



An Independent Company with a solid experience of more than 20 years developing Fire Suppression systems, through a global network of integrated Sales, R+D+I, Production, and Technical Service.





OUR COMPANY'S PHILOSOPHY





keypoints

QUALITY

Systems and Components designed and manufactured according to the most rigorous International regulations, such as ISO 14520, NFPA, EC.

Functional and pressure tests are performed on all essential components, and especially on all models of LPG valves.

Fully traceable control and identification of manufacture and production batches.



DESIGN, PRODUCTION AND QUALITY PROCEDURES, CERTIFIED:







INNOVATION

Continuous innovating and research for the increase of effectiveness in advanced solutions for Fire Protection.

- Full equipped Testing Laboratories (600 m2).
- More than 6% of the annual turnover reinvested in R+D+I.
- Software development for Hydraulic Calculations (FIRENET®)









ACTIVE MEMBERS OF:

• NFPA

• ISO • IWMA







• EUROFEU • CEN • AESPI eurofeu

ENVIRONMENT



- R+D+I of increasingly environmentally friendly Fire Protection Systems.
- Minimization of harmful effects on the ozone layer, as under Montreal Protocol our extinguishing agents are classified as substances that do not generate atmospheric emissions.

WE RESPECT THE OZONE LAYER WITHOUT COMPROMISING ON EFFECTIVENESS.





• Technical Sales Team of qualified and experienced engineers working closely with customers to identify and to provide advise for the most appropriate solution.

Consolidation of an Internationalization process by means of the logistic location of productive and assembly plants.

Regular Technical training seminars.







TO PROTECT LIFE AND PROPERTY WHILE RESPECTING THE ENVIRONMENT





R+D+I Testing Facilities: 600 m²



INTERNATIONAL EXPANSION





INTERNATIONAL EXPANSION





INTERNATIONAL APPROVALS



VdS (Germany) CO₂ - IG-01, IG-55 & IG-100 @ 200 & 300 - LPG AQUAFOG [®]



LPCB (U.K.) FE-13[®] - IG-01, IG-55 & IG-100 @ 200 & 300 - HFC-227ea -HFC-125



CNPP (France) FE-13® - IG- 01 & IG-55 @ 200 & 300



VNIIPO (Russia) CO₂ - FE-13[®] - IG-01, IG-55 & IG-100 @ 200 & 300 -Weighing device - HFC-125 - HFC-227ea



UL (USA) NAF S-125[®] - FM-200[®]



.. IGAI ...

APCI (Cuba) Hose reels - FE-13[®] - HFC-227ea - HFC-125 – LPG INERT[®] IG-01 @ 200 & 300 - CO₂ -

IMO (International Maritime Organization) FE-13® - NAF S-125®







OUR PRODUCTS RANGE

GASEOUS EXTINGUISHING AGENTS

HFCs:

FE-13®

NAF S 125[®] - HFC-125

- FM-200[®] HFC-227ea
- INERTS GASES:
 - IG-01 (Ar)

IG-55 (Ar + N₂) @ 200 and 300 bar IG-100 (N₂)

CO₂ (High Pressure & Low Pressure)

WATERMIST SYSTEMS LPG AQUAFOG[®]

- CYLINDER BANKS
- PUMP SYSTEMS

ENGINEERING SERVICES

- SPECIAL SYSTEMS
- TURN KEY PROJECTS











FE-13™

- Safe for people with a wide margin of safety
- Safe for valuable equipment
- Suitable for high ceiling applications
- Maintains a high oxygen level in the protected area
- Non conductive
- Discharge time: 10 seconds
- Safe for the environment (zero ODP)
- Easy to install
- No nitrogen required
- Pure product
- Optionally monitored with weighing devices
- Included in ISO 14520, and NFPA 2004 Standards









NAF S 125®

Excellent alternative to Halon 1301 and most suitable for retrofitting purposes.

- Safe for the environment (Zero ODP)
- Discharge time: 10 seconds
- Contains an additive, approved by EPA, which reduces substantially the by-products.
- Safe for people and for valuable equipment
- Electrically non conductive
- The Boiling Point of 48.5° C assures a rapid and homogenous distribution
- Excellent cost to efficiency ratio
- Included in ISO 14520, and NFPA 2001
 Standards











FM-200[®]

- Efficient alternative to Halon 1301
- Zero ODP
- Discharge time: 10 seconds
- No residue to clean up after discharge
- Safe for people
- Safe for valuable equipment
- Electrically non conductive
- The Boiling Point of 16,4° C assures a rapid and homogenous distribution
- Excellent cost to efficiency ratio
- Included in ISO 14520, and NFPA 2001
 Standards







