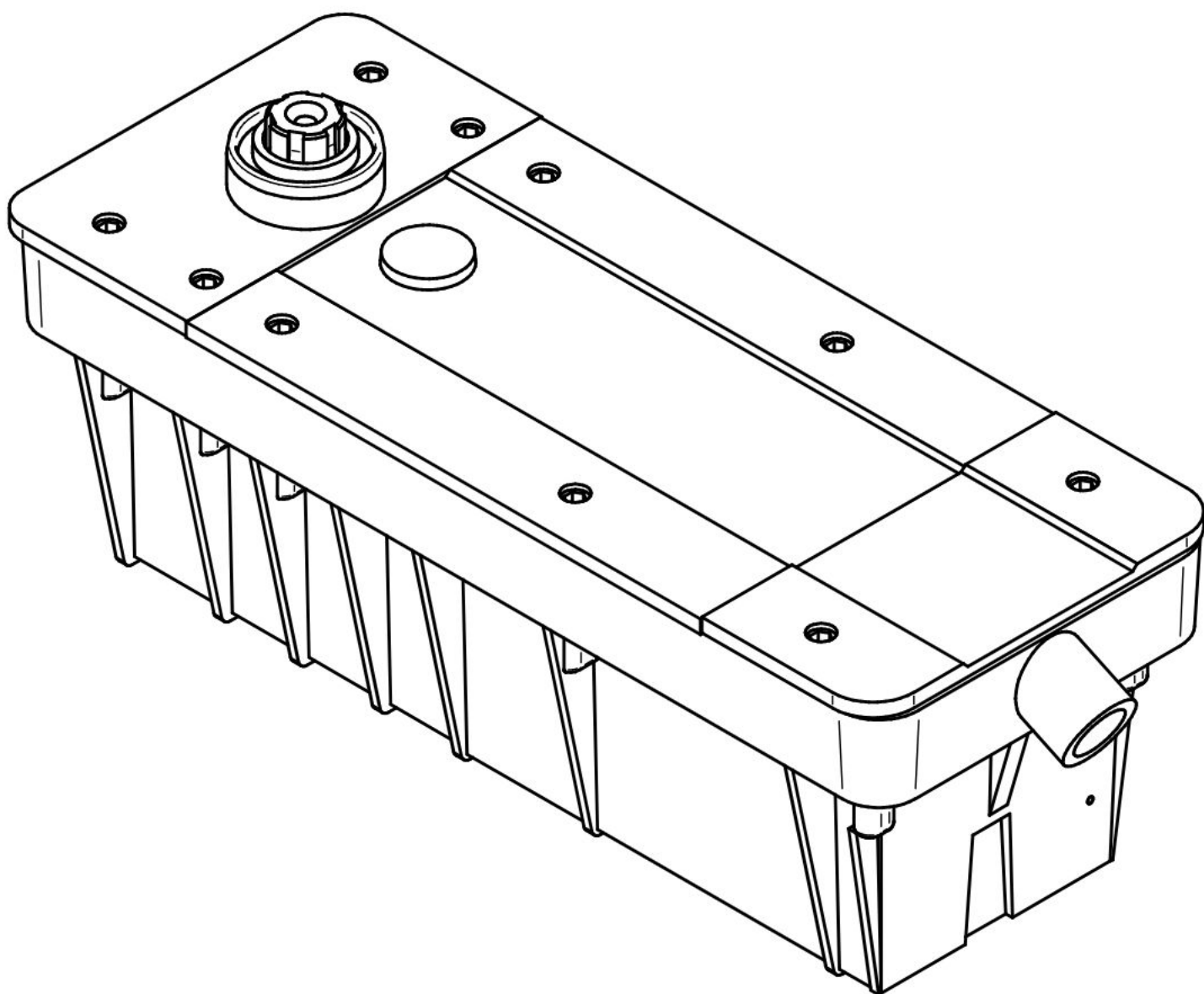


# BA502



## 1. TECHNICAL DATA

<b>BA502/230V</b>		<b>BA502/24V</b>		<b>BA502/12V</b>	
Power supply	230 V~/50Hz	Power supply	24V cc	Power supply	12V cc
Current	1.0 A	Current	4.0 A	Current	7.0 A
Motor power	220 W	Motor power	70 W	Motor power	60 W
Torque	345 Nm	Torque	148 Nm	Torque	148 Nm
Insulation	Class H	Insulation	Classe H	Insulation	Classe H
Opening time 90°	16 s	Opening time 90°	16 s	Opening time 90°	16 s
Max leaf weight	300 Kg	Max leaf weight	300 Kg	Max leaf weight	300 Kg
Max lead length		Max lead length		Max lead length	
/CB	2.0 m	/CB	2.0 m	/CB	2.0 m
/SB	3.0 m	/SB	3.0 m	/SB	3.0 m
Class of service	domestic	Class of service	domestic	Class of service	domestic
Cycle ( work/pause)	50%	Cycle ( work/pause)	50%	Cycle ( work/pause)	50%
Temperature	-20° C / +50 °C	Temperature	-20° C / +50 °C	Temperature	-20° C / +50 °C
Degree of protection	IP 68	Degree of protection	IP 68	Degree of protection	IP 68
Oil	Agip OSO32	Oil	AGIP SL00	Oil	AGIP SL00
Weight	15 Kg	Weight	15 Kg	Weight	15 Kg

<b>BA502/XXL/230V</b>		<b>BA502/XXL/24V</b>		<b>BA502/XXL/12V</b>	
Power supply	230 V~/50Hz	Power supply	24V cc	Power supply	12V cc
Current	1.4 A	Current	4.0 A	Current	7.0 A
Motor power	300 W	Motor power	70 W	Motor power	60 W
Torque	1000 Nm	Torque	440 Nm	Torque	440 Nm
Insulation	Classe H	Insulation	Classe H	Insulation	Classe H
Opening time 90°	48 s	Opening time 90°	48 s	Opening time 90°	48 s
Max leaf weight	500 Kg	Max leaf weight	500 Kg	Max leaf weight	500 Kg
Max lead length		Max lead length		Max lead length	
/CB	5.0 m	/CB	5.0 m	/CB	5.0 m
Class of service	domestic	Class of service	domestic	Class of service	domestic
Cycle ( work/pause)	50%	Cycle ( work/pause)	50%	Cycle ( work/pause)	50%
Temperature	-20° C / +50 °C	Temperature	-20° C / +50 °C	Temperature	-20° C / +50 °C
Degree of protection	IP 68	Degree of protection	IP 68	Degree of protection	IP 68
Oil	Agip OSO32	Oil	AGIP SL00	Oil	AGIP SL00
Weight	25 Kg	Weight	15 Kg	Weight	15 Kg

## 2. PRELIMINARY CHECKS

Check the stability and robustness of the leaf

Check the condition of the hinges that hold the leaf.

Check out that there is no friction between the leaf and the floor and between the leaf and further obstacles.

Must be installed gate stops in opening and closing positions.

Ensure that the leaf can not get out of the hinges and fall.

Remove points of shearing and crushing.

Install sensible edges where necessary.

Connect the power supply to an all-pole switch with contact opening distance of at least 3 mm.

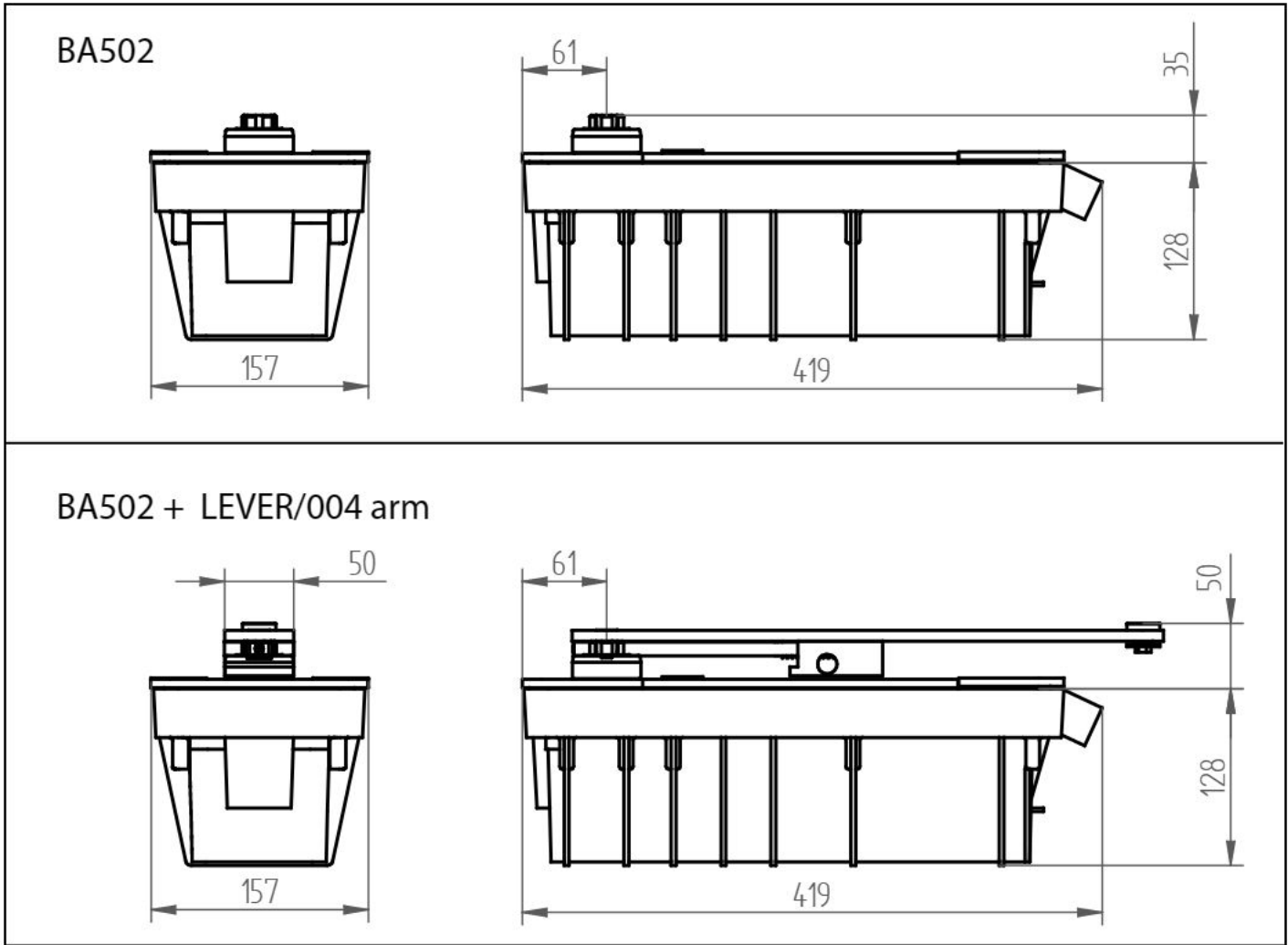
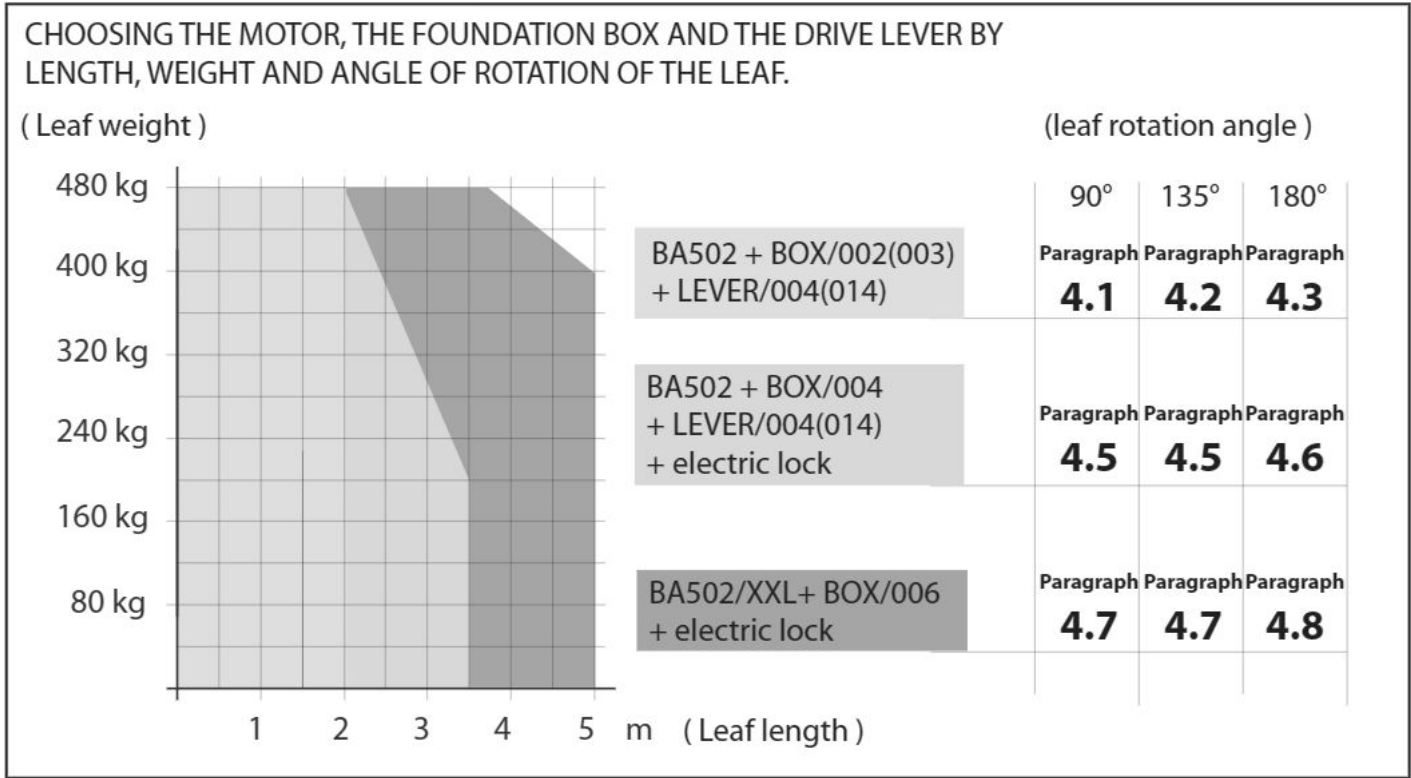
The connection to the mains must be made an independent channel and separated from the connections to safety and control systems.

