

## **SUGGESTED SPECIFICATIONS FOR CAFS EQUIPPED FIRE TRUCKS**

The following Compressed Air Foam System (CAFS) specifications are for consideration as design options for mid-size CAFS modules. They exceed the minimum published standards for CAFS modules required under the HB 2604 grant program. These specifications are presented for informational purposes only. They are intended to guide fire departments in designing CAFS trucks with higher capability.

These specifications do not meet the current minimum standards for the Texas Addendum to ISO for CAFS Credit.

There are several possible considerations for creating a CAFS fire truck. The conversion can be accomplished by adding a fully self-contained CAFS module (water pump, air compressor, and foam proportioner), or by adding components to a truck or slip-on module, with one or more of these CAFS components already in place. Some CAFS manufacturers offer modules with or without water pumps and pricing will vary accordingly.

### **Suggested Specifications For a Mid-Sized CAFS Module:**

#### **WATER PUMP**

Minimum Capacity: 250 GPM at 40 PSI, with a minimum operating performance of 100 GPM at 100 PSI.

Minimum CAFS Solution (Water) Flow: 45 GPM for a 1.5-inch discharge.

#### **AIR COMPRESSOR**

Minimum Air Pressure: 100 PSI

Minimum Air Flow: 45 SCFM for a 1.5-inch discharge.

A Rotary-Screw compressor is required.

#### **FOAM PROPORTIONER**

Unit should be equipped with a discharge-side foam proportioning system capable of inserting Class A foam in percentages from 0.01% to 1.0%.

The foam concentrate insertion point should be downstream of the tank-fill discharge and the pump re-circulation line, with at least one check valve (recommended non-metallic) to prevent foam concentrate from entering the water supply.

## **PLUMBING**

Plumbing exposed to foam solution should be stainless steel, or where necessary for flexing, high-pressure wire-reinforced hose.

Plumbing should be assembled using unions, flanges, swivels, etc., to facilitate the servicing of all components.

Check valves should be used to prevent water from entering the air compressor and foam concentrate; to prevent air from entering the water pump and foam concentrate; to prevent foam concentrate from entering the water pump and air compressor; and to prevent foam concentrate from entering the water tank.

## **MINIMUM ACCESSORIES**

Unit should have vibration-dampening gauges for water and air pressure.

Unit should have plumbed into the air system, a quick-connect female fitting for standard air hose male fittings.

## **MINIMUM OPERATIONAL PERFORMANCE**

CAFS flows should be capable of an operator-selectable “wet” to “dry” aerated foam discharge (similar trajectory to that of a water-only stream on the “wet” side, and have the ability to cling to a vertical surface on the “dry” side).

CAFS unit should be able to produce independent flows of air, water, foam, solution, or CAFS, and simultaneous flows of compressed air foam, or foam solution and plain water, with combined flows up to the maximum rated GPM capacity of the pump at 100 PSI.

The water pump discharge pressure should be operator-selectable.