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# Envent Model 131S

## Process Gas Chromatograph

The Model 131S Process Gas Chromatograph (GC) is a simple approach to energy measurement, created and designed for many different applications. Envent provides a Process Gas Chromatograph platform that is efficiently manufactured to ensure industry leading delivery, while providing a GC that allows for ease of serviceability.

### Features

- High performance GC columns packed in our Envent GC Lab
- Reduced carrier usage due to efficient column design

### 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

### Natural Gas Applications

- Energy Measurement
- Pipeline Monitoring
- Custody Transfer
- Biogas/Landfill
- Power Generation
- Turbine Control

### Gas Processing Applications

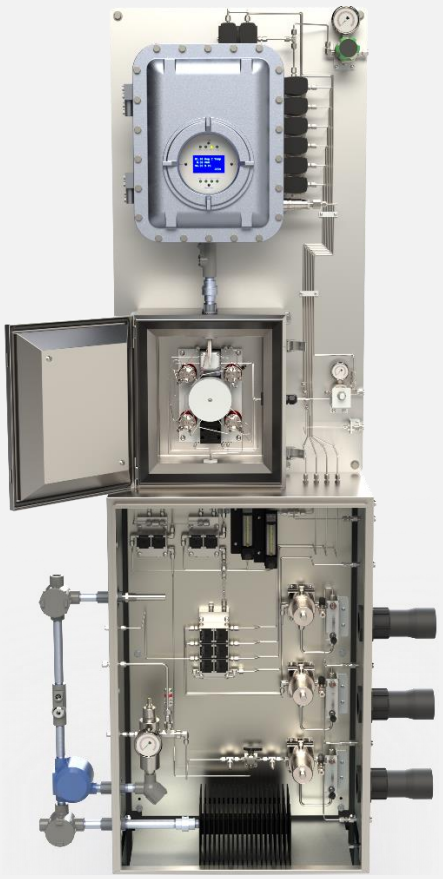
- Cryogenic gas plant
- NGL/LPG (methanol ethanol)
- LNG
- Fractionation/ Hydrocarbon Purity
- Gas Sweetening
- Methanol in NGL
- Methanol in Natural Gas

### Electronics

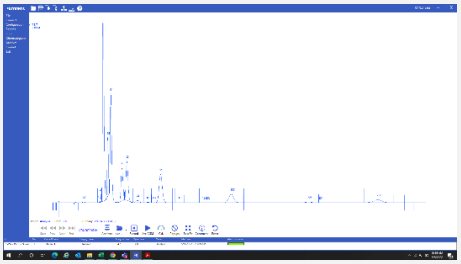
- Non-incendive electronic circuit design approved for Class I Division 1 electrical areas
- Includes all CPU, Memory, and I/O functions on a single board that operates together with the Envent Gas Chromatograph software
- Low-cost, simplified electronic troubleshooting approach

### Software

- Archived custody stream chromatogram/chart storage
- Auto-storage of most recent calibration chromatogram/chart
- 18 months of archived analysis reports
- 6 months of archived calibration reports



131S Process Configuration



Envent **G**as **C**hromatograph **S**oftware (GCS)

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Intertek 4002458

## Easily Accessible GC Oven


1. Thermal Conductivity Detector (Max 2)
2. GC Valve (Max 6)
3. Column Dish
4. Sample Pre-Heat Coil (Max 4)

## Specifications

| | |
|---|---|
| **Environmental Temperature** | -20° to 60°C (-4° to 140°F) Quoted per application |
| **Dimensions** | Standard Configuration: 78” H x 24” W x 16” D<br>(198cm H x 61cm W x 41cm 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<br>240 +/- 10% VAC 50/60 Hz Available |
| **Power Consumption** | Start up: 100 watts (does not include sample system electronics)<br>Steady State: 60 - 80 watts nominal |
| **Oven** | Airless Heat Sink |
| **GC Valves** | Six-port and ten-port diaphragm chromatograph valves<br>Thermal Conductivity Detector (TCD)<br>Single or Dual TCD Capabilities (2-min application) |
| **Stream Valves** | Double Block and Bleed |
| **Carrier Gas** | UHP Helium (99.999%) or UHP Hydrogen (99.999%) |
| **Actuation Gas** | Helium, Nitrogen, Instrument Air<br>(GC Valves/Stream Valves Regulated to 65 psig) |
| **Detector** | Thermal Conductivity Detector: Single or Dual TCD capabilities<br>Advanced TCD allows for low ppm measurement |
| **Peak Gating** | Auto-Slope detection |
| **Streams** | Up to 4 Custody streams (plus auto-calibration stream) |
| **Input/Output** | Two (2) analog outputs<br>Four (4) dry contact relay outputs<br>Four (4) digital inputs<br>Four (4) solenoid outputs |
| **Communications** | SIM 2251 Modbus mapping<br>User Modbus mapping<br>One (1) RS-232 serial communication port (Modbus capable)<br>Two (2) RS-485 serial communication ports (Modbus capable)<br>One (1) 1 Ethernet communication port RJ-45 (Modbus capable) |
| **Measurement Calculations** | Latest GPA 2145, GPA 2172, AGA 8, and ISO 6976 calculations |


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