather cover
- Easy retrofit for steam injection humidifiers

Capacity range: 9.1–726 kg/h for each unit;
link up to 16 units for capacity up to 11,612 kg/h



ELECTRIC RESISTIVE-ELEMENT STEAM GENERATORS

Vaporstream® humidifier

Versatility and critical control

From providing comfort humidity to meeting the strictest clean-room requirements, the Vaporstream electric humidifier is an industrial-grade unit designed to meet the humidification demands of any building environment. Vaporstream models and options include multiple control capabilities, a broad capacity range, and compatibility with all water types.

- Vapor-logic controller (see Page 11)
- Control to $\pm 1\%$ RH with available options for specific applications
- Zero to 100% modulating output
- Weather cover and climate-controlled outdoor enclosure options
- Numerous configurations and options available
- Disperses steam through ductwork or directly into a space

Capacity range: 2.6–129 kg/h for each unit;
link up to 16 units for capacity up to 2068 kg/h



Humidi-tech® humidifier

Versatility for finished spaces

The Humidi-tech humidifier is a compact, cabinet-style unit compatible with all water types and numerous dispersion options. Installation is a snap: Just attach the frame to a supporting structure and connect electrical and water services.

- Vapor-logic controller (see Page 11)
- Control to $\pm 1\%$ RH with available options for specific applications
- Zero to 100% modulating output
- Solid-state relay (SSR) as standard
- Attractive enclosure — perfect for finished spaces
- Disperses steam through ductwork or directly into a space through matching Space Distribution Units (SDU)

Capacity range: 2.7–46 kg/h for each unit;
link up to 16 units for capacity up to 740 kg/h



CRUV® humidifier

Compact and easy to service

The compact CRUV humidifier is designed to integrate inside an existing enclosure, such as a packaged air conditioning unit, or added to an existing system, such as an environmental chamber. CRUV is self contained and compatible with all water types.

- LW Series controller or optional Vapor-logic controller (see Page 11) for multiple levels of control capability
- Zero to 100% modulating output
- Easy tank access without disconnecting electrical or piping lines
- Operates several seasons without cleaning

Capacity range: 2.7–46 kg/h





ELECTRODE STEAM GENERATOR

XT Series humidifier
Easy installation and maintenance

The XT Series electrode steam humidifier provides humidification for a wide range of buildings, including health care, commercial, industrial, and government facilities. Easy installation and minimal maintenance make XT Series one of the most affordable humidification systems to purchase and install.

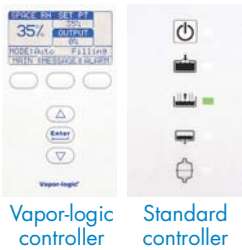
- Easy to maintain — just replace the affordable steam cylinder when prompted
- Adaptable, with numerous dispersion options
- Comprehensive control with Vapor-logic control option (see Page 11)
- Automatic drain and fill events optimize humidifier performance

Capacity range: 52–130 kg/h; stage up to four humidifiers together for maximum system capacity of 520 kg/h. 65 kg/h capacity in one steam cylinder.



COMPREHENSIVE CONTROL WITH VAPOR-LOGIC OPTION

Vapor-logic sets the standard for controller capabilities in electrode humidifiers. An easy-to-use standard controller is also available.



Easy-to-use menus for all humidifier functions		✓	
Push-button operation, with LED indicators for operating status and troubleshooting			✓
Web interface for Ethernet access to all functions		✓	
Accurate, responsive RH control with PID tuning for maximum performance		✓	
Modbus® and optional BACnet® or LonTalk® for inter-operability with multiple building automation systems		✓	
Automatic drain and fill events for optimized humidifier performance based on water type		✓	✓
Cylinder drains after a user-specified time with no call for humidity to prevent microbial growth		✓	✓
USB port	For downloading controller data to a PC for viewing and analysis	✓	
	For data backup and restore	✓	
	For firmware updates	✓	✓



XTR humidifier

Humidity for health and comfort






The XTR electrode steam humidifier provides humidification for a wide range of buildings, including residential and light commercial applications.

