



## Features

- Modes of Operation: Span only
- Flow path suitable for reactive mixtures – mixture contacts only glass, Teflon®, and stainless steel (other materials are available)
- Accepts disposable permeation tubes, diffusion tubes, liquid filled refillable tubes, and prefilled gas 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 KIN-TEK refillable LFH or one Prefilled 57S gas tube.

## EcoFlex™ Permeation System

### EcoFlex™

The EcoFlex™ Permeation System is a manually operated permeation system designed for creating NIST Traceable trace concentration gas mixtures. Mixtures are produced by diluting the small flow of component gas vapor emitted from the Trace Source™ permeation (or diffusion) tube(s) with a much larger flow of inert matrix gas, typically nitrogen or zero air. The EcoFlex™ is capable of generating concentrations from low ppb to over 1000 ppm (depending on the permeation tubes). The EcoFlex™ manual system is built with the same major components used in the more advanced FlexStream™ Base Module, however, it is a simplified, non-expandable, single-oven permeation system.

### Operation

The EcoFlex™ permeation oven holds Trace Source™ permeation tubes at a constant temperature with small flow of “sweep” gas circulating across the permeation device. This small flow of gas combines with a larger dilution flow of inert gas to form the final mixture. The mixture concentration is adjusted by simply adjusting the dilution flow gas to create a full range calibration curve. The EcoFlex™ does not have internal switching valves so the flow path is simple and the unit is always in the Span position ready for calibration. Temperature adjustments and flow adjustments are made by pressing a button on the respective PID controller.

Permeation tubes of various emission rates are available for over 550 compounds to suit a variety of applications. Concentrations can be adjusted over a 20:1 range with the 5 slpm system (other flow options are available). For instance, a single permeation tube might be used for concentrations from 1 ppm in a 250 sccm dilution flow to 50 ppb in 5000 sccm dilution flow. The EcoFlex™ is an easy-to-use permeation system that provides a simple and economical solution for replacing multiple gas cylinders.

## Specifications

- High mass oven with electronic PID
- Temperature Control Range: From 5 °C above ambient to 150 °C (heat only)
- Temperature Setpoint Resolution: 0.1 °C across control range
- Temperature Display Resolution: 0.1 °C
- Standard Flow Range: 0.25-5.0 standard liters per minute
- Flow Control over Calibrated Range: < +/-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 115VAC, 2A
- Power Requirements: optional (specify at purchase) 230VAC, 1A
- Dimensions: 6" W. x 13.5" H. x 20" depth
- Weight approximately 27 lbs., shipping weight 44 lbs

## Benefits

### TECHNICAL

- Trace concentrations of reactive compounds
- Applicable to a wide range of compounds (over 550)
- 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

- Simple operation
- Easily transportable

### ECONOMIC

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

### SAFETY

- Replaces high-pressure cylinders
- User deals with very small quantities of analyte compounds
- Analyte sealed in a rugged structure

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