Algas-SDI™

ISO 9001 Certified

...Innovative liquid vaporizing and gas mixing solutions

GA500 Process Gas Calorimeter

- *Digital wobbe index display (CV & SG Optional - Model GA500WC)*
- *Optional calorific value and specific gravity display*
- *Continuous 4-20mA analog output for all displayed points*
- *Automatic ignition system interlocked on loss of air and loss of flame*
- *High & low alarms*
- *Simple to operate with virtually no maintenance*
- *Simple to calibrate*
- *Applications*
  - *LPG/Air mixing (natural gas replacement)*
  - *Composition control (burner fuel/air ratio)*
  - *Natural gas BTU stabilization*
  - *Cogen plants*
  - *Landfill gas*

ECLIPSE™ Innovative Thermal Solutions

Revised 11.07.00

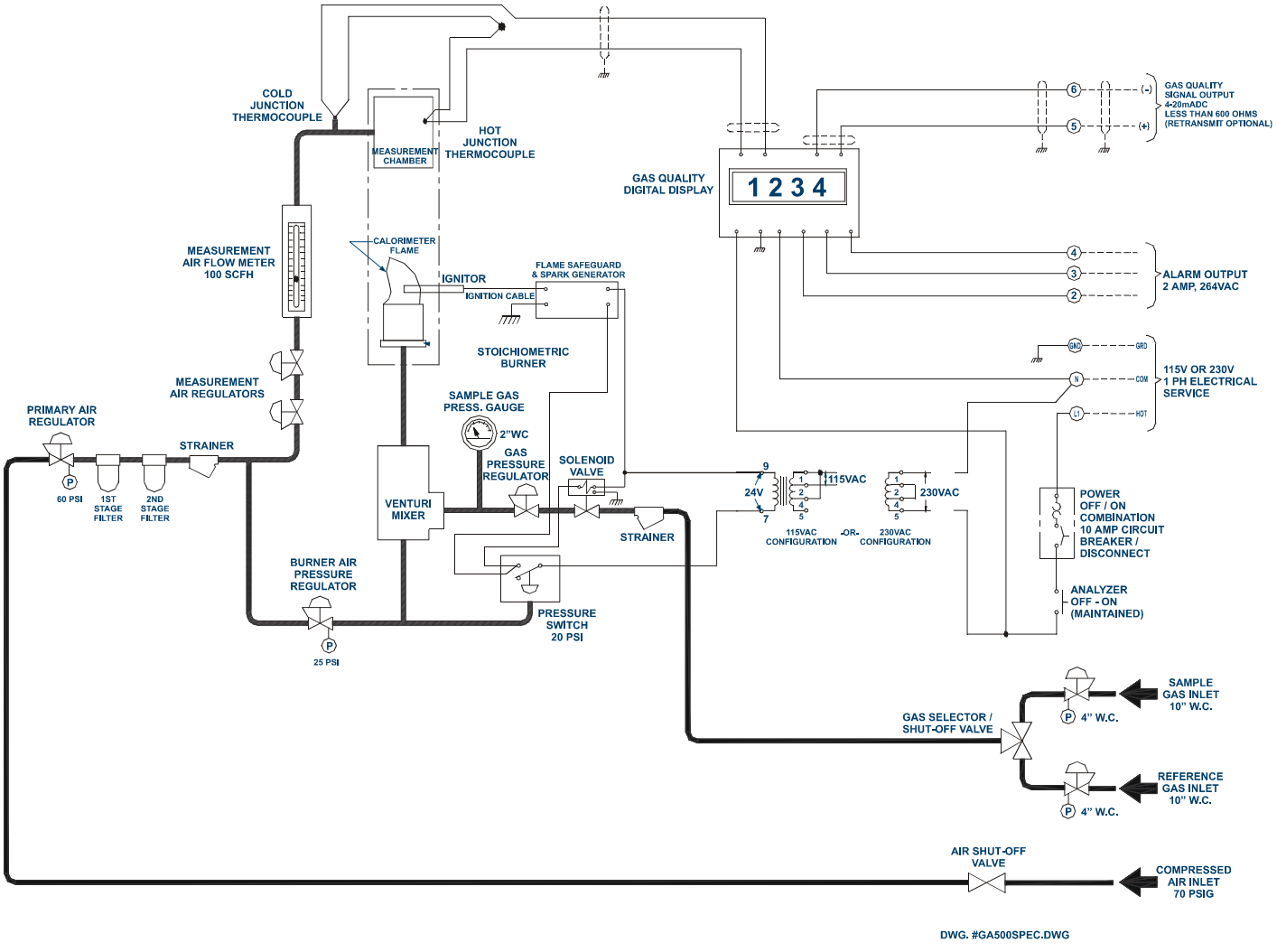
Description

The Algas-SDI GA500W is a fuel gas analyzing device which burns a sample of fuel gas, under highly controlled conditions and produces an electronic output to provide information, in the form of an indicator or recorder, concerning the combustion characteristics of the fuel gas. The output can also be used in a controlling instrument, which in turn can control a device used to add air or an inert gas to the fuel gas