



Data Sheet

FGDS-ASP1000

Aspirator Systems

Flammable, Toxic Gas and Smoke Aspirator Systems

Introduction

Aspirator systems are used to detect Flammable Gas, Toxic Gas & Smoke in applications which are not suitable for point detection.

FGDS manufacture gas aspirator systems for use in hazardous areas and provide custom built solutions for a wide variety of applications including offshore oil and gas, petrochemical, chemical, and refining industries.

Our aspirators are engineered to allow ease of maintenance and utilise whenever possible standard components, these systems can be supplied with any manufacturer's gas or smoke detector, fully certified and constructed in accordance with ATEX regulations.

Features:

- Modular design allows 1-5 channel systems to be custom built.
- Smoke, toxic and flammable gas detectors, both catalytic and infra-red point can be fitted.
- Constant pressure and standard vacuum models can be mixed in one cabinet
- Powerful Eductor allows samples to be drawn from negative pressure areas.
- IS low flow alarms monitor for sample line blockages.
- Sample line purge and calibration gas switches for each channel.
- Compressed air operation allows siting in area Zones 1 and 2.
- Aspirator internals constructed of hydrogen sulphide resistant materials.

Applications include monitoring for:

- Ingress of flammable gas, toxic gas and smoke in to pressurised ducts.
- Flammable & Toxic gas build up in confined spaces.
- Protection of temporary refuges.
- Flammable gas entering air intakes and ventilation exhausts of gas turbines.
- Flammable gases in moonpool areas and turret spaces in FPSO's and drilling vessels.
- Hydrocarbon break-through in nitrogen blanketed expansion tanks.
- Flammable & toxic gases in sub-sea depressurisation tanks & crude oil storage tanks.
- Gas build up beneath gas tight floors.
- Gas build up in cargo holds & ballast tanks of ships.

Fire & Gas Detection Solutions



Application

Aspirators (sampling systems) provide a solution to the complex problem of accurately monitoring gas and/or smoke ingress into areas where it is not practical, possible or safe to position a detector directly, and even where there is no instrument air.

FGDS Aspirator Systems can be used with any manufacturer's gas or smoke detection products. Each aspirator cabinet is custom built using our own design "Aspirating Block" and other standard component parts.

Combustible and toxic gas as well as smoke detectors can be mixed in one cabinet.

Self-Compensating Duct Probes can be supplied providing an accurate representation of any duct being monitored.

Aspirator System Principle

The Aspirator systems are made from components engineered by FGDS to meet the requirements of the application to proven specifications, the systems can accommodate Flammable, Toxic/Oxygen Gas Detectors and smoke detector all on a single loop.

Self-compensation and back purgeable Duct Probes are supplied to withdraw an accurate sample of the target gas to be monitored, the sample being measured is pulled under a vacuum created by an air driven pump (Eductor).

Flow rates are controlled by an integral needle valve with the velocity being indicated on a flow meter, the sample is passed across the sensor and then exhausted, along with instrument air, via the exhaust port.

Sample lines can be cleared by pressing the line purge button, diverting instrument air down the sample line.

Calibration of the gas sensor is carried out via a failsafe valve and a quick connect coupling.

Technical Data:

Instrument Air Pressure:	15-150psi
Regulator:	0-4 Bar
Instrument Air Consumption:	1.0LPM/Channel @ 100psi
Response Time:	0.25 to 0.75 sec/m of sample line, depending on detector type.
Cabinet Material:	Stainless Steel or GRP

Fire & Gas Detection Solutions