Vehicle Foam Fire Suppression

fire protection TECHNOLOGIES

GASEOUS SUPPRESSION | WATER SUPPRESSION | FOAM SUPPRESSION | EXPLOSION PROTECTION | FIRE DETECTION | MILITARY & DEFENCE | SPECIAL APPLICATIONS | SUPPORT SERVICES

Vehicle Foam

Fire Suppression Systems

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“CrossFire, the new technically advanced ACAF single-agent dual-action compressed air foam for vehicle protection”

VEHICLE ENGINE COMPARTMENT APPLICATIONS

Fires have the potential to occur in just about very type of vehicle engine compartment ranging from a below engine pool fire to a pressurised hydraulic line spray fire or combination thereof.

Engine compartments contain variety of potential ignition sources from electrical to superheated engine surfaces. Additionally, an engine compartment suppression agent must also be capable of dealing with suppression in turbulent conditions. It is critical that these fires be detected and suppressed rapidly to minimize property loss and potentially human lives. CrossFire, the new technically advanced ACAF single-agent dual-action CAF - CAF mist suppression system has been developed and designed to perform this task.

To enhance the fire suppression capability of the two individual agents, a single control device delivers both CAF and CAF mist to the fire through separate nozzles that are positioned to deliver foam and foam mist in one integrated stream.

The combination of the two sprays with one agent strengthens the suppression capabilities of both components into the creation of a single more effective suppression system. This, in tandem with state of the art system components and fire detection make for a highly advanced, very effective fire suppression system.

The CrossFire system is designed as a compact self-contained, stored energy system. As most vehicle have limited storage space and capacity, the system is developed and designed to minimise equipment installation and storage space while utilising the environmentally friendly, fluorinefree, “green” suppression Solberg Rehealing RF-3 foam concentrate.

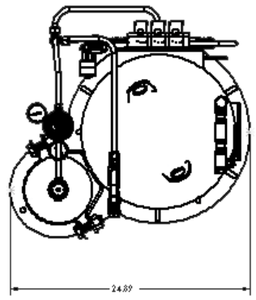
A 3% solution of the RF-3 concentrate and water is stored in ASME steel pressure tanks sized to meet the required system demand. Tanks are sized to meet the individual applications. Nitrogen gas drives the solution from the pressure tank to the CAF generator where it is mixed with nitrogen gas under pressure to produce CAF and CAF mist. The size and number of mixing chambers is based upon the number of nozzles the generator is required to supply. ACAF will provide design and installation details for each individual application from tank size to the individual CAF and CAF mist nozzle types.

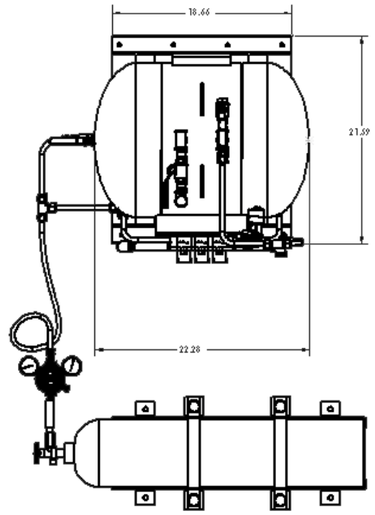
The system may be equipped with multiple types of detection systems depending upon the application’s configuration and conditions. The detection system will be either linear heat detection or IR flame detection used in conjunction with individualised controllers. For flexibility and redundancy, the system will be both electrically and pneumatic powered-activated in conjunction with a Firetrace pilot line.

A thermally actuated control (TAC) valve is utilised to control both the discharge of CAF and CAF mist. Use of this TAC valve provides the method for making this one singular fire suppression system, with multiple zone control valves (ZCVs). Multiple ZCVs allow the system to send CAF or CAF mist to the appropriate location required to suppress the fire. Thus, minimising equipment storage and installation space.

