



D5-Evo Sliding Gate Operator
Pocket mechanical installation



1. Introduction >>

This guide is designed specifically for installers who are familiar with the installation of standard sliding gate motors, but do not know the specifics of the **D5-Evo**

2. Important Safety Instructions >>



Please do not proceed with the installation until you have read and fully understand the Safety Instructions included in your product packaging

The Safety Instructions are also available on www.centsys.co.za, and may also be obtained by contacting Centurion Systems on +27 860 236 887 (RSA only)

3. Icons used in this guide >>



This icon indicates tips and other information that could be useful during the installation



This icon denotes variations and other aspects that should be considered during installation



This icon indicates warning, caution or attention!
Please take special note of critical aspects that **MUST be adhered to in order to prevent injury**

4. General description >>

The D5-Evo is a domestic and light-industrial operator designed to open and close sliding gates weighing up to 500kg. A custom designed gearbox moulded from robust engineering polymers, coupled to a powerful 12V DC motor, provides fast and reliable automation for entrances to homes and small housing estates.

5. Technical specifications >>

It is a 12V DC battery operated unit with the following limitations:

Operator push force - starting:	30kgf
Operator push force - rated:	17kgf
Gate mass – maximum:	500kg
Gate length – maximum:	100m
Maximum numbers of operations per day:	150

6. D5-Evo identification



- | | |
|---------------------------------|--------------------------------|
| 1. D5-Evo controller | 7. Foundation plate |
| 2. Courtesy light fuse (3A F/B) | 8. Motor fuse (30A ATO) |
| 3. Gate mounted origin marker | 9. 1 x 12v 7.2Ah battery |
| 4. Origin marker bracket | 10. SM2A charger |
| 5. Origin sensor | 11. Manual release access door |
| 6. Side covers | |

7. Preparation of site

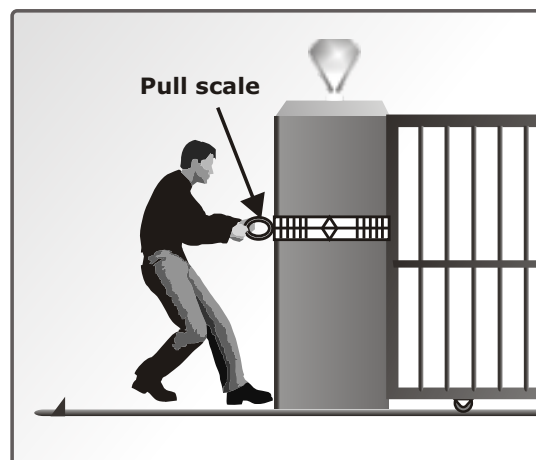
General considerations for the installation

For comprehensive information, please refer to the full installation manual available for download on www.centsys.co.za

Install the gate operator only if:

- It will not pose a hazard to the public
- There is sufficient clearance to a roadway and/or public thoroughfares
- The installation will meet all municipal and/or local authority requirements once completed
- The gate mass, length and application is within the operator specifications
- The gate is in good working order, meaning:
 - That it moves freely
 - Does not move on its own if left in any position
 - It can be installed to have sufficient clearance between moving parts when opening and closing to reduce the risk of personal injury and entrapment
- Pushbuttons or key switches, when required, can be positioned so that the gate is in line of sight of the operator

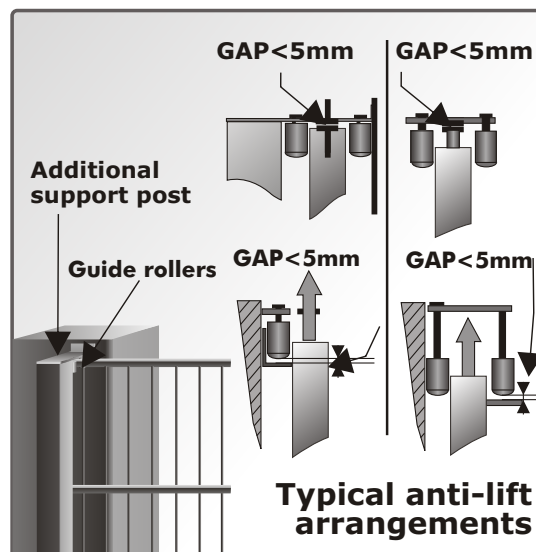
Make sure the gate mass, starting - and rated-pull-force limitations are not exceeded

