

# PROTEK

**PRO227®**  
FIRE SUPPRESSION SYSTEMS

**VdS** Inspected.  
Approved.  
Safe.  
**SYSTEM APPROVED**  
S319005

## PRODUCT CATALOGUE



## PROTEK

Protek is established in Istanbul in 2005. There are liaison offices in London and Baku. Protek operates in the field of "Fire" systems in Turkey with its staff of 35 people.

In principle, we cooperate with world leader companies that make continuous investments for "Innovation". Innovative "Tech-nological" solutions offering products with appropriate quality documents (EN, NFPA, IMO etc.) to "national" and "international" standards (LPCB, VdS, UL, FM, etc.).

Our company has ISO 9001 Quality Management Certificate, ISO 14001 Environmental Management System Certificate and ISO 45001 OHSAS Occupational Health and Safety Management System Certificate. While presenting all these services, we are always aware of the fact that "Fire and Security" is about protecting the direct human life and the accumulation of our savings. We are always aware that we are saving your life, your money, your business, your values, your savings.

We believe that due to our social responsibility, our work is, of course, a "sacred" side to deal with, not just a "commercial" based approach. First of all, we are part of a universal camian who fights with the fire in our country and in the world, and fares for saving lives. This soul is the most important force that motivates us in our daily work and ensures our success.

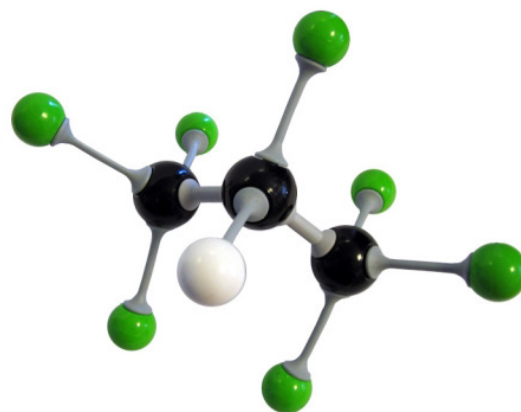
It is essential for us to treat each project or system as an engineering problem to be solved with the awareness that there may be hidden details in itself and to serve technical and customer-oriented alternatives and to serve "Project-Private-Customer Focused". We specialize in the protection of private spaces, devices and values.



## PRO<sup>227</sup> SUPERIOR WATERLESS FIRE SUPPRESSION SYSTEMS

HFC-227ea is the world's most widely selected extinguishing clean gas agent, for use in new applications and widely accepted as a substitute to Halon. It is suitable for use in a wide range of fire extinguishing applications, including total flooding and inerting.

PRO<sup>227</sup> HFC-227ea systems are safe for use in occupied spaces and can reach extinguishing levels in 10 seconds or less, stopping ordinary combustible, electrical, and flammable liquid fires before they cause significant damage. PRO<sup>227</sup> HFC-227ea systems are designed to prevent the damage that can be caused by water by putting out the fire before it gets out of control. Several seconds can mean the difference between a minor inconvenience and a business stopping fire. When fire is extinguished quickly, it means an extra margin of safety for the people, less damage, and lower repair costs. It also means less disruption and downtime for business.



HFC-227ea agent has been validated by independent agencies, recognised from Underwriters Laboratories (UL) and approved by Factory Mutual Research Corporation (FM). HFC-227ea is listed as an acceptable agent for the replacement of Halon 1301 and new applications in the United States Environmental Protection Agency's (EPA's) Significant New Alternative Policy (SNAP) program in total flooding systems. HFC-227ea has a zero ozone depletion potential (ODP) and is the environmentally preferred alternative to Halon 1301. HFC-227ea is included in the National Fire Protection Association (NFPA) 2001 Clean Agent Standard and the International Standards Organization (ISO) 15004 Clean Agent Standard.

PRO<sup>227</sup> HFC-227ea systems extinguishes fires mainly by physical means, but also by some chemical means. PRO<sup>227</sup> HFC-227ea total flooding systems may be used for extinguishing fires of all classes within the limits specified in EN 15004-1:2008 and NFPA 2001.