- Affordable to buy
- Economical and easy to operate
- Easy to maintain — just replace the affordable steam cylinder when prompted
- Disperse steam into ductwork or open spaces

Capacity range: 3.5 kg/h, depending on the voltage connected to the humidifier



CONTROLLER INDICATORS AND FUNCTIONS

	On-off button	Light below button flashes green during power-up, solid green for On state.
	Fill indicator	Solid green when cylinder is filling with water, flashing green when pulsing with drain valve, solid red to indicate Fault mode.
	Steam indicator	Solid green for normal operation, solid yellow when water conductivity remains low for too long.
	Drain indicator	Solid green during drain cycle, flashing green when preparing to drain and when pulsing with fill valve.
	Service indicator	Flashes red when steam cylinder has reached the end of its life, solid red if in fault/shutdown mode.

Steam dispersion

NONPRESSURIZED STEAM DISPERSION

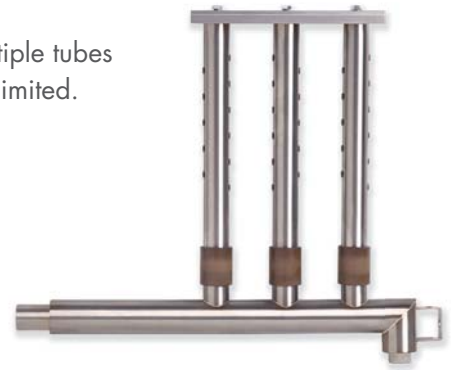
Rapid-sorb® dispersion tube system

Single header with multiple tubes, short non-wetting distance

Rapid-sorb steam dispersion tube systems are designed for applications where multiple tubes are needed to handle the load and/or when the available non-wetting distance is limited.

- Short non-wetting distance, compared to single dispersion tube
- Models available in sizes from 254 x 254 mm and up
- For horizontal or vertical airflows with header inside or outside duct
- Available with High-Efficiency Dispersion Tubes (see Page 8)

Capacity: Up to 955 kg/h



Single dispersion tube

Installation flexibility

- Low-capacity dispersion for horizontal or vertical airflows.
- Available as a High-Efficiency Dispersion Tube

Capacity range: up to 44.1 kg/h



Space distribution units and blowers

Remote or humidifier-mounted dispersion

Space distribution units (SDUs) and steam blowers mount on top of humidifiers or quietly disperse steam remotely within a room.

- SDUs mount on top of Humidi-tech humidifiers, or they can remotely disperse steam from Humidi-tech or Vaporstream humidifiers.
- XT steam blowers mount on top of XT Series and XTR humidifiers, or they can remotely disperse steam from the humidifier.

SDU capacity: Up to 46.3 kg/h

Steam blower capacity: Up to 22.7 kg/h



SDU mounted on a Humidi-tech humidifier



XT steam blower mounted on an XT Series humidifier

High-Efficiency Tubes

For new and existing Ultra-sorb and Rapid-sorb

High-Efficiency Tubes are featured on all Ultra-sorb Model XV. Also, they are an available option for Ultra-sorb Models LV and LH, Rapid-sorb, and single dispersion tube.

- Available as a retrofit option for existing Ultra-sorb Models LV and LH and Rapid-sorb
- Highest efficiency
- Shortest non-wetting distance
- Up to 85% reduction in wasted energy, airstream heat gain, and condensate production
- Plenum approved for in-duct installation with revolutionary, patent-pending insulating material

Ultra-sorb Model LV with High-Efficiency Tubes



Rapid-sorb with High-Efficiency Tubes

PRESSURIZED STEAM INJECTION OR NONPRESSURIZED STEAM DISPERSION**Ultra-sorb steam dispersion panel**

The Ultra-sorb steam dispersion panel established industry standards for meeting short non-wetting requirements.

