



**Amerex Vehicle Fire Suppression Systems.  
Because downtime is NOT an option.**



Quality is Behind the Diamond.



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**Diamonds have long been a symbol for quality. At Amerex we pride ourselves on the quality of the products we bring to the marketplace. We have to. We make products that are the keystone in the protection of life and property. Through the years Amerex has earned its reputation for quality. It's part of the reason we chose the diamond for a logo.**



## One size does not fit all

You wouldn't use a hydraulic shovel to grade a haul road. Fire suppression and mining equipment are alike in that one size does not fit all. Amerex vehicle fire suppression systems are scalable to match the specific needs of the equipment and optimize efficiency. Whether you are protecting a small dozer or a large hydraulic shovel Amerex has the right equipment for you.

## Integrating new technology

In today's rapidly changing world where technology is constantly evolving, machines and fuel loads are becoming larger, and hotter engine temperatures are making the risks much greater. You need a partner who understands the changing hazards and can integrate new technologies into a solution that protects your operations.

# Single Release System Applications

**Haul Trucks**

**Dozers**

**Wheel Loaders**

**Graders**

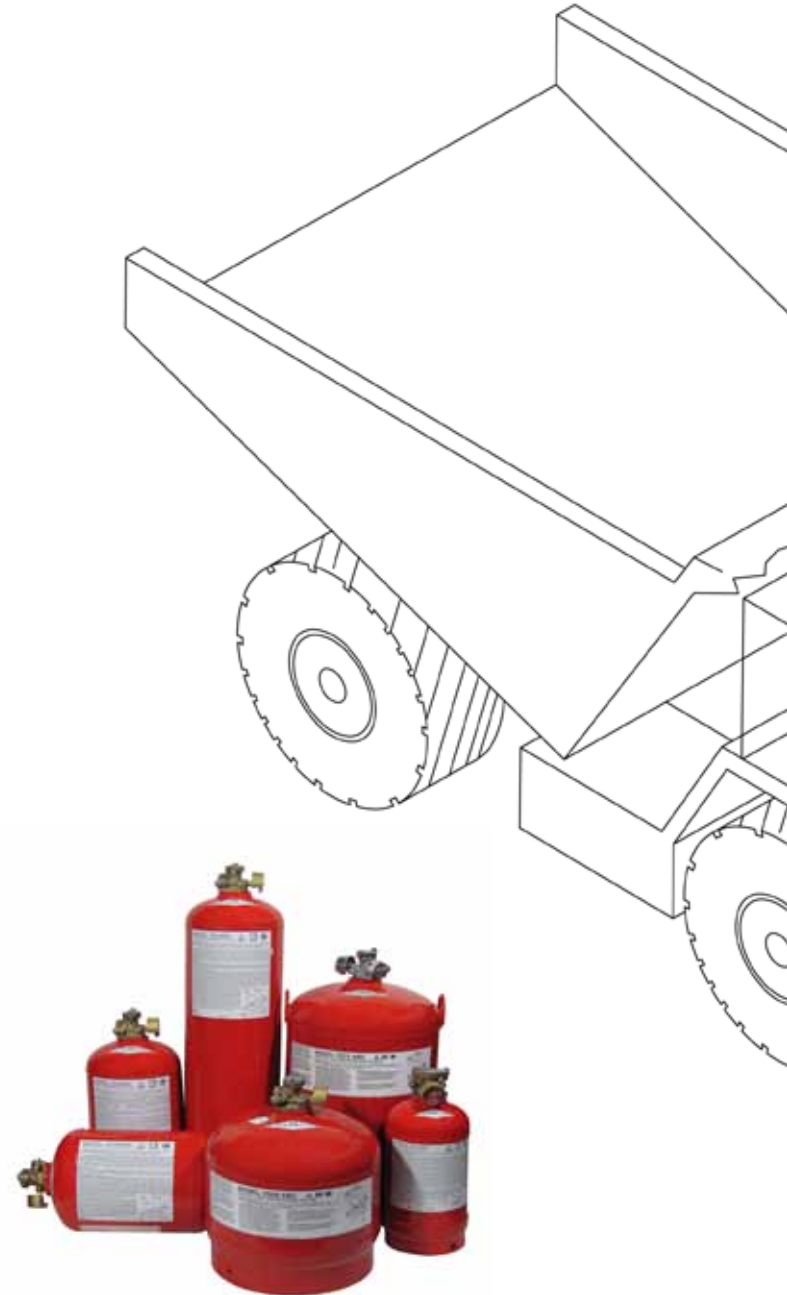
**Drills**

**Track Loaders**

## Single Release Sequence of Operation

- Fire starts in the machine producing heat and toxic gases.
- The detectors sense the heat and send a signal to the control panel.
