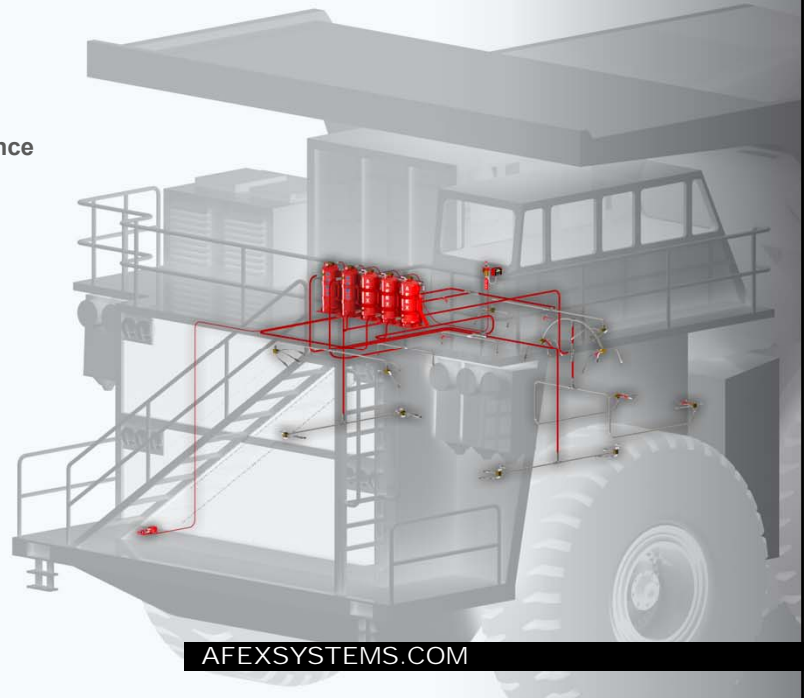


Presented to
SWANA MS Chapter Fall Conference
October 15, 2019



AFEXSYSTEMS.COM

WHO are we?

AFEX

FIRE SUPPRESSION SYSTEMS

- Privately owned American manufacturer of robust, purpose-built fire suppression systems since 1968.
- Exclusive focus on protecting heavy off-road equipment.
- Heavy equipment people specializing in fire suppression.



WE KNOW HEAVY EQUIPMENT

WHAT do we do?

- **Our experience**
 - 50 years of experience protecting heavy equipment.
 - We are the only manufacturer that specializes in vehicle fire suppression systems. It's all we do.
- **Rugged and reliable system design**
 - Side-cartridge design for reliability and ease of servicing.
 - Stainless steel distribution for ruggedness and reduced ongoing maintenance costs.
- **Systems configured to meet your needs**
 - We offer third-party approved dry chemical, liquid agent, and dual agent systems in multiple sizes.
 - We know there is no one size fits all solution for fire protection and will configure a system to meet the unique hazards of your machine.



WE KNOW HEAVY EQUIPMENT

WHAT'S new?

- **FM 5970 represents the industry's most comprehensive and rigorous testing program for vehicle fire suppression systems.**
 - It is the first standard specifically designed for HDME, and the first standard to test all fire suppression systems (dry or liquid) in the same manner.
- **AFEX is the first manufacturer to receive FM 5970 approval.**
 - Stand alone dry agent systems
 - Stand alone liquid agent systems
 - Dual agent systems



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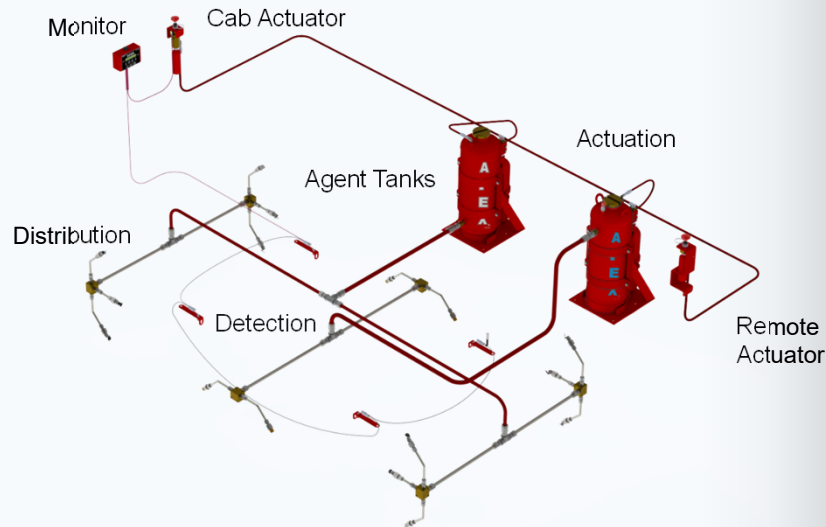
Advantages Of The AFEX System