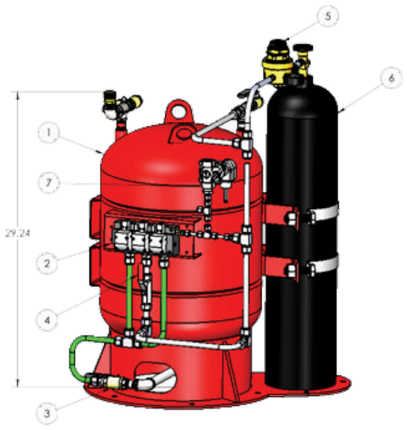
System Configurations

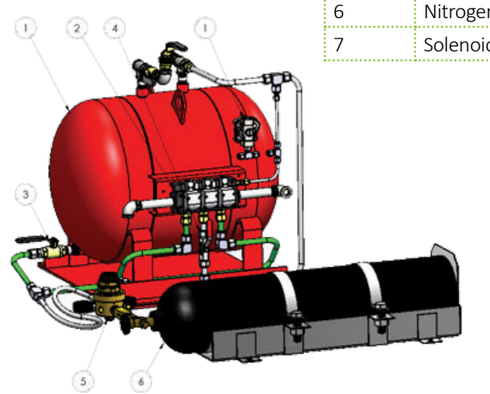
15 GALLONS





ITEM NO.	COMPONENT REFERENCE	QTY
1	Tank	1
2	Control Valve	1
3	Solution Valve	1
4	Nitrogen Valve	1
5	Regulator	1
6	Nitrogen Cylinder	1
7	Solenoid Valve	1

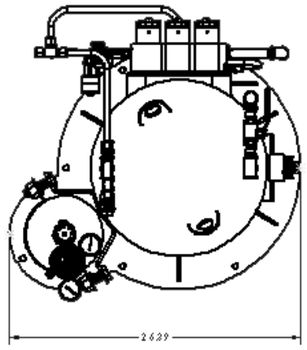


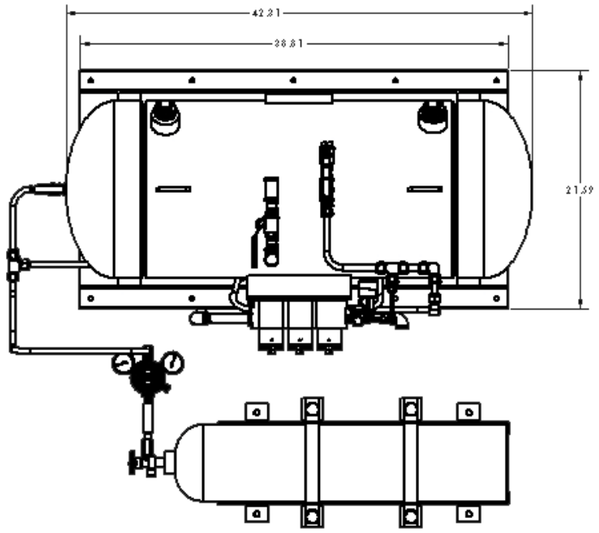


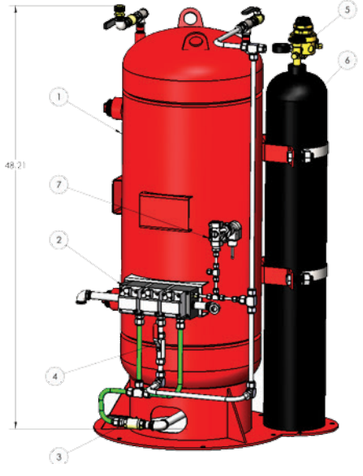
“The next generation of foam fire suppression”