Because HFC-227ea agent is electrically non-conductive agent (it is also odourless and colourless), that protects people, high value assets, and the continuity of business operations. HFC-227ea is effective both in the protection of electrical hazards such as computer rooms, electrical rooms and data centers. Furthermore, it is suitable for Class A fires (fires including solid material), as well as for Class B fires (flammable liquids) and Class C fires (flammable gases).

## APPLICATIONS

### Total Flooding of Surface Class A and Higher Class A Hazards:

HFC-227ea agent is an ideal choice for applications involving Surface Class A (plastic, cellulosic, solid) and Higher Class A hazards. HFC-227ea is suitable for use in Class A and Higher Class A applications where people are normally present (normally occupied spaces). Examples of applications where PRO<sup>227</sup> HFC-227ea systems are excellent choice for a total flood fire suppression system where people are present include in certain instances, equipment remains electrically energized during and after fire extinguishing system activation like computer rooms, telecommunication switch stations and facilities, semiconductor manufacturing facilities, data processing centers, clean rooms, industrial process control rooms, museums, libraries, and historical sites.

### Total Flooding of Class B and Class C Hazards:

HFC-227ea agent is suitable for the protection of Class B (liquid) and Class C (gas) fire hazards. Examples of these applications are: engine compartments, enclosed oil transformers, petrochemical facilities, chemical storage rooms, paint lockers, enclosed gas turbines and generator rooms and other areas where hydrocarbon-based materials are stored or handled.

## TOXICOLOGY

HFC-227ea agent is characterized by very low acute toxicity. The 4 hour (rat) LC50 of HFC-227ea agent is greater than 800,000 percent (>80% v/v). The threshold cardiac sensitization, lowest observed adverse effect level (LOAEL) for HFC-227ea is 105,000 ppm (10.5%) and the no observed adverse effect level (NOAEL) is 90,000 ppm (9.0%) as determined in epinephrine-challenged dogs. The physiologically-based pharmacokinetic methodology has demonstrated that human exposure to HFC-227ea for up to 5 minutes at concentrations of up to 10.5% v/v does not produce a blood level of HFC-227ea associated with cardiac sensitization in epinephrine-challenged dogs.



## PHYSICAL CHARACTERISTICS

Chemical name	1,1,1,2,3,3,3 - Heptafluoropropane
Chemical formula	CF <sub>3</sub> CHFCF <sub>3</sub>
Compliance with ISO 14520, UNE 23570 and NFPA 2001	HFC-227ea
Molecular weight	170.03
Boiling point	-16.36° C
Freezing point	-131.00° C
Density	1388 g/cm <sup>3</sup>
Vapour pressure at 25 °C	457.7 kPa
Maximum filling density	1.15 kg/100 l
Design concentration for surface fires Class A	7.9%
Design concentration for higher Class A Hazard	8.5%
Typical Design Concentration for heptane	8.6%
NOAEL	9.0%
LOAEL	10.5%
Ozone depletion potential	0
Appearance	Colorless Liquefied gas
Purity	99,9% (min)
Moisture	10 ppm (max)
Acidity	1 ppm (max)

## MAIN ADVANTAGES

The discharge valves, release devices and discharge accessories are approved by VdS (Germany).

Hydraulic calculations are performed by VdS Software (Germany).

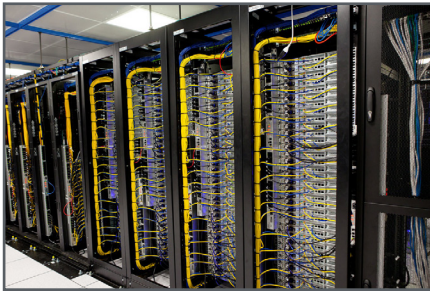
Cylinders are all PED and TPED certified and sizes are available from 8 l up to 250 l capacity with min test pressure of 69 bar.

