SA KLIMA & FUGTTEKNIK

VAPORSTREAM®

Electric-to-Steam Humidifier

Vaporstream Electric-to-Steam Humidifier:

With Vapor-logic® controller

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

driSteem

HIGH-PERFORMANCE HUMIDIFICATION

VAPORSTREAM HUMIDIFIER

Vaporstream humidifiers use heat caused by electrical resistance in submerged heating elements to boil fill water into steam. Vaporstream is compatible with all water types and numerous dispersion options.

Learn More

VAPORSTREAM ELECTRIC-TO-STEAM HUMIDIFIER

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 humidifiers can operate using potable, softened, reverse-osmosis, or deionized water. The Vaporstream humidifier can use electricity, natural gas, propane, or even pressurized steam as an energy source.

WHY CHOOSE VAPORSTREAM ELECTRIC-TO-STEAM HUMIDIFIER

APPLICATION VERSATILITY

Vaporstream models and options include multiple control capabilities an broad capacity range. Vaporstream humidifiers can operate using potable, softened, reverse-osmosis, or deionized water. The Vaporstream humidifier can use electricity, natural gas, propane, or even pressurized steam as an energy source

PRECISE CONTROL WITH VAPOR-LOGIC

Vaporstream with Vapor-logic sets new standards for control in electric steam humidification:

Interoperability allows communication with building automation systems via Modbus® or with optional BACnet® or LonTalk® protocols.

Safety presets initiate fill and drain cycles and keep the humidifier cool and safe if sensed conditions, though unlikely, could be hazardous.

Web-enabled control allows you to set up, view, and adjust humidifier functions via Ethernet, either directly or remotely through a network.

ACCURATE, RESPONSIVE CONTROL

The Vapor-logic controller is the control platform for DriSteem non-pressurized steam generation humidifiers, Hydrotrue® water treatment systems, and Adiatec® evaporative cooling and humidification systems. Vapor-logic provides accurate, responsive RH control, and PID control tunes the system for maximum performance.

VERSATILITY AND CRITICAL CONTROL

PROVEN PERFORMANCE

- Consistent and reliable RH control to ±1%
- On-off or time-proportioned (TP) control for application control in most environments; solid-state relay (SSR) option for tighter control
- Electronically monitored water level ensures safe and reliable operation

APPLICATION FLEXIBILITY

- Uses potable, softened, or RO/DI water
- Broad capacity range from 5.7 to 285 lbs/hr (2.6 to 129 kg/h), link up to 16 units for capacity up to 4560 lbs/hr (2068 kg/h)
- Dispersion options from an Area-type fan in open space to dispersion panels in ducts and air handlers meet a wide range of absorption requirements
- Designed to work with any voltage with a wide range of heater sizes, staging options, and model configurations
- Weather cover and climate-controlled outdoor enclosure options

EASY MAINTENANCE

- Cleanout plate and removable cover provide inspection and service access
- Softened water significantly reduces maintenance requirements
- End-of-season autodrain minimizes microbial growth
- User-adjustable water skimmer skims off floating minerals
- Controller-operated drain and flush removes precipitated minerals from evaporating chamber
- Constant thermal expansion and contraction of heating elements continuously sheds mineral buildup
- Easy access to water level control — no components to remove

ADDITIONAL OPTIONS

- 316 stainless steel construction
- Evaporating chamber insulation
- NEMA-4 control cabinet

DriSteem dispersion: Proven and guaranteed

When it comes to absorption performance, competitors don't come close to DriSteem's proven and guaranteed dispersion systems. Define your dispersion requirements, and DriSteem will meet or exceed them. Guaranteed.

Save even more energy with our High-Efficiency Tube option

An option for new and existing Ultra-sorb® and Rapid-sorb® dispersion assemblies, High-Efficiency Tubes provide significant energy savings: Wasted energy is reduced by up to 85%. Airstream heat gain and condensate are also significantly lowered.

Heated/ventilated outdoor enclosure

Third-party verified for cold temperatures, proven to provide reliable operation under extreme conditions.

