

# PEMALL USA

YOUR **SAFETY** IS OUR **BUSINESS**

## PEMALL THERMAL-FLEX

### CLEAN AGENT FIRE SUPPRESSION SYSTEM



[WWW.PEMALLUSA.COM](http://WWW.PEMALLUSA.COM)



# CORPORATE PROFILE

The PEMALL logo features the word "PEMALL" in a bold, white, sans-serif font. A red triangle is positioned above the letter "A".

Since the establishment of Pem System, Inc. in the year 1947, we have been trusted and committed manufacturers of fire safety systems aimed to protect human lives.

Firmly rooted for seven decades in the fire protection industry, our commitment to thrive in the areas of Research and Development led Pem System, Inc. to its acquisition by an International Company in 2010. Our innovative advancement in providing best fire protection solutions in the market gained esteemed recognition as the world's leading independent manufacturer in the field of fire protection industries.

The PEMALL USA logo consists of the words "PEMALL" and "USA" stacked vertically in a bold, blue, sans-serif font. A white star is placed to the right of the letter "A" in "USA". To the right of the text are five horizontal red bars of varying lengths, resembling the stripes of the American flag.

Today, after years of relentless hard work and drive, we launch our new trademark as "PEMALL USA", our latest innovation of superb clean agents and fire suppression systems. With the numerous fire suppression options in the market, PEMALL USA stands out among them by providing both quality and sustainable products that are ideal for your facility, business, critical assets and people.

PEMALL USA continues to develop state-of-the-art facility that produces high-quality fire suppression systems catered to meet our customers' unique needs, as well as sustaining specialization in manufacturing Clean Agents and System Components that is proven to have reliable product quality. Our products carry various international approvals such as Underwriters Laboratories (UL) listings, Factory Mutual (FM) Approval, GOST (Russian) Approvals and various European certifications or approvals to CE and TPED, which ascertain PEMALL USA's highest quality in products and systems. Each type of fire suppression solution has its own inherent benefits. We provide one-stop complete system solution where our customers can acquire products and services essential to their fire protection needs.

## APPROVALS & CERTIFICATIONS



# THERMAL-FLEX TUBING SYSTEM



**PEMALL Thermal-Flex** is a flexible compact fire suppression system that protects small enclosures. Electrical enclosures can be found in almost every work place, These small enclosures can present a particular problem where faults occur, wiring is damaged or in case of improper installation which can increase the risk of fire that can result in total loss of equipment, fire spread or shutdown of vital services & systems.

The versatile PEMALL Thermal-Flex system provide fire suppression and it is the perfect fit for wide range of applications.

**PEMALL Thermal-Flex** also excels in unoccupied inaccessible environments, playing a vital role in critical areas like power generation and the oil and gas industries.

**PEMALL Thermal-Flex** is a system with many benefits, the system pressurized detection tube is installed in close proximity to the areas of highest risk meaning faster detection and suppression of a fire can be achieved, This liners heat and flame detection

method allows for activation at the point of ignition, in the event of fire or high ambient temperature. The detection tube bursts releasing the pressure within the tube allowing the flow of PEMALL 227 or PEMALL 5112 fire protection fluid and the electrically non-conductive clean agent directly flows into the heart of fire. this requires no power supply for detection or actuation, hence remains operational during power interruption.



- 24/7 PROTECTION
- SELF CONTAINED SYSTEM
- COMPATIBLE WITH CONVENTIONAL & ADDRESSABLE FIRE PANELS

## AGENTS □

**PEMALL Thermal-Flex** systems are compatible with most commercially available fire suppression agents, including:



PEMALL Thermal-flex Pre-Engineered System Filled with **UL/FM** Clean Agents.

## Why PEMALL THERMAL-FLEX TUBING SYSTEM



- Suppresses fire within seconds to minimize damage
- Flexible, narrow tubing is particularly applicable in small spaces
- Always activates where the most heat is detected
- Can be installed virtually anywhere, especially in hard-to-reach areas
- No electricity required; performs even during electrical failure
- available suppressants agents including PEMALL HFC 227 ea / PEMALL FK-5-1-12
- Cost-effective and practical.
- Quick and simple installation.

