



## **ATEX Explo Guard High Rate Discharge Dry Chemical Suppressor**

**Y—2.3**

### **INTRODUCTION**

The ATEX Explo-Guard High Rate Discharge (HRD) Dry Chemical Suppressor Sub-System is the next generation of revolutionary reliable and cost effective chemical suppression suppressors. The engineers at ATEX were given two basic principals by which to design the suppressor. First it needed to be reliable and second it must be cost effective. An analysis of existing products found them to be either reliable or cost effective but not both. They knew the valve had to be totally different than the existing designs. Finally they produced the ATEX Explo-Guard HRD Suppressor. A simple mechanical valve with redundant firing, requiring minimal part replacement after activation and major advances in cost control for initial and operational costs. The final benefit is that it is retrofitable to old style detonator, single release systems with high recondition costs. Plus it can replace Halon 1011 or Halon 1301 systems and use the existing HRD saving major retrofit costs.

### **CONCEPT**

The ATEX Explo Guard Dry Chemical HRD is designed to use the minimum of parts for valve opening to achieve the maximum speed of operation. The valve uses natural



Atex 5" and 3" Valves

geometric shapes that enhance the speed of operation. A mechanical flapper is held in place by the release pin. When a signal is sent to the valve from the control panel two redundant gas generator cartridges pressurize a uniquely designed release mechanism to release the pin and fire the suppressor. While other suppressors have redundant electrical solenoid coils they do not have total redundancy. The ATEX Explo- Safe Suppressor uses two redundant gas generators to move the single release pin and open the valve eliminating linkage. A simple reliable valve with true fail safe redundant design. When the suppressor valve opens pre-pressurized dry chemical agent releases into the protected area using the unique ATEX Spreader Nozzles.



### **BENEFITS**

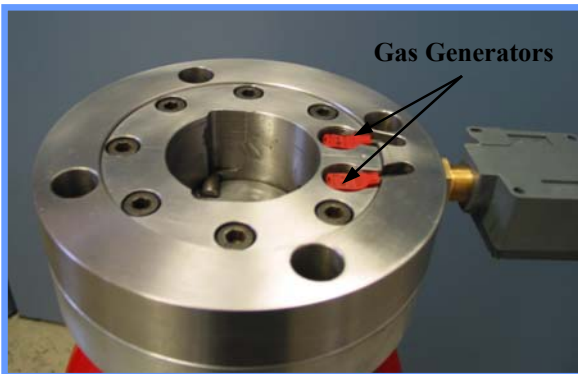
- √ **Suppresses flame and pressure propagation.**
- √ **Does not release combustion or toxic dust particles into the air.**
- √ **Can be used inside all plant areas regardless of ventilation.**
- √ **Reduces Maintenance and Operational Cost.**
- √ **User maintenance and operation.**
- √ **True redundant release for system reliability.**
- √ **Does Not Require Explosive Permits and Licenses.**



**DESCRIPTION**

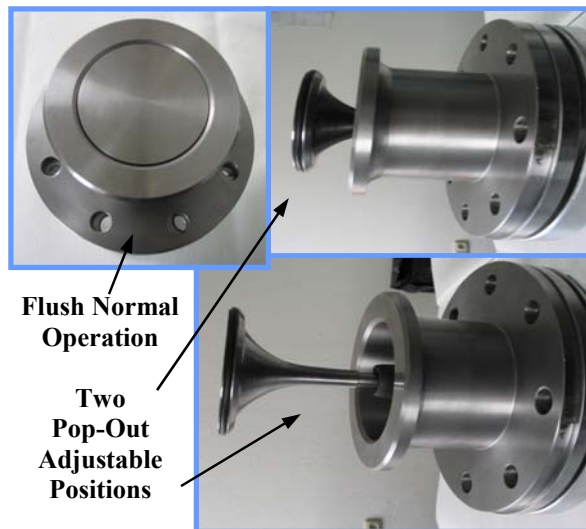
After detection of a deflagration by the ATEX Explo Sentinel System a signal is sent to the system controller, processed and sent to the HRD.

When the Explo Guard unit receives a signal two small redundant gas generators activate introducing pressure to the spring controlled release piston which pushes away from the release pin allowing the pressure in the HRD to push the pin and open the valve. The valve opens completely and releases the suppressant into the protected vessel. The suppressant is pressurized to 60 bar for the fast protection of small and large volumes. The 60 bar pressure level has been found superior to lower pres-



ures in achieving a homogeneous dispersion of the suppressant. The Gas Generator redundancy offers 100% additional reliability.

The ATEX Explo Adjustable Guard Pop Out Spreader advances chemical release with a hygienic design that is easy to install and does not require expensive blow off caps and covers. It provides a flush hygienic finish during process operation and on discharge the nozzle presses into the vessel to disperse the dry chemical. The unit is adjustable to meet a variety of release pattern requirements. The unit is simple to recondition without entering the vessel.



| Item                 | Standard | ATEX       | Motor           |
|----------------------|----------|------------|-----------------|
| Supervision          | Yes      | Yes        | Yes             |
| Component Redundancy | No       | Yes Full   | Electrical Only |
| Valve Lock           | No       | Yes (OSHA) | Yes             |
| Maint. Cost          | High     | Low        | Moderate*       |
| Rearm Cost           | High     | Lowest     | High*           |

\* Special Equipment and Factory Return Required

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