CASE STUDY: FIRE SUPPRESSION SYSTEM – UNDERGROUND EQUIPMENT

APPLICATION: CONCRETE SPRAYER

Heavy duty equipment fires can be devastating to an operation. To combat this risk, organizations across the globe are using vehicle fire suppression systems (FSS) – the only reliable method to quickly and efficiently extinguish a fire when it does inevitably occur.

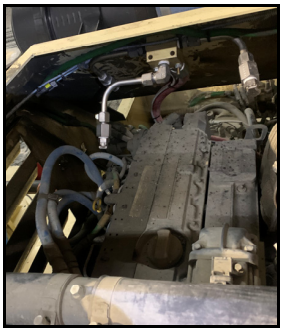
THE FLO SOLUTION

Fire-detecting linear wire is placed around the sprayer. When the high heat of a fire penetrates the linear wire, a signal is sent to the control panel in the vehicle cab. The control panel alerts the driver to quickly evacuate the sprayer and at the same time, automatically initiates the electric actuator, which discharges the fire-fighting agent inside the onboard tank and sends it through a tubing distribution network. At the end of the distribution network, the dry chemical agent is disbursed into the sprayer's protected areas via nozzles aimed at its high-hazard components, like turbochargers, starter, fuel filter, batteries, alternator, transmission and hydraulics, to extinguish the fire quickly and efficiently.

Fire Suppression System Features:

- Cone spray nozzles are used to provide protected areas with a broad distribution of a dry chemical powder to extinguish a fire quickly and efficiently.
- The automatic discharge nature of the FSS eliminates the operator's involvement in discharging the system manually, allowing him to exit the sprayer safely and promptly.
- 3 manual actuators, 1 inside of the cab and 2 outside, located in specific areas at ground level, are also included as a back-up and for ease of system activation.
- A 30lb tank comes complete with dry chemical agent, gas tube, cap, and bursting disc. The tank is non-pressurized, with the introduction of nitrogen gas for pressurization at the time of actuation. A fitted mounting bracket for the tank and two metal straps keeps the tank properly secured during operation of the sprayer.
- Each nitrogen cartridge consists of 99.99% nitrogen with a dew point of -73 °C, guaranteeing pressurization when actuation of the system is required during the coldest months.
- Spring loaded, hinged caps at the nozzle openings block foreign materials that could possibly clog the nozzle and prevent or diminish the system discharge.
- The supply lines that distribute the dry chemical agent are stainless steel tubing and hydraulic hose. Hydraulic hose lines are used for system actuation and agent tank pressurization.
- The firing mechanism houses the electric actuator and nitrogen cartridge and includes a manual knob as a secondary method of discharging the system. Spring loaded check valves control the direction of the nitrogen gas.



- Remote Engine Shutdown Kit. Engine shutdown is especially useful in helping to limit damage from fires intensified by hydraulic fluids or fuel. The kit uses a pressure switch connected into the wiring for the engine fuel pump. Upon activation of the FSS, the pressure switch is energized, which electrically signals a power turn off to the fuel pump, stopping the flow of hydraulic fluid and fuel through the sprayer and resulting in the engine shutting down.

For Fire Suppression Solutions,

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