mercor tecresa®

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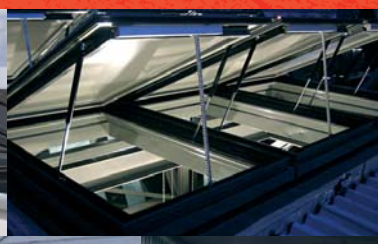


SMOKE EXHAUST SYSTEMS

| SMOKE EXHAUST SYSTEMS |
| VENTILATORS | FIXED SKYLIGHTS | SKYLIGHTS TYPE VENTILATORS |
| SMOKE COMPARTMENT | PRESSURIZATION | CONTROL AND MANAGEMENTS SYSTEMS |

Parque Leganés Tecnológico LEGATEC - C/ Margarita Salas, 6 - 28918 Leganés - Madrid | Tel.: (+34) 91 428 22 60 | Fax: (+34) 91 428 22 62
info@mercortecresa.com | www.mercortecresa.com

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CONSTRUCTIVE SOLUTIONS FOR YOUR SAFETY

Tecresa Protección Pasiva® Mercor Tecresa® is a Spanish company created on the 24th of July 1998 and was integrated into the Mercor Group® on the 19th of February 2008. It was created under the aim of offering to both national and international markets the most advanced and comprehensive solutions in passive fire protection, focusing in two main activities: smoke & heat exhaust and fire resistance materials with own manufacturing products, such as TECWOOL® Mortar and TECBOR® Boards® and a wide range of smoke exhaust systems.

Our main aim is to satisfy the necessities of the always changing and competitive market by providing solutions and a wider approach allowing our clients to optimize their management, which is the key of its competitiveness.

In the last years, Mercor Tecresa® has strengthened its leadership within the sector, based on dedication, technology and fire prevention system development.

Its company policy is based on a continuous improvement on the production capacity, keeping always in mind a quality service and a continuous client satisfaction. It is pioneer in being the first Spanish company certified for its quality within the passive fire protection sector according to ISO 9001:2008 and 14.001:2004 by Applus and labor risk prevention according to OHSAS 18001:2007 standard.

Mercor Tecresa® is continuously evolving and developing, having as its ultimate goal improving every day the service we offer to our clients.

SMOKE EXHAUST SYSTEMS

SMOKE EXHAUST AND NATURAL VENTILATION SYSTEMS

Reliable products are vital for the safety of individuals and the conservation of buildings. Our R&D department is closely monitoring the changes in the legislation field; in fact, our main ambition is to be one step ahead of this legislation.

Our engineers challenge is to find answers to the future questions of our clients. That way, we guarantee the highest level possible of quality and safety. Our products comply with the EN 12101-2 standard and our innovations are often ahead of the regulations. Besides, and of course, we take into account the specific regulations of each country as well as the requirement for each project.

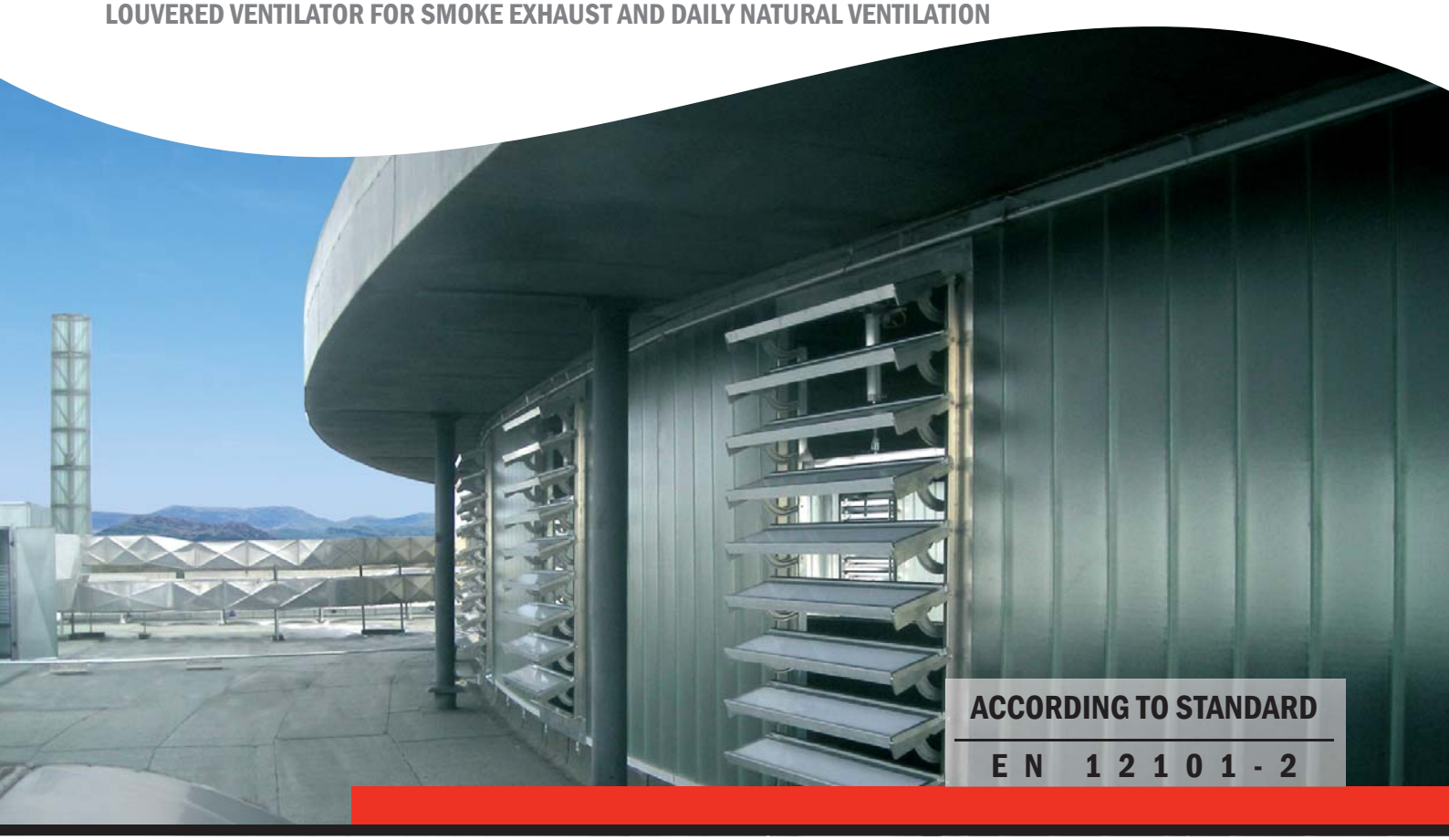
mercor **tecresa®** has its own engineering with wide experience in the passive fire protection field. It has also a technical and commercial team who have a perfect understanding of all regulations and current standards and is also specialised in the design, development and implementation of the installations detailed as follows:

Comprehensive projects of study, supply, installation and maintenance of: smoke and gas exhaust systems, natural and forced ventilation and zenith lighting; smoke compartment and channelling curtains and pressurization systems for evacuation routes.

Our systems have been implemented by renowned firms, both national and international, in factories, shopping malls, hotels, hospitals, residential buildings, theatres, garages, restaurants, power plants, etc.

EURA

LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



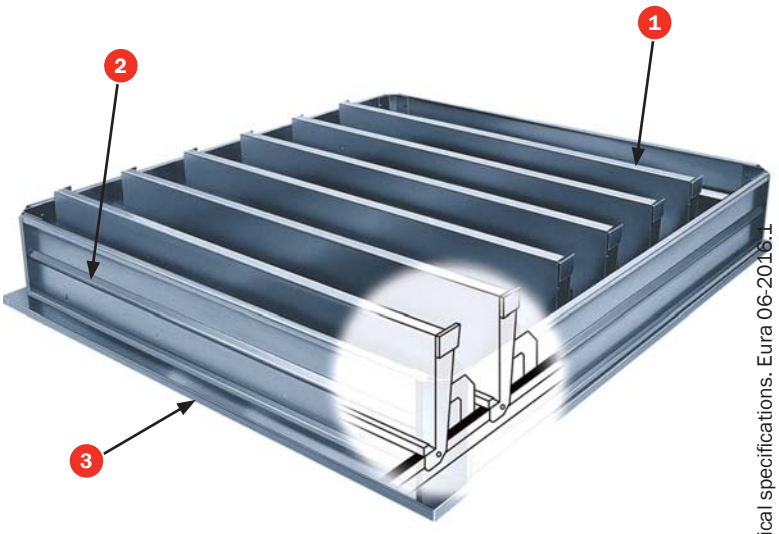
MULTILATERAL LOUVERED VENTILATOR

The **Eura** is a louvered ventilator that extracts large volumes of warm air and smoke within a short period of time.

The **Eura** is both suitable for air feed and air extraction. The system has been tested with lifeline Test 1200 J.

The system offers a favorable price/performance ratio.

Application: industrial buildings, offices, shopping centers and atria.



MATERIALS

Aluminium alloy $AlMg_3$, resistant to corrosive and marine environments.

The **Eura** can be supplied anodized aluminium or lacquered in any RAL colour you require. The **Eura** can also be designed to incorporate noise-damping wings and bird or insect mesh.

DESCRIPTION

1. Louvers.
2. Base.
3. Flanges.

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EURA

LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



CONTROLS

Natural ventilation:

P single-action compressed air operation
P2 double-action compressed air operation
M motor operation (24 V DC de 230 V)

Fire ventilation according to EN 12101-2:

PB single-action compressed air operation with fire function
P2B double-action compressed air operation with fire function
PB-FS single-action compressed air operation with fire function failsafe (up to 13 louvers)
PB-M single-action compressed air operation with fire function and motor operation
PB-10 bar single-action compressed air operation with fire function activated at ≥ 10 bar
M24V motor operation 24 V

LOUVERS

ALU: Aluminium louvers of single- or double-sided

ALU-ISO: Aluminium louvers with internal isolation

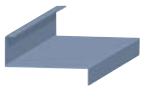
SANDWICH: Louvers with sandwich panel between 8 to 16 mm

ISOLUX: Polycarbonate louvers (opal/clear) with thickness between 8 to 16 mm

Single glass 3.3.2

Double glass 4-6-3.3.2

BASES



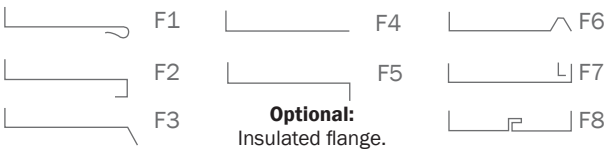
LB
Low Base.

HB
High Base.

GHB
Insulated High Base.

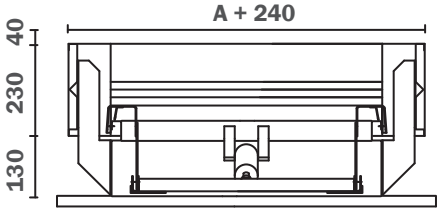
GHB
High Base and Flanged Insulation

FLANGES



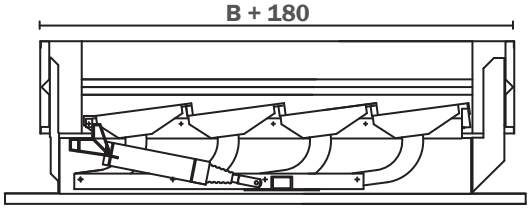
SECTIONS

Cross section
A + 240



Flange size (width)

Longitudinal section
B + 180



Flange size (length)

EURA

LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

DIMENSIONS VENTILATOR (mm)																
		NUMBER OF LOUVERS														
TYPE		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
LB*/GHB	Width (mm)	Length (mm)														
030	300															
060	600															
120	1200	720	940	1160	1380	1600	1820	2040	2260	2480	2700	2920	3140	3360	3580	3800
180	1800															
240	2400															
HB	Width (mm)	Length (mm)														
030	340															
060	640															
120	1240	760	980	1200	1420	1640	1860	2080	2300	2520	2740	2960	3180	3400	3620	3840
180	1840															
240	2440															

*LB 14 through 17 louvers for assessment: applicable depending on installation situation.
Intermediate dimensions possible.

AERODYNAMIC SURFACE (m^2)																
		NUMBER OF LOUVERS														
TYPE		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
030	LB/GHB	0,13	0,17	0,21	0,25	0,29	0,33	0,37	0,41	0,45	0,49	0,53	0,57	0,60	0,64	0,68
	HB	0,16	0,20	0,24	0,29	0,33	0,38	0,42	0,47	0,51	0,56	0,60	0,65	0,69	0,74	0,78
060	LB/GHB	0,26	0,34	0,42	0,50	0,58	0,66	0,73	0,81	0,89	0,97	1,05	1,15	1,23	1,31,	1,39
	HB	0,29	0,38	0,46	0,55	0,63	0,71	0,80	0,90	0,98	1,05	1,14	1,24	1,33	1,42	1,50
120	LB/GHB	0,52	0,68	0,84	0,99	1,15	1,31	1,47	1,65	1,82	1,94	2,10	2,30	2,46	2,62	2,78
	HB	0,57	0,73	0,89	1,06	1,22	1,38	1,57	1,74	1,91	2,04	2,20	2,40	2,57	2,74	2,90
180	LB/GHB	0,78	1,02	1,25	1,49	1,73	1,97	2,24	2,48	2,72	2,92	3,15	3,50	3,75	3,99	4,24
	HB	0,84	1,08	1,32	1,57	1,84	2,09	2,33	2,58	2,83	3,02	3,27	3,63	3,88	4,13	4,38
240	LB/GHB	1,04	1,35	1,67	1,99	2,34	2,66	2,99	3,31	3,63	3,89	4,20	4,67	5,00	5,33	5,65
	HB	1,11	1,43	1,76	2,08	2,44	2,77	3,10	3,42	3,75	4,01	4,33	4,81	5,15	5,47	5,81

*Aerodynamic coefficient (Cv) 14 through 17 louvers based on extended wind baffle.

WEIGTH PER VENTILATOR (kg)															
	NUMBER OF LOUVERS														
TYPE	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
030	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38
060	19	23	27	30	33	36	39	42	45	48	51	54	57	60	63
120	28	33	38	42	47	51	56	60	65	69	74	78	82	86	90
180	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
240	45	52	59	66	73	80	87	94	101	108	115	122	129	136	143

*Example type indication: Eura180-10/GHB/M24V/F5 means: Eura louvered ventilator, width 1.800 mm and length 2.260 mm (10 louvers), an isolated high base; 24 V motor operation; F5 flange.

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EURA-R

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LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

ACCORDING TO STANDARD

EN 12101-2

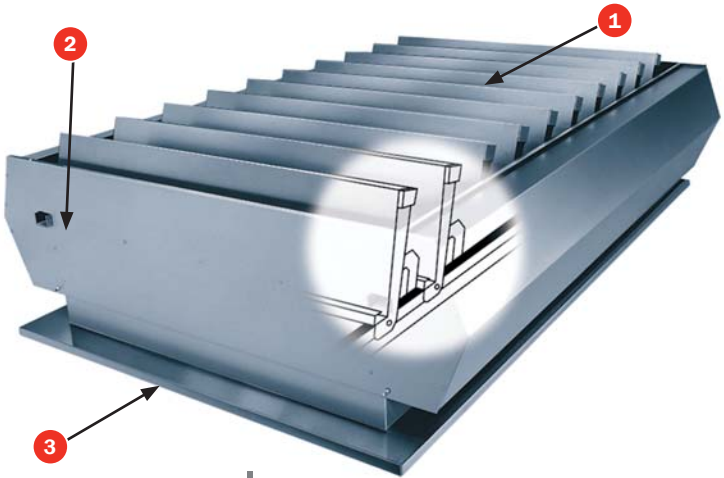
MULTILATERAL LOUVERED VENTILATOR

The **Eura-R** is a variation of the standard Eura and is designed to incorporate rainproof side blades. The **Eura-R** is therefore ideal for all-weather daily natural ventilation.

The **Eura-R** is particularly suitable for smoke and heat evacuation in any weather condition.

The structure has integrated rain gutters for controlled water drainage. The **Eura-R** can be customized with a variety of base and flange designs.

Applications: industrial buildings, shopping centers, train stations, airports and patios.



DESCRIPTION

1. Louvers.
2. Base.
3. Flanges.

CONTROLS

P single-action compressed air operation.
P2 double-action compressed air operation.
M motor operation
Options: **B** including fire function
FS failsafe

MATERIAL

Aluminium alloy $AlMg_3$, resistant to corrosive and marine environments.

The **Eura-R** can be supplied anodized aluminium or lacquered in any RAL colour you require. The **Eura-R** can also be designed to incorporate insulated thermally base and noise-damping wings and bird or insect mesh.