LPG INERT IG-01, IG-55, IG-100 @ 200 & 300 bar

- Safe for valuable equipment
- Safe for the environment
- No decomposition products
- No thermal shock
- Non toxic
- Non conductive
- Non corrosive
- No residues
- Supplied with pressure reducer.
- Extinguish mainly by oxygen depletion and by flame cooling.
- Discharge time : 60 seconds.
- Included in ISO 14520, and NFPA 2004 Standards









CO2 CENTRALIZED SYSTEM

- For non occupied areas, unless a delay device is installed.
- Provided optionally with continuous weight monitoring of extinguishing agent contents
- Colorless, odorless, non electrically conductive inert gas, 1,5 times heavier than air.
- Extinguish by oxygen depletion and flame cooling.
- Discharge time 60 seconds.
- Included in NFPA-12









LPG AQUAFOG WATERMIST

- Cooling via vaporization of water droplets
- Reduction of oxygen concentration
- Prevention of fire propagation through absorption of radiation
- Quick and easy to install
- Easy and economic to refill
- Minimum quantity of water required
- Minimal water damage
- Environmentally friendly
- Reduce smoke damage
- Improved visibility
- Included in NFPA-750









- FIRETRACE® applications
- Kitchen hoods and Fryers protection
- Marine protection
- Protection of military vehicles
- Protection of petrol stations
- Protection of fuel tanks









PROJECT ENGINEERING

- Complete solutions in the field of the detection and fire extinguishing, for any type of installation in any place of the world.
- Turn key projects
- Specifics networks flow calculations
- Integrity tests
- Extinguishing Concentration tests
- Detail engineering

A SOLID EXPERIENCE IN ENGINEERING SERVICES

























- Kept closed by gas pressure stored within the container
- Easy and safe checking and maintenance of all essential elements
- Protection against accidental actuation due to small leakages
- Adaptability for all actuation and release systems used, even allowing combinations of several of them







LPG-110:

Just for CO_2 systems.

Outlet nominal size: 21.7 DIN 477 (close to 1/2")

Activation: Manual or pneumatic actuation by head actuators.

Safety devices: Burst disk

Main characteristics: Working pressure 166 bar. It is specially designed for being a slave valve. No pressure gauge, No pressure switch. Electrical actuation for solenoid valve or pyro-electrical actuators not allowed. Internal parts included in a body that can be dismantled by the head of the valve.

Approvals: VDS, ready to get CEN approval.



LPG-128

For Argon, FE-13, HFC-227, CO2, N2, HFC-125, S-III.



LPG - 145

40, 67 Lt.

Outlet nominal size: 3/4 ", 21.7 DIN 477 (just for CO2, N2)

Activation: Manual, pneumatic, electrical (solenoid), pyroelectrical (explossor or protactor) actuators or a combination of them.

Safety devices: Safety disk, upper cap relief valve, Schrader valves, sealing bolts.

Control devices: Pressure switch, pressure gauge (with internal contact for high pressure), filling guarantee.

Main Characteristics: Working pressure from 24 to 300 bar. Pressure gauge and pressure switch couplings includes a schrader valve (sealing bolts for argon and nitrogen). It allows to dismantle every external component in charge except from the burst disks and internal components. It is possible to check the functioning of the solenoid valve by a little discharge test. Dismantling the pressure gauge stops the pressure feeding to the solenoid valve. It can be used as modular, master or pilot valve.

Approvals: VDS, LPCB, ready to get CEN approval.



LPG-145



LPG - 145

40. 67 Lt.

For FE-13, HFC-227, HFC-125, S-III.

Outlet nominal size: 1 "

Activation: Manual, pneumatic, electrical (solenoid), pyro-electrical (explossor or protactor) actuators or a combination of them.

Safety devices: Safety disk, upper cap relief valve and schrader valves.

Control devices: Pressure switch, pressure gauge, filling guarantee,

Main characteristics: Working pressure from 24 to 166 bar. Pressure gauge and pressure switch couplings includes a schrader valve. It allows to dismantle every external component in charge except from the burst disks and internal components. It is possible to check the functioning of the solenoid valve by a little discharge test. Dismantling the pressure gauge stops the pressure feeding to the solenoid valve. It can be used as modular or master valve.

Approvals: LPCB, ready to get CEN approval.



LPG-190



LPG - 190 75. 100. 120 Lt.

For FE-13, HFC-227, HFC-125, S-III.

