# CURTAINS FIRE AND SMOKE BARRIERS

EuroSafe ITALIA

# THE FIRE

Fire is an uncontrolled oxidation reaction between flammable materials; it propagates in space and time without limitations, producing heat, smoke, gas and light.

Fire has always been the greatest risk factor for human activities; therefore, methods to prevent it and instruments to fight it have been implemented over time.

The risk of fire has grown exponentially due to the increasing concentration of people in closed and confined spaces (typical of current urban settlements) and potentially dangerous activities. This is why protection and prevention are now considered a form of primary safety to prevent injuries to persons and damage to infrastructure.

# THE CURTAINS

## WHAT ARE SMOKE AND FIRE CURTAINS

FANANI FIRE Smoke and Fire Curtains, the first in the segment to be made in Italy, are a valid fire-propagation control solution. They have been certified by an EN ISO 17025 accredited laboratory and are manufactured in the FANFANI FIRE plant in Borgo Panigale (Bologna).

These devices meet the need to partition, isolate, and make safe those areas, which do not fall within the standard measurements required to install a safety system, due to their dimensions or location.

## HOW DO THEY WORK

Until required, mobile curtains are recessed in the ceiling (headbox), thanks to the electronic control of a supplied control unit, thereby keeping the area they are installed in clear.

## WHAT IS GRAVITY FAIL-SAFE

All our mobile devices are provided with the **GRAVITY FAIL-SAFE** technology, which guarantees safe positioning (positive safety) even during black-out, or in the presence of damage or malfunction of the control unit.

# FIRE

The **FANANI FIRE** Fire Curtain is a new, completely safe, and non-invasive passive protection system. The automatic closing device is active only in the presence of fire and/or during a prolonged black-out.

It is particularly suitable for partitioning large spaces and for prestigious areas, where the aesthetic impact needs to be limited. Moreover, it allows people to circulate smoothly and goods to be handled more easily in the areas where it is applied, forming a separation only when required.

Tested in compliance with **EN 1363-1** (Fire resistance tests) and **EN 1634-1** (Fire resistance tests for doors, shutters and openable windows) standards, it has obtained, from an accredited laboratory, the classification according to the parameters established in **EN 13501-2** (Fire Classification Of Construction Products And Building Elements – Part 2: Classification using data from fire resistance tests, excluding ventilation systems).

Therefore, this system is effective to:

- Fight the quick propagation of fire and smoke through the buildings
- Promote safe evacuation
- Support Emergency Services
- Guarantee minimum visual impact and optimise spaces

**FANANI FIRE** Fire Curtains cannot be installed in escape routes. They can be located both inside and outside the building, on walls with suitable fire resistance properties.

The structure can be:

- Installed inside the wall hole
- Wall-mounted, i.e. visible and outside the wall hole
- Recessed, i.e. retractable

## TESTS RAN IN COMPLIANCE WITH THE FOLLOWING STANDARDS:

**UNI EN 1363-1**
Fire resistance tests.

**UNI EN 1634-1**
Fire resistance tests for doors, shutters and openable windows.

**UNI EN 13501-2**
Classification using data from fire resistance tests, excluding ventilation systems.

## FIRE RESISTANCE CLASSIFICATION:

# E120 W20 - E120 W60

**E** Integrity. The devices prevent the passage of flames and smoke in case of fire, maintaining its structural integrity and protecting the rooms not involved in the event.

**W** A construction element capable of withstanding the action of the fire on the exposed side, so as to reduce heat transmission through radiation, thus avoiding it to reach materials adjacent to the non-exposed side.