## PRE-ENGINEERED CYLINDERS & ACCESSORIES

### CYLINDER SIZES & SPECIFICATION PEMALL HFC227ea

Model Number (DAR Head Valve)	Model Number (IAR Head Valve)	Cylinder Size (LB)	Max Fill at 70 LB/ft <sup>3</sup>	Min Fill at 70 LB/ft <sup>3</sup>	Valve size
HD-0005	HS-0005	3LB	3LB	1LB	1/2"
HD-0010	HS-0010	6LB	6LB	3LB	1/2"
HD-0015	HS-0015	12LB	12LB	6LB	1/2"
HD-0020	HS-0020	18LB	18LB	12LB	1/2"

### CYLINDER SIZES & SPECIFICATION PEMALL FK 5112

Model Number (DAR Head Valve)	Model Number (IAR Head Valve)	Cylinder Size (LB)	Max Fill at 70 LB/ft <sup>3</sup>	Min Fill at 70 LB/ft <sup>3</sup>	Valve size
FD-0005	FS-0005	3LB	3LB	1LB	1/2"
FD-0010	FS-0010	6LB	6LB	3LB	1/2"
FD-0015	FS-0015	12LB	12LB	6LB	1/2"
FD-0020	FS-0020	18LB	18LB	12LB	1/2"

\* Indirect system comes with same specification where model number suffix will be "S" instead of "D".

Complete pre-engineered system comes with cylinder, bracket, head valve assembly c/w pressure gauge, ball valve, siphon tube, & burst disc with fire detection tube with end of line adaptor & gauge.

## SYSTEM PARTS



**Discharge Pipe Nozzle**  
Special Metal Discharge Nozzle comes in 15 & 30 Degree arrangement.



**Direct Manual Release Assembly**  
The Direct Manual Release Assembly is connected from the Pneumatic Fire Detection Tube. The Direct Manual Release Assembly can also be used in place of an End-Of-Line Adapter. It can be connected to any point along the Fire Detection Tube by adding a High Pressure "T" Fitting.



**Multiple Controller Unit**  
Multiple Compact Control Head Valve that comes with build in pressure gauge, Manual Release knob along with provision to Direct & Indirect Connections.



**End-Of-Line Adapter**  
The End-Of-Line Adapter is used for connecting devices such as Pressure Gauge or Pressure Switch



**Fire Detection Tube & Protection Guard**  
Fire Detection Tube of special Polymers that designed as Linear Heat detection or/and Flame Extinguishing. Optional metal spring guard of 1.2m to protect the tube comes in 6mm & 8 mm.



**Pressure Gauges**  
Pressure Gauge is used to monitor the internal pressure of the cylinder. They are available in two ranges : 195 psig and 240 psig.

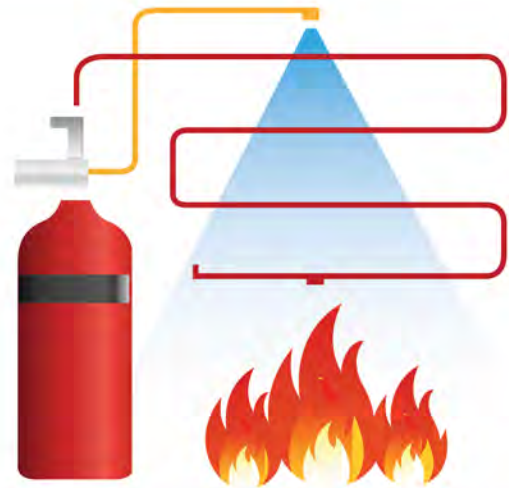


## HOW IT WORKS ?



### Direct Action Release System

**PEMALL Thermal Flex** Pre-Engineered System can be configured for Direct Action by utilizing Detection Flexible Tubing System that acts as a fire detection device, a nozzle, and a fire suppressant delivery to the hazard. Under this special design, no electrical power, electrical detection devices and alarm control units are used. The portion of this special polymer tube nearest to the hottest point of the fire ruptures forming an effective discharge nozzle. The pressure in the cylinder propels the entire contents of the cylinder clean agent through this instant nozzle which is directed to the fire immediately & put it down effectively.



### Indirect Action Release System

**PEMALL Thermal Flex** Pre-Engineered System valve is designed for Secondary Action with connection outlets of Discharge & Detection Tube separately. The Special Polymer Tube is used as a detection device only. When Detection Tubing System open under a fire condition it will operate the main control valve allowing the discharge of fire suppression agent through the discharge port, which is connected to a set of stainless steel tubing or braided hose with special metal nozzle(s) strategically placed within the protected enclosure. This arrangement does not require any electrical power, detection alarm or panel. However, Thermal Flex Indirect System has an option to be fitted with an electric solenoid that operates electrically through standard Releasing arrangement of detection devices & Panel.

## Areas of Application



CNC Machines



Vehicle / Bus Engine



Electrical Panel



Server Room Racks



Medical / Laboratory equipment



Switchgear



# GLOBAL NETWORK

UNITED STATES OF AMERICA



UNITED ARAB EMIRATES



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