

## Envent Model 131S

### BTU Gas Chromatograph

Compliant with EPA Renewable Fuel Standards & ASTM D7164-21

The Model 131S Natural Gas Chromatograph (GC) is a simple approach to energy measurement, created and designed for the custody transfer metering of Natural Gas as well as many other BTU applications. Envent provides a Natural Gas platform that is efficiently manufactured to ensure industry leading delivery, while providing a GC that allows for ease of serviceability.

#### Features

- Standard: 4-minute C6+ repeatability +/- .25 BTU / 1,000 SCF
- Optional: 2-minute Fast BTU C6+ repeatability +/- .5 BTU / 1,000 SCF
- Optional: 5-minute BTU C9+ repeatability +/- .5 BTU / 1,000 SCF (heated sample system enclosure required)
- High performance GC columns packed in our Envent GC Lab
- Reduced carrier usage due to efficient column design
- Environmental chamber tested prior to shipment

#### Field-Serviceability

- Easy access Electronics Enclosure with single board technology
- Easy access GC Detector/Column Oven for easy GC valve diaphragm replacement and column change
- Typical downtime for diaphragm and column change: approx. 30 minutes
- No modules to maintain or un-planned downtime due to non-serviceability and high cost of competitor's module technology
- Returns ownership to the measurement technician rather than the GC manufacturer

#### Standard Configuration

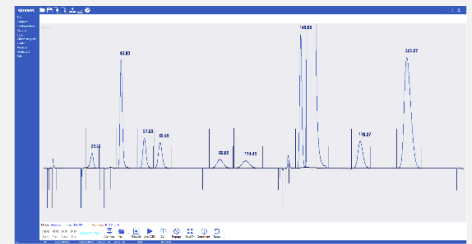
- One custody-transfer stream and one auto-calibration stream (up to 3 additional custody streams)
- Atmospheric reference valve for repeatable, precise sample injections
- Sample conditioning instrumentation mounted on a common plate

#### Electronics

- Non-incendive electronic circuit design approved for Class I Division 1 electrical areas
- Includes all CPU, Memory, and I/O functions on a single board that operates together with the Envent Gas Chromatograph software
- Low-cost, simplified electronic troubleshooting approach



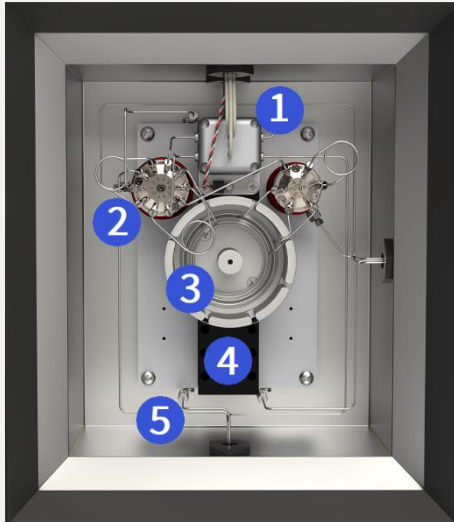
131S BTU Configuration



Envent Gas Chromatograph Software (GCS)



## Easily Accessible GC Oven



1. Thermal Conductivity Detector
2. GC Valve
3. Column Dish
4. GC Oven Heater
5. Sample Pre-Heat Coils

## Measurement Ranges

Methane	65 to 100 mol%
Ethane	0 to 20 mol%
Propane	0 to 10 mol%
N-Butane	0 to 5 mol%
Iso-Butane	0 to 5 mol%
N-Pentane	0 to 1 mol%
Iso-Pentane	0 to 1 mol%
Neo-Pentane	0 to 1 mol%
Hexane+	0 to 1 mol%
Nitrogen	0 to 20 mol%
Carbon Dioxide	0 to 20 mol%

## Specifications

### Environmental Temperature

-20° to 60°C (-4° to 140°F) Quoted per application

### Dimensions

Standard Configuration: 48" H x 24" W x 9" D  
(122cm H x 61cm W x 23 cm D)

### Mounting

Wall mount or floor mount

### Enclosure

NEMA 4X

### Electrical Classification

Class I, Division 1, Groups B, C, D

### Power

120 +/- 10% VAC 50/60 Hz Standard  
240 +/- 10% VAC 50/60 Hz Available

### Power Consumption

Start up: 100 watts (does not include sample system electronics)  
Steady State: 60 - 80 watts nominal

### Oven

Airless Heat Sink

### GC Valves

Six-port and ten-port diaphragm chromatograph valves  
Thermal Conductivity Detector (TCD)  
Single or Dual TCD Capabilities (2-min application)

### Stream Valves

Double Block and Bleed

### C6+ 4-minute Controlled Temperature

±0.25 BTU / 1,000 SCF (±0.025%) at ambient

### Repeatability

### C6+ 2-minute Controlled Temperature

±0.5 BTU / 1,000 SCF (±0.05%) at ambient

### Carrier Gas

UHP Helium (99.999%) or UHP Hydrogen (99.999%)

### Actuation Gas

Helium, Nitrogen, Instrument Air  
(GC Valves/Stream Valves Regulated to 65 psig)

### Detector

Thermal Conductivity Detector: Single or Dual TCD capabilities  
Single TCD (4-minute C6+)  
Dual TCD (2-minute C6+ Fast BTU Option)

### Peak Gating

Auto-Slope detection

### Streams

Up to 4 Custody streams (plus auto-calibration stream)

### Input/Output

2 analog outputs  
4 dry contact relay outputs  
4 digital inputs  
4 solenoid outputs

### Communications

SIM 2251 Modbus mapping  
User Modbus mapping  
1 RS-232 serial communication ports (Modbus capable)  
2 RS-485 serial communication ports (Modbus capable)  
1 Ethernet communication port RJ-45 (Modbus capable)

### Measurement Calculations

Latest GPA 2145, GPA 2172, AGA 8, and ISO 6976 calculations  
Compliant with EPA Renewable Fuel Standards & ASTM D7164-21

**Canadian Office**  
2721 Hopewell Place NE  
Calgary, Alberta, Canada T1Y 7J7  
Phone: 403-253-4012  
Email: [canadasales@enventengineering.com](mailto:canadasales@enventengineering.com)

**USA Office**  
13219 B Stafford Road  
Missouri City, Texas, USA 77489  
Phone: 713-568-4421  
Email: [usasales@enventengineering.com](mailto:usasales@enventengineering.com)

**Mexico Office**  
Av. Revolución No. 1267,  
Floor 19, Office 55  
Mexico City, MX  
Phone: +52 833 247 8260  
Email: [mexico@enventengineering.com](mailto:mexico@enventengineering.com)

**International**  
Phone: 403-253-4012  
Email: [international@enventengineering.com](mailto:international@enventengineering.com)