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GS Series™

Gas Steam
Humidifiers

Designed for air handling
systems and for areas
requiring individual
humidification control

NORTEC's new generation of Gas Steam humidifiers is proof again that at NORTEC we do more than provide humidification solutions... we create them.

NORTEC specializes in the design and production of superior humidification systems. It's all we do! Our future depends on our ability to understand the needs of all our customers. We create the most appropriate solutions to their specific needs in the most efficient way. To this end, we draw upon our extensive experience to develop an ever-growing range of products that will provide our customers with maximum reliability, minimum maintenance and a choice of energy sources.

The new generation of GS Series Gas Steam humidifiers gives you more than economical operation. It's the most versatile gas humidifier available in the industry. When natural gas or propane is your preferred energy choice, the new GS Series gives you the options!!! This new humidifier employs a state of the art controller giving networking capability to your engineer and superior interconnection capabilities. It provides venting and steam distribution flexibility to contractor allowing fast and easy installation in retrofit or new applications. The integrated troubleshooting guide, smart drain water tempering and pre-cleaning sequence ensures fast servicing and efficient operation in all conditions.

Every unit has a built-in modular stainless steel heat exchanger, its flat surfaces ensure easy cleaning and its proven design ensures reliable operation in all water conditions. The control system is powered by a 208-240V single phase electrical supply, 15 amp fused circuit, ensuring longer component service life. Each humidifier is built to operate with a normal potable cold water source, RO (reverse osmosis), or DI (De-mineralized) water as a standard. GS Series products are manufactured in Nortec's ISO 9001-2001 registered facility. Your NORTEC representative can provide details.

GS Series™



ISO 9001:2000



U.S. Patent 5,816,496
Canadian Patent 2,203,332

*GS Series products
are manufactured
in NORTEC's
ISO registered facility.*



Certificate No. 002419



GS Series™

operating advantages



NORTEC GS Series Gas Steam humidifiers provide pure, clean steam humidification at an economical operating cost. Units are packaged in a powder coated cabinet for zero clearance space requirement while offering high efficiency output. They can be controlled from either a local humidistat, from the central building management system or multiple units can be staged together.

The combustion system utilizes a modulating forced draft combustion air blower, a negative pressure regulator gas valve and a 100% premix burner. On a call for humidity, the combustion air blower starts creating a negative pressure across the orifice located at the air inlet. The hot surface ignitor then energizes.

The gas valve opens and the regulated gas/air mixture is forced through the burner ports and is ignited.

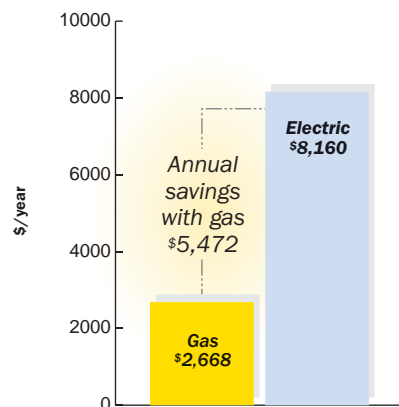
The compact stainless steel heat exchanger has large flat surfaces to minimize scale buildup in the humidifier tank. Scale tends to fall off the exchanger wall to the bottom of the tank, maintaining efficient heat transfer to the water and extending the intervals between cleanings. The humidifier tank and heat exchanger can be removed from the humidifier and the smooth stainless steel surface is easily cleaned and maintained.

The GS SERIES compact heat exchanger design provides a minimum footprint area where space requirement is an issue.



COMPACT REMOVEABLE HEAT EXCHANGER. 105 LBS/HR OF CLEAN STEAM.

Annual Operating Cost of Natural Gas Humidifier vs Electric Humidifier



Operating costs based on an electric cost of \$0.08 per kWh, natural gas cost \$0.64 per therm, full output for 1,500 hours per season. Efficiency of electric unit is 97% and efficiency of gas unit is 82%. Costs do not include electric peak demand charges.

system features

- ▶ Low emission gas appliance
- ▶ Capacity up to 630 lbs/hr with a single unit
- ▶ Nortec Total Controller
 - Interaction with various building protocols
 - RH display & setpoint adjustment
 - Easy to use scroll down menus
 - Staged modulation of up to 10 units
- ▶ Intuitive scale management based on steam production
- ▶ Adaptable for small or large areas
- ▶ Heavy-duty drain pump for scale removal
- ▶ Modulation to 25 lbs/hr (11 lbs/hr) for all capacities
- ▶ Produces pure, uncontaminated steam humidification
- ▶ Multiple venting options for easy installation
- ▶ All components suitable for RO/DI water as a standard
- ▶ The most compact flat surface heat exchanger in the business
- ▶ Internal water tempering for drain water cooling
- ▶ Fully modulating humidifier
- ▶ All service connection outside the cabinet ready for field connection.
- ▶ Steam distribution through either ducts or blower packs
- ▶ Fully insulated tank for efficient operation
- ▶ Pre-cleaning sequence ensures shorter maintenance time



distribution systems



Independent **Blower Packs** for use with GS SERIES in space (remote only). Ranging in capacity from 5 to 100 lbs.