Nozzles from 3/8" up to 2" and made of brass. 180 or 360 degrees models available.

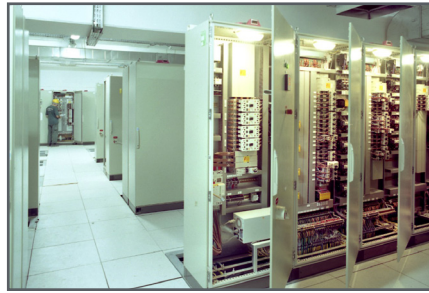
HFC 227ea agent is UL and FM Approved.







Data Centers



Electrical Rooms



Transformer Rooms



Power Plants



Battery Rooms



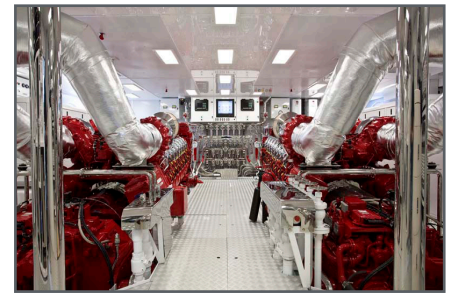
Archive Rooms



Clean Rooms



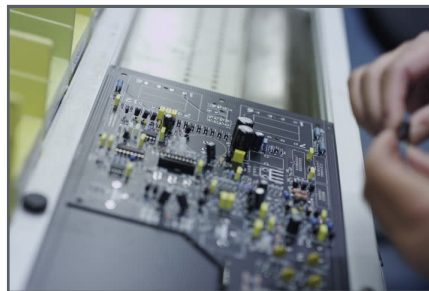
Control Rooms



Marine Engine Rooms



Chemical Storages



Electronic Storages



Bank Vaults



Museums



Libraries



Medical Rooms

## DISCHARGE VALVES - 49 mm ORIFICE

Extra large orifice (49 mm) valve for PRO™227 Fire Suppression Systems

### KEY FEATURES

- Extra large 49 mm orifice for high flow and rapid discharge
- Available with or without solenoid
- Choose from a large range of manual, pneumatic and electronic actuators

	Without Solenoid		With Solenoid	
Product Code	B04810124	B04810110	B04810119	B04810109
Discharge Type	Total	Total	Total	Total
Working pressure	25 bar	42 bar	25 bar	42 bar
Orifice size	Ø 49 mm	Ø 49 mm	Ø 49 mm	Ø 49 mm
Inlet connection	3" male	3" male	3" male	3" male
Outlet Connection	2 ½" male	2 ½" male	2 ½" male	2 ½" male
Burst disc pressure	50 bar	78 bar	50 bar	78 bar
Valve Body	Brass	Brass	Brass	Brass
Certification	VdS	VdS	VdS	VdS



## DISCHARGE VALVES - 33 mm ORIFICE

Large orifice (33 mm) valve for PRO™227 Fire Suppression Systems

### KEY FEATURES

- Large 33 mm orifice for high flow and rapid discharge
- Available with or without solenoid
- Choose from a large range of manual, pneumatic and electronic actuators

	Without Solenoid		With Solenoid	
Product Code	B04810124	B04810110	B04810119	B04810109
Discharge type	Total	Total	Total	Total
Working pressure	25 bar	42 bar	25 bar	42 bar
Orifice size	Ø 33 mm	Ø 33 mm	Ø 33 mm	Ø 33 mm
Inlet connection	2,5" male	2,5" male	2,5" male	2,5" male
Outlet Connection	1 7/8" male	1 7/8" male	1 7/8" male	1 7/8" male
Burst disc pressure	49 bar	78 bar	49 bar	78 bar
Valve Body	Brass	Brass	Brass	Brass
Certification	VdS	VdS	VdS	VdS





## DISCHARGE VALVES - 12 mm ORIFICE

Compact 12 mm valve with flexibility of actuation methods for PRO<sup>TM</sup>227 Fire Suppression Systems.

