

Technical data

Folding arm awnings PR220

HAROL

art.nr. 034846

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Harol reserves the right to make alterations of the product without prior notice.

1. Generalities

- The Harol PR220 is a folding arm awning of the three-tube type.
- The construction is characterised by a torque bar to which the arms, the supports and the roller tube are attached.
- A top board protects the fabric.
- The colour of the aluminium parts and profiles: as a standard in the chosen colour of the awning (see colour card).

2. The profiles

2.1. The torque bar

- Material: a square welded tube 40 x 40mm, manufactured from a zinc-plated zendzimir 2mm strip
- Colour: standard in the chosen colour of the awning (see colour card)
- Function: the other components are attached to this supporting profile

2.2. The fabric roll

- Material: a round welded zendzimir tube manufactured from a zinc-plated zendzimir strip
- Function: the rolling up and down of the fabric
- Provided with a slot for the attachment of the fabric
- Diameter: Ø78 x 1mm

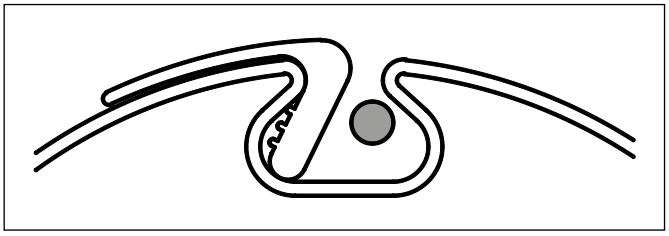


Fig. 1 : "Clip On - Clip Off" profile

2.3. The Clip On-Clip Off profile

- Material: extruded PVC clips
- Function: the attachment of the fabric to the fabric roll without the use of screws
- Because of this system it is easy to subsequently replace the fabric

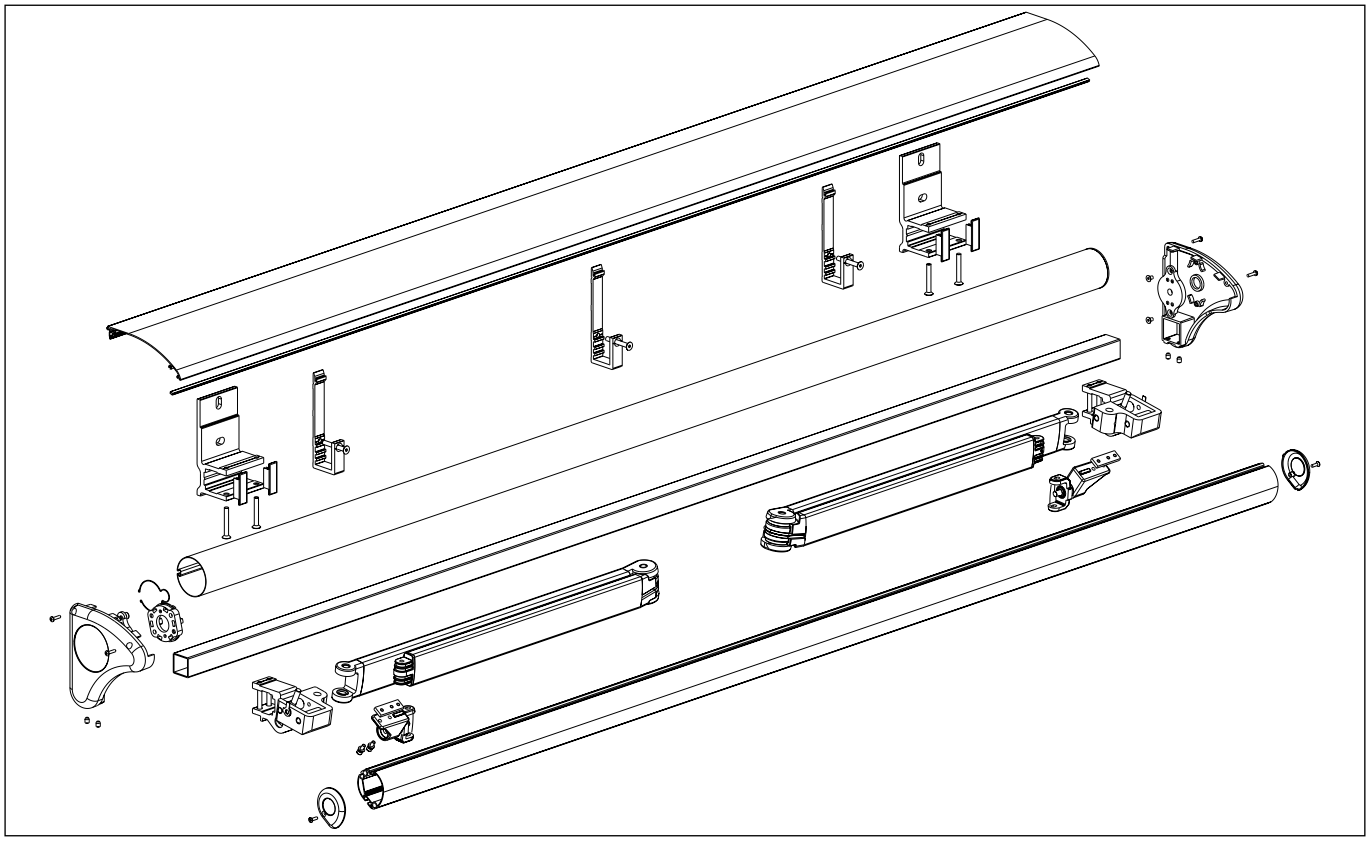


Fig. 2 : Exploded view PR220

2.4. The top board

- Material: extruded aluminium, powder coated
- Function: covers the fabric over the whole width
- With top board
- At the front provided with a hard PVC profile

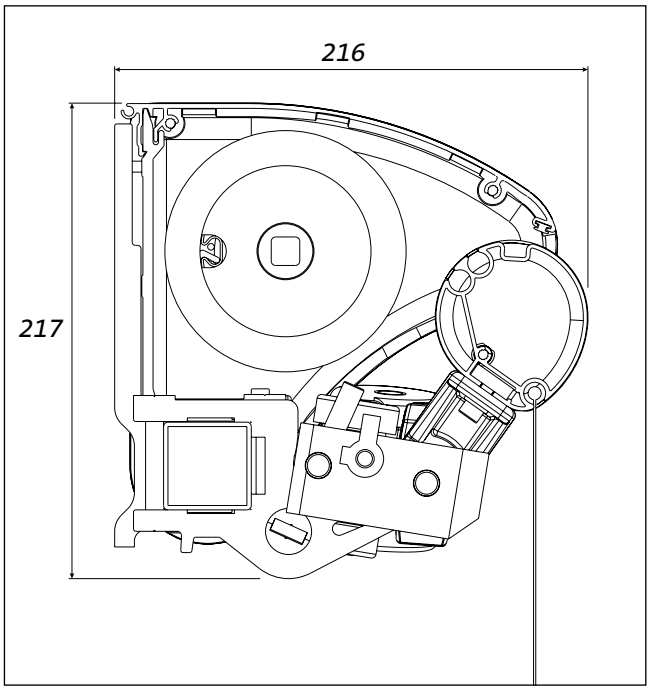


Fig. 3 : Section PR220

2.5. The extension pole

- Material: extruded aluminium, powder coated
- Function: closing off the awning at the front
- Provided with:
  - at the upper side:
    - provided with two grooves for the attachment of the fabric and the fabric split covering
    - a gutter for the draining of water
  - at the lower side:
    - provided with a groove for the attachment of a valance
- At the ends finished with aluminium covers:
  - coated in the colour of the extension pole
- As a standard: round extension pole
  - does not cover the arms completely
  - therefore: valance type 2 is provided as a standard
- As an option: high extension pole
  - covers the arms completely
  - therefore: as standard no valance

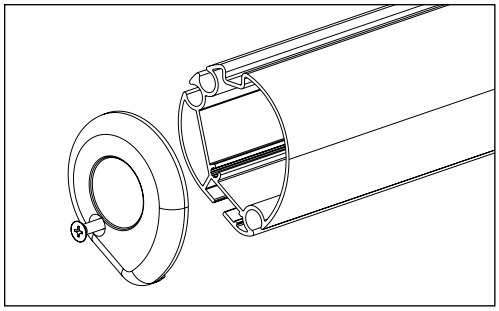


Fig. 4 : Round extension pole (standard)

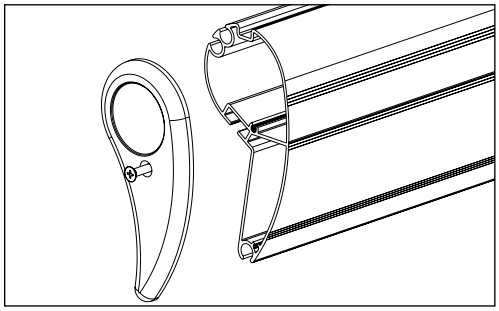


Fig. 5 : High extension pole (option)

3. The other components

3.1. The folding arms

- Connect the box and the extension pole
- Available with the following drops: 1500 - 2000 - 2500 - 3000 - 3500mm.
- Up to a width of 6000mm two arms are mounted, from 6001mm up to 7000mm 3 arms are mounted

- The arm profiles:
  - Material: extruded aluminium, powder coated.

- The hinges:
  - Material: coquille die-cast aluminium alloy.
  - Colour: coated in the chosen colour of the awning (see colour card)
  - Hinge on durable slide bearings of sintered bronze, provided with a PTFE sliding layer
  - The most heavily loaded parts are also thermally treated

- The springs and the steel cables:
  - Material: of high quality spring steel which has been zinc-plated beforehand
  - The diameter is always in relation to the force applied
  - The power of both springs is transferred via a wedge to two zinc-plated steel cables:
    - ensure a division of the power
    - considerable extension of the operating life

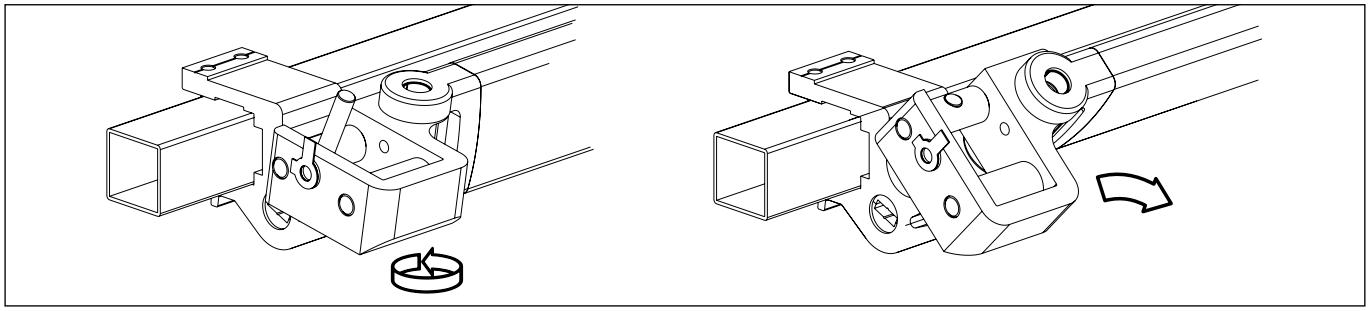


Fig. 6 : Angular displacement system

3.2. The angular displacement system

- Material: extruded aluminium, powder coated
- Function:
  - connecting the folding arms and the torque bar
  - makes the setting of the angle possible
- The range for the angle is 10° to 45°
- The system also ensures complete protection against the flapping and dropping of the arms

3.3. Extension pole regulation

- Material: extruded aluminium, powder coated
- Function: After the setting of the angle of drop, the extension pole is positioned by the extension pole regulation

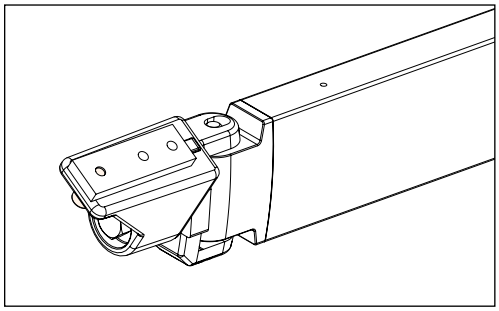


Fig. 7 : Extension pole regulation

3.4. The support for the cover – support for fabric support

- Material: extruded aluminium, powder coated
- Function: at regular distances:
- the top board (connected with the torque bar, by means of top board supports

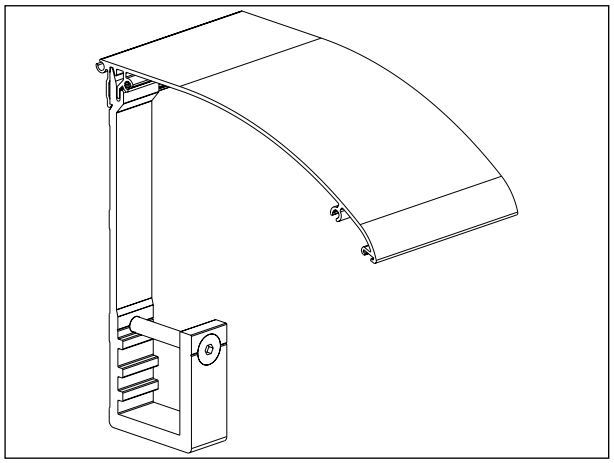


Fig. 8 : Support for the cover

3.5. The fastening supports

- To fix the screen to the base surface required, a number of special fastening supports are available:

- Wall supports (standard):
  - Is used for normal assembly against a wall
  - Material: extruded aluminium, powder coated
  - Width: 100mm and provided with two fastening holes with slot
  - At the front provided with an opening to slide the torque bar in
  - The wall supports should be placed near the folding arms as close as possible
  - The number of wall supports supplied always depends on the screen width
  - Additional supports are deliverable (optional)
  - In case of an unstable foundation, it is recommended to place additional supports, in order to spread the weight of the awning over several points

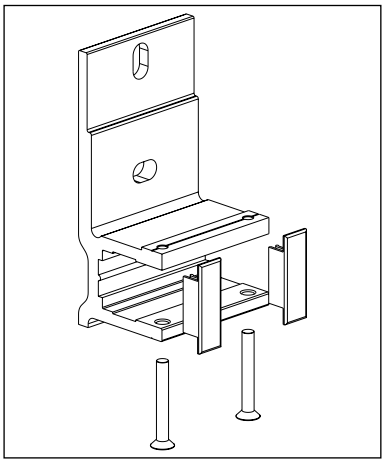


Fig. 9 : Wall support

Width of the awning	*Number of supports*
2000 - 3000mm	*2*
3001 - 6000mm	*3*
6001 - 7000mm	*3*

Table 1 : Number of supports

- Wall supports with filling plate (option):
- For a better alignment of the wall supports on the wall

- Ceiling brackets (option):
  - For assembly against a ceiling, under a balcony
  - Material: extruded aluminium, powder coated
  - Width: 100mm and provided with two fastening holes with slot
  - The number of supports supplied always depends on the width of the awning (see the above table).

- Roof truss: (option)
  - For assembly against a truss
  - Material: extruded aluminium, powder coated
  - The roof truss support is always used together with the wall support

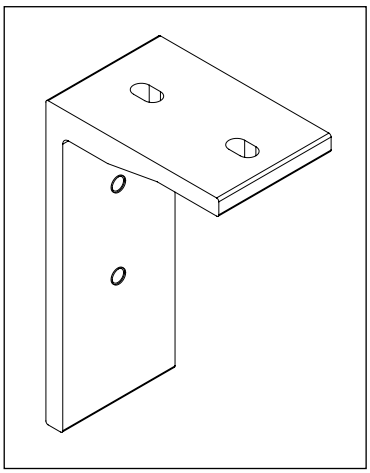


Fig. 10 : Ceiling bracket

3.6. The bearing supports

- Material: extruded aluminium, powder coated
- Function: bearing the two fabric rolls at coupling height of the awnings

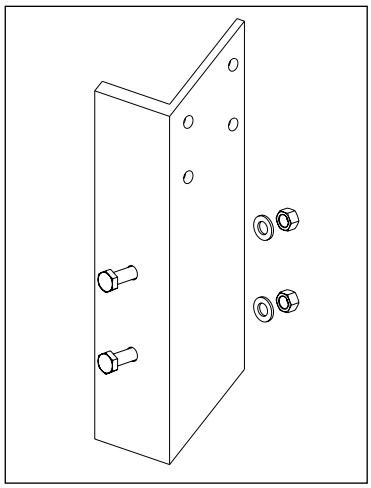


Fig. 11 : Roof truss

3.7. Fabric roller support

- Function: supporting the rolled up fabric and the maintenance of the fabric's tension
- As standard mounted from >5m width
- To be placed on the double seam, in the middle of the awning
- Consists of two components, for an easy assembly and disassembly:
  - the support, which glides over the torque bar, is coated in the chosen colour of the awning
  - the shell-formed part is coated in grey

3.8. Protective bolt covers

- Material: synthetic PA66
- Colour: black or white, according to the colour of the awning
- Function: covering all visible fastening screws of all components mounted on the torque bar
- Protection against possible damage of the lacquer

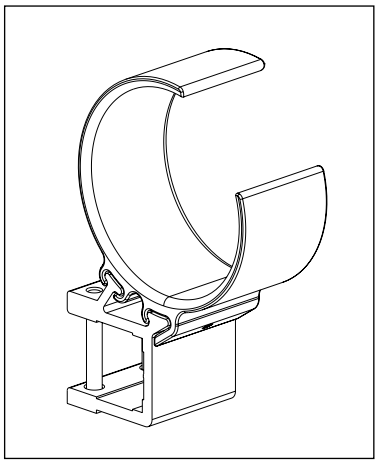


Fig. 12 : Fabric roller support

3.9. The side guards of the box

- Material: cast aluminium, powder coated
- Function:
  - lateral enclosure of the awning
  - the suspending of the operating device and the bearing
- The side guards are mounted to both sides of the torque bar

3.10. The covers of the extension pole

- Material: cast aluminium, powder coated
- Function: the finishing of the extension pole

3.11. Fastening material

The folding-arm awnings produce a lot of pressure on the mounting surface. Therefore it's recommended to mount the awnings with chemical anchors (company Hilti, Würth,) or other mounting systems.

4. Minimum and maximum sizes

- Width:
  - Maximum: - 6m in 1 part with 2 arms
    - 7m in 1 part with 3 arms
    - 12m in 2 parts with 4 arms
  - Minimum: - depending on the chosen drop (motor : Bmin = drop + 410mm; manual : Bmin = drop + 420mm)
    - for coupled awnings : see point 5

- Drop:
  - Maximum: 3,5m
  - Minimum: 1,5m

5. Coupled awnings

5.1. Coupling with one fabric

- Extension pole, cover, torque bar and roller tube are coupled by means of coupling devices
- The fabric is in one piece and is fitted on-site.
- Bmin (per part) = drop + 410mm

5.2. Coupling with cardan

- The two parts are joined together, at roller tube height, by means of two stainless steel discs.
- Extension pole, cover and torque bar are joined together by means of coupling devices.
- The fabric is provided as two separate fabrics and already fitted to both awnings
- Bmin (per part) = drop + 410mm

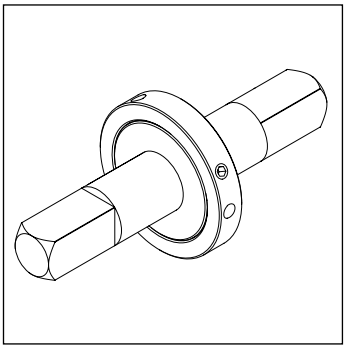


Fig. 13 : Coupling discs

5.3. Coupling with cardan and fabric split covering.

- Same as coupling with cardan (see 5.2.)
- A fabric split covering subsequently seals the split between the two fabrics
- Bmin (per part) = drop + 660mm

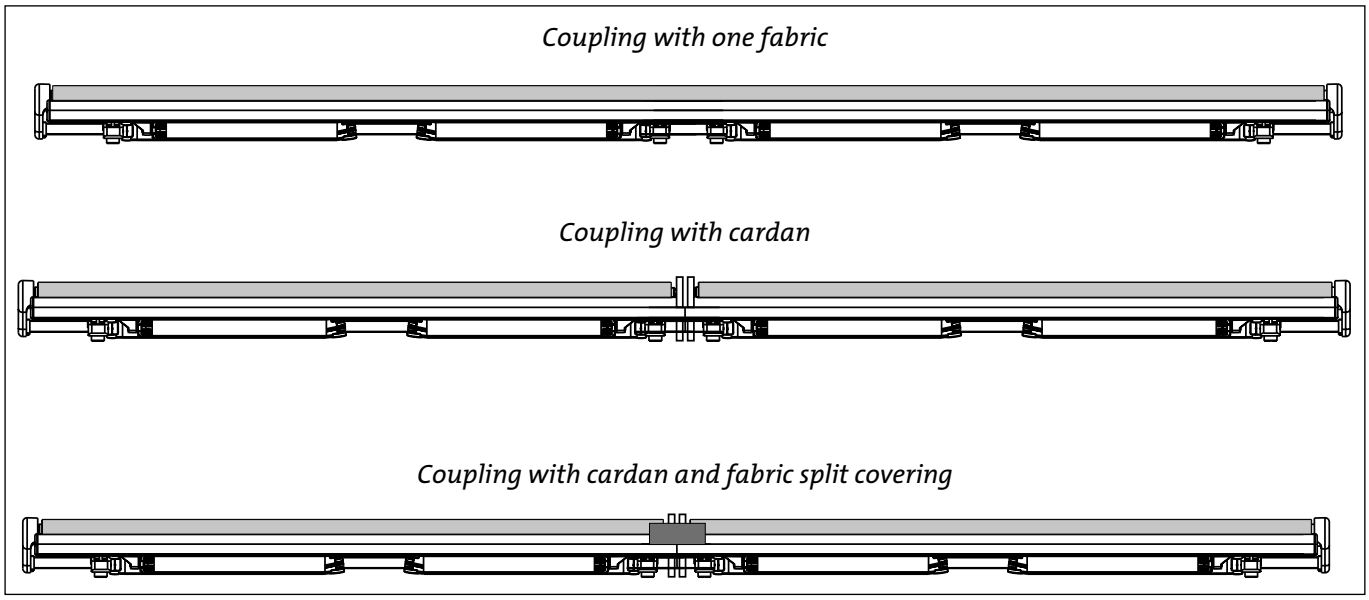


Fig. 14 : Coupling possibilities

5.4. Fabric split covering

- A spring axle is positioned under the fabrics at split height.
- The spring axle is fixed to two transparent synthetic supports.
- The fabric is fixed to the axle with a double-sided adhesive strip.
- On the front side the fabric slides into the fabric slit of the end profile.
- The width of the fabric split is covering 50cm.
- During the unrolling of the awning, the extension pole carries the fabric and unrolls the fabric from the spring axle. This accordingly seals the split.

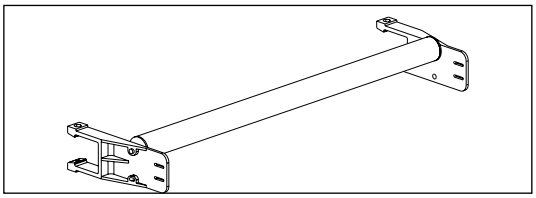


Fig. 15 : Fabric split covering

6. Weight

- Approximate weight:
  - ± 14 kg per metre (width)

7. Operation

- Two operating types:
  - Motor operation
  - Crank handle operation

Motor operation

– The standard motor is the Sunea IO motor, without push buttons and controlled with an IO transmitter.
- IO transmitter.
- 5m electric cable.

– Option:
- without IO wall transmitter.
- electric cable 10m instead of 5m.
- other types of motors : LT - CSI - CSI IO.

Prod. Type	MOTORTYPE	OPTION	SURCHARGE	CABLE LENGTH			
				3M	5M	10M	
PR220	Sunea IO	Standard	-	-	S	X	
	LT	A1546	Minusprice	S	X	X**	
	CSI	A1004	Minusprice	S	X	X**	only right
	CSI IO***	A1611	Surcharge	S	X	X**	only right

S: Standard X: Option **: Sans interrupteur monté en surface *** : Max. screen width : 6m

- For more possibilities and automation: see the Harol domotics map.

Remark: the motor is already adjusted in the fabric

Crank handle:
- As standard:
  - self-braking worm wheel
  - with transmission capacity of 7:1
  - a laying hook of 160cm is supplied
  - the maximum width for crank handle operation is 6000mm
- Option:
  - longer laying hook

8. Fabrics

Acrylic:
- Construction: acrylic fibres, coloured in the mass
- Colour: patterns and colours chosen from the standard collection
- Weight: +- 290-300 g/m²
- Thickness: +- 0,5mm
- Confection:
  - vertical rows of 1200mm
  - side hems of 50mm
  - double step stitch with polyester thread
- Mould-resistant and dirt-repelling

9. Measuring and assembly of an awning

9.1. Guidelines for the correct measuring of the awning

- The total width:
  - measured including side guards
  - the fabric is always less wide than the width of the awning indicated
- The drop:
  - measured from the rear side of the roller tube to the front side of the front rail
  - an assembled system always protrudes a little further from the wall than the drop indicated.
- For optimal sun shading an awning must protrude sufficiently past the window to the left and right.

9.2. Assembly

- Pay attention to the quality of the surface for assembly:
  - With poor walls, gas concrete, soft or hollow stone walls:
    - adapted fastening accessories are required
    - additional wall brackets are to be used
- Take account of the fact that the awning must be mounted at a sufficient height (min. 2500mm)
- The slope should be adjusted to an angle between 10° and 45°:
  - account of sufficient run-out height must be taken

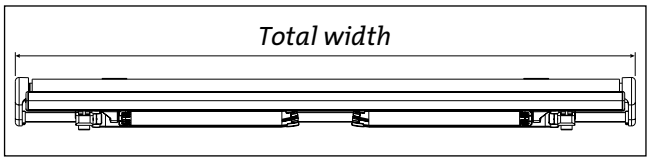
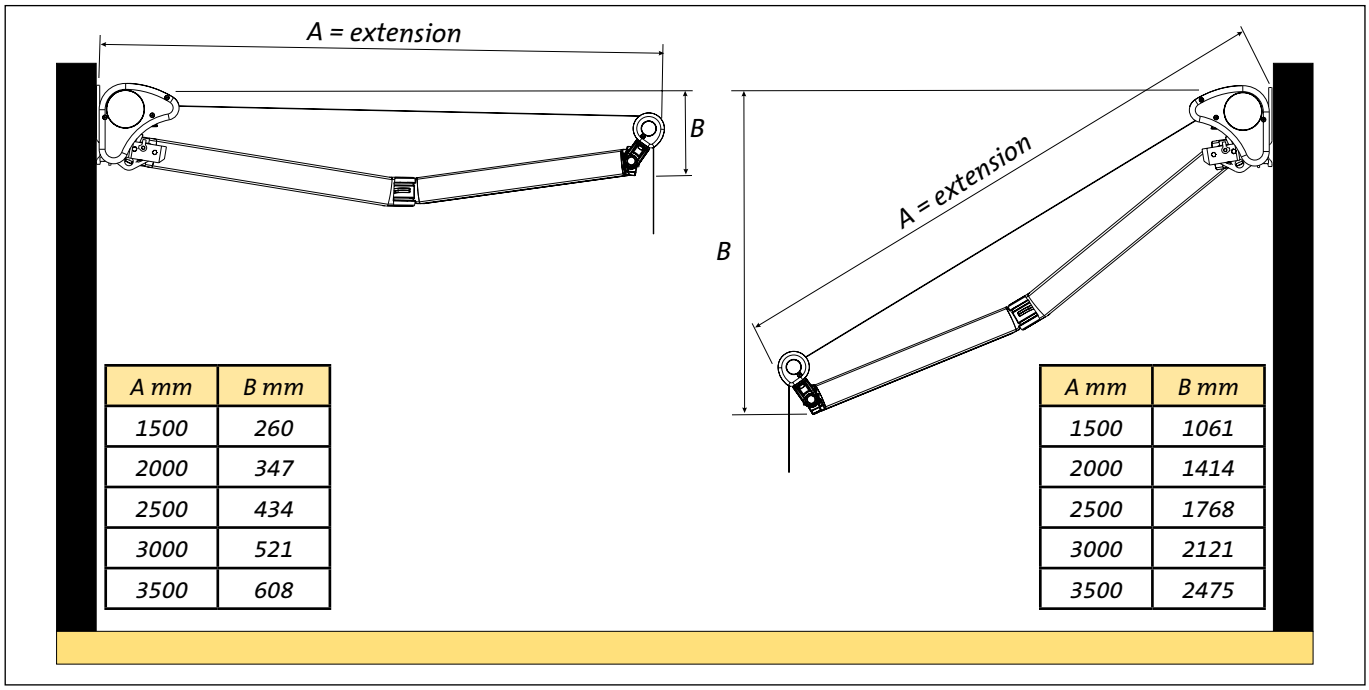


Fig. 16 : Total width



A mm	B mm
1500	260
2000	347
2500	434
3000	521
3500	608

A mm	B mm
1500	1061
2000	1414
2500	1768
3000	2121
3500	2475

Fig. 17 : Minimum and maximum angles

9.3. Wind load resistance class and tensile forces on screws

- This folding arm awning has been tested for use up to a max. wind load resistance class 2, if correctly fitted (and the appropriate fitting materials are used).
- For wind load resistance class 2, the tensile forces on screws are as detailed below:

PR220 (Acryl) with standard extension pole :
Tensile strength at each top fixing point, per standard wallbracket [N].

	2000	**2250**	**2500**	**2750**	**3000**	**3250**	**3500**	**3750**	**4000**	**4250**	**4500**	**4750**	**5000**	**5250**	**5500**	**5750**	**6000**	**6250**	**6500**	**6750**	**7000**
1500	696	763	829	895	961	1027	1093	1160	1226	1292	1358	1424	1490	1556	1623	1689	1755	1278	1322	1366	1410
2000			1348	1454	1560	1666	1772	1878	1984	2089	2195	2301	2407	2513	2619	2725	2831	2069	2139	2210	2280
2500					2322	2477	2631	2786	2941	3095	3250	3404	3559	3714	3868	4023	4177	3066	3169	3272	3375
3000							3551	3764	3976	4188	4401	4613	4825	5038	5250	5462	5675	4149	4291	4433	4574
3500									5267	5546	5825	6104	6383	6662	6941	7220	7499	5496	5682	5868	6054

PR220 (Acryl) with high extension pole :
Tensile strength at each top fixing point, per standard wallbracket [N].

	2000	**2250**	**2500**	**2750**	**3000**	**3250**	**3500**	**3750**	**4000**	**4250**	**4500**	**4750**	**5000**	**5250**	**5500**	**5750**	**6000**	**6250**	**6500**	**6750**	**7000**
1500	792	870	948	1026	1104	1182	1260	1338	1416	1495	1573	1651	1729	1807	1885	1963	2041	1477	1529	1581	1633
2000			1505	1627	1748	1870	1992	2113	2235	2356	2478	2600	2721	2843	2964	3086	3207	2330	2411	2492	2574
2500					2556	2730	2904	3078	3252	3426	3600	3775	3949	4123	4297	4471	4645	3391	3507	3623	3739
3000							3877	4113	4348	4584	4819	5055	5291	5526	5762	5997	6233	4537	4694	4851	5008
3500									5699	6006	6312	6618	6924	7230	7536	7842	8148	5947	6151	6355	6559

PR220 (Acryl) with variovolant :
Tensile strength at each top fixing point, per standard wallbracket [N].

	2000	**2250**	**2500**	**2750**	**3000**	**3250**	**3500**	**3750**	**4000**	**4250**	**4500**	**4750**	**5000**	**5250**	**5500**	**5750**	**6000**	**6250**	**6500**	**6750**	**7000**
1500	839	920	1001	1083	1164	1246	1327	1409	1490	1572	1653	1734	1816	1897	1979	2060	2142	1546	1600	1655	1709
2000			1576	1702	1828	1954	2080	2206	2332	2458	2584	2710	2836	2962	3088	3214	3340	2422	2506	2590	2674
2500					2654	2834	3013	3193	3373	3552	3732	3911	4091	4271	4450	4630	4809	3504	3624	3743	3863
3000							4008	4250	4492	4734	4976	5218	5461	5703	5945	6187	6429	4672	4834	4995	5157
3500									5866	6180	6494	6808	7121	7435	7749	8063	8376	6104	6313	6522	6731

10. Accessories

10.1. Valance

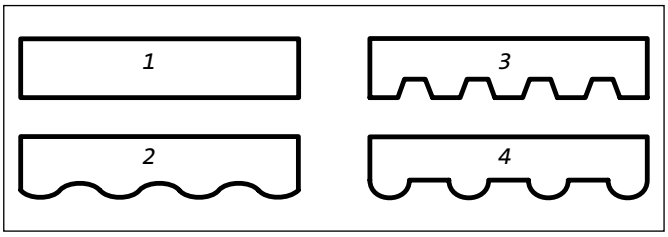
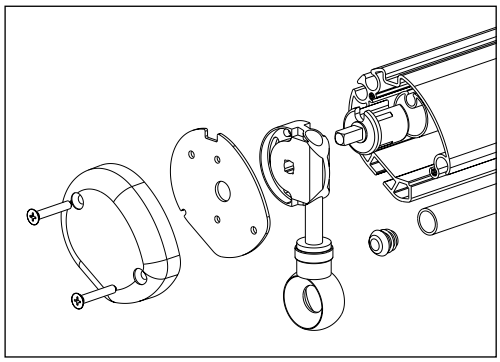


Fig. 18 : Valances

- Standard type 2 - waveform
- Other forms at option.
- The flounces have a standard height of 250 mm.

Attention : as an option in case of high extension pole

10.2. Vario valance


Fig. 19 : Variovalance

- At option
- This is a vertically rollable valance
- An extension pole provided with a space for insertion of an axle and a fabric replaces the standard extension pole
- Always with laying hook of 1200mm
- Wormgear with eye at the same side as the operating side of the awning. (The wormgear is also possible at the other side).
- Maximum width 6000mm for acrylic fabric : Fantasy-striped fabrics - vertically stitched.
- Maximum width 5000mm with a 3500mm drop.
- Maximum unrolled height 1500mm for acrylic
- Maximum unrolled height 1100mm for Rhythm + Harmony fabrics (Opera, Symphonie, Sunbrella, Jacquard): Fantasy-striped fabrics - vertically stitched.
- Maximum unrolled height 2000mm for Soltis96 fabric - horizontally welded
- Maximum unrolled height 2000mm for Acrylic uni-wide fabric - horizontally stitched
- The fabric of the Vario valance has an open seam for the insertion of a weighting strip
- This valance is only available for simple awnings. (Not for coupled awnings)
- A valance is always mounted on the extension pole, in case of a Vario valance:
  - Standard type 2 - waveform
  - Choice between other types
  - Standard height 250 mm
- Soltis Air is not recommended (Bmax = 5000 mm, Hmax = 2000 mm)
- The vario valance must not be used (left unrolled or make an attempt to roll up) in moderate winds.

10.3. Side flaps

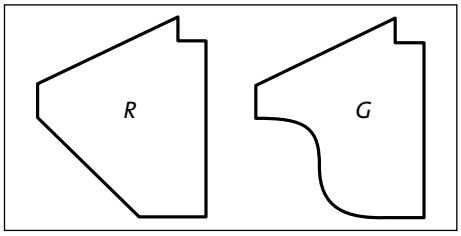


Fig. 20 : Side flaps

- At option
- The side flaps are fitted between the housing and the extension pole at the side of the awning
- The side flaps are available in two standardised forms or according to a drawing
- This can only be done when the awning is completely open

10.4. Lettering

- The fabric, valance and/or side flap can be provided with lettering (as an option)
- The flounce height with lettering is 300mm as standard.

Attention: Texts on striped fabrics and flounces are often difficult to read. In this case uni-fabrics are best used.

11. Delivery

- The awning is delivered without fastening material
- To prevent damage during transportation all awnings are provided with extra protection in the form of plastic foil and fully packed in strong cardboard.

12. Use and maintenance

- Suitable use and maintenance greatly increase the life of the awning.
  - Do not use the awning as a rain or wind awning.
- Regular maintenance of the awning prevents unnecessary wear.
  - Cleaning the frame: with soft water instead of aggressive substances, which may affect the coatings and protective layers.
  - clean the fabric:
    - with a stiff brush
    - stubborn stains are best removed with a tepid water and brown soap solution (rinse thoroughly with copious amounts of clean water)
- Let the awning dry fully before rolling it up (even after an unforeseen rain shower)

13. Security

For security reasons (injuries) it is recommended to mount the awning according to the rules

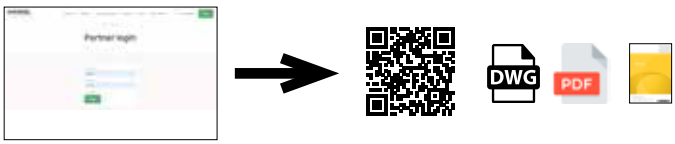
14. TÜV-Label

The TÜV-GS security label is requested.

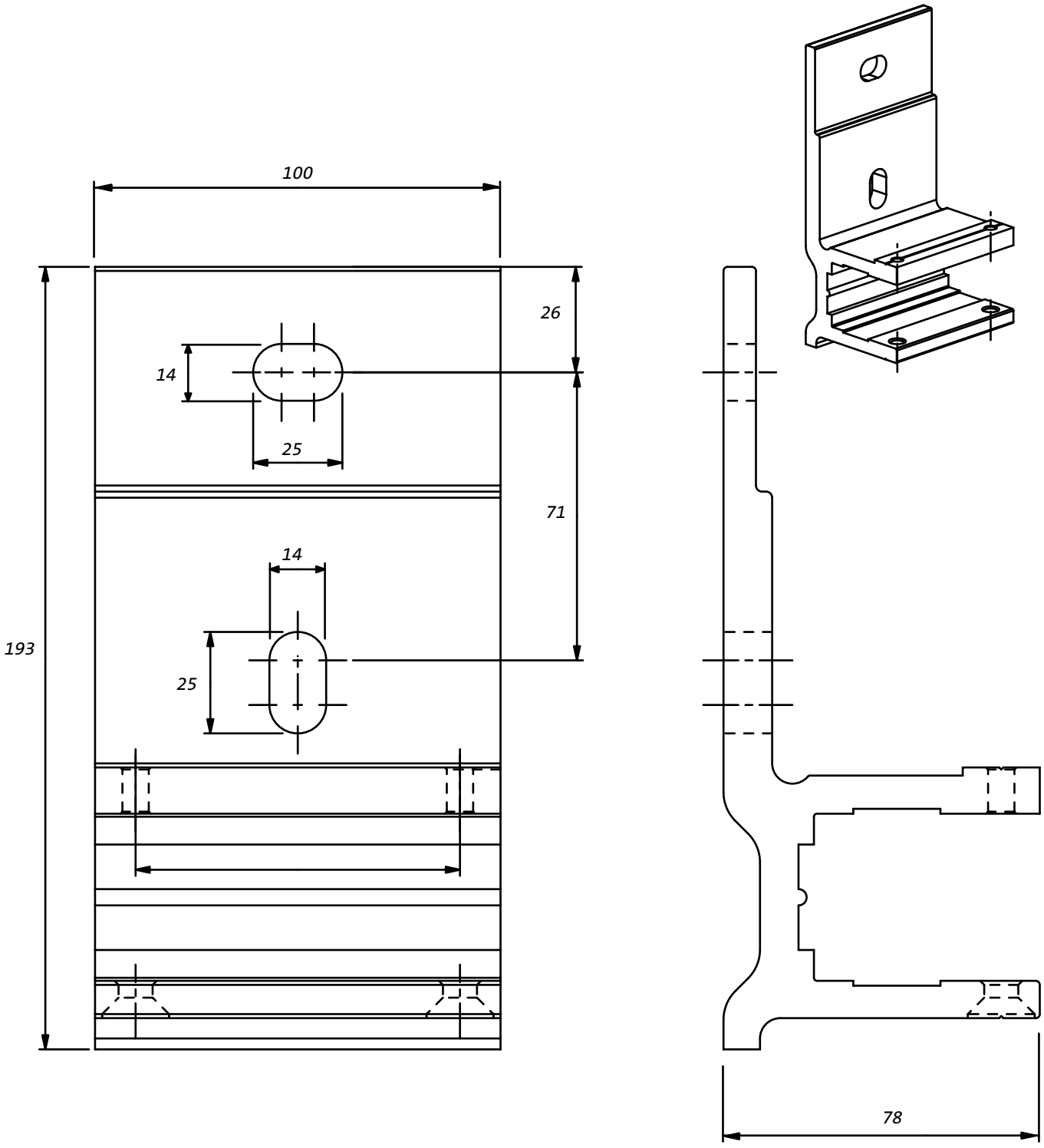
15. Order form

Click the link below:
Order form PR220

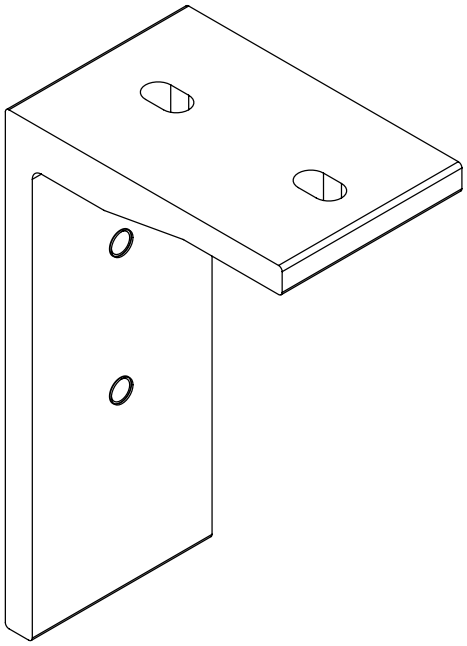
FOR DIGITAL DRAWINGS OR MORE TECHNICAL
INFORMATION, PLEASE VISIT THE HAROL PORTAL
Contact our marketing team for login details or register online via www.harol.be

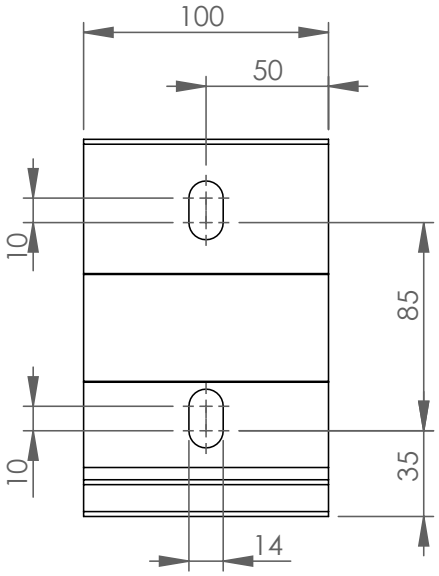


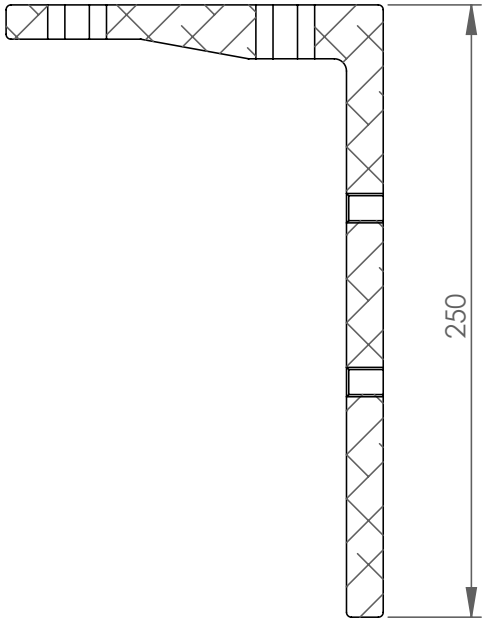
Wall support



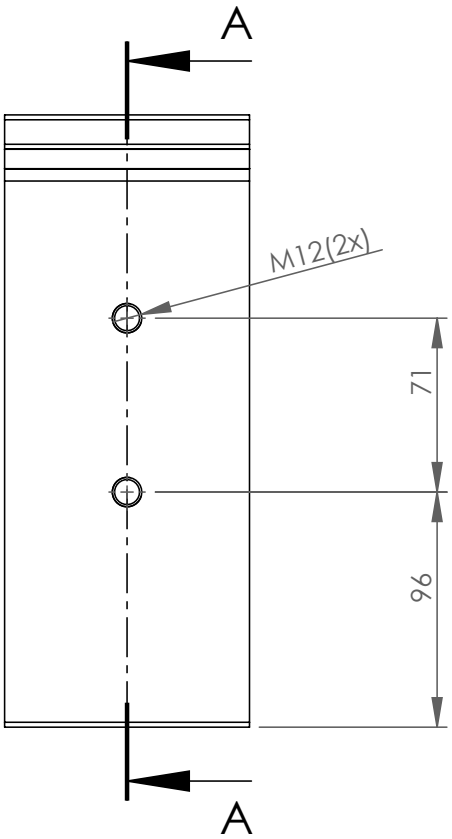
Ceiling bracket

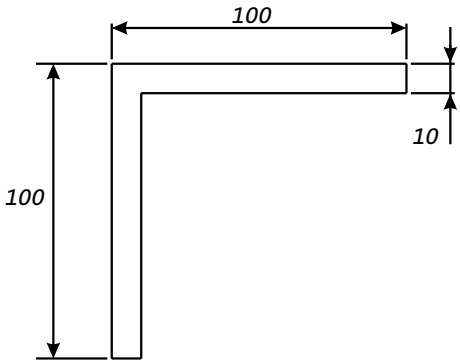






A-A





Roof truss

