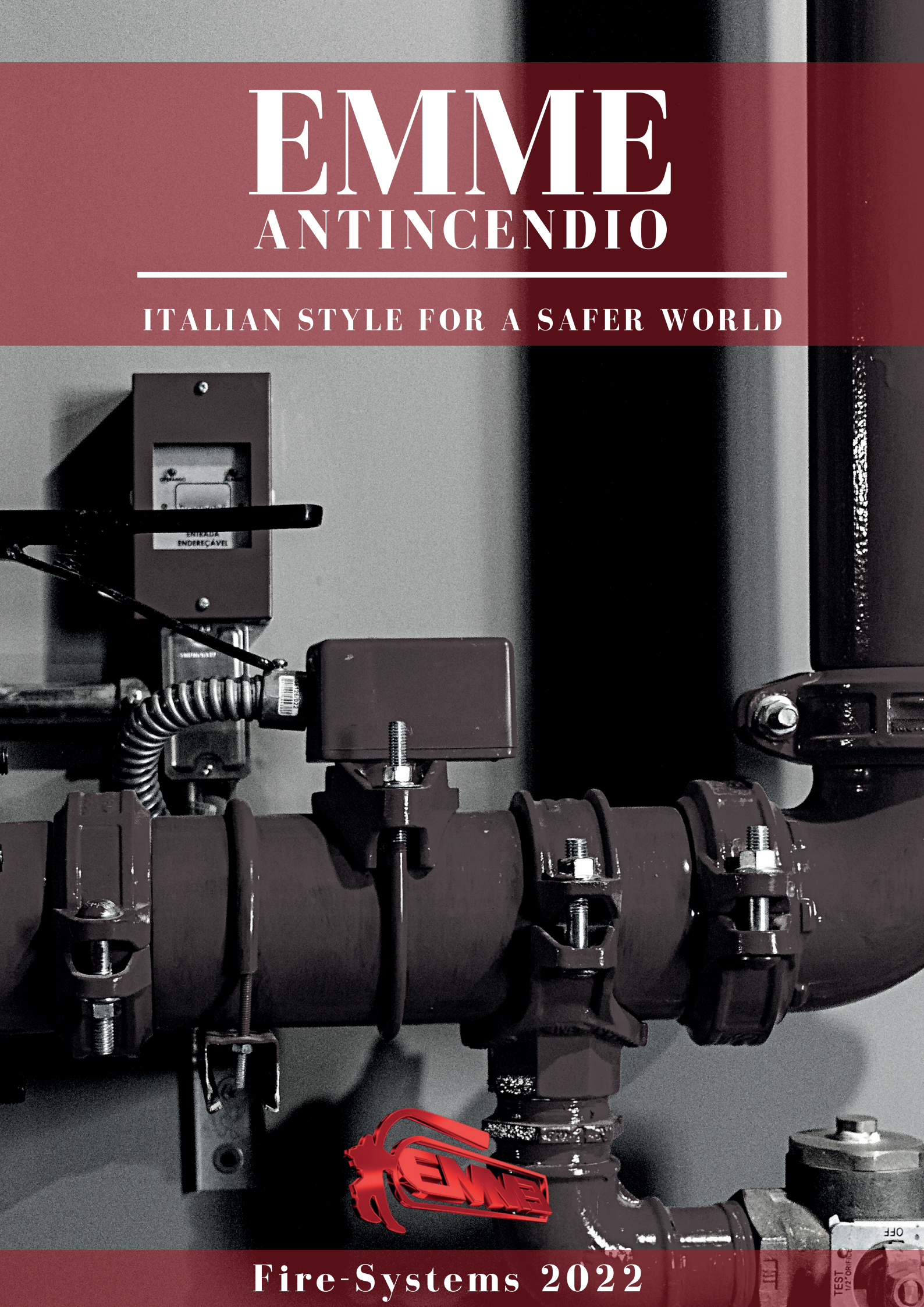
EMME
ANTINCENDIO

ITALIAN STYLE FOR A SAFER WORLD



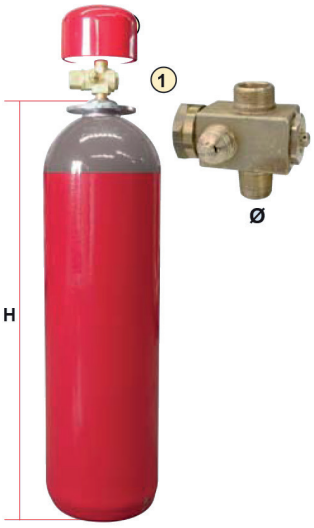
Fire-Systems 2022

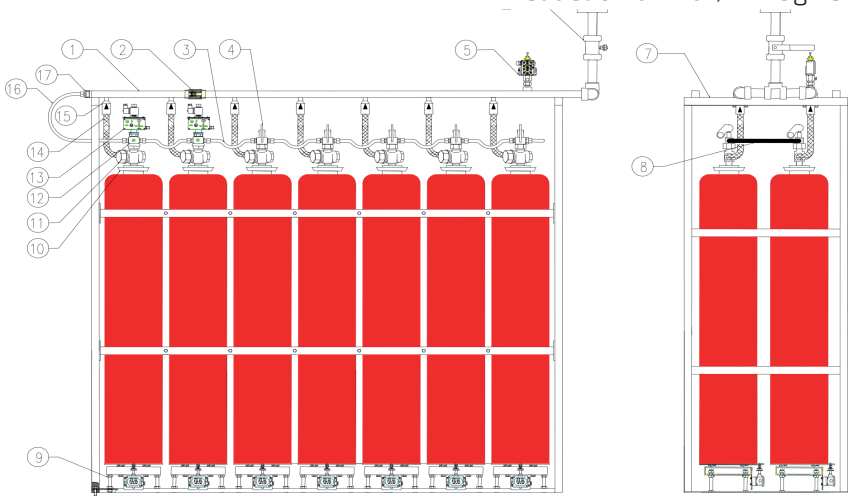
INDEX

FIRE-FIGHTING SYSTEMS+

The extinguishing action of the carbon dioxide (CO2) consists in: Choking, removing oxygen from the air and intensive cooling due to the quick expanion of the gas. Usable on electric powering equipments. It is used on fires deriving from flammable liquids, cooking oils, painting, alcohols ecc. The list below shows an example of an automatic systems Co2.

