



# FIRE PRODUCT CATALOGUE



Fire Safety, Security & Environment

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## About Us

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Our company started in the 1970's with an idea of preserving the environment for the betterment of society. During that course of business, we pioneered the industry by supplying integrated fluid handling water solutions. With the trend of upstream industrialization and expanding urbanization in Indonesia, our portfolio of solutions has expanded into Fire Safety, Security, and Environmental systems. These solutions cover areas in Water, Fire, and the Environment; elements that are deemed essential for human life.

Today, we are the leading company in Indonesia that offers innovative and modern solutions to meet your business needs and requirements. Through our distribution, engineering, and procurement and contracting services, we can be your one-stop-solution for pumps, rotating equipment, fire protection, safety, security, and environmental solutions.

To serve our customers throughout Indonesia; we operate our main head office, sales office, and workshop in Jakarta and its surrounding areas. Outside Jakarta, our branch offices and teams are available at Palembang, Surabaya, and Balikpapan. For flexibility and faster response to our customers' needs, we also work together with our dealer partners. Anytime, anywhere, there is no limitation in delivering our services across Indonesia.

## Our Vision & Mission

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"To create sustainable value for both our stakeholder and ourselves", and to be an innovative water, fire and environmental resources management company for the highest satisfaction and assurance of our stakeholders.

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"for Generations to Come" We provide innovative and dependable solutions to manage water and fire resources, growing economies sustainably with the environment, in order to for society to live more prosperously from generation to generation.

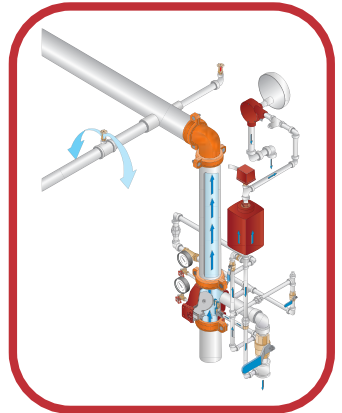
## SPRINKLERS SYSTEM

A wet pipe sprinkler system is fixed fire protection using piping filled with pressurized water supplied from a dependable source. Closed heat sensitive automatic sprinklers spaced and located in accordance with recognized installation standards are used to detect a fire. Upon operation, the sprinklers distribute the water over a specific area to control or extinguish the fire. As the water flows through the system, an alarm is activated to indicate the system is operating. Only those sprinklers immediately over or adjacent to the fire operate, minimizing water damage.

### APPLICATIONS

A wet pipe sprinkler system may be installed in any structure not subject to freezing to automatically protect the structure, contents, and/or personnel from loss due to fire. Such as:

- Office Building
- Commercial Building
- Warehouses
- Residential
- Industrial
- Powerplant



Upright Sprinkler



Pendent Sprinkler



Sidewall Sprinkler



Concealed Sprinkler



ESFR Sprinkler

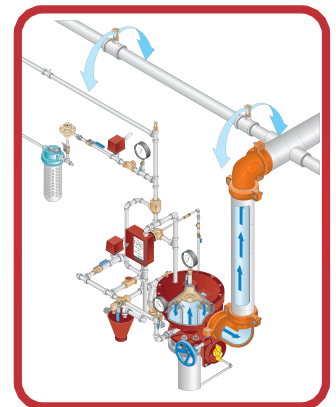
## DELUGE SYSTEM

A Deluge System is a fixed fire-protection system which totally floods an area with pressurized water through a system of piping and open nozzles or sprinklers. The system piping is empty until the deluge valve is activated by a hydraulic, pneumatic, electric or manual release system.

The Viking deluge valve prevents water from entering the system piping until required. The deluge valve is kept closed by a pressurized upper valve chamber. The pressure is maintained through a restriction on the service side. This upper chamber is also connected to the release line. When the pressure is relieved from the upper chamber through the release line, the clapper is lifted by the water pressure under the clapper. Water floods the system and rings alarm.

### APPLICATIONS

Storage or process areas containing substances having a low flash point; areas in which fire may spread rapidly; tanks containing combustible solutions, transformers, equipment pits or product handling systems.



## AIRCRAFT HANGAR / HELIPAD SPECIAL PROTECTION

The Viking Model GN200/360 Grate Nozzle is designed for the protection of aircraft hangars and helipads. The Grate Nozzle® is an AFFF foam discharge device located at the floor level of an aircraft hangar or helipad in trench drains. The top of the nozzle grate must be flush or level with floor it is protecting. The Grate Nozzle® is designed to discharge foam solution in a 360° (GN200/360) radius. The Grate Nozzle is designed to provide uniform discharge with a maximum spacing of 50'x 25' (15.2 m x 7.6 m). The companion Model 1120 or Model 1126 trench drain grate is specially engineered to receive the Grate Nozzle and serve as a cover for the drain trench.





## PREACTION SYSTEM

Fixed fire protection system with closed sprinklers connected to piping pressurized with air or nitrogen (for supervision only) with a dependable water supply controlled by a normally closed Deluge Valve controlled by a release system.

