The **LAS-10** system from DASPOS
measures oil sprays in the air
as well as the gasses from the oil
that may develop into a fire

DASPOS LAS-10

LAS-10 - Leakage Alarm System

Atmospheric oil mist and hydrocarbon detection –
Early warning system...

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Your challenges

Each year, there are several hundred fires recorded aboard merchant ships; 63% occur in the engine room, and the majority of these are caused by oil leakages. On-board fires are both costly and dangerous– crew and passengers have no way of escaping, and repair costs and off-hire can lead to substantial financial losses.

Leakages from broken pipes, valves, gaskets, seals, welding fractures, or the like often occur in high-pressure oil systems during initial failure conditions. These conditions can lead to rapid and comprehensive generation of airborne oil mists and/or hydrocarbon gasses, which - if these leakages are not detected in time - always result in pollution, explosion, or fire.

Our solutions

DASPOS A/S specializes in durable fire protection solutions to meet demands within the maritime industry, which has resulted in the Leakage Alarm System, LAS-10 - an atmospheric oil mist- and hydrocarbon detection system for the open engine room.

Our product

LAS-10 has been developed as a fire prevention initiative and helps to secure the open engine room against the risk of fires caused by oil leakages. Unlike traditional products that only passively detect fires after ignition, LAS-10 actively detect fires before they occur and warns the crew!

Our dual detection technology is based on channeling very large air flows through a detection chamber and a specially designed filter. The electronics in the Detector simultaneously combine and analyze the content of both hydrocarbons and oil mists/sprays – a sudden change in either hydrocarbon content or differential pressure across the filter is detected, triggering a warning to the crew.

Our system provides the following benefits:

- Allows for monitoring of up to 48 different areas simultaneously, with individual settings and alarm conditions.
- Suitable for fuel oils (HFO, DO, MGO), hydraulic oils and lubricating oils.
- Detection of both airborne oil mists and hydrocarbon vapors.
- Allows for monitoring of large areas without human interference
- **High reliability, easy maintenance, no false alarms!**

The LAS-10 was developed in close cooperation with ship owners around the world, and certified at the Technological Institute in Denmark.

Our customers

Our customers include ship owners, shipping companies, fleet managements, shipyards, and ship designers. Likewise, oil rig and windmill operators can benefit from the fire protection provided by the LAS-10 system.

How the system works

The system detects leaking oil from valves and pipe work partly by measuring differential pressure over a period of time within a removable, custom-made filter inserted into the detector house. It also measures hazardous hydrocarbons and certain other toxic gases using an electronic sensor (also built into the detector). The various types of detection reduce the risk of fire and explosion.

Cleaning

Cleaning of filters is typically required with intervals of 2-4 weeks, depending on the engine room's general level of cleanliness. Filters can be cleaned with ordinary supplies or ultrasonic baths.

System approval

The LAS-10 system is a patented system, received Type approval by Lloyd's Register, DNV-GL according to the newest, high standard ISO-16437, Product Design Assessment (PDA) from ABS and an IACS-E10 certification.

System setup of the LAS-10 system

Prior to the system design, Daspos will perform a smoke draft test in the open engine room spaces to determines the optimal number of detectors and location to ensure prompt warning of oil spray or gas leakage.
A complete LAS-10 system consists of:

- 2-24 detectors (Max 48 Detectors, depending on the vessel size and design)
- A control unit that collects information from each detector
- A monitor where data is collected and stored. Here alarm limit settings can be adjusted, and data history is displayed in both numerical and graphical form.

