

### Gas has lowest energy operating costs

The industry's first and best-selling gas-to-steam (GTS®) humidifier continues to be your best choice for reducing energy costs — both consumption and demand charges.

To calculate how much you can save by switching from an electric humidifier to a gas humidifier, contact your DRI-STEEM distributor.

### Convenient Web-enabled remote access with Vapor-logic4

DRI-STEEM's fourth-generation controller Vapor-logic4 allows, as standard, humidifier control from a keypad or from a Web interface. This provides the capability to securely set up, view, or adjust humidifier system functions from virtually anywhere — and at any time.

### Connect with Modbus®, BACnet®, or LonTalk®

GTS humidifiers with Vapor-logic4 are fully interoperable with Modbus, BACnet, and LonTalk systems. Modbus is Vapor-logic4's native language, or it can converse easily with a building automation system using optional BACnet or LonTalk.

### More benefits of the best-selling gas-to-steam humidifier:

- **8 unit capacities from 34–272 kg/h**, including new GTS-500 and GTS-700 models
- **Easy software updates** through the USB port on the Vapor-logic4 board
- **View operational data** from the keypad or from the Web interface
- **Accurate, responsive, adjustable RH control** due to full burner modulation and PID control
- **Capacity range up to 4 352 kg/h** (16 units under one controller)
- **Automatically cools discharged hot water** to 60 °C to meet governing code safety requirements
- **Enclosures for virtually any environment.** Indoor and outdoor; factory-installed
- **Space conscious and streamlined.** All humidifier components are contained within enclosures — no separate control cabinets or wiring subpanels
- **Full service access.** Lift-off panels remove for easy access to all connection points



### **New!**

Vapor-logic®4 controller with:

- Web-enabled remote access
- Modbus®, BACnet®, and LonTalk® interoperability

### **Plus:**

New models GTS-500 and GTS-700

**DRI-STEEM dispersion:  
Proven and guaranteed**

When it comes to absorption performance, competitors don't come close to DRI-STEEM's proven and guaranteed dispersion systems. Define your dispersion requirements and DRI-STEEM 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.



**Brave the cold with our  
heated/ventilated outdoor enclosure**

Third-party testers verified that our outdoor enclosures provide reliable operation under extreme conditions.



## GTS features

### Proven performance

- Control to  $\pm 3\%$  RH
- Steam output rangeability up to 40:1
- Low nitrogen oxide (NOx) emissions of less than 20 ppm
- On-board diagnostics verify system operation
- 93% burner efficiency rating
- Variable speed blowers and modulating gas valves provide consistent humidity output
- Designed and tested to meet ARI-640 humidification standard

### Application flexibility

- Capacity range to 272 kg/h for each unit; link up to 16 units for capacity to 4 354 kg/h
- Supports all water types: tap, softened, reverse osmosis, or deionized; easy to field convert if water type changes
- Supports natural and LP gas
- Outdoor enclosure available for outdoor operation in any climate
- CE approved for sealed combustion
- Requires only two-sided access, allowing installation in tight spaces
- Horizontal or vertical venting
- Uses affordable Category 1 venting materials for all options, including sealed combustion

### Minimal maintenance

- Cleanout plate and removable panels provide easy access for inspection and servicing
- Use of softened water significantly reduces maintenance requirements
- End-of-season autodrain minimizes microbial growth
- Controller-operated drain and flush removes precipitated minerals from evaporating chamber
- Easy water level control access

### Built-in safety

- Fully CE compliant design
- Self-contained infrared gas burners provide safety and reliability
- Gas valves close if the flue becomes blocked, shutting down humidifier operation
- Low-water sensing mechanism with redundant backup shuts down burners in a low water condition
- Can be vented with other Category 1 appliances
- Can interlock with combustion air dampers
- Freeze protection

## Vapor-logic4 controller

### Accurate, responsive control

Vapor-logic, DRI-STEEM's humidification system controller, has been setting the standard for exceptional functionality and accurate RH control since 1992. The fourth generation controller, Vapor-logic4, retains the qualities that established the Vapor-logic reputation, plus offers several new capabilities, including:



**Web interface** enables remote, simultaneous, secure access from anywhere, at any time.

**Modbus, BACnet, and LonTalk** allow interoperability with multiple building automation systems (BAS).

**Up-time optimizer** keeps humidifiers operating through conditions such as fill, drain, or run-time faults, as long as safety conditions are met, minimizing production down-time.

