

Door and Window SYSTEMS




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 **ALUPROF**
ALUMINIUM SYSTEMS


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SYSTEM

MB-45

DOOR AND WINDOW SYSTEMS



The MB-45 system has been designed for internal use where thermal insulation is not required. i.e. various types of partition walls, windows, and doors. Additionally, sliding, swing and self-closing doors, enclosed entrance porches, shop windows, cash-desk boxes, display cabinets, etc. The system is also the basis for special solutions: MB-45D smoke-proof barriers and doors (class S30) and the MB-45S doors with clamp hinges. The versatility and attractiveness of the system is also enhanced by a wide selection of door sealing options, glazing beads or sills of various shapes and heights.

NON-THERMAL BARRIER

Lightweight, durable profile design

The MB-45 window system comes with a frame depth of 45 mm and a sash depth of 54 mm. The door system is 45 mm frame and sash. Depths of the sash and frame provide smooth external sightlines on the opening lights and single surface effect after closing the window and - with regard to the door - an aligned effect of leaf and outer frame surface. The profile dimensions results in a narrow sightline on our sturdy yet lightweight windows and doors suitable for all internal applications.

Option of bending profiles

An essential advantage of the MB-45 system is the possibility to bend profiles, e.g. of outer frames, sashes, leaves and cross pieces, which enables shaping various arches and arch structures.

Design compatibility

A beneficial feature of the system, as with a lot of our systems, is the compatibility with each other, such as the MB-59S, MB-60, MB-70 and MB-78EI. The constructional design allows us to have many accessories which are suitable for a number of systems, e.g. common glazing beads, corners, sealing strips, glazing and closing gaskets, shared fixture, locks, hinges and many identical technological processes. For example; pinning connecting members of crosspieces and rails, gluing corner cleats, cutting out various



recesses, etc. One of the effects of this unification process is the almost identical external and internal appearance of products used in the different systems of development.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the option to select from several variant solutions for different constructional details, e.g. bottom sealing of door leaves, sealing of sliding and swing doors, the shape of glazing beads, the shape and height of doorsills.

Freedom of hardware selection

The MB-45 construction has been adapted to typical hardware, locks and hinges, following European standards. Sections are equipped with grooves as to enable fixing of multi-point locking hardware and connecting members, as per EURO standard. Therefore, it is possible to meet the demands of our customers without changing the basic construction.

Colour palette

We carry a wide range of standard polyester powder coating colours ensuring that the large majority of projects are covered. All our sections are powder coated to a thickness of 60 microns as standard. We also have the option of silver and bronze anodising.

Technical parameters:

- Impact resistance:
Class 3, PN-EN 1192:2001
- Sound insulation: $R_w=45$ dB
(depending on the infill material)

SYSTEM MB-45D



SMOKE-PROOF BARRIERS AND DOORS

MB-45D structures are based on the MB-45 system and include partition walls with single- or double-leaf smoke-proof doors in the class Sm and Sa, according to PN-EN 13501-2. The fulfillment of door smoke-proofing quality mainly depends on the proper peripheral sealing in the leafs and installation of glazing and other infilling materials, as well as solutions for threshold gaskets.

SYSTEM MB-45S



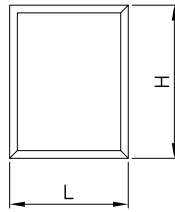
SLIM LINE DOOR SYSTEM

MB-45S doors are also available with 2 part butt hinges as part of the same range. The MB-45S system is intended for constructing cost-efficient doors equipped with butt hinges, featuring good functional parameters, as well as partition walls equipped with such doors. The constructional depth of profiles equals 45 mm. The MB-45S system features simple and quick prefabrication of products eliminating the majority of labour and time consuming mechanical workings. Due to the application of special grooves, the profile construction allows hinges, catches and locks to be fixed with minimal effort.

TECHNICAL SPECIFICATION	MB-45	MB-45S	MB-45D
Depth of frame (door / window)	45		
Depth of leaf (door / window)	45 / 54	45	
Glazing range mm (fixed window and door / opening window)	2 - 25 / 2 - 34	2 - 25	
Min visible width T-profile			
Door / window frame	66,5 / 43,5		
Door / window leaf	72 / 27,5		
Size limitations			
Maximum size of tilt turn window (HxW)	H do 2400 mm (1850 mm), W do 1250 mm (1600 mm)	-	-
Maximum size of door (HxW)	H do 2400 mm (2200 mm), W do 1250 mm (1400 mm)		
Max weight of doors / windows (kg)	120 / 130 kg	130 kg	120 kg
Types of constructions			
Dostępne rozwiązania	Tilt window, turn window, tilt turn window, Doors open out and open in	Mortise doors, Partition walls with doors	Doors open out and open in
Approving documents			
Impact resistance	Class 3 (800N), EN 1192		
ITB Technical Approval	AT-15-5176/2009		AT-15-5163/2009

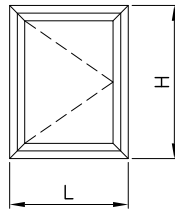
Max. dimensions of windows

Fixed window



Max. standard dimensions of windows result from maximal glass sizes.

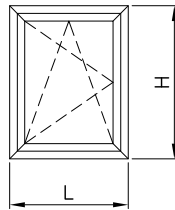
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm

- 130 kg

Tilt and turn window

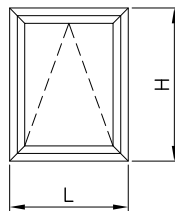


Hmax=2400 mm
Lmax=1250 mm

Hmax=1850 mm
Lmax=1600 mm

- 90 kg/130 kg

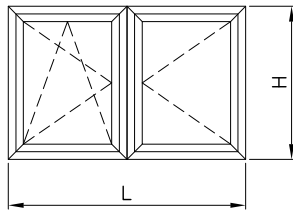
Tilt window



Hmax=1000 mm
Lmax=2150 mm

- 130 kg

Double casement



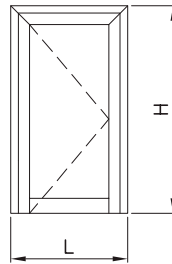
Hmax=2250 mm
Lmax=2700 mm

Turn-hung vent - - 130 kg
Tilt and turn vent - - 130 kg

} Maximal vent weight


Max. dimensions of doors

Inside opening door,
internal development

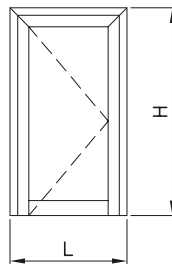


Hmax=2400 mm
Lmax=1250 mm

Hmax=2200 mm
Lmax=1400 mm


 -120 kg

Inside opening door,
external development

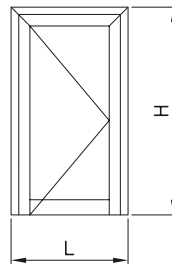


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Outside opening door,
internal development

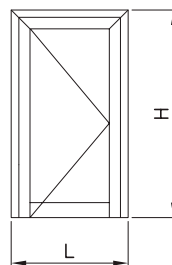


Hmax=2400 mm
Lmax=1250 mm

Hmax=2200 mm
Lmax=1400 mm


 -120 kg


Outside opening door,
external development



Hmax=2400 mm
Lmax=1200 mm

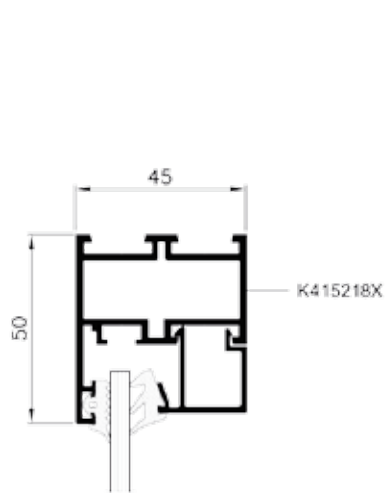
Hmax=2200 mm
Lmax=1300 mm

 -120 kg

 } Maximum weight of a door leaf

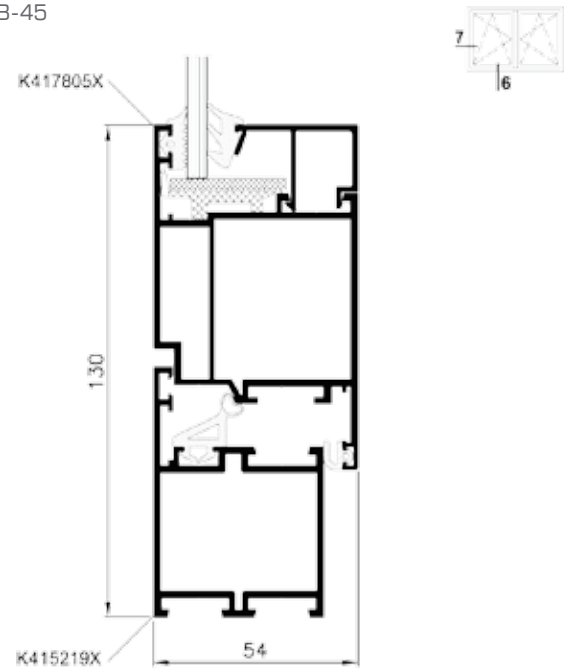
Fixed window - cross- section

1 MB-45



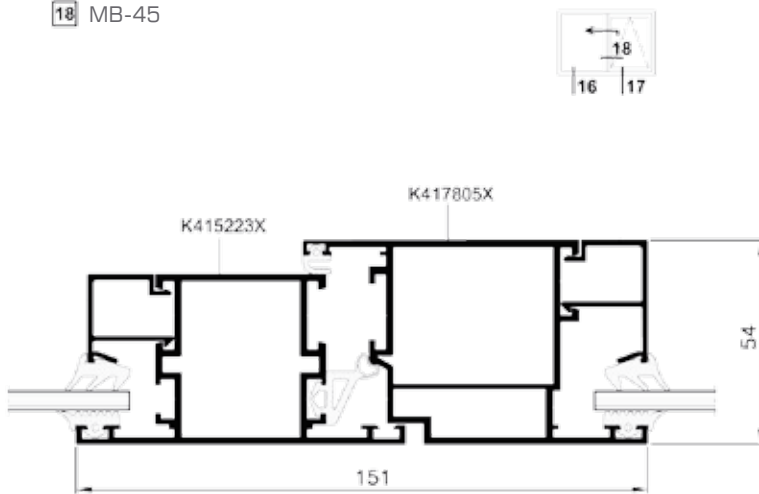
Opening window - cross- section

6 MB-45



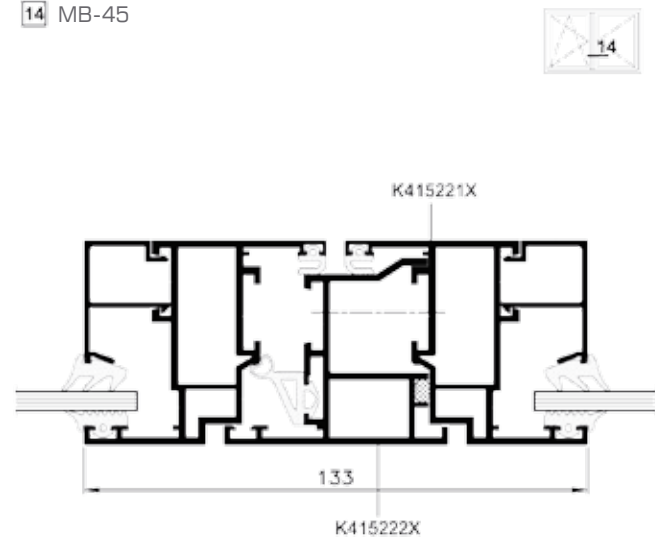
Tilt and slide window - cross-section

18 MB-45



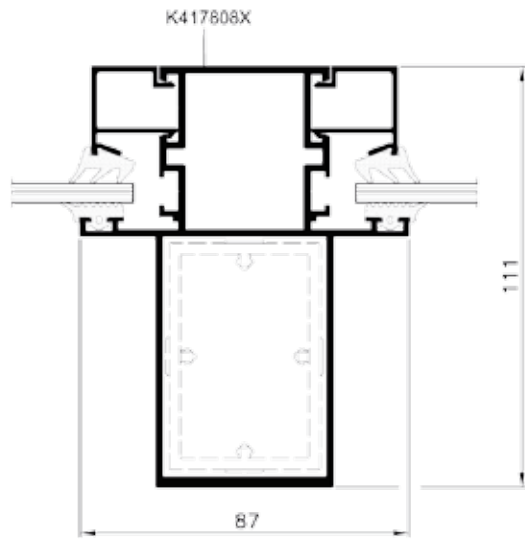
Opening window - cross- section

14 MB-45



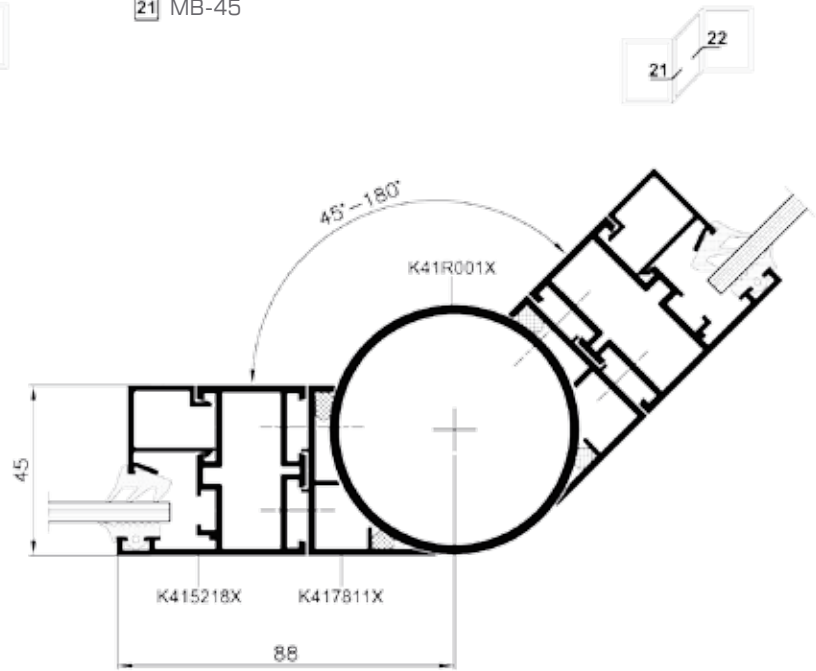
Reinforced mullion - cross section

19 MB-45



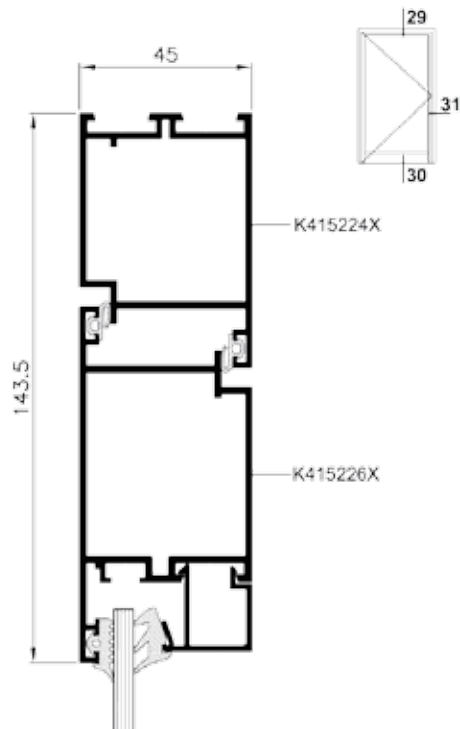
Adjustable corner connection - cross section

21 MB-45



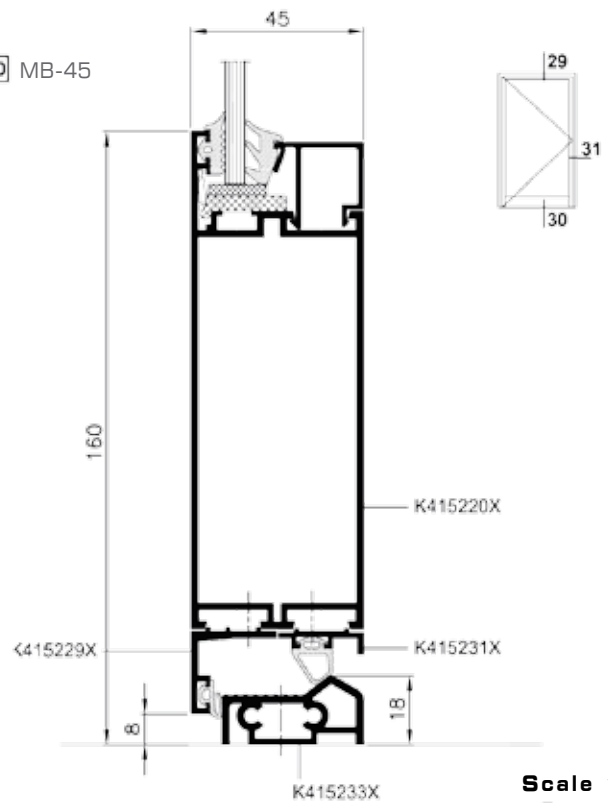
„Standard“ single, active, outward opening door - cross-section

29 MB-45



„Standard“ single, active, outward opening door - cross-section

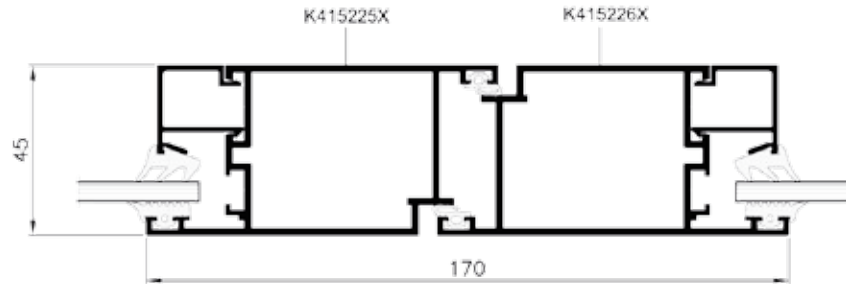
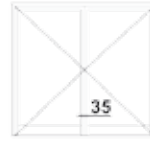
30 MB-45



Scale 1:2

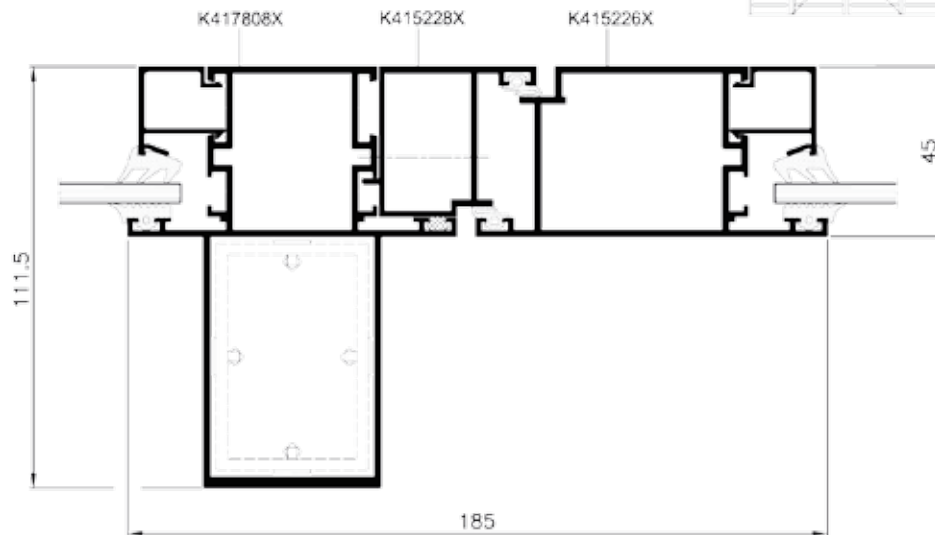
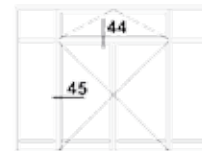
Double leaf door - cross section

35 MB-45



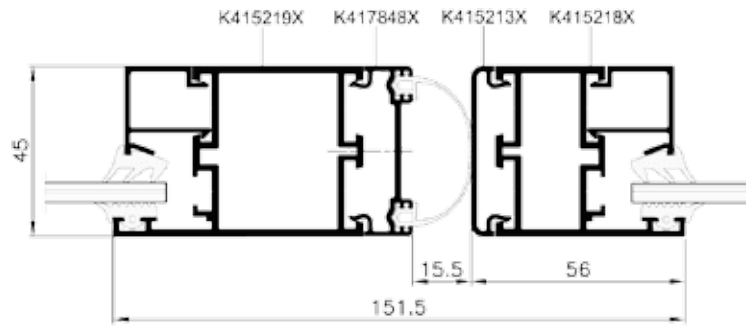
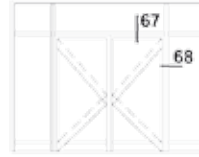
Display window with double door - cross section

45 MB-45



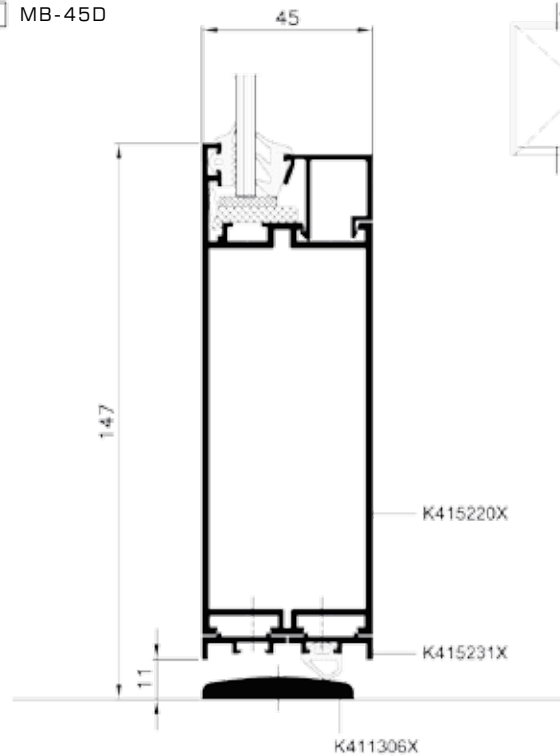
Swing door - cross - section

68 MB-45



Single outward opening
smoke-proof door - cross- section

5 MB-45D



Scale 1:2

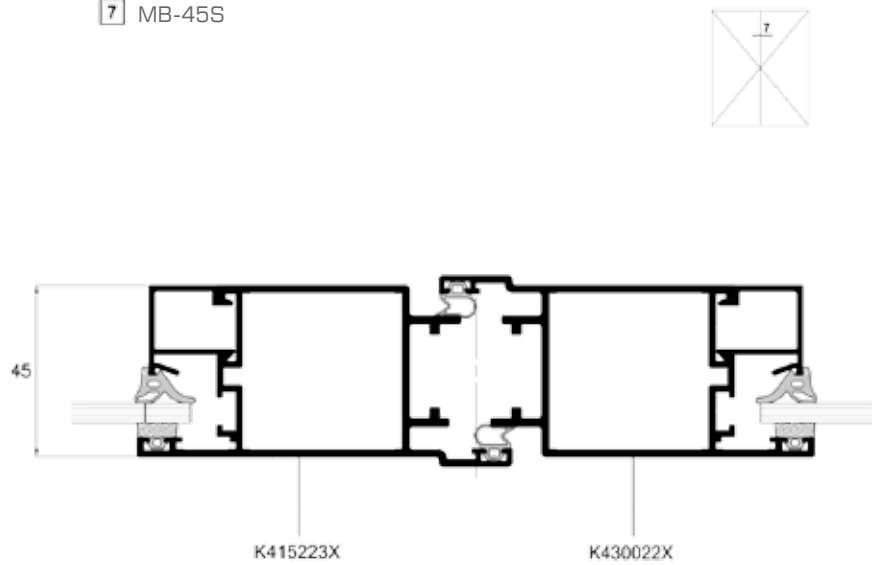
Cross-section of jambs in an outward opening door

2 MB-45S



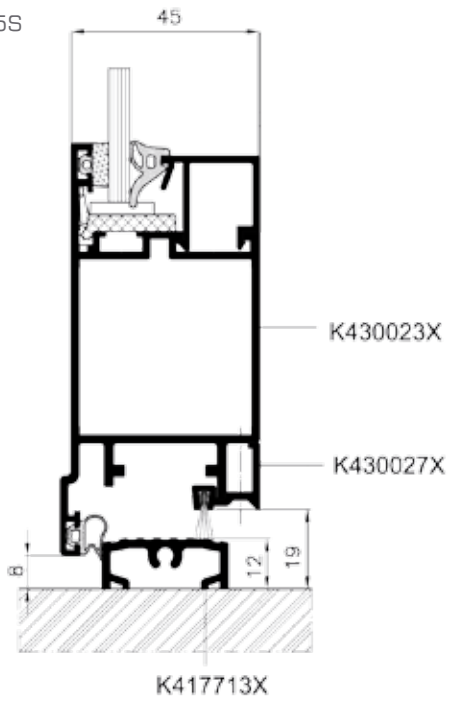
Cross-section of jambs in a double-leaf

7 MB-45S

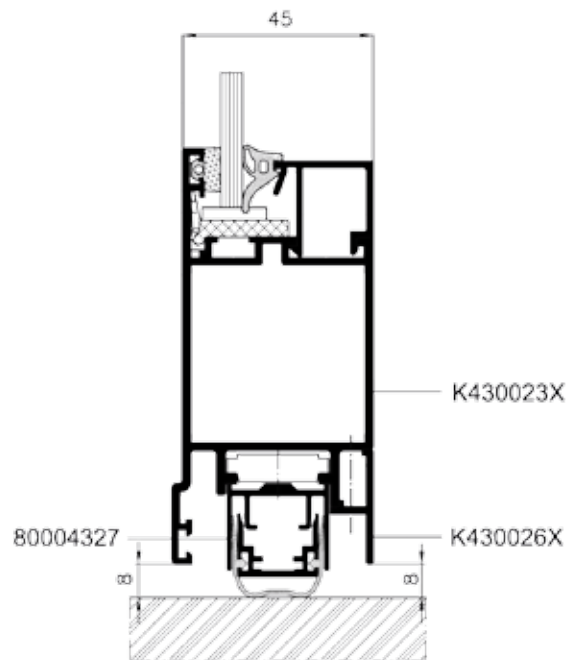


Cross-section of the bottom rail in an outward opening door

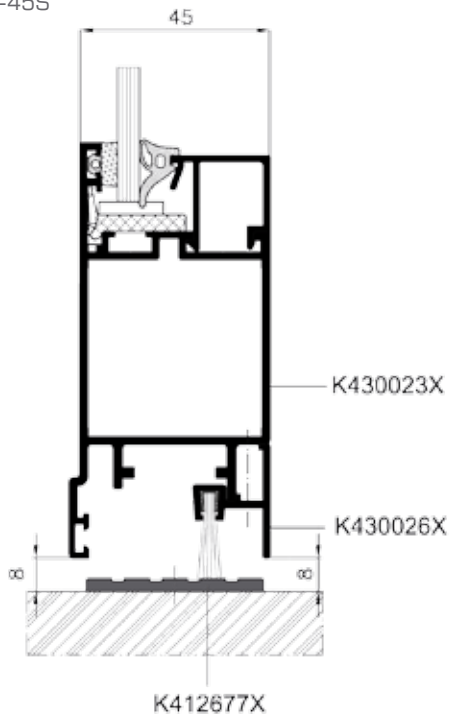
9 MB-45S



9 MB-45S



9 MB-45S





The system is designed for glazing balconies. The backbone of this system are horizontally sliding windows. The constructions based on this system protect the open space of balconies against unfavourable weather conditions, i.e. wind, rain, snow, as well as dirt and noise, while at the same time making it difficult to break in, which is a particularly important feature for ground floor flats.

WITHOUT THERMAL BARRIER

Range of applications

MB-23P is a modern aluminium system used to realise exterior architectural elements that do not require thermal insulation, designed above all for glazing balconies. It is used to protect open balconies against unfavourable weather conditions, i.e. wind, rain, snow, as well as dirt and noise.

The system can be used for the existing balconies as well as those that are being added. MB-23P sliding windows can also be easily mounted in the MB-45 system.

Functional values

Horizontally sliding windows are the backbone of the MB-23P system. Glazed window sashes are fitted with carriages allowing sashes to slide in a closed frame made of aluminium profiles with extruded running rails that form the window frame. Glazing balconies makes them more useful. Additional room is created in a natural way to expand the useable life of balconies. The system also impedes burglaries, which is of particular importance for ground floor flats.

Optimally selected profile shape

A characteristic feature of the MB-23P sliding window system are very economical profiles of sashes and frames with a rounded sash profile, which makes appearance particularly interesting. Constructional depths of window

sections are 53 mm and 23 mm for the frame and sash respectively. Such depths of sash and frame sections give the effect of very narrow WITHOUT THERMAL BARRIER profiles, which has a particularly favourable effect on the appearance of the curtain wall, leaving it with no distinct changes.

Glazing range

Aluminium profiles form window sashes that can be glazed with a single glass panel 4-8 mm thick or with safety glass 6.4 mm thick. Pane thickness is selected according to the height at which the balcony is situated, its location and the overall dimensions of sashes.

Tightness to water and air infiltration

Each construction built in the MB-23P system, due to its external application, has been equipped with an efficient system of ventilation and water draining from the pane chamber and the chamber between the sash and the window frame.

Low labour input

The MB-23P system features very simple and quick prefabrication of products due to eliminating majority of labour-consuming mechanical working, which has an advantageous impact on the price of the final product.

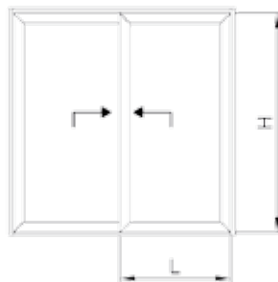
Colour palette

A wide choice of colours offered in the standard colour option meets the requirements of even the most demanding customers. Colour finishes are made by powder coating or anodising.



Max. dimensions of windows

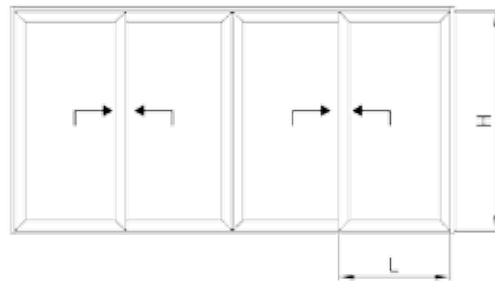
Double leaf secondary glazing



Hmax=2000 mm
Lmax=1000 mm


 - 50 kg

Four leaf secondary glazing



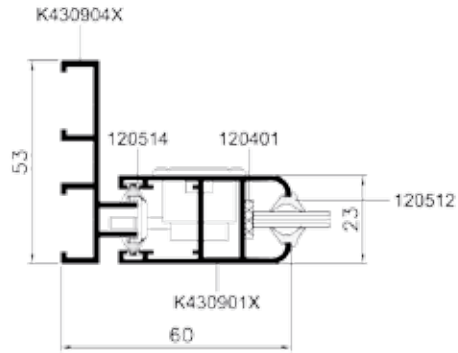
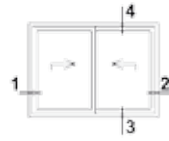
Hmax=2000 mm
Lmax=1000 mm

 - 50 kg

 } Maximal vent weight

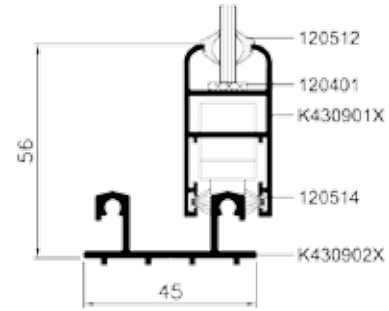
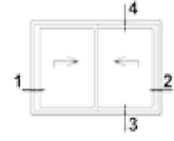
Balcony window in individual development
- cross-section

1 MB-23P



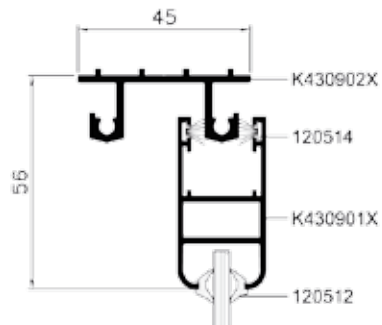
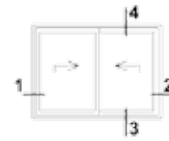
Balcony window in individual development
- cross-section

3 MB-23P



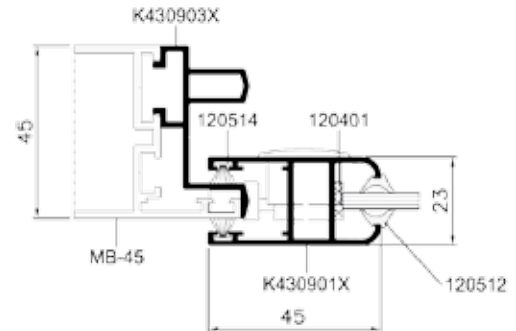
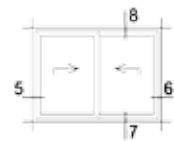
Balcony window in individual development
- cross-section

4 MB-23P



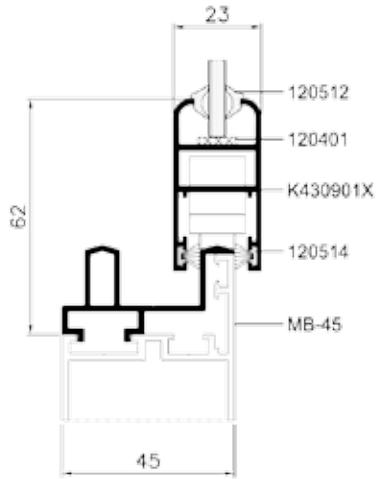
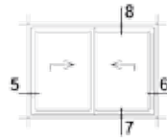
Balcony window in individual development
- cross-section

5 MB-23P



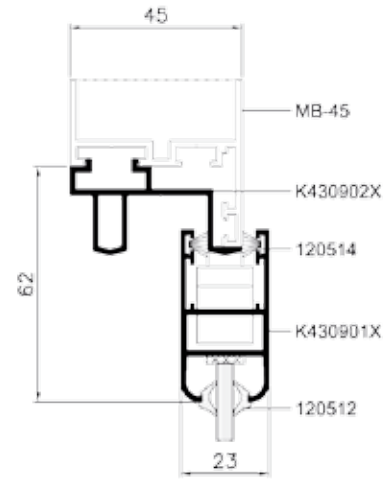
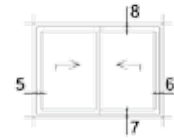
Balcony window in window display development
- cross-section

7 MB-23P



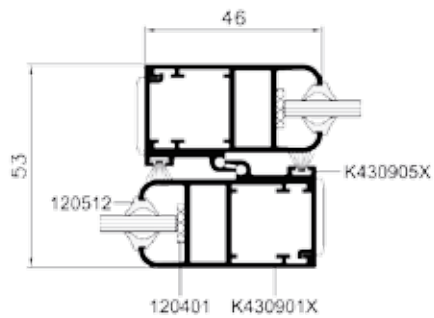
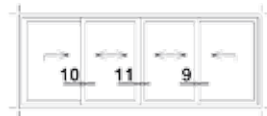
Balcony window in window display development
- cross-section

8 MB-23P



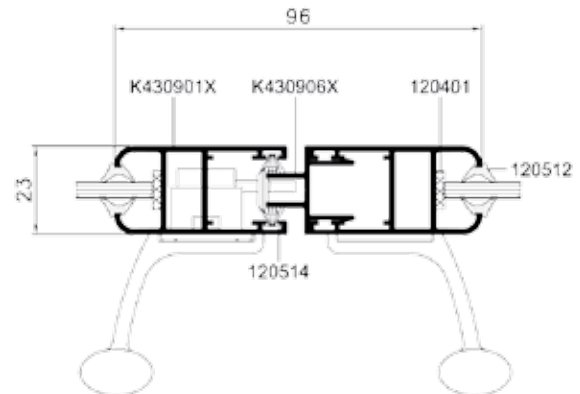
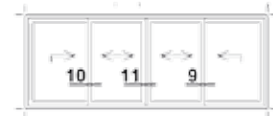
Balcony window - cross- section

9 MB-23P



Balcony window - cross- section

11 MB-23P



S Y S T E M

MB-59S

MB-59S HI



DOOR AND WINDOW SYSTEMS

The MB-59S is a thermally broken, sound insulating window and door system. The depth of window profiles in this system is 50 mm for frames and 59 mm for opening lights. The external surfaces of these profiles lie in the same plane. The depth of door profiles is 50 mm for both outer frames and sashes. Thus, the alignment of the sashes and frames are achieved on both the internal and external side. Apart from standard windows and doors, the MB-59S is the basis for other systems such as MB-59S Casement windows opening outwards, MB-59S Pivot windows and MB-59SE cost-efficient doors. They are also available in high thermal insulation variety name HI.

WITH THERMAL BARRIER

Wide range of applications

The MB-59S is a modern architectural aluminium system designed to execute interior and exterior windows and doors requiring thermal and sound insulation. e.g. different types of windows, doors, enclosed entrance porches or shop windows.

Optimally selected profile shape

Basic system profiles have a three chamber structure. The constructional depth of window profiles equals 50 mm (frame), 59 mm (sash), whereas in the case of door profiles it is 50 mm and 50 mm respectively. Such depths of the sash and frame provide a flush finish surface when opening lights are closed. The door leaf will be aligned to the outer frame to create a flowing consistent screen. The design of the profiles enables us to build slim, lightweight and durable windows and doors.

Possibility of bending profiles

An essential advantage of the MB-59S system is the possibility to bend profiles of e.g. outer frames, sashes, leaves and crosspieces, which enables shaping various arches and arch structures.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves, shape of glazing beads and the shape and height of doorsills.



MALTA OFFICE PARK, Poznań, Poland
design / Biuro Architektoniczne Litoborski + Marciniak
realization / JEZERSKI

High thermal and acoustic insulation performance

The MB-59S system is characterised by a low overall heat-transfer coefficient, due to the use of thermal breaks and gaskets. Omega-shaped fibre glass reinforced polyamide thermal breaks of 16mm and 22mm width are available. The HPVC sill and EPDM gaskets ensure good thermal insulation of door leaves as well as water and air tightness. The system also ensures good sound insulation. The value of the Rw index depends on the glass unit and type of window or door used.