### KEY FEATURES

- Space/efficient 12mm valve with chain nut
- ATEX-approved versions available on demand  
ATEX versions not for use with electromagnetic actuators
- Choose from a large range of manual, pneumatic and electronic actuators

Product Code	B04803005
Discharge type	Total
Working pressure	42 bar
Orifice size	Ø 12 mm
Inlet connection	25E EN-629-1
Outlet connection	W21,8x1/14"DIN 477
Burst disc pressure	78 bar
Valve Body	Brass





## RELEASE DEVICES

Devices to actuate the release of PRO™227 Fire Suppression Systems

### KEY FEATURES

- Several release options as manual, pneumatic and selenoid to actuate the release of extinguishing agent.



	Manual	Manual / Pneumatic		Pneumatic	
Product Code	B04420100	B04420065	B04420116	B04420066	B04420076
Technology	Single Piston	Single Piston	Single Piston	Single Piston	Single Piston
Max. pressure	300 bar	300 bar	300 bar	300 bar	300 bar
Valve connection	M 42 x 1,5	M 42 x 1,5	M 42 x 1,5	M 42 x 1,5	M 42 x 1,5
Pneumatic connection	-	G1/8"	G1/8"	G1/8"	G1/8"
Actuation force / pressure	< 150 N	< 150 N / 20 bar	< 150 N / 10 bar	20 bar	10 bar
Body material	Brass	Brass	Brass	Brass	Brass
Height	54	136,5	156,5	50	71
Diameter	050	050	050	050	050

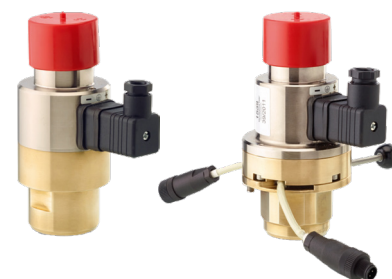
## ELECTROMAGNETIC RELEASE DEVICES

Devices to electrically actuate the release of PRO™227 Fire Suppression Systems

### KEY FEATURES

- Most commonly used as a master valve to actuate the system electronically, such as with connection to a smoke or heat detection device
- Electronically actuates the release of extinguishing agent

	B04425131	B04425132	B04425109	B04425129
	With diode	Without diode	With diode	Without diode
Valve connection	M42 x 1,5	M42 x 1,5	M42 x 1,5	M42 x 1,5
Nominal voltage	24 VDC	24 VDC	24 VDC	24 VDC
Electrical connection	-	-	PG 9	PG 9
Nominal current	0,5 A	0,5 A	0,5 A	0,5 A
Protection Class	IP65	IP65	IP65	IP65
Height	135 mm	135 mm	135 mm	135 mm
Diameter	0 65 mm	0 65 mm	0 80 mm	0 80 mm



## RESET TOOL FOR ELECTROMAGNETIC ACTUATOR

Used to reset the electromagnetic actuator piston when putting the system back in active service after system discharge.

Product code	029210064
Connection	M 42 x 1,5
Material	Brass



## MONITORING SWITCH

Monitors that the actuator is properly in place to actuate the system  
Connects to the alarm box Mandatory according to NFPA 2001 Standard on  
Clean Agent Extinguishing systems – 2015 edition

### KEY FEATURES

- Compact design: remains in the cylinder diameter
- Easy installation: simply clamps around the valve base



Product code	029905201	029905202	029905200
Description	Mounted on B0481 valve	Mounted on B0482 valve	Mounted on B0480 valve



## BLEED VALVE

To vent overpressure and prevent false system discharge in the event of a small pressure leak from the cylinders into the pneumatic actuators.

Product code	029730040
Pneumatic connection	G 1/8"
Closing pressure	between 0,7 to 1,5 bar
Flow at p=0.6 bar	6 liters/min



Mounts on all pneumatic release devices



## PRESSURE GAUGES WITH PRESSURE SWITCH

Measures and displays the cylinder pressure to verify that cylinders are properly filled and charged with extinguishing agent HFC-227ea

### KEY FEATURES

- Integrated pressure switch for low pressure signal for extinguishing control panel.
- Choice of NC or NO.