Check with the diagram on page 2, the correct combination of BA502 or BA1000 fits the length and pesodel gate that you want to automate.

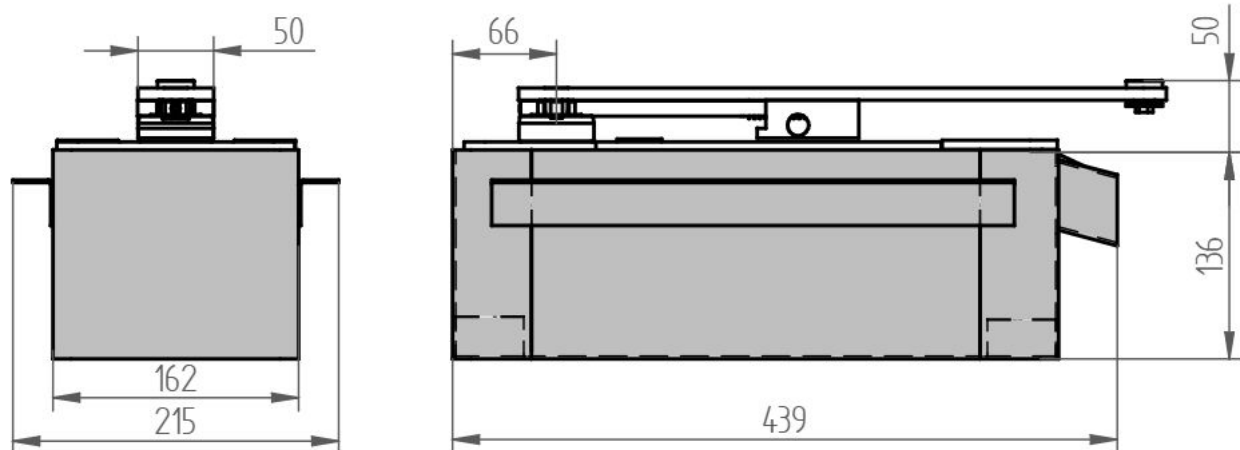
3. CHOICE OF CONFIGURATION

The automation BA502 is highly configurable with a wide range of levers and foundation boxes to adapt to different installations.

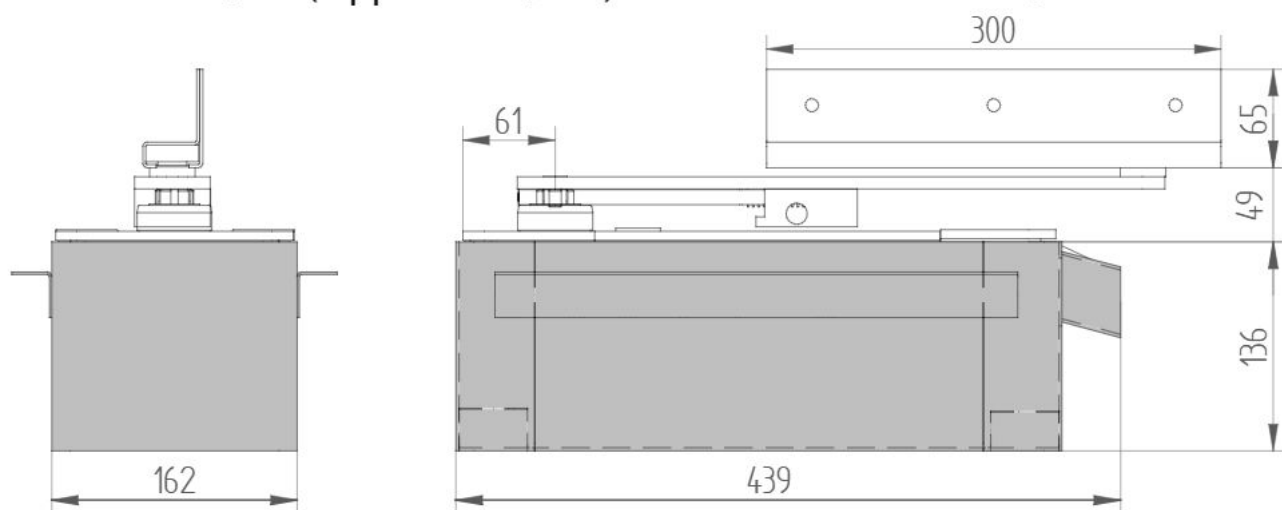
Use the chart below to choose the combination that fits your installation:



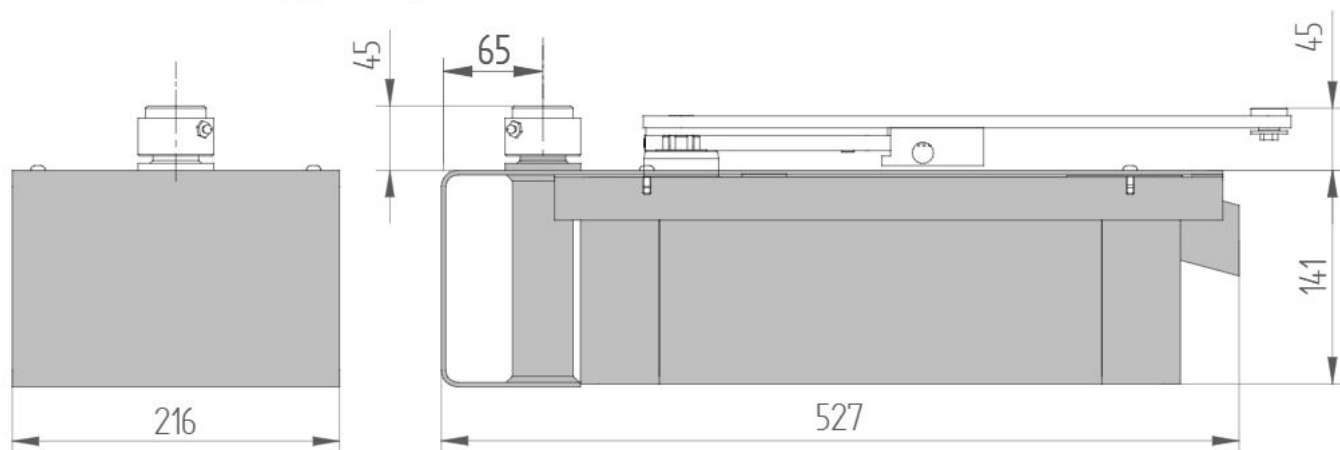
BA502 + LEVER/004 arm + BOX/002(BOX/003) foundation box



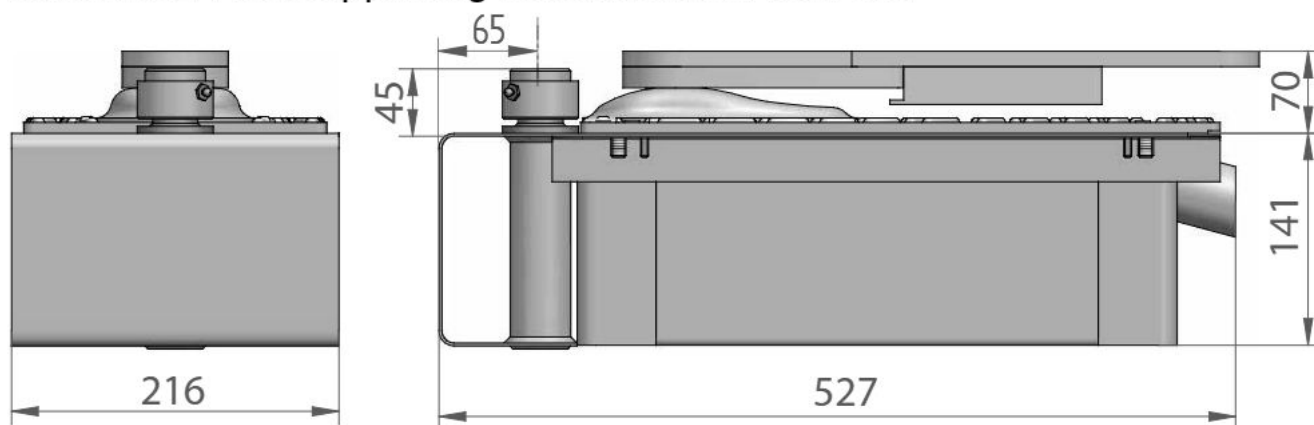
BA502 + BOX/002( oppure BOX/003) foundation box + LEVER/014 arm with roll



BA502+ self-supporting foundation box BOX/004 + LEVER/004 arm



BA502/XXL + self-supporting foundation box BOX/004

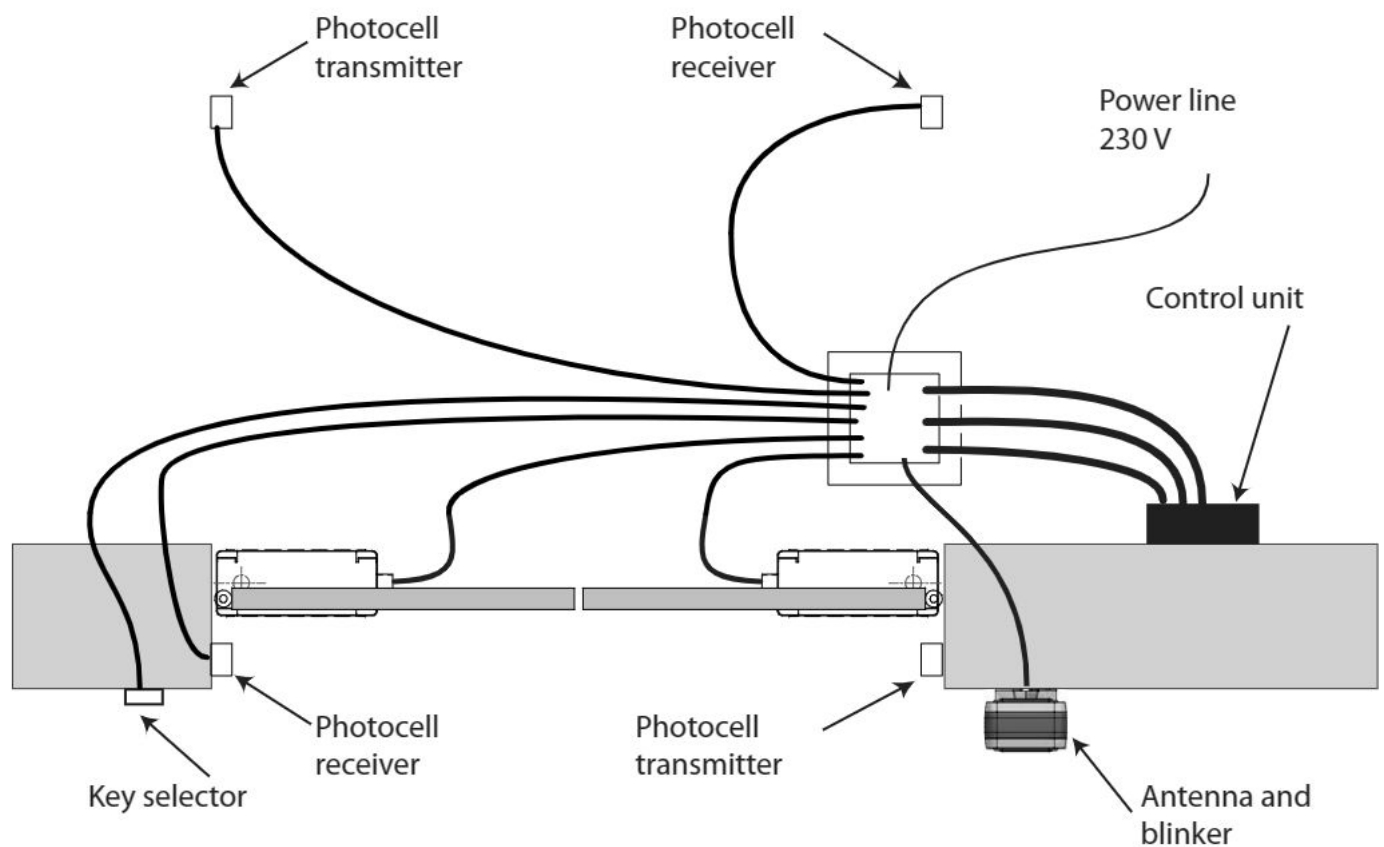


## 4. INSTALLATION SET

Refer to the general layout of positioning of pipes for cables on this page.

Use the table on page 2 and according to length, weight and angle of the gate go to the correct section (4.1, 4.2, etc ...) to locate the correct position and orientation of the foundation boxes .

