tyco
Fire Protection Products

Safer. Smarter. Tyco.™

Tyco Fire Valves
Pure Performance



Global Strength. Local Expèrtise.



Tyco is a market leader in the $100 billion global fire protection and security solutions industries. Our 57,000 employees take great pride in knowing that they make a difference in the world: their work helps protect and safeguard people and property.

Tyco combines global strength and local expertise to provide total fire protection solutions. We invest heavily in research and development to produce technically innovative products and we also provide outstanding after sales support and training to improve our customers' experience.

Tyco Fire Protection Products has over 100 years of experience and is a pioneer in the fire detection, protection and suppression industry. We continually strive for the highest of industry standards and are accredited with ISO 9001-2000 Quality Registrations.

Innovation is the cornerstone of Tyco market leading fire protection products, facilitated by state of the art research and development and driven by a team of experienced technical staff. As the leading manufacturer and distributor of water-based fire suppression systems and components, Tyco offers one of the broadest lines of fire protection system equipment worldwide.

Safer. Smarter. Solutions.









Using proven and trusted technology, Tyco Fire Protection Products focuses on making applications safer through smarter solutions that offer pure performance. Tyco offers a versatile line of fire valves for applications across diverse markets:

- Oil & Gas
- Energy & Power Generation
- Tunnels and Transportation
- Storage Facilities
- Commercial
- Industrial
- Residential

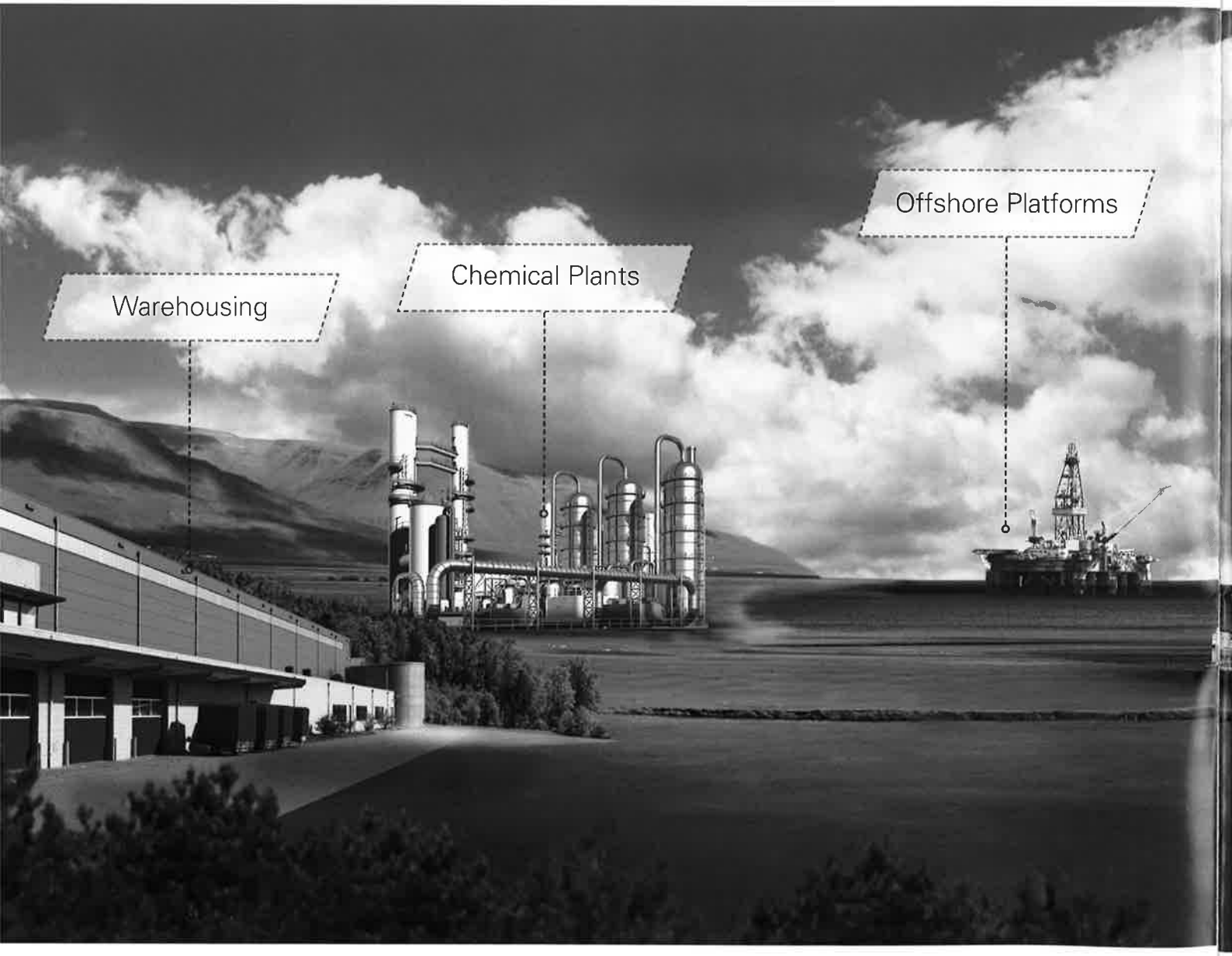
Tyco fire valves can be found in facilities and environments as diverse as high hazard industries, critical data centres, financial institutions, schools and universities, hospitals, transportation networks, public works projects and world-renowned museums, amongst others.

