

# Stratos-HSSD 2

...the ultimate in high sensitivity aspirating smoke detection

AiSense crosses a new horizon with its award winning Stratos-HSSD<sup>®</sup> High Sensitivity Smoke Detection system.

The team behind the Stratos-HSSD-2 system has almost 200 years experience in the field of aspirating High Sensitivity Smoke Detection systems. This unparalleled depth of experience has been drawn upon to pro-

vide the Stratos-HSSD series 2 system. Stratos-HSSD embodies many unique features to maximise performance and increase reliability compared to other aspirating detection systems. Stratos-HSSD is recognised as being easily the most sensitive laser based system available, but coupled to the unique ClassiFire-3D<sup>®</sup> Artificial Intelligence (AI) process, this

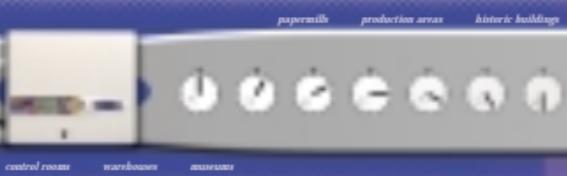
need not mean a high rate of nuisance alarms. Stratos-HSSD is the only optical high sensitivity system which is routinely applied to the protection of very dirty and dusty environments. This is achieved by combining Laser Dust Discrimination (LDD™) with a patented dual management bypass and separation system. At the other extreme, Stratos-HSSD is

capable of providing the very highest levels of sensitivity in environments such as computer areas and clean rooms. In these applications it is able to give warning to the very slightest trace of smoke. Stratos-HSSD is fully capable of reacting to true INCORRECT fire situations, thereby preventing damage. Stratos-HSSD provides the EARLIEST warning.



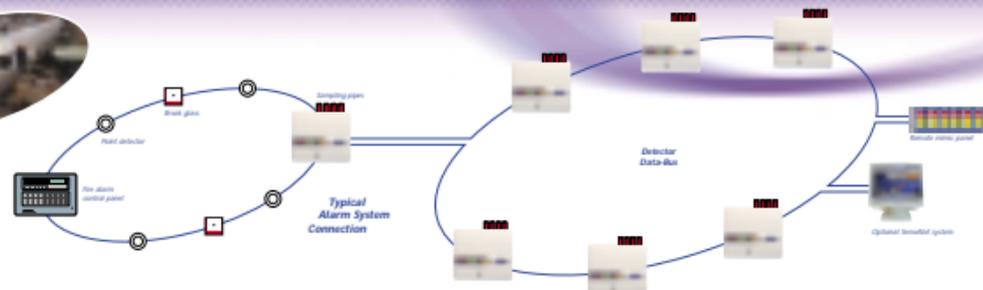
#### ClassiFire-3D Artificial Intelligence

Stratos-HSSD-2 incorporates the unique ClassiFire-3D system, providing information on particle size. This allows greater information on the type of incident fire situation... Select the appropriate response for flaming or smouldering situations.



control rooms warehouses museums

papermills production areas historic buildings



## ClassiFire-3D<sup>®</sup> - Artificial Intelligence

Real time viewing



#### View ClassiFire-3D Artificial Intelligence in real-time

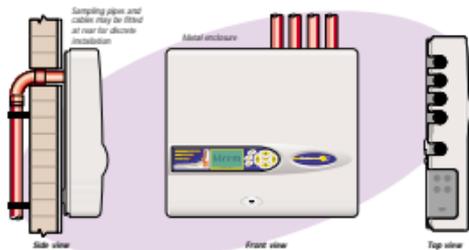
All Stratos detectors are supplied with PC Remote Software, permitting easy system configuration, viewing of event log, diagnostic checking of system and the ability to view ClassiFire Artificial Intelligence in real-time.

#### ClassiFire-3D<sup>®</sup> - Maximising Sensitivity without nuisance alarms

ClassiFire-3D<sup>®</sup> is a unique patented 'Artificial Intelligence' (AI) system which enables Stratos detectors to condition themselves to suit the environment in which they are installed. Until the advent of ClassiFire, the setting of high sensitivity smoke detection systems was at best a hit or miss procedure, based largely upon the installers estimation of 'normal' smoke density. ClassiFire has revolutionised the setting of High Sensitivity Systems, taking guesswork out of the equation and simplifying system set-up. ClassiFire uses a dedicated microprocessor to continuously manipulate data and adjust the sensitivity of the system for a simply defined level of performance. ClassiFire discriminates between 'dirty' and 'clean' operating periods such as day and night, automatically substituting appropriate system sensitivity without the need for external input or adjustment. The system literally 'thinks' for itself, even to the degree that the system will not be fooled by clock changes or prolonged holiday shut-down periods. ClassiFire ensures that Stratos-HSSD operates at maximum sensitivity to give warning of problems earlier than previously considered possible. ClassiFire is the most comprehensive intelligence found in any smoke detection system to date... so sophisticated, that its invention was considered significant enough to allow AiSense Technology to be the first and only fire detection company to win the coveted Queen's Award for Technological Achievement.



