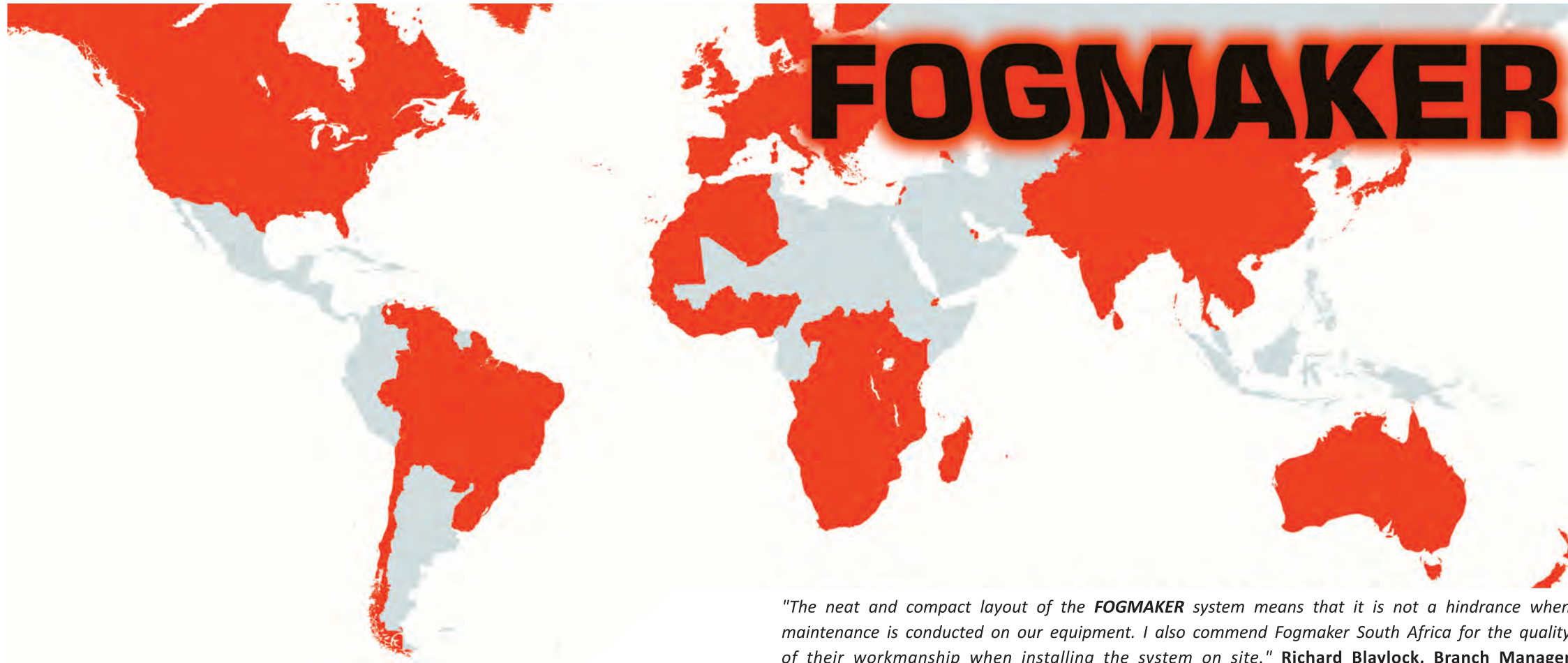


FOGMAKER



"The neat and compact layout of the **FOGMAKER** system means that it is not a hindrance when maintenance is conducted on our equipment. I also commend Fogmaker South Africa for the quality of their workmanship when installing the system on site." **Richard Blaylock, Branch Manager of Hitachi Construction Machines in Pinetown, South Africa**

"The continued support we receive from Fogmaker and the efficiency of their system is second to none and would highly recommend them." **Mohamed Sameer, Kascco Project Manager at FQM Kalumbila Sentinel project in Solwezi, Zambia**

OUR GLOBAL AND AFRICAN FOOTPRINT

FOGMAKER South Africa is the sole distributor for Southern Africa, with its head office in Johannesburg, South Africa. **FOGMAKER** South Africa has representative offices in Durban, Cape Town and Steelpoort, as well as in Zambia and Botswana, and has distributor partners based in Ghana, Nigeria and Togo.