Protecting the world we live in

/ Industrial and Warehousing

Tyco has the experience to provide the right solution for the protection of industrial applications, warehouses, distribution centers and other storage facilities and can offer a range of valves for fire protection systems.

Tyco Fire Protection Solutions advance safety by finding smarter ways to help save lives, improve businesses and protect people where they live and work.



/ Chemical Plants, Offshore Platforms and Power Plants

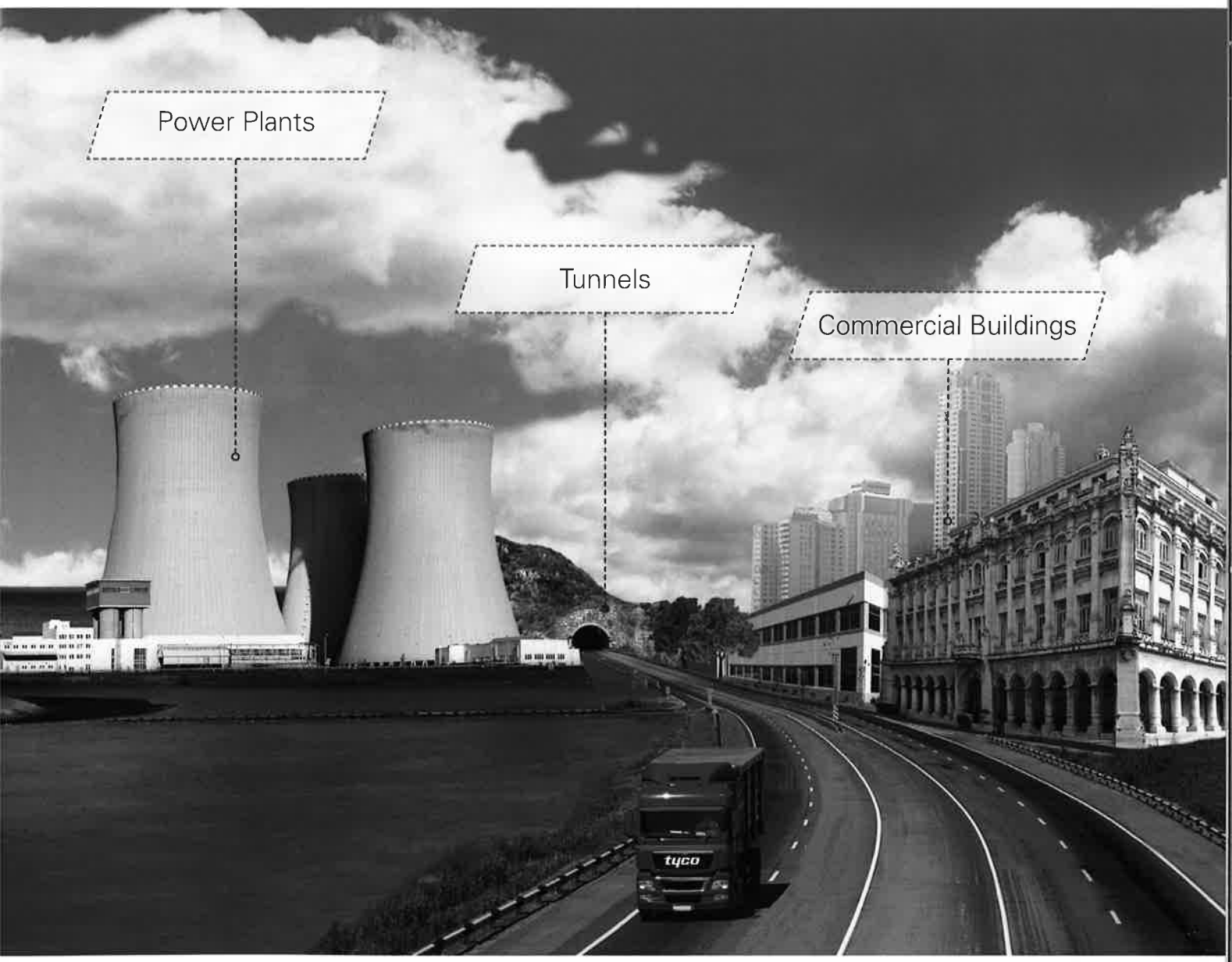
Tyco offers a wide selection of water sprinklers, nozzles and valve packages for hazardous environments, including chemical plants, offshore platforms and power plants. Tyco is committed to continuing to lead in the production of innovative, quality fire protection products and solutions.