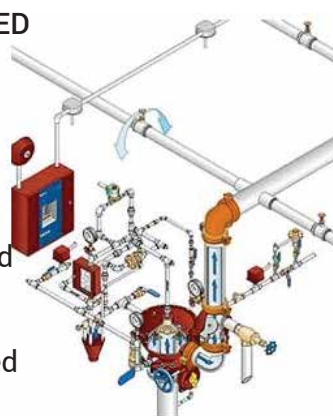
Preaction system are applied where it is important to control accidental water discharge due to damaged sprinkler piping (ex. Data Center, Server Room). Freezers / Cold Storage area where flooding of the pipe can have serious consequences.

### SINGLE-INTERLOCKED PREACTION SYSTEM



The single interlocked preaction system requires operation of the detection system to trip the Viking deluge valve and fill the system with water. It also utilizes supervisory air pressure in the system piping. Water will then be discharged on the fire when the sprinklers fuse.

### DOUBLE-INTERLOCKED PREACTION SYSTEM



The Double-Interlocked Preaction System utilizes a detector system and pressurized air or gas in the sprinkler piping. This system utilizes the Viking deluge valve and is arranged so that sprinkler piping and the detection system operates.

## FOAM SYSTEM

A foam-water system is a special system of pipe connected to a source of foam concentrate and to a water supply. The system uses appropriate discharge devices to control and/or extinguish fires which require a smothering and cooling agent. The piping system is connected to the water supply through a control valve that is actuated by operation of automatic detection equipment that is installed in the same areas as the sprinklers. Foam-water systems are designed to distribute a foam-water solution to a specific hazard area for fire protection.

Examples: extraction plants, aircraft hangars and areas where flammable-liquid spill fires may occur.

Types Of Foam-Water Systems

Foam systems can be fixed, mobile, or portable systems:

### FIXED SYSTEM

A complete installation in which foam is piped from a central foam static discharging through fixed delivery outlets to the hazard to be protected with permanently installed foam pumps or bladder tanks.

### SEMI-FIXED SYSTEM

System where the hazard is equipped with fixed discharge outlets connected to piping that terminates at a safe distance.

### MOBILE SYSTEM

Any type of foam-producing unit that is mounted on wheels and is self-propelled or towed by a vehicle and can be connected to

### PORTABLE SYSTEMS

include foam-producing equipment, materials, hose, and so forth, that are transported by hand.



## INERGEN CLEAN AGENT FIRE SUPPRESSION SYSTEMS

The INERGEN Fire Suppression System protects enclosed areas where people may be present, fire may strike day or night, and damage from conventional agents cannot be tolerated. Safe for people, INERGEN agent is non-synthetic and made of naturally occurring gases: nitrogen, argon, and carbon dioxide. Once discharged, it returns to the atmosphere in its natural state. INERGEN agent includes a small percentage of carbon dioxide which enhances its ability to sustain life in a reduced oxygen atmosphere.

### INERGEN SYSTEMS – 150 BAR & 200 BAR

Using back pressure system in 150 BAR & 200 BAR, there is no nitrogen needed for the activation of this type INERGEN SYSTEMS.

### INERGEN SYSTEMS - 300 BAR I-FLOW TECHNOLOGY

Using innovative i-FLOW delivery technology, the INERGEN® 300-Bar Clean-Agent Fire Suppression System provides a regulated agent discharge into the protected hazard area. The innovative iFLOW technology is based on three main elements:

- The iFLOW valve reduces the peak pressure and regulates the flow at a nominal pressure of 60 bar (870 psi) in the 300 bar (4350 psi) system, while maintaining the ability to achieve 95% of the system design concentration within 60 or 120 seconds.
- The iFLOW horizontal check valve minimizes installation time by facilitating the interconnection of containers and, in many cases, eliminates the need for a discharge manifold.
- The iFLOW matrix system offers design flexibility and adaptation to complex architectural spaces.

### INERGEN SYSTEMS - Acoustic Discharge Nozzle

Data Centers and server rooms are continuously improving their efficiencies to store and process more data. Improvements in computing hardware have led to an increase in Hard Disk Drive (HDD) sensitivity to sound. Inert gas fire suppression systems, normally used to protect this type of equipment, can produce sound levels that may have adverse effects on noise sensitive equipment.

The ANSUL Acoustic Nozzle, in combination with an INERGEN Fire Suppression System, is particularly useful for suppressing fires in hazards where sound levels may affect sensitive electronic equipment as found in server rooms and data centers. The nozzle reduces the sound power level compared with standard nozzles and offers exceptional area coverage.



## CARBON DIOXIDE FIRE SUPPRESSION SYSTEMS

CARBON DIOXIDE, the original "Clean agent," is still an economical solution, providing automatic or manual protection class A, B, or C Fires.

ANSUL HIGH PRESSURE CARBON DIOXIDE SYSTEM are especially effective for non-occupied hazard such as semiconductor wet benches, control room and paint lines. ANSUL PREFERRED BULK LOW PRESSURE CARBON DIOXIDE SYSTEM are ideal for non-occupied fire hazard requiring large amount of extinguishing agent in a limited space.

