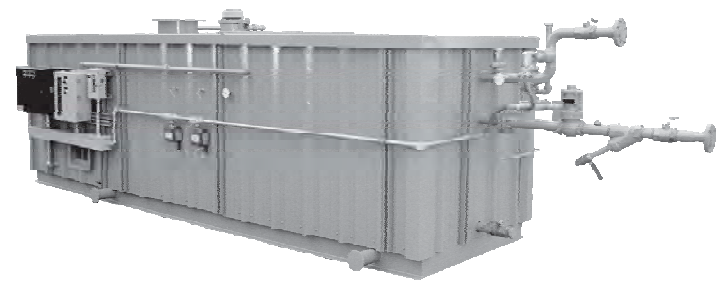
Natural Gas Heaters

aether dbs
elemental design build solutions

AQUA-GAS® Natural Gas Line Heaters



The Aether DBS **AQUA-GAS® NG Series** provides safe heating to natural gas supplies to:

- Prevent the formation of ice during pressure changes (Joule-Thompson effect)
- Maintain process temperatures in upstream and downstream distribution systems
- Protect against internal and external freezing in lines and equipment

The **AQUA-GAS NG®** design is based on a natural or forced draft natural gas burner supplying energy to a water-glycol mixture through multiple fire tubes to increase heat transfer efficiency. Efficiencies greater than 80% can be achieved on forced draft units

During operation, the **AQUA-GAS NG®** uses the existing supply of natural gas to heat the water glycol bath, no other fuel source is needed (ie., Electric, LPG). The bath acts as an intermediate so that the natural gas is not heated directly, and the heat is safely transferred from the process coil to the natural gas.

In horizontal heaters, the natural gas discharge temperature is regulated by two PID loop controllers. One PID controller is designated as the primary discharge gas temperature controller; the other is the secondary water bath temperature controller or "limiting controller". The burner will modulate depending on both the discharge natural gas and water bath temperatures.

For vertical heaters, the burner cycles on/off to maintain the gas temperature. The pneumatic control system monitors both the waterbath and the outlet gas temperature. The pilot assembly in powered by a 12VDC system with an optional solar panel to recharge.

DESIGN

- Skid mounted and flange in - out design
- Natural gas exchanger coils are designed, manufactured, and stamped per ASME Section VIII, Division 1
- Electrical design will be per NEC, Class 1, Div 2, and Group D within 15 ft of the process inlet and outlet of the heater assembly

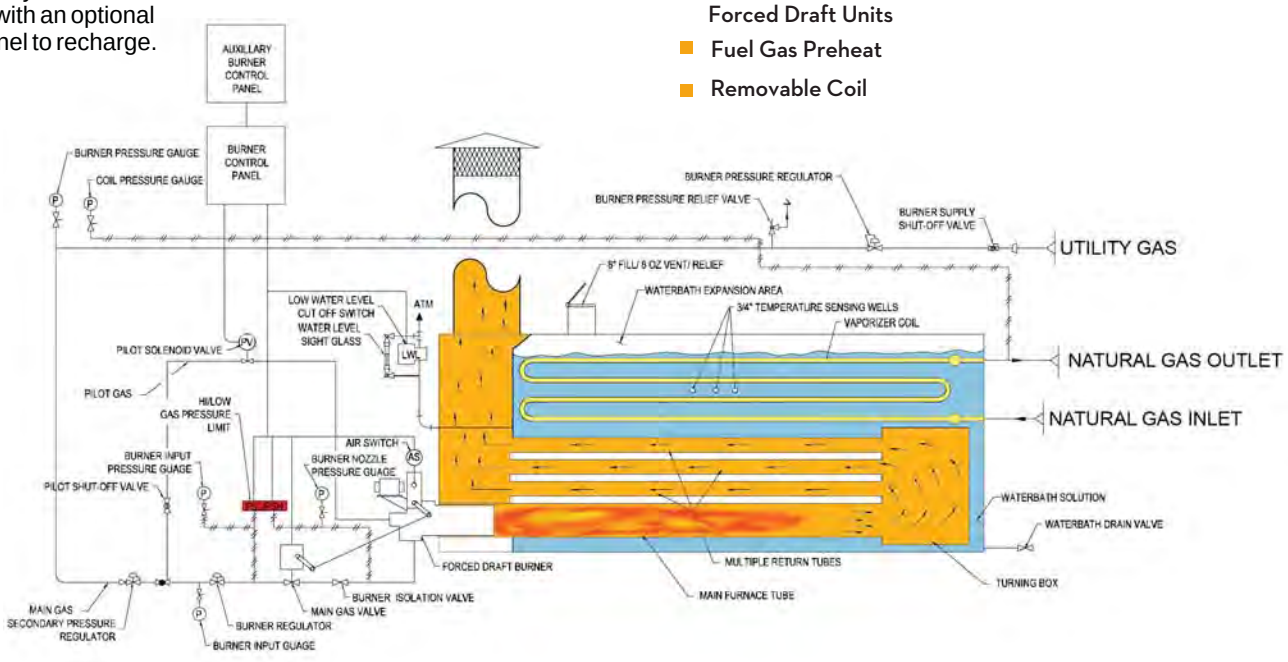
STANDARD FEATURES

- High quality NG natural or forced draft power burner
- Inlet and outlet pressure and temperature indicators
- Outlet temperature RTD and controller
- Process coil thermal relief
- Heater central control panel with first out Annunciator
- All exposed metal surfaces are mechanically cleaned, primed, and painted
- Complete with all operating and safety controls

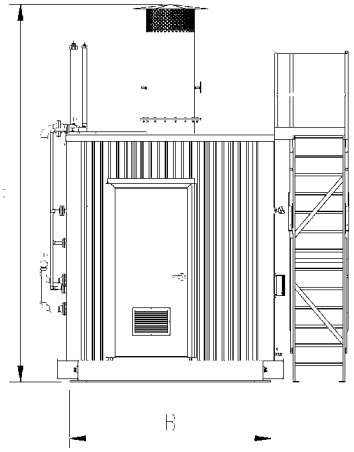
OPTIONS

- Maintenance/Control Module
  (7' x 4' with lights, heat, gas leak detection)
- Disconnects and Transformers
- Rotary Beacon
  (Provided with Maintenance/Control Module)
- PLC Control
- Multiple Output Options
- DC with Solar Panel or AC Operation Options
- Optional Maintenance House/ Control Module
- Low NOx Burners available on Forced Draft Units
- Fuel Gas Preheat
- Removable Coil

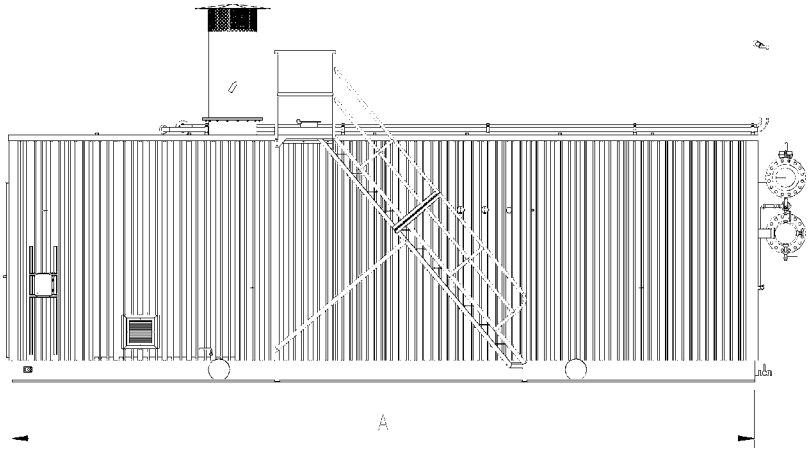
Pneumatic Process Control Standard,
Electro-Mechanical Control Available



AQUA-GAS® NG Forced Draft Horizontal System

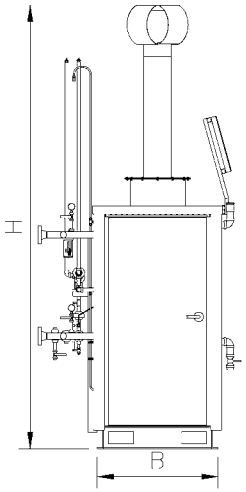


FRONT VIEW

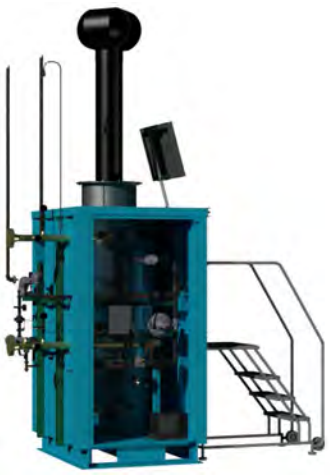


SIDE VIEW

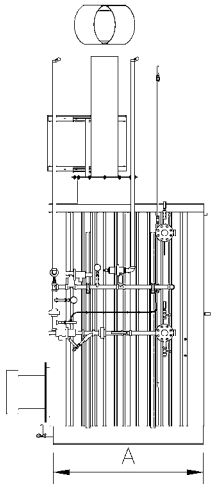
AQUA-GAS® NG Atmospheric Vertical System