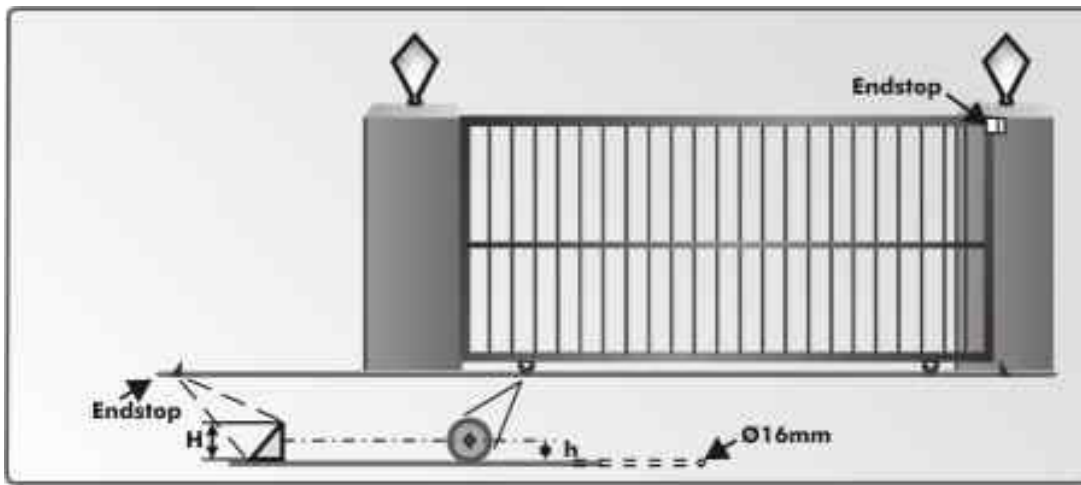


Guide rollers must ensure that the gate is held vertically though the entire length of the gate travel. For improved safety fit additional support post to prevent gate from falling over if guide rollers fail



Ensure that the gate cannot be lifted off the motor pinion with the anti-lift bracket fitted





Fit end-stops capable of stopping the gate at rated speed



Make $H > h$ to ensure gate will not jump over end-stop as shown above

8. Lubrication >>



Do not attempt to run the operator without first filling the gearbox with lubricant

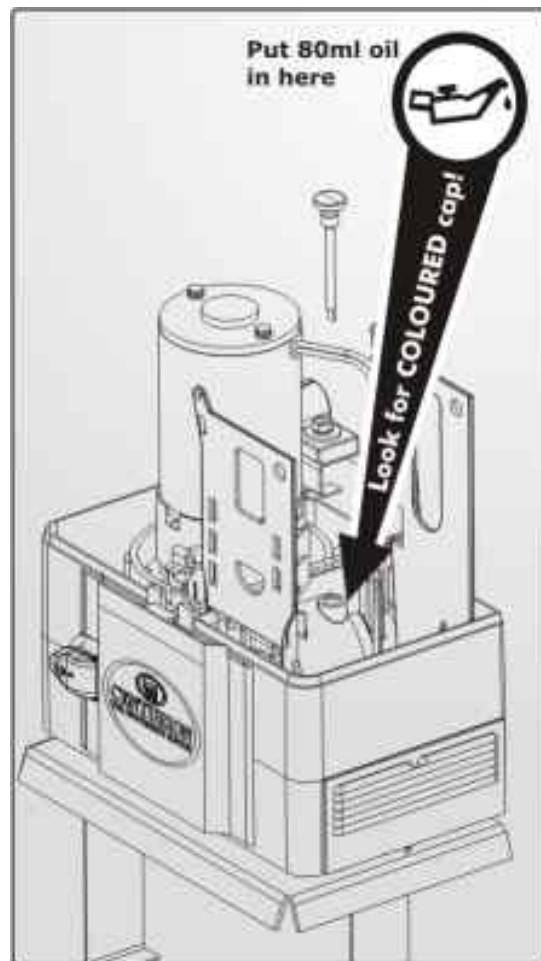
Oil filling procedure

1. Lift the cover of the operator.
2. Remove the battery so that you can gain access to the coloured filler plug.
3. Remove the coloured oil filler plug by levering it out with a screwdriver.
4. Empty the contents of the oil bottle into the gearbox (80ml).
5. Refit the coloured oil filler cap.