Typical hazards protected by carbon dioxide systems include printing presses, vaults, open pits, dip tanks, spray booths, ovens, engine rooms, coating machines, process equipment, hoods and ducts, flammable gas or liquid storage areas, and generators.



# FIRE SUPPRESSION SYSTEM



## SAPPHIRE CLEAN AGENT FIRE SUPPRESSION SYSTEM

The SAPPHIRE system uses 3M Novec 1230 fire protection fluid for total flooding applications. The clear, colorless agent has zero ozone depletion potential, an atmospheric lifetime of just five days, and a global warming potential of 1.0.

### SAPPHIRE 25BAR SYSTEM

SAPPHIRE Clean Agent Fire Suppression Systems boast a proven record for protecting people, the environment and high value assets. The system is custom engineered to quickly suppress fires in occupied areas without causing harm and where clean-up of other agents may pose a problem.

### SAPPHIRE-R PLUS 70 BAR SYSTEM

SAPPHIRE PLUS 70-Bar Systems offer additional benefits. SAPPHIRE PLUS systems help reduce the footprint, installation cost and service time by offering higher fill densities to reduce the number of containers. The increased pressure also permits the containers to be located much further from the protected space and increases the ability to introduce selector valves to protect multiple hazards from a single container bank. Additionally, pipe sizes may be reduced, thereby increasing the economy and design flexibility.



## FM-200™ Fire Suppression System

The ANSUL® FM-200 Fire Suppression System protects what matters most, your people and your critical data and equipment.

### Cost-Effective Protection for High-Value Assets

High-value assets such as data and sensitive equipment demand the quality fire suppression offered by the ANSUL FM-200 Fire Suppression System. The FM-200 system is ideal for areas occupied by personnel and containing assets that could be damaged by water. The low concentration of agent required and low toxicity means less visual obscuration and minimal risk to people.

### APPLICATIONS FOR THE ANSUL FM-200 SYSTEM

Art galleries	Laboratories
Bank vaults	Libraries
Cell sites	Museums
Communication centers	Process control rooms
Computer rooms and subfloors	Robotic systems
Control rooms	Studios
Electronic data processing	Tape storage libraries
Flammable liquid storage	Telecommunications facilities
Healthcare facilities	Telephone equipment rooms
Historical buildings	Transformer and switch rooms
	Vaults/record storage

### Clean Agent Power Protects People and Property

- Detects fire in early stages
- Suppresses Class A, B and C fires
- Less visual obscuration and minimal risk to personnel
- Colorless, odorless clean agent leaves no residue
- Electrically nonconductive
- No ozone depletion potential
- UL/ULC listed
- FM approved





## SAPPHIRE COMPACT Direct Low Pressure (DLP)



DLP fixed fire suppression systems have been specifically designed to protect small enclosures. Systems can be designed to protect enclosures with both natural ventilation and forced airflow. SAPPHIRE COMPACT fire suppression systems require no power for detection or operation. Detection tubing is routed through the high risk areas of the enclosure, providing fast and effective. Automatic Fixed Fire Suppression Systems for Electrical Enclosures. Utilizing 3MTM Novec™ 1230 Fire Protection Fluid. If discharged, it does no damage to electronic equipment or the data stored on it and has zero ozone depleting potential and negligible global warming potential.



### SAPPHIRE® COMPACT Features

- Certified to LPS 1666.
- Protects enclosures with vents or forced ventilation.
- Requires no power supply for detection or actuation, remaining operational during power interruption.
- Can protect up to four enclosures with one system and each enclosure can be multicompartment.
- Highly reliable detection tube.
- Unaffected by dirt, dust, debris and oil.

## LARGE DRY CHEMICAL SYSTEMS

Dry Chemical Systems use either Class ABC or Class BC dry chemical to suppress fire. Pound for pound, dry chemical suppresses more fire than any other agent, providing both rapid suppression and protection against fire re-ignition. The sodium bicarbonate-based dry chemical is more effective than water on Class B (flammable liquid) and Class C (electrical) fires. ABC dry chemical also suppresses Class A (wood, paper, cloth) fires. Both are environmentally safe, non-toxic and economical to use in both initial installations and recharge situations.

Ansul Dry Chemical Systems use proven technology for fast knock down of the toughest flammable liquid and gas fires and provide a means of detection and suppression for complex hazards that are too difficult and inaccessible for manual means of firefighting.



DRY CHEMICAL SKID



DRY CHEMICAL PIPED



TWIN AGENT UNITS



## AQUAMIST ULF

The system operates at working pressures of 7 to 16 bar, producing droplets of water through an engineered discharge nozzle, with different nozzle types for different protected hazards.

The fine mist generated following operation is designed to limit fire growth at an early stage, before the fire can fully develop. The benefits gained include up to a fivefold reduction in the water required, without any detrimental effect on fire fighting capability.