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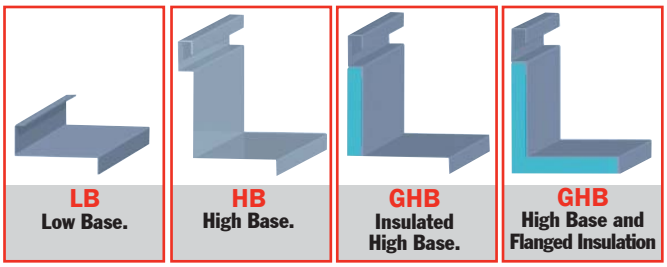
EURA-R

LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

TYPE	CLEAR WIDTH IN mm				AERODYNAMIC SURFACE (m^2)		WEIGHT kg
	LB/GHB		HB				
	A	B	C	D	LB/GHB	HB	
060-3	600	720	640	760	0,26	0,29	36
060-5	600	1160	640	1200	0,42	0,46	44
060-7	600	1600	640	1640	0,58	0,63	53
060-9	600	2040	640	2080	0,73	0,80	62
060-11	600	2480	640	2520	0,89	0,98	71
060-13	600	2920	640	2960	1,05	1,14	80
120-4	1200	940	1240	980	0,68	0,73	57
120-6	1200	1380	1240	1420	0,99	1,06	70
120-8	1200	1820	1240	1860	1,31	1,38	83
120-10	1200	2260	1240	2300	1,65	1,74	96
120-12	1200	2700	1240	2740	1,94	2,04	109
180-3	1800	720	1840	760	0,78	0,84	66
180-5	1800	1160	1840	1200	1,25	1,32	84
180-7	1800	1600	1840	1640	1,73	1,84	102
180-9	1800	2040	1840	2080	2,24	2,33	120
180-11	1800	2480	1840	2520	2,72	2,83	138
180-13	1800	2920	1840	2960	3,15	3,27	156

BASES



LB Low Base.

HB High Base.

GHB Insulated High Base.

GHB High Base and Flanged Insulation

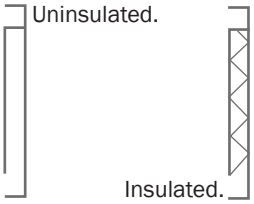
LOUVERS

ALU: Single-walled aluminium

ALU-ISO: Double-walled insulated aluminium

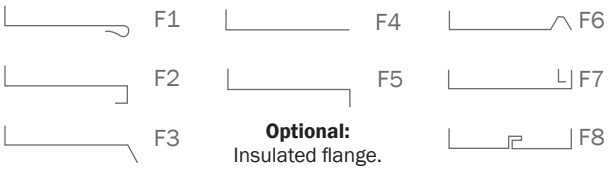
ISOLUX: Polycarbonate louver (opal/clear) with thickness between 8 to 16 mm

SIDE LOUVERS



The side louvers can be operated independent of the top louvers.

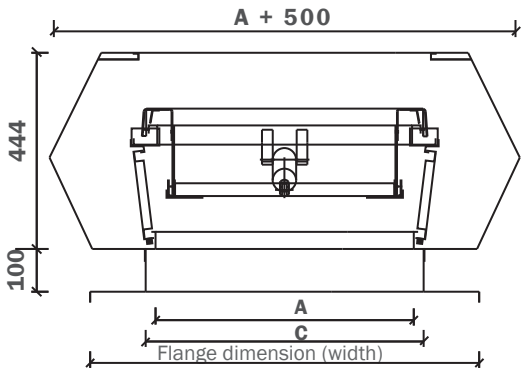
FLANGES



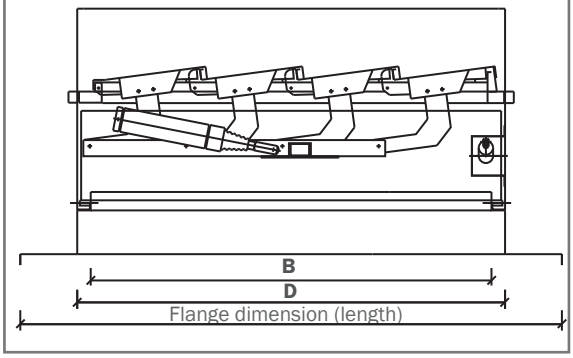
Optional: Insulated flange.

SECTIONS

Cross section



Longitudinal section



DUO THERMA

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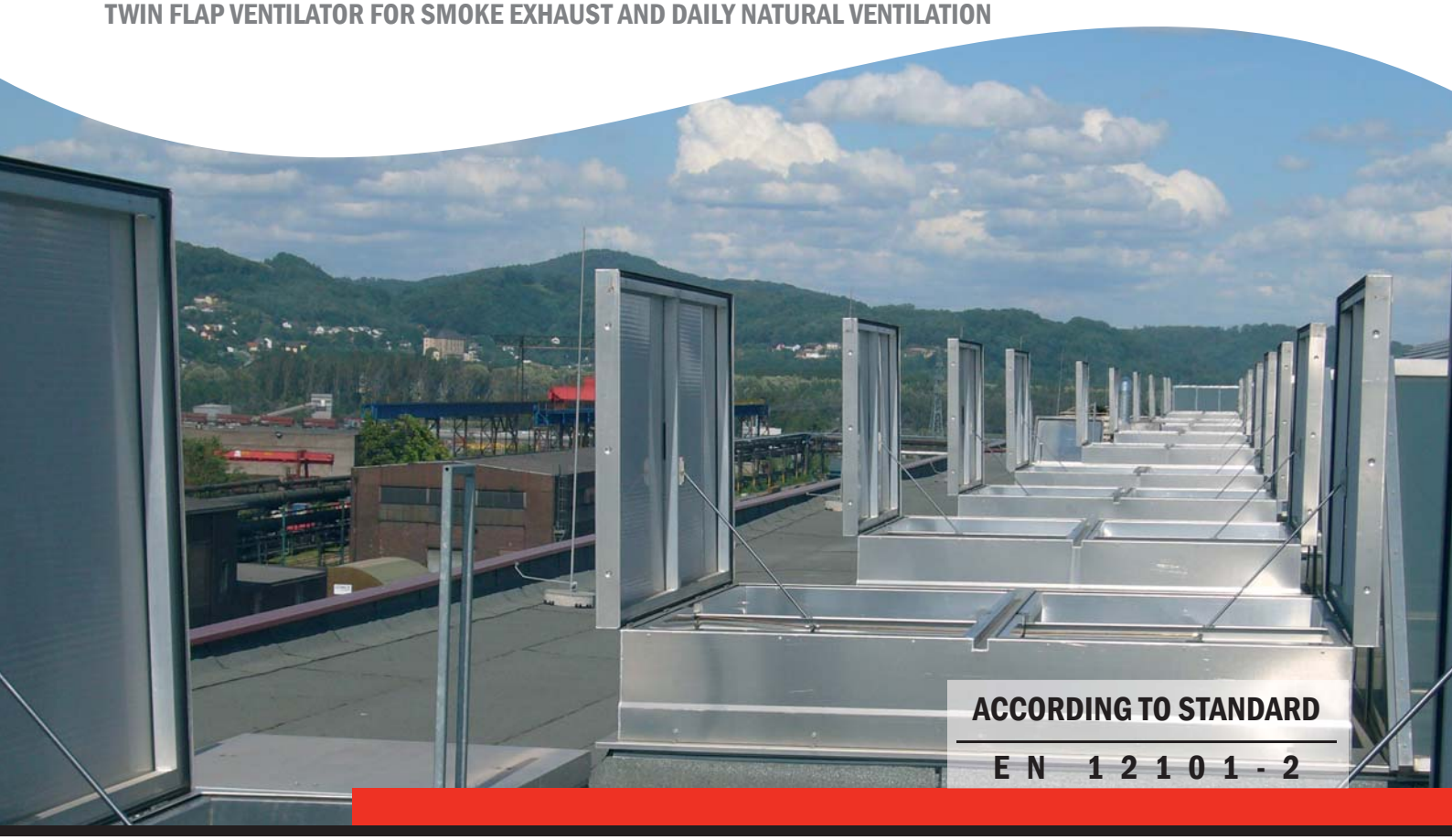
TWIN FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



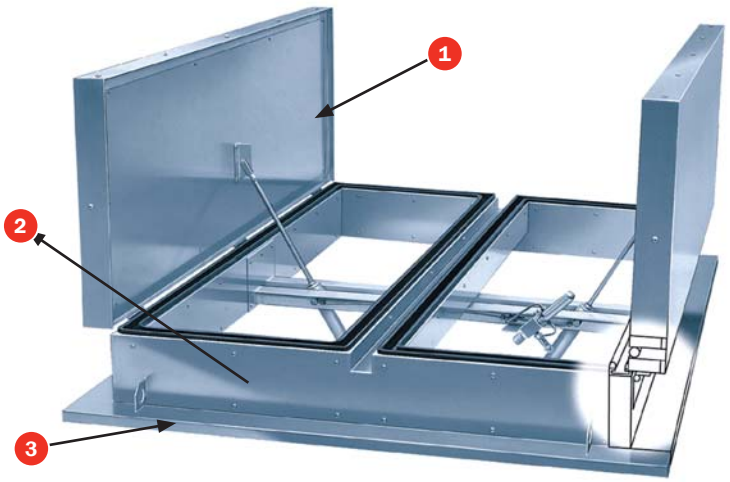
TWIN FLAP VENTILATOR

Duo Therma is a twin flap system designed for both smoke and heat exhaust and daily ventilation.

The countless options available in terms of the base and flaps, as well as numerous operating systems and accessories, enable the creation of a functional solution for any type of building: from industrial properties to cold stores, and from commercial centers to theatres and offices premises.

The cold bridge-free **Duo Therma TG** fitted with a thermally separated base and flaps offers a high level of durability. It minimizes condensation forming and offers advanced comfort features.

In the event that sound insulation is also required, two fully acoustic versions of the **Duo Therma TG** model are available, which have Rw values of 34 dB and 44 dB.



ACCESORIES

Bird or insect mesh
Fall protection
Burglary prevention features
Insulated flanges
RAL colour / anodized

DESCRIPTION

1. Blades.
2. Base.
3. Flanges.

CONTROLS

P2 double-action compressed air operation.
M motor operation
Optional: **B** including fire function
FS failsafe

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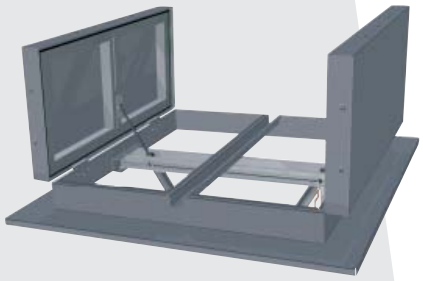
DUO THERMA

TWIN FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

FLAPS

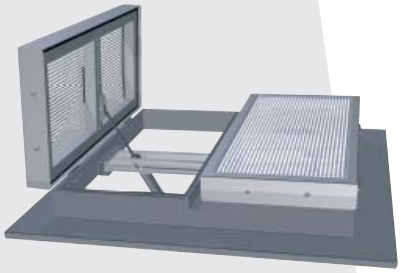
DUO THERMA AT-G
INSULATED

- Sea water and corrosion-resistant aluminium according to EN AW 5754 ($AlMg_3$)
- High air and watertightness
- Convenient installation
- Considerable flexibility in terms of dimensions and flange type



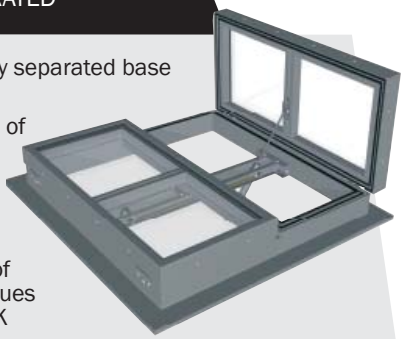
DUO THERMA AT-O
UNINSULATED

- Optional transparent polycarbonate flaps allow daylight entrance
- Broad range of operating systems and accesories available
- Suitable for all types of buildings and roof applications



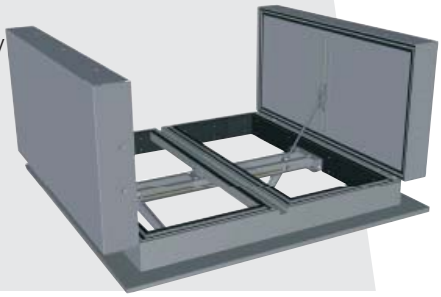
DUO THERMA TG
THERMALLY SEPARATED

- Entirely thermally separated base and flaps
- Extensive choice of flap types
- Standard noise reduction (Rw) of 31 dB
- Increased level of comfort, with U-values of up to 1,0 W/m^2K
- Air and watertightness tested accordance NEN EN 1026 / 1027 and DIN EN 12208



DUO THERMA TG-AK
THERMALLY SEPARATED / ACOUSTICALLY INSULATED

- Thermally separated base and flaps with additional acoustic insulation
- Available in two EN 12101-2 / EN ISO 140-3 certified types, with Rw-values of 34 dB and 44 dB
- Compliant with highly stringent acoustic requirements
- U-values of up to 0,9 W/m^2K



MATERIALS

Base and flanges: Sea water and corrosion-resistant EN AW 5754 ($AlMg_3$) sheet aluminium is used in the **Duo Therma TG** models; the **Duo Therma TG** models are made of EN AW 606035 (AlMgSi0,5) extruded profile sections which are thermally separated.

Sealing: All-round, using coated EPDM rubbers, which prevent freezing while guaranteeing a high level of air tightness.

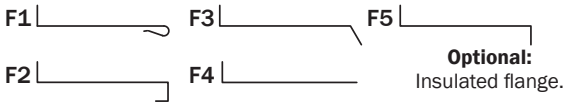
Hinges: Stainless steel.

Flaps: With or without thermal separator.

Choice of: uninsulated or mineral wool-insulated aluminium flap, 16 to 55 mm transparent multi-wall polycarbonate filler, single safety glass, insulated safety glass, or a high quality acoustically insulated flap.

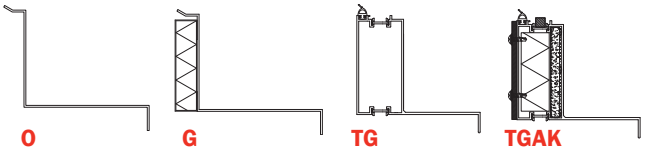
Finishing: Standard blank aluminium or coated in a standard RAL colour.

FLANGES



Optional:
Insulated flange.

BASES



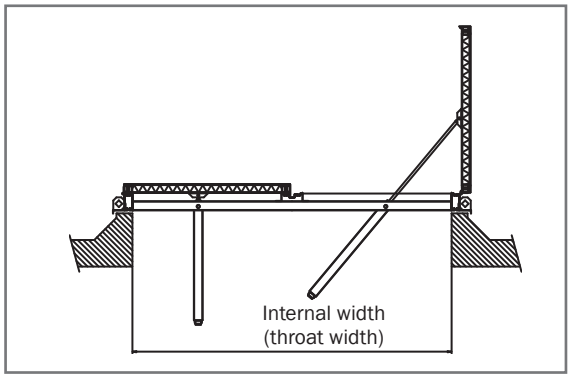
O
Uninsulated

G
Insulated

TG
Thermally broken

TGAK
Thermally broken acoustic insulated

SECTIONS



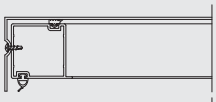
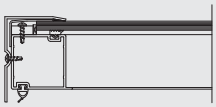
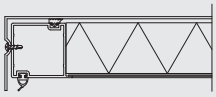
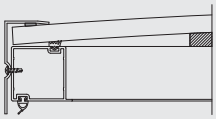
DUO THERMA

TWIN FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

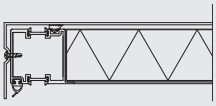
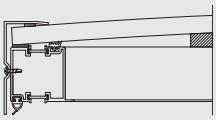
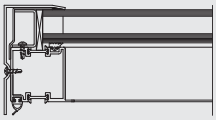
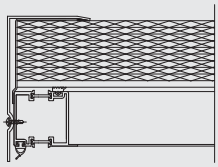
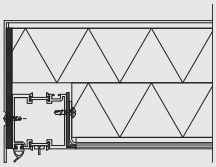
SPECIFICATIONS DUO THERMA

						DUO THERMA AT un/insulated				DUO THERMA TG thermally broken			
						WEIGHT (kg)							
TYPE	Throat size width x length (mm)	Geometric surface m^2	Aerodynamic surface m^2	Cv-value	Height mm (TG Acoustic = 250 mm)	Uninsulated aluminium	Insulated aluminium	Transparent multi-wall polycarbonate Isolux	Single laminated safety glass	Insulated aluminium	Transparent multi-wall polycarbonate Isolux	Laminated insulation glass	Acoustic insulated
1010	1000 x 1000	1,00	0,60	0,60	200	31	41	32	63	44	43	72	88
1015	1000 x 1500	1,50	0,90	0,60	200	38	49	39	80	53	51	93	120
1020	1000 x 2000	2,00	1,20	0,60	200	45	57	46	98	62	59	115	153
1025	1000 x 2500	2,50	1,50	0,60	200	52	65	53	116	72	68	137	185
1510	1500 x 1000	1,50	0,90	0,60	200	37	48	37	81	53	51	94	119
1515	1500 x 1500	2,25	1,35	0,60	200	44	57	45	103	64	60	122	163
1520	1500 x 2000	3,00	1,80	0,60	200	52	67	53	126	75	69	150	206
1525	1500 x 2500	3,75	2,25	0,60	200	60	76	61	148	86	78	179	250
2010	2000 x 1000	2,00	1,30	0,65	200	42	55	43	98	63	59	115	151
2015	2000 x 1500	3,00	1,95	0,65	200	51	66	51	126	75	69	151	205
2020	2000 x 2000	4,00	2,60	0,65	200	60	77	60	153	88	79	186	260
2025	2000 x 2500	5,00	3,25	0,65	200	69	88	68	181	100	88	221	315
2510	2500 x 1000	2,50	1,63	0,65	200	48	61	48	116	73	67	137	182
2515	2500 x 1500	3,75	2,44	0,65	200	58	74	57	149	87	78	179	248
2520	2500 x 2000	5,00	3,25	0,65	200	68	86	66	181	100	88	222	314
2525	2500 x 2500	6,25	4,06	0,65	200	78	99	75	214	114	99	264	379

FLAPS
DUO THERMA AT

	U-values
 Uninsulated	6,0
 Single laminated glass	5,7
 Insulated	2,0
 Isolux 16 mm	1,8-2,3

FLAPS
DUO THERMA TG

	U-values
 Thermally broken insulated	2,0
 Thermally broken insulated Isolux 16 mm	1,8-2,3
 Thermally broken laminated insulation glass	1,1-2,8
 Thermally broken Isolux 55 mm	1,0
 Thermally broken acoustic insulated	0,9

Parque Leganés Tecnológico LEGATEC - C/ Margarita Salas, 6 - 28918 Leganés - Madrid | Tel.: (+34) 91 428 22 60 | Fax: (+34) 91 428 22 62
info@mercortecresa.com | www.mercortecresa.com

ESTRA

MODULAR ARCHITECTURAL LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

ACCORDING TO STANDARD

EN 12101-2

ARCHITECTURAL LOUVERED VENTILATOR

The **Estra** model is a modular architectural louvered ventilator, which is fitted vertically, and is suitable for both daily ventilation and smoke and heat exhaust. The **Estra**'s aesthetic and sleek design means that it really comes into its own in projects featuring substantial amounts of glass facades and curtain walls.

