The safest and most versatile probes available on the market

Liquid carry over from the pipeline into the sample conditioning system should be prevented when sampling natural gas as it can directly impact the accuracy of the compositional analysis and also damage the analyzer. Industry standards state that equipment used to remove liquid from the sample must be operated at flowing temperature and pressure conditions. Genie® Probes™ provide a means to insert Genie® Membrane Technology™ directly into a pipeline for the purpose of separating unwanted liquid and particulate from the gas sample at flowing temperature and pressure conditions, in compliance with industry standards.

The GPR™ consists of a housing and a membrane tip probe regulator. The housing is installed in a depressurized pipeline through a vertically mounted thread-o-let or flange, and contains a foot valve in its lower end. Inserting the probe into the housing opens the foot valve, allowing pipeline gas to flow freely through the membrane. The sample pressure is reduced immediately downstream of the membrane, inside of the pipeline. Heat is transferred from the pipeline to the regulator to prevent excessive Joule-Thomson cooling, which helps prevent condensation during pressure regulation. Retracting the probe from the housing closes the foot valve, making it possible to perform probe maintenance without depressurizing the pipeline. This insertion/retraction method is considerably less expensive and complex than pneumatic or hydraulic methods.

A regulator manifold is available with a pressure gauge, ball valve, and relief valve attached.

### Product Brief

#### Applications
- Extract a representative sample from a multi-phase gas source
- Pressure regulation
- Protection against liquids
- Online and portable analyzers
- BTU, H₂S, Moisture, and others
- Gas sampling of mixtures containing less than 30% hydrogen

#### Benefits
- API 14.1, GPA 2166 and ISO 10715 probe compliance
- Pipeline gas helps to change temperature at regulation point
- Helps to preserve sample integrity
- Helps to improve safety of personnel and equipment
- Does not require hydraulic fluid
- Probe maintenance without line depressurization

#### Features
- Genie® Membrane Technology™
- Pressure regulation at probe tip inside of pipeline
- Vibration resistant
- No dead volume
- Low internal volume
- J-slot safety

### Technical Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum pressure rating</td>
<td>3,500 psig (241.32 barg)</td>
</tr>
</tbody>
</table>
| Maximum temperature      | Up to 270°F (132.2°C) with non-standard seals and Type 7 membrane
|                          | -35 °F (-37.2 °C) to 185 °F (85 °C) with standard seals and Type 6 membrane |
| Internal volume          | 13.758 cc                                    |
| Outlet port size         | 1/4" female NPT                              |
| Minimum pipeline size    | 4"                                           |
| Outlet pressure range    | 0-10, 0-25, 0-50, 0-100, 0-250, 0-500        |
| Process connection       | 3/4" or 1" male NPT                          |
| Thread-o-let requirement | 3/4" female NPT*
|                          | *Inner diameter must not be less than 0.910” |
|                          | 1” female NPT**                             |
|                          | **Inner diameter must not be less than 1.141” for 1.1” diameter housing or less than 0.910” for 0.9” diameter housing |
| Mounting orientation     | Vertical (preferred), or 45° maximum angle relative to vertical |
| Wetted materials         | Machined parts: 316/316L stainless steel / NACE compliant
|                          | All other metal parts: stainless steel / NACE compliant
|                          | Foot Valve sealing material: Perfluoroelastomer standard
|                          | Probe sealing material: Neoprene rubber standard
|                          | Regulator seat material: PFA
|                          | Membrane: inert                             |

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Analyzer Sampling Solutions > Moisture & Corrosion Control > Knowledgeware
Model Numbering & Additional Part Numbers

Your model number is determined by your specific needs. Choose options below.

<table>
<thead>
<tr>
<th>Sealing material</th>
<th>0 = Neoprene and Perfluoroelastomer</th>
<th>J = RGD resistant HNBR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membrane type</td>
<td>6 = Rejects ALL types of liquids from vapor</td>
<td>7 = Rejects ONLY high surface tension liquids</td>
</tr>
<tr>
<td>Outlet pressure range (psig)</td>
<td>00 = 0-25 01 = 0-50 02 = 0-100 03 = 0-250 04 = 0-500 09 = 0-10</td>
<td></td>
</tr>
<tr>
<td>Regulator outlet port</td>
<td>1 = 1/4” MNPT to 1/8” tube connector</td>
<td>4 = 1/4” FNPT</td>
</tr>
<tr>
<td>Probe housing length</td>
<td>Blank = 4” B = 7” C = 9”</td>
<td></td>
</tr>
<tr>
<td>Process connection</td>
<td>Blank = 3/4” NPT x 0.9 dia.* 1 = 1” NPT x 1.1 dia. 1A = 1” NPT x 0.9 dia.*</td>
<td></td>
</tr>
<tr>
<td>Spare parts</td>
<td>Part # GP-771-SS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Part # GP-CMA-506</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(contains one (1) complete regulator seat cartridge assembly)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(contains two (2) Type 6 complete assemblies)</td>
<td></td>
</tr>
</tbody>
</table>

How to build the model number (probe and housing):

- Sealing material
- Membrane type
- Outlet pressure range
- Regulator outlet port
- Probe housing length
- Process connection

How to build the housing model number:

- Sealing material
- Probe housing length

Dimensions

**Inserted**

3/4” NPT x 0.9” DIAMETER HOUSING SHOWN

- 2” DIA
- -1.20”-1.75”
- 2.46”

**Extracted**

1” NPT x 0.9” DIAMETER HOUSING SHOWN

- REGULATOR ADJUSTMENT
- OUTLET
- INSERTION NUT
- INSERTION WASHER
- OVERALL LENGTH
  - GPR = 11.8”
  - GPR B = 14.8”
  - GPR C = 16.8”
- 0.9” DIA
- 3/4” NPT

A+ Corporation is the leader in Analytically Correct™ Sample Extraction and Conditioning Systems.

Contact us for expert product application assistance.

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