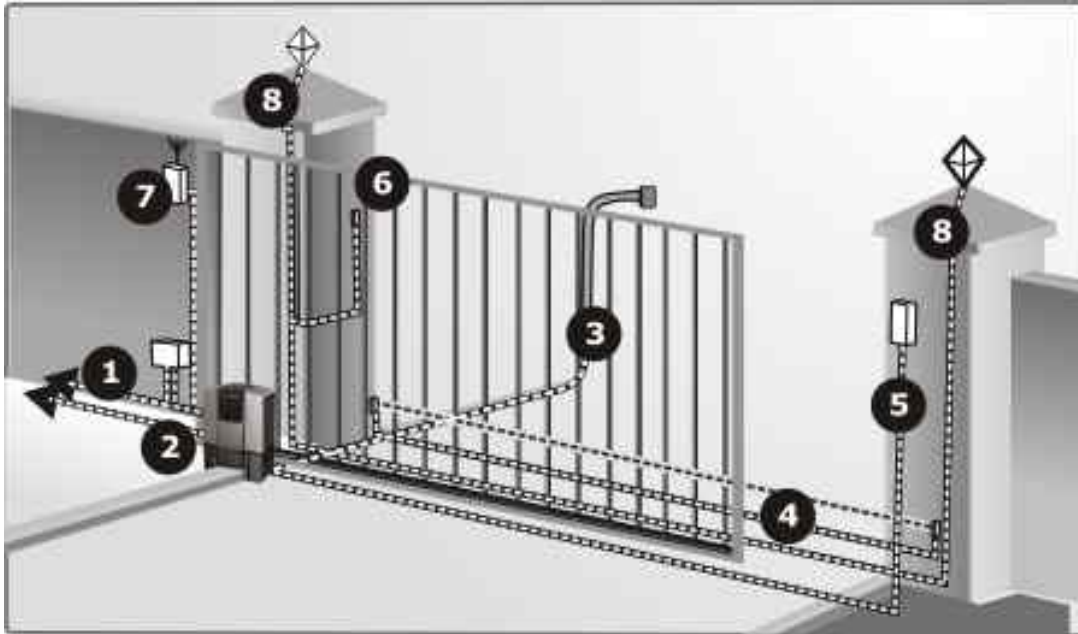
Oil specifications



Centurion product code:
OIL80ML0X0/H
Castrol SAF-XO 75w-90
Synthetic Final Drive
Lubricant



9. Cabling requirements >>



Legend

1. 220V AC mains cable via double pole mains isolator switch (3 core LNE 1.5mm² SWA) * ☆

Optional wiring (all cable is multi-stranded):

2. Intercom cable from motor to dwelling (n1 + 6 core 0.5mm²) †
3. Intercom cable from motor to entry panel (n2 0.5mm²)
4. **Safe CLS:** Recommended infrared safety beams (3 core 0.5mm²)
5. **TRG:** Access control device (3 core 0.5mm²)
6. **PED:** Optional pedestrian keyswitch (a)
OR keypad (b) (3 core 0.5mm²)
7. **TRG:** Optional external radio receiver (3 core 0.5mm²) ✧
8. **LIGHT:** Optional pillar lights (3 core LNE SWA, size according to power requirements)

n1 = number of cores required by intercom

n2 = number of cores required by intercom

- * Possibly increase cable thickness if pillar lights are installed
- ☆ Type of cable must adhere to municipal bylaws but typically SWA (steel wire armoured) cable is recommended. The armouring provides excellent screening, which gives better protection against lightning – earth one end of the screening)
- † Allows for all features such as pedestrian opening, status LED, etc., to be operated from the intercom handset inside the dwelling. Number of cores and type of cable could vary depending on brand of access control system being used
- ✧ For optimum range, an external receiver can be mounted on the wall

10. Manual operation >>

Disengage gearbox/drive

1. Insert the camlock key and rotate it 90° **clockwise**. This will allow for the removal of the cover, as well as for the rotation of the release thumbwheel.



