The portable NGC8206 is a natural gas chromatograph designed for installation in a vehicle or mounted in a building for connection to a fixed sample point.

Measurement made easy

Introduction

The portable NGC8206 is a natural gas chromatograph designed for installation in a vehicle or mounted in a building for connection to a fixed sample point. The NGC is easily powered, either from the vehicle’s 12Vdc system or from an AC power supply. Its low power operation means you can maintain continuous power on the unit, thus keeping it at operating temperature and assuring it is ready for immediate use on site. The standard Model 8206 can be used for station mounted applications.

Features

- Five minute cycle time
- Reliable and easy to operate
- Alarming on component concentrations
- Analysis report before unloading

From the spot analysis the following are calculated:

- Relative density
- Heating value
- VOS (velocity of sound)
- GPM (gallons of liquid per thousand cubic feet)
- Wobbe index
Modular design includes

- Portable GC interface allows user analysis customization
- Modular software – application based plug in software modules
- Manifold module (internal tubing now replaced by manifold)
- Analysis section contains stream selection solenoids, pressure regulation, 32 bit digital detector electronics and a dual-train chromatograph in a single, replaceable module
- 32 bit digital, low-power controlling electronics, using Windows CE® (internal to GC unit)
- Microsoft® Windows® 2000 or XP based man-machine interface software (PCCU 32)
- USB MMI port connectivity
- Ethernet connectivity
- Lithium battery-backed RAM
- Two remote serial digital communications ports; one local port
- Comprehensive diagnostics and wizards available to users
- Audit-quality historical data; date and time stamped
- Operational fault/warn alarms available
- Detectors – constant temperature, glass encapsulated thermistor beads for rugged service and long life. Will not burn out on loss of carrier.
- Dual 10 port valves have no moving metal parts.
- Low utility usage – low-power, low-carrier, no instrument air required
- On demand or scheduled automatic calibration and diagnostics
Description

The truck is moved as close to the sample point as is practical. The Operator will initiate the cycle to start when the process is connected and the piping is purged. The Sample System on the NGC ensures that the sample from the truck is representative of the process and that the NGC is ready to run samples. Reports will be printed at the end of the analysis cycles and alarming will occur should the sample not meet the load requirements.

The NGC8200 analyzes each sample utilizing established chromatographic techniques. The resulting information consists of mole percent values for the following:

- Air (Contains N2, Ar, CO and O2 but not CO2), C1, CO2, C2, C3, IC4, NC4, NeoC5, IC5, NC5, C6+

The NGC8206 measures a C6+ (back flushed) peak. Users may input the results of a comprehensive lab analysis that reflects the split or ratio of C6 through C10 components. This ratio can be used in subsequent analyses and energy calculations.

Calculated values include:

- Relative density (specific gravity)
- Btu/CV (heating) value
- GPM (gallons of liquid per thousand cubic feet)
- Wobbe index
Historical data

The NGC8206 is designed to retain historical data. This data can be used for custody transfer needs, verify transmitter operation over time, and provide a limited data backup for communication link reliability. In addition, various CSV file outputs are available to download the analysis data into spreadsheet based company specific data sheets, and outputs to 3rd party gas accounting packages.

The default¹ memory configuration provides the most recent 480 analysis cycles containing:
- Normalized components
- Un-normalized components
- Ideal Btu/CV
- Real Btu (wet and dry) / CV (superior and inferior)
- Relative density (specific gravity)
- Density
- GPM
- Wobbe index
- Alarms

Stream averages for the (default¹) 840 last hours, 35 last days and the most recent last month analyses. Operational Parameters for the (default¹) last 480 cycles (Diagnostics Report):
- Selected peak times
- Selected peak areas
- Ideal Btu/CV
- Carrier regulator pressure
- Oven temperature
- Ambient temperature
- Sample pressure
- Detector noise values
- Detector balance values

Audit logs (Default¹)
- Last 480 alarms
- Last 480 events

Data retained by the NGC8206 can be collected via a remote communication link or by the laptop PC local operator interface PCCU 32.
Equipment

The equipment used for this analysis consists of the standard Model 8206 mounted either as a Mobil mount or standard two in pipe mount enclosure. All the valves, gauges and sample conditioning modules will be provided with the equipment, depending on the options.

Default¹ The default memory configuration will provide for the data storage above. User may reallocate the memory that is available.

Available options

- Sample and GC Rotometers
- 120/240 VAC / 24 VDC to 12 VDC power supply
- Modular Sample System for Non-pipeline quality
- Natural gas and Sample transport lag-time needs:
  - Type 4 w/ liquid shut-off
- Temperature Compensation Probes:
  - Fixed
  - Retractable
- Regulators, carrier and calibration blend
- Start up/calibration/validation gas sample (+2% Cal Blend)
- Export crating
- Tool kit
- Various maintenance kits
- On board digital 1/4 VGA display with multiple screen access
- USB (Host and Client) and Ethernet ports
- SD memory cards
- Feed-Through heater
- Heat trace internal and external tubing

Reports
## Specifications

<table>
<thead>
<tr>
<th>Item description</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>9.5” high x 14.3” wide x 16” deep</td>
</tr>
<tr>
<td></td>
<td>(24.13 cm x 36.32 cm x 40.64 cm)</td>
</tr>
<tr>
<td>Weight</td>
<td>Approximately 38 lb. (17 Kg)</td>
</tr>
<tr>
<td></td>
<td>Shipping Weight: 45 lb. (20.4 Kg)</td>
</tr>
<tr>
<td>Weatherproof construction</td>
<td>No classification</td>
</tr>
<tr>
<td>Carrier gas</td>
<td>Helium (consumption rate &lt; 20 cc/minute during analysis cycle)</td>
</tr>
<tr>
<td>Analysis time</td>
<td>Approximately five (5) minutes; cycles may be scheduled by user</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 0.125 Btu @ 1,000 Btu; (± 0.0125%) @ ambient;</td>
</tr>
<tr>
<td></td>
<td>± 0.25 Btu @ 1,000 Btu (± 0.025%) over temperature range of 0 to 131°F</td>
</tr>
<tr>
<td>Temperature range (storage)</td>
<td>22°F to +140°F (-30°C to 60°C)</td>
</tr>
<tr>
<td>Temperature range (normal)</td>
<td>0°F to 130°F (-18°C to 55°C)</td>
</tr>
<tr>
<td>Moisture</td>
<td>95% relative humidity non-condensing</td>
</tr>
<tr>
<td>Supply voltage</td>
<td>110 V AC, 60 Hz or 250 V AC, 50 Hz, 24 V DC (16-28 V DC) or 12 V DC (10.5 - 15 V DC)</td>
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<tr>
<td>Power consumption</td>
<td>Nominal operation @ 0°F (-18°C) = 7 Watts; (650 mA);</td>
</tr>
<tr>
<td></td>
<td>Start up @ less than 3 amps (45 Watts @ 15 V DC)</td>
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