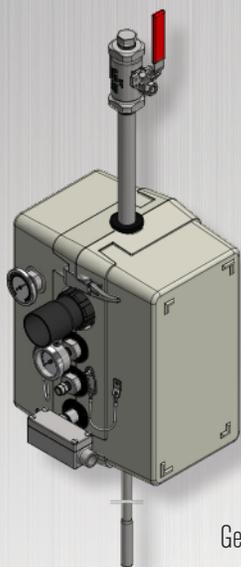




Analytically Correct Engineered Systems

System Brief



# Underground Pipeline Sample Systems

- 540 Series -

## 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 Underground Pipeline Sample System is an ACES™ tailored to the Natural Gas Industry. Consisting of our Genie® Model 702 Permanent Insertion Probe, close coupled to either the Genie® GHR™ Heated Regulator™ or the Genie® JTR-H™ four-stage Heated Regulator™ in an insulated enclosure. It is used primarily for sampling natural gas from buried pipelines that require insertion lengths up to 120".

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 702 is designed for sampling at a specific depth in a pressurized pipeline; each length is customized up to 10 feet to fit your application. Our exclusive Pressure Balance™ technique allows effortless insertion or retraction of the probe without the need for additional tools or pneumatic and hydraulic methods. The full port ball valve on top of the 12" housing allows users to partially retract the probe for pigging or to safely provide secondary process isolation.

Gas composition and source conditions of the sample will dictate the pressure reduction choice for compliance with recommendations from industry standards to keep the sample temperature above the hydrocarbon dew point. The Model GHR™ is designed with a pre-regulation heat exchanger in the pressure regulator as well as a post-regulation heat exchanger. The Model JTR-H has heat applied to the body near the inlet port and reduces the pressure Thomson (JT) cooling effect and prevent condensation.

## ACES Component Breakdown

### Genie 702 Permanent Insertion Probe™

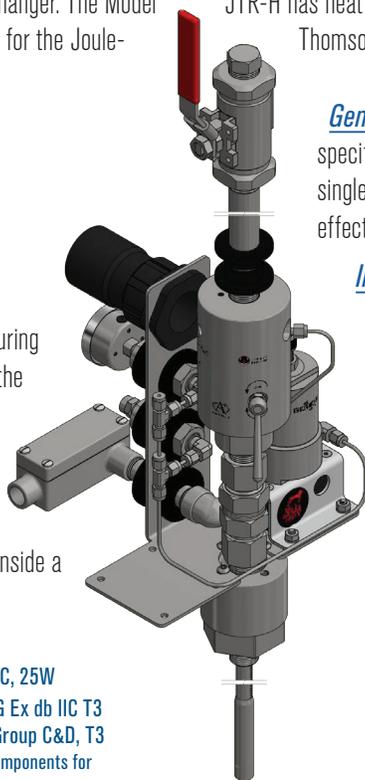
is a simple, safe and economical solution to extract a representative vapor phase sample from a specific depth in a pressurized pipeline. Our patented Genie® Membrane Probes™ featuring patented Genie® Membrane Technology™ are the most effective means of separating entrained liquid from the sample at source conditions. A+ Corporation is the only manufacturer that provides Analytically Correct™ membrane tipped sample probes for insertion inside a pipeline or vessel.

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

**Electrical Connection Approval:** ATEX/IECEX: II2G Ex db IIC T3

CSA: Class 1, Division 1, Group C&D, T3

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



**Genie Heated Regulators™** A+ pressure regulators are designed specifically for sample handling. The self-limiting heater block on either the single stage GHR™ or the 4 stage JTR-H™ compensates for the JT cooling effect to help preserve sample integrity.

**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.

<< Model 541 shown

## THE A+ SYSTEM OF COMPONENTS

- Genie® 702 Permanent Insertion Probe™
- Genie® Heated Regulators™: Models GHR™ or JTR-H™



The Sampling Experts™ | geniefilters.com