in space



Stainless Steel **Steam Distributors** for use with GS SERIES to distribute atmospheric steam into ducts.

in duct



SAME Short Absorption Manifold for use in air handlers or duct where short steam absorption distances in ducts are critical. Single steam inlet configuration available.

featurecomparison



The **GSTC** has a built-in microcomputer with a full size display that provides instantaneous updating of all operating parameters. The unit accepts a modulation control signal from a BMCS varying its output to meet capacity demand. Models feature a capacity adjustment of output down to 25 lbs/hr.



The **GSP** uses status lamps on the front to provide operating diagnostics. The GSP model can accept a modulating control signal from building management systems.

Standard Features

	GSTC	GSP
Steam Capacity adjustment	X	
Full size alphanumeric display and keypad	X	
Configurable date and time indication	X	
Transducer signal acceptance	X	
Individual component diagnostic capability	X	
Keypad set-point adjustment (humidity)	X	
Display of relative humidity	X	
Low and high relative humidity alarms	X	
Keep warm feature	X	
Networking capability up to 10 units	X	
Pre-cleaning sequence	X	
Troubleshooting Guide	X	
Self diagnostic capabilities	X	
Fault history	X	
Smart drain water cooling	X	
Backlit display	X	
Stand, GS Series	X	X
3-day drain with no call for humidity	X	X
Full tank blowdown capability via time of day, timer, or signal from BMS	X	X
Board mounted display for fault and demand indication	n/a	X
Parameter change through jumper settings	keypad	X
Remote fault indication	X	X
Single or Dual modulation signal acceptance	X	X
Industry standard modulation signal acceptance	X	X
Time to next maintenance alarm	X	X
Internal Drain water cooler	X	X
System demand indication	X	X
Blowdown based on steam production	X	X
Precise five level water level indication	X	X
Status indicator lamps	X	X
Single or multiple steam outlet options	X	X
Multiple venting options	B or BH vent	
Large Side tank cleaning port	X	X
Top access cleaning	required only for 300-600 lbs/hr	
Single water connections	X	X
Fully modulating down to 25lbs/hr (11kg/hr)	X	X
Options		
Interaction with BMS system (Contact Factory)	X	
Keep warm feature for GSP model		X
Full size alphanumeric display and keypad for GSP model		X
Remote control box with keypad display	X	X
Freeze protection, GS Series	X	X
Sealed combustion / Direct vent	X	X
Distribution Systems		
SAM-e	X	X
Steam distributor	X	X
Blower pack	X	X

GSP: Double line display located on the control board indicates demand signal, fault and service code, resets with power switch, dip switch for power counter (indicating service required). Mounted to main control board in unit's electrical compartment.



SPECIFICATION	GS 100	GS 200	GS 300	GS 400	GS 500	GS 600
Capacity: lbs/hr*	25-105	25-210	25-315	25-420	25-525	25-630
Capacity: kg/hr*	11-47	11-95	11-143	11-191	11-238	11-286
Input BTU/hr max	140,000	280,000	420,000	560,000	700,000	840,000
Input kJ/hr max	41	82	124	165	206	247
Flue Emissions	Low CO (<40ppm) and NOx (<10ppm)					
Unit rated Amps	2	3	4	5	6	7
Voltage/Phase	208-240/1	208-240/1	208-240/1	208-240/1	208-240/1	208-240/1

*Note: Specifications subject to change without notice. Minimum steam values apply to unit using natural gas and without direct vent. 10% derate for high altitude.

installation

- Single point cabinet door fastening for easy removal.
- Choice of venting comes standard allowing greater installation flexibility, B or BH venting.
- Cabinet and insulation allows mounting to combustible surfaces for minimum space requirement.
- Exclusive full size cleanout port for fast and easy servicing.
- Telescopic stand is integral to humidifiers for easy installation.
- All service connections exterior to the humidifier ready for field connections.
- 208-240V single phase, 15 amp fused circuit power supply.
- Steam outlet configuration ready for duct distributor, remote mounted blower pack or Short absorption manifold connection.



For details on these and other humidifiers, please consult your NORTEC representative.



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