Excellent resistance to water and air infiltration

Tightness is secured due to the application of special EPDM synthetic rubber gaskets ensuring resistance to aging over the years' operation. External glass gaskets and window closing gaskets do not require trimming in the corners, they are mounted in a continuous way, by joining gasket ends in mid point of the upper rail of the window frame. The central gasket is trimmed at right angle and glued to the EPDM vulcanized corner cleats. Each window or door structure of the MB-59S type is equipped with an efficient ventilation and drainage system. This helps deflect water from the glazing and out of the frame through drainage slots to the outside of the frame covered with plastic caps to provide aesthetic appeal. During testing tests, the system windows retained complete water tightness up to 60 dPa.

Designed compatibility

A characteristic feature of the system is its strict correlation with door-and-window systems, such as MB-45, MB-60, and MB-70. The constructional design allows us to have many accessories which are suitable for a number of systems, e.g. common glazing beads, corners, sealing strips, glazing and closing gaskets, shared fixture, locks, hinges and many identical technological processes. For example; pinning connecting members of crosspieces and rails, gluing corner cleats, cutting out various recesses, etc. One of the effects of this unification process is the almost identical external and internal appearance of products used in the different systems of development.

Wide glazing range

Glass panels and other infills are installed by means of glazing beads and gaskets. The system allows for the application of glazing thicknesses ranging between 5 mm and 40 mm in window casements, and between 5 mm and 31 mm in fixed windows and door leaves. Such a wide range of thicknesses for infills ensures the simple application of any standard glazing.

Freedom of hardware selection

The MB-59S system is well-adapted to accommodate fixtures, fittings, locks and hinges, complying with the necessary European Standards. The sections have profiled grooves, the dimensions of which allow

for the use of multi-point locking system and connectors in accordance with the European Standard for both aluminium and plastic windows. Due to the application of special grooves, the construction of door profiles allows various types of catches, hinges and locks to be mounted with minimal working. Such solutions make it possible to meet the demands of our customers without changing the basic construction.

High safety of operation

The appropriate section thickness and optimal shape of frame and sash sections as well as proven results ensure excellent functional properties of windows and doors. These features were confirmed by approval tests carried out for both doors and windows.

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class 8A, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C3, EN 12211:2001; EN 12210:2001
- Sound insulation: Rw=37 dB (depending on the infill material)
- Impact resistance: Class 3

System table MB-59S

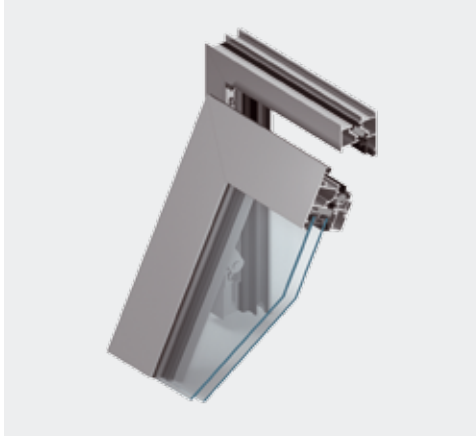
Overall heat transfer coefficient from U_f 2.03 W/m²°K

SYSTEME	CONSTRUCTION	NARROW PROFILE FACE WIDTHS (mm)	U _f [W/m ² °K]	U _W [W/m ² °K]	FILLING
MB-59S	fixed window	77,5	2,30	1,42	single - chamber glass
	active window	133	2,40	1,62	single - chamber glass
			2,40	1,29	double - chamber glass

SYSTEM NAME	PRODUCTS	CONSTRUCTIONAL DEPTH OF SECTIONS FRAME, LEAF	CONSTRUCTIONAL WIDTH OF SECTIONS FRAME, LEAF	RANGE OF GLAZING
THERMALLY-INSULATED WINDOW AND DOOR SYSTEM				
MB-59S	window	50 mm (O) / 59 mm (S)	47.5÷204 mm (O) / 34.5÷50.5 mm (S)	4.5÷40.5 mm
	door	50 mm (O) / 50 mm (S)	36.5÷63.5 mm (O) / 72.5÷99.5 mm (S)	4.5÷31.5 mm

SYSTEM NAME	INSIDE OPENING					tilt and slide window	OUTSIDE OPENING		pivot window	VALIDATION DOCUMENTS
	turn - hung window	tilt window	tilt / turn	single	double		single	double		
WINDOW SYSTEMS										
MB-59S	x	x	x		x	x	Casement		Pivot	PN-EN 14351-1
DOOR SYSTEMS										
MB-59S				x	x		x	x		PN-EN 14351-1

SYSTEM
MB-59S CASEMENT
MB-59S CASEMENT HI



This system is used to make top hung windows and outward opening casement windows. Windows of this type can be built as singular units or fixed within a larger curtain wall. The system allows for the glazing thickness between 4.5 mm and 40.5 mm in opening window and between 4.5 mm to 31.5 mm in fixed windows.

Technical parameters:

- Air infiltration:
Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance:
Class E1050, EN 1027:2001;
EN12208:2001
- Wind load resistance:
Class C5, EN 12211:2001; EN 12210:2001

SYSTEM
MB-59SE



MB-59SE thermally insulated cost-efficient door system. The system allows for the use of glazing units of thickness ranging between 4.5 and 31.5 mm.

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 2,86 W/m²K
- Air infiltration:
Class 2, EN 1026:2001; EN 12207:2001
- Rainwater resistance:
Class 3A, EN 1027:2001; EN 12208:2001
- Wind load resistance:
Class C3, EN 12211:2001; EN 12210:2001
- Impact resistance:
Class 4

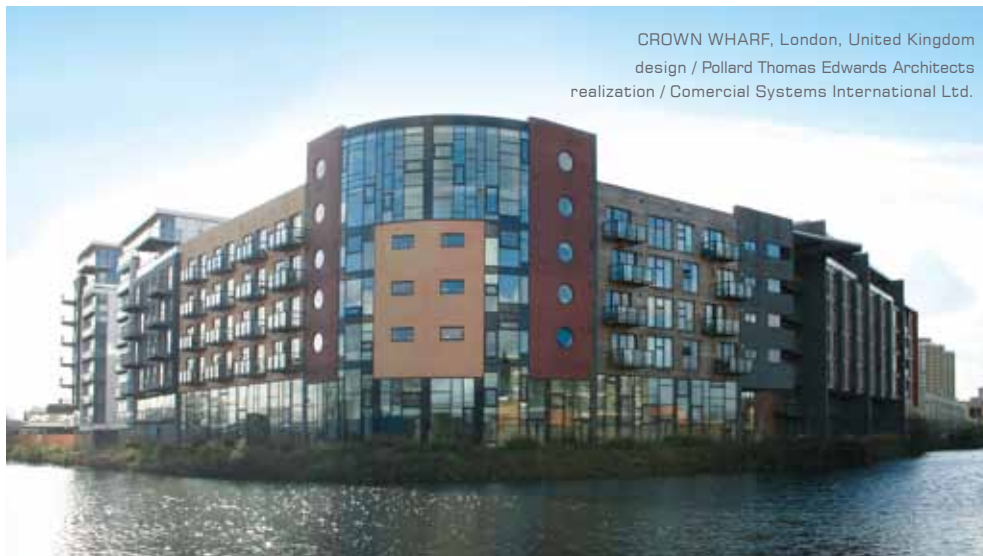
SYSTEM
MB-59S PIVOT
MB-59S PIVOT HI



The MB-59S Pivot is used to make pivot windows with horizontal and vertical axis of rotation. Rotating hinges ensure that a sash can be rotated from 0° to 180°. Panes and other infills are installed by means of glazing beads and glass gaskets. The beads allow glazing thickness between 4.5 mm and 31.5 mm.

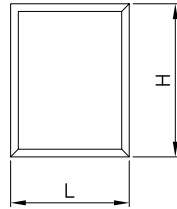
Technical parameters:

- Air infiltration:
Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance:
Class AE750, EN 1027:2001; EN 12208:2001
- Wind load resistance:
Class C, EN 12211:2001; EN 12210:2001



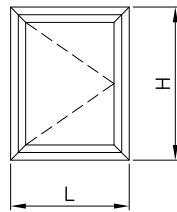
Max. dimensions of windows

Fixed window



Max. standard dimensions of windows result from maximal glass sizes.

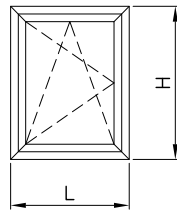
Turn-hung window



Hmax=1850 mm Lmax=1600 mm	Hmax=2250 mm Lmax=1100 mm
------------------------------	------------------------------

- 130 kg

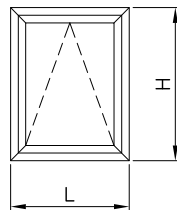
Tilt and turn window



Hmax=2400 mm Lmax=1250 mm	Hmax=1850 mm Lmax=1600 mm
------------------------------	------------------------------

- 90 kg/130 kg

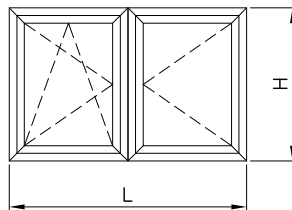
Tilt window



Hmax=2100 mm Lmax=1600 mm

- 130 kg

Double casement



Hmax=2250 mm Lmax=2000 mm

Turn-hung vent - - 130 kg

Tilt and turn vent - - 130 kg

} Maximal vent weight


Max. dimensions of doors

Inside opening door



Hmax=2150 mm
Lmax=1100 mm

Hmax=2300 mm
Lmax=1000 mm


 - 100 kg


Outside opening door



Hmax=2150 mm
Lmax=1100 mm

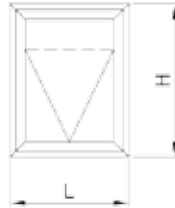
Hmax=2300 mm
Lmax=1000 mm

 - 100 kg


 } Maximum weight of a door leaf

Max. dimensions of windows

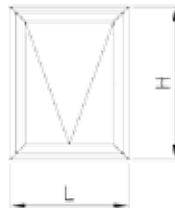
Outward opening awning window
with friction hinges



Hmax=2000 mm
Lmax=2400 mm

 - 100 kg

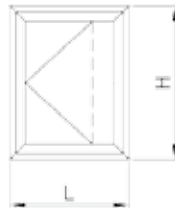
Outward opening awning window
with butt hinges




Hmax=1200 mm
Lmax=2400 mm

 - 90 kg

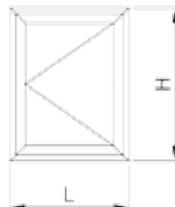
Outward opening casement window
with friction hinges




Hmax=2400 mm
Lmax=838 mm


 - 47 kg

Outward opening casement window
with butt hinges



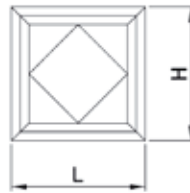
Hmax=2400 mm
Lmax=1400 mm

 - 90 kg

 } Maximum weight of a casement

Size limits and standard sections

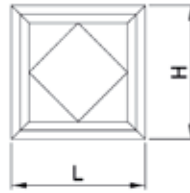
Pivot window with a horizontal axis of rotation



Hmax=2000 mm
Lmax=2400 mm

kg -180

Pivot window with a vertical axis of rotation



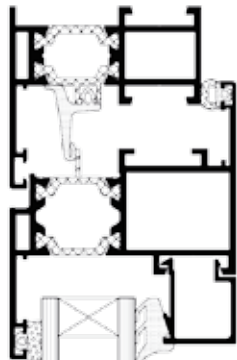
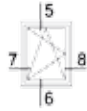
Hmax=2400 mm
Lmax=2000 mm

kg -120

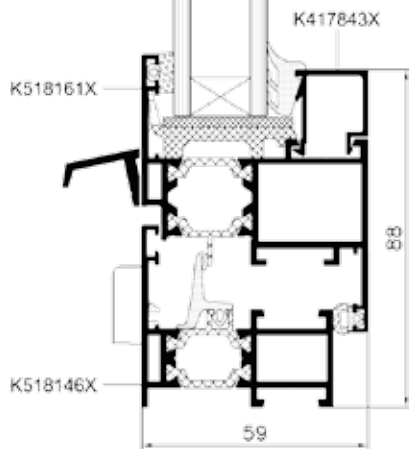
kg } Maximum weight of a casement

Active window - main cross-section

5 MB-59S

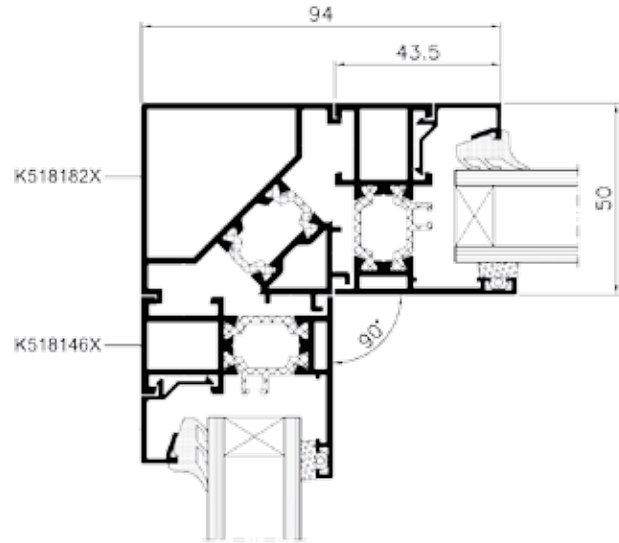
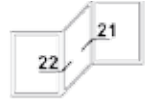


6 MB-59S



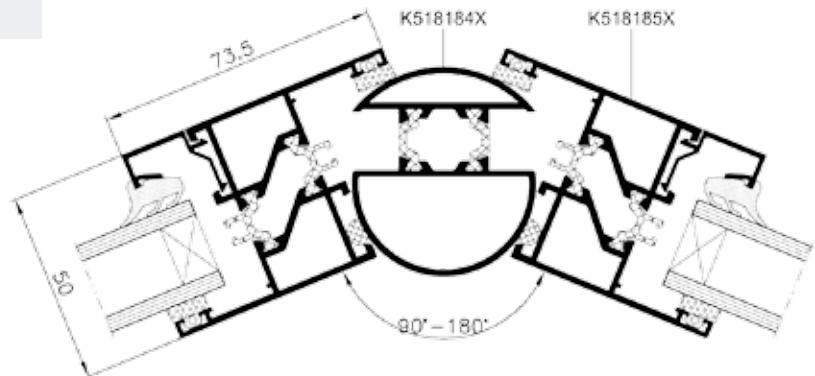
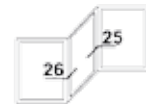
Angular connection - cross-section

21 MB-59S



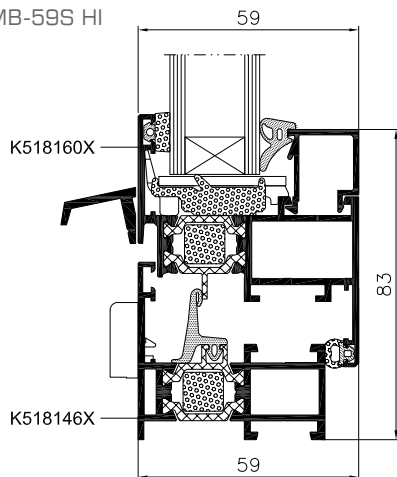
Angular connection - cross-section

25 MB-59S



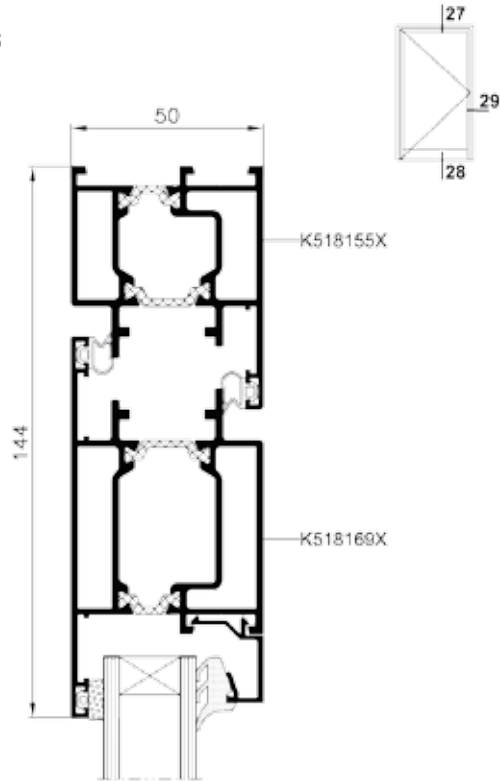
MB-59S HI window - cross section

6 MB-59S HI



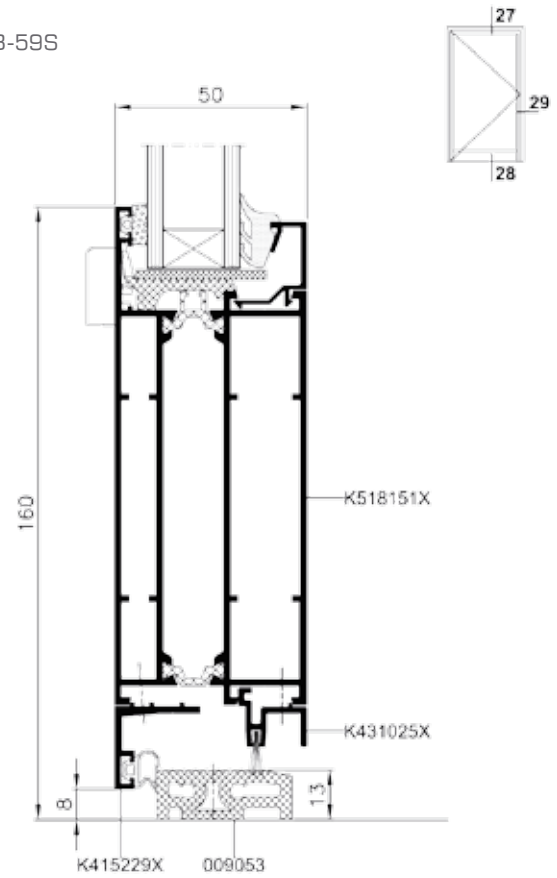
Single outward opening door
- cross-section

27 MB-59S



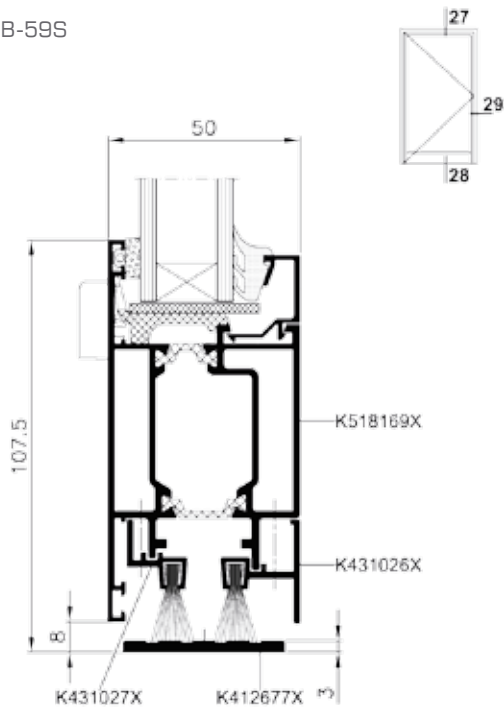
Single outward opening door
- cross-section

28 MB-59S



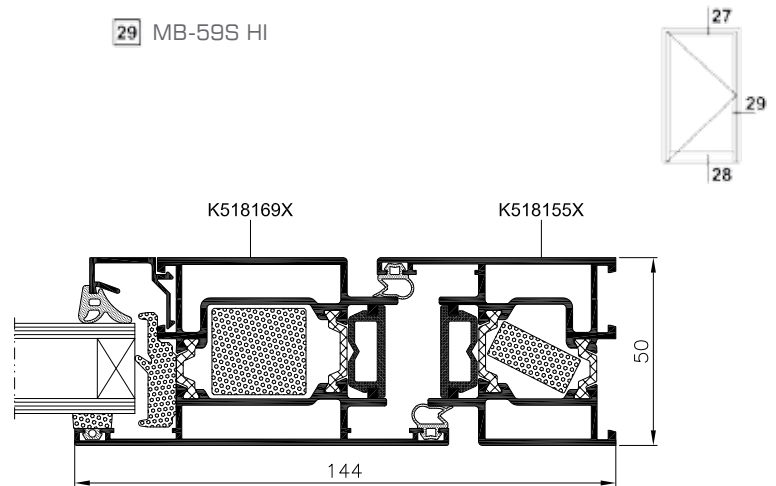
Single outward opening door
- cross-section

28 MB-59S



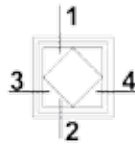
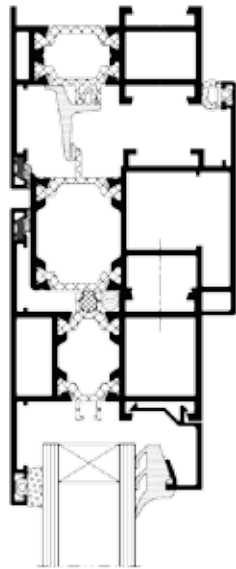
Single door open out
- cross section

29 MB-59S HI

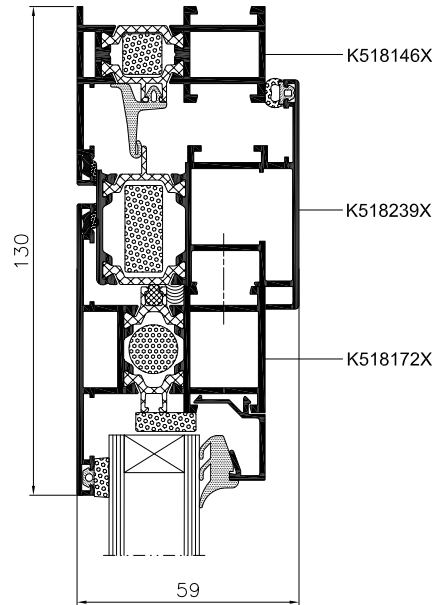


Pivot window with a horizontal axis of rotation
- cross-section

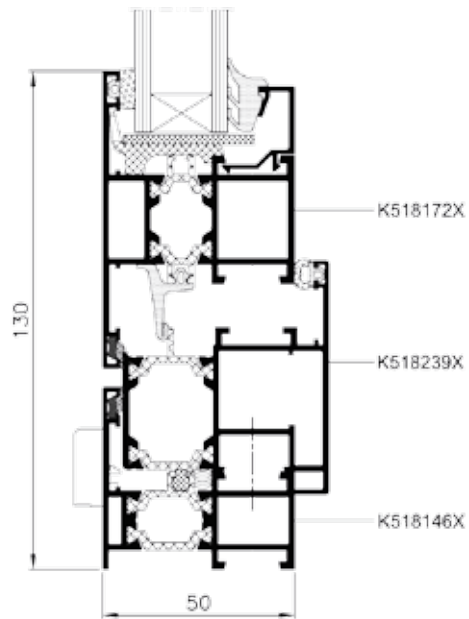
1 MB-59S PIVOT



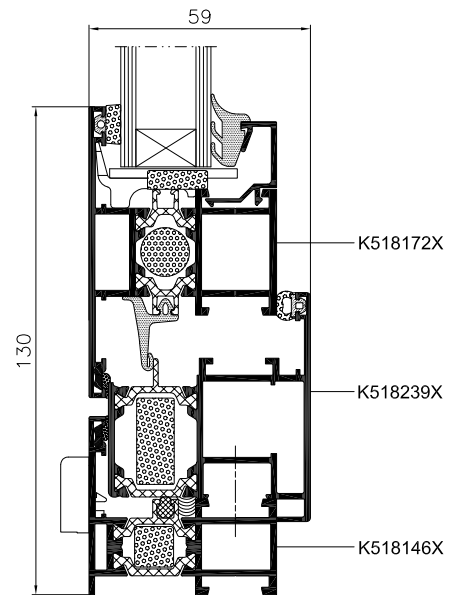
1 MB-59S PIVOT HI



2 MB-59S PIVOT

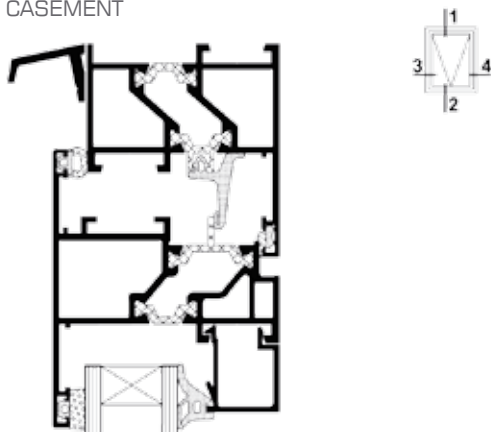


2 MB-59S PIVOT HI

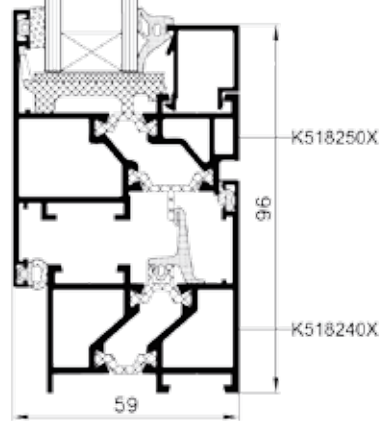


Outward opening window - cross-section

1 MB-59S CASEMENT

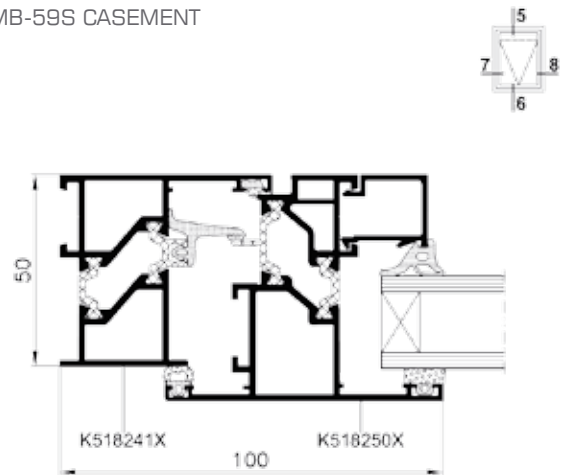


2 MB-59S CASEMENT



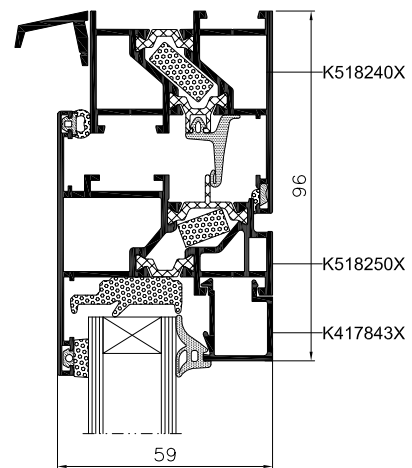
Outward opening window - cross-section

7 MB-59S CASEMENT



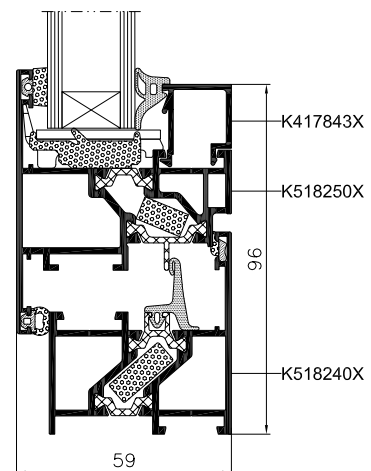
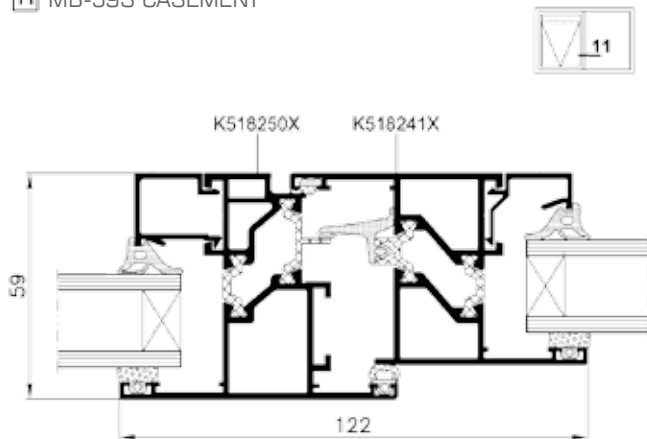
Outward opening window - cross-section

2 MB-59S CASEMENT HI



Outward opening window - cross-section

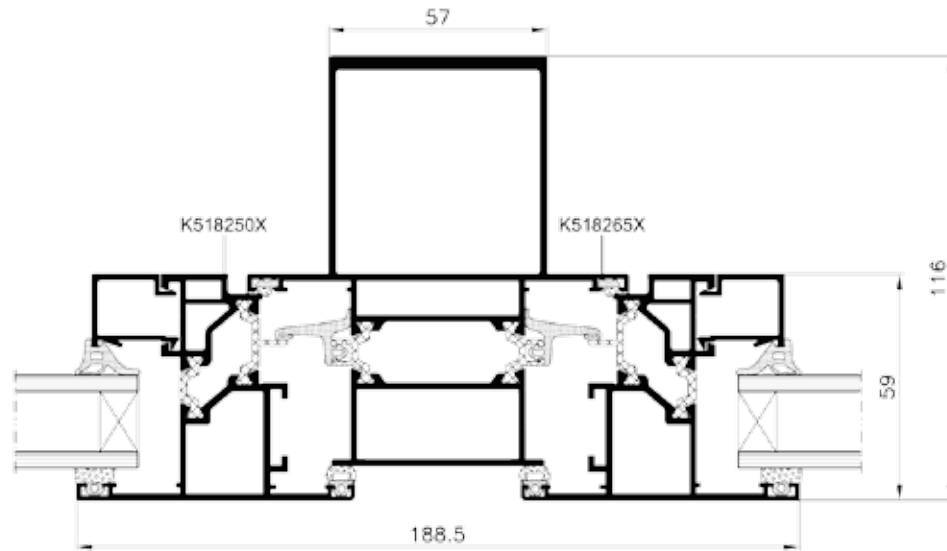
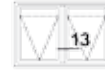
11 MB-59S CASEMENT



Scale 1:2

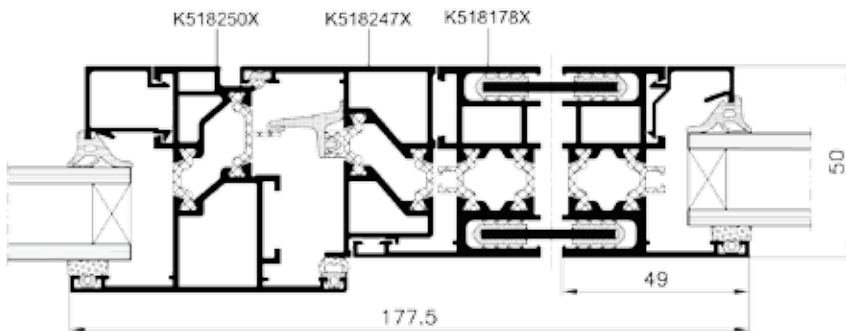
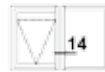
Reinforced mullion - cross-section

13 MB-59S CASEMENT



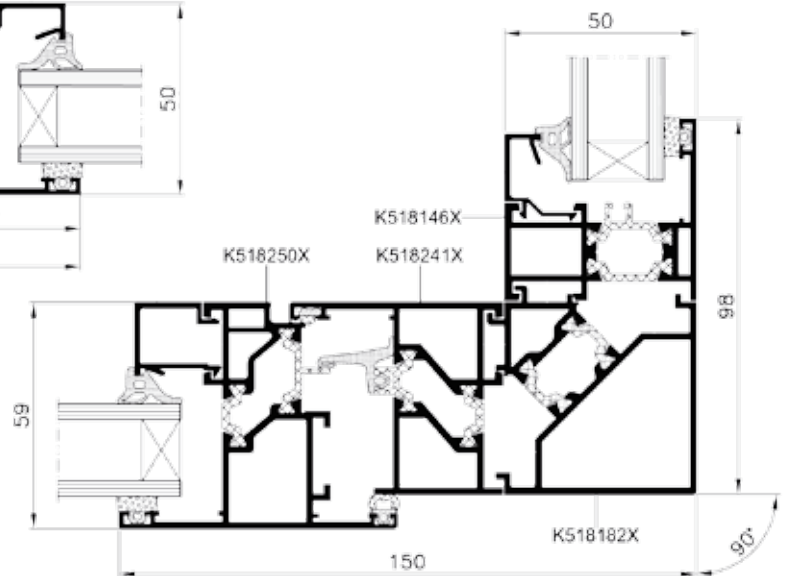
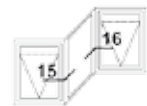
Expansion joint - cross-section

14 MB-59S CASEMENT



Angular connection - cross-section

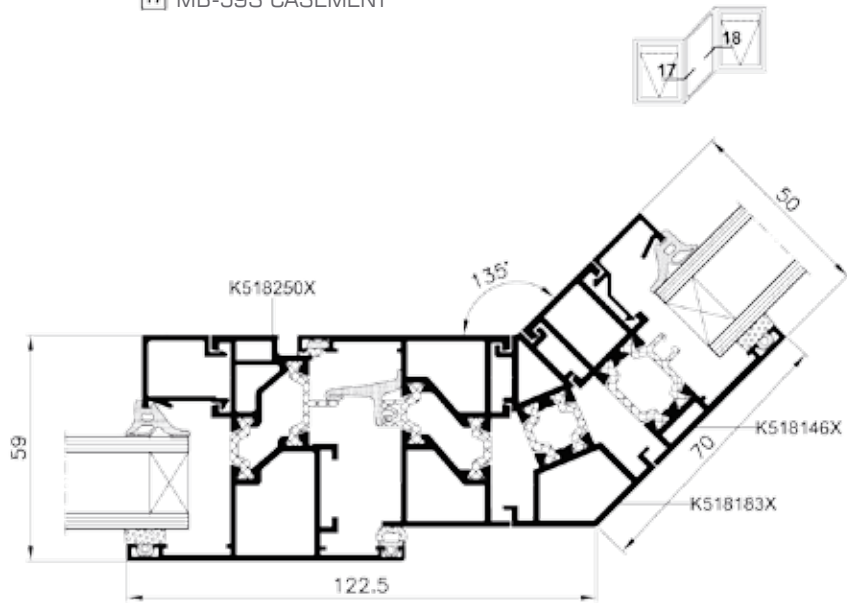
15 MB-59S CASEMENT



Scale 1:2

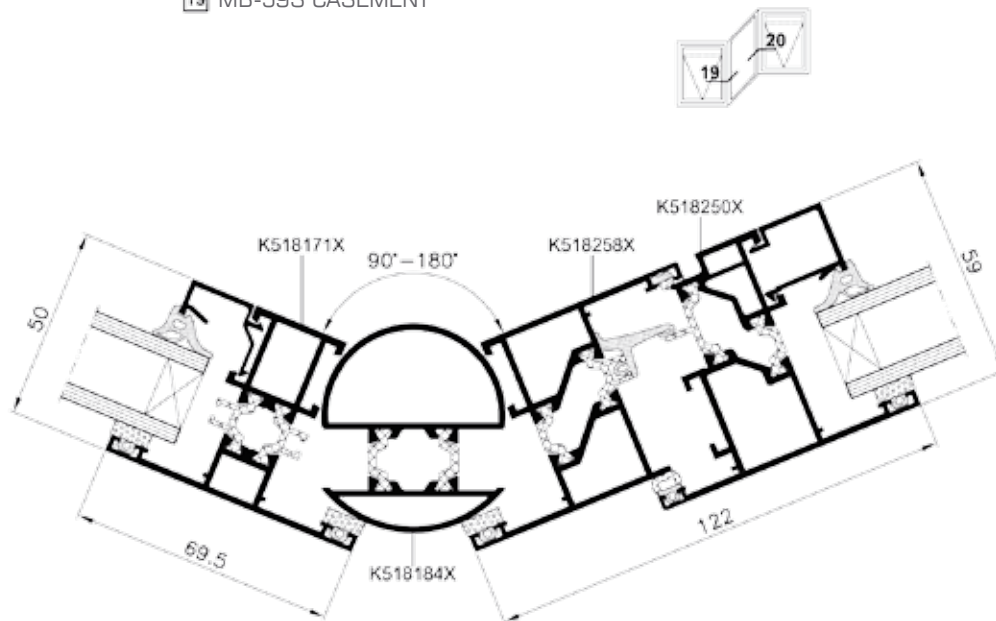
Angular connection - cross-section

17 MB-59S CASEMENT



Angular connection - cross-section

19 MB-59S CASEMENT



SYSTEM

MB-60

MB-60HI



DOOR AND WINDOW SYSTEMS

MB-60 is an engineered aluminium system used to make external screens that require a high performing system both in thermal and sound insulation. It can be used in various applications such as windows and doors of different types, enclosed entrance porches or spatial constructions. A characteristic feature of the system is its compatibility with the door-and-window systems MB-45 and MB-70. The MB-60 system can be the base for anti-burglary doors and windows. Additionally, other window versions are available in this system, e.g. MB-60US window with a hidden sash, MB-60 Pivot window and MB-60 Industrial, i.e. windows with the so-called "steel-like" appearance, useful for renovations of historic buildings. This system is also the basis for the construction of the MB-60EF window, designed for the MB-SR50 curtain wall and cost-efficient MB-60E doors. We also offer a HI version in most of our systems, which has an enhanced thermal insulation performance.

WITH THERMAL BREAK

Optimally selected profile shape

The system profiles have a three-chamber structure. The constructional depth of window sections is 60 mm (frame), 69 mm (casement), and of doors is 60 mm and 60 mm, respectively. With windows and doors closed, these depths of casement and frame sections give the effect of a single plane for windows and the effect of the leaf being flush with the frame surface for doors, when looking from the outside. The shape of profiles makes it possible to obtain slim and resistant window and door constructions.