AquaMist ULF offering includes nozzles, pump skids, valves and G-PRESS piping to bring to the market fully integrated systems.

## AquaMist

Fog



AquaMist FOG Nozzle

AquaMist FOG Open Nozzle

## AQUAMIST FOG

The system operates at working pressures of 70 to 200 bar to produce droplets of small diameters at high speed. For each different protected hazard optimized nozzles have been developed and tested.

AquaMist FOG systems can be supplied with a stand alone bank of cylinders, electrical pumps and diesel pumps depending on the fire hazard and installation needs.

AquaMist FOG systems are one of the best options when piping dimensions or pressure losses are critical (eg. heritage buildings).

## AquaMist

ULF



AM27

AM29

## AQUAMIST SONIC

It provides a higher volume of smaller water droplets and projects them further and is the high-performance fire suppression system specifically engineered to cover a wide range of industrial, commercial and institutional special hazard applications.

This system utilises nontoxic and readily available extinguishing media (water and nitrogen).

AquaMist Sonic twin-fluid technology is constructed of industry recognized and proven components including an ASME/ TPED approved stainless steel water storage tank.

## AquaMist

Sonic



AquaMist Sonic  
Bank of Cylinders

AquaMist Sonic  
Nozzle

Simplex has achieved their goal in helping countries throughout Asia, the Americas, Europe and many other regions with their fire safety and fire systems.

Thousands of our engineers provide system planning and secondary design, on-site installation instruction, system debug and other pre-sales and after-sales services for different buildings and various application requirements in more than 90 countries around the world, in order to meet all of the customers' needs.

## 4100ES FIRE ALARM CONTROL PANEL

Complete solution for fire alarm system, with high-end technology

- Addressable Panel with Multi Panel Network Capabilities
- Panel Address Capacity up to 2500 points
- Panel Available in One, Two or Three Bays Form
- Compatible for Fire Suppression Release System
- Compatible with TrueAlert Addressable Notification
- Integrated Fire Fighting Intercom System
- Integrated High Level Voice Evacuation System
- Compatible with TrueSite Information Management System
- Dual Redundant CPU Option for critical applications.
- Backward compatibility and upgrade path to new technologies



## 4010ES - FIRE ALARM CONTROL PANEL

Compact size fire alarm control panel, with big-panel features

- Addressable Panel with Multi Panel Network Capabilities
- Panel Address Capacity up to 1000 points
- Panel Available in One or Two Bays Form
- Compatible for Fire Suppression Release System
- Four Point Auxiliary Relay Module



## 4007 ES - FIRE ALARM CONTROL PANEL

Small capacity fire alarm control panel, with big protection

- Cost-Effective Addressable Panel
- Panel Address Capacity up to 250 points
- 4.3" Color Touch Screen Display
- Internal USB Port Interface for event log
- Ideal for retrofit and expansion projects
- Flexible wiring infrastructure and more cost effective



## 4004R - FIRE ALARM CONTROL PANEL

Conventional fire alarm control panel for suppression system

- Conventional Releasing Panel
- Panel Capacity up to 4 zones
- History Log stored in non-volatile memory
- Capabilities for automatic extinguishing agent release, deluge system, and pre-action sprinkler control
- Two releasing appliance circuit
- Can be programmed from front panel or from PC



## SIMPLEX NOTIFICATION AND INITIATING DEVICE

TRUE ALARM  
NON-ADDRESSABLE  
DETECTOR



TRUE ALARM  
ADDRESSABLE  
DETECTOR



TRUEALERT  
ADDRESSABLE  
NOTIFICATION



IDNET MODULE  
DEVICE



TRUEALERT  
NON-ADDRESSABLE  
NOTIFICATION



## SIMPLEX TRUESTART

Diagnostic tool for analyzing and testing fire alarm system

- Scanning hundreds of addressable fire alarm system devices and pinpoint potential problems, such as ground faults, shorted wiring, or incorrect or duplicate addressing.
- Simplify and streamline the fire alarm commissioning process
- Verify that wiring and peripheral devices are operating properly
- Identify problems before system wiring is connected to control panel
- Download test information from instrument to PC for report generation and archiving.



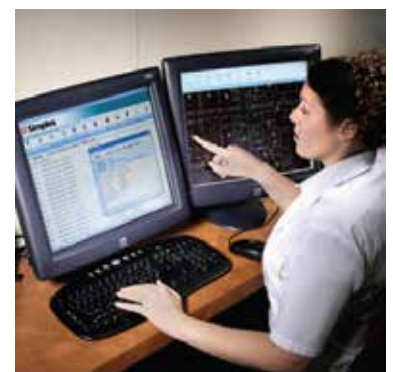
## SIMPLEX TRUESITE INFORMATION MANAGEMENT SYSTEM

Vital Management Information Right At Your Fingertips

- Family of Windows-based agency-listed management solutions
- Provides state-of-the-art 4100ES network annunciation, configuration and control consumption reporting

### AVAILABLE FEATURES

- Remote Clients - agency-listed primary operator management workstation with LAN/WAN remote terminals
- Universal panel Interface - agency-listed interface links existing non-Simplex panels to IMS



## FIREX EC 43 Cable Coating

FIREX EC 43 is a fire suppression coating, especially designed for protecting electric power cables, communication cables, junction boxes – against ignition, propagation of fire, and smoke emission. High solids intumescent firestop coating with ultra high density and expands up to 65 times when exposed to heat/fire, provide a thermal barrier for the protection of cables against heat damage.