**USB port** on Vapor-logic4 allows easy software updates, and data backup and restore capability.

**PID control** provides accurate, responsive, and adjustable relative humidity control.

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

**Tank temperature sensor**, mounted on the evaporating chamber, allows over-temperature protection, freeze protection, and tank preheating, allowing rapid response to a call for humidity.

**Auxiliary temperature sensor** allows air temperature monitoring.

**Programmable outputs** allow remote signaling or device activation, and are easily configured during the setup process.

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

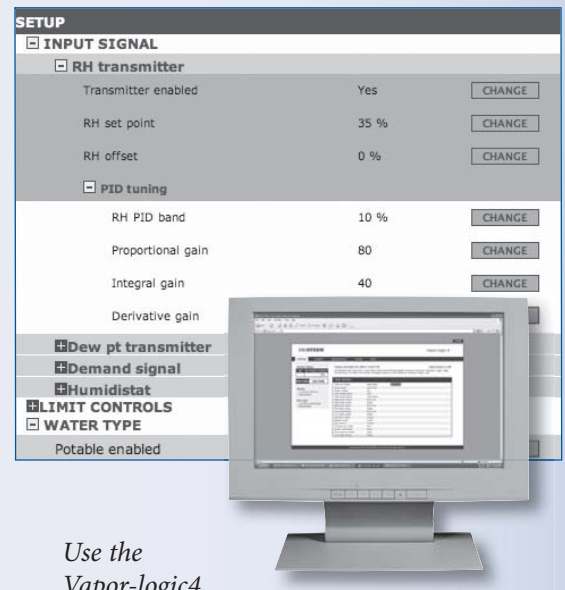
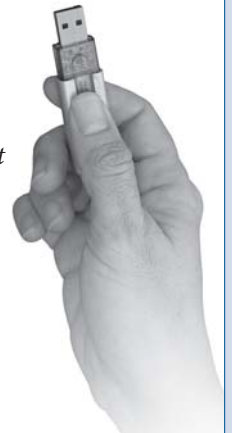
**Enhanced diagnostics** include:

- **Test outputs** function, using the keypad or Web interface to verify component operation
- **Test humidifier** function, by simulating demand to validate performance
- **Data collection** of RH, air temperature, water use, energy use, alarms, and service messages for viewing from the keypad or Web interface

**Factory commissioning** of humidifier and control board guarantees a reliable, fast installation, minimizing field installation requirements. All units are operated and tested, heating water in each tank before shipping.

**Preconfigured but easily changed.** Just go into the Setup menu to change a factory setting if, for example, a transmitter changes.

*Insert a USB flash drive into the Vapor-logic4 board's USB port to perform software updates, or to back up and restore data.*



*Use the Vapor-logic4 keypad or the standard Web interface, shown here, to control your GTS humidification system.*

## GTS specifications, capacities, and weights

**Table 4-1:**  
GTS specifications, capacities, and weights

GTS model	Maximum steam capacity	Input	Water usage at maximum capacity**	Tank volume	GTS		GTS with outdoor enclosure		I max A*
					Operating weight	Shipping weight	Operating weight	Shipping weight	
	kg/h	kW	litres/hr	litres	kg	kg	kg	kg	
GTS-100	34	29	34.1	185.5	320	170	365	230	2.8
GTS-200	68	59	68.1	185.5	320	170	365	230	2.8
GTS-300	102	88	102.2	200.6	385	205	455	270	4.0
GTS-400	136	117	136.3	200.6	385	205	455	270	4.0
GTS-500	170	147	170.3	287.7	500	270	660	430	5.5
GTS-600	204	176	204.4	287.7	500	270	660	430	5.5
GTS-700	238	205	238.5	336.9	635	320	795	475	7.0
GTS-800	272	234	272.5	336.9	635	320	795	475	7.0

**Note:**

\* Add 8 full load current for GTS models with an outdoor enclosure fitted with heaters and 1 full load current without heaters.

\*\* Add 10% to account for skim and automatic drain/flush features if utilized (standard water units only).