## COMPOSITION:

| | |
|---|---|
| **Fabric** | Glass fibre and steel wires with silicone coating. |
| **Structural work** | Galvanised steel – RAL Painted (Optional). |
| **Motor** | 24 VDC tubular, housed inside the winding roller. |
| **Control unit** | It manages all the functions of the curtain. |
| **Gravity Fail-Safe** | It guarantees correct operation of the curtain even when electric events occur. In fact, it allows the curtain to be placed in room protection position even in the presence of alarms or faults. |

## DIMENSION

| WIDTH | HEIGHT | HEADBOX | MOTORS |
|---|---|---|---|
| < 5 m | < 3 m | 15/15 | 1 |
| < 7 m | Max 8 m | 15/20 | 1 |
| > 7 m | Max 8 m | 20/35 | no. |

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# FIRE

## FIELDS OF APPLICATION

Industrial plant
Logistics centers
Shopping centers
Offices
Stores
Hotels

Hospitals
Schools
University
Museum
Libraries
Airports

Station
Garage
Gyms
Cinema
Discotheques


# THE SMOKE

The **Fanani Fire** Smoke Curtain is CE certified in compliance with **EN 12101-1** and it is frequently applied inside extraction systems to control, convey, and discharge smoke and heat. It is an integral part of the smoke and heat exhaust ventilation systems (SHEVS), both for natural **(EN 12101-2)** and forced **(EN 12101-3)** extraction, providing essential channelling and containment.
In accordance to the **UNI EN 9494-1:2012** standard regarding sizing criteria, the smoke-free height must be evaluated according to the specific characteristics of the activity.

Therefore, this system is effective to:
· Fight the quick propagation of the smoke
· Promote smoke extraction
· Support Emergency Services
· Guarantee minimum visual impact (mobile version)

The use of Smoke Curtains allows the construction of ceiling compartments. In its mobile configuration, the smoke curtain is a retractable winding device, which allows the areas where it is installed to be kept clear. It comes down only when an alarm is triggered or in the presence of a prolonged black-out. In its fixed configuration, the smoke curtain remains always unfolded in safety position.

REMEMBER THE FOLLOWING:

· **90%** of fire victims are due to smoke.

· **70%** of material damage is due to smoke.

## TESTED AND CLASSIFIED IN COMPLIANCE WITH THE FOLLOWING STANDARDS:

**EN 12101-1:2005**
"Smoke and heat control systems.
Part 1: Specification for smoke barriers".

**EN 12101-1/A1:2006**
"Smoke and heat control systems.
Part 1: Specification for smoke barriers".

# D134 certification

## VERSIONS

| | |
|---|---|
| **SSB** | Static barrier |
| **ASB1** | Mobile barrier with or without guides |

## COMPOSIZIONE

| | |
|---|---|
| **Fabric** | Glass fibre with white silicone coating. |
| **Structural work** | Galvanised steel, RAL painted (optional) headbox, guides and terminal. |
| **Motor** | 24 VDC tubular, housed inside the winding roller. |
| **Control unit** | It manages all the functions of the curtain. |
| **Gravity Fail-Safe** | It guarantees correct operation of the curtain even when electric events occur. In fact, it allows the curtain to be placed in room protection position even in the presence of alarms or faults. |

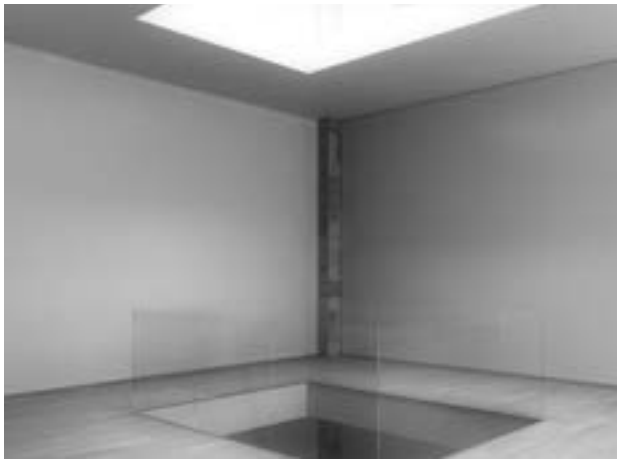
## DIMENSIONS

| WIDTH | HEIGHT | HEADBOX | MOTORS |
|---|---|---|---|
| < 7 m | < 3 m | 15/15 | 1 |
| < 7 m | Max 10,250 m | 15/20 | 1 |
| > 7 m | Max 10,250 m | 20/35 | no. |