The **Estra** has thermally separated profile sections, and is available with either single or double glazing. The choice of louvers available includes point-fixed, circumferentially framed and (semi-) structural glazing, being perfectly integrated into any project.

The **Estra** is a modular transparent louvered system to install vertically, and is suitable for both daily ventilation and smoke and heat extraction. All range **Estra** is functional and sustainable, also has a modern, aesthetic and elegant design.

CONTROLS

- Manually operated by means of a lever or lever
- Motor 230 V / 24 V
- Pneumatic cylinder

ESTRA

MODULAR ARCHITECTURAL LOUVERED VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

ESTRA EG

SINGLE GLASS CENTER PIVOTED

- Single tempered glass thickness 6 / 8 / 10 / 12 mm.
  Optional: laminated glass 12 mm
- Center pivoted
- Overlapping
- Max. width per element:
  - 1.500 mm (6 / 8 / 10 mm)
  - 1.650 mm (12 mm)

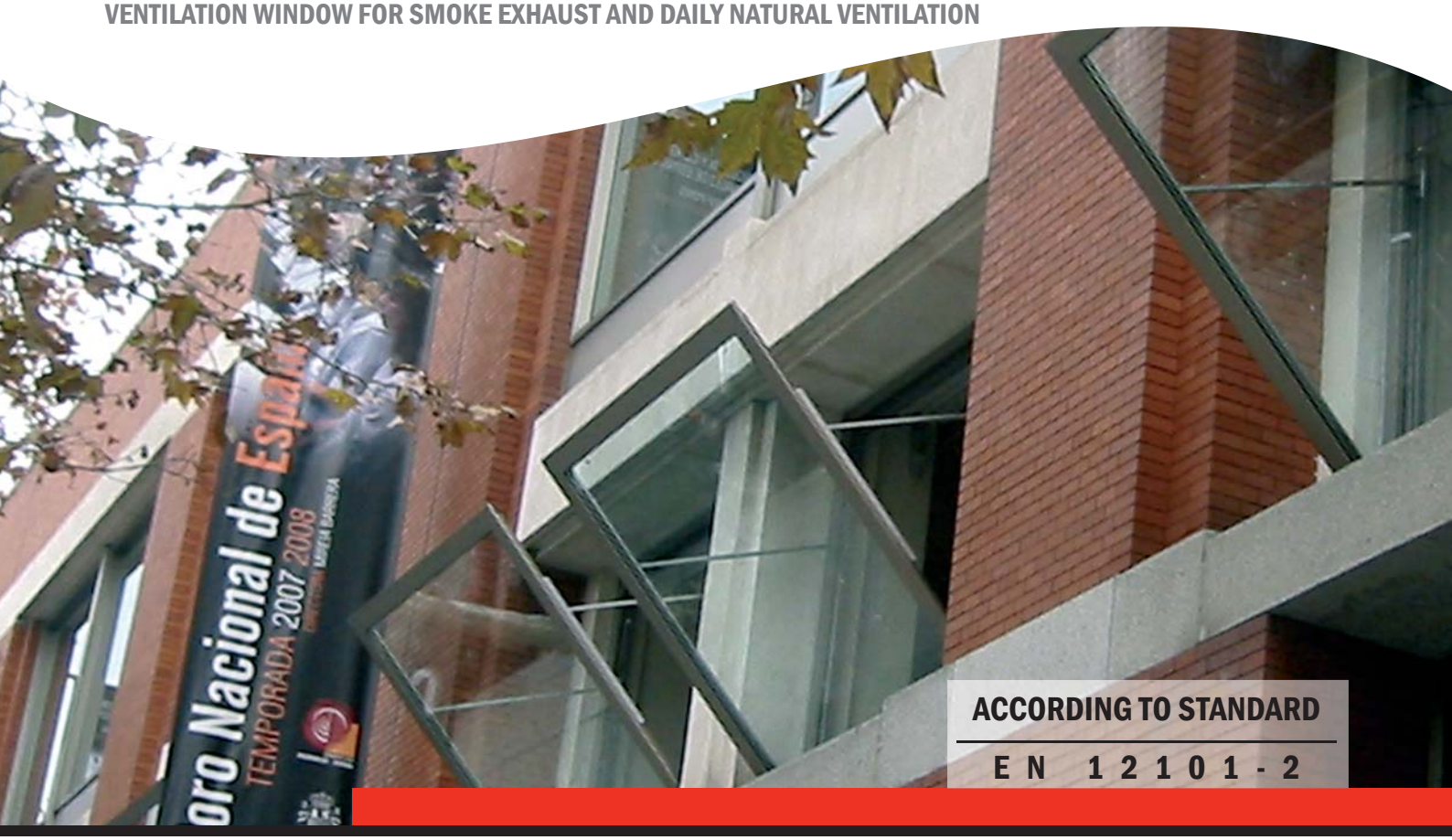
ESTRA TG

DOUBLE GLAZED CENTER PIVOTED FRAMED

- Thermally separated
- Double glazing thickness 24 mm
  Optional thickness 30 mm
- Center pivoted
- Flush connection
- Circumferentially framed
- Also available ISO sandwich panel model
- Max. width per element: 2.600 mm (24 mm)
  -Optional 1.800 mm (30 mm)

INOVA

VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



DECORATIVE VENTILATION WINDOW

The **Inova** model is a ventilation window that is suitable for natural, daily ventilation and for smoke exhaust in case of fire. The **Inova**, with a slim profile, is an aesthetic and ideal window for curtain walls and facade applications in which case both internal and external appearance play an important role.

The **Inova** model has a small mounting height and in its closed position the controls are completely embedded in the frame. The **Inova** has thermally insulated profile sections.

Applications: Offices, atria, shopping centres, train stations and airports.

DESCRIPTION

1. Frame.
2. Opening mechanism.

INOVA

VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

VERSIONS

The **Inova** model has an extremely slim profile which means that the system is ideally suited for use in facades. The mounting angle is 90°, the opening angle in relation to the base structure is 30° as standard. The **Inova** is used for both day-to-day ventilation and smoke evacuation in case of fire. The structure consists of a completely thermally insulated aluminium profile section.

The design ensures that the external appearance has also been perfectly finished in detail.

The frame is sealed with EPDM rubbers.

The following designs can be supplied in this ventilation window: single-walled aluminium, double-walled aluminium insulated, laminated glass, insulated glass, double-walled and triple-walled polycarbonate.

DESIGNS

Any rectangular shapes are possible as standard with:

- Frame height: 780 to 2.280 mm.
- Frame width: 780 mm to 2.580 mm.
- Maximum panel surface area: 3,5 m^2.
- Glass thickness: 6 to 40 mm.
- Opening angle of 30° standard (variations by agreement).
- The weight depends on the dimensioning and panel.
- The maximum weight of the panel is 45 kg/m^2.

CONTROLS

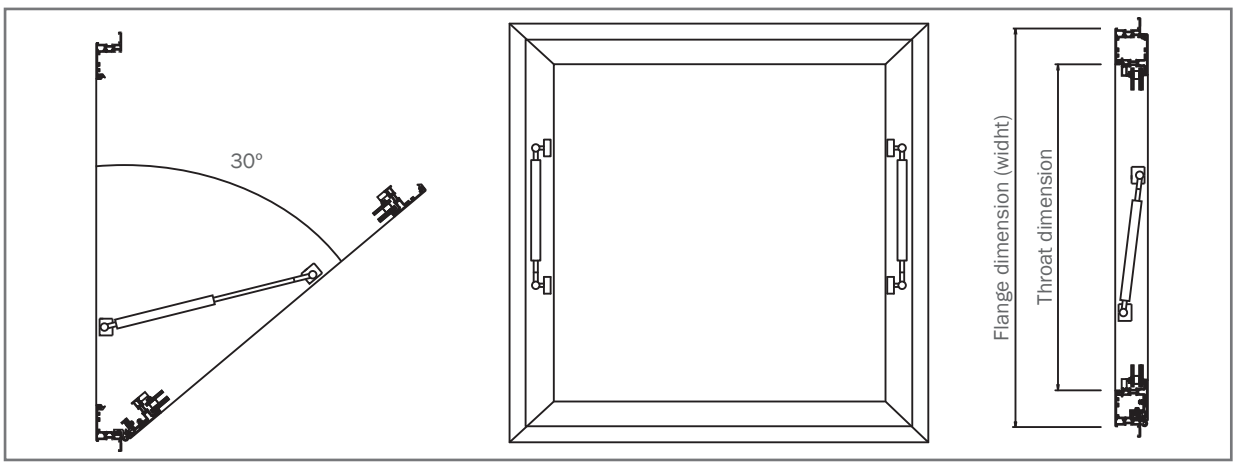
The entire control system for the Inova is completely concealed inside the structure in its closed state. Gas springs or motors are not therefore visible, which means that the **Inova** can be used in any situation.

M chain motor 24 V.
MB chain motor 24 V with electric fire switch
Optional: **FS** failsafe

FLANGES

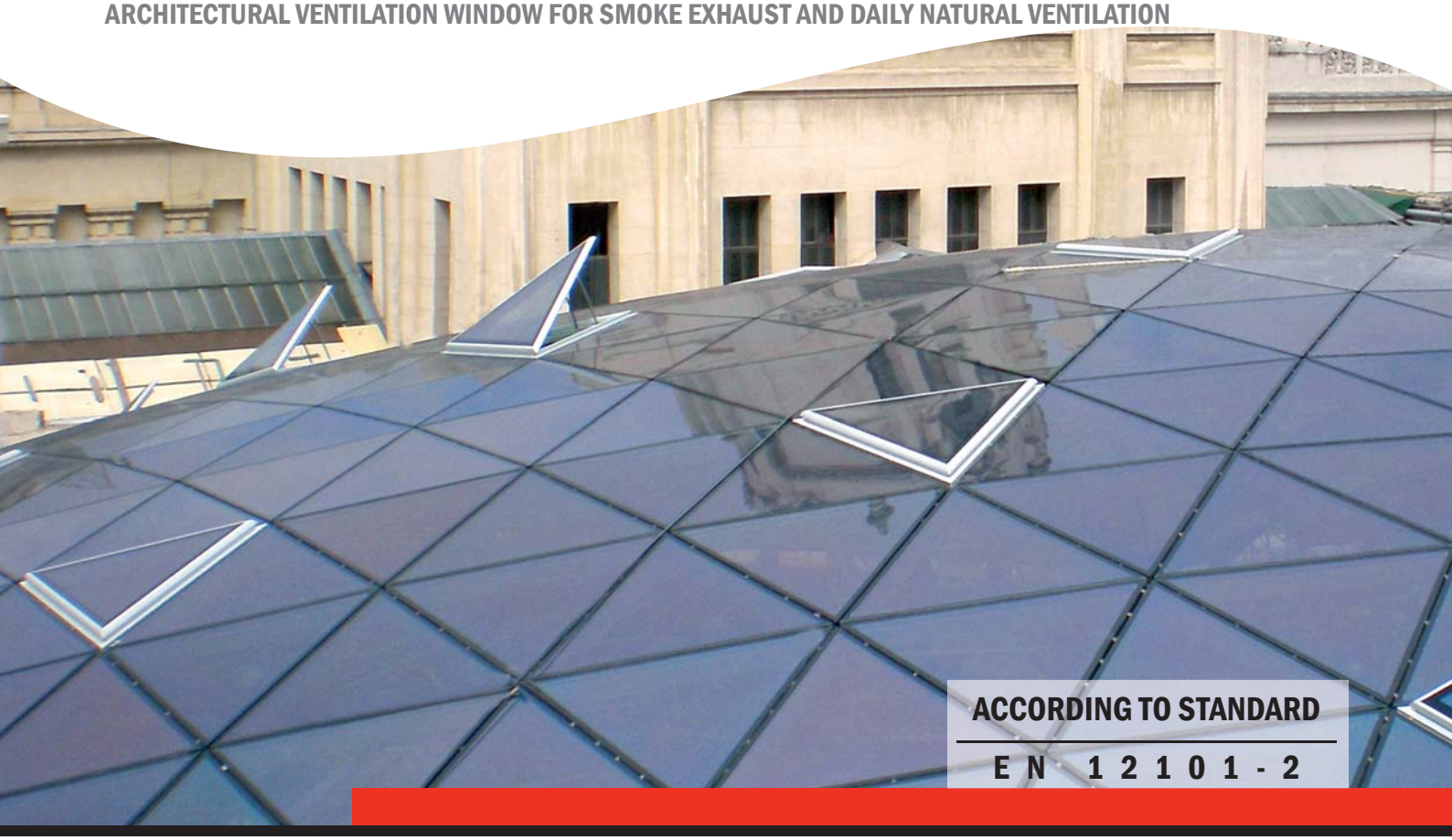
The flange thickness of the **Inova** can be varied from 5 mm to 55 mm.

SECTIONS



LUMERA

ARCHITECTURAL VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



ACCORDING TO STANDARD

EN 12101-2

ARCHITECTURAL VENTILATION WINDOW (fire protection)

Like the Luma, the **Lumera** is an architectural ventilation window for high quality natural ventilation.

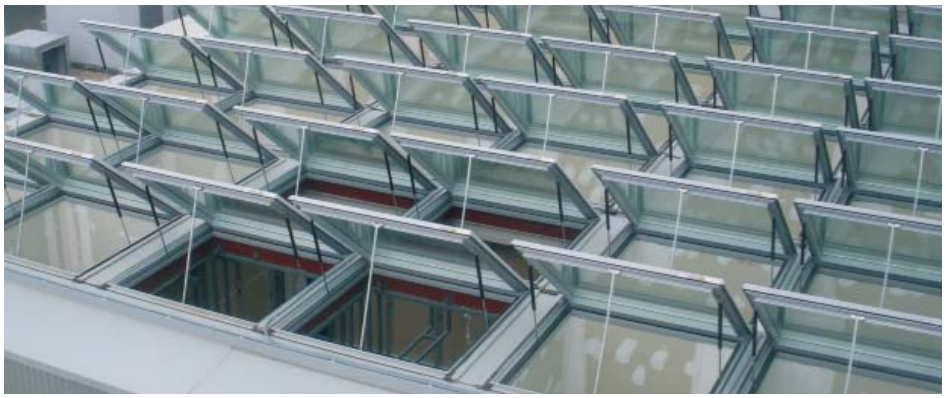
Lumera is a combination of the Luma and Ventria. This model has slim profiles and controls that are hidden in the frame. The **Lumera** model was especially designed for structural glass roofs with small inclination.

DESCRIPTION

1. Frame.
2. Opening mechanism.

LUMERA

ARCHITECTURAL VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



VERSIONS

Lumera is a ventilation window for smoke exhaust and natural ventilation which can be mounted at an angle of 0 to 90°. The opening angle of the window in relation to the base is variable up to a maximum of 90°. As a result, **Lumera** model is suitable for both day-to-day ventilation and smoke exhaust. **Lumera** consists of cold bridge-free aluminium profiles ensuring a high insulation value is attained. Although **Lumera** is usually supplied with insulated glass, uninsulated glass (or some alternative panel) is also possible on request. Delivery, installation and sealing of the (glazed) panel can be carried out by third-parties on site.

Examples of this are the concealed controls and the glass fixing, which are not visible from the outside. If required, **Lumera** can be anodized or powder-coated (in any RAL colour).

DESIGNS

Other than in its standard rectangular shape, **Lumera** is also available in triangular or trapezium shapes.