Do not remove the thumbwheel. Removal of the thumbwheel may result in water entering the gearbox and the warranty will be void.



2. Rotate thumbwheel clockwise until gearbox releases and gate can be moved manually.
3. If the gearbox must be left in manual mode for an extended period of time for whatever reason, it is recommended that the access door is locked. This secures the cover and prevents access to the inside of the unit, which contains high voltages. It also prevents theft of any components and provides full protection from the elements.



Re-engage gearbox/drive

1. Rotate thumbwheel anti-clockwise until thumbwheel feels loose in the hand. Make sure that the manual override access door can be closed.
2. Slide gate until gearbox/drive engages. Never run the motor before the unit is engaged.



11. D5-Evo operator installation



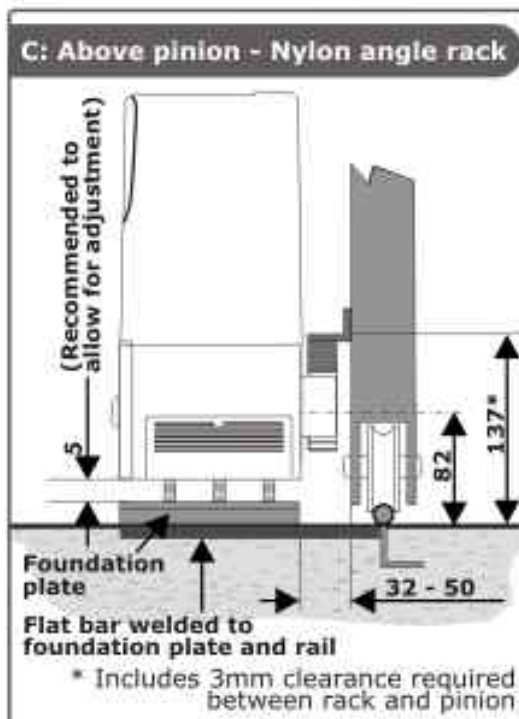
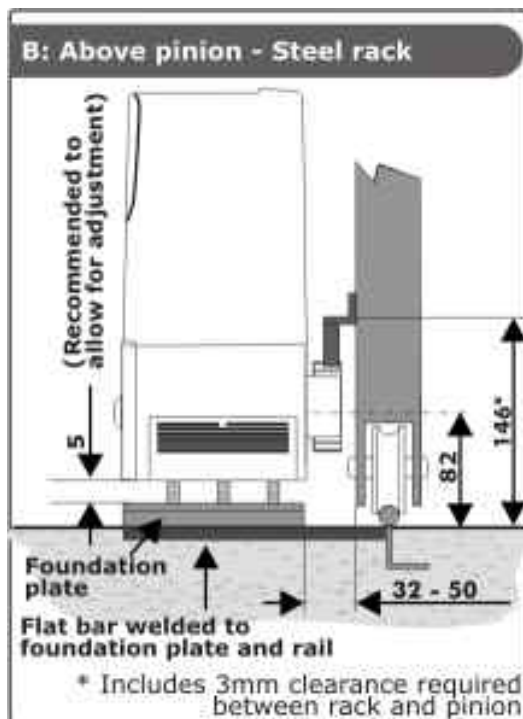
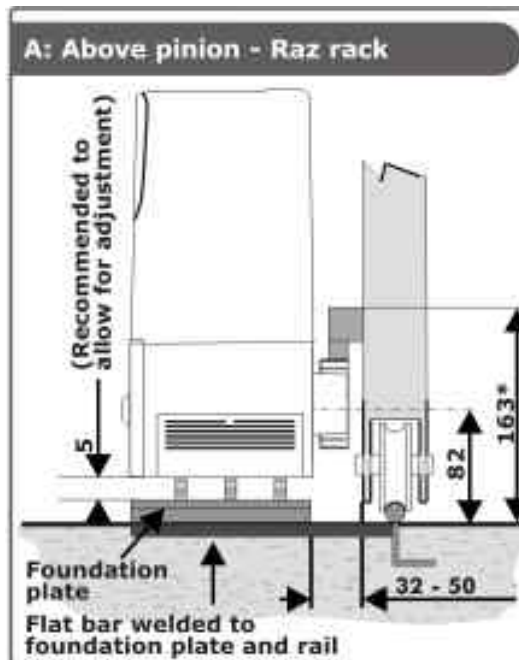
Ensure that all the standard considerations for a quality gate installation are adhered to as detailed in CENTURION's detailed installation manuals. These must include:

