



# Nortec GS Submittal Package

GS Series II



# Table of Contents

Descriptions .....	3
Gas Fired: Indoor – GS CS Condensing High Efficiency .....	4
Gas Fired: Indoor – GS NX Condensing High Efficiency, Ultra Low NOx .....	5
Gas Fired: Indoor – GS MT Mid-Temperature .....	6
Specifications .....	7
GS-CS Specification .....	8
GS-NX Specification.....	10
GS-MT Specification .....	12
Data Sheets* .....	14
Data Sheet - GS 50-CS, Natural Gas with stand .....	15
Data Sheet - GS 50-MT, Natural Gas with stand.....	15
Data Sheet - GS 100-CS, Natural Gas with stand .....	16
Data Sheet - GS 100-MT, Natural Gas with stand .....	16
Data Sheet - GS 150-CS, Natural Gas with stand .....	17
Data Sheet - GS 150-MT, Natural Gas.....	17
Data Sheet - GS 200-CS, Natural Gas with stand .....	18
Data Sheet - GS 200-MT, Natural Gas.....	18
Data Sheet - GS 300-CS, Natural Gas with stand .....	19
Data Sheet - GS 300-MT, Natural Gas.....	19
Data Sheet - GS 450-CS, Natural Gas with stand .....	20
Data Sheet - GS 450-MT, Natural Gas.....	20
Data Sheet - GS 600-CS, Natural Gas with stand .....	21
Data Sheet - GS 600-MT, Natural Gas.....	21
Schematics .....	22
Stand Drawings .....	28
Wiring Diagrams.....	34

*\*for Propane and GS NX Data Sheets, contact Technical Product Manager (marlee.spiegelberg@condair.com)*

# Descriptions

# Gas Fired: Indoor – GS CS Condensing High Efficiency

## GS Self-Contained Condensing Gas-fired Humidifier (Isothermal Technology)

Designed for quality energy-efficient installations, can be configured to use natural gas or propane gas energy. This isothermal system produces mineral free, odorless, sterile steam. Steam is generated at atmospheric pressure inside a fully insulated stainless steel tank.

All models feature full frontal access via removable panels. The unit arrives completely assembled inside a satin coat, powder paint, corrosion and scratch resistant cabinet; allowing certified zero clearance to combustibles.

With condensing technology, exhaust temperatures operate between 120-140 °F (49- 60 °C). The Internal Drain Water Cooler tempers drain water to 140 °F (60 °C), or cooler, to meet local plumbing codes.

The unique stainless steel vertical heat exchanger, fully contained within the tank, minimizes the floor space requirements. Utilizing a pre-mix, variable speed blower and a negative pressure gas regulating valve, an ideal fuel air mixture is maintained, providing the highest possible combustion efficiency at all outputs.

Steam distribution can be achieved using steam distributors or Short Absorption Manifolds (SAM-e) for AHU/duct installation, or Remote Mounted Blower Pack (RMBP) for direct space applications.

### FEATURES

- Totally enclosed cabinet with zero clearance to combustibles
- Multi-function, touchscreen graphic display with easy programming and adjustment
- Integrated Controller technology with standard BMS communication interface for remote monitoring and control via Modbus and BACnet
- On screen indication of demand, service, and fault history
- On screen troubleshooting center with corrective action
- On screen graphic indication of humidity demand trends
- Continuous display of operating parameters and self-monitoring
- Keep warm feature that maintains a water temperature of 160°F (71°C) for rapid response and freeze protection
- Manual steam capacity adjustment
- Intelligent scale management system based on steam production
- Internal drain water tempering to 140°F (60°C) maximum during normal operation
- Pre-cleaning sequence
- Cleaning ports for all capacities
- Multiple venting capabilities
- Compact and removable tubular heat exchanger with flat plate burner technology
- Durable 316L heat treated stainless steel heat exchanger
- Secondary 316L heat exchanger to allow for high-efficiency operation
- Sacrificial anode to prevent corrosion
- High thermal efficiency rating of 90% (condensing) using economical natural gas or propane
- Self-Test diagnostics on start up with self-monitored and fail safe operation
- Automatic duty cycling of burners for equal usage
- Dual modulating signal inputs
- Modulating control compatible with staging of burners for optimum operation
- Water level control external to the tank, minimizing scaling and agitation from boiling
- Auto tank drain on 72 hour inactivity
- Heavy duty drain pump
- Materials suitable for use with all water types, including Potable, RO and DI
- All models fit through a 36" door
- CSA Certified

# Gas Fired: Indoor – GS NX Condensing High Efficiency, Ultra Low NOx

## GS Self-Contained Condensing Gas-fired Humidifier (Isothermal Technology)

Designed for quality energy-efficient installations using natural gas. This isothermal system produces mineral free, odorless, sterile steam. Steam is generated at atmospheric pressure inside a fully insulated stainless steel tank.

All models feature full frontal access via removable panels. The unit arrives completely assembled inside a satin coat, powder paint, corrosion and scratch resistant cabinet, allowing certified zero clearance to combustibles.

With condensing technology, exhaust temperatures operate between 120-140 °F (49- 60 °C). The Internal Drain Water Cooler tempers drain water to 140°F (60°C), or cooler, to meet local plumbing codes.

The unique stainless steel vertical heat exchanger, fully contained within the tank, minimizes the floor space requirements. Utilizing a pre-mix, variable speed blower and a negative pressure gas regulating valve, an ideal fuel air mixture is maintained, providing the highest possible combustion efficiency at all outputs. This humidifier meets California NOx emissions standards (AQMD certification pending).

Steam distribution can be achieved using steam distributors or Short Absorption Manifolds (SAM-e) for AHU/duct installation, or Remote Mounted Blower Pack (RMBP) for direct space applications.

### FEATURES

- Totally enclosed cabinet with zero clearance to combustibles
- Meets AQMD requirements – certification pending
- Multi-function, touchscreen graphic display with easy programming and adjustment
- Integrated Controller technology with standard BMS communication interface for remote monitoring and control via Modbus and BACnet
- On screen indication of demand, service, and fault history
- On screen troubleshooting center with corrective action
- On screen graphic indication of humidity demand trends
- Continuous display of operating parameters and self-monitoring
- Keep warm feature that maintains a water temperature of 160°F (71°C) for rapid response and freeze protection
- Manual steam capacity adjustment
- Intelligent scale management system based on steam production
- Internal drain water tempering to 140°F (60°C) maximum during normal operation
- Pre-cleaning sequence
- Cleaning ports for all capacities
- Multiple venting capabilities
- Compact removable tubular heat exchanger with flat plate burner technology
- Durable 316L heat treated stainless steel heat exchanger
- Secondary 316L heat exchanger to allow for high-efficiency operation
- Sacrificial anode to prevent corrosion
- High thermal efficiency rating of 89% (condensing) using economical natural gas or propane
- Self-Test diagnostics on start up with self-monitored and fail safe operation
- Automatic duty cycling of burners for equal usage
- Dual modulating signal inputs
- Modulating control compatible with staging of burners for optimum operation
- Water level control external to the tank, minimizing scaling and agitation from boiling
- Auto tank drain on 72 hour inactivity
- Heavy duty drain pump
- Materials suitable for use with all water types, including Potable, RO and DI
- All models fit through a 36" door
- CSA Certified

# Gas Fired: Indoor – GS MT Mid-Temperature

## GS Self-Contained Gas-fired Humidifier (Isothermal Technology)

Designed for quality energy-efficient installations, can be configured to use natural gas or propane gas energy. This Isothermal System produces mineral free, odorless, sterile steam. Steam is generated at atmospheric pressure inside a fully insulated stainless steel tank.

All models feature full frontal access via removable panels. The unit arrives completely assembled inside a satin coat, powder paint, corrosion and scratch resistant cabinet, allowing certified zero clearance to combustibles. The Internal Drain Water Cooler tempers drain water to 140°F (60°C), or cooler, to meet local plumbing codes.

The unique stainless steel vertical heat exchanger, fully contained within the tank, minimizes the floor space requirements. Utilizing a pre-mix, variable speed, blower and a negative pressure gas regulating valve, an ideal fuel air mixture is maintained, providing the highest possible combustion efficiency at all outputs.

Steam distribution can be achieved using steam distributors or Short Absorption Manifolds (SAM-e) for AHU/duct installation, or Remote Mounted Blower Pack (RMBP) for direct space applications.

### FEATURES

- Totally enclosed cabinet with zero clearance to combustibles
- Multi-function, touchscreen graphic display with easy programming and adjustment
- Integrated Controller technology with standard BMS communication interface for remote monitoring and control via Modbus, BACnet and LonWorks
- On screen indication of demand, service, and fault history
- On screen troubleshooting center with corrective action
- On screen graphic indication of humidity demand trends
- Continuous display of operating parameters and self-monitoring
- Keep warm feature that maintains a water temperature of 160°F (71°C) for rapid response and freeze protection
- Manual steam capacity adjustment
- Intelligent scale management system based on steam production
- Internal drain water tempering to 140°F (60°C) maximum during normal operation
- Pre-cleaning sequence
- Cleaning ports for all capacities
- Venting capability with BH
- Compact removable tubular heat exchanger with flat plate burner technology
- Durable 316L heat treated stainless steel heat exchanger
- Sacrificial anode to prevent corrosion
- High thermal efficiency rating of 84% (non-condensing) using economical natural gas or propane
- Self-Test diagnostics on start up with self-monitored and fail safe operation
- Automatic duty cycling of burners for equal usage
- Dual modulating signal inputs
- Modulation control utilizing patented variable speed, and pre-mix blower(s)
- Modulating control compatible with staging of burners for optimum operation
- Water level control external to the tank, minimizing scaling and agitation from boiling
- Auto tank drain on 3 day off cycle
- Heavy duty drain pump
- Materials suitable for use with all water types, including Potable, RO and DI
- All models fit through a 36" door
- CSA Certified

# Specifications

# GS-CS Specification

## PART 1 - GENERAL

### 1.1 Work Included:

- a. NORTEC GS Series Gas-Fired Humidifier[s] as indicated on drawing[s] and as indicated on schedule[s].
- b. Complete and operable humidification system [which meets applicable building codes].
- c. Equipment start-up and project inspection by qualified factory trained representative.

### 1.2 Quality Assurance:

- a. CSA Certified.
- b. ISO 9001-2008.
- c. ANSI/NFPA 70 - National Electrical Code.
- d. AHRI 640, "Standard for Commercial and Industrial Humidifiers".
- e. Products shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of two years after installation or 30 months from manufacturer's ship date, whichever is earlier. The heat exchanger shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of three years after installation or 39 months from manufacturer's ship date, whichever is earlier.

