



**PATENT  
PENDING**

Providing Innovative Delivery  
Systems for Halon Alternatives

**Clean Agent Pumping Systems**



## Introduction

**Pumping Clean Agent** - a new and innovative era in applying clean agents for fire protection systems. This patent pending technology uses specially engineered pumps to apply clean agent Halon alternatives. This unique technology now provides system designers with more delivery options and methods than ever before.

Technology designed for use with

**3M**

Novec™

Fire Protection Fluid

## Applications

Clean agent pump systems provide maximum design and application flexibility, allowing for a single discharge, cycled discharge, continuous discharge or any combination thereof. Pump systems are available for use in total flooding fire protection, local flooding, streaming or inerting applications. A few application examples are:

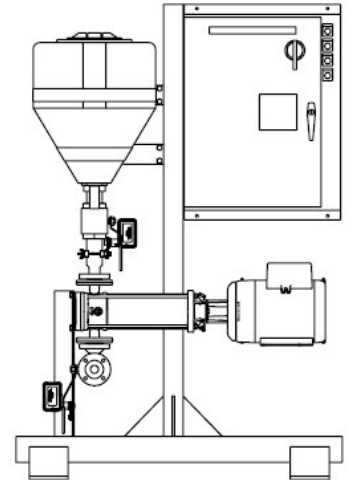
- Telecommunications
- Data Processing Centers
- Mission Critical Operations
- Critical Power / Turbine Rooms
- Aircraft
- Mining & Explosives
- Machinery Rooms
- Paint Lockers—SOLAS
- Offshore Platforms
- Marine Control Rooms

## Products

### Component for Pre-Engineered Systems

CAPS Fire Inc. offers turnkey pump delivery systems designed to take advantage of the unique storage and handling properties of 3M™ Novec™ 1230 Fire Protection Fluid. These pump delivery systems are available through Original Equipment Manufacturers (OEM's) who provide complete Novec 1230 fire protection fluid systems. Each pump unit is shipped completely tested for easy integration into new or existing systems.

These pumps are capable of replacing contemporary bottle delivery systems by providing twice the discharge capacity. Each of our standard packages are designed to equal two distinct bottled systems; providing equivalent capacity for two ISO 14520 (NFPA 2001) compliant discharges. This allows for the system to be brought back online immediately after a discharge or configured to provide a second discharge in the event of re-ignition.