- Guaranteed non-wetting distances — install within 150-300 mm of downstream devices without condensate worries
- Reduce wasted energy with High-Efficiency Tubes
- Lowest installation cost
- Models available from 305 × 305 mm to 3658 × 3658 mm for horizontal or vertical airflow
- Factory assembled for easy installation or shipped unassembled
- Requires less than 7 kPa of pressure to disperse steam



Ultra-sorb Models LV

Ultra-sorb Model XV

Highest performance

- Highest-performing steam dispersion product on the market
- Most efficient:
 - High-Efficiency Tubes
 - Lowest heat gain
 - Zero water waste — vaporizes generated condensate and returns pressurized condensate
- For pressurized steam applications, 35 kPa minimum
- Chemical-free boiler steam humidification when used with our STS steam-to-steam humidifier



Ultra-sorb Model XV

Capacity:

Pressurized steam: Up to 898 kg/hr

STS humidifier: Up to 204 kg/h per panel

Ultra-sorb Models LV & LH

Most versatile

- Optional High-Efficiency Tubes
- Easy installation
- For pressurized or nonpressurized steam applications

Capacity:

Pressurized steam: Up to 1815 kg/h

Nonpressurized steam: Up to 840 kg/h



Ultra-sorb Model LH

Steam injection

STEAM INJECTION FEATURES

DriSteam's Steam Injection humidifiers are available in a wide variety of models and adaptable to numerous applications.

- Steam jacketed dispersion tubes — eliminate condensation and dripping
- Stainless steel construction — instantaneous heat-up, minimal condensation, and no cold start-up spitting
- Lightweight construction — no special supports or hangers required

Multiple-tube humidifier

Fits any need, for large capacity

The Multiple-tube humidifier is designed for large ducts and air handlers. It achieves short to moderate non-wetting distances and is field piped and field assembled.

The Maxi-bank™ option is pre-assembled and includes the steam header and interconnecting piping.

Steam pressure range: 14–345 kPa

Capacity range: 2.3–1809 kg/h

Mini-bank® humidifier

Pre-assembled for small ducts

The Mini-bank humidifier is designed for small ducts and short non-wetting distances. With a pre-engineered and pre-assembled header/tube assembly, it is ready for mounting and hookup.

Steam pressure range: 14–103 kPa

Capacity range: 0.7–38 kg/h

Single-tube humidifier

Suitable for—but not limited to—small-capacity systems

The Single-tube humidifier features a wide range of dispersion tube lengths and is suitable for moderate to long non-wetting distances. The separator/tube assembly is pre-assembled.

Steam pressure range: 14–345 kPa

Capacity range: 0.7–238 kg/h

Area-type™ humidifier

For rooms without ducts

The Area-type humidifier is designed for open spaces such as warehouses and manufacturing spaces that do not have a duct system. Steam discharged from the humidifier is quietly dispersed by a fan without discharging water droplets.

Steam pressure range: 14–103 kPa

Capacity range: 0.8–130 kg/h

All Steam Injection humidifiers shown here, except Area-type, are available with options for applications requiring all stainless steel construction.



ACCURATE, RESPONSIVE CONTROL

Vapor-logic is the control platform for all DriSteem nonpressurized steam generation humidifiers and DriSteem's High-Pressure System. Vapor-logic provides accurate, responsive RH control, and PID control tunes the system for maximum performance.

Modbus®, **BACnet®**, or **LonTalk®** allow interoperability with multiple building automation systems. Modbus is standard, and BACnet or LonTalk are available options.

Web interface provides the capability to set up, view, and adjust humidifier functions via Ethernet, either directly or remotely through a network.

Contactor wear leveling distributes cycles among multiple contactors for equal wear and longer contactor life in Vaporstream humidifiers.

Cycle counter triggers a message when it's time to replace contactors in electric humidifiers.



driSteem
Vapor-logic

STATUS
ALARMS
DIAGNOSTICS
SETUP
HELP

System Status

SPACE RH	SET POINT	OUTPUT
33%	35%	12.3%

RUN MODE Auto

TANK STATUS Boiling

Alarms
0 active alarms
[View Alarms](#)

Messages
0 active messages
[View Messages](#)

Monday, December 03, 2012 10:40:18 AM Data stream is LIVE

View all humidifier settings below. Some settings can be changed here. Go to the Setup tab to change settings that cannot be changed from this page.

TANK STATUS:	
Run Mode	Auto CHANGE
Space RH	33%
RH set point	35% CHANGE
Input signal	9.3 mA
Steam output	12.3%
Steam production	37.4 lbs/hr
Duct HL switch	Closed
Tank temperature	194°F
Tank temp signal	1637 Ohms
High water probe	Water
Mid water probe	Water
Low water probe	Water
Fill valve	Closed
Drain valve	Closed
Airflow switch	Flow
Interlock switch	Closed
H2O until drain/flush	9120 lbs
H2O until service	304000 lbs
High probe signal	1
Mid probe signal	1
Low probe signal	1

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Use the Vapor-logic keypad or the Web interface to control your humidification system.