/ Tunnels

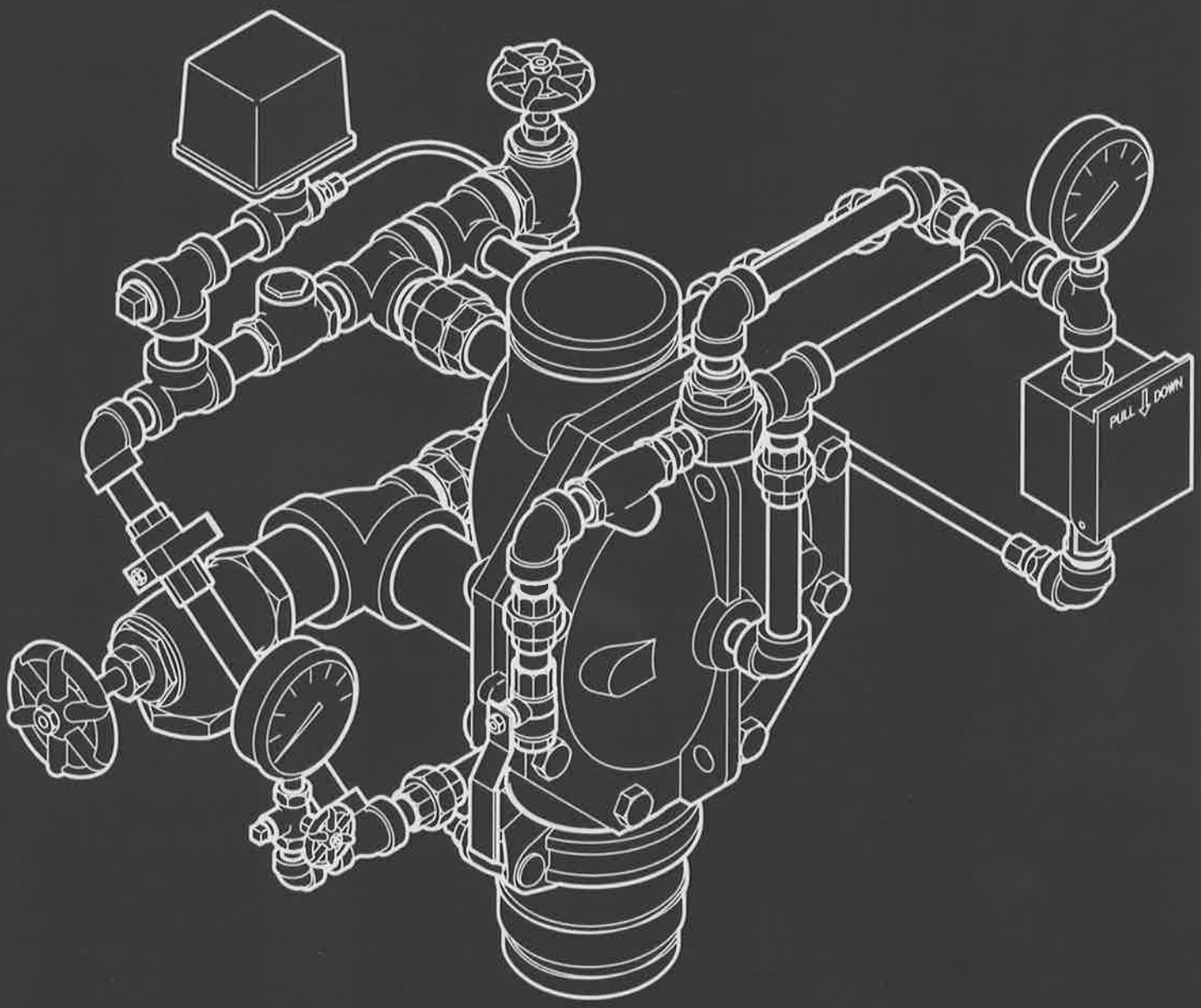
Tyco designs and installs fire protection systems for complex road tunnel projects, within regions where road tunnels are required to reach remote mountainous locations. Specialist valve packages and water-based systems offer specific benefits to tunnel operators assisting them in the prevention of spreading and suppression of fire, as well as in the overall tunnel structure and its facilities and support essential firefighting activities.

/ Commercial Buildings

Tyco's broad range of fire system valves are at the core of fire protection solutions within commercial buildings, such as schools and universities, offices and small businesses, shopping malls, museums and libraries, amongst others.