- The control panel interprets the signal and begins the discharge sequence activating the alarm relay for shutdowns.
- The operator may choose to activate the manual release located in the cab or at ground level at any time to begin the discharge sequence.
- The linear actuator receives the signal from the control panel and opens the cylinder valve. The fire suppression agent travels through the distribution network to the nozzles and disperses the agent.
- The fire is suppressed allowing for personnel to evacuate the machine and utilize hand held fire extinguishers or other methods if necessary.

Note: The drawing shown is a conceptual and not intended to be a design drawing. A complete hazard analysis and risk assessment will have to be performed on the vehicle to determine the most probable ignition sources along with the fire characteristics and quantity of the various fuels exposed to those ignition sources. Final placement of the fire suppression components should be based on the hazard analysis and in coordination with the end user.



# Amerex Vehicle Fire System Features

## System Control Panel

The Control Panel (CP) is the “brains” of the system. The CP interprets the signal from the detection circuit and initiates the cylinder discharge, simultaneously operating the relays which can be used to stop the flow of flammable fuels.

## Automatic Detection

24-hour automatic heat sensors rapidly detect fire and signals the CP to start the discharge sequence suppressing the fire and mitigating the damage.

## Agent Cylinders

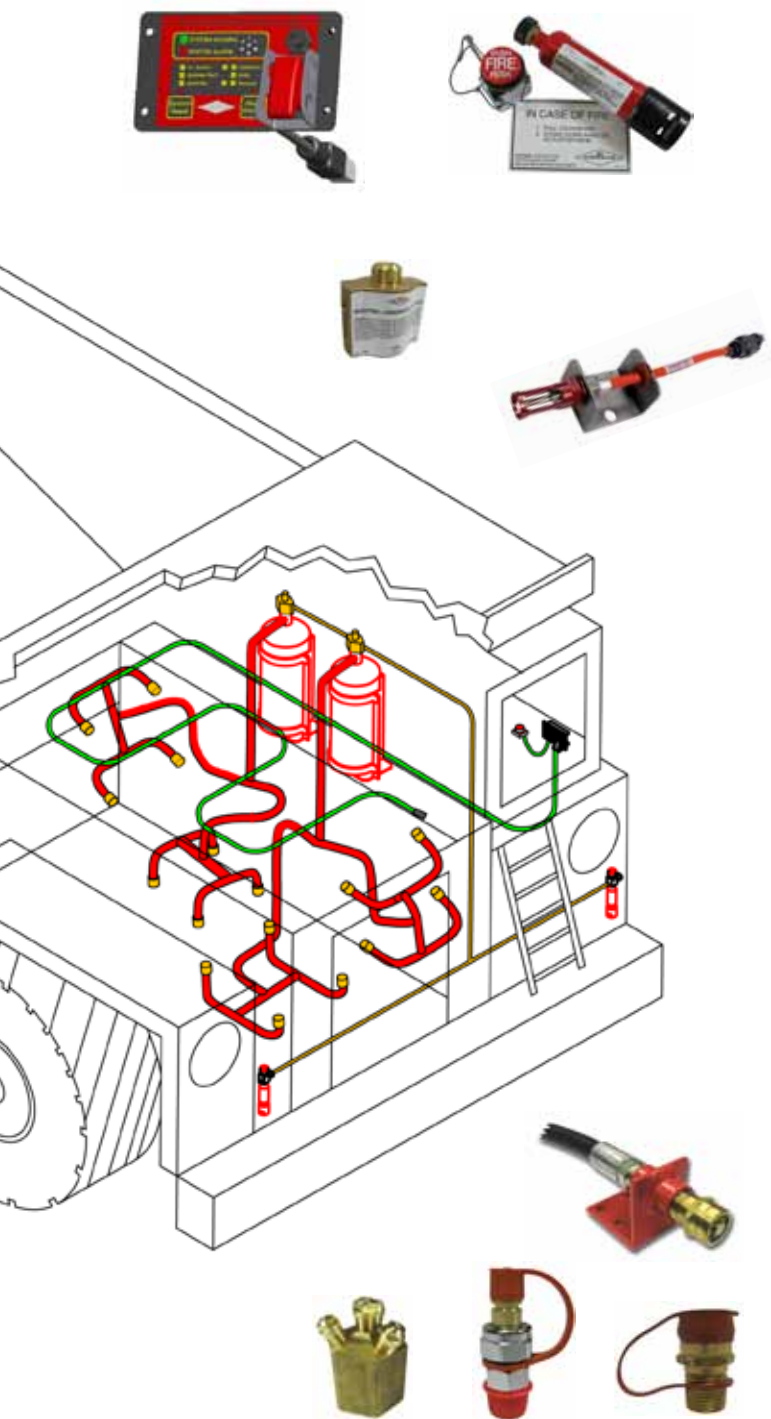
Stored pressure cylinders hold the fire suppression agent in a state that prevents contamination thus reducing maintenance costs.

