



Over  
**30 years**  
of experience

smoke vents

**mcr**  
**ULTRA THERM**  
CE

We provide safety

**NATURAL SMOKE EXHAUST SYSTEM**

mcr ULTRA THERM smoke vent is an innovative product developed based on our 30 years' experience in natural smoke ventilation combined with the latest technological advances. We have achieved the most ambitious goal and created a product designed to meet both the current and the future requirements of the market and our customers.

We have not only achieved the thermal performance exceeding the current requirements ( $U_{rc}=0.8 \text{ W/m}^2\text{K}$ ) but also eliminated any thermal bridges. Excellent thermal performance allows mcr ULTRA THERM to be used not only in the industrial, storage or retail facilities, but also in the public and apartment buildings.

Good thermal performance allows the devices also to be used in the cold rooms and freezers more and more frequently installed in large logistics centres.

While designing mcr ULTRA THERM we have consulted leading European experts in design and manufacturing of PVC profiles. Thus, excellent thermal performance is complemented with exceptional aesthetics thanks to similarly coloured materials. Aluminium profiles are available in any RAL colour.

Functionality and various executions of mcr ULTRA THERM products are possible because of wide range of leaf-fillings, bases and control types.

## **mcr ULTRA THERM SKYLIGHT AND SMOKE VENT LEAF-FILLINGS**



**merc**or®  
**30 years**  
of experience

Mercor Group aim is to provide safety and security to the building users with comprehensive fire prevention measures.

As an expert in our field, we offer our business partners products and services they can rely on at every stage of the investment.

Since 1988, we have been following a simple rule - we exist and continue to develop for our Customers.

**We have been delivering safety for 30 years.**

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### **MULTI-CHAMBER POLYCARBONATE PLATE**

PCA10, PCA16

PCA DOUBLE LAYER: 10+10, 10+16, 10+20, 16+16

### **ACRYLIC DOMES SOLID POLYCARBONATE DOMES MIX DOMES**

### **MULTI-CHAMBER POLYCARBONATE DOME**

## SMOKE VENT FEATURES mcr ULTRA THERM

### FUNCTION

Smoke vent, ventilation vent,  
skylight, roof access hatch.



### QUALITY

Exceptional durability with innovative PVC profiles.  
Guaranteed water tightness with multi-level  
gasket system. Specially designed aluminium  
hinge provides very high mechanical resistance.



### AESTHETICS

High quality plastics and aluminium.  
Product colour range compatible  
with other building finishes.



### DESIGN

Various types of bases, leaf-fillings and controls  
to meet specific designer and user requirements.



### HEAT

Excellent thermal performance no thermal bridges.  
Meets all future Urc heat transfer requirements.



### MODULAR DESIGN

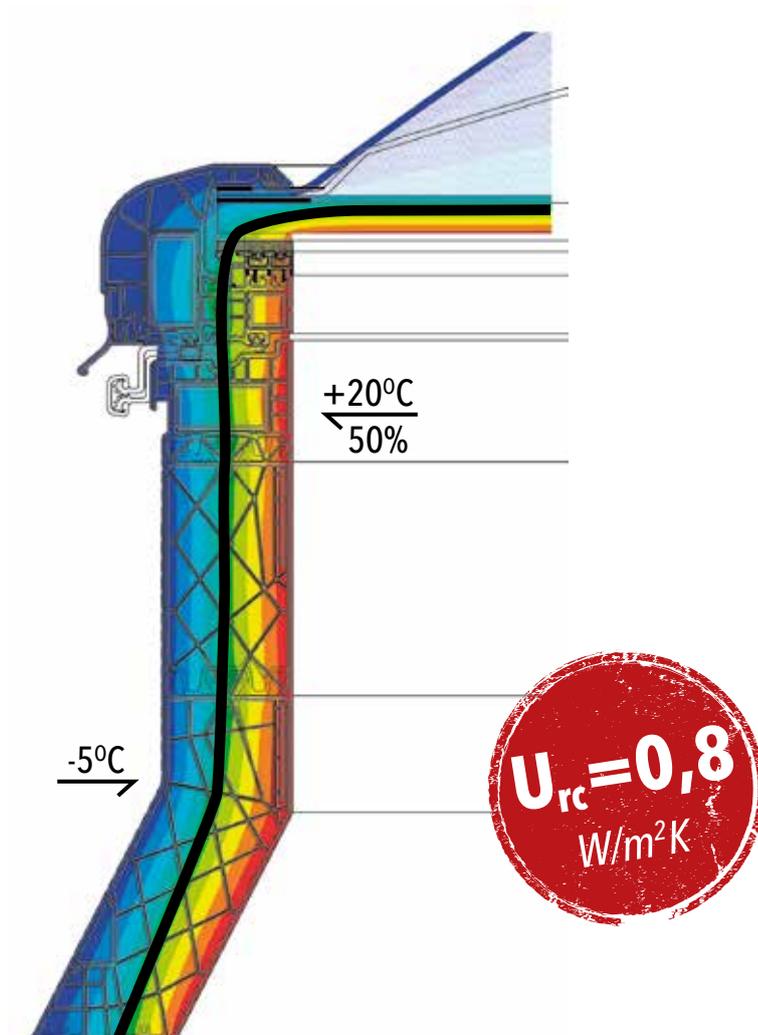
Flexible lead times. Easy installation and planking.



