

Victaulic Vortex™ 1000 Fire Suppression System

HYBRID WATER MIST SYSTEMS



Patent 7,686,093 - Dual Extinguishment fire suppression system using high velocity low pressure emitters. Foreign patents also applied for and granted .



Product Overview

The Victaulic Vortex 1000 fire suppression system is a hybrid system incorporating liquid (water) and inert gas (nitrogen) extinguishing agents discharged together from a single emitter (discharge nozzle).

Using proprietary supersonic technology, the system atomizes the water to <math><10\mu\text{m}</math> forming a dense homogeneous suspension of nitrogen and water. In this manner two extinguishment mechanisms are occurring simultaneously: cooling and oxygen reduction.

Vortex 1000 system available to meet full Factory Mutual design requirements.

Operation

The system is fully compatible with automatic hazard detection systems and is adaptable for remote manual activation if required.

The Victaulic Vortex 1000 system is particularly useful for suppressing fires in hazards where an electrically non-conductive medium is essential or desirable, where clean up of other agents present a problem, room integrity is not possible, or where the hazard is normally occupied and requires a nontoxic agent.

The basic system consists of stored nitrogen and either municipal or captive water supply, water piping along with single or multiple zone control boxes and system emitters in the hazard area. The suspension of water and nitrogen is distributed and discharged into the hazard area through a twin piping network and emitters. System emitters can be installed in pendent configuration and are positioned via straightforward cubic-foot/meter coverage volume requirements.

FEATURES & BENEFITS

- Can be effectively used in “leaky” enclosures
- Completely safe for occupied areas
- No time delay required prior to discharge
- Very small quantities of water discharged
- Completely safe for energised electrical/computer equipment rooms

APPLICATIONS

The Victaulic Vortex 1000 Fire Suppression System can effectively be applied in total flooding fire suppression applications in the following areas:

- Industrial machine spaces such as power generation plants, turbine enclosures, automotive manufacturing, steel foundry
- Flammable liquids storage
- Total flood applications
- Local Applications
- Transformers
- Generator Rooms
- Turbines
- Hydraulic rooms
- Pickling Lines
- Extinguishment of ‘Class B’ hydrocarbons

APPROVALS

Performance Certification	FM Approved NFPA770 Hybrid Water Mist Compliant
Hydraulic Software	UL Verified

Regulatory Information

The Victaulic Vortex 1000 system is FM Approved under the FM5580 standard for Fixed Extinguishing Systems, Hybrid (Water and Inert Gas) for the protection of combustion turbines, machinery spaces, and special hazard machinery spaces in enclosures with volumes not exceeding 3600 m³ / 127,525 ft³ and a maximum height of 7.5 m/24.6 ft.

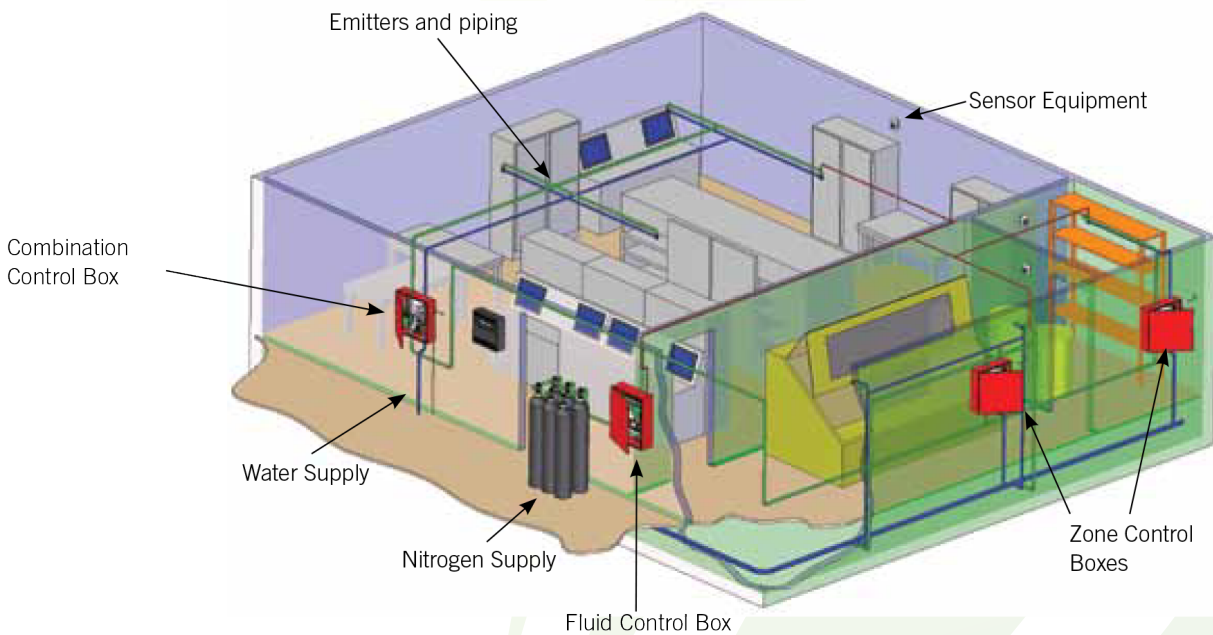
Environmental Impact

Since the Victaulic Vortex 1000 system only discharges pure nitrogen and water, there are no environmental or life-safety risks as a result of a system discharge. The Environmental Protection Agency Significant New Alternatives Policy (SNAP) approval recognizes the Victaulic Vortex homogenous suspension discharge as a suitable replacement for Halon 1301. The system can be discharged immediately upon fire detection, without a delay for occupant evacuation.

Installation

All system components and accessories must be installed by personnel trained by the manufacturer. All installation must be performed according to the guidelines stated in the manufacturer's design, installation, operation, inspection, recharge and maintenance manual. See publication: I-VORTEX_1000_5018_Rev_C.

Typical System Layout



Dry Contact Vortex Combination can also be used for Multi Zone System Applications

Note

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.