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safety through innovation

CAF (Compressed Air Foam) STAND-ALONE FIRE SUPPRESSION

Spero CAF is a Nitrogen Pressurised Compressed Air Foam fire suppression system.

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CAF systems are designed for use in special applications and remote locations where dedicated fire water at the correct pressure is unavailable.

The AFFF (aqueous film forming foam) spray fire suppression system is a rational design stand-alone, pre-engineered, modular fire suppression system based on NFPA16.

The cylinder has a 580 litre capacity for water/foam mixture that can be configured to supply various types of nozzles to cover up to 8.9 sq. meter for 10 minutes on a single cylinder. Up to three cylinders can be stacked to increase the area to be protected. The cylinder is protected against falling objects by an expanded metal cage that also provides space for fixing the nitrogen cylinder that pressurises the CAF. The system also incorporates level and pressure switches that can be monitored and used for fault indication.

The system can be activated manually or automatically by energising the solenoid valve situated at the cylinder outside the fire risk zone.

For automatic operation, the system uses various detection methods with a controller to activate the suppression. These include the monitoring of plummer block temperatures to activate a maintenance alarm and belt-stop. This facilitates preventative measures and is proactive instead of reactive.

The controller is modular to facilitate multiple sensors by adding additional input cards, if needed. It also has the following outputs that can be monitored on the SL2010 system or PLC (programmable logic controller) to a SCADA system:

- Fault alarm
- Maintenance alarm
- Fire alarm
- Fire suppression failure alarm
- Belt stops

T +27 12 665 0317 · **E** info@spero.co.za · Sperosens · Sperosens · **www.spero.co.za**

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STAND-ALONE FIRE SUPPRESSION

The AFFF water/foam mix suppression medium is far superior to the suppression capability of plain water. The system uses almost 80% less water at 6.5L/min/sq. meter for 10 minutes than NFPA 15 water spray systems at 10.2L/min/sq. meter for 30 minutes.

The nitrogen cylinder and regulator to pressurise the CAF ensures ensure constant pressure during the 10 minutes of operation. This facilitates constant calculated flow rate for the nozzles. The pressure can be adjusted between 3 and 10 bar to acquire required flow rates as per K-Factor of nozzles, allowing for a balanced and equal discharge from all the nozzles for the full 10 minutes discharge duration. In this manner effective extinguishing is ensured during activation.

BUILDING BLOCKS OF THE CAF SYSTEM:

- Extinguishing medium cylinder (CAF cylinder)
- Nitrogen pressurising cylinder
- Pipe distribution line
- Nozzles manifold network
- Detectors and fire control panel

BENEFITS:

- No fire water needed near installation
- Easily rechargeable (water and foam)
- CAF suppression systems can be activated by any type of fire panel

APPLICATIONS:

- Protection of conveyor belts (high risk areas)
- Transformer protection
- Hydraulic packs
- Underground diesel and oil storage

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