

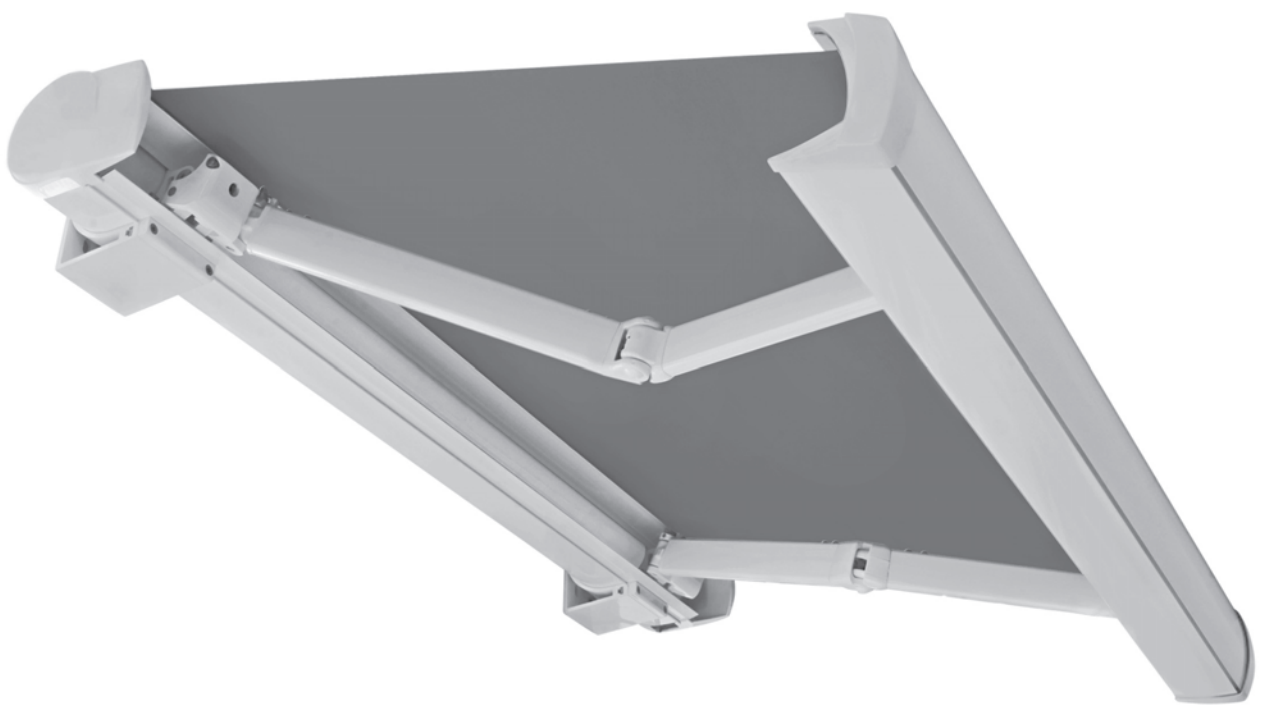
Luxaflex® Awnings & Outdoor Living

Installation Guide

Armony Plus



Armony Plus



Installation
manual

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1 INTRODUCTION

This manual was prepared by the Manufacturer to provide all those authorised to install and carry out extraordinary maintenance operations with the necessary information. REMOVING, rewriting or modifying the pages of the manual and its contents in any way is strictly prohibited.

Operations must be carried out by technically and professionally qualified staff, in compliance with the national laws or regulations on the subject.

This manual must be kept complete in all its parts in an easily accessible place.

The manufacturer reserves the right to update products and corresponding manuals without the obligation to update previous products and manuals.

The manufacturer reserves all rights on this manual. It may not be reproduced in any way, wholly or in part, without the manufacturer's written authorization.

1.1 Symbols used in the manual

The WARNING symbols used in the manual are shown below.



INFORMATION AND PRECAUTIONS

Useful suggestions and instructions to ensure proper installation and/or maintenance of the awning. Failure to observe these messages may compromise the integrity and/or the resistance of the product.



WARNING

DANGER TO OPERATOR! Instructions to be evaluated and followed carefully. Failure to comply with these messages may compromise individual safety.

1.2 Staff requirements

Personnel assigned to this operation must have technical knowledge of the product obtained either through two years' experience or by means of a suitable technical training course.

1.3 Required equipment

To ensure correct installation of the awning, and consequently maximum performance of the finished product, the following tools must be readily available:

- electric screwdriver;
- spirit level;
- string;
- full set of tools;
- equipment for working at a height (builder's staging, ladders, platforms etc) that complies with the currently safety laws in force for people in the workplace.



WARNING

All of the screws used on aluminium components must be tightened with a maximum force of 20Nm (=2Kgm). Greater tightening force causes the castings to break and damage to the stainless steel screws. It is advisable to use dynamometric power screwdrivers and wrenches.



WARNING

Use low speed electric screwdrivers: high-speed screwing of stainless steel screws may cause thread seizure, especially between stainless steel/stainless steel and stainless steel/aluminium screws and threads.



WARNING

It is advisable to screw the two square bar locking screws evenly into the bar, distributing the tightening force alternately onto the two screws at a maximum of 20Nm. Uneven tightening may cause irregular torque in the alloy that may cause it to break immediately or cause problems at a later stage due to external force on the awning (e.g. gust of wind).

1.4• Packaging contents

The awning is delivered including expandable arms, fabric and controls (manual or motorized) and any optional items requested.



INFORMATION AND PRECAUTIONS

Never move the support arms from the position they are found in when supplied.

2 SAFETY

2.1• General safety information

- During the operations described in this manual, make sure that **ONLY** authorised staff are present within the working area (see Chapter 1.2 "Staff requirements") .
- Do not set objects on the canvas of the awning.
- IT is prohibited to stand on or hang from the awning: This would create the risk of severe personal injury, as well as damaging the awning.
- Wear personal protective equipment and clothing as required by current standards on safety in the workplace.



WARNING

Installation, regulation and extraordinary maintenance operations on the awning must only be carried out by specialised, qualified technicians.



WARNING

IT is necessary to ensure a distance of at least 500 mm from the end of the fully-extended awning (outer edge) to the nearest fixed obstacle (wall, terrace etc).



WARNING

IT is forbidden to install or place ladders or other fixed items near to the awning, as much as the space needed for awning is limited.



WARNING

The canvas must not be loosened beyond the tautness of the arms as the canvas could return under the tube and be damaged.

2.2• Requirements for working in safety

- Installation must be performed in full compliance with standards set forth by Presidential Decree 164/56 and Legislative Decree 494/96 for all that which concerns individual safety.
- Before use, check that all temporary structures (scaffolding, ladders, etc.) and all individual safety gear (harnesses, belts, etc.) are compliant with standards and in good condition.
- Always use suitable individual protection gear.
- If there is more than one installation technician, their work must be coordinated.
- Operators must work in compliance with the safety instructions given to them.
- If the awning is to be installed above ground level, the area underneath the awning must be marked off and guarded so that no one can get underneath the hanging load.
- Firmly tie the ropes or straps around the arm supports so that it does not slip and risk falling.

2.3• Working environment

- Installation and extraordinary maintenance must be carried out in a place that is sufficiently illuminated (based on specific standards) by either natural or artificial lighting. The operator must have a clear view of the work to be performed and he must also prevent third parties from approaching the work area around the awning.

3 TECHNICAL TABLES FOR ASSEMBLY

3.1 • NUMBER OF ARMS, ARMS SUPPORT, CONVEYER KIT, WALL BRACKETS TABLE



WARNING

THE FOLLOWING TABLES ARE PURELY INDICATIVE. TO THE BEST OF OUR KNOWLEDGE THE INFORMATION IS UP TO DATE. BAT S.p.A. DOES NOT PROVIDE ANY GUARANTEE REGARDING ACCURACY, RELIABILITY, AND COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. INDEED, IT IS THE USER'S RESPONSIBILITY TO ENSURE THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION.



INFORMATION AND PRECAUTIONS

The measurements in the following table are expressed in cm.