Dimensions and specifications:

- Frame height: 300 to 2.000 mm.
- Frame width: 300 mm to 3.000 mm.
- Maximum panel surface: 3,5 m^2.
- Maximum glass thickness: 37 mm.
- Glass: fitted with recessed frame.
- Maximum glass weight: 55 kg/m^2.
- Seals: two double seals around using EPDM rubbers.
- Total profile height: 169 mm.

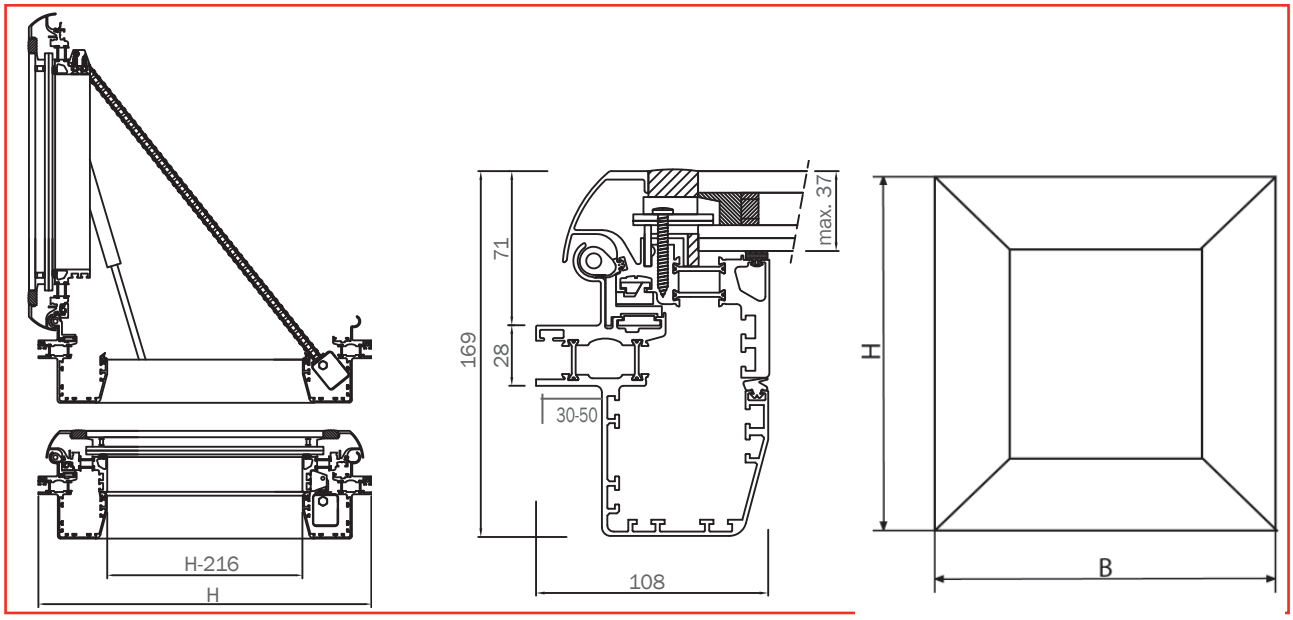
CONTROLS

To open and close, **Lumera** is fitted with one or two 24 V chain motors. The controls can be designed to be fail-safe using batteries. A 230 V AC control is also possible. Gas springs can also be used to support the motors.

FLANGES

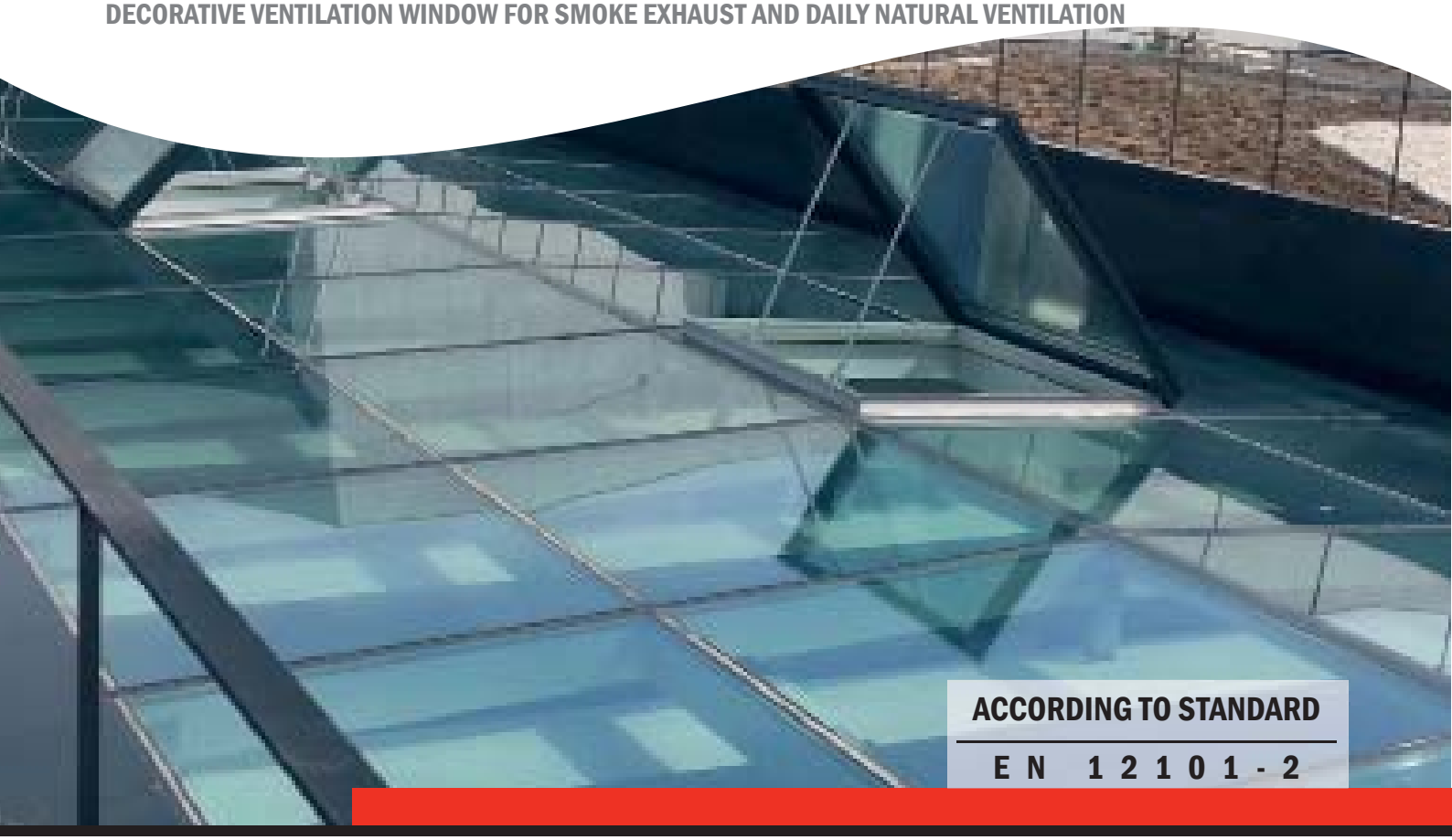
The standard flange thickness is 28 mm and can be increased as required. There are two standard flange widths, namely 30 mm or 50 mm. Various customer-specific requirements with regard to flanges can be implemented on demand.

SECTIONS



VENTRIA

DECORATIVE VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION



ACCORDING TO STANDARD

EN 12101-2

DECORATIVE VENTILATION WINDOW

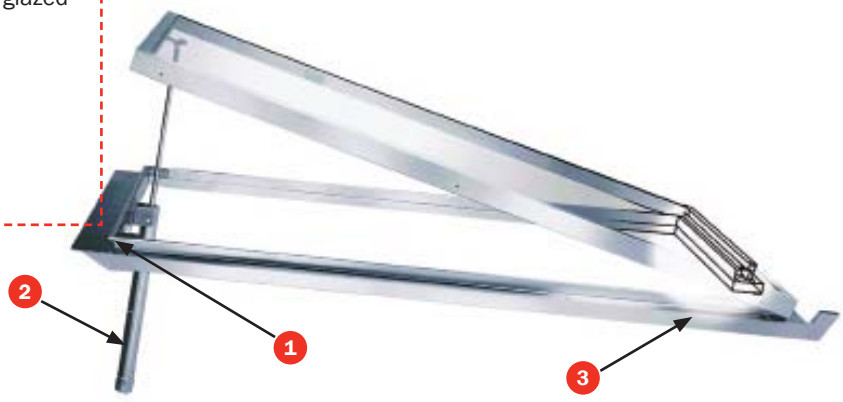
This transparent top-hung window **Ventria** is suitable for smoke exhaust and natural daily ventilation in case of fire.

This model, thanks to its attractive external design is often integrated into glazed facades and glazed roofs for air feed and air extraction.

The **Ventria** is available in two versions:

Ventria O, uninsulated open.

Ventria TG, cold bridge-free.



DESCRIPTION

1. Frame.
2. Opening mechanism.
3. Louvers.

VENTRIA

DECORATIVE VENTILATION WINDOW FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

VERSIONS

The **Ventria,** a ventilation window, can be integrated in glazed roofs and glazed facade. The opening angle of the window in relation to the base structure is variable up to a maximum of 75°. The structure consists of tempered aluminium $AlMg_3$, which is sea water and corrosion-resistant. Extruded material made of AlMg Si 0,5. The frame is sealed with EPDM rubbers to ensure optimal sealing. The **Ventria** can be supplied untreated, anodized or powder-coated in any RAL colour.

Amongst other things, the following infills can be integrated into the Ventria: single-walled or double-walled aluminium panel, laminated glass, insulated glass, double-walled and triple-walled polycarbonate.

DESIGNS

Any rectangular shapes are possible as standard with:

- Maximum height: 2.700 mm.
- Maximum width: 2.000 mm.
- Maximum panel surface: 3,5 m^2.
- Maximum weight of the panel: 35 kg/m^2.

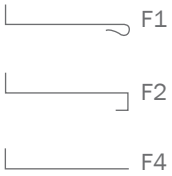
Alternative dimensions, panels and shapes can be supplied on demand.

Weight depends on dimensioning and panel.

CONTROLS

Compressed air cylinder CO_2, control, electric spindle motors or rotary spindle with control block. Opening angle depends on the selected stroke length for the control mechanism, the ventilator weight and dimensions.

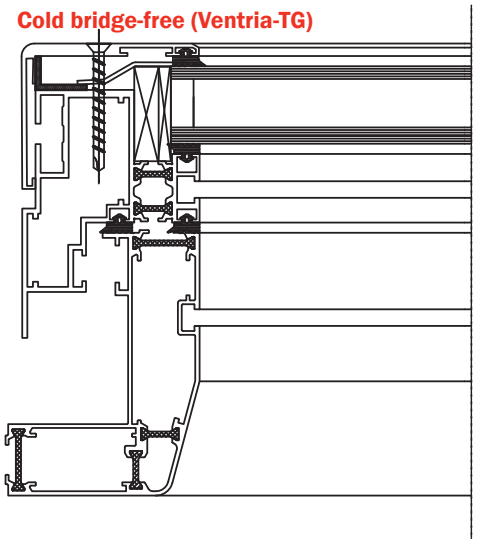
FLANGES (VENTRIA-O)



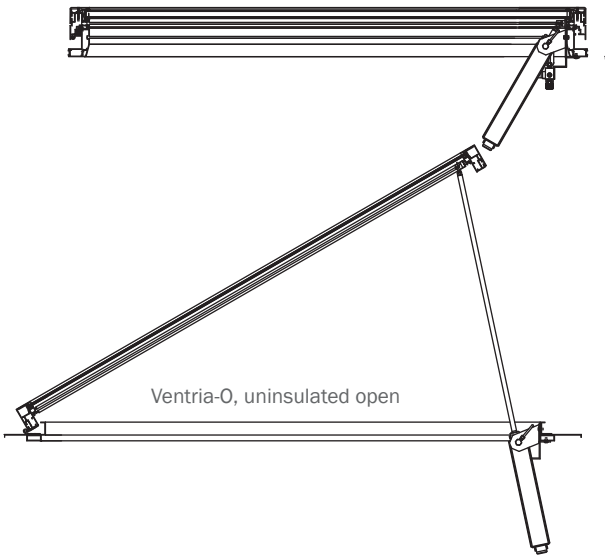
Optional:
Insulated flanges.

SECTIONS

Cold bridge-free (Ventria-TG)



Ventria-TG, cold bridge-free



DVP

TWIN FLAP VENTILATOR FOR SMOKE EVACUATION AND DAILY NATURAL VENTILATION

TWIN FLAP VENTILATOR

The **TECRESA DVP** model is a twin flap ventilator.

It has been designed to evacuate large volumes of smoke in case of fire, maintaining high thermal insulation performance.

MATERIALS

We can differentiate and select two elements in this ventilator: base and flaps, according to our needs. **The base** can be supplied **WITH** or **WITHOUT** insulation.

Insulation available: **20 or 40 mm.**

AL: ALUMINIUM.

ST: GALVANISED STEEL.

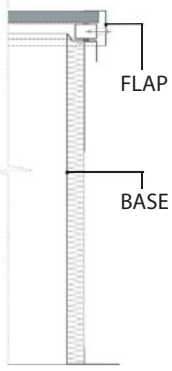
Coupling flanges.

The **flaps are manufactured as standard** in the following options:

AL: Aluminium flap.

AL-XPS: Aluminium flap with isolation from 20 or 40 mm.

PCA: Transparent or translucent polycarbonate from 10 to 25 mm.



DECK roof type *Pannel roof type*

This is the ideal vent when it comes to horizontal or leaning installation, as it perfectly adapts to both DECK roof type and panel roof type.

DVP

TWIN FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

DIMENSIONS

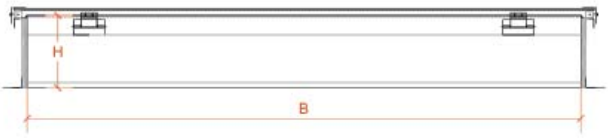
Available dimensions:

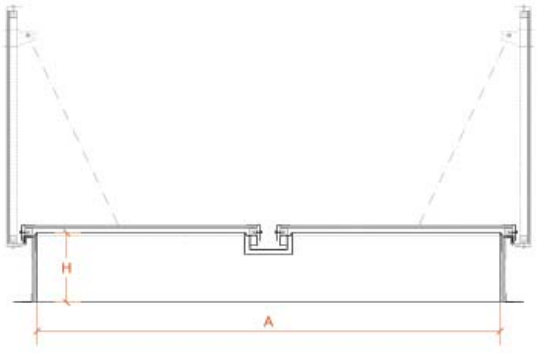
HEIGHT: from 15 to 50 cm.

WIDHT: from 120 to 250 cm.

LENGHT: from 160 to 300 cm.

Installation **ANGLE**: 0º - 30º





SECURITY

The **Tecresa DVP** vent is supplied with a security system that includes a secondary power source and an activation device consisting in a fuse element tared between 57 and 260 ºC according to project requirements.

OPENING SYSTEM

Opening system for smoke exhaust can be selected from the following:

- **PNEUMATIC:** Double acting cylinders.
- **ELECTRIC:** Electric motors 24 V DC.

ADVANTAGES

High capacity of smoke exhaust

High capacity of thermal insulation

High lighting capacity

Possibily to be installed on DECK roof type

VENTILATOR type skylight

mercor tecresa
IBERIA · LATAM · MIDDLE EAST · NORTH AFRICA · TURKEY

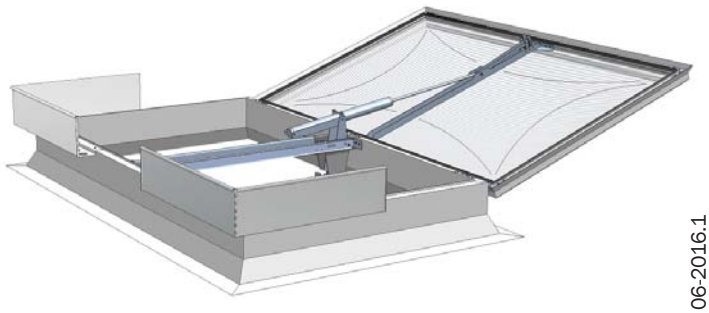
MONO FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

ACCORDING TO STANDARD

EN 12101-2

MONO FLAP VENTILATOR

The **Skylight type ventilator**, is a mono flap ventilator designed to evacuate a great amount of smoke in case of fire, while maintaining high performance of thermal isolation.



MATERIAL

We can differentiate and select two main elements in this ventilator: base and flaps.
The base can be supplied **WITH** or **WITHOUT** isolation.

Insulation available: **20 or 40 mm.**

AL: ALUMINIUM.

ST: GALVANISED STEEL.

Coupling flanges.

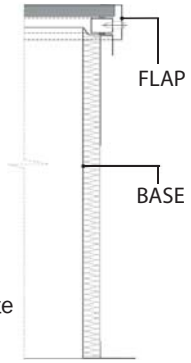
The **flaps are manufactured as standard** in the following options:

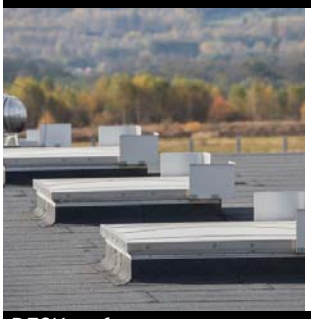
AL: Aluminium flap.