It first for the Fire Detection Industry The Queen's Award is the highest accolade that can be bestowed on a UK business for technological achievement.



STRATOS-HSSD 2 SPECIFICATION	
Supply Voltage	24 VV - 26 VV DC
Size	437W x 372H x 95D
Weight	5.3kg
Operating temperature range	-10 to +40°C
Operating humidity range	0 - 90% Non Condensing
Sensitivity range (Detective)	Min = 25%, Max = 0.001% FSD
Maximum sensitivity resolution	0.0015% obsrv
Detection principle	Laser light scattering mass detection & particle evaluation
Particle sensitivity range	0.001µg to 1µg
Dust discrimination principle	3D Laser Dust Discrimination (LDD)
Current consumption	400mA @ 24V DC
Sampling pipe maxima	250m @ 90 sampling holes - 200m @ 100 sampling holes
Sampling pipe inlets	4 on top and 4 at rear
Sampling pipe outlets	1 on top and 1 at rear
Sampling pipe internal diameter	15-25mm
Alarm level	4 Giga 2, Fm 1, Fm4km and Aux
Alarm sensitivity range	0.001% - 25% obsrv
Alarm segments	2k
Chamber service intervals	greater than 8 years (dependent on environment)
Dust separator replacement intervals	Dependent on environment
Laser lifetime (MTTF)	greater than 1000 years
Apigator lifetime	greater than 10 years
Programming	front panel or PC via RS232/RS485
Data loop cable	RS485 data cable
Data loop maximum length	1,200m in 1,200m out
IP rating	IP66
Supported languages on internal programmer	Czech, Dutch, English, Estonian, Finnish, French, German, Hungarian, Italian, Norwegian, Spanish, Swedish

### Unique Laser Detection

Providing combined mass detection and particle counting



The detection principle used in the Stratos-HSSD-2 system is a patented laser forward scatter system. A powerful semiconductor laser is directed through an aperture in a specially designed reflector. Any combustion products present in the moving air sample will scatter a cone of

light onto the reflector and from there it is focused onto a single photo-receiver. This system has several advantages, including inherent immunity to dust/dirt build-up, high signal to noise level and resistance to problems caused by vibration and high humidity. The signal from the

detection transducer is processed by the unique ClassFire-3D Artificial Intelligence system. This system uses a patented 'vestigale' system which bypasses the majority of sampled air, maximising service life and permitting operation in diverse environments.



The Queen's Awards are the highest accolades that can be bestowed on a UK business. Recognised as the gold standard of corporate achievement, and awarded only to those with a proven record of excellence. It is the award that every business wants to win. IPRR was the first ever Queen's Award for Technological Achievement with a fire detection product. That product was the Stratos-HSSD2 alerting smoke detection system.

Over 12,000 applications worldwide...

- UK
- Canada
- USA
- Russia
- China
- Malaysia
- Netherlands
- Norway
- Iceland
- Sweden
- South Africa
- Australia
- New Zealand
- Argentina
- Chile
- Mexico
- Namibia
- India
- Spain
- France
- Portugal
- Italy
- Greece
- Singapore
- Brazil
- Belgium
- Germany
- Austria
- Hungary
- Switzerland
- Romania
- Denmark
- Turkey
- Egypt
- Oman
- Zimbabwe
- Peru
- Poland
- Taiwan
- UAE
- Dubai
- Jordan
- Papua New Guinea
- Vietnam
- Thailand
- Laos
- Korea
- Pakistan
- Myanmar
- Seychelles
- Tanzania



In line with continuous product we reserve the right to modify or update specifications without notice. Stratos-HSSD-2, SenseNet, AirSense, ClassFire and FastScan are trade marks. HSSD is a Registered trademark.

# Stratos-HSSD 2



High Sensitivity  
Smoke Detection

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See the design team online



THE QUEEN'S AWARD  
FOR TECHNOLOGICAL  
ACHIEVEMENT