PROTEK

PRO5112®
FIRE SUPPRESSION SYSTEMS

VdS Inspected. Approved. Safe.

SYSTEM APPROVED
S322016

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 "Technological" 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 Occupational Health and Safety Management Systems 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.

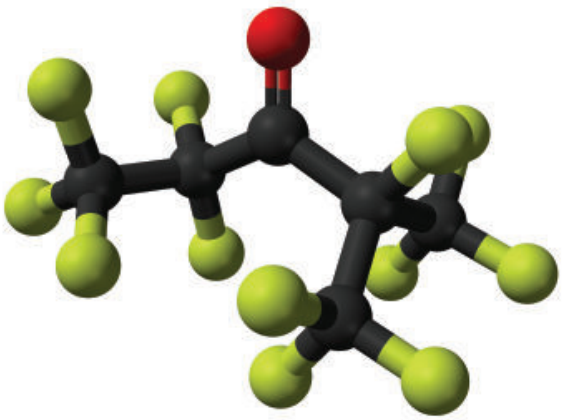
MSC BELGELENDİRME ISO 9001

MSC BELGELENDİRME ISO 14001

MSC BELGELENDİRME ISO 45001

PRO™5112 SUPERIOR WATERLESS FIRE SUPRESSION SYSTEMS

FK-5-1-12 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™5112 FK-5-1-12 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™5112 FK-5-1-12 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.

FK-5-1-12 agent has been validated by independent agencies, recognised from Underwriters Laboratories (UL). FK-5-1-12 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. FK-5-1-12 has a zero ozone depletion potential (ODP) and is the environmentally preferred alternative to Halon 1301. FK-5-1-12 is included in the National Fire Protection Association (NFPA) 2001 Clean Agent Standard and the International Standards Organization (ISO) 15004 Clean Agent Standard.

PRO™5112 FK-5-1-12 systems extinguishes fires mainly by physical means, but also by some chemical means. PRO™5112 FK-5-1-12 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 FK-5-1-12 agent is electrically non-conductive agent (it is also odourless and colourless), that protects people, high value assets, and the continuity of business operations. FK-5-1-12 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 (flamable gases).

APPLICATIONS

Total Flooding of Surface Class A and Higher Class A Hazards:
FK-5-1-12 agent is an ideal choice for applications involving Surface Class A (plastic, cellulosic, solid) and Higher Class A hazards. FK-5-1-12 is suitable for use in Class A and and Higher Class A applications where people are normally present (normally occupied spaces). Examples of applications where PRO™5112 FK-5-1-12 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:
FK-5-1-12 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

The no observable adverse effect level (NOAEL) for any end point of acute toxicity has been determined to be 10 volume percent (100,000 ppmv) in air. With a NOAEL of 10%, there is consensus that PRO™5112 fluid is not only safe for its intended end use but that it provides a large margin of safety relative to the typical design concentrations of fire protection systems. Typical design concentrations in the range of 4.5 to 5.9 volume percent result in safety margins of 69% to 122% (according to manufacturers test results).

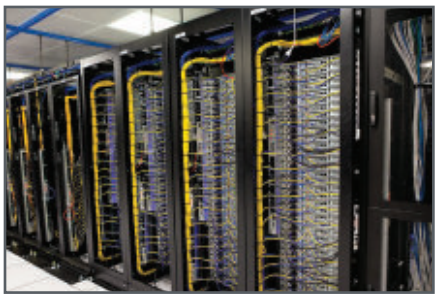
PHYSICAL CHARACTERISTICS

Chemical formula	$CF_3CF_2C(O)CF(CF_3)_2$
Compliance with ISO 14520, UNE 23570 and NFPA 2001	FK-5-1-12
Molecular weight	316.04
Boiling point	49.2ºC (120.6ºF)
Freezing point	-108.0ºC (-162.4ºF)
Critical Density	639.1 kg/m³ (39.91 lbm/ft³)
Density, Sat. Liquid	1.60 g/ml (99.9 lbm/ft³)
Density, Gas @ 1 atm	0.0136 g/ml (0.851 lbm/ft³)
Vapour pressure	0.404 bar (5.85 psig)
Maximum filling density	1.15 kg/100 l
Design concentration for surface fires Class A EN	5.3%
Design concentration for higher Class A Hazard EN	5.6%
NOAEL	10.0%
Ozone depletion potential	0

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 ⅜" up to 2" and made of brass. 180 or 360 degrees models available.
FK-5-1-12 agent is UL Listed.