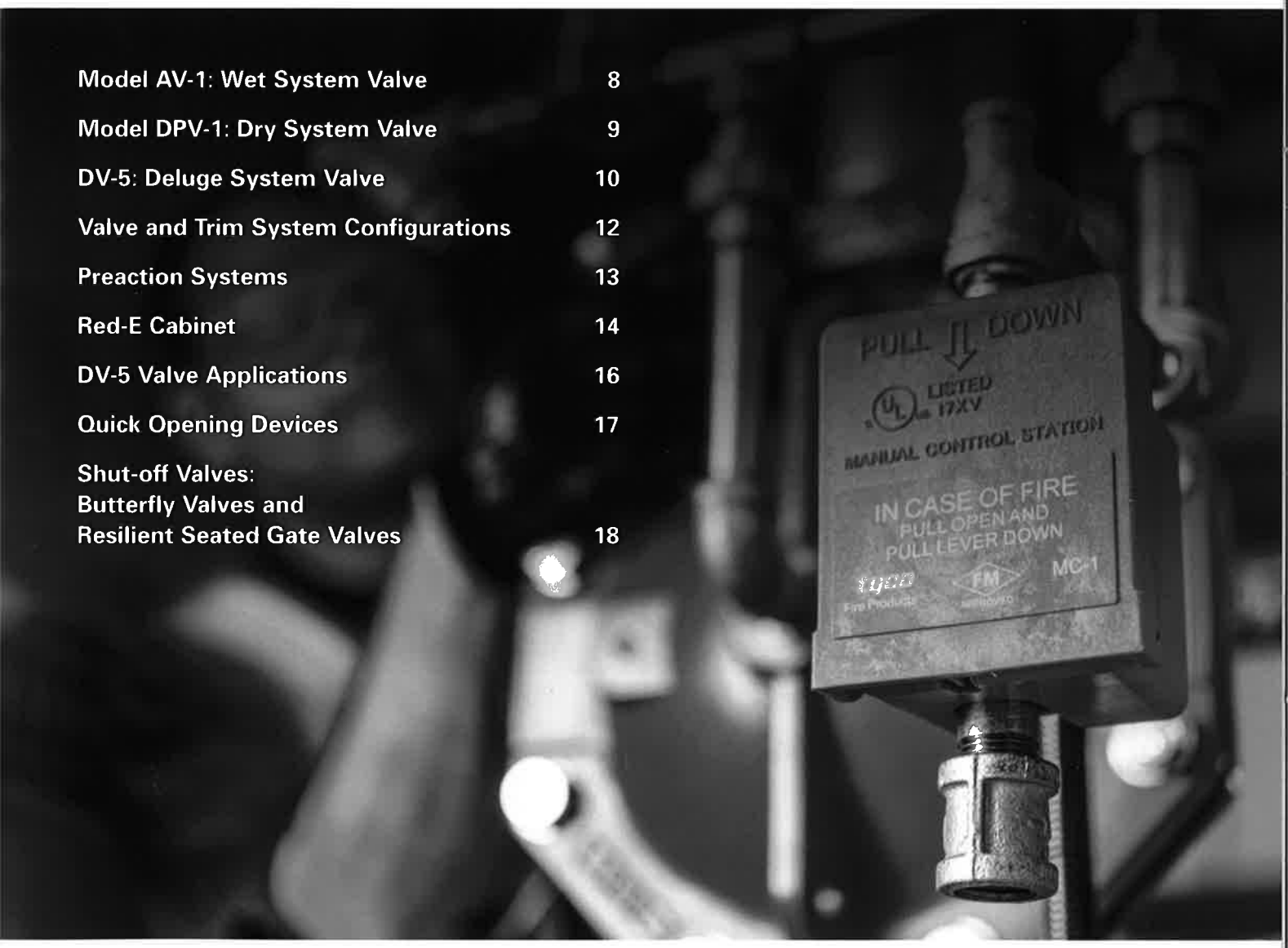


DV-5 Deluge Valve, Diaphragm Style, 1½ thru 8 inch (DN40 thru DN200), Deluge System — Wet Pilot Actuation



Tyco Fire Valves

Model AV-1: Wet System Valve	8
Model DPV-1: Dry System Valve	9
DV-5: Deluge System Valve	10
Valve and Trim System Configurations	12
Preaction Systems	13
Red-E Cabinet	14
DV-5 Valve Applications	16
Quick Opening Devices	17
Shut-off Valves: Butterfly Valves and Resilient Seated Gate Valves	18



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Fire Protection Products

Model AV-1: Wet System Valve



The Model AV-1 Alarm Check Valve is used in common, wet pipe systems.

In wet pipe systems, the piping is filled with water. The loss of pressure through an activated automatic sprinkler in response to heat from a fire allows the Model AV-1 Alarm Check valve to open and water will be discharged into the fire.

This Alarm Check valve is designed to automatically actuate electric and/or hydraulic alarms when there is a steady flow of water into the system that is equivalent to the discharge rate of one or more sprinklers.

The Model AV-1 Alarm Check Valve Trim includes pressure gauges to monitor system pressure conditions, a bypass check valve, a main drain valve, and an alarm test valve. The bypass check valve is designed to reduce the possibility of false alarms by permitting slow as well as small transient increases in water supply pressure to be passed through the system without opening the waterway clapper.



// Available sizes of the Model DPV-1 Wet Pipe System

- 2½"(DN65)
- 4" (DN100)
- 6" (DN150)
- 8" (DN200)

// Technical Datasheet(s)

TFP910 (Global)

TFP990 (European)

// Applications

Often chosen as the most economic and simplest valve system for commercial and residential buildings.

Residential | Small Business | Retail

// Approvals

FM APPROVED

UL

VdS

LPCB

Model DPV-1: Dry System Valve



A dry pipe sprinkler system is normally used in environments exposed to freezing temperatures.

Dry pipe sprinkler systems are generally used in unheated warehouses, parking garages, store windows, attic spaces, loading docks, and other areas exposed to freezing temperatures where water filled pipe cannot be utilized. When set for service, the dry pipe sprinkler system is filled with air (or Nitrogen). The loss of pressure through an automatic sprinkler in response to heat causes the DPV-1 Dry Pipe Valve to open and allow a flow of water into the sprinkler system piping to be discharged into the fire.

The Model DPV-1 features are as follows:

- External reset
- 250 psi (17,2 bar) pressure rating
- Unique offset single clapper design enabling a simple compact valve to minimize installation labor
- Ductile iron construction for a lightweight valve to minimize shipping cost
- A variety of inlet and outlet connections
- Compact, pre-trimmed and semi-assembled, easy to operate valve trim
- Simple reset procedure through the elimination of priming water



// Available Sizes of the Model DPV-1 Dry Pipe System

- 2½" (DN65)
- 3" (DN80)
- 4" (DN100)
- 6" (DN150)

// Technical Data Sheet(s)

TFP1020 (Global)

TFP1090 (European)

// Applications

Unheated Warehouses, Parking Garages, Store Windows, Attic Spaces, Loading Docks.