Product Code	B04810124	B04810110	B04810119	B04810109
Discharge Type	Total	Total	Total	Total
Working pressure	25 bar	42 bar	25 bar	42 bar
Orifice size	Ø 49 mm	Ø 49 mm	Ø 49 mm	Ø 49 mm
Inlet connection	3" male	3" male	3" male	3" male
Outlet Connection	2 ½" male	2 ½" male	2 ½" male	2 ½" male
Burst disc pressure	50 bar	78 bar	50 bar	78 bar
Valve Body	Brass	Brass	Brass	Brass
Certification	VdS	VdS	VdS	VdS



## PRESSURE GAUGES

Measures and displays the cylinder pressure to verify that cylinders are properly filled and charged with extinguishing agent HFC-227ea

### KEY FEATURES

- Choice of 0 to 60 bar or 0 to 100 bar



Product code	029720232	029720120
Scale	0-60 bar	0-100 bar
Connection	Rear	Rear
Connection	No connection	No connection
Diameter	Ø 40 mm	Ø 39 mm
Valve connection	M 10 x 1	M 10 x 1





## PILOT HOSES

Hose to connect multiple cylinders in a series. Connects a master valve or a pneumatic actuator with an other pneumatic actuator

### KEY FEATURES

- Both ends have a straight fitting
- 400 bar working pressure
- With O-rings

	Product code	Length l	Connection	Bending radius
A2	B06920212	700 mm	2 x M12 x 1,5	75 mm
AdapterB	029510006		M12 x 1,5 / G1/8	

### SPECIFICATIONS

Working pressure	400 bar	Temperature Range	-40°C to 100°C
Burst pressure	1600 bar	Material	Synthetic rubber oil
Torque	20-25 Nm	Interior diameter	1/8"



## DISCHARGE HOSES

Hose to connect the cylinder valve to the manifold, check valve or pipe directly for PRO<sup>TM</sup>227 Fire Suppression Systems.

### KEY FEATURES

- For connection to a manifold, check valve or can be used to connect to a pipe with flexible cabability
- No need fittings for connection

	FOR VALVE SERIES B0481	FOR VALVE SERIES B0482	FOR VALVE SERIES B0480 & B0439
Product Code	B06920222	B06920221	B06920226
Product code	53 bar	53 bar	Max. 380 bar
Working pressure	159 bar	159 bar	1520 bar
Burst pressure	-40°C to 100°C	-40°C to 100°C	-40°C to 100°C
Temperature range	38 - 42 Nm	38 - 42 Nm	38 - 42 Nm
Torque	Synthetic rubber	Synthetic rubber	Synthetic rubber
Material	EN853 2 SN	EN853 2 SN	EN853 2 SN
Norm	2 1/2"12-UN	1 7/8" 12-UN	W21,8 x 1/14"
Valve connection (inlet)	R 2"	R 1 1/2"	G 3/4"
Manifold connection (outlet)	640 mm	510 mm	130 mm



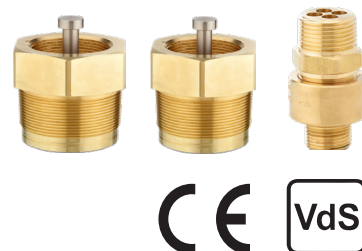
## CHECK VALVE

Prevents backflow into the cylinder.  
Required for each hose attachment to the discharge manifold.