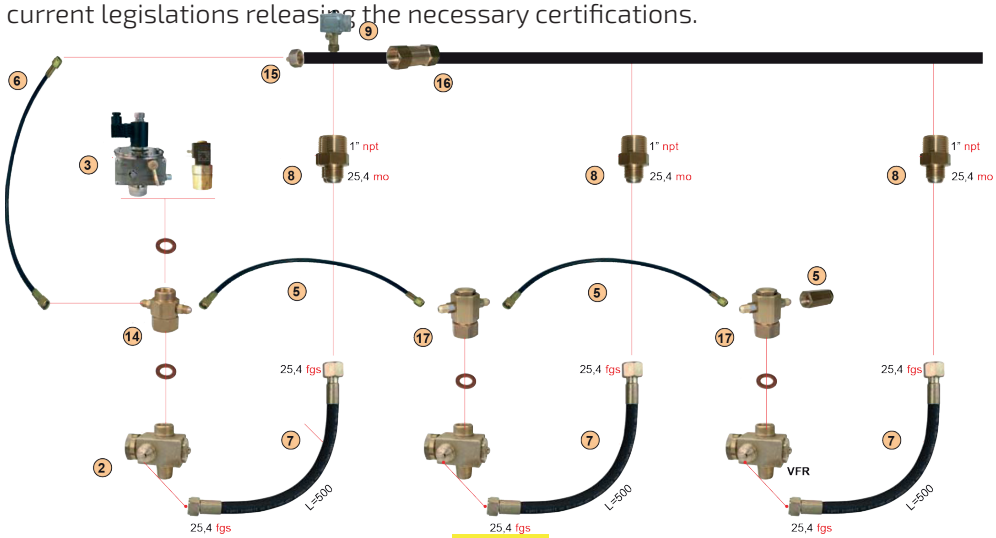
N	Code	Pz	Description
2	2257	1	Throttled valve of no return
3	2256-1	12	Servocontrol lance 1/4 L 500 mm
4	2258-3	12	Hand pressure control r VRF
5		1	Pressure switch swi
6		1	Ball valve
8	2256-4	1	Hand pressure lance 1/4 L 800 mm
9	2184	14	Spring weight control system
10	1903-1	14	Protective cap holder ring
11	2255	14	Quick flow valve 3/4" 25E VFR
12	2257-4	2	2 way interconnect
13	2258-2	2	Manual electric control 24 Vdc 12w IP65
14	2256-3	14	Dispensing hose L 430mm
15	2257-1	14	Ball check valve
16	2256-4	1	Servocontrol lance 1/4 L 800mm
17		1	Reduction G1FxG1/4M Ogive





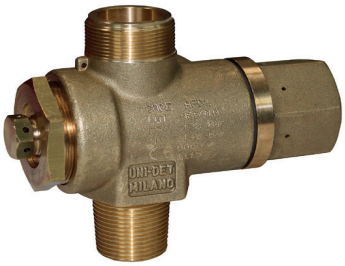
Code	Kg	L	Ø	H
31729	20	27	232	850
31409	30	40	232	1180
31509	50	67	267	1470

As provided by the current legislation CE PED 2014/68/UE - DM 6/03/2000, The manifold have to be tested and certified.
All of his components have to be put under hydraulic pressure test,the manifold have to be marked with a CE tag reporting all of his data and a certification released by the producer.. Emme Antincendio builts his manifold in compliance with the current legislations releasing the necessary certifications.



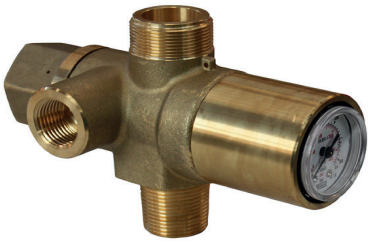
FIRE-FIGHTING SYSTEMS

QUICK FLOW VALVE CO2 VFR



Code	Specifications
2255	Control attack 1"1/4 18 UNED 2A cylinder connection 25E

NITROGEN VALVE



Code	Specifications
2255-2	Control attack 1"1/4 18 UNEF 2A cylinder connection 25E fluid outlet W21.7Fx14F 1"
5012	90 °

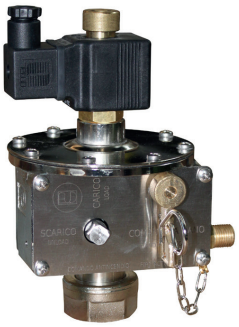
RETARDER VALVE

Code	Specifications
2255-1	Posticipate the discharge of CO2, is mainly used for installations in boats. RINA requires it obligatorily. His activation allows the evacatuation of the discharging places of CO2.

CONTROL BALL VALVE

Code	Specifications
2257-1	Inlet W25.4x14fil Outlet 3/4" NPT

ELECTRIC CONROL



Attacco 1"1/4 UNEF 2B

Code	Specifications
2258	220 Vac
2258-1	12 Vdc
2258-2	24 Vdc

PNEUMATIC CONTROL

Code	AttacK
2258-4	1"1/4 UNEF 2B

CONTROL HAND PRESSURE

Code	Specifications
2258-3	Attacco 1"1/4 UNEF 2B

2 WAY CONNECTOR

Code	Specifications
2257-4	Attack 1"1/4 UNEF 2B Outlets nr 2 G1/4 M Outlet for control 1"1/4 18 UNEF 2A

HAND WHEEL CONTROL

Code	Specifications
2258-5	Attack 1"1/4 UNEF 2B

THROTTLED VALVE OF O RETURN

Code	Specifications
2257	inlet and outlet 1" NPT

VENTILATOR

inlet G1/4"

Codice
2257-3

GAS DIFFUSER CO2 ALUMINUM

Code	Specifications
2259	Cone Co2 Ral 3000 attack G1/2F for fixed systems
2259-1	Cone Co2 Ral 3000 with flange G1/2F for fixed sysems
2259-2	Minicone Co2 Ral 3000 attack G3/8M for fixed systems

FIRE FIGHTING SYSTEMS

LANCE

Code	Type	Lenght	Threads
2256	Dispensing lance	530 mm	1/2 RK 2SC W25,4FSVxW25,4FSV
2256-1	Servocontrol lance	500 mm	1/4RK 2SC G1/4FSVxG1/4FSV
2256-2	Dispensing lance	430 mm	1/2 RK 2SC W25,4 FSVxG1/4F
2256-3	Dispensing lance	430 mm	1/2 RK 2SC W25,4 FSVxW25,4FSV

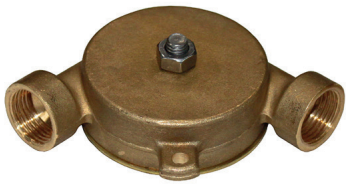
CYLINDER SCALE

Code	Specifications
2184-1	The C02 gas pressure triggers it. Equipped with NA and NC contact, at 10 A. max.

PNEUMATIC BALL

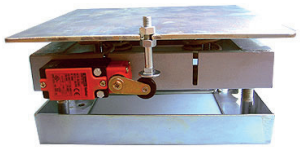
Code	Specifications
2260	A minimal amount of gas on the discharging piping causes a powerful sound.

RETURN PULLEY ON BEARINGS



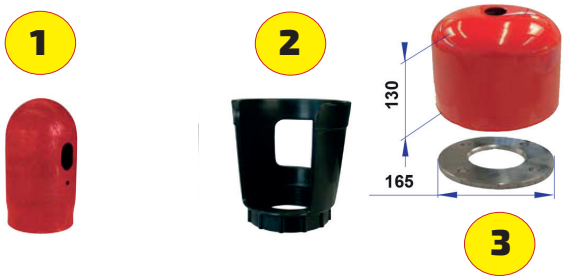
Code	Specifications
2260-1	

CYLINDER SCALE



Code	Specifications
2184	Da 77 a 121 total weight

VALVE COVERS



N	Code	Specifications
1	18493	In ironfor handwheel valve
2	0096	Tulip for handwheel valve, o VT.
3	1903-1	Ring + aluminum cap.

