

Dynamic Gas Blending in Food, R&D, Semiconductor and other Industrial Process Applications



The food industry, research and development laboratories, semiconductor, and many industrial processes use gas mixtures to provide the right ratios of gas sources for their applications. Mixing or diluting gases is typically done by accurately measuring and controlling each gas source so that the resulting output is achieved at a high level of precision and repeatability. While there are different ways to mix gases, KIN-TEK Analytical, Inc. has a simple and friendly solution that provides automated timed control profiles so that precise and accurate mixtures can be created.

A focus on automation, data accumulation, quantification, and NIST Traceability is essential in gas mixing for increased productivity.

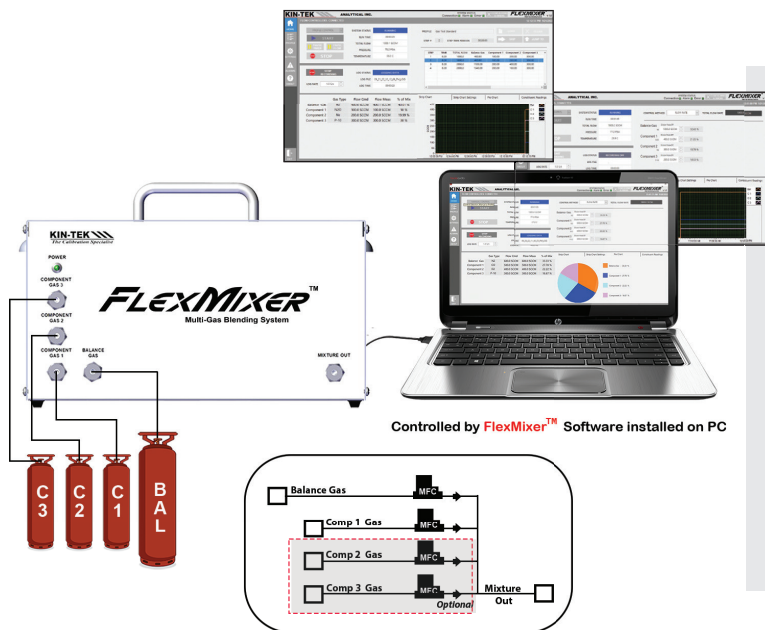
Creating Precise and Accurate Gas Mixtures

Challenge:

Controlling gases and quantifying the outcome accurately in different ratios is needed for applications that require repeatability and precision such as gas combustion, prevention of oxidation in food, testing catalysts, calibrating gas analytical equipment, and many more. Ordering premixed cylinders is not always feasible in industries where downtime or long lead times may affect production. There is also the challenge of receiving and containing a static blend that may sit in storage until it is needed. To circumvent containment of test gas mixtures, many facilities turn to dynamically creating their own gas mixtures using a combination of mass flow controllers (MFCs). There are a variety of Mass Flow Controllers designed to accurately measure flows and essentially "count" gas molecules, but other variables exist that require enhancements to make the process easier and relative to changing between gases. A focus on automation, data accumulation, quantification, and NIST Traceability is essential in gas mixing for increased productivity.

Solution:

The FlexMixer™ Multi-Gas Mixing and Dilution system combines the technology of differential pressure-based mass flow controllers with a built-in preconfigured selectable gas list and software that makes dynamic gas blending easy. Users select a desired balance gas such as Nitrogen, and determine the number of configurable gas channels they need (up to 10 total channels available). Software is provided for operation on a user supplied PC. Manual control or automated Profile control modes are available with Profile Mode allowing users to set timed run sequences manipulating gas channels for mixing sequences. Data of the sequence runs is logged and can be saved to a local file for recall. Source gases are connected via front panel ¼ inch connections and the output flow path can be stainless steel, stainless steel coated, or Teflon (inert), output flow path. Typical Balance Gas flow range is 5 slpm with 500 sccm component gas mixing channels, or upgrade to a 10 slpm Balance Gas Channel, as needed. Two FlexMixer™ Models are available. The standard model allows up to four gas channels while the expanded model allows up to ten gas channels. All FlexMixer™ systems come with a NIST Traceable Certificate related to each gas channel.



FlexMixer™ Multi-Gas Blending System by KIN-TEK Analytical, Inc.

Dynamic gas blending with the FlexMixer™ provides direct control and easily operated features that saves time when precision and accuracy is imperative. Choosing from a list of up to a 100 preconfigured gases and slots for 20 custom gas blends makes the FlexMixer™ an essential tool in the industrial gas or gas analytical industry.



Solve Your Calibration Challenges with KIN-TEK Analytical Inc. Products

The Trace Source™ Permeation Tube technology is employed in KIN-TEK's Gas Standard Generators to provide accurate, NIST traceable calibration standards. KIN-TEK's products include a range of gas standard generators and permeation devices to fit almost any application that relies on the delivery of an accurate trace gas concentration. Individual gas generator modules can operate as stand-alone calibrators or be combined into a Gas Standard Generator System configured to solve the most complex applications. The System utilizes the FlexLink™ software that can log and export data for analysis and reference.

Contact a customer service representative now and discuss your specific application.

KIN-TEK 
The Calibration Specialists

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KIN-TEK products are manufactured in a facility whose Quality Management System is certified as being in conformity with ISO 9001:2015 by Intertek.

For more information: <https://kin-tek.com/kin-tek-quality>

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