AL-XPS: Aluminium flap with isolation from 20 or 40 mm.

PCA: Transparent or translucent polycarbonate or translucent from 10 to 25 mm.

PMMA: Transparent or translucent polymethylmethacrylate in 2 or 3 layers.





DECK roof type

Panel roof type

It is the ideal vent when it comes to horizontal or slightly inclined roof installation.

VENTILATOR type skylight

MONO FLAP VENTILATOR FOR SMOKE EXHAUST AND DAILY NATURAL VENTILATION

DIMENSIONS

Available dimensions:

HEIGHT: from 30 to 50 cm.

WIDTH: from 100 to 200 cm.

LENGTH: from 100 to 220 cm.

ANGLE of installation: 0° - 30°

SECURITY

The **skylight ventilator mcr-C type** is supplied with a security system that includes a secondary power source and an activation device consisting in a fuse element tared between 57 and 260 °C according to project requirements.

VENTILATION SYSTEMS

The devices can be made with a small electric motor with 230 V AC operation, which allows individual ventilaton opening through a single button.

OPENING SYSTEMS

PNEUMATIC: Double acting cylindres.

ELECTRIC: Electric motors 24 V DC.

ADVANTAGES

High capacity of smoke exhaust

High capacity of thermal isolation

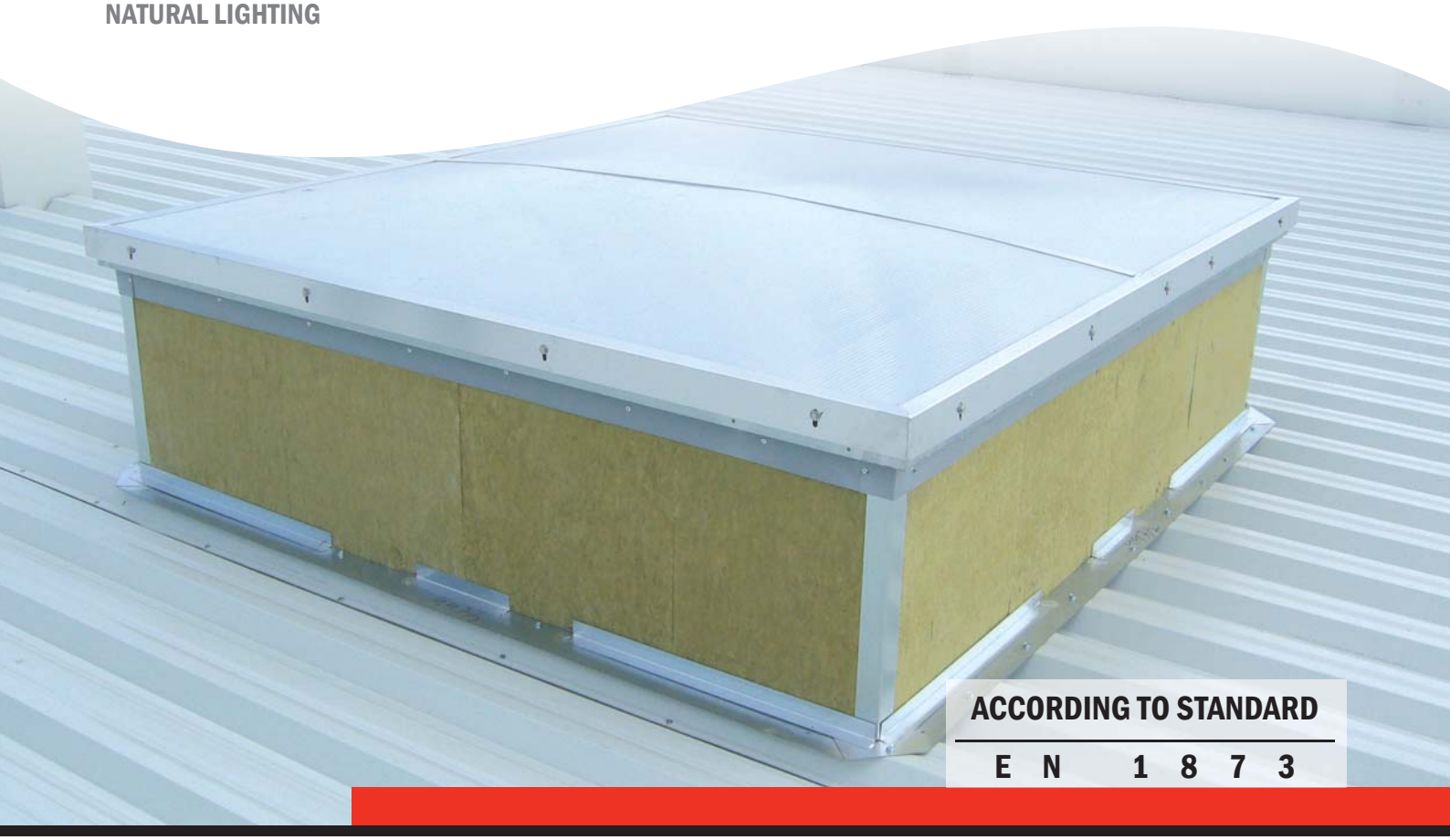
High capacity lighting

Allows the finishing of DECK roof type on its structure

FIXED skylight

mercor tecresa
IBERIA · LATAM · MIDDLE EAST · NORTH AFRICA · TURKEY

NATURAL LIGHTING



ACCORDING TO STANDARD

E N 1 8 7 3

FIXED SKYLIGHT

The **fixed skylights of Tecresa** allow natural overhead lighting in any type of activity and/or building.

Ideal element of lighting when installed either horizontally or slightly inclined.

MATERIALS

The base can be manufactured in the following materials and/or shapes.

AL: ALUMINIUM.

ST: GALVANISED STEEL.

Straight base: E type.

Conical base: NG type.

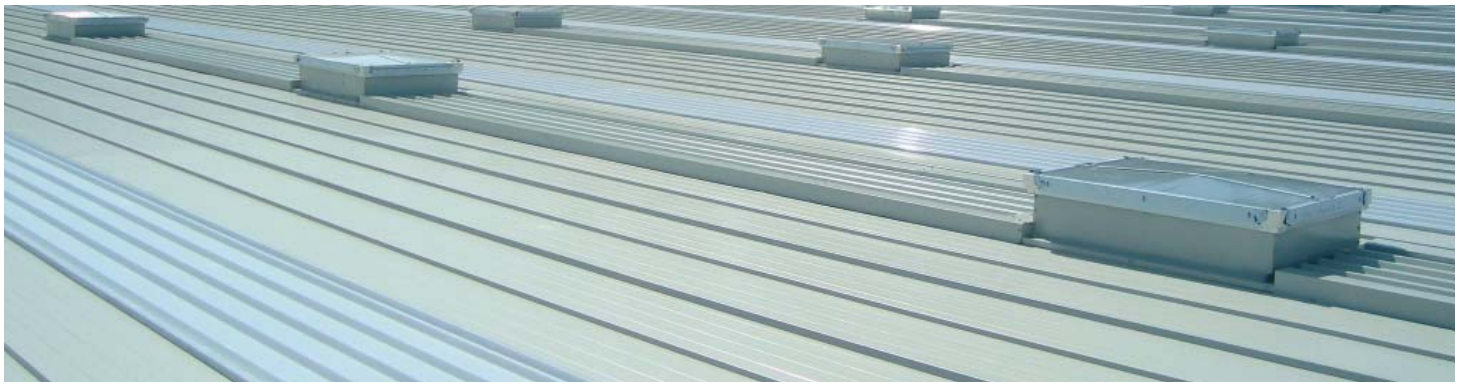
The **finishing** is done on request and is delivered ready to install on asphalt, PVC, panel roofs or on base.

Panel roof type

Perfect lighting element as it perfectly adapts to both DECK and panel roof type.

FIXED skylight

NATURAL LIGHTING



DIMENSIONS

Available dimensions:

HEIGHT: from 30 to 50 cm.

WIDTH: from 100 to 200 cm.

LENGTH: from 100 to 220 cm.

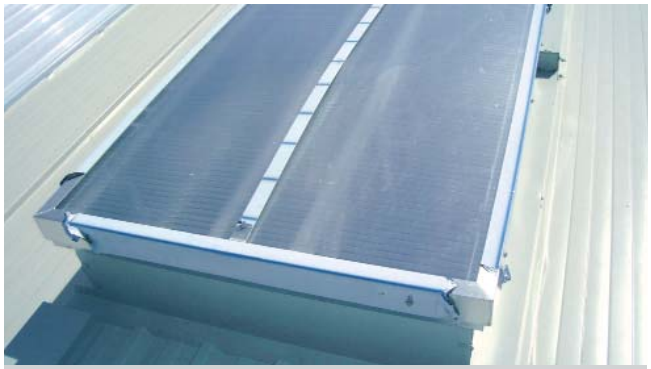
Installation **ANGLE**: 0° - 30°

SECURITY

The **fixed skylights of Tecresa** can be supplied with **anti-intrusion**, as an additional element.

DOME

- **PCA:** Transparent or translucid polycarbonate from 10 to 25 mm.
- **PMMA:** Transparent or translucent polymethilmethacrylate in 2 or 3 layers.



ADVANTAGES

Great capacity of thermal isolation

High capacity of lighting

Allows the finishing of DECK roof type on its structure

SKYLIGHT roof access hatches

NATURAL LIGHTING

SKYLIGHT ROOF ACCESS HATCH

The skylight **PROROOF LD** and **ST** model have been designed to allow a simple and safe access to the roof.

TYPES OF SKYLIGHTS

PROROOF LD Model

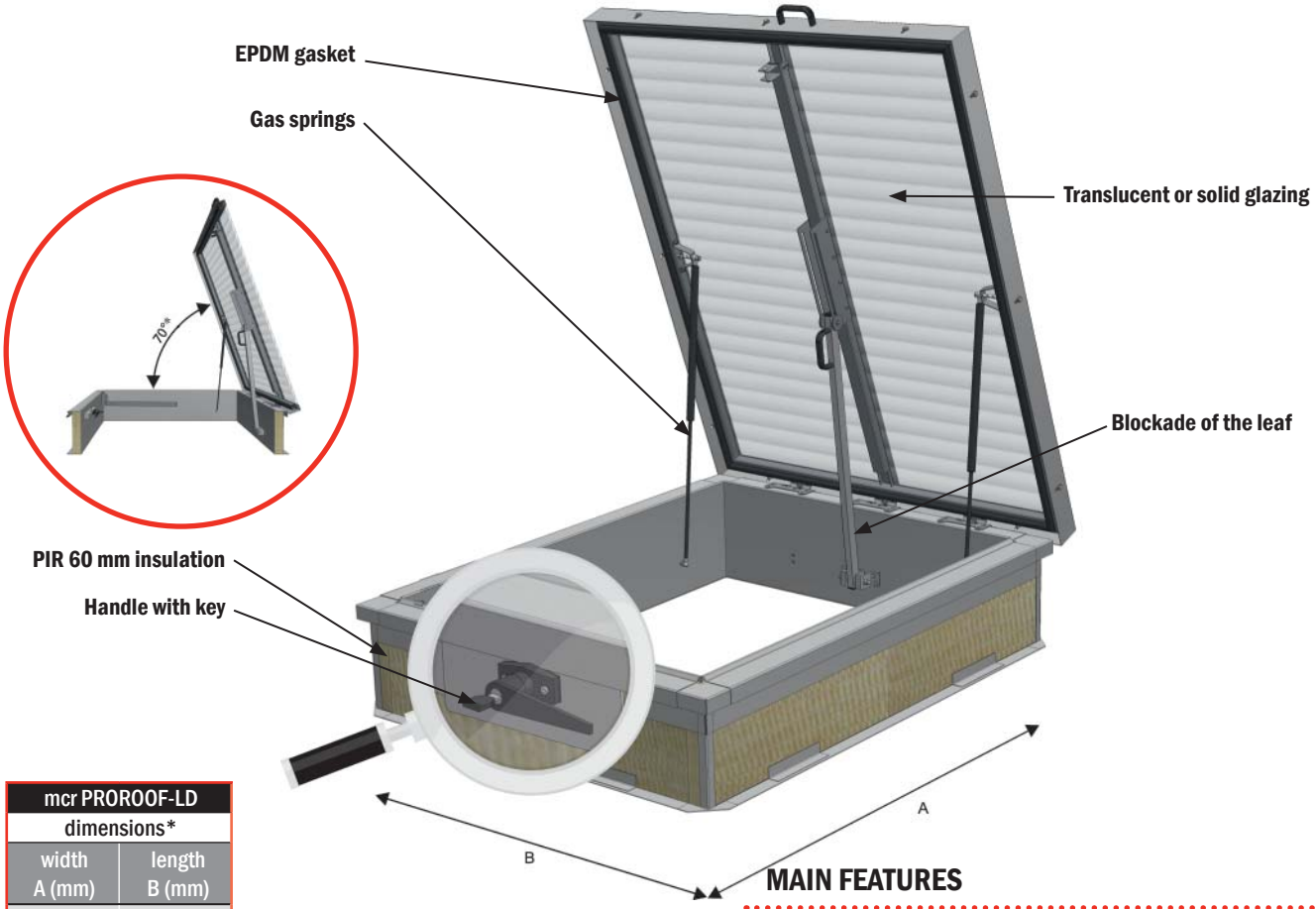
It is designed to allow people easy and safe roof access.

PROROOF ST Model

It provides convenient movement of large-scale packages up and down from the roof.

SKYLIGHT roof access hatches

NATURAL LIGHTING



mcr PROROOF-LD dimensions*	
width A (mm)	length B (mm)
600	600
750	750
800	800
900	600
900	750
900	900
1000	1000
1100	800
1100	1100
1200	600
1200	900
1200	1200
1300	1000
1300	1300
1400	1400

mcr PROROOF-ST dimensions*	
width A (mm)	length B (mm)
750	1500
750	2500
750	3300

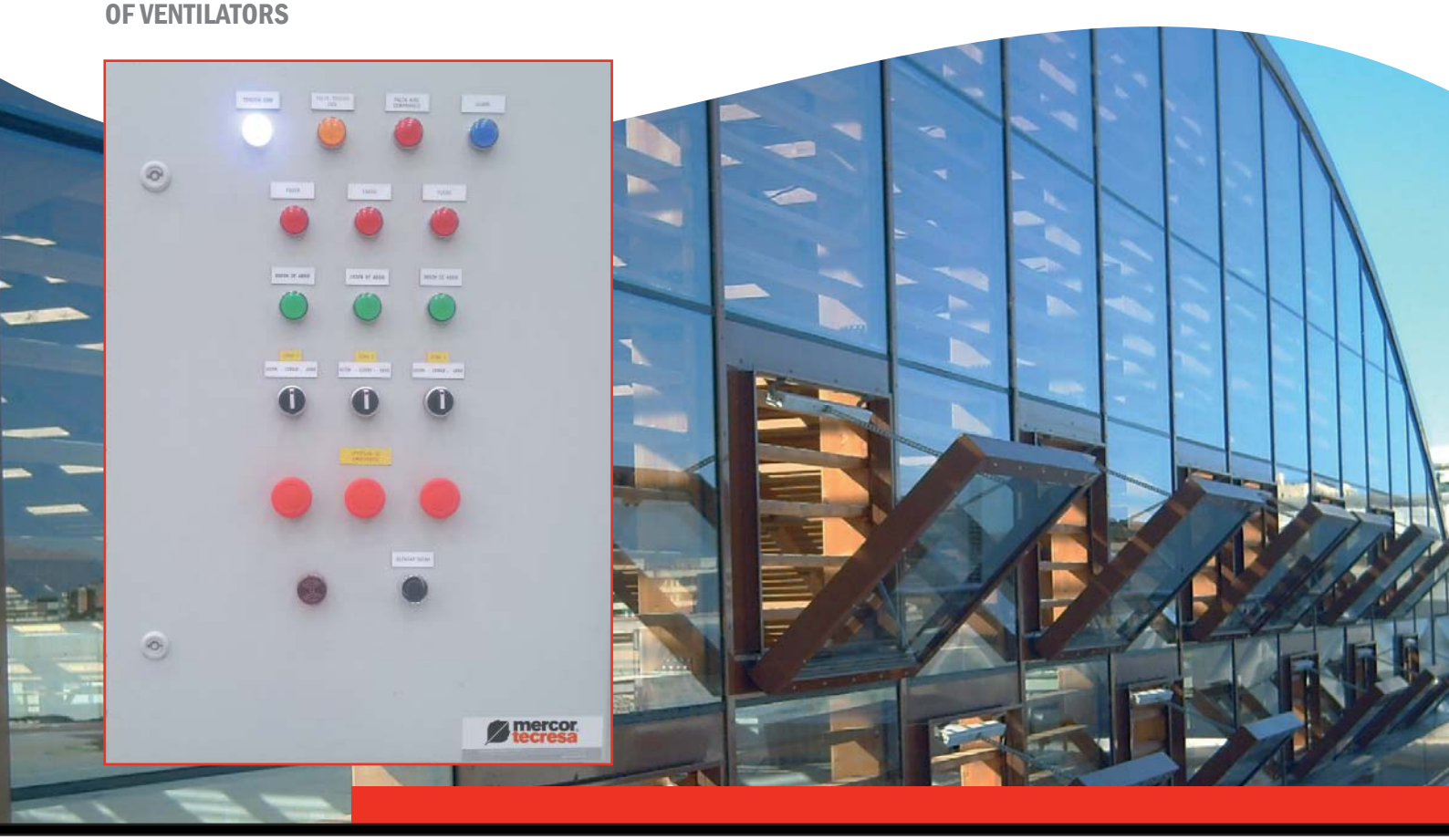
*Consult another measures

MAIN FEATURES

- Maximal size of a hatch: 750 x 3.300 mm
- Increased thermal insulation of a base by using PIR 60 mm insulation (V = 30 W/m^{2}k)
- Base made of aluminium of thickness 2 mm
- Translucent glazing - structures polycarbonate plates, solid acrylic, polycarbonate domes or solid glazing
- Locking from inside and outside
- Blockade of the leaf in fully opened position
- Outstanding water tightness guaranteed by special EPDM gasket
- Hatch resistant to soft body impact test
- Device designed for:
  - upward load UL = 1.500 Pa
  - downward load = 1.000 Pa

CONTROL and MANAGEMENT

OF VENTILATORS



CONTROL AND MANAGEMENT SYSTEM

The **Control and management system** is the heart of any installation. In **mercor tecresa®** we provide applicable solutions to any project, from the basic ones to the more sophisticated.