EMPTY BOTTLES FOR CO_2

Code	Ø	H	L
18299	232	1180	40
18330	204	645	15
18332	232	850	28,6
18333	267	1470	68

FIRE-FIGHTING SYSTEMS

CO2 SYSTEMS WITH AIR EXPANSION THERMOSTAT

This system allows you to install a completely automatic system and does not need any energy source or batteries.The operation is based on the physical principle that the air expands as it warms up. The air expansion thermostat is a small tank constructed with two copper cups sealed with a small 3x2 dyameter capillary tube and a threaded terminal. Installed on the ceiling, in the event of a fire the air, normally at atmospheric pressure, heats up, the pressure increases which, through a 3x2 copper capillary tubeis transmitted to the pneumatic control, sensitive to transforming the pressure into a mechanical control and activates the pilot Co2 cylinder. The cylinders then connected in battery with the same gas pressure are all activated and discharged into the room to be

Code
2260-4

SADDLE AND COLLAR 2 PLACES FOR CYLINDERS

Code	Specifications
2260-2	For cylinders diam. max 229

FIXING RACK FOR CYLINDERS

Code	Specifications
2260-3	For cylinders diam. max 275

COUNTERSINK TOOL

Code	Specifications
2260-7	It is used to have a conical flaring inside the copper tube capillary 3x2 to have the perfect giunction and seal with the fittings 3x2, thread M 6x0,75.

FIRE-FIGHTING SYSTEMS

HIGH PRESSURE CO_2 INDIRECT CHARGE SYSTEM

System design can be performed in compliance with various international standards with the help of software for calculating discharge times and drilling of the nozzle passage sections. The reference standards for system design are:
-NFPA 12 standard on Carbon Dioxide Extinguishing Systems
- APSAD R13 Règle d'installation – Extinction automatique à gaz
- ISO 6183 Fire protection equipment – Carbon dioxide extinguishing systems for use on premises – Design and installation
- CEA4007 CO2 systems Planning and Installation - VdS 2093en CO2 Fire Extinguishing Systems

TECHNICAL DATA	
Code	Model
Chemical name	Carbon Dioxide
Chemical formula	Co2
Density at 0°C and at 0,101 MPa	1,98 kg/m3
Relativ density to air	1,5
Critical temperature	31°C
Vapor pressure at -18°C and 21°C	20,7 e 58,6 BAR
Cylinder capacity	67,5 litri
External cylinder diameter	267 mm
Cylinder height	1600 mm
Cylinder total weight	130 kg
Maximum filling coefficient	0,75 kg/litro
Design concentration for fires with formation of emers NFPA12 (% by volume)	
Dry electrical rosks	50% to keep for at least 20 minutes
Paper archives	65% to keep for at least 20 minutes
Design concentraton for liquid and gaseous fuels NFA12 (% in volume)	
Methane, diesel,petrol	34%
Ethyl alcohol	43%
Hydrogen	75%

CERTIFICATIONS
The shutdown systems comply with the requirements of the European Pressure equipment Directive (PED2014/68/EU). In addition to the PED, the components also comply with the Construction Products Directive(CPD 89/106/EC) and with the standards of the EN12094 series.

LEVEL INDICATOR FOR LIQUID AND GAS CO2, HFC, FM 200, NOVEC RINA APPROVED

Cod.2047

LOCALIZED SHUTDOWN SYSTEMS

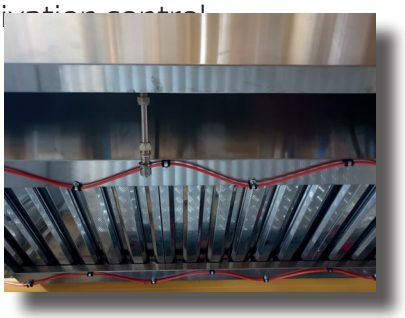
SHUTDOWN SYSTEMS FOR KITCHENS

Benefits

It is a highly reliable system because it is exclusive mechanical assembly.
Automatic and manual activation of the plant.
Guarantees to avoid false alarms and accidental discharges.
It guarantees a timely, linear and continuous detection of principle of fire throughout the protected surface.
It gurantees quick intervention fires and 24/7 full operations.
Is quickly restorable, following the intervention steps.
Specific extinguishing agent for F class fires with low fluorine content (0.04 %).

Operation

The flame burns the thermosensitive tube under pressure connected to the cylinder, causing it to break and consequently the loss of gas pressure inside the tube itself, which will activate the opening of the valve of the propelant unit.
The extinguishing agent contained in the cylinders can then travel through a steel tube, and convey it to the flame through the nozzle, extinguishing the fire.
The system can also be activated manually with the manual acti



Code	Description	Suction hood lenght	Charge
2588	ILP 9 L ABF system with kit for accessories (fittings, pipes e 4 nozzles)	Fino a 3 mt.	9L
2588-1	ILP 9 L ABF system with kit for accessories (fittings, pipes e 4 nozzles)	Fino a 3 mt.	9L
2588-2	ILP 18 L ABF system (fittings and accessories according to the project)	>3mt	18L

LOCALIZED SHUTDOWN SYSTEM

LOW PRESSURE DIRECT DISCHARGE SYSTEM (DLP)

This is the simpliest system, designed to guarantee the safety of a closed area and of small dimensions.
The flame generated by a possible failure burns the pressure hose connected to the cylinder causing it to break. The characteristics of the tube are such that the break has dimensional characteristics similar to those of a nozzle and from this the extinguishing agent contained in the cylinder and in the tube itself comes out in a very short time and extinguishes the flame, effectively limiting the damage alone, source of ignition of the fire.
The system therefore guarantees excellent protection of the other equipment present in the limiting area, as when the tube is fired, the extinguishing agent will be conveyed directly to the flame, optimizing the fire extinguishing action.

GAS HFC 227EA

Code	Maximum volume protected [M^3]	Charge
2827	1,39	1 kg
2827-1*	1,39	1 kg
2827-2	2,78	2 kg
2827-3*	2,78	2 kg
2827-10	5,56	4 kg
2827-11*	5,56	4 kg
2827-4	8,34	6 kg
2827-5*	8,34	6 kg
2827-6	12,51	9 kg
2827-7*	12,51	9 kg
2827-8	16,68	12 kg
2827-9*	16,69	12 kg

FK 5-1-12

Code	Maximum volume protected [M^3]	Charge
2842	1,15	1 kg
2842-1*	1,15	1 kg
2842-2	2,30	2 kg
2842-3*	2,30	2 kg
2842-4	4,60	4 kg
2842-5*	4,60	4 kg

*VALVE WITH PRESSURE SWITCH INTEGRA-

The system is supplied without installation kit . Choosing the kit requires to consult the next page.