VAPORSTREAM CAPACITIES AND ELECTRICAL SPECIFICATIONS

Table 4-1:
Vaporstream capacities and electrical specifications, tap/softened water and RO/DI water

Model (kW-stages)	Maximum steam capacity †		Heaters		Current draw (amps)											kW
					Single-phase						Three-phase***					
	lbs/hr	kg/h	Qty.	Stages**	120V	208V*	240V*	277V*	480V*	600V*	208V*	240V*	277V*	480V*	600V*	
2-1	5.7	2.6	1	1	16.7	9.6	8.3	7.2	4.2	3.3	—	—	—	—	—	2
3-1	8.6	3.9	1	1	25.0	14.4	12.5	10.8	6.3	5.0	—	—	—	—	—	3
4-1	11.4	5.2	1	1	33.3	19.2	16.7	14.4	8.3	6.7	—	—	—	—	—	4
5-1	15.2	6.9	1	1	—	25.6	22.2	19.2	11.1	8.9	—	—	—	—	—	5.33
6-1	17.1	7.8	3	1	—	28.8	25.0	21.7	12.5	10.0	16.7	14.4	12.5	7.2	5.8	6
9-1	25.7	11.7	3	1	—	43.3	37.5	32.5	18.8	15.0	25.0	21.7	18.8	10.8	8.7	9
12-1	34.2	15.5	3	1	—	—	—	43.3	25.0	20.0	33.3	28.9	25.0	14.4	11.5	12
16-1	45.6	20.7	3	1	—	—	—	—	33.3	26.7	44.4	38.5	33.3	19.2	15.4	16
21-1	59.9	27.2	3	1	—	—	—	—	43.8	35.0	—	—	43.8	25.3	20.2	21
25-1	71.3	32.3	3	1	—	—	—	—	—	41.7	—	—	—	30.1	24.1	25
12-2	34.2	15.5	6	2	—	57.7	50.0	43.3	25.0	20.0	33.3	28.9	25.0	14.4	11.5	12
18-2	51.3	23.3	6	2	—	86.5	75.0	65.0	37.5	30.0	50.0	43.3	37.5	21.7	17.3	18
24-2	68.4	31.0	6	2	—	—	—	86.6	50.0	40.0	66.6	57.7	50.0	28.9	23.1	24
32-2	91.2	41.4	6	2	—	—	—	—	66.7	53.3	88.8	77.0	66.7	38.5	30.8	32
42-2	119.7	54.3	6	2	—	—	—	—	87.5	70.0	—	—	87.5	50.5	40.4	42
50-2	142.5	64.6	6	2	—	—	—	—	—	83.3	—	—	—	60.1	48.1	50
18-3	51.3	23.3	9	3	—	86.5	75.0	65.0	37.5	30.0	50.0	43.3	37.5	21.7	17.3	18
27-3	77.0	34.9	9	3	—	129.8	112.5	97.5	56.3	45.0	74.9	65.0	56.3	32.5	26.0	27
36-3	102.6	46.5	9	3	—	—	—	130.0	75.0	60.0	99.9	86.6	75.0	43.3	34.6	36
48-3	136.8	62.1	9	3	—	—	—	—	100.0	80.0	133.2	115.5	100.0	57.7	46.2	48
63-3	179.6	81.5	9	3	—	—	—	—	131.3	105.0	—	—	131.3	75.8	60.6	63
75-3	213.8	97.0	9	3	—	—	—	—	—	125.0	—	—	—	90.2	72.2	75
24-4	68.4	31.0	12	4	—	115.4	100.0	86.6	50.0	40.0	66.6	57.7	50.0	28.9	23.1	24
36-4	102.6	46.5	12	4	—	173.1	150.0	130.0	75.0	60.0	99.9	86.6	75.0	43.3	34.6	36
48-4	136.8	62.1	12	4	—	—	—	173.3	100.0	80.0	133.2	115.5	100.0	57.7	46.2	48
64-4	182.4	82.7	12	4	—	—	—	—	133.3	106.7	177.6	154.0	133.4	77.0	61.6	64
84-4	239.4	108.6	12	4	—	—	—	—	175.0	140.0	—	—	175.1	101.0	80.8	84
100-4	285.0	129.3	12	4	—	—	—	—	—	166.7	—	—	—	120.3	96.2	100

* If using an optional SDU or Area-type fan unit for dispersion, run a neutral line with 208V/240V/single-phase and 208V/three-phase power supply lines to provide a 120V circuit for the fan. With all other power supply voltages (other than 120V), provide a separate 120V circuit for the fan, or order from DriSteem a transformer installed in the control cabinet.