- Highest % Solids (68-70%): Best in Class Intumescent
- Flexible and Thin Film Protection
- Tested and Approved by Leading Global Institution (FM, IEC, IEEE)
- Weathering and Water Immersion Resistance (FM Approved)

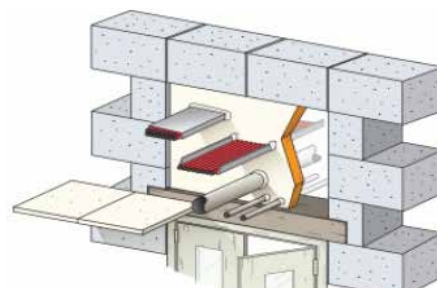


## FIREX FB 250 MINERAL WOOL BASED FIRESTOPPER SYSTEM

Two component mineral wool based firestopper system:

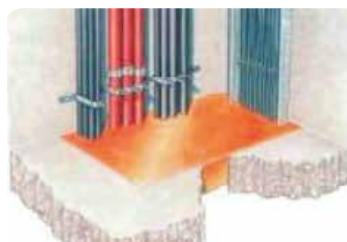
- A. Firex FB 250, Mineral wool boards pre-coated with Firex EC 43 firestop coating
- B. Firex EC 43, High solids thin film intumescent firestop coating - minimum 100-300 cable length on either side of barrier / accessible side.

For creating firestop in cable penetrations, through walls, control panel floors, etc. up to 4 hours fire rating. Specifically designed for sealing around cable and service penetrations in walls and floors.



## FIREX FM 71 MORTAR BASED FIRESTOPPER SYSTEM

Firex FM 71 Mortar is water based inorganic, expanding type, heat absorbing firestop mortar, designed to seal cable, pipe penetrations through walls, floors, and ceilings. In addition to forming a 2 or 4 hours fire rated barrier, Firex FM 71 Fire Rated Mortar is particularly suitable for re-instating compartment walls and floors where HVAC ducts, plastic pipes, and electrical services have been installed. Small irregular holes and imperfections of fit can easily be repaired using Firex FM 71 Fire Rated Mortar.





# SEISMIC BRACING SYSTEM

**TOLCO**

*Why do we need Seismic Bracing?*  
Keep the Mechanical, Electrical, Plumbing  
& Fire Sprinkler Systems Moving with the Structure!

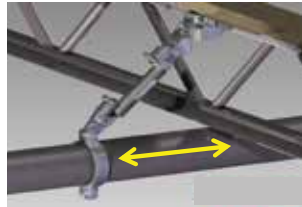
## TYPE OF BRACES

### Two Way Braces

Prevent movement in two (2) directions Lateral Brace



Lateral Brace



Longitudinal Brace

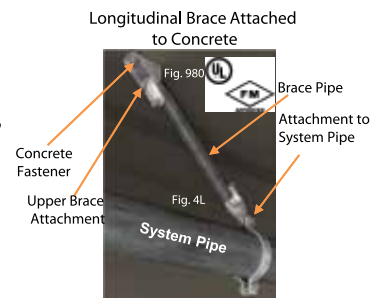
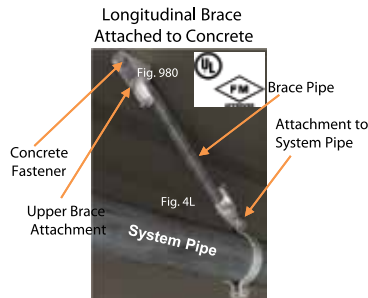
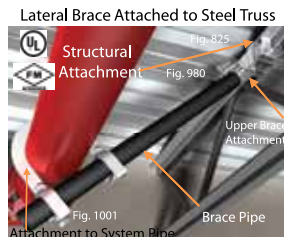
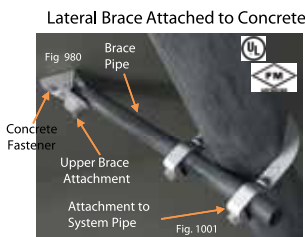
### Four Way Braces

Prevent movement in four (4) directions.

- **Riser Four Way Brace**  
Two lateral braces installed at 45°  
for Vertical Risers
- **Main Pipe 4-way Brace**  
Combination of a lateral and longitudinal brace for Horizontal FM Pipe within 24 in. of the Center of the Riser Pipe



## EXAMPLE OF UL LISTED / FM APPROVED DESIGN



# GROOVED COUPLING & FITTINGS



### Fittings Short Patterns



Figure 510s  
Short Pattern 90° Elbow



Figure 519s  
Short Pattern Equal Tee



Figure 71  
Grooved Flange Adaptor  
Sizes: 500mm - 300mm

\*Model 71 Flanges are available to various global Flange Standards. Contact GRINNELL Products for details.