LOCALIZED SHUTDOWN SYSTEMS

HIGH PRESSURE CO^2 DIRECT DISCHARGE SYSTEM (DHP)

The system is supplied without kit of
installation and commissioning

Codice	Maximum protected volume [M^3]	Carica
2830	1,2 / 1,7**	2 kg
2830-1*	1,2 / 1,7**	2 kg
2830-4	3,3 / 4,3**	5 kg
2830-5*	3,3 / 4,3**	5 kg
**NFPA 12 - Electric risk/ Generic risk		
*VALVE WITH PRESSURE SWITCH INTEGRATED		

INSTALLATION KIT FOR DIRECT CHARGE SYSTEM

Code 2837 (HFC 227ea - 2 Kg Co2)

COMPONENTS	QUANTITY
Fire detection tube	5 mt
Adhesive clip band*	20
Clip PA66	20
End of line cap	1

* Not suitable on dirty/greasy surfaces

Code 2837-1 (HFC 227ea -5 Kg Co2)

COMPONENTS	QUANTITY'
Fire detection tube	10 mt
Adhesive clip band*	40
Clip PA66	40
End of line cap	1

* Not suitable on dirty/greasy surfaces

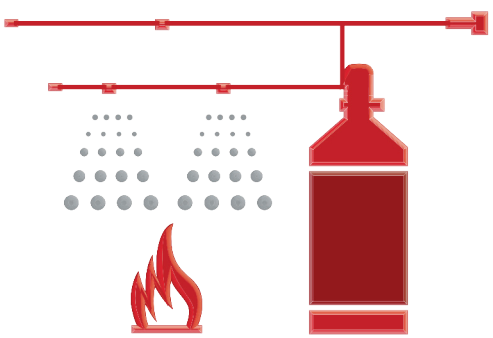
Code 2837-2

COMPONENTS	QUANTITY
Fire detection tube	5 mt
Adhesive clip band*	20
Clip PA66	20
Pressure gauge end of line adapter	1

Code 2837-3

COMPONENTS	QUANTITY
Fire detection tube	10 mt
Adhesive clip band*	40
Clip PA66	40
Pressure gauge end of line adapter	1

SISTEMA A SCARICA INDIRETTA CO^2 - ALTA PRESSIONE (IHP)



Codice	Maximum protected volume [M^3]	Carica
2834	1,2 / 1,7*	2 Kg
2834-2	3,3 / 4,3*	5 Kg
2834-3	5,6 / 7,8*	9 Kg
2834-4	11,2 / 15,6*	18 Kg
2834-5	16,2 / 22,6*	26 Kg
2834-6	27,4 / 38,4*	44 Kg

NFPA 12 -Electric risk / generic risk

LOCALIZED SHUTDOWN SYSTEMS

INDIRECT CHARGE SYSTEM - LOW PRESSURE (ILP)

CE




It is a highly reliable system.The flame burns the thermosensitive tube under pressure connected to the cylinder, causing it to break and consequently the loss of gas pressure inside the tube itself, which will activate the opening of the valve of the propelant unit.
The extinguishing agent contained in the cylinders can then travel through a steel tube, and convey it to the flame through the nozzle, extinguishing the fire.
The system therefore guarantees a perfect protection of the equipments an the surrounding environments, effectively preventing the fire from spreading to other areas.

GAS HFC 227EA

Codice	Maximun protected volume [M^3]	Carica
2831	1,15	1 kg
2831-1	2,30	2 kg
2831-5	4,60	4 kg
2831-2	6,90	6 kg
2831-3	10,35	9 kg
2831-4	13,80	12 kg

ABC POWDER

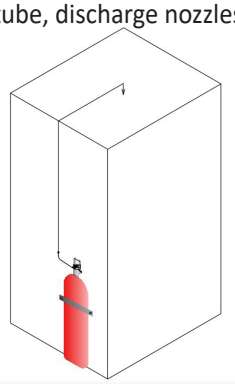
Codice	Maximum protected volume [M^3]	Carica
2832	1,70	1 kg
2832-1	3,40	2 kg
2832-5	6,80	4 kg
2832-2	10,20	6 kg
2832-3	15,30	9 kg
2832-4	20,40	12 kg

CLEAN AGENT FK 5112

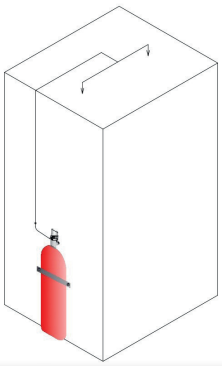
Codice	Maximum protected volume [M^3]	Carica
2846	1,15	1 kg
2846-1	2,30	2 kg
2846-2	4,60	4 kg
2846-3	6,90	6 kg
2846-4	10,35	9 kg
2846-5	13,80	12 kg

INSTALLATION KIT FOR INDIRECT CHARGE SYSTEMS

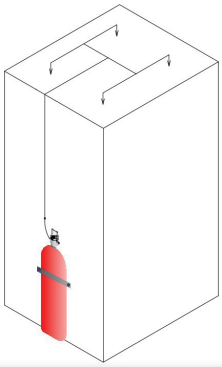
Installation kit for indirect charge systems complete with: bands for thermosensitive tube, thermosensitive tube, discharge tube, discharge nozzles.



Code	Model
2837-4	1/2 Kg. powder
2837-6	1/2 Kg. gas
2837-8	2 Kg. Co2



Code	Model
2837-5	6/9/12 Kg. Powder
2837-7	6/9/12 Kg. gas
2837-9	5/9 Kg Co2



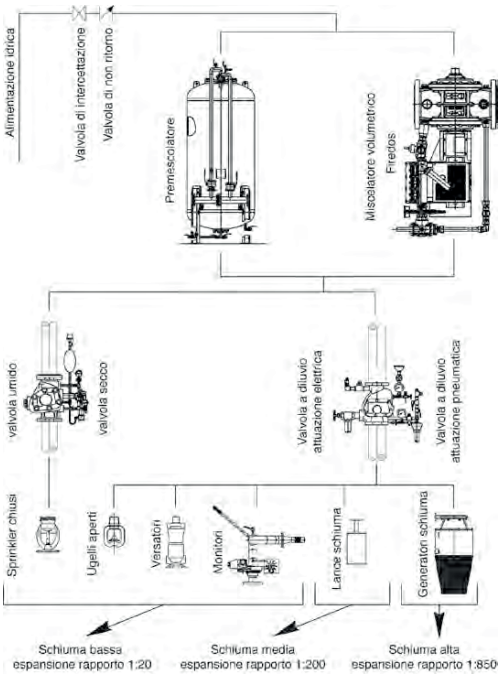
Code	Model
2837-10	18/26 Kg Co2

projecting

NOTES FOR INSTALLATION OF ILP E IHP SYSTEMS: For the installation of low pressure (ILP) and high pressure (IHP) indirect discharge systems, it is necessary to use the KIT code 2188-20 of nitrogen pressurization composed ofa 2 L nitrogen cylinder with: handwheel vlave, protective tap, pressure reducer and filling adapter with flexible tube