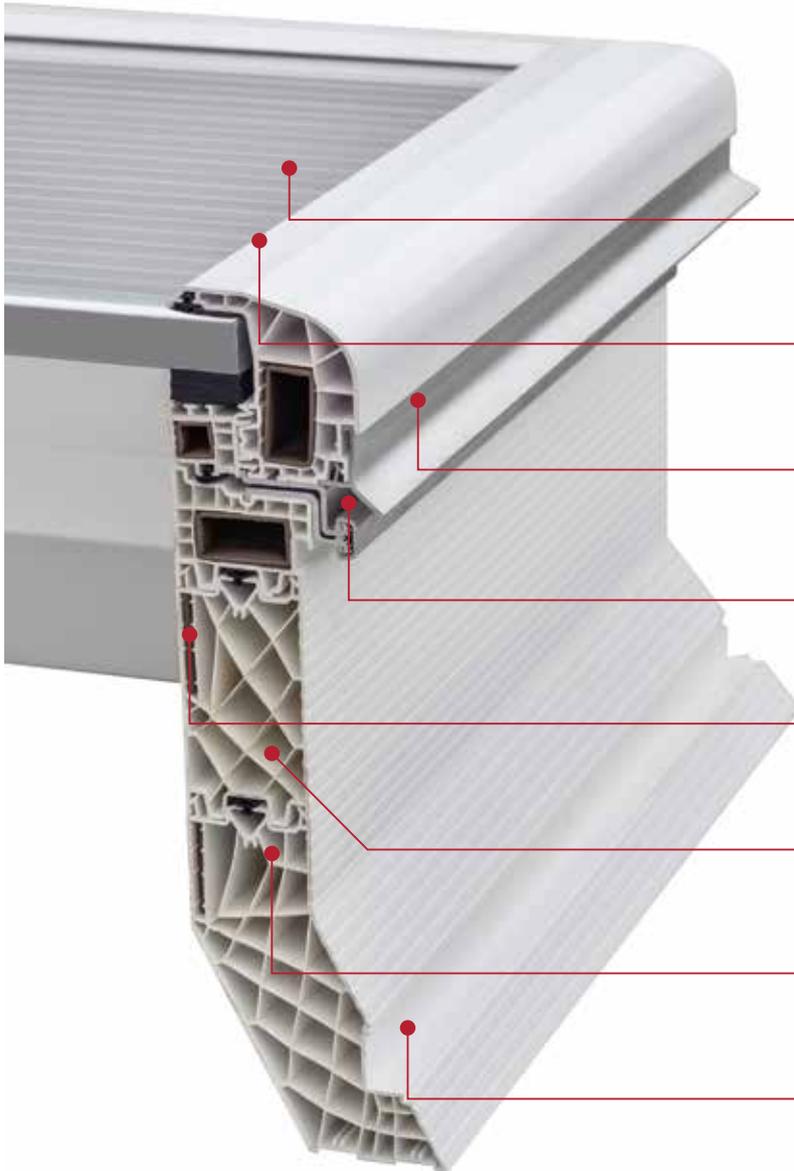
## ENERGY EFFICIENCY

### ISOTHERMS FOR mcr ULTRA THERM WITH PVC BASE

Detailed numerical analysis in accordance with relevant standards have verified uniform isothermal curves in mcr ULTRA THERM profiles. The energy efficiency of the components guarantee products without thermal bridges. Tests verified that the 10°C dew point isotherm is constrained to the interior of the hatch.



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**VARIOUS OPTIONS OF GLAZING**

Wide range of glazing: Multi-chamber polycarbonate, mixed glazing, multi-chamber polycarbonate dome.

**WATER TIGHT**

Combination of double sealing and specially designed drain inside the profile provides perfect water tightness.

**ALUMINIUM DRIP CAP**

More damage resistant, provides protection of the hinge, possible to be painted in any RAL colour.

**ALUMINIUM HINGE**

Specially designed by Mercor, mounted at the entire side of the vent, provides very height mechanical resistance.

**STEEL REINFORCEMENTS INSIDE THE PROFILE**

Steel elements to which the opening system or any additional elements can be assembled.

**FLEXIBLE UPSTAND HEIGHT**

Modular construction and snap-in PVC elements allow to get the upstand height in the range of 300 mm to 700 mm.

**EXCELLENT THERMAL INSULATION**

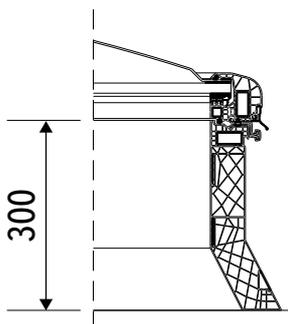
PVC profile consisting of more than 100 cells provides stiffness and excellent thermal parameters with total lack of thermal bridges.

**REINFORCED FIXING AREA**

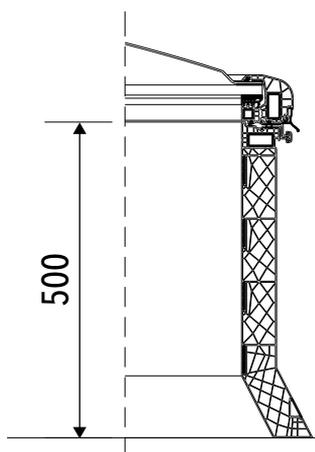
The width of bottom element was reduced to minimum, preventing cracks that often appear in case of very thin and wide PVC element at the contact point between the base and roof layers.

**mcr ULTRA THERM SKYLIGHT AND VENTS BASES**

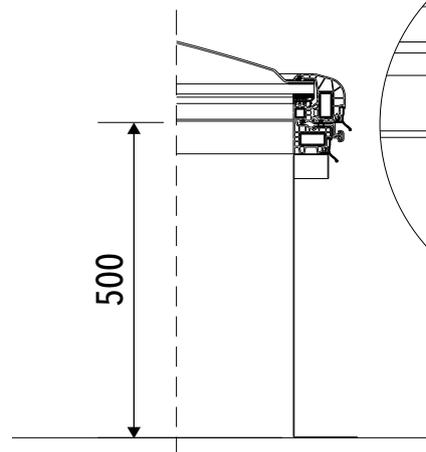
PVC base, skew type NG-A  
height: 300-700 mm



PVC base h=30 cm

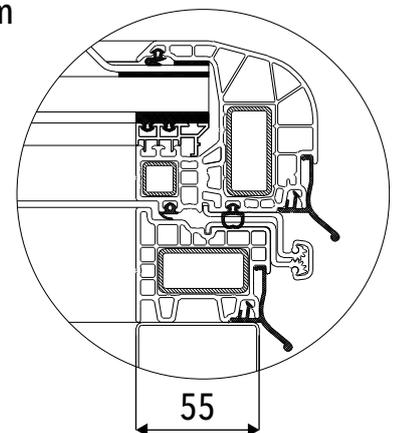


PVC base h=50 cm



Steel base h=50 cm

Steel base, straight type C,E or skew type NG-A  
height: 300-700 mm



# smoke vents mcr ULTRA THERM

## MCR ULTRA THERM SMOKE VENT CLASSIFICATION TO EN 12101-2: 2005

<b>80 [cm] x 120 [cm]</b>	Min. nominal size
<b>200 [cm] x 300 [cm]</b>	Max. nominal size
<b>SL 250 ÷ SL 950</b>	Snow load class
<b>WL 750 ÷ WL 1500</b>	Wind load class
<b>B 300</b>	High temperature resistance class
<b>Re 168 ÷ 300</b>	Reliability
<b>A1</b>	Reaction to fire class for metal components
<b>B-s2-d0</b>	Reaction to fire class for polycarbonate infill
<b>F, E</b>	Reaction to fire class for other components
<b>60 [s]</b>	Maximum vent opening time to working position
<b>140° ÷ 160°</b>	Vent opening angle

### THERMAL TRANSMITTANCE COEFFICIENT U<sub>ic</sub> OF MCR ULTRA THERM SMOKE VENTS\*\*

Type	PVC base h=30 [cm]	Steel base *** h=50 [cm]
NG-A 90/120	1,2 ÷ 0,8	1,1 ÷ 0,8
NG-A 100/100	1,2 ÷ 0,8	1,1 ÷ 0,8
NG-A 120/120	1,3 ÷ 0,8	1,2 ÷ 0,8
NG-A 140/140	1,3 ÷ 0,8	1,2 ÷ 0,8
NG-A 150/150	1,3 ÷ 0,8	1,2 ÷ 0,8
NG-A 150/250	1,4 ÷ 0,9	1,3 ÷ 0,8
NG-A 180/250	1,4 ÷ 0,9	1,3 ÷ 0,9
NG-A 200/200	1,4 ÷ 0,9	1,3 ÷ 0,9
NG-A 200/250	1,5 ÷ 0,9	1,4 ÷ 0,9
NG-A 200/300	1,5 ÷ 0,9	1,4 ÷ 0,9

### EXAMPLE MCR ULTRA THERM SMOKE VENT PARAMETERS (with pneumatic actuator and wind deflectors)

Type	Base inside dimensions [cm]		Active area Aa [m <sup>2</sup> ]		Weight [kg]*
	nominal dimensions A x B [cm x cm]	daylight opening a x b [cm x cm]	basic h=30 [cm]	basic h=50 [cm]	
NG-A 90/120	90 x 120	80 x 110	0,70	0,70	64
NG-A 100/100	100 x 100	90 x 90	0,66	0,66	61
NG-A 120/120	120 x 120	110 x 110	0,97	0,99	73
NG-A 140/140	140 x 140	130 x 130	1,35	1,39	93
NG-A 150/150	150 x 150	140 x 140	1,56	1,61	101
NG-A 150/250	150 x 250	140 x 240	2,66	2,76	134
NG-A 180/250	180 x 250	170 x 240	3,22	3,36	150
NG-A 200/200	200 x 200	190 x 190	2,85	2,97	143
NG-A 200/250	200 x 250	190 x 240	3,59	3,75	160
NG-A 200/300	200 x 300	190 x 290	4,34	4,53	178

### EXAMPLE MCR ULTRA THERM SMOKE VENT WITH ROOF ACCESS OPTION PARAMETERS

Type	nominal dimensions A x B [cm x cm]	daylight opening a x b [cm x cm]	DC-voltage	SL	WL	T
NG-A 90 x 120	90 x 120	80 x 110	24V/2,5A	500 Pa	1500 Pa	-05°
NG-A 100 x 100	100 x 100	90 x 90	24V/4,0A	800 Pa	1500 Pa	-25°
NG-A 100 x 150	100 x 150	90 x 140	24V/2,5A	500 Pa	1500 Pa	-05°
NG-A 110 x 110	110 x 110	100 x 100	48V/2,0A	800 Pa	1500 Pa	-25°
NG-A 120 x 120	120 x 120	110 x 110	48V/2,0A	800 Pa	1500 Pa	-25°
NG-A 120 x 240	120 x 240	110 x 230	2x 48V/2,0A	800 Pa	1500 Pa	-25°
NG-A 125 x 125	125 x 125	115 x 115	24V/2,5A	500 Pa	1500 Pa	-05°
NG-A 150 x 150	150 x 150	140 x 140	2x 48V/2,0A	800 Pa	1500 Pa	-25°



European Union  
European Regional  
Development Fund



The product was developed within the framework of an innovative project entitled:  
**"Comprehensive solutions in the scope of passive fire protection  
of buildings including the development of display line"**  
subsidized with European funds.

(\*) Smoke vents weight incl. PVC base h=30cm, leaf-filling: acrylic roof dome and multi-chamber polycarbonat plate 16 mm and single pneumatic actuator.

(\*\*) U<sub>ic</sub> coefficient range depending on the vent's leaf-filling.

(\*\*\*) U<sub>ic</sub> coefficient determined for base insulation with mineral wool, thickness 50 mm.

**OUR PRODUCTS  
ARE PRESENT  
IN THE FOLLOWING  
COUNTRIES:**



**SMOKE  
VENTS IN  
CONTINUOUS  
ROOFLIGHTS**



**SMOKE AND  
VENTILATION  
VENTS,  
ROOF ACCESS  
HATCHES**



**LOUVERED  
SMOKE  
VENTS**



**SMOKE  
CURTAINS**



**SMOKE  
AND HEAT  
EXHAUST  
WINDOW  
SYSTEM**



**PVC SMOKE  
VENTS AND  
SKYLIGHTS**



**FIRE  
DAMPERS**



**SMOKE  
VENTILATORS**



**BUILDING  
STRUCTURE  
PROTECTIONS**



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