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the safe, fast way to fix it properly**



Fixing  
brackets  
Folding arm  
brackets

We reserve the right to make technical alterations. December 2006

# Brackets

→  
Fixing  
brackets  
Folding arm  
brackets

Item No.	Designation	Topas without hood	Topas with hood	Topas + Cap MiniMax	Cap	I 2000/K 2000	Semina	Cassita/Cassita Lux	Laplana	all Opal models
103457	Rafter bracket left or right	•	•	•	•	•	•	•	•	•
103202	Special brackets as per drawing for all awnings	•	•	•	•	•	•	•	•	•
105536	Aluminium base plate (d = 4 mm)	•	•	•	•	•	•	•	•	•
109022	Spacer sleeves (tube PA6 Natur; bundled 5 x 100 cm)	•	•	•	•	•	•	•	•	•
101161	Spreader tube right angled section (150 x 50 mm; in 4 x 100 cm lengths)	•	•	•	•	•	•	•	•	•
101352	Wall connecting section								•	•
106810	Standard wall bracket/niche (85 mm)	•	•	•	•	•	•			
108752	Wall bracket/niche mounting (260 mm)	•	•	•	•	•	•			
108753	Mounting plate (280 x 240 mm) incl. 1 standard wall bracket	•	•	•	•	•	•			
108754	Mounting plate (280 x 640 mm) incl. 1 standard wall bracket	•	•	•	•	•	•			
108755	Mounting plate (280 x 640 mm) incl. 2 standard wall brackets	•	•	•	•	•	•			
108756	Mounting plate (370 x 640 mm) incl. 1 standard wall bracket	•	•	•	•	•	•			
108745	Mounting plate (370 x 640 mm) incl. 2 standard wall brackets	•	•	•	•	•	•			
101428	Roof bracket with wall bracket	•	•	•	•	•	•			
101432	Roof bracket, compact	•		•	•					
108666	Base plate for standard bracket (d = 15 mm)	•	•	•	•	•	•			
107763	Cassita standard wall bracket (150 mm)							•		
108741	Cassita standard wall bracket (150 mm) incl. right angled section (150 x 50 x 4 mm)							•		
108742	Mounting plate (200 x 250 mm) incl. 1 standard wall bracket							•		
108743	Mounting plate (200 x 640 mm) incl. 1 standard wall bracket							•		
108744	Mounting plate (370 x 640 mm) incl. 1 standard wall bracket							•		
106823	Cassita wall bracket with ceiling bracket							•		
106813	Cassita roof bracket, compact							•		
101708	Cassita rafter bracket							•		
108515	Laplana standard wall bracket (150 mm)								•	
108733	Wall bracket (500 mm)								•	
108738	Mounting plate (300 x 240 mm) incl. 1 stand. wall bracket								•	
108739	Mounting plate (300 x 640 mm) incl. 1 standard wall bracket								•	
108740	Mounting plate (370 x 640 mm) incl. 1 standard wall bracket								•	
108763	Laplana wall bracket with ceiling bracket								•	
108931	Base plate for Laplana standard bracket (d = 15 mm)								•	
106808	Opal standard wall bracket (150 mm)									•
107262	Wall bracket (300 mm)									•
108671	Mounting plate (200 x 640 mm) incl. 1 standard wall bracket									•
108673	Mounting plate (370 x 640 mm) incl. 1 standard wall bracket									•
105540	Opal roof bracket universal (with support plate)									•
108901	Opal standard wall bracket (150 mm) incl. roof front plate (160 x 370 mm)									•
108923	Base plate for Opal standard bracket (d = 15 mm)									•

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## Attachment of awnings complying with the DIN EN 13561 standard

Since 1st March 2006, compliance with the DIN EN 13561 standard (awnings, supply and safety requirements) has become national law and therefore binding for all awning manufacturers and dealers in Great Britain.

It sets out very specific requirements governing the products and how they are attached.

## Important notes about brackets

When designing brackets and mounting plates we have assumed wind resistance class 2 and the following rawlplug systems: Attachment to concrete with heavy-duty steel anchor system (e.g. fischer FAZ II M12/10 GS), mounting on the face of a concrete slab and on all walls with injection system (e.g. fischer FIS V 360 S). Check the maximum permissible tightening forces of the rawlplugs you use in your application and whether the type and suitability of the available surface for mounting complies with the details of

the table found in the bracket price list.

The awnings exceed the requirements for wind resistance class 2. When fitted, however, they can only comply with these requirements if the awnings are attached with the type and number of brackets recommended by the manufacturer, are fitted taking into account the tightening forces given by the rawlplug manufacturer, and when fitting the rawlplug manufacturers' notes are complied with.

If nothing else is stated when the order is placed, the awnings are supplied with the correct number of suitable brackets for mounting on C20/25 concrete. We must point out that these brackets are not suitable for use on any other base than C20/25 concrete.

## Attaching the brackets

Suitable attachment systems are needed to mount the brackets on the available surfaces correctly. When mounting on concrete (C20/25) we recommend fischer heavy duty steel anchor systems (e.g. FAZ II M12/10 GS or FAZ II M12/30 GS). When mounting on any surfaces other than those

shown in the table below or on the front of concrete ceilings, we recommend fischer injection systems (e.g. FIS V 360 S). These can be purchased from weinor direct.

If you wish to use any fixing systems other than those recommended by us, or you want to use your own brackets, you should consult the table on tightening forces to work out the forces concerned. In this case, please observe the manufacturer's instructions.

## Mounting situations

### Mounting on pressure-resistant surfaces

In this situation the bracket is fixed direct to the concrete (C20/25) or masonry.

In this case it must be mounted using spacer sleeves or other suitable spacers so that the tightening forces are applied to the mounting surface behind.

### Wall mounting on the face of concrete slabs

Wall mounting on the face of a concrete slab is a special kind of wall mounting.

### Mounting on non pressure-resistant surfaces

This can be if there is some kind of cladding over the actual mounting surface (e.g. brickwork facing, encapsulating insulation material; maximum 200 mm).

### Ceiling mounting

Ceiling mounting is almost always directly under concrete slabs, in other words onto pressure-resistant surfaces. This means that standard mounting is assured.

### Mounting on rafters

Since there is no reliable research yet for these mounting situations, you will need to select suitable fixings based on the tightening forces.

## Program for calculating tightening forces

In addition to the information in the tables in our bracket price list, you may use a calculation program to work out the relevant tightening force for each fixing. You can find it on our website in the internal area ([www.weinor.de](http://www.weinor.de)).

This program has been produced by the "Wind tunnel" working party of the Federal Association of Ready-made Technical Textiles (BKTex). Besides weinor, another five awning manufacturers took part in this programme.

All necessary technical data on our awnings was entered into the program. To establish the tightening force for each fixing for a specific type of awning you must enter details of the width of the awning, the projection, the type of fixing, and the number of brackets close to the arms. ("Close to the arms" is defined as a maximum of 12 cm between the centres of the brackets and the thrust supports for all carrier bar awnings.

On all versions of the Opal and the Laplana the centre of the bracket may be a maximum of 15 cm from the centre of the arm bracket.) Enter the number of the upper fixings per bracket and the wind class required. The calculated result gives you the necessary information to order what we recommend as the correct screw/rawlplug systems from us direct or from your manufacturer.

## General notes on attachment systems

### Heavy duty steel anchor system

(for mounting on C20/25 concrete without effect of edges (edge distance  $c > 1.5 \text{ hef}$ ). Partial safety factor is taken into account with a factor of 1.4. All other conditions of the relevant certification must be adhered to.)

	Necessary edge distance in mm	Minimum necessary thickness of component in mm	Permissible centric tensile load for bolt anchor in kN
fischer FAZ II, M10, $s_{\min} = 40 \text{ mm}$	90*	100	<b>4.28</b>
fischer FAZ II, M12, $s_{\min} = 45 \text{ mm}$	105*	120	<b>7.57</b>
fischer FAZ, M10 A4, $s_{\min} = 55 \text{ mm}$	90*	120	<b>4.28</b>
fischer FAZ A4, M12, $s_{\min} = 65 \text{ mm}$	105*	140	<b>5.71</b>
Hilti HAST/HAST-R, M10, $s_{\min} = 55 \text{ mm}$	90*	120	<b>5.28</b>
Hilti HST/HST-R, M12, $s_{\min} = 60 \text{ mm}$	105*	140	<b>5.71</b>
Würth FAZ/S, M10, $s_{\min} = 45 \text{ mm}$	90*	120	<b>4.28</b>
Würth FAZ/S, M12, $s_{\min} = 60 \text{ mm}$	98*	130	<b>5.71</b>
Würth FAZ/A4, M10, $s_{\min} = 45 \text{ mm}$	90*	120	<b>4.28</b>
Würth FAZ/A4, M12, $s_{\min} = 60 \text{ mm}$	98*	130	<b>5.71</b>

hef = Length of rawlplug  
 $s_{\min}$  = Minimum axial distance

\* Lower necessary edge distances possible in consultation with the rawlplug manufacturer

## General notes on attachment systems

### Injection anchoring system

(for mounting on walls with the surfaces shown in the following tables and for the face of concrete slabs. The values shown in the table relate to the injection systems of the manufacturers fischer, Hilti und Würth. M10/M12 at 130 mm or 150 mm anchorage depth, including a plaster layer of max. 20 mm).