### Couplings



Figure 577  
Rigid Coupling



Figure 705  
Flexible Coupling



Figure 707  
Heavy Duty Flexible Coupling



Figure 716  
Flexible Reducing Coupling

Grooved Piping Products are designed for use in fire protection systems and eliminate the need for screwed, welded, or flanged connections. They provide several economic advantages for connecting pipe and fittings when compared to welded or flanged systems

### Fittings Standards Patterns



Figure 501  
40° Elbow  
Sizes: 25mm - 400mm



Figure 510  
Standard Pattern 90° Elbow  
Sizes: 25mm - 400mm



Figure 519  
Tee  
Sizes: 25mm - 400mm



Figure 260/560  
Endcap  
Sizes: 32mm - 300mm



Figure 221/321  
Reducing Tee



Figure 350  
Concentric Reducer

**tyco**  
Fire Protection Products



*Instant  
Fire Detection  
Fire Suppression  
Fire Annunciation*

## DLP CLEAN AGENT FK-5-1-12

### FIRE SUPPRESSION UNITS FOR ELECTRICAL CABINETS

- Standalone- Reliable, 24 x 7 Automatic Fast-Detection & Suppression of fire in seconds at its source, reducing equipment damage and downtime.
- Linear Detection- Multiple Detection points- utilizing UL Listed AutoFireX® Fire Detection Tube – an Intrinsically safe Linear Pneumatic Heat detector that can detect fire throughout its installed length.
- Pneumatic Operation- No External Power required to activate the system.
- No “False Alarm” or Discharges - AutoFireX systems only activate in the event of an actual fire/heat impingement.
- Multiple Use Post Discharge - Systems utilizing UL Recognised component Marked AutoFireX® FK-5-1-12 Clean suppression agents require no post-discharge clean up and can be serviced and recharged after a fire.
- Easy to install in any new or existing and can be integrated with existing Smoke detection systems for LV applications.
- Environmentally Friendly - Low Pressure systems utilizing certified Clean Agents is not harmful to equipment or the environment.
- Interface Options - System comes with pressure switch interface options to initiate activities like Annunciation, shut on or shut of Power supply, ventilation, and monitoring through BMS, SCADA etc.
- Lesser hardware, than conventional suppression system makes these system practically No or Low maintenance.
- Enhanced life time of Fire detection tube and system agent make these systems cost Effective.

## HEAT DETECTION TUBE

- Special Formulated Electrically non-conductive material designed to function in Harsh and reactive environments. Without effecting the IP rating
- Formulation designed to prevent surface damage when exposed to or installed on Galvanised Metal/ equipment's.
- Special Formulation prevents gradual permeation of pressurising agent over period of time, adding to its 100% reliability.
- UV Protected (Blue) Non-Destructive Tested to withstand pressure max up to 140 Bar.
- Low moisture and water absorption ratios.
- Chemically resistive to most common chemicals.
- Compatible with all Inert, Low pressure and High-Pressure Agents



## Commercial

Axa Mandiri, PT	Indonesia International Expo BSD	Pamulang Hospital	Sultan Hotel
Bank Central Asia, PT	JACC Waduk Melati	Pelni Jakarta Hospital	Summarecon Serpong Mall
Bank Indonesia	Jakarta Eye Center	Permata Bank, PT	Taruma Negara Hospital
Biofarma Hospital	Kemang Village Mall	Plaza Indonesia	TELKOM SIGMA
Blok M Square	Labersa Hotel	Plaza Senayan	Telkomsel, PT
Ciputra Hospital	Lippo Karawaci Tbk	Pollux Properties	Telkomsigma, PT
Ciputra World Jakarta	Lyman Group	Pondok Indah Hospital	Thamrin Residence
Cyber Building	Medistra Hospital	Pulomas Hospital	Tokyo Land
Darmals Hospital	Menara Tujuh Gading	Puri Indah Hospital	Unilever
Data Center Indonesia	Metro Grosir Tanah Abang	Ritz Carlton Bali Hotel	Wilmar
Dci Indonesia, PT	MMC Hospital	SCBD Office Tower	Wisma Nusantara
ECCO	Neo Hotel	Senayan City	Wtc Mangga Dua
Four Season Bali Hotel	Nikko Indonesia Hotel	Shangrila Bali Hotel	XL Tower
Grage Trimitra Usaha	Nusa Dua Residence	Siloam Gleneagles Hospital	Zug Industri Indonesia
Hilton Hotel	Omni Alam Sutra Hospital	Sinarmas Pulp & Paper	
Indofood, PT	P&G	St. Moritz	