- **Automatic** detection and actuation
- Advanced monitoring and **visibility**
- Side-cartridge design for **reliability**
- Purpose-built for **durability**
- **Stainless steel** tubing distribution
- Non-clogging **nozzle**
- **Effective** fire suppression agents
- Lower ongoing **maintenance costs**
- **Telematics** integration



WE KNOW HEAVY EQUIPMENT

Fire Suppression System Overview



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Our Systems

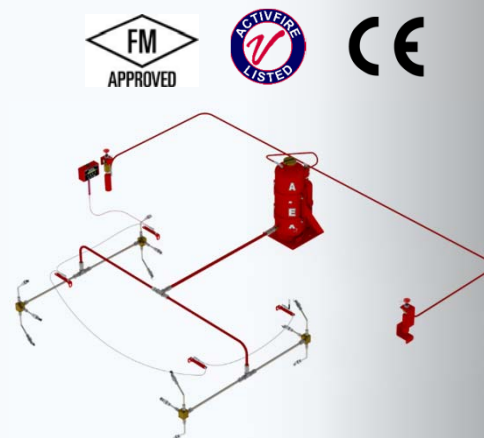


50 YEARS
AFEX
FIRE SUPPRESSION SYSTEMS

WE KNOW HEAVY EQUIPMENT

AFEX DRY CHEMICAL AGENT SYSTEMS

- Provides the most efficient protection.
- Effective against Class A (debris), Class B (fuel), and Class C (electrical) fires.
- Total-flooding system protects a volume of space.
- Effective at temperatures as low as -40°F (-40°C).
- Available in 20lb (9kg), 30lb (14kg), 60lb (27kg) and 125lb (57kg) configurations.

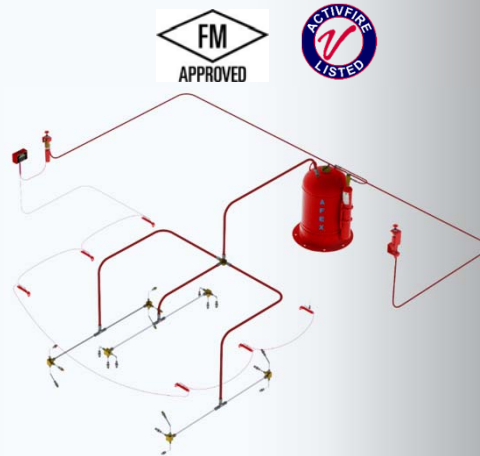


50 YEARS
AFEX
FIRE SUPPRESSION SYSTEMS

WE KNOW HEAVY EQUIPMENT

AFEX LIQUID AGENT SYSTEMS

- Provides exceptional cooling and Class A and Class B fire suppression.
- Local application to protect targeted surfaces.
- Effective at temperatures as low as -40°F (-40°C).
- Available in 5 gallon (19L), 15 gallon (57L) and 30 gallon (114L) configurations.