The components of the LAS-10 Detector
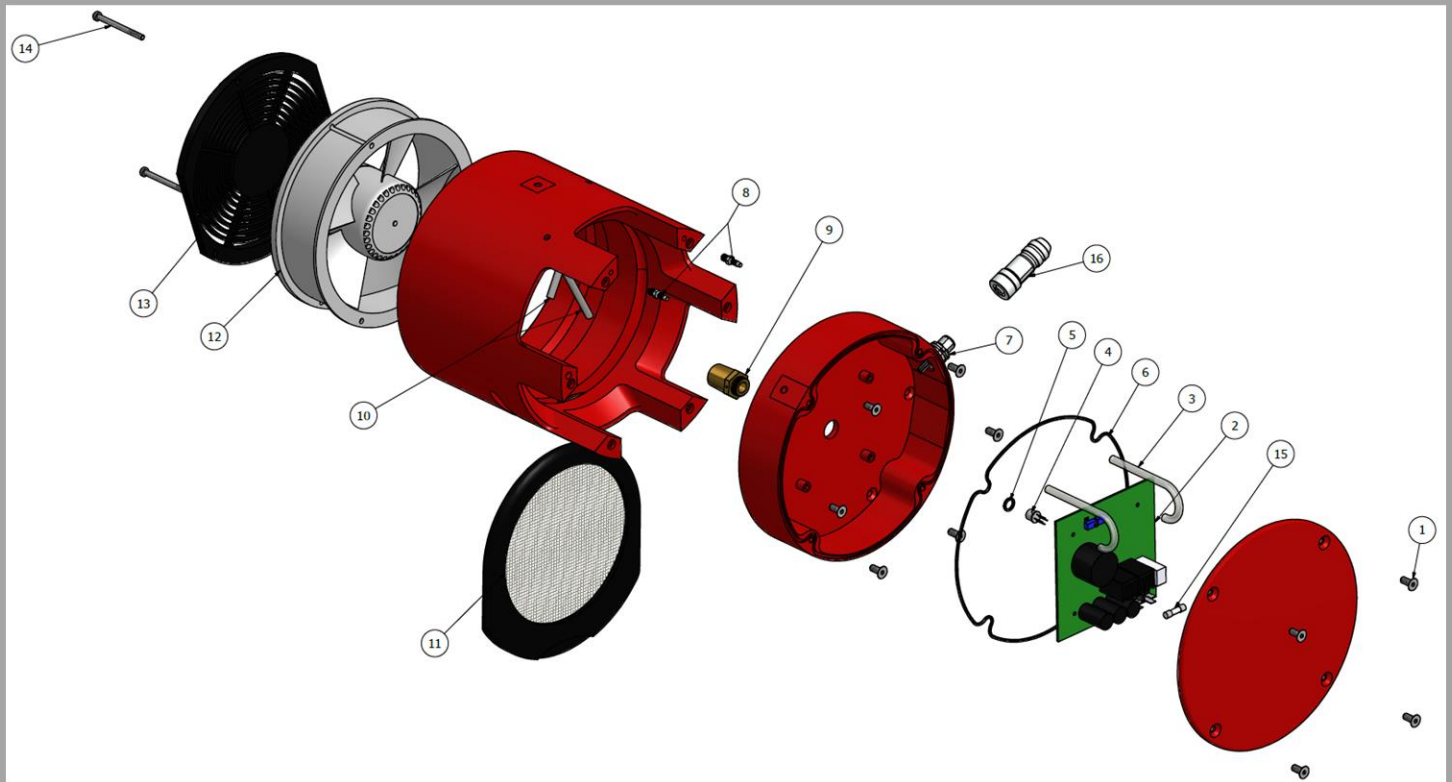
Typical ships installation

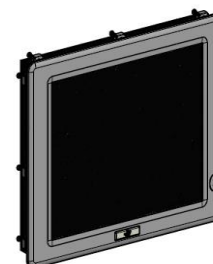| Technical specificationsB2:C47 - System components	
LAS-10 Detector	
Detection range	> 0,002 [mg./l.]
Airflow	Up to 600 [m³/h]
Reaction time	5-10 [sec.] (depending on preset alarm limit)
Gas detection	Hydrocarbons
Material, enclosure	Anodized Aluminum
Weight	4,90 [kg.]
Dimensions	Ø190 x 235 [mm.]
Power supply	30 – 48,0 [V DC]
Power consumption	45,0 [W]
Operating temperature	-20 - +70 [°C]
Operating humidity	0 - 95% [RH]
Enclosure rating	IP44
LAS-10 Control unit	
Number of interfaces	Max. 12 LAS-10 Detectors
Material, enclosure	Aluminum
Weight	2,30 [kg.]
Dimensions	240 x 184 x 81 [mm.]
Power supply	48,0 [V DC]
Power consumption	< 15 [W]
Operating temperature	-20 - +60 [°C]
Operating humidity	0 - 95% [RH]
Enclosure rating	IP66
LAS-10 USB Interface	
Number of interfaces	Max 1 LAS-10 Control unit
Material, enclosure	Aluminum
Weight	0,15 [kg.]
Dimensions	58 x 89 x 34 [mm.]
Power supply	from LAS-10 Monitor through USB A/B Cable
Power consumption	< 5,0 [W]
Operating temperature	-20 - +50 [°C]
Operating humidity	0 - 95% [RH]
Enclosure rating	IP66