CE TPED UL VdS


Data Centers


Electrical Rooms

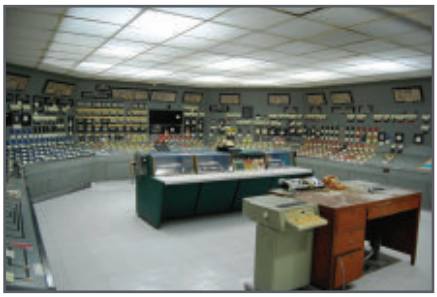

Transformer Rooms


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™5112 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™5112 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	**B04820125**	**B04820129**	**B04820119**	**B04••01••••**
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™5112 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

On Request

RELEASE DEVICES

Devices to actuate the release of PRO™5112 Fire Suppression Systems

KEY FEATURES

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

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

ELECTROMAGNETIC RELEASE DEVICES

Devices to electrically actuate the release of PRO™5112 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
	With diode	Without diode
Valve connection	M42 x 1,5	M42 x 1,5
Nominal voltage	24 VDC	24 VDC
Electrical connection	-	-
Nominal current	0,5 A	0,5 A
Protection Class	IP65	IP65
Height	135 mm	135 mm
Diameter	0 65 mm	0 65 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
Description	Mounted on B0481 valve	Mounted on B0482 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

VdS

PRESSURE GAUGES WITH PRESSURE SWITCH

Measures and displays the cylinder pressure to verify that cylinders are properly filled and charged with extinguishing agent FK-5-1-12

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

Type Destination
PGS 21.050

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

CE VdS

PRESSURE GAUGES

Measures and displays the cylinder pressure to verify that cylinders are properly filled and charged with extinguishing agent FK-5-1-12

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

Type Destination
111.12.040

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

CE VdS

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

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**	⅛"

DISCHARGE HOSES

Hose to connect the cylinder valve to the manifold, check valve or pipe directly for PRO™5112 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 ½"12-UN	1 7/8" 12-UN	W21,8 x 1/14"
Valve connection (inlet)	R 2"	R 1 ½"	G ¾"
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 ½"	G ¾"
Outlet connection	R 2½"	R2"	R1"
Working pressure	53 bar	53 bar	< 360 bar
Material	Brass	Brass	Brass
Hex	80 mm	65 mm	42 mm

CE VdS

NOZZLES

Pre-bored and preassembled discharge nozzles for PRO™5112 Fire Suppression Systems.

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

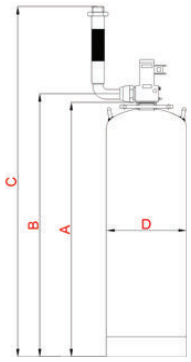
Size	Orifice Diameter (mm)	Product Codes	Orifice Diameter (mm)	Product Codes
inch	360°		180°	
½"	2.00 - 3.50	B4614xxx	2.0 0- 4.95	B4614xxx & B4615xxx
¾"	3.40 - 4.65	B4614xxx	3.4 0- 6.55	B4614xxx & B4615xxx
1"	3.40 - 4.65	B4614xxx	4.60 - 8.40	B4614xxx & B4615xxx
1 ¼"	5.90 - 7.80	B4614xxx	5.90 - 11.10	B4614xxx & B4615xxx
1 ½"	7.75 - 9.10	B4614xxx	7.75 - 12.90	B4614xxx & B4615xxx
2"	9.05 - 11.30	B4614xxx	9.05 - 16.45	B4614xxx & B4615xxx