** Heater stage identifies the number of contactors.

*** Three-phase power supply connection. All heater loads are wired Delta.

† Total humidifier load = load to meet design conditions + load to compensate for steam loss from the dispersion assembly and interconnecting piping. If total humidifier load is more than the humidifier's maximum capacity, design conditions will not be met. For steam loss data see the *DriSteem Design Guide* available for downloading and printing at www.dristeem.com

Table 5-1:
Vaporstream dimensions, tap/softened water and RO/DI water

Model (kW - stages)	Without mounted control cabinet					
	A (length)		B (width)		C (height)	
	inches	mm	inches	mm	inches	mm
2-1, 3-1, 4-1, 5-1	16.52	420	26.00	660	18.88	480
6-1, 9-1, 12-1, 16-1, 21-1, 25-1	22.25	565	22.00	559	18.88	480
12-2, 18-2, 24-2, 32-2, 42-2, 50-2	29.72	755	22.00	559	18.88	480
18-3, 27-3, 36-3, 48-3, 63-3, 75-3	37.22	945	22.00	559	18.88	480
24-4, 36-4, 48-4, 64-4, 84-4, 100-4	44.72	1136	22.00	559	18.88	480

Model (kW - stages)	With mounted control cabinet option						
	Max. control cabinet size	A' (length 2)		B' (width 2)		C' (height 2)	
		inches	mm	inches	mm	inches	mm
2-1, 3-1, 4-1, 5-1	M	21.22	539	34.00	864	30.31	770
6-1, 9-1, 12-1, 16-1, 21-1, 25-1	M	26.90	683	30.00	762	30.31	770
12-2, 18-2, 24-2, 32-2, 42-2, 50-2	L	30.90	785	30.00	762	34.11	866
18-3, 27-3, 36-3, 48-3, 63-3, 75-3	XXL	37.22	945	32.00	813	46.11	1171
24-4, 36-4, 48-4, 64-4, 84-4, 100-4	XXL	44.72	1136	32.00	813	46.11	1171

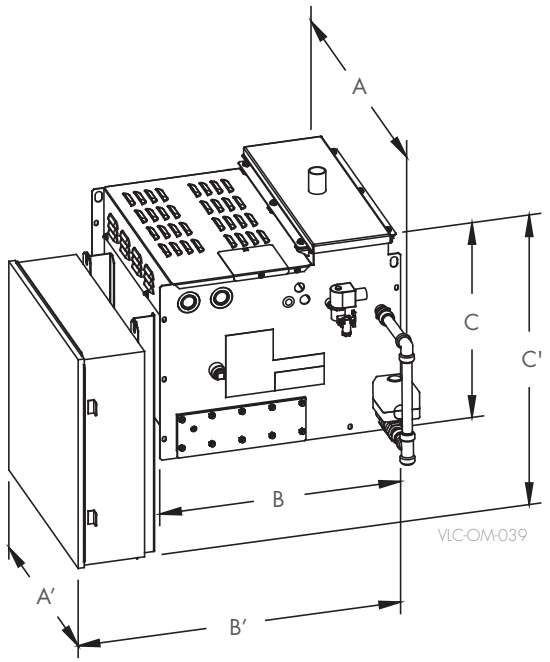
Notes:
- For all Vaporstream models with optional insulation, add 1" (25 mm) to dimensions A, C, and C'.
- Dimensions are largest possible for these models. Actual dimensions may be smaller.

VAPORSTREAM STEAM DISPERSION OPTIONS

DriSteem's steam dispersion products provide rapid, dry steam absorption in ducts, air handling units, and spaces. They disperse steam from any DriSteem steam-generating evaporative type humidifier. Vaporstream dispersion options include:

- Ultra-sorb Model LV and Ultra-sorb Model LH
- Rapid-sorb dispersion tube system
- Single dispersion tube
- Area-type fan mounted on humidifier
- SDU mounted remotely

VAPORSTREAM DIMENSIONS, TAP/SOFTENED WATER AND RO/DI WATER



VAPORSTREAM OUTDOOR OPERATION

OUTDOOR ENCLOSURES

Outdoor humidifier operation in any climate is possible with the DriSteem outdoor enclosure. The prepiped, factory-assembled unit ships complete to the job site. Installation is a snap with various mounting options — curb, legs, or flush.

Factory constructed and assembled. The outdoor enclosure is shipped complete with the humidifier preinstalled and tested. The humidifier is prepiped within the enclosure with an integral water seal, ready for quick connection to water, steam and electricity.

Install on the ground or on the roof. Outdoor enclosures are ideal for facilities that have limited interior space.

Certified, tested and proven. In-house testing and numerous successful installations have proven that the outdoor enclosure provides reliable operation under extreme conditions.

Easy access for service. Steel enclosure doors provide full access to internal components. The doors feature stainless steel hinges, and the latches operate from outside and inside of the unit.

Table 6-1:
Vaporstream outdoor enclosure dimensions

Description	Vaporstream models			
	with 1-6 heaters		with 9-12 heaters	
	inches	mm	inches	mm
Enclosure height	56.00	1422	56.00	1422
Enclosure width	40.00	1016	54.00	1372
Pipe chase position	2.50	67	2.50	67
	2.50	64	2.50	64
Pipe chase size	8.00	203	8.00	203
	19.50	495	19.50	495
Steam pipe position	13.50	343	13.50	343
	22.00	559	29.50	899
	7.00	178	7.00	178
	8.25	210	9.25	235
Length	60.00	1524	64.00	1626

Protects in cold and hot climates. To ensure complete safety and operation in all climates, the outdoor enclosure has supplemental heating and ventilating systems that automatically maintain required operation conditions. DriSteem humidifiers housed in outdoor enclosures operate properly when outdoor temperatures range from –40 °F to 122 °F (–40 °C to 50 °C).

Robust design. The outdoor enclosure is ruggedly built to completely protect internal components. The enclosure is constructed of heavy-duty galvanized steel and is fully insulated. Gaskets on doors ensure a tight seal.

WEATHER COVERS

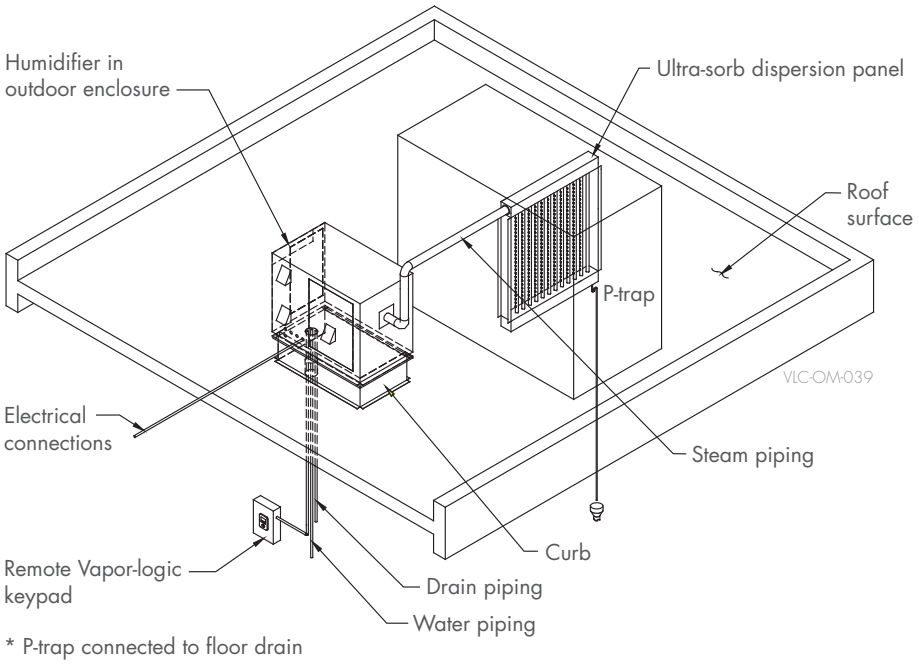
The optional Vaporstream weather cover is water-resistant and designed to protect the humidifier from rain and sun. The weather cover has been tested and approved by ETL Testing Laboratories, Inc., and is listed to UL Standard 1995 and certified to CAN/CSA Standard C22.2 No. 236.