LAS-10 Power supply unit

Capacity	1000 [W] I	3000 [W]
Number of Interfaces	Max.1 LAS-10 Control unit I	Max.3 LAS-10 Control unit
Weight	8,2 [kg.] I	10,0 [kg.]
Material, enclosure	Steel	
Dimensions	300 x 423 x 157 [mm.]	
Power supply, input / output	110-230 [V AC] / 48 [V DC]	
Power consumption	~ 7 - 9 % of load [W]	
Operating temperature	-20 - +50 [°C]	
Operating humidity	0 - 95% [RH]	
Enclosure rating	IP23	

LAS-10 Monitor

Display Size	12" (4:3) I	7" (5:4)
Weight	2,9 [kg.] I	5,15 [kg.]
Dimensions	343 x 269 x 33 [mm.] I	442 x 354 x 58 [mm.]
Power supply	12 [V DC]	
Number of Interface	Max. 4 USB Interfaces	
Operating system support	Windows 7	
Daspos Software	Sniff-tec'. 'Coordinate picker'	
Operating temperature	0 - 50 [°C]	
Operating humidity	0 - 95% [RH]	
Enclosure rating	IP20	
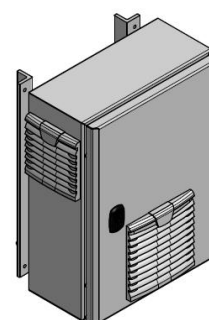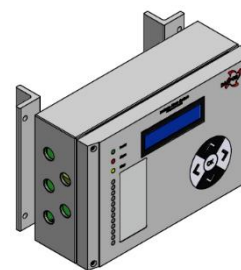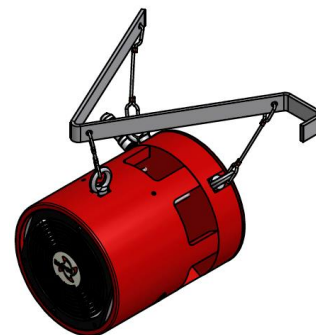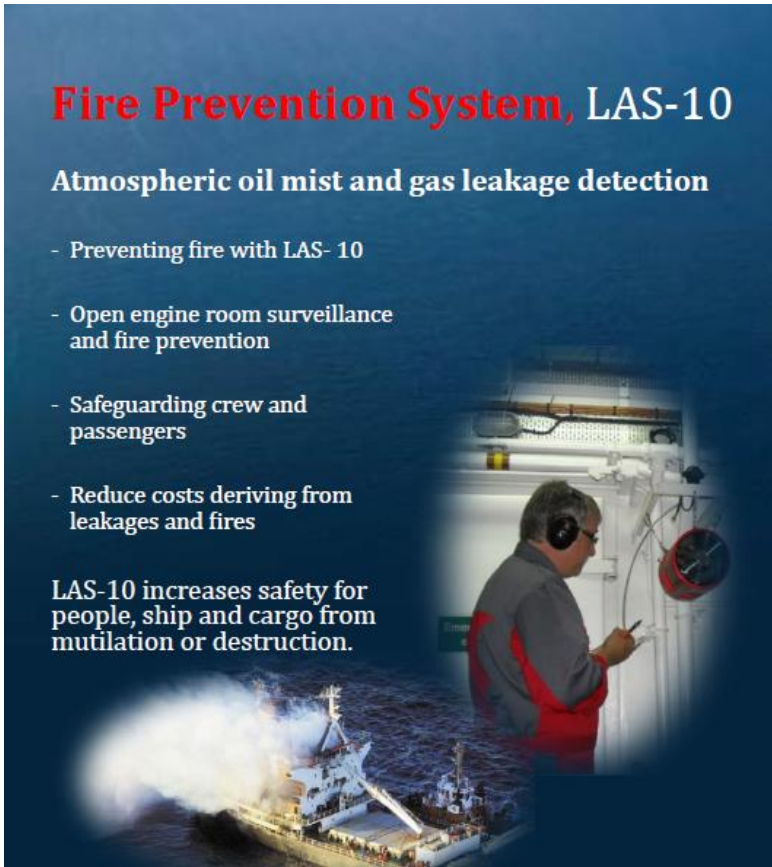
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