

Natural Gas Line Heaters



aether dbs
elemental design build solutions



DESIGN

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 forced draft natural gas burner supplying energy to a water-glycol mixture through a series of multiple pass horizontal fire tubes to increase heat transfer efficiency.

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. The warmed solution safely transfers the heat from the process coil to the natural gas.

Control of the natural gas discharge temperature is accomplished via 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 temperature and the water bath temperature.

- 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

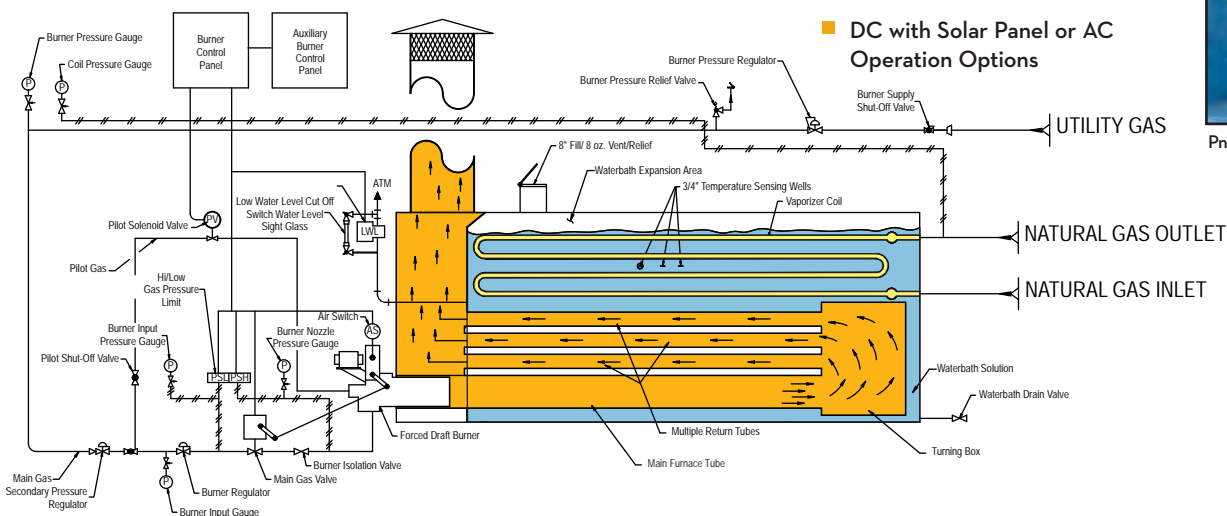
- High quality natural gas forced draft or natural draft burners
- Inlet and outlet pressure and temperature indicators
- Outlet temperature RTD and controller
- Process coil thermal relief
- Heater central control panel with first out Annunciator
- All exposed metal surfaces are mechanically cleaned, 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



Pneumatic Process Control Standard, Electro-Mechanical Control Available



AQUA-GAS [®] NG SERIES SPECIFICATION GUIDE									
MODEL NG		WB-100V-NG	WB-300V-NG	WB-600V-NG	WB-800V-NG	WB-1200V-NG	WB-3000H-NG	WB-6000H-NG	WB-12000H-NG
HEATING CAPACITY	MSCFH	150	185	380	465	750	1300	3450	6500
WATERBATH CAPACITY	U.S. Gallons liters	93 352	93 352	192 727	227 859	450 1703	1700 6435	4200 15899	7000 26498
COIL DESIGN PRESSURE	Psig Mpa					1728			
						11.91			
SHELL DESIGN PRESSURE	Psig Mpa					Atmospheric			
WATERBATH OPERATING TEMP. (ADJUSTABLE)	F° C°					190 max			
						88 max			
ELECTRICAL	v / ph / hz	12 VDC STD on Vertical, AC Optional 240 VAC/3/60 STD on Horizontal							
BURNER FUEL INPUT	MMBTU/h MMKCAL/h	0.330 83.15	0.400 100.80	0.820 206.64	1000.0 252.00	1600.0 403.19	2400.0 604.79	6200.0 1562.37	12000.0 3023.95
SHIPPING WEIGHT	Lbs Kg	1980 900	1980 900	3170 1441	4470 2032	5800 2636	8950 4068	24000 10500	38000 17237
OPERATING WEIGHT	Lbs Kg	2755 1252	2755 1252	4769 2168	6361 2891	9549 4340	24000 10900	52000 26000	100500 45650
PRESSURE DROP	PSIG	8	10	20	10	20	10	20	10