WATER/FOAM FIRE-FIGHTING SYSTEMS

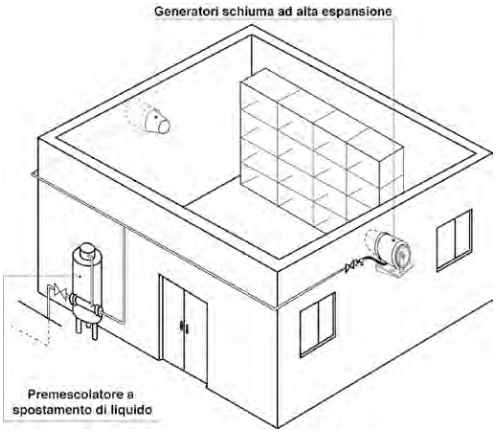
Foam fire-fighting systems



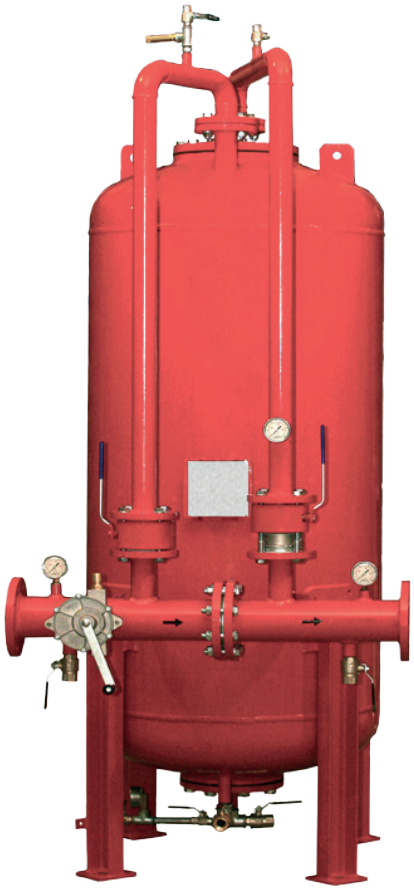
Foam systems can be low, medium or high expansion, for localize application or saturation of the environment, and are among the most popular systems in the industrial sector due to their low cost, high extinguishing capacity and ease of use.
The foam is formed by mixing water and foamer in a certain proportion, usually 3-6 % of extinguishing agent, and is supplied with specific equipment according to the type of plant, forming a barrier between the burning vapors and the atmospheric oxygen.
The various type of foaming agents allow an optimal choice of the extinguishing agent for the type of risk present. With the exception of water pollution they do not present other particular ecological problems.
They are often combined with powder systems to be used on airports for multi-purpose fire fighting.
Some of the most frequent applications are:

- low expansion systems with pouring from the top for fixed or floating roof tanks of flammable and combustible liquids.
- low expansion systems with botton injection for fixed roof tanks of flammable and combustible liquids.
- Medium expansion foam generators for containment of flammable and combustible liquid tanks.
- deluge systems for oil platforms, hangars and canopies for loading flammable products.
- monitors for heliports, ships, tugs, refineries, petrochemical plants, oil industries.

Low expansion foaming agents are projected onto the flames usually by simple election: lances, foam, cannons, fixed systems, reaching also depending on the pressure, distances of 18-20 meters, with an expansion ratio up to 18 times.
Medium expansion foams, with a relative expansion ratio up to 40 times, on the other hand reach shorter distances, in the order of 8-10 meters maximum, with a denser foam layer that not only cuts down the flames in height but allows to cover even large surfaces of liquid fuels.
Foaming liquids with high or very high relative expansion, from 80 to 160 from 500 to 900 times, are instead applied with short throw lances or net cones, in the case of very high expansion and pouring, with special generators with fan, to protect deposits, hangars etc.
The current foaming liquids are also defined as mechanical foam, to distinguish them from the old chemical foam products, which generated the foam through the chemical reaction between two solutions, one acidic and one basic.



WATER/FOAM FIRE-FIGHTING SYSTEMS



LIQUID DISMANTLEMENT PREMIXER

Liquid displacement tanks are made in compliance with the directive of pressure equipment 2014/68/ EU (PED) and in accordance with the current calculation standards. The tanks are estimated and built on specific customer needs.

FOAMER CONSULTABLE IN THE FIRE-ENGINEERING SECTION

ADJUSTABLE MONITORS

Code	Flange inlet diameter	Body	Maximum flow rate	Body material	A dimension.	Weight (kg)
2823	3" / 4"	3"	3200	Carbon steel	465 mm	30
2823-1	3" / 4"	3"	3200	Stainless steel 304 / 316	465 mm	21

WATER/FOAM FIRE-FIGHTING SYSTEMS

WATER LANCE FOR MONITORS

Code	Capacity 5- 8 BAR
2824	800-1200 L/min
2824-1	1200-1500 L/min
2824-2	1500-2000 L/min
2824-3	2000-2300 L/min
2824-4	2400-3500 L/min
2824-5	3500-4500 L/min

FOAM LANCE FOR MONITORS

Code	Weight (kg)	Capacity	Material
2825	5	1500-2000	AISI 304
2825-1	8	3000-5000	AISI 304

HIGH PRESSURE VENTUMETRIC GENERATOR

To be used for syntetic generators. Used to flood large areas like parking, tunnels,hangars etc.

Code	Capacity	(Kg)	Expansion proportion
2820	200 L/min	57	1÷500
2820-1	300 L/min	57	1÷500
2820-2	400 L/min	57	1÷700

FOAM SPRAY NOZZLE

Foam spray nozzle is used in non-purely hydric sprinkler systems.

Code	K Factor	Fitting ø gas - BSP	Weight
2821-4	28	3 / 4"	0,5 kg
2821-5	45	1"	0,55 kg

SPRINKLER SYSTEMS

Introduction to sprinkler systems
Dispenser characteristics

What are the main features of a sprinkler?

Installation orientation

- Upright with diffuser facing down.
- Pendent with diffuser facing down.
- Orizontal Sidewall with horizontal diffuser.
- Vertical Sidewall with vertical diffuser but horizontal jet direction.
- Concealed completely embedded in the ceiling.
- Recessed partly embedded in the ceiling.

Form and direction of the jet in discharging phase

- Paraboloid shape spray > 80% downward< 20% upward.
- Conventional paraboloid shape > 40% upward < 60% downward.
- Flat jet paraboilid shape– the quantity pointing downward is between 60-80%.
- Sidewall paraboilidic shape pointing downward and the back wall.

Thermal sensibility

Quick intervention of the thermal element calculated in RTI (response time index)

- STANDARD RESPONSE RTI > 80.
- FAST RESPONSE RTI < 50.

<table>
<tr><th colspan="2">Glass bulb sprinkler</th><th colspan="2">Fuse sprinkler</th></tr>
<tr><th>Nominal operating temperature°C</th><th>Bulb liquid color</th><th>Nominal operating tempeature°C</th><th>Bracket color</th></tr>
<tr><td>57</td><td>Orange</td><td>From 57 to 55</td><td>No color</td></tr>
<tr><td>68</td><td>Red</td><td>From 80 to 107</td><td>White</td></tr>
<tr><td>79</td><td>Yellow</td><td>From 121 to 149</td><td>Blu</td></tr>
<tr><td>93</td><td>Green</td><td>From 163 to 191</td><td>Red</td></tr>
<tr><td>100</td><td>Green</td><td>From 204 to 246</td><td>Green</td></tr>
<tr><td>121</td><td rowspan="3">Blu</td><td>From 260 to 302</td><td>Orange</td></tr>
<tr><td>141</td><td rowspan="2">From 320 to 343</td><td rowspan="2">Black</td></tr>
<tr><td>163</td></tr>
<tr><td>182</td><td rowspan="2">Mauve</td><td rowspan="6">Temperatura di attivazione
Come si sceglie?
- 30° in più rispetto la temperatura massimo dell'ambiente
- in base al calore generato sviluppo dell'incendio
- in base alla conformazione della struttura</td></tr>
<tr><td>204</td></tr>
<tr><td>227</td><td rowspan="4">Black</td></tr>
<tr><td>260</td></tr>
<tr><td>286</td></tr>
<tr><td>343</td></tr>
</table>

SPRINKLER SYSTEMS

SPRINKLER PENDENT 1/2" SP K factor 80 - 2011/305/UE (CPR)
UNI EN 12259-1 with paraboloid water distribution, suitable for giving the expected delivery when the jet is directed downward against the deflecting washer. The sprinkler code " SP" and the operating temperature of the glass bulb (with clip) are indicated on the deflector washer.

