

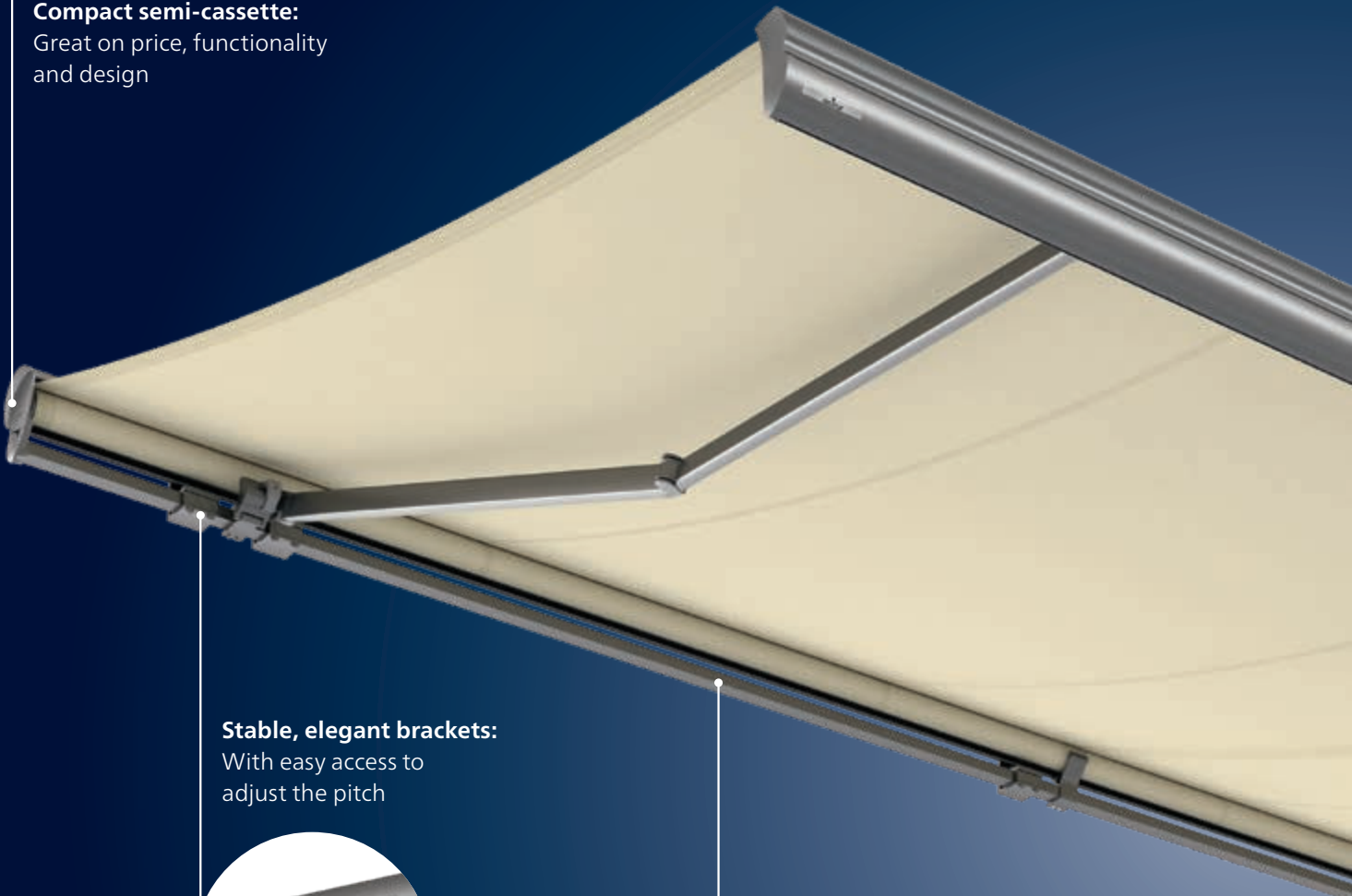
Semi-cassette awning

Semina

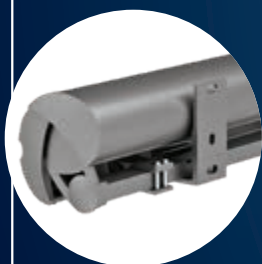
The **Semina** combines a fresh, youthful design with proven technology and reliable quality. The semi-cassette provides for safety, the safe protection of the fabric and technology and therefore also for an exceptionally long service life. The functions, look and profitability of the Semina have been systematically optimised and coordinated down to the very last detail. For a consistently intelligent solution made by weinor.



Compact semi-cassette:
Great on price, functionality
and design



Stable, elegant brackets:
With easy access to
adjust the pitch



Wall
mounting



Ceiling
mounting



Rafter mounting

**Optional LED Design
light bar:**
Highly energy-efficient



Semina Highlights



Integrated rain gutter:
Water drain



Wind lock safety device:
Well-sheltered
even in winds



weinor LongLife arm:
Very durable and
low-noise

Semina Benefits



The compact semi-cassette – great on price, functionality and design

Uncomplicated but high quality – the compact semi-cassette on the weinor Semina reliably protects the fabric and technology.

- Simple installation
- Compact cassette size
- Outstanding quality



Integrated rain gutter – reliably drains off rainwater

The integrated rain gutter systematically drains off rainwater.

- Protects the fabric and the technology
- Reliably drains off any rainwater via the side caps on the projection profile when retracted
- Minimum pitch of 14° required for use in showers



Wind lock safety device – well-sheltered even in winds

The ultramodern technology prevents the awning from lifting up when wind gusts from below.

- Tilting arm mechanism with patented wind lock safety device
- Proven, maintenance-free technology
- Forged and extruded aluminium components



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
- Dimmable when used with BiConnect or Somfy io-homecontrol® radio control
- Installs using an adjustable bracket fitted to the support pipe
- Easy-change LEDs

Semina Technology

01

Semina	
Technology	
Max. width	700 cm
Max. projection	350 cm
Cassette size (w x h) incl. standard bracket	204 mm x 204 mm
Coupled systems	—
Gear drive	<input type="radio"/> (with a max. width of 600 cm/max. projection of 350 cm)
Motor drive	<input checked="" type="radio"/> as standard
Angle of pitch on awning	5° to 40°
Installation alternatives	can be installed on walls, ceilings and rafters
LongLife arm	<input checked="" type="radio"/> as standard
Accessories	
Heating system Tempura/Tempura Quadra	<input type="radio"/>
LED Design light bar	<input type="radio"/>
BiSens Agido-3V product protection sensor	<input type="radio"/>
Controls	
Radio control	<input type="radio"/>
No remote	<input checked="" type="radio"/>
Weather sensors	
Sun/wind sensor	<input type="radio"/>
Sun/wind sensor solar powered	<input type="radio"/>
Sun/wind/rain sensor	<input type="radio"/>
Quality	
Tested up to	wind resistance class 1 according to DIN 13561 (wind strength 5 on the Beaufort scale)

standard optional unavailable

Semina Controls

weinor BiConnect radio controller

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

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
Semina	Semina drive	<ul style="list-style-type: none"> • Somfy io remote-controlled motor integrated into awning 	Somfy io remote-controlled motor	<ul style="list-style-type: none"> • Situo 1 io Pure II/Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter • Smoove 1 io Pure Shine wall transmitter
Semina LED	Semina drive and LED lighting	<ul style="list-style-type: none"> • Somfy io remote-controlled motor integrated into awning • Additional Somfy receiver for the LED light bar (with downstream power supply pack) integrated into light bar • LED dimmable 	Somfy io remote-controlled motor and io Lighting Receiver Variation (dimmable)	<ul style="list-style-type: none"> • Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter
Accessories (optional)	Tempura/Tempura Quadra heating system	<ul style="list-style-type: none"> • Dimmable, additional receiver required • Installation of the receiver in the design bar provided for this purpose or the Tempura Quadra box 	Heating Receiver Variation io 1.5 kW STAS3/STAK3 (dimmable)	<ul style="list-style-type: none"> • Situo 5 io Pure II/Situo 5 Variation A/M io Pure II hand transmitter • Smoove 1 io Pure Shine wall transmitter

Somfy RTS radio technology

Product	Electronics	Somfy RTS control	Remote receiver	Transmitter
Semina	Semina drive	<ul style="list-style-type: none"> • Somfy RTS remote-controlled motor integrated into awning 	Somfy RTS remote-controlled motor	<ul style="list-style-type: none"> • Situo 1 RTS Pure II/Situo 1 Soliris RTS Pure II/Situo 5 RTS Pure II/Situo 5 Soliris RTS Pure II hand transmitter • Smoove 1 RTS Pure Shine wall transmitter
Semina LED	Semina drive and LED lighting	<ul style="list-style-type: none"> • Somfy RTS remote-controlled motor integrated into awning • Additional Somfy receiver for the LED light bar (with downstream power supply pack) integrated into light bar • LED not dimmable 	Somfy RTS remote-controlled motor and Lighting Slim Receiver RTS	<ul style="list-style-type: none"> • Situo 5 RTS Pure II/Situo 5 Soliris RTS Pure II hand transmitter

Hard wired with Somfy control

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

Hard wired (existing switch/power supply on site)

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

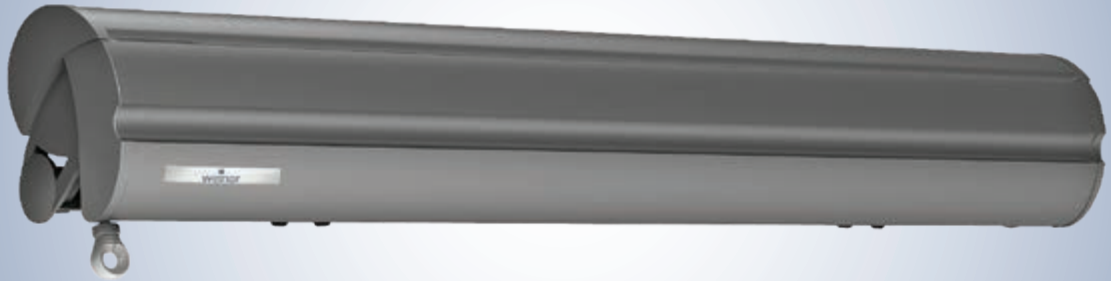


Note:

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.

Gear drive (option)

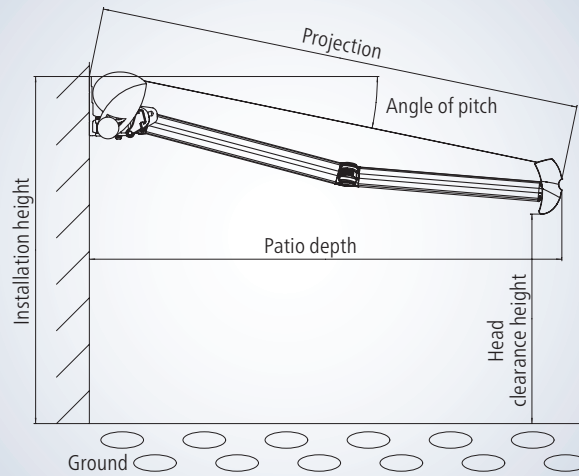


Sometimes, a gear/crank operated awning is a possible alternative: with smaller awnings (with a max. width of 600 cm/max. projection of 350 cm), for example, or rarely-used units, or where connecting to a power source is a complicated solution.

The cost of an awning without a motor as standard is correspondingly lower.

- Sprag clutch with easy-to-set end stop
- No power source required
- Inconspicuous components

Semina 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	–
25°	170	220	270	330	390	–

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	260	260	250	250
15°	240	230	220	210	200	180
25°	220	200	180	160	140	110

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

Wall mounting on pressure-resistant surface

Minimum number of required wall brackets so that the function of the awning is ensured, regardless of the mounting surface. Selection of the brackets using the weinor bracket overview and using the maximum extraction forces of the fixings used!



Width in cm	Number of arms	Diagonal in 10 cm steps				
		up to 150	160-200	210-250	260-300	310-350
up to 200	2	2				
201-250	2	2	2			
251-300	2	2	2	2		
301-350	2	2	2	2	2	
351-400	2	2	2	2	2	2
401-450	2	3	3	3	3	2+1
451-500	2	3	3	3	3	5
501-550	2	3	3	3	5	5
551-600	2	3	3	3	5	5
601-650	2	3	3	3	5	5
651-700	3	4	4	4	7	7

Overlapping possible, observe size limits!

Observe size limits; unit must have X more width than projection:

- in the case of 1 x wall bracket 85 mm or 1 x wall bracket 260 mm per arm:
X = 40 cm
- in the case of 2 x wall bracket 85 mm or 1 x wall bracket 295 mm per arm:
X = 62 cm
- in the case of 2 x wall bracket 260 per arm: X = 95 cm

- 2 2x wall bracket 85 mm
- 2 2x wall bracket 260 mm
- 3 3x wall bracket 85 mm (1 x as a central bracket)
- 4 4x wall bracket 85 mm alternatively:
2x wall bracket 295 mm
- 5 5x wall bracket 85 mm (1 x as a central bracket) alternatively:
2x wall bracket 295 mm + 1x wall bracket 85 mm (as a central bracket)
- 2+1 2x wall bracket 260 mm + 1x wall bracket 85 mm (1 x as a central bracket)
- 7 7x wall bracket 85 mm (1 x as a central bracket)

Two brackets per arm required:

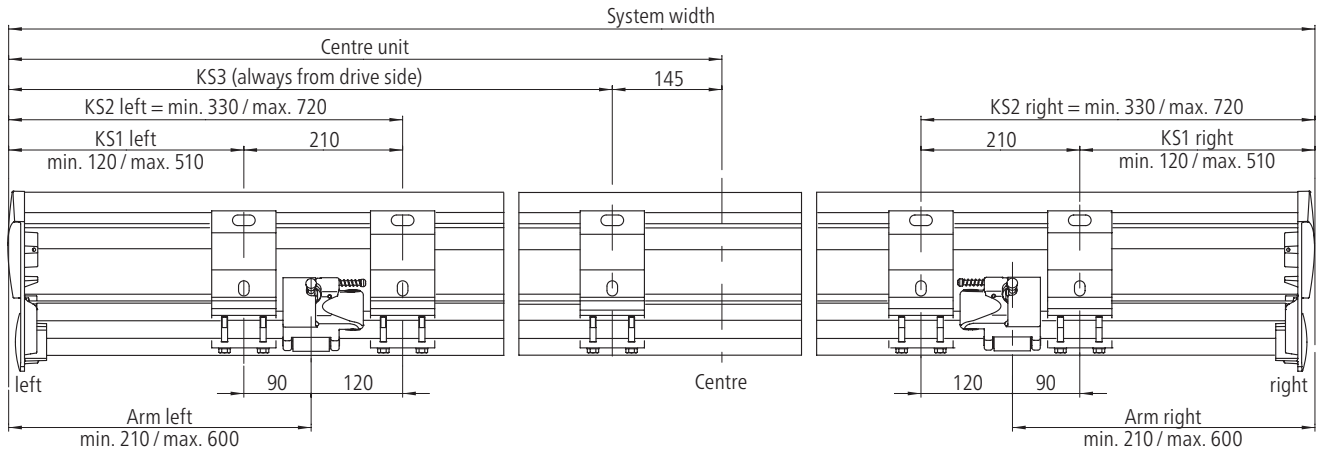
- a. projection ≥ 310 cm
- b. width ≥ 501 cm and projection ≥ 260 cm

Use of central bracket dependent on width/projection:

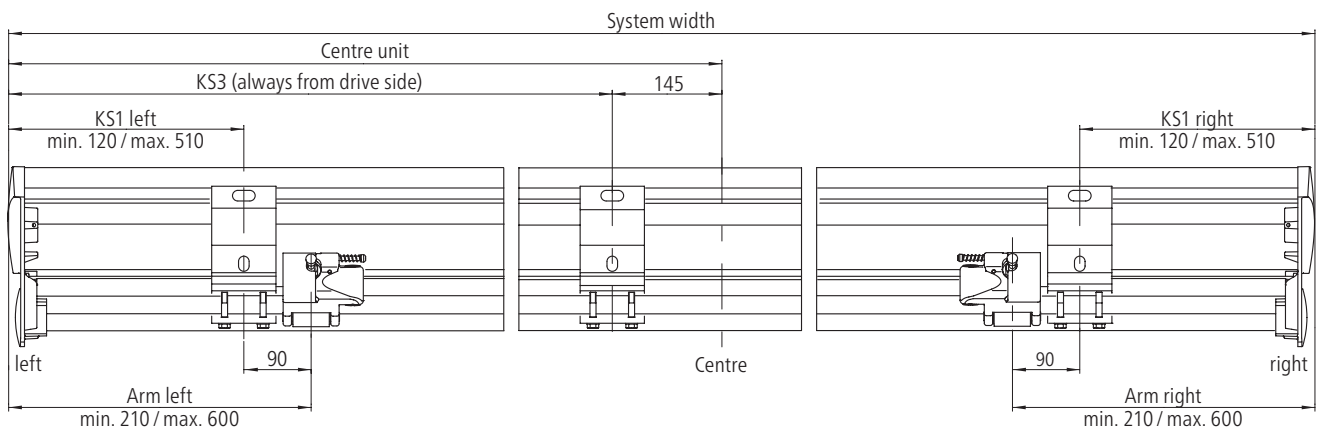
width ≥ 401 cm

Position of wall brackets and Semina

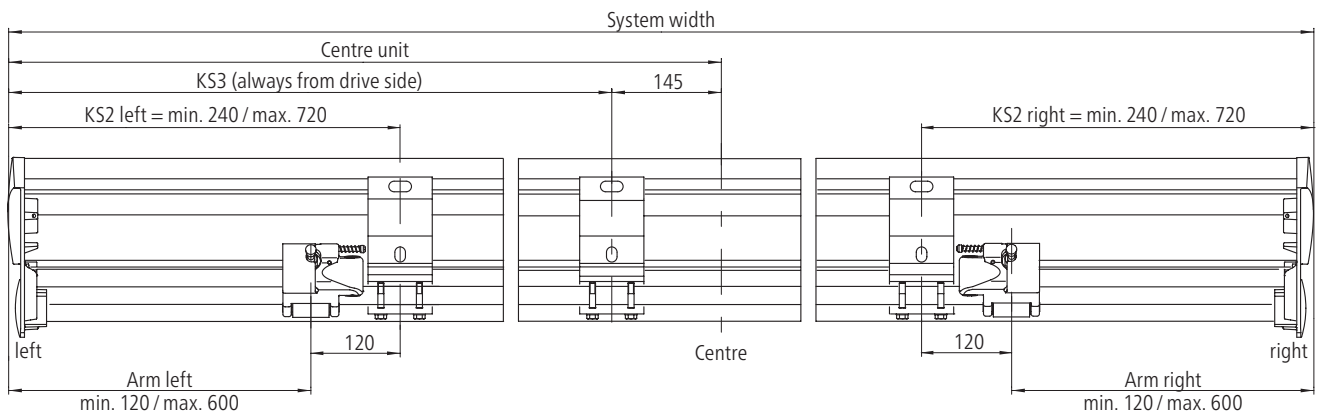
Wall bracket 85 mm on both sides (KS1 and KS2)



Wall bracket 85 mm outside (KS1)



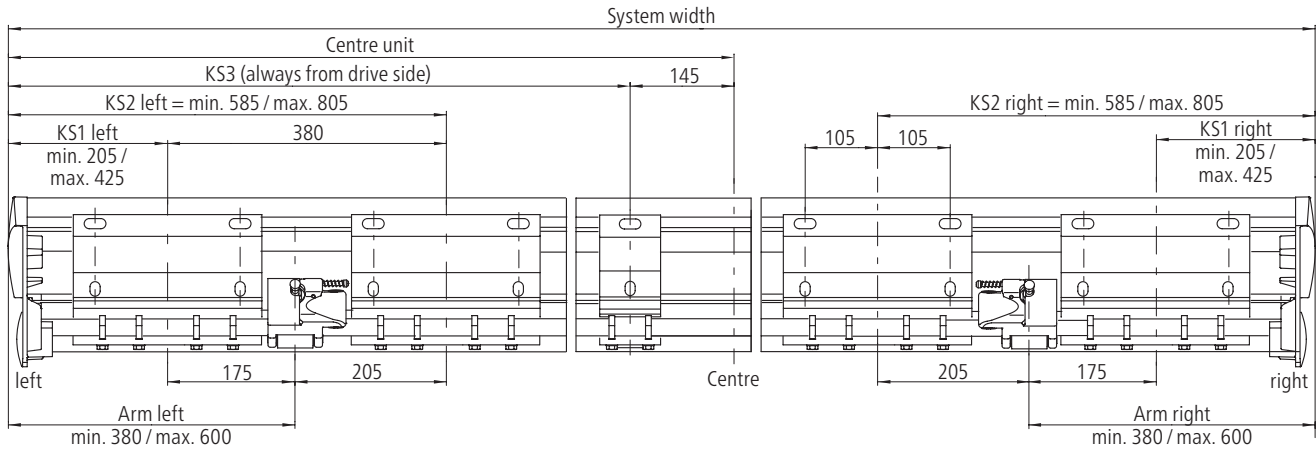
Wall bracket 85 mm inside (KS2)



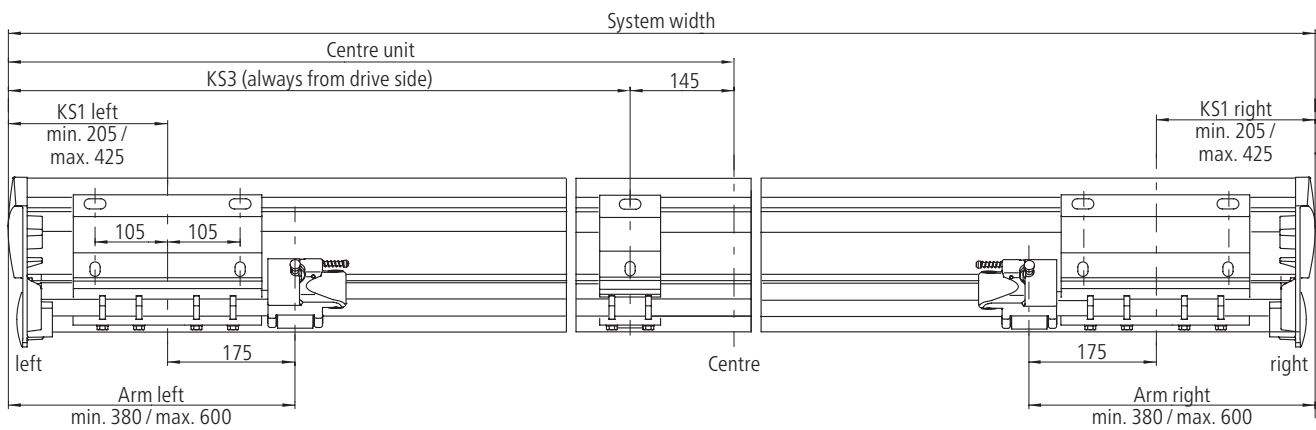
Notes:
 KS1 = outside bracket
 KS2 = inside bracket
 KS3 = centre bracket

Position of wall brackets and Semina

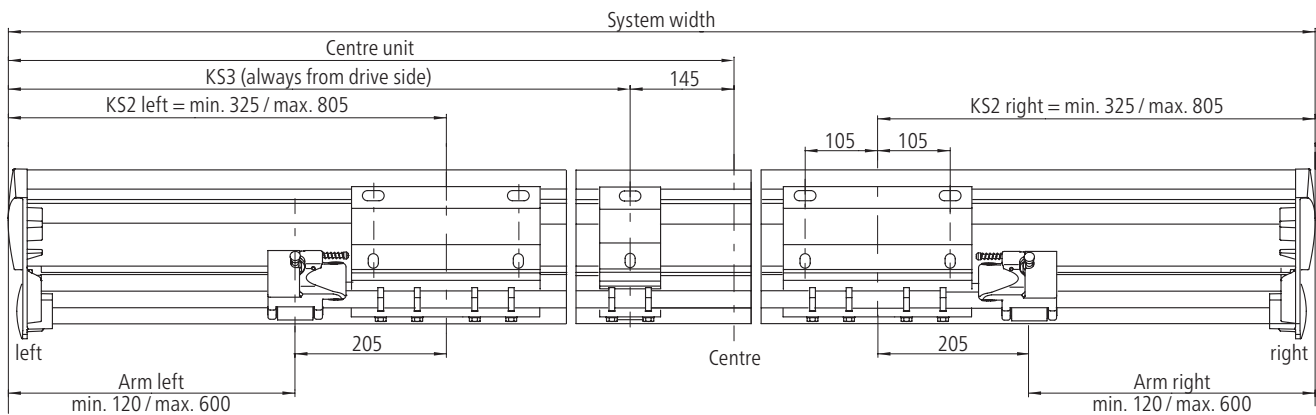
Wall bracket 260 mm on both sides (KS1 and KS2)



Wall bracket 260 mm outside (KS1)



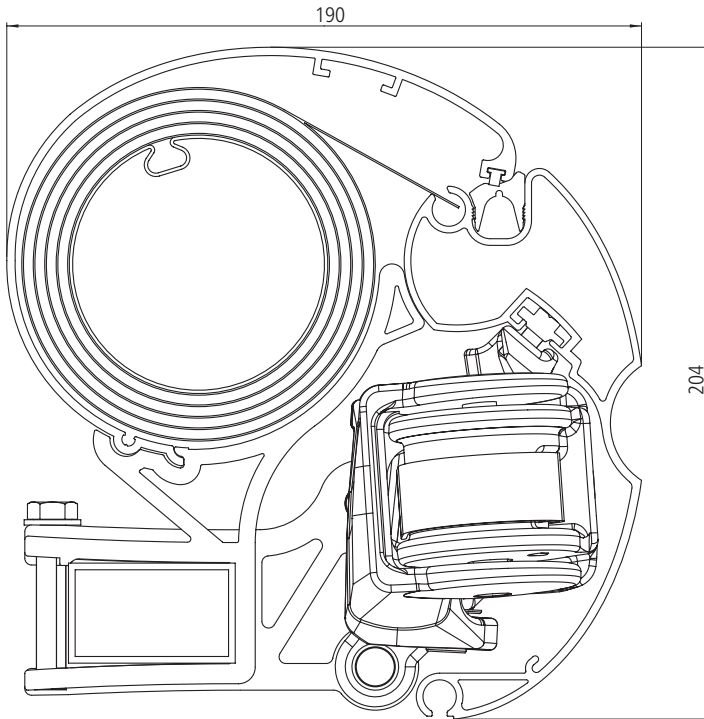
Wall bracket 260 mm inside (KS2)



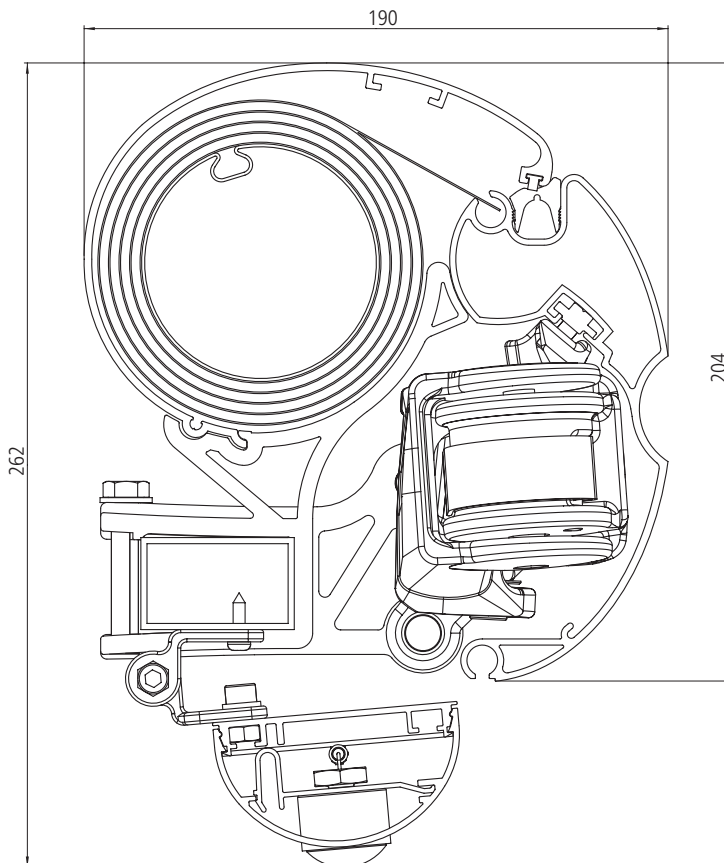
- Notes:
- KS1 = outside bracket
 - KS2 = inside bracket
 - KS3 = centre bracket

Cross-sections

Semina



Semina with LED Design light bar

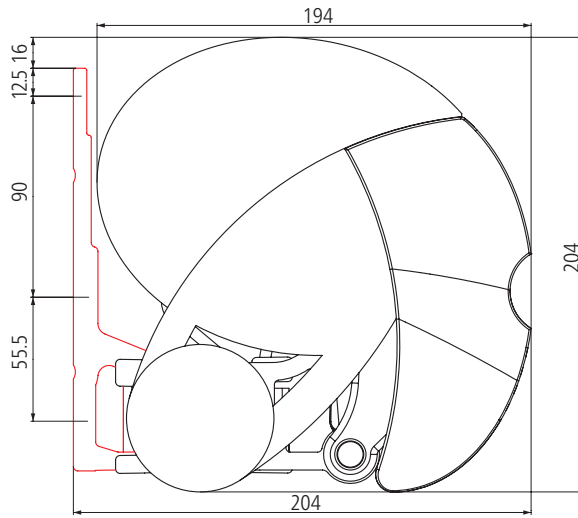


Semina Installation

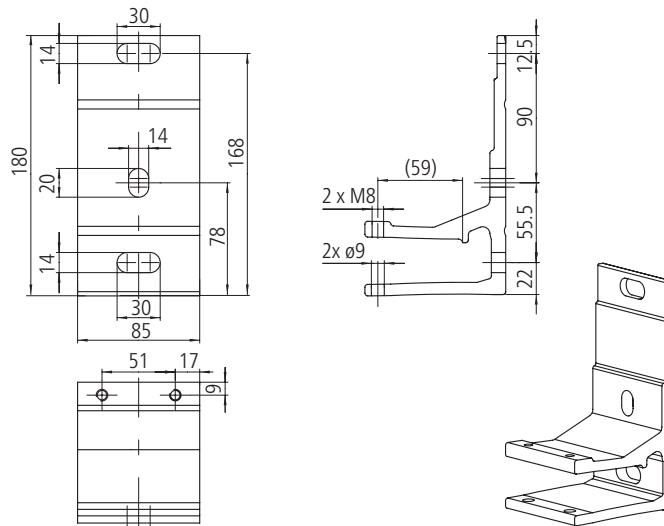
Wall mounting – brackets



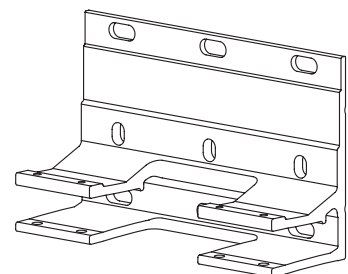
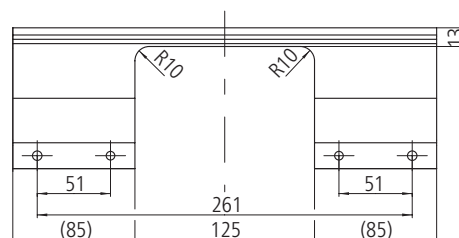
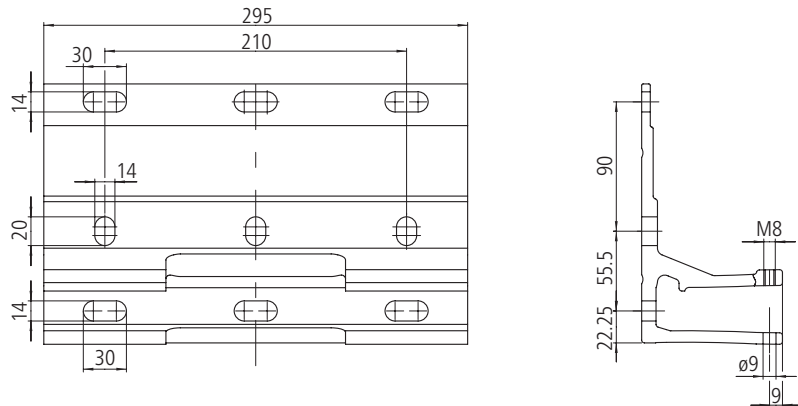
Wall bracket



Wall bracket 85 mm



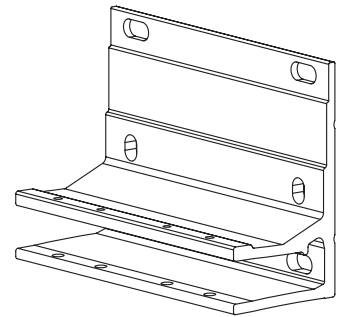
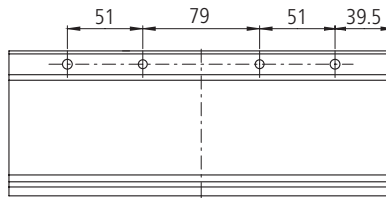
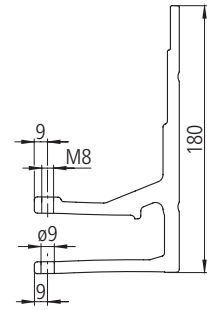
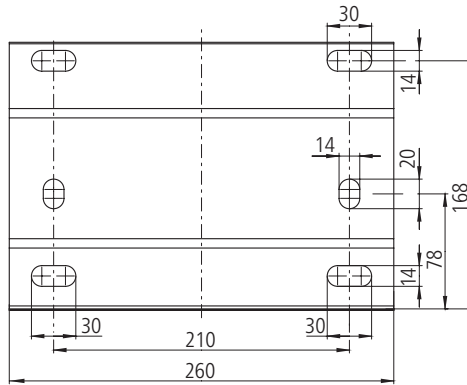
Wall bracket 295 mm (arm enclosure)



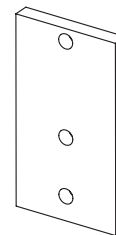
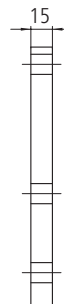
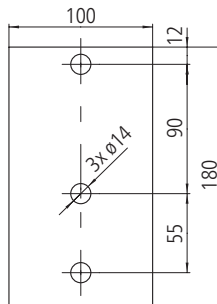
Wall mounting – brackets



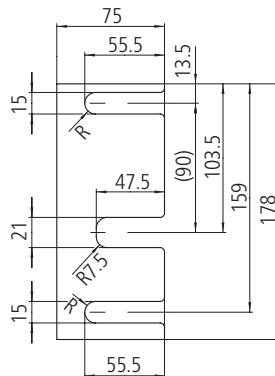
Wall bracket 260 mm



Baseplate (100 x 180 x 15 mm)



Baseplate (75 x 178 x 4 mm)

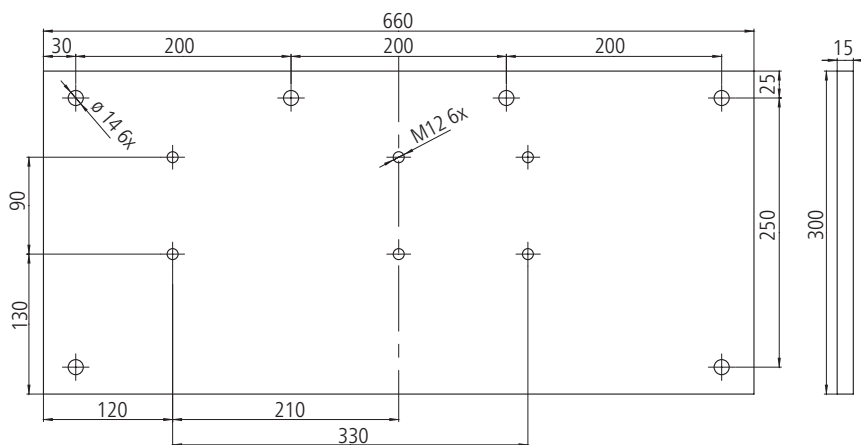
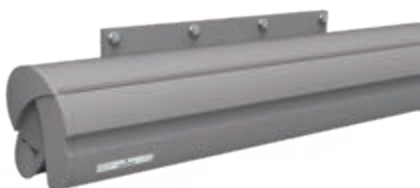


Semina Installation

Wall mounting – mounting plates



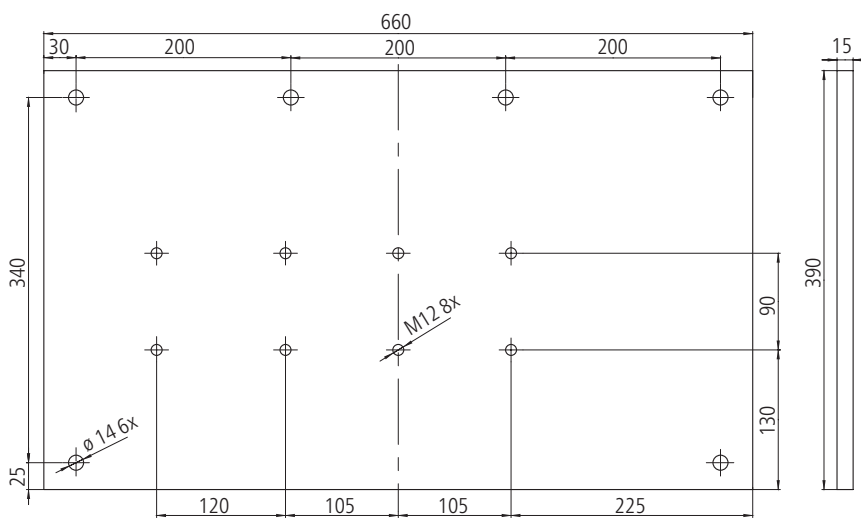
Mounting plate 660 x 300 x 15 mm*



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



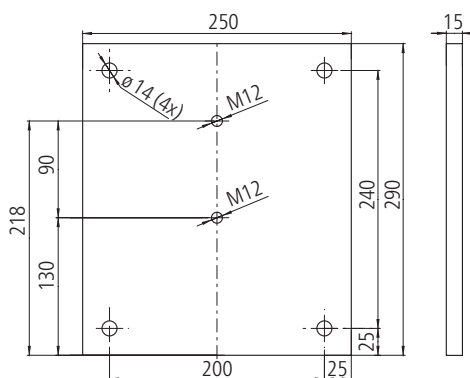
Mounting plate 660 x 390 x 15 mm*



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



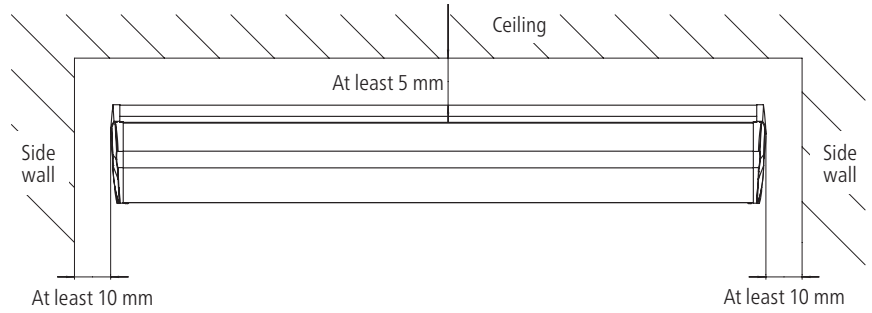
Mounting plate 250 x 290 x 15 mm



* Mounting plate also possible with 2 wall brackets 85 mm.

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

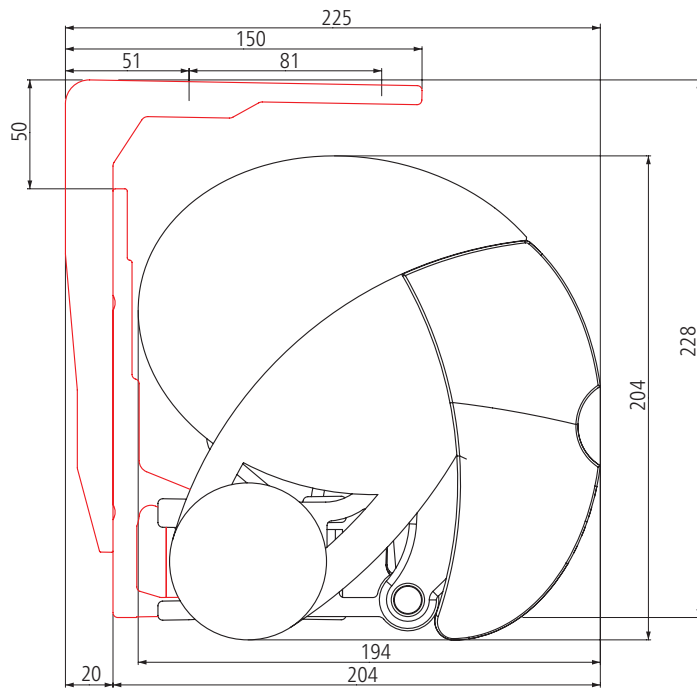
Minimum spacing distances for installation



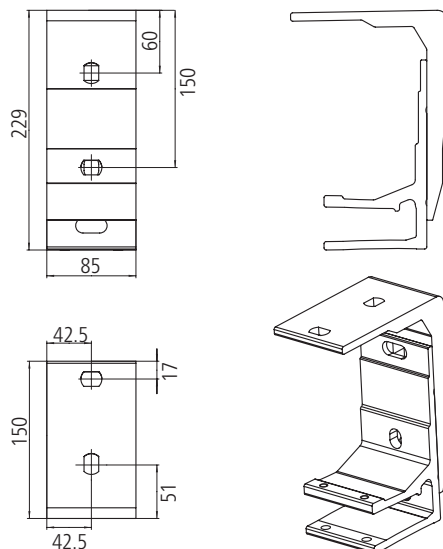
Ceiling mounting



Side view with ceiling bracket



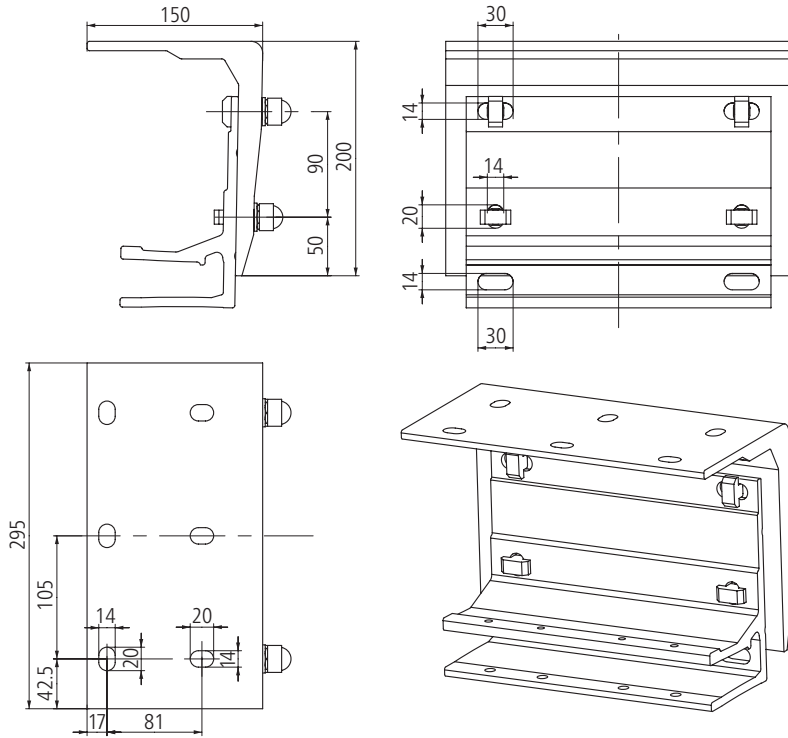
Ceiling bracket



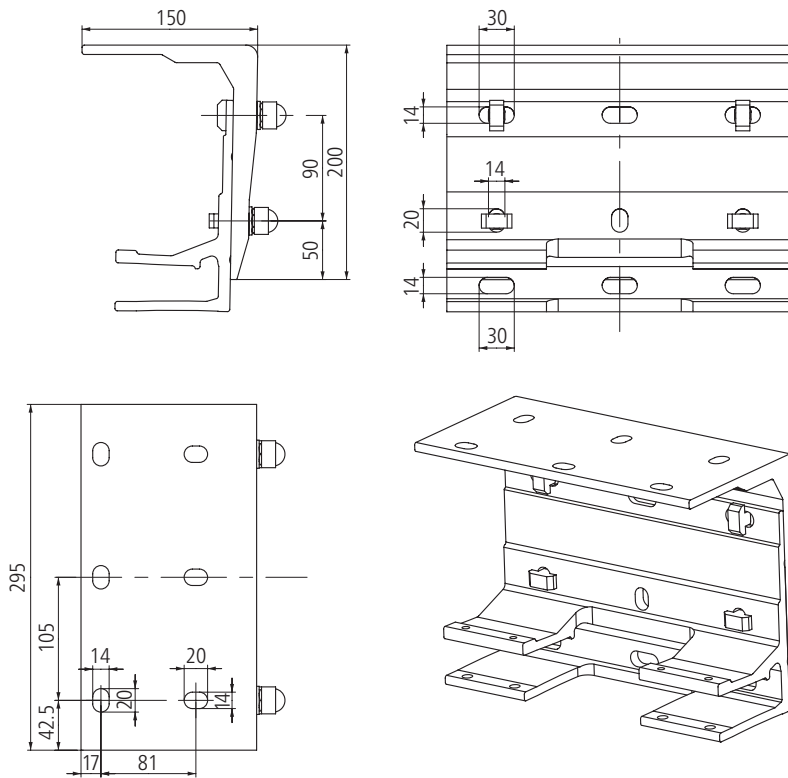
Ceiling mounting



Ceiling bracket 295 mm with wall bracket 260 mm



Ceiling bracket 295 mm with wall bracket 295 mm
(Cannot be used with three-arm constructions!)



Extraction forces

The extraction force is the force with which the awning weight and the wind load pull on each upper and/or front 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.

Use the separate bracket overview for an exact planning of the awning attachment.

Extraction force in N per upper fixing for wall mounting

Brackets **without** mounting plates

Wall mounting with up to 200 mm facing (non-pressure-resistant surface)

Please observe the width to projection dimension limits for number of brackets per arm, as the width to projection ratio decreases when two brackets are used per arm.

- 1 x wall bracket 85 mm per arm
or
- 2 x wall bracket 85 mm per arm
Number of fixings: 4 or 8
- 1 x wall bracket 260 mm per arm
or
- 2 x wall bracket 260 mm per arm
Number of fixings: 8 or 16
- 1 x wall bracket 295 mm per arm
Number of fixings: 12

Please note:

from a width of 401 cm or a projection of 310 cm additional

1 x wall bracket 85 mm as centre bracket is required.

This means an additional 2 fixings will be required always.

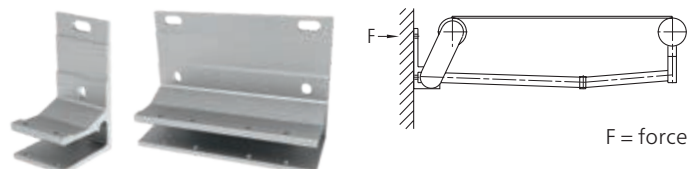
Taking the width to projection dimension limits into account, two brackets can also be used per arm instead of one bracket per arm.

Here, the indicated extraction force halves!

Does not apply to red-bordered cells and 295 mm wall bracket!

In the event of installation on a pressure-resistant surface, the indicated extraction force decreases (see bracket overview)

Width in cm	Projection in cm				
	150	200	250	300	350
200	1463				
	732				
	488				
250	1721	2539			
	860	1269			
	574	846			
300	1978	2921	4070		
	989	1460	2035		
	659	974	1357		
350	2236	3302	4597	6181	
	1118	1651	2298	3091	
	745	1101	1532	2060	
400	2494	3684	5124	6875	4357
	1247	1842	2562	3438	2178
	831	1228	1708	2292	2904
450	2751	4066	5651	7570	4798
	1376	2033	2826	3785	2399
	917	1355	1884	2523	3199
500	3009	4447	6178	8264	5883
	1505	2224	3089	4132	2941
	1003	1482	2059	2755	3922
550	3267	4829	6706	4479	6390
	1633	2414	3353	2239	3195
	1089	1610	2235	2986	4260
600	3524	5211	7233	5405	6898
	1762	2605	3616	2703	3449
	1175	1737	2411	3603	4598
650	3782	5592	7760	5802	7405
	1891	2796	3880	2901	3703
	1261	1864	2587	3868	4937
700	2824	4180	6459	4350	5551
	1412	2090	3229	2175	2776



Extraction forces

Extraction force in N per upper fixing for wall mounting

Brackets **with** mounting plates

Wall mounting with up to 200 mm facing (non-pressure-resistant surface)

Please observe the width to projection dimension limits for number of brackets per arm, as the width to projection ratio decreases when two brackets are used per arm.

- 1 x mounting plate 250 x 290 x 15 mm incl. 1 x wall bracket 85 mm per arm
Number of fixings: 8
- 1 x mounting plate 450 x 200 x 30 mm incl. 1 x wall bracket 85 mm per arm
or
- 1 x mounting plate 450 x 200 x 30 mm incl. 2x wall bracket 85 mm per arm
Number of fixings: 12
- 1 x mounting plate 640 x 200 x 30 mm incl. 1 x wall bracket 85 mm per arm
or
- 1 x mounting plate 640 x 200 x 30 mm incl. 2x wall bracket 85 mm per arm
Number of fixings: 24
- 1 x mounting plate 660 x 300 x 15 mm incl. 1 x wall bracket 85 mm per arm
or
- 1 x mounting plate 660 x 300 x 15 mm incl. 2x wall bracket 85 mm per arm
Number of fixings: 12
- 1 x mounting plate 660 x 390 x 15 mm incl. 1 x wall bracket 85 mm per arm
or
- 1 x mounting plate 660 x 390 x 15 mm incl. 2x wall bracket 85 mm per arm
Number of fixings: 12

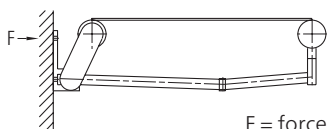
Please note:

- from a width of 401 cm additional
 - for mounting plates with a thickness of **15 mm**
1 x wall bracket 85 mm incl.
1 x shim plate 100 x 180 x 15 mm as central bracket required.
 - for mounting plates with a thickness of **30 mm**
1 x wall bracket 85 mm incl.
2x shim plate 100 x 180 x 15 mm as central bracket required.
- This means an additional 2 fixings will be required always.

Taking the width to projection dimension limits into account, two brackets can also be used per arm instead of one bracket per arm.

This has no impact on the extraction force! Does not apply to 250 x 290 x 15 mm mounting plate!

In the case of red-bordered cells, the bracket sub-assemblies are equipped with two brackets per arm.



F = force

Width in cm	Projection in cm				
	150	200	250	300	350
200	139				
	300				
	150				
	133				
	98				
250	163	240			
	353	518			
	176	259			
	157	231			
	115	170			
300	188	277	385		
	405	596	828		
	203	298	414		
	180	265	369		
	133	195	272		
350	212	313	435	584	
	458	674	935	1255	
	229	337	467	627	
	204	300	417	560	
	150	221	307	412	
400	237	349	484	649	
	511	751	1042	1395	1765
	255	376	521	698	883
	227	335	465	623	789
	167	246	342	458	580
450	261	385	534	715	
	564	829	1149	1536	1944
	282	415	575	768	972
	251	370	513	686	869
	184	272	377	505	639
500	286	421	584	780	
	616	907	1256	1677	2384
	308	454	628	839	1192
	274	404	561	749	1066
	202	297	412	551	784
550	310	457	634		
	669	985	1364	1818	2590
	335	492	682	909	1295
	298	439	609	812	1158
	219	323	447	597	851
600	334	493	684		
	722	1063	1471	2194	2796
	361	531	735	1097	1398
	321	474	656	980	1250
	236	348	483	721	919
650	359	529	734		
	775	1141	1578	2355	3001
	387	570	789	1178	1501
	345	508	704	1052	1342
	253	374	518	774	987
700	268	396	611		
	579	853	1314		
	289	426	657		
	257	380	586	789	1006
	189	279	431	580	740

In the event of installation on a pressure-resistant surface, the indicated extraction force decreases (see bracket overview)

Extraction forces

Extraction force in N per front fixing for ceiling mounting

Please observe the width to projection dimension limits for number of brackets per arm, as the width to projection ratio decreases when two brackets are used per arm.

- 1 x ceiling bracket 85 mm incl.
1 x wall bracket 85 mm per arm
or
- 2 x ceiling bracket 85 mm incl.
2 x wall bracket 85 mm per arm
Number of fixings:
4 or 8
- 1 x ceiling bracket 295 mm incl.
1 x wall bracket 260 mm per arm
or
- 2 x ceiling bracket 295 mm incl.
2 x wall bracket 260 mm per arm
Number of fixings:
12 or 24
- 1 x ceiling bracket 295 mm incl.
1 x wall bracket 295 mm per arm
Number of fixings: 12

Please note:

from a width of 401 cm additional

1 x ceiling bracket 85 mm incl.
1 x wall bracket 85 mm
as central bracket required.

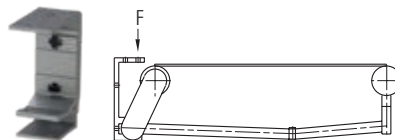
This means an additional 2 fixings will be required always.

Taking the width to projection dimension limits into account, two brackets can also be used per arm instead of one bracket per arm.

Here, the indicated extraction force halves!

Does not apply to red-bordered cells and combination of wall bracket 295 mm with ceiling bracket 295 mm!

Width in cm	Projection in cm				
	150	200	250	300	350
200	1085				
	369				
	369				
250	1270	1851			
	430	624			
	430	624			
300	1456	2124	2943		
	492	715	988		
	492	715	988		
350	1642	2397	3319	4452	
	554	806	1113	1491	
	554	806	1113	1490	
400	1829	2672	3697	4949	3138
	617	898	1239	1657	1053
	616	897	1239	1656	2095
450	1958	2887	4014	5381	3433
	670	980	1356	1812	1155
	670	980	1356	1812	2296
500	2140	3156	4386	5872	4192
	732	1071	1481	1977	1409
	731	1070	1481	1977	2802
550	2321	3425	4758	3200	4551
	793	1161	1606	1078	1529
	792	1161	1605	2141	3042
600	2502	3694	5129	3844	4911
	854	1252	1731	1293	1649
	854	1251	1730	2570	3282
650	2683	3962	5501	4124	5270
	915	1342	1856	1387	1769
	915	1342	1855	2758	3522
700	2017	2976	4574	3100	3959
	688	1007	1541	1043	1329





F = force

Shear forces

Shear forces in N per fixing for rafter mounting


Please observe the width to projection dimension limits for number of brackets per arm, as the width to projection ratio decreases when two brackets are used per arm.


Rafter brackets are available as both left and right handed

-  1x rafter bracket incl.
1x wall bracket 85 mm per arm or
-  2x rafter bracket incl.
2x wall bracket 85 mm per arm


Applies to two brackets per arm on a rafter.

or


-  2x rafter bracket incl.
2x wall bracket 85 mm per arm
- Applies to two brackets per arm, each with separate rafters.**

-  1x rafter bracket with
1x mounting plate for rafter incl.
1x wall bracket 85 mm per arm

or

-  2x rafter bracket with
2x mounting plate for rafter incl.
2x wall bracket 85 mm per arm
- Applies to two brackets per arm on a rafter.**

or

-  2x rafter bracket with
2x mounting plate for rafter incl.
2x wall bracket 85 mm per arm
- Applies to two brackets per arm, each with separate rafters.**

Please note:

from a width of 401 cm additional
1x rafter bracket incl.
1x wall bracket 85 mm
as central bracket required.

Taking the width to projection dimension limits into account, two brackets can also be used per arm instead of one bracket per arm.

Here, the indicated extraction force halves!

Applies only in the case of two brackets per arm on separate rafters respectively! If two brackets per arm are mounted on one rafter, the shear force does not decrease!

weinor recommends the use of rafter brackets with mounting plate!

In the case of rafter mounting, the fixings are included in the order.

Width in cm	Projection in cm				
	150	200	250	300	350
200	1517				
	684				
250	1778	2572			
	797	1121			
300	2039	2953	4069		
	911	1283	1738		
350	2300	3334	4590	6128	
	1024	1445	1957	2584	
400	2563	3716	5113	6813	8503
					4251
	1139	1609	2177	2870	3502
					1751
450	2768	4039	5574	7433	9342
					4671
	1196	1713	2336	3091	3834
					1917
500	3024	4416	6091	8111	11439
					5719
	1305	1870	2550	3371	4685
					2342
550	3281	4792	6608		8732
					4366
	1414	2028	2765		3593
					1796
600	3537	5168	7125		10522
					5261
	1523	2185	2979		4320
					2160
650	3794	5545	7642		11292
					5646
	1632	2343	3194		4634
					2317
700	2848	4161	6364		8475
					4237
	1236	1769	2662		3484
					1742