Cryogenic | Storage | Loading Docks

// Approvals

FM APPROVED

UL

VdS

LPCB

DV-5: Deluge System Valve

Simple / Versatile / Dependable

The DV-5 Deluge Valve is a quick opening, hydraulically operated valve. It is designed for use as an automatic water control valve in deluge, preaction and specialist fire protection systems, such as foam-water or Water Mist systems.

Simple

There are no mechanical moving parts resulting in a valve that is lightweight and simple to install and operate. The DV-5 Deluge Valve uses a single flexible diaphragm operating on differential pressures to open or close the valve.

Resetting conventional valves requires the opening of the handhole cover to manually reposition the clapper or latch mechanism. The DV-5 is designed to have an external reset that re-pressurizes the diaphragm, greatly simplifying the reset process.

Versatile

The DV-5 Deluge Valve is adaptable and lightweight. It can be installed in a horizontal or vertical configuration. With the elimination of linkages and clappers, its lightweight, compact form makes it easier to install, even in tight spaces.

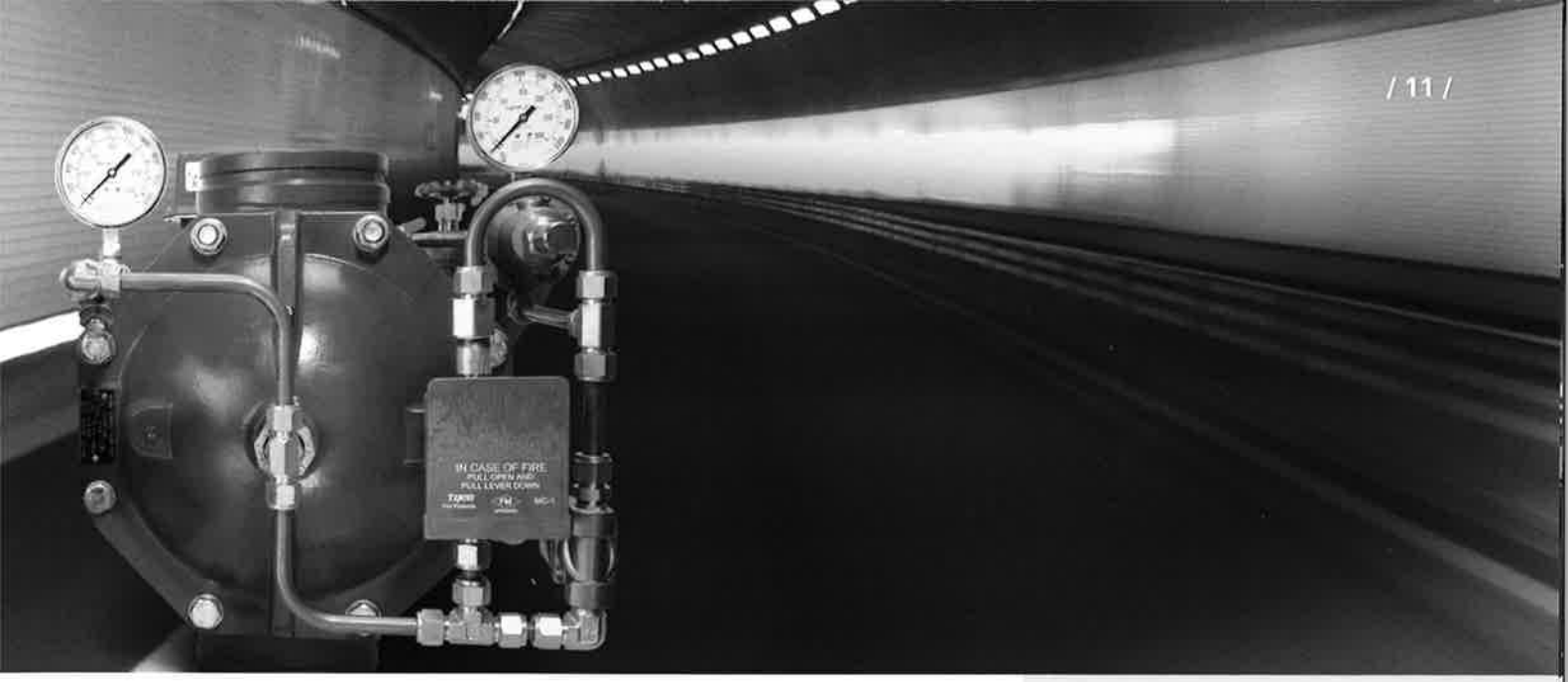
The simple design and innovative engineering of the DV-5 has resulted in a variety of trim configurations from deluge to preaction to remote resetting pressure regulating configurations.

Dependable

The DV-5 Deluge Valve is coated both internally and externally with Rilsan to assist with corrosion resistance.

The DV-5 is rated for 250 psi (17.2 bar) service and carries a number of approvals such as UL, C-UL Vds, LCPB and FM.