Table 6-2:
Vaporstream weather cover dimensions

Description	1-3 heaters		6-heaters		9-heaters		12-heaters	
	inches	mm	inches	mm	inches	mm	inches	mm
Height	66	1676	66	1676	66	1676	66	1676
Length	44	1118	44	1118	44	1118	44	1118
Width	35	889	39	991	44	1118	50	1270

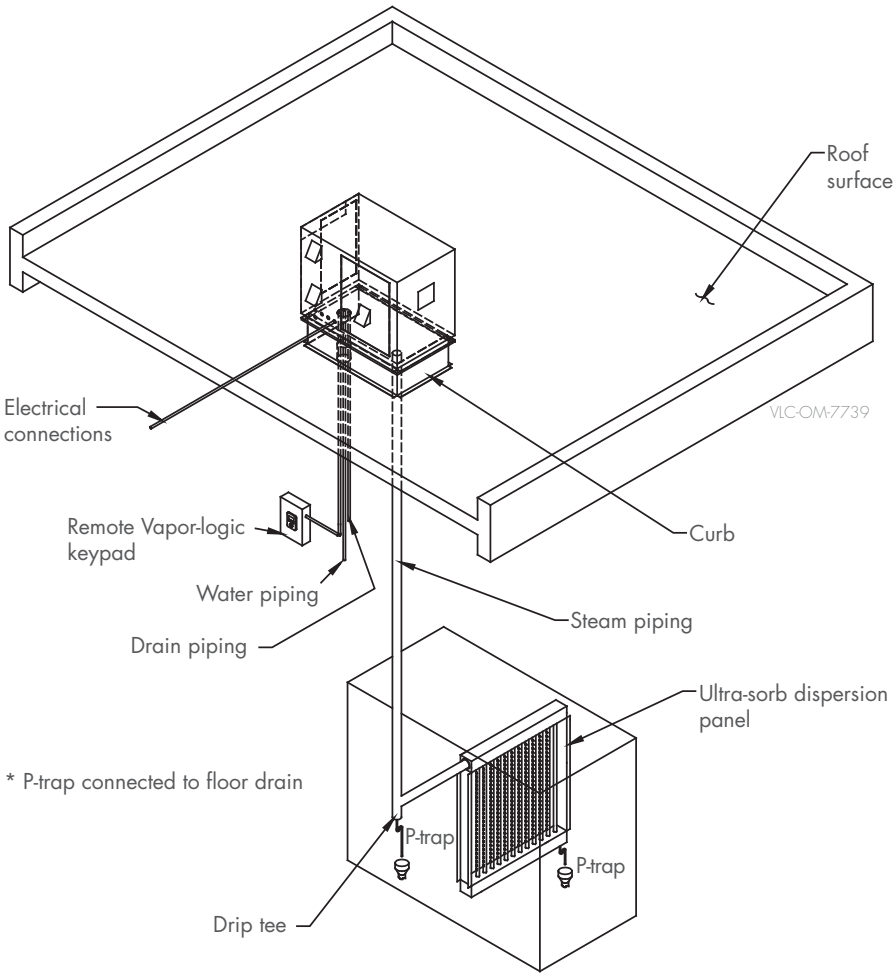
VAPORSTREAM OUTDOOR ENCLOSURE TYPICAL INSTALLATIONS

TYPICAL ROOFTOP INSTALLATION OVERVIEW WITH AHU ON TOP OF BUILDING



* P-trap connected to floor drain

TYPICAL ROOFTOP INSTALLATION OVERVIEW WITH AHU INSIDE BUILDING



* P-trap connected to floor drain

DRI-STEEM Corporation
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Continuous product improvement is a policy of DriSteem; therefore, product features and specifications are subject to change without notice.

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Form No. VLC-BRO-EN-2021-1121

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 Vaporstream Electric 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