**Table 4-2:**  
High altitude derate

Altitude	Input derate
metres	%
0 – 610	0
610 – 765	2
765 – 915	4
915 – 1065	6
1 065 – 1 220	8
1 220 – 1 370	10
1 370 – 1 525	12
1 525 – 1 675	14
1 675 – 1 830	16
1 830 – 1 980	18
1 980 – 2 135	20
2 135 – 2 285	22
2 285 – 2 440	24

### Capacity notes

- At sea level, approximately 352 kJ are required to raise the temperature of one kilogram of water from 16 °C to 100 °C.
- An additional 2 257 kJ are required to change the state of one kilogram of 100 °C water to vapor.
- Another factor to consider is condensation steam loss from piping. Use the following general steam loss guidelines:
  - Vapor hose: 0.22 kg/h/m
  - Insulated pipe: 0.07 kg/h/m
  - Hard pipe and dispersion tubes: 0.7 kg/h/m
  - High-efficiency dispersion tubes: 0.298 kg/h/m

For more detailed information about condensation steam loss, see the DRI-STEEM Design Guide.

### LP gas

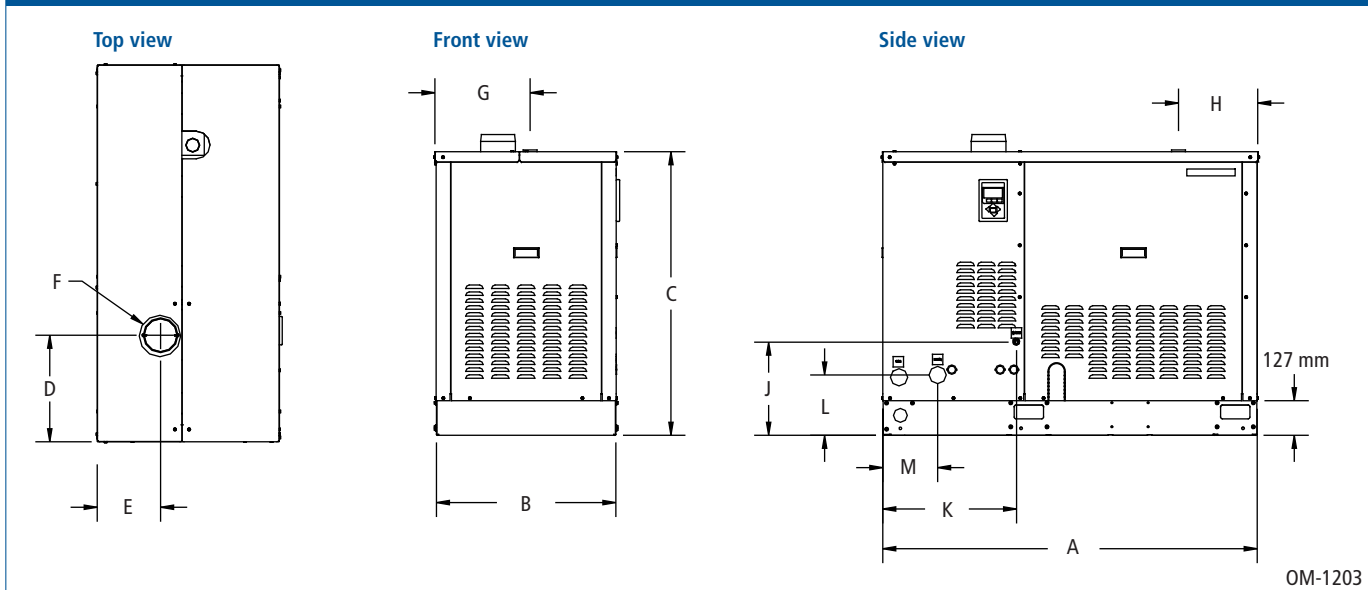
All models operate at rated kW input.

### High altitude

A derate in kW input exists when operating units at a high altitude above 600 metres. See Table 4-2 for high altitude derate information.

