



Open awning

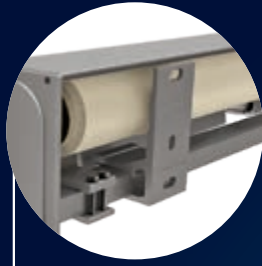
# Topas

## Topas with roof | without roof

The **Topas** is a classic entry-level awning for anyone wanting to save money without sacrificing quality. Its uncomplicated technology makes it stable and wind-resistant. When open, the awning stands out for its extreme flexibility: with or without a protective roof, it can be installed in various ways to fit into all kinds of different structural situations and applications.

### UPDATE july 2020

Page 151,  
Wind resistance classes  
corrected and table added  
Page 161,  
Mounting plates added  
Page 163,  
Technical drawing rafter  
bracket added



**Wall bracket:**  
Easy installation



**Versions:**



Topas with roof



Topas without roof

**Mounting options:**

Installation on walls, ceilings and rafters is possible



Wall mounting



Ceiling mounting



Rafter mounting

# Topas Highlights

01

## Joined units:

With roller supports

or jockey cover



## weinor LongLife arm:

Very durable and  
low-noise

# Topas Benefits



## Open or with a roof – classic design with the latest technology

With its simplified technology the weinor Topas is stable yet retains a wide variety of functions.

- Stable front profile
- with and without roof
- Large widths
- Wind-resistant
- Wide selection of fabrics



## LED Design light bar – 30,000 hours of lighting with minimal energy consumption (optional)

Select LED components for top weinor quality:

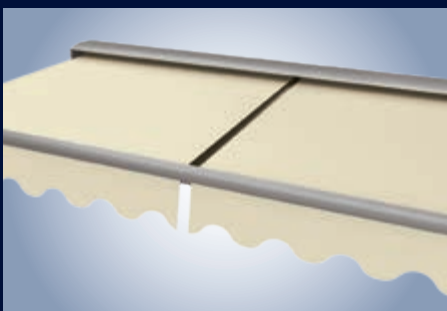
- Atmospheric light thanks to special glass lenses
- Highly energy-efficient
- Operating life of 30,000 hours
- Radio-controlled dimmer using BiConnect
- Fitted to carrier bar using angle bracket
- Easy to service: simply replace individual LED lights without uninstalling the awning



## weinor LongLife Arm – durable, quiet operation

The weinor LongLife arm features an exceptionally robust high-tech belt.

- Tested to more than 100,000 cycles
- Extremely quiet operation
- No maintenance required
- Drop forged aluminium in joint – light but highly robust



## Multi-section units – to shade especially large areas

The Topas also comes as a combined multi-section unit for very large terraces.

- As a 2-part unit up to 1,200 cm
- Jockey cover or roller support with continuous fabric

# Topas Technology

| Topas versions  | Topas with roof                                 | Topas without roof                           |
|---|---|--|
| <b>Technology</b>   |   |  |
| Max. width, 1-section/2-section with jockey cover           | 700 cm/1,200 cm                                 | 700 cm/1,200 cm                              |
| Max. projection   | 400 cm  | 400 cm                                       |
| Side limits (w x h) incl. standard bracket                  | 220 mm x 210 mm                                 | 210 mm x 180 mm                              |
| Coupled systems   | <input type="radio"/>                           | <input type="radio"/>                        |
| Motor drive   | <input checked="" type="radio"/> as standard    | <input checked="" type="radio"/> as standard |
| Angle of pitch on awning                                    | 5° to 40° *                                     | 5° to 40° *                                  |
| Installation alternatives                                   | can be installed on walls, ceilings and rafters |  |
| LED lighting: (Design light bar)                            | <input type="radio"/>                           | <input type="radio"/>                        |
| LongLife arm  | <input checked="" type="radio"/> as standard    | <input checked="" type="radio"/> as standard |
| <b>Accessories</b>  |   |  |
| Heating system Tempura/Tempura Quadra                       | <input type="radio"/>                           | <input type="radio"/>                        |
| LED Design light bar  | <input type="radio"/>                           | <input type="radio"/>                        |
| BiSens Agido-3V product protection sensor                   | <input type="radio"/>                           | <input type="radio"/>                        |
| <b>Controls</b>   |   |  |
| Radio control   | <input type="radio"/>                           | <input type="radio"/>                        |
| No remote   | <input checked="" type="radio"/>                | <input checked="" type="radio"/>             |
| <b>Weather sensors</b>                                      |   |  |
| Sun/wind sensor<br>BiConnect BiSens SW-230 V                | <input type="radio"/>                           | <input type="radio"/>                        |
| Sun/wind sensor solar powered<br>BiConnect BiSens SW-Solar+ | <input type="radio"/>                           | <input type="radio"/>                        |
| Sun/wind/rain sensor<br>BiConnect-BiSens-SWR-230V           | <input type="radio"/>                           | <input type="radio"/>                        |
| <b>Quality</b>  |   |  |

Tested up to **Update** wind resistance class 1\*\* according to DIN 13561 (wind strength 4 on the Beaufort scale)

\* When the bracket is mounted on the inside of the folding arm, the awning's maximum pitch adjustment is 20°.

\*\* See awnings price list page 37

standard    optional    unavailable

## Topas – wind resistance classes 1–2

| Width in cm | No. of arms | Projection in cm |     |     |     |     |     |
|-------------|-------------|------------------|-----|-----|-----|-----|-----|
|             |             | 150              | 200 | 250 | 300 | 350 | 400 |
| 190 – 200   | 2           | ■                | ■   |     |     |     |     |
| 201 – 250   | 2           | ■                | ■   | ■   |     |     |     |
| 251 – 300   | 2           | ■                | ■   | ■   | ■   |     |     |
| 301 – 350   | 2           | ■                | ■   | ■   | ■   | ■   |     |
| 351 – 400   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 401 – 450   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 451 – 500   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 501 – 550   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 551 – 600   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 601 – 650   | 2           | ■                | ■   | ■   | ■   | ■   | ■   |
| 651 – 700   | 3           | ■                | ■   | ■   | ■   | ■   | ■   |

■ wind resistance class 2  
■ wind resistance class 1

# Topas Controls

## weinor BiConnect radio controller

| Product                | Electronics                           | BiConnect control  | Remote receiver  | Transmitter   |
|------------------------|---------------------------------------|--|--|---|
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• BiRec receiver integrated into cassette</li> </ul>  | Elero SunTop-868 remote-controlled motor               | <ul style="list-style-type: none"> <li>• BiEasy 1M/5M/15M Go! hand transmitter</li> <li>• App</li> <li>• 1MW-3V wall transmitter</li> </ul> |
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• BiRec receiver integrated into cassette</li> </ul>  | BiRec MA-K   | <ul style="list-style-type: none"> <li>• BiEasy 1M hand transmitter</li> <li>• 1MW-3V wall transmitter</li> </ul>                           |
| Topas LED              | Topas drive and LED Design light bar  | <ul style="list-style-type: none"> <li>• BiRec receiver for main driv integrated into awning</li> <li>• Additional BiConnect Empfängerreceiver for the LED light bar (with integrated power supply pack) integrated into light bar</li> <li>• LED dimmbar</li> </ul> | Elero SunTop-868 remote-controlled motor and BiRec LED | <ul style="list-style-type: none"> <li>• BiEasy 5M/15M Go! hand transmitter</li> <li>• App</li> </ul>                                       |
| Accessories (optional) | Tempura/Tempura Quadra heating system | <ul style="list-style-type: none"> <li>• Dimmable, additional receiver required</li> <li>• Installation of the reciever in the design bar provided for this purpose or the Tempura Quadra box</li> </ul>   | BiRec HD   | <ul style="list-style-type: none"> <li>• BiEasy 5M/15M Go! hand transmitter</li> <li>• App</li> </ul>                                       |

Requires: awning with BiConnect remote control and sensors require a BiEasy 1M, 5M or 15M Go!

## Somfy io-homecontrol® radio technology

| Product                | Electronics                           | Somfy io-homecontrol control   | Remote receiver  | Transmitter  |
|------------------------|---------------------------------------|--|--|--|
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• Somfy io remote-controlled motor integrated into awning</li> </ul>  | Somfy io remote-controlled motor   | <ul style="list-style-type: none"> <li>• Situo 1 io Pure II/Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter</li> <li>• Smoove 1 io Pure Shine wall transmitter</li> </ul> |
| Topas LED              | Topas drive and LED Design light bar  | <ul style="list-style-type: none"> <li>• Somfy io remote-controlled motor integrated into awning</li> <li>• Additional Somfy receiver for the LED light bar (with downstream power supply pack) integrated into light bar</li> <li>• LED not dimmable</li> </ul> | Somfy io remote-controlled motor and io Lighting Receiver Variation on/off | <ul style="list-style-type: none"> <li>• Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter</li> </ul>   |
| Accessories (optional) | Tempura/Tempura Quadra heating system | <ul style="list-style-type: none"> <li>• Not dimmable, additional receiver required</li> <li>• Installation of the reciever in the design bar provided for this purpose or the Tempura Quadra box</li> </ul>   | Heating Slim Receiver on/off io 2KW STAS3/STAK3                            | <ul style="list-style-type: none"> <li>• Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter</li> <li>• Smoove 1 io Pure Shine wall transmitter</li> </ul>                    |

## Somfy RTS radio technology

| Product                | Electronics                           | Somfy RTS control   | Remote receiver  | Transmitter  |
|------------------------|---------------------------------------|---|--|--|
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• Somfy RTS remote-controlled motor integrated into awning</li> </ul>  | Somfy RTS remote-controlled motor                                | <ul style="list-style-type: none"> <li>• Situo 1 RTS Pure II/Situo 1 Soliris RTS Pure II/Situo 5 RTS Pure II/Situo 5 Soliris RTS Pure II hand transmitter</li> <li>• Smoove 1 RTS Pure Shine wall transmitter</li> </ul> |
| Topas LED              | Topas drive and LED Design light bar  | <ul style="list-style-type: none"> <li>• Somfy RTS remote-controlled motor integrated into awning</li> <li>• Additional Somfy receiver for the LED light bar (with downstream power supply pack) integrated into light bar</li> <li>• LED not dimmable</li> </ul> | Somfy RTS remote-controlled motor and Lighting Slim Receiver RTS | <ul style="list-style-type: none"> <li>• Situo 5 RTS Pure II/Situo 5 Soliris RTS Pure II hand transmitter</li> </ul>   |
| Accessories (optional) | Tempura/Tempura Quadra heating system | <ul style="list-style-type: none"> <li>• Not dimmable, additional receiver required</li> <li>• Installation of the reciever in the design bar provided for this purpose or the Tempura Quadra box</li> </ul>  | Heating Slim Receiver RTS Plug                                   | <ul style="list-style-type: none"> <li>• Situo 5 RTS Pure II/Situo 5 Soliris RTS Pure II hand transmitter</li> </ul>   |

## Hard wired with Somfy control

| Product                | Electronics                           | Hard wired Somfy control  | Control   |
|------------------------|---------------------------------------|---|---|
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• Somfy control for awning drive</li> </ul>  | e.g. Soliris Smoove Uno                                     |
| Topas LED              | Topas drive and LED Design light bar  | <ul style="list-style-type: none"> <li>• Somfy control for awning drive</li> <li>• Switch on site for the LED light bar</li> <li>• LED power supply pack integrated into the light bar</li> <li>• LED not dimmable</li> </ul> | e.g. Soliris Smoove Uno and suitable light switch (on site) |
| Accessories (optional) | Tempura/Tempura Quadra heating system | <ul style="list-style-type: none"> <li>• Not dimmable</li> </ul>  | Suitable switch (on site)                                   |

## Hard wired (existing switch/power supply on site)

| Product                | Electronics                           | Hard wired control  | Control   |
|------------------------|---------------------------------------|---|---|
| Topas                  | Topas drive                           | <ul style="list-style-type: none"> <li>• Awning switch for the awning drive</li> </ul>  | e.g. double rocker switch switch (on site)                    |
| Topas LED              | Topas drive and LED Design light bar  | <ul style="list-style-type: none"> <li>• Awning switch for the awning drive</li> <li>• Switch on site for the LED light bar</li> <li>• LED power supply pack integrated into the light bar</li> <li>• LED not dimmable</li> </ul> | e.g. double rocker switch and suitable light switch (on site) |
| Accessories (optional) | Tempura/Tempura Quadra heating system | <ul style="list-style-type: none"> <li>• Not dimmable</li> </ul>  | Suitable switch (on site)                                     |

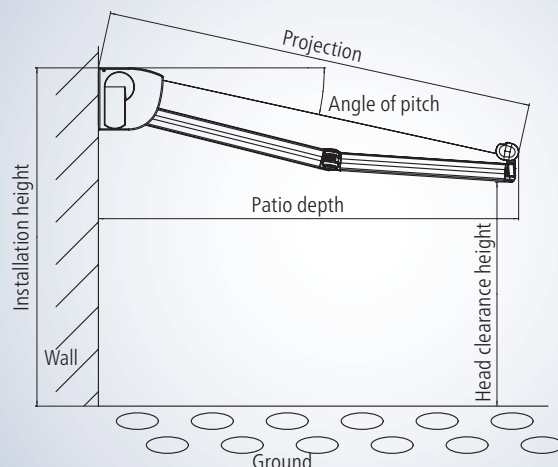


**Note:**

Please see the "Accessories" technical brochure for further details regarding the drive and control.

Some options are subject to a surcharge. For prices, please refer to the weinor awnings price list.

# Topas Planning



## Site measurements – determining the projection and head clearance height

- Find the projection by looking in the “Projection” table for the terrace depth.
- Using the projection from the table and the required angle of pitch, consult the “head clearance height” table for the head clearance height. This head clearance height refers to an installation height of 300 cm.
- Add/subtract the difference between 300 cm and the actual installation height to/from the head clearance height in the table.

### Determining the projection

| Angle of pitch | Terrace depth in cm |     |     |     |     |     |
|----------------|---------------------|-----|-----|-----|-----|-----|
|                | 150                 | 200 | 250 | 300 | 350 | 400 |
| 5°             | 150                 | 200 | 250 | 300 | 350 | 400 |
| 15°            | 160                 | 210 | 260 | 310 | 360 | 400 |
| 25°            | 170                 | 220 | 280 | 330 | 390 | 400 |

Projection in cm (rounded figures)

This table can be used to find the awning projection for any given horizontal patio depth.

### Determining the head clearance height

| Angle of pitch | Projection in cm |     |     |     |     |     |
|----------------|------------------|-----|-----|-----|-----|-----|
|                | 150              | 200 | 250 | 300 | 350 | 400 |
| 5°             | 270              | 270 | 270 | 260 | 260 | 250 |
| 15°            | 250              | 240 | 220 | 210 | 200 | 180 |
| 25°            | 220              | 200 | 180 | 160 | 140 | 120 |

Head clearance height in cm (rounded figures)

This table is used to find the head clearance heights for various projections when the angle of pitch is 5°, 15° or 25°.

This table is based on the example of an installation height of 300 cm (upper edge of awning).



Wall bracket

Sizes and bracket recommendations



| Width in cm | Number of arms | Projection in cm (irregular figures possible) |     |     |     |     |     |
|-------------|----------------|---|-----|-----|-----|-----|-----|
|             |                | 150   | 200 | 250 | 300 | 350 | 400 |
| - 250       | 2              | ●   | ●   | ●   | ●   | ●   | ●   |
| 251 - 300   | 2              | ●   | ●   | ●   | ●   | ●   | ●   |
| 301 - 350   | 2              | ●   | ●   | ●   | ●   | ●   | ●   |
| 351 - 400   | 2              | ●   | ●   | ●   | ●   | ●   | ●   |
| 401 - 450   | 2              | ●   | ●   | ●   | ●   | ▲   | ▲   |
| 451 - 500   | 2              | ●   | ●   | ●   | ●   | ▲   | ▲   |
| 501 - 550   | 2              | ●   | ●   | ●   | ●   | ▲   | ▲   |
| 551 - 600   | 2              | ●   | ●   | ●   | ▲   | ▲   | ▲   |
| 601 - 650   | 2              | ●   | ●   | ●   | ▲   | ▲   | ▲   |
| 651 - 700   | 3              | ●   | ●   | ●   | ▲   | ▲   | ▲   |

Wall mounting on C20/25 concrete

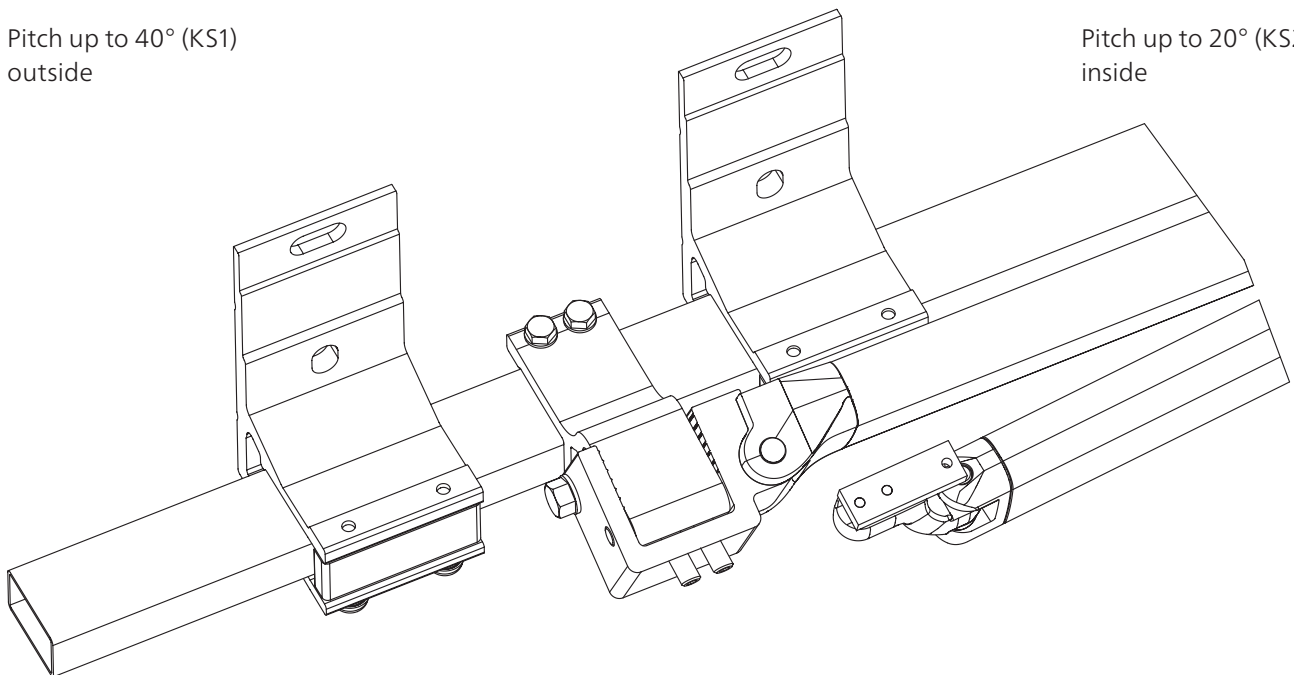
with up to 200-mm facing, wind resistance class 2 and a permissible centic tensile load of 5.71 kN for anchor bolts

- 2 x Topas standard wall brackets 85 mm
- 3 Topas standard wall brackets 85 mm
- 4 Topas standard wall brackets 85 mm
- ▲ 5 x Topas standard wall brackets 85 mm
- ▲ 7 x Topas standard wall brackets 85 mm

Position of wall brackets and Topas

Pitch up to 40° (KS1) outside

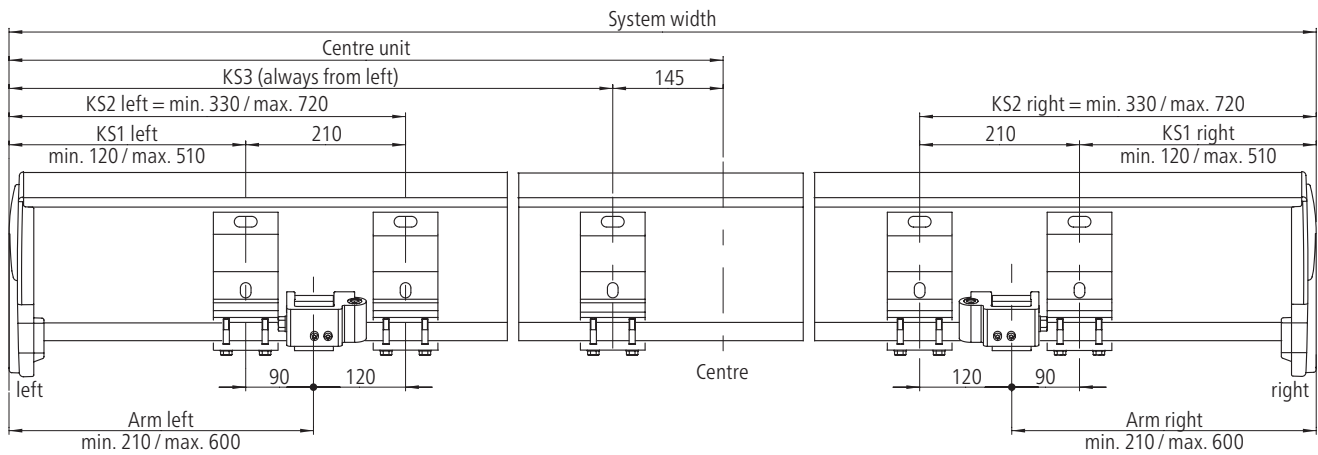
Pitch up to 20° (KS2) inside



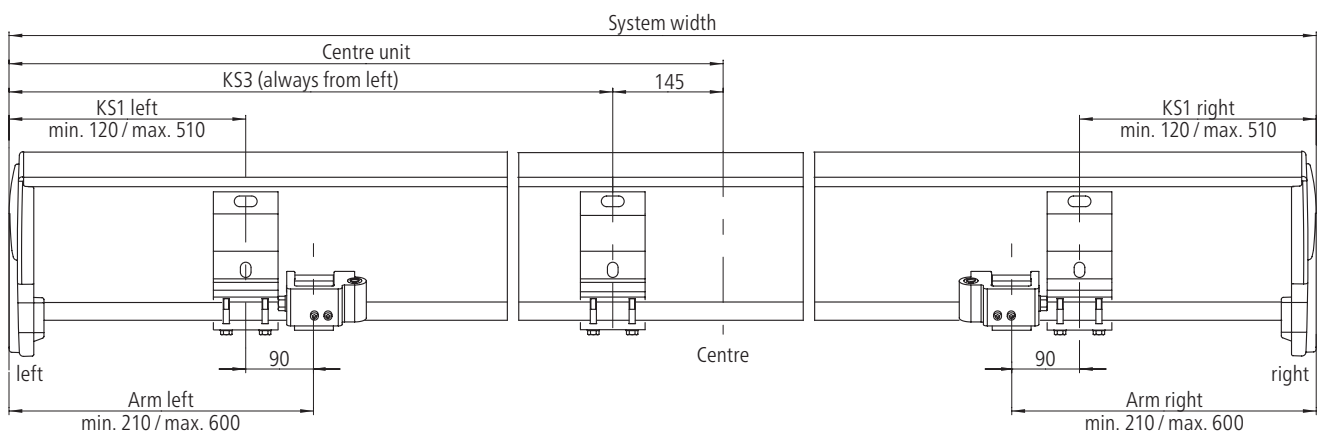
When the bracket is mounted on the inside of the folding arm, the awning's maximum pitch adjustment is 20°.

## Position of wall brackets and Topas

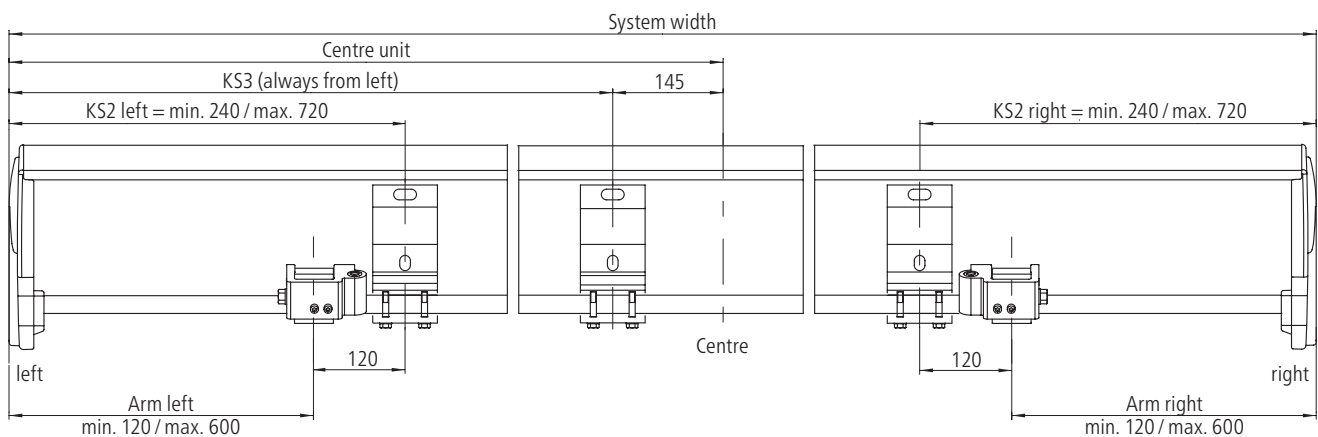
### Wall bracket 85 mm on both sides (KS1 and KS2)



### Wall bracket 85 mm outside (KS1)



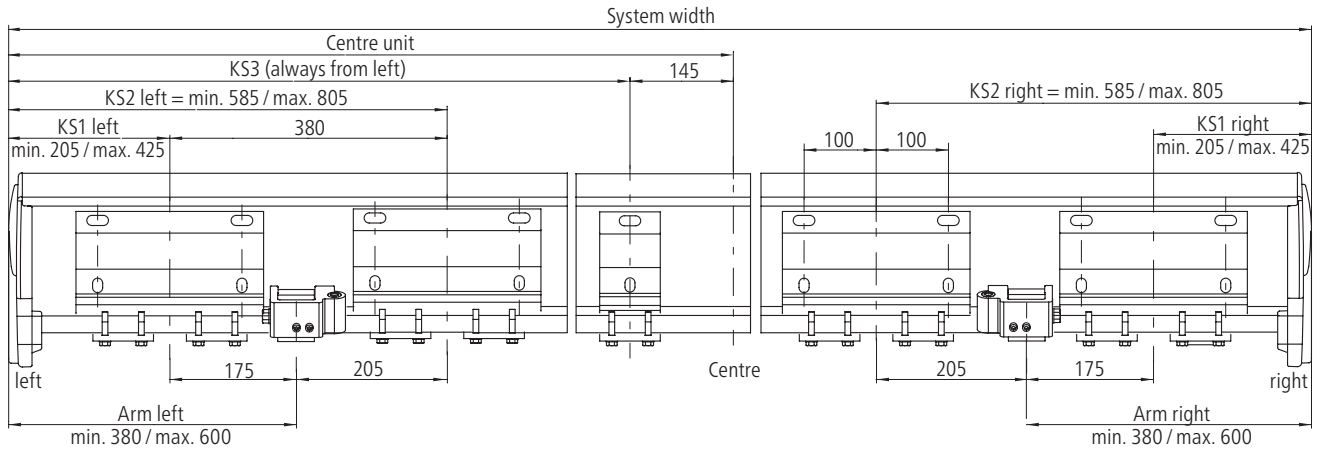
### Wall bracket 85 mm inside (KS2)



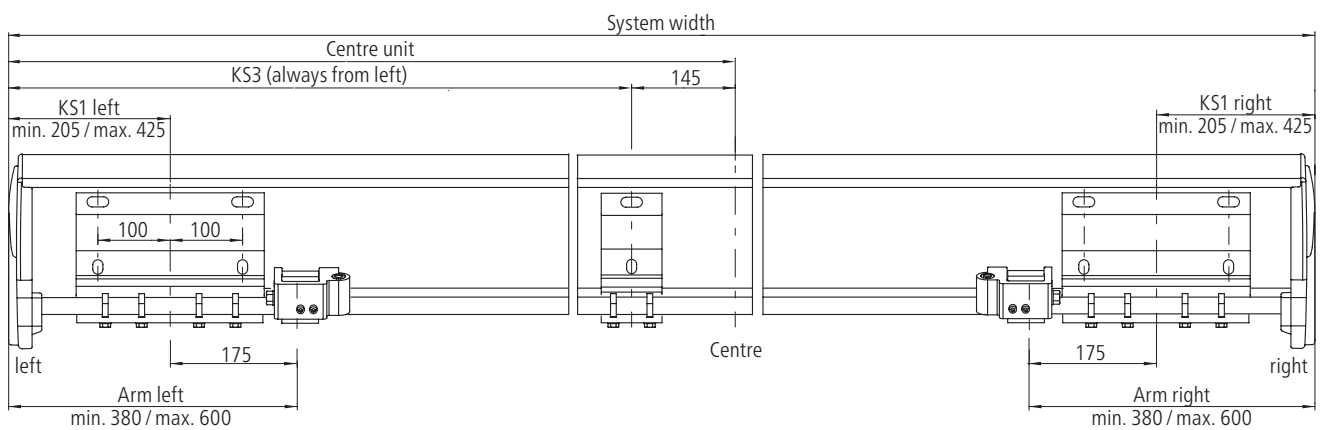
- Notes:
- KS1 = outside bracket
  - KS2 = inside bracket
  - KS3 = centre bracket

Position of wall brackets and Topas

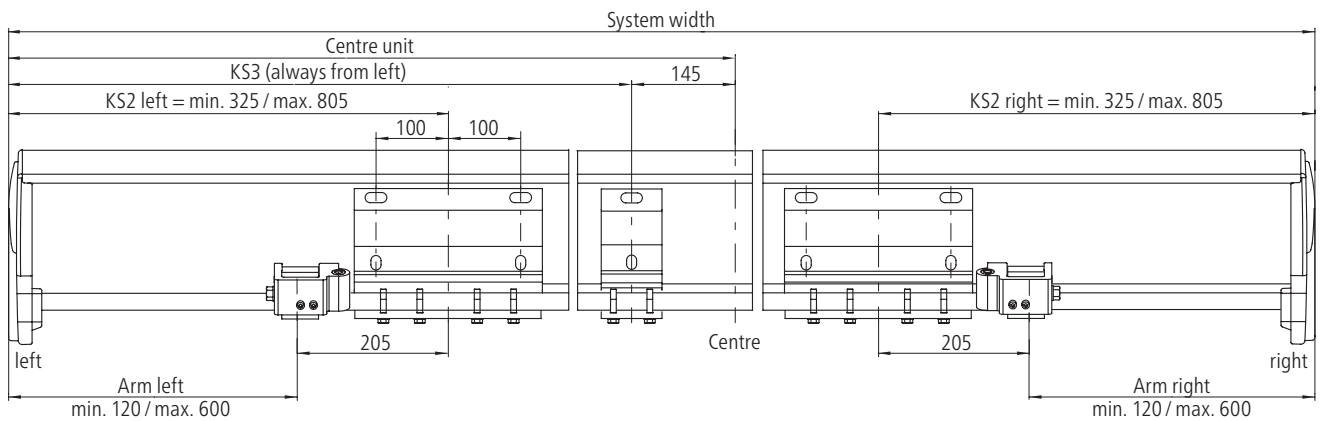
Wall bracket 260 mm on both sides (KS1 and KS2)



Wall bracket 260 mm outside (KS1)



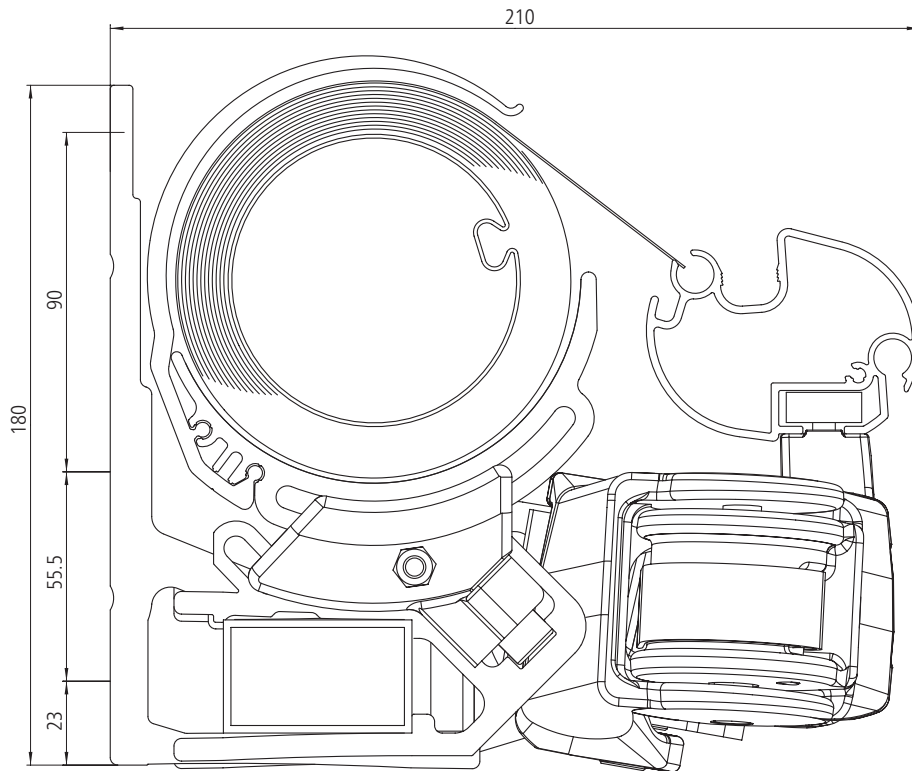
Wall bracket 260 mm inside (KS2)



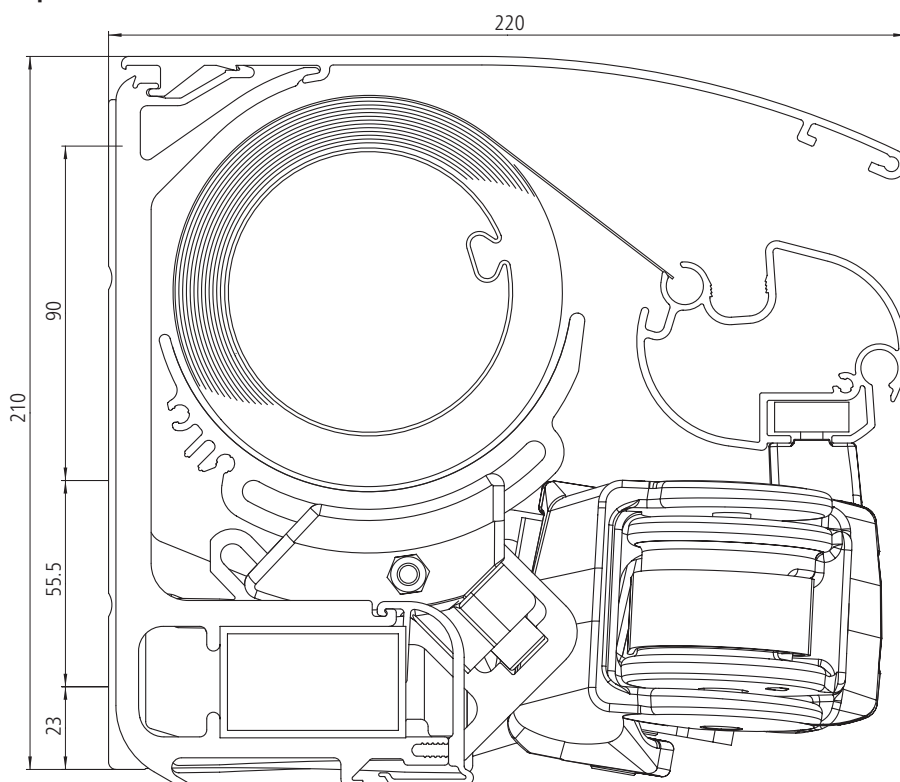
- Notes:  
 KS1 = outside bracket  
 KS2 = inside bracket  
 KS3 = centre bracket

Cross-sections

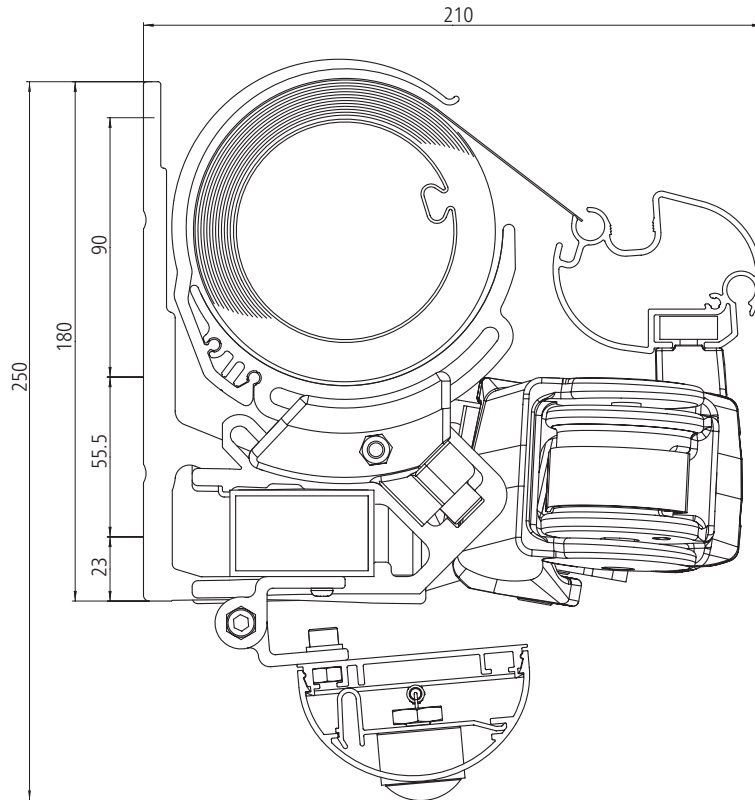
Topas without roof



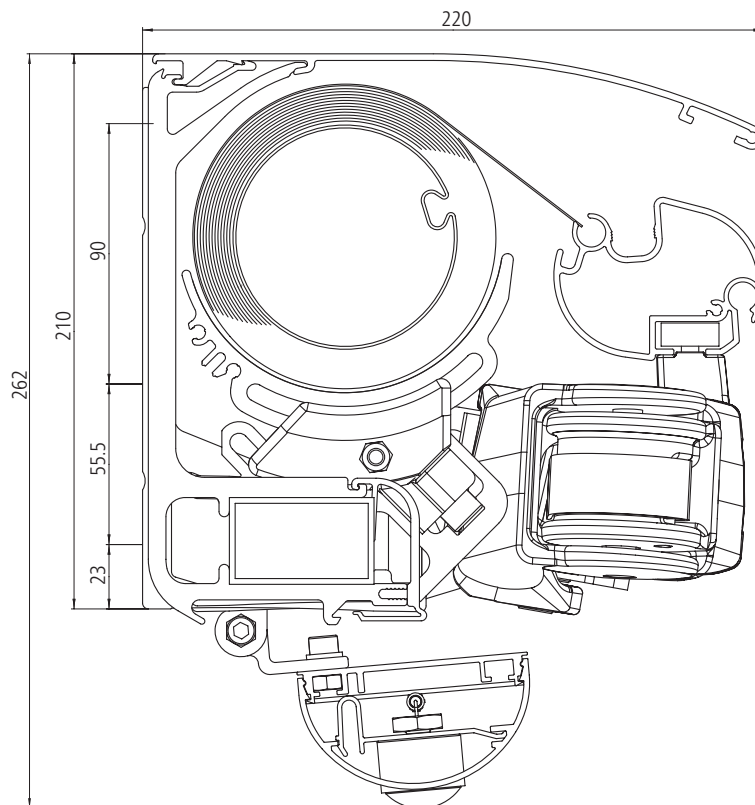
Topas with roof



Topas without roof with LED



Topas with roof with LED

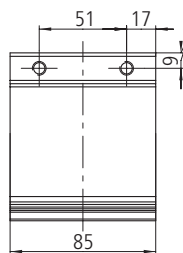
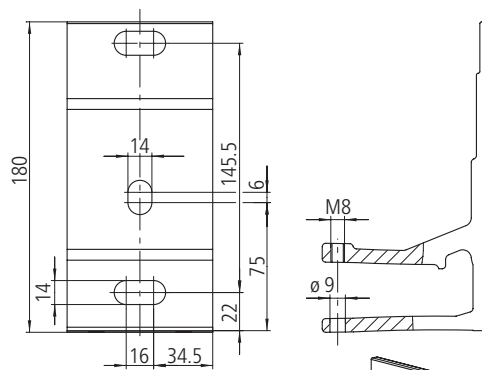


# Topas Installation

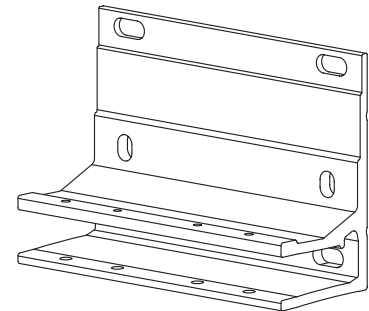
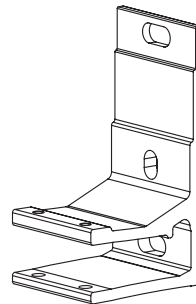
## Installation on walls, ceilings and rafters is possible

Its dimensions mean that the Topas can be mounted in a wide range of ways: not only on a wall but also on a ceiling or a rafter. The brackets and mounting plates are made of extruded, powder-coated aluminium.

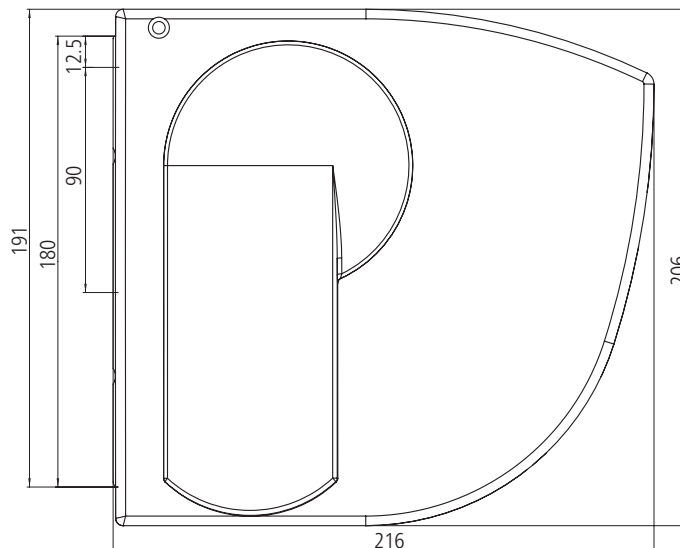
### Wall mounting – brackets



85 mm wall bracket



260 mm wall bracket



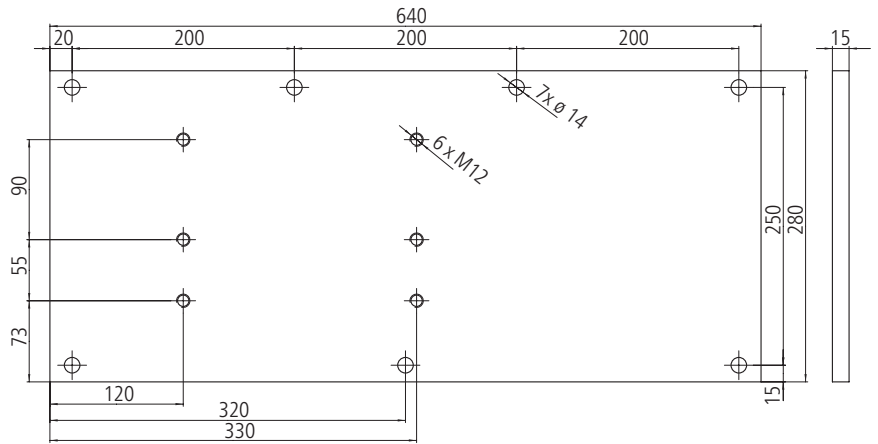
Side view of Topas with roof fitted to a wall

## Wall mounting – mounting plates

Update



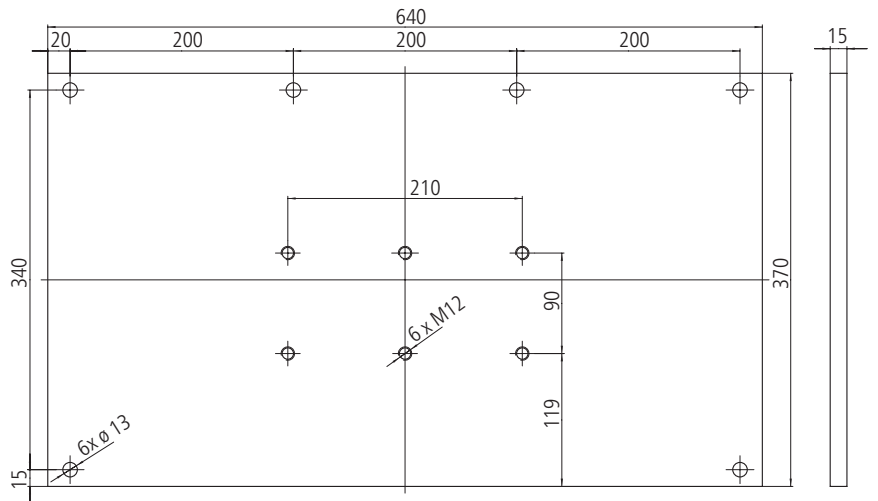
Mounting plate 640 x 280 x 15 mm



Position of the mounting plates using the Topas 500 x 300 cm\* as an example.



Mounting plate 640 x 370 x 15 mm

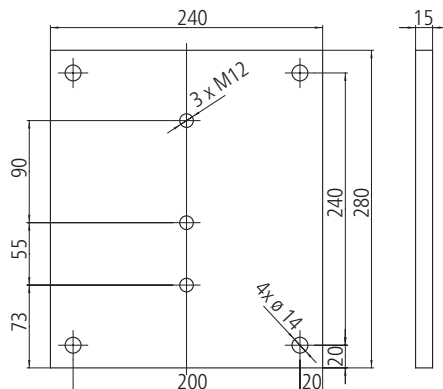


Position of the mounting plates using the Topas 500 x 300 cm\* as an example.

\* Depending on the width of the awning, the positioning of the mounting plates may vary.

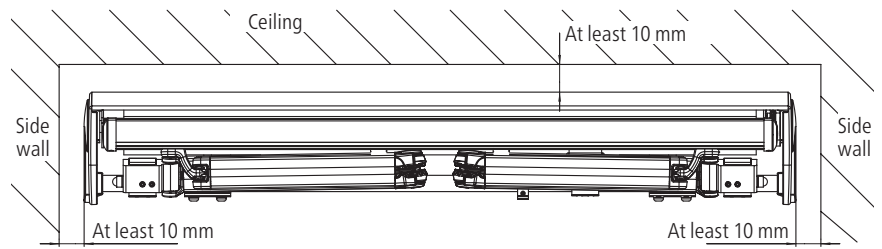


Mounting plate 240 x 280 x 15 mm



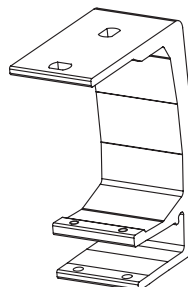
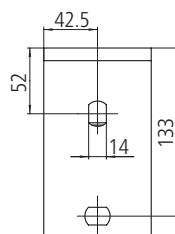
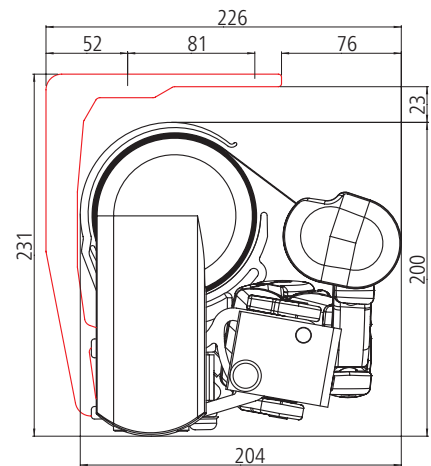
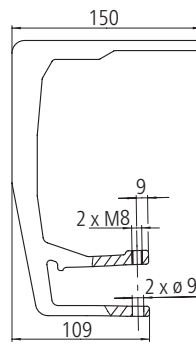
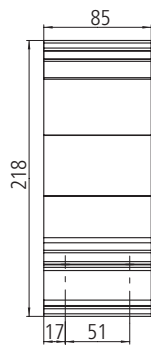
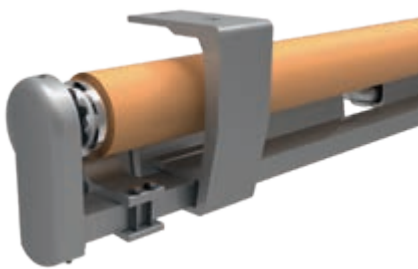
# Topas Installation

## Minimum spacing distances for installation



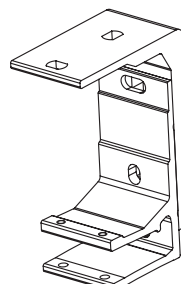
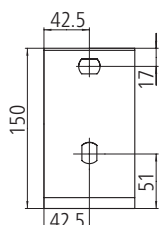
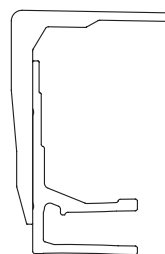
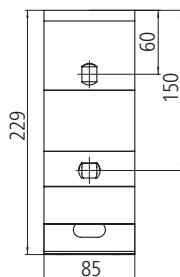
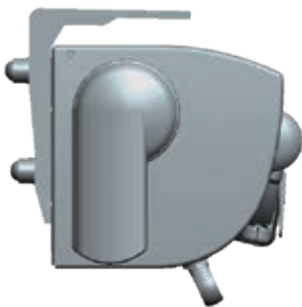
## Ceiling mounting

### Topas without roof

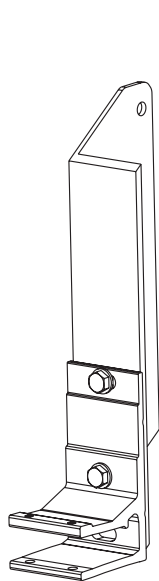
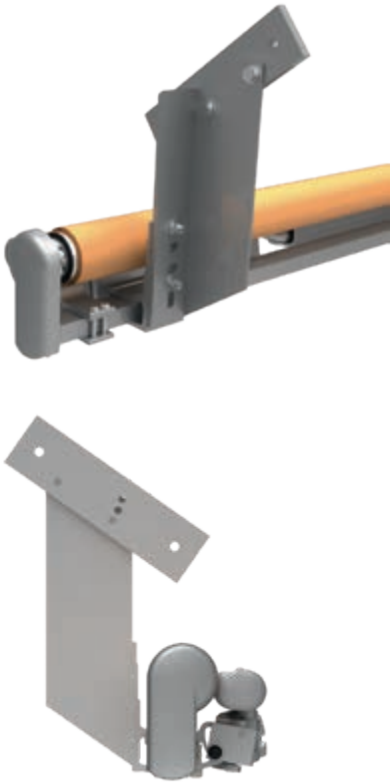


Side view of roofless Topas with sliding support bearing and compact ceiling bracket

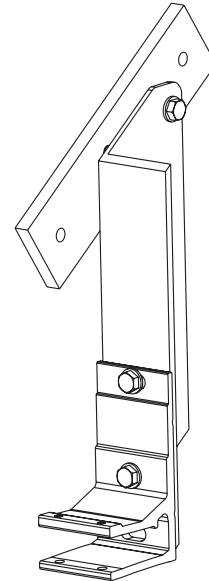
### Topas with roof



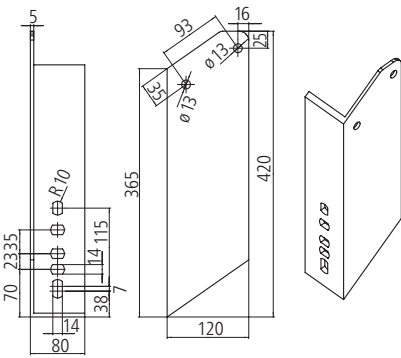




Right-hand rafter bracket

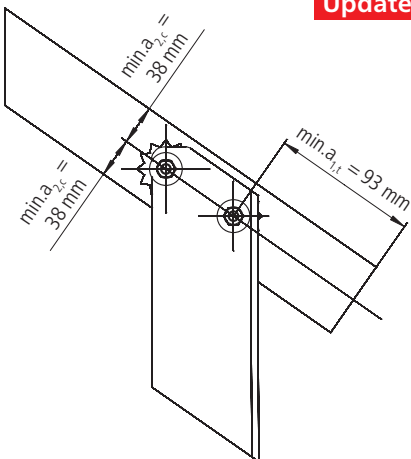


Rafter bracket with mounting plate for right-hand rafter. weinor recommends using mounting plates for rafter brackets.

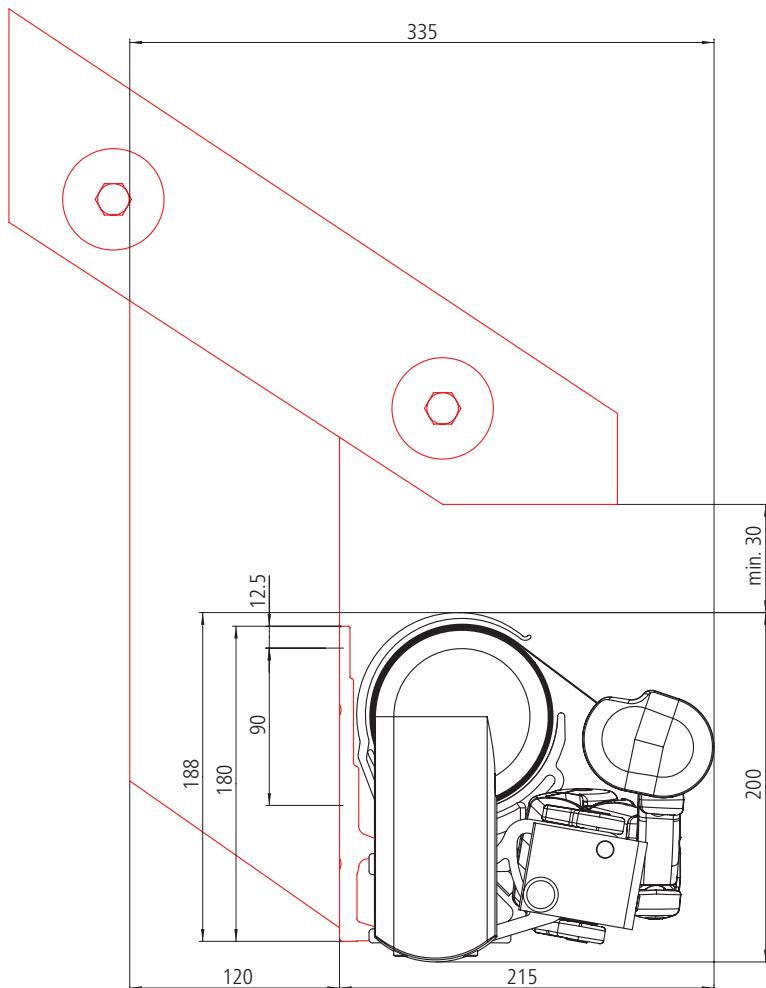


Rafter bracket

**Update**



Rafter bracket



Side view of rafter installation with roofless Topas

## Extraction forces

The extraction force is the force with which the weight of the awning and the wind load pull on each upper fixing. The tables indicate this force in N per upper fixing. It varies depending on the awning size and the wall bracket/mounting plate used.

Selecting the wall bracket and anchoring system:

1. Consult relevant table for extraction force per fixing for selected awning size.
2. Select a wall bracket/mounting plate for which there is fixing material which can resist the indicated extraction force. Remember to take into account the spacing, the area which will be damaged if the fixing breaks out, the type of fixing material used and the mounting base.

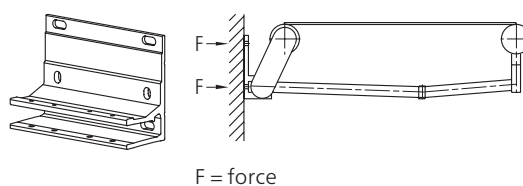
See separate bracket overview for other bases.

- 1 standard wall bracket (85 mm) plus 1 standard wall bracket (85 mm) as a central bracket from 401 cm, 1 standard wall bracket (85 mm) per awning arm, Fasteners: 4 in all
- 1 standard wall bracket (85 mm) plus 1 standard wall bracket (85 mm) as a central bracket from 401 cm, 2 standard wall brackets (85 mm) per awning arm, Fasteners: 8 in all
- 1 wall bracket (260 mm) plus 1 standard wall bracket (85 mm) as a central bracket from 401 cm, 2 wall brackets (260 mm) per awning arm, Fasteners: 16 in all
- Mounting plate (280 x 240 mm) incl. 1 standard wall bracket (85 mm), standard wall bracket (85 mm) incl. base plate, Fasteners: 8 in all

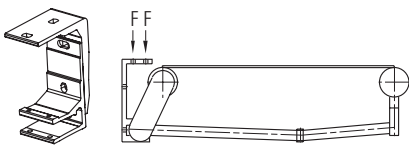
**Wall mounting on C20/25 concrete** with up to 200 mm of facing extraction force in N per upper fixing for wall bracket

| Width in cm | Projection in cm |      |      |      |       |       |
|-------------|------------------|------|------|------|-------|-------|
|             | 150              | 200  | 250  | 300  | 350   | 400   |
| 250         | 818              | 1232 | 1776 | 2359 | 3128  | 4399  |
|             | 409              | 616  | 888  | 1180 | 1564  | 2200  |
|             | 205              | 308  | 444  | 590  | 782   | 1100  |
|             | 238              | 358  | 516  | 684  | 908   | 1276  |
| 300         | 939              | 1419 | 2042 | 2716 | 3592  | 5088  |
|             | 470              | 710  | 1021 | 1358 | 1796  | 2544  |
|             | 235              | 355  | 511  | 679  | 898   | 1272  |
|             | 272              | 412  | 592  | 788  | 1042  | 1476  |
| 350         | 1060             | 1606 | 2308 | 3074 | 4055  | 5776  |
|             | 530              | 803  | 1154 | 1537 | 2028  | 2888  |
|             | 265              | 402  | 577  | 769  | 1014  | 1444  |
|             | 308              | 466  | 670  | 892  | 1176  | 1676  |
| 400         | 1181             | 1792 | 2573 | 3432 | 4518  | 6464  |
|             | 591              | 896  | 1287 | 1716 | 2259  | 3232  |
|             | 295              | 448  | 643  | 858  | 1130  | 1616  |
|             | 342              | 520  | 746  | 996  | 1310  | 1874  |
| 450         | 1303             | 1979 | 2839 | 3790 | 4982  | 7253* |
|             | 652              | 990  | 1420 | 1558 | 2491  | 3627  |
|             | 326              | 495  | 710  | 948  | 1246  | 1813  |
|             | 378              | 574  | 824  | 1100 | 1444  | 2074  |
| 500         | 1424             | 2166 | 3104 | 4148 | 6244  | 7541* |
|             | 712              | 1083 | 1552 | 2074 | 3122  | 3771  |
|             | 356              | 542  | 776  | 1037 | 1561  | 1885  |
|             | 412              | 628  | 900  | 1202 | 1810  | 2274  |
| 550         | 1545             | 2352 | 3370 | 5163 | 6789* | 8529* |
|             | 773              | 1176 | 1685 | 2582 | 3395  | 4265  |
|             | 386              | 588  | 843  | 1291 | 1697  | 2132  |
|             | 448              | 682  | 978  | 1498 | 1968  | 2474  |
| 600         | 1666             | 2539 | 3635 | 5582 | 7335* | 9217* |
|             | 833              | 1270 | 1818 | 2791 | 3668  | 4609  |
|             | 417              | 635  | 909  | 1396 | 1834  | 2304  |
|             | 484              | 736  | 1054 | 1618 | 2128  | 2674  |
| 650         | 1787             | 2726 | 4455 | 6002 | 7880* | 9906* |
|             | 894              | 1363 | 2228 | 3001 | 3940  | 4953  |
|             | 447              | 682  | 1114 | 1501 | 1970  | 2477  |
|             | 518              | 790  | 1292 | 1740 | 2286  | 2872  |
| 700         | 1272             | 1941 | 3176 | 4281 | 5617* | 7063* |
|             | 636              | 971  | 1588 | 2141 | 2809  | 3532  |
|             | 318              | 485  | 794  | 1070 | 1404  | 1766  |
|             | 370              | 562  | 922  | 1242 | 1630  | 2050  |

\* 2 brackets required per awning arm



- 1 ceiling bracket with standard wall bracket (85 mm),  
1 ceiling bracket with standard wall bracket as central bracket from 401 cm,  
1 ceiling bracket with standard wall bracket (85 mm) per awning arm,  
Fasteners: 4 in all
- 1 ceiling bracket, compact,  
1 ceiling bracket, compact as central bracket from 401 cm,  
1 ceiling bracket, compact per awning arm,  
Fasteners: 4 in all



F = force

### Ceiling installation (on C20/25 concrete)

Extraction force in N per upper fastener in ceiling bracket

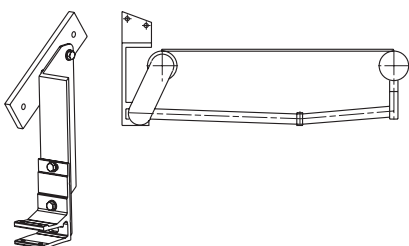
| Width in cm | Projection in cm |      |      |      |       |        |
|-------------|------------------|------|------|------|-------|--------|
|             | 150              | 200  | 250  | 300  | 350   | 400    |
| 250         | 917              | 1367 | 1963 | 2612 | 3469  | 4875   |
|             | 459              | 684  | 982  | 1306 | 1735  | 2438   |
| 300         | 1060             | 1582 | 2264 | 3016 | 3991  | 5645   |
|             | 530              | 791  | 1132 | 1508 | 1996  | 2823   |
| 350         | 1204             | 1796 | 2565 | 3419 | 4512  | 6414   |
|             | 602              | 898  | 1283 | 1710 | 2256  | 3207   |
| 400         | 1347             | 2010 | 2867 | 3823 | 5034  | 7183   |
|             | 674              | 1005 | 1434 | 1912 | 2517  | 3592   |
| 450         | 1490             | 2225 | 3168 | 4226 | 5556  | 7953*  |
|             | 745              | 1113 | 1584 | 2113 | 2778  | 3977   |
| 500         | 1634             | 2439 | 3469 | 4630 | 6929* | 8722*  |
|             | 817              | 1220 | 1735 | 2315 | 3465  | 4361   |
| 550         | 1777             | 2654 | 3770 | 5719 | 7533* | 9492*  |
|             | 889              | 1327 | 1885 | 2860 | 3767  | 4746   |
| 600         | 1921             | 2868 | 4071 | 6187 | 8142* | 10261* |
|             | 961              | 1434 | 2036 | 3094 | 4071  | 5131   |
| 650         | 2064             | 3083 | 4937 | 6654 | 8751* | 11053* |
|             | 1032             | 1542 | 2469 | 3327 | 4376  | 5527   |
| 700         | 1472             | 2198 | 3522 | 4748 | 6239  | 7867   |
|             | 736              | 1099 | 1761 | 2374 | 3120  | 3934   |

\* 2 brackets required per awning arm

### Rafter mounting

Shear forces in N per bracket for rafter mounting

- 1 rafter bracket plus  
1 standard wall bracket (85 mm),  
one of each for left and right,  
1 rafter bracket plus 1 standard wall bracket (85 mm) as central bracket from a width of 401 cm
- 1 rafter bracket plus  
1 mounting plate for rafters plus  
1 standard wall bracket (85 mm),  
one of each for right and left,  
1 rafter bracket plus 1 mounting plate for rafters plus  
1 standard wall bracket (85 mm) as a central bracket from a width of 401 cm



| Width in cm | Projection in cm |      |      |      |       |       |
|-------------|------------------|------|------|------|-------|-------|
|             | 150              | 200  | 250  | 300  | 350   | 400   |
| 250         | 1195             | 1796 |      |      |       |       |
|             | 558              | 801  |      |      |       |       |
| 300         | 1374             | 2069 | 2982 |      |       |       |
|             | 645              | 926  | 1295 |      |       |       |
| 350         | 1553             | 2342 | 3370 | 4504 |       |       |
|             | 732              | 1051 | 1467 | 1925 |       |       |
| 400         | 1732             | 2615 | 3757 | 5027 | 6642  |       |
|             | 819              | 1176 | 1638 | 2152 | 2805  |       |
| 450         | 1911             | 2888 | 4145 | 5550 | 7322  | 10493 |
|             | 907              | 1302 | 1810 | 2378 | 3094  | 4377  |
| 500         | 2090             | 3160 | 4532 | 6073 | 8142  | 10261 |
|             | 994              | 1427 | 1981 | 2604 | 3465  | 4361  |
| 550         | 2269             | 3433 | 4920 | 6596 | 8856  | 11766 |
|             | 1081             | 1552 | 2153 | 2860 | 3767  | 4746  |
| 600         | 2448             | 3706 | 5307 | 7113 | 9429  | 12540 |
|             | 1168             | 1677 | 2325 | 3113 | 4071  | 5131  |
| 650         | 2627             | 3979 | 5634 | 7567 | 10149 | 13449 |
|             | 1256             | 1802 | 2795 | 3716 | 4869  | 6239  |
| 700         | 2095             | 3108 | 4942 | 6638 | 8749  | 11007 |
|             | 1056             | 1465 | 2207 | 2893 | 3746  | 4659  |