## Contractor & Consultant

Adhi Karya	Indokomas Perkasa Buana	Mitra Teladan, PT	Sumitomo Heavy Industry
Amarta Karya	Indra Karya	Mitsubishi Hitachi Power System	Taihei Dengyo Kaisha
Arkonin, PT	Jaga Citra Inti, PT	Multiss	Taikisha Indonesia Enginerring
Arsirona Pancagraha, PT	Jalatama Inti Sistema, PT	Navitas Energy	Taikisha,PT
Atelier Enam	Jaya Karsa, PT	Pegasol	Taiyo Sinar Teknik, PT
Azbil Berca Indonesia, PT	Jaya Kencana, PT	Pilar Garba Inti, PT	Takasago, PT
Beima Tekno	Jaya Teknik, PT	Pilar Garba Kencana,PT	Technip Indonesia
Binkei,PT	Jel Engineering	Platonix	Tirta Amertha, PT
Black & Veatch	Jgc Indonesia, PT	PoliciPTa Multidesain, PT	Tosplant Engineering
Chiyoda, PT	Jrp Engineers	Polycon Emas CiPTa, PT	Total Bangun Persada, PT
Danata Estima Sarana	Kajima, PT	Portal Engineering	Tripatra Engineering
Data Grid Indonesia, PT	Karya Intertek Kencana, PT	Posco Engineering	Tripatra, PT
Dongbu Barata	Karya Intertek Kencana, PT	Raga Perkasa Ekaguna	Truba Jurong
Eltameko Karya Mandiri, PT	Kinden Indonesia, PT	Reka Daya ElektriKa, PT	Wartsilla, PT
Emecon Prakasita	Kso Kawaha Pejaya, PT	Rekayasa Industri	Wasamitra Engineering
Encona Inti Industri	Leighton Contractors Indonesia, PT	Rekayasa Industri,PT	Waskita Karya, PT
EpcO	Malmass Mitra Tehnik, PT	Saipem Indonesia	Wijaya Karya
George Floth	Matlamat Cakra Canggih (Marubeni)	Shimizu Bangun Kontraktor, PT	Wiratman Associate
Gunanusa Utama Fabricator	Meinhardt Indonesia	Shinryo Indonesia	Yodya Karya, PT
Hutama Karya	Metakom Inti Perkasa, PT	Sigmattech TataKarsa, PT	Zug Engineering
Hyundai Engineering & Construction	Metrocom Global Solusi, PT	Sinoma Engineering	
Ikpt Toyo Engineering	Metromedia ElmeKa Engineering, PT	Sumber CiPTa Griya Utama, PT	

## Industrial

Amoco Mitsui Indonesia, PT	Enkel Indonesia, PT	Merak Energy Indonesia PT	Semen Baturaja, PT
Angkasa Komunikasi Global Utama, PT	Firmenich Indonesia, PT	Medco Energy, PT	Semen Gresik, PT
Arun, PT	Fukoku Tokai Rubber Indonesia, PT	Mulia Glass Float, PT	Siam Maspion, PT
Asahimas Chemical, PT	Garuda Food, PT	Nestle Indonesia, PT	Sumber Makmur Sejahtera, PT
Astra Agro Lestari, PT	Giesecke Devrient Indonesia Hankook -	NIISTEN Indonesia Power, PT	Tirta Investama (Danone Aqua), PT
Astra Honda Motor, PT	Tire Indonesia, PT	Nissan Motor Indonesia, PT	Torabika Eka Semesta, PT
Badak NGL, PT	Hitachi, PT	Novell Pharmaceutical, PT	Total E&P Indonesia, PT
Bando Indonesia, PT	HPPM. PT Holcim, PT	Nutrifood Indonesia, PT	Toyo Besq Precision Parts Indonesia, PT
Bekaert Indonesia, PT	IDEA, PT	Paiton Energy, PT	Toyota Motor Manufacturing, PT
BP Berau PT Bukit Asam, PT	Indesso Aroma, PT	Pardic Jaya Chemical, PT	Trakindo Utama, PT
Bridgestone Tire Indonesia, PT	Indocement, PT	Pembangkitan Jawa-Bali Petrochem, PT	Trans Pasific Petro Chemical Indotama, PT
Bumimulia Indah Lestari, PT	Indofood, PT	Petrochina, PT	Tri Polyta Indonesia Tbk, PT
Chandra Asri, PT	Indomobil Sukses Internasional Tbk, PT	Petrokimia Gresik, PT	Trias Kreasi Anugrah Jaya Makmur, PT
Charoen Pokhand Indonesia, PT	Indorama Synthetics Tbk, PT	Petrokimia Nusantara Interindo, PT	Unicharm Indonesia, PT
Chevron Pasific Indonesia, PT	Industrial Aneka Tambang Tbk, PT	Pindo Deli Pulp & Paper, PT	Unilever Indonesia, PT
Coca Cola Indonesia, PT	Jabatex, PT	Polytama Propindo, PT	United Can, PT
ConocoPhillips Indonesia, PT	Kaltim Prima Amonia, PT	Pulogadung Steel, PT	Vico Indonesia, PT
Dian Swastatika Sentosa, PT	Kaltim Prima Coal, PT	Pupuk Iskandar Muda, PT	Wilmar Gresik, PT
Djabesmen, PT	Kao Indonesia, PT	Pupuk Kaltim, PT	Win Textile, PT
Djarum, PT	Krakatau Steel Group, PT	Pupuk Kujang, PT	Yamaha Group, PT
Dunlop, PT	LDCPT Mayora, PT	Rohto Laboratories Indonesia, PT	YTK Indonesia, PT
Dystar Colours Indonesia, PT	Lontar Papyrus Pulp and Paper, PT	Santos Indonesia, PT	