	PROTRUSION	DESCRIPTION	WIDTH								
			400	500	600	700	800	900	1000	1100	1200
ARMONY PLUS	160	ARMS	2	2	4	4	4	4	6	6	6
		ARMS SUPPORT/WALL CEILING BRACKET	2	2	4	4	4	4	6	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	-	2	2	2	4	4	4
		WALL BRACKET 50 MM	-	2	2	2	2	2	2	2	2
	185	ARMS	2	2	4	4	4	4	6	6	6
		ARMS SUPPORT	2	2	4	4	4	4	6	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	-	2	2	2	4	4	4
		WALL BRACKET 50 MM	-	2	2	2	2	2	2	2	2
	210	ARMS	2	2	4	4	4	4	6	6	6
		ARMS SUPPORT	2	2	4	4	4	4	6	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	-	2	2	2	4	4	4
		WALL BRACKET 50 MM	-	2	-	2	2	2	2	2	2
	235	ARMS	2	2	4	4	4	4	6	6	6
		ARMS SUPPORT	2	2	4	4	4	4	6	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	-	2	2	2	4	4	4
		WALL BRACKET 50 MM	-	2	-	2	2	2	2	2	2
	260	ARMS	2	2	3	4	4	4	6	6	6
		ARMS SUPPORT	2	2	3	4	4	4	6	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	1	2	2	2	4	4	4
		WALL BRACKET 50 MM	-	2	-	-	2	2	-	2	2
	285	ARMS	2	2	3	4	4	4	5	6	6
		ARMS SUPPORT	2	2	3	4	4	4	5	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	1	2	2	2	3	4	4
		WALL BRACKET 50 MM	-	2	-	-	-	2	-	-	2
	310	ARMS	2	2	3	3	4	4	5	6	6
		ARMS SUPPORT	2	2	3	3	4	4	5	6	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	1	1	2	2	3	4	4
		WALL BRACKET 50 MM	-	2	-	-	-	2	-	-	-
	335	ARMS	2	2	3	3	4	4	5	5	6
		ARMS SUPPORT	2	2	3	3	4	4	5	5	6
		CONVEYER KIT	1	1	1	1	1	1	1	1	1
		CONVEYER KIT 50 MM	-	-	1	1	2	2	3	3	4
		WALL BRACKET 50 MM	-	2	-	-	-	-	-	-	-
360	ARMS	-	2	2	3	3	4	4	5	5	
	ARMS SUPPORT	-	2	2	3	3	4	4	5	5	
	CONVEYER KIT	-	1	1	1	1	1	1	1	1	
	CONVEYER KIT 50 MM	-	-	2	1	1	2	2	3	3	
	WALL BRACKET 50 MM	-	2	2	-	-	-	2	-	-	
385	ARMS	-	2	2	3	3	4	4	5	5	
	ARMS SUPPORT	-	2	2	3	3	4	4	5	5	
	CONVEYER KIT	-	1	1	1	1	1	1	1	1	
	CONVEYER KIT 50 MM	-	-	2	1	1	2	2	3	3	
	WALL BRACKET 50 MM	-	-	2	-	-	-	-	-	-	
410	ARMS	-	2	2	2	3	3	4	4	5	
	ARMS SUPPORT	-	2	2	2	3	3	4	4	5	
	CONVEYER KIT	-	1	1	1	1	1	1	1	1	
	CONVEYER KIT 50 MM	-	-	2	2	1	1	2	2	3	
	WALL BRACKET 50 MM	-	-	2	2	-	-	-	-	-	

Notes: If ceiling mounted, consider a ceiling bracket pack. Each pack with arm supports and a half pack for the conveyer. Also consider a 50 mm ceiling bracket pack for each package of 50 mm wall brackets.

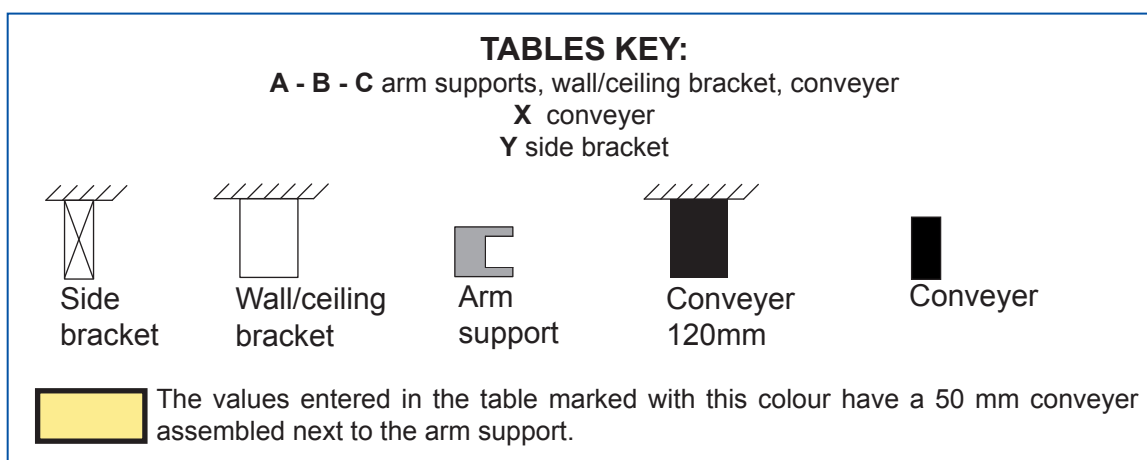
**WARNING**

- For awnings that are less than 4 metres wide, to not insert the conveyers.
- Install a wall bracket for each arm support.
- Starting from 8 metres, with joints, no joint support is indicated in the tables.
- For projection exceeding or equal to 310, add a pair of arm collectors.

3.2· Table of awning dimensions/ no. arm supports, brackets and conveyers

**INFORMATION AND PRECAUTIONS**

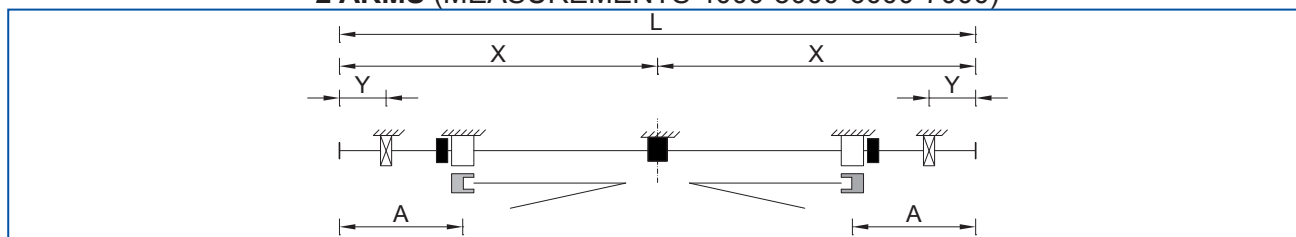
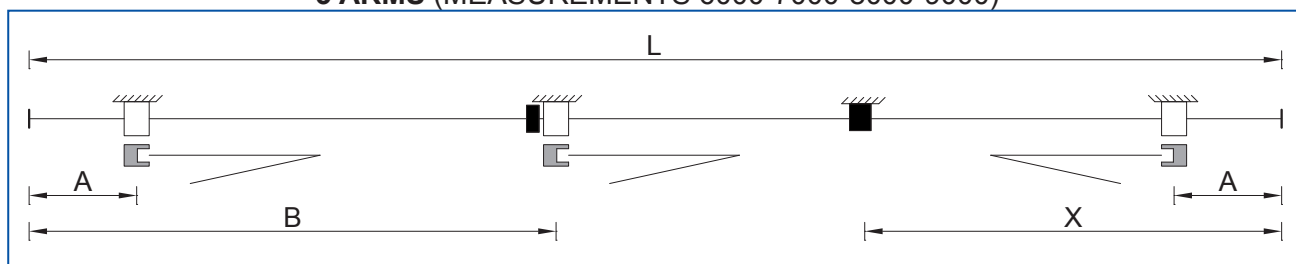
All the measurements of the tables are in mm.

**INFORMATION AND PRECAUTIONS**

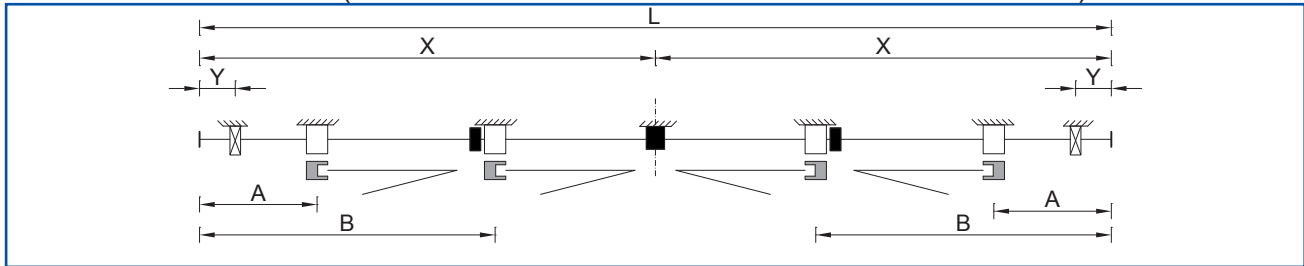
For the number of accessories to install on the awning, please refer to the table on page 6.

**WARNING**

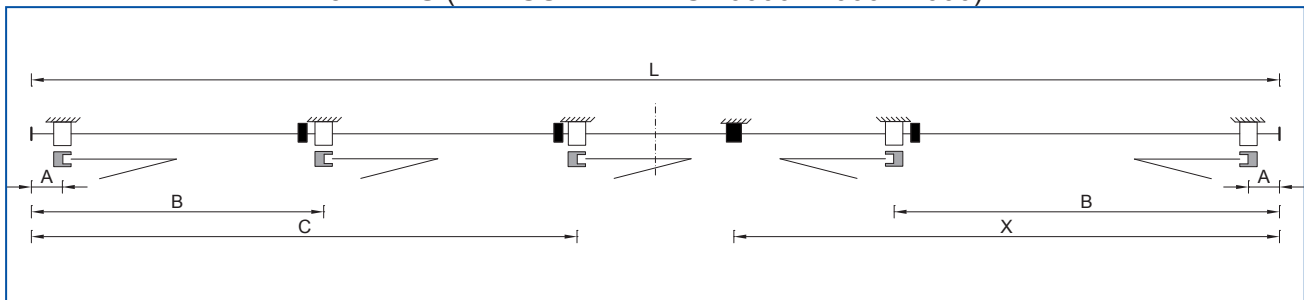
The awning has been tested at the maximum size of 6 metres.