## Distribution Network

Hydraulic hose or stainless steel tubing carries the fire suppression agent to the discharge nozzles and disperses the chemical throughout the hazard area.

## System Actuation

All systems have the capability to be actuated electrically, pneumatically or as a redundant system featuring both electric and pneumatic actuation.



# Dual Release System Applications

Hydraulic Shovels

Large Haul Trucks

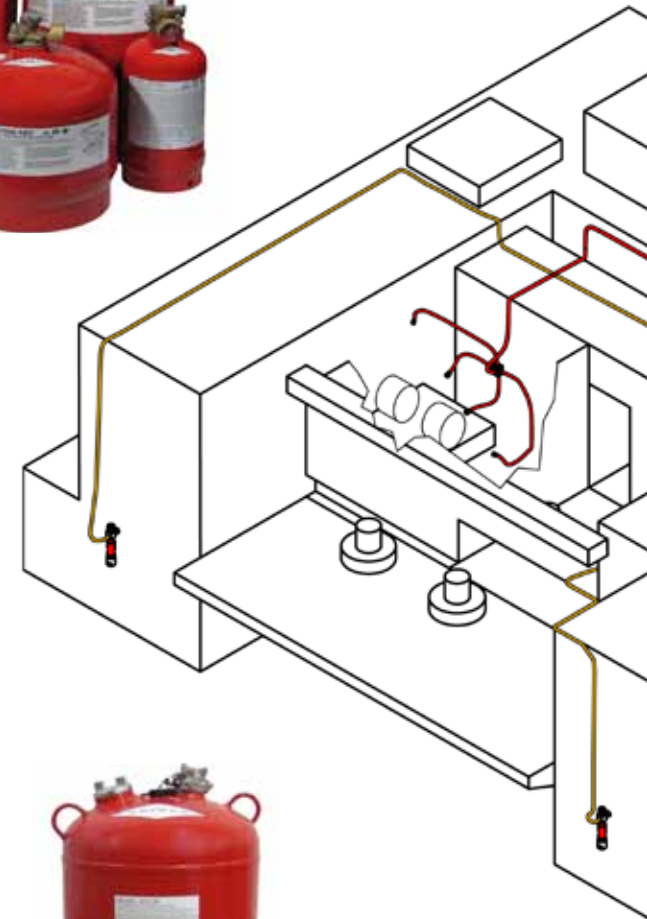
Hydraulic Excavators

Draglines

## Dual Release Sequence of Operation

- Fire starts in the machine producing heat and toxic gases
- The detectors sense the heat and send a signal the control panel
- The operator may choose to operate the manual release located in the cab or at ground level at any time to signal the control panel and begin the discharge sequence
- The control panel interprets the signal and begins the discharge sequence activating the alarm relay for shutdowns
- **Stage One** release begins when the linear actuator receives the signal from the control panel and opens the dry chemical cylinder valves allowing the fire suppression agent to travel through the distribution network to the nozzles and disperses agent throughout the hazard area providing rapid fire knockdown.
- **Stage Two** release begins after the preset time delay countdown has ended. The linear actuator receives a signal from the control panel and opens the Integrated Cooling (ICE) wet chemical cylinder valves. The fire suppression agent travels through the distribution network to the nozzles and disperses liquid agent throughout the hazard area onto the heated surfaces cooling these surfaces and reducing the possibility of the fire reflash.