### 1.3 Related Sections:

- a. 23 01 00 Mechanical General
- b. 23[ ] Piping Installation
- c. 23[ ] Control System

### 1.4 Submittals:

- a. Submit product data under provisions of Section 23 01 00. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes. Include rated capacities, operating weights, furnished specialties, and accessories.
- b. Submit manufacturer's installation instructions.
- c. Submit operation and maintenance data.
- d. Submit coordination drawings. Detail fabrication and installation of humidifiers. Include piping details, plans, elevations, sections, details of components, and dispersion tubes. Detail humidifiers and adjacent equipment. Show support locations, type of support, weight on each support, and required clearances.
- e. Submit wiring diagrams including power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.
- f. Submit minimum water quality requirements and water pressure requirements.

### 1.5 Schedules:

- a. Refer to information contained in schedule[s] attached to this specification.
- b. Humidifiers to be of type, capacity, and arrangement as listed in schedule[s].
- c. Include accessories listed in schedule[s] and those accessories required for type of unit.

## GAS FIRED STEAM HUMIDIFIER - GS CS

## PART 2 - PRODUCTS

2.1 The NORTEC GS CS packaged gas-fired steam generating system produces clean, sterile, and efficient atmospheric pressure steam through combustion of natural gas or propane.

2.2 Unit [s] to be complete with:



- a. Enclosed cabinet, powder painted steel construction and air gap between cabinet and insulated humidifier tank ensures safe surface temperature.
- b. All internal components compatible with De-Ionized (DI), Reverse Osmosis (RO), potable and softened water.
- c. All tank surfaces shall be insulated with minimum 0.5" (12 mm) thick insulation and enclosed within unit cabinetry to ensure safe surface temperature, high overall efficiency, and fast unit response time. Units with exposed insulation shall not be acceptable.
- d. Standard internal drain water cooler to ensure drain water tempering to 140° F (60° C).
- e. Blow-down plumbing trap, factory installed, enclosed in cabinet, prevents steam leakage to drain. Field installation not acceptable.
- f. Overflow protection internal to unit cabinet which includes integrated steam trap.
- g. Drain line to include a vacuum breaker to prevent siphon drainage of the tank.
- h. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be tubular in design.
- i. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be heat treated to protect against possible stress corrosion cracking. Combustion chamber(s)/heat exchanger(s) that are not heat treated 316 stainless steel are not acceptable.
- j. Each burner, capable of true modulation at a 5:1 ratio will provide steam production of 30 to 150 lbs/hr (14 to 68 kg/hr), 20 to 100 lbs/hr (9 to 45 kg/hr) or 10 to 50 lbs/hr (4.6 to 23 kg/hr). Time proportioning modulation is not acceptable.
- k. Maximum net overall efficiency of 93%.
- l. Unit must be rated as a condensing, high-efficiency gas appliance with a secondary heat exchanger and condensate removal.
- m. Gas system with gas valve(s), explosion proof, premix combustion air blower(s), microprocessor controlled ignition, flame sensing and fault indicator light(s), 100% premix flat burner(s), spark igniters(s) and heat transfer efficiency maintained over all operating ranges.
- n. A secondary combustion air safety, in addition to blower speed monitoring, utilizing a mechanical pressure differential switch, to ensure combustion air is entering the pre-mix blower properly.
- o. Removable cover at front of unit facilitates easy cleaning (when applicable) with complete access to tank and heat exchanger surfaces. When removed, access must extend to the bottom of the tank with no lip.
- p. Automatic water level control within a separate float chamber, isolated from the boiling action, to prevent false water level indication.
- q. Dual magnetic electronic float system, located outside of the boiling water to ensure accurate water level control and reduced maintenance. Cool fill water is to be supplied into the assembly to keep the device cool. Systems using conductivity probes or floats located within boiling reservoir water are not acceptable.
- r. Humidifier shall have a dual fill valve to feed water to the fill assembly, to reduce scaling and mineral build up on the magnetic floats.
- s. Float chamber to include LED indication of five possible water level indications.
- t. Pre-cleaning flushing feature shall be provided to reduce maintenance time.
- u. End of season blow-down feature to evacuate contained water and minerals after 72 hours with no demand for humidification.
- v. Standard Modbus, BACnet IP, and BACnet MSTP protocol communication capability with adaptability for LonWorks. BTL Certified options available.
- w. Keep warm function allows the water temperature in the tank to be maintained at a high temperature for quick response of the unit to a call for humidity.
- x. Integrated Controller with LCD touchscreen and backlit display.

## PART 3 - EXECUTION

### 3.1 Installation:

- a. Install humidifiers and steam dispersion panels per manufacturers' instructions.
- b. Seal humidifier dispersion-tube duct penetrations with flange.
- c. Install with required clearance for service and maintenance.
- d. System shall be rated as class 4 appliance certified for use with exhaust vent type BH or with CPVC venting.

### 3.2 Accessories:

- a. Install accessories in accordance with manufacturer's recommendations.

### 3.3 Commissioning:

- a. Start-up of humidifier to be by factory trained technician.

# GS-NX Specification

## PART 1 - GENERAL

### 1.1 Work Included

- A. NORTEC GS NX Series Gas-Fired Humidifier[s] as indicated on drawing[s] and as indicated on schedule[s].
- B. Complete and operable humidification system [which meets applicable building codes].
- C. Equipment start-up and project inspection by qualified factory trained representative.

### 1.2 Quality Assurance:

- A. CSA Certified.
- B. ISO 9001-2008.
- C. ANSI/NFPA 70 - National Electrical Code.
- D. AHRI 640, "Standard for Commercial and Industrial Humidifiers".
- E. Products shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of two years after installation or 30 months from manufacturer's ship date, whichever is earlier. The heat exchanger shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of three years after installation or 39 months from manufacturer's ship date, whichever is earlier.

### 1.3 Related Sections:

- A. 23 01 00 Mechanical General
- B. 23[ ] Piping Installation
- C. 23[ ] Control System

### 1.4 Submittals:

- A. Submit product data under provisions of Section 23 01 00. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes. Include rated capacities, operating weights, furnished specialties, and accessories.
- B. Submit manufacturer's installation instructions.
- C. Submit operation and maintenance data.
- D. Submit coordination drawings. Detail fabrication and installation of humidifiers. Include piping details, plans, elevations, sections, details of components, and dispersion tubes. Detail humidifiers and adjacent equipment. Show support locations, type of support, weight on each support, and required clearances.
- E. Submit wiring diagrams including power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.
- F. Submit minimum water quality requirements and water pressure requirements.

### 1.5 Schedules:

- A. Refer to information contained in schedule[s] attached to this specification.
- B. Humidifiers to be of type, capacity, and arrangement as listed in schedule[s].
- C. Include accessories listed in schedule[s] and those accessories required for type of unit.

## PART 2 - PRODUCTS: GAS FIRED STEAM HUMIDIFIER

2.1 The NORTEC GS NX packaged gas-fired steam generating system produces clean, sterile, and efficient atmospheric pressure steam through combustion of natural gas or propane.

### 2.2 Unit [s] to be complete with:

- A. Enclosed cabinet, powder painted steel construction and air gap between cabinet and insulated humidifier tank ensures safe surface temperature.

- B. All internal components compatible with De-Ionized (DI), Reverse Osmosis (RO), potable and softened water.
- C. All tank surfaces shall be insulated with minimum 0.5" (12 mm) thick insulation and enclosed within unit cabinetry to ensure safe surface temperature, high overall efficiency, and fast unit response time. Units with exposed insulation shall not be acceptable.
- D. Standard internal drain water cooler to ensure drain water tempering to 140° F (60° C).
- E. Blow-down p-trap, factory installed, enclosed in cabinet, prevents steam leakage to drain. Field installation not acceptable.
- F. Humidifier to prevent "back-siphoning" using an internal air gap for supply water, to meet local plumbing codes.
- G. Drain line to include a vacuum breaker to prevent siphon drainage of the tank.
- H. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be tubular in design.
- I. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be heat treated to protect against possible stress corrosion cracking. Combustion chamber(s)/heat exchanger(s) that are not heat treated 316 stainless steel are not acceptable.
- J. Each burner, capable of true modulation at a 5:1 ratio will provide steam production of 30 to 150 lbs/hr (14 to 68 kg/hr), 20 to 100 lbs/hr (9 to 45 kg/hr) or 10 to 50 lbs/hr (4.6 to 23 kg/hr). Time proportioning modulation is not acceptable.
- K. Maximum net overall efficiency of 89%.
- L. Unit must meet SCAQMD Rule 1146.2 and be eligible to install in California without field modification.
- M. Unit must be rated as a condensing, high-efficiency gas appliance with a secondary heat exchanger and condensate removal.
- N. Gas system with gas valve(s), explosion proof, premix combustion air blower(s), microprocessor controlled ignition, flame sensing and fault indicator light(s), 100% premix flat burner(s), spark igniters(s) and heat transfer efficiency maintained over all operating ranges.
- O. A secondary combustion air safety, in addition to blower speed monitoring, utilizing a mechanical pressure differential switch, to ensure combustion air is entering the pre-mix blower properly.
- P. Removable cover at front of unit facilitates easy cleaning (when applicable) with complete access to tank and heat exchanger surfaces. When removed, access must extend to the bottom of the tank with no lip.
- Q. Automatic water level control within a separate float chamber, isolated from the boiling action, to prevent false water level indication.
- R. Dual magnetic electronic float system, located outside of the boiling water to ensure accurate water level control and reduced maintenance. Cool fill water is to be supplied into the assembly to keep the device cool. Systems using conductivity probes or floats located within boiling reservoir water are not acceptable.
- S. Humidifier shall have a dual fill valve to feed water to the fill assembly, to reduce scaling and mineral build up on the magnetic floats.
- T. Float chamber to include LED indication of five possible water level indications.
- U. Pre-cleaning flushing feature shall be provided to reduce maintenance time.
- V. End of season blow-down feature to evacuate contained water and minerals after 72 hours with no demand for humidification.
- W. Standard Modbus, BACnet IP, and BACnet MSTP protocol communication capability with adaptability for LonWorks. BTL Certified options available.
- X. Keep warm function allows the water temperature in the tank to be maintained at a high temperature for quick response of the unit to a call for humidity.
- Y. Integrated Controller with LCD touchscreen and backlit display.

### **PART 3 - EXECUTION**

#### **3.1 Installation:**

- A. Install humidifiers and steam dispersion panels per manufacturers' instructions.
- B. Seal humidifier dispersion-tube duct penetrations with flange.
- C. Install with required clearance for service and maintenance.
- D. System shall be rated as class 4 appliance certified for use with exhaust vent type BH or with CPVC venting.

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#### **3.2 Accessories:**

- a. Install accessories in accordance with manufacturer's recommendations.

#### **3.3 Commissioning:**

- a. Start-up of humidifier to be by factory trained technician.

# GS-MT Specification

## PART 1 - GENERAL

### 1.1 Work Included:

- a. NORTEC GS Series Gas-Fired Humidifier[s] as indicated on drawing[s] and as indicated on schedule[s].
- b. Complete and operable humidification system [which meets applicable building codes].
- c. Equipment start-up and project inspection by qualified factory trained representative.

### 1.2 Quality Assurance:

- a. CSA Certified.
- b. ISO 9001-2008.
- c. ANSI/NFPA 70 - National Electrical Code.
- d. AHRI 640, "Standard for Commercial and Industrial Humidifiers".
- e. Products shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of two years after installation or 30 months from manufacturer's ship date, whichever is earlier. The heat exchanger shall be supported with a warranty that ensures the product will be free from defects in materials and workmanship for a period of three years after installation or 39 months from manufacturer's ship date, whichever is earlier.

### 1.3 Related Sections:

- a. 23 01 00 Mechanical General
- b. 23[ ] Piping Installation
- c. 23[ ] Control System

### 1.4 Submittals:

- a. Submit product data under provisions of Section 23 01 00. Include product description, model, dimensions, component sizes, rough-in requirements, service sizes, and finishes. Include rated capacities, operating weights, furnished specialties, and accessories.
- b. Submit manufacturer's installation instructions.
- c. Submit operation and maintenance data.
- d. Submit coordination drawings. Detail fabrication and installation of humidifiers. Include piping details, plans, elevations, sections, details of components, and dispersion tubes. Detail humidifiers and adjacent equipment. Show support locations, type of support, weight on each support, and required clearances.
- e. Submit wiring diagrams including power, signal, and control wiring. Differentiate between manufacturer-installed and field-installed wiring.
- f. Submit minimum water quality requirements and water pressure requirements.

### 1.5 Schedules:

- a. Refer to information contained in schedule[s] attached to this specification.
- b. Humidifiers to be of type, capacity, and arrangement as listed in schedule[s].
- c. Include accessories listed in schedule[s] and those accessories required for type of unit.

## GAS FIRED STEAM HUMIDIFIER - GS MT

## PART 2 - PRODUCTS

2.1 The NORTEC GS MT packaged gas-fired steam generating system produces clean, sterile, and efficient atmospheric pressure steam through combustion of natural gas or propane.

2.2 Unit [s] to be complete with:

- a. Enclosed cabinet, powder painted steel construction and air gap between cabinet and insulated humidifier tank ensures safe surface temperature.
- b. All internal components compatible with De-Ionized (DI), Reverse Osmosis (RO), potable and softened water.
- c. All tank surfaces shall be insulated with minimum 0.5" (12 mm) thick insulation and enclosed within unit cabinetry to ensure safe surface temperature, high overall efficiency, and fast unit response time. Units with exposed insulation shall not be acceptable.
- d. Standard internal drain water cooler to ensure drain water tempering to 140° F (60° C).
- e. Blow-down plumbing trap, factory installed, enclosed in cabinet, prevents steam leakage to drain. Field installation not acceptable.
- f. Overflow protection internal to unit cabinet which includes integrated steam trap.
- g. Drain line to include a vacuum breaker to prevent siphon drainage of the tank.
- h. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be tubular in design.
- i. Stainless Steel combustion chamber(s)/heat exchanger(s) shall be heat treated to protect against possible stress corrosion cracking. Combustion chamber(s)/heat exchanger(s) that are not heat treated 316 stainless steel are not acceptable.
- j. Each burner, capable of true modulation at a 5:1 ratio will provide steam production of 30 to 150 lbs/hr (14 to 68 kg/hr), 20 to 100 lbs/hr (9 to 45 kg/hr) or 10 to 50 lbs/hr (4.6 to 23 kg/hr). Time proportioning modulation is not acceptable.
- k. Maximum net overall efficiency of 84%.
- l. Unit must be rated as a condensing, high-efficiency gas appliance with a secondary heat exchanger and condensate removal.
- m. Gas system with gas valve(s), explosion proof, premix combustion air blower(s), microprocessor controlled ignition, flame sensing and fault indicator light(s), 100% premix flat burner(s), spark igniters(s) and heat transfer efficiency maintained over all operating ranges.
- n. A secondary combustion air safety, in addition to blower speed monitoring, utilizing a mechanical pressure differential switch, to ensure combustion air is entering the pre-mix blower properly.
- o. Removable cover at front of unit facilitates easy cleaning (when applicable) with complete access to tank and heat exchanger surfaces. When removed, access must extend to the bottom of the tank with no lip.
- p. Automatic water level control within a separate float chamber, isolated from the boiling action, to prevent false water level indication.
- q. Dual magnetic electronic float system, located outside of the boiling water to ensure accurate water level control and reduced maintenance. Cool fill water is to be supplied into the assembly to keep the device cool. Systems using conductivity probes or floats located within boiling reservoir water are not acceptable.
- r. Humidifier shall have a dual fill valve to feed water to the fill assembly, to reduce scaling and mineral build up on the magnetic floats.
- s. Float chamber to include LED indication of five possible water level indications.
- t. Pre-cleaning flushing feature shall be provided to reduce maintenance time.
- u. End of season blow-down feature to evacuate contained water and minerals after 72 hours with no demand for humidification.
- v. Standard Modbus, BACnet IP, and BACnet MSTP protocol communication capability with adaptability for LonWorks. BTL Certified options available.
- w. Keep warm function allows the water temperature in the tank to be maintained at a high temperature for quick response of the unit to a call for humidity.
- x. Integrated Controller with LCD touchscreen and backlit display.

## PART 3 - EXECUTION

### 3.1 Installation:

- a. Install humidifiers and steam dispersion panels per manufacturers' instructions.
- b. Seal humidifier dispersion-tube duct penetrations with flange.
- c. Install with required clearance for service and maintenance.
- d. System shall be rated as class 4 appliance certified for use with exhaust vent type BH venting.

### 3.2 Accessories:

- a. Install accessories in accordance with manufacturer's recommendations.

### 3.3 Commissioning:

- a. Start-up of humidifier to be by factory trained technician.

# Data Sheets

## Data Sheet - GS 50-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	25,20 in.
Rated Current (MCA):	2,00 A	Steam Outlet O D:	1,75 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,5".NPT
Gas Type:	GSN NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	50 lbs/h	Flue Connection:	2 in.
Rated Capacity:	50 lbs/h	Height:	43,40 in.
Output Range Minimum:	10 lbs/h	Depth:	21,40 in.
Output Range Maximum:	50 lbs/h	Net Weight:	177,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	327,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	19 cu.ft
		Minimum Fill Rate:	0,8 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	24,00 in.
		Air Inlet O D:	2,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	62000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 50-MT, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	25,20 in.
Rated Current (MCA):	2,00 A	Steam Outlet O D:	1,75 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,5".NPT
Gas Type:	GSN NAT	Flue Connection:	2 in.
Nominal Capacity:	50 lbs/h	Height:	43,40 in.
Rated Capacity:	50 lbs/h	Depth:	21,40 in.
Output Range Minimum:	10 lbs/h	Net Weight:	177,0 lbs
Output Range Maximum:	50 lbs/h	Full Weight:	327,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	19 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	0,8 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	24,00 in.
		Air Inlet O D:	2,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	70000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 100-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	25,20 in.
Rated Current (MCA):	2,00 A	Steam Outlet O D:	1,75 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,5".NPT
Gas Type:	GSN NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	100 lbs/h	Flue Connection:	3 in.
Rated Capacity:	100 lbs/h	Height:	43,40 in.
Output Range Minimum:	20 lbs/h	Depth:	21,40 in.
Output Range Maximum:	100 lbs/h	Net Weight:	197,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	351,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	19 cu.ft
		Minimum Fill Rate:	0,8 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	24,00 in.
		Air Inlet O D:	3,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	124000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 100-MT, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	25,20 in.
Rated Current (MCA):	2,00 A	Steam Outlet O D:	1,75 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,5".NPT
Gas Type:	GSN NAT	Flue Connection:	3 in.
Nominal Capacity:	100 lbs/h	Height:	43,40 in.
Rated Capacity:	100 lbs/h	Depth:	21,40 in.
Output Range Minimum:	20 lbs/h	Net Weight:	181,0 lbs
Output Range Maximum:	100 lbs/h	Full Weight:	336,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	19 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	0,8 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	24,00 in.
		Air Inlet O D:	3,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	140000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O



## Data Sheet - GS 150-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	28,20 in.
Rated Current (MCA):	3,20 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,75".NPT
Gas Type:	GSN NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	150 lbs/h	Flue Connection:	3 in.
Rated Capacity:	150 lbs/h	Height:	54,60 in.
Output Range Minimum:	30 lbs/h	Depth:	29,00 in.
Output Range Maximum:	150 lbs/h	Net Weight:	309,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	490,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	22,0 cu.ft
		Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	3,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	186000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 150-MT, Natural Gas

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	28,20 in.
Rated Current (MCA):	3,20 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	0,75".NPT
Gas Type:	GSN NAT	Flue Connection:	3 in.
Nominal Capacity:	150 lbs/h	Height:	54,60 in.
Rated Capacity:	150 lbs/h	Depth:	29,00 in.
Output Range Minimum:	30 lbs/h	Net Weight:	289,0 lbs
Output Range Maximum:	150 lbs/h	Full Weight:	470,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	22,0 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	0,00 in.
		Air Inlet O D:	3,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	210000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 200-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	40,40 in.
Rated Current (MCA):	2,70 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	200 lbs/h	Flue Connection:	4 in.
Rated Capacity:	200 lbs/h	Height:	54,60 in.
Output Range Minimum:	20 lbs/h	Depth:	29,00 in.
Output Range Maximum:	200 lbs/h	Net Weight:	426,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	721,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	36,0 cu.ft
		Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	4,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	248000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 200-MT, Natural Gas

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	40,40 in.
Rated Current (MCA):	2,70 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Flue Connection:	4 in.
Nominal Capacity:	200 lbs/h	Height:	54,60 in.
Rated Capacity:	200 lbs/h	Depth:	29,00 in.
Output Range Minimum:	20 lbs/h	Net Weight:	406,0 lbs
Output Range Maximum:	200 lbs/h	Full Weight:	702,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	36,0 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	4,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	280000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 300-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	40,40 in.
Rated Current (MCA):	5,10 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	300 lbs/h	Flue Connection:	4 in.
Rated Capacity:	300 lbs/h	Height:	54,60 in.
Output Range Minimum:	30 lbs/h	Depth:	29,00 in.
Output Range Maximum:	300 lbs/h	Net Weight:	437,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	757,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	39,0 cu.ft
		Minimum Fill Rate:	3,3 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	4,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	372000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 300-MT, Natural Gas

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	40,40 in.
Rated Current (MCA):	5,10 A	Steam Outlet O D:	3,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	2,6 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN NAT	Flue Connection:	4 in.
Nominal Capacity:	300 lbs/h	Height:	54,60 in.
Rated Capacity:	300 lbs/h	Depth:	29,00 in.
Output Range Minimum:	30 lbs/h	Net Weight:	417,0 lbs
Output Range Maximum:	300 lbs/h	Full Weight:	737,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	39,0 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	3,3 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	4,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	420000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 450-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	57,00 in.
Rated Current (MCA):	7,00 A	Steam Outlet O D:	4,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	5,3 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	450 lbs/h	Flue Connection:	6 in.
Rated Capacity:	450 lbs/h	Height:	54,60 in.
Output Range Minimum:	30 lbs/h	Depth:	29,00 in.
Output Range Maximum:	450 lbs/h	Net Weight:	547,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	946,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	49,0 cu.ft
		Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	6,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	558000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 450-MT, Natural Gas

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	57,00 in.
Rated Current (MCA):	7,00 A	Steam Outlet O D:	4,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	5,3 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Flue Connection:	6 in.
Nominal Capacity:	450 lbs/h	Height:	54,60 in.
Rated Capacity:	450 lbs/h	Depth:	29,00 in.
Output Range Minimum:	30 lbs/h	Net Weight:	499,0 lbs
Output Range Maximum:	450 lbs/h	Full Weight:	898,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	49,0 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	2,5 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	6,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	630000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

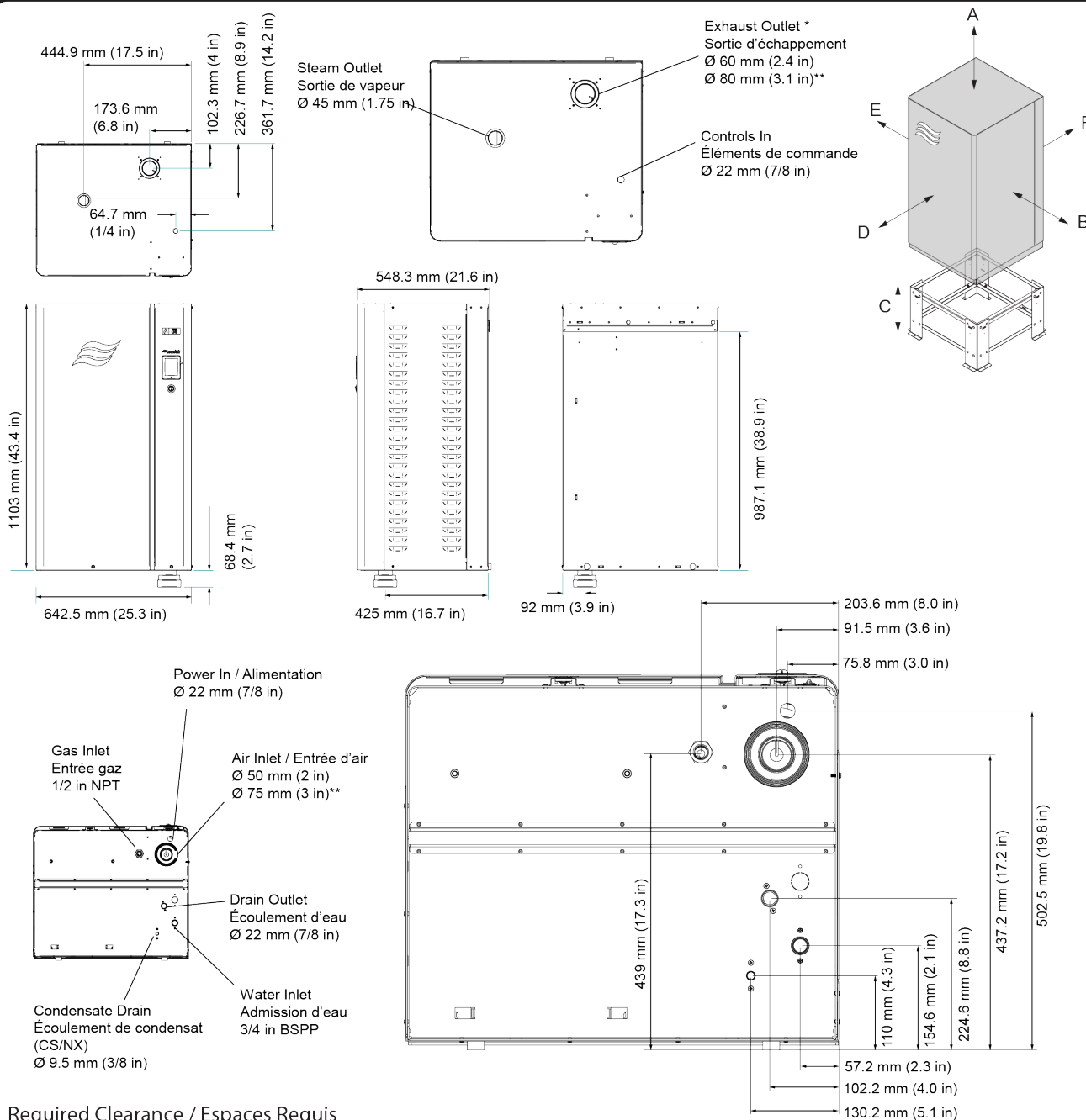
## Data Sheet - GS 600-CS, Natural Gas with stand

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	66,9. in.
Rated Current (MCA):	8,90 A	Steam Outlet O D:	4,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	5,3 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Condensate Drain Connection:	0,5 NPT
Nominal Capacity:	600 lbs/h	Flue Connection:	6 in.
Rated Capacity:	600 lbs/h	Height:	54,60 in.
Output Range Minimum:	30 lbs/h	Depth:	29,00 in.
Output Range Maximum:	600 lbs/h	Net Weight:	821,0 lbs
Min. Water Pressure:	30 psig	Full Weight:	1460,0 lbs
Max. Water Pressure:	80 psig	Tank Volume:	77,0 cu.ft
		Minimum Fill Rate:	3,3 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	6,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	74400,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

## Data Sheet - GS 600-MT, Natural Gas

Calculation Basis		Product Data	
Power Circuit:	120/1/60 V/Ph/Hz	Width:	66,9. in.
Rated Current (MCA):	8,90 A	Steam Outlet O D:	4,00 in.
Maximum Current (MOCP):	15,00 A	Supply Water Connection:	0,5".NPT
Fill Rate:	5,3 GPM	Qty Steam Outlets:	1,0
Drain Rate:	5,3 GPM	Supply Gas Connection:	1".NPT
Gas Type:	GSN_NAT	Flue Connection:	6 in.
Nominal Capacity:	600 lbs/h	Height:	54,60 in.
Rated Capacity:	600 lbs/h	Depth:	29,00 in.
Output Range Minimum:	30 lbs/h	Net Weight:	772,0 lbs
Output Range Maximum:	600 lbs/h	Full Weight:	1411,0 lbs
Min. Water Pressure:	30 psig	Tank Volume:	77,0 cu.ft
Max. Water Pressure:	80 psig	Minimum Fill Rate:	3,3 GPM
		Front Clearance:	36,00 in.
		Rear Clearance:	0,00 in.
		Left Clearance:	0,00 in.
		Right Clearance:	24,00 in.
		Overhead Clearance:	16,00 in.
		Floor Clearance:	16,00 in.
		Air Inlet O D:	6,00 in.
		Drain Connection:	0,875 in.
		Maximum Energy Input:	84000,0 BTU/hr
		Maximum Supply Gas Pressure:	10,0 in. H2O
		Minimum Supply Gas Pressure:	5,0 in. H2O

# Schematics



Required Clearance / Espaces Requis

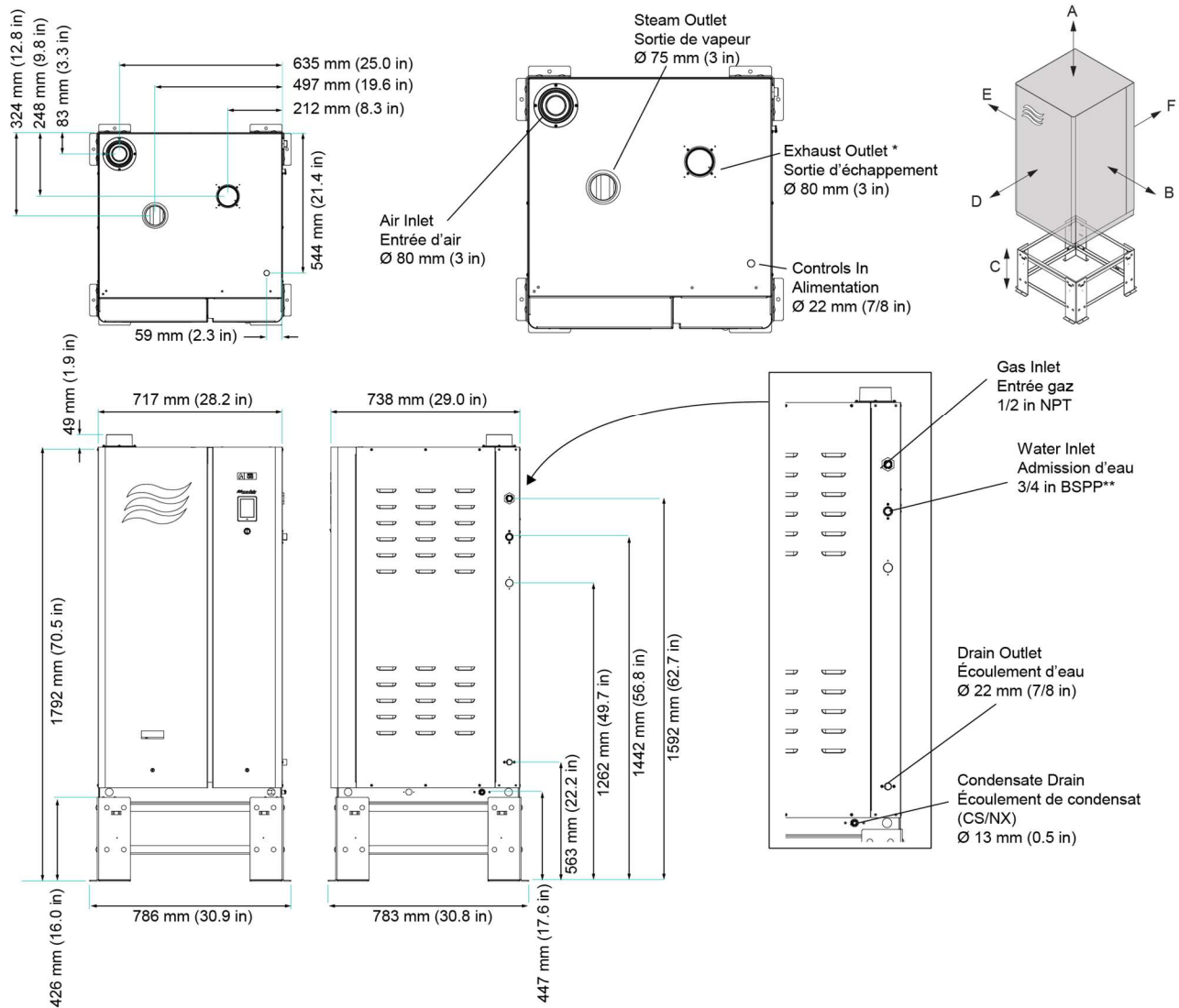
Nortec	A	B	C	D	E	F
GS 50-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	26 in (660 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)
GS 100-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	26 in (660 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)

\* Metric to imperial size adaptor supplied with unit / Adaptateur métrique vers impérial fourni

\*\* Air inlet adapter required for Nortec GS 100-CS/NX/MT / Adaptateur d'air requis pour Nortec GS 100-CS/NX/MT



Schematic / Dimensions  
 Nortec GS 50/100 - CS/NX/MT  
 2596132 Rev. B 10/11/2019



Required Clearance / Espaces Requis

Nortec GS	A	B	C	D	E	F
150-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	17 in (426 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)

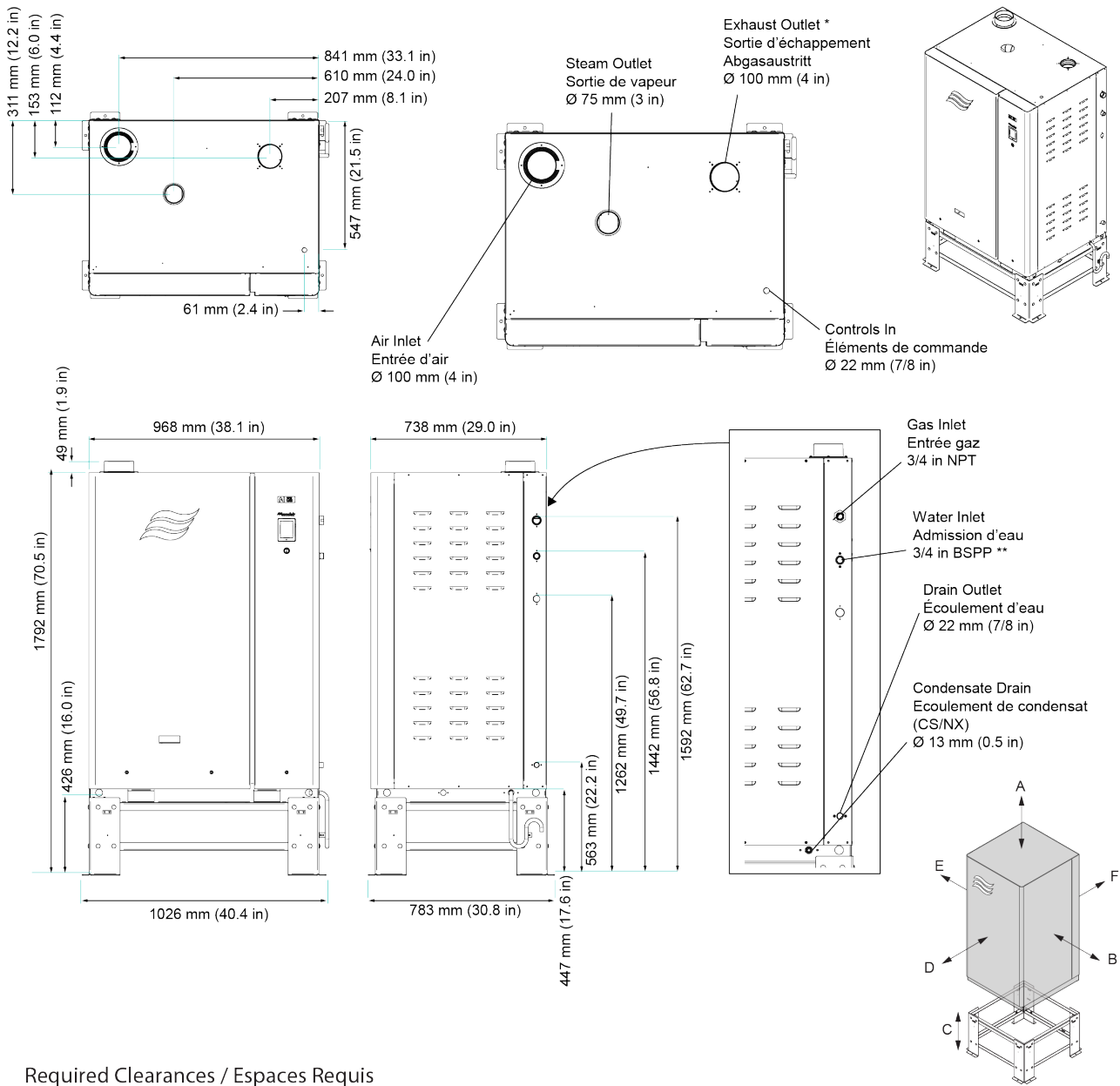
\* Metric to imperial size adaptor supplied with unit. / Adaptateur métrique vers impérial fourni / Metrisch zu imperial Adapter geliefert.  
 \*\* BSPP to NPT adaptor supplied with unit. / Adaptateur BSPP à NPT fourni. / BSPP NPT Adapter enthalten.



Schematic / Dimensions  
 Nortec GS 150 - CS/NX/MT

2596134 Rev. B 10/11/2019





Required Clearances / Espaces Requis

Nortec GS	A	B	C	D	E	F
200-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	17 in (426 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)
300-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	17 in (426 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)

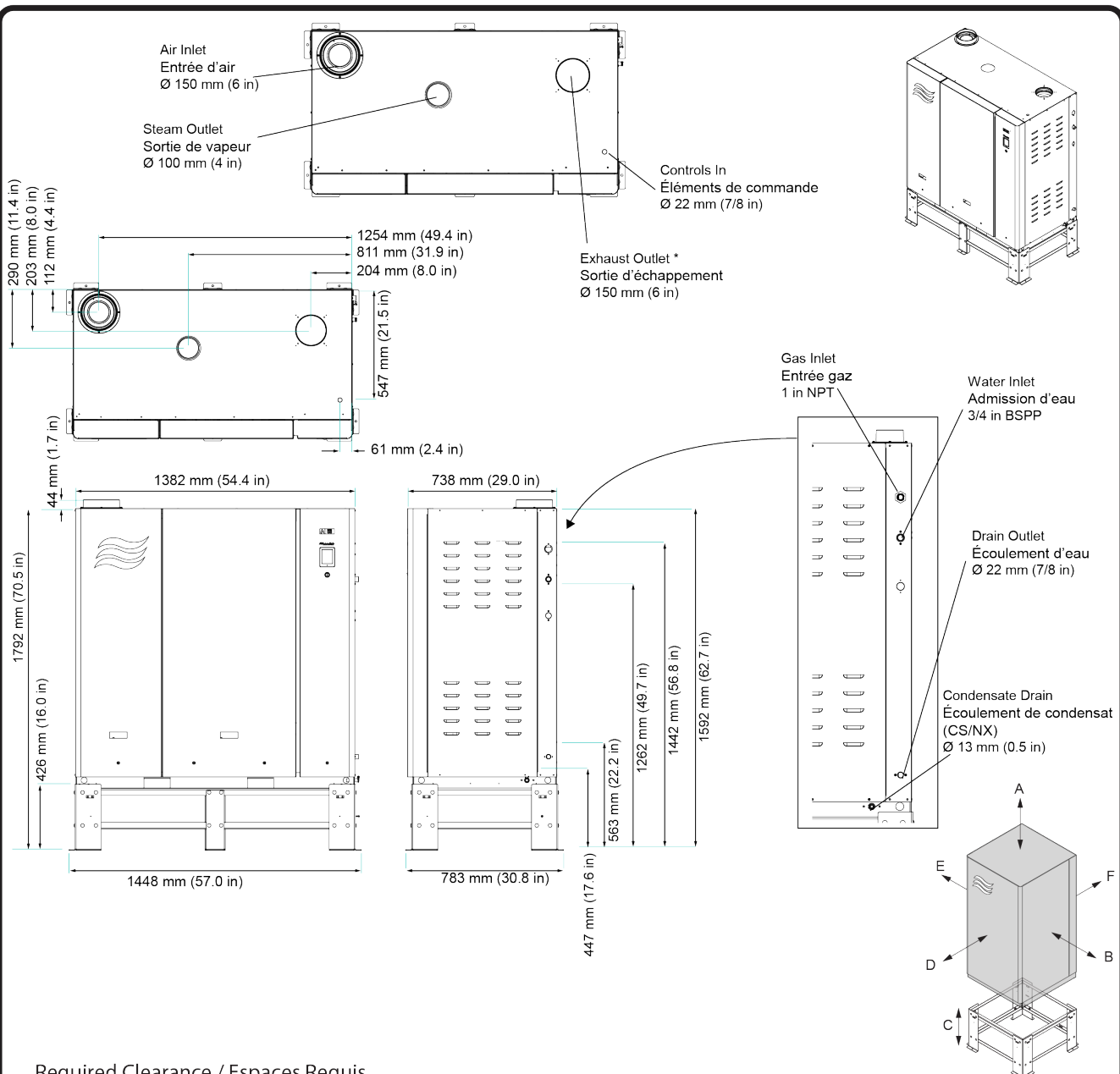
\* Metric to imperial size adaptor supplied with unit. / Adaptateur métrique à impérial fourni.

\*\* BSPP to NPT adaptor supplied with unit. / Adaptateur BSPP à NPT fourni.



Schematic / Dimensions  
Nortec GS 200/300 - CS/NX/MT

2596136 Rev. B 10/112019



Required Clearance / Espaces Requis

Nortec GS	A	B	C	D	E	F
450-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	17 in (426 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)

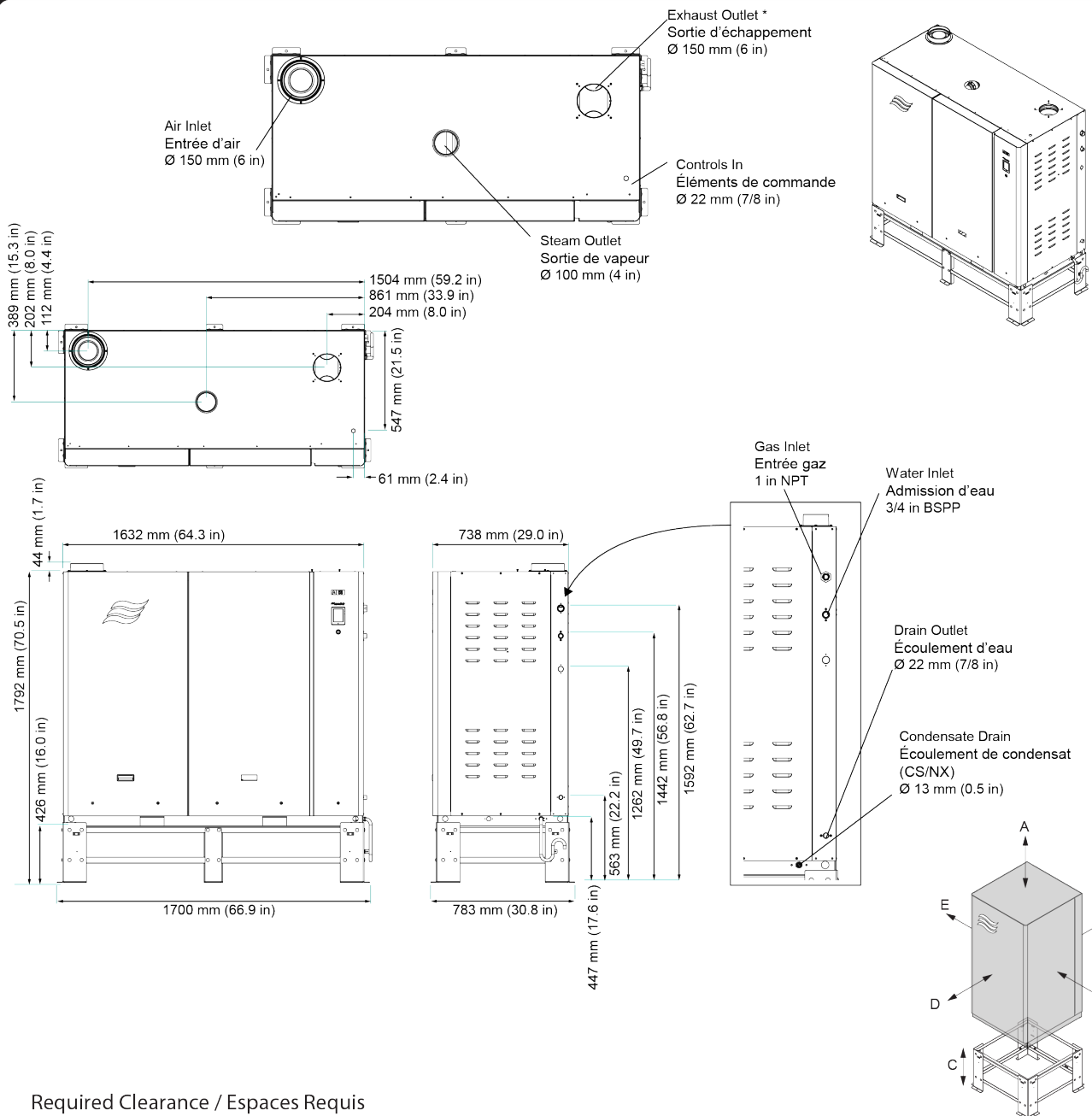
\* Metric to imperial size adaptor supplied with unit. / Adaptateur métrique vers impérial fourni.

\*\* BSPP to NPT adaptor supplied with unit. / Adaptateur BSPP à NPT fourni. / BSPP NPT Adapter enthalten.



Schematic / Dimensions  
Nortec GS 450 - CS/NX/MT

2596138 Rev. B 10/11/2019



Required Clearance / Espaces Requis

	A	B	C	D	E	F
Nortec GS 600-CS/NX/MT	16 in (406 mm)	24 in (610 mm)	17 in (426 mm)	36 in (914 mm)	0 in (0 mm)	0 in (0 mm)

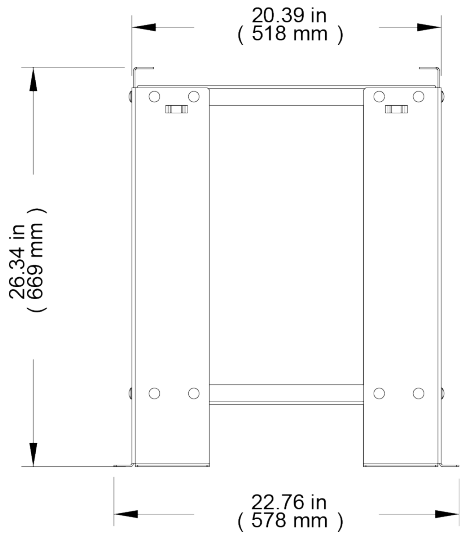
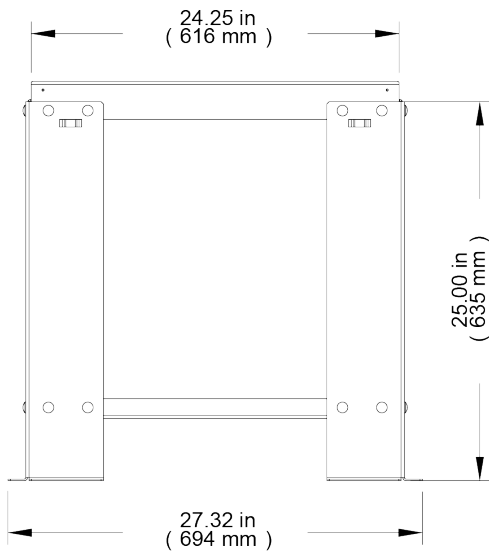
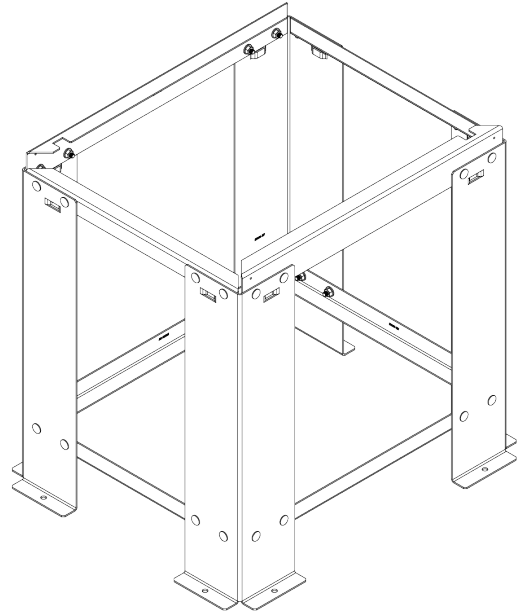
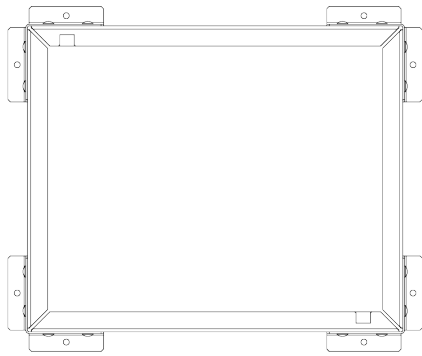
\* Metric to imperial size adaptor supplied with unit. / Adaptateur métrique vers impérial fourni.  
 \*\* BSPP to NPT adaptor supplied with unit. / Adaptateur BSPP à NPT fourni.



Schematic / Dimensions  
 Nortec GS 600 - CS/NX/MT

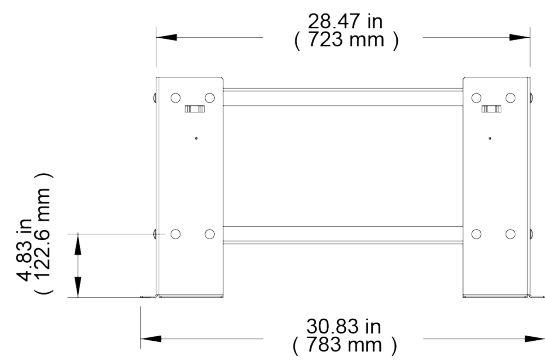
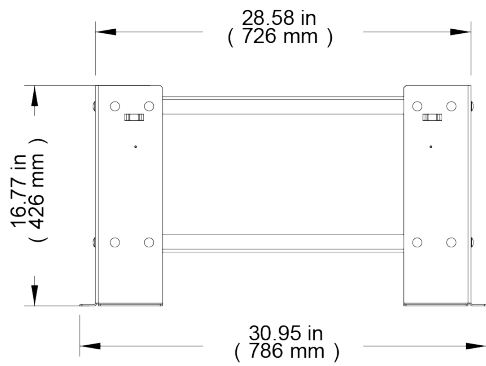
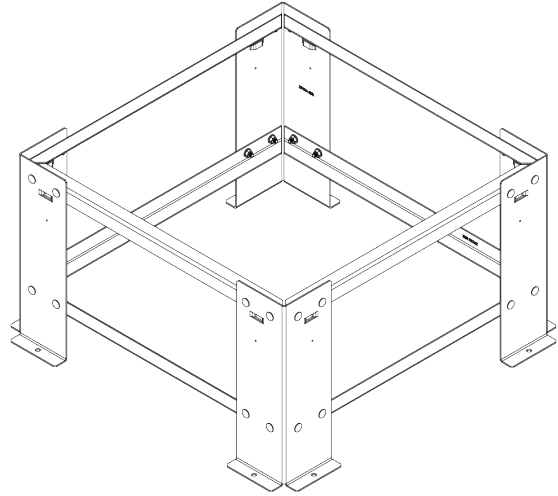
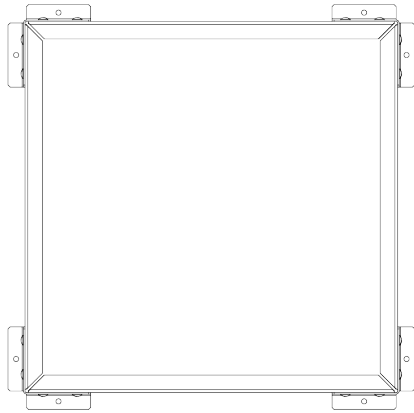
2596140 Rev. B 10/11/2019

# Stand Drawings



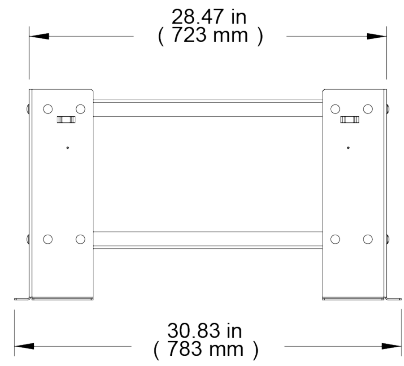
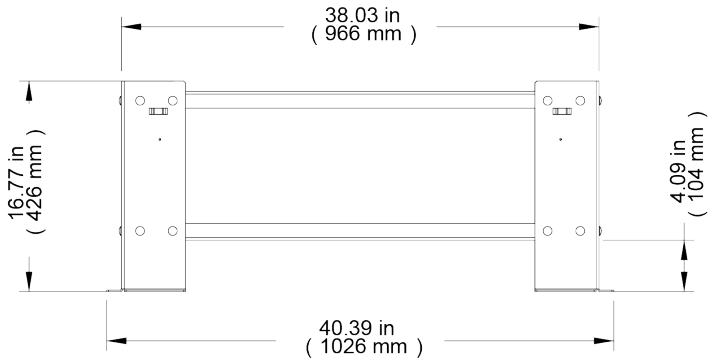
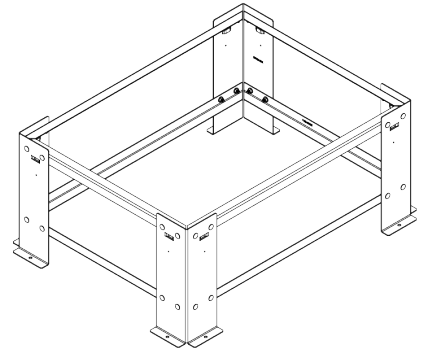
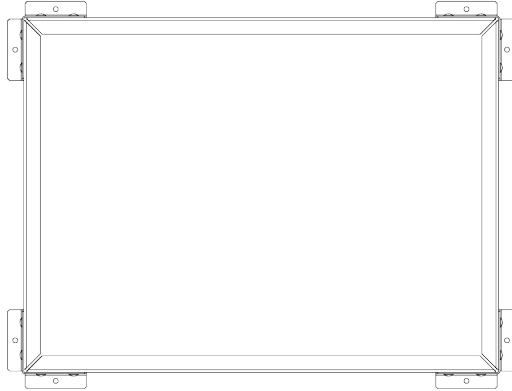
Support Stand / Support au Sol  
Nortec GS 50/100 - CS/NX/MT

2596141 Rev. B 10/11/2019



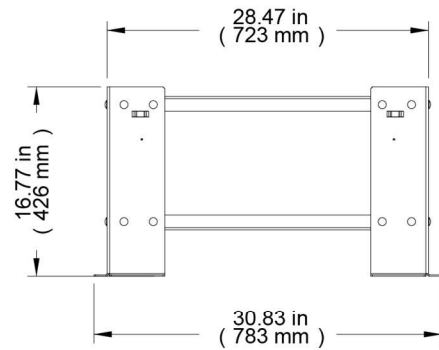
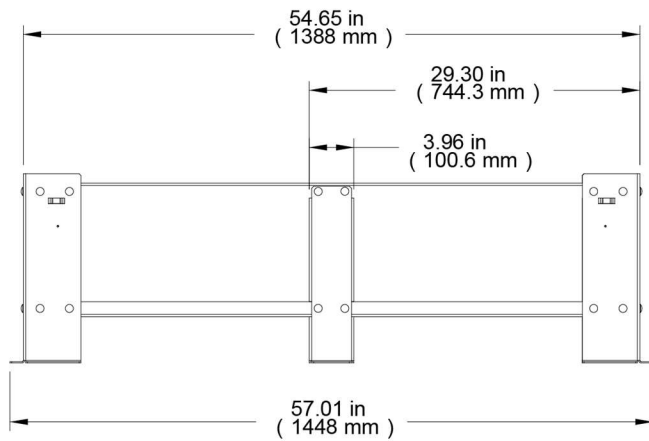
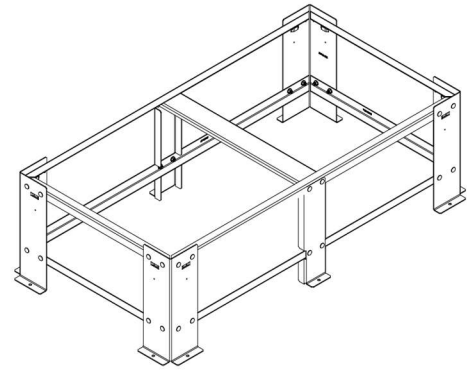
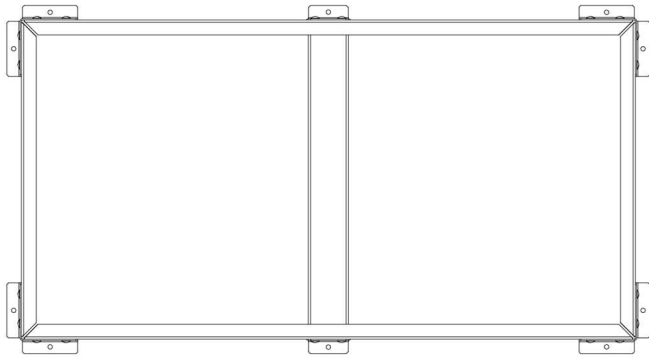
Support Stand / Support au Sol  
 Nortec GS 150 - CS/NX/MT

2596143 Rev. B 10/11/2019



Support Stand / Support au Sol  
Nortec GS 200/300 - CS/NX/MT

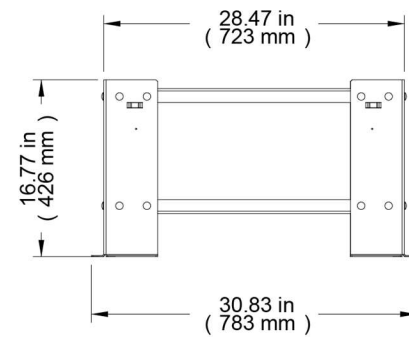
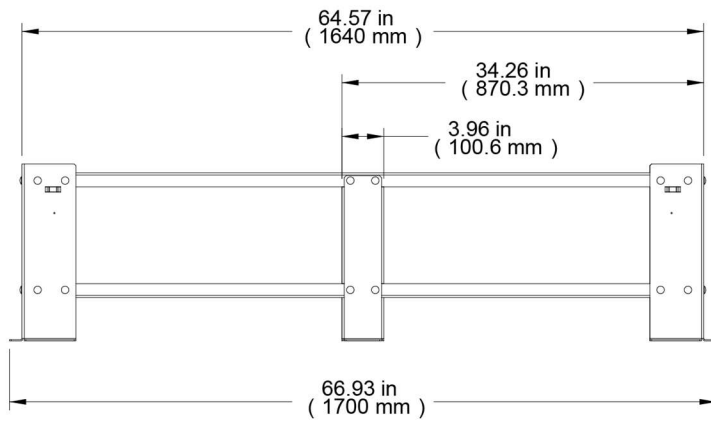
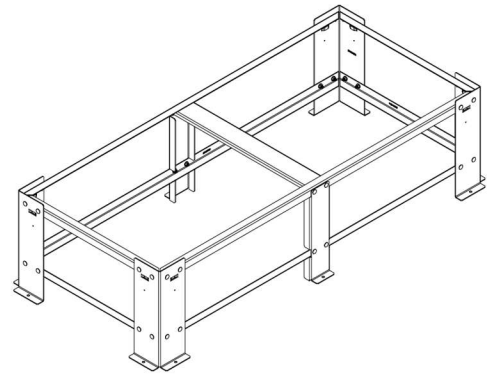
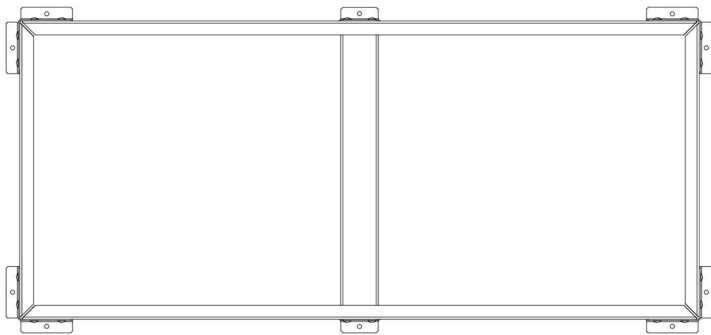
2596145 Rev. B 10/11/2019



Support Stand / Support au Sol  
 Nortec GS 450 - CS/NX/MT

2596147 Rev. B 10/11/2019



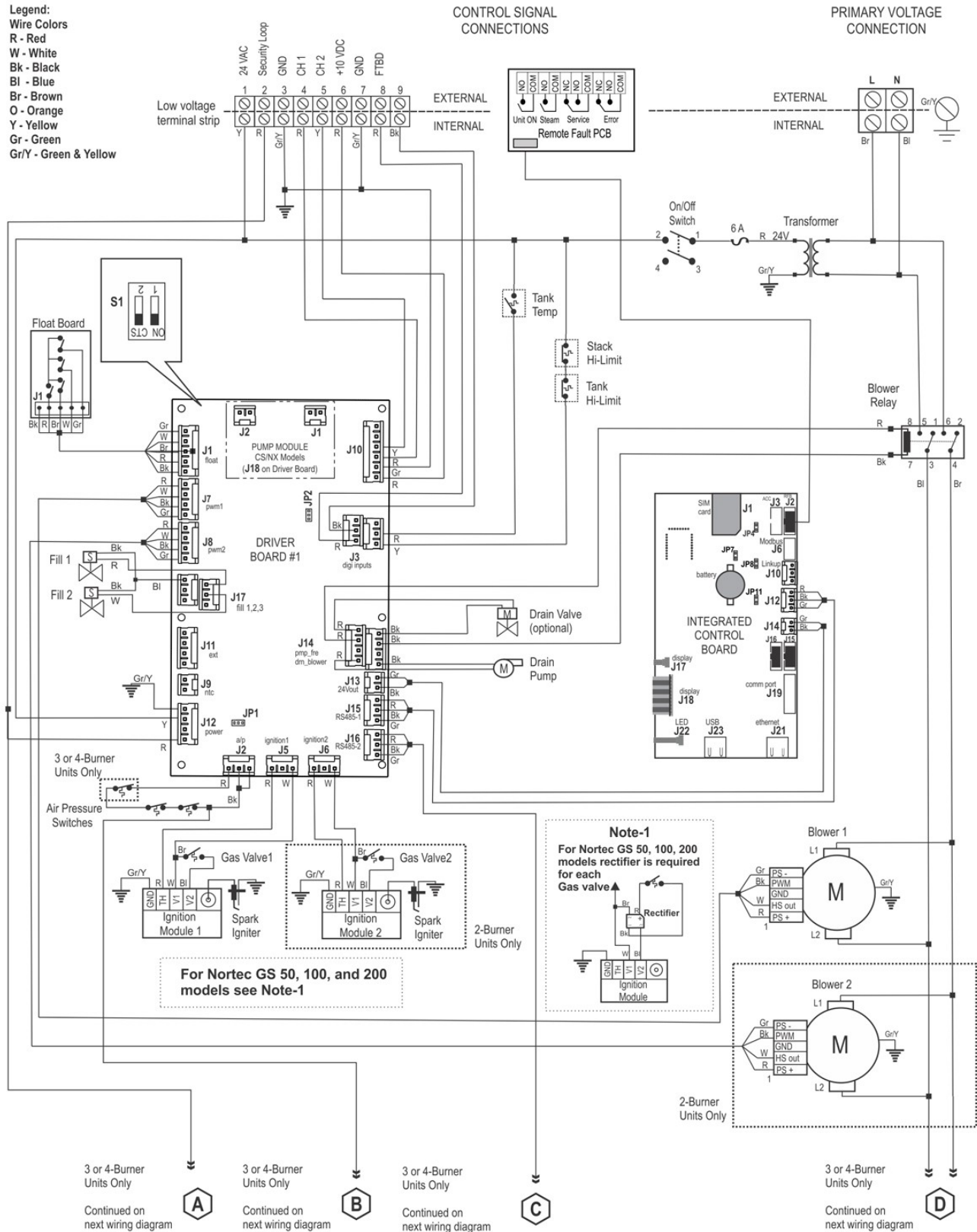


Support Stand / Support au Sol  
Nortec GS 600 - CS/NX/MT

2596149 Rev. B 10/11/2019

# Wiring Diagrams

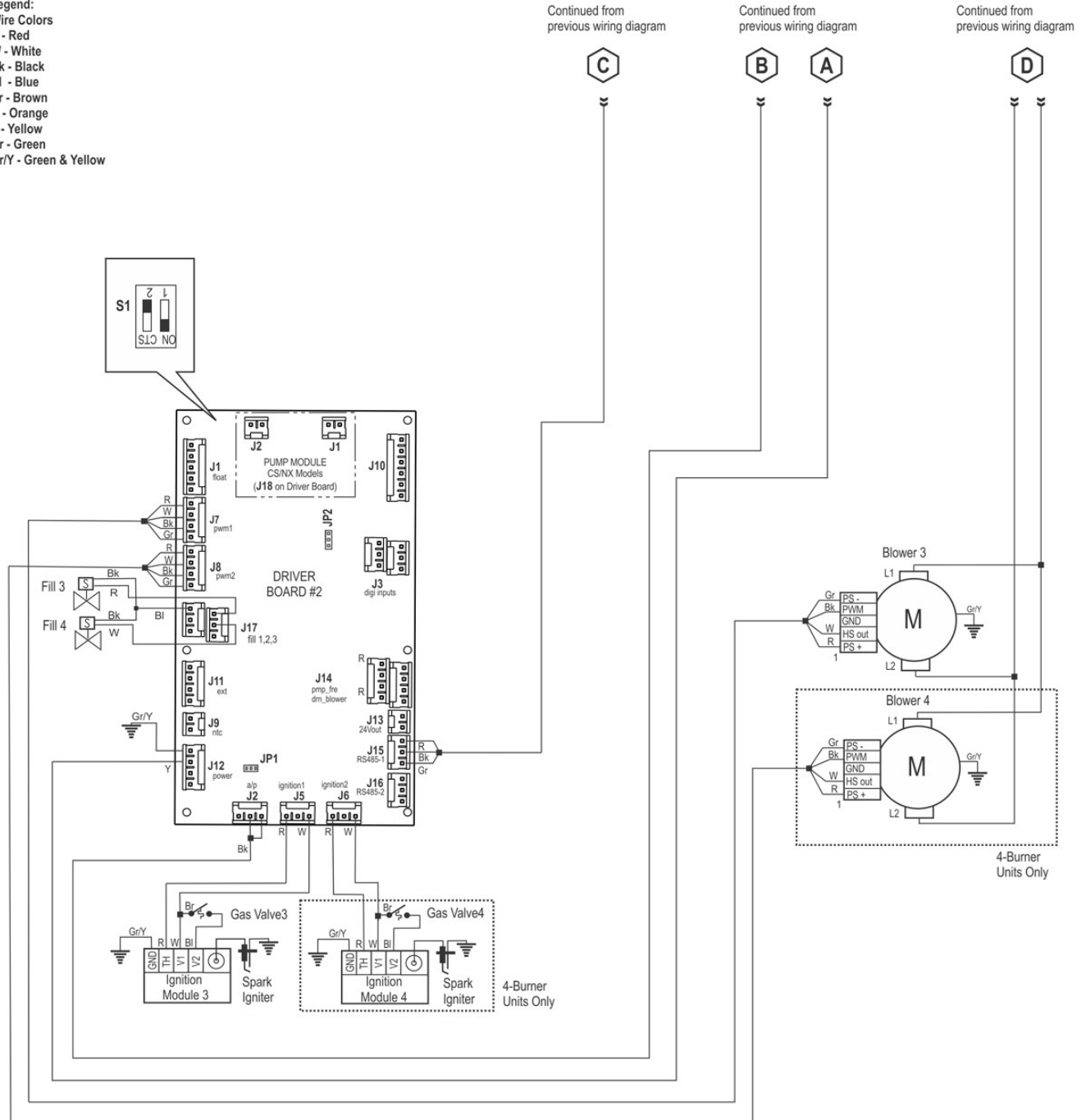
- Legend:**  
 Wire Colors  
 R - Red  
 W - White  
 Bk - Black  
 Bl - Blue  
 Br - Brown  
 O - Orange  
 Y - Yellow  
 Gr - Green  
 Gr/Y - Green & Yellow



**Nortec GS Series, Nortec GS50 to Nortec GS600**  
 Gas Humidifier Internal Wiring Diagram

Part Number: 2584161 Rev F Date: 27/11/2018

- Legend:  
 Wire Colors  
 R - Red  
 W - White  
 Bk - Black  
 Bl - Blue  
 Br - Brown  
 O - Orange  
 Y - Yellow  
 Gr - Green  
 Gr/Y - Green & Yellow



Nortec GS, Supplement Nortec GS450, Nortec GS600  
 Gas Humidifier Internal Wiring Diagram

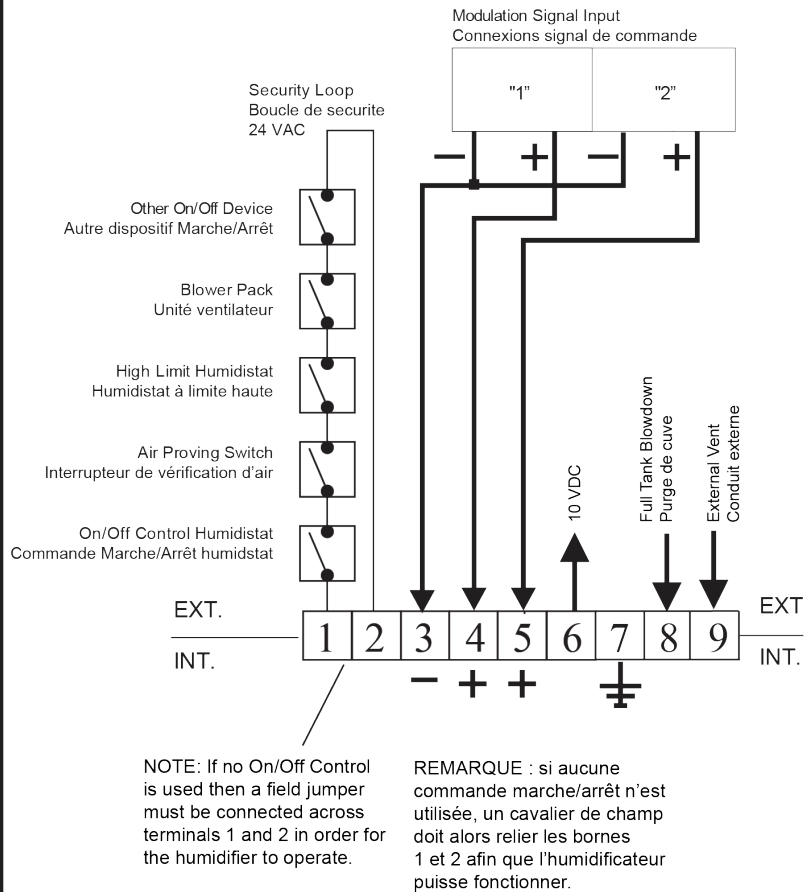
Part Number: 2584168 Rev E Date: 27/11/2018

## WARNING

Failure to wire the controller in accordance with the wiring diagram supplied with the unit could permanently damage the electronics. Such errors will void the unit warranty.

## AVERTISSEMENT

Le fait de ne pas brancher le contrôleur conformément au schéma électrique fourni avec l'appareil pourrait endommager définitivement le système électronique. De telles erreurs annulent la garantie de l'appareil.



## Transducers:

To be complete with sensing element, power source, and 2 wire varying output signal. RH set point adjustment is made at unit keypad. RH set point and %RH sensed are viewed on display.

Output signal across 3-4 and 3-5 increase on RH rise.

## Transducteurs:

à compléter avec l'élément capteur, la source d'alimentation et le signal de sortie variable à 2 câbles. Le réglage de la valeur de consigne de l'humidité relative est réalisé sur le clavier de l'appareil. La valeur de consigne de l'humidité relative et le pourcentage d'humidité relative capté s'affichent à l'écran.

Le signal de sortie sur 3-4 et 3-5 augmente avec la hausse de l'humidité relative.

## Controllers (Humidistat):

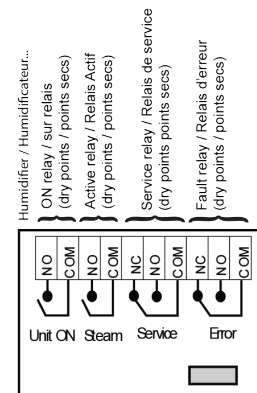
To be complete with RH set point adjustment, sensor circuit. Sensing element, power source, and 2 wire varying output signal. RH demand is viewed on display.

Output signal across 3-4 and 3-5 decrease on RH rise.

## Contrôleurs (humidistat):

à compléter avec le réglage de la valeur de consigne de HR, le circuit de capteur, l'élément capteur, la source d'alimentation et le signal d'entrée variable à deux câbles. L'humidité relative s'affiche à l'écran.

Le signal de sortie sur 3-4 et 3-5 diminue avec la hausse de l'humidité relative.



Fault Remote PCB  
Erreur circuit imprimé à distance



## Nortec GS Series

External Controls Wiring Connections; Low Voltage Terminal Strip  
Commandes externes Connexions de câblage;  
Barrette de raccordement basse tension  
2596127 Rev. B 21/11/2019