



Palermo Plus Palermo



Installation manual



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**All measurements in this document are metric. To convert from metric (meters, centimeters and millimeters) to imperial (feet and inches) visit this website:
http://www.onlineconversion.com/length_common.htm**

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1 INTRODUCTION

This manual for the **Palermo Plus** and Palermo awnings was prepared by the manufacturer to provide necessary information to those authorized to install and perform special maintenance of the product. IT IS prohibited to remove, rewrite, or in any way modify the pages of the manual and their content.

Operations must be carried out by personnel with the technical and professional skills required by current applicable national laws or standards.

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 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 advice and instructions to be observed 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.

CAUTION

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

1.2 Personnel 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 proper installation of the awning, and consequently best operation of the finished product, the following equipment is required:

- power screwdriver
- a level
- string
- complete tool set
- equipment for working at heights (scaffolding, ladders, aerial platforms, etc.) which are compliant with current standards of individual safety in the workplace.

CAUTION

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

CAUTION

Use low-speed power screwdrivers. Screwing in the stainless steel screws at high speed may cause the threads to jam, especially in the case of stainless steel/stainless steel and stainless steel/ aluminium screws and threads.

CAUTION

In the square bar supports with double screw, be sure to evenly screw the two fastening screws of the square bar, distributing the tightening force alternatively on the two screws up to a maximum of 20 Nm. Uneven tightening may cause abnormal tension in the casting, causing it to fail immediately, or lead to subsequent problems caused by external stress on the awning (e.g. gusts of wind).

1.4· Contents of Packaging

The awning is delivered complete with extensible arms, fabric, control (manual or motorized) and any requested optional.

INFORMATION AND PRECAUTIONS

Never move the arm supports from the position in which they are supplied.

2 SAFETY

2.1· General Safety Information

- During all operations described in this manual, make sure that **ONLY** individuals involved in the work are in the work zone (see Chap. 1.2 “Personnel 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 individual safety gear and clothing as required by current standards on workplace safety.



CAUTION

Installation, adjustment, and special maintenance of the awning must be carried out only by specialized, skilled technical personnel.



CAUTION

IT IS necessary to ensure a distance of at least 500 mm between the end of the fully-opened awning (outermost part) and any fixed obstacle (wall, terrace, etc.).



CAUTION

IT IS prohibited to install or place ladders or other objects near the awning, as this would reduce the space required for installation.



CAUTION

Never loosen the awning more than the tension in the arms as there is the risk that the awning return under the tube and be ruined.

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 special 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 persons from approaching the work area around the awning.

3 TECHNICAL TABLES FOR INSTALLATION

3.1 · Table of Minimum Palermo Plus and Palermo dimensions

i INFORMATION AND PRECAUTIONS

The measurements in the following tables are expressed in cm.

PROTRUSION	MINIMUM DIMENSIONS (cm)
ARM	1 PAIR OF ARMS
160	191
185	216
210	241
235	266
260	291
285	316
310	341
335	366
360	391

i INFORMATION AND PRECAUTIONS

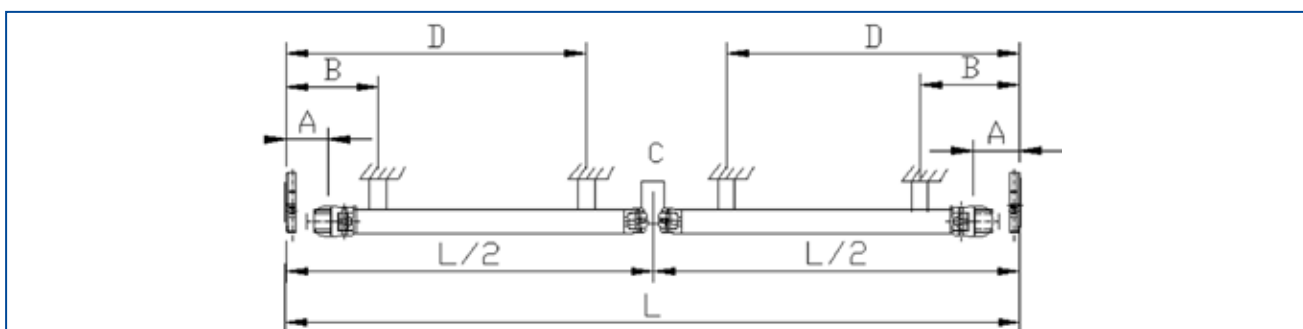
It is advisable always to use an even number of extensible arms.

3.2 Table for awning dimensions / no. of arm supports

i INFORMATION AND PRECAUTIONS

The measurements in the following tables are expressed in cm.

1 PAIR OF ARMS

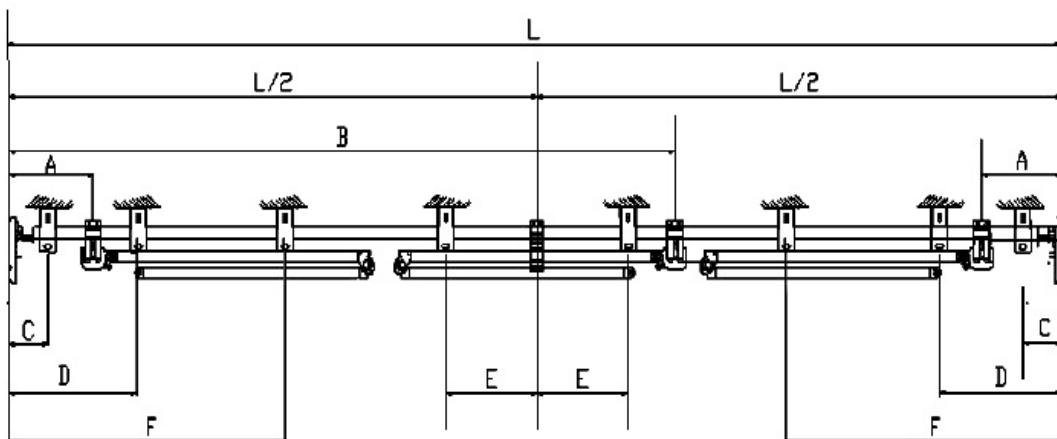


		"L" WIDTH (1 PAIR OF ARMS)										
		300		400		500			600			
		A arm support	B supp. for square bar	A arm support	B supp. for square bar	A arm support	B supp. for square bar	C BALANCE SUPPORT	A arm support	B supp. for square bar	D supp. for square bar	C BALANCE SUPPORT
PROTRUSION	160	10	20	40	30	50	40	L/2	70	50	160	L/2
	185	10	20	40	30	50	40	L/2	70	50	160	L/2
	210	10	20	40	30	50	40	L/2	70	50	160	L/2
	235	10	20	40	30	50	40	L/2	70	50	160	L/2
	260	5	20	30	20	50	40	L/2	70	50	160	L/2
	285			30	20	50	40	L/2	70	50	160	L/2
	310			30	30	40	50	L/2	70	50	160	L/2
	335			10	20	30	20	L/2	70	50	160	L/2
	360			5	20	30	20	L/2	70	50	160	L/2

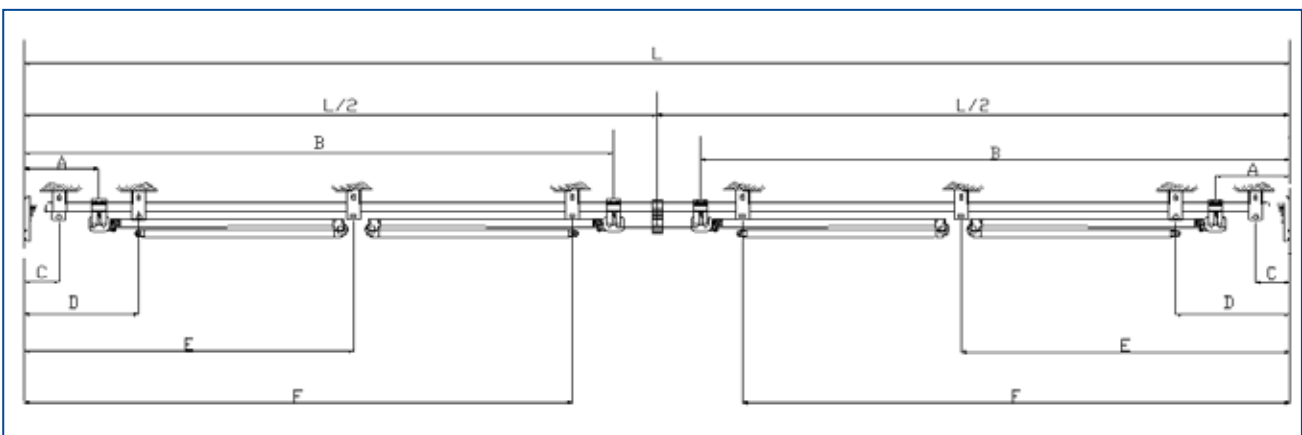
i INFORMATION AND PRECAUTIONS

The measurements in the box refer to odd arms (indicated at upper left in the tables).

3 ARMS



2 PAIRS OF ARMS



LEGEND:

 3 arms

		"L" WIDTH (2 PAIRS OF ARMS)						
		700						
		A arm support	B arm support	BALANCE SUPPORT	C support for square bar	D support for square bar	E support for square bar	F support for square bar
PROTRUSION	160	70	283	L/2	50	-	-	263
	185	70	307	L/2	50	-	-	287
	210	70	308	L/2	50	-	-	288
	235	65	327	L/2	50	-	-	307
	260	40	328	L/2	50	-	-	308
	285	15	290	L/2	-	35	152	270
	310	40	378	L/2	20	80	10	-
	335	40	403	L/2	20	80	35	-
	360	40	428	L/2	20	80	60	-

FOR PROTRUSIONS OF MORE THAN 285 CM, USE A ~ L/2 WALL/CEILING SUPPORT BRACKET

LEGEND:

 3 arms

		"L" WIDTH (2 PAIRS OF ARMS)						
		800						
		A arm support	B arm support	BALANCE SUPPORT	C support for square bar	D support for square bar	E support for square bar	F support for square bar
PROTRUSION	160	70	328	L/2	50	-	-	308
	185	70	380	L/2	50	-	-	360
	210	70	333	L/2	50	-	-	313
	235	65	352	L/2	50	-	-	332
	260	70	358	L/2	50	-	-	338
	285	68	380	L/2	50	-	205	360
	310	40	375	L/2	20	-	187	355
	335	15	377	L/2	-	35	186	337
	360	40	453	L/2	20	80	35	220

		"L" WIDTH (2 PAIRS OF ARMS)						
		900						
		A arm support	B arm support	BALANCE SUPPORT	C support for square bar	D support for square bar	E support for square bar	F support for square bar
PROTRUSION	160	70	353	L/3	50	333	-	-
	185	70	405	L/3	50	385	-	-
	210	70	358	L/3	50	338	-	-
	235	65	377	L/3	50	357	-	-
	260	70	383	L/3	50	363	-	363
	285	70	405	L/3	50	100	-	385
	310	50	410	L/3	30	80	-	390
	335	40	427	L/3	20	80	-	407
	360	40	428	L/3	20	80	-	408

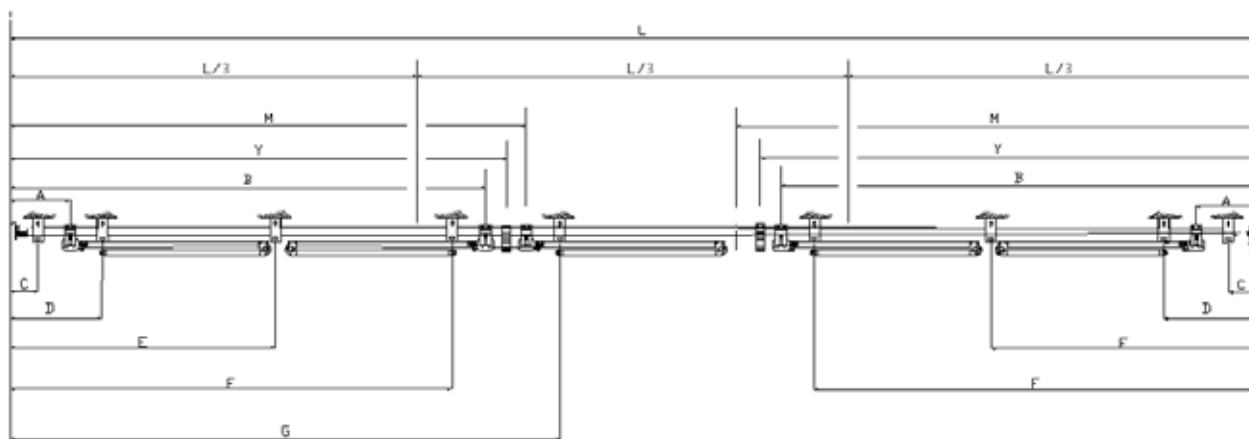


CAUTION

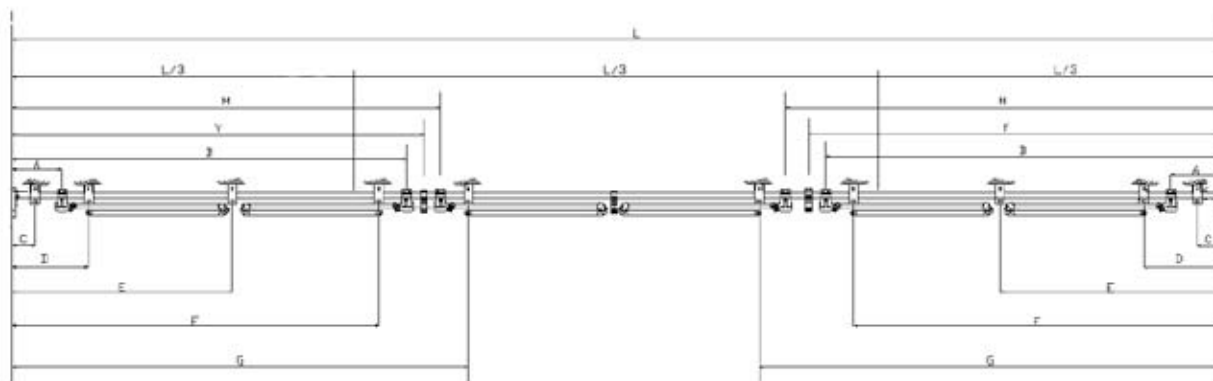
The "balance support" dimension is theoretical. When installing always take care to position the support above the seam.

"L" WIDTH (2 PAIRS OF ARMS)								
1000								
	A	B	BALANCE SUPPORT	C	D	E	F	
PROTRUSION	160	70	378	L/3	50	100	-	358
	185	70	430	L/3	50	100	-	420
	210	70	383	L/3	50	100	-	363
	235	70	402	L/3	50	100	-	380
	260	70	408	L/3	50	100	-	384
	285	70	430	L/3	50	100	140	410
	310	50	435	L/3	50	80	246	425
	335	40	452	L/3	20	80	256	432
360	40	453	L/3	20	80	256	433	

5 ARMS



3 PAIRS OF ARMS



LEGEND:

 5 arms

		"L" WIDTH (3 PAIRS OF ARMS)								
		1000								
		A	B	M	BALANCE SUP- PORT	C	D	E	F	G
PROTRUSION	160	70	291	299	L/3	20	-	-	270	320
	185	70	316	324	L/3	20	-	-	296	340
	210	70	324	349	L/3	20	-	-	304	370
	235	70	332	341	L/3	20	-	-	312	360
	260	40	328	336	L/3	20	-	-	308	356
	285	15	328	336	L/3	20	55	-	308	356
	310	70	223	408	L/3	20	120	-	200	450
	335	50	235	413	L/3	20	90	-	215	460
	360	-	-	-	-	-	-	-	-	-

LEGEND:

 5 arms

		"L" WIDTH (3 PAIRS OF ARMS)								
		1100								
		A	B	M	BALANCE SUPPORT	C	D	E	F	G
PROTRUSION	160	70	328	332	L/3	50	-	-	308	352
	185	70	363	357	L/3	50	-	-	343	377
	210	70	342	382	L/3	50	-	-	322	400
	235	70	349	374	L/3	50	-	-	329	394
	260	70	358	366	L/3	50	-	-	338	386
	285	50	362	371	L/3	30	90	-	342	391
	310	15	188	353	L/3	-	35	100	168	373
	335	50	235	413	L/3	30	70	-	225	433
	360	50	248	438	L/3	30	70	-	215	458

LEGEND:

 5 arms

		"L" WIDTH (3 PAIRS OF ARMS)								
		1200								
		A	B	M	BALANCE SUPPORT	C	D	E	F	G
PROTRUSION	160	70	344	366	L/3	50	-	-	324	386
	185	70	380	391	L/3	50	-	-	360	411
	210	70	358	416	L/3	50	-	-	338	436
	235	70	365	408	L/3	50	-	-	345	418
	260	70	422	399	L/3	50	-	-	402	420
	285	50	379	404	L/3	30	70	-	360	424
	310	50	388	429	L/3	30	70	-	368	450
	335	25	388	396	L/3	-	50	210	368	416
	360	25	248	438	L/3	-	50	140	228	458

CAUTION

THE ABOVE LISTED TABLES ARE PURELY INDICATIVE. THE INFORMATION IS UP TO DATE ACCORDING TO THE AVAILABLE KNOWLEDGE. BAT S.p.A. THESE TABLES DO NOT PROVIDE ANY GUARANTEE REGARDING ACCURACY, RELIABILITY, AND COMPLETENESS OF THE INFORMATION CONTAINED HEREIN. IT IS THE USER'S RESPONSIBILITY TO ENSURE THE SUITABILITY AND COMPLETENESS OF THIS INFORMATION.

3.3 - Table of Loads on Awning Fastening Plugs, Based on Type of Attachment

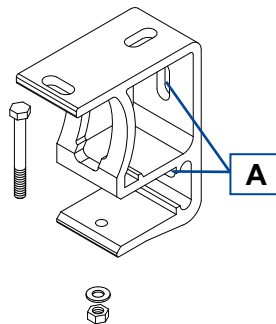
i INFORMATION AND PRECAUTIONS

The calculations of the plugs were made taking into account Class 2 wind resistance as per standard EN 13561.

i INFORMATION AND PRECAUTIONS

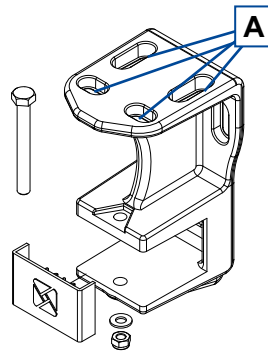
The wall plug calculations for Palermo Plus and Palermo have been performed with the extruded square wall/ceiling bracket, taking into consideration that holes (A) are used for wall installation.

WALL INSTALLATION



WALL INSTALLATION OF Palermo Plus AND Palermo									
Extraction load on anchoring devices (KN)		WIDTH (m)							
		2.5	3	3.5	4	4.5	5	5.5	6
PROTRUSION (m)	1,35	1.54	1.80	2.07	2.33	2.60	2.86	3.12	3.39
	1,6	2.14	2.50	2.87	3.23	3.60	3.96	4.32	4.69
	1.85	2.80	3.27	3.75	4.23	4.71	5.19	5.67	6.15
	2,1	3.59	4.20	4.81	5.42	6.03	6.64	7.26	7.87
	2,35		5.19	5.95	6.71	7.47	8.23	8.99	9.74
	2,6		6.26	7.19	8.11	9.03	9.95	10.87	11.80
	2,85			8.56	9.66	10.76	11.86	12.96	14.06
	3,10			10.10	11.40	12.70	13.99	15.29	16.59
	3,35				13.61	15.12	16.62	18.13	19.64
	3,60				15.63	17.36	19.10	20.83	22.57

CEILING INSTALLATION



i INFORMATION AND PRECAUTIONS

The ceiling plug calculations for Palermo Plus and Palermo have been performed with the square wall/ceiling bracket shown in the figure, taking into consideration that holes (A) are used for ceiling installation.



INFORMATION AND PRECAUTIONS

We recommend using all four of the holes (A) available on the bracket. If this is not possible, use two diagonal holes.

CEILING INSTALLATION OF Palermo Plus AND Palermo									
Extraction load on anchoring devices (KN)		WIDTH (m)							
		2.5	3	3.5	4	4.5	5	5.5	6
PROTRUSION (m)	1,35	2.46	2.88	3.30	3.73	4.15	4.58	5.00	5.43
	1,6	3.43	4.01	4.60	5.18	5.77	6.36	6.94	7.53
	1.85	4.49	5.26	6.04	6.81	7.58	8.36	9.13	9.90
	2,1	5.77	6.76	7.75	8.73	9.72	10.71	11.70	12.68
	2,35		8.37	9.60	10.83	12.05	13.28	14.51	15.73
	2,6		10.12	11.61	13.10	14.60	16.09	17.58	19.07
	2,85			13.84	15.63	17.41	19.19	20.98	22.76
	3,10			16.36	18.46	20.57	22.67	24.77	26.87
	3,35				22.05	24.49	26.94	29.39	31.83
	3,60				25.34	28.16	30.97	33.79	36.61

! CAUTION

All values were calculated considering two supports (presuming no contribution from centre support).

The value in the table is in KN and expresses the extraction load of the plug that is under the greatest stress. These values are required for the selection of the most suitable anchoring, based on the type of material upon which the awning will be installed. Choose the anchoring by referring to the recommended load values in the Hilti General Catalogue.

Example: awning with ceiling attachment

- awning dimensions: L 4.0 x TH 2.6 - load on plug: 13.10 kN - base material: non-cracked concrete C25. Suggested plug: Hilti HST M10 or HST M12 (see technical characteristics of plugs in Hilti General Catalogue).

! CAUTION

The selection of the most suitable fastening element depends on the type of base material and on its physical state. It is the responsibility of the installer to check the state of the base material before installing the awning. The installer is not obliged to use Hilti anchoring devices.

3.4- Table of Suggested Anchoring Devices









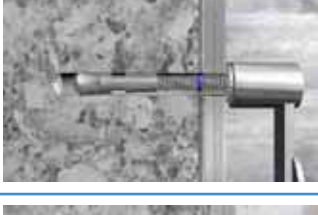




3.4.1 -Types of Anchoring Devices Based on Base Material

Extraction load on anchoring devices (KN)		
Hilti HST		CONCRETE CRACKED CONCRETE HARD NATURAL STONE
Hilti HSA		CONCRETE HARD NATURAL STONE
Hilti HIT-HY 150 with HAS		CONCRETE
Hilti HIT-RE 500 with HAS		CONCRETE HARD NATURAL STONE SOLID BRICK WOOD
Hilti HIT-HY 50		BETON GAS SOLID BRICK WOOD
Hilti HIT-HY 20		PERFORATED BRICK

i INFORMATION AND PRECAUTIONS

For corrosive environments, we suggest using stainless steel anchoring devices. For additional information, contact Hilti Italia S.p.A. technical service. (e-mail:tecnicisti@hilti.com)

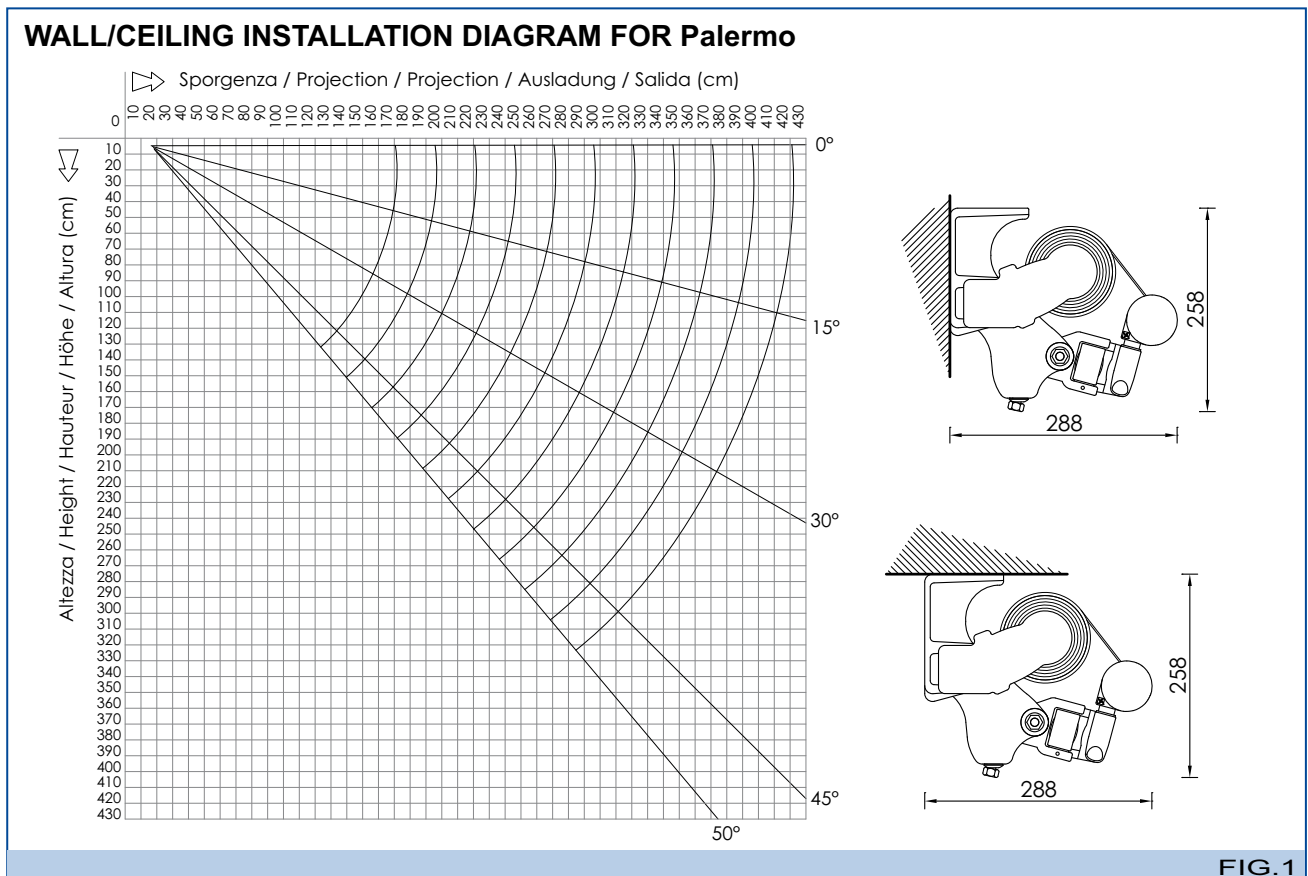
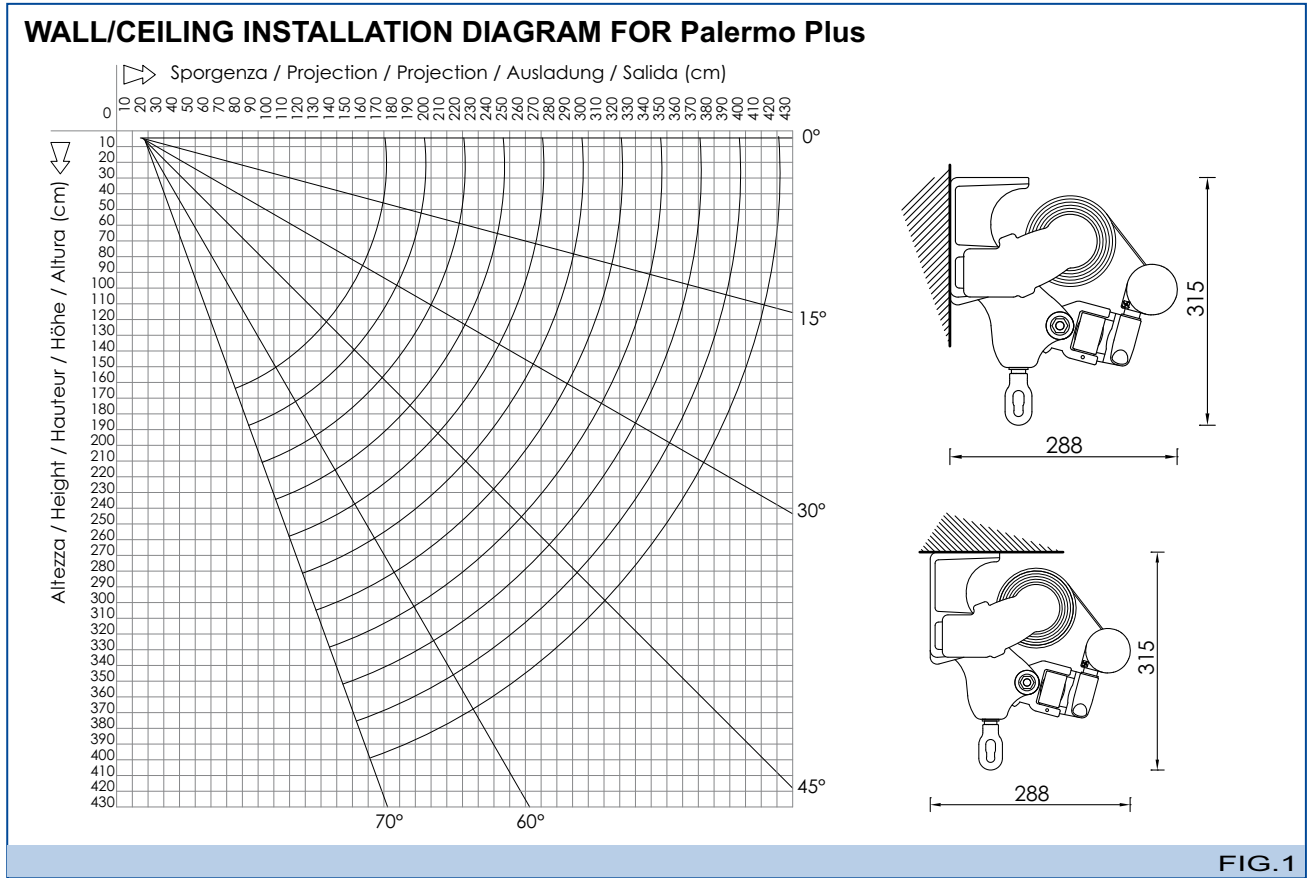
3.4.2 • Sequence for Fastening of Anchoring Devices

MECHANICAL ANCHORING DEVICE		CHEMICAL ANCHORING DEVICE	
	1° Make a hole with a drill bit that is suitable for the anchoring device		1° Make a hole with a drill bit that is suitable for the anchoring device
	2° Pay attention to how deep you make the hole		2° Pay attention to how deep you make the hole
	3° Remove dust and debris from the hole (preferably using compressed air)		3° Remove dust and debris using a brush
	4° Install the anchoring device		4° Remove residual dust with compressed air
	5° Tighten until achieving recommended tightening torque (see Hilti General Catalogue)		5° Inject the chemical adhesive
	6° Final configuration		6° Insert and settle the anchoring device. Comply with the setting time required before placing the plate (see product cartridge)
			7° After the time "T cure" has elapsed, place the plate and tighten until achieving recommended tightening torque (see Hilti General Catalogue)

! CAUTION

For proper installation of the anchoring devices, refer to the Hilti General Catalogue

3.5- Diagrams of Covering and Footprints



3.6· Support Brackets

WALL/CEILING SQUARE BAR BRACKET

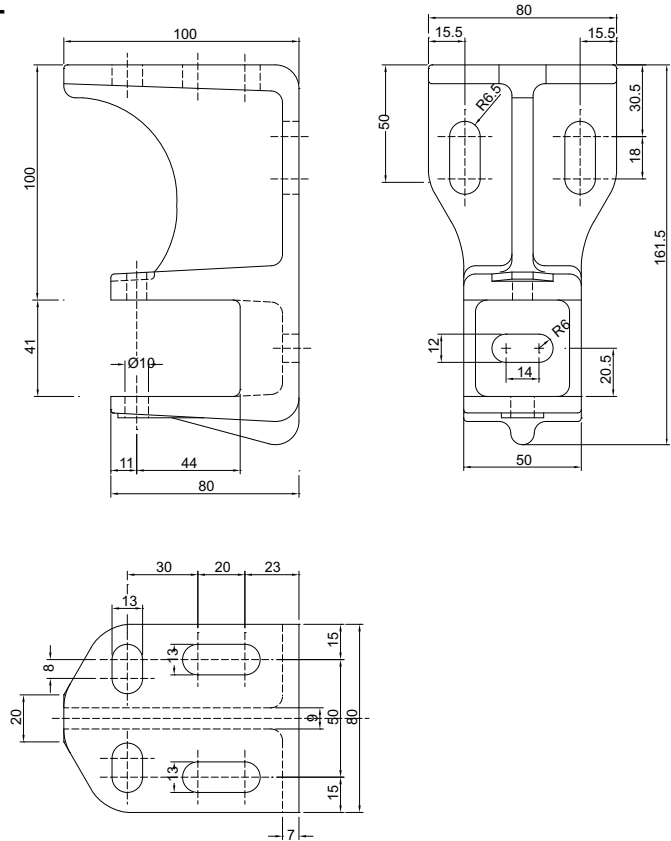


FIG.1

EXTRUDED ALUMINIUM WALL/CEILING BRACKET

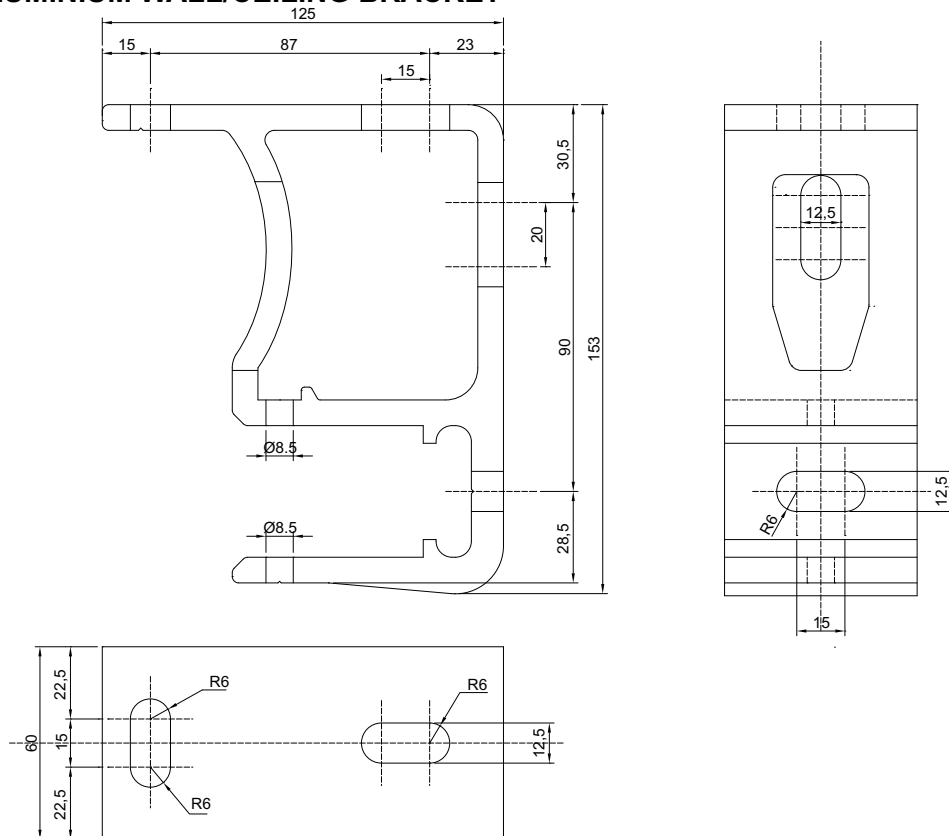


FIG.2

4 INSTALLATION OF MANUAL AWNING

The instructions below refer to **wall mounting**; ceiling mounting is the same. If any optionals are provided, **first read** Chapter 6 “Optionals”

⚠ CAUTION

Ensure 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 is not possible, for awnings equipped with automations it is obligatory to install an acoustic warning device.

i INFORMATION AND PRECAUTIONS

Use the most suitable plugs for the type of wall where the awning is to be installed.

i INFORMATION AND PRECAUTIONS

For **CEILING INSTALLATION**, DO NOT FASTEN THE BRACKETS TO THE BLOCKS. The awning may fall with the risk of serious injury to individuals 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 installation of models with more than two arms (see the tables in Chap. 3.2).

4.1 Fastening Wall Brackets

i INFORMATION AND PRECAUTIONS

The instructions that follow are of a general nature and must therefore be adapted to the model of awning being assembled.

- 1▫ Before starting installation, take note of the following information, which is indispensable to find the right position for fastening the brackets:
 - awning dimensions (see Chap 3.1 and Chap. 3.5)
 - dimensions of the brackets (see Chap. 3.6)
 - number of arm supports (see Chap. 3.2)
 - side of awning where control is located;
 - dimensions of the wall/ceiling where the awning is to be installed.

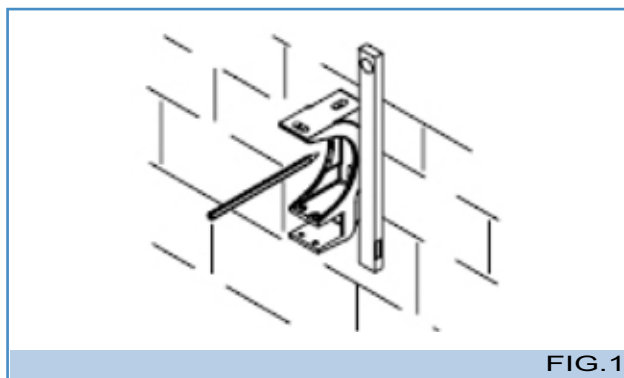
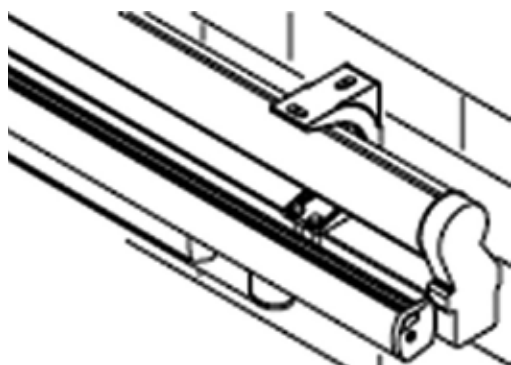


FIG. 1

- (For the support and bracket positions, see Chapter 3.2).
- 2▫ Using a string and a level, mark the position of the holes to be made on the wall (see Fig. 1).

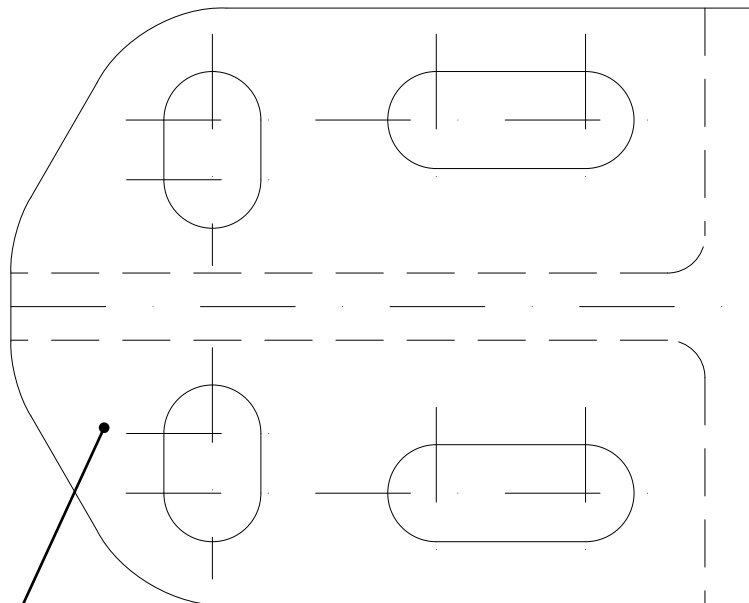
i INFORMATION AND PRECAUTIONS

To make installation easier, you can print pages 18, 19, 20, and 21 in A4 format and use them as templates to find the best positions for the holes.

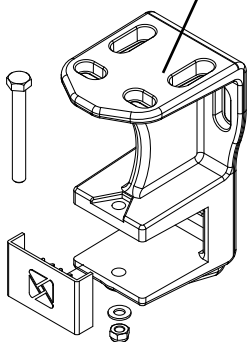
⚠ CAUTION

TO AVOID GROSS ERRORS, MAKE SURE THE PRINT OUT SCALE IS 1:1, CHECKING THE MEASURE INDICATED ON THE PAPER WITH A RULER OR CALLIPER IN RELATION TO THE DIMENSIONS INDICATED ON PAGE 16.

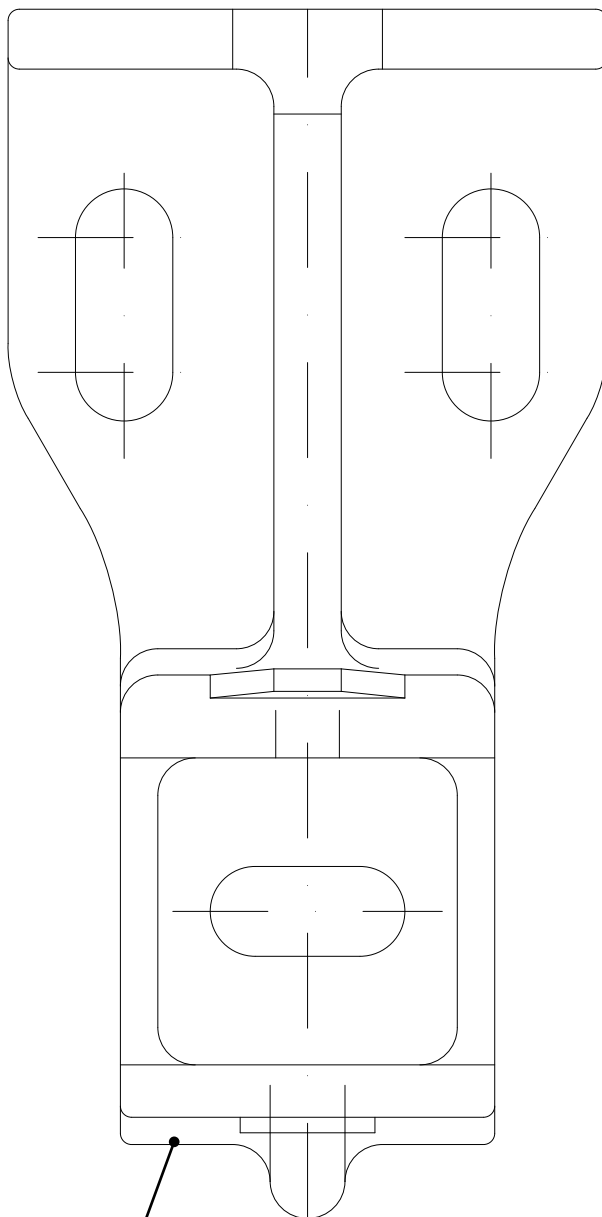
WALL/CEILING SQUARE BAR BRACKET



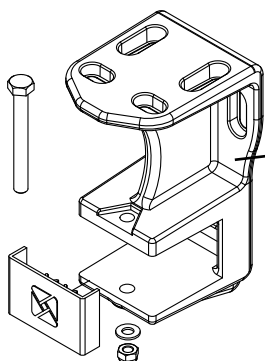
scale 01:01



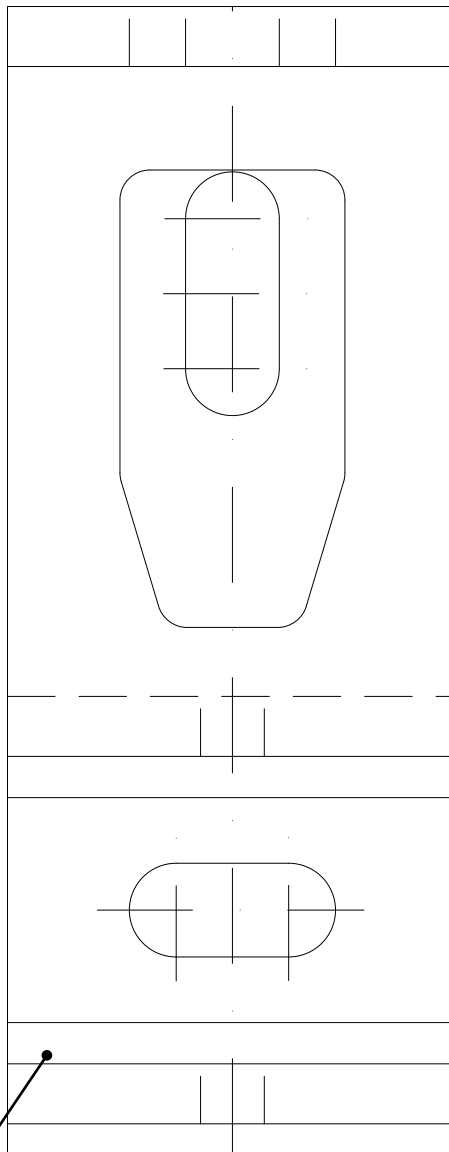
WALL/CEILING SQUARE BAR BRACKET



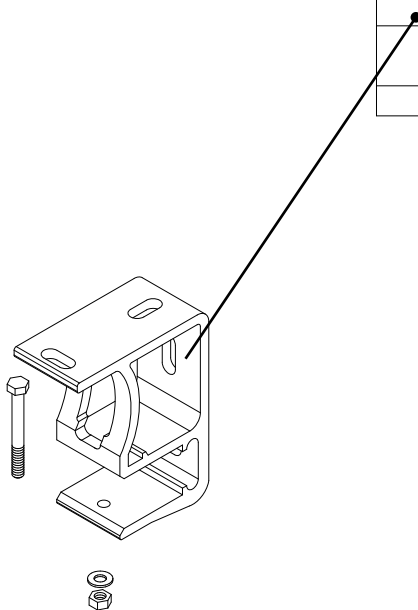
scale 1:1



EXTRUDED WALL/CEILING SQUARE BAR BRACKET



scale 1:1



EXTRUDED WALL/CEILING SQUARE BAR BRACKET

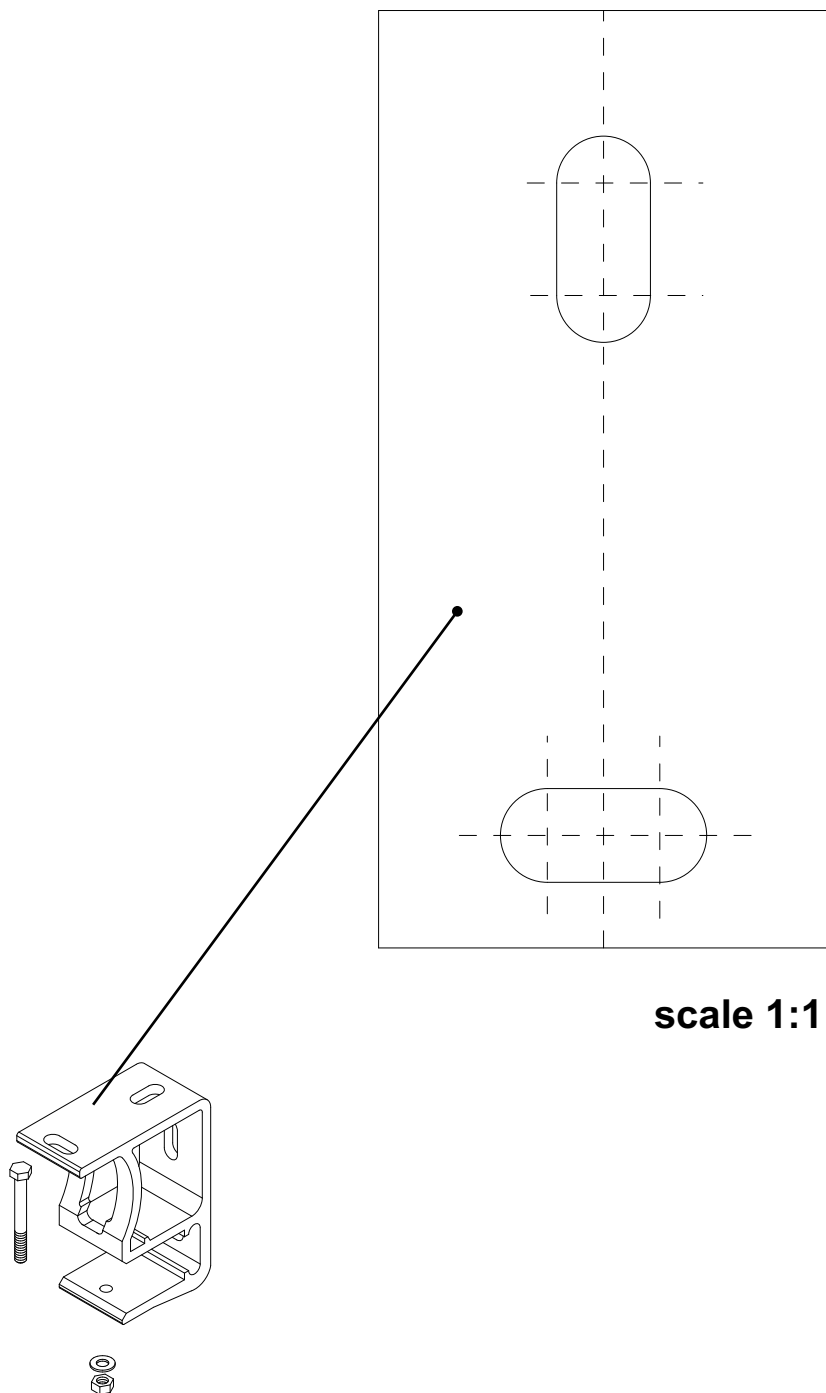




FIG.2

3° Make the holes in the wall using suitable drill based on the type of wall and type of screw to be used. See the Table of Loads, Chap. 3.3.

4.2· Wall Installation

i **INFORMATION AND PRECAUTIONS**
The instructions that follow are of a general nature and must therefore be adapted to the model of awning being assembled.

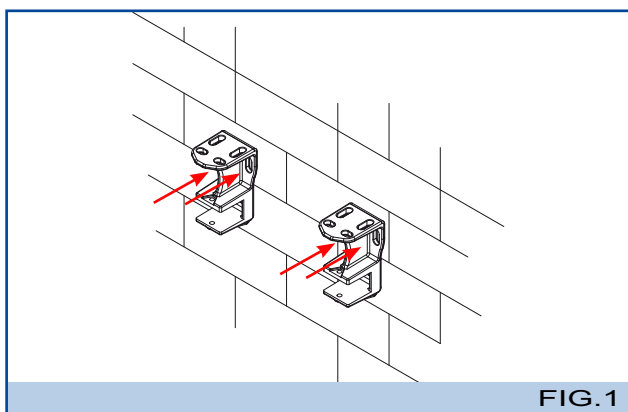


FIG.1

1° Fix the brackets to the wall and insert the square bar (including the awning) on the square bar supports.

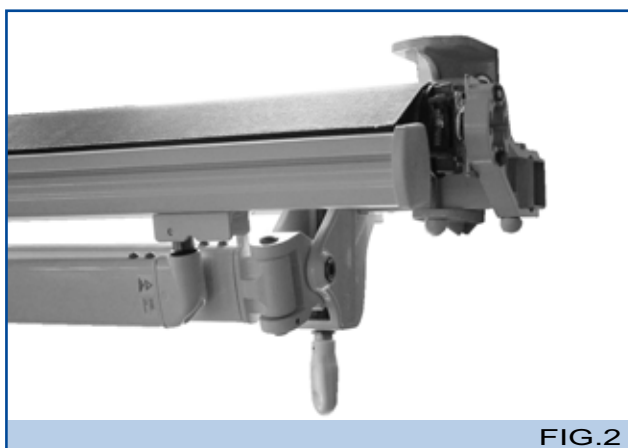


FIG.2

2° Centre the awning on the brackets referring to the table "Awning Dimensions/no. of arms supports" in Chap. 3.2.

i **INFORMATION AND PRECAUTIONS**
If the wall is off-square, it may difficult to install the awning on the support brackets. It is therefore advisable to check the alignment of the brackets and to provide inserts to ensure proper alignment for good installation. Use a string to check alignment.

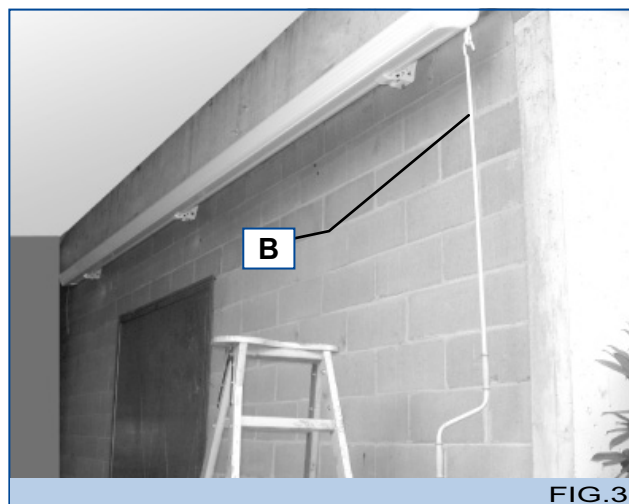


FIG.3

3° Fasten the manoeuvre rod (B) to the winch.



FIG. 4

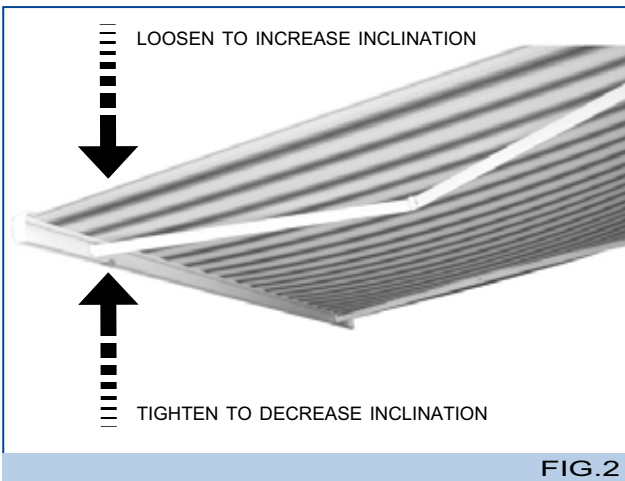
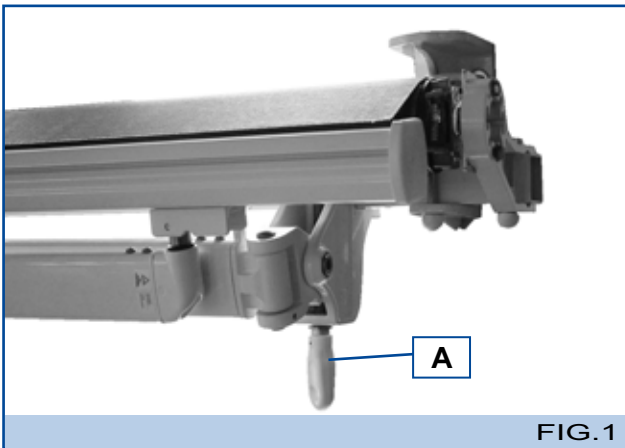
For ceiling-mounted awnings, follow the same instructions as for wall installation.

4.3· Adjustment of Awning Inclination

For this procedure, one worker will need to work on the brackets, and the other, only after opening the awning, will guide the terminal so as to raise or lower the awning easily.

! **CAUTION**
Make sure that when opening/closing the awning, there are no individuals within its range of action who are not involved in the work.

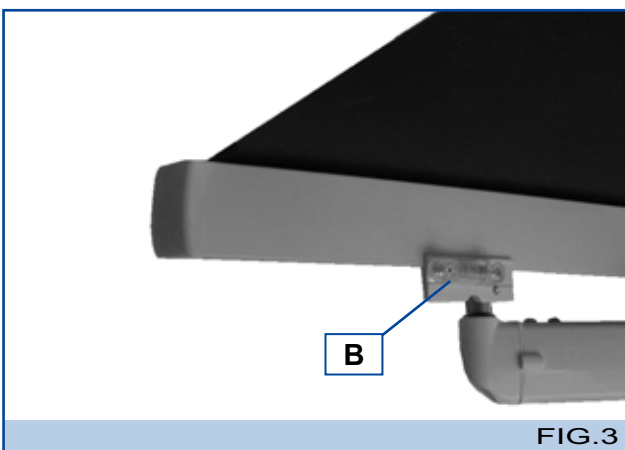
4.3.1 -Adjustment of Awning R-Pitch Inclination



1° Adjust the awning inclination using the rod with the plastic ring (Fig. 1 - A -) in both arm supports.

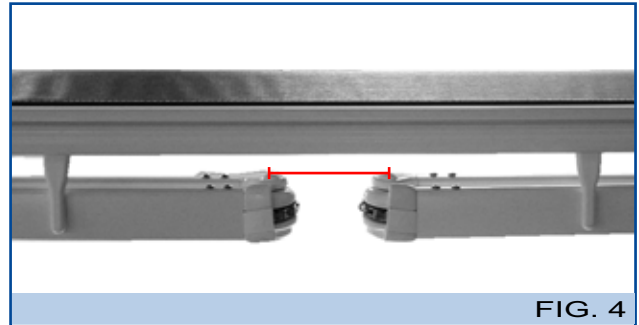
! CAUTION

WHEN ADJUSTING THE SLOPE, START WITH ONE SIDE MAKING SURE THAT IT DOES NOT EXCEED 10° AT THE TIME, THEN ADJUST THE OTHER SIDE BRINGING THE FRONT BAR IN THE HORIZONTAL POSITION, REPEAT THE OPERATION IF NECESSARY.

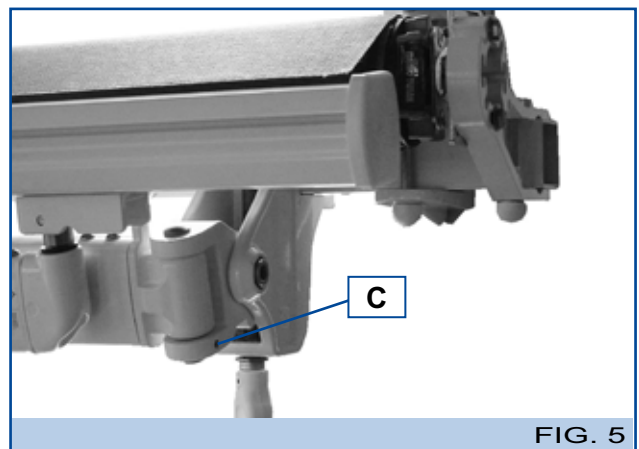


2° Using the level (B), positioned near the tip of the

arm, check that the terminal is perfectly horizontal. If not, adjust the rod with the plastic ring in the support that corresponds to the arm that is not level, following the procedure described previously.



3° Check that the elbows of the extensible arms are parallel.



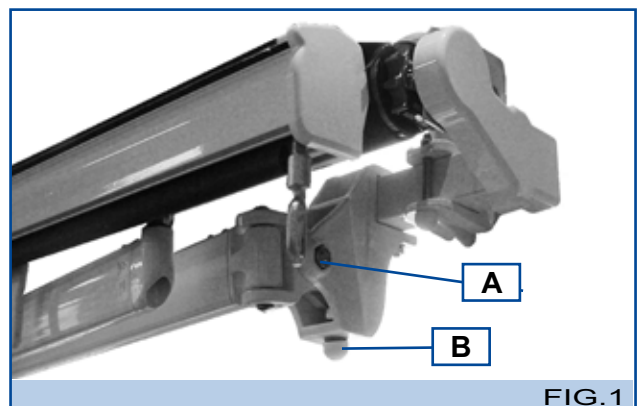
4° If not, tighten the grub screw (C) to raise the elbow of the arm, and unscrew it to lower.

5° Repeat the same steps on the other end of the awning.

i INFORMATION AND PRECAUTIONS

Arm alignment can also be performed with the awning closed as the grub screws are located externally to the support arms.

4.3.2 -Adjustment of Awning R-90 Inclination



1° Loosen the screw (A) and adjust the awning inclination using the screw (B) on both support arms [tighten to reduce the inclination and loosen to increase inclination (see Fig. 2 Chap. 4.3.1)].



FIG.2

- 2° Using a level, check that the terminal is horizontal. If not, adjust the support screw for the arm that is not level using the procedure indicated above.
- 3° Check that the elbows of the extensible arms are parallel (see Fig. 4, Chap. 4.3.1).

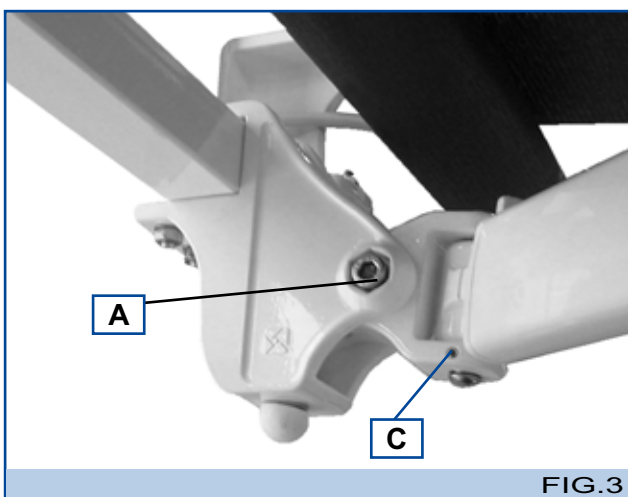


FIG.3

- 4° If not, tighten the grub screw (C) to raise the elbow of the arm, and unscrew it to lower.
- 5° Tighten the screws (A).

5 INSTALLATION OF MOTORIZED AWNING

CAUTION

IT IS PROHIBITED to install the motorized product in an explosive atmosphere.

CAUTION

Use a locking switch (with key) if the awning is installed in sensitive locations such as schools, boarding schools, hospitals, retirement homes, etc.

If the awning is equipped with a radio remote control, keep it out of the reach of children.

CAUTION

If there is an opening/closing switch, it must be located in a protected position at a height of at least 1500 mm above ground level and in a safe place.

CAUTION

The awning must be installed at a minimum height of 2500 mm. If this is not possible, for awnings equipped with automations it is obligatory to install an acoustic warning device.

5.1 - Limit Switch Calibration

INFORMATION AND PRECAUTIONS

Before installation, check that the limit switch is properly calibrated. If it requires adjustment, follow the instructions in the attached "Motor Manual".

5.2 - Electrical Connections and Installation

CAUTION

The electrical connections must be performed by qualified personnel and with the electrical energy disconnected.

INFORMATION AND PRECAUTIONS

IT IS prohibited to connect two or more motors to the same switch due to the risk of induced current that would result in damage to the motors.

Installation of the motorized awning is performed with the same procedure as the manual awning, except for the application of the crank rod (Chap. 4.2, "Box installation", point 3).

Instructions for electrical connection and programming the type of operation are described in the "Motor Manual" which is attached.

6 OPTIONALS

6.1 - Automations

(Only for motorized awnings)

WIND GAUGE, RAIN GAUGE, TWILIGHT SENSOR: installation of these optional is described in the manuals for automations and for requested controls.

⚠ CAUTION

For awnings with automations, the awning must be installed at a minimum height of 2500 mm. If this is not possible, it is obligatory to install an acoustic warning device.

7 SPECIAL MAINTENANCE

7.1 Troubleshooting Table

MANUAL AWNING

PROBLEMS	CAUSES	SOLUTIONS
Conical rolling of canvas	Incorrect symmetry of arms	See manual for Assembly, Chap. 7
	Uneven fabric thickness	Roll the canvass all the way back up

MOTORIZED AWNING

Without electronic control unit

PROBLEMS	CAUSES	SOLUTIONS
Conical rolling of canvas	Incorrect symmetry of arms	See manual for Assembly, Chap. 7
	Uneven fabric thickness	Roll the canvass all the way back up
The awning does not roll up all the way.	Incorrect adjustment of limit switch	See manual for motor (attached)
The awning does not open up all the way.	Movement of motor crown during operation	See manual for Assembly, Chap. 8
The motor is very noisy	Incorrect wiring	See manual for motor (attached)
	Motor defective	See manual for motor (attached)
The motor shuts down after 4-5 minutes of continuous operation	Thermal protection of motor trips	Let the motor cool off for a few minutes

With electronic control unit

PROBLEMS	CAUSES	SOLUTIONS
The awning does not move	Fuse blown	Replace the fuse as shown in the attached manual
	Incorrect wiring	See manual for motor (attached)
The awning moves in jerks (moves for 50 cm, stops, etc.)	Faulty wind gauge	See instructions on automations (attached)
The awning does not roll up in high winds.	Fuse blown	Replace the fuse as shown in the attached manual
	Faulty wind gauge	See instructions on automations (attached)
The awning does not roll up in heavy rain.	Fuse blown	Replace the fuse as shown in the attached manual
	Rain gauge defective	See instructions on automations (attached)
With radio remote control, the awning opens or closes by itself.	Battery dead	Replace battery in radio remote control (see instructions concerning controls)



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