**GAS MIXER MODEL NUMBER SYSTEM**

**Model Basic Number**

- **6105**
- **6205**
- **8105**
- **8205**
- **6305**
- **6405**
- **8305**
- **8405**

**GAS**

- **A** - Argon
- **B** - Air
- **C** - Carbon Dioxide
- **F** - Helium
- **H** - Hydrogen
- **N** - Nitrogen
- **O** - Oxygen

**MINOR GAS % RANGE**

- **30**
- **50**
- **100**
- **2000**
- **5000**
- **10,000**
- **20,000**

**POWER**

- **115 VAC, 50/60 Hz**
- **230 VAC, 50/60 Hz**

**GAS MIXER**

**6105**

- **6105**
- **6205**
- **8105**
- **8205**

**GAS MIXING ACCURACY**

<table>
<thead>
<tr>
<th>Gas</th>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argon</td>
<td>±8% of full range (-23°C to 40°C)</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>±4% of full range (0°C to 40°C)</td>
</tr>
<tr>
<td>Helium</td>
<td>±2% of full range (15°C to 27°C)</td>
</tr>
<tr>
<td>Oxygen</td>
<td>±3% of full range (6.9% to 8.6%)</td>
</tr>
<tr>
<td>Carbon Dioxide</td>
<td>±4% of full range (6.9% to 8.6%)</td>
</tr>
<tr>
<td>Oxygen/Argon</td>
<td>±4% of full range (6.9% to 8.6%)</td>
</tr>
</tbody>
</table>

**FLOW RATE**

- **0-10,000 SCFH**
- **0-20,000 SCFH**

- **0-53.6 Nm³/h**
- **0-134 Nm³/h**

**GAS SUPPLY PRESSURE**

- **Major Gas**: 100-125 PSIG (6.9-8.6 barg)
- **Minor Gas**: 0-50% Helium in Argon or 0-10% Oxygen in Argon

**SIGNAL OUTPUT**

- **0-5 VDC**
- **0-20 mA**

**DIGITAL METER**

- **Resolution**: 0.1% of range

**GAS INDEX**

- **A**: Argon
- **B**: Air
- **C**: Carbon Dioxide
- **F**: Helium
- **H**: Hydrogen
- **N**: Nitrogen
- **O**: Oxygen

**ALARMS**

- **No Alarms**
- **Standard Package**
- **Alarm Package**
- **Alarm Package with automatic mixture shutoff**

**QUALITY ASSURANCE**

- **Tested for 24 hours on the 1st day of shipment and prior to packaging.**
- **Shipped in a special container to maintain gas accuracy and reliability.**
**APPLICATION**

The Thermco gas mixer is designed to mix two non-flammable and non-corrosive gases. The gas mixer is normally used with a process gas where high purity gases are drawn from bulk sources in concentrations up to full flow conditions through a metering valve which acts as an adjustable orifice. The process gas streams are mixed together in a surge tank and fed into a surge tank. Once the pressure in the surge tank reaches the pressure in the system, a steady-state mixture is obtained. The mixing system will maintain a constant mixture ratio. The gas analyzer continuously monitors the mixture in the surge tank. If a mixture adjustment is to be made, the operator turns the minor gas metering valve accordingly, and the gas analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio.

Changing mixed gas flows, only the cycling frequency changes. Pressure drops across the orifices remain the same, producing a constant mixture. This design is simple and rugged, control or feedback to the process gas are not required.

**SOLID-STATE SURGE TANK PRESSURE SWITCH**

The gas mixer utilizes a solid-state pressure switches to control the surge tank pressure. A digital readout of the pressure is available, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.

**Lamp Filling** - Precise mixture of nitrogen and argon are used for lamp filling. Special construction to minimize particulates and impurities in the gas mixture is available for this application.

---

**PRINCIPLES OF OPERATION**

Within the gas mixer, the major and minor gas streams are regulated by the same pressure. Dross is removed from the regulators, the major gas flows through the metering valve which acts as an adjustable orifice. The process gas streams are mixed together in a surge tank and fed into a surge tank. Once the pressure in the surge tank reaches the pressure in the supply gas, the mixing system will maintain a constant mixture ratio. This can be accomplished, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.

**APPLICATIONS**

- Food Packaging
- Blanketing Atmospheres
- Leak Detection
- Food Processing
- Customized designs are frequently manufactured for specific customer requirements.

**MODEL 6105, 6205, 6305, 6405**

**FOR OUTDOOR LOCATIONS**

- Same benefits of indoor design plus a forged and polished stainless steel surge tank. The mixing system is designed for outdoor temperatures from weather or tampering.
- Surge tank reaches the upper setpoint on a pressure switch, the solenoid valve is opened and the cycle repeats. If a mixture adjustment is to be made, the operator turns the minor gas metering valve accordingly, and the gas analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio.
- Using the gas mixer in outdoor applications, the system is designed for applications that require a very reliable production for mixed gas in continuous hours. Some of the common applications for the gas mixer are:

  - **Food Packaging**: Stainless steel NEMA 4X 4X enclosure and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available.
  - **Lamp Filling**: Valve is capable of mixing for lamp filling. Special construction to minimize particulates and impurities in the gas mixture is available for this application.

---

**THERMOCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately inform employees of any change in the condition. This can be accomplished, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.

**ALARM PACKAGE**

A popular option with the gas mixers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm packages include high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is mounted on the panel(weatherproof enclosure), and a horn silence button. In some situations it may be required that the minor gas, major gas, or mixed gas be shutoff on an alarm condition. This can be accomplished, based on the alarm package if the factory is notified at the time the order is placed.

---

**SPECIFICATIONS SHEET 119**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>YEARLY</th>
<th>50%</th>
<th>25%</th>
<th>10%</th>
<th>5%</th>
<th>1%</th>
<th>1%</th>
<th>1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>6105</td>
<td>230 lbs.(104 kg)</td>
<td>350 lbs.(159 kg)</td>
<td>500 lbs.(227 kg)</td>
<td>700 lbs.(318 kg)</td>
<td>1000 lbs.(453 kg)</td>
<td>1699 lbs(767 kg)</td>
<td>2000 lbs(907 kg)</td>
<td>2300 lbs(1043 kg)</td>
</tr>
<tr>
<td>6205</td>
<td>350 lbs.(159 kg)</td>
<td>500 lbs.(227 kg)</td>
<td>700 lbs.(318 kg)</td>
<td>1000 lbs(453 kg)</td>
<td>1699 lbs(767 kg)</td>
<td>2000 lbs(907 kg)</td>
<td>2300 lbs(1043 kg)</td>
<td></td>
</tr>
<tr>
<td>6305</td>
<td>440 lbs.(220 kg)</td>
<td>700 lbs(318 kg)</td>
<td>1000 lbs(453 kg)</td>
<td>1699 lbs(767 kg)</td>
<td>2000 lbs(907 kg)</td>
<td>2300 lbs(1043 kg)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6405</td>
<td>500 lbs.(227 kg)</td>
<td>700 lbs(318 kg)</td>
<td>1000 lbs(453 kg)</td>
<td>1699 lbs(767 kg)</td>
<td>2000 lbs(907 kg)</td>
<td>2300 lbs(1043 kg)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*These are standard weights for shipments to North America. Crated weights to other locations will vary.*

---

**MODEL 8105, 8205, 8305, 8405**

**FOR INDOOR LOCATIONS**

- Same benefits of indoor design plus a forged and polished stainless steel surge tank. The mixing system is designed for applications that require a very reliable production for mixed gas in continuous hours.
- Surge tank reaches the upper setpoint on a pressure switch, the solenoid valve is opened and the cycle repeats. If a mixture adjustment is to be made, the operator turns the minor gas metering valve accordingly, and the gas analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio. The analyzer in the mixing system is a thermal conductivity type manufactured by Thermco. This analyzer is ideal for measurement of mixed gas. Calibration of the gas mixture with a known gas is recommended once a year. The weatherproof type gas analyzer is recommended for outdoor applications. The analyzer is placed.

**APPLICATIONS**

- Gas analyzer calibrated for carbon dioxide in oxygen, for indoor style gas mixers, with analog meter, no alarm package.

---

**THERMOCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately inform employees of any change in the condition. This can be accomplished, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.

**ALARM PACKAGE**

A popular option with the gas mixers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm packages include high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is mounted on the panel(weatherproof enclosure), and a horn silence button. In some situations it may be required that the minor gas, major gas, or mixed gas be shutoff on an alarm condition. This can be accomplished, based on the alarm package if the factory is notified at the time the order is placed.

---

**SPECIAL DESIGNS**

Customized designs are frequently manufactured for specific customer requirements.

- **Food Packaging**: Stainless steel NEMA 4X 4X enclosure and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available.
- **Leak Detection**: Valve is capable of mixing for lamp filling. Special construction to minimize particulates and impurities in the gas mixture is available for this application.

---

**THERMOCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately inform employees of any change in the condition. This can be accomplished, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.

**ALARM PACKAGE**

A popular option with the gas mixers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm packages include high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is mounted on the panel(weatherproof enclosure), and a horn silence button. In some situations it may be required that the minor gas, major gas, or mixed gas be shutoff on an alarm condition. This can be accomplished, based on the alarm package if the factory is notified at the time the order is placed.

---

**THERMOCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately inform employees of any change in the condition. This can be accomplished, based on the electrochemical fuel cell or paramagnetic principle. Gas mixers for this application are frequently built for non-standard pressure conditions and flowrates higher than 5000 SCFH.
The analysis has a heated cell chamber. The same benefits of indoor design plus a surge tank design produce a constant mixture. Continuous gas analysis of the gas mixture, 0-2000, 0-5000, 0-10,000, and 0-20,000 SCFH Flowrate Models for indoor locations. MODEL 6105, 6205, 6305, 6405 to full flow conditions gas mixture proportion from shutoff to full flow conditions. Some of the common applications for the gas mixer are:

- Oxygen/Nitrogen
- Oxygen/Carbon Dioxide
- Carbon Dioxide/Nitrogen
- Helium/Argon
- Carbon Dioxide/Argon

APPLICATIONS

- Food Packaging
- Stainless steel NEMA 4X enclosures and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available.
- Leak Detection - These systems often require high mixed gas outlet pressures (up to 400 PSIG). These applications should be discussed with the Thermco sales engineer to determine the best design based on available inlet pressure and required accuracy.
- Blanketing Atmosphere - These applications require the creation of an oxygen/nitrogen mixture. The mixture may be created from air/nitrogen supplies. Because the thermal conductivity of oxygen and nitrogen are very similar, the Thermco thermal conductivity analyzer can be used to measure this application. Instead, an oxygen specific analyzer is utilized.
- Food Packaging - Stainless steel NEMA 4X enclosures and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available. For indoor locations, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is silenced by a horn silence button.
- Lamp Filling - Precise mixture of nitrogen and argon is used for lamp filling. Special construction to minimize particulate and impurities in the gas mixture is available for this application.

APPLICATION

The Thermco gas mixer is designed to mix two non-flammable and non-explosive gases. The gas mixer is normally used with a process where the supply gases are drawn from bulk storage cylinders. The gas mixer supplies gas to the process by a pipeline. The system is designed for applications that require a very reliable production for mixed gas on a continuous basis. Some of the common applications for the gas mixer are:

- Light and Rugged
- Controllers or flowmeters on each, producing a consistent mixture.
- With changing mixed gas flowrate, only the cycling frequency turns the minor gas metering valve accordingly, and the gas analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio.

**PRINCIPLES OF OPERATION**

Within the gas mixer, the major and minor gas streams are regulated to the same pressure, throuph the regulation, the major gas flows through the metering valve, through a metering valve which acts as an adjustable orifice. The two gas streams are metered through the metering valve and mixed under turbulent flow conditions and led into a surge tank. Once the pressure in the surge tank reaches the desired setpoint, the mixing system is running. Two gas supplies are required in this system; a mainstream gas is required to maintain the pressure in the surge tank until conditions and flowrates higher than 5000 SCFH. The gas analyzer continuously monitors the mixture in the surge tank. If a mixture adjustment is to be made, the operator refers to Specification Sheet 119. The analysis will immediately reference the gas mixer failure.

**SOLID-STATE SURGE TANK PRESSURE SWITCH**

The gas mixer utilizes a solid-state pressure switch to control the surge tank pressure. A digital readout is built into the switch. When the metering valve and mixing system is running, an LED indicator shows when the surge tank is filling. Use of this pressure switch virtually eliminates the most common cause of gas mixer failures.

**Special Designs**

Customized designs are frequently manufactured for specific customer requirements.

**THERMCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately reference the gas mixer failure. The analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio. Some of the common applications for the gas mixer are:

- Food Packaging
- Stainless steel NEMA 4X enclosures and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available.
- Leak Detection - These systems often require high mixed gas outlet pressures (up to 400 PSIG). These applications should be discussed with the Thermco sales engineer to determine the best design based on available inlet pressure and required accuracy.
- Blanketing Atmosphere - These applications require the creation of an oxygen/nitrogen mixture. The mixture may be created from air/nitrogen supplies. Because the thermal conductivity of oxygen and nitrogen are very similar, the Thermco thermal conductivity analyzer can be used to measure this application. Instead, an oxygen specific analyzer is utilized.
- Food Packaging - Stainless steel NEMA 4X enclosures and stainless steel surge tanks are available for harsh washdown environments in food processing areas. Higher than standard mixed gas outlet pressures are available. For indoor locations, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is silenced by a horn silence button.
- Lamp Filling - Precise mixture of nitrogen and argon is used for lamp filling. Special construction to minimize particulate and impurities in the gas mixture is available for this application.

**ALARM PACKAGE**

A popular option with the gas mixers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is silenced by a horn silence button.
**APPLICATION**

The Thermco gas analyzer is designed to meet two non-flammable and non-toxic gases. This gas analyzer is used for the mixing of gases, where the mixture is produced on-site and is supplied to the process by a pipeline. The system is designed for applications that require a very reliable production for mixed gas on a continuous basis. Some of the common applications for the gas analyzer are:

- **SCFH Flowrate Models**
  - Solid-State Surge Tank Pressure Switch
  - Continuous Gas Analysis of the gas mixture
  - Optional alarms available

**PRINCIPLES OF OPERATION**

Within the system, the major and minor gas streams are regulated to the same pressure. Downdraw of the regulators, the major gas flows through the metering valve which acts as an adjustable orifice. The two gas streams are mixed in the surge tank. The mixer allows the mixture to condition and fed into a surge tank. Once the pressure in the surge tank reaches the upper setpoint on a pressure switch, the analyzer reads out the resulting mixture. Once the desired mixture is obtained, the mixing system will maintain a constant mixture ratio.

Blanketing Atmosphere - These applications require the creation of an oxygen/nitrogen mixture. The mixture may be created from air/nitrogen supplies. Because the mixture may be created from air/nitrogen supplies, a thermal conductivity gas analyzer is required. This system is normally used with the Thermco sales engineer to determine the best design based on available inlet pressures and required accuracy.

Lamp Filling - Precise mixture of nitrogen and argon are used for lamp filling. Special constructions are required, based on the electrochemical fuel cell or oxygen specific analyzer is utilized. Instead, an oxygen specific analyzer is utilized, based on the thermal conductivity of oxygen and nitrogen are very similar, the Thermco thermal conductivity analyzer can not be used in these applications. More details on the thermal conductivity analyzer are described in Special Sheet 155.

Gas analyzer calibrated for oxygen in argon, for indoor style gas analyzer, with alarm package:

**SOLID-STATE SURGE TANK PRESSURE SWITCH**

The gas analyzer utilizes a solid-state pressure switches to control the surge tank pressure. A digital readout of the pressure is built into the switch, which is monitored and controlled by the analyzer. An LED indicator shows when the pressure reaches the upper setpoint. Use of this pressure switch virtually eliminates the most common cause of gas analyzer failure.

**ALARM PACKAGE**

A popular option with the gas analyzers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is activated on the panel or weatherproof enclosure, and a button to silence the warning light.

In certain situations it may be required that the minor gas, major gas, or mixed gas be shutoff on an alarm condition. This can be accomplished with the alarm package if the factory is notified at the time the order is placed.

**THERMCO GAS ANALYZER**

The gas analyzer constantly monitors the mixture produced by the system. The analyzer will immediately notify personnel if there is a deviation from the optimum ratio. If the minor gas pressure is not of the supply gases, a malfunction in the mixing system, or a loss of pressure in one of the gas supply lines. The analyzer in the mixing system is a thermal conductivity type manufactured by Thermco. This analyzer is ideal for measurement of gas mixtures. Calibration of the gas mixtures with known gas is recommended once a year. The thermal conductivity gas analyzer is normally used with the analyzer in the mixing system. This gas analyzer is described as the analyzer package. The analyzer package is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is activated on the panel or weatherproof enclosure, and a horn to silence the warning light.

**ALARM PACKAGE**

A popular option with the gas analyzers is automatic alarms to alert personnel when an improper gas mixture is being created. When alarms are ordered on the gas mixing system, the standard analog meter is replaced with a digital meter. This alarm option is described as the alarm package. The alarm package includes high and low alarm contacts on the digital meter, a warning light on the analyzer, a horn that is activated on the panel or weatherproof enclosure, and a horn to silence the warning light.

In certain situations it may be required that the minor gas, major gas, or mixed gas be shutoff on an alarm condition. This can be accomplished with the alarm package if the factory is notified at the time the order is placed.

**SPECIAL MIXING SYSTEM WITH 550° LIBERTAS SURGE TANK**

A special mixing system with 550° Libertas Surge Tank is available for specific customer requirements.
**BULK GAS MIXING SYSTEMS**

**MODELS**

- 6105, 6205
- 8105, 8205
- 8305, 8405

---

**SPECIFICATION SHEET 113**

**INSTRUMENT CORPORATION**

P.O. BOX 309 • LA PORTE, INDIANA 46352 U.S.A.

PHONE (219) 362-6258   FAX (219) 324-3508

**Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory.**

**QUALITY ASSURANCE**

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory.

**TEST**

Each gas mixer is tested for 24 hours on the process gases at required pressure conditions to assure gas mixture accuracy and reliability.

**THE THERMCO QUALITY ASSURANCE**

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory.

**Gas Mixer Model Number System**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Gas Mixer % Range</th>
<th>Gas</th>
<th>Signal Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>6105, 6205</td>
<td>0-50% CO₂ in Argon</td>
<td>CO₂</td>
<td>4-20 mA, proportional to gas analysis range selected</td>
</tr>
<tr>
<td>8105, 8205</td>
<td>0-50% CO₂ in Argon</td>
<td>CO₂</td>
<td>4-20 mA, proportional to gas analysis range selected</td>
</tr>
<tr>
<td>8305, 8405</td>
<td>0-50% CO₂ in Argon</td>
<td>CO₂</td>
<td>4-20 mA, proportional to gas analysis range selected</td>
</tr>
</tbody>
</table>

**Gas Analyzer**

**Principle of Operation**

Thermal conductivity manufacturered by Thermco.

**Range**

The range of the analyzer will be the same as on the gas mixer, except for the 0-30% CO₂ in argon gas mixer, which has an analyzer range of 0-50% CO₂ in argon.

**Analysis Indication**

Analog meter version, 0-11.5 on the face. Non-linear diagnostic scale. For this reason, bulk gas supply systems (not portable liquid cylinders) should be used for the major gas, and in some situations, the minor gas. Please contact the Thermco sales office for details.

**NOTICE CONCERNING SUPPLY SYSTEMS**

Improper use of this product can cause death, serious injury, or property damage. Professional dealing with this equipment should become familiar with the alarm system and with the alarm system's acceptable temperature range.

**SPECIFICATIONS**

**GENERAL SPECIFICATIONS**

**Flow Capacity**

<table>
<thead>
<tr>
<th>Volume (SCFH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2000</td>
</tr>
<tr>
<td>0-5000</td>
</tr>
<tr>
<td>0-10,000</td>
</tr>
<tr>
<td>0-20,000</td>
</tr>
</tbody>
</table>

**Input Pressure**

<table>
<thead>
<tr>
<th>Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-50 PSIG</td>
</tr>
<tr>
<td>100-125 PSIG</td>
</tr>
<tr>
<td>120-145 PSIG</td>
</tr>
<tr>
<td>100-125 PSIG</td>
</tr>
</tbody>
</table>

**Output Pressure**

<table>
<thead>
<tr>
<th>Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-155 PSIG</td>
</tr>
<tr>
<td>1-250 PSIG</td>
</tr>
</tbody>
</table>

**Voltage Range**

<table>
<thead>
<tr>
<th>Voltage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>300V to 480V</td>
</tr>
</tbody>
</table>

**Temperature Range**

<table>
<thead>
<tr>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Models: 32°F to 104°F (0°C to 40°C)</td>
</tr>
</tbody>
</table>

**Gas Mixture Accuracy**

<table>
<thead>
<tr>
<th>% Range</th>
<th>Gas</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-50%</td>
<td>CO₂</td>
<td>±4% of full range over 32°F to 104°F (0°C to 40°C)</td>
</tr>
<tr>
<td></td>
<td>CO₂</td>
<td>±2% of full range over 60°F to 80°F (15°C to 27°C)</td>
</tr>
</tbody>
</table>

**Gas Connection and Pipe Size**

For models 6105, 6205, 8105, 8205, 8305, 8405, and 8105, 8205, 8305, 8405, use pipe size 2” for major and minor gases. For all other models control accessories, use pipe size 2” for major and minor gases.

**Subar Tank**

30 gallon for Models 6105, 8105; 36 gallon for Models 8205, 8405; 125 gallon for Models 6105, 8105; and 220 gallon for Models 6205, 8205. Air and nitrogen cylinders must be reduced to the specified pressure before entering the gas mixing systems to prevent the possibility of equipment damage and personal injury.

**Power Requirements**

115 Vac, 50/60 Hz, 1.1 amp. Accepts voltage range 101-126 VAC. 0-250 VAC. 10-50 PSIG (0.7-3.4 barg) for models 6105, 6205, 8105, 8205.

**Gas Pressure**

<table>
<thead>
<tr>
<th>Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-204-240 VAC</td>
</tr>
<tr>
<td>115 VAC, 50/60 Hz, 1.1 amp. Acceptable voltage range 104-126 VAC.</td>
</tr>
</tbody>
</table>

**Thermal Conductivity**

CO₂/argon.

**Temperature Range**

<table>
<thead>
<tr>
<th>Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor Models: 32°F to 104°F (0°C to 40°C)</td>
</tr>
</tbody>
</table>

**NORMAL SUPPLY GAS INLET PRESSURE RANGE**

<table>
<thead>
<tr>
<th>Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>6305, 6405, 8305, 8405</td>
</tr>
</tbody>
</table>

**NORMAL MIXED OUTLET PRESSURE RANGE**

<table>
<thead>
<tr>
<th>Pressure Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>6305, 6405, 8305, 8405</td>
</tr>
</tbody>
</table>

**FLOw Capacities**

<table>
<thead>
<tr>
<th>Flow Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-30% CO₂ in Ar</td>
</tr>
</tbody>
</table>
GENERAL SPECIFICATIONS

GAS MIXER Accuracy
±0.5% of full-range setpoint or ±0.5 SCFH (0-268 Nm³/h) flow rate

GENERAL GAS REQUIREMENTS

115 VAC, 50/60 Hz, 1.1 amp. Acceptable voltage range 104-126 VAC.

POWER REQUIREMENTS

30 gallon for Models 6105, 6105; 60 gallon for Models 6205, 8205; 120 gallon for Models 6305, 6405, 8305, 8405. (Input pressures do not have to be equal.)

FLAMMABLE GAS SAFETY

Flammable, liquid or corrosive gases should not enter these gas mixing systems.

Flammable/Butane, Ethylene, Propane, or propane/air mixtures in excess of 10%.

Gas mixers are not safety interlocked with any other gas provisions. The gas mixer will demand the supply gases at the same temperature, pressure and orifice size. A copy of the instruction manual and all pressure settings and orifices. A complete data sheet is supplied with each gas mixer specifying major parts of the gas mixer.

NOTE CONCERNING SUPPLY SYSTEMS

If there are questions, please contact the Thermco sales engineer for guidance.

ORDERING INFORMATION

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number so that the correct equipment is supplied.

Example

For an indoor gas mixer, 0-2,000 SCFM, with a range of 0-0.5% Carbon Dioxide in Argon, with the alarm package, (with 115 VAC, with an input pressure range of 100-125 PSIG), the model number is 6105CA30A1100.

NOTICE CONCERNING SUPPLY SYSTEMS

Decimals (10% CO2 in argon) are shown as a full-scale analog meter, and a digital display. (example for the 0-30% CO2 in argon gas mixer, which has an ana-

GAS MIXER MODEL NUMBER SYSTEM

GAS ANALYZER

GAS MIXER MODEL NUMBER SYSTEM

The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.

Thermco gas mixers are available through many local industrial gas suppliers. Thermco gas mixers may also be ordered directly from the factory. Before ordering please generate the proper model number, to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability. The gas mixer will be tested for 24 hours on the proper model to ensure gas mixture accuracy and reliability.