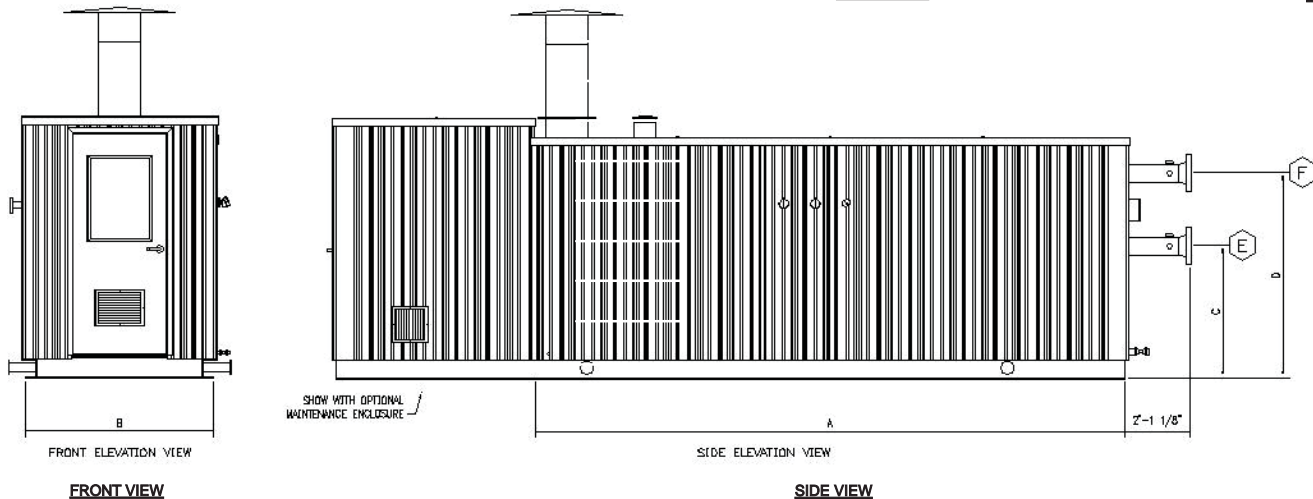
- Design based on inlet pressure of 1440 PSIG, inlet temperature of 40°F. The pressure after the regulation is assumed to be 600PSIG with the pressure after regulation at 40°F. Please consult Aether DBS to confirm the proper size heater.
- Final sizing to be confirmed by Aether DBS and may vary from typical sizing shown above.
- Contact Aether DBS for your specific requirements.
- Design and Specifications are subject to change without notice.