## GTS dimensions

**Figure 5-1:  
Dimensions**



**Table 5-1:  
Dimensions**

	Description	GTS-100 GTS-200	GTS-300 GTS-400	GTS-500 GTS-600	GTS-700 GTS-800
		mm	mm	mm	mm
A	Overall length	1 380	1 380	1 380	1 380
B	Overall width	670	822	1 076	1 229
C	Shroud height	1 040	1 040	1 040	1 040
D	Flue position	457	432	432	413
E		330	397	475	533
F	Flue diameter	127	178	203	254
G	Steam outlet position	356	521	743	895
H		295	295	295	295
J	Fill valve connection position	330	330	330	330
K		330	330	330	330
L	Drain position	222	222	222	222
M		203	203	203	203

## GTS outdoor enclosure

**Figure 6-1:**  
**Outdoor enclosure**



The outdoor enclosure has heating and venting systems that ensure humidifier operation in temperatures from  $-40^{\circ}\text{C}$  to  $48^{\circ}\text{C}$ . The outdoor enclosure can also be ordered without the heater package, or with a factory-supplied curb.

### Heated and ventilated outdoor enclosure

DRI-STEEM offers a robust and affordable enclosure for mounting the GTS humidifier outdoors. Independent testing has proven that the GTS installed within this new outdoor enclosure provides error-free ignition and reliable operation under extreme conditions.

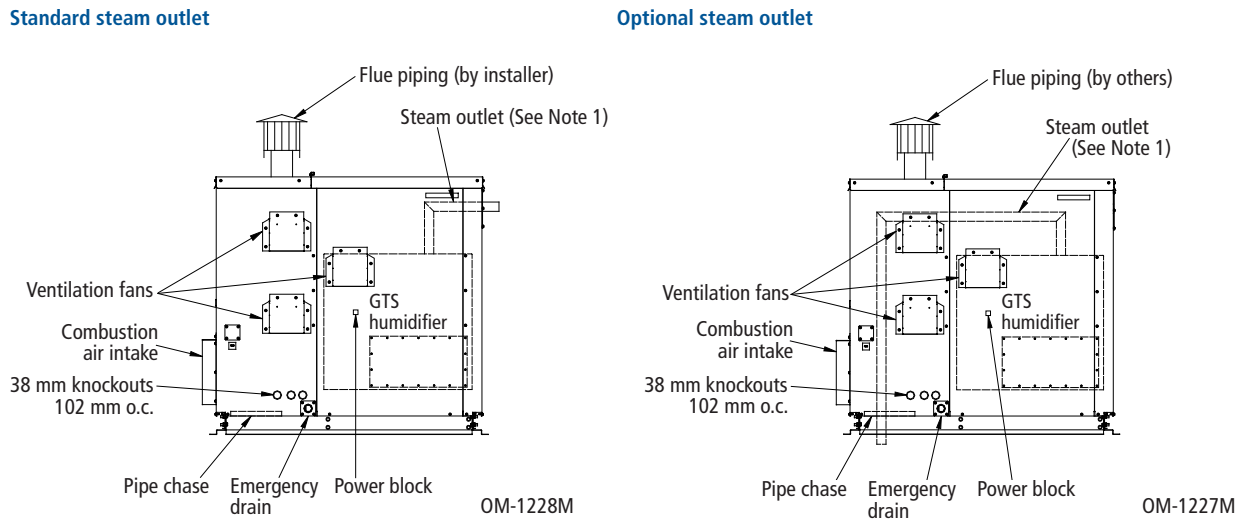
The GTS humidifier with outdoor enclosure are assembled at the factory. The unit ships complete to the job site, ready for easy-to-connect gas, water, electrical, and steam field connections.

### Outdoor enclosure features

- **Protects in cold and hot climates.** To ensure complete safety and operation in all climates, the outdoor enclosure has heating and venting systems that ensure humidifier operation in temperatures from  $-40^{\circ}\text{C}$  to  $48^{\circ}\text{C}$ . The outdoor enclosure can also be ordered without the heater package.
- **Install on the ground or roof.** The outdoor enclosure is ideal for facilities that have limited interior space.
- **Factory constructed.** The outdoor enclosure ships complete with a GTS unit preinstalled and tested, ready to easily connect to gas, water, steam and electricity.
- **Certified, tested and proven.** GTS humidifiers and outdoor enclosures are CE compliant for outdoor operation. In addition, in-house testing has proven that the GTS and outdoor enclosure provide error-free ignition and reliable operation under extreme conditions.
- **Easy service access.** Easily removed panels provide access to all internal components.
- **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. Serviceable gaskets on access panels ensure a tight seal.
- **Optional curb.** Factory-supplied curb provides base clearance and allows easy installation.

