



491M MODULAR GAS STANDARDS GENERATOR

DESCRIPTION

KIN-TEK is proud to announce the development of a new, modular Gas Standards Generator, the **Model 491M**, for blending gas standards in the laboratory. A unique feature of this unit is its capability of generating concentration ranges from sub-ppb levels to over fifty percent, from pure compounds, using single step dilution. The **Model 491M** can generate gas mixtures from permeation tubes, diffusion tubes, and compressed gas cylinders. It can also humidify the gas standard or house special analyzer interface controls. The interchangeable modular features of the instrument allow the user to customize it to fit specific applications.

For low concentration mixtures, permeation tubes are used to generate a very small, precisely known flow of the component compound. This permeate flow is then mixed with a much larger flow of a matrix (or diluent) gas to form the trace concentration mixture. Using this method, concentrations from low ppb to over 1000 ppm can be prepared directly from pure compounds.

Each **491M** cabinet can house up to 3 modules in one standard 19" cabinet. One module is a "Base" module with a permeation oven, mass flowmeter for dilution flow measurement, and dilution flow controls. The other modules to select from are: 1) a module for blending high concentration mixtures (% levels) directly from a compressed gas cylinder; 2) a gas standard humidification module; 3) a module for analyzer interface controls; 4) a gas control module for converting the standard permeation oven to one which can use gas filled permeation tubes; 5) additional liquid filled permeation tube oven modules.

By adding an expansion cabinet, up to 6 modules can be combined for multi-component, multi-parameter mixture control. Each module is equipped with output signals to allow interfacing for computer readout of mixture composition.

The **491M** can be used to dilute higher concentration EPA Protocol or NIST reference standards to trace working levels. It can also use NIST Permeation Tubes. These capabilities are becoming increasingly important in meeting governmental requirements.

ECONOMIC ADVANTAGES

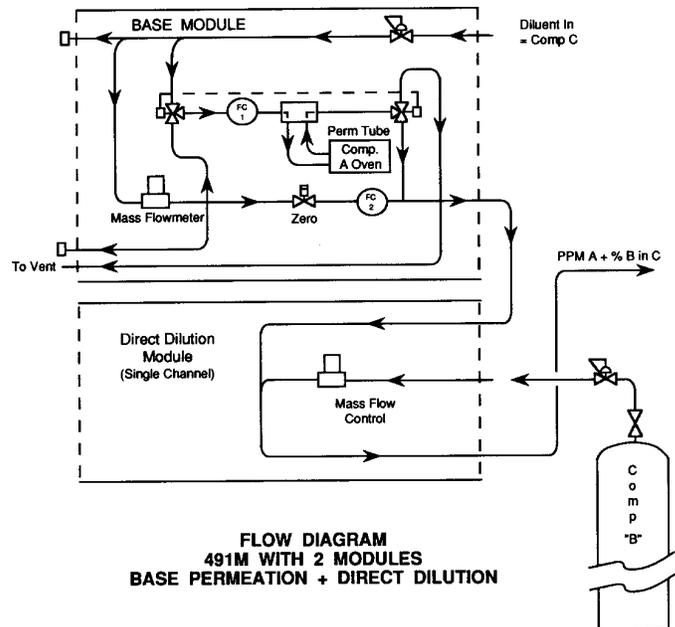
- ❖ Saves storage space
- ❖ One unit for many applications
- ❖ Saves time changing cylinders
- ❖ Saves money on calibration gases
- ❖ Reduces number of cylinders required
- ❖ Reduces record keeping/demurrage on cylinders

OPERATIONAL ADVANTAGES

- ❖ Easily customized
- ❖ Uses all blending methods
- ❖ Generates humidified mixtures
- ❖ Simulates complex process samples
- ❖ Supply high PPM mixtures of solvents
- ❖ Single unit does multiple jobs - simultaneously
- ❖ User cannot outgrow it - add modules as needed
- ❖ Delivers PPM and PPB mixtures in a variety of background gases

SAFETY ADVANTAGES

- ❖ Reduces number of changeovers
- ❖ Limits use of high pressure cylinders
- ❖ Instrument can be set up at the point of use
- ❖ Reduces quantity of each compound on hand
- ❖ When permeation tubes are used, the compound is safely sealed from accidental release



THE KIN-TEK ADVANTAGE

KIN-TEK Laboratories has been a pace-setter for the standard of excellence in gas standards in the process and laboratory industries for more than 20 years. This dynamic company knows that the accuracy and reliability of any gas analytical system (regardless of its price) depends in large measure on the quality, accuracy, and reliability of the standard used to validate that system. KIN-TEK uses only the finest materials and the utmost care in building their systems. Their Gas Standards Generators and Trace Source™ Permeation Tubes are the most accurate and reliable, low concentration gas calibration systems on the market today.

The research and development done at KIN-TEK Laboratories in the field of permeation tubes has revolutionized the low concentration gas standards industry. The refillable permeation tubes have broadened their field of application to include low concentration standards of high vapor pressure compounds such as NO, N₂O, CO, CO₂, ... etc., and low to moderate concentration standards of low vapor pressure compounds such as toluene, H₂O, HCHO...etc.

KIN-TEK manufactures a full line of gas calibration equipment and supplies for laboratory and process applications. Their stock of certified permeation tubes is the largest in the nation.

KIN-TEK 
The Calibration Specialists

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