### Available Sizes

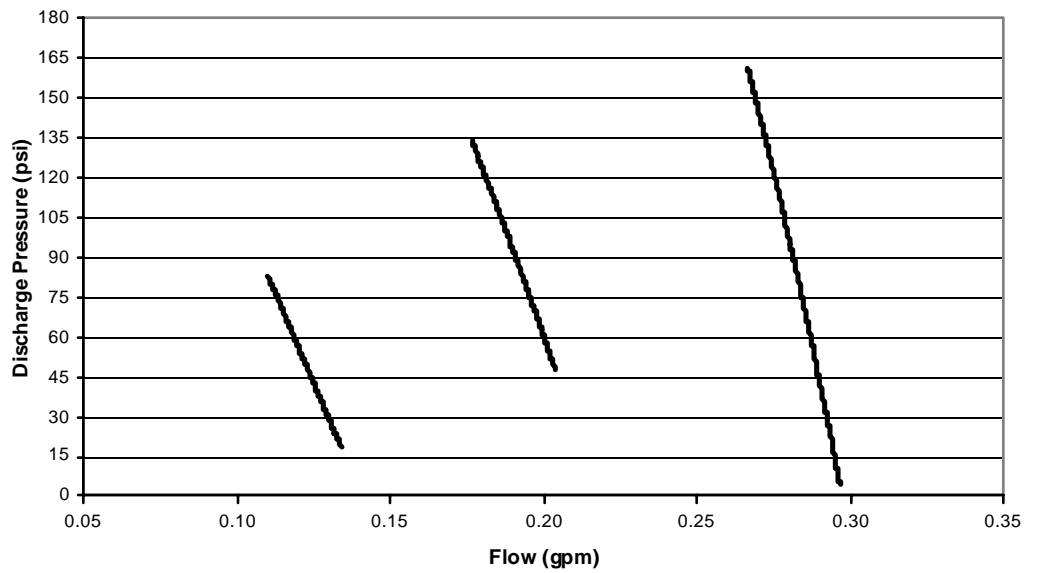
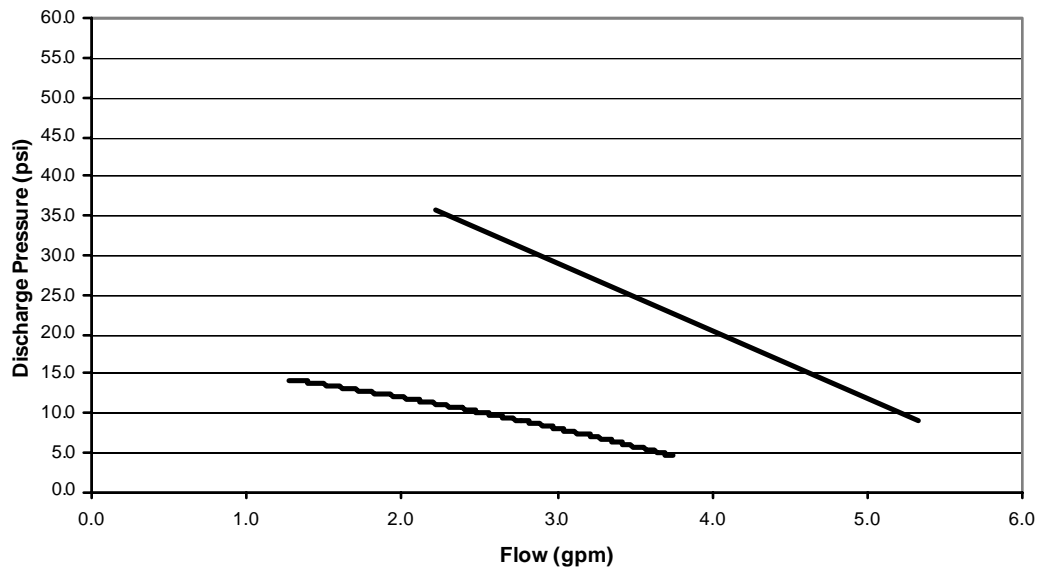
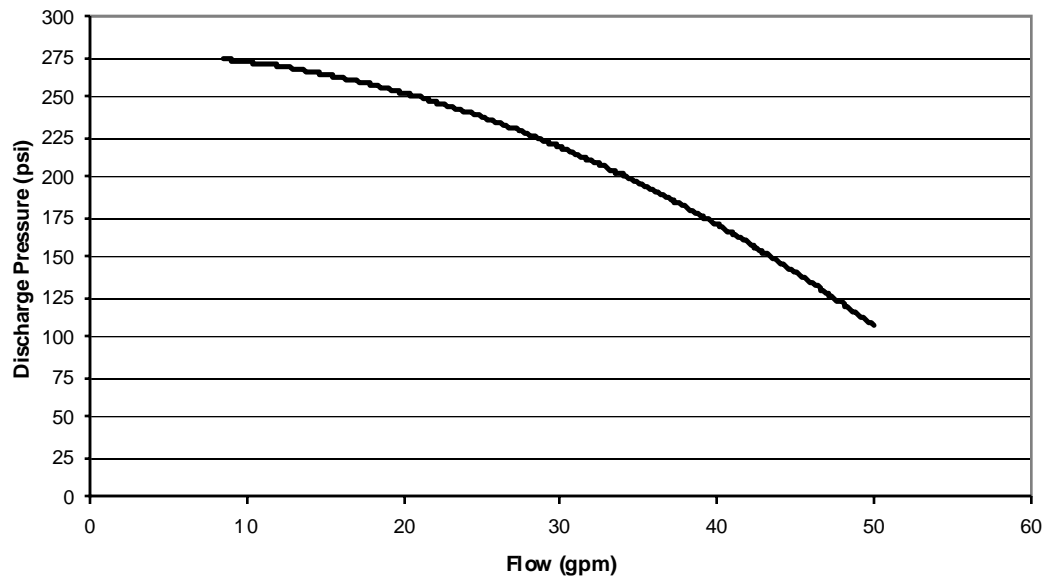
- 200 lb. Capacity of 3M™ Novec™ 1230 Fire Protection Fluid
- 1200 lb. Capacity of 3M™ Novec™ 1230 Fire Protection Fluid

### Component for Engineered Systems

Unlike typical pressurized bottled systems, our unique pumping packages are limited only by your innovative imagination or unique application requirements. CAPS Fire Inc. can manufacture or produce a pump for integration into your fire protection system within the parameters below.

- AC - 220 Volts; Single Phase (60 Hz)
- AC - 230/460 Volts; 3 Phase (60 Hz)
- AC - 380/415 Volts; 3 Phase (50 Hz)
- DC - 12, 24, 36 or 48 Volts
- Compressed Air
- Flow Rates between 0.7 LPM (0.2 GPM) and 378 LPM (100 GPM)
- Nozzle pressures up to 17 bar (250 PSI)

**Clean Agent Pump  
Performance  
Charts as Tested  
With  
3M™ Novec™ 1230  
Fire Protection  
Fluid**



## Benefits

- Pre-engineered pump packages will provide equivalent of two discharges
- System can be put back in a “ready” state for re-activation after first discharge
- Flexibility in piping distance and nozzle design - choose appropriate nozzle for hazard
- No equipment or bottles to remove after system is discharged - simply refill the atmospheric storage tank with agent
- System can be easily tested on regular basis without losing agent
- No need to deal with DOT cylinders or difficult shipping procedures
- Can easily “Stop/Start” manually or automatically
- Capable of long continuous sustained discharges or pulsed/cycled discharges
- Works well for local application and small enclosures
- Capable of inerting enclosed volumes and maintaining set concentration through a feedback loop tied to a gas detection or other control system
- Can be integrated with conventional pressurized cylinder systems to maintain extinguishing concentration where enclosure leakage is unavoidable
- Appropriate in “Equivalency/Performance Based Design” approaches
- Smaller flow pumps can be placed inside the atmospheric agent container to save storage space (submerged pump and motor)
- Flow rates can vary widely from very small to large, adapting to the specific hazard



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