# GTS outdoor enclosure

**Figure 7-1:**  
GTS outdoor enclosure with standard or optional steam outlet, elevation view



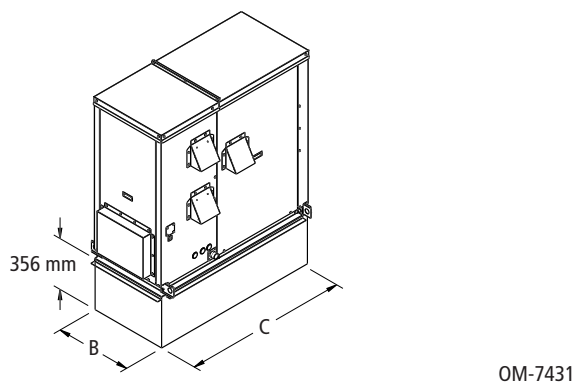
**Notes:**

1. The outdoor enclosure has two available steam distribution configurations. The standard configuration has a steam outlet at the back of the outdoor enclosure for connecting to steam dispersion unit piping. The optional internal steam distribution configuration routes steam within the outdoor enclosure and down through the enclosure pipe chase into a building.
2. There are three knockouts located on the right and left side of the enclosure. Run the electrical power and gas piping into the enclosure at these knockouts.
3. Piping from the GTS unit to the steam outlet is stainless steel pipe. Piping from the steam outlet to the dispersion assembly is provided by the installer. Choose interconnecting steam piping material that is appropriate for the application (e.g., for high-purity steam applications, consider using stainless steel interconnecting steam piping).
4. The GTS housed in an outdoor enclosure will operate properly in operating temperatures of  $-40^{\circ}\text{C}$  to  $48^{\circ}\text{C}$ .

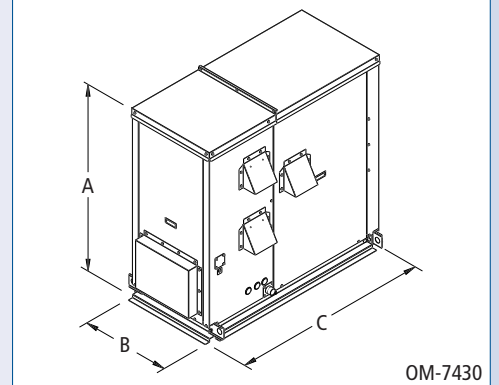
**Table 7-1:**  
Outdoor enclosure dimensions

Description	GTS-100 GTS-200	GTS-300 GTS-400	GTS-500 GTS-600	GTS-700 GTS-800
	mm	mm	mm	mm
A Enclosure height	1 388	1 388	1 388	1 388
B Enclosure width	660	813	1 067	1 219
C Enclosure length	1 454	1 454	1 454	1 454

**Figure 7-2:**  
Outdoor enclosure mounted on a curb



**Figure 7-3:**  
Outdoor enclosure mounted flush



## Expect quality from the industry leader

For more than 40 years, DRI-STEEM has been leading the industry with creative and reliable humidification solutions. Our focus on quality is evident in the construction of the GTS humidifier, which features cleanable, stainless steel construction, and an industry-leading two year warranty that covers all parts.

### For more information

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For the most current product information, visit our Web site:  
[www.dristeem.com](http://www.dristeem.com)

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Form No. GTS-PDS-M-0210 Rev Web

## GTS steam dispersion options

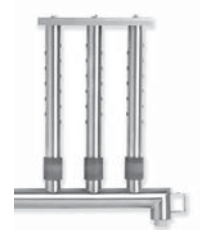
### Ultra-sorb

- Double header design
- Shortest non-wetting distance; install within inches of upstream dampers, coils, or elbows without dripping
- Steam capacity up to 840 kg/h
- Factory assembled for easy installation
- High-efficiency tube option



### Rapid-sorb

- Single header design
- Short non-wetting distance
- Steam capacity up to 360 kg/h
- Assembled on-site
- High-efficiency tube option



### High-efficiency tube option

- Up to 85% reduction in wasted energy, airstream heat gain, and condensate production
- PVDF insulation is plenum-approved for in-duct installation
- Will not absorb water or support microbial growth; has a closed-cell structure



Ultra-sorb panel with high-efficiency tubes

Your DRI-STEEM distributor is: