Gas Blending System
Innovative, economical mixing and dilution system generates precise gas blends for analytical applications.
Blending for Process Applications

Used to create customized gaseous mixtures for analytical applications, Parker’s Gas Blending System draws from five separate pure gas sources to generate a controlled blend across a broad concentration range.

Automatic or manual dynamic mixing allows the creation of multiple gas concentrations in real time, minimizing inventory of multi-component custom gas cylinders. The use of modular sampling components provides a sophisticated, yet standardized mixing platform for specialty blend and inert gases. High precision gas blending provides an efficient and cost-effective approach for calibration and validation of analytical systems. One Parker blending system can replace expensive gas standards.

*Actual costs and potential savings will vary with location, gases used, and gas supplier.

GAS BLENDING
Applications:

Analytical Standards for Instrumentation
• Gas chromatography
• Fourier Transform Infrared (FTIR)
• Mass Spectroscopy (MS)
• Process instrumentation [GC, O₂, H₂, CO₂, moisture, CEMS, etc.]
• Automotive [welding and laser processes]

Parker’s Gas Blending System consists of a single chassis supporting up to five (5) gas streams controlled either manually (Parker IPD Volumetric Flow Controllers) or electronically (Mass Flow Controllers). The system also includes a check valve to prevent back flow, a pressure gauge, and pressure regulators to provide pressure stability.

FEATURES
• Multiple stream integration
• Volumetric and mass flow controller options
• Compact size
• Manual or remote operation
• Interfacing with analytical equipment simplified

BENEFITS
• Ability to provide a range of gas concentrations
• Variable flow control
• Fits in small areas when space is an issue
• Flexibility in operational architecture
• Analytical hardware may be mounted to the blending system or located remotely
Dilution, Calibration in Laboratories

Parker IPD’s Gas Blending System can also be used for gas dilution, varying the concentration of both pure gases and pre-blended gases. A broad range of dilution ratios (1:1 – 10,000:1 standard) allows calibration of most analyzer ranges from one cylinder of each gas type, minimizing gas costs, transport costs, and handling labor.

From higher percent to parts per billion (ppb) levels, our Gas Blending System can achieve a variable range of concentrations to exact gas standards for quick multi-point, multi-scale automatic calibrations.

TOTAL MODULARITY

Parker’s Gas Blending System is built on a Parker IntraFlow™ platform, an ISA/ANSI SP76.00.02 compliant modular sample conditioning solution that minimizes space requirements and lowers maintenance costs by allowing standardization of components. Consequently, additional gas circuits can be added later, reducing investment and protecting against obsolescence. Micro-analytical measurement sensors can also be added to enable remote monitoring through Parker Pilot Pro™, a communications interface designed to link plant process control operations and analyzer maintenance networks to facilitate critical process control decision-making.

BLEND OR DILUTE UP TO 5 GASES TO CREATE A CUSTOMIZED MIXTURE

SPECIFICATIONS

- **Inlet pressure**: 500 psig standard; higher upon request
- **Maximum outlet flow rate**: 20 slpm
- **Operational temperature**: 0°-80°C (32°-176°F)
- **Operational modes**: Manual or electronic
- **Communication protocol**: Analog, Device Net, RS-485
- **Maximum number of gases**: 5

![Image of gas cylinders and blending system](image-url)