

Highest sensitivity collection and identification  
from the safety of your vehicle



## HAPSITE® Viper

Immediate Characterization During  
Chemical Agent Reconnaissance

# More confidence in your decisions.

## **MORE SPEED, PRECISION AND POWER.**

**HAPSITE Viper detects unknowns in the ppb and ppt range with unique microtrap concentrator.**

In an environment where the enemy is constantly increasing his knowledge base, HAPSITE Viper helps you respond more effectively with immediate and accurate on-site results to help guide your decisions regarding troop movements, vehicle deployment, and civilian safety.

HAPSITE® Viper Chemical Identification System from INFICON is seamlessly integrated into your military reconnaissance vehicle. It's a state-of-the-art gas chromatograph/mass spectrometer (GC/MS) that allows personnel to avoid direct exposure while sampling semi-volatile and volatile chemical warfare agents. Instead, samples are taken from the vehicle via the HAPSITE 267 Surface Sampler. GC/MS is the benchmark for accurate identification of organic chemicals, and the HAPSITE Viper is the most powerful you can find for military use.

## **DETECT MORE COMPOUNDS, MORE SAFELY, MORE ACCURATELY.**

The unique FlexArm enables you to position the vehicle over or near the sample area. You simply deploy the lift system on the Surface Sampler, lowering it to within a centimeter of the substrate you're analyzing. Then a carefully controlled IR heater "flashes" the substrate and draws from the air above the heated area, allowing the collection of chemicals from a wide variety of ground conditions (concrete, asphalt, sand, gravel, soil, and wet surfaces). HAPSITE Viper will detect and analyze VOCs (volatile organic compounds), SVOCs (semi-volatile organic compounds), TICs (toxic industrial chemicals), TIMs (toxic industrial materials), and low vapor pressure chemical warfare agents (CWAs), like HD and VX.

## **THE FLEXIBILITY TO ANALYZE NOW OR LATER.**

The Viper Control Box is vital to the HAPSITE Viper Sampling System, allowing you to collect samples for either immediate or for future analysis. For immediate results, the sample follows a path through the heated capillary line from the Surface Sampler to the control box, then to the Analytical

## **FEATURES AT A GLANCE**

- The only GC/MS to perform both vehicle-based and person-portable chemical reconnaissance
- Unique, all-terrain 267 Surface Sampler to detect low vapor pressure chemicals such as HD and VX, as well as most semi-volatiles
- Fast, confirmatory results in the field comparable to lab GC/MS data
- Detects unknowns in the ppb and ppt range with unique microtrap concentrator
- Prioritizes compounds by hazard level and provides rapid access to NIOSH MSDS for better decision making
- Simple, fast operation through touch screen display and icon-driven menus
- Easy integration into any vehicle central control system
- Fast data transfer with Ethernet communications, wireless 802.11, and USB memory stick capability for data backup/retrieval/storage of AMDIS and NIST data evaluation
- Built-in GPS records exact sampling location with date/time stamp for legally defensible data when used in person-portable mode
- Fits into tight spaces, with bright display for all lighting conditions
- Weather-resistant and easy to decontaminate

Module. For future confirmatory analysis, the Sample Pump will pull the sample to the Sample Collection Tube housed on the outside of the Control Box.

## **SMALLER. LIGHTER. EASILY INTEGRATES WITH VEHICLE CONTROLS.**

The communication protocol is easily integrated into any vehicle's central control system, to give you complete analysis results such as chromatograms, spectra, quantitative data, and library search results—all on a bright, clearly visible

visible screen in daylight or darkness. And adding still more flexibility, all front panel functions and displays on the HAPSITE Viper can be displayed and managed remotely through 802.11 wireless capability—in English, German, Chinese, and Japanese—providing instrument control of all software and instrument panels.