- Correct access in and out of the premises
- End-stops are mandatory and must be capable of stopping the gate at rated speed
- Guide-rollers and anti-lift brackets are correctly fitted
- The gate mass, starting- and rated-pull-force limitations are not exceeded
- The D5-Evo is positioned correctly and does not protrude into the driveway

Locate operator position

1. To ensure operator does not protrude into driveway, install base plate at least flush with the driveway entrance.
2. Determine a suitable position and vertical height for the operator by considering Figures A, B and C.

* Includes 3mm clearance required between rack and pinion



Foundation plate installation

The foundation plate can either be set into a concrete foundation, or bolted down onto an existing concrete plinth, refer to illustrations below

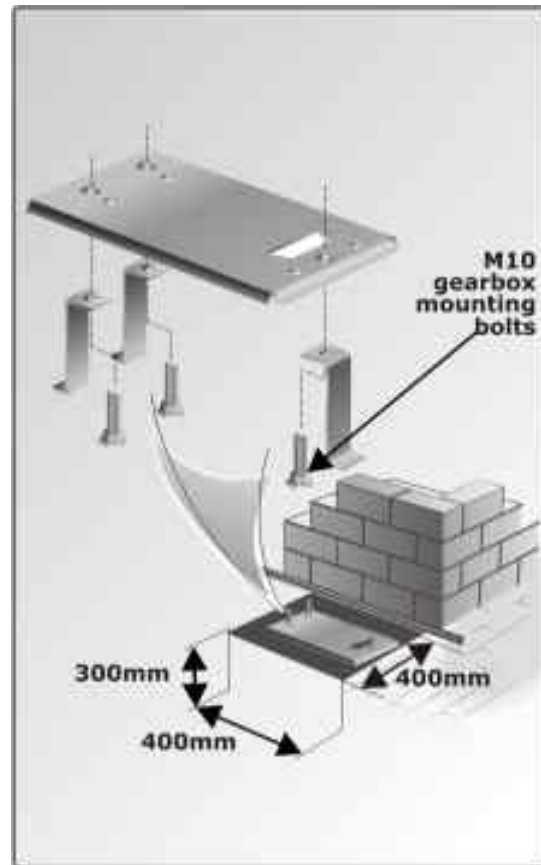
Option 1:

New concrete foundation

Assemble foundation plate with anchor brackets as shown in the illustration



- Ensure that the M10 gearbox mounting bolts are properly tightened
- Cable conduits must be installed before pouring the concrete



Option 2:

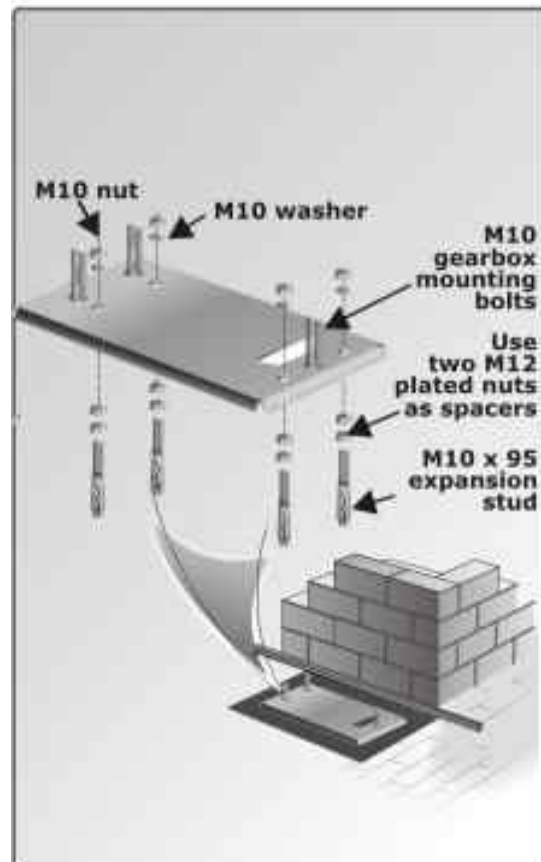
Bolting foundation plate onto an existing concrete plinth