We offer for our **Control Systems** a design, manufacturing and installation full service. They can be used in any type of smoke extraction installation, mechanical extraction, or smoke compartment and pressurization, with a wide range of available options depending on the requested features.

Available in a wide range of options. Only for emergency or dual model of ventilation.

OPERATING

The most sophisticated **Control Systems** have the latest electronic advances for a centralised management of the exhaust system and the smoke compartment. The main panel can have a central processing unit connected to zonal management machines by a communication bus to allow a continuous monitoring of all the system elements.

Every zonal machine forms a transmission/reception unit of digital or analogue signals, to process the manoeuvre orders sent from the main panel and the receipt of the status signals in every equipment.

A 15 inches touch screen with colour display together with a data display allows the representation in the main panel of the complete status of the system. It shows the smoke compartment condition, the equipments state, the control signal state, possible failures, power failures, etc.

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CONTROL and MANAGEMENT

OF VENTILATORS

PANELS FOR EMERGENCY USE ONLY (TCO_2)

We offer panels with manual operation for simple installations where automatic opening of the equipments through the fire signal is not required.

An emergency button, for exclusive use of the fire brigade, release a CO_2 bottle which activates the opening of the equipments instantly.

Features:

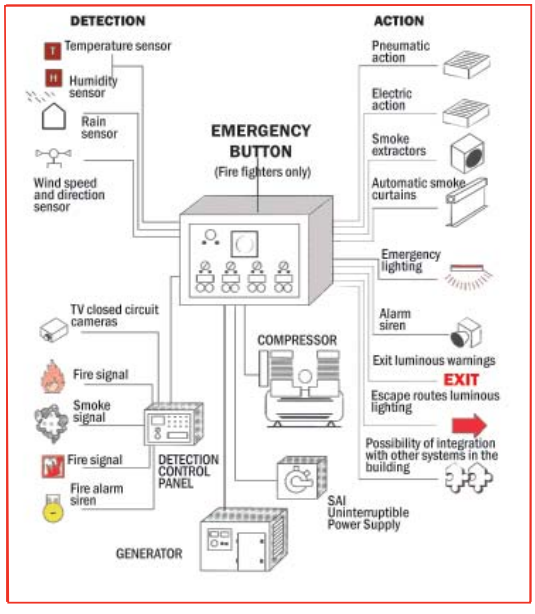
- Metallic closets provided with security locks and glass to be broken in case of emergency.
- RAL 3000 (fire red) powder-coated.
- Ø 6/8 mm valves for adaptation to exit pneumatic lines.
- OPEN / CLOSED visual indicators.
- Disposable CO_2 bottles in various sizes.
- Possibility of interconnection with the detection system by an auxiliary module if necessary.

PANELS FOR EMERGENCY USE AND NATURAL VENTILATION

In the case of installations using the ventilators for natural ventilation as well as smoke extraction, we offer control panels provided with a programmable machine (PLC) and the possibility of connecting rain, wind, temperature, humidity sensors, etc; to control the opening and closing of the equipments depending on the desired parameters.

The interconnection with the detection system signal guarantees the automatic opening of the equipments in case of a fire. The system has emergency manual key buttons to be operated by the fire brigades in case the detection system did not work.

Regarding pneumatic ventilators, an independent compressor with a spare tank guarantees the ventilators functioning under any circumstances.



FEATURES:

- Control of the equipments through independent zones.
- Interconnection with fire detection system.
- Supply system.
- OPEN / CLOSED visual indicators.
- Optical and acoustic signalling.
- Situation General synoptic, status indicator leds and acoustic alarm.

FIXED smoke compartment curtain

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600 ºC for 120 minutes / 1.000 ºC for 60 minutes (D120 - DH60)

ACCORDING TO STANDARD

E N 1 2 1 0 1 - 1

FIXED SMOKE COMPARTMENT CURTAIN

Fixed smoke compartment curtains are specially suitable to be installed in industrial buildings and buildings where its lifting and lowering is not required, or for industrial uses where aesthetics is not essential.

Fixed smoke compartment curtains adapt to any space, although it has impediments such as beams, ducts and/or any other element standing out the installation.

ADVANTAGES

Limitation of the zone affected by the fire.

Ease the fire fighting operationes.

Delays the combustion time.

Smoke-free access and evacuation routes.

More time to evacuate people and materials in the building.

CHARACTERISTICS

Fixed smoke compartment curtains are manufactured in textile fibre impermeable to smoke and gas and high-temperature resistant (600 ºC for 120 minutes / 1.000 ºC for 60 minutes, D120 - DH60).

Fixed curtains due to its low weight do not require any support structure for their installation.

At the bottom part, they have a counterweight in order to provide more rigidity and stability to the system for a perfect installation and finish in any building.

Barrier's length is unlimited.

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FIXED smoke compartment curtain

600 ºC for 120 minutes / 1.000 ºC for 60 minutes (D120 - DH60)

EFFECTIVE SYSTEM OF SMOKE CONTAINMENT

It is essential for the design of an **“effective” smoke exhaust system**, to create delimitation from the smoke and gas produced during a fire, so that they don’t propagate and invade other non-affected compartments. In order to do that, it is mandatory to install a certified and approved compartment and/or channeling system to guarantee a safe compartment.

Fabrics selected for the curtains manufacturing depend on the technical specifications of each project.

DIMENSIONS

Each project requires a customised solution. The manufacturing is tailored according to the needs. Dimensions of the curtains depend on each installation.

MATERIAL

AVERAGE WEIGHT:

450 gr/m^2.

THICKNESS:

0,43 mm.

COLOUR:

- GREY (Standard)
- WHITE (Optional)

Bottom part of the curtains comes with a hem in order to allow inserting a steel bar to support the stability.

APPLICATIONS

Industrial buildings
Warehouses
Distribution centers
Hangars
Shopping malls

CERTIFICATIONS

Standard	**UNE-EN 12101-1:2005 + A1:2006** **(EC-CERTIFICATE OF CONFORMITY 0672 - CPD - 0249)**
Description	Heat and smoke control systems. Part 1: Specifications for smoke control curtains. (Ratified by AENOR in August 2006.)
Laboratory	MPA STUTTGART Otto Graf Institut

ACTIVE smoke compartment curtain

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600 ºC for 120 minutes

SC1 - D120

ACTIVE SMOKE COMPARTMENT CURTAIN

The **Active smoke compartment curtain** forms a mechanic system integrated in the construction which requires little space and allows to control fire smoke and gas movement in a “hidden” way.

MATERIAL

The system is made up of: a fireproof textile curtain which only unfolds in case of emergency, a galvanized steel box which holds the curtain, a counterweight at the bottom to provide stability, an engine, an engine control module and a panel receiving the fire signals.

CLASSIFICATION

SC1 Curtain has been tested and certified in an official laboratory with a **D120** temperature/time classification (600 ºC for 120 minutes) **ASB1** and **3** according **EN 12101-1** and **EN 13501-4 standard**.

Tested acoording to **UNE EN 1634** *“Fire Resistance and Smoke control”*.

Tested also according to **UL standards**.

OPERATION

SC1 Curtain compartment is a system with positive security, that is to say, it automatically goes down in a controlled speed after receiving a signal from the fire detection system. Lowering can be done in two phases, with or without electrical current

APPLICATIONS

Buildings where it is not possible to install a fixed barrier due to aesthetic reasons:

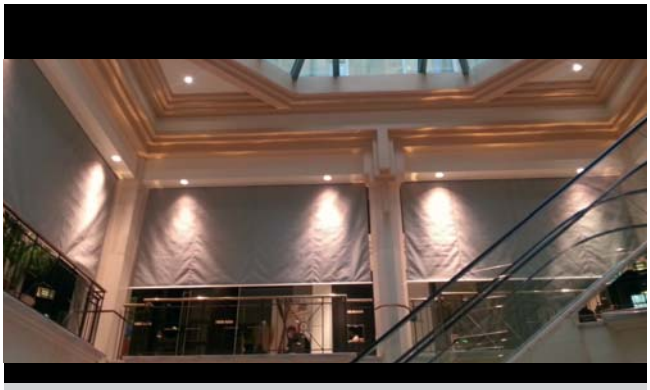
Shopping Malls

Public buildings

Garages

Airports

Museums



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ACTIVE smoke compartment curtain

600 ºC for 120 minutes

ACTIVE SMOKE COMPARTMENT CURTAIN SYSTEM

- It contains the smoke in spaces delimited by its textiles, blocking the smoke to move elsewhere.
- Channeling the smoke into a determined direction towards the exhaust system.
- Avoids ans delays smoke from passing to other areas.
- Set up smoke-free spaces.

COMPONENTS

GCP. Panel responsible for receiving the fire signal coming from the detection system and therefore, activating the curtain. It allows seeing the system state as well as carrying out the maintenance works. It has a system of batteries capable of holding the curtains and electrovalves in rest position in case of failure from the power supply.

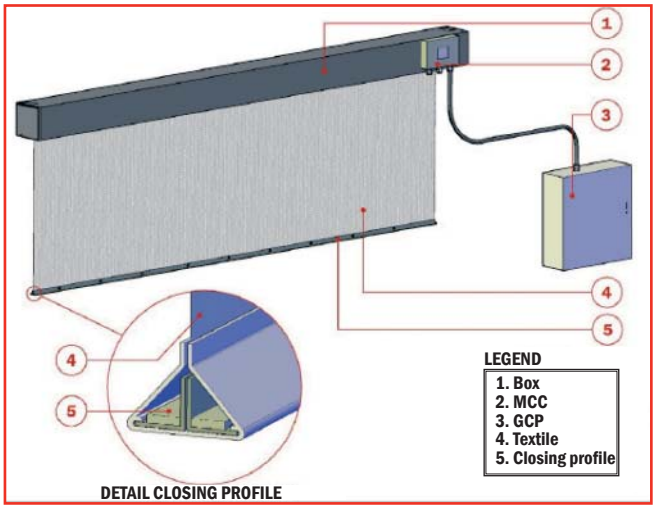
MCC. Motor control module. Placed next to the motor, it keeps the curtain stable in its rest position (folded). Also, synchronizes the lifting speed and limits the lowering speed under the action of gravity even with power failure.

Box. Intended to house the fire curtain in its interior, it is made up of galvanized steel 1,5 mm thick. It has several configurations and support systems in order to adapt to the architectural conditions.

Closing profile. Installed on the lower end of the textile, it provides stability to the whole unit and forms the closing of the box in its rest position.

Textile. Fabric made of fiber glass. United and treated to withstand temperatures up to 1000 ºC.

Motor. Tubular motor with 24 V DC functioning and operational up till a temperature of 300 ºC. Equipped with a gear system which allows applying the needed touch for the proper functioning of the system.



Installation drawing

ADDITIONAL COMPONENTS

- Centralisation in touch-screen system with visual representation of state and alarms.
- RAL powder-coated of the metallic elements of the system.
- Acoustic alarm of obstructions in the closing display.
- Manual reset of the system.
- Voice warning of the lowering curtains (optional).
- Warning light of lowering curtains .
- Temporized lowering and/or in stages (optional).
- Temporized escape button (optional).
- Integration contacts with central management system.
- End of stroke.

ACTIVE fire compartment curtain

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1000 ºC for 240 minutes

FC2 - E240
EW30/DHA

ACCORDING TO STANDARD
EN 12101-1

ACTIVE FIRE COMPARTMENT CURTAIN

The **FC2 active fire compartment curtain** forms a mechanic system integrated in the construction which requires little space and allows to control fire smoke and gas movement in a “hidden” way.

MATERIAL

The system is made of: a fireproof textile curtain which only unfolds in case of emergency through side guides, a galvanized steel box which holds the curtain, a counterweight at the bottom to provide stability, a motor, a motor control module and a panel receiving the fire signals.

OPERATION

FC2 active fire compartment curtain is a system with positive security, that is to say, it automatically goes down in a controlled speed after receiving a signal from the fire detection system. Lowering can be done in two phases, with or without electrical current.

APPLICATIONS

Buildings where it is not possible to install a fixed curtain due to aesthetic reasons:

Shopping Malls
Public buildings
Garages
Airports
Museums

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ACTIVE fire compartment curtain

1000 ºC for 240 minutes

CLASSIFICATION

FC21 Curtain is a system with **E240 EW30** classification **Class 0** according to **EN 13501-4** standard.

FC21 Curtain is a system with **DHA** classification (1000 ºC 240 minutes) **ASB1** and **3 according to UNE 12101-1**.

Tested according to **UNE EN 1634** *"Fire resistance and smoke control"*.

Tested according to **UNE EN 949** *"Impact resistance to a soft and heavy body"*.

Tested also according to **UL standards**..

COMPONENTS

GCP. Panel responsible for receiving the fire signal coming from the detection system and therefore, activating the curtain. It allows seeing the system state as well as carrying out the maintenance works. It has a system of batteries capable of holding the curtains and electrovalves in rest position in case of failure from the power supply.

MCC. Motor control module. Placed next to the motor, it keeps the curtain stable in its rest position (folded). Also, synchronizes the lifting speed and limits the lowering speed under the action of gravity even with power failure.

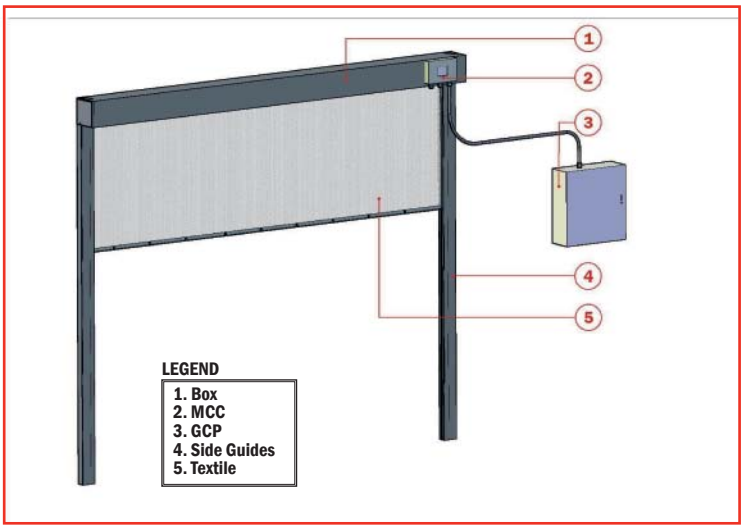
Box. Intended to house the fire curtain in its interior, it is made up of galvanized steel 1,5 mm thick. It has several configurations and support systems in order to adapt to the architectural conditions.

Side guides. Made of a 2 mm galvanized steel piece, they laterally fix the curtain keeping its compartment function despite the overpressure generated by the fire.

Closing profile. Installed on the lower end of the textile, it provides stability to the whole unit and forms the closing of the box in its rest position.

Textile. Fabric made of fiber glass. United and treated to withstand temperatures up to 1000 ºC.

Motor. Tubular motor with 24 V DC functioning and operational up till a temperature of 300 ºC. Equipped with a gear system which allows applying the needed touch for the proper functioning of the system.

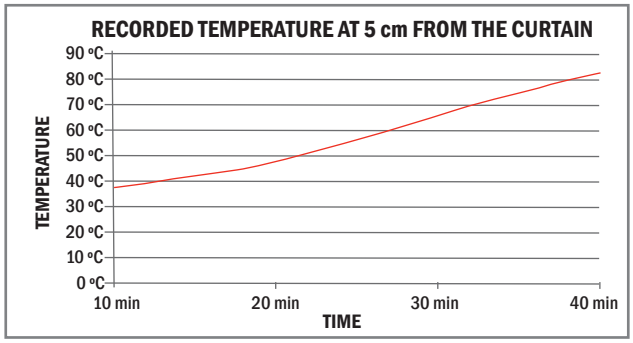


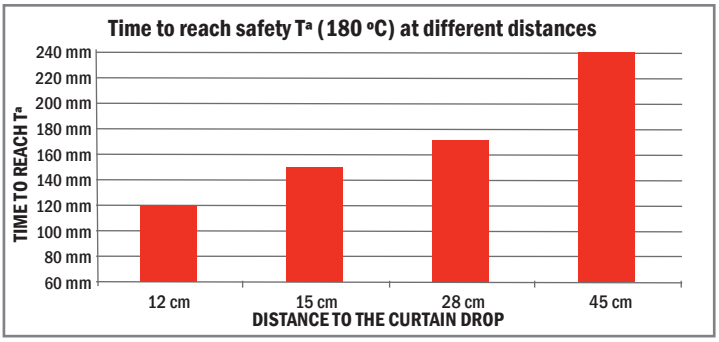
Installation drawing

ADDITIONAL COMPONENTS

- Centralisation in touch-screen system with visual representation of state and alarms.
- RAL powder-coated of the metallic elements of the system.
- Acoustic alarm of obstructions in the closing display.
- Manual reset of the system.
- Voice warning of the lowering curtains (optional).
- Warning light of lowering curtains .
- Temporized lowering and/or in stages (optional).
- Temporized escape button (optional).
- Integration contacts with central management system.
- End of stroke.