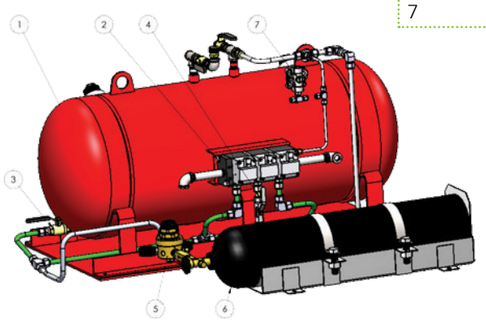
System Configurations

30 GALLONS





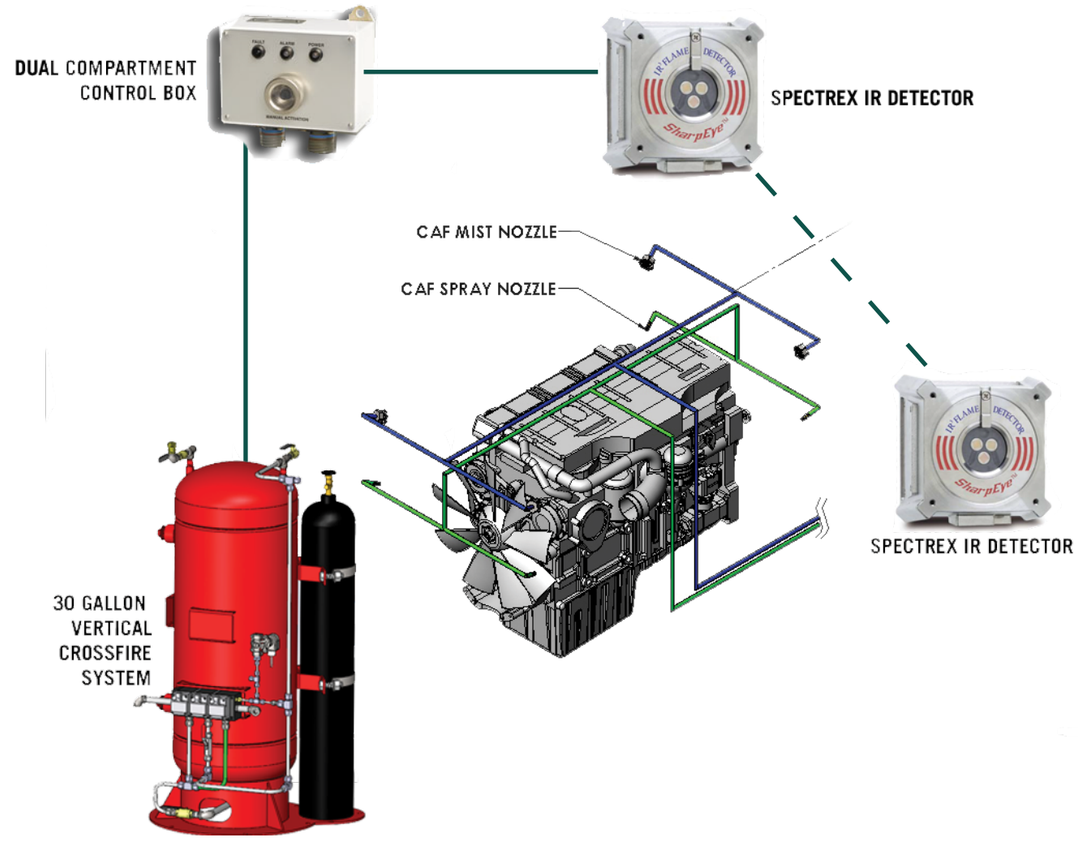




ITEM NO.	COMPONENT REFERENCE	QTY
1	30 Gallon Tank	1
2	Control Valve	1
3	Solution Valve	1
4	Nitrogen Valve	1
5	Regulator	1
6	Nitrogen Cylinder	1
7	Solenoid Valve	1

Detection Options

Agent is automatically released by either Spectrex Infrared Detection (illustrated below) or Linear Heat Detection (on the following page)



Fire Detection Options

DIGITAL LINEAR HEAT DETECTION SYSTEMS

Digital linear heat detection cable is a conventional style heat detector which is capable of detecting a fire along the entire length of the cable using a maximum alarm threshold. Its versatility and simplicity is an economic way to provide rapid detection of fire at an early stage.