### Layout of positioning of pipes for cables



Power supply line 230V: 3G/Y 2,5mm<sup>2</sup>

Gearmotor line: 3G/Y 1,5 mm<sup>2</sup>( FROR CEI 20-22 CEI EN 50267-2-1 )

Blinker : 2x0,5mm<sup>2</sup>

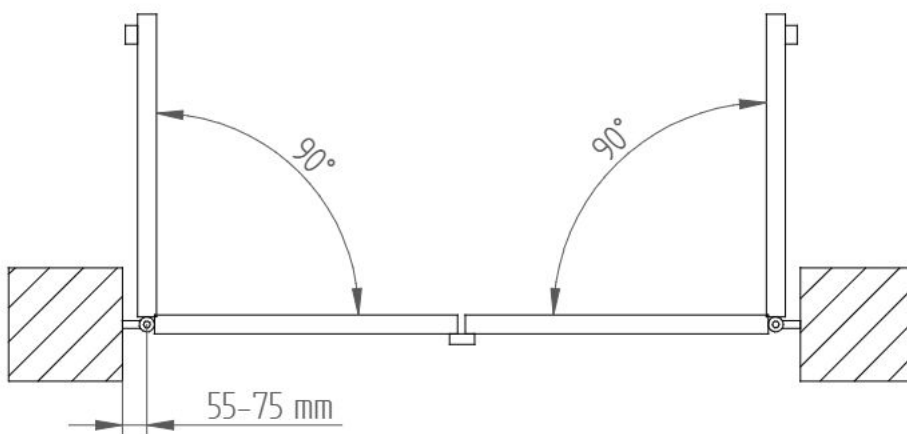
Photocell transmitter : 2x0,5mm<sup>2</sup>

Photocell receiver : 4x0,5mm<sup>2</sup>

Key selector : 3x0,5mm<sup>2</sup>

Antenna : RG58 ( Max 3 meters )

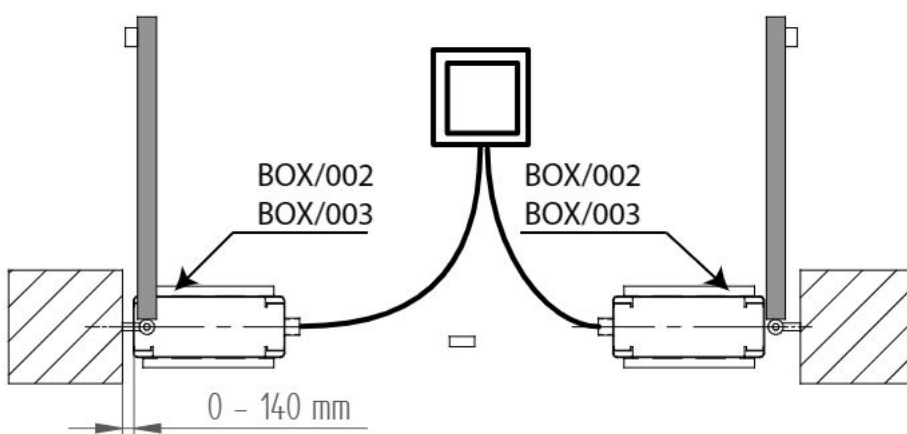
#### 4.1 BA502 + foundation box BOX/002 or BOX/003 + LEVER/004 arm, leaf opening 90 °



Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX002(BOX003) at a maximum distance of 140 mm from the column.

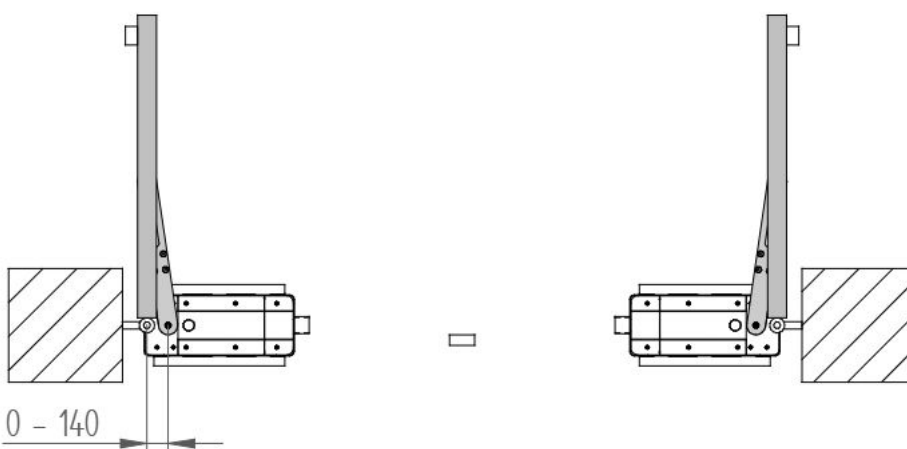
Provide a drain on the bottom of the box BOX002.



Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

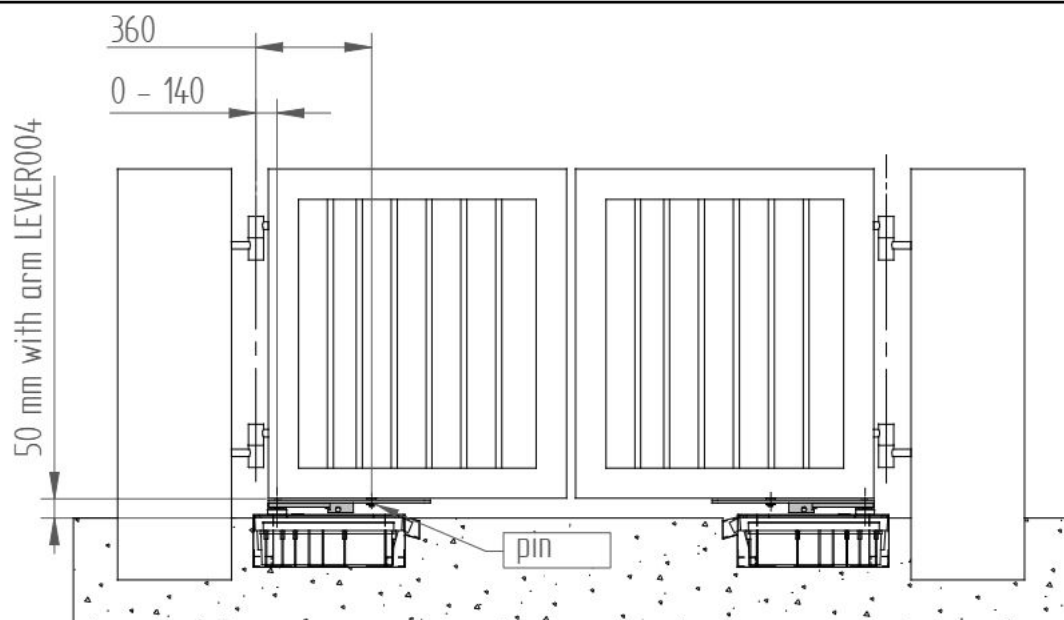
Place the cassette BOX002 on the ground, make sure that the top edge of the box is at the same level of the finished floor.

Check with a spirit level that the foundation box is perfectly horizontal.

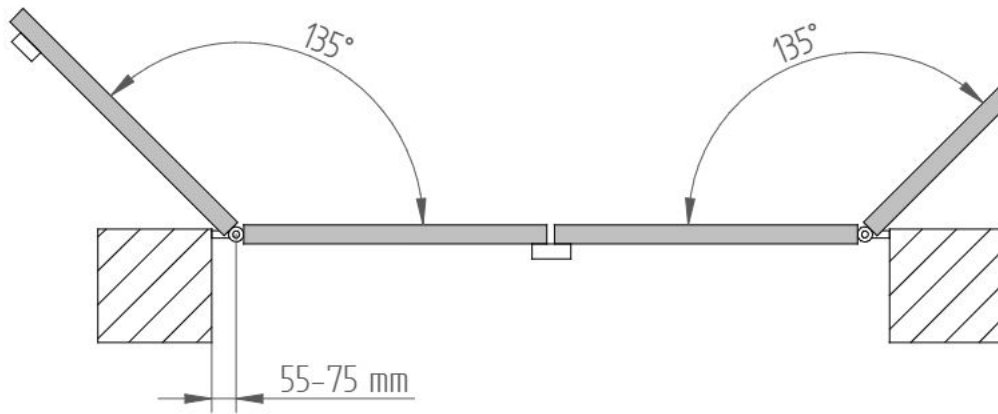


Verify that the distance between the lower edge of the gate and the finished floor is between 50-60 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever under the wing at a distance of 320 mm from the axis of the hinges.



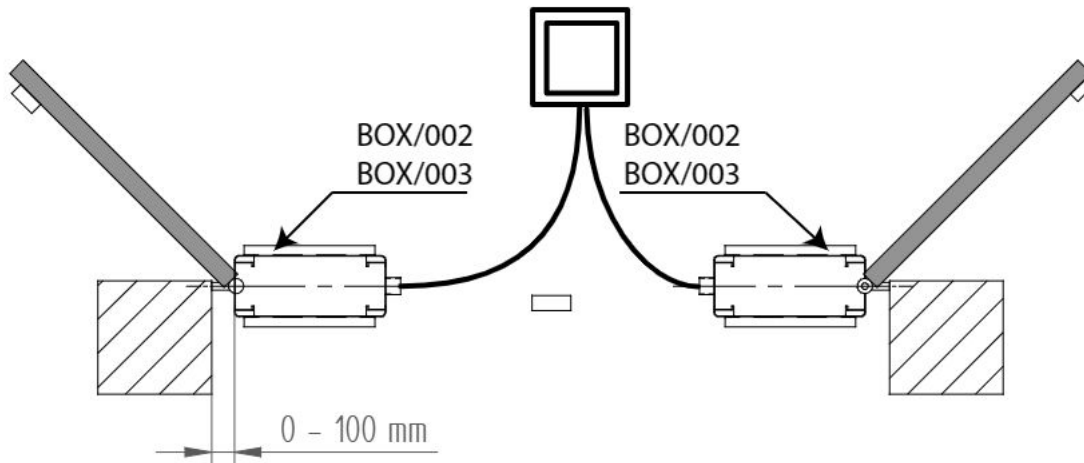
## 4.2 BA502 + foundation box BOX/002 or BOX/003 + LEVER/004 arm, leaf opening 135 °



Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX002(BOX003) at a maximum distance of 100 mm from the column.

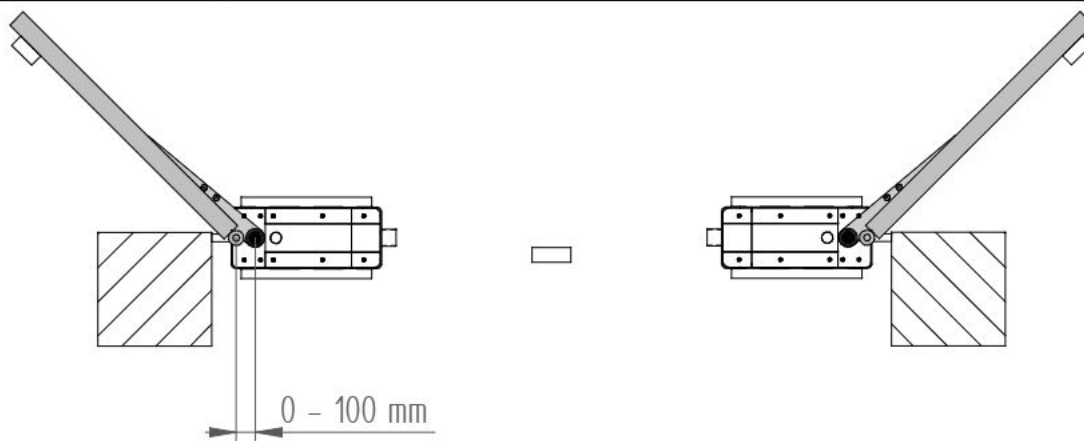
Provide a drain on the bottom of the box BOX002.



Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

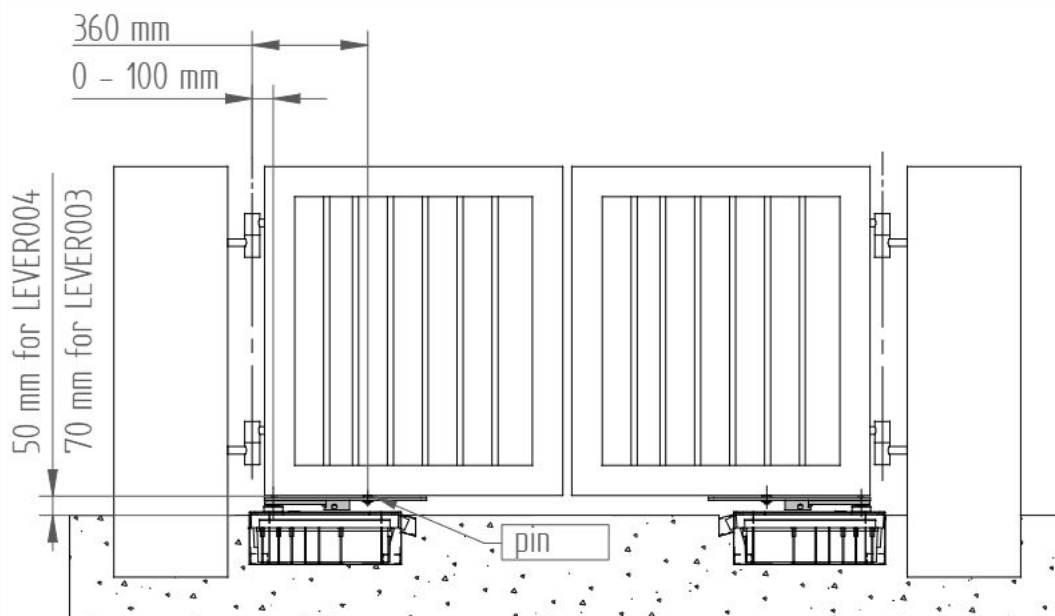
Place the cassette BOX002 on the ground, make sure that the top edge of the box is at the same level of the finished floor.

Check with a spirit level that the foundation box is perfectly horizontal.

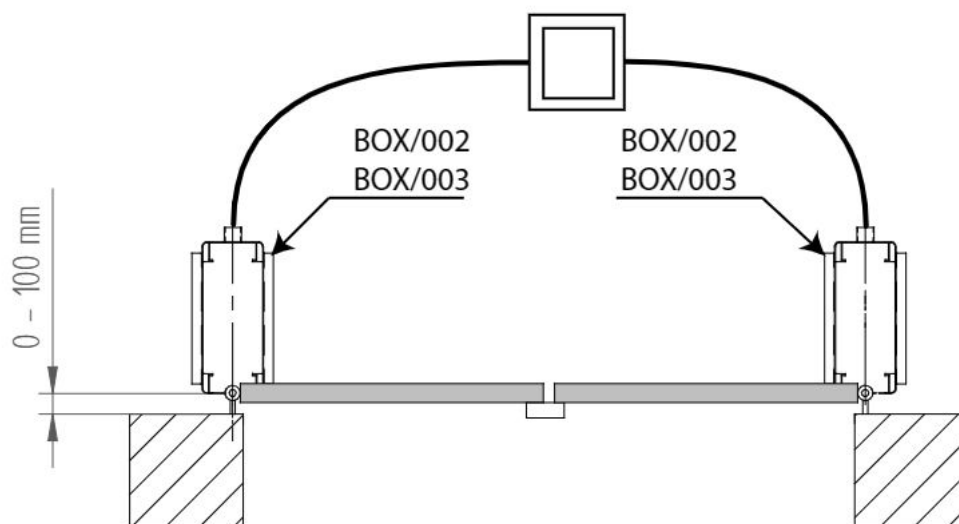
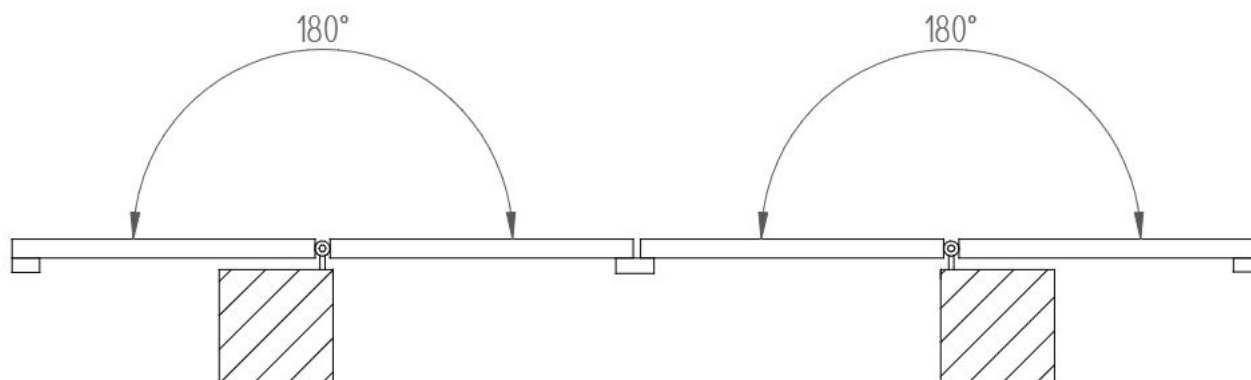


Verify that the distance between the lower edge of the gate and the finished floor is between 50-60 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever under the wing at a distance of 360 mm from the axis of the hinges.



#### 4.3 BA502 + foundation box BOX/002 or BOX/003 + LEVER/004 arm, leaf opening 180 °

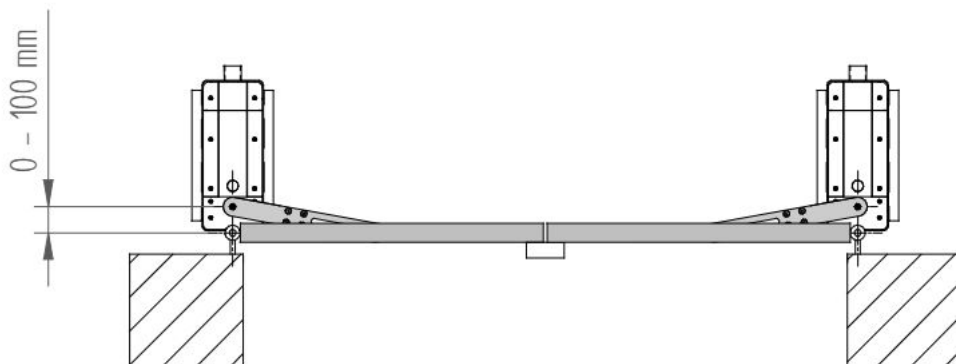


Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

Place the foundation box BOX002(BOX003) at a maximum distance of 100 mm from the column.

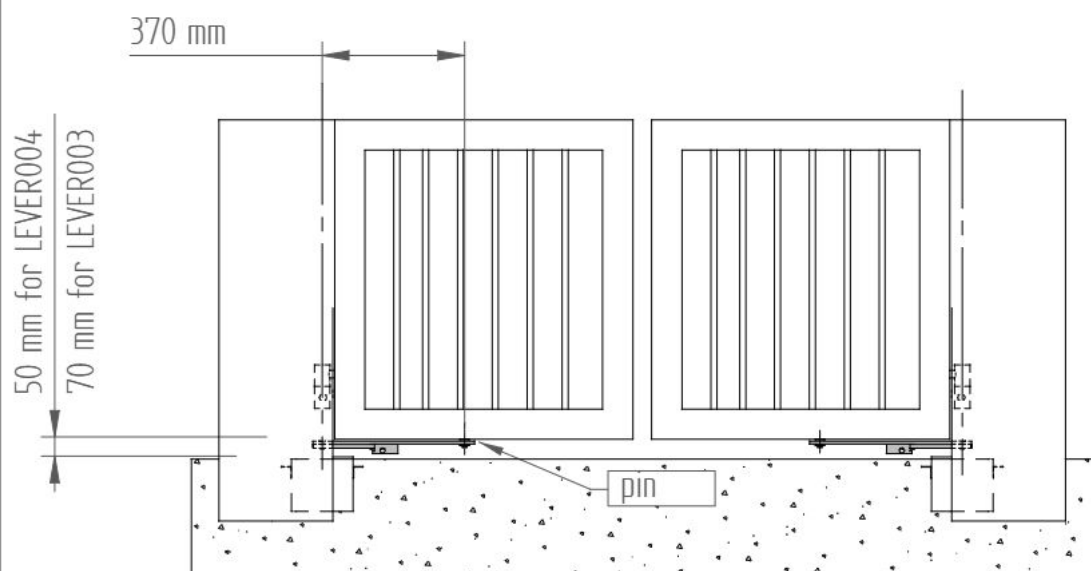
Provide a drain on the bottom of the box BOX002.

Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.



Place the cassette BOX002 on the ground, make sure that the top edge of the box is at the same level of the finished floor.

Check with a spirit level that the foundation box is perfectly horizontal.

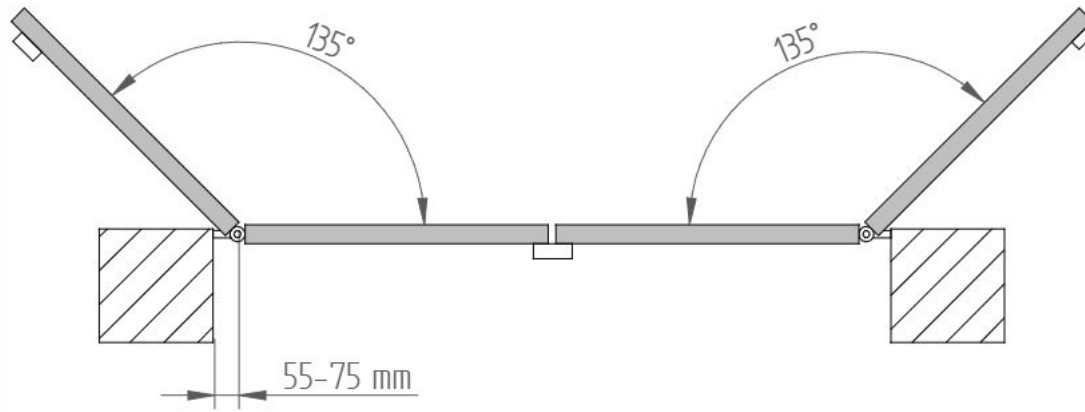


Verify that the distance between the lower edge of the gate and the finished floor is between 50-60 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever under the wing at a distance of 370 mm from the axis of the hinges.

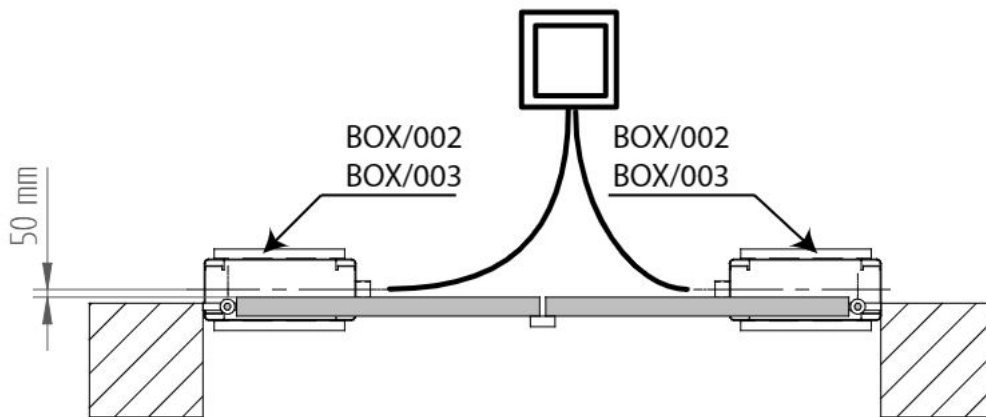


#### 4.4 BA502 + foundation box BOX/002 or BOX/003 + LEVER/014 arm, leaf opening 135 °



Verify that the axis of the hinges is at a distance of 55-75 mm from the edge of the finished column.

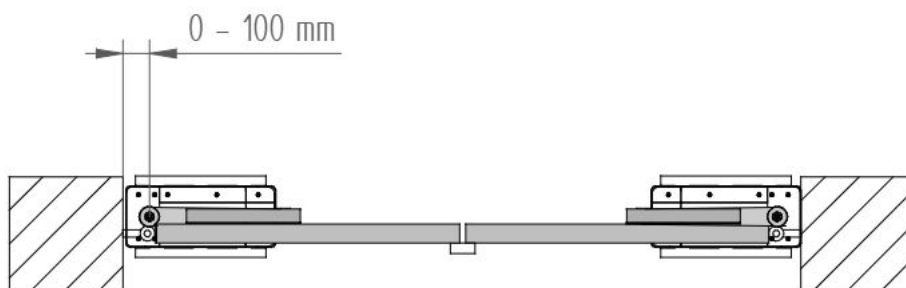
Place the foundation box BOX003 BOX003 or at a maximum distance of 100 mm from the column and with the centerline of the box to 50 mm away from the inner edge of the wing.



Provide a drain on the bottom of the box BOX002.

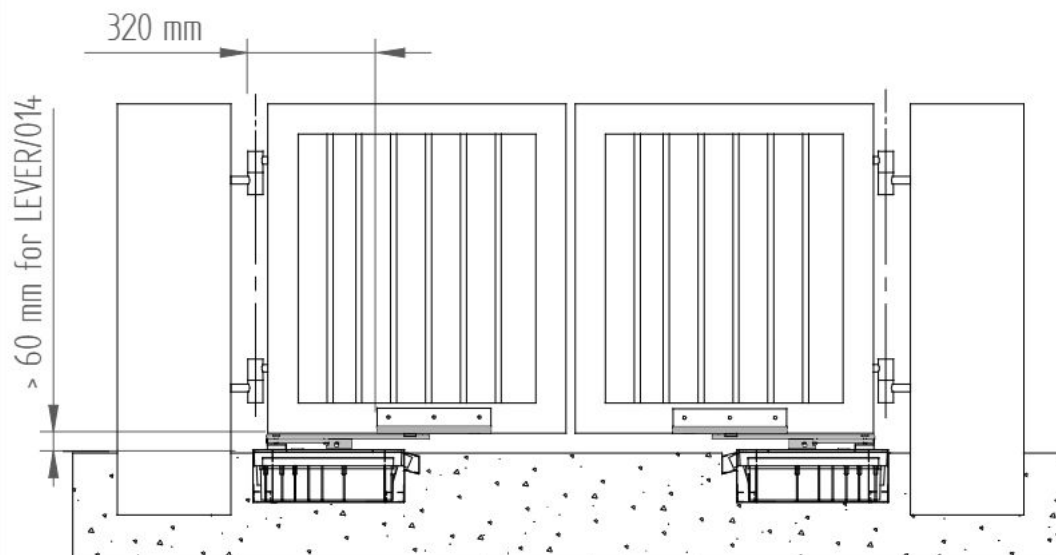
Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

Place the cassette BOX002 on the ground, make sure that the top edge of the box is at the same level of the finished floor.



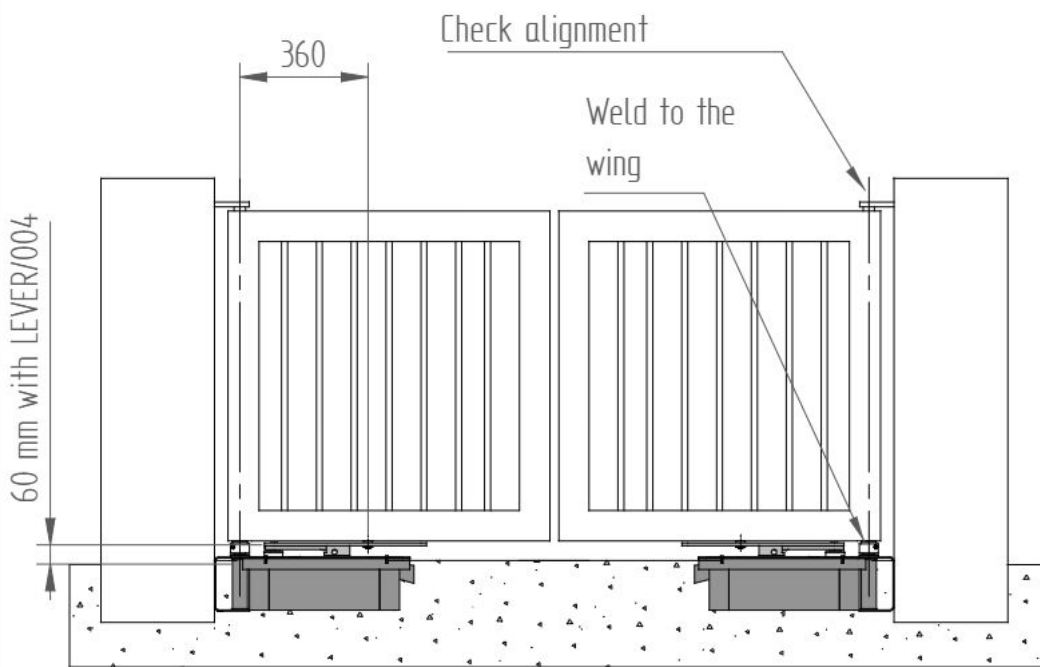
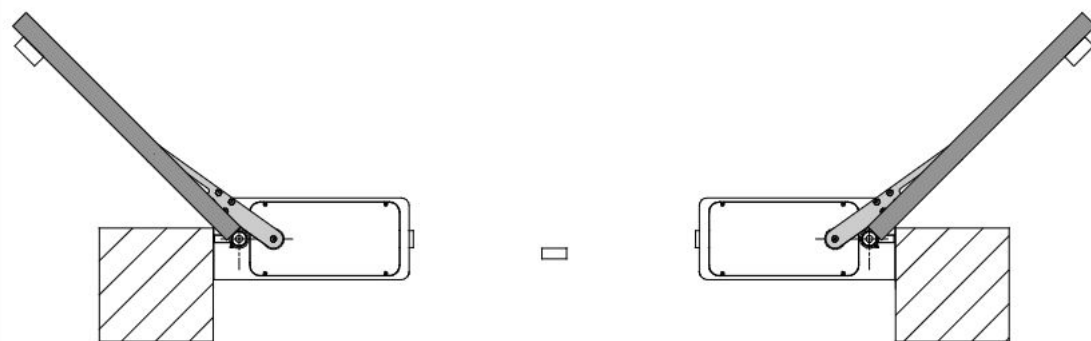
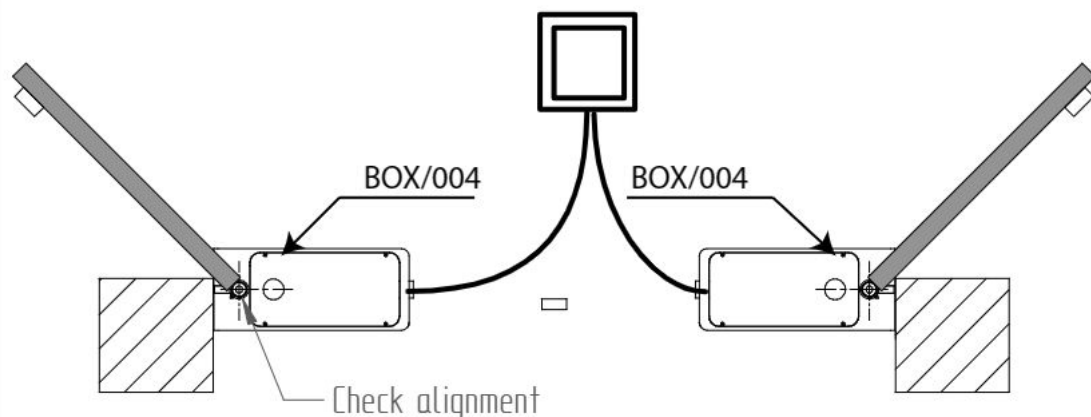
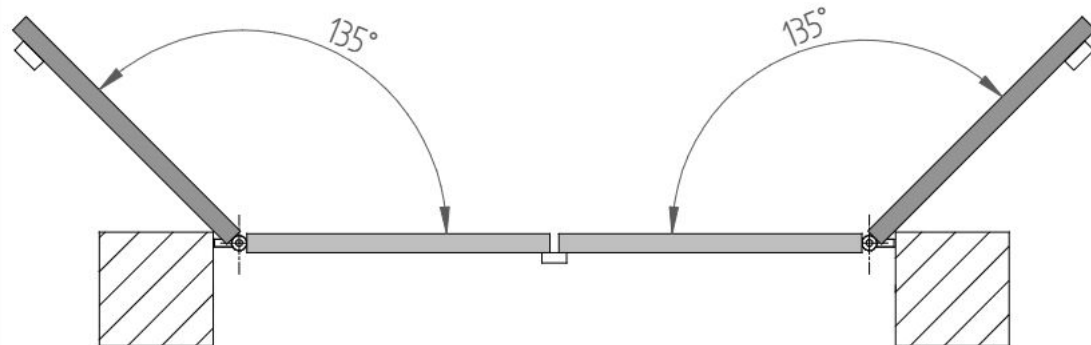
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the distance between the lower edge of the gate and the finished floor is between 60 mm for the installation of the lever LEVER/014.



Weld the rail provided with the lever to the wing at a distance of 320 mm from the axis of the hinges.

## 4.5 BA502 + self supporting foundation box BOX/004 + LEVER/004 arm, leaf opening 135°



Provide a drain on the bottom of the box BOX004.

Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

Place the cassette BOX004 on the ground, make sure that the top edge of the box at the same level the finished floor.

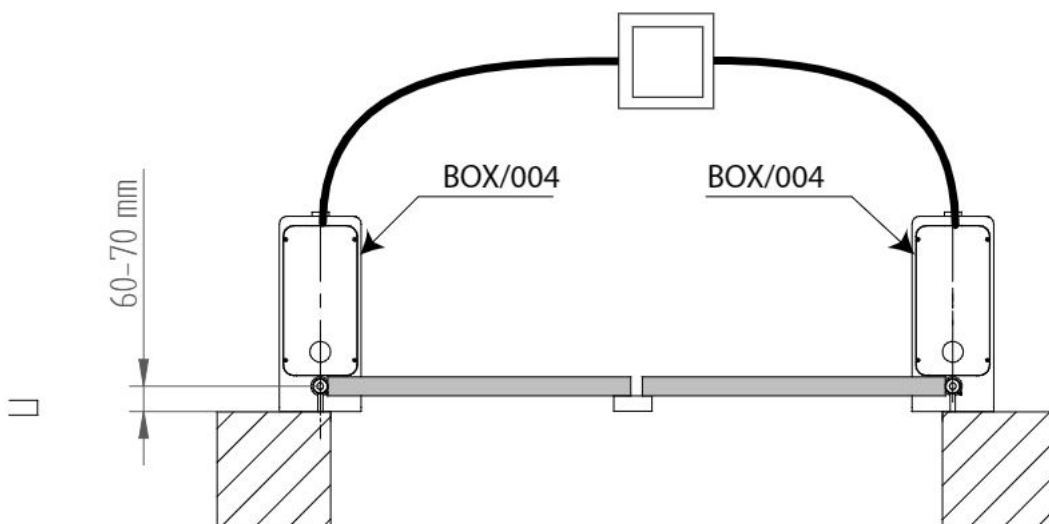
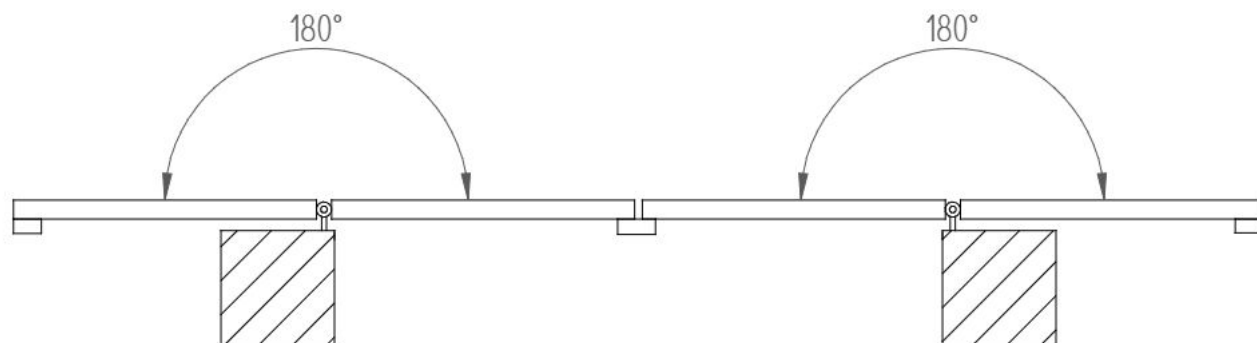
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the ball on the foundation box BOX/004 and the axis of the upper hinge are aligned.

Verify that the distance between the lower edge of the gate and the finished floor is more than 60 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever LEVER/004 under the wing at a distance of 360 mm from the axis of the hinges.

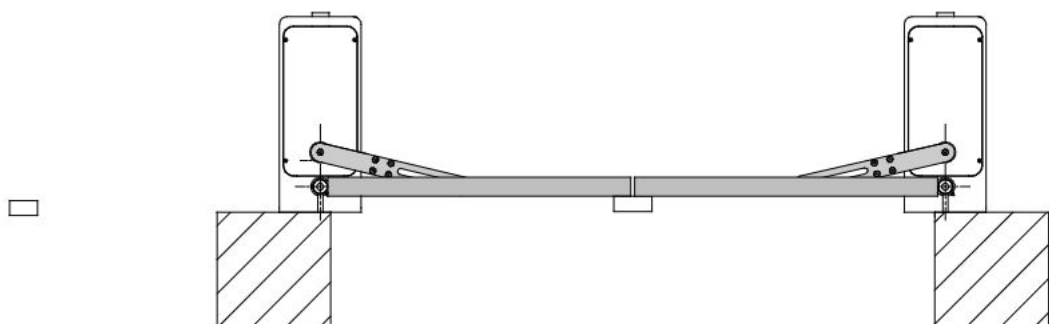
#### 4.6 BA502 + self supporting foundation box BOX/004 + LEVER/004 arm, leaf opening 180°



Provide a drain on the bottom of the box BOX004.

Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

Place the cassette BOX004 on the ground, make sure that the top edge of the box at the same level the finished floor.

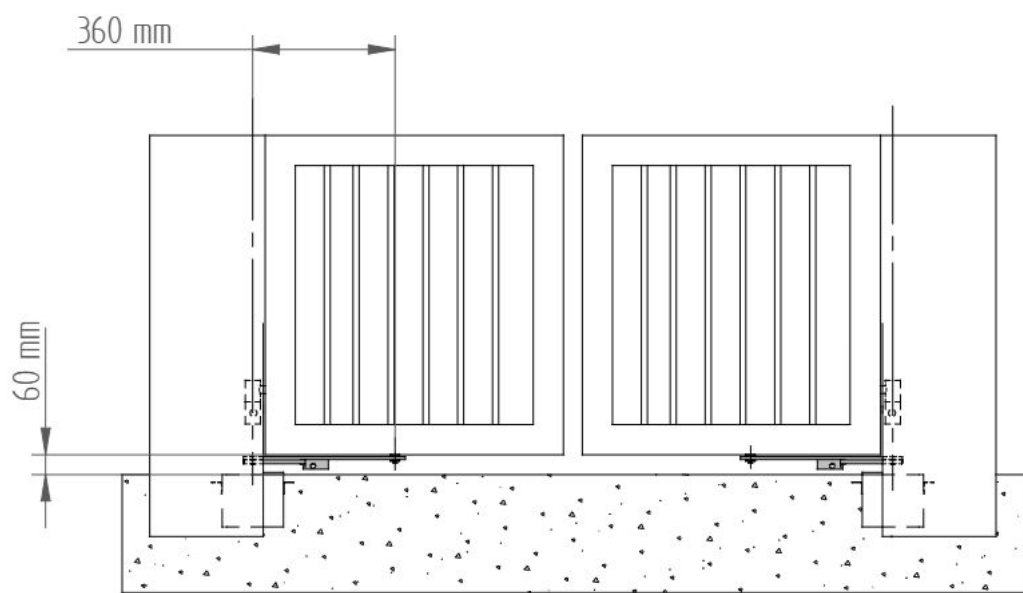


Check with a spirit level that the foundation box is perfectly horizontal.

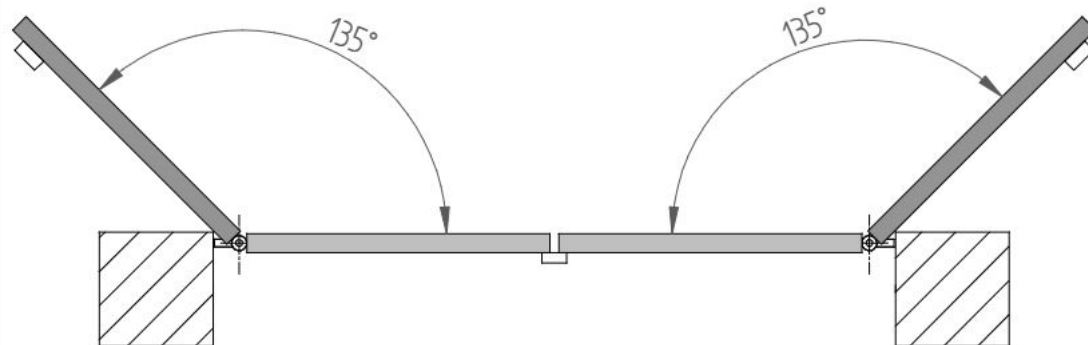
Verify that the ball on the foundation box BOX/004 and the axis of the upper hinge are aligned.

Verify that the distance between the lower edge of the gate and the finished floor is more than 60 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever LEVER/004 under the wing at a distance of 360 mm from the axis of the hinges.



## 4.7 BA502/XXL + foundation box BOX/004, leaf opening 135°



Provide a drain on the bottom of the box BOX004.

Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

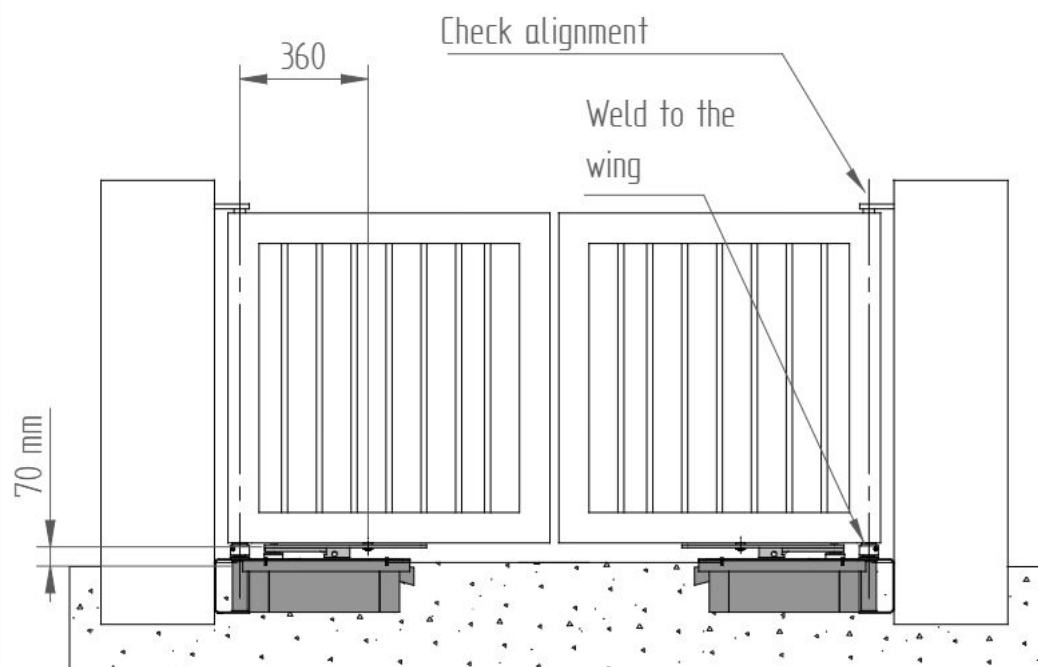
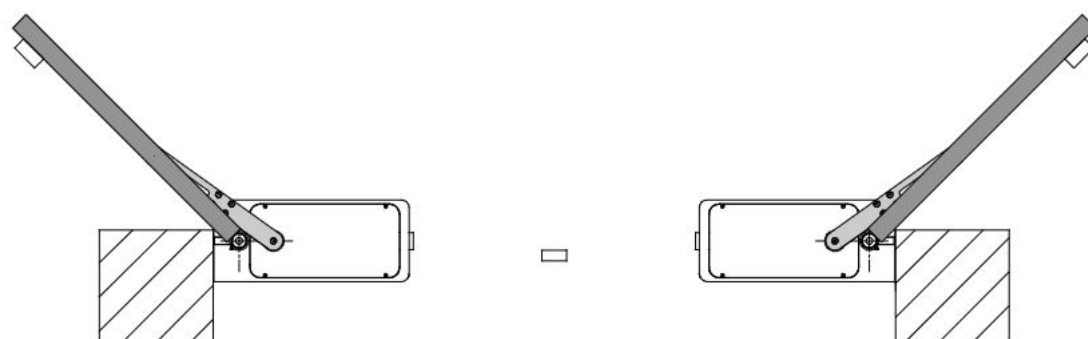
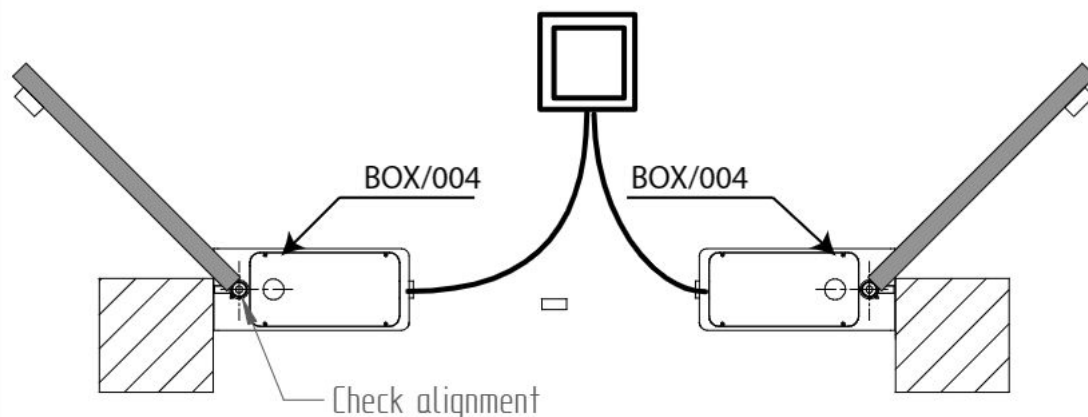
Place the cassette BOX004 on the ground, make sure that the top edge of the box at the same level the finished floor.

Check with a spirit level that the foundation box is perfectly horizontal.

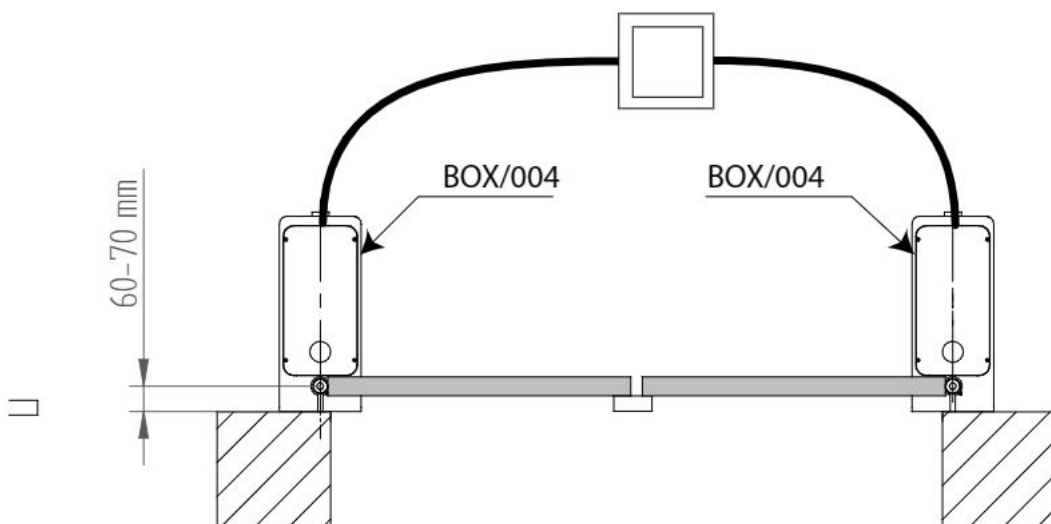
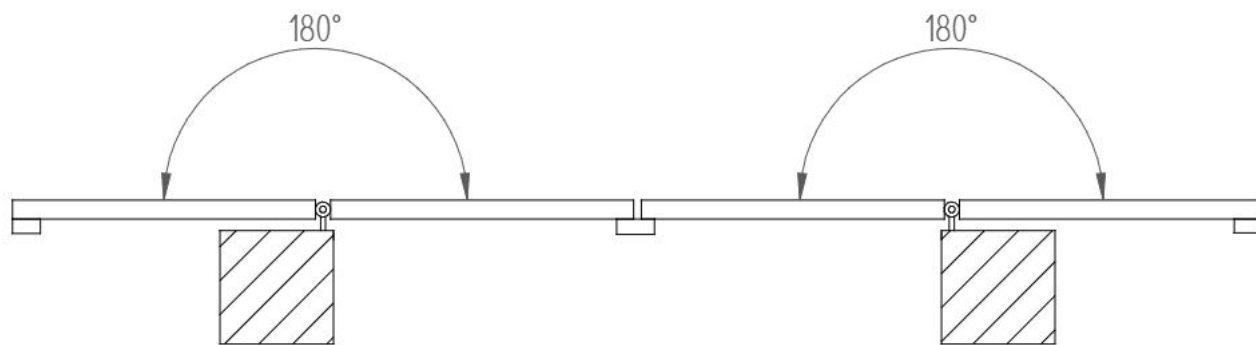
Verify that the ball on the foundation box BOX/004 and the axis of the upper hinge are aligned.

Verify that the distance between the lower edge of the gate and the finished floor is more than 70 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever LEVER/004 under the wing at a distance of 360 mm from the axis of the hinges.



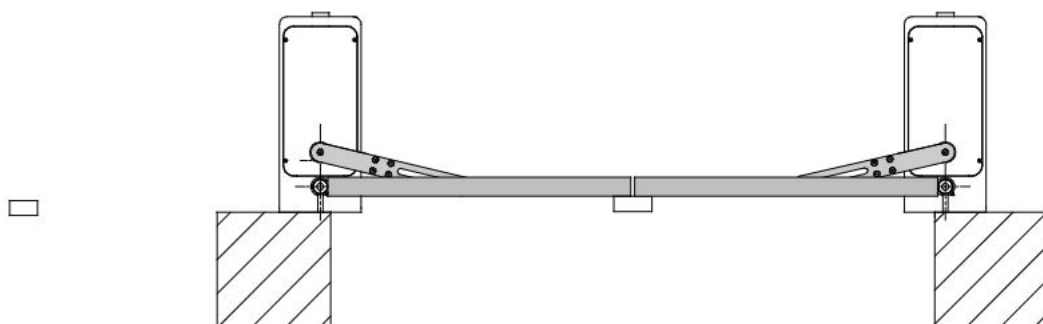
## 4.8 BA502/XXL + self supporting foundation box BOX/004 , leaf opening 180°



Provide a drain on the bottom of the box BOX004.

Insert the corrugated tube in the hole of the box BOX002 as shown in the figure.

Place the cassette BOX004 on the ground, make sure that the top edge of the box at the same level the finished floor.

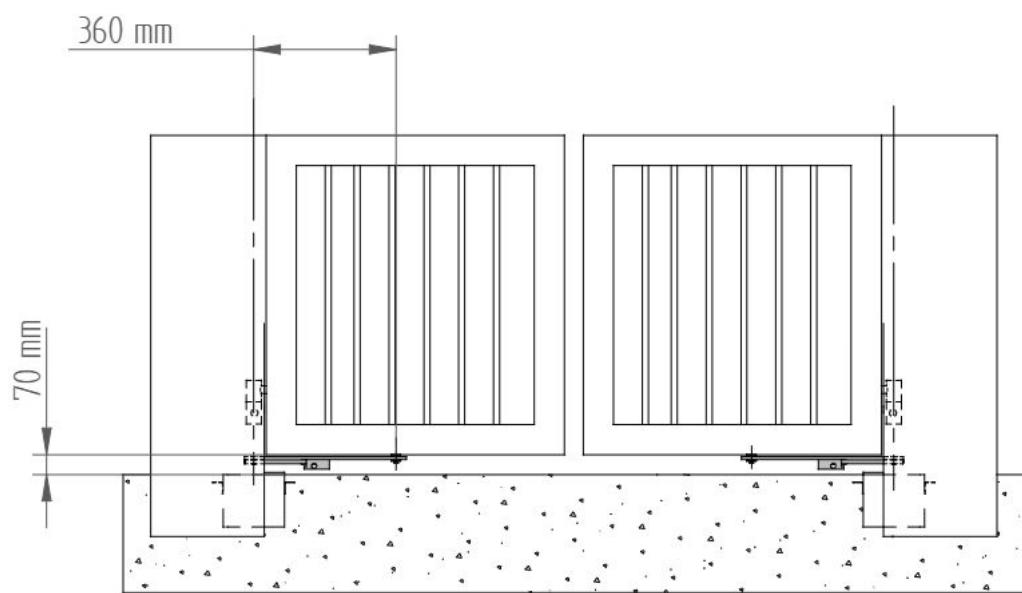


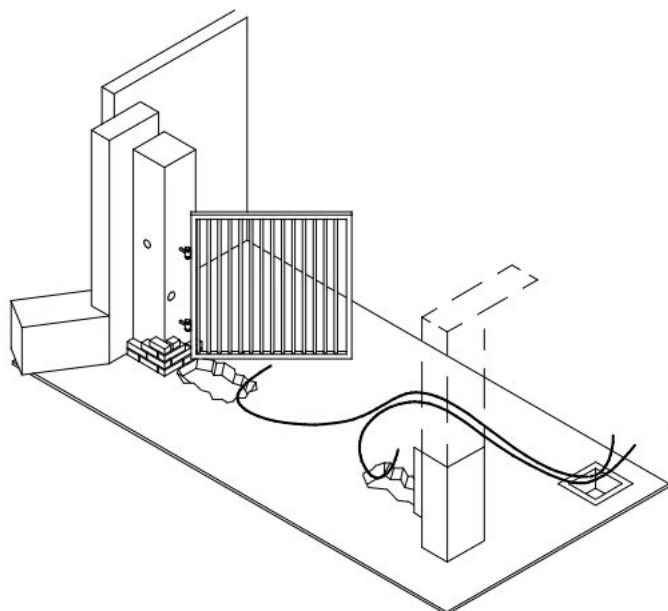
Check with a spirit level that the foundation box is perfectly horizontal.

Verify that the ball on the foundation box BOX/004 and the axis of the upper hinge are aligned.

Verify that the distance between the lower edge of the gate and the finished floor is more than 70 mm for the installation of the lever LEVER/004.