At the heart of **FOGMAKER** South Africa are an amazing team who are passionate about our product and the customers we service. What truly differentiates us from our competition is our approach to risk mitigation, our tailored system design, our speedy installation and excellent after-sales service.

Our mobile technical consulting team are available to visit you on-site to conduct fire risk assessments, installations and servicing.

FOGMAKER Southern Africa
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Johannesburg
Steelpoort
Rustenburg
Durban
Cape Town
Zambia
Botswana



FOGMAKER

South Africa

Automatic fire suppression system protecting Mining Equipment



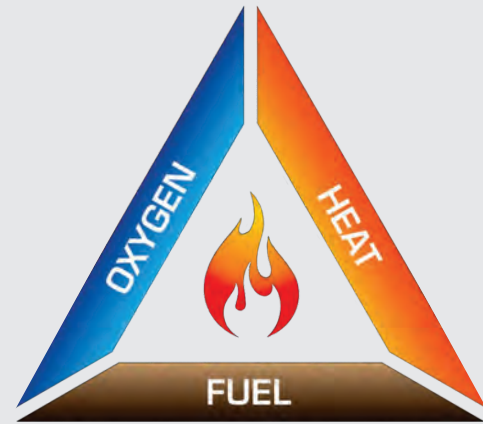
TRIPLE ACTION³

With high-pressure water mist.



PURE PERFORMANCE WITH TRIPLE ACTION³

THE FIRE TRIANGLE



FOGMAKER's fire suppression system effectively attacks all three sides of the fire triangle. We call this unique performance **Triple Action³**.

OXYGEN

Micro droplets of water-based extinguishant are generated by patented nozzles under high pressure. These droplets flood the area being protected and evaporate immediately on contact with heat. During the evaporation process, 1 litre of water will expand into 1700 litres of water vapour, which displaces air and stops the oxygen supply to the fire.

HEAT

During the vaporization process the water mist cools the hot gases and hot surfaces in the engine compartment. It takes 1 calorie to heat up 1 gram of water by 1°C, but 540 times more energy to evaporate the same amount of water. The cooling achieved by this vaporization reduces the risk of re-ignition.

FUEL

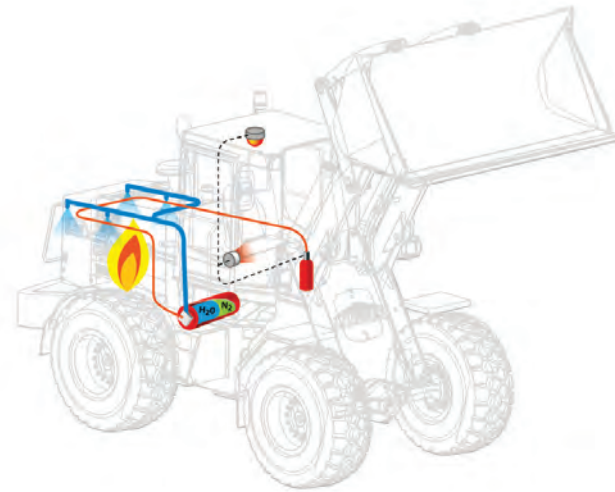
FOGMAKER's suppressant also includes, in low concentrations, an Aqueous Film Forming Foam (AFFF), which forms a protective barrier on the surface of any flammable material or fuel, thus preventing the fuel from being available for combustion.

THE CHALLENGE

Statistics show that more than 50% of all fires in mines can be attributed to fires in mobile machines. This has been a rising trend over the years.

Mining operations are extremely sensitive to unscheduled downtime as every minute of the operation is crucial.

An engine fire in a mobile machine operating above or underground can have devastating consequences in the form of production reductions, injury and possible loss of life.















Due to the typically large quantities of diesel and hydraulic oil, often operating under high pressures in immediate areas, an ignited engine fire could lead to rapid and disastrous series of events. If not detected early and sufficiently suppressed, will lead to a total asset loss.