FRONT VIEW



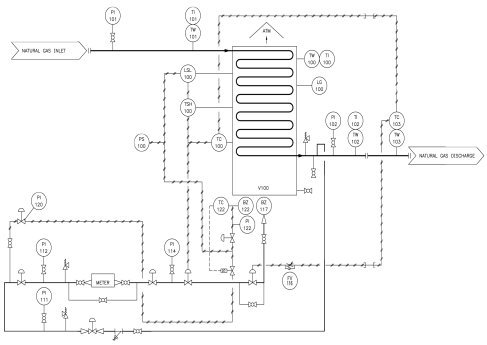
FRONT VIEW



SIDE VIEW

SIDE VIEW

AQUA-GAS® NG SERIES SPECIFICATION GUIDE								
Model No	WB300V-LH	WB800V-LH	WB1200V-LH	WB1600V-LH	WB4000H-LH	WB8000H-LH	WB10000H-LH	WB12500H-LH
A-Length	4' - 7"	4' - 7"	5' - 7"	5' - 7"	23'-6"	27' - 6"	33' - 0"	33' - 0"
B-Width	3' - 8"	3' - 8"	7' - 5"	7' - 5"	5' - 0"	8' - 4"	8' - 4"	8' - 4"
H-Height to top of exhaust	10'-11"	13'-17"	15'-0"	15'-8"	19' - 10"	16' - 0"	16' - 0"	16' - 0"
Burner Input BTU/Hr	440,000	1,120,000	1,680,000	2,240,000	3,195,621	7,702,961	11,500,000	13,500,000
Burner Heat Release	294,800	750,400	1,125,600	1,500,800	2,556,497	6,162,369	9,200,000	10,800,000
SCFM	6,000	8,000	11,600	16,000	36,231	91,600	166,700	173,611
Water Bath Capacity	96	230	392	416	1980	6000	8711	8711
Shipping Weight	1980	4470	5800	8180	26,100	61000	90000	90000



FLOW DIAGRAM

- Design based on inlet pressure of 1080 PSIG, outlet pressure 1070 PSIG, inlet temperature of 40°F, outlet temperature after regulation at 80°F. Shell pressure is atmospheric, coil design prfessure is 1.5 times operating pressure, and water bath operating temperature is 180°F. Please consult Aether DBS to confirm the proper size heater.
- Final sizing to be confirmed by Aether DBS and may vary from typical sizing shown above.
- Contact Aether DBS for your specific requirements.
- Design and Specifications are subject to change without notice.
- Inlet and outlet flanges are standard.
- For dimensions of optional Maintenance/Control Module, contact the Aether DBS factory.

Flow Monitoring Regulating Stations

Found at natural gas compressor stations, gathering stations, processing facilities and separating facilities, Aether DBS' Flow Monitoring and Pressure Regulation Skids give you the capability to fully control pressure and meter the flow of natural gas.

COMMON OPTIONS INCLUDE:

- **Custody Transfer Meters**
- **Working-Monitor Regulation Configuration for Redundancy**
- **Inline Gas Coalescing Filters to Remove Gas Impurities or Liquids**

For Gas Conditioning applications (including Bio-Gas supplies), Aether DBS can supply the line (dew point) heater and the regulation skid on a common platform to reduce onsite interconnection work.

Additional Natural Gas Equipment

- **Multicyclone Separator Packages**
- **Gas Blenders**
- **Inlet Separator Packages**
- **E_q Kc_qspckclr N_ai_ecq**
- **Gas & Electric Dew Point Heater Packages**
- **Performance Heat Exchanger Packages**
- **Filtration Packages**
- **Liquid and Gas Pump Sets**

Certifications

ISO 9001 · ASME U, UM, R, S · UL 508A / 698A Registered Firm · CRN · cUL · CWB · PED · ATEX pending · FM APPROVED

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