

Thermal Desorber Sampling System

An accessory for HAPSITE
Chemical Identification System



Trace Level Quantitative VOC Analysis

The Thermal Desorber Sampling System (TDSS) expands the air sampling sensitivity of the field-proven, person-portable HAPSITE ER Chemical Identification System. The accessory is easily attached to the HAPSITE ER Universal Interface for fast sample analysis utilizing the GC/MS or MS only. The TDSS allows for the collection of trace level Volatile Organic Compounds (VOCs) in multiple sampling locations for fast quantitative analysis right at the scene.

RESULTS IN MINUTES

The Thermal Desorber Sampling System is easy to use. Simply take the optional sample pump outfitted with a Thermal Desorber tube to the desired location. Sample the surrounding air for a user-determined time and flow

ADVANTAGES AT A GLANCE

- Quickly analyzes samples collected from remote locations
- Intrinsically safe sampling pump – samples can be collected in potentially explosive environments
- Optional person-portable sample pump can be worn for breathing zone monitoring
- TD Survey – analytes can be sent directly to the MS, by-passing the GC, for chemical identification in minutes
- Sample pump can be programmed to draw samples for a user-defined period of time
- TD Quantitative methods included on HAPSITE ER
- Sampling pump volume can be set from 20-500 ml/min



Thermal Desorber connected to the HAPSITE ER universal interface

rate. Remove the tube from the pump and insert it into the Thermal Desorber accessory for quick, accurate analysis in minutes. Results are easily retrieved from HAPSITE ER through simple front panel or laptop operation.

Not only is the TDSS analysis fast, but multiple sampling pumps can be used to collect samples from several locations at the same time, including “hot zones” and other strategic spots. More areas can be sampled in less time, providing maximum opportunity to survey the scene and take action. Plus, the sample pump is intrinsically safe, allowing for samples to be collected in potentially explosive environments and brought back to HAPSITE for analysis.



HOW IT WORKS

Controlled through HAPSITE ER IQ software, the Thermal Desorber heats the sample and desorbs the analytes

off the TD tube. Using nitrogen supplied by HAPSITE ER, analytes are carried into the system's sample pathway for analysis. The sample is either desorbed on the concentrator for GC/MS analysis, or sent directly to the mass spectrometer for fast survey analysis. Results are quickly and clearly shown on the bright, graphical HAPSITE ER front panel display. For added flexibility, custom quantitative methods can be created for analytes of particular interest.

Once the analytes are desorbed, the desorber tube can be reused, saving on costly replacement. To eliminate the demand for external consumables, the Thermal Desorber is designed to acquire nitrogen and power from HAPSITE ER.



Simply load the tube into the Thermal Desorber for quick analysis

SPECIFICATIONS

THERMAL DESORBER

Dimensions (L x W x D)	19.1 x 9.1 x 7.4 cm (7.5 x 3.6 x 2.9 in.)
Weight	0.54 kg (1.2 lb.)
Operating temperature	5–45°C, 0–95% relative humidity (non-condensing)
Analytical interface	HAPSITE ER Universal Interface
Instrument compatibility	HAPSITE ER, only
Power requirement (from HAPSITE ER)	24 V (dc); NiMH battery
Battery life (HAPSITE ER + Thermal Desorber)	1–1.5 hours
Carrier gas	High purity nitrogen, supplied by HAPSITE ER
Operation	Thermal Desorber accessory controlled by HAPSITE ER IQ software
Methods	Quantitative GC/MS methods
Calibration standard	HAPSITE Internal Standard introduction capability
Thermal desorption tubes	Glass, fritted 6.35 mm (0.25 in.) O.D. x 89 mm (3.5 in.) long Preconditioned and stored in a sealed storage container Adsorbents: Single and multi-bed Tenax® and Carbon adsorbents Sampling flow rate, typical range 10–200 ml/min.
Thermal desorption parameters	Temperature range, 40–330°C Temperature ramp, 1.0–1.5°C/sec Nitrogen carrier gas flow, 20 ml/min.
Safety	LED indicator: Green: Thermal Desorption tube is <50°C and can be safely removed Red (flashing): Thermal Desorption tube is heated, >50°C, and must not be removed Thermal Desorber housing <80°C
Detection limits	Parts Per Trillion (PPT) for most analytes

THERMAL DESORBER SAMPLING PUMP (OPTIONAL)

Intrinsically safe	Yes
Dimensions (L x W x D)	8.1 x 9.7 x 3.8 cm (3.2 x 3.8 x 1.5 in.)
Weight	0.235 kg (0.5 lb.)
Flow rate	20–500 ml/min
Flow control accuracy	±5% set-point in constant flow mode after calibration
Type run time	20+ hrs at 500 ml/min up to 20 in. water back pressure*, extended run times available with charger (Please note: *Tested using 37-mm 0.8 µm MCE filter with new pump and battery. Pump performance may vary.)
Charge time	≤10 hr. (≤4.5 hr. to 80%) (Please note: varies with battery capacity and level of discharge)
Operating temperature	0 – 45°C



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Due to our continuing program of product improvements, specifications are subject to change without notice.
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