The FOGMAKER system quickly detects and suppresses a fire by generating a dense blanket of water droplets within the protected area.

A PROVEN FIRE SUPPRESSION SOLUTION

FOGMAKER is the holder of several global and local certificates and approvals.

-  **FPASA**
(Fire Protection Association of Southern Africa)
-  **ISO 9001 and 14001**
(Quality and Environmental Management System)
-  **AS-5062**
(Australian Standards)
-  **IATF**
(International Standard for Automotive Quality Management Systems)
-  **UL listed 1384**
(UL Standard: Water-Based Automatic Extinguisher Units)
-  **UNECE**
(UN R-107 Vehicle Regulation)
- SBF**
SBF 127
(Certified for Logging and Construction)
- SBF 128**
(Certified for Buses and Coaches)
-  **SPCR 197 /183**
(Swedish Fire Protection Association)
-  **SAM SA**
(South Africa Maritime Safety Authority)
-  **BV**
(Bureau Veritas- Marine and Offshore)
-  **RINA**
(Certification for Ship's Components and Accessories)
-  **SMA**
(Swedish Maritime Administration)
-  **FM**
(Worldwide Standards for Manufacturers- pending)



ASSET PROTECTION

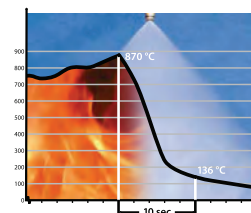
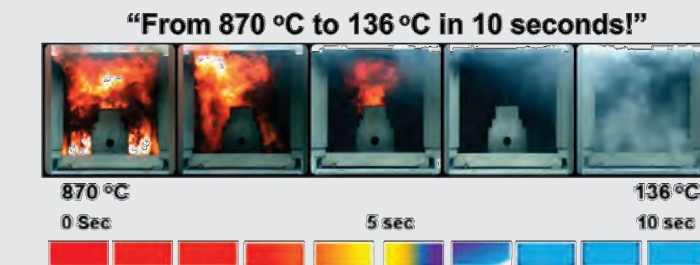
Mitigating the risk of an engine fire with FOGMAKER's automatic fire suppression system is the best way to protect your fleet of valuable assets from the threat of fire .

FOGMAKER is fast becoming the fire protection solution of choice, and is trusted by many owners of heavy vehicles and mobile industrial machinery to safeguard their machines, save operator lives and protect the environment in which they are working.

The fire suppression system is developed and manufactured in Sweden. FOGMAKER has a successful global track record in Europe, Australia, North and South America, Middle East and Africa - with over 200,000 units installed worldwide since 1995.

Fire suppression test in a simulated engine compartment with a volume of 2.5 m³. The fire source consists of Four 20cm x 40cm trays filled with diesel. A spray fire is then simulated by applying diesel at a rate of 2 litres per minute at a pressure of 5 bar, which engulfs the engine. The combined heat output of the fire is approximately 1600 kW.

In this simulation the fire is allowed to burn for more than 20 seconds. The burnt gas temperature increases to 870°C at which point the FOGMAKER system is activated manually.



In 10 seconds the temperature of the burnt gases decreases to approximately 136°C. In addition to the rapid extinguishing the risk of re-ignition is minimized.

This means reduced repairs and downtime.

WHY FOGMAKER ?

- ✓ **Extremely effective**
- Triple Action³ fire suppression system attacks all 3 sides of a fire triangle.
- ✓ **Automatic fire suppression system**
- using loss of pressure (LOP) technology. No electric power required.
- ✓ **Simplicity**
- Minimal obstruction, low weight and orientation independent.
- ✓ **Easily installed**
- within one working day by our **FOGMAKER** Field Engineers.
- ✓ **Low life-cycle cost**
- Periodic inspections and major service every 2 years (MHSA) or 3 years (PER).
- ✓ **System monitoring**
- including low pressure and fire alarm.
- ✓ **Automatic engine shutdown**
- optional
- ✓ **Easy clean-up and quick recharge** once system has been triggered.