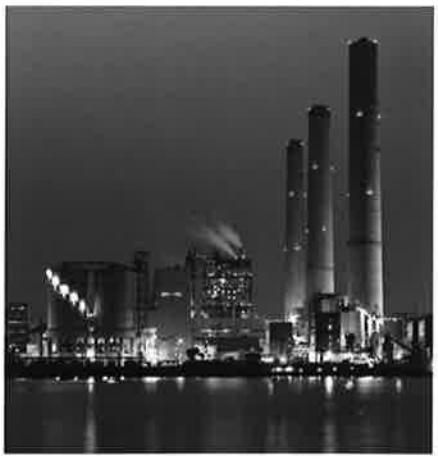


Key Features

- Lightweight ductile iron body reduces installation costs
- No linkages or clappers
- Compact space saving design - ideal for tight spaces
- Fewer moving parts mean lower operating costs
- Horizontal or vertical Installations for increased flexibility
- External resetting feature, which can be configured remotely from one or more locations

The simple design and clever engineering of the DV-5 has resulted in a variety of possible trim configurations

- **Deluge Systems:** Electric Actuation, Dry Pilot, Wet Pilot
- **Single Interlock Preaction Systems:** Electric Actuation, Dry Pilot, Wet Pilot
- **Double Interlock Preaction Systems:** Electric/Electric Actuation; Electric/Pneumatic Actuation





Available in various connection styles such as Groove x Groove, Flange x Flange and Threaded Ports for 1 1/2 Inch and 2 Inch sizes.

// **Available Sizes**

- 1½" (DN40)
- 2" (DN50)
- 3" (DN80)
- 4" (DN100)
- 6" (DN150)
- 8" (DN200)

// **Technical Datasheet(s)**

TFP1305

Note: Datasheets available for other actuations.

// **Applications**

Industrial Plants, Oil & Gas Platforms, Storage Facilities, Aircraft, Transport and Tunnels.

Industrial | Oil & Gas | Storage | Airports | Tunnels

// **Approvals**

FM APPROVED | UL | VdS | LPCB

Valve & Trim System Configurations



Deluge Systems

These systems are normally used in special hazard areas where water is the best extinguishing agent and the entire area requires the application of water for fire protection.

The deluge valve is designed to be activated by a fire detection system installed in the same locations as the nozzles. When this occurs, water discharges from all open sprinklers or nozzles.

Different trim configurations are available to suit different means of detection, such as electric detectors (electric actuation), dry pilot sprinklers or wet pilot sprinklers



Available in various connection styles, such as Groove x Groove, Flange x Flange and Threaded Ports for 1½ Inch and 2 Inch sizes.

// Available Sizes of the DV-5 Deluge System

- 1½" (DN40)
- 2" (DN50)
- 3" (DN80)
- 4" (DN100)
- 6" (DN150)
- 8" (DN200)

// Technical Datasheet(s)

TFP1310 (Global)
TFP1315 (Global)
TFP1320 (Global)
TFP1331 (Global)
TFP1332 (Global)
TFP1335 (European)
TFP1338 (European)

// Applications

Flammable Liquid Storage and Handling, Aircraft Hangars.

Storage Airports

// Approvals

FM APPROVED UL VdS LPCB

Preaction Systems



Tyco Preaction Systems are the ideal solution when the potential costs of water damage are great.

Single Interlock Systems

Supervised single interlock preaction systems are generally used to protect areas where there is danger of serious water damage that might result from damaged automatic sprinklers or piping.

Typically, the system designer selects the detection components for a single interlock preaction system that will respond to a fire sooner than the automatic sprinklers.

Single interlock preaction systems are also used to protect properties where a pre-alarm of a possible fire may allow time for fire extinguishing by alternate means, prior to a sprinkler discharge. In the event the fire cannot be extinguished, the preaction sprinkler system is designed to perform as the primary fire protection system.

Configurations are available for Wet Pilot Sprinkler, Dry Pilot Sprinkler or by Electric Detection.

Double Interlock Systems

Designed for applications such as refrigerated areas, double interlock preaction systems from Tyco can provide a maximum degree of protection against an inadvertent operation that could result in accidental or unnecessary flooding of the sprinkler system piping.

The system consists of sprinkler piping, which is pressurised by air or Nitrogen with a DV-5 with releasing trim featuring both a solenoid and dry pilot actuator. The system is designed so that two independent events (caused by a fire) can activate the system.

Firstly, the sprinkler piping loses air or nitrogen pressure caused by one or more sprinklers opening.

Secondly, the detection device operates causing the releasing panel to energise the solenoid valve.

If only one of these devices had activated (either the solenoid or the dry pilot actuator), the system is designed to cause an alarm and not to trip the system or cause flooding to the sprinkler system piping.

// Available Sizes

- 1½" (DN40)
- 2" (DN50)
- 3" (DN80)
- 4" (DN100)
- 6" (DN150)
- 8" (DN200)

// Technical Datasheet(s)

TFP1410
TFP1415
TFP1420

// Applications

Data Centers, Museums, Libraries, Archives, Cold/Cryogenic Storage.



// Approvals

FM APPROVED
UL
VdS
LPCB

Red-E Cabinet

Red-E

Integrated Fire Protection Packages

The Red-E Cabinet is a pre-assembled and pre-wired package, containing trim, switches, controls and the DV-5 Deluge Valve in a freestanding cabinet. The cabinet is designed to occupy minimal floor space, so that working in confined spaces is no longer a problem.

Factory Tested

Every Red-E cabinet undergoes stringent factory test procedures in order to ensure the highest possible performance and durability.

Ease of Connections

Connections are provided for the system piping which can be connected from either side for increased installation flexibility. All switches within the cabinet are factory pre-wired so the installer only has to connect the power, detection circuits and alarms.