SECURITY ZONE





ACTIVE fire compartment curtain

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FC2 - EI90
IRRIGATED

ACTIVE FIRE COMPARTMENT CURTAIN

FC2 IRRIGATED active fire curtain forms a mechanic system integrated in the construction which requires little space and allows to control fire smoke and gas movement in a “hidden” way.

OPERATION

FC2 IRRIGATED curtain is a system with positive security, that is to say, it automatically goes down in a controlled speed after receiving a fire signal, forming a tight closing against smoke and flames as well as maintaining the temperature on the opposite side of the fire within certain safety limits. All of this thanks to its cooling caused by the irrigation system coming from the fire detection system. Lowering can be done in two phases, with or without electrical current.

MATERIAL

The system is made of: a fireproof textile curtain which only unfolds in case of emergency through side guides, a galvanized steel box which holds the curtain, a counterweight at the bottom to provide stability and a water-cooling system.

CONTROL SYSTEM

System is powered up:

- Automatically after receiving the fire signal.
- Manually

APPLICATIONS

Hospitals
Airports
Unique buildings
Shopping malls
Hotels

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ACTIVE fire compartment curtain

COMPONENTS

GCP. Panel responsible for receiving the fire signal coming from the detection system and therefore, activating the curtain. It allows seeing the system state as well as carrying out the maintenance works. It has a system of batteries capable of holding the curtains and electrovalves in rest position in case of failure from the power supply.

MCI. Irrigation control module. This panel manages the electrovalves and additional power up devices. It has notice, failure and power up alarms, both optical and acoustic.

MCC. Motor control module. Placed next to the motor, it keeps the curtain stable in its rest position (folded). Also, synchronizes the lifting speed and limits the lowering speed under the action of gravity even with power failure.

Box. Intended to house the fire curtain in its interior, it is made up of galvanized steel 1,5 mm thick. It has several configurations and support systems in order to adapt to the architectural conditions.

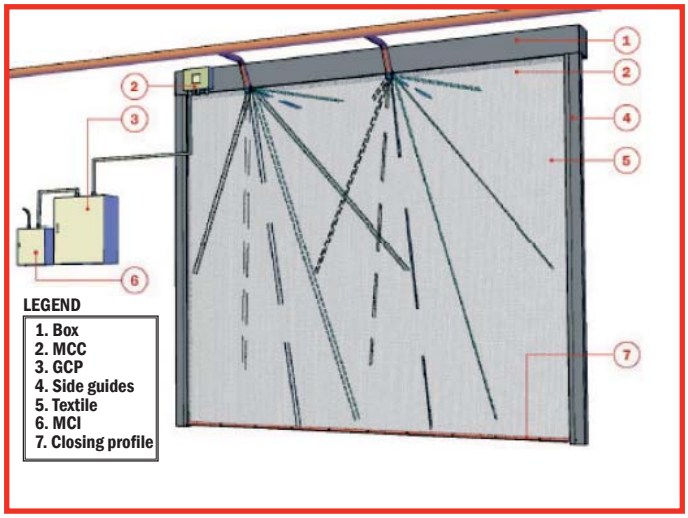
Side guides. Made of a 2 mm galvanized steel piece, they laterally fix the curtain keeping its compartment function despite the overpressure generated by the fire.

Closing profile. Installed on the lower end of the textile, it provides stability to the whole unit and forms the closing of the box in its rest position.

Textile. Fabric made of fiber glass. United and treated to withstand temperatures up to 1000 ºC.

Motor. Tubular motor with 24 V DC functioning and operational up till a temperature of 300 ºC. Equipped with a gear system which allows applying the needed touch for the proper functioning of the system.

Irrigation system. Unit responsible for water cooling the unexposed side. The system will include a pressure regulator, piloted electrovalve, water distribution network and spraying nozzles according to the system dimensions.



Installation drawing

ADDITIONAL COMPONENTS

- Centralisation in touch-screen system with visual representation of state and alarms.
- RAL powder-coated of the metallic elements of the system.
- Acoustic alarm of obstructions in the closing display.
- Manual reset of the system.
- Voice warning of the lowering curtains (optional).
- Warning light of lowering curtains .
- Temporized lowering and/or in stages (optional).
- Temporized escape button (optional).
- Integration contacts with central management system.
- End of stroke.

CLASSIFICATION

IRRIGATED FC2 Curtain has been tested and certified in official laboratory with **EI90** classification according to **EN 13501-4** standard.

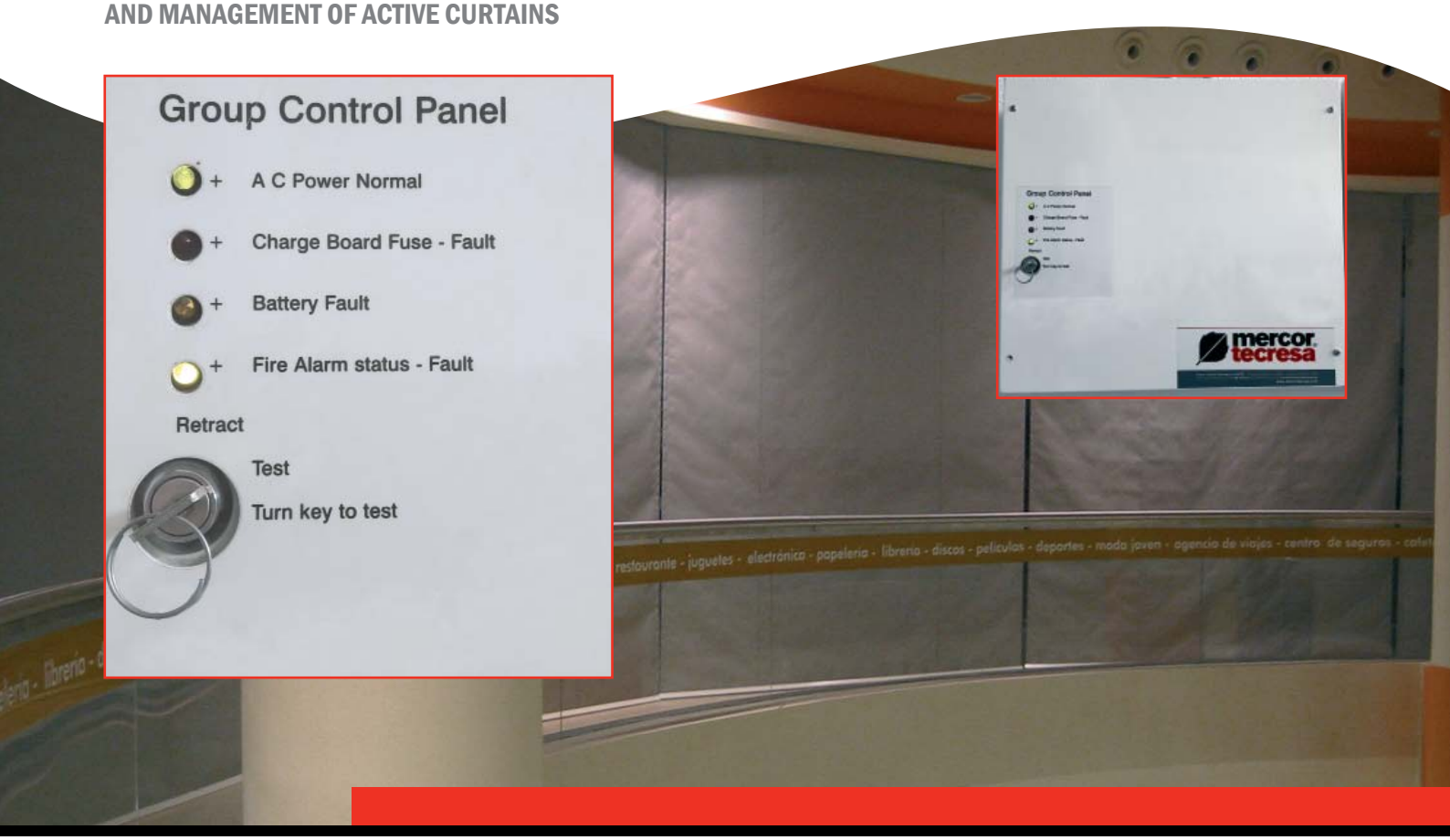
Tested according to **UNE EN 1634** *"Fire resistance and smoke control"*.

Tested according to **UNE EN 949** *"Impact resistance to a soft and heavy body"*.

Tested also according to **UL** and **NFPA standards**.

CONTROL panels

AND MANAGEMENT OF ACTIVE CURTAINS



CONTROL PANEL

The functioning of the **Active smoke curtain SC1 and FC240** is carried out by a **Control Panel**. Each panel can control up to 6 motors of 24 V.

OPERATION

Under normal operating conditions, the panel provides a 24 V supply of alternating current to the curtains motor to keep the curtains gathered up.
If smoke was detected, the fire alarm contact in the panel will be opened due to the alarm control system. The panel will eliminate the 24 V supply of the curtain motors and the curtains will go down under gravity, in a controlled way.

FEATURES

As soon as possible, the fire alarm system will restart, the panel will restore the 24 V supply to the motor curtains and the curtains will go up. Circuits limiting the current will detect that the curtain is fully gathered up and the supply tension will lower to a holding voltage. Each panel has a 24 V 7aph, which enables the control of the system in case the power supply breaks down.

Supply	230 V 50 Hz CA or 120 – 130 V 60 Hz CA.
Battery	3 hours, 2 x 7 aph lead-acid hermetic element, rechargeable.
Fire signal	Opened with fire, configured not to fail.
Test performance	Conmutator.
Signs	LED green = conmutators in good conditions. LED yellow = battery failure. LED red = burnt fusible. LED green = fire alarm normal state.
Panel size	396 mm height x 334 mm width x 105 mm depth.

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CONTROL panels

AND MANAGEMENT OF ACTIVE CURTAINS

MOTOR FOR ACTIVE SMOKE CURTAINS

Our motor and the circuit control of the 24 V were redesigned in 2001. We have now a new circuit control which allows each motor to lift a weight of 20 kg and at the same time, it is capable to pass the 2000 cycles test as required in BS 7346: part 3. The new supply capacity has made possible for the curtains to be manufactured with a fall of 12 m over a 2,8 m roller width.

The control circuit of the motor is housed in a remote space in order to help the maintenance engineers. The control circuit can be reached to carry out the routine maintenance supervisions with no need of removing the **Smoke Curtains.**

Up to six control circuits of the motor can be connected to the control panel. Motors with a 127 mm tube, consume more and can be connected to a maximum of three units to the control panel of the group.

Dimensions of the motor control circuit: 145 mm height x 250 m length x 50 mm depth.

Motors are made of CC with permanent magnet. Due to its modest size, these motors are quite suitable for semi industrial applications, such as the curtains rolling up or the automatic doors.

TECHNICAL STANDARDS

Nominal Voltage: 24 V.

Nominal Speed: 3.100 r.p.m.

DESIGN

Our motors are designed to offer a lifetime without maintenance. The careful selection of the most appropiate components guarantees a larger lifetime with the desired operating speeds.

GEAR DESCRIPTION

Planetary gears are particularly suitable for industrial applications. They are equipped with a lubrication system very viscous and the gears transmit higher torque. The double support of the output shaft can resist big radial and axial forces, with a self-centric planetary wheel which provides a symmetric force distribution.

Safe opeartion against failures.

Incorporated device to limit the current. No need of switches to limit the motors.

Synchronised control circuit of the motor. No need of variable speed control.

Up to six motor units can be controled from each control panel of the group (depending on the tube dimensions).

Performance of the low voltage limit of the battery. The curtains lower in a controlled manner.

Available with a 24 V integrated brake unit to provide a second phase fall.

The break unit supplies itself thanks to the time circuits housed in the control panel of the group to stop the curtains while they lower. This way, we can stop the curtain to fully lower and offer a partial curtain.

TECHNICAL STANDARDS OF THE GEAR BOX

Torque continuous: 1400 Ncm.

Efficiency: 0,70.

Ratio: 100,00.

Load capacity of the axial shaft: 150 N.

Loas capacity of the radial shaft: 250 N of the synchronized motor control, the variable speed control is no needed.

MECHANYCAL systems

DIFFERENTIAL PRESSURE: OVERPRESSURE AND FORCED EXTRACTION

ACCORDING TO STANDARD

E N 1 2 1 0 1 - 6

NORMATIVE

A comprehensive system which complies with the UNE-EN 12101-6 (Overpressure System) and UNE 23585 (Forced Extraction System) regulation.

A credible alternative to protect the evacuation corridors.

Pressurization panel

OPERATION

A differential pressure system allows to maintain bearable conditions in protected areas, limiting the smoke propagation from one place to another, inside a building, through cracks between the physical barriers, like for example, cracks in opened or closed doors.

The differential pressure systems allows to improve the level of security against fire in a building.

There are two types of **Differential Pressure Systems**:

- **Overpressure**, is specially designed to protect evacuation routes by air supply, thus preventing smoke entering this route.
- **Forced extraction**, is specially designed to eliminate the gases which are genereated in fire by depression through an extraction system.

The objectives of a differential pressure system are:

- **Protecting the human life,** maintaining bearable security conditions in the protected areas.
- **Protecting the corridor intended for fire operations**, since the firemen effectiveness depends on the corridors being smoke-free, allowing them to access to the affected floor without using breathing apparatus.
- **Protecting the properties**. The smoke should be prevented from spreading to other areas with valuable equipments, data processing or any other article particularly sensitive to it.

DIFFERENTIAL PRESSURE: OVERPRESSURE AND FORCED EXTRACTION

FEATURES

Smoke control through differential pressure is the most suitable method to protect certain evacuation routes such as corridors, halls, stairwells, lift shafts, circulation areas, etc.

The Technical Building Code, DB SI Safety in case of a fire, establish in its Supplement A Terminology, the definition of protected stairway. A “protected starway” is the one with continuous trace, from its beginning to its landing on the exit floor of the building.

In case of a fire, it forms an enclosure safe enough to allow the occupants to stay in it for a certain amount of time.

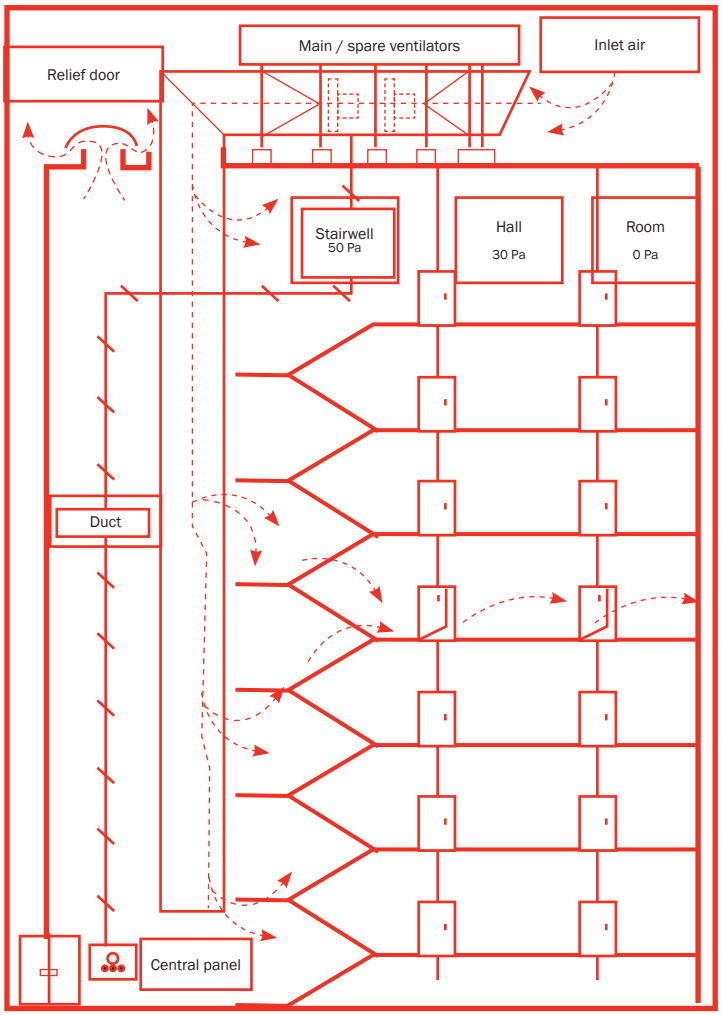
The determination of the volume calculation will be determined depending on the type of building and its use, according to the following standard table:

SYSTEM	APPLICATION EXAMPLES
Class A	Means of scape. In situ defense.
Class B	Means of scape and fire-fighting.
Class C	Means of scape by simultaneous evacuation.
Class D	Means of scape. Risk of asleep people.
Class E	Means of scape, phased evacuation.
Class F	Fire systems and means of scape.