### KEY FEATURES

- Extra large 49 mm orifice for high flow and rapid discharge

Product code	B04600009	B04600010	B04600008
Inlet connection	Rc 2"	Rc 1 1/2"	G 3/4"
Outlet connection	R 2 1/2"	R2"	R1"
Working pressure	53 bar	53 bar	< 360 bar
Material	Brass	Brass	Brass
Hex	80 mm	65 mm	42 mm



## PNEUMATIC DIRECTIONAL VALVE

Pneumatic or manual actuation Valve and actuator assembly to isolate separate protection zones from the same cylinder rack Includes valve & bracket & pneumatic actuator & manual wrench Permits discharge only in the zone

### KEY FEATURES

- Choice of 5 diameters: 1" - 1 1/2" - 2" - 2 1/2" - 3"
- 2-way ball valve
- User-defined installation position and flow-direction
- Stainless steel ball valve with steel housing

Product code	B05511050	B05511150	B05511250	B05511350	B05511450
Size	1"	1 1/2"	2"	2 1/2"	3"
DN	25	40	50	65	80
Nominal pressure	140 bar	140 bar	140 bar	140 bar	140 bar
Actuation pressure	8 bar +/- 2 bar	8 bar +/- 2 bar	8 bar +/- 2 bar	8 bar +/- 2 bar	8 bar +/- 2 bar
Actuation medium	N2	N2	N2	N2	N2
Temperature range	-20° C to 50° C	-20° C to 50° C	-20° C to 50° C	-20° C to 50° C	-20° C to 50° C
Length	209 mm	221mm	221mm	298 mm	298 mm
Height	371,5 mm	433 mm	447 mm	583,5 mm	600 mm
Width	110,5 mm	120 mm	120 mm	137 mm	137 mm
Pipe Connector length	113 mm	130 mm	140 mm	220 mm	226 mm
Seal material	POM (greased), NBR	POM (greased), NBR	POM (greased), NBR	POM (greased), NBR	POM (greased), NBR



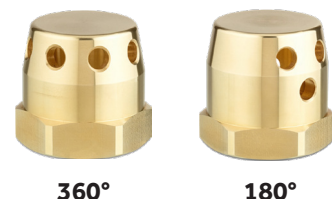
## NOZZLES

Pre-bored and preassembled discharge nozzles for PRO<sup>TM</sup>227 Fire Suppression Systems.

### KEY FEATURES

- Flexible size options from 1½" to 2"
- 180° or 360° models available.

	360°	180°
Size of Thread	Product Codes	
½"	B04612000	B04612001
¾"	B04612100	B04612101
1"	B04612200	B04612201
1¼"	B04612300	B04612301
1½"	B04612400	B04612401
2"	B04612500	B04612501



## PRESSURE & FLOW DETECTOR SWITCH

Used to send a signal that the system is discharging.  
Pressure Activated

### KEY FEATURES

- Sends a signal to a control panel or alarm box at the earliest phase of discharge
- Actuated at 2 bar pressure
- Flexible Voltage/Amp power source

Product code	PRO_227-PDS
Opening Pressure	2 bar
Connection	G¼"
Power Source	240 VAC / 3A
Protection	IP65

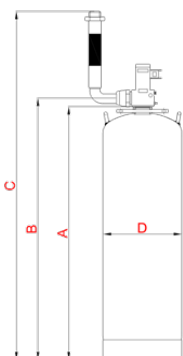




## CYLINDERS

### KEY FEATURES

- Seamless cylinders options from 8lt to 20lt
- Welded cylinders options from 32lt to 250lt
- Seamless cylinders tested to 345 bar
- Welded cylinders tested to 69