for purposes of stabilizing the gas. The GA500W version of this analyzer is designed to detect changes in both heating value and specific gravity of the fuel gas being analyzed; and provides a function referred to as “Wobbe Index,” or “Calorific Value,” as required.

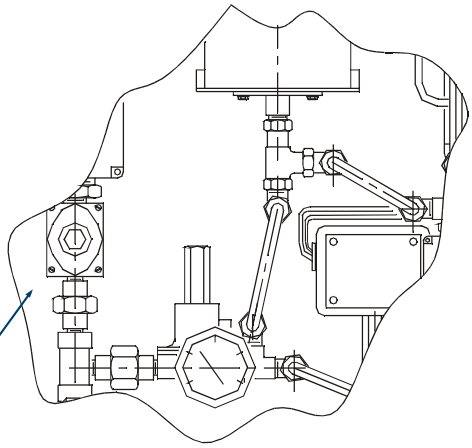
The instrument receives a fuel gas sample and uses compressed air to provide the required flame geometry in a precision burner. A larger volume of compressed air, under highly controlled conditions, passes through a measurement chamber where the amount of heat added by the burner is measured in a thermally isolated adiabatic atmosphere.

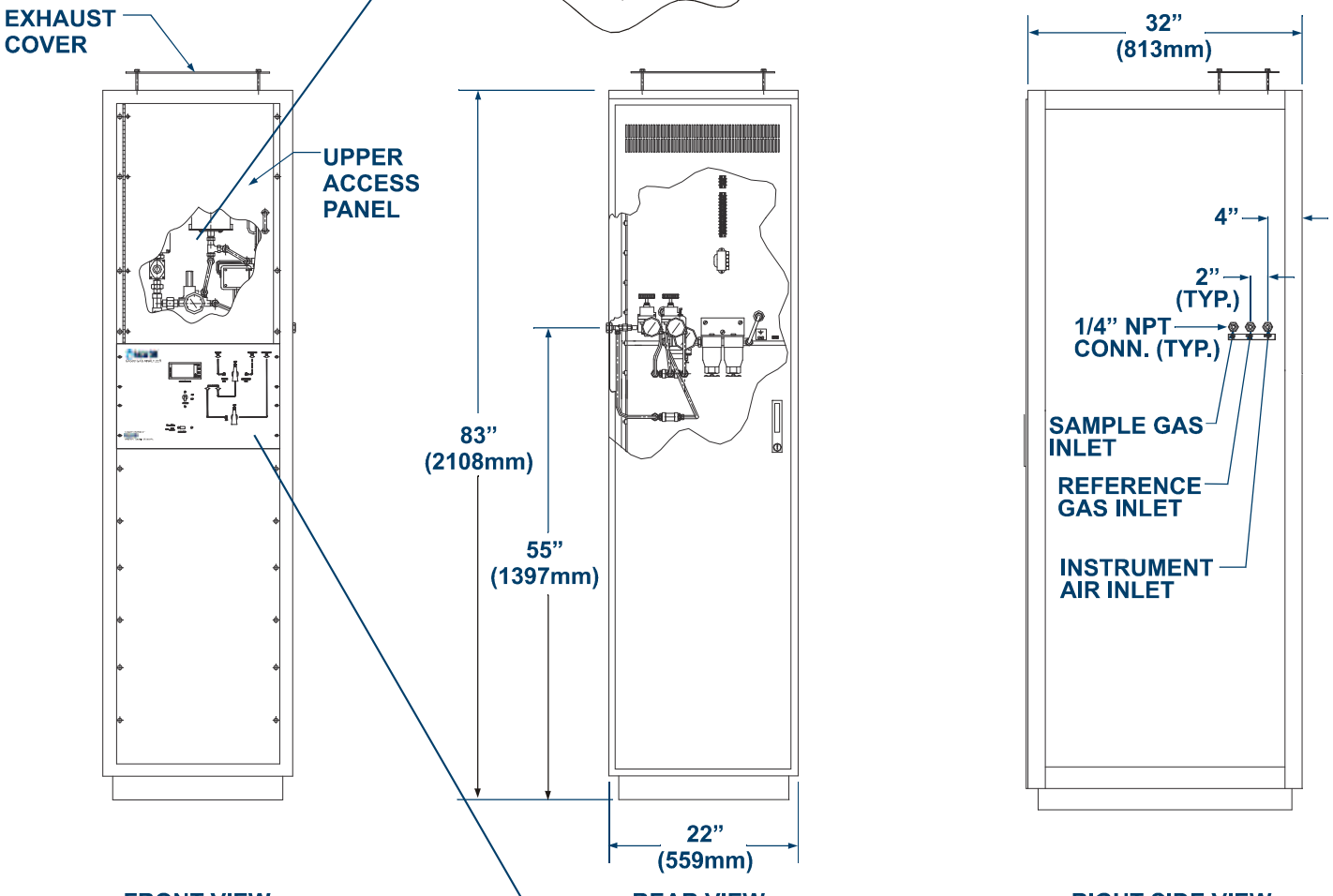
A change in heating value of the gas will change the amount of heat added to the measurement chamber. Likewise, a change in specific gravity will cause flow rate changes in the burner gas mixing system providing the sample to the burner, also changing the amount of heat added to the measurement chamber. Since the flow rate change (due to a change in specific gravity) is a square root function, the interreaction of changes in heating value and changes in specific gravity results in a Wobbe Index output.