SPRINKLER PENDENT STANDARD RESPONSE

Standard specifications
Version: Pendent
K Factor: 80
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 1/2"
Response: G5

UNI EN 12259-1

CODE	TEMPERATURE
2196	57° C = 135° F
2196-1	68° C = 155° F
2196-2	79° C = 175° F
2196-3	93° C = 200° F
2196-4	141° C = 286° F
2196-5	182° C = 360° F

SPRINKLER PENDENT QUICK RESPONSE

Standard specifications
Version: Pendent
K factor: 80
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 1/2"
Response: F3

UNI EN 12259-1

CODE	TEMPERATURE
2197	57° C = 135° F
2197-1	68° C = 155° F
2197-2	79° C = 175° F
2197-3	93° C = 200° F
2197-4	141° C = 286° F

SPRINKLER SIDEWALL 1/2" standard response approved UL
Attack 1/2" NPT - orifice 1/2" (13 mm) - k factor=80 -for horizontal wall installation for wet plants- pressure max at 12 bar.
-Finish in natural brass.

CODE	TEMPERATURE
2202-6	57° C = 135° F
2202-61	68° C = 155° F
2202-62	79° C = 175° F
2202-63	93° C = 200° F

SPRINKLER SYSTEMS

SPRINKLER PENDENT 3/4" SP K factor 115 - 2011/305/UE (CPR)

UNI EN 12259-1 with paraboloid water distribution, suitable for giving the expected delivery when the jet is directed downward against the deflecting washer. The sprinkler code " SP" and the operating temperature of the glass bulb (with clip) are indicated on the deflector washer.

SPRINKLER PENDENT STANDARD RESPONSE

Standard specifications
Version: Pendent
K Factor: 80
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 1/2"
Response G5

UNI EN 12259-1

CODE	TEMPERATURE
2198	57° C = 135° F
2198-1	68° C = 155° F
2198-2	79° C = 175° F
2198-3	93° C = 200° F
2198-4	141° C = 286° F
2198-5	182° C = 360° F

SPRINKLER UPRIGHT 1/2" SU K factor 80 - 2011/305/UE (CPR)

UNI EN 12259-1 with paraboloid water distribution, suitable for giving the expected delivery when the jet is directed downward against the deflecting washer. The sprinkler code " SP" and the operating temperature of the glass bulb (with clip) are indicated on the deflector washer.

SPRINKLER UPRIGHT QUICK RESPONSE

Standard specifications
Version: Upright
K factor: 80
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 1/2"
Response: G5

UNI EN 12259-1

CODE	TEMPERATURE
2199	57° C = 135° F
2199-1	68° C = 155° F
2199-2	79° C = 175° F
2199-3	93° C = 200° F
2199-4	141° C = 286° F
2199-5	182° C = 360° F

SPRINKLER UPRIGHT QUICK RESPONSE

Standard specifications
Version: Upright
K factor: 80
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 1/2"
Response: F3

UNI EN 12259-1

CODE	TEMPERATURE
2200	57° C = 135° F
2200-1	68° C = 155° F
2200-2	79° C = 175° F
2200-3	93° C = 200° F
2200-4	141° C = 286° F
2200-5	182° C = 360° F

SPRINKLER SYSTEMS

SPRINKLER UPRIGHT 3/4" SU k factor 115-2011/305/UE (CPR)
UNI EN 12259-1 with paraboloid water distribution, suitable for giving the expected delivery when the jet is directed downward against the deflecting washer. The sprinkler code " SP" and the operating temperature of the glass bulb (with clip) are indicated on the deflector washer.

Standard specifications
Version: Upright
K factor: 115
Finish: Brass
Omologation:2011/305/UE (CPR)

Attack: 3/4"
Response: G5

UNI EN 12259-1

CODE	TEMPERATURE
2201	57° C = 135° F
2201-1	68° C = 155° F
2201-2	79° C = 175° F
2201-3	93° C = 200° F
2201-4	141° C = 286° F
2201-5	182° C = 360° F

RETRACTABLE SPRINKLER 1/2" quick response approved CE/LPCB
Threaded connection 1/2", orifice1/2" 13mm, K factor=80, for retractable wall installation downward against wet plants, maximum operating temperature at 12 bar

CODE	TYPE	TEMPERATURE
2227-4	Sprinkler with white disk	80° C = 176° F

SPRINKLER PENDENT E.S.F.R. massive flow rate, quick response, approved UL/FM
Threaded connection 3/4" BSPT - 1" BSPT, for installation downward against wet plants ,maximum operating temperature at 12 Bar. Natural brass finish.

CODE	TEMPERATURE	K FACTOR	ATTACK
2228-2	74° C = 165° F	202 (14.0)	3/4"
2228-21	100° C = 212°F	202 (14.0)	3/4"
2228-22	74° C = 165° F	242 (16.8)	3/4"
2228-23	100° C = 212°F	242 (16.8)	3/4"
2228-3	74° C = 165° F	320 (22.4)	1"
2228-31	100° C = 212°F	320 (22.4)	1"
2228-32	74° C = 165° F	363 (25.2)	1"
2228-33	100° C = 212°F	363 (25.2)	1"

SPRINKLER SYSTEMS

WATER LAME NOZZLES

The water lame nozzles create an horizontal or vertical jet like a fire wall. The flow rate varies according to the outlet fore. .

CODE	K FACTOR	ATTACK	ORIENTATION
2203	20	1/2"	150°
2203-1	40	3/4"	150°
2203-2	110	1"	150°

NEBULIZER NOZZLES

The spray nozzles create a jet of fractioned or atomized water. Used in deluge systems to protect serious fronts. These nozzles are equipped with an internal vortexer capable of supplying a rotational component to the fluid vein during the process through the same. This type of nozzles produce a full cone spray with uniform distribution. The flow rate varies according to the outlet hole. Ask for the technical bulletins.

CODE	K FACTOR	ATTACK	ORIENTATION
2204	9	1/2"	60°
2204-1	18	3/4"	60°
2204-2	45	1"	60°
2204-3	9	1/2"	90°
2204-4	18	3/4"	90°
2204-5	45	1"	90°
2204-6	9	1/2"	120°
2204-7	18	3/4"	120°
2204-8	45	1"	120°

SPRINKLER WASHER

Single-piece washer semi-flat 5x65mm. Available on white or chrome finish RAL 9010.
Two-pieces washeri 20 mm adjustment x 73 mm. Available on white or chrome finish RAL 9010

CODE	PIECES	ATTACK	FINISH
2205	1	1/2"	Chrome
2205-1	1	1/2"	White
2205-2	1	3/4"	Chrome
2205-3	1	3/4"	White
2205-4	2	1/2"	Chrome
2205-5	2	1/2"	White
2205-6	2	3/4"	Chrome
2205-7	2	3/4"	White

PROTECTION CAGE

CODE	ATTACK	DESCRIPTION
2206	1/2"	Small
2206-1	1/2" - 3/4"	Big
2206-2	1/2" - 3/4"	Upright

SPRINKLER SYSTEMS

ANTI-WATER TILE

Diameter 77,2mm

Code	Attack
2207	1/2"
2207-1	3/4"

DELAY CHAMBER

Code	Specifications

ALARM HYDRAULIC BELL

Code	Specifications
2230-1	With ball valve allowing a system check.