Weld the pin provided with the lever LEVER/004 under the wing at a distance of 360 mm from the axis of the hinges.

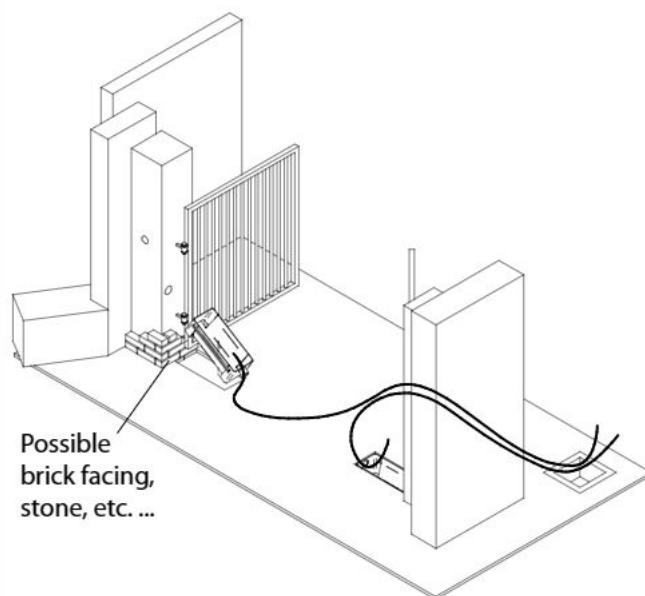




Use the table on page 2 and according to length, weight and angle of the gate go to the correct section (4.1, 4.2, 4.3) to locate the correct position and orientation of the foundation boxes.

Dig a hole in the ground large enough to hold the foundation boxes.

Spread 1 corrugated pipe diameter 20 MM from the excavation to the underground pit of the electrical connections as shown in the figure.



Possible  
brick facing,  
stone, etc. ...

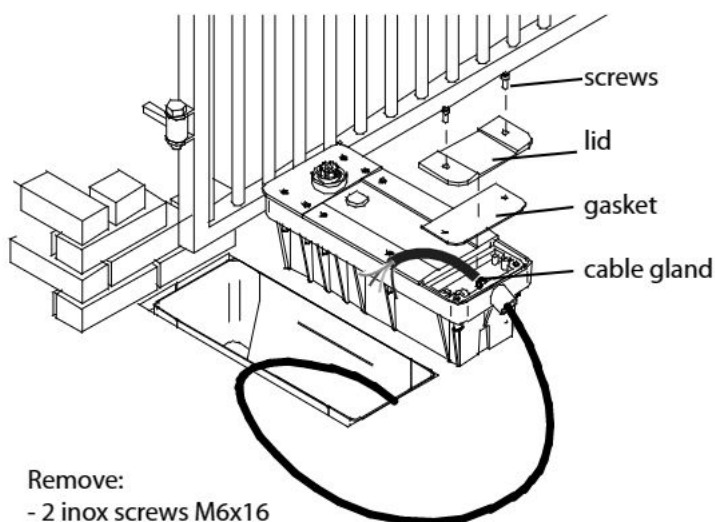
Insert the corrugated tube into the hose at the back of the BOX002.

Wall up the BOX002 with the inlet tube facing the center of the gate.

Wall up the boxes in the right position (see sections 4.1, 4.2, etc ...) Take account of any coatings of the columns, to make sure that a column completed the coating does not prevent the insertion of the gearmotor in the foundation box.

Wall up the BOX002 holding the upper edge of the box flush with the finished floor level (taking account of any flooring)

## 5.2 ELECTRICAL CONNECTIONS, BA502 INSTALLED IN BOX002

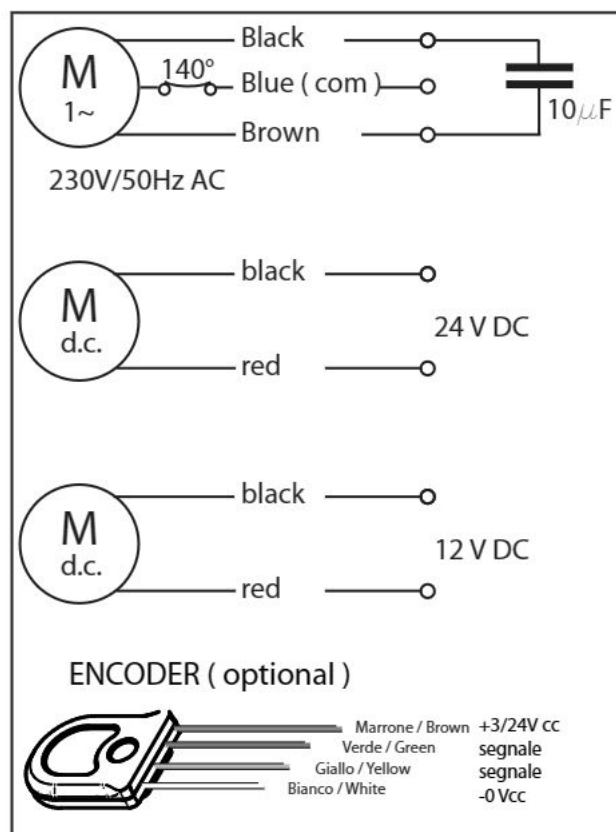


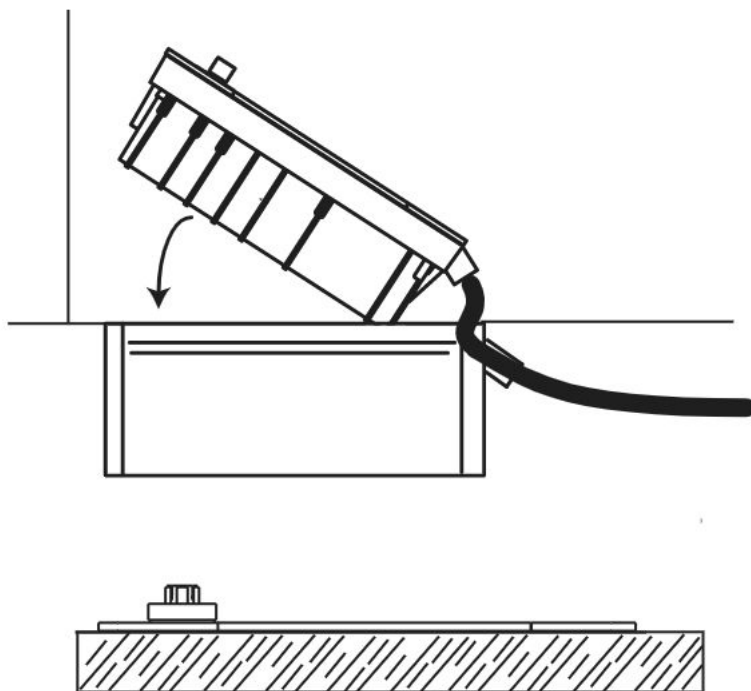
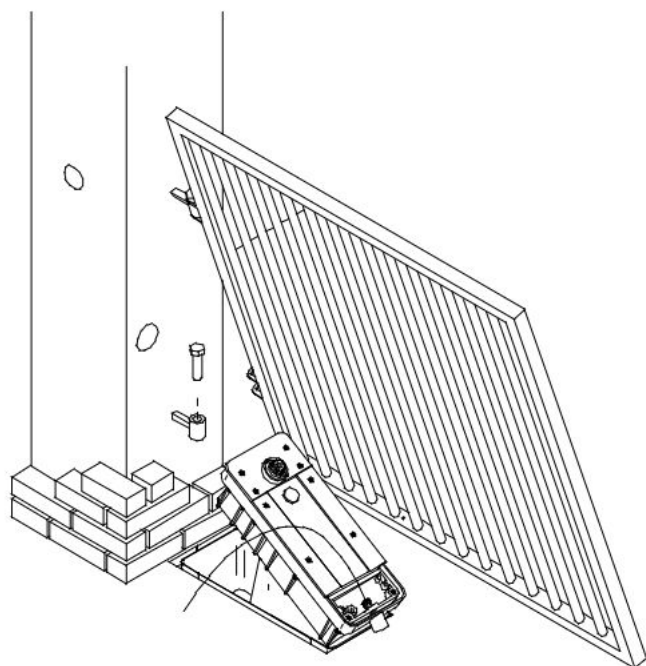
Remove:

- 2 inox screws M6x16
- lid of terminal compartment
- gasket of terminal compartment

Insert the motor cable in to the corrugated pipe, then in the hole in the foundation box and then through the cable gland of the motor. Tighten the cable gland making sure it go to press the cable sheath and not the individual cables.

Make the electrical connections as shown in the figure.





Insert the motor into the foundation box as shown.

You may have to disengage the gate leaf from the column:

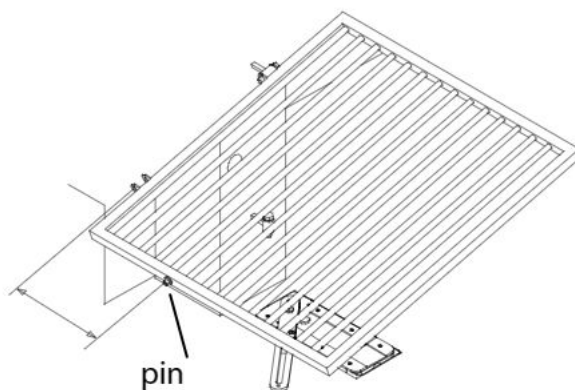
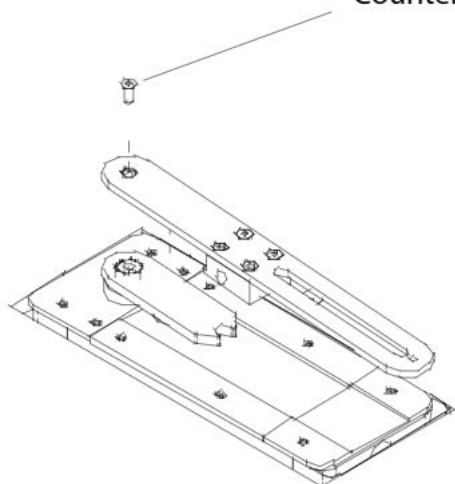
- Remove the pin from the lower hinge
- Move aside the leaf
- Insert the motor into the box
- Pull the power cord while sliding the engine so that it is not pinched between the drive and the foundation box.

Make sure all surfaces are clean and refit the seal and the cover by tightening the 2 screws M6x16 steel.  
(Tightening torque 10 Nm)

Make sure the covers of the motor are out of the ground as shown in the figure.

#### 5.4 LEVER004 ARM INSTALLATION

Countersunk head screw



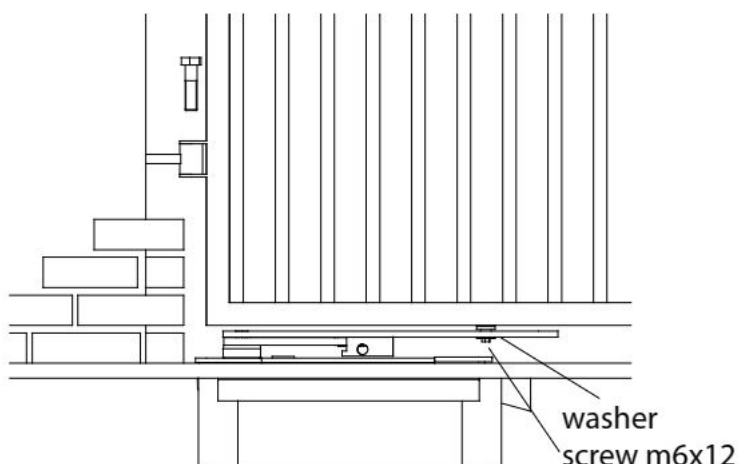
Assemble the lever as shown, and tighten the screw M8x20 countersunk head.

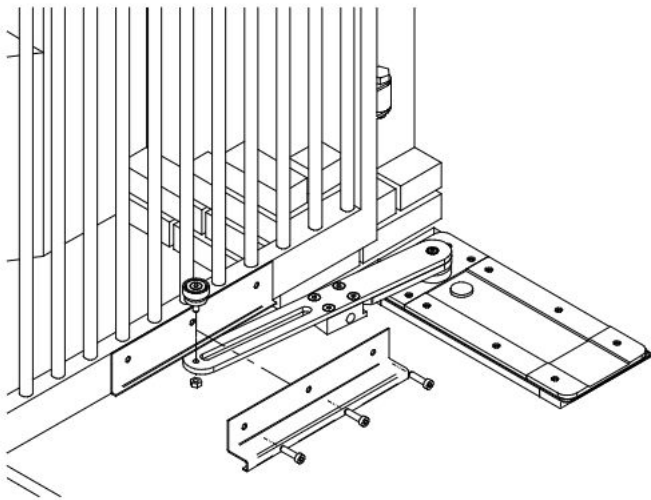
Put bolt under the leaf at the distance indicated in paragraphs 4.1 - 4.8 (depending on your type of installation) from the axis of the hinges.

Flip down the leaf and make sure that the pin is going to fit into the slot on the lever.

Replace the pin on the bottom hinge of the door.

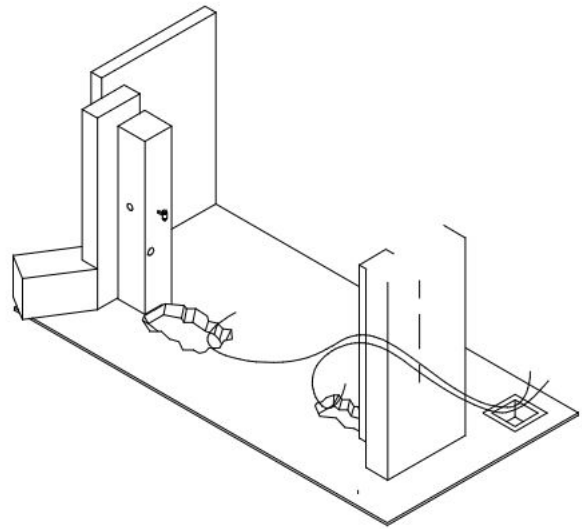
Fit the washer and tighten the screw M6x12 on the pin.