Outlet nominal size: 1 1/2 "

Activation: Manual, pneumatic, electrical (solenoid), pyro-electrical (explossor or protactor) actuators or a combination of them.

Safety devices: Safety disk, upper cap relief valve, schrader valves.

Control devices: Pressure switch, pressure gauge, filling guarantee,

Main characteristics: Working pressure from 24 to 166 bar. Just the pressure gauge coupling includes a schrader valve (non for the pressure switch coupling). It allows to dismantle every external component in charge except for the burst disks and internal components. It is possible to check the functioning of the solenoid valve by a little discharge test. Dismantling the pressure gauge stops the pressure feeding to the solenoid valve and pressure switch. It can be used as modular or master valve.

Approvals: LPCB, ready to get CEN approval.





LPG BP-230

For HFC-227, HFC-125, S-III.



LPG - BP230 142, 175, 240 Lt.

Outlet nominal size: 2 1/2 "

Activation: Manual, pneumatic, electrical (solenoid), pyro-electrical (explossor or protactor) actuators or a combination of them.

Safety devices: Safety disk, upper cap relief valve, schrader valves.

Control devices: Pressure switch, pressure gauge.

Main characteristics: Working pressure 60 bar. Just the pressure gauge coupling includes a schrader valve (non for the pressure switch coupling). It allows to dismantle every external component in charge except for the burst disk and internal components. It is possible to check the functioning of the solenoid valve by a little discharge test. Dismantling the pressure gauge stops the pressure feeding to the solenoid valve, pressure switch and manual actuator. It includes transport bolt to avoid accidental discharge during maintenance, transport or handling It can be used as modular or master valve.

Approvals: Ready to get CEN approval.





ROUP OF

Significant flexibility in choice of actuation

 \cdot Manual \cdot Pneumatic \cdot Electrical \cdot Combination of them













FEATURES OF MODULAR SYSTEMS

Just one cylinder with valve, includes the external activation devices (usually manual and electrical by solenoid valve)

Simple installation and possibility of lay down cylinders (horizontal position) when LPG 128 is used.

In this kind of systems it is forbidden to install the nozzles directly on the outlet of the valve.





FEATURES OF CENTRALIZED SYSTEMS

Formed by the cylinders, brackets, check valves, manifold and hoses for discharge and triggering and pneumatic devices.



- Easy and safe checking and maintenance of all essential elements
- Kept closed by gas pressure stored within the container
- Protection against accidental actuation due to small leakages
- Adaptability for all actuation and release systems used, even allowing combinations of several of them





SELECTOR VALVES

These devices allow to use one single bank of cylinders to protect 2 or more areas at the same time. It is a pneumatic operated device that is automatically opened with the discharge of the pilot cylinder and before the cylinders or the bank are discharged (selector valves always open at 0 bar in the manifold).

Those are high pressure devices that don't need to reduce the pressure liberated by the pilot cylinder to be activated. Very simple and reliable design. After the actuation the valve will remain open and have to be manually reset.







AUTOMATIC WEIGHING DEVICE SYSTEMS



They are used with systems where it is not possible to control the charge of the cylinders by a pressure gauge (CO2, FE-13).

There are two different kinds of weighing devices: Mechanical weighing device and Weighing device by Load Cell.

The Electronic systems by Cell consists of a control panel and control modules for every cylinder. The cylinders are hanging from the control modules. If there is a leak the weigh of the cylinder will decrease. When the loss of weight is 10% of the complete charge the control module will give an optical and acoustic alarm signal that can also be seen in the control panel. This control panel can be controlled by the main control panel of the building.

The Mechanical system works according to the same principle but in this case there is not control panel. So limit switches or photoelectrical cell barriers can be adapted to report the alarm signal to the main control panel of the building.



AUTOMATIC WEIGHING DEVICE SYSTEMS

Cell Weighing Device System:

The Cell Weighing Device System has specific modules that are taking care of the real quantity of gas inside the cylinder. It has a software that allows to give the information of every single cylinder of the bank and adjust the weight alarm level, so if the cylinder weight decreases up to the level of the level of the adjusted one, the system gives optical and acoustic alarm identifying the cylinder. With this system it is possible to check visually the weight of every cylinder.











AUTOMATIC WEIGHING DEVICE SYSTEMS

Mechanical Weighing Device System:

The Mechanical Weighing Device System is a system that only surveys the position of the cylinder. If there is a leak the cylinder will move up (because of an inner spring) and the system will give a visual alarm. It can be supervised by electronics in order to report the alarm to a control panel.