- The fire is suppressed allowing for personnel to evacuate the machine and utilize hand held fire extinguishers or other methods if necessary.

Note: The drawing shown is a conceptual and not intended to be a design drawing. A complete hazard analysis and risk assessment will have to be performed on the vehicle to determine the most probable ignition sources along with the fire characteristics and quantity of the various fuels exposed to those ignition sources. Final placement of the fire suppression components should be based on the hazard analysis and in coordination with the end user.



# Amerex Vehicle Fire System Features

## System Control Panel

The Control Panel (CP) is the “brains” of the system. The CP interprets the signal from the detection circuit and initiates two separate discharges of the dual agent cylinders in the programmed sequences. The CP controls relays which can be used to stop the flow of flammable fuels.

## Automatic Detection

24-hour automatic heat sensors rapidly detect fire and signals the CP to start the discharge sequence suppressing the fire and mitigating the damage.

## Agent Cylinders

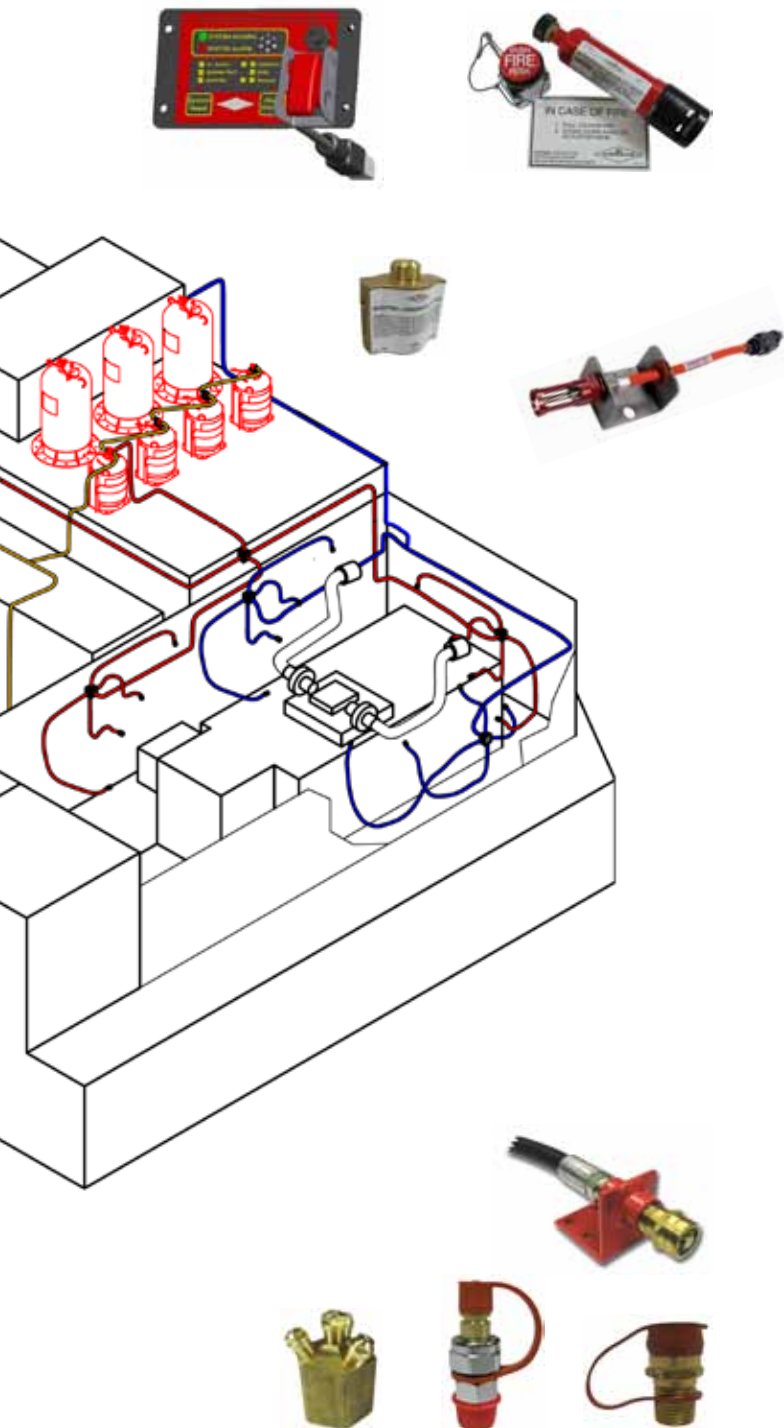
Stored pressure cylinders hold the fire suppression agent in a state that prevents contamination thus reducing maintenance costs. The initial discharge of dry chemical agent provides for rapid fire knockdown. The second discharge of wet agent provides cooling of the heated surfaces to reduce the possibility of reignition.

## Distribution Network

Hydraulic hose or stainless steel tubing carries the fire suppression agent to the discharge nozzles and disperses the chemical throughout the hazard area.

## System Actuation

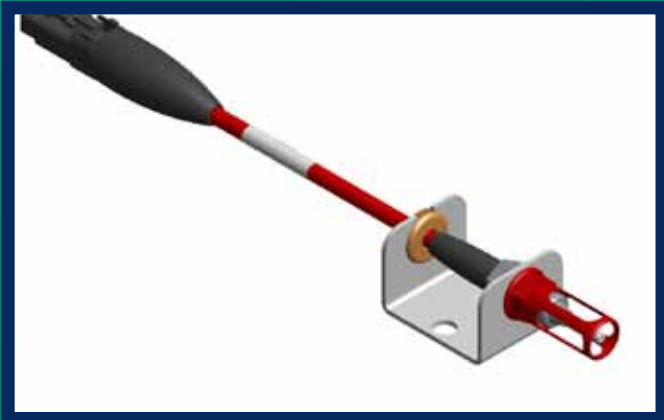
All systems have the capability to be actuated electrically, pneumatically or as a redundant system featuring both electric and pneumatic actuation.





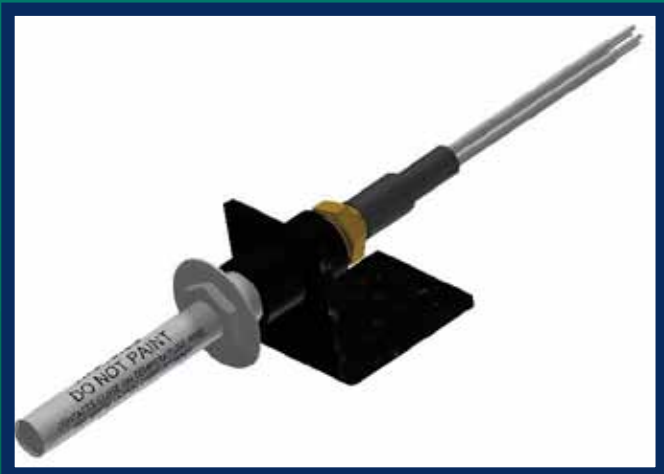
### **Linear Detection Cable**

Continuous automatic heat sensing cable is routed throughout the hazard area. The cable has factory installed connectors for reliability and ease of service. The cable is also available with stainless steel wire protective covering for machines in extreme environments



### **PhD Intelligent Detection**

Programmable heat detectors (PhD) are the next generation of heat sensing devices and have been specifically designed for extreme environments. The sensors measure temperatures and send a recordable analog signal back to the control panel. They have the capability to be programmed to any temperature within 5° F increments up to 500° F. The sensors have the flexibility to be programmed to operate by fixed heat, rate of rise, or a combination of features.