Wide range of applications

The MB-60 system allows execution of a number of constructions, including large doors of the dimension 2800 x 3300 mm with leaf width 1500 mm.

Possibility of bending profiles

An advantage of the MB-60 system is the potential to bend the profiles, including frames, casements, and crosspieces, which enables execution of various arches and arch constructions.

High thermal insulation and weather tightness

A feature of the MB-60 system is its low overall heat-transfer U coefficient due to the use of thermal breaks and gaskets. Thermal insulation is improved by placing special



OFFICE PARK, Kielce, Poland
design / Biuro Architektoniczne DDJM
realization / JEZERSKI

inserts in the central chambers of aluminium profiles. These inserts, due to a low value of the heat-transfer coefficient, reduce heat transfer through the profile. The central location of the inserts also decreases heat transfer by convection and thermal radiation. In the system, profiled omega-shaped glass fibre-reinforced polyamide thermal breaks 24 mm (windows) and 14 mm (doors) in width

are used. The shape of breaks improves profile rigidity in relation to flat breaks and facilitates water removal from sections, thus ensuring proper thermal insulation under any weather conditions. A HPVC sill and EPDM gaskets ensure good thermal insulation of door leaves and water and air tightness.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves, shape of glazing beads, and doorsill shapes and heights.

Colour palette

A wide choice of colours offered in the standard colour option meets the requirements of even the most demanding customers. Colour finishes are made by powder coating or anodising.

Excellent resistance to water and air infiltration

Tightness is ensured by the use of special EPDM gaskets, which provide resistance to aging during long-term operation.

The glass gaskets and the central gasket are cut at 45° and bonded in the corners. Cover gaskets do not require cutting in the corners. For the window casement, the gasket should be fixed in the middle of the upper rail. Every window and door of the MB-60 system has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the casement and frame. The ventilation and drainage holes are covered with plastic shields on the outside. During the approval tests, the system windows retained complete water tightness up to 60 dPa.

Designed compatibility

A characteristic feature of the system is its strict correlation with the door-and-window systems MB-45, MB-59S, MB-70, and MB-78E1. As a result such a design concept makes it possible to obtain and use many compatible elements of these systems, such as shared glazing beads, corners, sealing strips, glass and cover gaskets, fixture, locks, and hinges and many identical manufacturing processes such as pinning connecting members of crosspieces and rails, gluing corner cleats preceded by crimping or pinning, cutting out different recesses, etc. One of the effects of this unification process is almost identical external and internal appearance of products used in different systems of development.

Wide glazing range

Glass panels and other infills are installed by means of glazing beads and glass gaskets. The system allows for the use of glazing units of the thickness between 14 mm and 50 mm in window casings and between 5 mm and 41 mm in fixed windows and door leaves. Such a wide range of filling thicknesses ensures that all standard and non-standard glass panels can be fitted.

Freedom of hardware selection

The MB-60 construction has been adapted to typical hardware, locks and hinges, following European standards. Sections are equipped with grooves of such dimensions as to enable fixing of multi-point locking hardware and connecting members, as per EURO standard. Thus, it is possible to meet the demands of our customers without changing the basic construction.

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E900, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C5, EN 12211:2001; EN 12210:2001
- Impact resistance: Class 3
- Wind load resistance $R_w=36$ dB (depending on the infill material)
- Security: WK2 class

System table MB-60, MB-60HI

Overall heat transfer coefficient U_f : MB-60 from 1,80 W/m²°K, MB-60HI from 1,48 W/m²°K

SYSTEME	CONSTRUCTION	NARROW PROFILE FACE WIDTHS (mm)	U_f [W/m ² °K]	U_w [W/m ² °K]	FILLING
MB-60	fixed window	77	2,30	1,42	single - chamber glass
			2,28	1,00	double - chamber glass
	active window	130	2,46	1,63	single - chamber glass
				1,29	double - chamber glass
MB-60HI	fixed window	77	2,10	1,37	single - chamber glass
			1,90	0,92	double - chamber glass
	active window	130	2,22	1,55	single - chamber glass
				1,21	double - chamber glass

PRODUCTS	CONSTRUCTIONAL DEPTH OF SECTIONS FRAME, LEAF	CONSTRUCTIONAL WIDTH OF SECTIONS FRAME, LEAF	RANGE OF GLAZING
window	60 mm (O) / 69 mm (S)	47÷204 mm (O) / 29÷48 mm (S)	14÷50 mm
door	60 mm (O) / 60 mm (S)	51÷72 mm (O) / 72÷93 mm (S)	5÷41 mm

PRODUCTS	INSIDE OPENING						OUTSIDE OPENING		PIVOT		tilt and slide window	VALIDATION DOCUMENTS
	turn - hung window	tilt window	tilt/turn window	single	double	with the hidden sash	single	double	vertically	horizontally		
window	×	×	×	×	×	×			×	×	×	PN-EN 14351-1
door				×	×		×	×				PN-EN 14351-1

SYSTEM
MB-60EF
MB-60EF HI



WINDOW SYSTEM
VARIETY IN THE MB-SR50
EFEKT CURTAIN WALL

The system is compatible with our MB-SR50 EFEKT thermally broken curtain walling. As a result the curtain wall gains specific appearance, i.e. on the "all-glass" external surface of the curtain wall there is a clear outline of an aluminium window frame. External surfaces of window profiles and glass panels are flush.

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E1200, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C4, EN 12211:2001; EN 12210:2001

SYSTEM
MB-60US
MB-60US HI



INVISIBLE SASH
WINDOW SYSTEMS
VARIETY

Functionality and aesthetics

- uniform external appearance of both fixed and active windows,
- fixed or inward opening windows casement, tilt and turn, double casement with a fixed floating mullion,
- installation in individual development or on aluminium curtain walls.

Glazing

- glazing range between 8-44 mm for active windows and 4-35 mm for fixed windows



UNIVERSITY, Gdańsk, Poland

design / STUDIO M
realization / ELKAM

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E900, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C5, EN 12211:2001; EN 12210:2001
- Sound insulation: do 35(-2;-5) dB



ASSECO, Rzeszów, Poland

design / Pracownia Projektowa Arch. A. Małek
realization / INWEST - PROFIL

SYSTEM MB-60 Industrial MB-60 Industrial HI



LISTED BUILDING RENOVATION SYSTEMS

On the basis of the basic MB-60 system, a supplementary window system was developed. In the INDUSTRIAL version of the MB-60 system window and door profiles with a thermal barrier have been enriched with additional decorative elements that refer in appearance to steel windows in buildings under conservation. The primary features of this system are the same as in the base version.

Manufaktura, Łódź, Poland

design / Sud Architectes
fabrication / Opal, Grodzisk Wlkp.



SYSTEM MB-60E MB-60E HI



ECONOMY DOOR SYSTEMS

The MB-60E system is intended for doors with a thermal barrier as well as window sets incorporating a door unit. It allows clients to obtain an end product featuring good functional properties combined with high technical parameters, ensuring at the same time cost efficiency, production, convenience and shorter time required for door installation.

Glazing

- glazing range between 5 and 41 mm

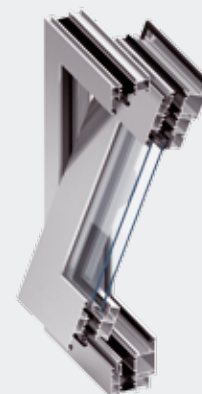
Functionality and aesthetics

- large allowable dimensions of the door leaf: 1300 x 2200 mm (1200 x 2300),
- max. weight of the door leaf: 120 kg
- possibility of fitting most types of hardware available on the market (locks, hinges, closers, etc.)

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 2,8 W/m²K
- Air infiltration:
Class EN3 1026:2001; EN 12207:2001
- Rainwater resistance:
Class E1200, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class C1, EN 12211:2001;
EN 12210:2001
- Impact resistance: Class 3

SYSTEM MB-60 PIVOT



PIVOT WINDOW

The MB-60 Pivot system is used to make windows that require thermal and sound insulation, with a vertical or horizontal axis of rotation. A particular attention should be paid to dimensional ranges for pivot window casements: a window with a horizontal axis of rotation can be 800 - 2000 mm in height and 500 - 2400 mm in width. Max weight 180 kg.

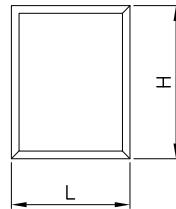
Technical parameters:

- Air infiltration: Class 4,
EN 1026:2001; EN 12207:2001
- Rainwater resistance: Class E900,
EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C2,
EN 12211:2001; EN 12210:2001



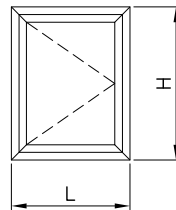
Max. dimensions of windows

Fixed window



Max. standard dimensions of windows result from maximal glass sizes.

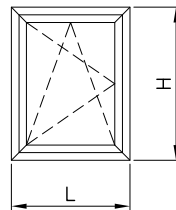
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm

- 130 kg

Tilt and turn window

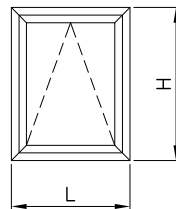


Hmax=2400 mm
Lmax=1250 mm

Hmax=1850 mm
Lmax=1600 mm

- 90kg/130 kg

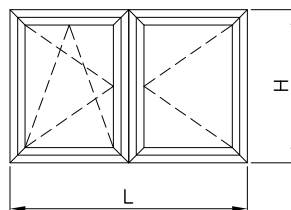
Tilt window



Hmax=1000 mm
Lmax=2150 mm

- 130 kg

Double casement



Hmax=2250 mm
Lmax=2700 mm

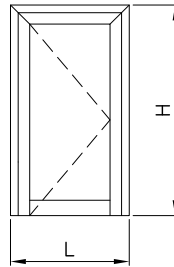
Turn-hung vent - - 130 kg

Tilt and turn vent - - 130 kg

} Maximal vent weight


Max. dimensions of doors

Inside opening door

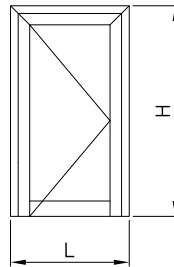


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Outside opening door

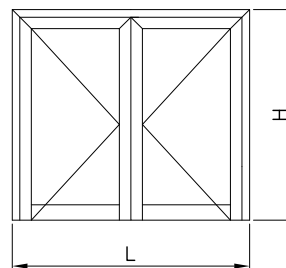


Hmax=2400 mm
Lmax=1200 mm


Hmax=2200 mm
Lmax=1300 mm


 -120 kg

Double door



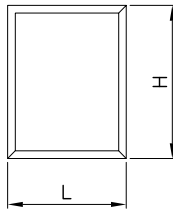
Hmax=3300 mm
Lmax=2800 mm

 -120 kg

 } Maximal weight of a door leaf

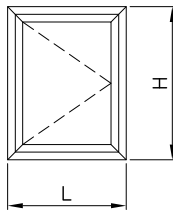
Max. dimensions of windows

Fixed window



Max. standard dimensions of windows result from maximal glass sizes.

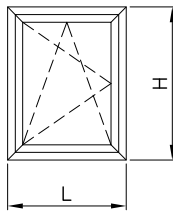
Turn-hung window



Hmax=1900 mm
Lmax=1000 mm

- 130 kg

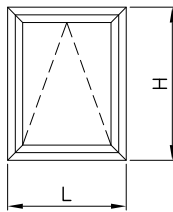
Tilt and turn window



Hmax=1900 mm Hmax=1500 mm
Lmax=1100 mm Lmax=1400 mm

- 130 kg

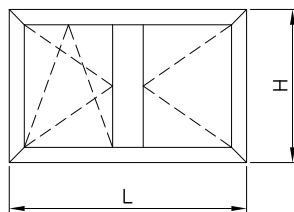
Tilt window



Hmax=1000 mm
Lmax=2150 mm

- 130 kg

Double casement



Hmax=1900 mm
Lmax=2400 mm

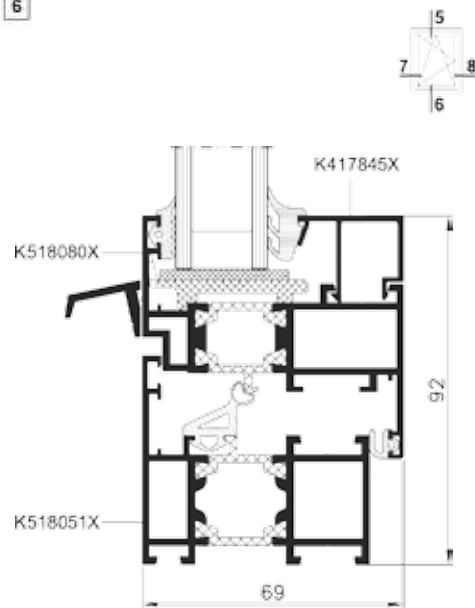
Turn-hung vent - - 130 kg

Tilt and turn vent - - 130 kg

} Maximal vent weight

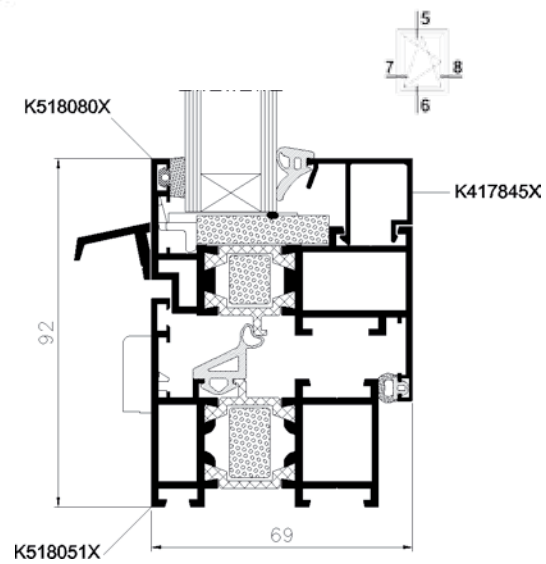
Active window MB-60 - cross- section

6



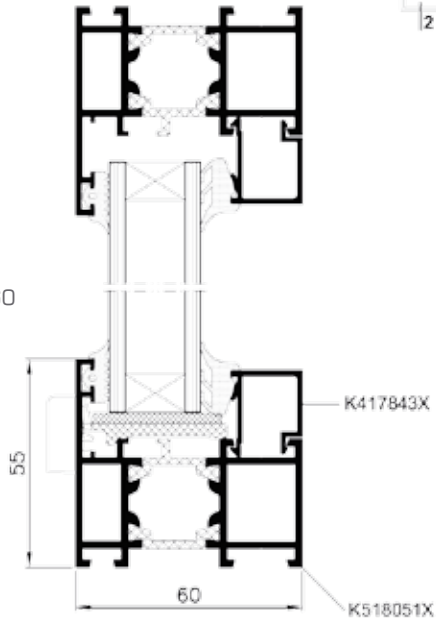
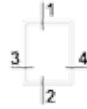
Active window MB -60HI - cross- section

6

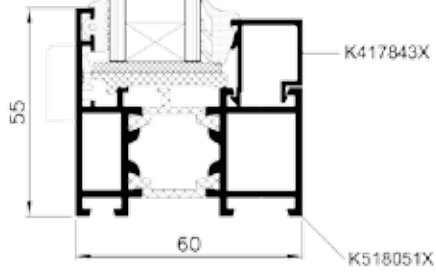


Fixed window - cross-section

1 MB-60

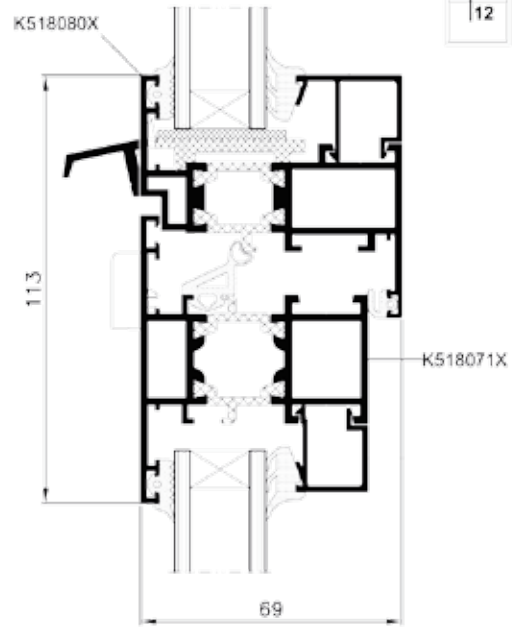


2 MB-60



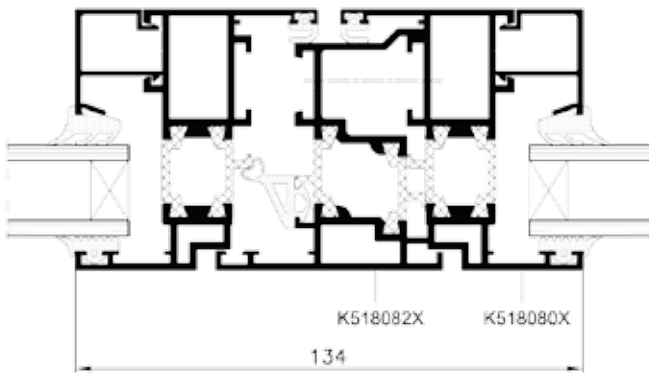
Active window - cross-section

12 MB-60



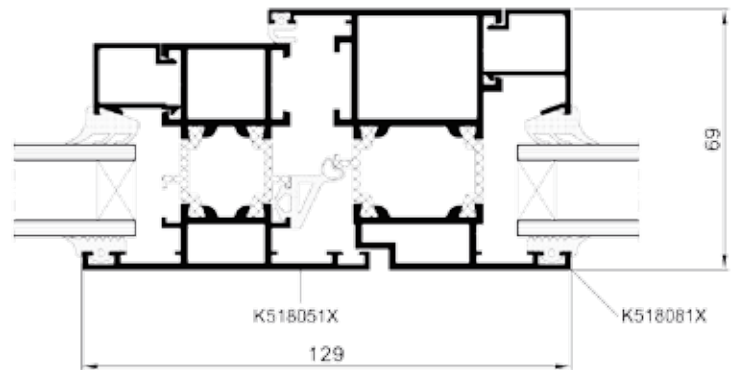
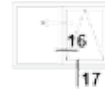
Active window - cross-section

14 MB-60



Tilt and slide window - cross-section

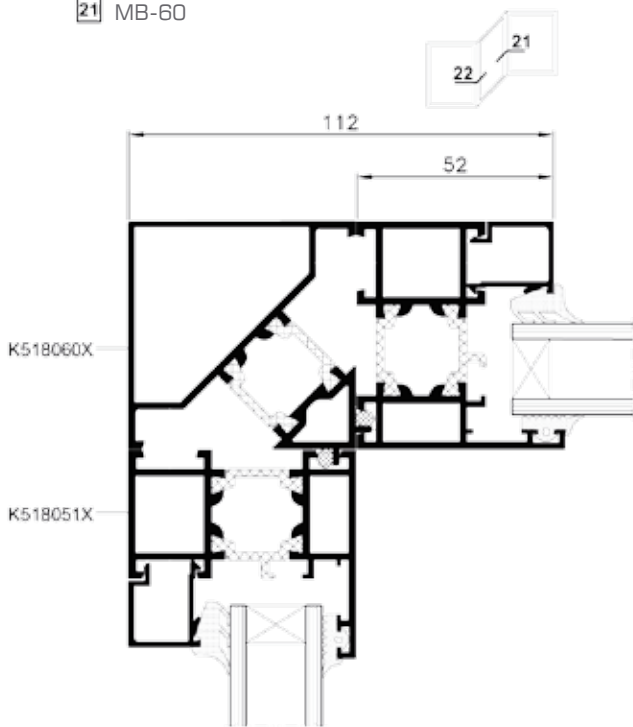
16 MB-60



Scale 1:2

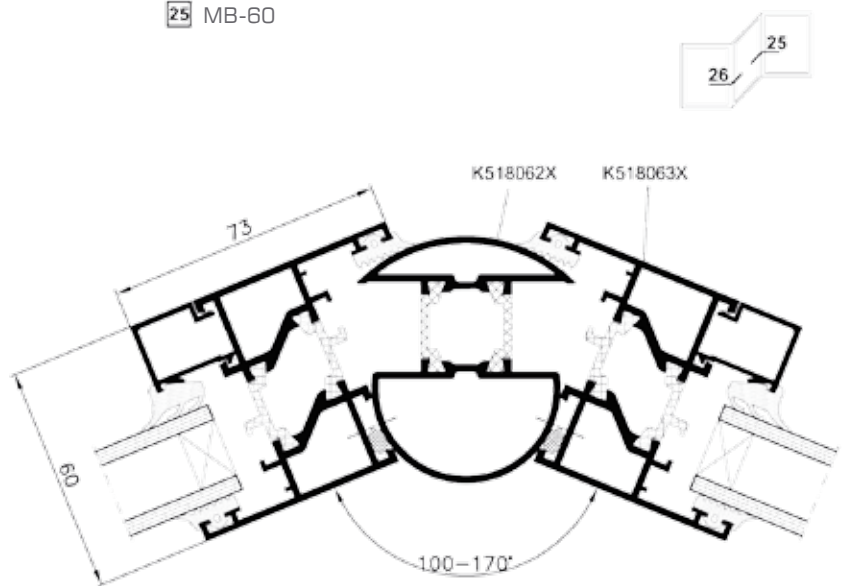
Angular connection - cross-section

21 MB-60



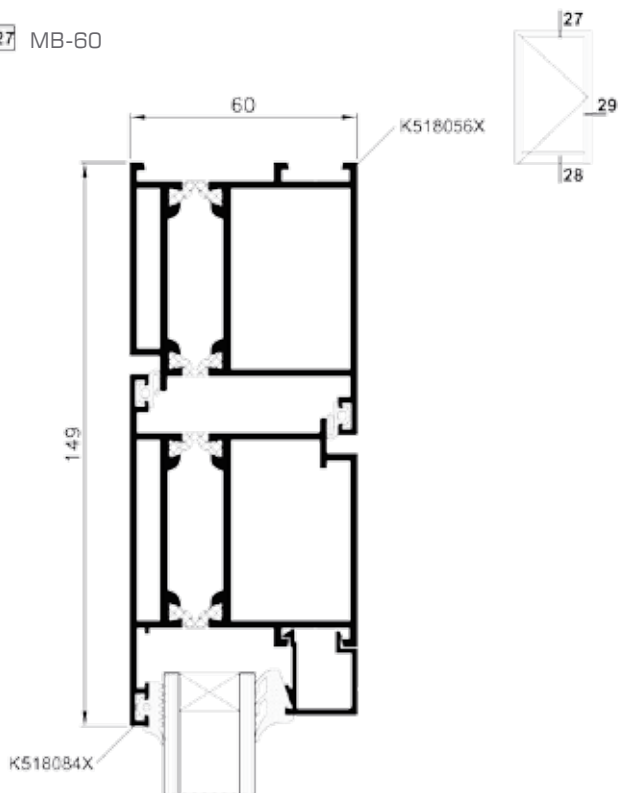
Angular connection - cross-section

25 MB-60



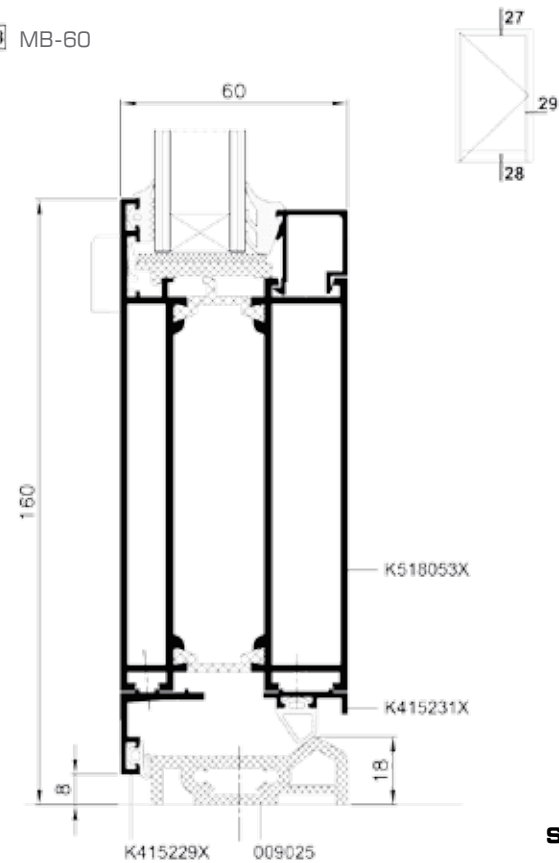
Outward opening door - cross-section

27 MB-60



Outward opening door - cross-section

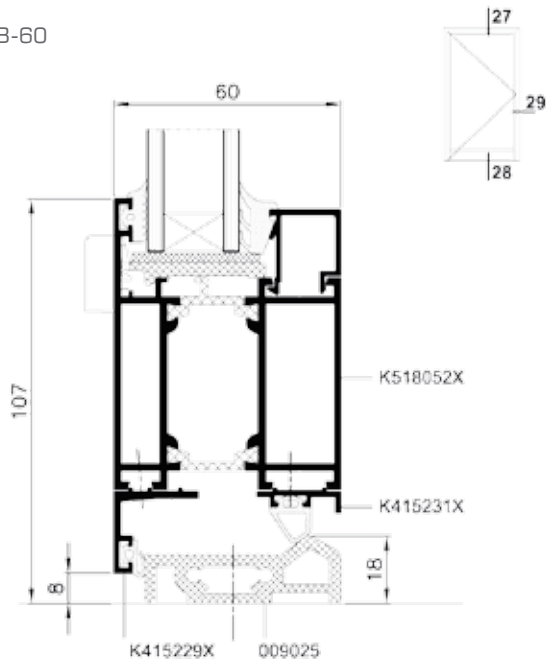
28 MB-60



Scale 1:2

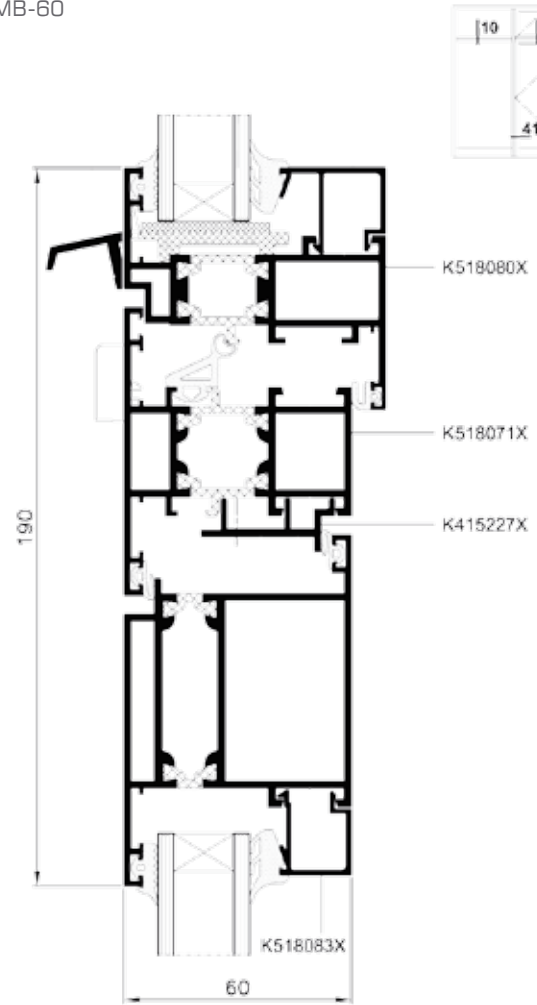
„ Standard“ outward opening single door
- cross-section

28 MB-60



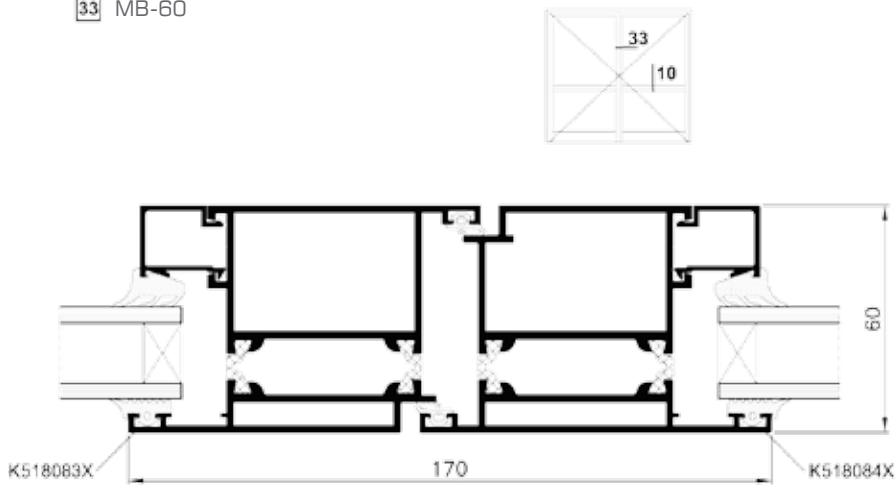
Display window with a transom window
- cross-section

40 MB-60



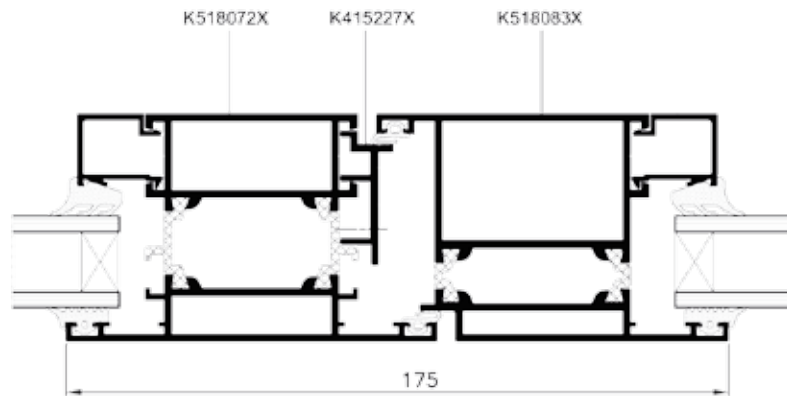
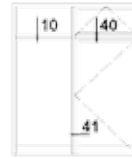
Double door - cross-section

33 MB-60



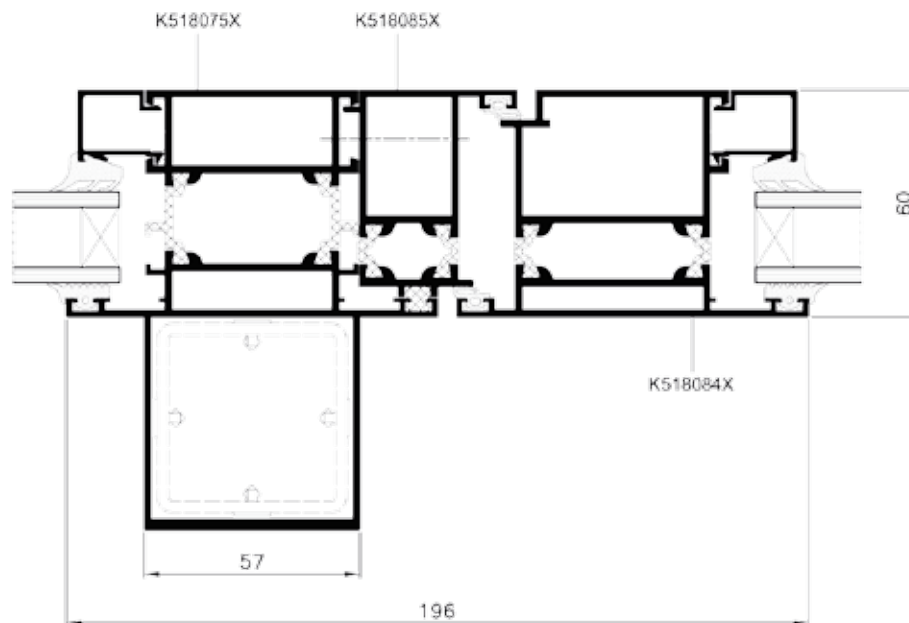
Display window with a double door
- cross-section

41 MB-60



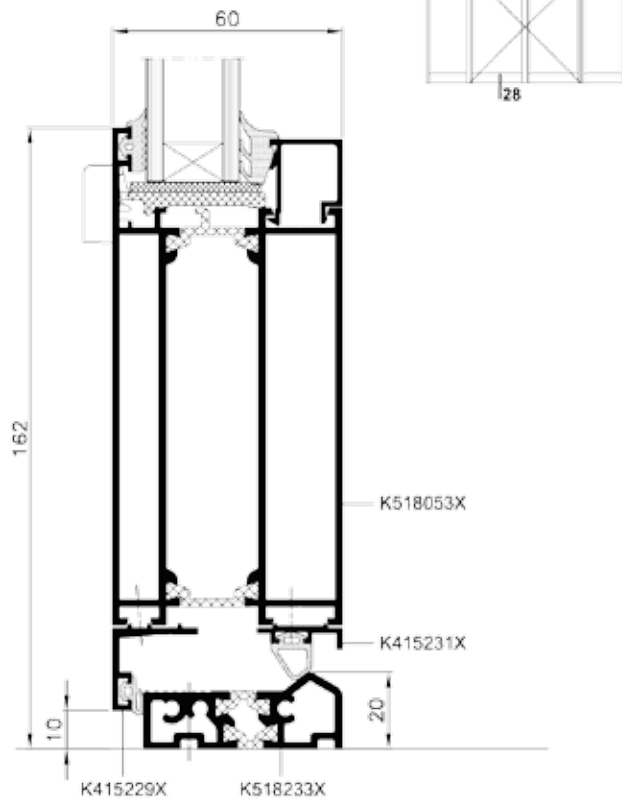
Display window with a transom window
- cross-section

42 MB-60



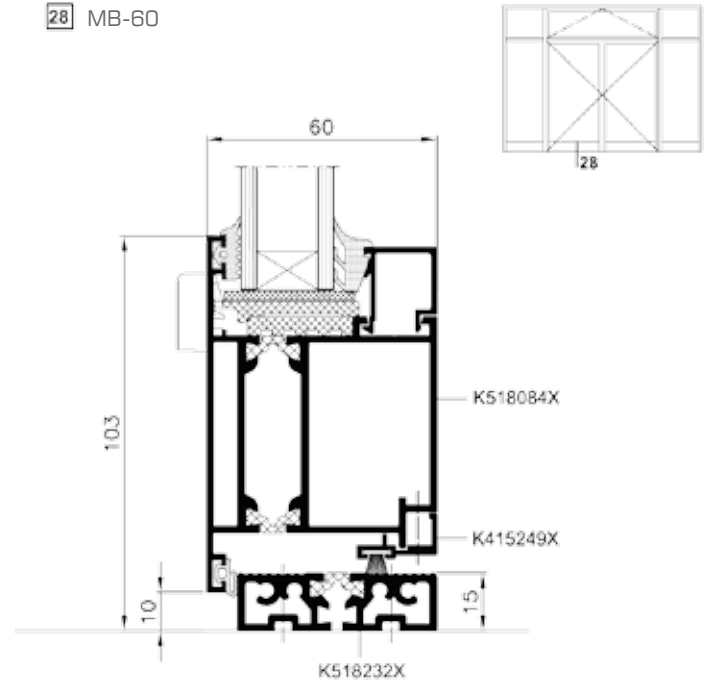
Display window with a double door
- cross-section

28 MB-60



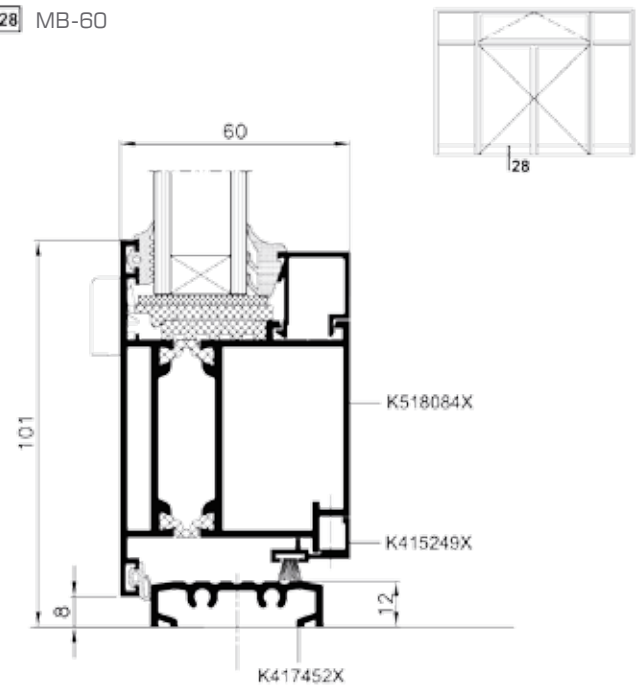
Display window with a double door
- cross-section

28 MB-60



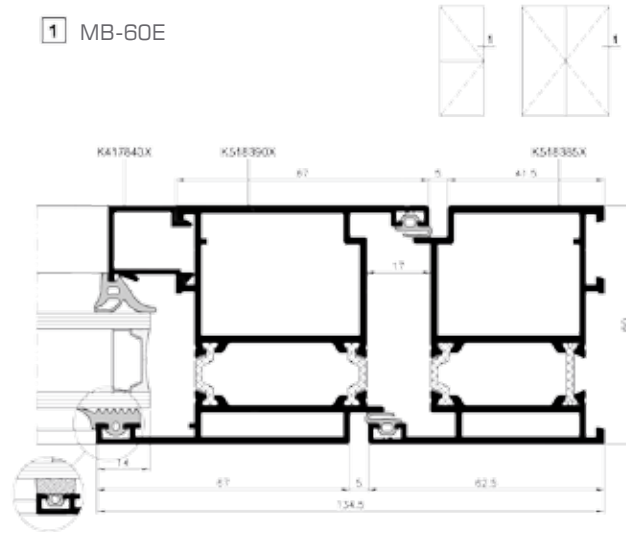
Display window with a double door
- cross-section