CE TPED



Part No	Type	Volume (lt.)	A (mm)	B (mm)	C (mm)	D (mm)	Test Pressure (bar)	Valve	Valve Outlet (mm)	Hose Length (mm)
PRO 227-C-1S	Seamless	8	690	730	1160	139	345	B0439	Ø 7	450
PRO 227-C-2S	Seamless	16	705	740	1170	204	345	B0439	Ø 7	450
PRO 227-C-3S	Seamless	20	845	880	1310	204	345	B0439	Ø 7	450
PRO 227-C-4S	Seamless	32	1000	1035	1500	229	345	B0482	Ø 33	500
PRO 227-C-5S	Seamless	52	1550	1585	2050	229	345	B0482	Ø 33	500
PRO 227-C-14S	Seamless	67	1475	1510	1975	267	310	B0482	Ø 33	500
PRO 227-C-6S	Seamless	80	1745	1780	2245	267	310	B0482	Ø 33	500
PRO 227-C-4	Welded	32	815	850	1315	254	69	B0482	Ø 33	500
PRO 227-C-5	Welded	52	1248	1290	1755	254	69	B0482	Ø 33	500
PRO 227-C-6	Welded	80	1230	1265	1730	315	69	B0482	Ø 33	550
PRO 227-C-7A	Welded	106	1005	1040	1505	405	69	B0482	Ø 33	500
PRO 227-C-8A	Welded	120	1780	1815	2280	315	69	B0482	Ø 33	500
PRO 227-C-7	Welded	106	1005	1085	1575	405	69	B0481	Ø 49	550
PRO 227-C-8	Welded	120	1780	1860	2350	315	69	B0481	Ø 49	550
PRO 227-C-9	Welded	147	1335	1415	1905	405	69	B0481	Ø 49	550
PRO 227-C-10	Welded	200	1175	1255	1745	510	69	B0481	Ø 49	550
PRO 227-C-11	Welded	250	1440	1520	2010	510	69	B0481	Ø 49	550
PRO 227-C-12	Welded	300	1710	1790	2280	510	69	B0481	Ø 49	550
PRO 227-C-13	Welded	345	1970	2050	2540	510	69	B0481	Ø 49	550
PRO 227-C-10H	Welded	200	955	1035	1525	610	87	B0481	Ø 49	550
PRO 227-C-11H	Welded	250	1155	1235	1725	610	87	B0481	Ø 49	550
PRO 227-C-12H	Welded	300	1355	1435	1925	610	87	B0481	Ø 49	550
PRO 227-C-13H	Welded	345	1535	1615	2105	610	87	B0481	Ø 49	550

## EXTINGUISHING CONTROL PANELS



Designed and manufactured to the highest standards in a quality controlled environment with European EN12094-1 approvals and UL/FM approved alternatives for special requirements. The extinguishant releasing panel offers outstanding value and performance for all fixed fire suppression installations.

- Multiple detection zones as standard
- Configurable detection delays
- Compatible with I.S barriers
- Countdown timer shows time remaining until release
- Supports remote status indicators



## POINT TYPE DETECTORS

Smoke, heat, combined, flame and beam fire detectors, form a range of elegantly designed, aesthetic, low profile detectors which blend unobtrusively into modern working environments. All detectors incorporate 'FIRE' LED indicator. All detectors are interchangeable with a variety of base options.

- Enhanced sensitivity to a wide range of fire types
- High resistance to false alarm
- Ultra low quiescent current
- Various types of warning devices



## ASPIRATING FIRE & SMOKE DETECTORS



Several types of aspirating detector available to identify the optically invisible fire particulate by utilising the unique 'Cloud Chamber Detection' (CCD) and LED based superior smoke detection technologies.

Depending on the materials burning, particularly in the many modern applications for aspirating detection systems, some fires burn with only a small amount of visible smoke, whereas others burn with greater volumes of visible smoke.

- Hybrid 'Combined Fire & Smoke' Aspirating Detector type offers superior detection
- LED based Optical 'Scatter Chamber Detectors' offers fast detection
- Independent and integrated intelligent alarm signal decision making on both types
- The largest sensitivity range aspirating detector Zero% obs/m to 20% obs/m available
- HYBRID 'Smart Signal' to verify alarms and discriminate false alarms
- Wide range from LED indicator to 7" full colour multi-function touch screen LCD displays



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**PROTEK Yangın ve Güvenlik Sistemleri A.Ş.**

A : Girne Mah. Irmaklar Sok. Küçükalyalı İş Merkezi, B Blok, No: 72-5B 34853 Maltepe İstanbul /  
Turkey T : +90 (216) 489 49 99 / F : +90 (216) 489 99 74  
[www.pro227.com](http://www.pro227.com) / [www.protekfiresystems.com](http://www.protekfiresystems.com)