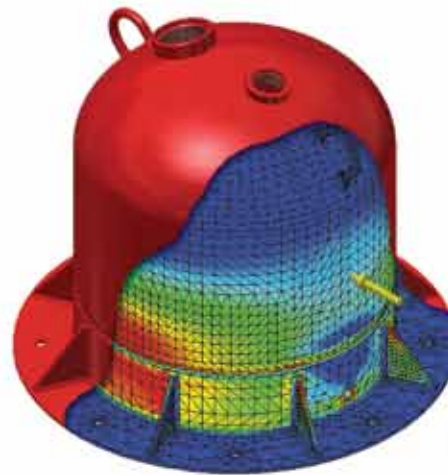
### **Heat Detector**

Spot type heat sensors are located in the hazard area and provide rapid heat detection. The heat detectors are rate compensated and are available in different fixed temperature settings for flexibility.





Model: 0001  
Element: 45678  
Type: VonMises Stress  
Unit: Pa  
02/10/2012, 14:27:09 AM



# Fire Protection is not a commodity item

To maximize your production you need a partner who will work with you to develop and integrate a customized solution to meet your needs. We have an engineering team dedicated to vehicle fire protection. They understand the risks and work closely with your maintenance teams to develop new products and processes to reduce downtime.

# The safest decision you will ever make

We know that you have a lot of choices. We also know the importance of fire protection to your business. We are committed to providing the best possible fire solution and it shows in our innovation, quality and commitment to service. Amerex has been providing fire fighting products since 1971. We are the worldwide leader in hand portable and wheeled fire extinguishers. Our product line also includes Gas Detection, Industrial, Kitchen, and Clean Agent systems. Amerex products are proudly made in the USA.

# Specifications:

## Agent Cylinders

### Dry Chemical available in ABC and PK agents

- Models available (numbers represent pounds of firefighting agent) V13, V25, VH25 (horizontal mount), V50, VS50 (short cylinder) and V75
- Stored pressure
- Agent cylinder pressure monitoring switch available
- Operating temperature range -40° F to +150° F

### Liquid Cooling Agent (ICE)

- Models available (numbers represent gallons of agent) ICE 14 and ICE 28
- Foaming agent
- Stored pressure
- Operating temperature range -40° F to +120° F

## Control Panels

### Single Zone protection

- Single zone detection and release
- Supervised circuits
- Diagnostic LED's
- Audible and visual alarms
- Relay available for shutdown and auxiliary device activation
- Test circuit
- Operating temperature range -40° F to +150° F
- Operating voltage range 10-30 VDC
- Operating current 47 mA
- Self charging back up battery provides 24 hour backup in case of main power failure

### Dual zone protection

- Same as above except the following
- Dual zones of detection and release
- Operating voltage range 10-42 VDC
- Operating current 50 mA
- Integrated manual release
- Data logging and event recording

## Detectors

### Fixed temp/Rate of Rise compensated heat detector

- Factory sealed in mounting bracket with pluggable wire connectors
- Temperatures available +325° F, +450° F

### Linear Heat sensing wire

- Fixed temperature activation +356° F
- Available in factory terminated lengths or bulk for cut to fit applications
- Factory terminated lengths available with stainless steel wire protective covering

### Programmable Heat Detector (PhD)

- Adjustable temperature set point for rapid heat detection
- Fixed temperature, rate of rise or combination fixed temp/rate of rise options
- Data logging records temperatures and heat events
- Single part number for the heat detector – you program the desired temperature
- Programming is completed/data logging is viewed via interface with a laptop computer or handheld service tool
- Can be used as a diagnostic tool for evaluating ambient temperature ranges

## Other

- Nitrogen cylinder equipped with pressure gauge for visual determination of charge status
- Manual system activation can be performed via electronic and/or pneumatic methods
- Fully Factory Mutual approved system



Quality is Behind the Diamond.

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