PRESSURIZATION SYSTEMS FOR STAIRWELLS

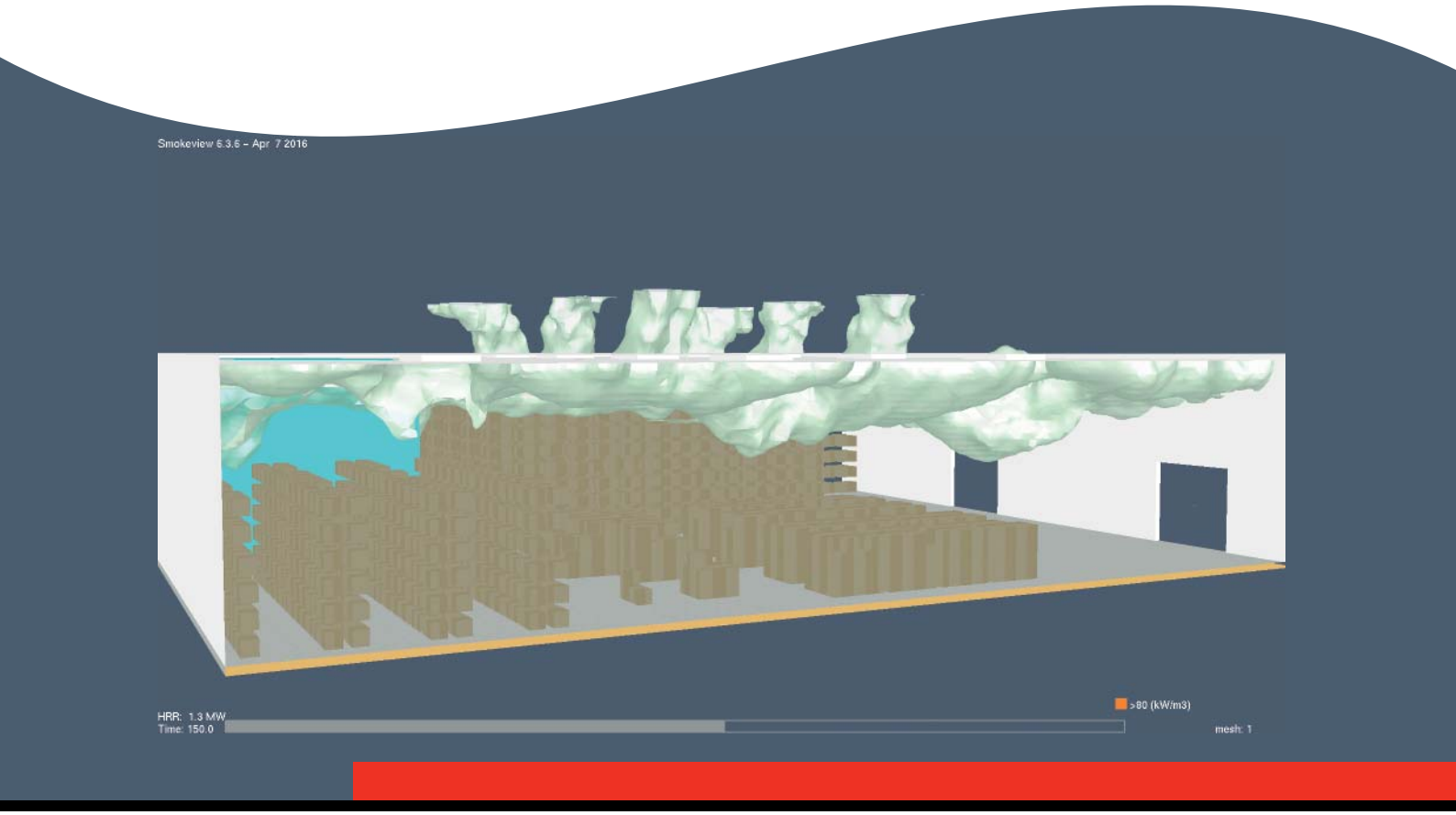
The overpressure system, includes:

- A ventilator.
- Pressure probes distributed over the stairway floors to keep the right pressure in all the enclosure at all times.
- Management control panel of the system.
- All the elements of the system, including the control unit, are designed to adapt to the particular requirements of each project.
- When the detection system detecs the presence of smoke, the ventilators are activated to pressurise the evacuation route and avoiding the smoke coming in at all times.
- Building with stairways and halls can require just the pressurization of the stairway. Buildings with multiple stairways can require as well, the installation of other smoke evacuation systems which will be opened in case of emergency to protect the intermediate areas.
- The building ventilation systems and air conditioning must be automatically disconnected in case of a fire.



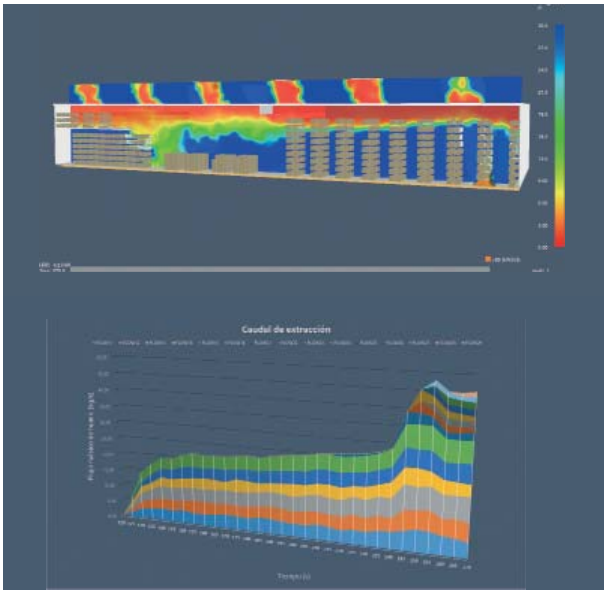
SIMULATIONS based on

COMPUTER DESIGN



COMPUTATIONAL FLUID DYNAMICS

mercor Tecresa® offers to his clients the possibility of carrying out fire simulations, based on performance methods with the application of fire computer simulation.



With this simulations through **CFD (Computational Fluid Dynamics)** we guarantee not only the proper functioning of the smoke control system, but also verify the proper interaction of this system with the rest active fire protections the building to be protected may have.

The **FDS** is a program that solves the equations which rule the fluid dynamics events. In order to generate the images obtained from the results generated by the model, **Smokeview** type programs are used.

Such program was developed with the aim of helping resolve fire engineering projects and understanding the foundations of fire and combustion dynamics.

Besides being a valid tool for smoke control in case of a fire, we will be able to model the transfer of heat by radiation and convention, the fire growth and flame spread, the sprinkles activation and the fire extinguishing by the latter.

For this purpose, we rely on the collaboration of professionals with extensive experience elaborating fire engineering projects who will find the best technical solution for each project.

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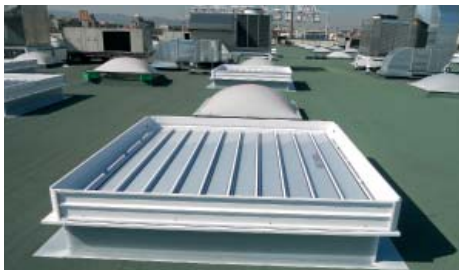
NATIONAL

WAREHOUSES

Experience in more than 500.000 m² of constructed industrial surface.



Alcampo Warehouse in Valdemoro, Madrid

Día Warehouse

Eroski Logistic Center, Elorrio

Representative Works

· **COCA COLA WAREHOUSE** IN FUENLABRADA AND LEGANÉS, MADRID · **SONY WAREHOUSE** IN ALCORCÓN, MADRID · **CITROËN WAREHOUSE** IN VILLAVERDE, MADRID · **OPEL WAREHOUSE**, PORTUGAL · **MANGO WAREHOUSE** IN Z.A.L., BARCELONA · **DÍA LOGISTIC CENTER**, JAÉN · **FLEX WAREHOUSE** IN GETAFE, MADRID · **DECATHLON WAREHOUSE** IN GETAFE AND HUESCA · **SEUR WAREHOUSE** IN Z.A.L., BARCELONA · **EL CORTE INGLÉS LOGISTIC CENTER** IN PUERTO DE SANTA MARÍA, CÁDIZ · **ALCAMPO WAREHOUSE** IN VALDEMORO, MADRID · **SALVAT WAREHOUSE** IN Z.A.L., BARCELONA · **EROSKI LOGISTIC CENTER,** PALMA DE MALLORCA AND ELORRIO · **AHORRAMÁS LOGISTIC CENTER** IN VELILLA DE SAN ANTONIO, MADRID · **AZKAR WAREHOUSE** IN CONSTANTÍ, TARRAGONA · **TRANSPORTES CARRERAS WAREHOUSE** IN SESEÑA, TOLEDO.

HOTELS

More than 100.000 m² of built hotel space.

NH Paseo del Prado Hotel in Madrid

Élite Hotel in Madrid

Representative Works

· **NH HOTELS** (ZURBANO, EL PRADO, ALCALÁ, PASEO DE LA HABANA) · **MELIA HOTELS** · **EUROBUILDING HOTEL**, MADRID · **PARAÍSO HOTELS**, TENERIFE · **ÉLITE HOTEL**, MADRID · **EMILIO VARGAS HOTEL**, MADRID · **GRAN ATLANTA HOTEL**, MADRID.

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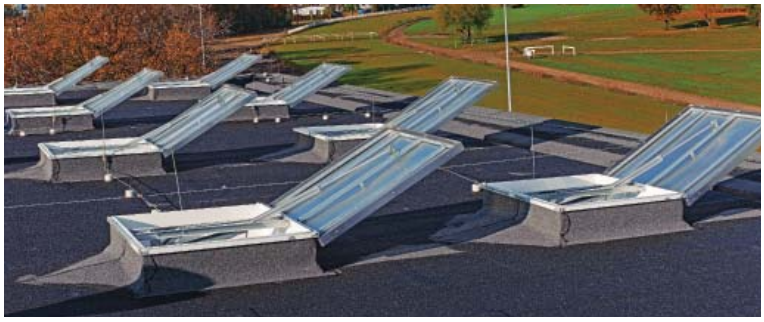
WORK reference

NATIONAL

SHOPPING CENTERS

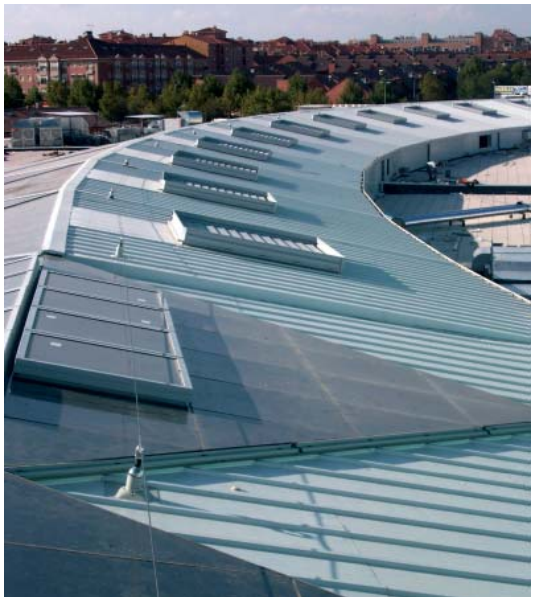
More than 1.000.000 m² of executed commercial space.
More than 120 built shopping centers



Alcalá Magna Shopping Center in Madrid

La Laxe Shopping Center in Vigo

Zielo Shopping Center in Madrid.



Centro Comercial Alcalá Magna en Madrid

Obras Representativas

· IKEA SHOPPING CENTER · MAKRO SHOPPING CENTER · CARREFOUR SHOPPING CENTER · ALCAMPO SHOPPING CENTER · EL CORTE INGLÉS SHOPPING CENTER · CASTELLANA 200 SHOPPING CENTER, MADRID **· EL TIRO SHOPPING CENTER,** MURCIA **· LA GAVIA SHOPPING CENTER,** MADRID **· ALCALÁ MAGNA SHOPPING CENTER,** MADRID **· LA LAXE SHOPPING CENTER,** VIGO **· LAS ÁGUILAS SHOPPING CENTER,** MURCIA **· ZIELO SHOPPING CENTER,** MADRID**.**

Las Águilas Shopping Center in Murcia

Castellana 200 Shopping Center in Madrid

NATIONAL

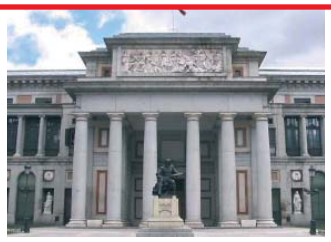
UNIQUE BUILDINGS

More than 300.000 m² of built space. Leader in Evacuation of Smoke and Passive Fire Protection.

Alcalá Magna Shopping Center en Madrid

Reina Sofía Museum en Madrid

Oceanografic Park in Valencia.



Prado Museum in Madrid.

Calderón Theatre in Madrid.

National Auditorium of Music, Príncipe de Vergara, Madrid

Representative projects

REINA SOFÍA MUSEUM IN MADRID · **EXTENSION OF THE PRADO MUSEUM** IN MADRID · **NEW MADRID CITY HALL HEADQUARTERS IN THE COMMUNICATIONS PALACE** · **OCEANOGRAPHIC PARK** IN VALENCIA · **CALDERÓN THEATRE** IN MADRID · **ALCALÁ PALACE THEATRE** IN MADRID · **IFEMA PAVILIONS** IN MADRID · **LIGHT RAIL COACH HOUSE** IN MADRID · DE CASTILLA Y LEÓN **COURT HEADQUARTERS** · **HUMAN EVOLUTION MUSEUM** IN BURGOS · **MUSIC NATIONAL AUDITORIUM, PRÍNCIPE DE VERGARA** IN MADRID · **AUDITORIUM** IN TENERIFE.

New Madrid City Hall Headquarters in the Communications Palace

Madrid Fair, Ifema

Ifema Pavilion 2, Madrid

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WORK reference

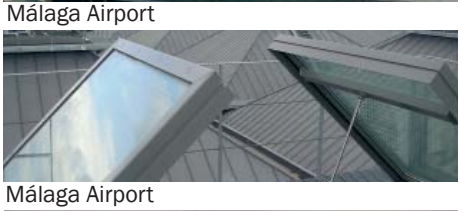
NATIONAL

AIRPORTS

More than 100.000 m² of built air surface.

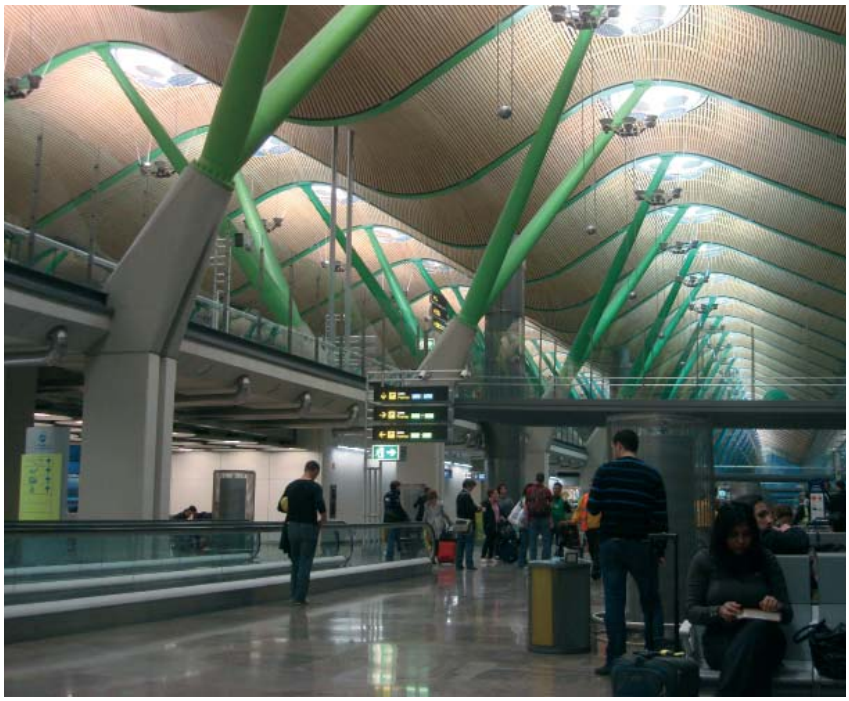
Airport T4 in Madrid

Málaga Airport



Málaga Airport

Murcia Airport



Airport T4, Madrid

Representative projects

AIRPORT T4 IN MADRID · **AIRPORT TERMINAL** OF BARCELONE · SAN JAVIER **AIRPORT** IN MURCIA · ALICANTE **AIRPORT**· MÁLAGA **AIRPORT** · CORVERA **AIRPORT** IN MURCIA.

INTERNATIONAL PROJECTS

Experience in international works with more than 800.000 m² executed.

Obras Representativas

Alphabetic Tower in Georgia

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