

EcoFlex™

Permeation Tube System

Description

The **EcoFlex™ Perm Tube System** is designed for creating trace concentration gas mixtures. Mixtures are produced by diluting the miniscule flow of vapor emitted by **TraceSource™** permeation (or diffusion) tubes with a much larger flow of inert matrix gas, typically nitrogen or zero air. Mixtures contact only suitably inert materials, Teflon®, coated stainless steel, or glass. The **EcoFlex™** manual system is built on the same readily transportable platform as the microprocessor controlled **FlexStream™** system Base Module. The **EcoFlex™**, however, is a simple, stand-alone, single oven permeation system.



Operation

The **EcoFlex™** holds **TraceSource™** Permeation Tube(s) at a constant temperature and introduces a small controlled flow of dilution gas over the tube. Pure component compound vapor emitted from the permeation tube(s) mixes with this small flow to form a 'base' concentration gas mixture. This base mixture then joins a larger main dilution flow to form the final mixture. The mixture concentration is set by adjusting that main dilution flow.

Permeation tubes of various emission rates are available for over 500 compounds. By choosing a tube suited to the application, mixtures having concentration from low ppb to over 1000 ppm can be generated and the concentration can then be adjusted over a 20:1 range. A single permeation tube, for instance, might be used for concentrations from 1ppm in 250 cc/min or down to 50ppb in 5 l/min. Using the mixture immediately after preparation eliminates storage loss.

Features

- Modes of Operation: span only
- Flow path suitable for reactive gases – mixture contacts only glass, Teflon® and stainless steel (other materials available)
- Accepts disposable permeation tubes, diffusion tubes, ultra-high rate liquid filled tubes, wafer tubes, and prefilled gas fed permeation tubes
- Accepts up to 8 disposable tubes with maximum 6 inch length x ¼ inch diameter (KIN-TEK HRT, SRT and EL tubes), or
- Accepts one of KIN-TEK refillable LFH, or Prefilled 57FK
- High mass oven with electronic PID control
- Temperature Control Range: 5 °C above ambient from 20 to 150 °C (heat only)
- Temperature Set Point Resolution: 0.1 °C across control range
- Temperature Display Resolution: 0.1 °C

Features

- Standard Flow Range: 0.25-5.0 liter per minute
- Flow Control over Calibrated Range: $\leq \pm 1.5\%$ of reading
- Output Concentration Range: below 1 ppb to over 1000 ppm depending on permeation tube emission rate and dilution flow rate
- Power Requirements: Standard: 115 VAC, 2A
- Power Requirements: Optional (specified at time of purchase): 230 VAC, 1A
- Dimensions: 6 inch Width x 13.5 inch Height x 20 inch Depth (add 3.5 inch to Depth for front panel inlet filter clearance)
- Weight: Approximately 27lbs, shipping wt. 44 lbs

Features

Technical

- Trace concentration mixtures for reactive compounds
- Applicable to a wide range of compounds (over 500)
- PPM and PPB mixtures with single step dilution
- Calibration even for some reactive mixtures
- Dynamic blending + immediate use eliminates storage degradation
- Concentrations traceable to NIST (through physical variables)

Operational

- Single operation
- Easily transportable

Economic

- Save space – one unit replaces many gas cylinders
- Reduce cost of multi-point calibration

Safety

- Replaces high-pressure cylinder gas mixture
- User deals with only very small quantities of analyte compounds
- Analyte sealed in a rugged structure

Represented by:

KIN-TEK 

The Calibration Specialists

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