## Government

Aero Asia Garuda Maintenance Facility	Bandara Internasional Soekarno Hatta,	Pertamina Balongan
Angkasa Pura 1 dan 2	Terminal 3 Ultimate.	Pertamina EP - SP Tambun
Bandara Internasional Juanda Surabaya	Indonesia Power	Pertamina Hulu Energy (PHE) ONWJ
Bandara Internasional Ngurah Rai Bali	Kementerian Pekerjaan Umum	Perusahaan Gas Negara, PT
Bandara Internasional Sepinggan -	Ministry of Agriculture	PJB (Java Bali Power)
Balikpapan	PDAM	PLN (National Electric Co.)

*\*and many othen company  
that could not be mentioned in here*



## WATER SYSTEM



**P&G FACTORY**  
Water Sprinkler System  
Karawang



**LONTAR PAPHYRUS WAREHOUSE**  
Water Sprinkler System  
Jambi



**PT. BAYER**  
Deluge Foam System  
Surabaya



**GIVAUDAN**  
Deluge Foam System  
Cimanggis



**TELKOMSEL BSD**  
Pre Action System  
Jakarta



**HOTEL RIMBA BALI**  
Water Spray System  
Bali



**GMF HANGAR T3 SOETA**  
Foam Monitor System  
Jakarta



**SEI GELAM**  
Mobile Foam  
Jambi

**PLTU Ropa**  
Deluge System BC2

**IP MRICA**  
Water Based System



**PLTU PACITAN**  
Deluge System

**ULPLTMG DURI**  
Hydrant & Water Based  
System



## GAS SYSTEM



**DATA CENTER IND**  
Gas Fire Suppression  
Inergen System  
Cibitung



**DRC BCA SURABAYA**  
Gas Fire Suppression  
Inergen System  
Surabaya



**NCP & NPO TOTAL**  
Gas Fire Suppression  
Inergen System  
Balikpapan



**BANDARA NGURAH RAI**  
Gas Fire Suppression  
Sapphire System  
Bali



**MERAK ENERGY  
POWER PLAN (POSCO)**  
Gas Fire Suppression  
Low Pressure CO2  
Banten



**YADANA**  
Gas Fire Suppression  
CO2 System  
Madura



**BADAN ARSIP**  
Gas Fire Suppression  
Sapphire System  
Kalimantan



**SHELTER XL**  
Gas Fire Suppression  
FM200 System  
Bandung



**LRT PANBEK**  
Gas Fire Suppression  
Inergen Flow  
Jakarta



**HOLCIM TUBAN**  
Gas Fire Suppression  
FM 200  
Tuban



**PATRA SK**  
Gas Fire Suppression  
FM 200 System  
Dumai - Riau



**PT. INDOCEMENT**  
Gas Fire Suppression  
Inergen Flow  
Citeurep - Bogor

## ELECTRICAL SYSTEM



**IP PRIOK**  
Fire Alarm & Beam Detector  
Jakarta



**PERUSAHAAN GAS NEGARA**  
Fire Alarm System  
Lampung



**PLTP ULUBELU**  
Fire Alarm  
Lampung



**NESTLE FACTORY**  
Air Sampling Detector  
Karawang

## FIRE STOP & CABLE COATING



**PINDO DELI**  
Fire Passive - Fire Stopper  
Karawang



**AXA TOWER**  
Fire Passive - Fire Stopper  
Jakarta



**SAMATOR GAS INDONESIA**  
Fire Stopper  
Surabaya



**IP SURALAYA**  
Cable Coating  
Jawa Barat



**POWER PLANT TJ. JATI**  
Fire Passive - Fire Stopper  
Jepara



**IP GRATI**  
Cable Coating  
Surabaya

## OTHERS



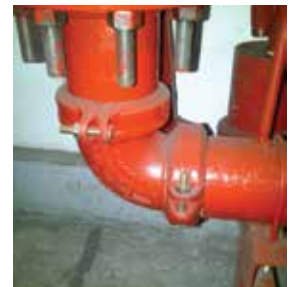
**PT. UNILEVER**  
Sismic Bracing Tolco  
Medan



**SUMBER INDAH PERKASA**  
Flame Detector  
Lampung



**BP WEST JAVA**  
Hi Fog Watermist  
Jawa Barat



**PLTU INDRAMAYU**  
Grinnell Coupling  
Indramayu



**BAY WALK MALL PLUIT**  
Pump Coating  
Jakarta



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