Easy, Secured Access

Windows in the cabinet display all necessary panel functions and gauges. Separate access doors are supplied for easy access to the control panel or the valve section. A lock for added security is provided for the valve access.







US/APAC Cabinet



Key Features

- 14 gauge steel cabinet for superior durability
- Hinged doors for easy access
- Windows for viewing gauges and other functions
- Supply and drain connections connectable on either side
- Grooved connectors on supply and discharge for easy and quick connections
- Potter 4410 Releasing Control Panel, other controls are available on request



EMEA Cabinet



AR Recognition

Paste the URL below into your browser to view animated features of the TYCO Red-E Cabinet

www.tyco-fire-cabinets.com/EMEA/

The Red E Cabinet suited for the all sizes of the DV-5 Deluge Valve

// Available Sizes

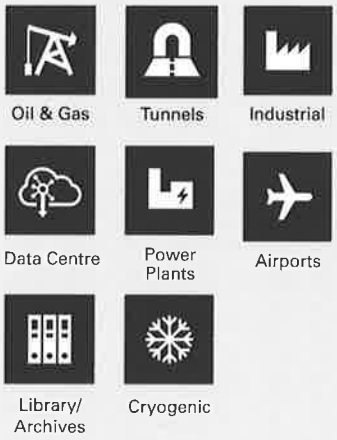
- 1½" (DN40)
- 2" (DN50)
- 3" (DN80)
- 4" (DN100)
- 6" (DN150)
- 8" (DN200)

// Technical Datasheet(s)

TFP1300 (Deluge US/APAC)
TFP1400 (Preaction US/APAC)
TFP1303 (EMEA)

// Applications

Oil and Gas, Tunnels, Industrial, Data Centers, Power Plants, Aircraft, Archives, Cold/Cryogenic.



// US Approvals:

DV-5 Applications

DV-5 Valves can be found at the heart of many Tyco systems, including the TN-25 Tunnel System and DDS Duct Deluge System solutions.



TYCO Model TN-25 Horizontal Spray Nozzle is designed, tested, and approved for integration into deluge water spray fire protection systems, ideally suited for the road tunnel application.

The TYCO Model TN-25 Horizontal Spray Nozzle is designed for long-term reliability in the challenging tunnel environment and has performed successfully in some of the most rigorous, full-scale fire testing ever conducted. With its ability to provide extended coverage, the Model TN-25 nozzle is designed to allow for a single pipe to run the length of a tunnel, compared to traditional designs that use multiple pipes in order to provide sufficient coverage.

// System Components

Coverage Area	400 ft² (30 m²)
Nozzle-to-Nozzle Spacing	16 ft (5 m)
Low Discharge Pressure	10 psi (0.7 bar)
K-factor	25.2 US (360 EU)

The low discharge pressure and resulting large droplets produced by the TN-25 nozzle easily penetrate hot gases during a tunnel fire, enhancing fuel source cooling and pre-wetting of adjacent surfaces.

Minimizes total cost of ownership:

- Allows high level of protection from just one pipe
- Allows for integration of deluge and hydrant water supplies
- Simplifies inspection and maintenance

// Technical Datasheet(s)

TFP850

// Applications

Transportation Tunnels.

Tunnels

// Approvals





The TYCO (DDS) Duct Deluge System is specifically designed for the protection of ventilation ductwork handling corrosive gases, assisting in fire suppression and potential extinguishment in ventilation ductwork constructed of plastic material.

The DDS System limits the amount of down-time that routine inspection, maintenance and even fire damage would incur.

The DDS System is intended for use in plastic ventilation ductwork constructed of Fiber-Reinforced Plastic (FRP), Polyvinyl Chloride(PVC) or Polypropylene (PP), handling "extremely" corrosive environments, as defined by FM Data Sheet 7-78.

// System Components

TYCO DN-5 Corrosion Resistant Duct Nozzle
TYCO Red-E Cabinet
Protectowire linear heat detection
FlexHead duct mounting hardware

// Technical Datasheet(s)

TFP670

// Applications

Steel Manufacturing, Copper,
Lead or Zinc Mineral Processing,
Coal Power Generation,
Semiconductor Fabrication,
Pulp and Paper Processing.

Industrial

// Approvals

FM APPROVED

Quick Opening Devices



Model ACC-1 Dry Pipe Valve Accelerator

The Model ACC-1 Accelerator is a quick opening device intended for attachment to the 2-2½, 3, 4 or 6 inch Model DPV-1 Dry Pipe Valve. The Model ACC-1 Accelerator reduces the time for valve operation following the operation of one or more automatic sprinklers. The Model ACC-1 Accelerator automatically adjusts to both small and slow changes in system pressure, but trips when there is a rapid and steady drop in pressure (as in the case of sprinkler operation). Upon tripping, the Accelerator transmits system air pressure to the intermediate chamber of the Model DPV-1 Dry Pipe Valve. This intends to neutralize the differential pressure holding the Model DPV-1 Dry Pipe Valve closed and permits it to open.

The Model ACC-1 Dry Pipe Valve Accelerator has a:

- Unique positive action
- Internal anti-flood device
- Seals and latches immediately without waiting for pressure build-up

// Technical Datasheet(s)
TFP1112

// Applications
European Conformity Valve Trim

// Approvals
FM APPROVED, UL, LPCB



VIZOR Electronic Dry Pipe Accelerator (EDPA) (US only)

The TYCO VIZOR Electronic Dry Pipe Accelerator (EDPA) is a quick-opening device intended to reduce the operating time of dry pipe valves following operation of one or more automatic sprinklers. Unlike traditional mechanically operated quick-opening devices, the VIZOR Accelerator is a microprocessor-based, electronic, quick-opening device. The VIZOR Accelerator automatically adjusts to both small and slow changes in system air pressure, but trips when there is a steady drop in system air pressure upon sprinkler operation.