28 MB-60



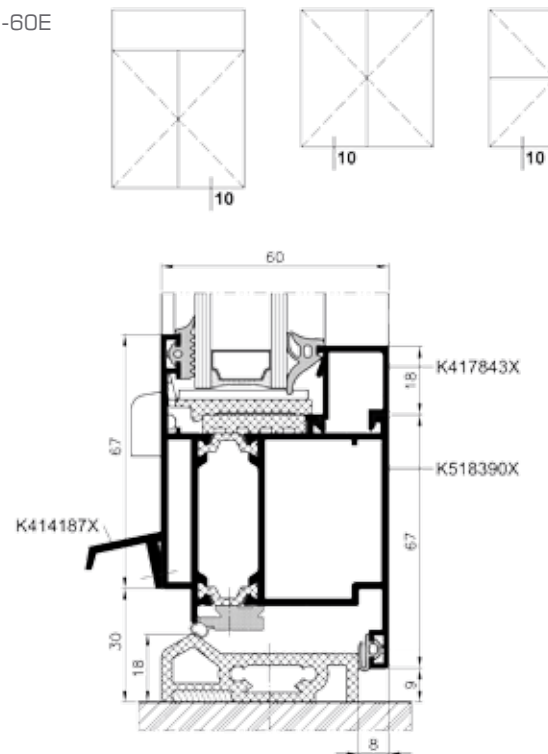
Cross-section of jambs of inward opening door

1 MB-60E



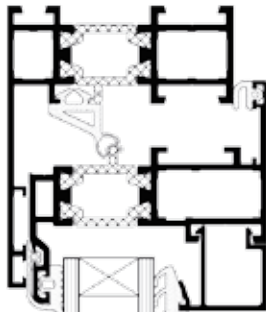
Cross-section of bottom rail in inward opening door

10 MB-60E

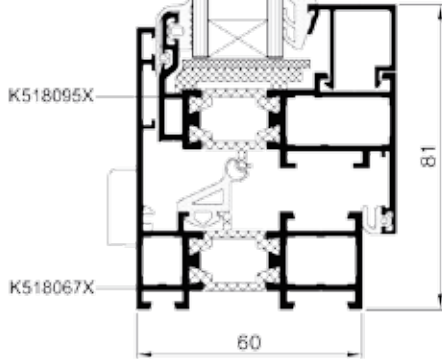


Active window - cross-section

MB-60US

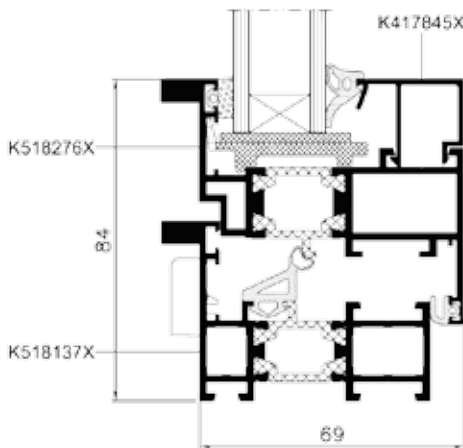


2 MB-60US



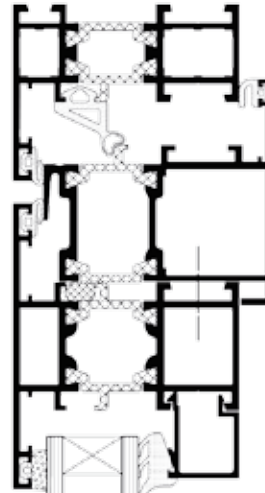
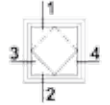
Active window - cross-section

2 MB-60 INDUSTRIAL

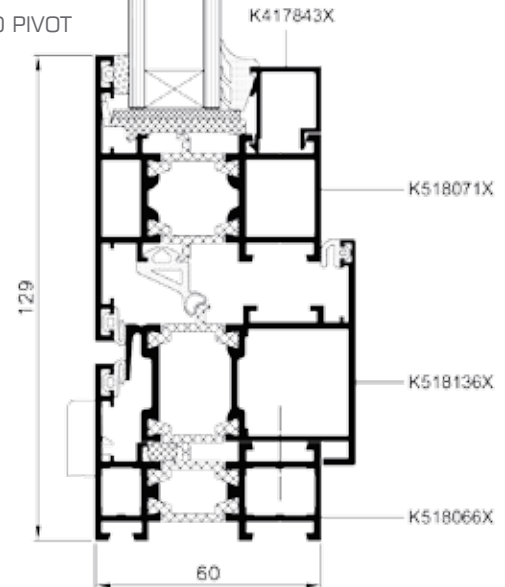


Pivot window with a horizontal axis of rotation - cross-section

1 MB-60 PIVOT

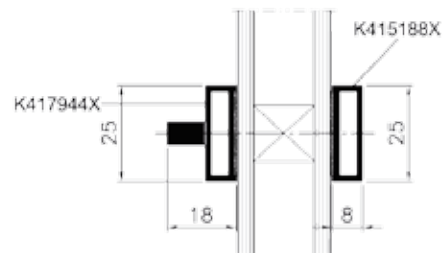


2 MB-60 PIVOT



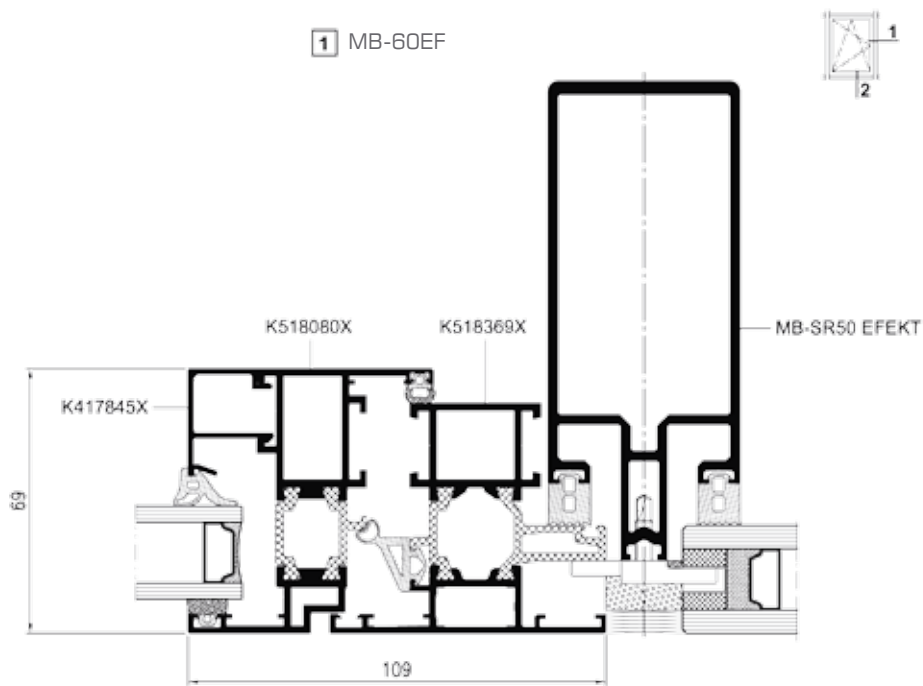
Glued astragal - cross-section

4 MB-60 INDUSTRIAL

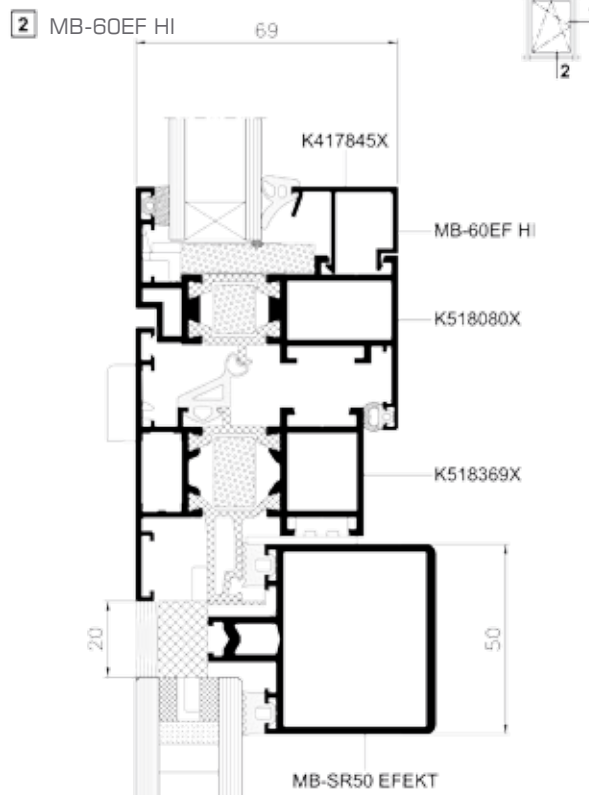


Scale 1:2

Active window - cross-section



Active window - cross-section



SYSTEM

MB-70

MB-70HI

DOOR AND WINDOW SYSTEMS



The MB-70 door and window system with enhanced thermal insulation. The solutions based on MB-60 profiles featuring a three-chamber construction. The MB-70 system is not only characterised by a special construction of the thermal barrier but also by an innovative solution of two-component gaskets. Apart from anti-burglary doors and windows which can be built in this system, there are also available different versions of windows, such as the MB-70US / MB-70US HI with the so-called "hidden sash" and the MB-70 Industrial / MB-70 Industrial HI. The system is also the base for constructing the "cold-warm" curtain wall MB-70CW / MB-70CW HI.

WITH THERMAL BREAK

ATRIUM CITY, Warsaw, Poland
design / Biuro Projektów Kazimierski i Ryba
realization / Metalplast-Stolarka

Optimally selected profile shape

The system profiles feature a three-chamber structure. The constructional depth of window sections is 70 mm (frame) and 79 mm (casement), while in the case of door sections it is 70 mm and 70 mm, respectively. With windows and doors closed, such depths of casement and frame sections give the effect of a single plane for windows and the effect of the leaf being flush with the frame surface for doors, when looking from the outside. The shape of profiles makes it possible to obtain slender and resistant window and door constructions.

High thermal and sound performance

The MB-70 system features a very low value of the overall heat-transfer coefficient U_f : from 1.03 W/m²K. This characteristic is of great significance during the times of ever growing demands for energy management and environmental protection. Profiled, omega-shaped, glass fibre-reinforced polyamide thermal breaks have been accommodated into the system, the width of which is 34 mm for windows and 24 mm for doors. Such shape of thermal breaks increases profile rigidity in comparison to flat breaks and facilitates water removal from sections, thus ensuring proper thermal insulation under any weather conditions. Thermal breaks applied in windows have additional gaskets at points of contact with sections, as well as tongues dividing the chamber between the internal and external aluminium sections into three parts. Thermal insulation is improved by placing special inserts in the central chambers of aluminium profiles. These inserts, due to a low value of the heat-transfer coefficient, reduce heat transfer through the construction. The central location of the inserts also decreases heat transfer by convection and thermal radiation.





PKN Orlen, Płock, Poland
 design / WMA Architekci
 arch. Magdalena Musiał, arch. Wojciech Musiał
 realization / Elbudplast, Łódź

Excellent resistance to water and air infiltration

Tightness is ensured due to the application of special gaskets made of EPDM - two-component synthetic rubber: solid and cellular, to provide resistance to aging during long-term operation as well as to ensure very good insulation power. The MB-70 is the first system in which this material was used to make the central gasket. The external glass gasket is mounted in a continuous manner, without corner trimming and its ends are joined with each other at mid-length of the upper crosspiece of the window frame. This way of glazing ensures excellent water and air tightness. Glass gaskets are hardly visible; thus, the effect of the so-called obituary frame around the pane is reduced. Cover gaskets only require trimming of the part that is mounted on the section. Every door and window construction of the MB-70 system has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the casement and the frame. Ventilation and drainage holes are covered with plastic shields on the outside. During the approval tests, the system windows retained complete water tightness up to 60 dPa.

Possibility of bending profiles

An essential advantage of the MB-70 system is the potential to bend profiles, including frames, casements, and crosspieces, which enables execution of various arches and arch constructions.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves, the shape of glazing beads or the shape and height of doorsills.

Wide glazing range

Glazing or other infills are installed by means of glazing beads and gaskets. The system allows for the use of glazing units of thickness ranging between 21 mm and 60 mm in window sashes and between 12 mm and 51 mm in fixed windows and door leaves. Such a wide range of filling thicknesses ensures that both standard and non-standard panes can be installed.

Freedom of hardware selection

The MB-70 construction is well-adapted to accommodate typical, according to the European standards, fixtures, locks and hinges. The sections have profiled grooves, the dimensions of which allow for the use of multi-point locking system and connectors in accordance with the EURO standard. Such solution makes it possible to meet the demands of our customers without changing the basic construction.

Technical parameters:

- Air infiltration: Class 4, EN 1026:2001; EN 12207: 2001
- Rainwater resistance: Class E 1050, EN 1027:2001; EN 12208:2001
- Wind load resistance: Class C5/B5, EN 12211:2001; EN 12210:2001
- Security: WK2 class
- Sound insulation: $R_w=47$ dB (depending on the infill material)

System table MB-70, MB-70HI

Overall heat transfer coefficient U_f : MB-70 from 1,59 W/m^2K , MB-70HI from 1,03 W/m^2K

SYSTEME	CONSTRUCTION	NARROW PROFILE FACE WIDTHS (mm)	U_f [W/m^2K]	U_{Wf} [W/m^2K]	FILLING
MB-70	fixed window	66	1,72	1,27	single - chamber glass
			1,68	0,84	double - chamber glass
	active window	119	1,90	1,42	single - chamber glass
			1,87	1,05	double - chamber glass
MB-70HI	fixed window	66	1,56	1,24	single - chamber glass
			1,44	0,79	double - chamber glass
	active window	119	1,74	1,36	single - chamber glass
			1,68	0,99	double - chamber glass

SYSTEM NAME	PRODUCTS	CONSTRUCTIONAL DEPTH OF SECTIONS FRAME, LEAF	CONSTRUCTIONAL WIDTH OF SECTIONS FRAME, LEAF	RANGE OF GLAZING
MB-70HI	window	70 mm (O) / 79 mm (S)	47÷204 mm (O) / 29÷48 mm (S)	23÷60 mm
	door	70 mm (O) / 70 mm (S)	51÷72 mm (O) / 72÷93 mm (S)	15÷51 mm

PRODUCTS	INSIDE OPENING				OUTSIDE OPENING		PIVOT	VALIDATION DOCUMENTS
	turn window inside opening	tilt window	tilt/turn window	single	double	single		
							tilt inside/ outside sliding window	PN-EN 14351-1
window	x	x	x	x	x		x	PN-EN 14351-1
door				x	x	x	x	PN-EN 14351-1

S Y S T E M
 MB-70US
 MB-70US HI



INVISIBLE SASH WINDOW SYSTEMS VARIETY

Functionality and aesthetics

- uniform external appearance of fixed and active windows,
- fixed and inward-opening windows: casement windows, tilt-and-turn, double-casement with a fixed or floating mullion,
- different types of glazing beads: Standard, Prestige, Style,
- possibility of building two-colour constructions: profiles can have different colours outside and inside,
- installation in individual developments or on aluminium curtain walls.

Glazing

- glazing range between 18 - 54 mm for active windows between 9 and 45 mm for fixed windows.

Technical parameters:

- Overall heat transfer coefficient:
 U_f from 1,50 W/m²K
- Air infiltration: Class 4,
 EN 1026:2001; EN 12207: 2001
- Rainwater resistance:
 Class E1200, EN 1027:2001;
 EN 12208:2001
- Wind load resistance:
 Class C5, EN 12211:2001;
 EN 12210:2001

S Y S T E M
 MB-70 Industrial
 MB-70 Industrial HI



LISTED BUILDING RENOVATION SYSTEMS

Whether for renovating old steel windows or giving a stylish steel look to new-build, the MB-70 Industrial enables to keep with the original style, providing all the benefits of modern aluminum technology. Combining attractive design options with long term reliability, the system also features enhanced thermal insulation properties to ensure energy conservation.

SILESIA CITY CENTER, Katowice, Poland

design / STABIL, ARUP, BOSE
 realization / SMS-PRO, Zabrze



S Y S T E M
 MB-70SG



INVISIBLE SASH AND NARROW FRAME

The MB-70SG window construction meets the aesthetic requirements of architects and end users in regards to a smooth even external appearance between fixed and opening lights. In its appearance, the system resembles a window with a hidden sash; however, the outside frame is considerably narrower than in the already well utilised MB-70US solution, as it is only 47 mm wide. To achieve such an effect, glazing technology has been changed – a glass panel is glued to the sash with structural silicone.

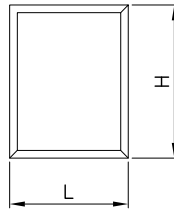
PLATINIUM BUSINESS PARK, Warsaw, Poland

design/ JEMS Architekci Sp. z o.o.
 realization / ELJAKO-AL



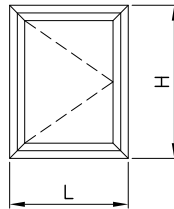
Max. dimensions of windows

Fixed window



Max. dimensions of windows result from maximal glass sizes.

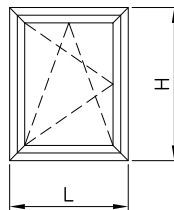
Turn-hung window



Hmax=2250 mm
Lmax=1300 mm

- 130 kg

Tilt and turn window

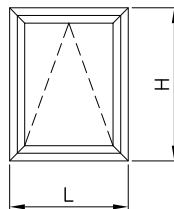


Hmax=2400 mm
Lmax=1250 mm

Hmax=1850 mm
Lmax=1600 mm

- 90 kg/130 kg

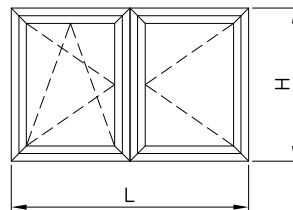
Tilt window



Hmax=1000 mm
Lmax=2150 mm

- 130 kg

Double casement



Hmax=2250 mm
Lmax=2700 mm

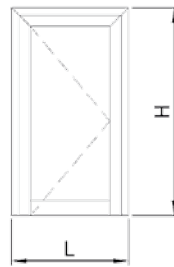
Turn-hung vent - - 130 kg

Tilt and turn vent - - 130 kg

} Maximal vent weight


Max. dimensions of doors

Inside opening door

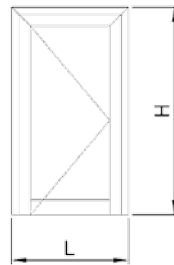


Hmax=2400 mm
Lmax=1200 mm

Hmax=2200 mm
Lmax=1300 mm


 -120 kg


Outside opening door



Hmax=2400 mm
Lmax=1200 mm

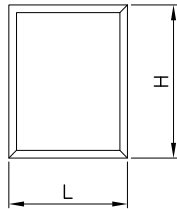
Hmax=2200 mm
Lmax=1300 mm

 -120 kg

 } Maximal weight of a door leaf

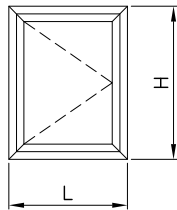
Max. dimensions of windows

Fixed window



Max. dimensions of windows result from maximal glass sizes.

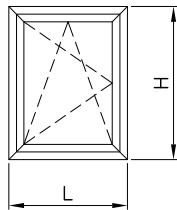
Turn-hung window



Hmax=1900 mm
Lmax=1000 mm

- 130 kg

Tilt and turn window

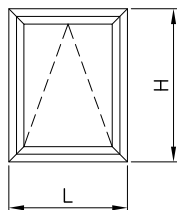


Hmax=1900 mm
Lmax=1100 mm

Hmax=1500 mm
Lmax=1400 mm

- 130 kg

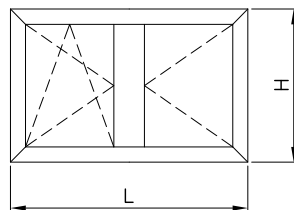
Tilt window



Hmax=1000 mm
Lmax=2150 mm

- 130 kg

Double casement



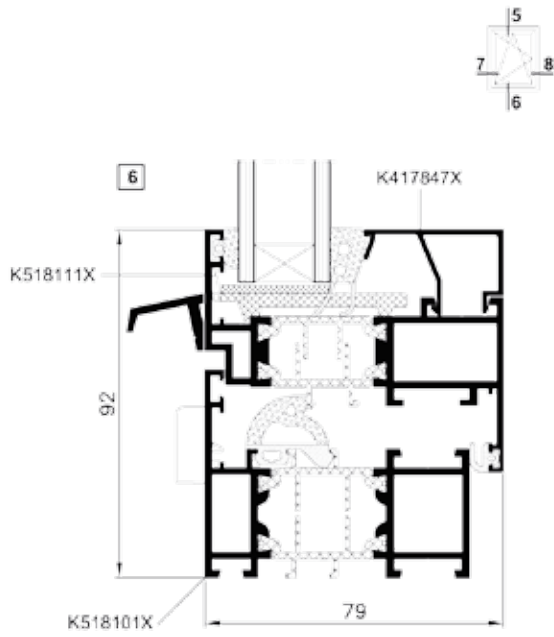
Hmax=1900 mm
Lmax=2400 mm

Turn-hung vent - - 130 kg

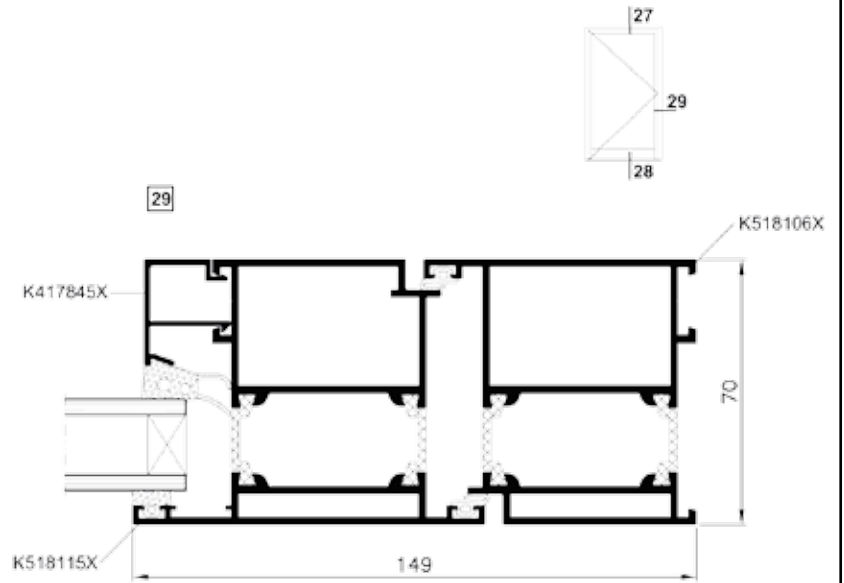
Tilt and turn vent - - 130 kg

} Maximal vent weight

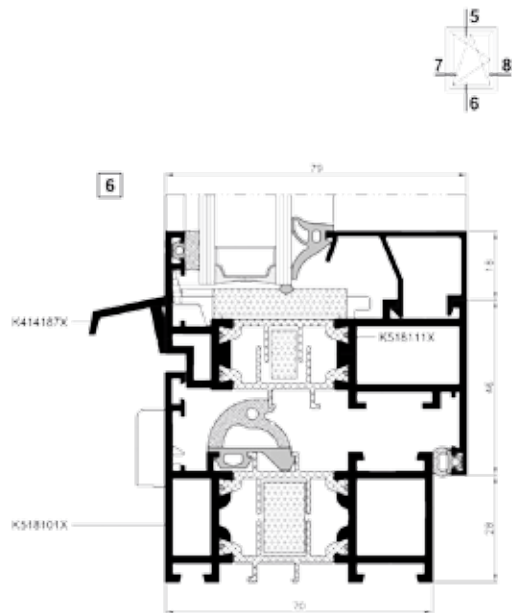
Active window MB-70 - cross-section



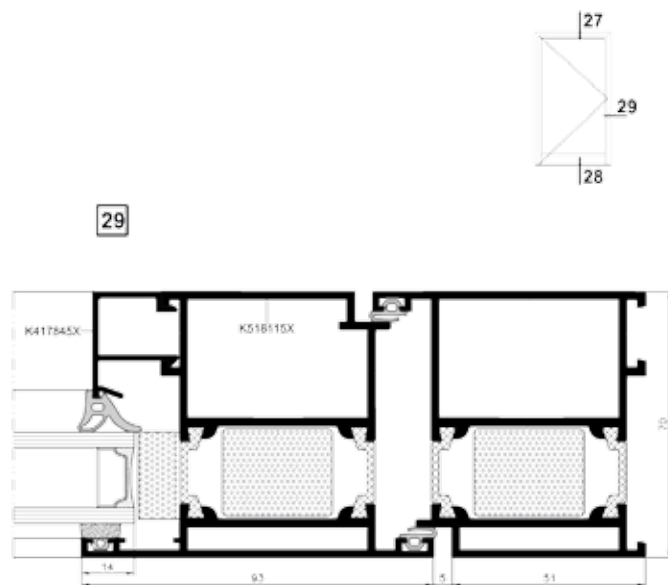
MB-70 door - cross-section



Active window MB-70HI - cross-section

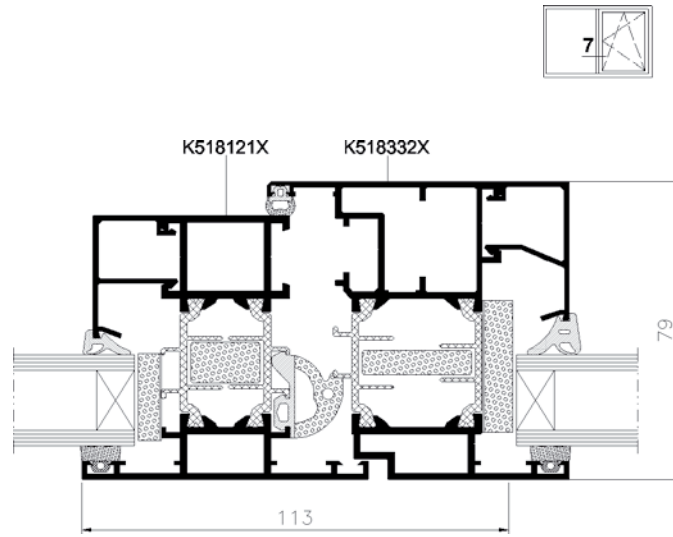


MB-70HI door - cross-section

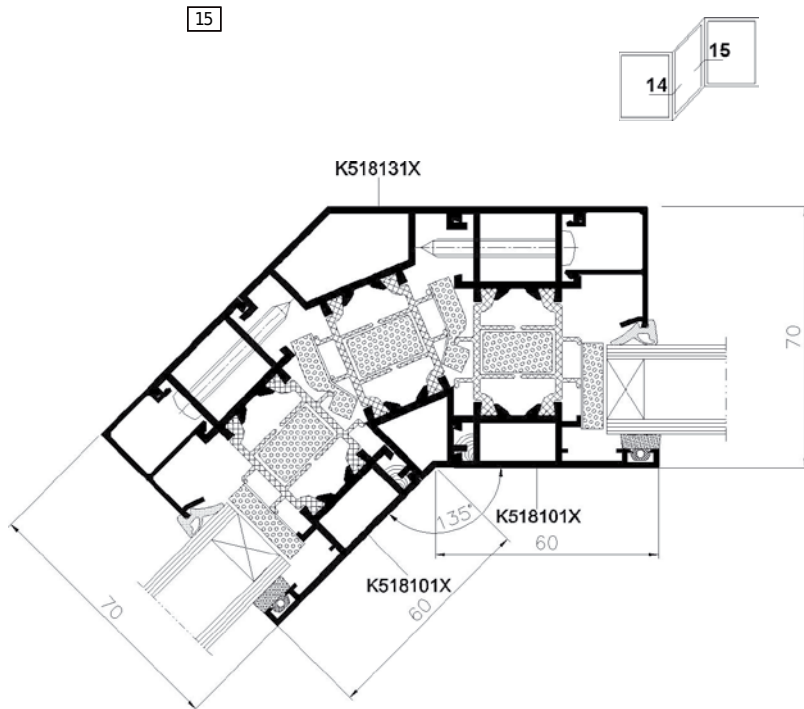


Scale 1:2

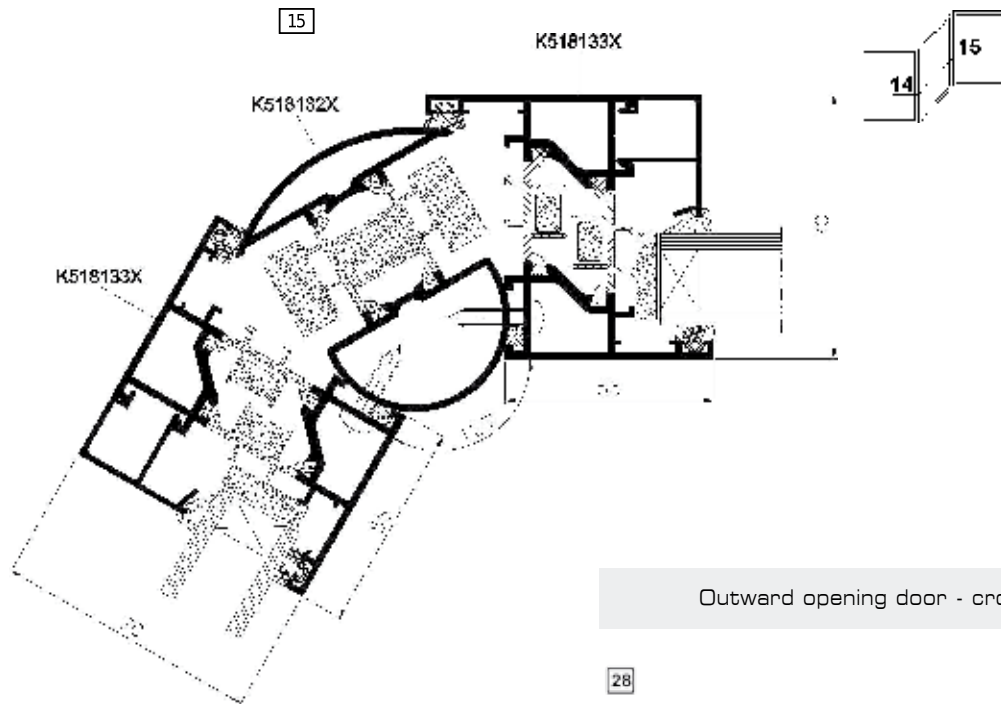
Tilt and slide window - cross-section



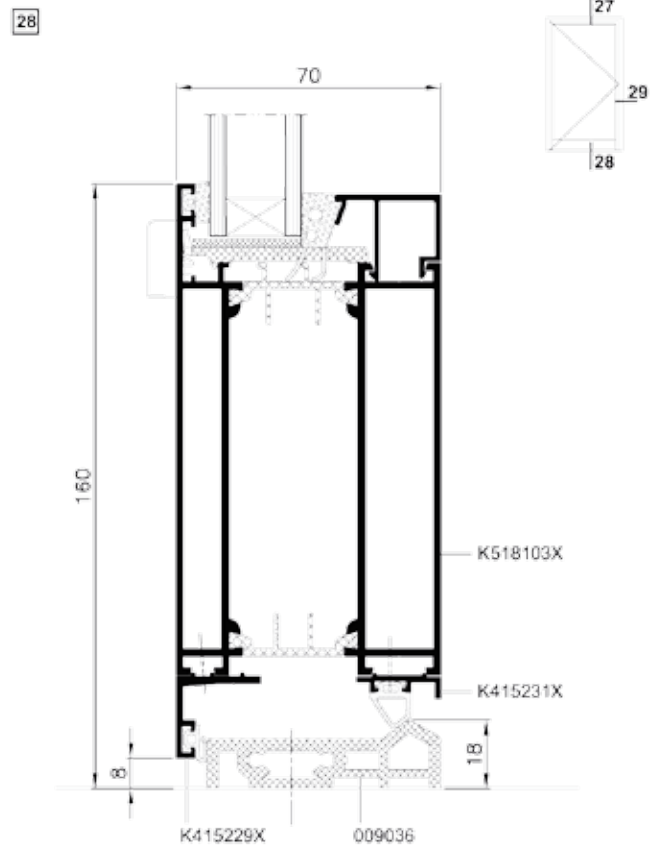
Angular connection - cross-section



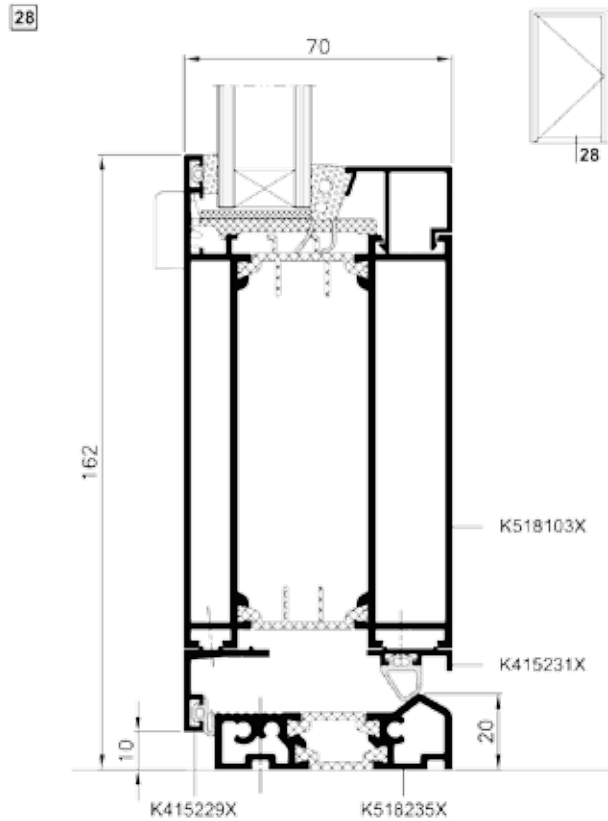
Angular connection - cross-section



Outward opening door - cross-section



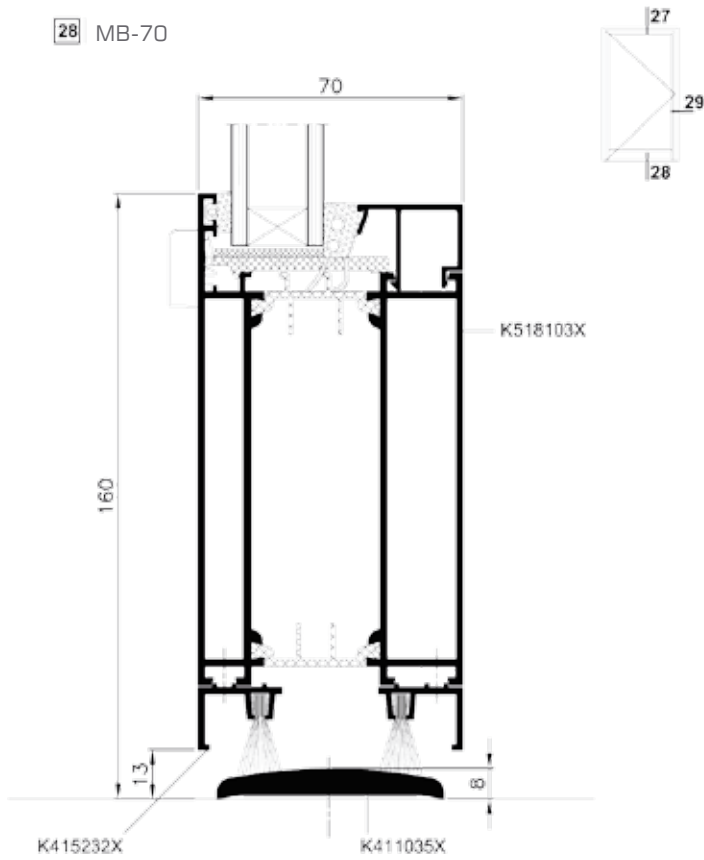
Outward opening door - cross-section



Scale 1:2

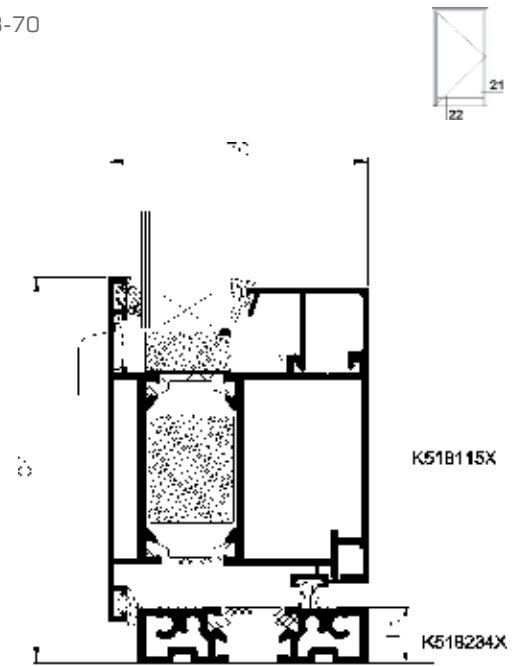
Outward opening door - cross-section

28 MB-70



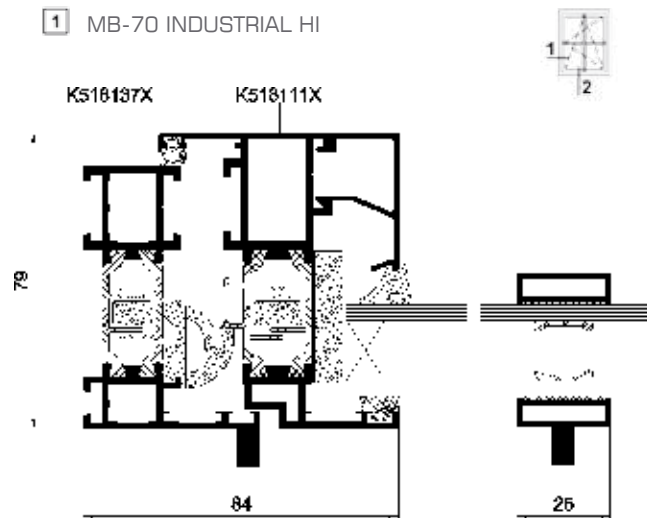
Outward opening door - cross-section

22 MB-70



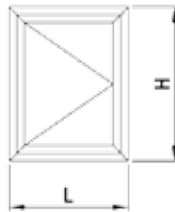
Active window - cross-section

1 MB-70 INDUSTRIAL HI




Max. dimensions of windows

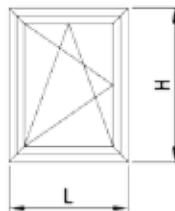
Casement window




Hmax=2000 mm Lmax=1600 mm	Hmax=2400 mm Lmax=1350 mm
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 - 130 kg

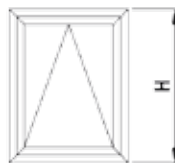
Tilt and turn window




Hmax=2000 mm Lmax=1600 mm	Hmax=2400 mm Lmax=1350 mm
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 - 130 kg

Hopper window



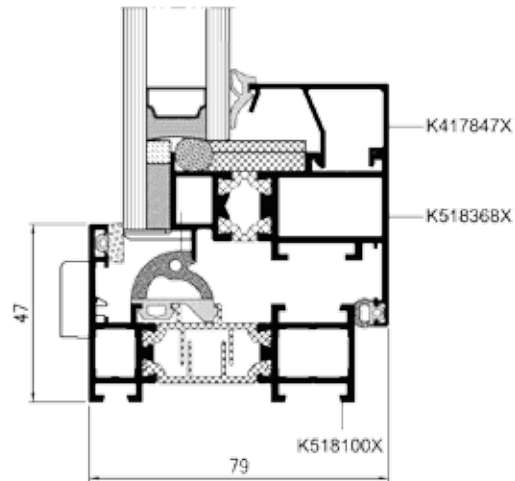
Hmax=2400 mm Lmax=2000 mm

 - 130 kg

 } Maximum weight of infills

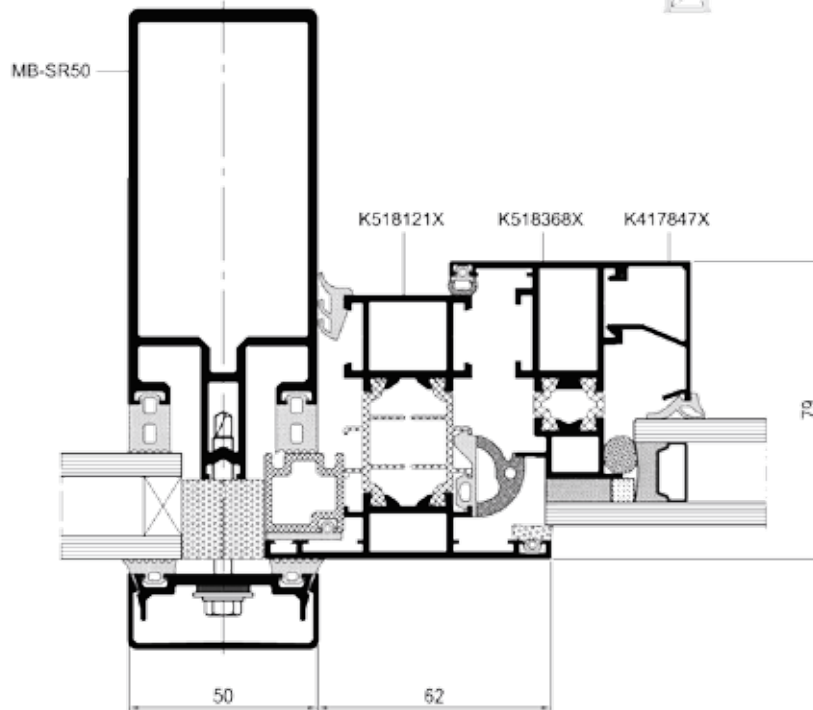
Active window - cross-section

2 MB-70SG



MB-70SG window in the MB-SR50HI

3 MB-70SG



SYSTEM

MB-86 ST/SI

MB-86 AERO

DOOR AND WINDOW SYSTEMS



A window and door system with very good parameters for the needs of various users. The construction of the profiles is available in 3 versions, depending on the requirements related to heat energy savings: ST, SI and AERO. MB-86 is the only aluminum system for windows in the world which makes use of aerogel – a material with excellent thermal insulation properties. The benefits of the MB-86 also include the high strength of the profiles, allowing the construction of large and heavy windows.

SYSTEM WITH A THERMAL BREAK

System features:

- A wide range of sections guarantees the desired visual qualities and structural strength. The system includes a wide range of profiles for frames, leafs, batten plates, reinforced mullions and angular braces, which offer good flexibility while designing buildings and minimize the necessity of using additional braces for large windows or display windows.

- Wide thermal spacers with a new shape, allowing the use of additional barriers in the profile insulation section. Thermal spacers occupy the central chamber of MB-86 profiles and are 43, 42 or 30,5 mm wide. Depending on the system version, additional elements can be used between them to improve thermal insulation: SI includes plastic or metal sheet partitions, while Aero includes special aerogel inserts.

- A double-component central gasket provides excellent sealing and thermal insulation in the space between the leaf and frame.

- A wide range of glazing allows the use of all types of triple-glazed units, sound-proof or anti-burglar glass.

- Glazing beads are available in three lines: Standard, Prestige and Style. Most strips in the Standard and Prestige versions are closed profiles, which ensures the secure fixing of infills and improves the anti-burglar qualities of the structure. Internal glazing gaskets are set deep in the beads so they are barely visible from outside.



- The shapes of the profiles are adjusted to the installation of various types of peripheral fittings, including hidden hinges. The use of typical fitting grooves in window leafs allows the installation of most available fittings, designed both for aluminum and PVC windows.

- Profile drainage is available in two options: traditional, with a visible decorative cap for the drain opening or hidden.

Regional Teaching, Conference,
Library and Administration Centre
at the University of Technology, Rzeszów, Poland

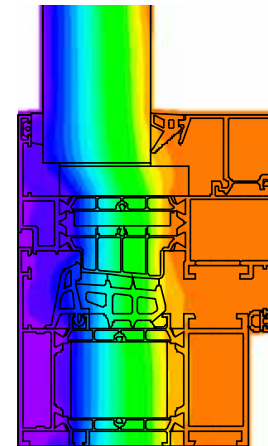
design / Biuro Projektów Budownictwa
Ogólnego BUDOPOL
realization / Eurobud, Pamoplast



MB-86 SI window



MB-86 AERO window



isothermal lines in MB-86 AERO window

Technical parameters:

- Air permeability: Class 4, PN-EN 12207:2001
- Water tightness: Class E 1500, PN-EN 12208:2001
- Thermal insulation: as per attached table
- Wind load resistance: Class C5, PN-EN 12211:2001, PN-EN 12210:2001

MB-86 external door system is suitable for standard glazed option with glazing unit or obscure panel, as well as for door panel. In this type of doors profile design allows connection with fancy door panels, flashed externally with profile edges. This type of panels is available in variety of designs and colours and can be single or double side bounded to the door leaf, which all together create a choice in options to achieve a high aesthetic building entrance. Additionally, the panels can incorporate some elements for reinforcement and thermal insulation improvement.

Table for MB-86 system

Minimum Uf: MB-86 ST min. 1,39 W(m²K), MB-86 SI min. 0,92 W(m²K), MB-86 AERO min. 0,57 W(m²K)

SYSTEM	CONSTRUCTION	Visible width of profiles (mm)	Uf W(m ² K)	Uw W(m ² K)	INFILL
MB-86 ST	Fixed window	69,5	1,50	1,29	2-glazed unit
			1,38	0,77	3-glazed unit
	Opening window	114	1,52	1,33	2-glazed unit
			1,42	0,90	3-glazed unit
MB-86 SI	Fixed window	69,5	1,31	1,26	2-glazed unit
			1,17	0,74	3-glazed unit
	Opening window	114	1,38	1,28	2-glazed unit
			1,28	0,85	3-glazed unit
MB-86 AERO	Fixed window	69,5	1,10	1,23	2-glazed unit
			0,98	0,72	3-glazed unit
	Opening window	114	1,20	1,20	2-glazed unit
			1,15	0,80	3-glazed unit

SYSTEM	PROFILE DEPTH FRAME/LEAF	PROFILE WIDTH FRAME/LEAF	GLAZING RANGE
CONSTRUCTION			
WINDOWS	77 mm / 86 mm	50,5-232 mm / 33,5-64 mm	21 - 67,5 mm
DOORS	77 mm / 77 mm	44,5-69,5 mm / 69,5-123 mm	13,5 - 58,5 mm

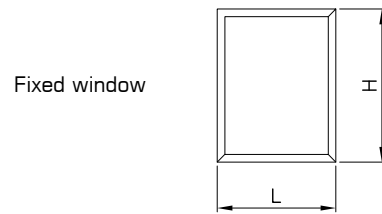


(fot. Adeco)**

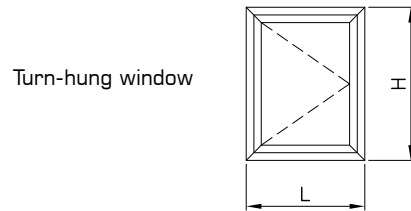
* - Product available form January 2013.

** - All rights restricted. Adeco is a trademark and property of Adeco Company. Product design is restricted by the company as company property.

Max. dimensions of windows

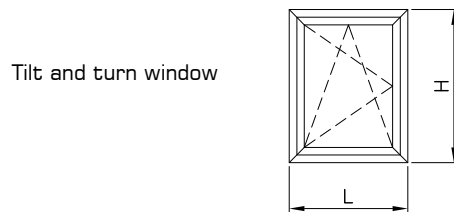


Max. dimensions of windows result from maximal glass sizes.



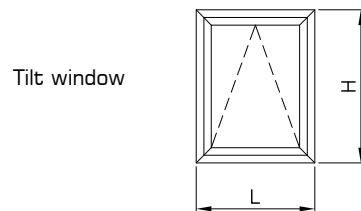
Hmax=2800 mm Lmax=1300 mm	Hmax=2150 mm Lmax=1700 mm
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- 150 kg



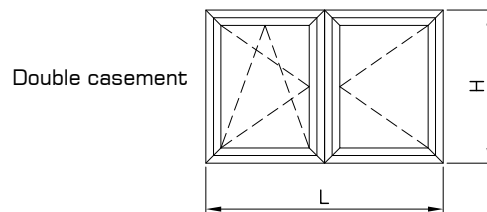
Hmax=2800 mm Lmax=1300 mm	Hmax=2150 mm Lmax=1700 mm
------------------------------	------------------------------

- 150 kg



Hmax=2400 mm Lmax=1600 mm	Hmax=1300 mm Lmax=2400 mm
------------------------------	------------------------------

- 130 kg



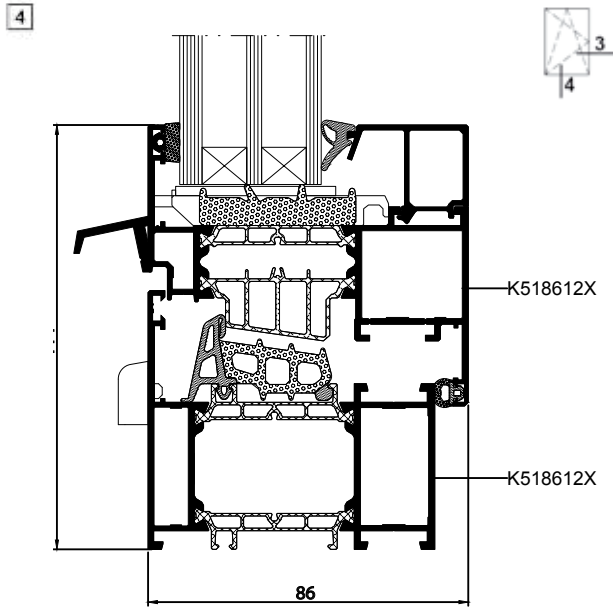
Hmax=2650 mm Lmax=2550 mm	Hmax=1900 mm Lmax=3050 mm
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Turn-hung vent - - 150 kg

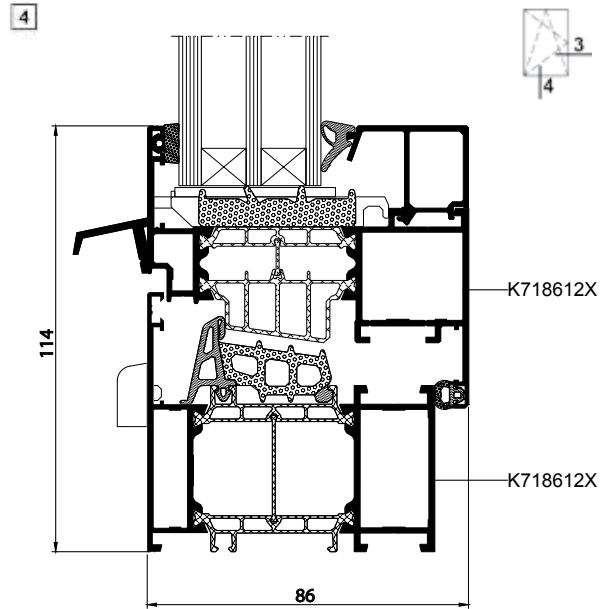
Tilt and turn vent - - 150 kg

} Maximal vent weight

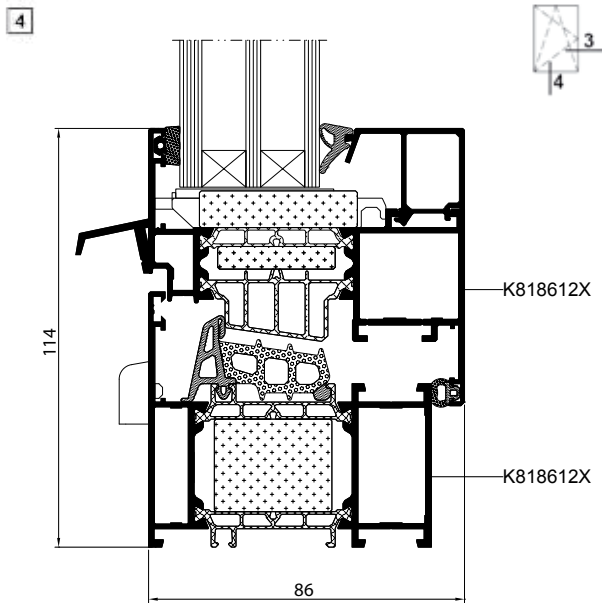
Opening window MB-86 ST



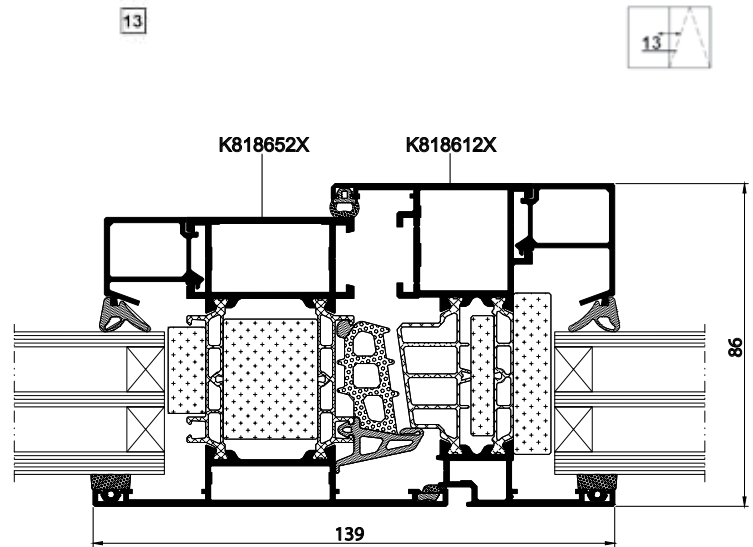
Opening window MB-86 SI



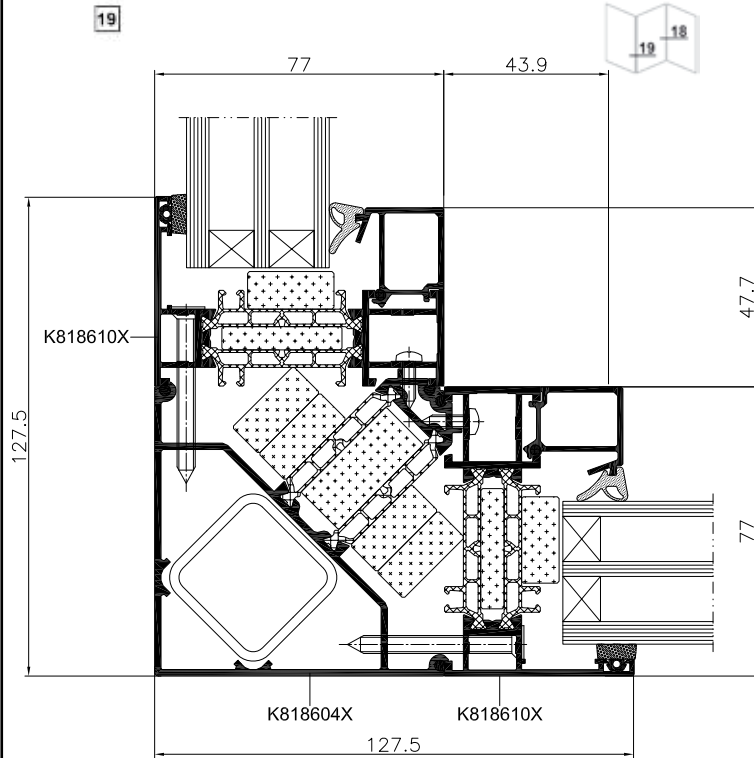
Opening window MB-86 AERO



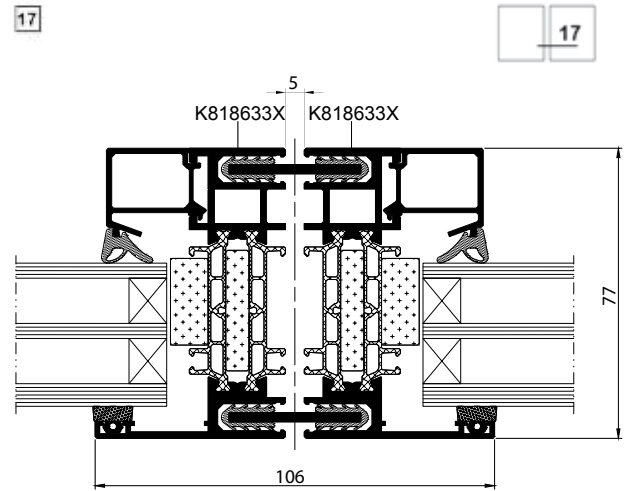
Opening-fixed windows MB-86 AERO



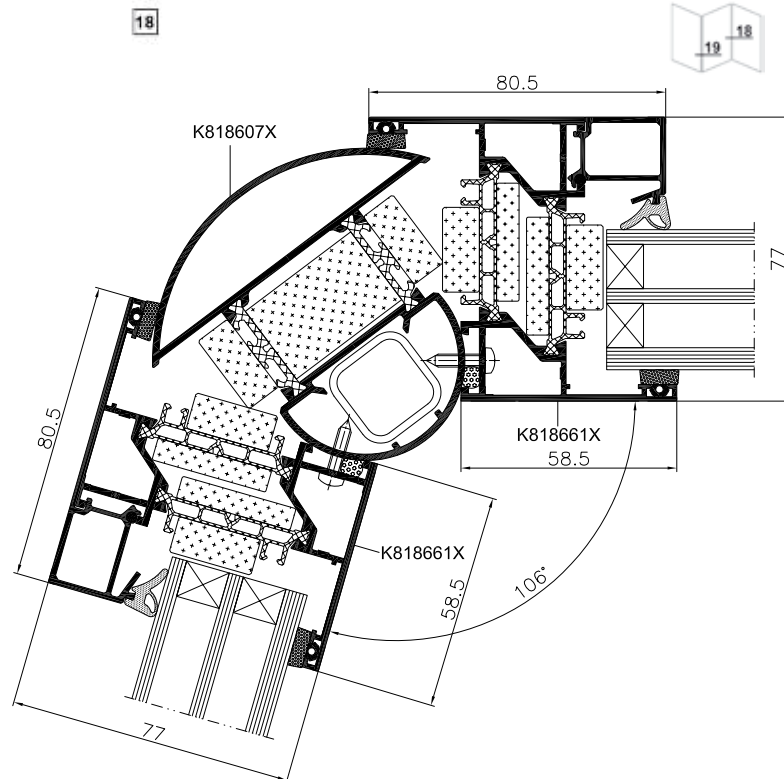
Windows corner connections MB-86 AERO



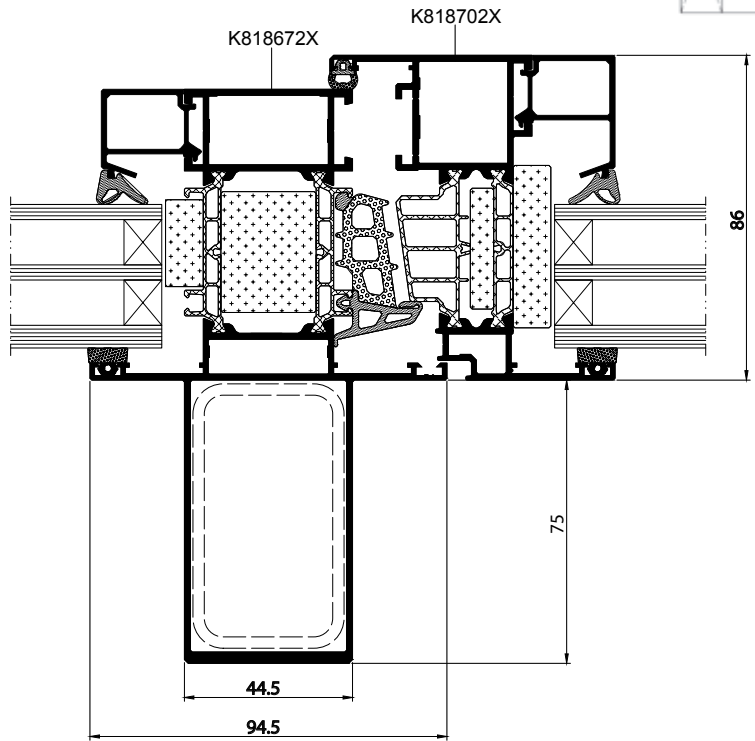
Expansion connection MB-86 AERO



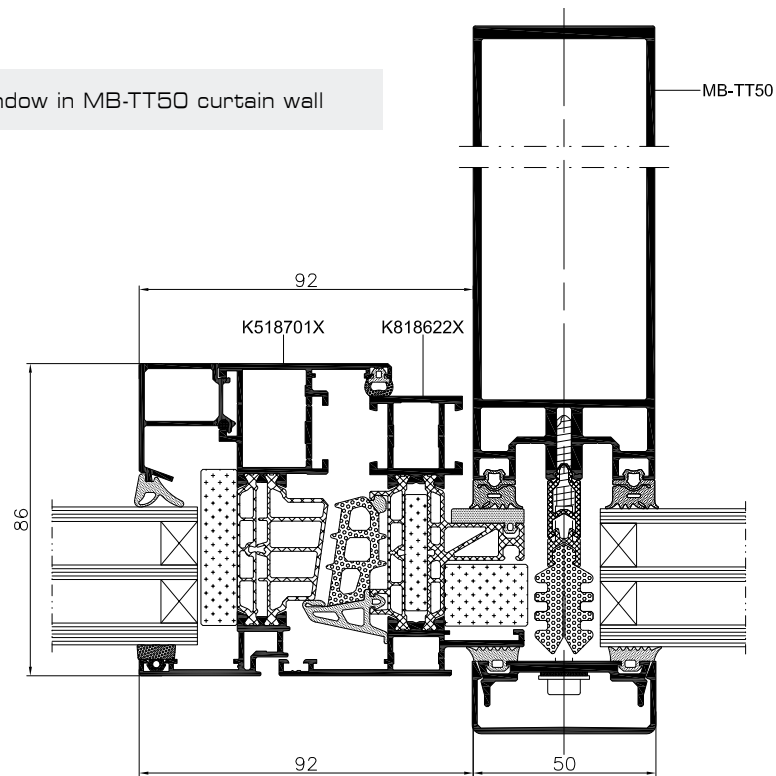
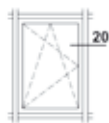
MB-86 AERO tilt and slide window with reinforced mullion



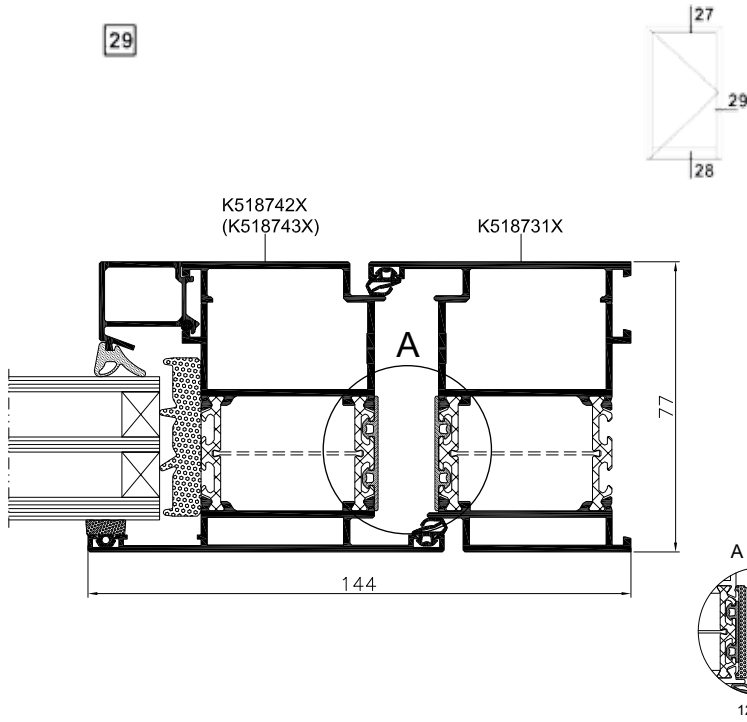
MB-86AREO Tilt&Slide window
with reinforced mullion



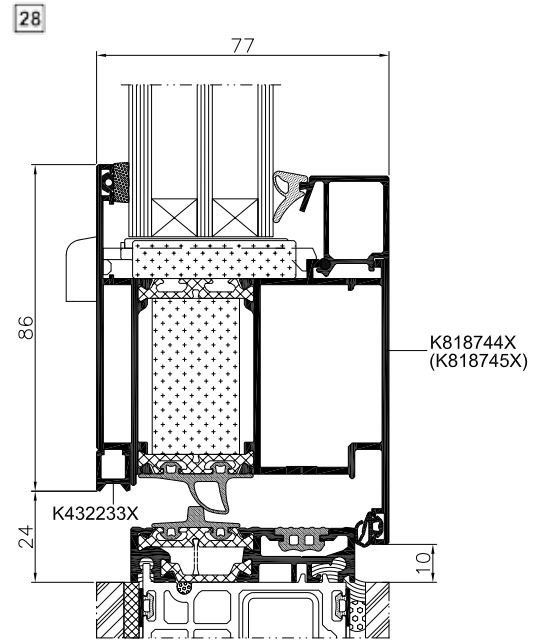
MB-86AREO window in MB-TT50 curtain wall



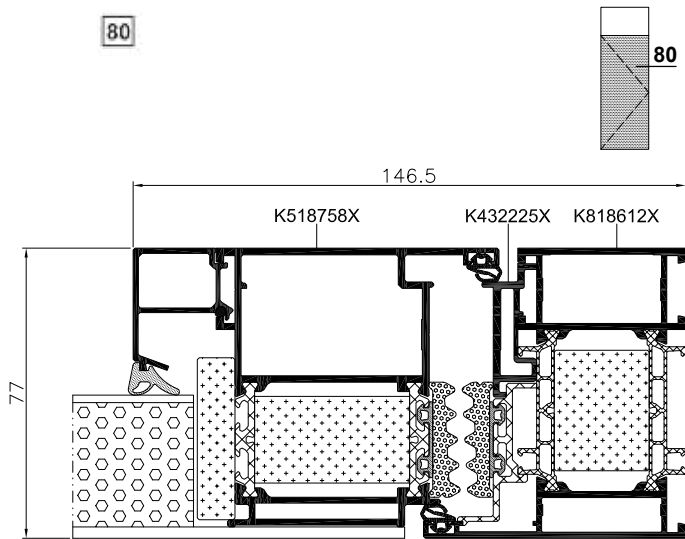
MB-86 ST/SI door section



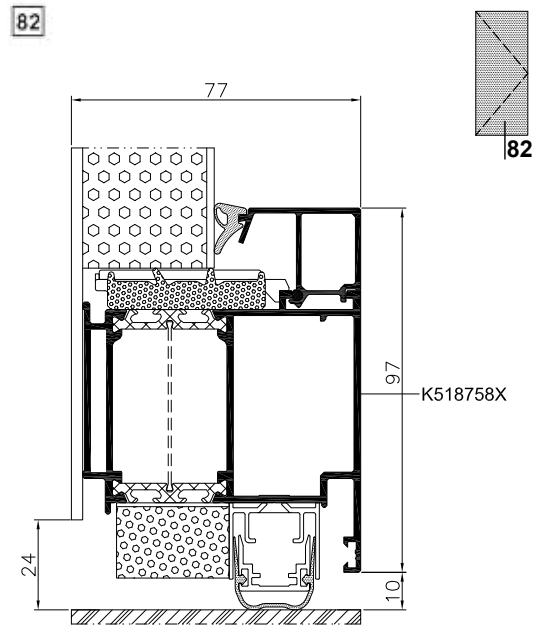
MB-86 AREO door threshold section



MB-86AREO panel door screen section



MB-86 ST/SI panel door threshold section



SYSTEM

MB-77HS

MB-77HS HI

LIFT & SLIDE DOOR



The MB-77HS "Lift & Slide" door product is an ideal solution for connecting interior space rooms or conservatories with the outside balcony, terrace or garden area. Providing both a smooth & silent slide action operation, it can bring the benefits of a beautiful day outside, into the living space. In addition, & by way of its design & operation, the MB-77HS is a great space saving opening & does not encroach the free space beyond the internal or external confines of the frame, without any compromise.

LIFT & SLIDE DOOR WITH ENHANCED THERMAL PERFORMANCE

Providing excellent weather tightness together with enhanced thermal performance, the MB-77HS complies with all of the requirements associated with this product type. Available in two different options, with regard to the level of thermal performance, the MB-77HS is further categorised as "ST" and "HI," standard or highly insulated. The design & arrangement of the system profiles enable luxurious openings of large dimensions, accommodating double & even triple glass unit compositions, which in conjunction with the constituent parts & innovative technical solutions, help achieve a high level of thermal & acoustic performance. Due to the system properties, & rigorous performance proven through a stringent testing regime, the MB-77HS is ideally suited to many domestic & retail applications, providing a comfortable, safe working, cost effective & low maintenance solution for the end user.



Features of systems MB-77HS:

- durable and slender profiles enable screens of a low-threshold door of the weight of the leaf of up to 400 kg, height – up to 3.2 m and width - up to 3.3 m.
- a wide range of glazing options, allowing application of double or triple glazed units combined with thermal breaks as well as additional inserts, enable achieving high thermal and acoustic insulation of the door.
- for aesthetic values glazing beads come in three options: Standard (rectangular), Prestige (rounded) and Style (shaped)

- closed shape of glazing beads and anti-jemmy details provide enhanced security properties without altering any essential constructional elements of the door.
- unique shape of closing and glazing gaskets and quality hardware ensure top end weather and air tightness performance
- profiles adapted to accommodate a number of manually or automatically operated hardware available on the market
- a large degree of compatibility with the MB-86 system creates an aesthetic combination

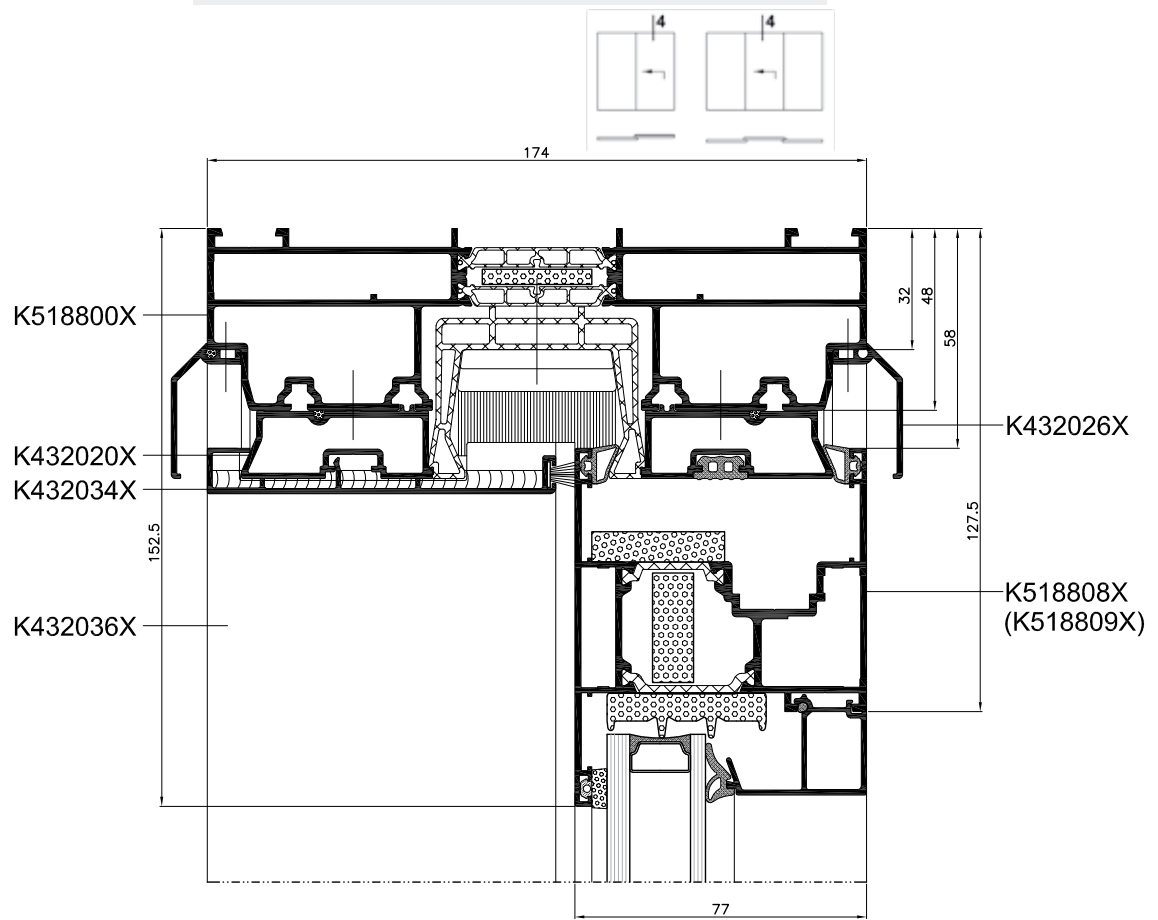
of the MB-77HS doors with windows and using the same components in fabrication process

- a wide range of colour schemes allows for arrangement of doors to meet any individual requirements

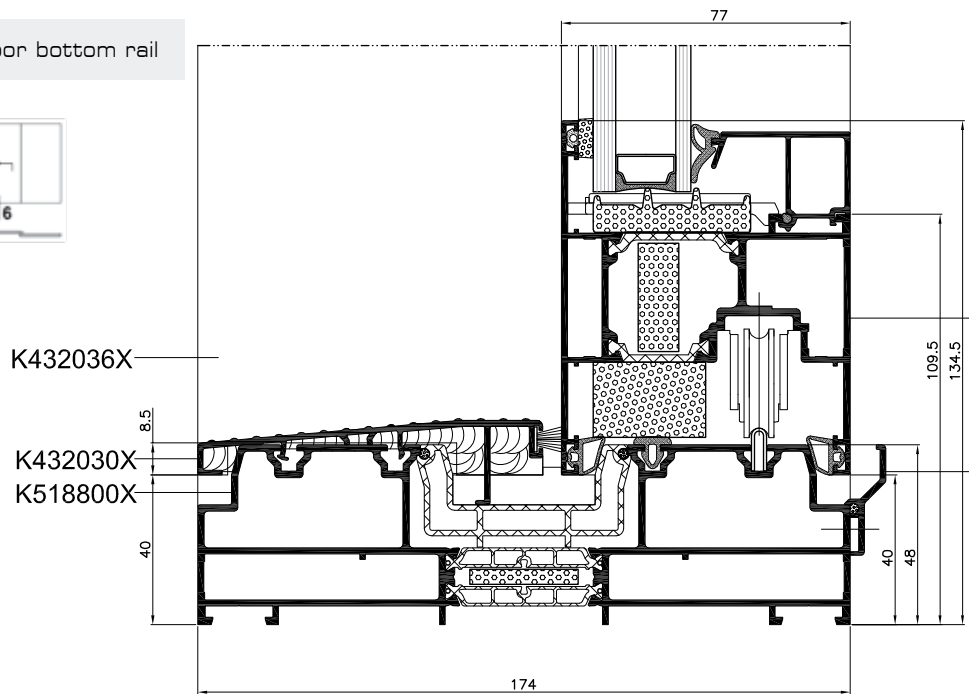
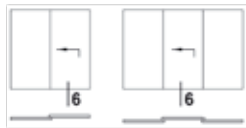
Examples of constructions lift & slide door MB-77HS / MB-77HS HI



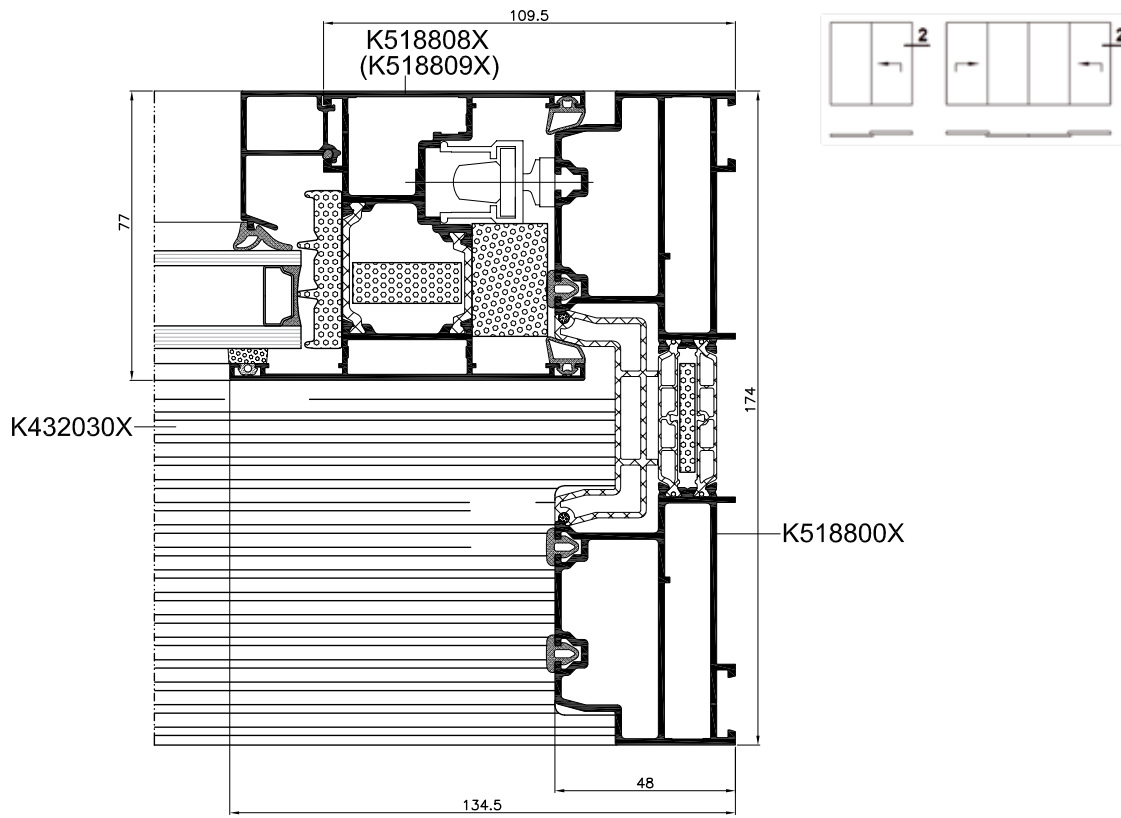
Door top rail - cross-section



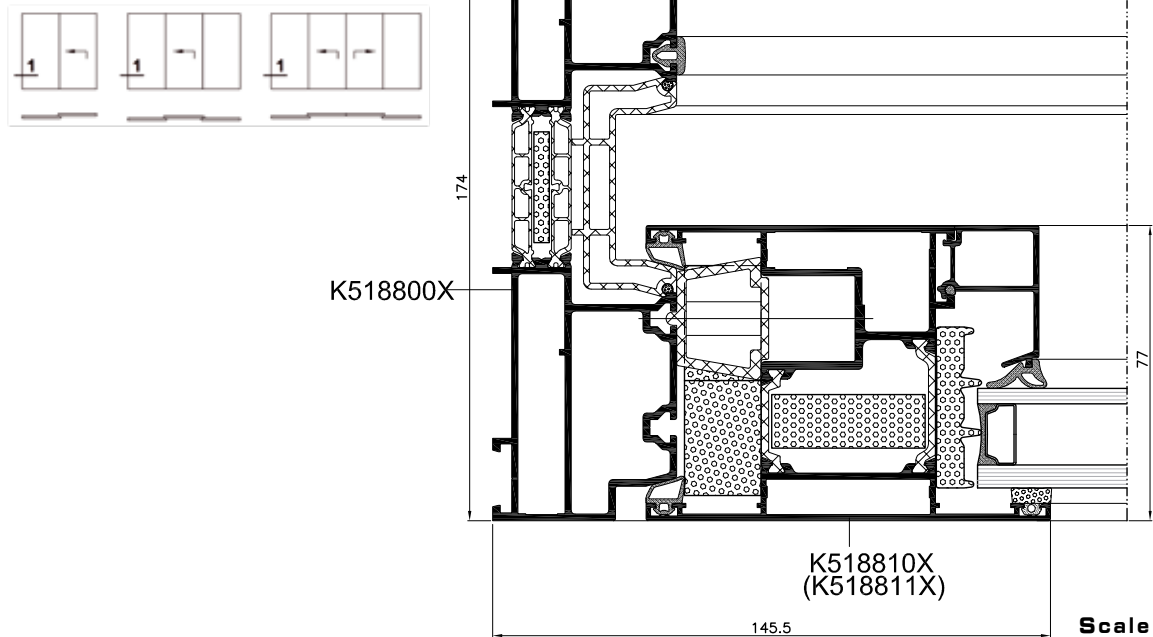
Cross-section of door bottom rail



Side door - cross- section

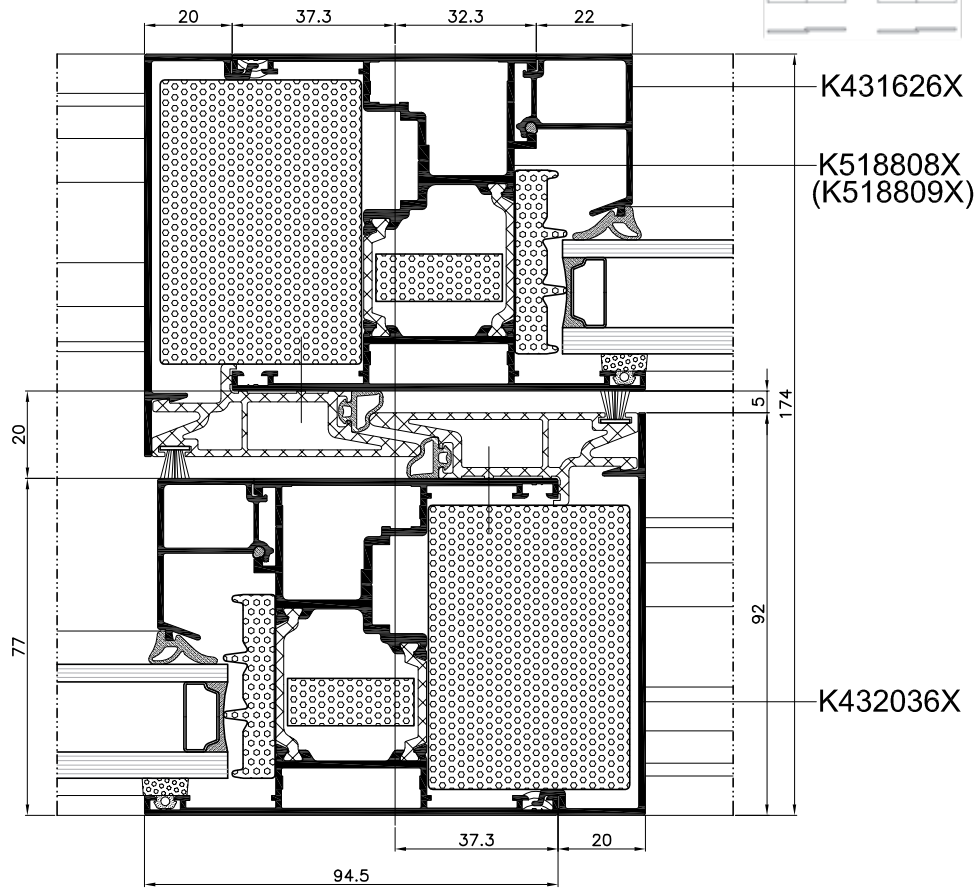


Side door - cross- section

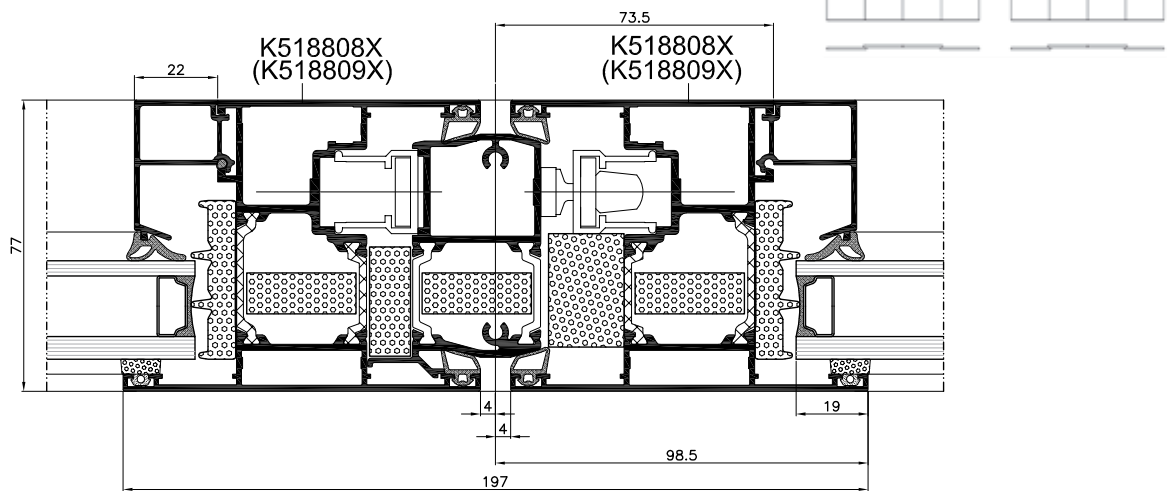


Scale 1:2

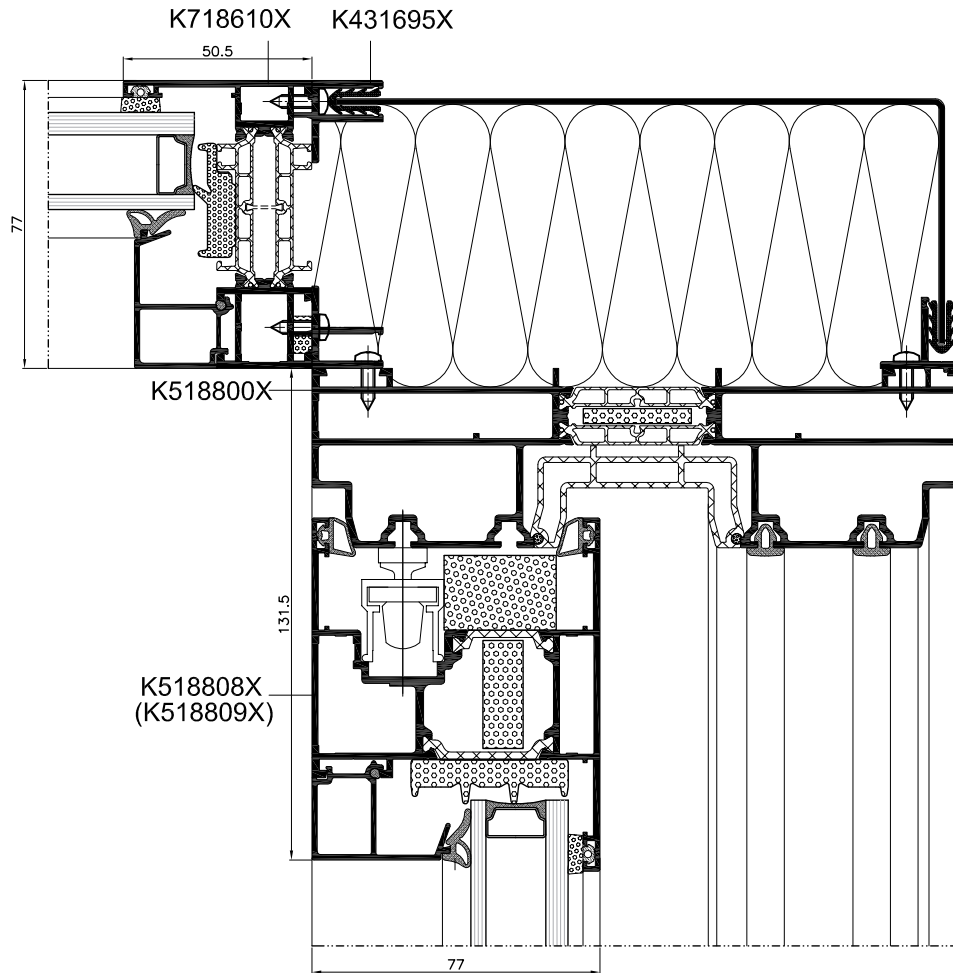
Cross - section of jambs of door



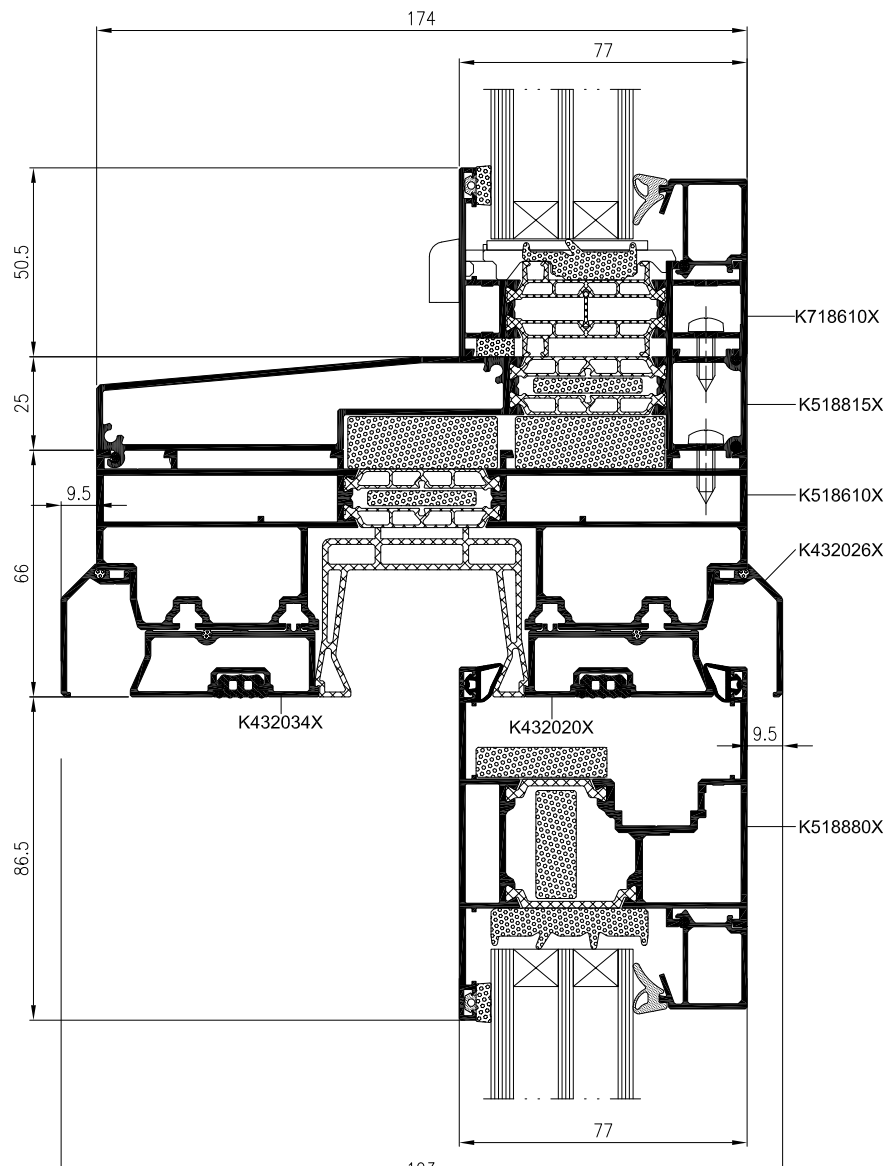
Jambs of door - cross - section



Cross - section of 90° mullion



Door head jamb section



SYSTEM MB-SLIDE



SYSTEM MB-SLIDE ST



SLIDING DOORS

Sliding doors, especially the ones of large dimensions, visually “enlarge” the living space by connecting it with an outside terrace or a garden. The MB-SLIDE, MB-SLIDE ST systems are designed to construct thermally insulated sliding doors and windows, which may be built in brick walls, aluminium curtain walls, winter gardens or window display constructions based on the MB-59S or MB-59S Casement elements.

Wide range of applications

The MB-Slide and MB-Slide ST sliding door systems offer a wide range of space arrangement possibilities with maximum dimensions of leaves: H: 2600 mm, L: 1800 mm, max. weight 160 kg. There are available different constructional variants from 2 to 6 modules. They may be fitted with glazing sets up to 26 mm wide.

Construction

Constructional depth of leaf profiles is 37 mm (apart from horizontal profiles in the MB-Slide ST) and of frames 50 mm and 97 mm for double track frames and triple-track frames respectively. The same depth of basic double-track frames in the MB-Slide system and window or door frames of such systems as MB-59S, MB-59S Casement, MB-59S Pivot and MB-59SE allow to directly join products based on these systems. Frames of depth over 50 mm may be joined with each other via a special strengthened intermediate mullion.

Tightness and thermal insulation

Sliding door constructions ensure very good technical parameters: plastic thermal breaks guarantee suitable thermal insulation of aluminium profiles, while sliding brush gaskets or gaskets made of thermoplastic elastomer TPE, combined with EPDM cover and glazing gaskets, enable obtaining high tightness of the construction.

Diversity of solutions

The basic difference between the MB-Slide and MB-Slide ST systems lies in the construction of leaf profiles as well as in the technology of production and glazing. MB-Slide leaf profiles feature 3-chambered construction, they are trimmed at the angle of 45° and connected by means of suitable corner cleats. Then, the corners are crimped. Thus formed frame is then glazed and the glass panel is secured with glazing strips and gaskets. In the case of MB-Slide St the profiles have single chamber construction and they are joined by screwing vertical and horizontal profiles together by means of appropriate screws. Glass panel installation is performed at the stage of connecting leaf profiles.

Compatibility with other systems

Both sliding door systems are compatible, to a large extent, with other systems manufactured by ALUPROF S.A. Assuming such a constructional concept enables application of a number of common profiles, accessories and technological processes. All components of sliding door systems are compliant with the applicable standards.

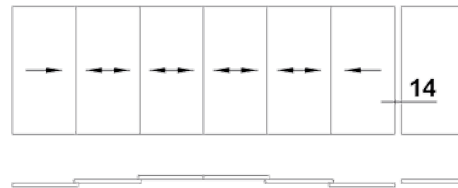
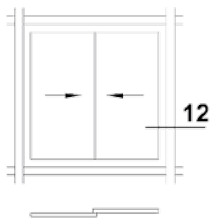
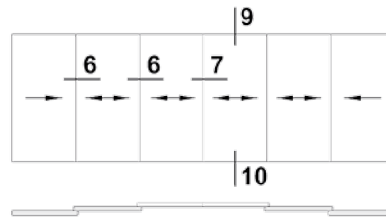
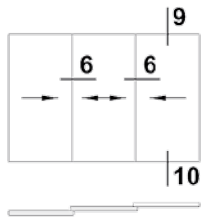
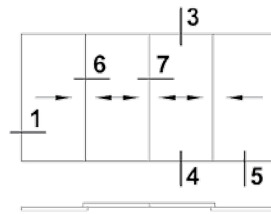
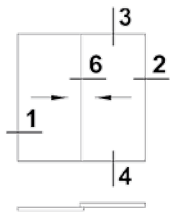
Functionality and aesthetics

A wide range of Sobinco and Giesse hardware can be accommodated into the sliding door systems. Depending on the applied system various accessories and elements can be used in sliding operation. They can be fitted with mosquito screen modules. There is also an option to built two-colour construction.

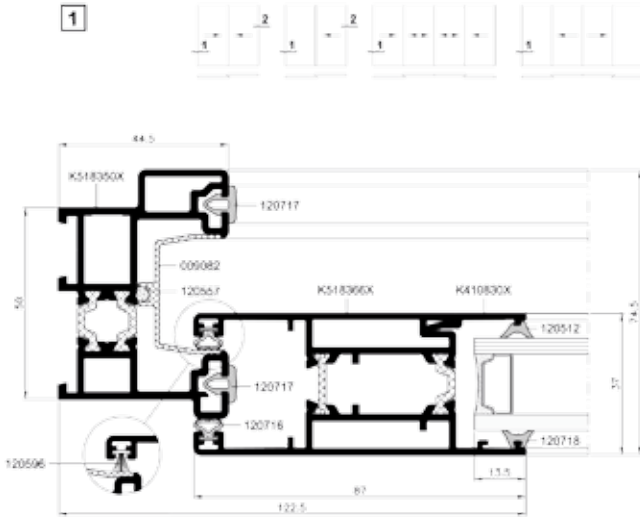
Technical parameters:

- Overall heat transfer coefficient:
 U_f from 2,61 W/m²K
- Air infiltration:
Class 4, EN 1026:2001;
EN 12207:2001
- Rainwater resistance:
Class 7A, EN 1027:2001;
EN 12208:2001
- Wind load resistance:
Class 3C/4B, EN 12211:2001;
EN 12210:2001

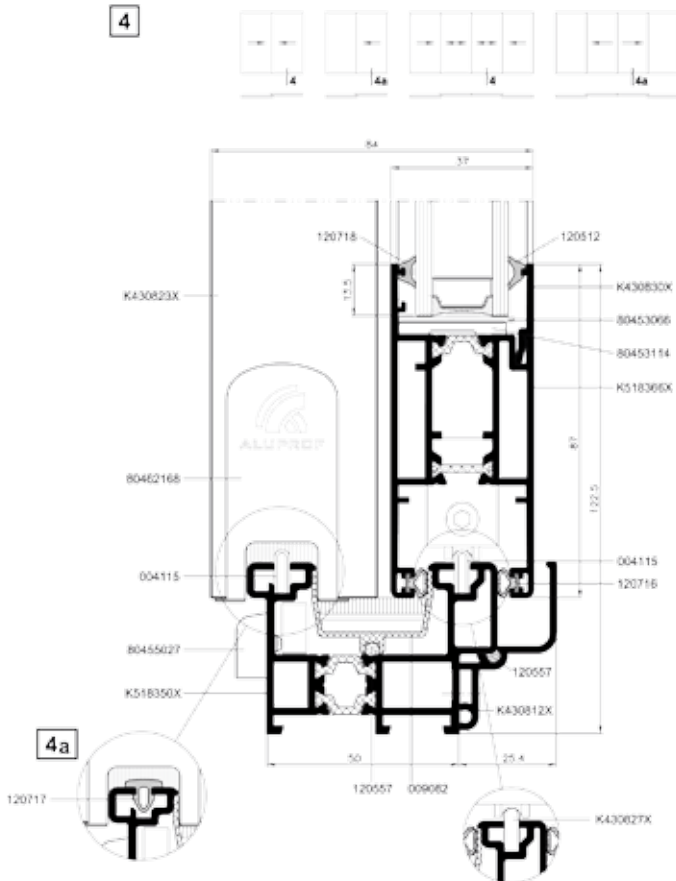
Examples of constructions



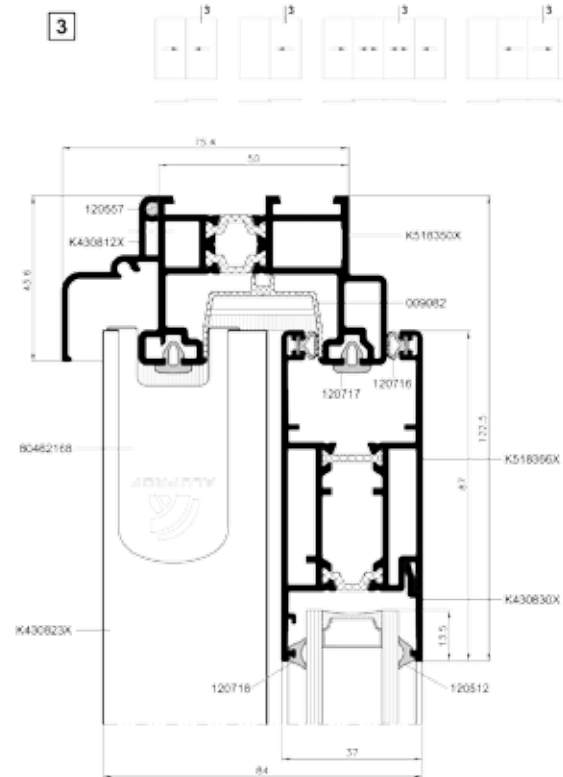
Cross-section of door



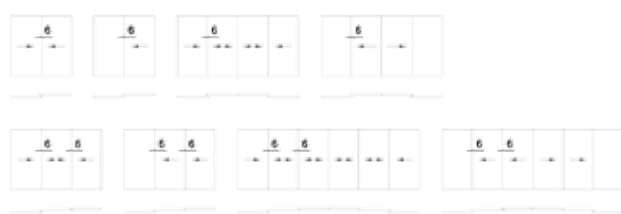
Cross-section of door bottom rail



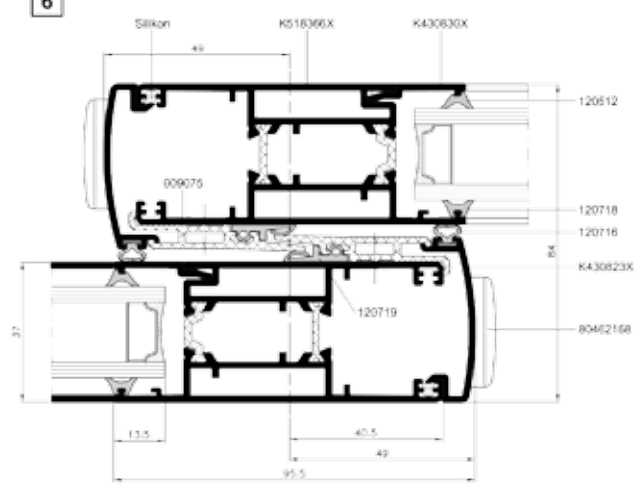
Cross-section of door upper rail



Cross-section of door jambs

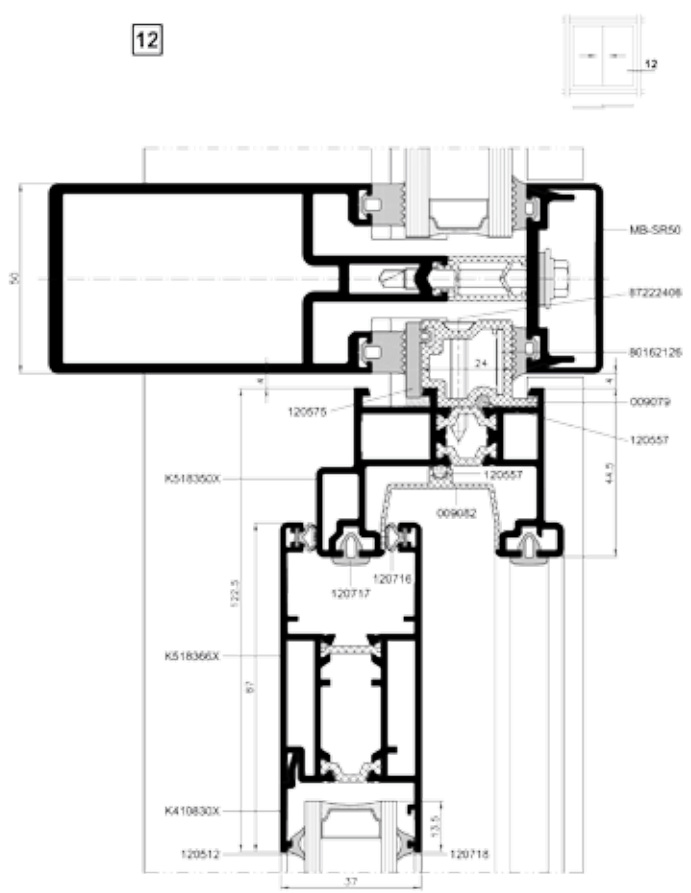


6



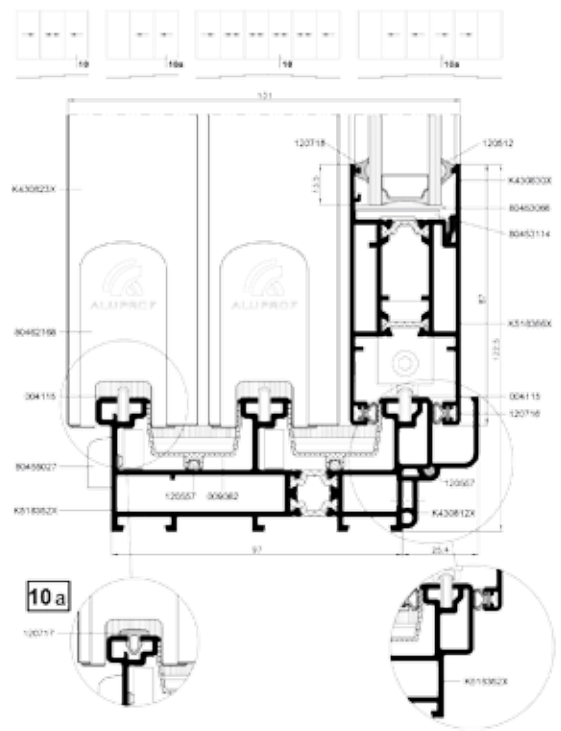
Cross-section of door in MB-SR50

12



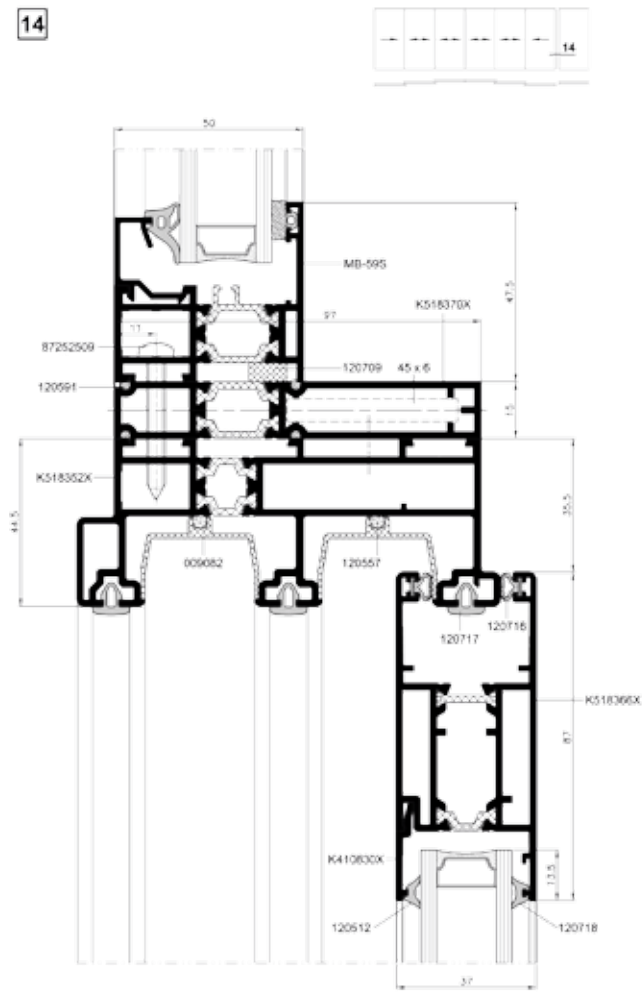
Cross-section of door bottom rail

10



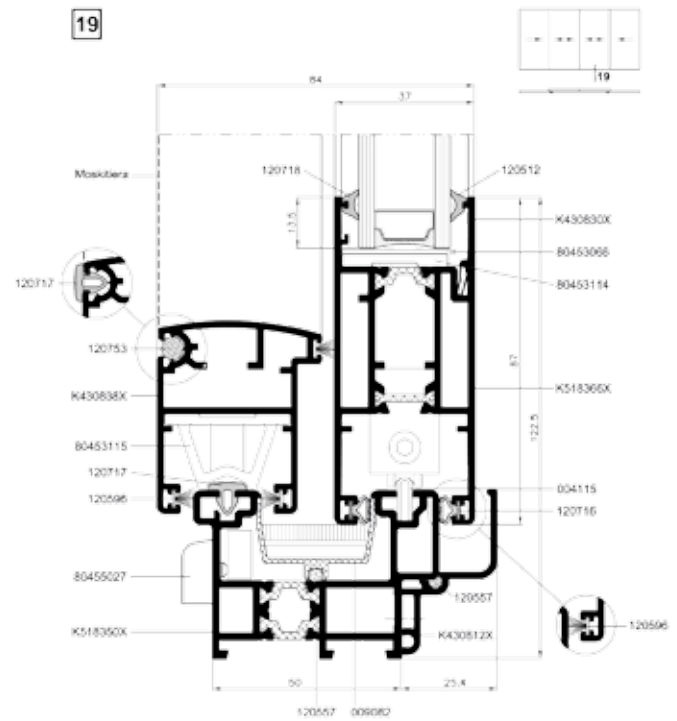
Cross-section of frame connection

14

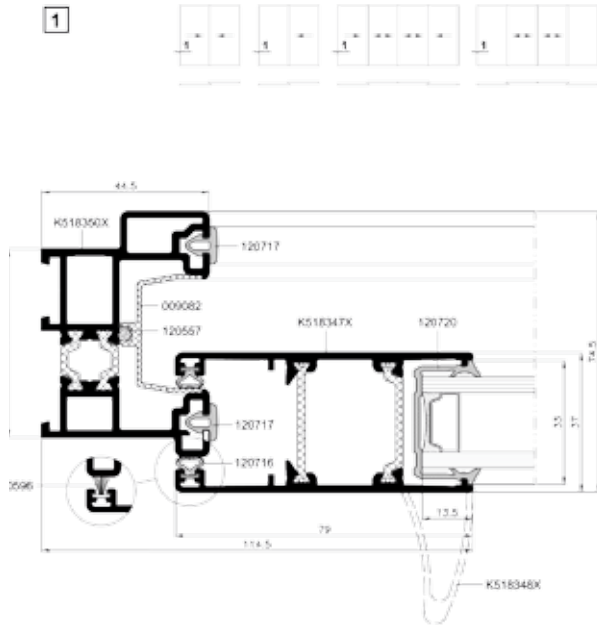


Cross-section of door bottom rail with a mosquito screen

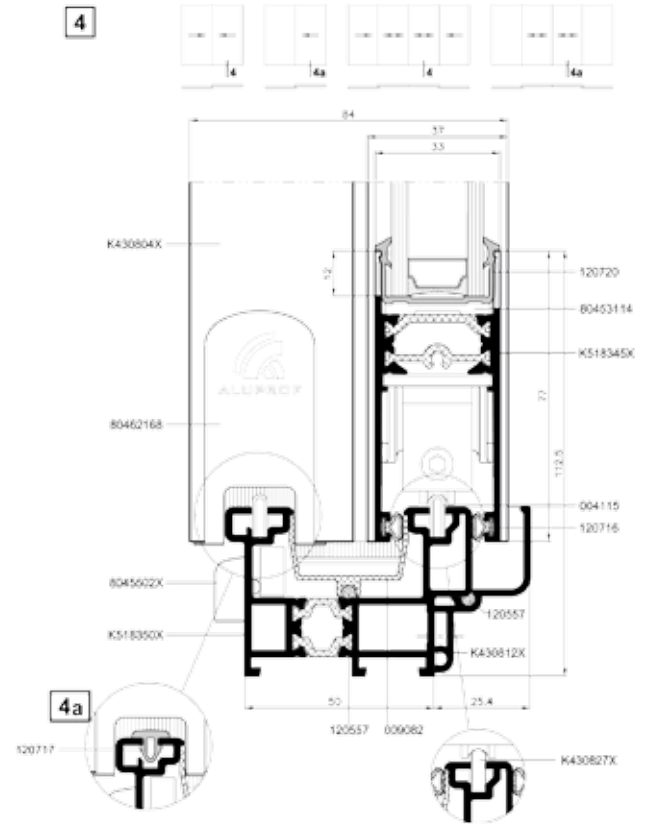
19



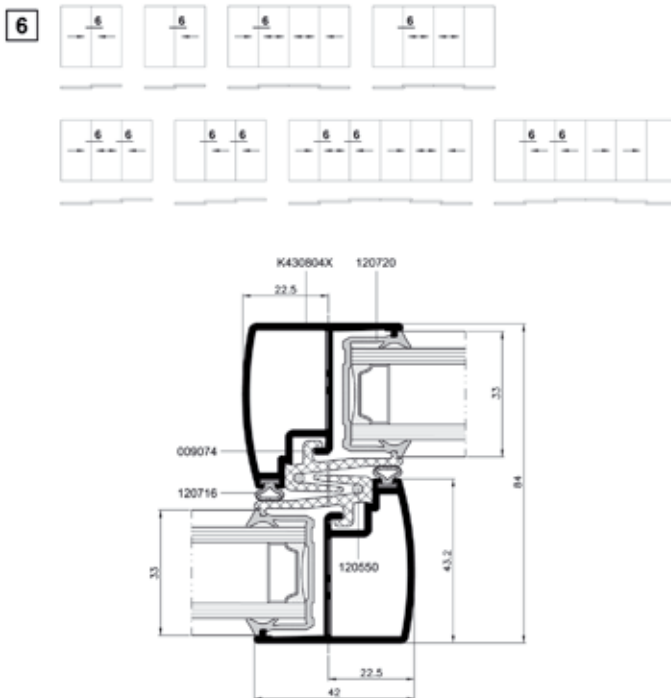
Cross-section of door and window



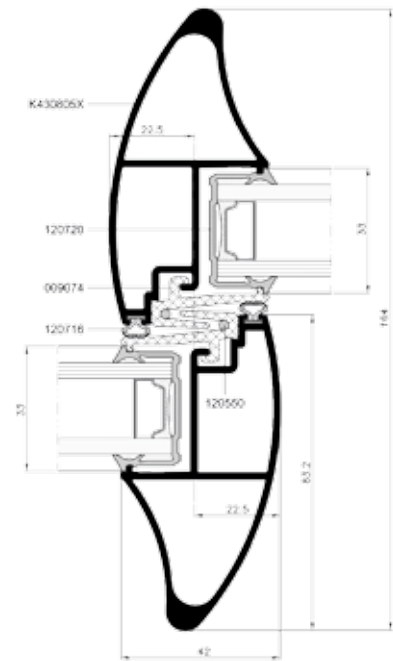
Cross-section of door and window bottom rail



Cross-section of door and window jambs



Cross-section of door jambs



Scale 1:2

FOLDING D O O R S Y S T E M

DOOR & WINDOW SYSTEMS



This engineered system has been designed for aluminium folding doors that require thermal insulation. The system is available in inward opening doors (on the basis of the MB-59S, MB-60, MB-70 systems), as well as outward opening doors (based on the MB-59S Casement system).

Diversity of solutions

The basic profiles used in the fabrication of folding doors feature a three-chamber design. The section depth of profiles depends on the selected system and ranges from 50 mm (frame), 59 mm (leaf) in the case of the MB-59S and MB-59S Casement systems - to 70 mm and 79 mm respectively in the case of the MB-70. In particular systems various options of doorsills and ways methods of doorsill fixing may be selected. Base systems also make it possible to choose from a selection of different glazing beads (options: Standard, Prestige and Style) as well as different types of gaskets.

Very good thermal and sound performance

Depending on applied underlying system, the construction may fulfill the requirements of thermal protection for building. Gaskets made from synthetic rubber EPDM guarantee very good thermal insulation of the door leaves and tightness to water and air infiltration. The system also features high sound insulation performance. The value of coefficient R_w depends, above all, on the applied profiles and glass panels.

High tightness to water and air infiltrations

Due to the application of window profiles and special EPDM gaskets, the tightness of folding doors is the same as of active windows of the system they are based on. Every system in external development must be equipped with efficient water deflection and ventilation system in the glass chamber and the space between the leaf and the frame. Ventilation and drainage holes are protected from the outside with plastic shields.

Freedom of hardware selection

Frame and leaf profiles are equipped with moulded grooves of the dimensions suitable to accommodate multi-point security locking hardware and connecting members compliant with the EURO standard. Folding doors are fitted with well-proven Roto hardware: Roto Patio 6080 (folding leaves and active leaf) and ALU 540i (active tilt and turn leaf). The guide rail may be mounted either on the upper frame profile (top hung) or at the doorsill (bottom hung).

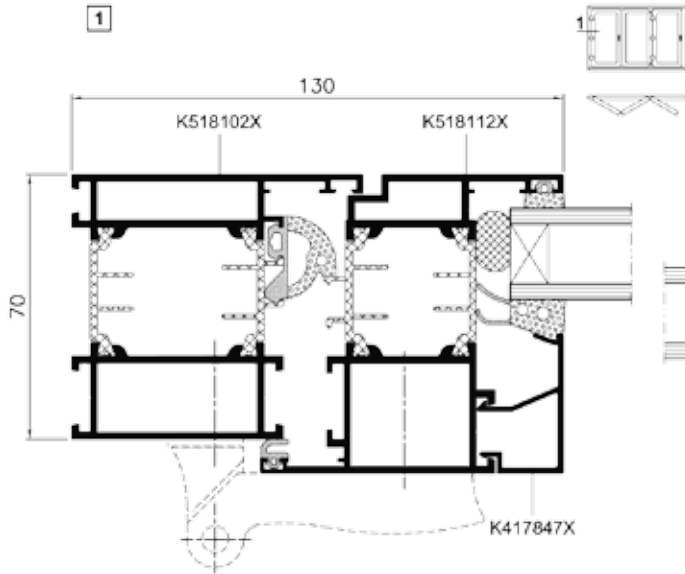
Large allowable dimensions functionality of the construction

The length of the guide rail, which predetermines the total width of the door may be up to 6000 mm. The leaf weight mounted on ROTO PATIO 6080 hardware may be up to 80 kg (active leaf). The width of an active leaf: maximum 1230, of a folding leaf: maximum 930 mm. The maximum height of leaves is 2430 mm. Allowable weight of an active tilt and turn leaf mounted on Roto ALU 540i fittings is 130 kg and its dimensions may be as follows: maximum width: 1600 mm and maximum height: 2400 mm.

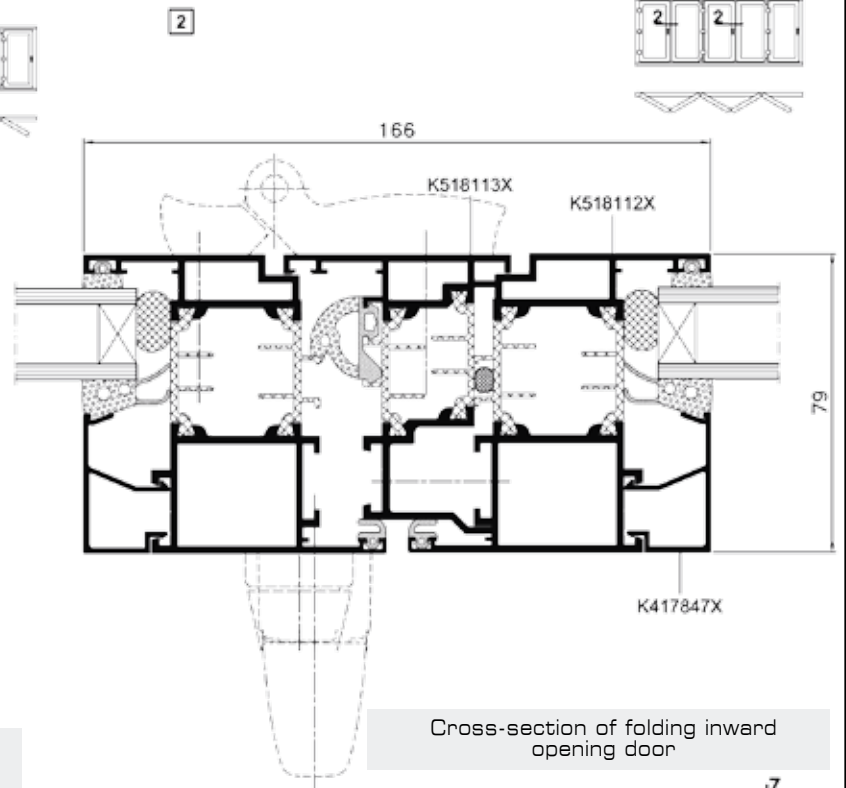
Wide glazing range

The construction, depending on the applied base system makes it possible to apply glass panels and glazing units ranging from 4.5 mm (MB-59S) to 60 mm (MB-70).

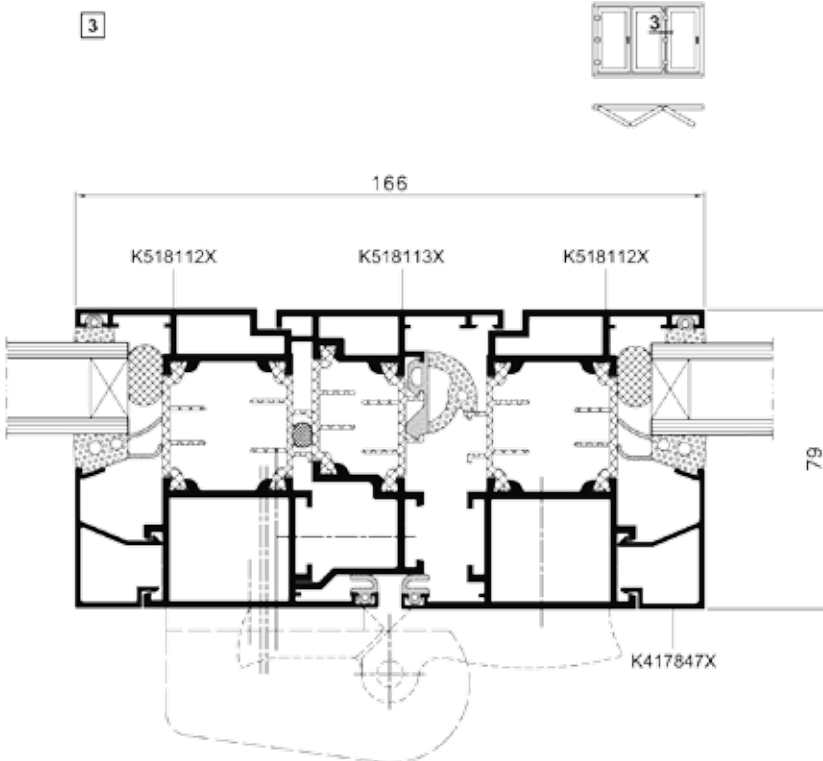
Cross-section of folding inward opening door



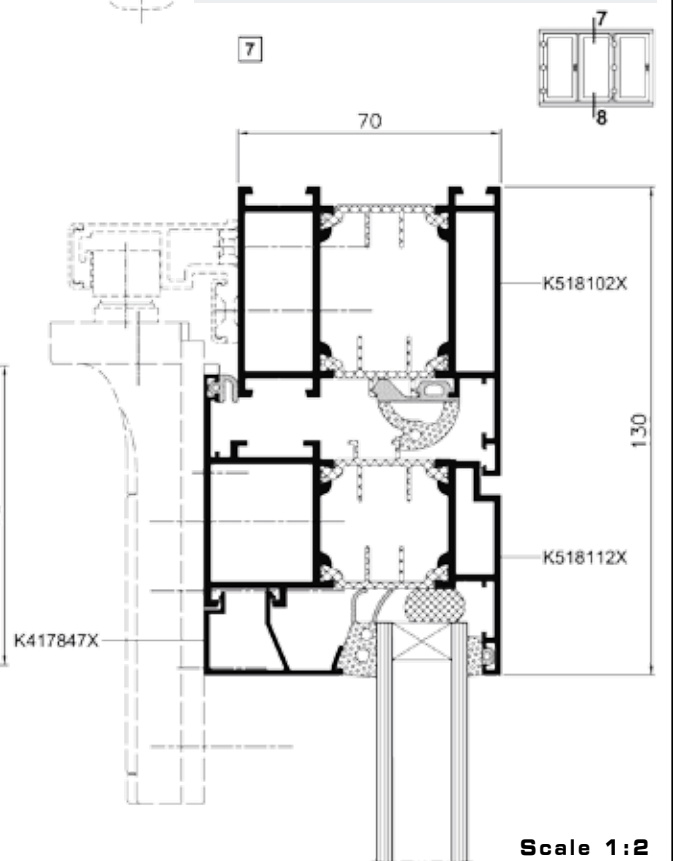
Cross-section of folding inward opening door



Cross-section of folding inward opening door



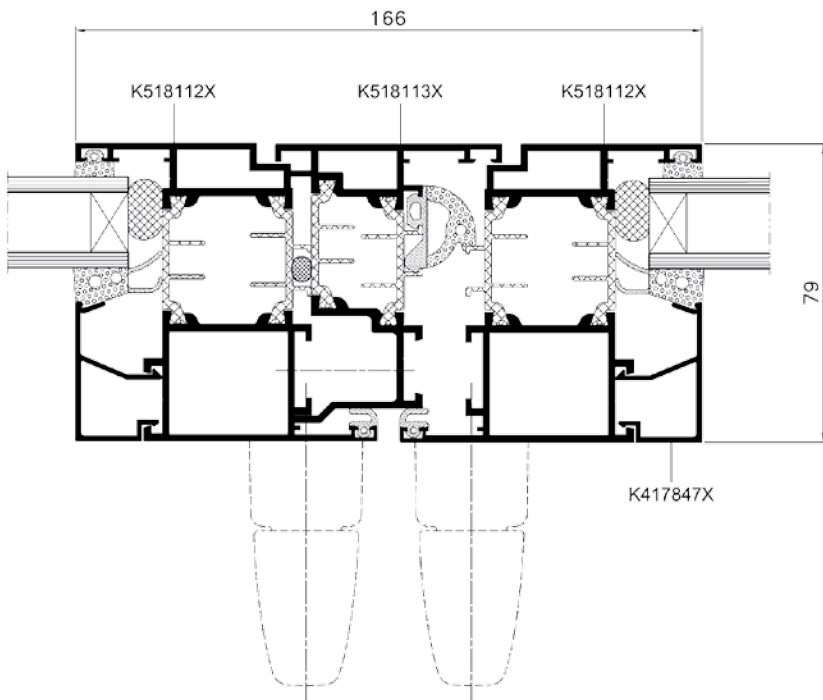
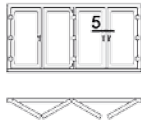
Cross-section of folding inward opening door



Scale 1:2

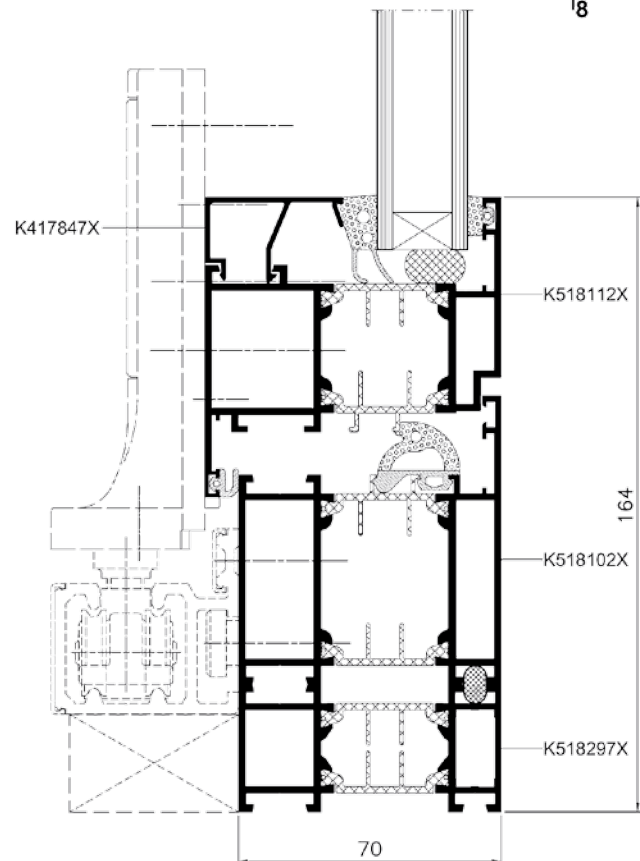
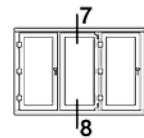
Cross-section of folding inward opening door

5



Cross-section of folding inward opening door

8



Scale 1:2

SYSTEM MB-DPA

DOOR & WINDOW SYSTEMS



Sliding doors provide an aesthetic, safe and comfortable solution for their users. In view of their properties they find application both in small objects, as well as in large office buildings and shopping centres. The construction of the MB-DPA system enables execution of doors in two variants: they may be built of thermally insulated profiles belonging to the MB-59S Casement system or from profiles without a thermal break, which are a part of the MB-45 system. Among assets of this solution are large allowable dimensions and weight of the construction: the leaves may be up to 3000 mm wide and weigh up to 200 kg.

AUTOMATIC AND MANUAL SLIDING DOOR

Construction

The constructional depth of profiles equals 50 mm in the case of thermally insulated profiles and 45 mm in the case of uninsulated profiles. The MB-DPA sliding doors may be fitted in different types of development: they can be installed directly in masonry or in glazed internal partitions of the MB-45 system, in glass and aluminium curtain walls or in display window structures, built either of profiles of the MB-59S, MB-60 or MB-70 systems, depending on thermal insulation requirements. The Aluprof door and window systems may come with wide crosspiece and frame profiles, which allow mounting most of sliding-door automatic gear available on the market. The gear may be freely selected, independent of the type of development.



A wide range of infills

Depending on the choice of variant and requirements, the door leaves may be filled with either single glass panes or with insulating glass units. Glazing range for infills ranges between 4.5 mm and 31.5 mm.

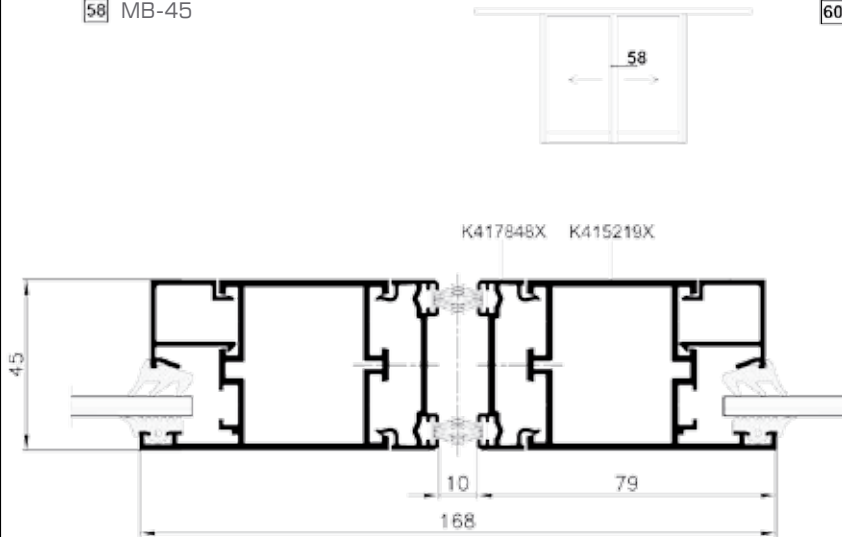
Comfort and safety of use

Due to their principle of operation, sliding doors are space-efficient and ensure safety of operation and in automatic version they provide their user full comfort of passage devoid of any architectural barriers. However, in view

of a lack of the threshold, doors installed in external developments should be protected against direct exposure to rain water.

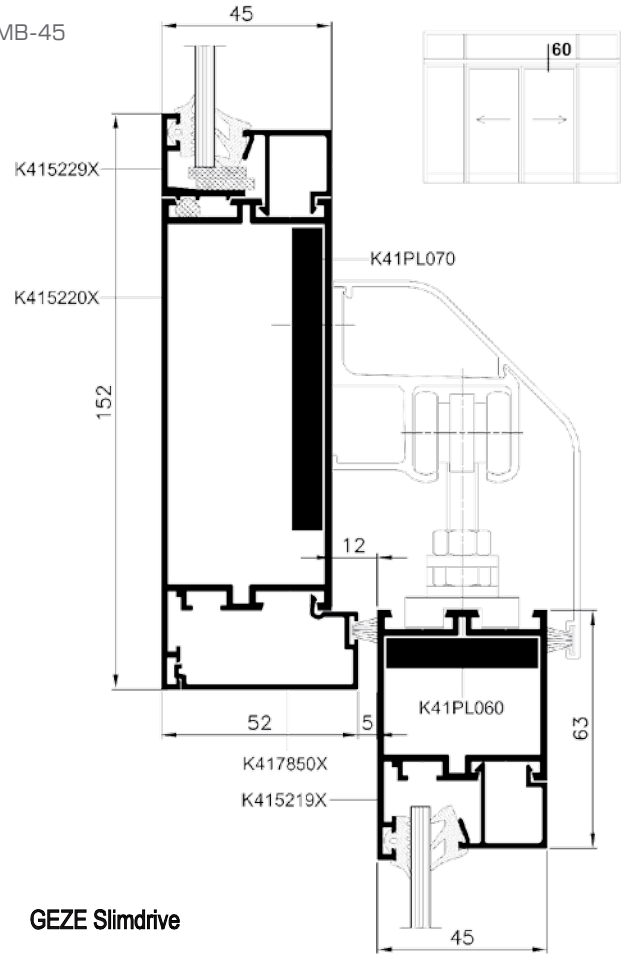
Sliding door - cross section

58 MB-45



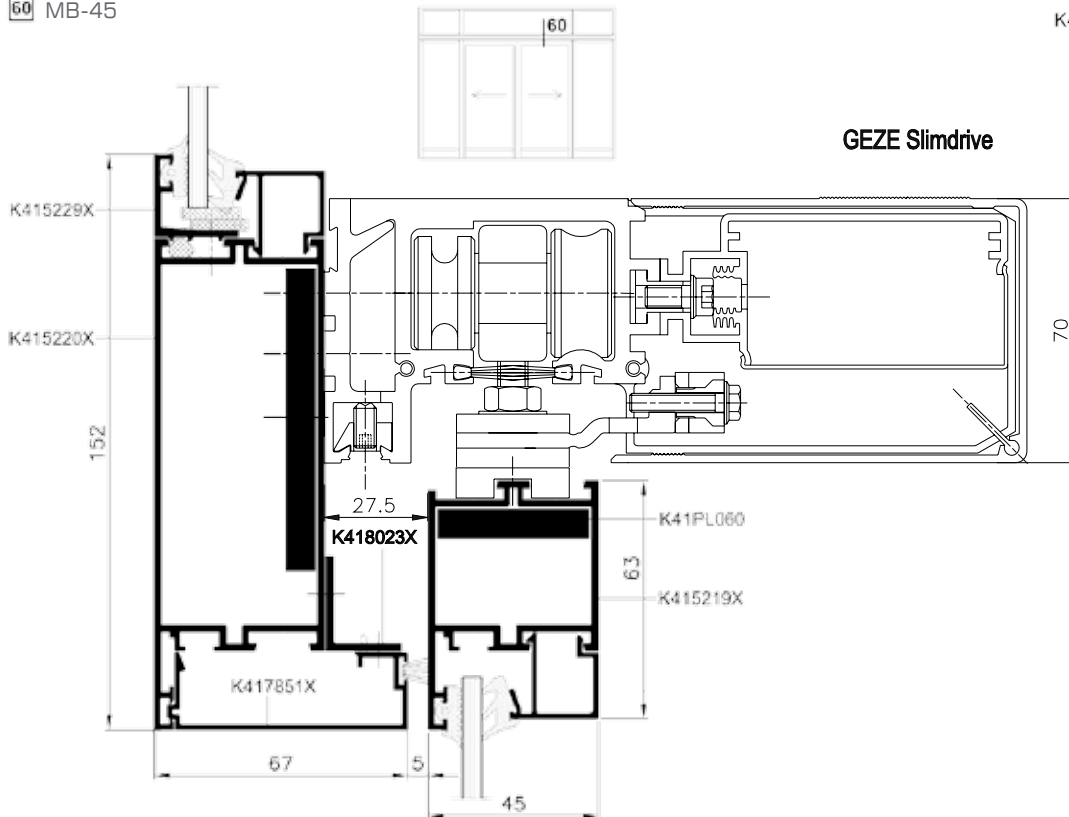
Sliding door - cross section

60 MB-45



Sliding door - cross section

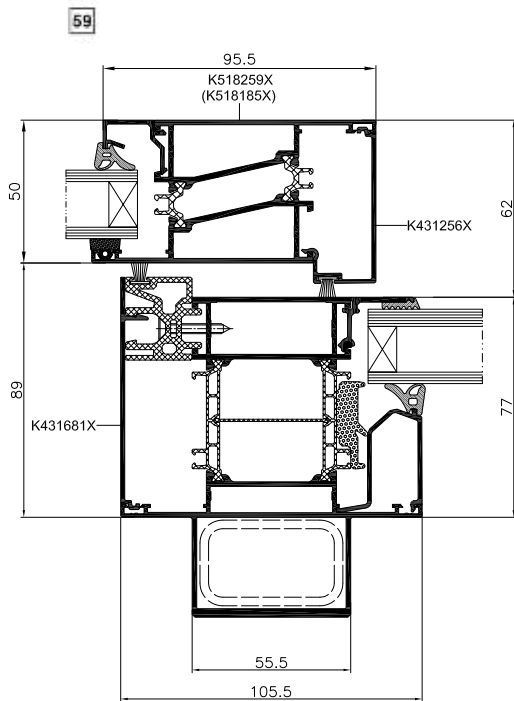
60 MB-45



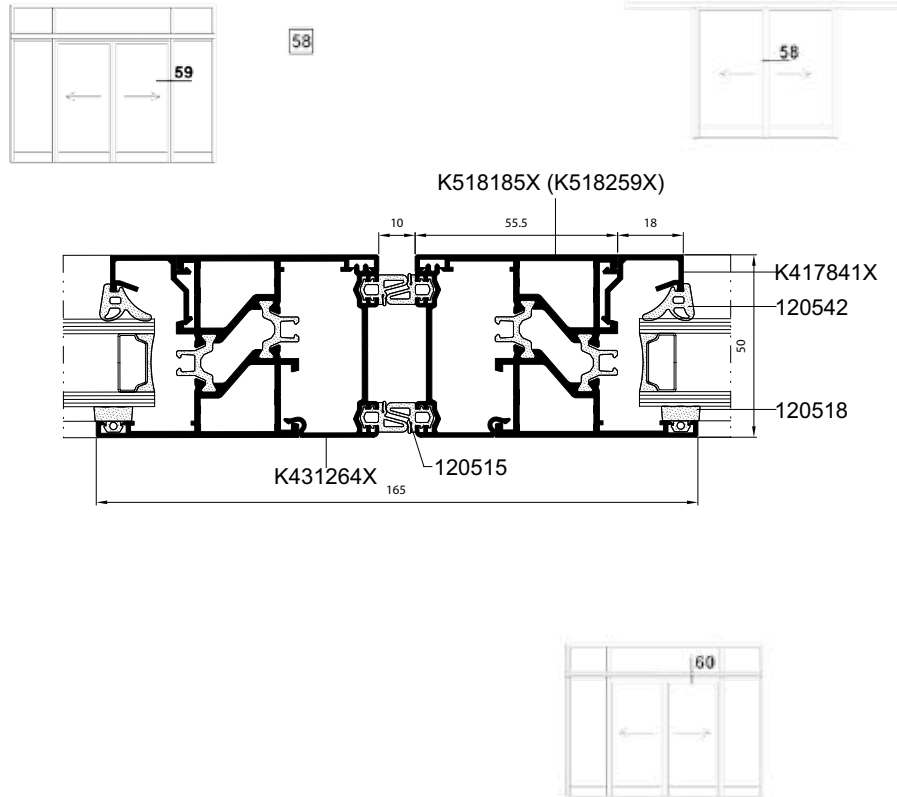
GEZE Slimdrive

Scale 1:2

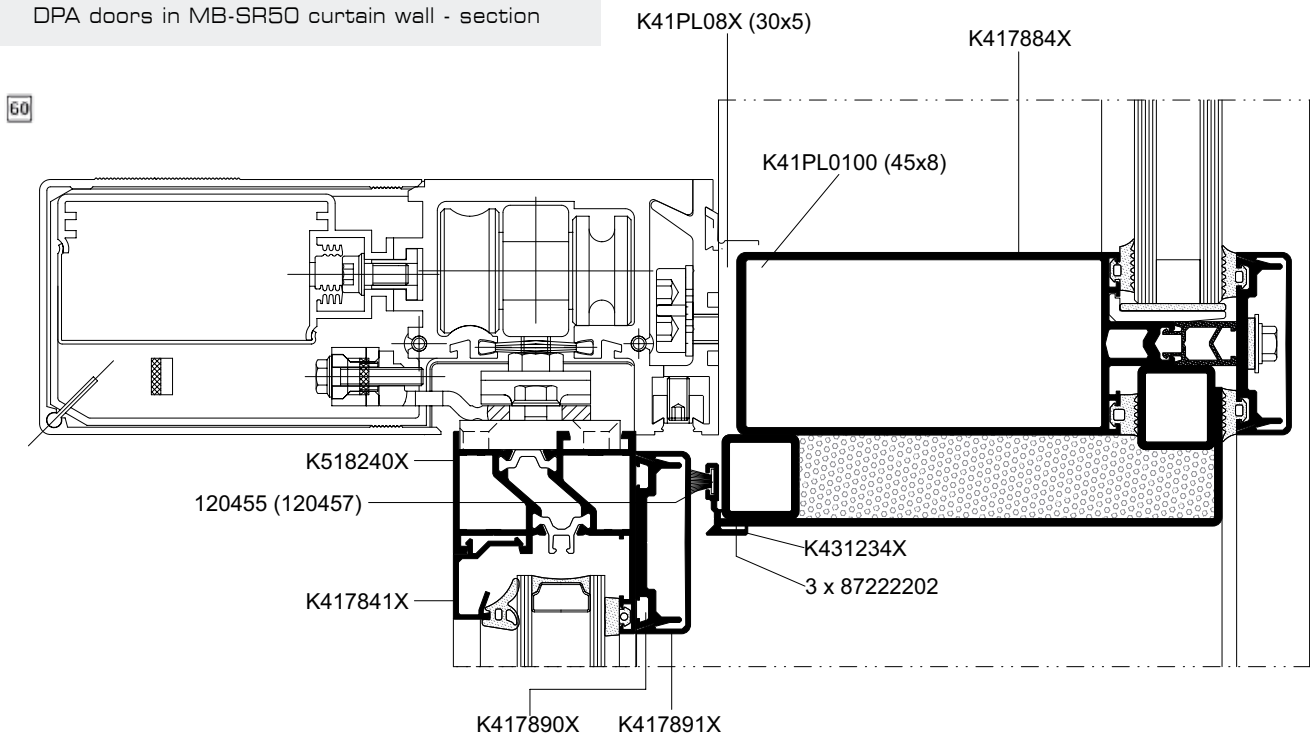
DPA doors in MB-86 screen - section



Sliding door - cross section



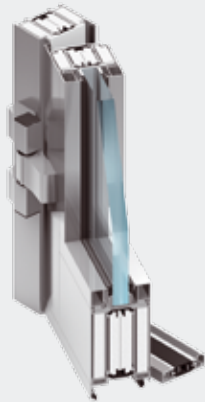
DPA doors in MB-SR50 curtain wall - section



S Y S T E M

MB-78EI

FIREPROOF CONSTRUCTIONS



The MB-78 EI firewall system is used to construct exterior and interior firewalls with single and double-leaf doors with fire resistance class of EI15, EI30, EI45, or EI60, according to B-02851-1:1997. The MB-78 EI firewall system is used to construct exterior and interior firewalls with single and double-leaf doors featuring fire resistance class of EI15, EI30, EI45, EI60 or EI90 according to B-02851-1:1997 and EN 13501-2:2005. The construction of the MB-78 EI system is based on aluminium profiles with a thermal break. The constructional depth of the profiles is 78 mm. The profiles are characterised by a low overall heat-transfer coefficient U_f due to the use of, among other things, special profiled thermal breaks 34 mm wide. The system allows glazing with any standard fireproof glass pane of the appropriate class (infill thickness between 8 and 49 mm). Within his system it is also possible to built smoke-proof constructions, which come in several options. Bending profiles and building arch constructions is also possible.

FIREWALLS WITH DOORS

Wide range of applications

MB-78EI EI is a modern firewall system used to make exterior and interior firewalls with single and double-leaf doors featuring fire resistance class of EI15, EI30, EI45, or EI60.

Optimally selected profile shape

The system profiles have a three-chamber structure. The constructional depth of profiles is 78 mm. The door leaf and frame surfaces are flush with the wall both outside and inside. The shape of profiles makes it possible to built slender and durable window and wall constructions.

High fire resistance and smoke tightness

Depending on the construction variant and the type of panes (infills) installed, the fire resistance of the MB-78EI system can be **EI15**, **EI30**, **EI45**, **EI60** or **EI90**. According to this classification, fire resistance relates to fire insulation and tightness. It is obtained, inter alia, by insertion of profiles into internal chambers and fire resistance components into the spaces between these profiles. The system also features high smoke tightness classifications according to EN13501-2:2003 – classes **Sm** and **Sa**. The classification according to UA GS VII.01/98 is **S30**. The system is classified as non-fire propagating (NRO).



High thermal and sound performance

The MB-78EI system is characterised by a low overall heat-transfer coefficient U due to the application of special thermal breaks and gaskets. The value of overall heat transfer coefficient U_f starts from 1,60 W/m^2K . Omega-shape profiled thermal breaks 34 mm wide are used in the system. Such shape of breaks improves profile rigidity in relation to flat breaks and facilitates water removal from sections, thus ensuring proper thermal insulation under any weather conditions. A thermally insulated sill and EPDM gaskets ensure good thermal insulation of door leaves and water and air tightness. The system also ensures good sound insulation. The value of the R_w index depends on the pane and type of door used.

High tightness to water and air infiltrations

Tightness is ensured by the use of special EPDM gaskets to provide resistance to aging during long-term operation. Glass gaskets are trimmed at the angle of 45° and bonded in the corners, while cover gaskets do not require corner trimming. This method of glazing ensures excellent water and air tightness. Every construction of the MB-78EI system, for external applications, has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the leaf and frame.

High tightness to water and air infiltrations

Tightness is ensured by the use of special EPDM gaskets to provide resistance to aging during long-term operation. Glass gaskets are trimmed at the angle of 45° and bonded in the corners, while cover gaskets do not require corner trimming. This method of glazing ensures excellent water and air tightness. Every construction of the MB-78EI system, for external applications, has an effective ventilation and drain system to remove water from the pane chamber and the chamber between the leaf and frame.

Diversity of solutions

Versatility and attractiveness of the system is additionally enhanced by the possibility to select from several variants of solutions for different constructional details, e.g. bottom sealing of door leaves or the shape and height of doorsills.

Wide glazing range.

Freedom of hardware selection

The MB-78EI construction has been adapted to typical hardware, locks and hinges, following European standards. Sections are equipped with grooves of such dimensions as to enable fixing of multi-point locking hardware and connecting members, as per EURO standard. Thus, it is possible to meet the demands of our customers without changing the basic construction

Flexible glazing

MB-78EI system can be glazed with package of thickness between 6mm and 49.5mm

- single glass units in accordance with EN 357:2005
- double glazing units in accordance with EN 1279-1:2006 and EN 1279-5+A1:2009, with fire rated glass internally and safety glass externally
- multi-layer panels made of two aluminium or steel sheets of relevant thickness and gyp-rock or Promatec insulation between with additional mineral wool layer of 70 kg/m^3 minimum density if required.

Fire rated glass range

tested and approved to be used with MB-78EI system includes:

- Pyrobel of thickness between 9.3mm and 30.4mm
- Polflam of thickness between 21 mm and 32 mm
- Swissflam of thickness between 14 mm do 25 mm
- Contraflam Lite of thickness between 13 mm and 22 mm
- Contraflam 30 of thickness between 16 mm and 20 mm
- Contraflam 60 of thickness between 25 mm and 35 mm
- Pyrostop of thickness between 15 mm and 45 mm
- Pyrodur of thickness between 9 mm and 13 mm
- Promaglas of thickness between 17 mm and 30 mm
- Pyranowa of thickness between 15 mm and 27 mm
- Fireswiss of thickness between 15 mm and 28 mm

Technical parameters:

- Air infiltration: Class 2 PN-EN 12207:2001
- Water tightness: Class 5A, PN-EN 12208:2001
- Wind resistance: 2400[Pa], EN 12179:2002, EN13116:2004
- Sound insulation: $R_w = 41$ dB (subject to the glazing package being used)

NEW

SYSTEM
MB-78EI DPA



AUTOMATIC SLIDING FIRE DOORS

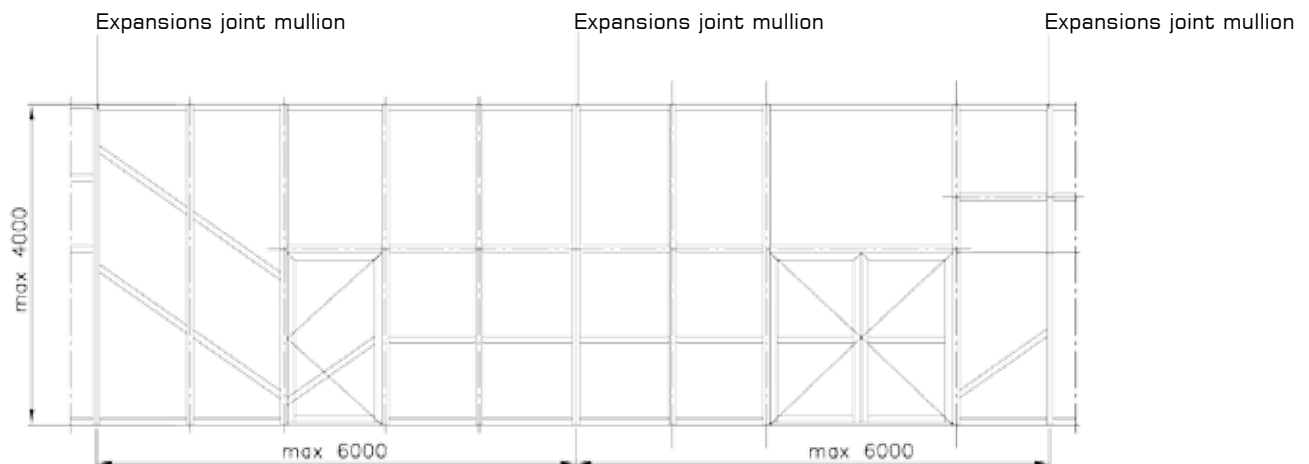
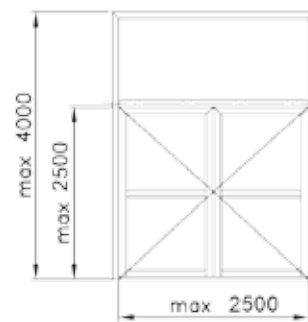
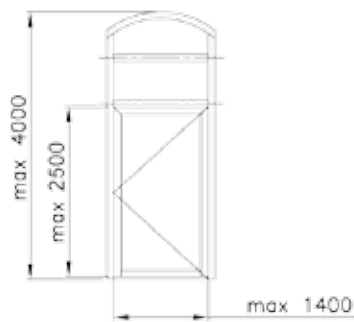
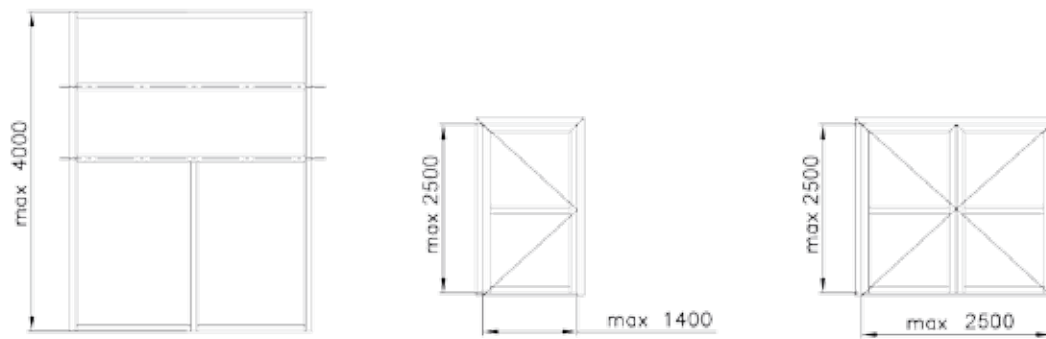
The MB-78EI DPA system is used for internal or external fire barriers with automatic sliding single- or double-leaf doors in the class EI15 or EI30.

The applied motor allows the efficient and failure-free operation of doors with a leaf weight of up to 200 kg. The maximum size of the structure in a door opening:

- height of 1-leaf and 2-leaf doors: up to 2450 mm.
- width of 1-leaf doors: up to 1100 mm.
- width of 2-leaf doors: up to 2125 mm.

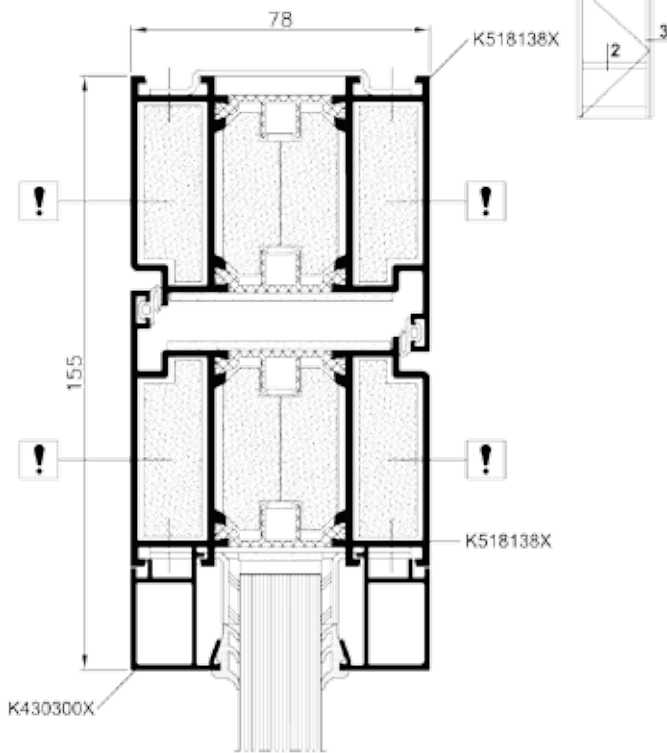


EI 15, EI 30, EI 45, EI 60. Maximum dimensions of wall segments.



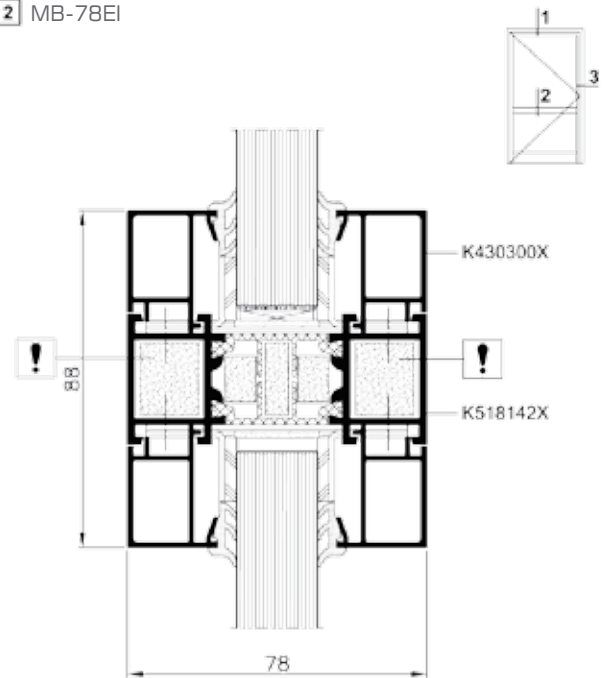
Single outward or inward opening door - cross-section

1 MB-78EI



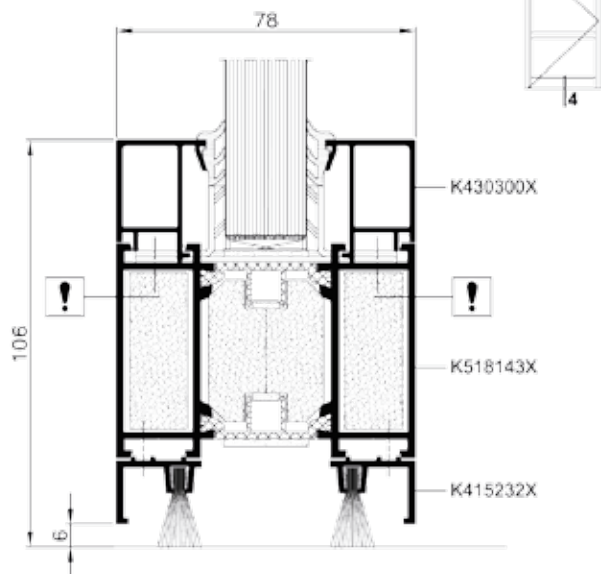
Single outward or inward opening door - cross-section

2 MB-78EI



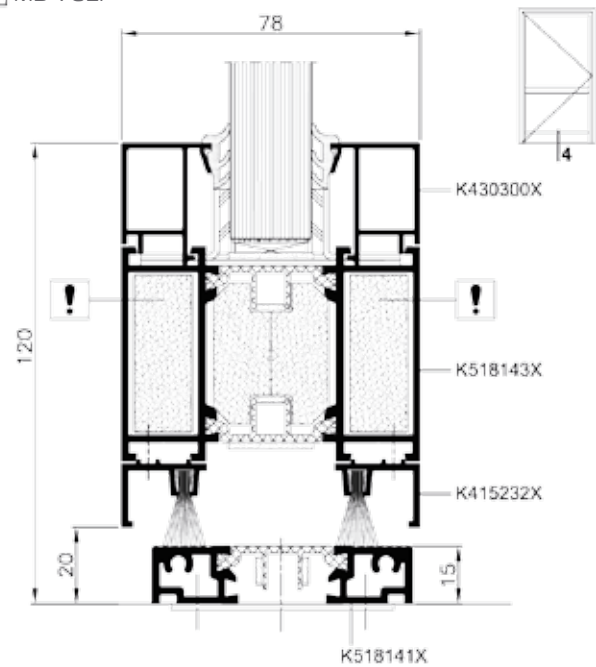
Single outward or inward opening door - cross-section

4 MB-78EI



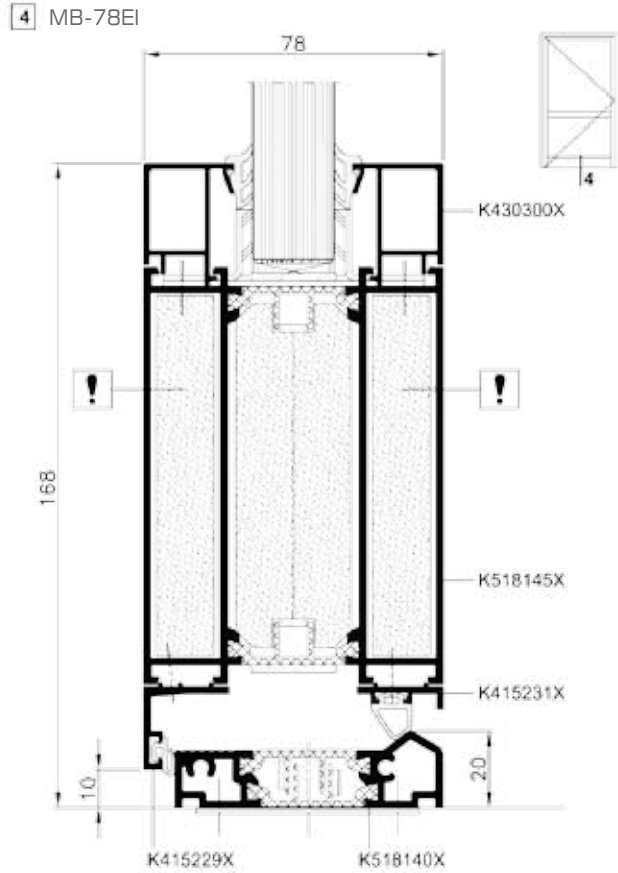
Single outward or inward opening door - cross-section

4 MB-78EI

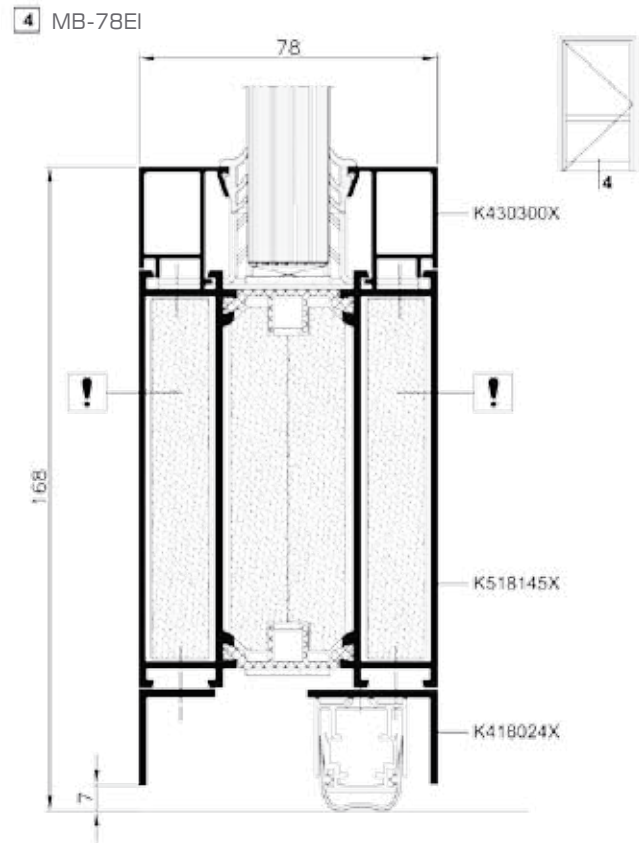


! Applicable only for EI45 | EI60

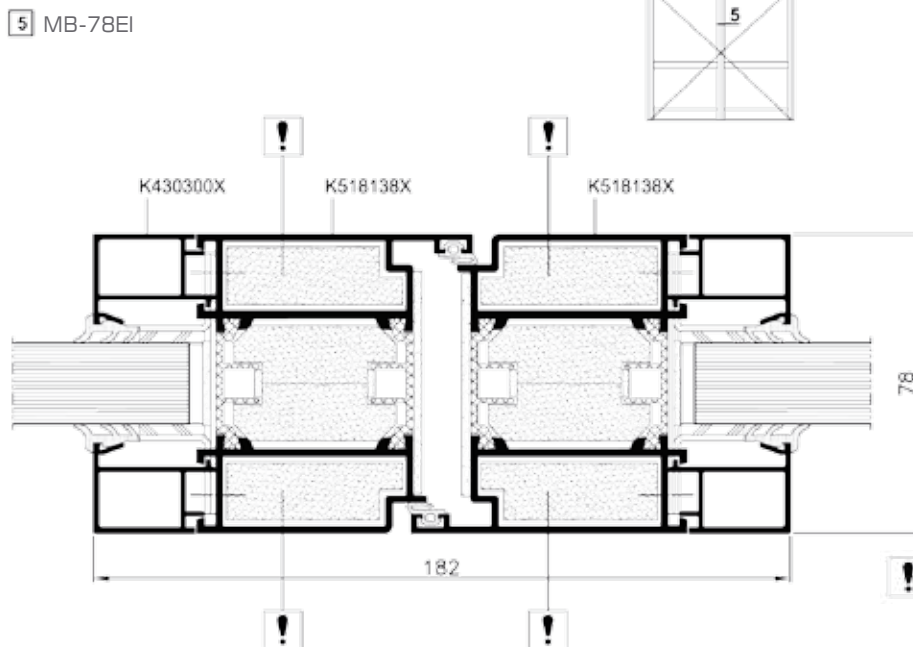
Single outward or inward opening door
- cross-section



Single outward or opening door
- cross-section



Double door - cross-section

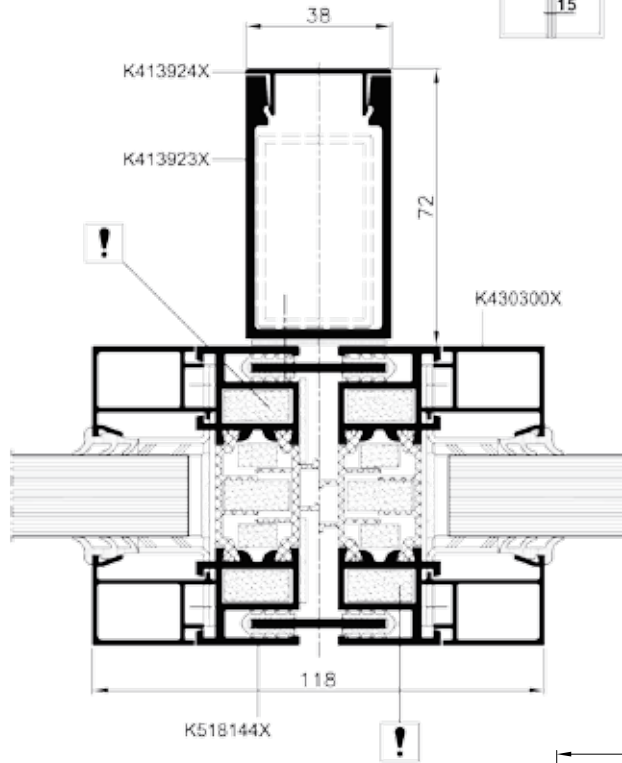


! Applicable only for EI45 | EI60

Scale 1:2

Expansion - cross- section

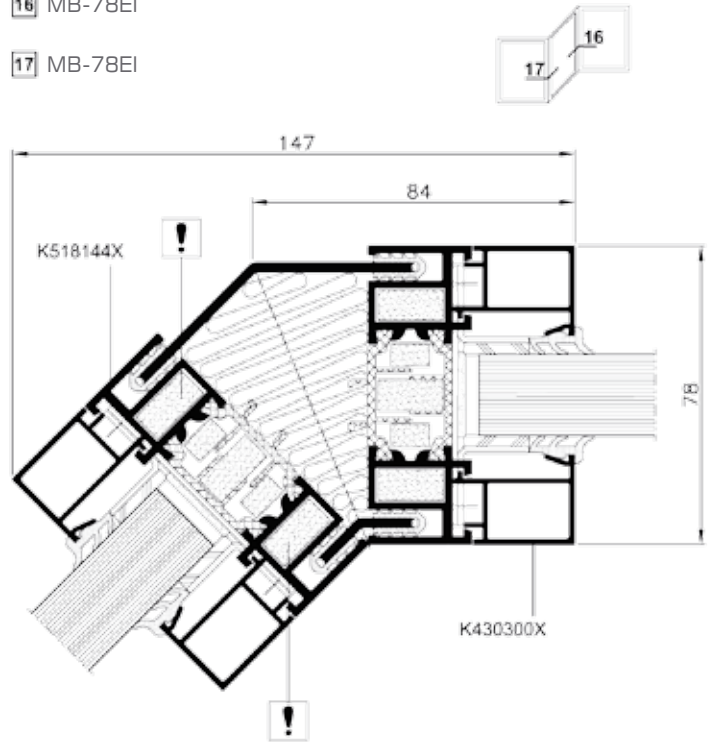
15 MB-78EI



Angular connection - cross- section

16 MB-78EI

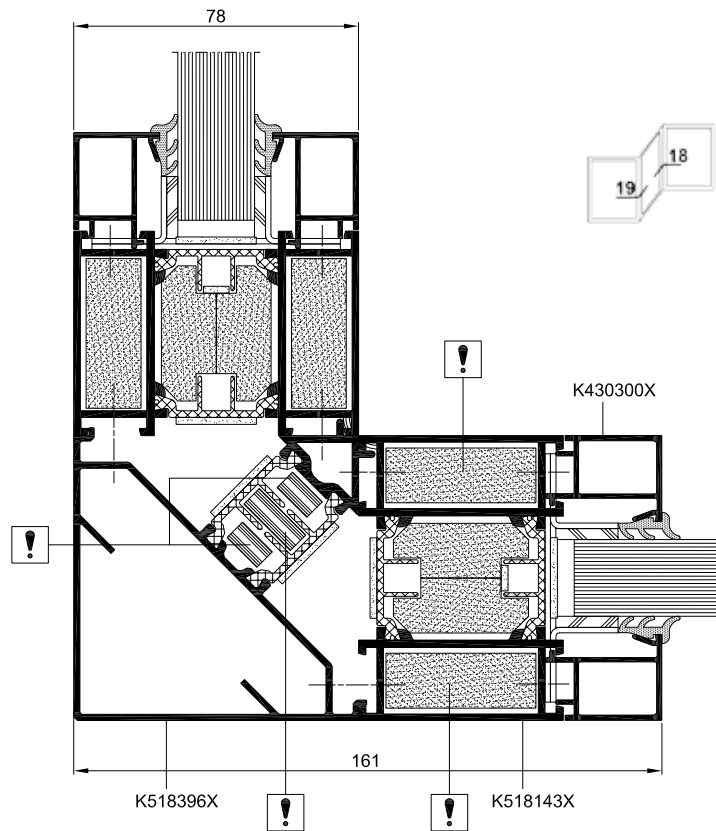
17 MB-78EI



Angular connection - cross- section

18 MB-78EI

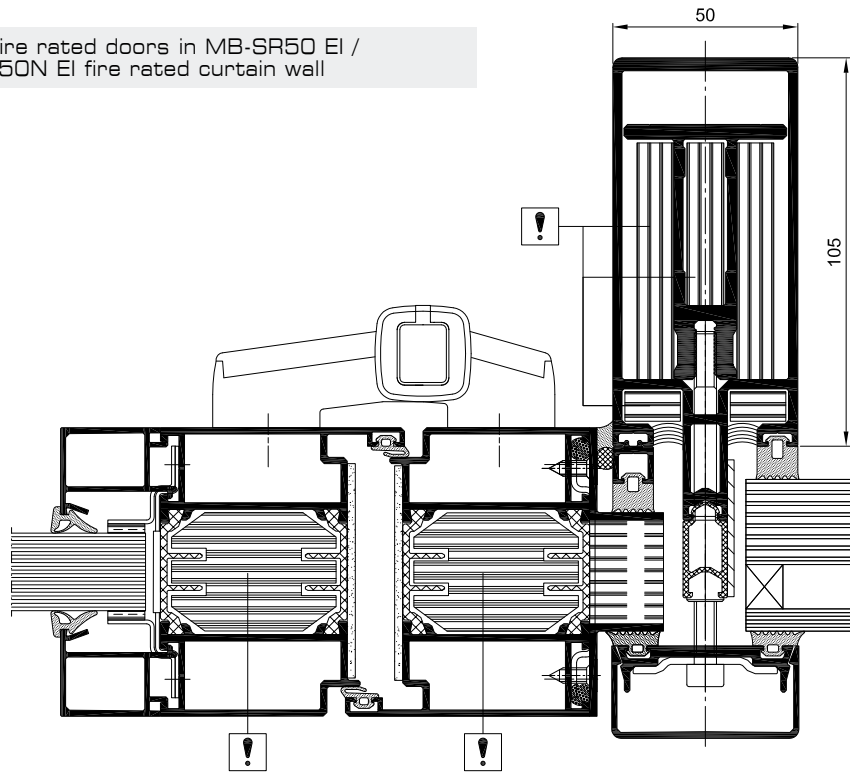
19 MB-78EI



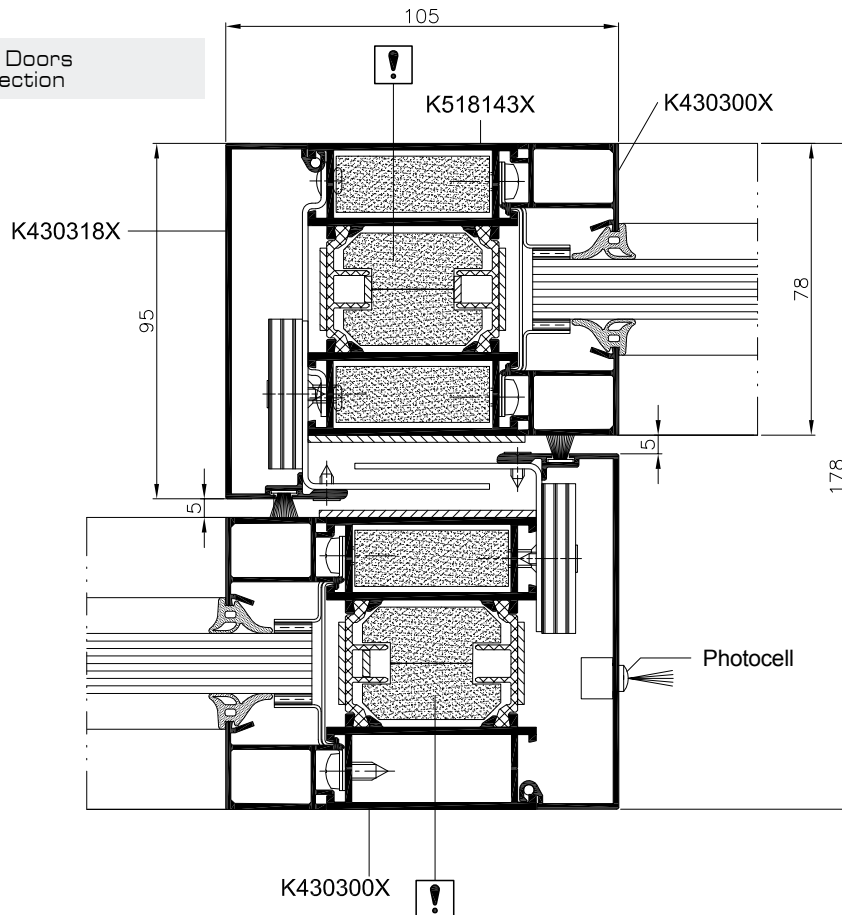
! Applicable only for EI45 | EI60

Scale 1:2

MB-78EI fire rated doors in MB-SR50 EI /
MB-SR50N EI fire rated curtain wall



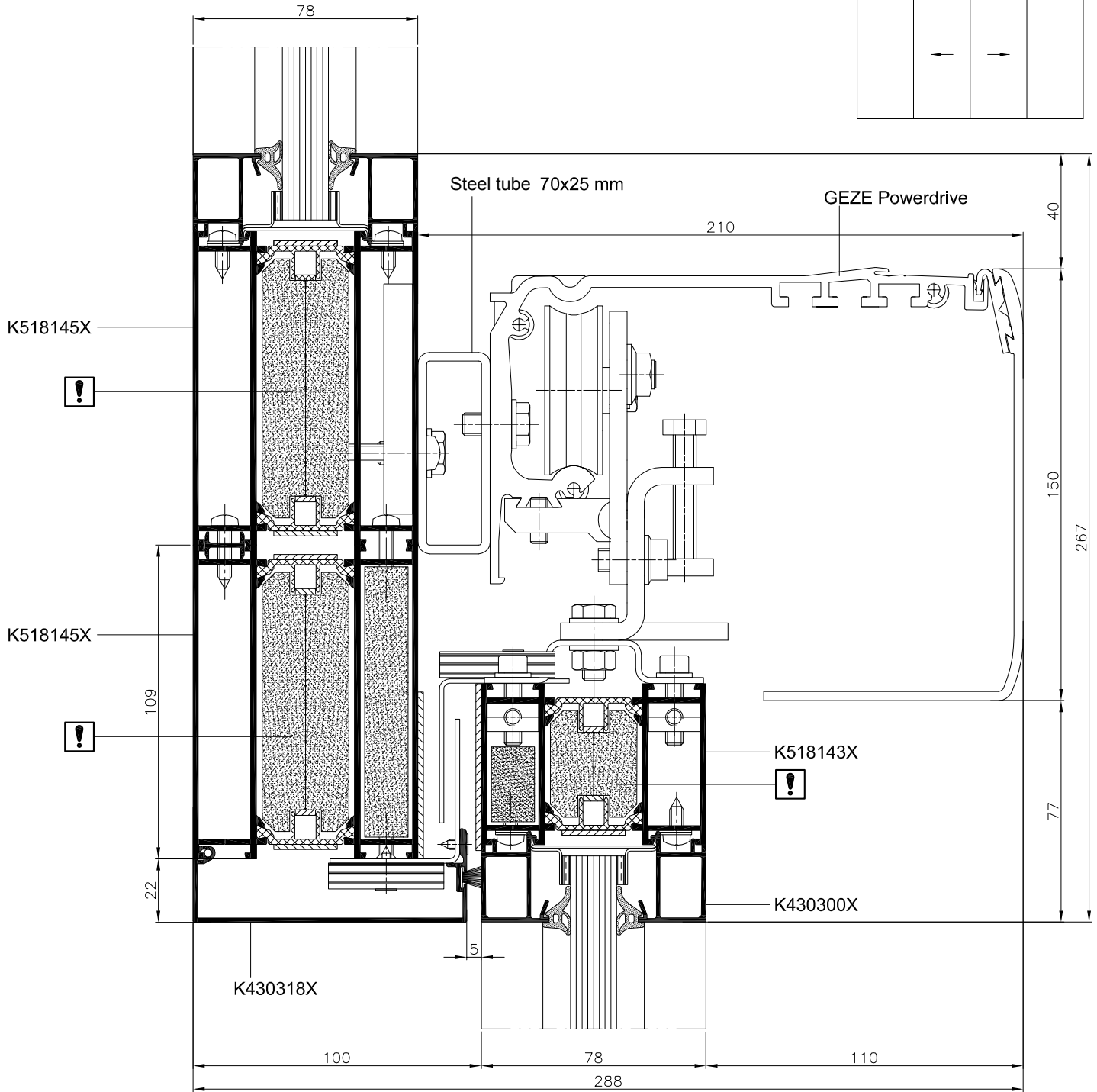
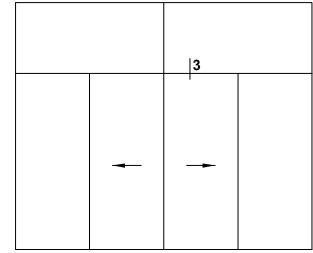
MB-78EI DPA Doors
- horizontal section



1	←	→	1

Scale 1:2

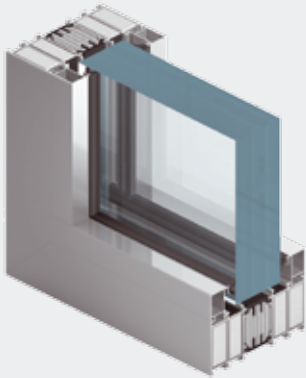
MB-78EI DPA sliding doors - vertical section



SYSTEM

MB-118EI

FIRE-RESISTANT STRUCTURES

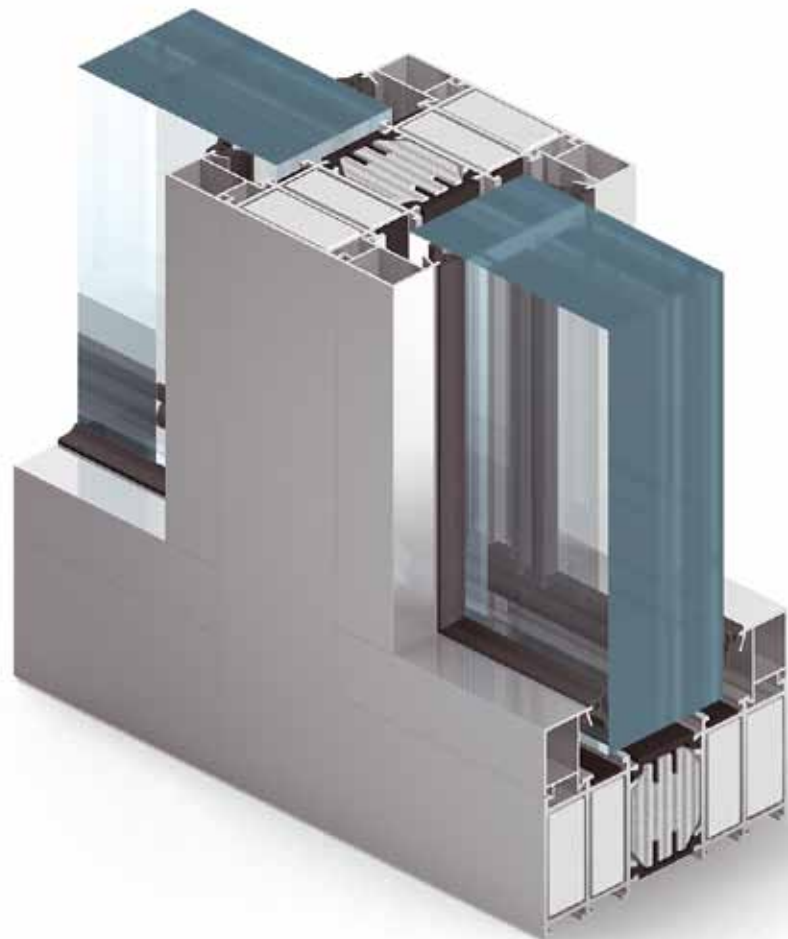


MB-118 EI is a system for external or internal fire walls with a fireproofing classification of EI120. It is based on the MB-78EI system of fire partitions with doors, which provides here most of the components, including glazing beads, cooling inserts, expanding foam tapes, seals and most accessories. The system is classified as fire-retardant; it can be also used for smoke-tight structures.

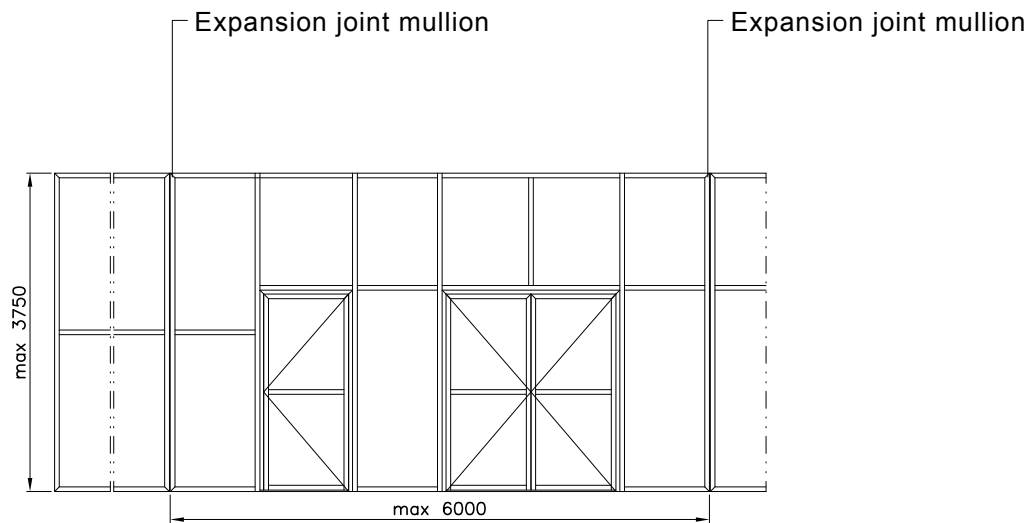
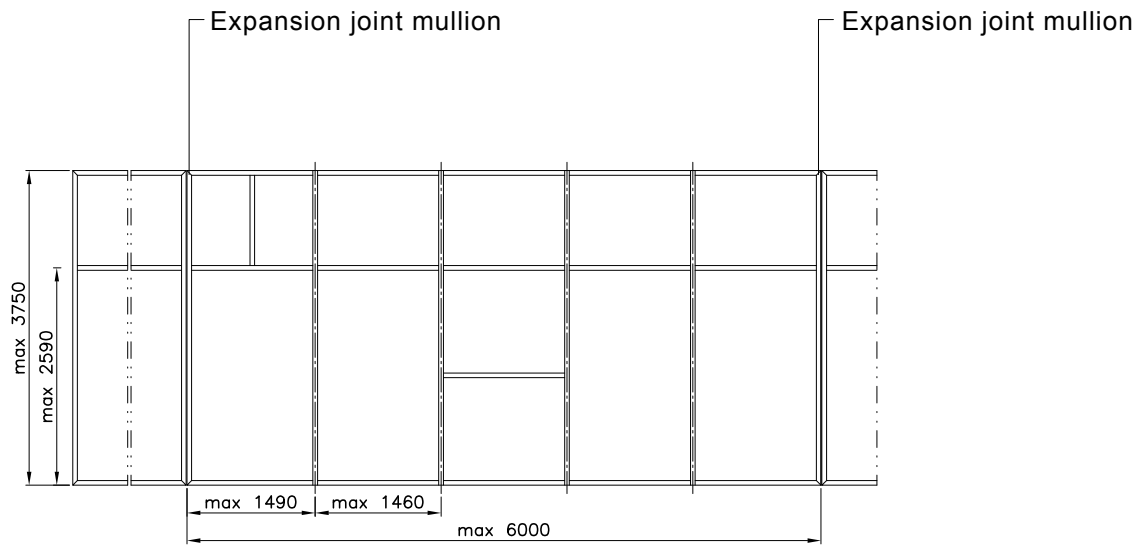
FIRE PARTITIONS

MB-118EI features:

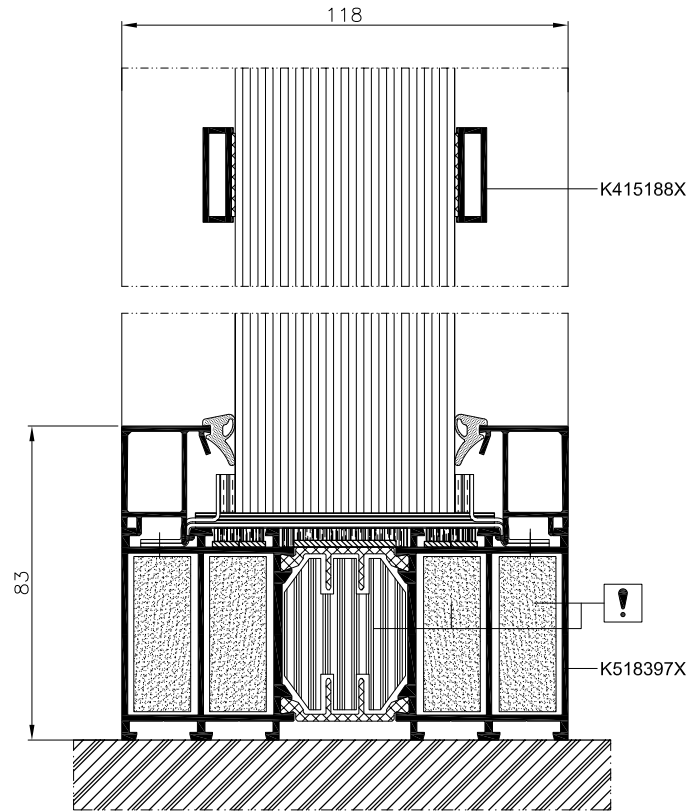
- Design depth of profiles is 118 mm
- The system is based on five-chamber aluminum profiles with a 34 mm wide thermal spacers.
- The internal chambers of the profiles and insulating spaces between the profiles include fire insulation elements. On the external surfaces, additional foam tapes are mounted, which expand under high temperatures.
- The glazing range for MB-118EI partition walls covers a infill thickness of 48-84 mm. Depending on the function of the building, single fire-resistant panes or glazing units with fire-resistant glass can be used.
- The fire-resistance of MB-118EI walls is classified EI120 for both external and internal fire.
- It is possible to use decorative muntins.
- Technical approval ITB AT-15-6006/2012.
- The construction technology is the same as for the MB-78EI system.



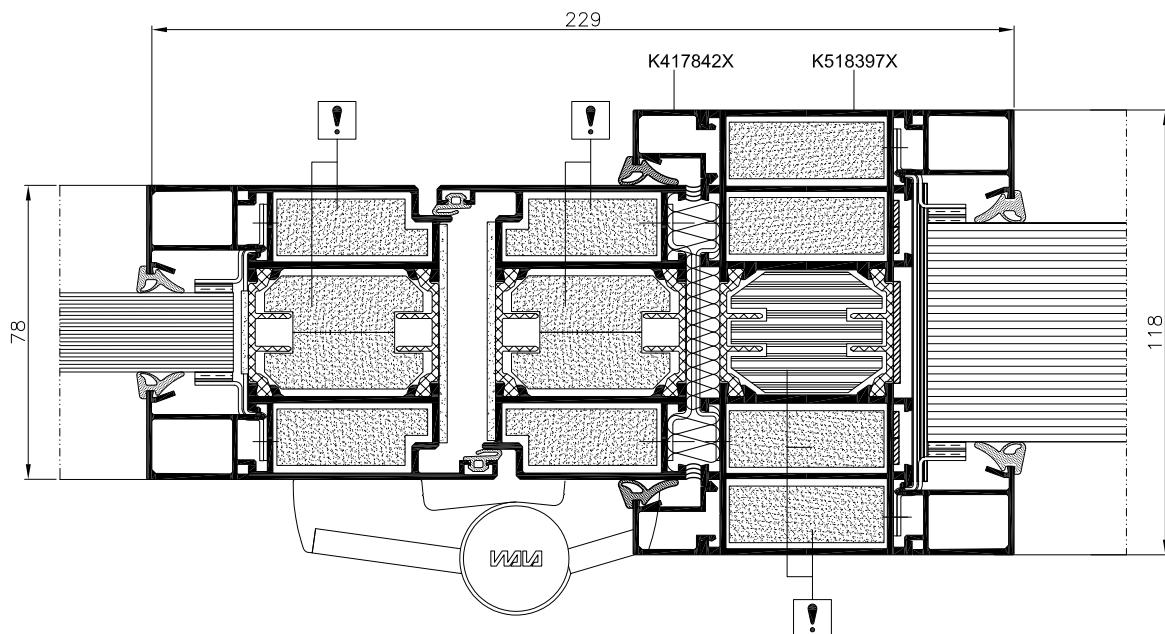
Maximum sized of the screen



Section through bottom rail



Section through the joint of MB-118EI screen with MB-78EI doors



Scale 1:2

MB-WINDOW IN BOARDS SYSTEM

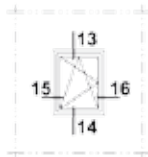
DOOR AND WINDOWS IN SANDWICH PANELS



A system of aluminium sections that allows easy and aesthetic installation of windows and doors of the following systems: MB-45, MB-45S, MB-59S, MB-59SE, MB-59S CASEMENT, MB-59S PIVOT, MB-60, MB-60 PIVOT, MB-60US, MB-70, MB-70HI, MB-70US, MB-70US HI facilities made from layered boards of different types, of the thickness ranging between 60 and 150 mm. The system features very simple construction and easy assembly, which involves snapping fastening angle sections and cover sections in special gripping strips. It is of great importance in the era of growing demand for shortening the time-consuming assembly works.

MB-60 active window - cross-section

14 Window in a panel



15 Window in a panel