AGENTS STORAGE CONTAINERS

According to BS 5045 Part 2 and Transportable Pressure Equipment Directive EC/36/1999

• <u>HFC's</u>

Eleven cylinder sizes available 5, 13, 26, 40, 67, 75, 100, 120 & 42 bar 142, 175 & 240 & 24 bar

• <u>INERTS</u>

Two cylinder sizes available 80 & 140 & 200 & 300 bar

<u>CO₂</u> Five cylinder sizes available 5, 13, 26, 40 & 67





CLASS A CONCENTRATIONS

(Kg/m ³)	HFC23	HFC125	HFC227	IG-01	IG-55	IG-100
LPG 2004	16.5	8.0 (NFPA) 8.7 (ISO)	7.5	38.0	37.8	39
ISO14520:20 00	19.5	N/D	7.5	38.0	37.8	39
UNE 23571-77	18.0	N/D	7.5	38.0	37.8	39
ISO14520:20 05	16.3	11.2	7.9	41.3	40.0	40.3
LPG 2005	15.9	8.0 (NFPA) 8.7(ISO)	6.25 (NFPA) 6.8(ISO)	38.0	37.8	39

COMPANIES COMPANIES

A SOLID EXPERIENCE IN ENGINEERING SERVICES



LPG's special projects department is equipped for the developing of your turn key projects.

The Esmeralda Refinery Plant of Quito, Ecuador, the Military Hospital in Cairo, Egypt, or the Aerial Railway of Bangkok in Thailand are just some of the turn key projects developed by our project engineering department.



LPG INERT IG-01

PROJECT	COUNTRY
ESMERALDA Refinery Control rooms, electric substation	ECUADOR
BANQUE POPULAIRE	FRANCE
ESTONIA TELECOM Cable Tunnel	ESTONIA
VIATEL (Strasbourg) Telecommunication Room	FRANCE
ERCIYIS UNIVERSITY Archives	TURKEY
HSBC Bank Several Risks	SPAIN
THE GUARDIAN / THE OBSERVER Computer room, IT room, UPS room	U.K.
VIATEL (Düsseldorf) Telecom room, Battery room	GERMANY
VIATEL (Barcelona) Las Glorias Shopping Center, Telecom room	SPAIN
INTERNET CITY Computer rooms	UAE





LPG INERT IG-55

PROJECT	COUNTRY
SABANCI MUSEUM	TURKEY
TEKEL MUSEUM	TURKEY
CYPRUS AIRWAYS Central ticketing& computer room	CYPRUS
CYPRUS STOCK EXCHANGE Computer rooms	CYPRUS
ISG Data centre	IRELAND
ANKARA BOOK STORE & BOOK COLLECTIONS Archives	TURKEY
CYTA (Telecom. Autority) Computer & operator rooms	CYPRUS
TATIAN INDUSTRY Computer and server room	MALAYSIA
FIAT Offices (Cosenza)	ITALY
ACVAN MUSEUM	BELGIUM
BANQUE POPULAIRE	FRANCE
ESTONIA TELECOM Cable Tunnel	ESTONIA





LPG INERT IG-100



PROJECT	COUNTRY
LLOYD's BANK (Peterborough) Archive rooms	U.K.
BBC City (London) Computer RACKs (the biggest risk protected in Europe – 10,000 m3 with a centralized system of 200 cylinders)	U.K.
NATIONAL GRID Control rooms	U.K.



CO2

PROJECT	COUNTRY
CAIRO MILITARY HOSPITAL	EGYPT
TSK Fotofilm archives	TURKEY
WEST RIFFA Petrol pumping station	STATE BAHRAIN
PACKAGES Ltd Printing machines	PAKISTAN
ALSTON Factory	U.K.
TEMPER MILL SUBSTATION	SPAIN
F.C.C. Construction Company Archives	SPAIN
HINDAL CO. INDUSTRIES Mills, sump pit, hydraulic room, coolant room and fume extract system duct (aluminium foil unit)	INDIA
VASAVI POWER CORP. Control room and rack room	INDIA
TOYO ENGINEERING (Haldia Plant) UPS and control room	INDIA
MILITARY BASE J. OFFENBERG (Florennes)	BELGIUM
ILLOCHROMA (Uccle) Heliographic printing press/Hydraulic room	BELGIUM