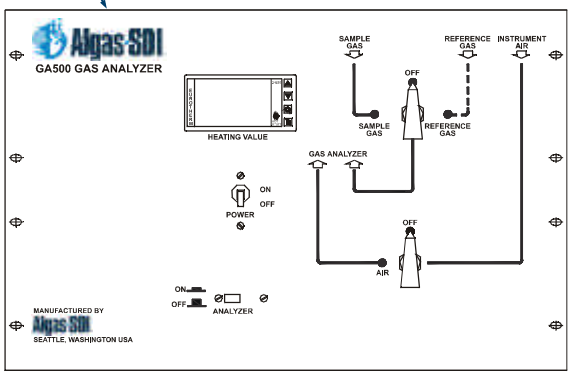
Operation



Dimensions







Product improvement is a continuing goal at Algas-SDI. Designs and specifications are subject to change without notice or obligation.

Specifications

Item	Description
Units	Kcal/Nm3 or Btu/scf
Standard Measuring Range	7500-18800 Kcal/Nm3 or 800-2000 Btu/scf
Accuracy	+/- 1.5%
Repeatability	+/- 0.3%
Linearity	+/- 0.2%
Fuel Consumption	85 liters/hr or 3 scfh (based on a fuel gas with a specific gravity of 0.6)
Gas Pressure	2.5 kPa or 10” wc minimum 6.9 kPa or 27.7” wc maximum
Air Consumption	4250 liters/hr or 152 scfh
Air Pressure	275 kPa or 40 psig minimum 1034 kPa or 150 psig maximum
Electrical Requirements	115 VAC/1 ph/50-60 hz @ 1 amp Or 230 VAC/1 ph/50-60 hz @ 0.5 amp
Electrical Area Classification	General purpose
Output	4-20 mA 600 Ohms impedence isolated Alarm output 2 amp 264 VAC
Dimensions	635 mm W x 889 mm D x 2235 mm H or 25 in W x 35 in D x 88 in H
Weight	113 kg or 250 lbs
Response	Less than one second after deviation of gas sample at the instrument. 50% of deviation within 30 seconds and 90% in one minute. Full scale stability in less than 3 minutes.

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