2 ARMS (MEASUREMENTS 4000-5000-6000-7000)**3 ARMS (MEASUREMENTS 6000-7000-8000-9000)**

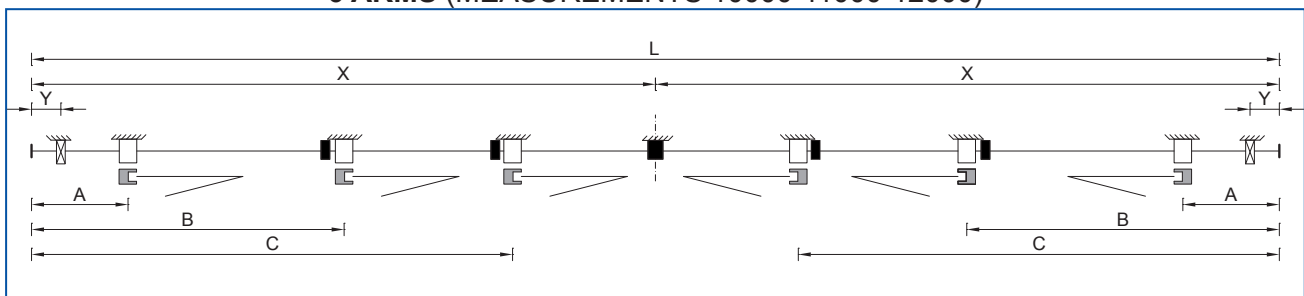
4 ARMS (MEASUREMENTS 6000-7000-8000-9000-10000-11000)



5 ARMS (MEASUREMENTS 10000-11000-12000)



6 ARMS (MEASUREMENTS 10000-11000-12000)



		“W” WIDTH								
		4000		5000			6000			
		A	X	A	X	Y	A	X	Y	
PROTRUSION	1600	400	2000	600	2500	150	700	3000	150	ARMS
	1850	400	2000	600	2500	150	700	3000	150	
	2100	400	2000	600	2500	150	700	3000	150	
	2350	400	2000	600	2500	150	700	3000	150	
	2600	400	2000	600	2500	150	700	3000	150	
	2850	300	2000	600	2500	150	700	3000	150	
	3100	200	2000	600	2500	150	700	3000	150	
	3350	140	2000	600	2500	150	700	3000	150	
	3600	-	-	500	2500	150	700	3000	150	
	3850	-	-	400	2500	-	700	3000	150	
4100	-	-	200	2500	-	700	3000	150	2	

		“W” WIDTH				
		6000				
		A	B	X	Y	
PROTRUSION	1600	500	1750	3000	150	4 ARMS
	1850	500	1750	3000	150	
	2100	400	1700	3000	-	
	2350	200	1600	3000	-	
	2600	400	2100	2100	-	3 ARMS
	2850	300	2100	2100	-	
	3100	200	2100	2100	-	
	3350	150	2060	2060	-	

		“W” WIDTH				
		7000				
		A	B	X	Y	
PROTRUSION	1600	700	2000	3500	150	4 ARMS
	1850	700	2000	3500	150	
	2100	600	2000	3500	150	
	2350	500	2000	3500	150	
	2600	300	1950	3500	-	
	2850	150	1850	3500	-	
	3100	400	2400	2400	-	3 ARMS
	3350	400	2400	2400	-	
	3600	300	2400	2400	-	
	3850	200	2400	2400	-	
	4100	700	-	3500	150	2 ARMS

		“W” WIDTH				
		8000				
		A	B	X	Y	
PROTRUSION	1600	700	2100	4000	150	4 ARMS
	1850	700	2100	4000	150	
	2100	700	2100	4000	150	
	2350	600	2100	4000	150	
	2600	500	2100	4000	150	
	2850	400	2100	4000	-	
	3100	300	2100	4000	-	
	3350	150	2100	4000	-	
	3600	400	2700	2700	-	3 ARMS
	3850	300	2700	2700	-	
	4100	200	2700	2700	-	

		“W” WIDTH				
		9000				
		A	B	X	Y	
PROTRUSION	1600	700	2350	4500	150	4 ARMS
	1850	700	2350	4500	150	
	2100	700	2350	4500	150	
	2350	700	2350	4500	150	
	2600	700	2350	4500	150	
	2850	600	2350	4500	150	
	3100	500	2350	4500	150	
	3350	400	2350	4500	-	
	3600	300	2350	4500	-	
	3850	200	2350	4500	-	
	4100	400	3100	3100	-	3 ARMS

		“W” WIDTH					
		10000					
		A	B	C	X	Y	
PROTRUSION	1600	700	2200	3600	5000	150	6 ARMS
	1850	700	2200	3600	5000	150	
	2100	700	2200	3600	5000	150	
	2350	500	2100	3600	5000	150	
	2600	300	1900	3500	5000	-	
	2850	200	2100	4050	4050	-	5 ARMS
	3100	200	2100	4050	4050	-	
	3350	150	2100	4050	4050	-	
	3600	400	2600	-	5000	-	4 ARMS
	3850	400	2600	-	5000	-	
	4100	200	2600	-	5000	-	

		"W" WIDTH					
		11000					
		A	B	C	X	Y	
PROTRUSION	1600	700	2300	3900	5500	150	6 ARMS
	1850	700	2300	3900	5500	150	
	2100	700	2300	3900	5500	150	
	2350	700	2300	3900	5500	150	
	2600	600	2200	3900	5500	150	
	2850	400	2100	3800	5500	-	
	3100	150	2000	3750	5500	-	
	3350	200	2300	4450	4450	-	5 ARMS
	3600	200	2300	4450	4450	-	
	3850	150	2300	4450	4450	-	
	4100	400	2850	-	5500	-	4 ARMS

		"W" WIDTH					
		12000					
		A	B	C	X	Y	
PROTRUSION	1600	700	2400	4100	6000	150	6 ARMS
	1850	700	2400	4100	6000	150	
	2100	700	2400	4100	6000	150	
	2350	700	2400	4100	6000	150	
	2600	600	2400	4100	6000	150	
	2850	500	2400	4100	6000	150	
	3100	400	2250	4100	6000	-	
	3350	200	2150	4100	6000	-	5 ARMS
	3600	200	2500	4850	4850	-	
	3850	200	2500	4850	4850	-	
	4100	150	2500	4850	4850	-	

3.3· Load on awning fixing plugs, depending on type of attachment tables

i INFORMATION AND PRECAUTIONS

Plug calculations are made bearing in mind the awning's wind resistance category 1, in accordance with the EN 13561 standards.

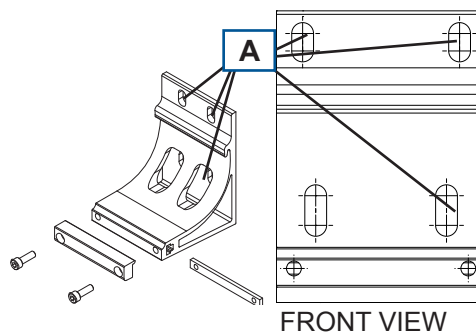
WALL MOUNTING

i INFORMATION AND PRECAUTIONS

Wall plug calculations are made with the 120 mm wall bracket, considering the fact that the holes (A) are used.

i INFORMATION AND PRECAUTIONS

It is advisable to use all 4 holes available on the brackets. If this is not possible, use the three holes (A) in the figure below.



WALL MOUNTING OF ARMONY PLUS									
Extraction load on anchors (KN)		WIDTH (m)							
		2.5	3	3.5	4	4.5	5	5.5	6
PROJECTION (m)	1.6	0,80	0,94	1,08	1,23	1,37	1,51	1,66	1,80
	1.85	1,02	1,20	1,39	1,57	1,75	1,93	2,12	2,30
	2.1		1,51	1,74	1,96	2,19	2,42	2,65	2,88
	2.35		1,83	2,11	2,39	2,67	2,94	3,22	3,50
	2.6			2,52	2,86	3,19	3,52	3,85	4,18
	2.85			2,97	3,36	3,75	4,15	4,54	4,93
	3.1				3,93	4,39	4,84	5,30	5,75
	3.35				4,62	5,14	5,67	6,19	6,72
	3.6					5,85	6,45	7,05	7,65
	3.85					6,61	7,29	7,97	8,65
	4.1						8,18	8,94	9,70

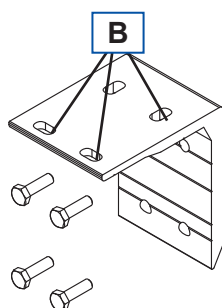
CEILING MOUNTING

i INFORMATION AND PRECAUTIONS

Ceiling plug calculations are made with the ceiling bracket, considering the fact that the holes (B) are used.

i INFORMATION AND PRECAUTIONS

It is advisable to use all 4 holes available on the brackets. If this is not possible, use the three (B) in the figure below.



CEILING MOUNTING OF ARMONY PLUS									
Extraction load on anchors (KN)		WIDTH (m)							
		2,5	3	3,5	4	4,5	5	5,5	6
PROJECTION (m)	1,6	1,05	1,23	1,41	1,59	1,77	1,95	2,13	2,31
	1,85	1,31	1,54	1,77	1,99	2,22	2,45	2,67	2,90
	2,1		1,90	2,18	2,46	2,74	3,02	3,29	3,57
	2,35		2,28	2,62	2,95	3,29	3,62	3,96	4,29
	2,6			3,10	3,49	3,89	4,29	4,69	5,09
	2,85			3,61	4,08	4,55	5,01	5,48	5,95
	3,1				4,74	5,28	5,82	6,36	6,90
	3,35				5,57	6,19	6,81	7,43	8,05
	3,6					7,01	7,71	8,42	9,12
	3,85					7,88	8,68	9,47	10,27
	4.1						9,70	10,59	11,48

The table value is in KN and expresses the most strained plug extraction load. These values are required to choose the most suitable anchor depending on the type of base material that the awning is installed on. Choose the anchor with reference to the recommended load values contained in the General Hilti Catalogue.

Example: awning with ceiling attachment


- awning measurements: 4.5x2.6 - plug load: 3.89 KN - Base material: uncracked concrete C25. Recommended plug: Hilti HST M8 (see plug's technical characteristics in Hilti General Catalogue).

! WARNING

The choice of the most appropriate fixing element depends on the base material and the physical condition of the base. It is the assembler's responsibility to check the condition of the base material, before attaching the awning. The assembler is not bound to use Hilti anchors.

3.4. TABLE OF RECOMMENDED ANCHORS

3.4.1 •Types of anchors depending on base material




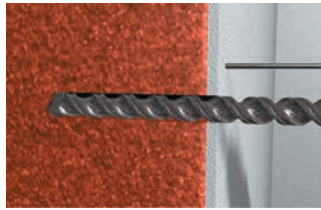




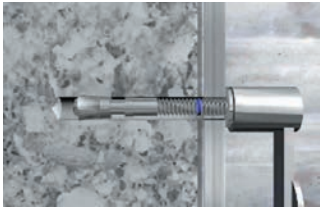
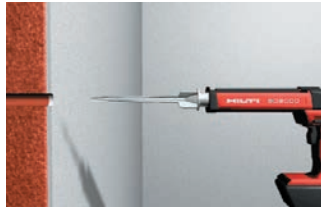


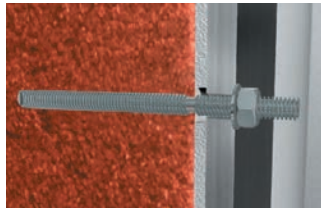
Extraction load on anchors (KN)	
Hilti HST 	CONCRETE CRACKED CONCRETE NATURAL HARD STONE
Hilti HSA 	CONCRETE NATURAL HARD STONE
Hilti HIT-HY 150 with HAS 	CONCRETE
Hilti HIT-RE 500 with HAS 	CONCRETE NATURAL HARD STONE FULL BRICK WOOD
Hilti HIT-HY 50 	AUTOCLAVED AERATED CONCRETE FULL BRICK WOOD
Hilti HIT-HY 20 	HOLLOW BRICK



INFORMATION AND PRECAUTIONS

If the environment is corrosive, stainless steel anchors are recommended. For any additional information, contact Hilti Italia S.p.A.'s Technical Service (e-mail: tecnici@hilti.com)

3.4.2 • Operational anchor fixing sequence

MECHANICAL ANCHOR		CHEMICAL ANCHOR	
	1° Drill a hole suitable for the anchor		1° Drill a hole suitable for the anchor
	2° Pay special attention to the depth of the hole		2° Pay special attention to the depth of the hole
	3° Clear the hole of dust and fragments (ideally using compressed air)		3° Clear the hole of dust and fragments with a brush
	4° Install the anchor		4° Remove residual dust using compressed air
	5° Tighten up the recommended tightening torque (see Hilti General Catalogue)		5° Inject chemical adhesive
	6° Final configuration		6° Introduce and adjust anchor, leaving it for the necessary rest time before introducing the plate (see product box)
			7° Position the plate and tighten to recommended tightening torque after "T cure" time (see Hilti General Catalogue)

WARNING

Refer to Hilti General Catalogue for correct anchor fitting.

3.5- Coverage and assembly diagrams

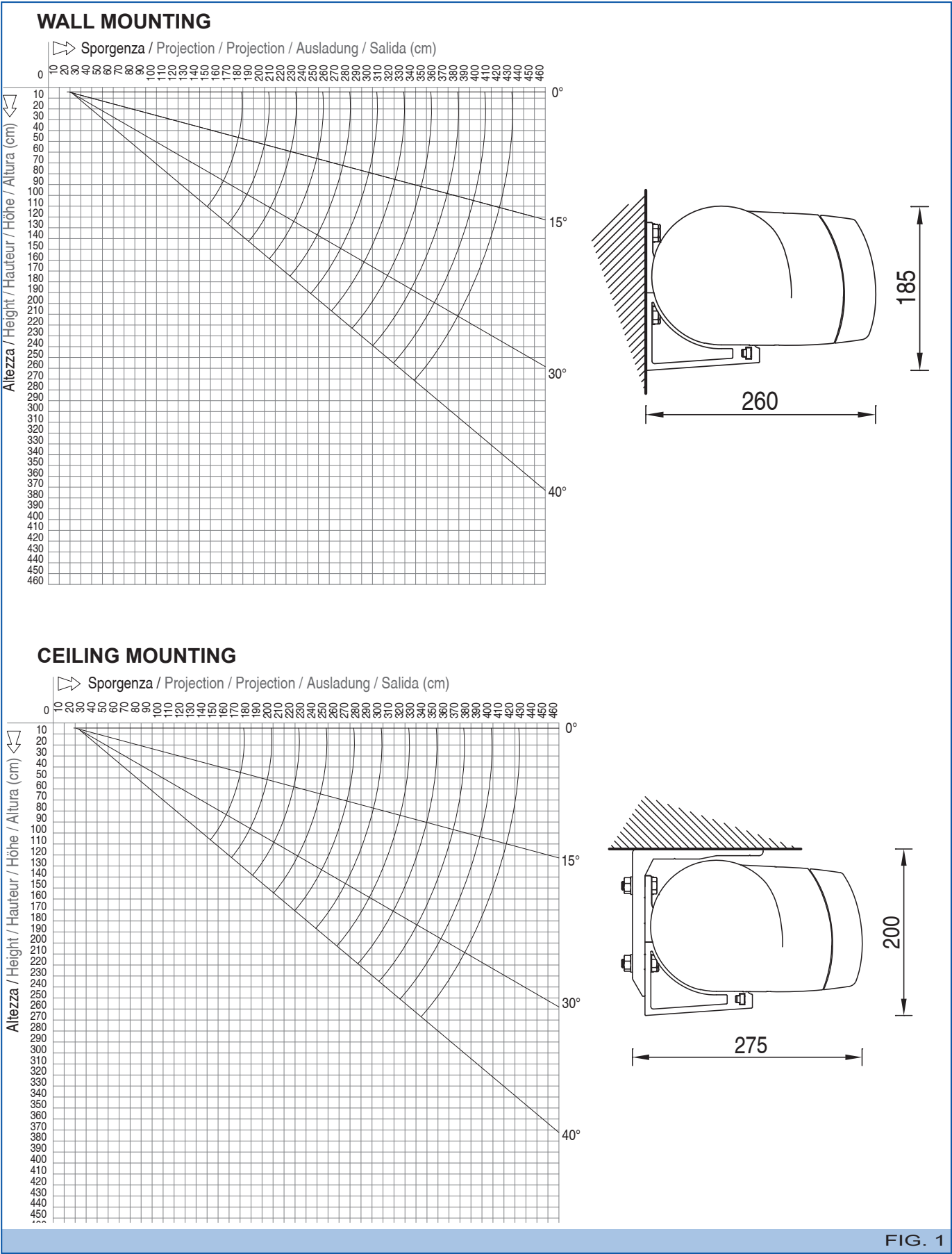


FIG. 1

3.6· Support brackets

WALL BRACKET 120MM

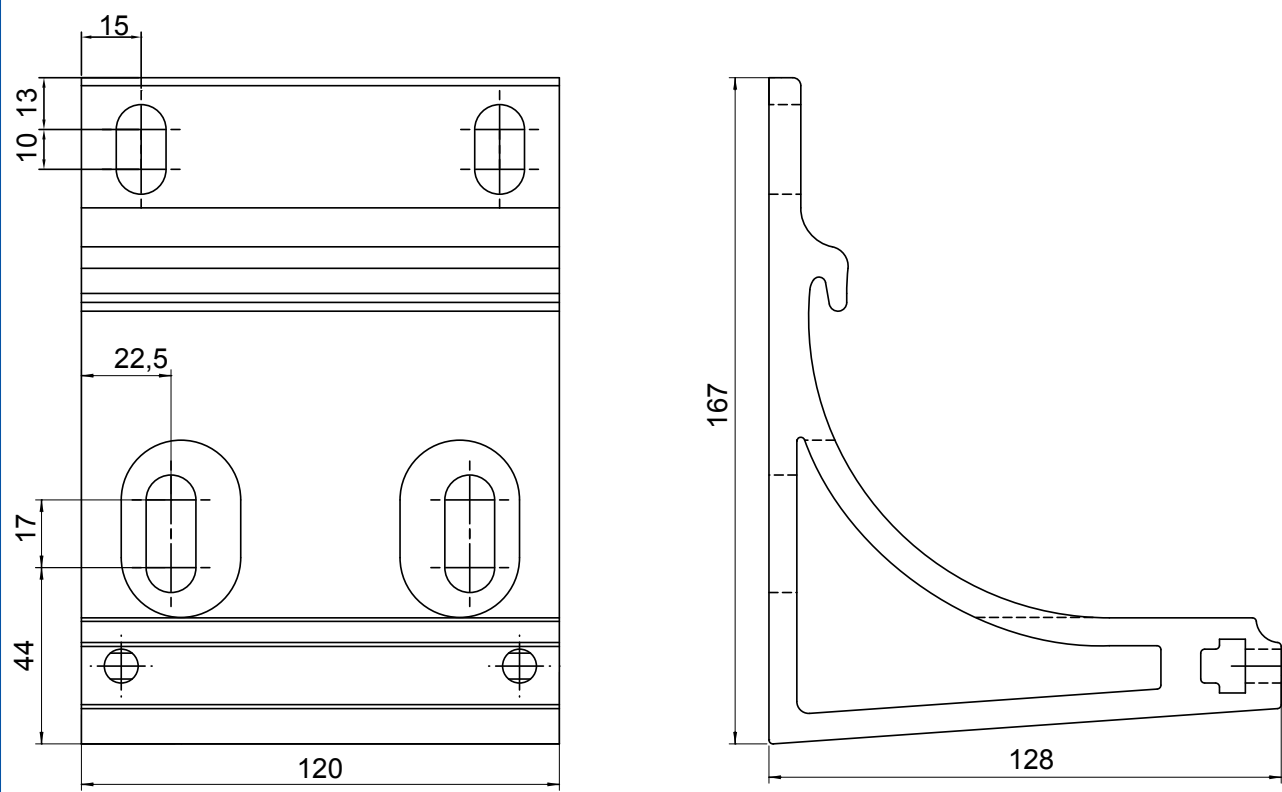


FIG. 2

WALL BRACKET 50MM

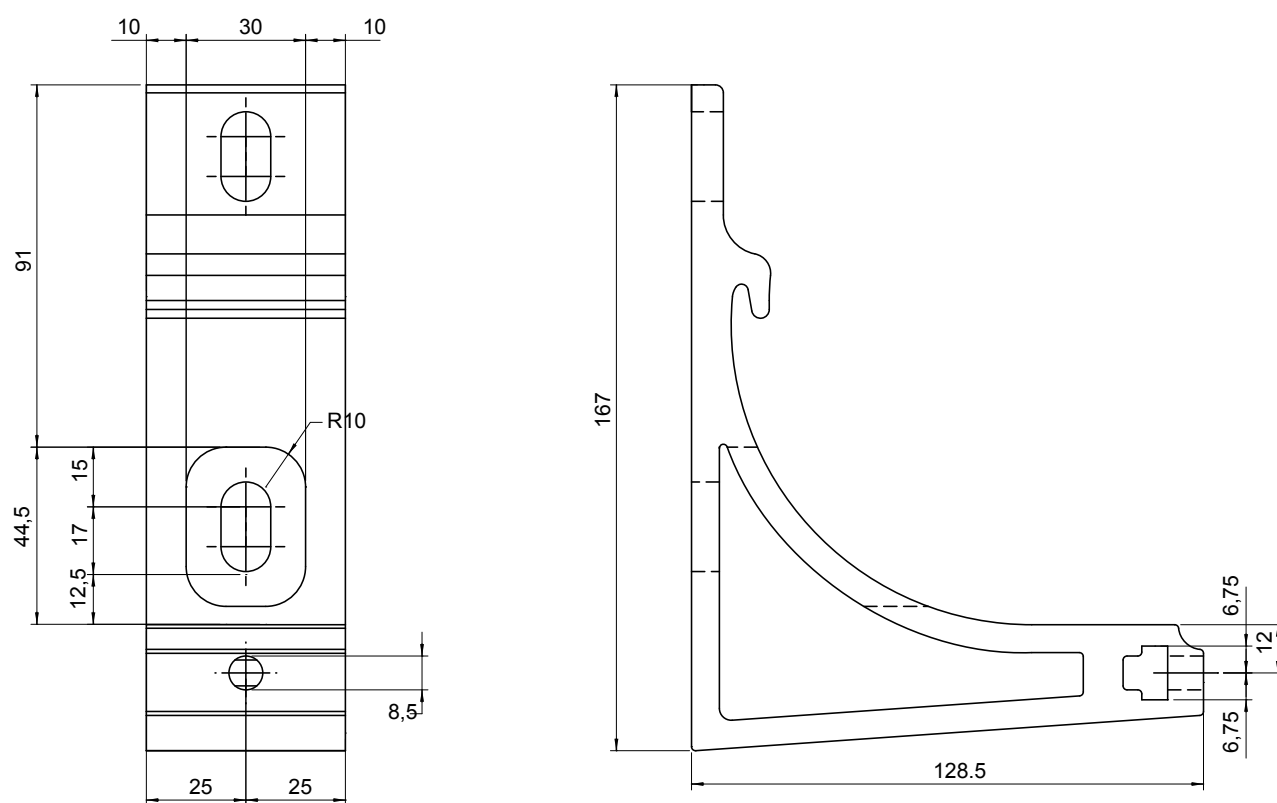


FIG. 3

CEILING BRACKET 120MM

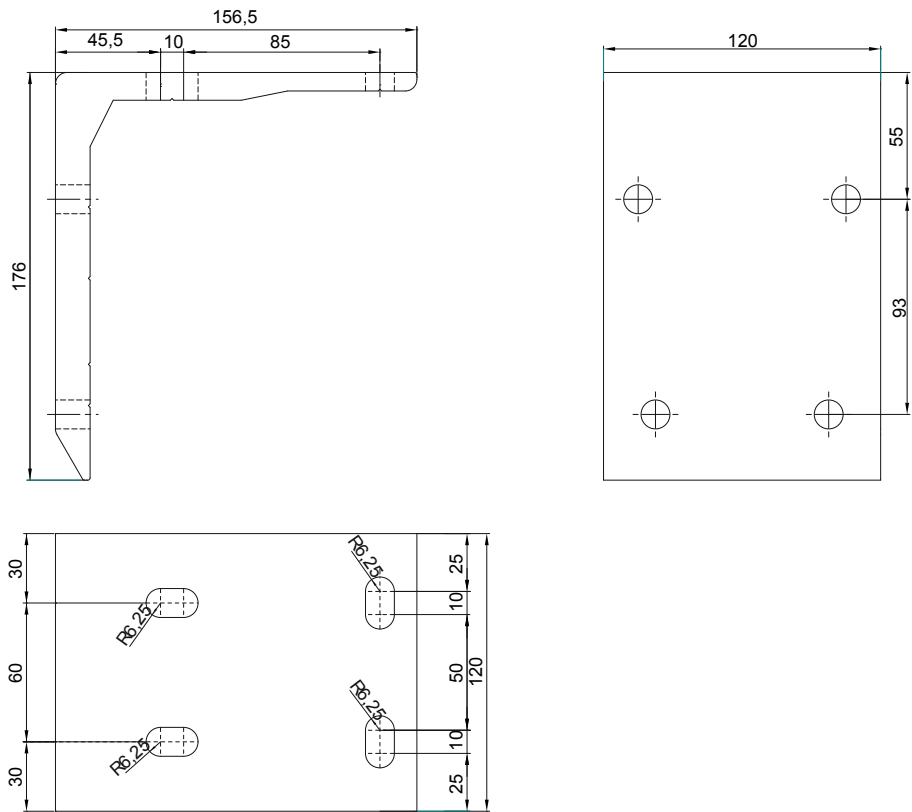


FIG. 4

CEILING BRACKET 50MM

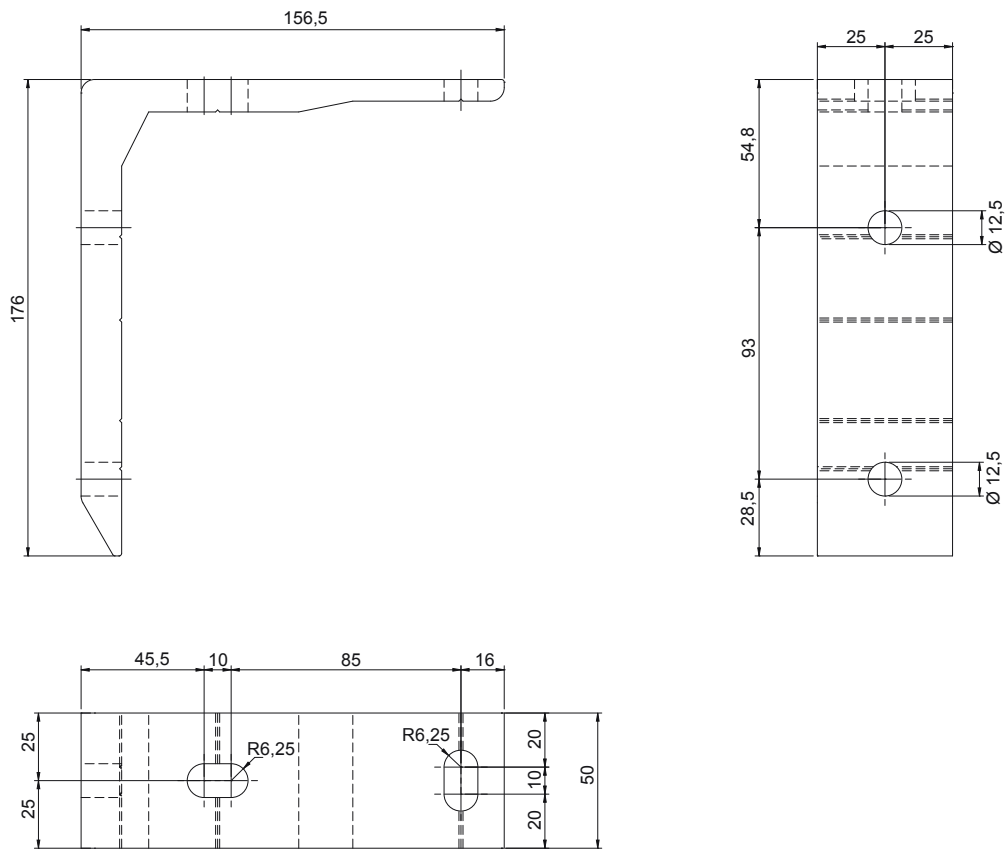


FIG. 5

4 ▪ MANUAL AWNING INSTALLATION

The **Armony Plus** awning can be both wall and ceiling mounted. If the supply includes optionals, read Chapter 6 "Optionals" first.

! WARNING

Guarantee a minimum space of 500 mm between the open awning and any fixed obstacle. The awning must be installed at a minimum height of 2500 mm; if this should not prove possible, an acoustic alarm must be installed for automatic awnings.

i INFORMATION AND PRECAUTIONS

Use the most suitable plugs for the type of wall the awning is being installed on.

i INFORMATION AND PRECAUTIONS

For CEILING MOUNTING, DO NOT FIX RODS ON PERFORATED BLOCKS; there is a risk the awning will fall with a consequent danger of serious injury to people and damage to the product.

i INFORMATION AND PRECAUTIONS

The procedure described below refers to the model of awning with TWO extensible arms. The operator must take the necessary measures for the assembly of models with more than two arms (see tables in Chapter 3.2).

4.1 ▪ Fixing rods to wall

Before beginning installation, please take note of the following information which are essential for finding the correct position for fixing the rods:

- awning measurements (cassette width and height, projection of awning, closed and open);
- support rod measurements (See Chapter 3.6);
- number of arm supports;
- side of awning on which controls are present;
- wall/ceiling measurements on which awning must be installed.

i INFORMATION AND PRECAUTIONS

For positioning the holes for all types of brackets: measure the width of the awning and, referring to the information provided in the diagram in Chapter 3.2 "plug load for awning fixing, depending on type of attachment tables", calculate the position of the bracket holes.

! WARNING

Insert the plugs in the centre of the wall bracket lower holes, to aid attachment during mounting.



FIG. 6

- 1 ▫ Unhook the brackets from the cassette by unscrewing the screws (C) and removing the bracket block.

4.1.1 ▪ Wall mounting brackets

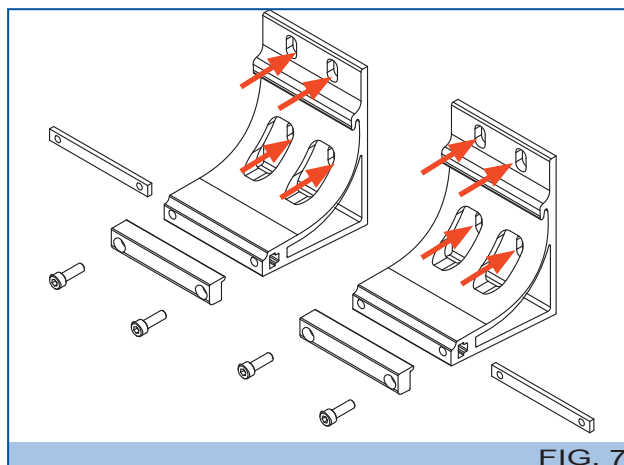


FIG. 7

- 2 ▫ Using a spirit level and string, mark the position of where to make the holes on the wall (see Chapter 3.2 "awning size/number of arms supports, brackets and conveyers tables" and template page 19).

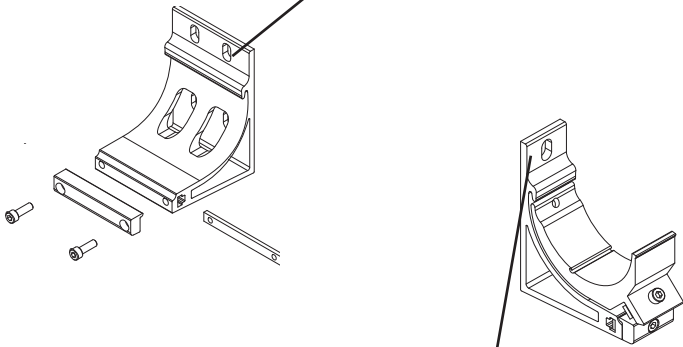
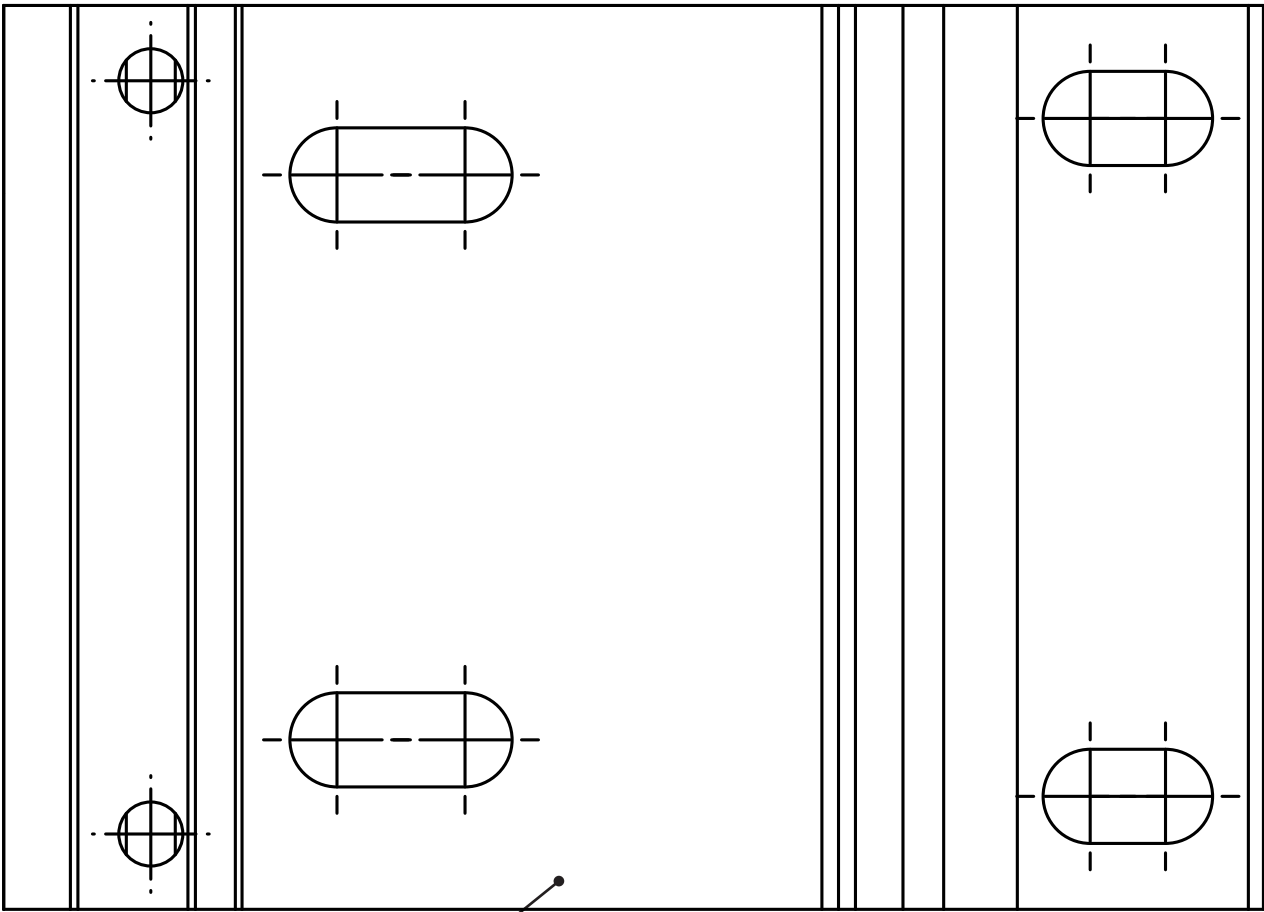
i INFORMATION AND PRECAUTIONS

To help installation, print page 19 on A4 paper and use them as templates to find the best position for the holes.

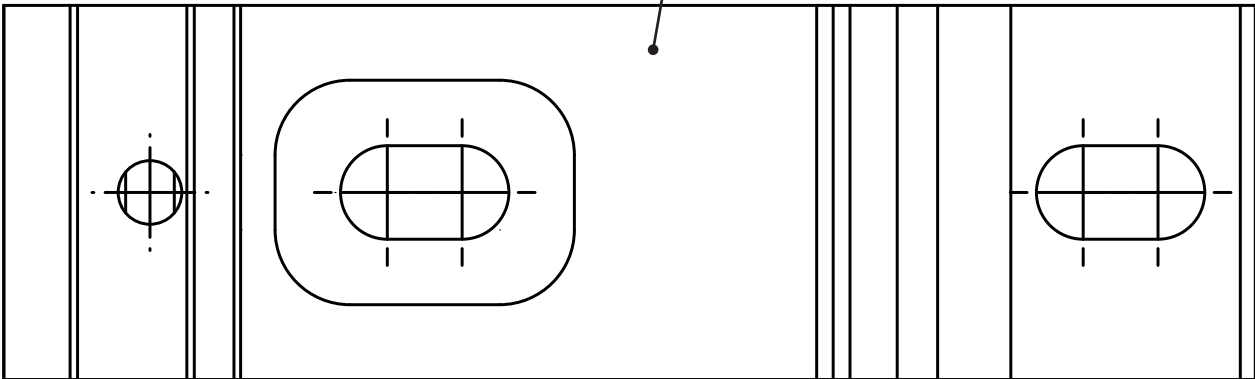
! WARNING

TO AVOID ROUGH ERRORS, MAKE SURE THE PRINTOUT IS IN A 1:1 SCALE, CHECKING THE MEASUREMENT SHOWN ON THE PAPER WITH A 0 CALIBRE RULER, RELATING TO THE MEASUREMENTS SHOWN ON PAGE 16.

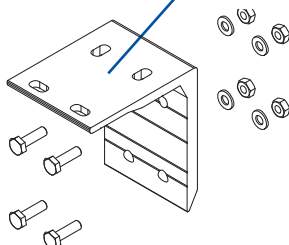
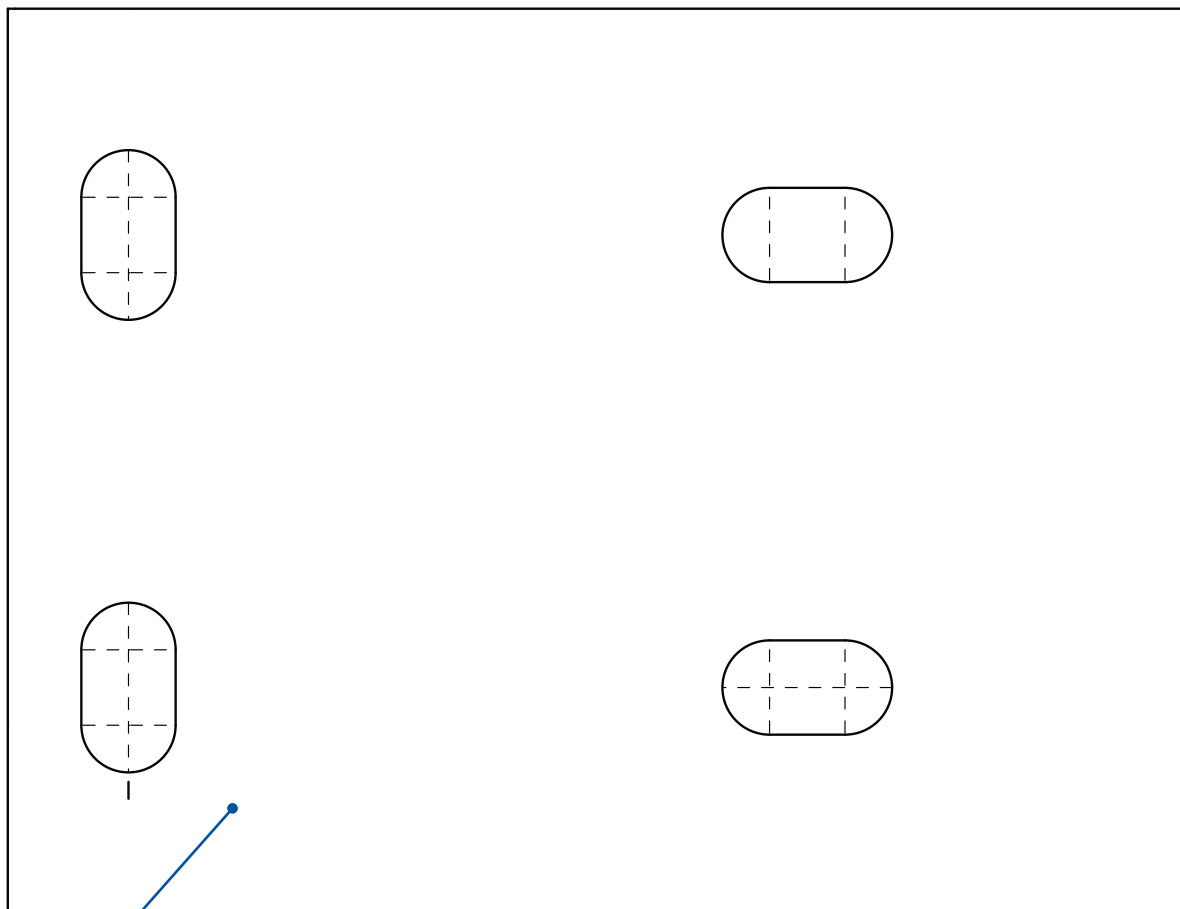
WALL BRACKETS 120MM (scale 1:1)



WALL BRACKETS 50MM (scale 1:1)



CEILING BRACKETS 120MM (scala 1:1)



CEILING BRACKETS 50MM (scala 1:1)

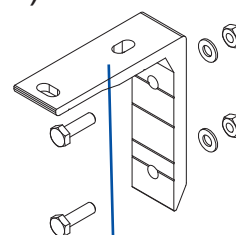
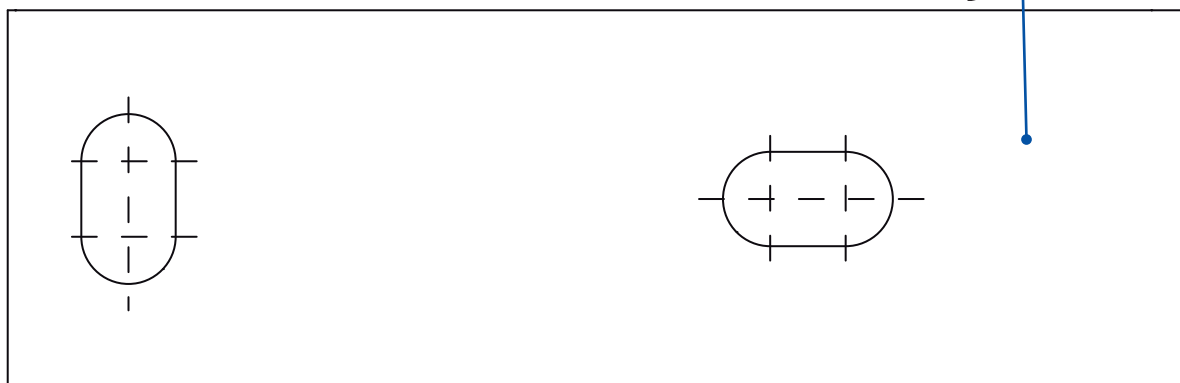




FIG. 8

3° Drill the wall depending on the type of screws available and the type of wall (see Chapter 3.4).



FIG. 9

4° Install the WALL BRACKETS by inserting the plugs in the holes made in the wall, without fixing them.

i INFORMATION AND PRECAUTIONS

If the wall should be out of true, mounting the brackets may prove to be difficult. Check that the brackets are in line (especially if there are more than two) and use spacers to obtain linearity for optimal installation. Check linearity using string.

4.1.2• Ceiling mounting brackets

! WARNING

To mount the awning on the ceiling, fix the bracket to the one on the wall.

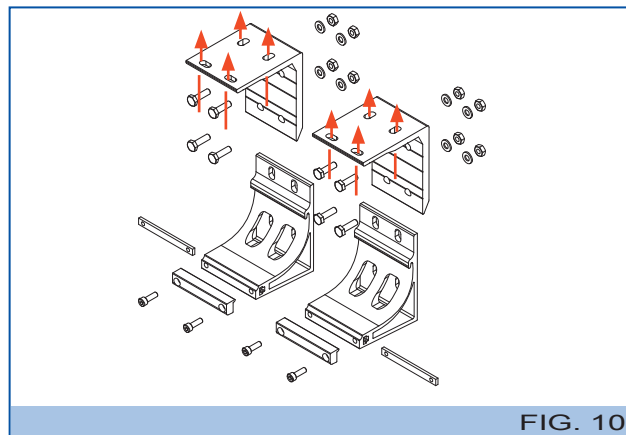


FIG. 10

5° Using a spirit level and string, mark the position of where to make the holes on the wall (see Chapter 3.2 "awning size/number of arms supports, brackets and conveyers table" and template page 20).

i INFORMATION AND PRECAUTIONS

To help installation, print page 20 on A4 paper and use it as a template to find the best position for the holes.

! WARNING

TO AVOID ROUGH ERRORS, MAKE SURE THE PRINTOUT IS IN A 1:1 SCALE, CHECKING THE MEASUREMENT SHOWN ON THE PAPER WITH A 0 CALIBRE RULER, RELATING TO THE MEASUREMENTS SHOWN ON PAGE 16.

6° Drill the wall depending on the type of screws available and the type of wall (see Chapter 3.4).

7° Install the CEILING BRACKETS by inserting the plugs in the holes made in the wall, without fixing them.

i INFORMATION AND PRECAUTIONS

If the wall should be out of true, mounting the brackets may prove to be difficult. Check that the brackets are in line (especially if there are more than two) and use spacers to obtain linearity for optimal installation. Check linearity using string.

4.2▪ Mounting the awning on brackets

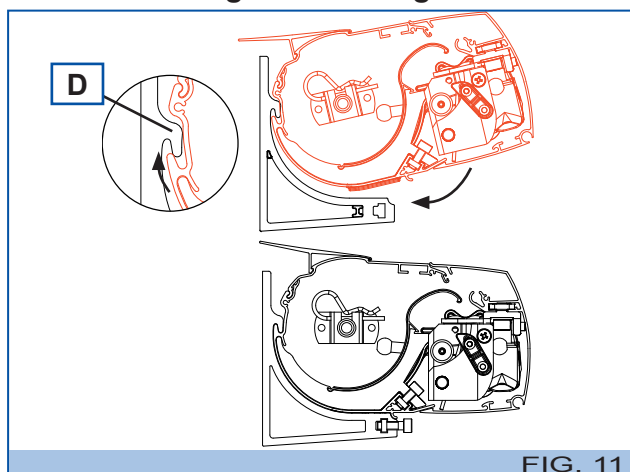


FIG. 11

- 8 ▪ Mount the preassembled awning on the brackets, first hooking the back part (D) and then turning the awning until it rests on the bracket.
- 9 ▪ Block the awning on the bracket, fixing the screws (C-Fig.6) that support the bracket block.
- 10 ▪ Tighten the screws on the wall brackets.

4.3 ▪ Adjusting the awning tilt

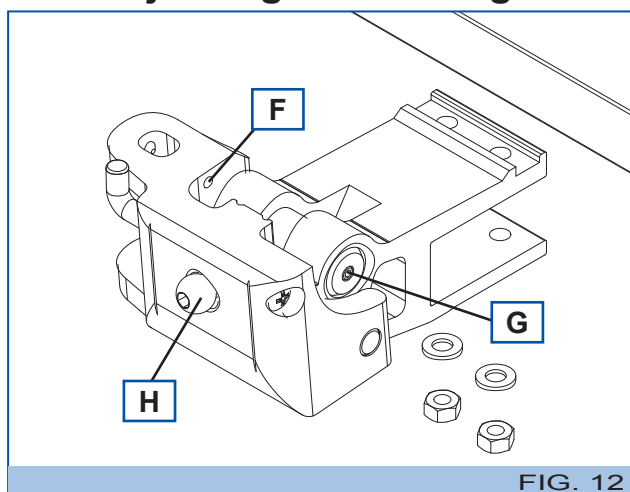


FIG. 12

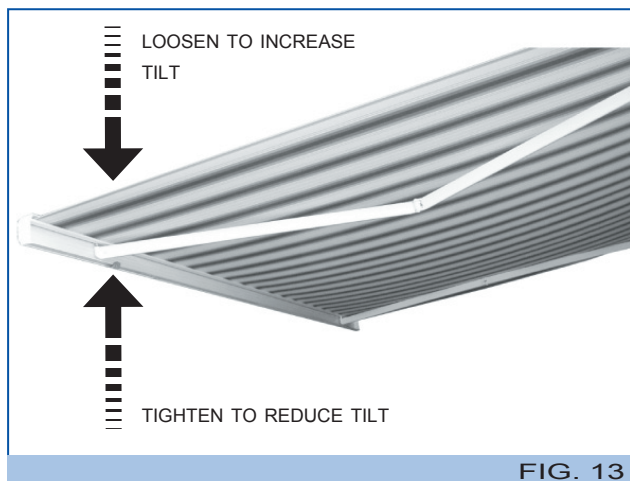


FIG. 13

- 11▪With the awning open, adjust the screw (H-Fig.12) with a 6mm Allen wrench until the desired tilt is reached (see Fig.13).

- 12▪Repeat the same operation on the other side of the awning.

- 13▪Once the desired tilt has been reached, fix the position of the awning by tightening the screw (G-Fig. 12) with a 3mm Allen wrench.

4.3.1 ▪Aligning arms



FIG. 14

- 14▪ If the two arm elbows are not aligned, move the grub screw (I-Fig.15) on the arm supports.



FIG. 15

- 15▪ Tighten the grub screw (I) to raise the elbow of the arm, and unscrew to lower it.
- 16▪Once the correct parallel position of the arms has been found, tighten the grub screw (F-Fig.10) in both arm supports.
- 17▪ Carry out at least a pair of opening and closing simulations on the awning to check that the cassette and the end meet perfectly when the awning is closed.

5 INSTALLATION OF MOTORISED AWNING



WARNING

INSTALLING the motorised product is strictly prohibited in explosive environments.



WARNING

Use a block switch (with key) if the awning is installed in sensitive buildings, such as schools, colleges, hospitals, clinics etc. If the awning has a radio control, it must be located out of the reach of children.



WARNING

If fitted with an opening/closing switch, the latter must be placed in a protected position, at a minimum height of 1500 mm from the ground and in an area with no hazardous access.



WARNING

The awning must be installed at a minimum height of 2500 mm; if this should not prove possible, an acoustic alarm must be installed for automatic awnings.

5.1 Limit switch calibration



INFORMATION AND PRECAUTIONS

Before installing, check that limit switch calibration is correct; if it needs adjusting, following the instructions provided in the "Motor Manual" attached.

5.2 Electrical connections and installation



WARNING

The electrical connections must be carried out by qualified staff when the electrical power supply is switched off.



INFORMATION AND PRECAUTIONS

CONNECTING two or more motors to the same switch is strictly forbidden: risk of induced currents with consequent damage to motors.

Installing a motorised awning follows the same procedure as the manual awning, except for the application of the manoeuvring rod, except for motors with an emergency control.

Instructions for electrical connections and programming the functioning are described in the "Motor Manual", attached here.

6 OPTIONALS

6.1 Automatic mechanisms;

(on motorised awnings only)

Wind gauge, rain gauge, twilight sensor: Installazione of these optional accessories is described in the Automatic mechanisms and commands manuals.



WARNING

Automatic awnings must be installed at a minimum height of 2500 mm; if this should not be possible, an acoustic alarm must be installed.

7 EXTRAORDINARY MAINTENANCE

7.1 Troubleshooting, causes and solutions

MANUAL AWNING

PROBLEMS	CAUSES	SOLUTIONS
Conical winding of canvas	Non-uniform canvas thickness	Fully rewind canvas

MOTORISED AWNING

without electronic control centre

PROBLEMS	CAUSES	SOLUTIONS
Conical winding of canvas	Non-uniform canvas thickness	Fully rewind canvas
The awning does not rewind completely. The awning does not open completely.	Mistaken limit-switch regulation Motor crown moving with movement	See Motor Manual (attached) See Motor Manual, Chapter 7
The motor is extremely noisy	Cabling error Motor breakdown	See Motor Manual (attached) See Motor Manual (attached)
The motor blocks after 4-5 minutes of continuous running	Intervention of motor's thermal protection	Leave the motor to cool down for a few minutes

With electronic control centre

PROBLEMS	CAUSES	SOLUTIONS
The awning does not move	Broken fuse Cabling error	Replace fuse, following instructions in attached manual See Motor Manual (attached)
The awning moves in an irregular manner (winds out for 50 cm, then stops, etc).	Wind gauge broken	See Automatic device instructions (attached)
The awning does not wind out due to the strong wind	Broken fuse Wind gauge broken	Replace fuse, following instructions in attached manual See Automatic device instructions (attached)
The awning does not wind out due to the heavy rain.	Broken fuse Rain gauge broken	Replace fuse, following instructions in attached manual See Automatic device instructions (attached)
The awning opens and closes alone with the radio control.	Battery flat Damaged radio control	Replace battery in the radio control (see instructions on controls) Replacement of radio control