SYSTEM TEST AND DRAINAGE DEVICE

Code	2230-2

SPRINKLER TEST PLANT

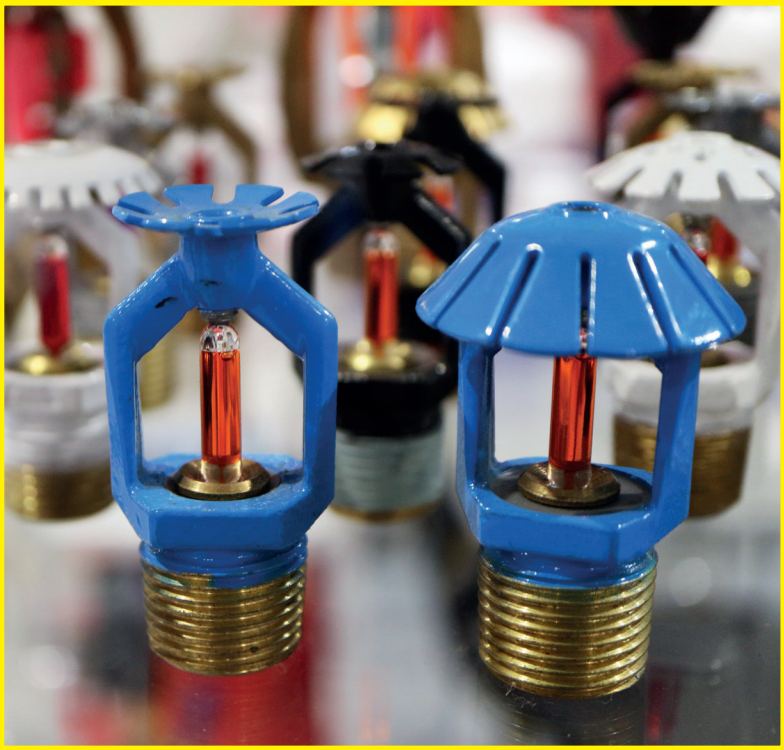
Code	2230-3

BOX FOR SPRINKLER IN RED PAINTED SHEET

Code	Specifications
9258	12 places Dim. 230x140x140H
9248	24 places Dim. 400x140x140H

SPRINKLER TIGHTENING WRENCH

Code	Specifications
2208	for attack 1/2" e 3/4"



SPRINKLER SYSTEMS

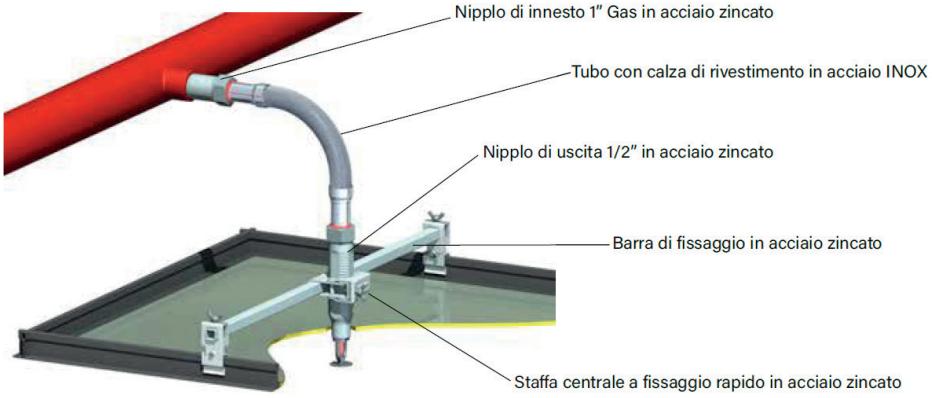
CODE	MODEL	LENGHT
2231	model with stainless steel outer sock 1/2"	700
2231-1	model with stainless stell outer sock 1/2"	1000
2231-2	model with stainless stell outer sock 1/2"	1200
2231-3	model with stainless stell outer sock 1/2"	1500
2231-4	model with stainless stell outer sock 3/4"	1000

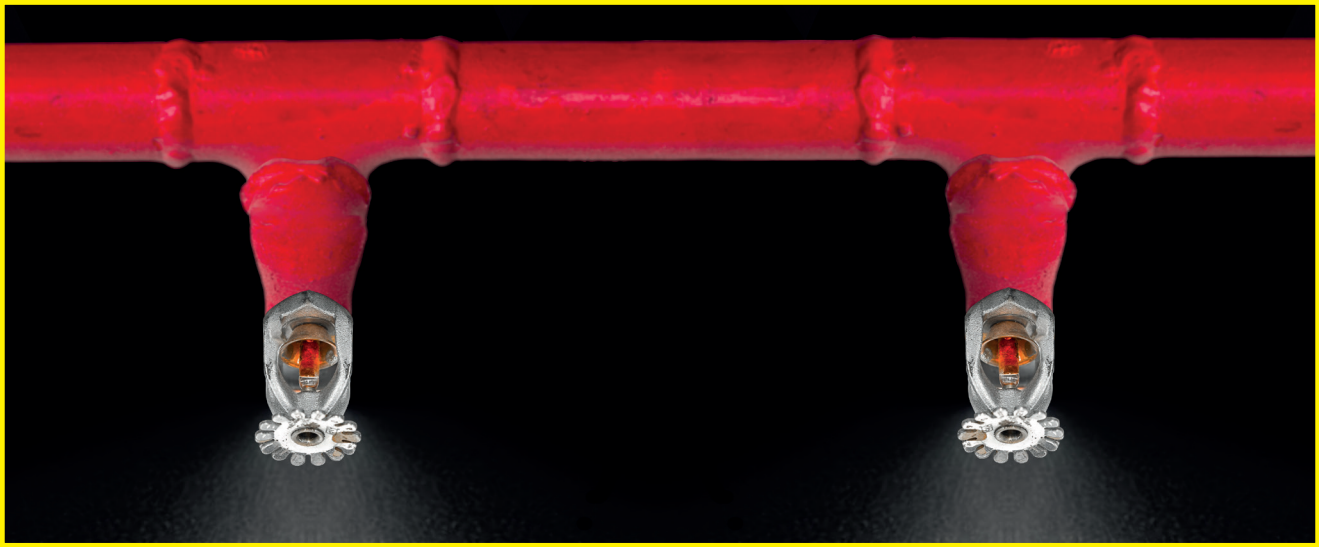
FLEXIBLE PIPE FOR SPRINKLER ASSEMBLY

The flexible pipes are designed to make the connection between the power supply line of the system and the sprinkler heads in modular commercial type false ceilings with support structure as required by the ASTM C635 &C636 standards.

FM approved .