FIBRE OPTIC LINEAR HEAT DETECTION SYSTEMS

Are capable of recording temperatures along the entire length of the sensor cable providing continuous real time temperature profile of the environment in which the system is installed. These systems are capable of detecting and locating a fire or overheat conditions over distances up to 10 km.

MICRO CHIP LINEAR HEAT DETECTION SYSTEMS

Rapidly and accurately detect temperature changes at ±0.1°C increments along its length, with multiple alarm thresholds including fixed point, rate of rise and pre alarm. The system controllers include the ability to program various alarm thresholds which interface with fire control and building automation systems upon fire alarm. In turn providing real time data of any fire scenario to operational personnel as well as accurately operating the fire suppression systems to activate where required.

FLAME DETECTION

Flame Detectors operate in the harshest environmental conditions and offer a solution for virtually any application where there is a fire risk to personnel and high value plant and capital equipment We offer flame detection solutions with fast response times, the best area coverage, the highest immunity to false alarms and all the performance and safety approvals you need. Before you choose you need to know the “pros and cons” of each type of detector.

60 Gallon Fire Fighting Unit

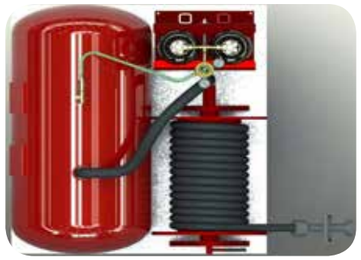
Designed for applications that demand dependable fire fighting equipment for Class A and Class B fires.

This quick response compressed air foam fire hose unit will produce CAF quickly and efficiently.

The unit’s construction offers years of dependable service. The stainless steel tank is painted with an industrial finish to further protect from corrosion, making this equipment ideal for any environment including offshore applications.

FEATURES & BENEFITS

- Proven Technology
- Easy to operate
- Self-contained unit 225L capacity
- Throw approximately 20m
- 30m Hose
- Enhanced foam blanket stability on fuel spill risks
- Efficient Fire & Vapour Suppression
- No power required
- No water required
- Transportable to risk
- Pallet sized skid base with forklift access
- Virtually maintenance free
- 5 year Warranty
- Stainless Steel Tank & Compact Design
- Tested, Certified & Engineered to Last
- Compressed Air Foam on Demand
- Designed for use with AFFF or Fluorine Free foam concentrates



PRODUCTS:

Gaseous Suppression

- Inert Gas (IG-01, IG-55, IG-100, IG-541)
- Novec 1230™ Fluid (FK-5-1-12)
- FM-200® / NAF S 227 (HFC-227ea.)
- Ecaro 125® / NAF S 125 (HFC-125)
- Carbon Dioxide (CO_2)
- Hybrid Systems (N_2 / Water)
- Pressure Relief Vents
- Enclosure Integrity Testing Equipment
- Pipe & Fittings

Water Suppression

- Water Mist - High Pressure
- Water Mist - Intermediate Pressure
- Water Mist - Low Pressure
- Hybrid Systems (Water / N_2)
- Monitors & Delivery Systems
- High Speed Deluge

Foam Suppression

- Foam Concentrates
- Foam Proportioning
- Foam Delivery Systems
- Foam Concentrate Testing

Explosion Protection

- Explosion Suppression
- Explosion Isolation
- Explosion Vents & Pressure Relief
- Spark Suppression
- Explosibility Testing

Fire Detection

- Linear Heat Detection - Digital
- Linear Heat Detection - Fibre Optic
- Linear Heat Detection - Micro Chip
- Flame Detection
- Video Imaging Detection
- Spark Detection
- Control & Indicating Equipment
- Thermal Imaging Detection
- Bushfire Detection

Military & Defence

- Military Vehicles
- Naval Vessels

Special Applications

- Micro Environment
- Oxygen Reduction
- Kitchen Protection Systems
- Dry Chemical
- Vehicle Systems
- Compressed Air Foam
- Marine & Offshore
- Vapour Mitigation

Support Services

- Design / Engineering
- Technical Support
- Services & Testing

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fire protection TECHNOLOGIES

'Every solution for your special hazard needs'