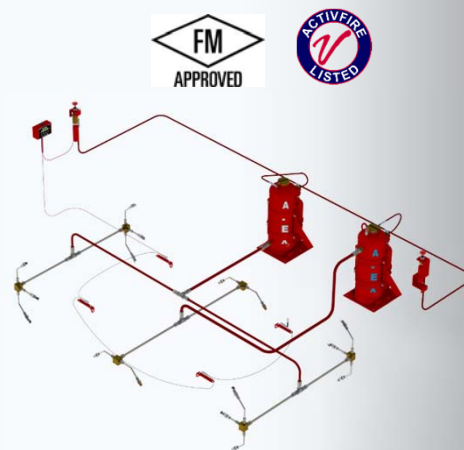


50 YEARS
AFEX
FIRE SUPPRESSION SYSTEMS

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AFEX DUAL AGENT SYSTEMS

- Combines the benefits of dry chemical with the benefits of liquid agent.
- Maximizes protection by applying each agent to the hazard it's best suited for.
 - Dry nozzles flood, penetrate, and protect engine and transmission compartments.
 - Liquid nozzles apply agent to cover hot surfaces and open spaces to cool and suppress.
- More economical and space efficient than liquid-only.



50 YEARS
AFEX
FIRE SUPPRESSION SYSTEMS

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Pre-Shift System Checklist

- There are no signs of a fire having occurred.
- There is no sign of dry chemical or liquid agent indicating a system discharge.
- The safety pin and seal are in place on all actuators.
- Control Unit
 - The power light is blinking.
 - The unit displays "AFEX CONTROL UNIT ACTIVELY MONITORING" with no other messages when INFO is pressed.
 - The system's audible alarm is silent.
- There is no damage to system components:
 - Agent tanks and brackets
 - Hose and fittings
 - Detection
 - Actuators and brackets
 - Nozzles
- The system components are not in contact with other parts of the machine.
- The portable extinguisher is charged and in place.
- All required repairs have been made.



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Semiannual Inspections (per NFPA)

- To be performed by a trained technician.
- Examine the dry chemical agent.
- Examine all detectors, nitrogen cartridges, agent tanks, actuators, hose assemblies, tubing, nozzles, alarms, and all auxiliary equipment.
- Verify that the agent distribution network is not obstructed.
- Ensure the fire hazard has not changed.
- **Environmental and operating conditions may necessitate more frequent intervals. In our experience, a complete inspection every 3-4 months or 1,000-1,200 operating hours (whichever comes first) is optimal.**



WE KNOW HEAVY EQUIPMENT

Not to Exceed 12 Years (per NFPA)

- All hose assemblies shall be hydrotested
- The agent tank(s) shall be hydrotested
- **AFEX recommends a hose replacement policy at an interval of equal to or more frequent than pressurized hydraulic hoses, typically 5 years maximum.**



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Supplemental Requirements

- **Every 6 months (per AFEX)**
 - Replace the Control Unit batteries, PN A729010 (if equipped)
- **Every 1 year (per AFEX)**
 - Replace the Control Unit battery pack, PN A729011 (if equipped)
- **Every 5 years (per AFEX)**
 - Replace the electric actuator, PN A709500 (automatic systems only)
 - Replace the liquid agent, PN A200515 (liquid agent systems only)
- **Every 10 years (per DOT/AFEX)**
 - Replace all nitrogen cartridges



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System Operation

1. Bring the vehicle to a complete stop.
2. Turn off the motor and set the brake.
3. **Manually actuate the fire suppression system.**

Even if your system is equipped with an automatic actuation package **DO NOT** wait for the system to automatically actuate.

1. Remove pin from the actuator.
2. Strike push knob with force. Use a closed fist, or the base of your palm.



4. You will hear a noise from the release of the nitrogen gas.
5. **The agent(s) will discharge into the protected area of the machine.**

Note: The ABC dry chemical is not toxic, however it may cause temporary eye, skin, or respiratory irritation.



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System Operation (continued)

6. Exit the machine and move to a safe distance.
7. Standby with a portable extinguisher to make sure that any smoldering debris has been extinguished and there is no fire re-ignition.
8. Call your local fire department and site supervisor to alert them to the situation and follow any applicable fire response procedures.
9. In the event of fire re-ignition or suppression only, additional fire fighting equipment will be necessary to ensure extinguishment.



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After the Fire is Out

1. Use water or compressed air to clean the equipment.
2. Determine the cause of the fire and make the required repairs.
3. Contact your local AFEX distributor to schedule a service and recharge of your system.



DO NOT place the vehicle back in service until it has been repaired and the cause of the fire has been determined and rectified, and the AFEX system has been serviced and recharged.



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THANK YOU FOR YOUR ATTENTION!



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