1" male threaded connection – 1/2" or 3/4" female threaded outlet - max pressure12 bar - complete with system

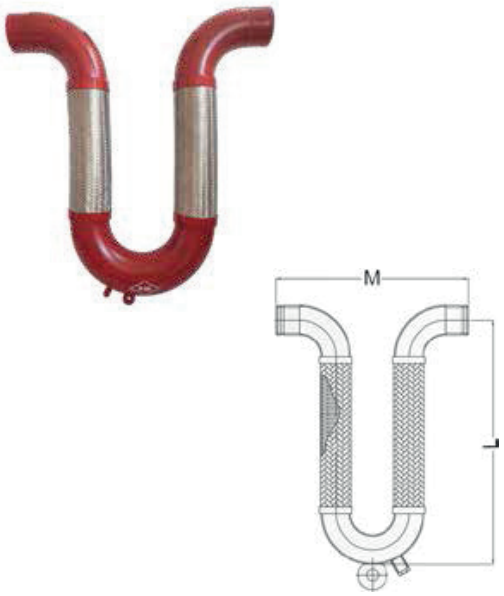




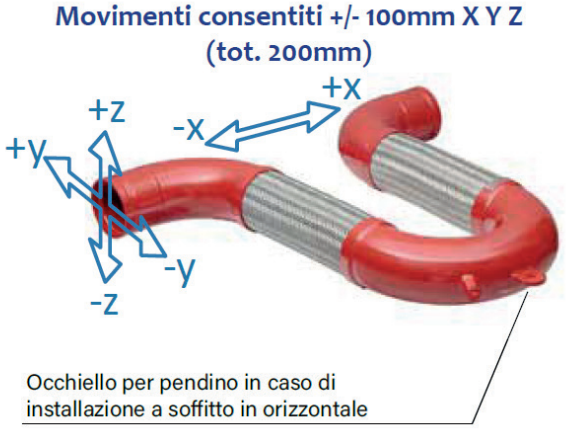
SPRINKLER SYSTEMS

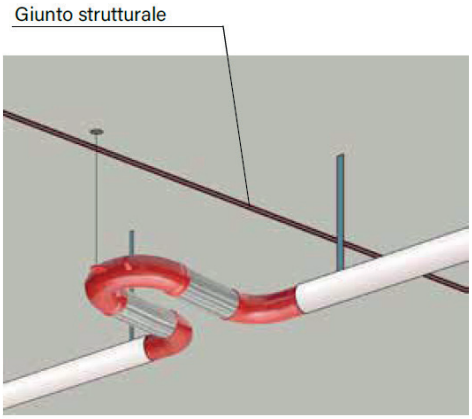
OMEGA FLEXIBLE ANTI-SEISMIC EXPANSION BUTTOCK

It allows to compensate the movements generated by an earthquake on main and secondary pipes that cross a structural glue. Equipped with grooved attacks for use with rigid buttocks. FM approved. It allows a movement of +/- 100 mm (tot. 200 mm) of the pipes, along the three orthogonal axes X-Y-Z. Internal corrugated piping and external braided mesh in AISI 304 stainless steel to guarantee quality and durability over the time.
Maximum operating temperaure 1,7 MPa - 17 bar.



CODE	Ø PIPING	M (mm)	L (mm)
2232	1“ - DN 25	302	500
2232-1	1“1/4 - DN 32	340	525
2232-11	1”1/2“ - DN 40	378	575
2232-12	2“ - DN 50	414	625
2232-13	2“1/2 - DN 65	510	700
2232-14	3“ - DN 80	598	750
2232-15	4“ - DN 100	780	875
2232-16	5“ - DN 120	942	1000
2232-17	6“ - DN 150	1084	1150
2232-18	8“ - DN 200	1420	1450





Schema installazione a soffitto

Omega grooved expansion buttocks are for the connection of pipes, used to absorb sudden dynamic loads originating from earthquakes, and eliminate the stresses of the line, allowing the system to move in six different directions in solidarity with the structures, ensuring, therefore, a continuous uninterrupted operation.

The FM approved Omega expansion buttocks from DN25 to DN200 ensure the continuity of the lines
of water and gas systems, preventing them from collapsing or breaking in the presence of earthquakes or structural problems.

BENEFITS

They are flexible and allow the movement in any direction.
The mounting is simple and quick.
They even allow the absorption of thermal expansion.

SPRINKLER SYSTEMS

ISTRUZIONI PER L'INSTALLAZIONE

1. Installazione Guarnizione
Applicare un velo di lubrificante sulla superficie esterna ed interna della guarnizione. Far scorrere la guarnizione sopra la tubazione, prestando attenzione a non danneggiarla.

2. Allineamento
Dopo aver avvicinato le due estremità delle tubazioni, far scorrere la guarnizione al centro tra le due scanalature. Attenzione che la guarnizione non entri nelle scanalature, che sono gli alloggiamenti dei gusci.

3. Assemblaggio
Posizionare il guscio del giunto sopra la guarnizione. Appoggiare i due alloggiamenti nella scanalatura della tubazione. Richiudere il giunto facendo attenzione a non pizzicare la guarnizione.

4. Serraggio dei bulloni
Serrare i dadi in maniera alternata e secondo la coppia di serraggio indicata a tabella. Attenzione: un serraggio non uniforme potrebbe danneggiare la guarnizione.

5. Assemblaggio completo
Verificare a vista che i supporti laterali del giunto siano inseriti correttamente nella scanalatura. Verificare a vista che gli alloggiamenti dei bulloni siano posizionati in modo corretto.

SPRINKLER SYSTEMS

RIGID BUTTOCK APPROVED UL/FM - PAINTED RED

For fire-fighting and thermo-hydraulic installations- EPDM grade E gasket- maximum operating pressure 21 Bar- design that allows to maintain the linearity of the pipes.
Operating tempearture from -34°C up to +110°C.

MM	INCH	BOX
33,7	1	50
42,4	1 " 1/4	45
48,3	1 " 1/2	40
60,3	2	35
76,1	2" 1/2	28
88,9	3	20
114,3	4	14
139,7	5	10
168,3	6	7
219,1	8	4
273,0	10	27
323,9	12	22

MATERIAL AVAILABLE ON REQUEST

RIGID BUTTOCK APPROVED UL/FM - PAINTED RED

For fire-fighting and thermo-hydraulic installations- EPDM grade E gasket- maximum operating pressure 21 Bar- - design that allows settlements, linear movements and angular deflections, in addition to attenuating vibrations and noise- characteristics of anti-seismic flexibility.Operating temperature from -34°C up to +110°C.

MM	INCH	BOX
33,7	1	50
42,4	1" 1/4	45
48,3	1" 1/2	40
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For fire-fighting and thermo-hydraulic installations- EPDM grade E gasket- maximum operating pressure 21 Bar- - design that allows settlements, linear movements and angular deflections, in addition to attenuating vibrations and noise- characteristics of anti-seismic flexibility. Operating temperature from -34°C up to +110°C.

MM	INCH	BOX
60.3 x 48.3	2 x 1" 1/2	35
76.1 x 60.3	2" 1/2 x 2	28
88.9 x 60.3	3 x 2	20
88.9 x 76.1	3 x 2" 1/2	20
114.3 x 60.3	4 x 2	12
114.3 x 76.1	4 x 2" 1/2	12
114.3 x 88.9	4 x 3	12

MATERIAL AVAILABLE ON REQUEST

LUBRICANT FOR GROOVED BUTTOCKS

Biodegradable, non-toxic composed of a mixture of soap, water and lubricating additives- soft and creamy, neutral in color, to be applied on the gaskets of the buttocks.

DESCRIPTION	BOX
900 gr. jar	12

Emme Antincendio s.r.l.

Sede produttiva: via del molino 40 - 40B • 52010 corsalone (AR) • Tel 0575.511320 • fax 0575.531521 • info@emme- italia.com

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Negozio di Roma: Via Amaseno 22 • 00131 Roma (RM) • Tel 06.85911083 • roma@emme-italia.com