CE

# THE SMOKE FIELDS OF APPLICATION

## MOBILE SYSTEM WITH GUIDES



## MOBILE SYSTEM WITHOUT GUIDES

Industrial plant
Logistics centers
Shopping centers
Offices
Stores
Hotels

Hospitals
Schools
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Museum
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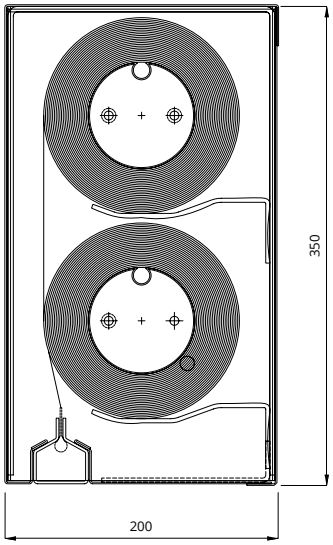
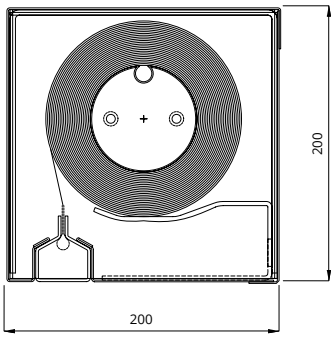
Airports

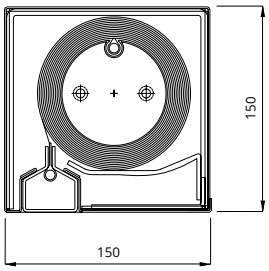
Station
Garage
Gyms
Cinema
Discotheques

## FIXED SYSTEM

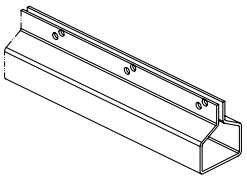
# COMPONENTS



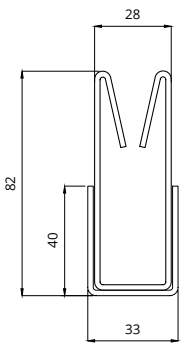




Caissons collection

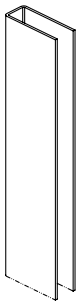


Bar terminal



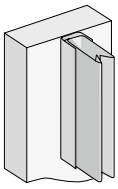

Side guide

Bracket for wall mounting

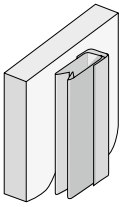


Fixing support in light

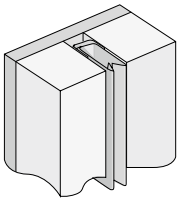
# METHOD OF FIXING



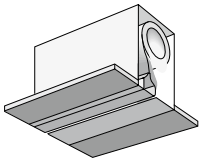
Driving light



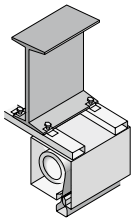
Guide wall

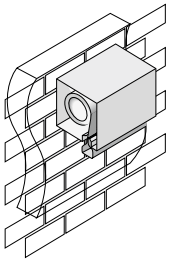


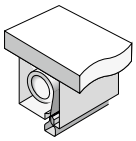
Recessed guide



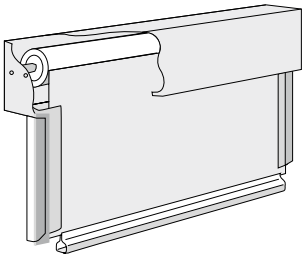
Caissons collection



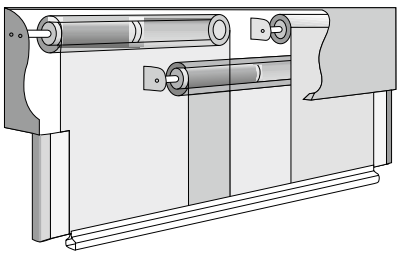




Type of installation



Curtain single roller



Curtain roller multiple

# CONTROL UNIT

**Fire curtain and mobile smoke barrier tubular handling operator control system.**


## INTUITIVE AND ASSISTED PARAMETER PROGRAMMING

The flexibility of the CU-350 system allows the programming of the control and coordination parameters of the smoke and heat tubular operators:

- from the operator panel
- from the specific control panel and RS-232 interface
- from remote supervisor via multipoint serial communication

## CU-350 CAN BE MANAGED REMOTELY :

- from the control panel, PLC on the RS-323 or RS-485 physical layer with Modbus RTU communication protocol.
- via Wi-Fi or Ethernet through interface adapter and RTU Modbus protocol on TCP-IP.

## CHARACTERISTICS

**Dimensions**

| | | |
|---|---|---|
| CU 350-1 DCM | 1 Motore | 380 x 280 x 180 mm |
| CU 350-2 DCM | 2 Motori | 380 x 280 x 180 mm |
| CU 350-3 DCM | 3 Motori | 500 x 400 x 200 mm |
| CU 350-4 DCM | 4 Motori | 500 x 400 x 200 mm |
| Protection rating | | IP55 |
| Power supply | | 100-240 VAC 50-60 Hz |
| Output | | 24 VDC |
| Battery | | 2 x NP 12V |
| Serial interface | | RS 232 |

**OPTIONS**

| | |
|---|---|
| Insulated serial module | RS 485 |
| Serial module for descent coordination | DCMc |

## SIMPLE OPERATION

Normally, the smoke barriers are in a high position (UP) in the absence of alarms or manual controls.
CU-350 automatically activates the barrier-controlled descent (DOWN) in the presence of an alarm coming from even one of the three inputs.
The smoke/fire alarm signal can be given if the following conditions are met:

1. voltage free contact (No/Nc) coming from the fire alarm control unit
2. one or more smoke sensors suitably positioned in the areas to be protected
3. from 24 VDC signal coming from another source (PLC, fire control unit, etc.)

In the presence of more batteries physically linked, each control module will be programmed to work in a coordinated way, allowing the activation of the tubular operators on one single alarm or manual control.

## SAFETY DEVICES

The barrier motion is indicated by the closure of the relay contact, which drives loads at 5A 230 Vac.
The barrier handling safety can be programmed:

A. through the opening of the contact on the “emerg” input to disable the movement or with anti-panic function.
B. obstacle: if the barrier meets an obstacle while moving, the controller activates the unlocking procedure automatically. If the obstacle persists, the barrier stops permanently indicating the fault.
C. blockage due to an obstacle on “n” barriers physically linked: same operation described in section B) on all the linked barriers, i.e. defined with coordinated operation.
D. in case of flat battery with no network or in the presence of control module fault, the barriers connected to the controller will descend by gravity (fail safe).

# REALIZATION

| | |
|---|---|
| Abafoods | RO |
| Aeroporto di Bari | BA |
| Aeroporto di Cagliari | CA |
| Aeroporto Civile Internazionale Capodichino | NA |
| Bambin Gesù Poliambulatorio | RM |
| Benelli Stabilimento di produzione | PU |
| Birra Castello S.r.l. Stabilimento di produzione | BL |
| Brunello Cucinelli S.p.a. Magazzino | PG |
| Camera dei Deputati Montecitorio | RM |
| Confindustria | RM |
| Centro Commerciale Fiera del Sud | SR |
| Concessionario BMW | NA |
| Enel Reparto Produttivo | TO |
| Gai  S.p.a. Magazzino Industriale | CN |
| Gruppo COIN | TO |
| Hotel Ergife | RM |
| IperDue | CH |
| Istituto Tecnico Industriale | VC |
| Ikea | PI |
| Ikea Centro Commerciale Villesse | GO |
| Museo Armani | MI |
| NH Hotel | MI |
| Ospedale Monselice | RA |
| Palestra Happy Fit (Centro commerciale) | PD |
| Showroom Prada | MI |



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