If bolting onto an existing concrete plinth, place the foundation plate down in the correct position and use the plate as a template for marking the rawl bolt holes

Assemble foundation plate without anchor brackets before bolting down onto plinth



- Ensure that the M10 gearbox mounting bolts are properly tightened



Route cables and secure foundation plate

1. Route cables as determined in Section 9, Cabling requirements.

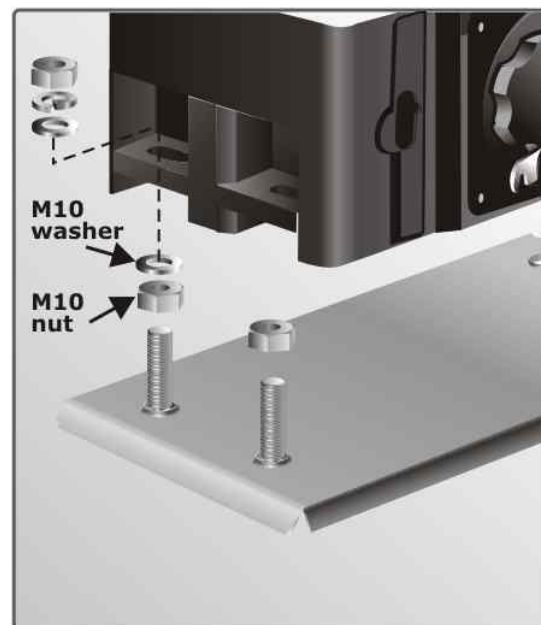
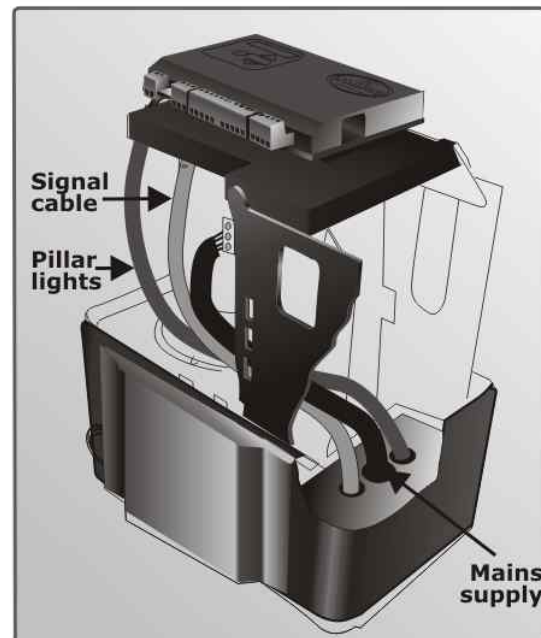
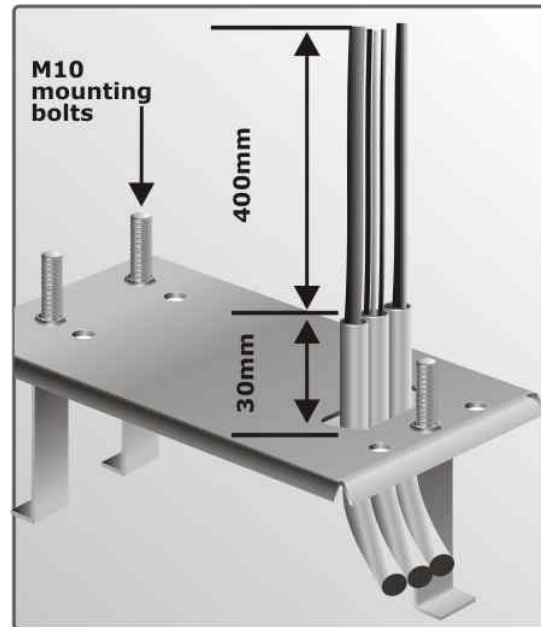


Make sure that all cables protrude at least 400mm above the baseplate once installed as shown in the illustration

2. Securely concrete or bolt the foundation plate in position.

Mount the gearbox

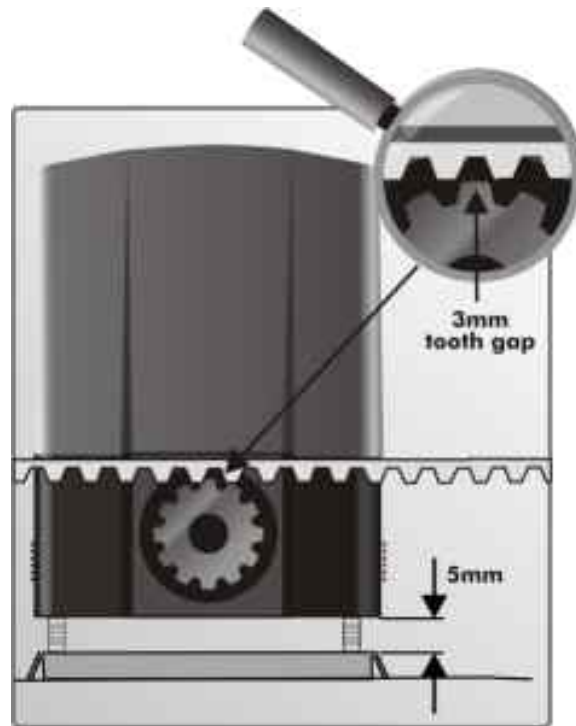
3. Remove the knock-outs for the cables from the gearbox.
4. Feed the cables through these holes while fitting the gearbox to the baseplate.
5. Note how the cables route up onto the control card.
6. Check that the operator is level.
7. Secure the gearbox in place fitting the following in sequence: first a nut and then a washer onto each gearbox mounting; then the gearbox; and then a washer followed by a spring washer and finally a nut onto each gearbox mounting.
8. Do not mount gearbox flat down onto mounting plate. Adjust the height of the mounting nuts to raise the gearbox at least 5mm above the plate. This is to allow for later adjustments.
9. Seal the conduit and knock-out holes in the operator with silicone sealer to prevent ants from entering the operator through these cable entry points.



Mount the rack

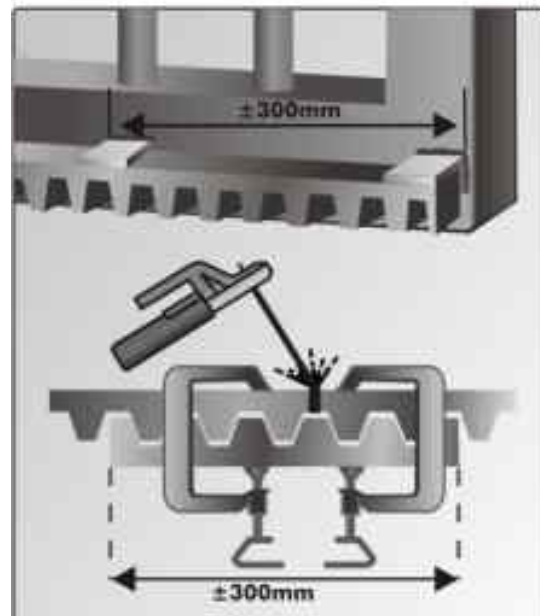


The rack must be securely mounted to the side of the gate. It must be parallel with the gate rail, and there must be a 2 - 3mm gap between the teeth of the pinion and the rack, along the entire travel of the gate