USB port allows easy firmware updates, and data backup and restore capability.

Real-time clock allows time-stamped alarm and message tracking, and accurate drain and flush scheduling.

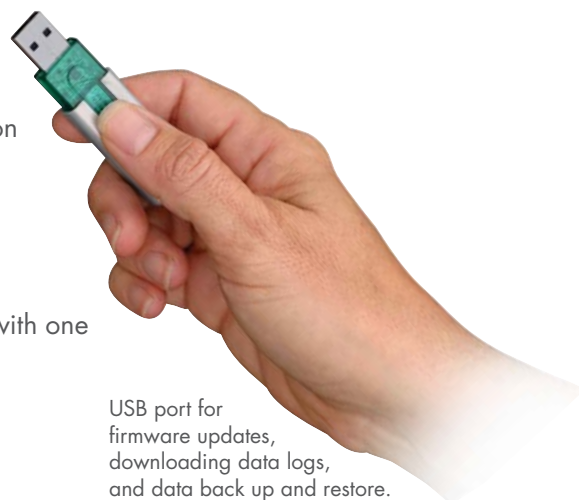
Auxiliary temperature sensor/transmitter allows temperature compensation control to prevent window condensation, or air temperature monitoring, such as in a duct.

Programmable outputs allow remote signaling and device activation.

Multiple-humidifier control allows staged control of up to 16 humidifiers with one controller.

Data logs can be downloaded to a PC for viewing and analysis.

Enhanced diagnostics and data collection.



USB port for firmware updates, downloading data logs, and data back up and restore.

Options and accessories

OUTDOOR ENCLOSURES AND WEATHER COVERS

Heated/ventilated outdoor enclosures for evaporative humidifiers ship to the job site completely assembled, so installation is a snap. Third-party tests ensure that outdoor enclosures provide reliable operation under extreme conditions. The GTS outdoor enclosure is CSA-certified for outdoor operation, and the STS and Vaporstream outdoor enclosures are ETL approved for outdoor operations. Weather covers for Vaporstream and STS humidifiers are fully assembled at the factory to protect against wind, sun, and rain.



Weather covers
Available for Vaporstream and STS humidifiers



Heated/ventilated outdoor enclosures
Available for all evaporative humidifiers

DRANE-KOOLER

The Drane-kooler mixes cold water with hot discharge water to reduce the water temperature before it enters the drain system. This complies with code requirements and prevents damage to PVC drain piping.

EXTENDED WARRANTY PROGRAM

An extended warranty provides coverage for one or two years beyond DriSteem's standard Two-year Limited Warranty to eliminate unforeseen expenses and lay the groundwork for a manageable budget.

SERVICE KITS

Service Kits combine common replacement parts for servicing DriSteem humidifiers. Each Service Kit is priced lower than purchasing the parts individually.



DriSteem steam generator comparison

	GTS	STS	Vaporstream	Humidi-tech	CRUV	XT Series	XTR
Energy source							
Electric, resistive (heating element)			X	X	X		
Electric, conductive (electrode)						X	X
Natural gas or propane	X						
Boiler steam		X					
Steam capacity, kg/hr							
Maximum (one humidifier)	272	726	129	46	46	130	3.5
Minimum	34.0	9.1	2.6	2.7	2.7	2	3.5
Maximum (multi-tank control)	4,354	11,612	2,068	740		520	
Application size based on steam capacity**							
Square footage (m ²) capability of 1 humidifier	9,290	24,712	4,412	1,579	1,579	4,394	552
Controller							
Vapor-logic controller	X	X	X	X	Optional	Optional	
Standard controller							X
Microprocessor on-off or modulating demand signal						X	
Control capability							
With modulating demand signal	± 3%	± 3%	± 1%	± 3%	± 3%	± 3%	± 5%
With on-off demand signal					± 3%	± 5%	
With available options for specific applications		± 1%	± 1%	± 1%			
Water type							
Tap	X	X	X	X	X	X	X
Softened	X	X	X	X	X	X	X
Reverse osmosis	X	X	X	X	X		
Deionized	X	X	X	X	X		

continued on next page

Overview: All products

DriSteem steam generator comparison (continued)

