# ACEM 9300 Series

Thermal desorption is a two-in-one technique: sample collection/concentration and transfer to a detector. Dynatherm instruments capture compounds of interest on adsorbent material packed in glass cartridges, and then introduce the collected chemicals into a gas chromatograph, where the various components are separated, measured and identified. Thermal desorption uses heat instead of solvent extraction to release organic compounds, so there is no long extraction time and no solvent peak in the chromatogram. Two sorbent traps operate in series: the first high-capacity sorbent trap retains desired compounds from large sampling volumes; the second capillary-bore focusing trap injects the collected sample onto a capillary column in a narrow-band plug. Transferring the analytes to the focuser improves injection efficiency, since liters of flow may have been required during sampling to collect enough mass to meet the requirements of the detector. Water interference is minimized: carrier gas evaporates water vapor from the absorbent tube and vents it from the unit with no sample loss. And, Dynatherm instruments are made to facilitate remote sampling by battery-powered air sampler or direct source sampling with a mobile desorber/GC platform.

## Typical Applications

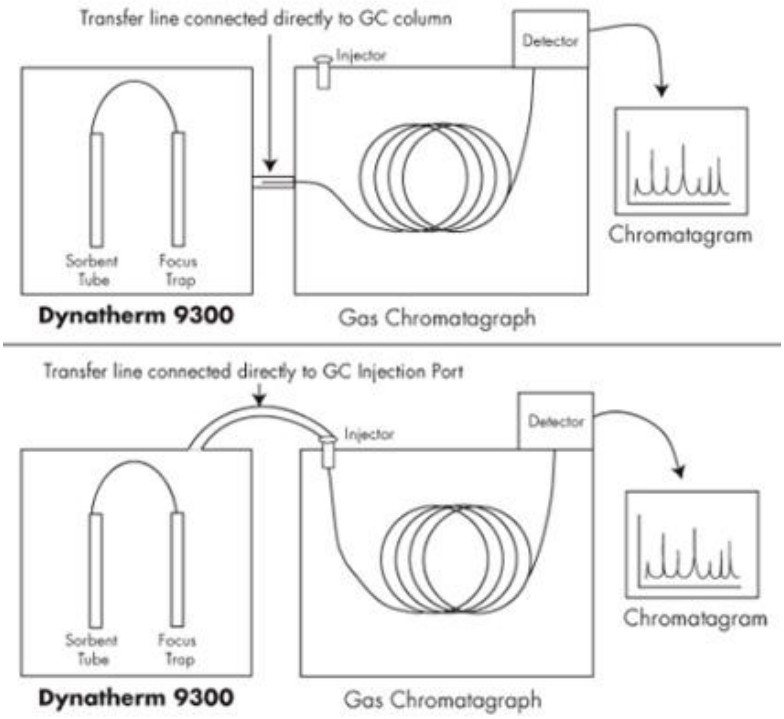
- Evaluate long-and short-term chemical exposures
- Establish safe/unsafe perimeters for hazmat incidents, remediation sites and chemical weapons demilitarization
- Support occupational safety, industrial hygiene and environmental methods
- Assess air toxins/VOCs for ambient and indoor air quality
- Food, flavor and fragrance analysis
- Out gassing and product purity evaluations

## ACEM 9300 Series

Building on the success of the 900 series ACEMs (over 600 sold to Chemical Demilitarization projects throughout the U.S.), the 9300 series offers multiple configurations of the basic thermal desorber to provide maximum flexibility. All versions include two tube chambers that accept 6, 8 or 10 mm OD tubes.

**Three Models to choose from:**

**9300 – Two stage, single tube Thermal Desorption unit**




**Product Specifications**

All models in the ACEM series have totally redesigned electronic control with plug-in handheld user interface and a direct communication interface for PC control. The flexible transfer line with Silcosteel™ liner provides direct connection to GC column for maximum sensitivity

**Other features include:**

Accuracy of heated zones ± 1°C

Tube heat rate of 1000°C/min and trap heat rate of 900°C/min

Six timed events, settable in 0.01 minute increments from 0-999.99 minutes or set off for infinite

Ability to process up to 999,999 samples then return to idle

**Dimensions:**

267 mm H x 235 mm W x 318 mm D

10.5" H x 9.25" W x 12.5" D

**Heated Zones-Temp. °C**

**Heated Zone:** Setpoint

**Valve Oven*:** Ambient to 350°C

**Transfer Line:** Ambient to 400°C

**Sample Desorb:** Ambient to 400°C

**Sample Idle:** Ambient to 400°C

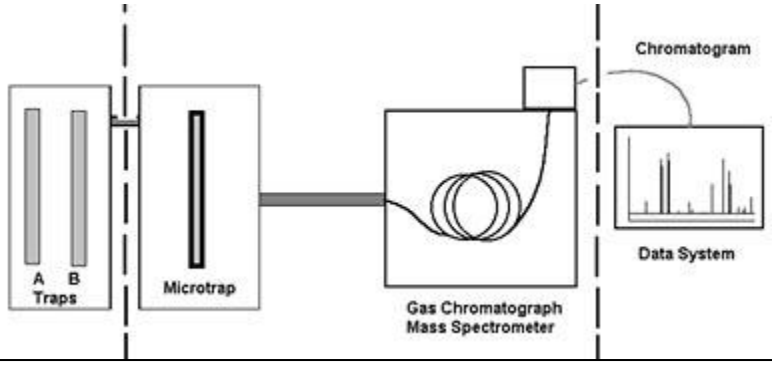
**Focus Desorb:** Ambient to 400°C

**Focus Idle:** Ambient to 400°C

*** Depending on materials of construction**

9305 – Adding a vacuum pump and a mass flow controller the unit can be used for near-real time sampling and thermal desorption as well as a single tube desorber.

9350 series – Continuous sampling with near real time analysis, the 9350 series can be modified to either use a focus trap or desorb directly to an analytical Instrument.




**Keys to Performance**

- High sampling volume permits sub-ppt detection
- Sequential trapping allows transfer to any column at any flow rate
- Low artifact background within typical operating range
- Ambient focuser temperature eliminates external cooling or cryogenic devices
- Design eliminates water interference from high humidity sampling sites
- Rapid tube heating rate for clean release of analytes (C3 to C33)