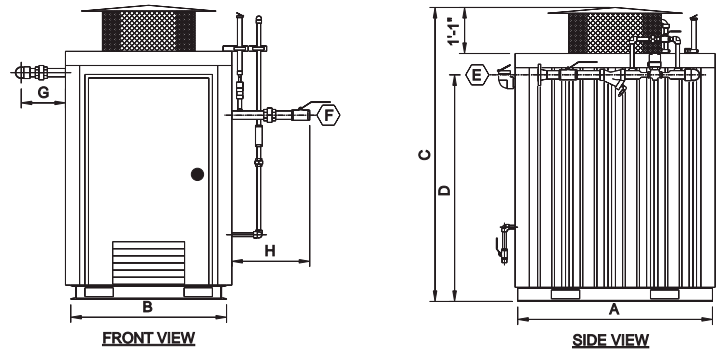
MODEL NG	DIMENSIONAL DATA							
	A	B	C	D	E	F	G	H
100V-NG & 300V-NG	4'-7" 1397	3'-8" 1118	6'-11" 2108	5'-0" 1524	2'-300#	2'-300#	1'-1"	1'-6"
600V-NG	4'-7" 1397	3'-8" 1118	8'-11" 2718	5'-6" 1676	2'-300#	2'-300#	1'-1"	1'-6"
800V-NG	4'-7" 1397	3'-8" 1118	9'-7" 2921	6'-2" 1880	2'-300#	2'-300#	1'-1"	1'-6"
1200V-NG	4'-7" 1397	7'-5" 2261	8'-11" 2718	5'-6" 1676	2'-300#	2'-300#	1'-1"	1'-6"
3000H-NG	19'-3" 5867	4'-11" 1499	3'-7" 1092	6'-3" 1905	2'-300#	2'-300#	-	-
6000H-NG	27'-4" 8331	6'-7" 2007	5'-1" 1549	8'-9" 2667	3'-300#	4'-300#	-	-
12000H-NG	32'-10" 10008	8'-4" 2540	5'-9" 1753	10'-3" 3124	4'-300#	8'-300#	-	-

- Inlet and outlet flanges are standard.
- For dimensions of optional Maintenance/Control Module, contact the Aether DBS factory.

AQUA-GAS[®] NG Horizontal System



AQUA-GAS[®] NG Vertical System



Aether DBS Manufacturing

Aether DBS (formerly Ely Energy) offers integrated design, engineering, procurement, and manufacturing. With key partnerships in more than 25 countries, we provide world-class, reliable, cost-effective solutions to oil and gas, industrial, and utility businesses.



PED

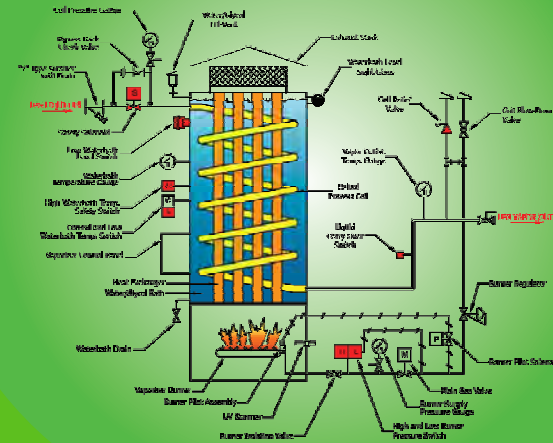


CRN



Aether DBS' manufacturing facilities in Tulsa, Oklahoma provide shipping via road, rail, or water. With 40+ years of experience, and combined 21,000+ ft of manufacturing facilities, we are well equipped to deliver the quality custom products and system you need.

Vertical Natural Gas Line Heater



References

Argentina

Aprogas - Celima, Tradefin S.A.

Australia

CEM International

Brazil

Energy Solution - ULTRAGAZ S.A.

Canada

Husky Oil Operation LTD
Meg Worley LTD
MAXQUIP
Superior Propane

Chile

ENERGAS
INECO
METROGAS

Germany

Uhde GmbH

Hong Kong

Disney

Jordan

Progas

Mexico

Equipos Para Gas (EGSA)

Netherlands

SABIC Petrol Chem

Oman

Salzburger Aluminum

Pakistan

AMTEX
SSGC

Peru

APROGAS

Philippines

Dynatron Asia Co., Inc.

Saudi Arabia

Arabian United Float Glass

South Africa

AFROX
Monsanto

UAE

Etihad Towers

USA

B&W
GE
Mitsubishi
Shaw
Amerigas
Suburban Propane
Northern Natural Gas
Duke Energy
Centerpoint Energy
Laclede Natural Gas



▲ Vertical Line Heater Interior



aetherdbS

elemental design build solutions

www.aetherdbS.com

(877) 637 - 9470

sales@aetherdbS.com