NAF S-125®

PROJECT	COUNTRY
ÁTICA BUILDING OF UNIVERSIDAD OF MURCIA	SPAIN
Several hazards	(Murcia)
AZABACHE	SPAIN
Several hazards	(Murcia)
FIRESTONE	SPAIN
Server room	(Vizcaya)
CONSORCIO SANITARIO PARC TAULÍ	SPAIN
Server room and pharnacy	(Barcelona)
PHILIPS SPAIN	SPAIN
Electrical rooms	(Madrid)
HOSPITAL VALL D' HEBRÓN	SPAIN
Electrical rooms	(Barcelona)
FUNDACIÓN SANCHO EL SABIO	SPAIN
Archives	(Vitoria)
RADIO STATION	HUNGARY
OBRAGAS TE HELMOND	HOLLAND
VERTES POWER STATION	HUNGARY
ΜΑΤΑΥ	HUNGARY





FM-200[®]

PROJECT	COUNTRY
ISTANBUL STRAIGH Vessel Traffic control system	TURKEY
DEFENCE MINISTRY Computer and UPS room	BAHREIN
APPLE (Cork)	IRELAND)
ISTANBUL STRAIT VESSEL Traffic control system	TURKEY
BANK OF CYPRUS Historic archives	CYPRUS
HILTON HOTEL Control room, heat room	ARGELIA
MINISTRY OF FINANCE Computer room, AHU room, UPS room, computer store, tape storage room	BAHREIN
EFP HOLLAND	HOLLAND
SAKURA	LITUANIA
HIGH INSTITUTE FOR GENERAL HEALTH	EGYPT
PATRIARCH Museum lcon warehouse, manuscripts library, archive, treasury area warehouse	TURKEY





FE-13[™]-

PROJECT	COUNTRY
COLT INTERNET (Paris)	FRANCE
ONCE (Madrid)	SPAIN
JAZZTEL	PORTUGAL
INCHON INTL AIRPORT	KOREA
PAINTING SCHOLL OD MOSCOW	RUSSIA
RATP Rail Company	FRANCE
FUTUROSCOPE	FRANCE
FRANCE TELECOM	FRANCE
TELECEL	PORTUGAL
ONI	PORTUGAL
ITALIAN TELECOM	ITALY
STANDARD & ENGINEERING	IRELAND
RETEVISION - AMENA Mobile Company	SPAIN
SCOTISH BORDER COUNCIL Computer Room	U.K.
VORONEZH BANK	RUSSIA
SPANISH MINISTRY OF ECONOMY	SPAIN
BCSH BANK Computer Room	SPAIN





PAINT CABINETS

PROJECT	COUNTRY
OPEL Factory (Zaragoza)	SPAIN
SEAT Factory (Martorell)	SPAIN
RENAULT MAIS Paint room, tinner solvent room	TURKEY
SEAT VOLKSWAGEN (Barcelona) Electrical chart of high and low voltage, painting cabinets	SPAIN
FIAT (Cosenza) Offices	ITALY
BARIL COATINGS DEN BOSCH Paint factory and warehouse CPR15-2	HOLLAND
FRENCKEN FABRIEKEN WEERT CPR 15-2 warehouse paint factory	HOLLAND
HODIJ COATINGS HOOGEVEEN Paint factory	HOLLAND
LELY COATINGS ETTEN-LEUR Paint Factory	HOLLAND



AIRPORTS

PROJECT	COUNTRY
CHARLES DE GAULLE AIRPORT (Paris) Radar	FRANCE
BARCELONA AIRPORT	SPAIN
NEWCASTLE AIRPORT	U.K.
PALMA DE MALLORCA AIRPORT	SPAIN
UCHKUDUK AIRPORT	UZBEKHISTAN
CASA Aeronautic Building (Madrid)	SPAIN
Cork Airport	IRELAND
INCHON INTL AIRPORT	KOREA





MARINE

SHIPBUILDING FIRM	BUILDING	APPROVED BY
ASTANO	266-267	American Bureau
NAVALES GUAYMAS	168-169	American Bureau
AESA CADIZ	T-00016	
TRANSMEDITERRANEA	Ciudad de Alicante, Sevilla y Valencia	American Bureau
FACTORÍA VULCANO	430	Bureau Veritas
CONS. NAVALES	294	Bureau Veritas
FREIRE		
HIJOS DE J.		Bureau Veritas
BARRERAS	1497	Bureau Veritas
VULCANO	411-415	Bureau Veritas
NAVAL GIJON	404-405	Bureau Veritas
UNIÓN NAVAL DE LEVANTE	161-162	Bureau Veritas
ROLÓN PLATA	54740-54743	Bureau Veritas
SANTO DOMINGO	469	Bureau Veritas
ASTANO	266-267 OFFSHORE	Dn V







GROUP OF COMPANIES

TO PROTECT LIFE AND PROPERTY WHILE RESPECTING THE ENVIRONMENT