**WHERE YOUR VEHICLE CAN'T GO, HAPSITE VIPER CAN.**

The HAPSITE Viper is the only vehicle-based GC/MS that can be easily dismantled for person-portable mission reconnaissance. In areas inaccessible by vehicle, simply detach the HAPSITE Viper, switch to portable mode, and collect samples of volatile TICs and CWAs for immediate on-site analysis, as opposed to sending samples back to the lab. Its faster collection limits personnel exposure to the absolute minimum while giving you extremely accurate analysis for informed decisions.

**FOCUSED TRAINING GETS YOU USING HAPSITE VIPER QUICKLY**

A comprehensive two-day training will enable you to become proficient on the software and operation of HAPSITE Viper. For experienced HAPSITE users, a one-day training class covers software enhancements and special features of the HAPSITE Viper system.

**THE ULTIMATE FLEXIBILITY FOR IMMEDIATE RESULTS WHEN LIVES ARE IN DANGER.**

When lives are on the line and every minute counts—HAPSITE Viper can be your greatest ally. Use it in the vehicle, or dismount it to get results the way you want them, for analysis now or later - it's the ultimate in flexibility for battlefield scenarios. Mounted in your vehicle, it faces the challenges of a very smart enemy by making you even smarter.

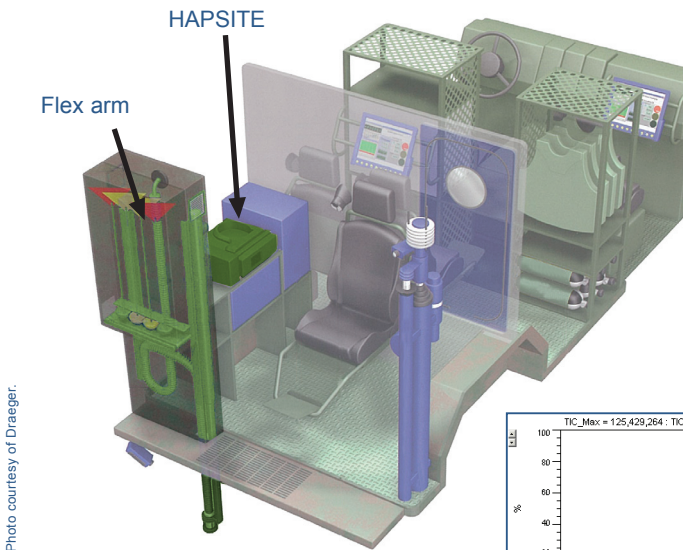
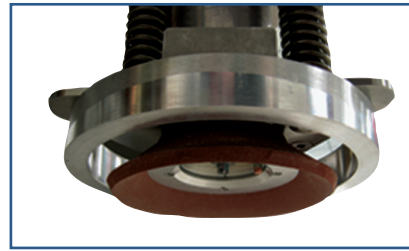
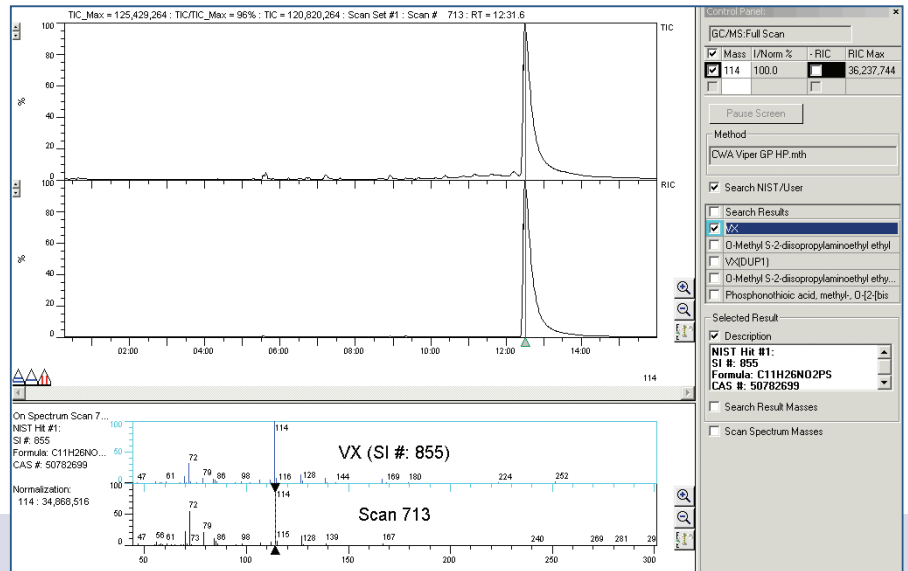


