

SCENTROID

FUTURE OF
SENSORY
TECHNOLOGY

DR1000 FLYING LABORATORY

Environmental
Monitoring
System



70 Innovator Avenue, unit 7
Stouffville, ON, L4A 0Y2



416-479-0078
1-888-988-IDES (4337)



info@scentroid.com
www.scentroid.com



FLYING LAB. DR1000

PRODUCT SPECIFICATIONS

The Scentroid DR1000 flying laboratory provides continuous monitoring of multiple chemicals. While in flight, five built-in chemical sensors can provide remote monitoring of chemicals selected at the time of ordering. Chemical monitoring can be provided for H₂S, CH₄, CO₂, SO₂, VOCs, and close to 30 other selected chemicals. Chemical readings along with GPS position and altitude can provide 3D mapping of ambient pollution and odour levels.

Model
Scentroid Flying Laboratory DR1000

Detected gases (with the use of optional sensors)
H₂S, NH₂, SO₂, CO₂, CO, CL, C₂H₄, H, HCl, HCN, NH₃, O₃, NO₂, PH₃, H₂S, O₂, SO₂, CH₄, NO, VOCs and more.

Maximum Operating Time
2.5 hours with full battery charge

Time to Fill Sample Bag
5 seconds per liter

Communication protocol
GPRS, 3G/4G, LAN, Cloud Based Hosting

Height Capabilities
150 meters above ground level

Dimensions/weight upon installation
26cm x 16cm x 18cm, 3410g

Recommended Drone
DJI S1000 and DJI MATRICE 600
Any rotary wings or fixed wing drone

Applications Include Monitoring of...
Fugitive emissions (can be visually confirmed with installing an optional thermal camera)
Flare emissions
Leak detection along oil pipelines
Landfill methane and odour emission
Stack compliance
Dust particles (with dust sensor equipped)

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Perfect for Aerial Sensor Data Collection!

The Scentroid DR1000 can be used to sample and analyze ambient air at heights of up to 150 meters above ground level that was previously impossible to accomplish. Air quality mapping, model verification, and analysis of potentially dangerous sites are all made possible!

- #### Air Sampling Capability over Difficult Terrain and at Different Altitudes

It is often necessary to sample stacks, ponds, and other location where human access is difficult and /or dangerous. Furthermore, operator exposure to dangerous chemicals during sampling must be carefully considered. The Scentroid DR1000 flying laboratory allows the operator to stay safely away from potentially hazardous sources while acquiring the required air sample for laboratory analysis. The sampling drone can also be used to sample ambient air at an elevation of up to 150 meters above ground level that was previously impossible to accomplish.

- #### Communication

DR1000 will come with simultaneous GPRS and WIFI communication capabilities. The GPRS is used to send data to our new cloud server based Drone Information Management System (DRIMS). The secure online system will allow you to remotely monitor and even control the flying laboratory as well as store and process the data collected. The Drone also connects to the ground station using WIFI communication protocol. Both Ground station and Cloud based servers run DRIMS software and simultaneously can log data from multiple DR1000 drones.

- #### Ground Station

The Ground station that is included with every DR1000 Flying Laboratory consist of a specialized laptop with pre-installed Ubuntu and Windows 10 operating systems, high gain powerful WIFI antenna, and DRIMS software. DRIMS (Drone Information Management Software) is provides the user with means to control the flying laboratory and log all acquired data. DRIMS will provide both live data as well as all historical data for all sensors plus GPS position, Altitude, Temperature, and humidity. The user can also command the drone when to take the sample, select the sampling interval, adjust sampling rate, and perform routine maintenance such as calibration of sensors. The laptop will be dual boot and can be used for other work including mapping the data in a GIS software, viewing path on Google Earth, analyzing in Excel, or any other task.