CE VdS

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 Lenght (mm)
PRO 5112-C-1S	Seamless	8	690	730	1160	139	345	B0439	Ø 7	450
PRO 5112-C-2S	Seamless	16	705	740	1170	204	345	B0439	Ø 7	450
PRO 5112-C-3S	Seamless	20	845	880	1310	204	345	B0439	Ø 7	450
PRO 5112-C-4S	Seamless	32	1000	1035	1500	229	345	B0482	Ø 33	500
PRO 5112-C-5S	Seamless	52	1550	1585	2050	229	345	B0482	Ø 33	500
PRO 5112-C-14S	Seamless	67	1475	1510	1975	267	310	B0482	Ø 33	500
PRO 5112-C-6S	Seamless	80	1745	1780	2245	267	310	B0482	Ø 33	500
PRO 5112-C-4	Welded	32	815	850	1315	254	69	B0482	Ø 33	500
PRO 5112-C-5	Welded	52	1248	1290	1755	254	69	B0482	Ø 33	500
PRO 5112-C-6	Welded	80	1230	1265	1730	315	69	B0482	Ø 33	550
PRO 5112-C-7A	Welded	106	1005	1040	1505	405	69	B0482	Ø 33	500
PRO 5112-C-8A	Welded	120	1780	1815	2280	315	69	B0482	Ø 33	500
PRO 5112-C-7	Welded	106	1005	1085	1575	405	69	B0481	Ø 49	550
PRO 5112-C-8	Welded	120	1780	1860	2350	315	69	B0481	Ø 49	550
PRO 5112-C-9	Welded	147	1335	1415	1905	405	69	B0481	Ø 49	550
PRO 5112-C-10	Welded	200	1175	1255	1745	510	69	B0481	Ø 49	550
PRO 5112-C-11	Welded	250	1440	1520	2010	510	69	B0481	Ø 49	550
PRO 5112-C-12	Welded	300	1710	1790	2280	510	69	B0481	Ø 49	550
PRO 5112-C-13	Welded	345	1970	2050	2540	510	69	B0481	Ø 49	550
PRO 5112-C-10H	Welded	200	955	1035	1525	610	87	B0481	Ø 49	550
PRO 5112-C-11H	Welded	250	1155	1235	1725	610	87	B0481	Ø 49	550
PRO 5112-C-12H	Welded	300	1355	1435	1925	610	87	B0481	Ø 49	550
PRO 5112-C-13H	Welded	345	1535	1615	2105	610	87	B0481	Ø 49	550

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_5112-PDS
Opening Pressure	2 bar
Connection	G¼"
Power Source	240 VAC / 3A
Protection	IP65

ROOM INTEGRITY TEST

An Integrity test predicts how long fire suppressant agents take to descend to a given level in the room without having to release the agent itself. The Integrity test is carried out using:

- Modular adjustable panels for the door frame which adjusts to fit a wide variety of door sizes.
- Calibrated Fan(s) and range configuration
- Calibrated gauge(s)
- Laptop Computer
- Enclosure Integrity Software

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
- Compatable with I.S barriers
- Countdown timer shows time remaining until release
- Supports remote status indicators

VdS bsi. EN-54 LPCB UL FM APPROVED

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

VdS bsi. EN-54 LPCB UL FM APPROVED

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

VdS bsi. EN-54 LPCB UL FM APPROVED

Distributor:

PROTEK Yangın ve Güvenlik Sistemleri A.Ş.
A : Girne Mah. Irmaklar Sok. Küçükyalı İş Merkezi, B Blok, No: 72-5B 34853 Maltepe İstanbul / Turkey
T : +90 (216) 489 49 99 / F : +90 (216) 489 99 74
www.protek.gen.tr / www.protekfiresystems.com