Photo courtesy of Draeger.

HAPSITE Viper Chemical Identification System and 267 Surface Sampler mounted conveniently in a new, light NBC reconnaissance vehicle.



Unique, all-terrain 267 Surface Sampler detects low vapor pressure chemicals such as HD and VX, as well as most semi-volatiles.



VX chemical warfare agent detection using the HAPSITE Viper Chemical Identification System and 267 Surface Sampler.

## SPECIFICATIONS

<b>HAPSITE Viper System</b>	(Includes AM on isolation cradle, Control Box, Transfer Line, Flex Arm, External Sample Probe)
Power Requirements	24 V(dc) +/-2%, 250 mV ripple, 80 watts maximum, 500 Watts Flex Arm/Control Box
Storage Temperature	-30°C to 70°C
Carrier Gas	Nitrogen (outfitted with Extended Life Carrier Gas Deployment Kit – 110L)
Exhaust	External exhaust capability
Limits of Detection	LOD: 1.5 nanograms VX/cm <sup>2</sup> * Limit of Identification: 5 nanograms VX/cm <sup>2</sup> * Detects most VOCs with boiling points <300°C
Sample Type	VOCs and selected SVOCs
<b>Analytical Module (AM)</b>	
Operating Temperature	5°C to 45°C
L x W x H	18" x 17" x 7" (46 cm x 43 cm x 18 cm)
Weight	Approximately 42 lbs (19 Kg) with battery
Power Requirement	24 V(dc) +/-2%, 250 mV ripple, 80 watts maximum
Solid State Data Storage	16 GB
Flash Drive	USB
Display	6.5" VGA color display with touch screen
Sample Introduction	External Sample Probe
Data System	Intel® Pentium® processor
Communication	802.11G wireless or direct Ethernet connection
Data Analysis	AMDIS Mass Spectral Libraries, NIOSH, (NIST on optional laptop)
<b>Mass Spectrometer</b>	
Mass Range	41-300 AMU (1-300 AMU using SIM)
Scan Rate	1000 AMU/sec @ 10 points per AMU
Ionization Mode	70 eV Electron Impact
Detector	Electron Multiplier
Vacuum System	Non-evaporative getter (NEG) pump
Dynamic Range	7 decades
<b>Gas Chromatograph</b>	
Temperature Range	45°C-200°C
GC Column	15 M, Rtx-5MS, 0.25 mm i.d., 1.0 um df (included)
<b>Control Box and Transfer Line</b>	
(Installed in internally protected area)	
Operating Temperature	5°C to 45°C
L x W x H	
External Sample Collection Tube	¼" o.d. x 3.5" length
Decontamination	No
Shock and Vibration	810F mil spec
Length of Transfer Line	~ 1 meter
<b>Flex Arm and External Sample Probe</b>	
Operating Temperature	110°C (250°C maximum as per customer specification)
Vertical Range of Motion	1.4 meter (standard)
Weight	Approximately 33 lbs (15 Kg)
Replacement Items	Inlet filter, ground skirt, quartz window
Decontamination	NATO AEP-7 rev 4
Sampling Conditions	All-weather analysis on hard surfaces
Temperature	-40°C to 50°C

\* On tile surface

**DETECT TO PROTECT™**



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