VIZOR Electronic Accelerator Features:

- Faster trip time delivers water sooner
- Two pressure readings every second reduce false trips
- Push button test and reset
- Simple design reduces complications during install, test and reset process
- Built-in low pressure and high pressure alarm supervision
- Battery back-up in the event of a primary power failure

// Technical Datasheet(s)
TFP1105

// Applications
Quick opening device for Dry Pipe Systems

// Approvals
FM APPROVED, UL



Model QRS Electronic Accelerator

The TYCO Model QRS Electronic Accelerator is a quick opening device intended to reduce the operating time of a dry pipe valve in a dry pipe system or an automatic control valve (deluge valve) in a double interlock electric/electric preaction system.The control panel for the QRS may be used with up to four QRS switches for one to four system risers. The Model QRS Electronic Accelerator utilizes a unique system air pressure monitoring device that continuously samples air pressure twice per second.

The Model QRS Electronic Accelerator automatically adjusts to both small and slow changes in system pressure, but trips when there is a steady drop in pressure (as in the case of sprinkler operation). The QRS Electronic Accelerator features the following:

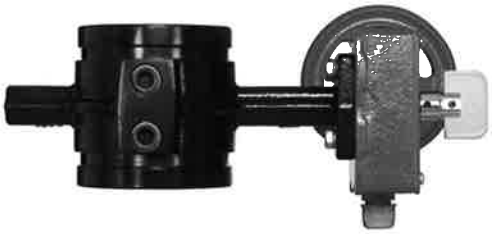
- Operation of a dry pipe or preaction valve within four seconds
- One Releasing Panel can control up to four dry pipe systems or one double interlock preaction system
- Built-in low pressure and high pressure alarm supervision
- Proven electric release technology as used for electrically operated deluge and preaction systems
- Battery back-up in the event of primary power failure

// Technical Datasheet(s)
TFP1100

// Applications
Quick opening device for Dry Pipe or Preaction Systems

// Approvals
FM APPROVED, UL

Shut-Off Valves



BFV-300 Next Generation Butterfly Valve

TYCO Butterfly Valves are indicating type valves designed for use in fire protection systems where a visual indication is required as to whether the valve is open or closed.

They are used, for example, as system, sectional, and pump water control valves. They are suitable for installation between ANSI Class 125 or 150 flange, without the need for flange gaskets. For applications requiring supervision of the open position of the valve, the Gear Operators for the Model BFV-N Butterfly Valves are provided with two sets of factory installed internal switches each having SPDT contacts. The supervisory switches transfer their electrical contacts when there is movement from the valve's normal open position during the first two revolutions of the handwheel.

Tyco Resilient Seated Gate Valves are used in Fire Protection Systems for on/off operation.

The ductile Iron body weighs approximately 50% less than conventional cast iron valves, which allows easier handling on site and reduced shipping costs.

The encapsulated EPDM ductile iron Wedge helps with bubble-tight sealing. Valve components are either inherently corrosion ready or protected with fusion-bonded epoxy resin coating and enhanced UV protection in exposed installations.

This valve is one of the lightest, most durable gate valves on the market today. Its design features and material selection criteria fulfil the need for a dependable, long life and easy to operate gate valve.

BFV-300 Grooved

BFV-300 Wafer



BFV-300 Next Generation Butterfly Valve



Resiliant Seated Gate Valve Post Indicator



MODEL 05-47 Shut-Off Valve

// Technical Datasheet(s) Butterfly Valves

TFP1511 (Grooved End)

TFP1516 (Wafer Style)

// Technical Datasheet(s) Gate Valves

TFP1540

TFP1545

// Applications

Used in Fire Protection Systems for on/off operation to shut off water supply to the valve. Suitable for most applications.

// Approvals*

** FM, UL, VdS, LPCB, CE, CTP, VdS and Apsad are trademarks of their respective owners*

Summary Table

TYCO VALVE														DATASHEET(S) *(Available at www.tyco-fire.com)*
Model AV-1: Wet System Valve						✓						✓	✓	TFP910 (Global) TFP990 (European)
Model DPV-1: Dry System Valve			✓							✓	✓			TFP1020 (Global) TFP1090 (European
DV-5: Deluge System Valve	✓	✓	✓		✓		✓							TFP1305 (Global)
Valve & Trim System Configurations			✓				✓							TFP1331 (Global) TFP1332 (Global) TFP1335 (European) TFP1338 (European) Add TFP1310 (Global) TFP1315 (Global)
Preaction Systems			✓					✓	✓	✓				TFP1410 TFP1415 TFP1420
Red-E Cabinet	✓	✓		✓	✓		✓	✓	✓	✓				TFP1300 (US/APAC) TFP1303 (EMEA)
DV-5 Applications TN-25/DDS		✓			✓									TFP850 TFP670
Shut-Off Valves Butterfly Valves Resilient Seated Gate Valves CV-1F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	TFP1511 TFP1516 TFP1540 TFP1545 TFP1550

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