



ACES

Analytically Correct Engineered Systems

System Brief



Rich Gas Sample Systems

Models 521 | 531

Introduction

Analytically Correct Engineered Systems™ are tailored to the specific application and designed to ensure sample integrity is maintained throughout the sample extraction and preconditioning process. The Rich Gas Sample System is an ACES™ tailored to the Natural Gas Industry. Consisting of a Genie® Heated Regulator™ in an insulated enclosure mounted on a Genie® membrane tipped probe, it is best suited to sampling natural gas at conditions near the hydrocarbon dew point. A typical application is the sampling of rich gas in midstream operations.

Genie® Membrane Technology™ on the tip of the probe separates liquid at source conditions to ensure a representative gas sample and to protect the analyzer by excluding contaminants from the entire sample handling system. Genie® Membrane Probes™ are designed to be safely retracted from a pressurized source without any special tools, so the Genie® membrane can be easily accessed and maintained. The GP series utilizes a housing with a foot valve for process isolation. The Genie® Direct Drive™ series is inserted and retracted through a full port process isolation valve.

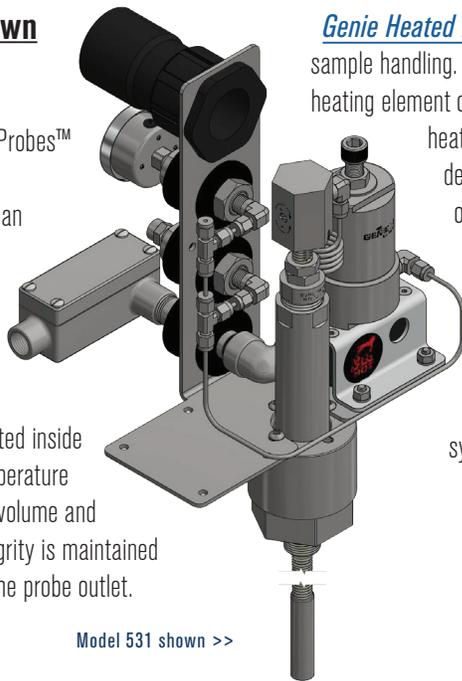
At source conditions near the hydrocarbon dew point the sample must be heated before pressure reduction for compliance with recommendations from industry standards to keep the sample temperature above the hydrocarbon dew point. This is accomplished with the pre-regulation heat exchanger in the Model GR™ pressure regulator, which also contains a post-regulation heat exchanger to help compensate for the Joule-Thomson (JT) cooling effect and prevent condensation.

Rounding off our ACES™ systems is a removable probe mounted enclosure that is insulated and heated to prevent ambient temperature from adversely impacting the sample.

ACES Component Breakdown

Genie Membrane Probes™

Our revolutionary Genie® Membrane Probes™ featuring patented Genie® Membrane Technology™ at the probe's tip offers an Analytically Correct™ method for extracting a representative sample from a gas source near the dew point. In compliance with industry standards API 14.1, GPA 2166 and ISO 10715 entrained liquids are rejected inside of the line at the flowing pipeline temperature and pressure. By minimizing internal volume and eliminating dead volume, sample integrity is maintained from initial extraction until it leaves the probe outlet.



Model 531 shown >>

Genie Heated Regulators™ A+ pressure regulators are designed specifically for sample handling. The heated pressure regulator can be heated either with a 200 watt heating element or with a self-limiting (20 or 80 watt) heater block. The self-limiting heater block on the Model GHR™ is a small, simple, extensively certified device that provides a reliable heat source without temperature overload in small or densely populated enclosures. A proportional controller is used to regulate power to the 200 watt heating element in the Model 901-GR™.

Insulated Enclosure This case allows the sample pressure and enclosure temperature to be monitored at a quick glance, without having to remove the enclosure. For complete access to system components, one or both sides can be completely removed.

THE A+ SYSTEM OF COMPONENTS

- Genie® Membrane Probes™: Models GP2™ or 750™
- Genie® Heated Regulators™: Models GHR™ or 901-GR



Power Requirement: 110 to 265 VAC, 80W or 24VDC, 25W

Electrical Connection Approval: CSA: Class 1, Division 1, Group C&D, T3 ATEX/IECEx: II2G Ex db IIC T3

Should you need assistance in selecting the appropriate components for your application, please consult the factory.

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