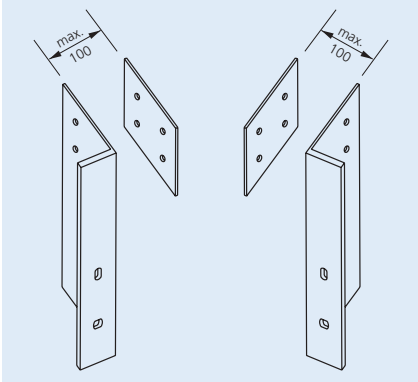
Single rawlplugs	Maximum permissible loads in kN	Thickness of component in cm	Edge distance in cm	Axial distance in cm	Maximum load/stone <sup>1</sup> in kN
Brick $\geq$ MZ 12	2.0	24	25	15	2.5
Lime sand solid brick $\geq$ KS 12	2.0	24	25	15	2.5
Vertically perforated brick $\geq$ Hlz 12 (non impact drilling)	1.2	24	20	15	2.5
Lime sand perforated brick $\geq$ KSL 12 (non impact drilling)	1.0	24	20	15	2.5
Hollow light concrete block Hbl 2	0.6	24	20	20	1.7
Hollow light concrete block Hbl 4	1.0	24	20	20	1.7
Foam mortar $\geq$ PB2	1.3	11	20	20	2.6

Smallest pairs of rawlplugs (observe axial distances between holes in brackets)	Min. axial distance between the pair of rawlplugs in cm	Min. axial distance between the inner rawlplugs of adjacent brackets in cm	Relevant permissible max. load/pair of rawlplugs taking into account the max. load/stone <sup>1</sup> in kN
Brick $\geq$ MZ 12	5	25	2.5
Lime sand solid brick $\geq$ KS 12	5	25	2.5
Vertically perforated brick $\geq$ Hlz 12 (non impact drilling)	5	25	1.8
Lime sand perforated brick $\geq$ KSL 12 (non impact drilling)	5	25	1.5
Hollow light concrete block Hbl 2	10	25	0.8
Hollow light concrete block Hbl 4	10	25	1.2
Foam mortar $\geq$ PB2	10	25	1.6

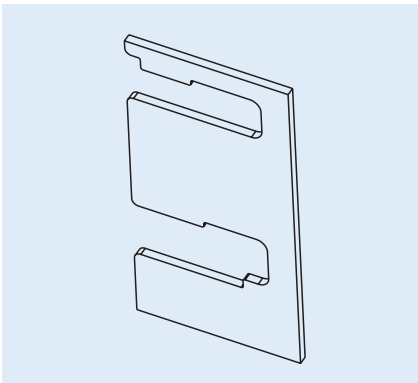
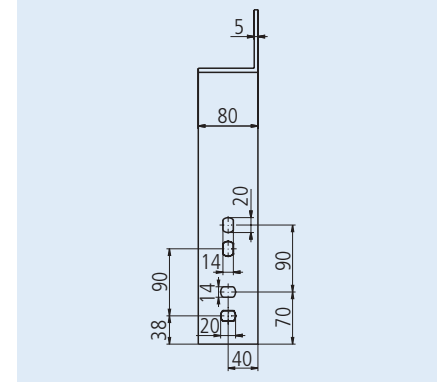
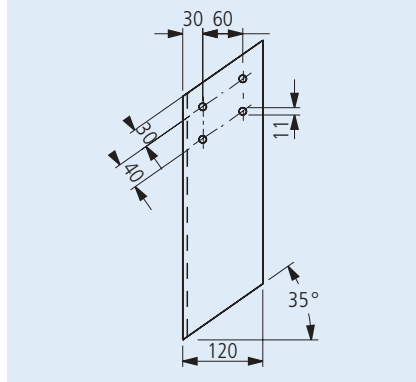
<sup>1</sup> If individual bricks are removed completely, care must be taken to ensure that enough pressure is kept on the brickwork. Anchorings near the edges of upturned beams in parapets and balustrades must be checked carefully. The ground to which it is anchored must be masonry complying with the DIN 1053 standard of the following materials and minimum stone strength classes: Solid brick  $\geq$  Mz DIN 105, lime sand solid brick  $\geq$  KS 12 DIN 106, vertically perforated brick  $\geq$  Hlz 12 DIN 105, lime sand perforated brick  $\geq$  KSL 12 DIN 106, hollow light concrete block  $\geq$  Hbl2 DIN 18151, foam mortar brick/foam mortar blocks  $\geq$  strength class 2 DIN 4165.

Face of concrete slab <sup>2</sup> , Ceiling height = 160 mm (seen for wind from above)	Anchoring depth $h_{ef}$ in mm	Min. upper edge distance, $c_{min}$ in mm	Permissible maximum load pair of rawlplugs/ single rawlplug in kN	Distance between axes present in mm	Required lower edge distance in mm	Characteristic distance between axes, $c_{cr}$ in mm	Diameter of hole in mm
M10	110	45	11.1/5.53	135	90	220	12
M12	120	55	14.64/7.50	135	90	240	14

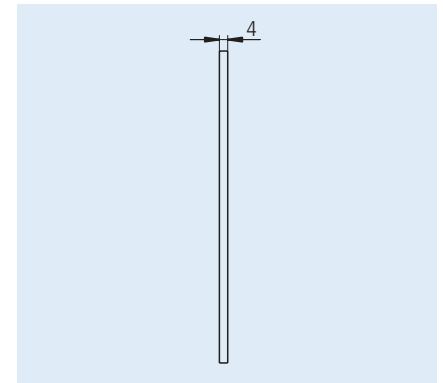
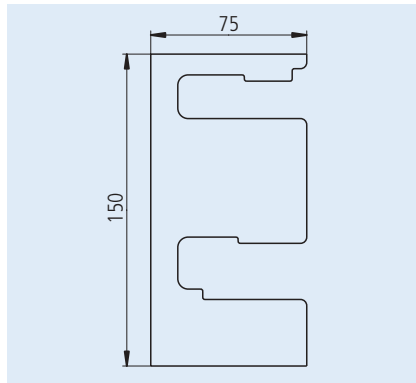
<sup>2</sup> Permissible centric pulling force for injection anchoring systems for non-cracked concrete (C20/25) with effect of edges, edge distance  $c_{min}$ . Partial safety factor is taken into account with a factor of 1.4. All other conditions of the relevant certification must be adhered to. We recommend increasing the depth of the hole to 130 mm.

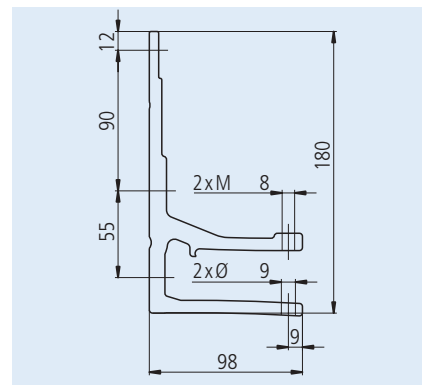
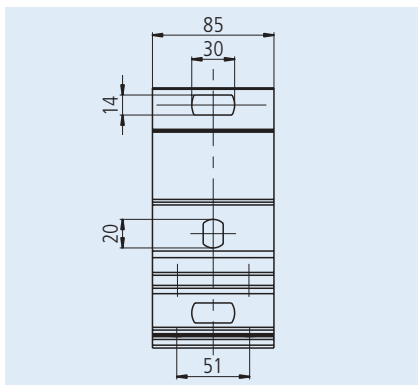
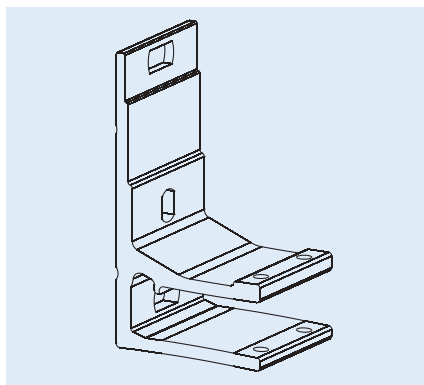


Item No. 103457, rafter bracket

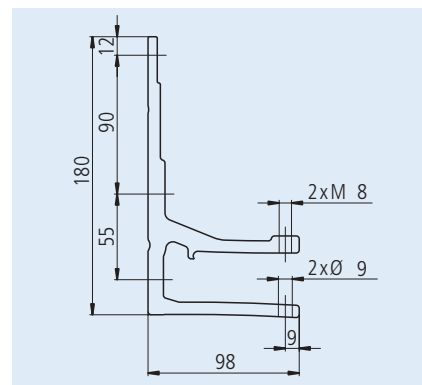
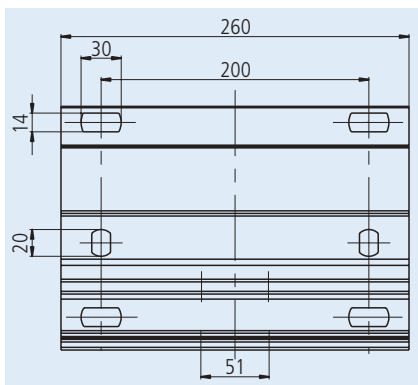
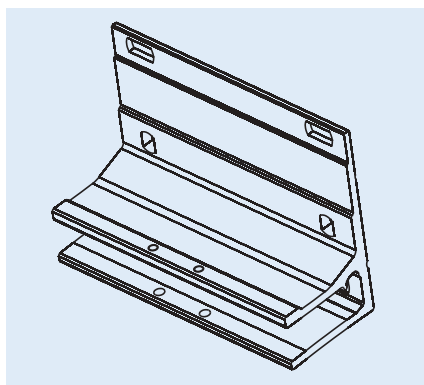


Item No. 105536, aluminium base plate (d = 4 mm)

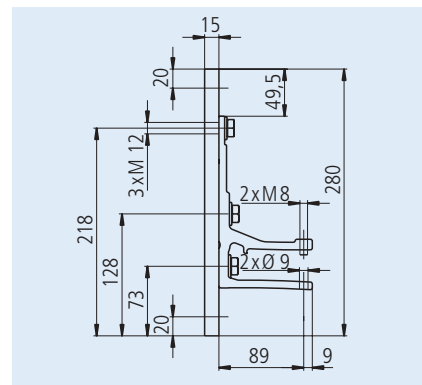
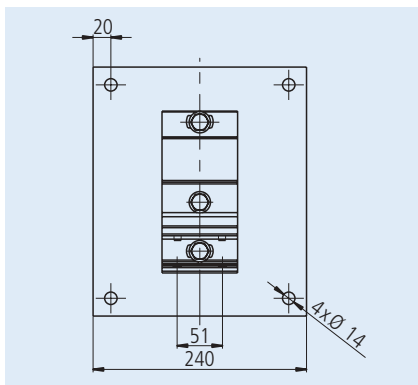
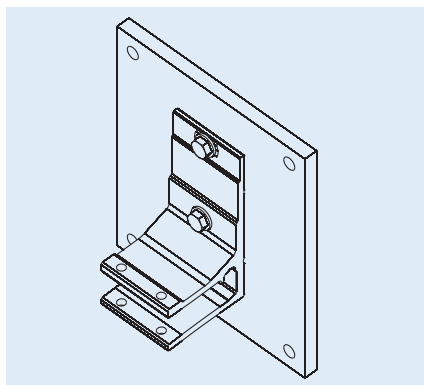




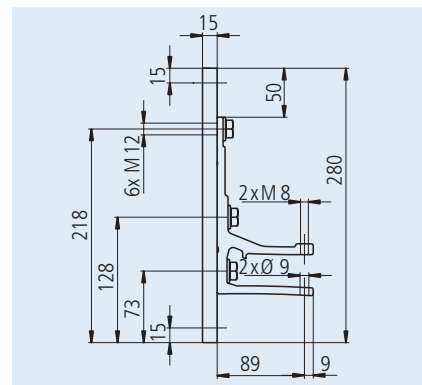
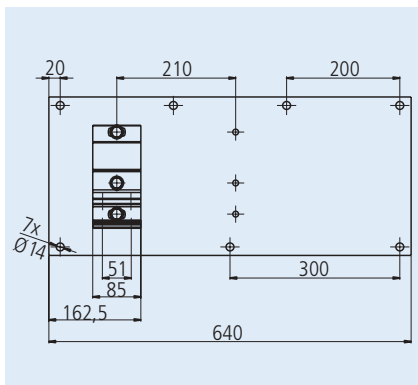
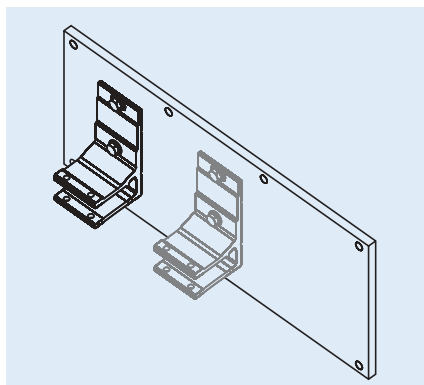
Item No. 106810, standard wall bracket (85 mm)



Item No. 108752, wall bracket (260 mm)

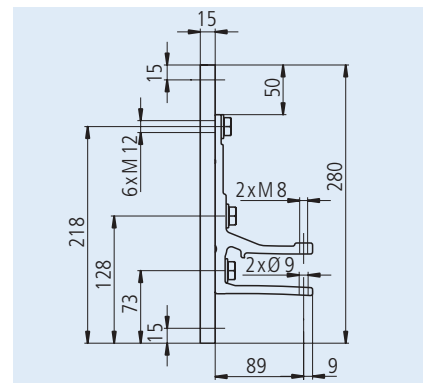
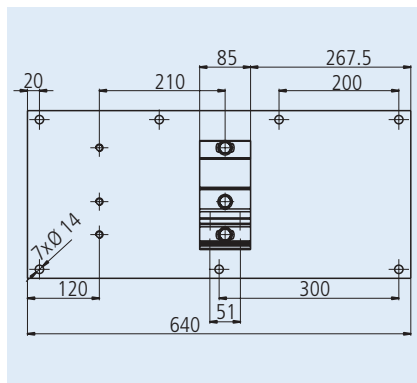
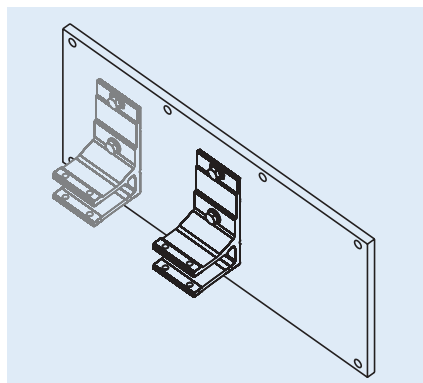


Item No. 108753, mounting plate (280 x 240 mm) incl. 1 standard wall bracket

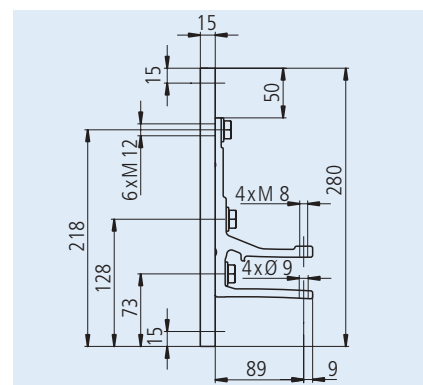
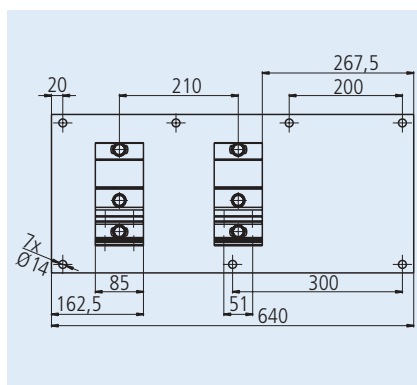
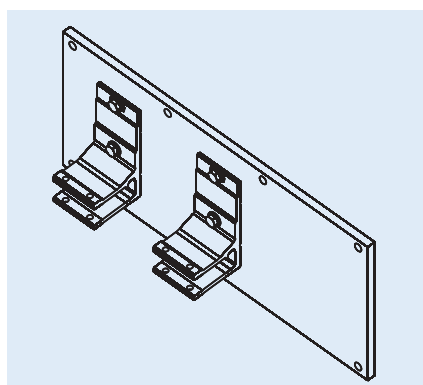


Item No. 108754, position variation A, mounting plate (280 x 640 mm) incl. 1 standard wall bracket

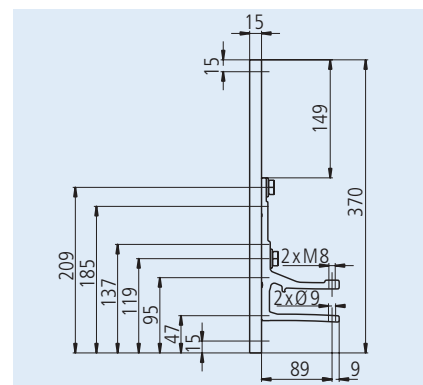
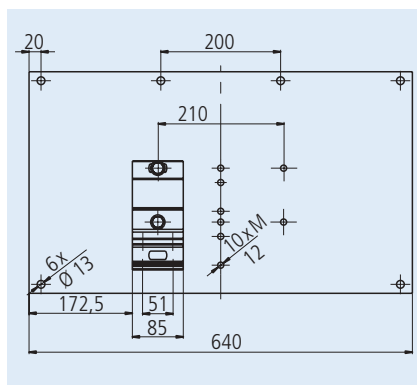
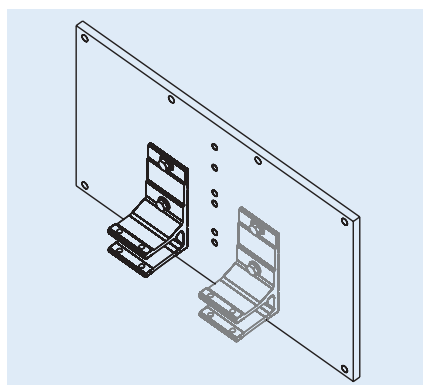




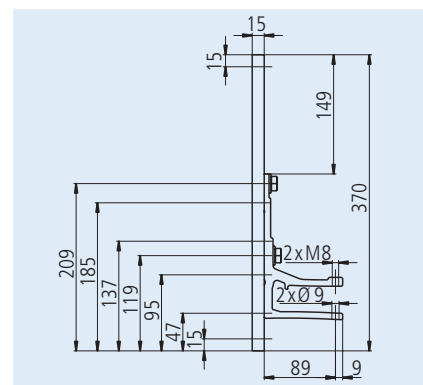
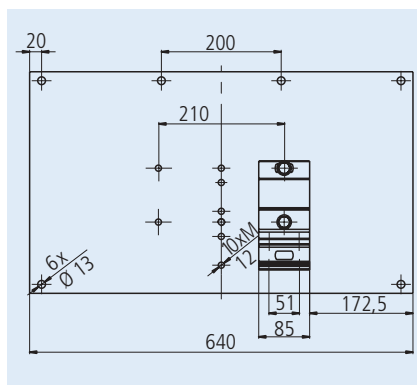
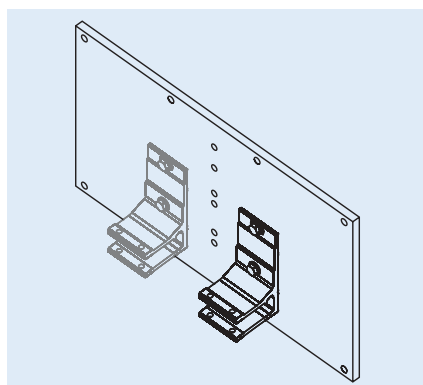
Item No.108754, position variation B, mounting plate (280 x 640 mm) incl. 1 standard wall bracket



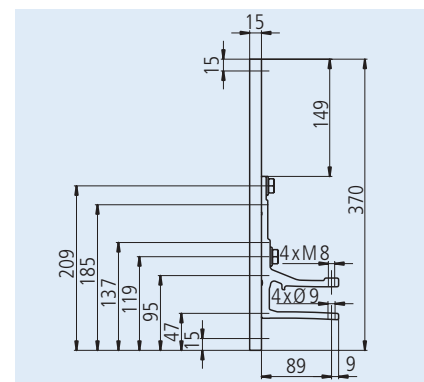
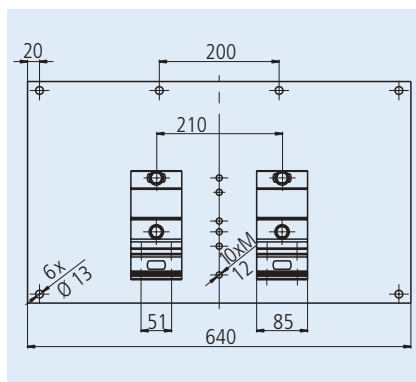
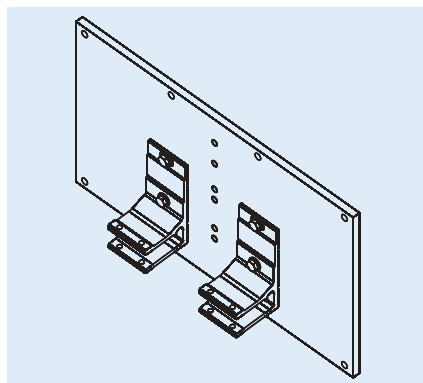
Item No. 108755, mounting plate (280 x 640 mm) incl. 2 standard wall brackets



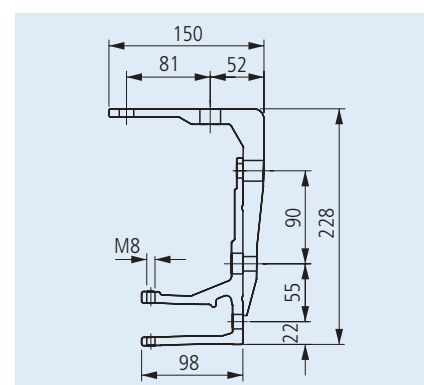
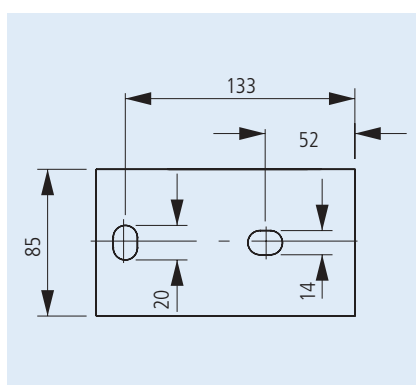
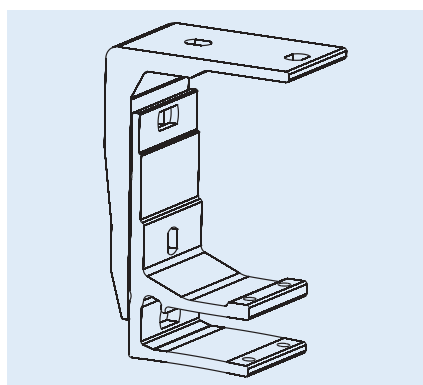
Item No.108756, position variation A, mounting plate (370 x 640 mm) incl. 1 standard wall bracket



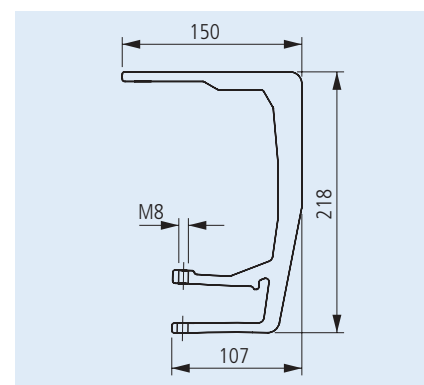
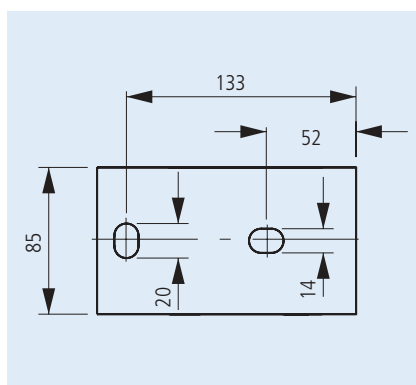
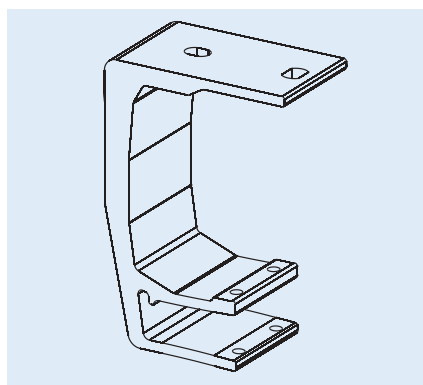
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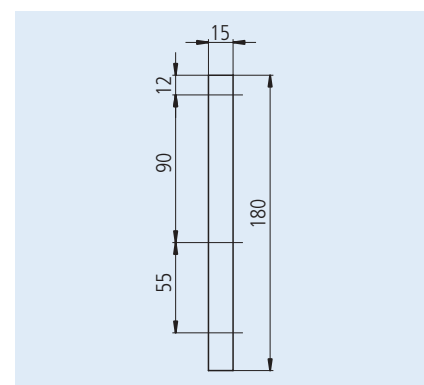
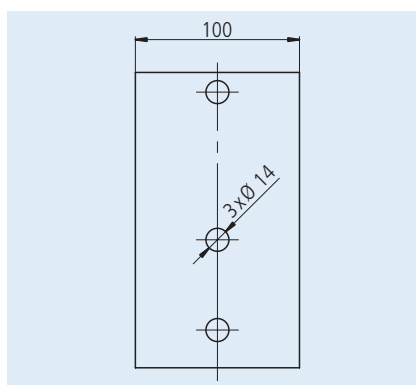
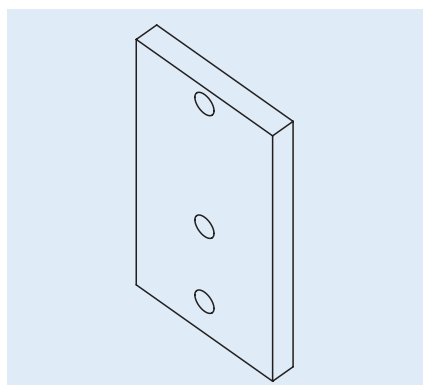
Item No. 108745, mounting plate (370 x 640 mm) incl. 2 standard wall brackets



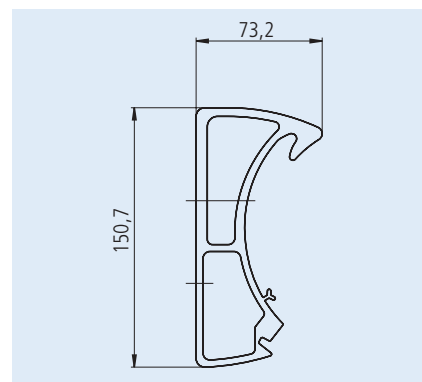
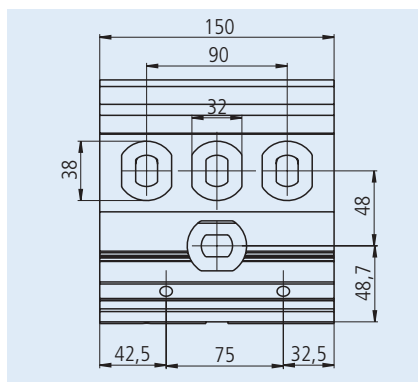
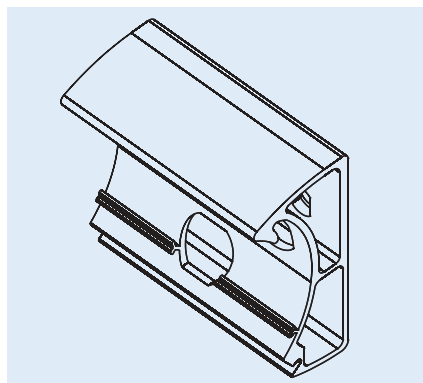
Item No.101428, ceiling bracket with wall bracket



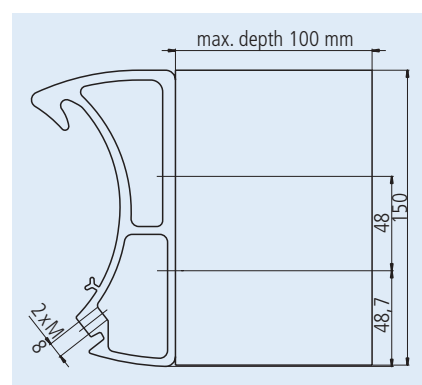
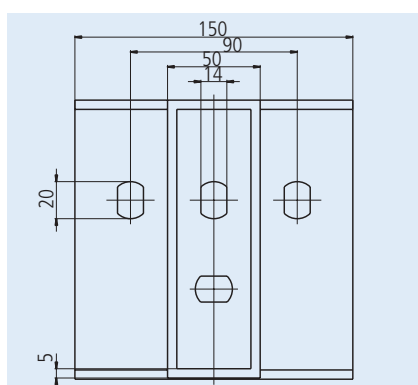
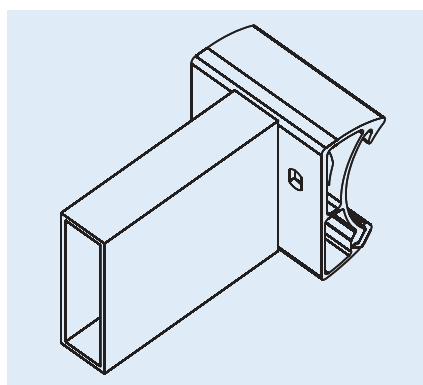
Item No.101432, ceiling bracket, compact



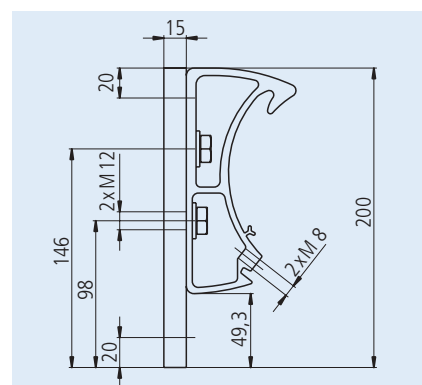
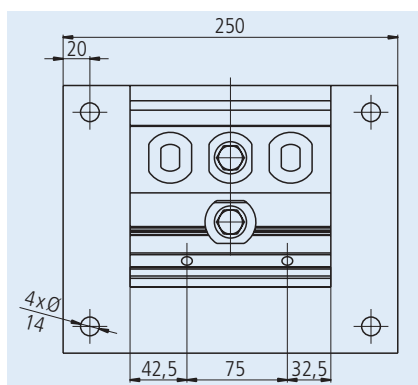
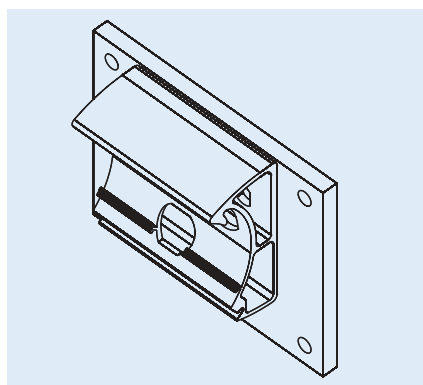
Item No.108666, base plate for standard bracket (d = 15 mm)



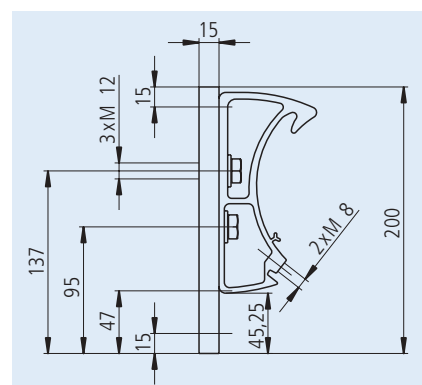
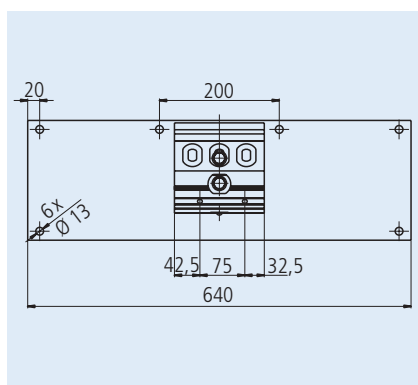
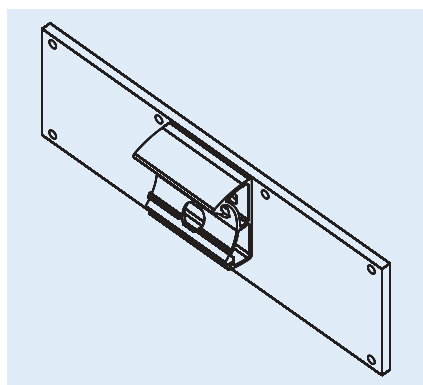
Item No. 107763, Cassita standard wall bracket (150 mm)



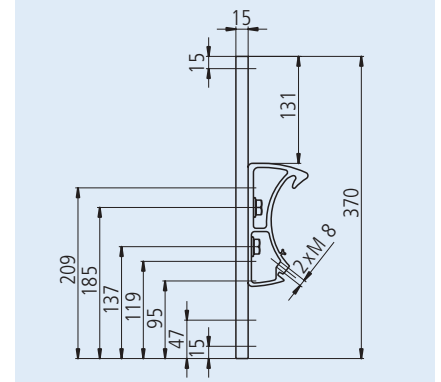
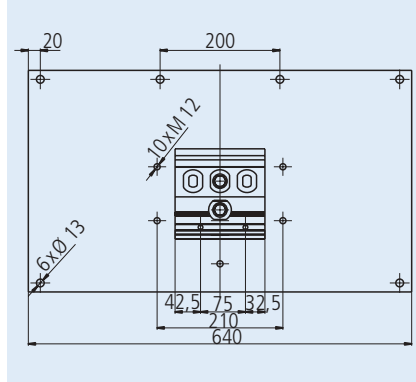
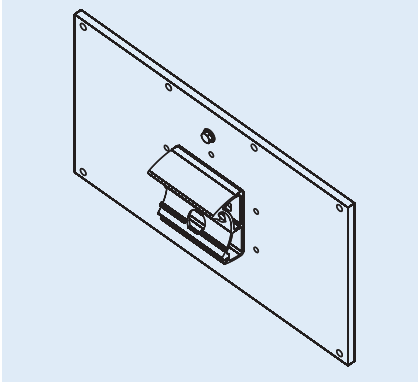
Item No. 108741, Cassita standard wall bracket (150 mm) incl. right angled r section (150 x 50 x 4 mm)



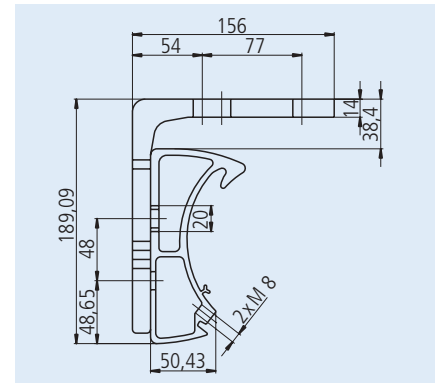
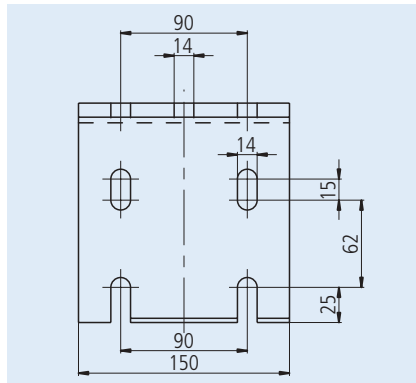
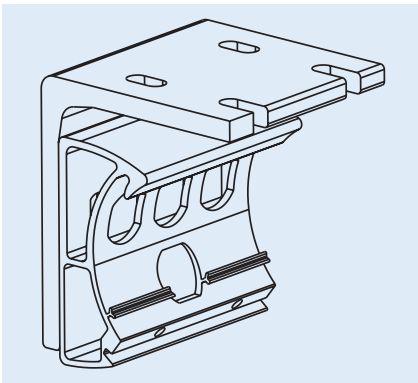
Item No. 108742, mounting plate (200 x 250 mm) incl. 1 standard wall bracket



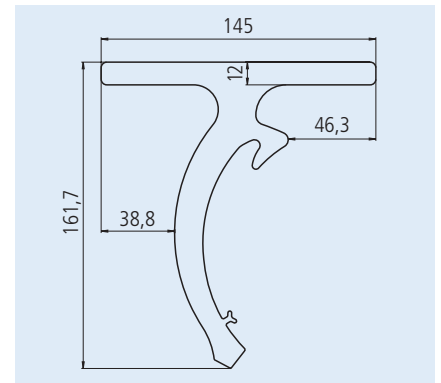
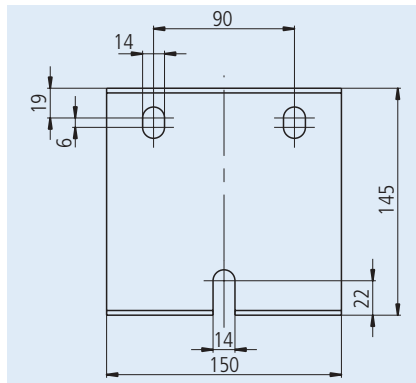
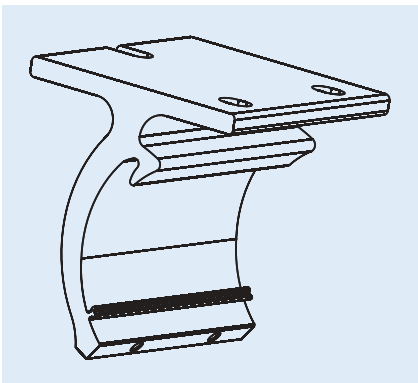
Item No. 108743, mounting plate (200 x 640 mm) incl. 1 standard wall bracket



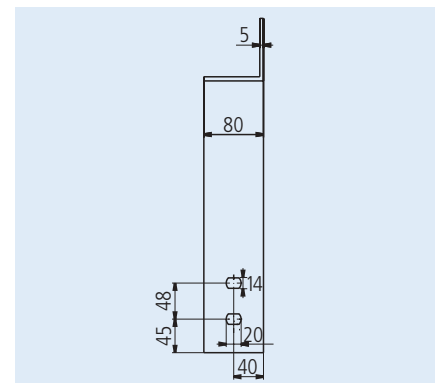
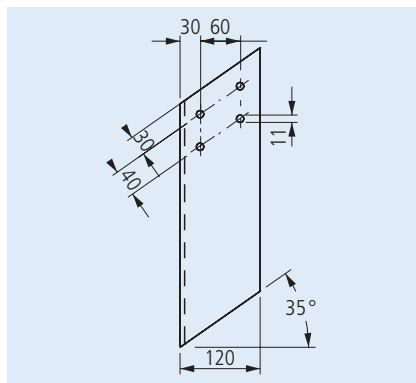
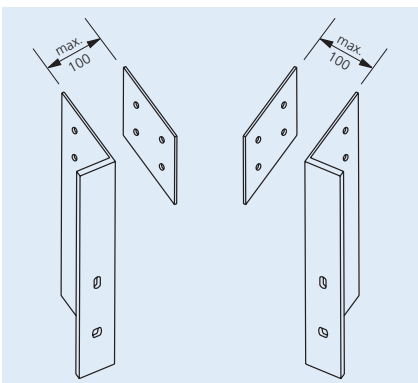
Item No. 108744, mounting plate (370 x 640 mm) incl. 1 standard wall bracket



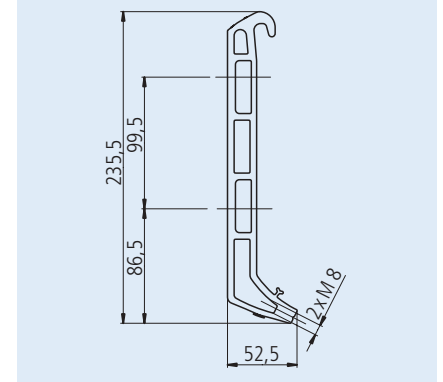
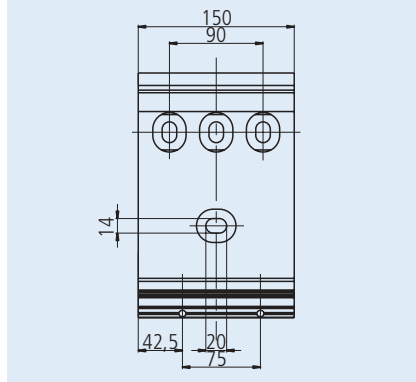
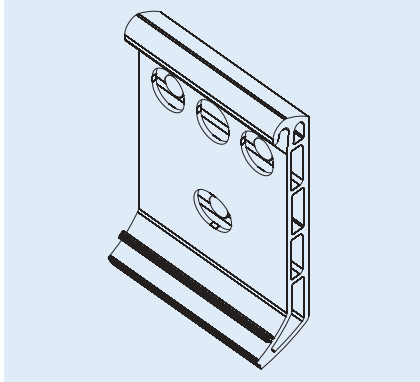
Item No. 106823, Cassita wall bracket with roof angle bracket



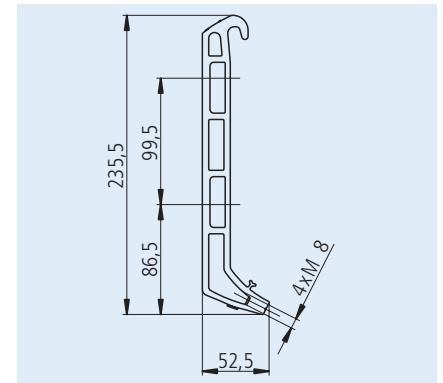
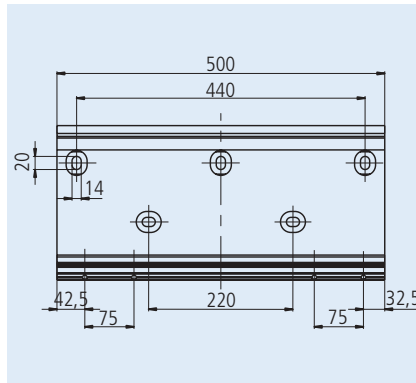
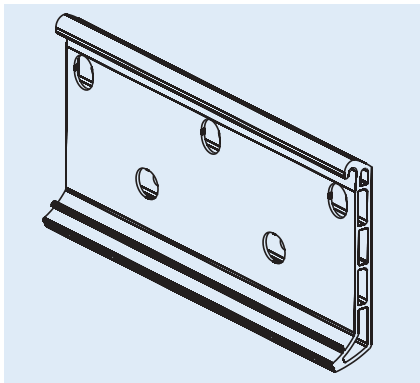
Item No. 106813, Cassita ceiling bracket, compact



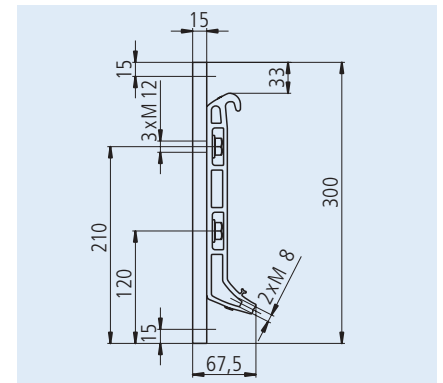
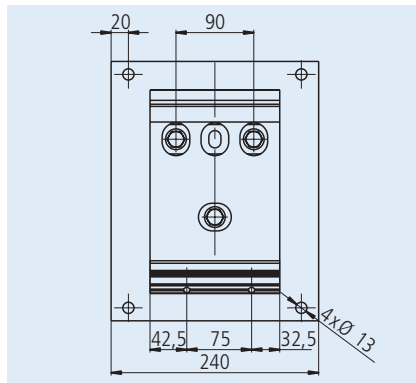
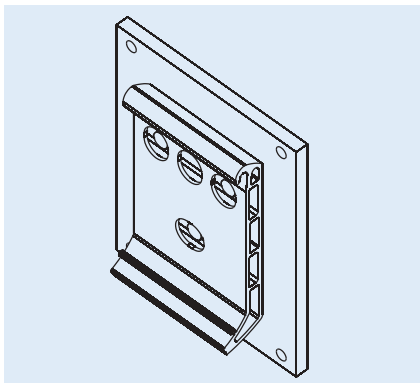
Item No. 101708, Cassita rafter bracket



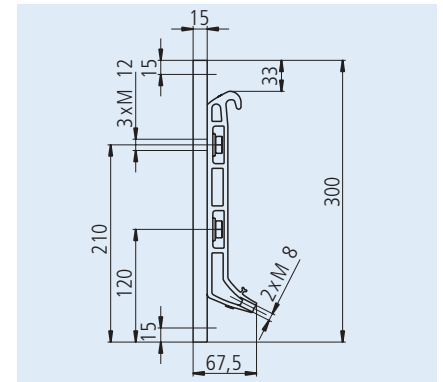
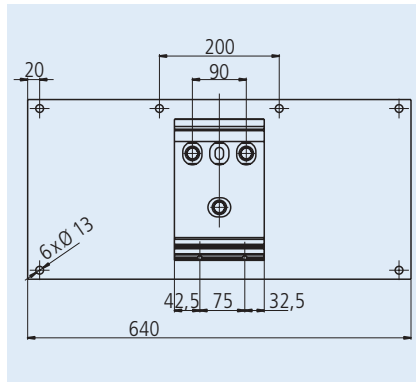
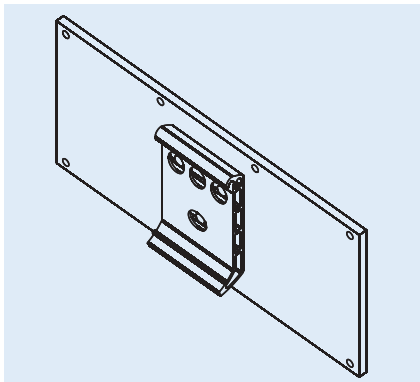
Item No. 108515, Laplana standard wall bracket (150 mm)



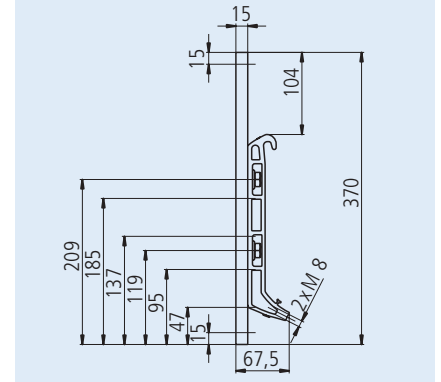
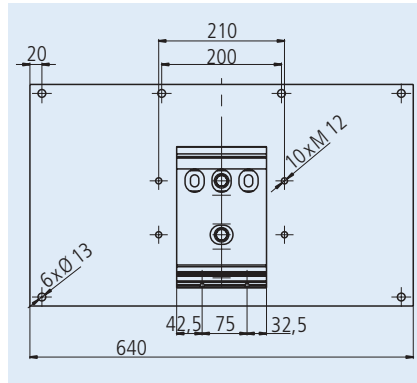
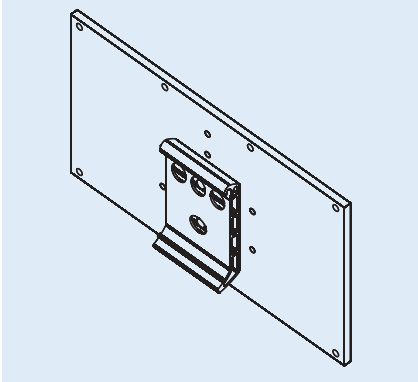
Item No. 108733, wall bracket (500 mm)



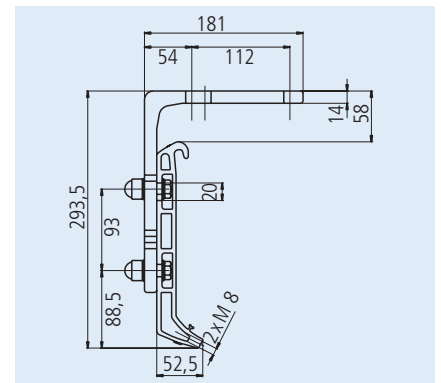
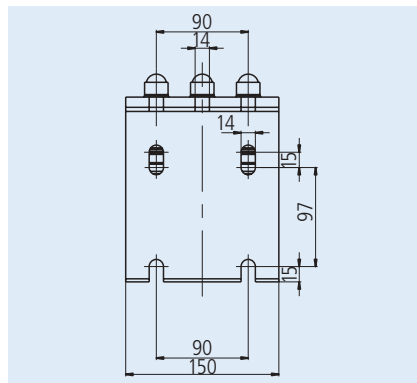
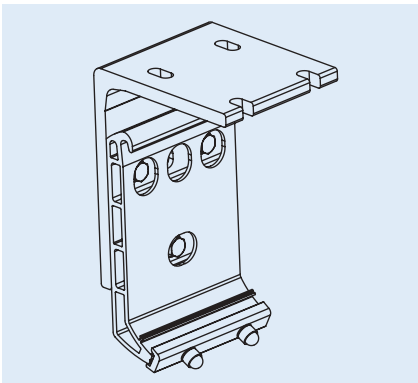
Item No. 108738, mounting plate (300 x 240 mm) incl. 1 standard wall bracket



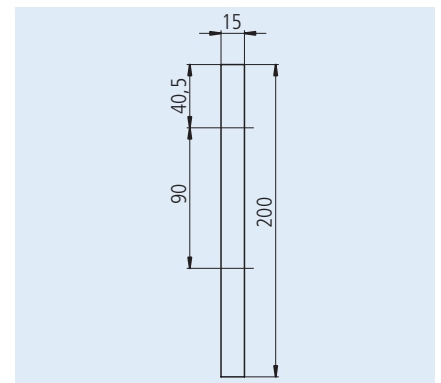
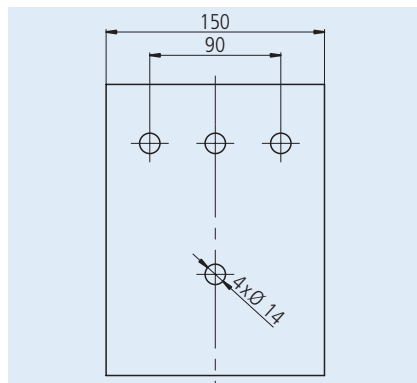
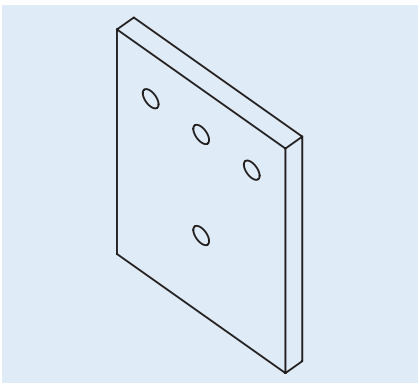
Item No. 108739, mounting plate (300 x 640 mm) incl. 1 standard wall bracket



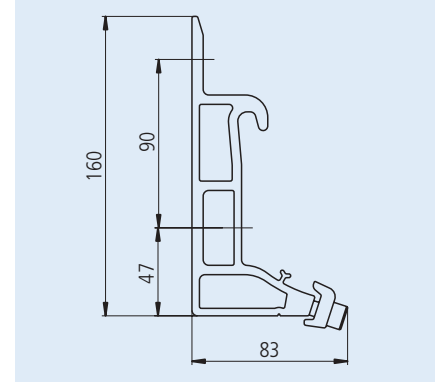
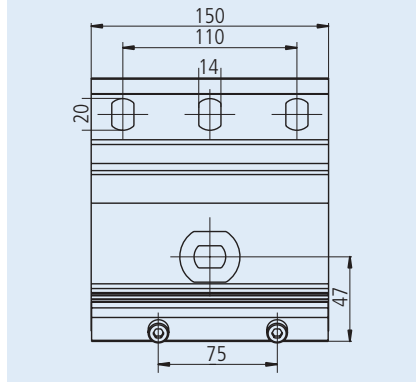
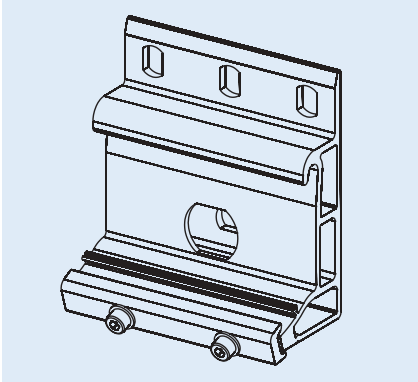
Item No. 108740, mounting plate (370 x 640 mm) incl. 1 standard wall bracket



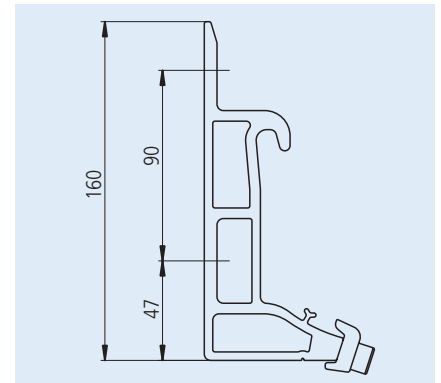
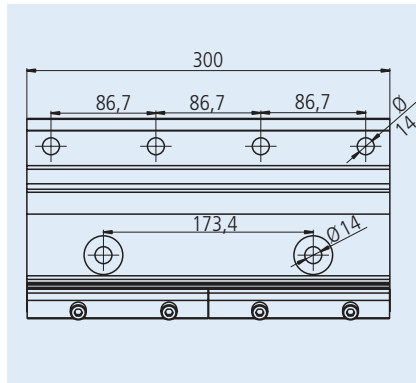
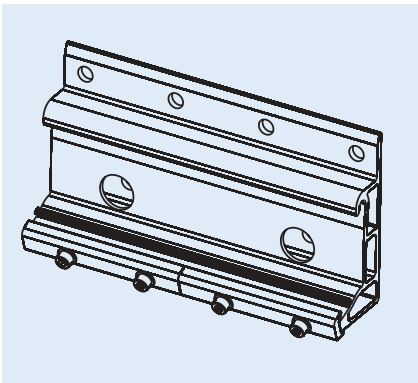
Item No. 108763, Laplana wall bracket with roof angle bracket



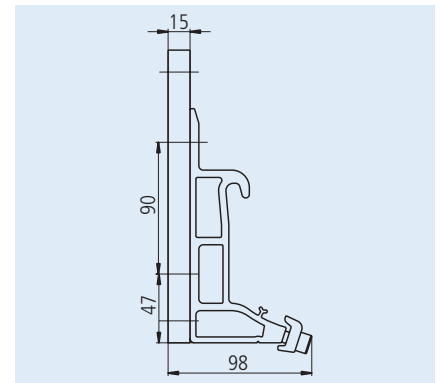
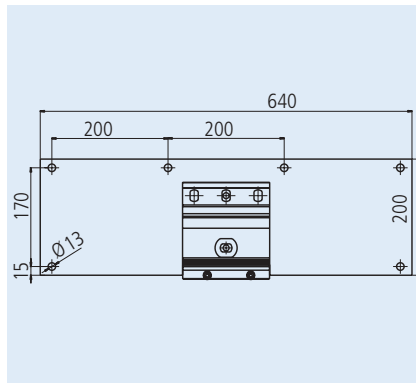
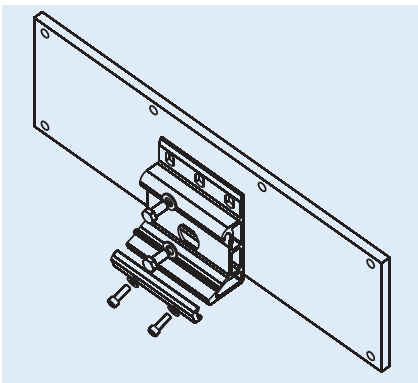
Item No.108931, base plate for Laplana standard bracket (d = 15 mm)



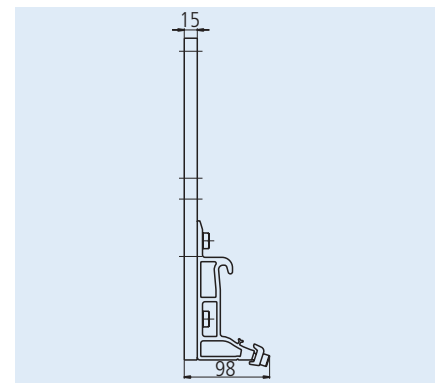
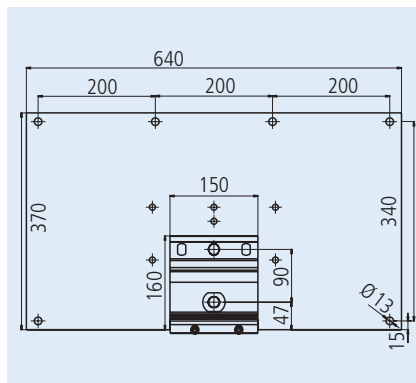
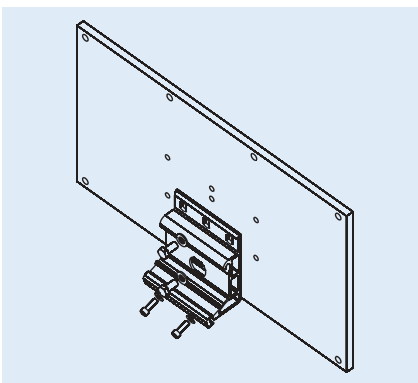
Item No. 106808, Opal standard wall bracket (150 mm)



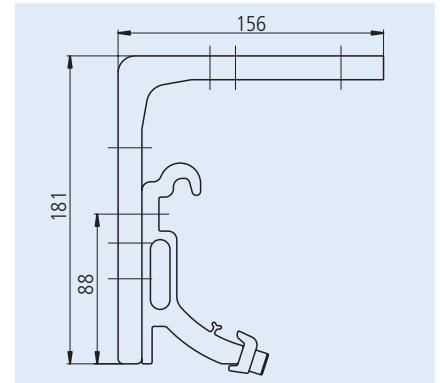
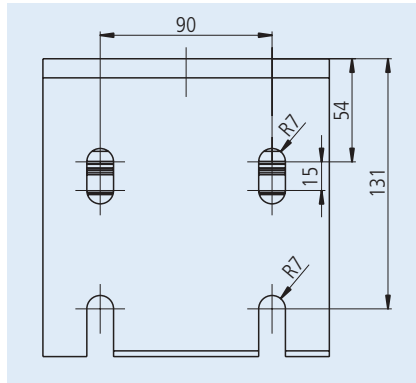
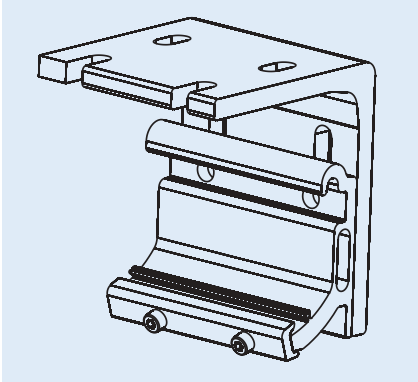
Item No. 107262, wall bracket (300 mm)



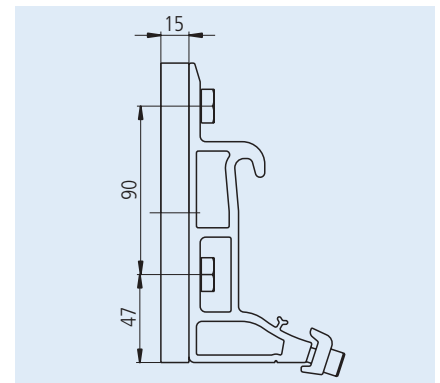
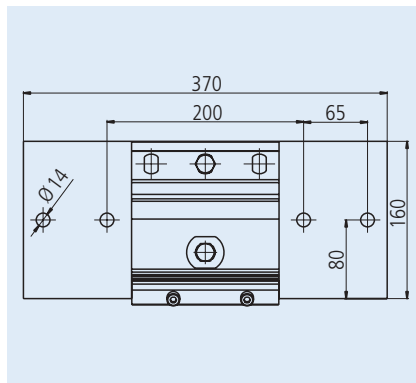
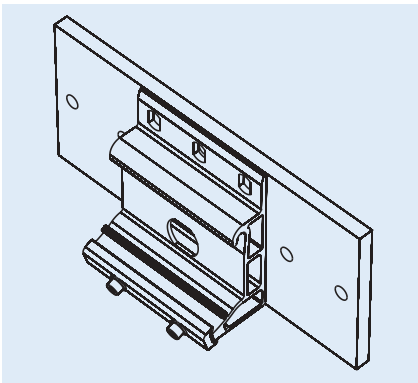
Item No. 1087671 mounting plate (200 x 640 mm) incl. 1 standard wall bracket



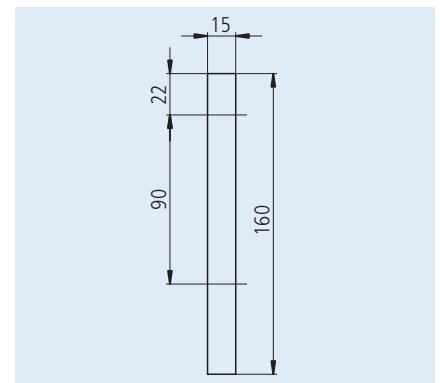
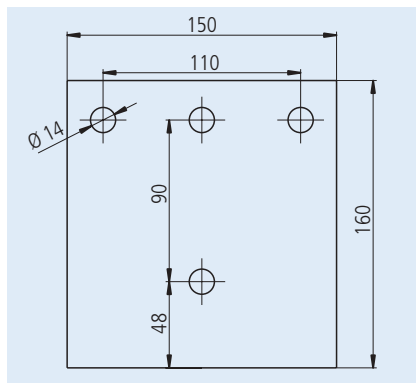
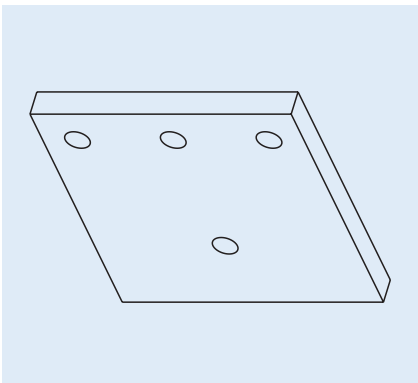
Item No. 108673, mounting plate (370 x 640 mm) incl. 1 standard wall bracket



Item No. 105540, Opal universal ceiling bracket (with support plate)



Item No. 106901, Opal standard wall bracket (150 mm) incl. ceiling front plate (160 x 370 mm)



Item No. 108923, base plate for Opal standard bracket (d = 15 mm)



## Table of tilt angles

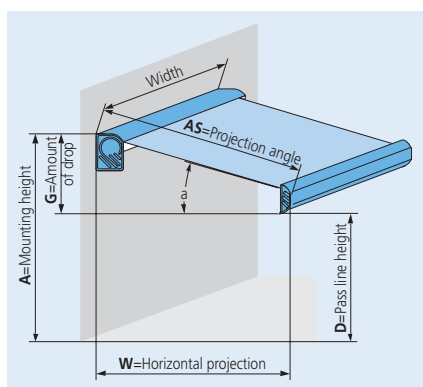
### Permissible ranges for adjusting tilt

Topas with and without hood	5° – 40°
Topas MiniMax without hood	5° – 40°

Topas MiniMax with hood	5° – 15°
Cap and Cap MiniMax	5° – 40°
Semina	5° – 40°
I 2000 and K 2000	5° – 40°
Cassita/Lux	5° – 45°

Laplana	5° – 35°
Opal all versions	5° – 40°

Because the arms of the Topas and Cap MiniMax are lower, the pass line height is 11.5 cm lower.



There can be allowed tolerances of  $\pm 40$  mm in measuring projection

The table helps calculate the pass line heights and the horizontal projection.

The pass line height (D) depends on the location and/or the customer's wishes and can be calculated with the aid of the table. The horizontal projection (W) can be taken from the table. All dimensions are approximate, in cm. The values have been determined using the example of the K 2000 without valance.

The dimensions of other types of awning may differ.

**Width:** is measured over the total width (endcap to endcap)

**Mounting height:** to the upper edge of the awning

**Projection angle:** the projection is measured from back of casing\* to front of frontprofile (parallel to cover)

**Pass line height:** to the bottom edge of the front rail

**Horizontal projection:** back edge of the awning\* to the front edge of the front rail

\* leading edge of fitting surface

### Calculation of pass line height: $D = A$ minus $G$

Example:

Mounting height **A:** 300 cm

Projection angle **AS:** 40° cm

Tilt angle **a:** 10°

Formula: Mounting height (**A**) minus amount of drop (**G**) = pass line height (**D**)

**A** 300 cm minus **G** 86 cm = **D** 214 cm **W** = 396 cm