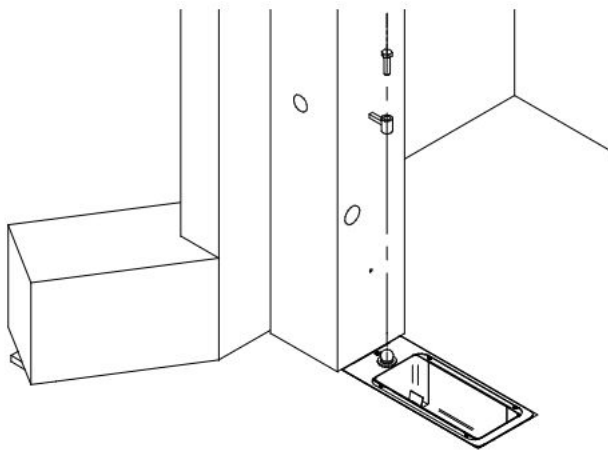
As an alternative to weld the pin below the leaf which involves having to remove the leaf from the lower hinge you can install the optional bearing kit :

- Install the pin with ball bearing on the hole at the end of the lever and tighten the nut M8 lower
- Close the 2 plates around the bearing and secure with 3 screws to the bottom edge of the door at the distance indicated in paragraph 4.4



Use the table on page 2 and the all the length, weight and angle of the gate go to the correct section (4.5 or 4.6) to identify the right position and orientation of the foundation boxes. Dig a hole in the ground large enough to hold the foundation boxes.

Spread 1 corrugated pipe diameter 20 from the excavation to the underground pit of the electrical connections as shown in the figure.



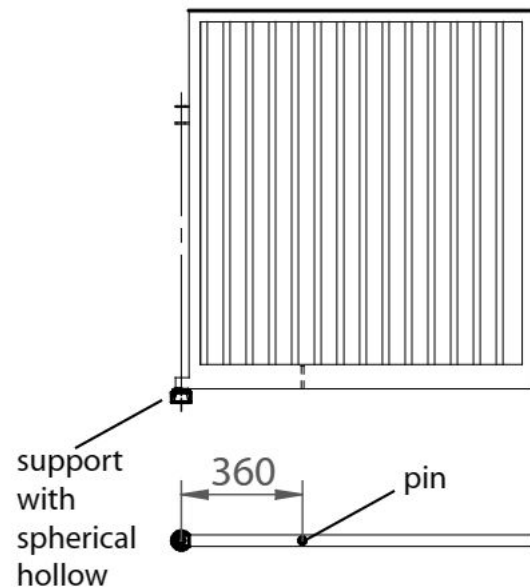
Insert the corrugated tube into the hose at the back of the BOX004.

Wall up the BOX004 with the inlet tube facing the center of the gate.

Wall up the boxes in the right position (see sections 4.1, 4.2, etc ...)

Take account of any coatings of the columns.

Wall up the BOX004 holding the upper edge of the box flush with the finished floor level (taking account of any flooring)



support  
with  
spherical  
hollow

360

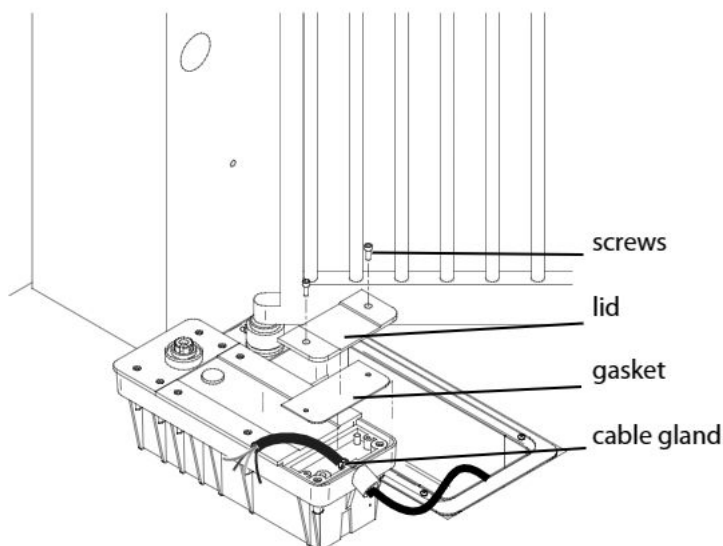
pin

Weld the support with spherical hollow to the leaf, face down and perfectly aligned with the upper hinge.

Weld the pin of the lever under the wing to a 360 mm distance from the hinge.

Insert the ball on the foundation box into the spherical hollow and insert the pin into the top hinge of the LEVER/004.





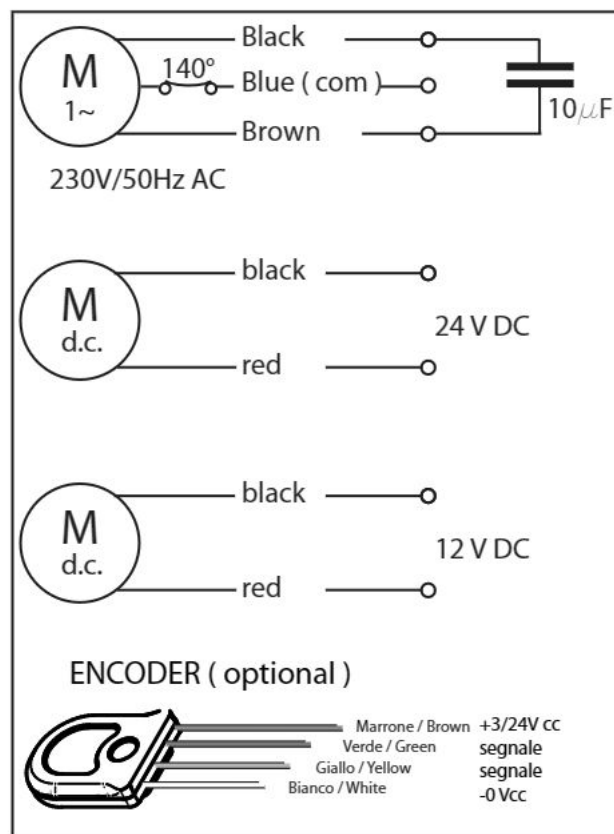
Remove:

- 2 inox screws M6x16
- lid of terminal compartment
- gasket of terminal compartment

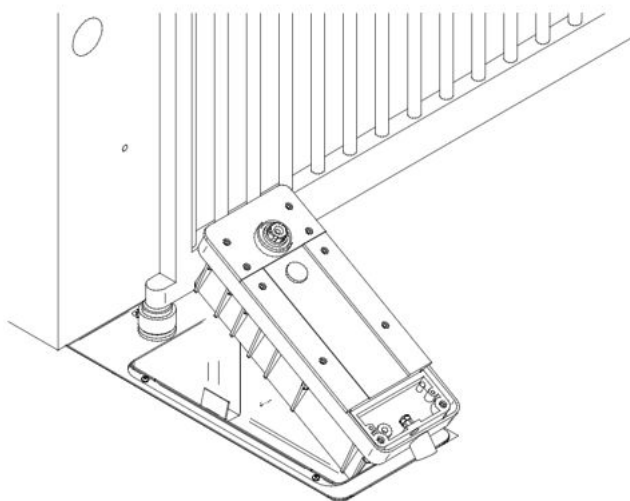
Insert the motor cable in to the corrugated pipe, then in the hole in the foundation box and then through the cable gland of the motor.

Tighten the cable gland making sure it go to press the cable sheath and not the individual cables.

Make the electrical connections as shown in the figure.



## 5.10 INSTALLATION OF BA502 MOTOR IN BOX004 FOUNDATION BOX



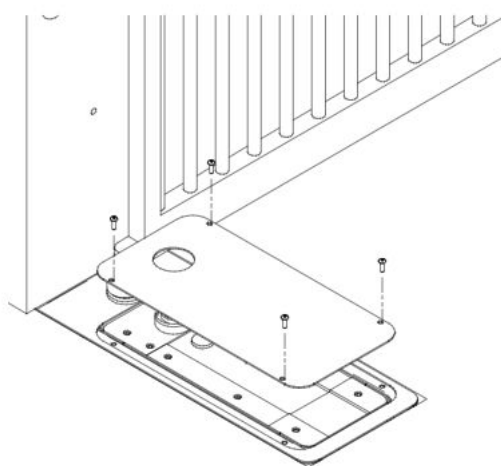
Insert the motor in foundation box as shown in figure. Pull the power cord while sliding the engine so that it is not pinched between the drive and the foundation box.

Make sure all surfaces are clean and refit the seal and the cover by tightening the 2 screws M6x16 steel.

(Tightening torque 10 Nm)

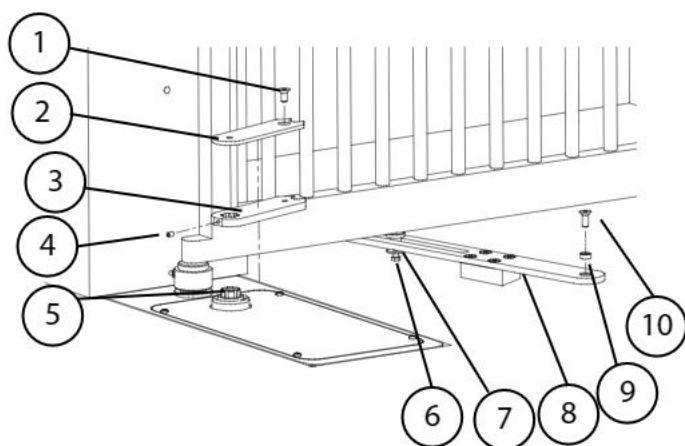
Make sure the covers of the motor are out of the ground as shown in the figure.

## 5.11 LIDS CLOSING ON BOX004



Attach the cover to the foundation box with the supplied 4 stainless steel screws M5x16 .

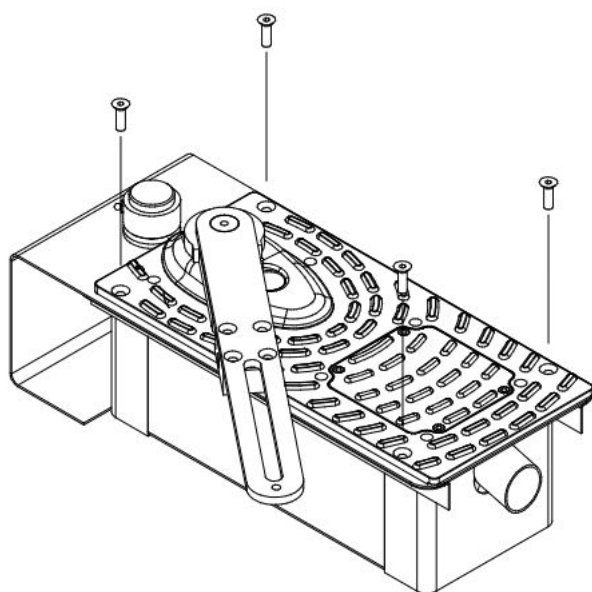
## 5.12 LEVER INSTALLATION ON BA502 INSTALLED ON BOX004



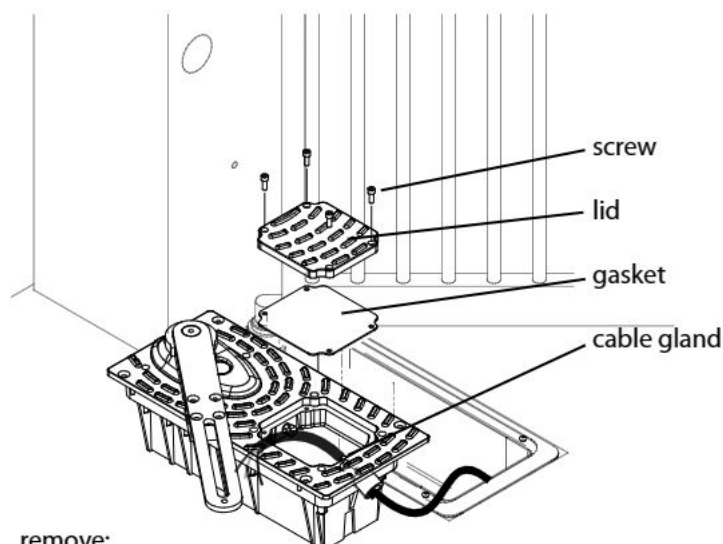
Install the lever broached (3) on the motor shaft (5) and tighten the grub screw M6x6 (4).  
Fix the plate (2) to the plate (3) and tighten the countersunk head M8x16 screw with hexagon socket (1).  
Insert the pin welded under the wing into the slot present on the lever (8) and tighten the screw M6x12 (6), fitting the washer 6x24 (7).  
Attach the lever (8) to the motor shaft (5) by inserting the spacer (9) and tighten the screw M8x20 countersunk screws (10).

## 5.14 FISSAGGIO DEL MOTORE BA502/XXL

Fissare il motoriduttore BA502/XXL alla cassetta BOX004 tramite le 4 viti M8x30 fornite in dotazione.



## 5.13 MOTOR ELECTRICAL WIRING BA502/XXL



remove:

- 4 stainless steel screws M6x16
- Terminal compartment lid
- Terminal compartment gasket

Insert the motor cable in the corrugated pipe, then in the hole in the foundation box and then through the cable gland of the motor.

Tighten the cable gland making sure it go to press the cable sheath and not the individual cables.

Make the electrical connections as shown in the figure.  
Close the cover and the gasket and tighten the 4 screws M6x16.