	GTS	STS	Vaporstream	Humidi-tech	CRUV	XT Series	XTR
Installation options							
Indoor	X	X	X	X		X	X
Outdoor (in optional enclosure)	X	X	X				
Finished space				X		X	X
In packaged A/C unit					X		
Dispersion options							
Rapid-sorb	X	X	X	X	X	X	
Single dispersion tube	X	X	X	X	X	X	
Space distribution unit, external absorption (SDU-E)			X	X			
Space distribution unit, internal absorption (SDU-I)			X	X			
Top- or remote-mounted XT steam blower						X	
Top- or remote-mounted XTR steam blower							X
Ultra-sorb Model XV		X					
Ultra-sorb Models LV and LH	X	X	X	X	X	X	
XTR dispersion tube							X
XTR fan pack							X
Area-type fan (mounted on steam generator)	X		X				
Water tempering							
Drane-kooler	X	Optional	Optional	Optional	Optional		
Integral water tempering						X	X
* Four staged XT humidifiers, not via multi-tank control							
** 20% outdoor air at 231 kg/h per m ³ /h, building need of 40% RH @ 22.2 °C, typical commercial building load of 18 m ³ /h per m ²							

DriSteem atomization, steam injection, and dispersion product comparison

Vapor delivery type	DriSteem product	Capacity	Steam pressure at entry to dispersion assembly, kPa			
		kg/hr	<3.4	14-103	14-345	34-345
Nonpressurized steam dispersion from DriSteem steam generator	Rapid-sorb	955	X			
	Single dispersion tube (without condensate drain)	29.5	X			
	Single dispersion tube (with condensate drain)	44	X			
	SDU-I	13.6	X			
	SDU-E	46.3	X			
	SDU-003E (XTR steam blower)	3.5	X			
	SDU-003F (XTR fan pack)	3.5	X			
	SDU-006E (XT steam blower)	9.1	X			
	SDU-017E (XT steam blower)	22.7	X			
	Ultra-sorb Model XV (with STS humidifier)	204	X			
	Ultra-sorb Model LV	840	X			
	Ultra-sorb Model LH	840	X			
	Area-type fan	130	X			
Steam injection from boiler	Multiple-tube humidifier	1809			X	
	Mini-bank humidifier	38		X		
	Single-tube humidifier	238			X	
	Area-type humidifier	130		X		
	Ultra-sorb Model LV	1815			X	
	Ultra-sorb Model LH	1815			X	
	Ultra-sorb Model XV	899				X

Tools	
DRICALC Sizing and selection software	<p>DriSteem's DriCalc software will size loads, select equipment, write specifications, generate as-configured installation guides, and create equipment schedules.</p> <p>Click Order DriCalc on the Tools tab of our website to request a free copy of DriCalc.</p>
LOADCALC Humidification load calculator	<p>LoadCalc provides a humidification load calculation based on entering air, outside air, and desired room conditions.</p> <p>Click LoadCalc program on the Tools tab of our website to launch the tool.</p>
ENERGYCALC Energy savings calculator	<p>In many locations, the savings from switching from existing electric humidifiers to new gas humidifiers are so significant the energy savings can offset replacement equipment and installation costs.</p> <p>Click EnergyCalc program to launch the tool.</p>
WWW.DRISTEEM.COM Our website	<p>Visit our website to find a DriSteem representative, get the most current product information, learn more about humidification, calculate load online, calculate energy savings online, and watch product videos</p>

DriSteem Corporation

A subsidiary of Research Products Corporation
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Continuous product improvement is a policy of DriSteem Corporation; therefore, product features and specifications are subject to change without notice.

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EXPECT QUALITY FROM THE INDUSTRY LEADER

For more than 45 years, DriSteem has been leading the industry with creative and reliable humidification solutions. Our focus on quality is evident in the superior construction of DriSteem products. DriSteem leads the industry with a Two-year Limited Warranty and optional extended warranty.

For more information

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For the most recent product information visit our website:

www.dristeem.com

Your DriSteem Distributor is: