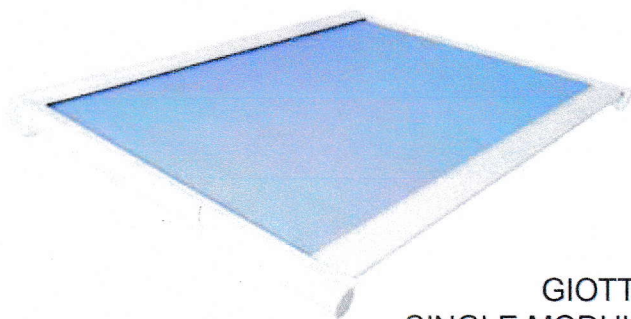
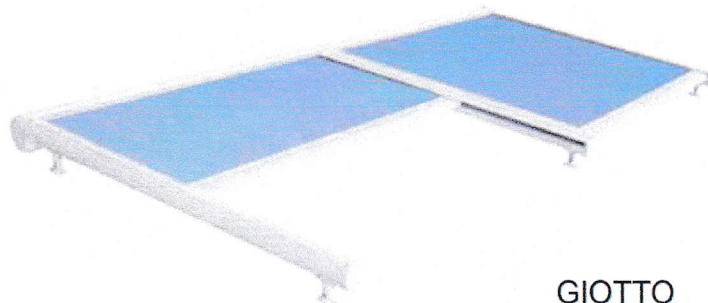




# Giotto/Giotto Plus



GIOTTO  
SINGLE MODULE



GIOTTO  
DUAL MODULE



GIOTTO 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 should be kept intact in all its parts and 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 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 THE OPERATOR! Instructions to be evaluated and followed carefully. Failure to comply with these messages may compromise individual safety.**

### 1.2 Requirements on the staff

The team dedicated to this operation must be in possession of a technical knowledge of product, with at least two years of experience or an appropriate course within the technical training.

### 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;
- a level;
- string;
- full set of tools;
- equipment for working at high levels (jolts, ladders, scaffolding, working platforms, etc.) that comply with existing safety regulations for persons on job.

#### WARNING

**All of the screws used on aluminium components must be tightened with a maximum force of 20Nm (=2Kgm). Maximum force by tightening the screws can cause rupture of mergers and damage to the screw steel. It is recommended to use torque wrenches and screwdrivers.**

#### 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 feet with 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 guide section bars, fabric, controls and any optional items requested.

### INFORMATION AND PRECAUTIONS

**Keep the accessories assembled as per the supply.**

## 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 protective clothing and equipment required by the applicable standards of safety in workplaces.

### WARNING

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

### WARNING

**IT is forbidden to install or place ladders or other items near to the awning, to avoid reducing the space needed for installation.**

### WARNING

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

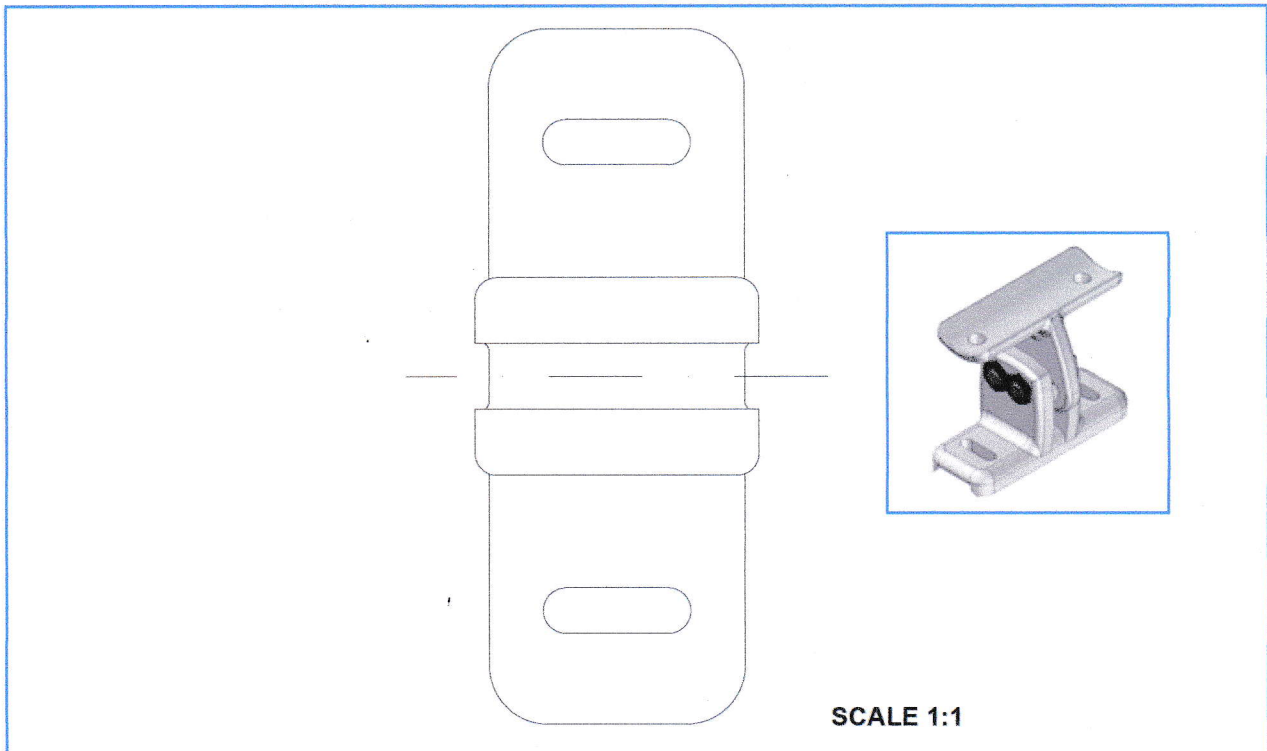
### 2.2· Requirements to work safely

- Installation should be done in full compliance with the DPR Legislative Decree 164/56 and 494/96 for everything that concerns the safety of persons.
- 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 appropriate personal protective equipment.
- If the installers are more than one, you must coordinate the work.
- Operators must conduct themselves in accordance with received safety instructions.
- If the extendable curtain is to be mounted to a plane higher than the earth, it is necessary to demarcate and patrol the area during the climb to the floor of the extendable curtain so that no one is under any suspended load.
- Firmly tie the ropes or straps around the pre-assembled parts so that they do not slip and risk falling.

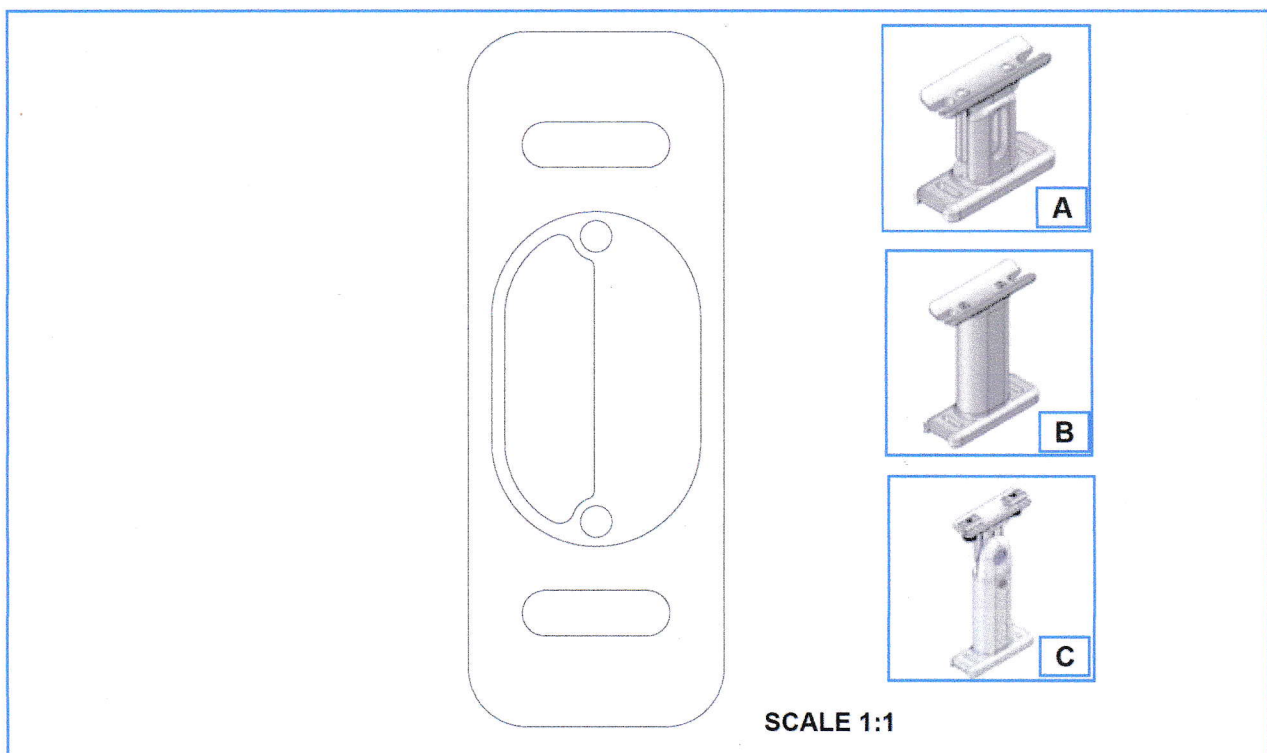
### 2.3· Work environment

- 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.

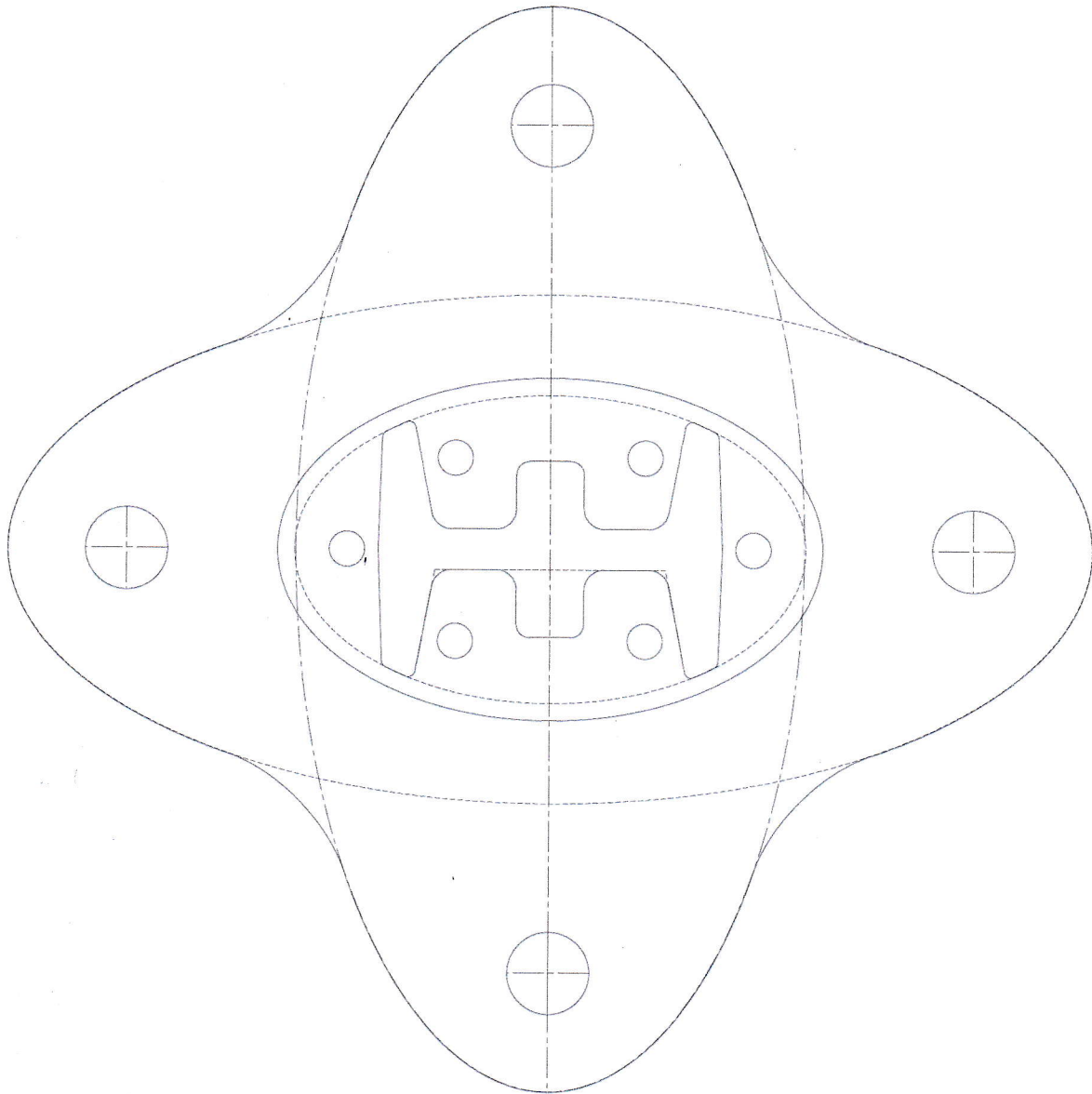
## FOOT FOR HORIZONTAL-LATERAL ADJUSTMENTS



## FOOT FOR VERTICAL (A) ADJUSTMENTS VARIABLE HEIGHT (B). AND VARIABLE HEIGHT WITH INCLINE (C)

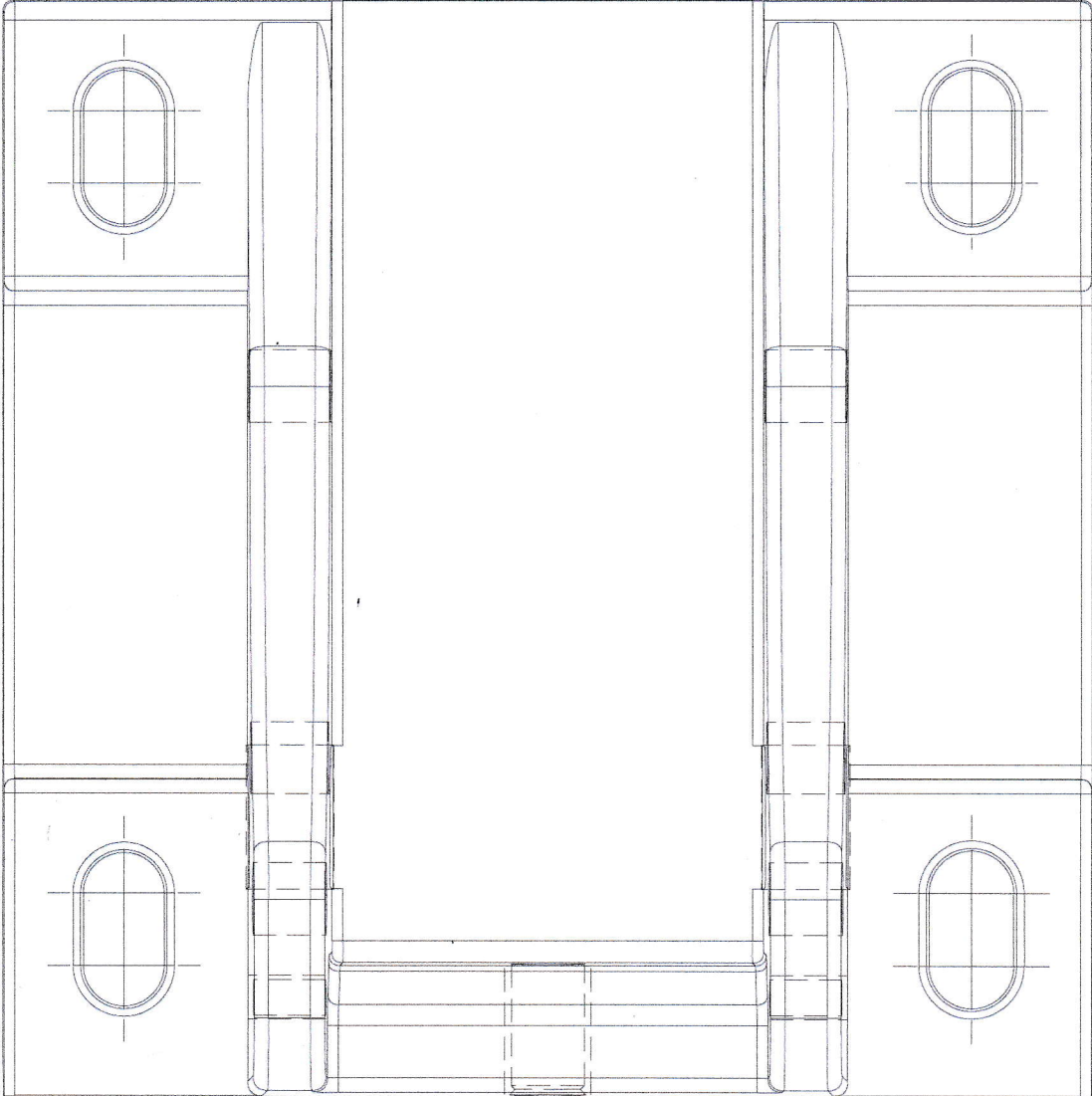


## UNIVERSAL FOOT



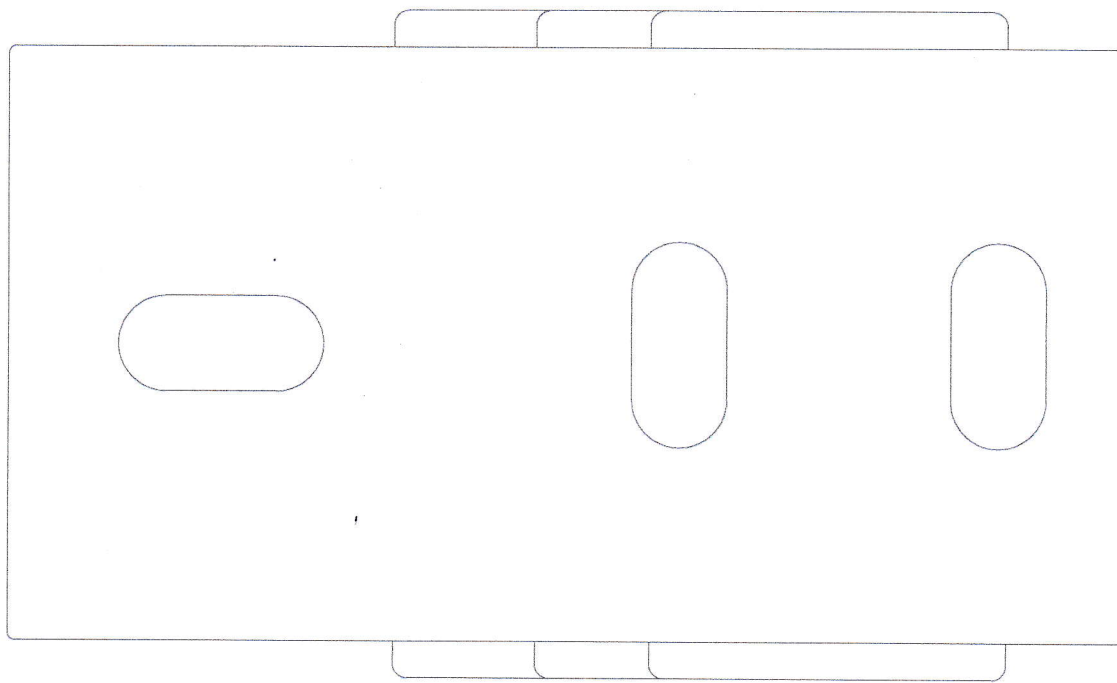
SCALE 1:1

WALL BRACKET



SCALE 1:1

## CEILING BRACKET



SCALE 1:1



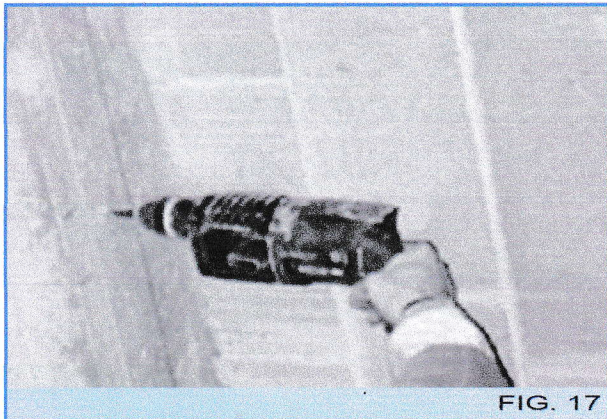


FIG. 17

10-Drill the wall depending on the type of screws available and the type of wall in the correct position.

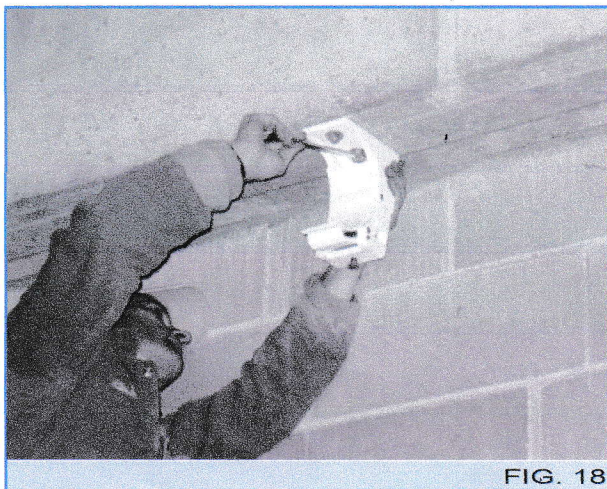


FIG. 18

11- Fix the brackets to the ceiling: introduce the plugs in the holes and block the brackets with specific screws.

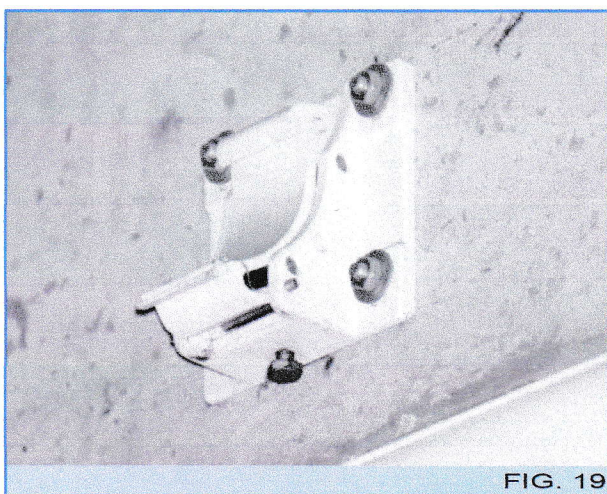


FIG. 19

12-If the awning is to be installed on **THE WALL**, use the appropriate brackets. After having calculated the position of the holes on the wall, attach them using each of the four plugs and screws.

## **i** INFORMATION AND PRECAUTIONS

If the wall should be out of true, mounting the cassette on support brackets may prove 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.

## 4.4- Box, guide and column installation

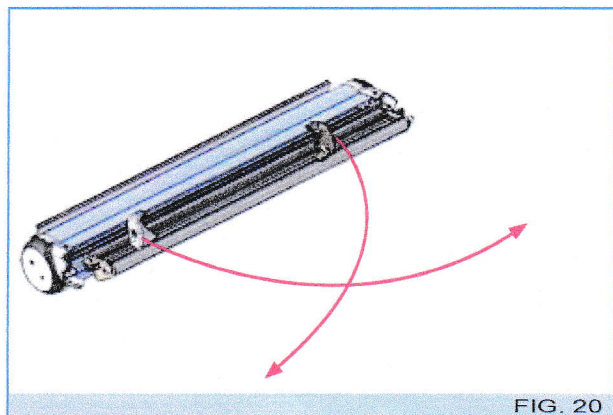


FIG. 20

13 - Unwrap the awning being careful not to damage the bars.

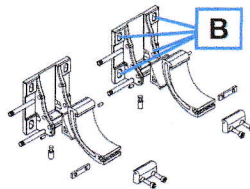
To install the box, this process requires the involvement of at least two operators.

## **!** WARNING

All handling and lifting operations must be carried out using utmost caution, checking that unauthorised staff are at a safe distance from operations, i.e. that nobody stands under suspended, still or moving loads.

## **i** INFORMATION AND PRECAUTIONS

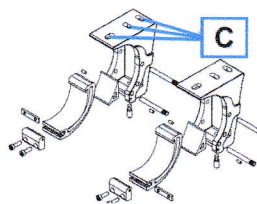
Wall Giotto Plus plug calculations are made with the brackets in the figure below, considering the fact that the holes (B) should be used.



WALL INSTALLATION						
Load extraction on anchors (KN)		WIDTH (m)				
		1	2	3	4	5
PROJECTION (m)	1	0,014	0,048	0,103	0,177	0,271
	2	0,028	0,097	0,205	0,354	0,542
	3	0,043	0,145	0,308	0,531	0,814
	4	0,057	0,194	0,411	0,708	1,085

## **i** INFORMATION AND PRECAUTIONS

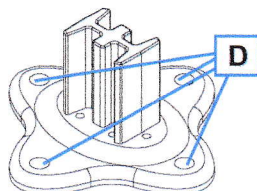
Ceiling Giotto Plus plug calculations are made with the brackets in the figure below, considering the fact that the holes (C) should be used.



CEILING INSTALLATION						
Load extraction on anchors (KN)		WIDTH (m)				
		1	2	3	4	5
PROJECTION (m)	1	0,033	0,107	0,220	0,374	0,567
	2	0,067	0,214	0,441	0,748	1,135
	3	0,100	0,321	0,661	1,122	1,702
	4	0,134	0,428	0,882	1,496	2,270

## **i** INFORMATION AND PRECAUTIONS

Giotto plug calculations are made with the universal feet in the figure below, considering the fact that the holes (D) should be used.



GROUND INSTALLATION						
Load extraction on anchors (KN)		WIDTH (m)				
		1	2	3	4	5
PROJECTION (m)	1	0,023	0,085	0,188	0,330	0,513
	2	0,045	0,170	0,375	0,660	1,025
	3	0,068	0,255	0,563	0,990	1,538
	4	0,090	0,340	0,750	1,320	2,050

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.

## **i** INFORMATION AND PRECAUTIONS

The Giotto awning can be installed on wooden, steel and aluminium beams.

### **!** WARNING

The choice of the most appropriate fixing component depends on the type of base material and on the physical condition of the latter. It is therefore the assembler's place to check the condition of the base material before fixing the awning. The assembler is not bound to use Hilti anchors. (We suggest using plugs or metric screws).

### **!** WARNING

THE ABOVE TABLE IS 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.

### 3.2- Table with recommended anchors



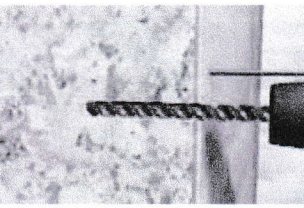
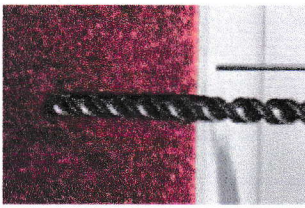
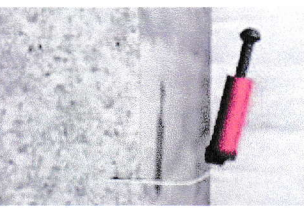
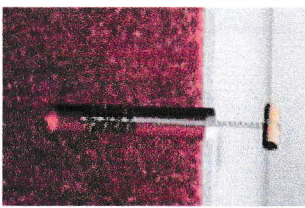
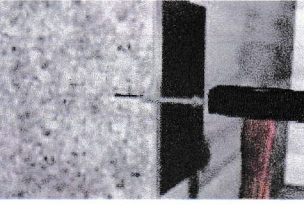

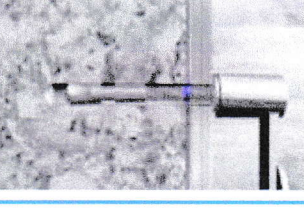
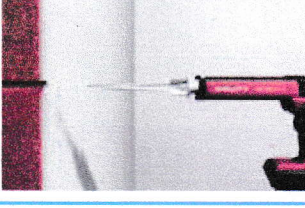


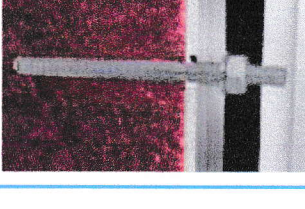
#### 3.2.1 -Types of the anchors depending on the base material

Load extraction on anchors (KN)		
Hilti HST		CONCRETE CONCRETE WITH SLOTS 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 FULL BRICK WOOD
Hilti HIT-HY 50		GAS-BETON FULL BRICK WOOD
Hilti HIT-HY 20		PERFORATED BRICK

### **i** 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](mailto:tecnici@hilti.com))

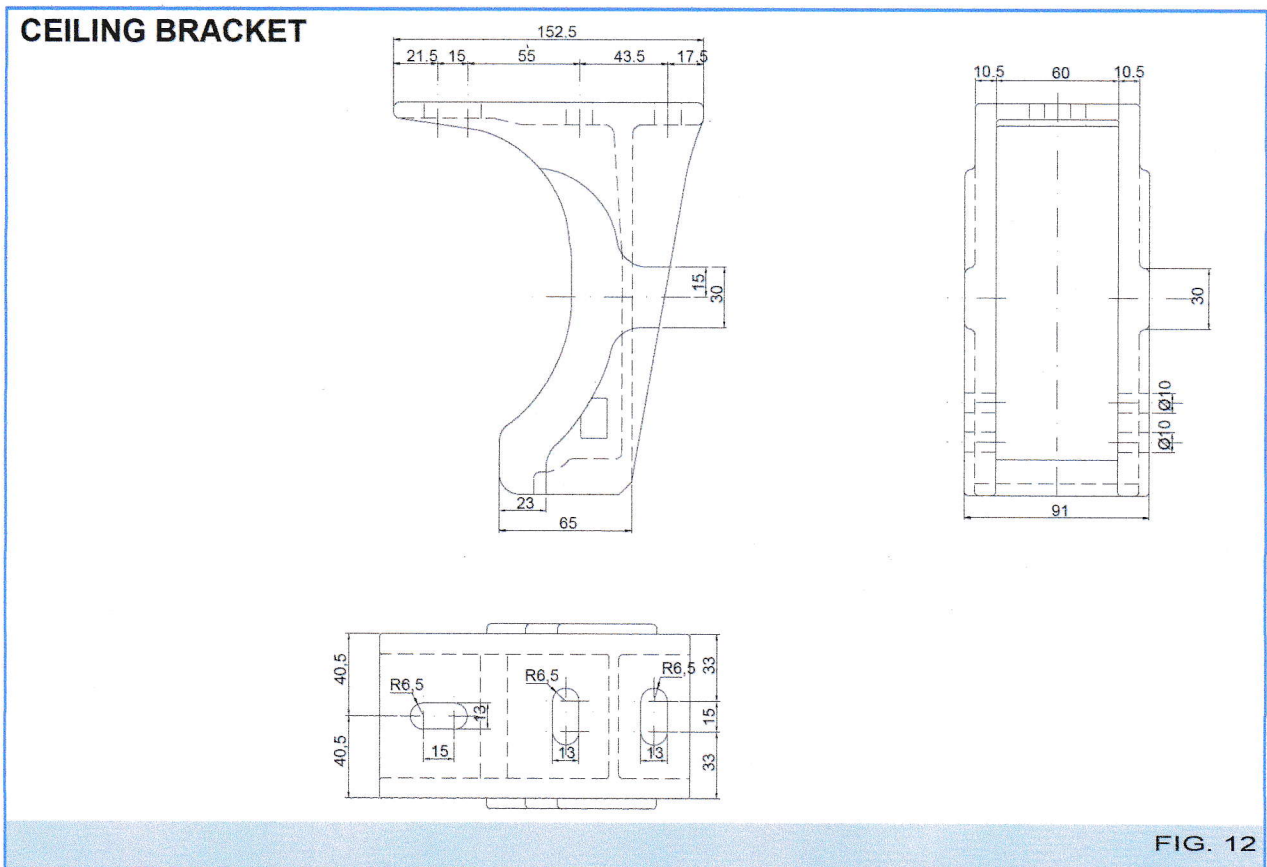
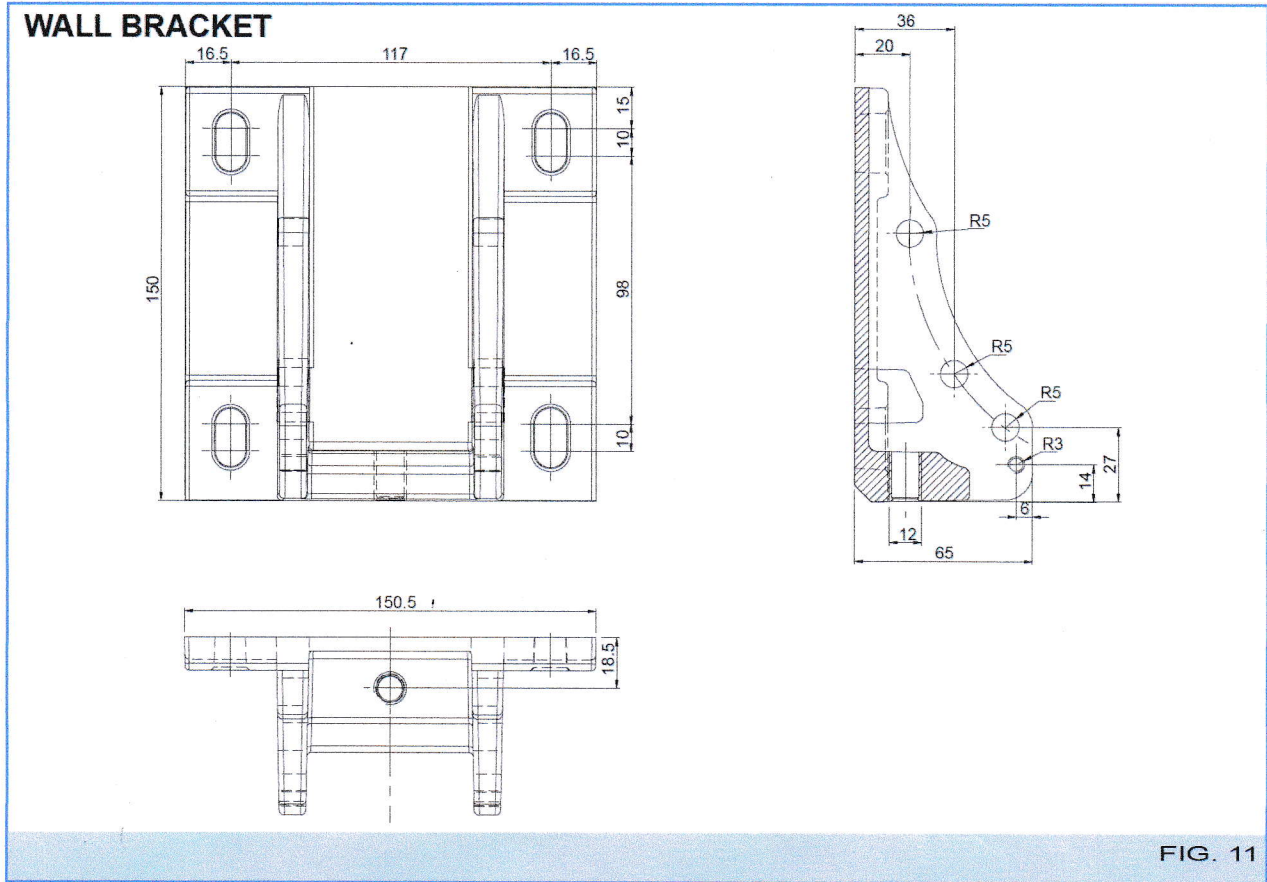
### 3.2.2 • Sequence for the attachment of anchors

MECHANICAL ANCHORS		CHEMICAL ANCHORS	
	1° Drill a hole with a drill bit that is passable for anchors		1° Drill a hole with a drill bit that is passable for anchors
	2° Pay attention to the depth of drilled hole		2° Pay attention to the depth of drilled hole
	3° Clear the hole of dust and fragments (ideally using compressed air)		3° Remove the dust and chips from the hole with a brush
	4° Install the anchor		4° Remove the residue dust using the compressed air
	5° Tighten until reaching the recommended torque (see General Catalogue Hilti)		5° Inject the chemical adhesive
	6° Final configuration		6° Insert and adjust the anchor, following the necessary time for rest before placing the plate (refer to cartridge product)
			7° Position the plate and tighten to recommended tightening torque after "T cure" time (see Hilti General Catalogue)

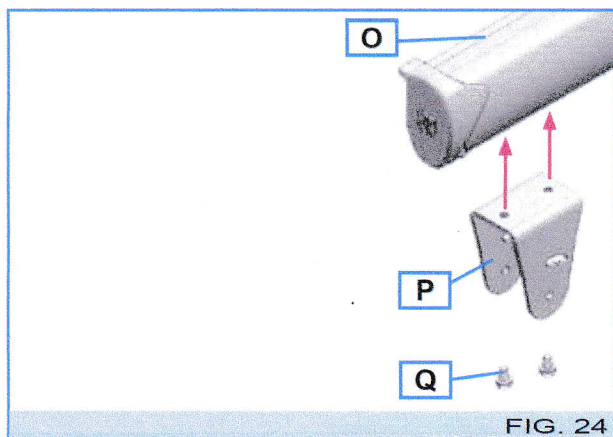
**! WARNING**

For proper installation of anchors do however refer to the General Catalogue Hilti.

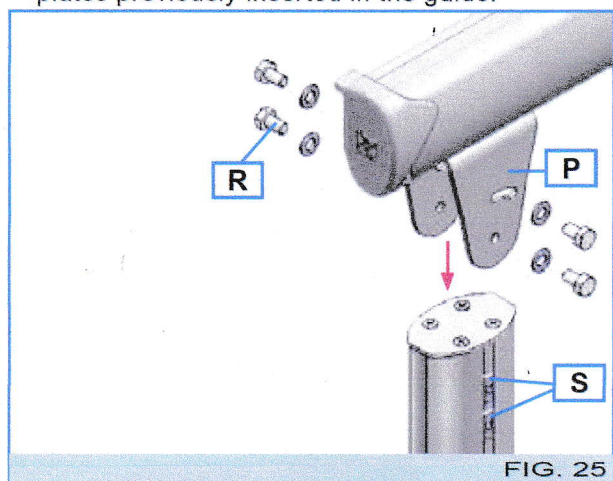
## 3.3.5 - Giotto Plus Brackets



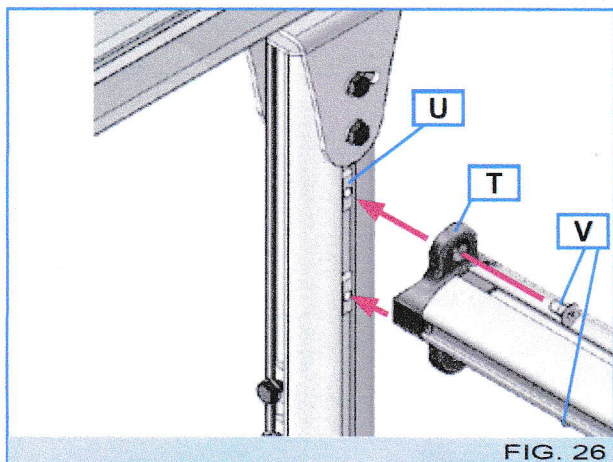
## 4.4.3-Installing the Giotto Plus columns



28-Attach the angular joint (P) to the guide rail (O) attaching it with the screws (Q) on the small plates previously inserted in the guide.



29-Install the angular joint (P) to the universal column rail attaching it with the screws (R) on the small plates (S).

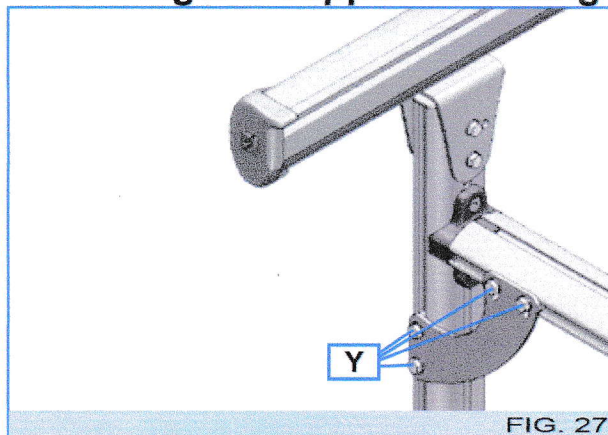


30-Attach the perimeter support (T) to the small plates (U) with the screws (V).

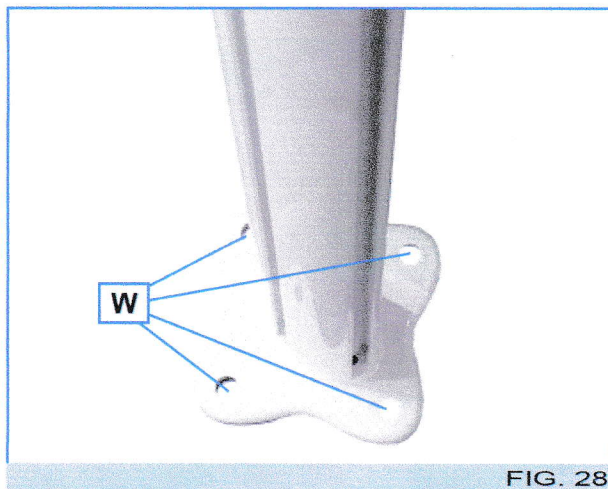
### **!** WARNING

**Attach the perimeter support (T) at about 4.5 cm to the angular joint (P-Fig. 25).**

## 4.4.4 - Angular support fastening



31-Attach the angular support to the with screws (Y) as in the figure.



22-Attach the feet to the group with the nuts in the holes (W).

**i** **INFORMATION AND PRECAUTIONS**  
**See the instructions on page 17 to install the foot on the ground.**

## 5 OPTIONALS

### 5.1 Automatic mechanisms

(on motorised awnings only)

**ANEMOMETER, RAIN GAUGE, TWILIGHT SENSOR:** The installation of these optionals is described in the manuals concerning the automation and controls required.

#### **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.**

## 6 EXTRAORDINARY MAINTENANCE

### 6.1 Troubleshooting, causes and solutions

#### MOTORIZED CURTAINS

without electronic control centre

PROBLEMS	CAUSES	SOLUTIONS
Conical winding of canvas	Erratic symmetry of the arms Non-uniform canvas thickness	See Motor Manual, Chapter 7 Fully rewind canvas
The awning does not rewind completely.	Mistaken limit-switch regulation	See Motor Manual (attached)
The awning does not open completely.	Motor crown moving with movement	See Motor Manual, Chapter 8
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.	Empty battery	Replacing battery in the transmitter (see Instructions for Controls)





awning the Italian way

BAT S.p.A.  
Via H.Ford, Z.I. Est  
30020 Noventa di Piave (VE) Italy  
tel +39 042165672  
fax +3900421659007  
info@batgroup.com  
www.batgroup.com

## 4 CURTAIN INSTALLATION

If the supply requires the presence of the optional, read first the Chapter 5 "Optionals".

### **! WARNING**

**INSTALLING the motorised product is strictly prohibited in explosive environments.**

### **! WARNING**

Use a locking switch (with key) if the awning is installed in sensitive buildings, e.g. schools, colleges, hospitals, clinics, etc.

If the awning has a radio control unit, it must kept out of reach of children.

### **! WARNING**

If the switch for opening/closing is existing, it has to be placed in a secure location at a minimum height of 1500 mm above the ground and in an area where access is not a source of danger.

### **! 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.

### 4.1 Limit switch calibration

#### **i 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.

### 4.2 Electrical wiring and installation

#### **! WARNING**

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

#### **i INFORMATION AND PRECAUTIONS**

IT IS forbidden to connect two or more engines to the same switch: risk of induced currents with consequent damage to motors.

The instructions for the electrical connection and programming the type of operation are described in "Engine Manual", attached.

### 4.3 Fastening feet and support brackets

- 1° Before starting the installation, please note the following information are needed in order to find the correct location for the feet and brackets:
  - dimensions of the awning (box width and height, dimensions of the closed and open curtain);
  - bracket and feet measurements (see Chapter 3.3.3);
  - side of the curtain with the control;
  - dimensions of the assembly/wall on which the curtain must be installed.

#### GIOTTO FOOT

#### **i INFORMATION AND PRECAUTIONS**

Use the most suitable feet for the type of surfaces the awning is being installed on.

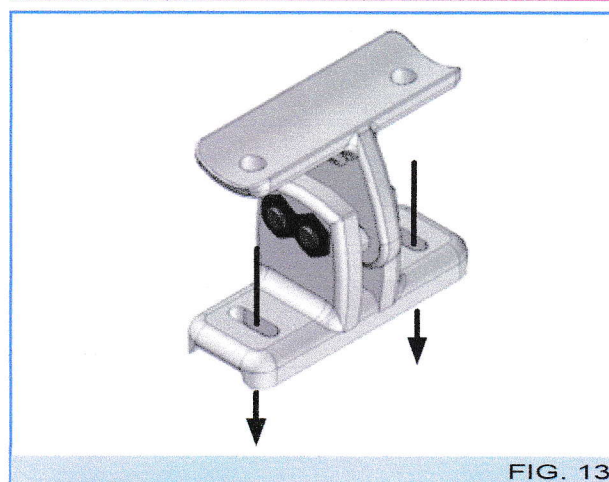


FIG. 13

- 2° Using string and a spirit level, mark the position of the holes on the surface/wall (see fig. 6, page 13).
- 3° Always use two holes to fasten the supports.

## GIOTTO PLUS FOOT

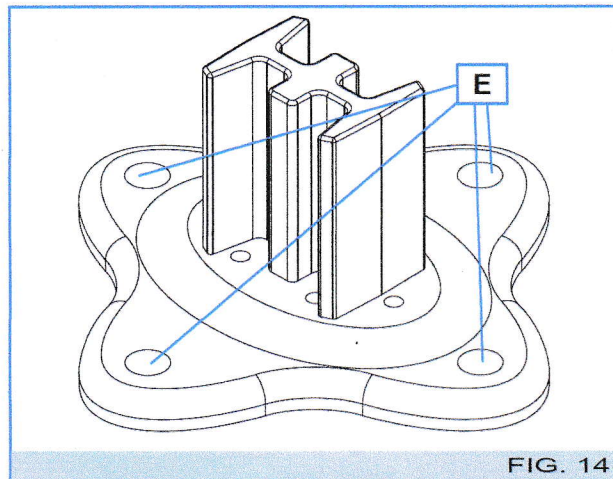


FIG. 14

- 4° Using string and a spirit level, mark the position of the holes (E) on the surface/wall (see fig. 10, page 13).  
 5° Always use four holes to fasten the feet.

## GIOTTO PLUS WALL BRACKETS

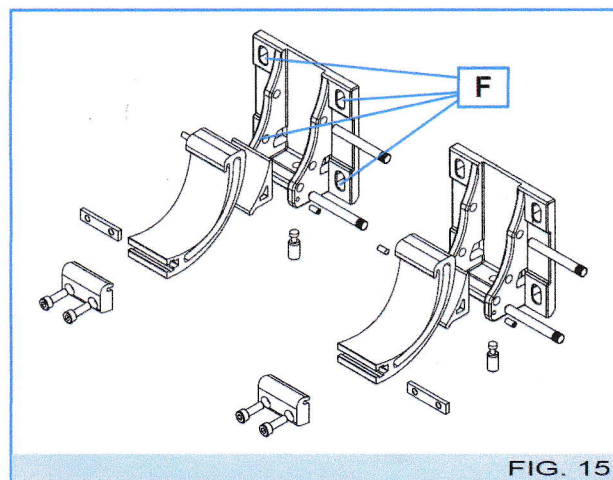


FIG. 15

- 6° Using string and a spirit level, mark the position of the holes on the wall (see fig. 11, page 14).  
 7° Always use four holes (F) to fasten the brackets.

## GIOTTO PLUS CEILING BRACKETS

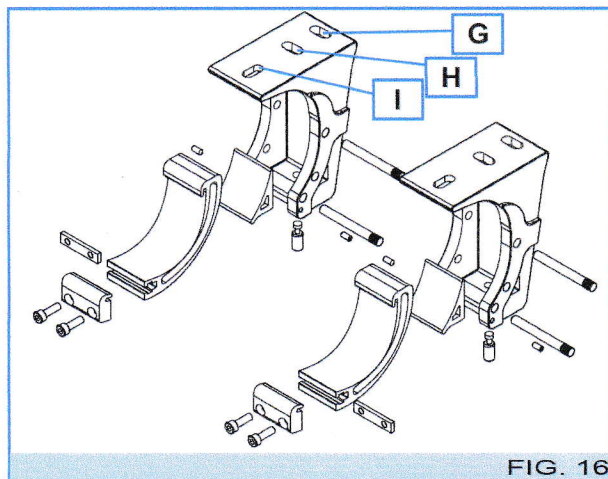


FIG. 16

- 8° Using string and a spirit level, mark the position of the holes on the ceiling (see fig. 12, page 14).  
 9° Always use three holes (I-H and G) to fasten the brackets. In the case where hole F is not accessible, use holes I and G.

## **i** INFORMATION AND PRECAUTIONS

To help installation, print pages 18-19-20 and 21 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 CALIBRE RULER, RELATING TO THE MEASUREMENTS SHOWN ON PAGES 14 AND 15.