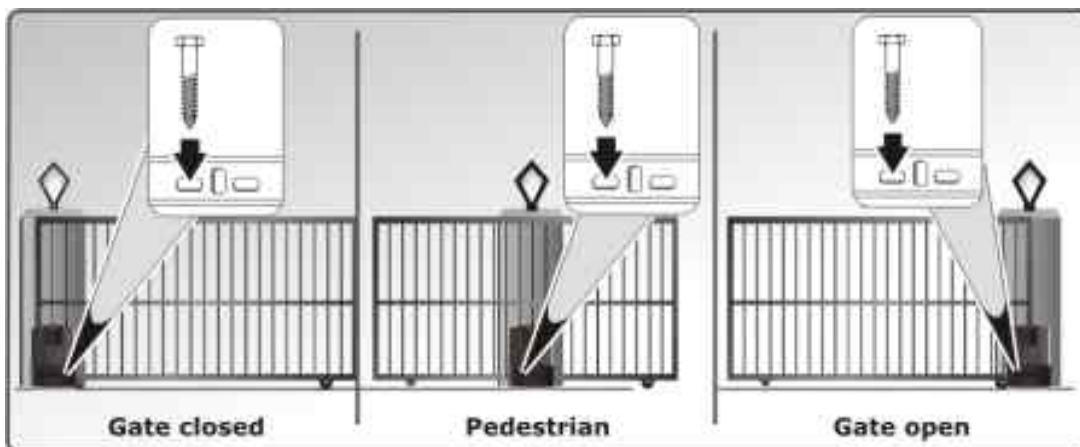


Steel rack

1. Fix rack using the steel angle brackets provided.
2. Brackets must be spaced no more than 300mm apart.
3. When joining different lengths of steel rack, a simple way of ensuring correct pitch spacing, is to clamp a small off-cut between the two pieces.



RAZ rack



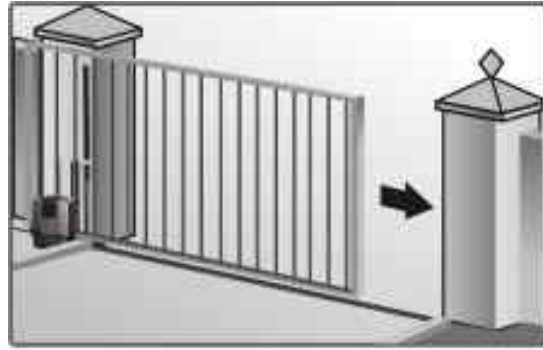
1. Use at least three TEK screws per half metre section of rack.



Fit additional fixing screw through the horizontal slots to secure the rack to the gate directly above the pinion when the gate is in the closed, pedestrian and open positions

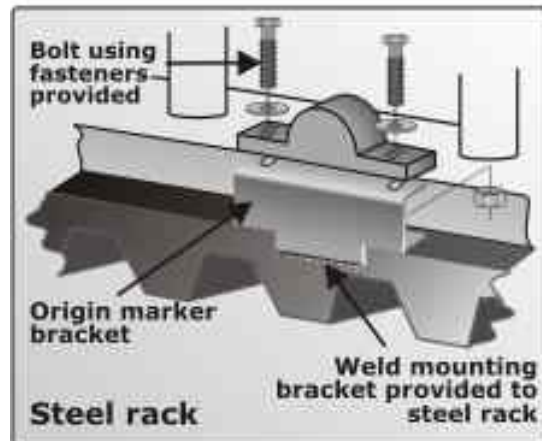
Mounting the origin marker

1. Close the gate completely.
2. Mount the origin marker to the rack a minimum of 500mm from the origin sensor.



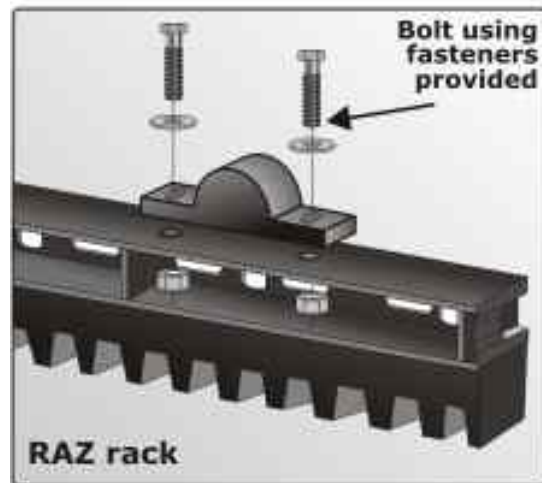
Steel rack

3. For steel rack mount the origin marker onto the rack using the bracket provided.
4. Weld the bracket to the rack.
5. Bolt the origin marker onto the bracket using the fasteners provided.



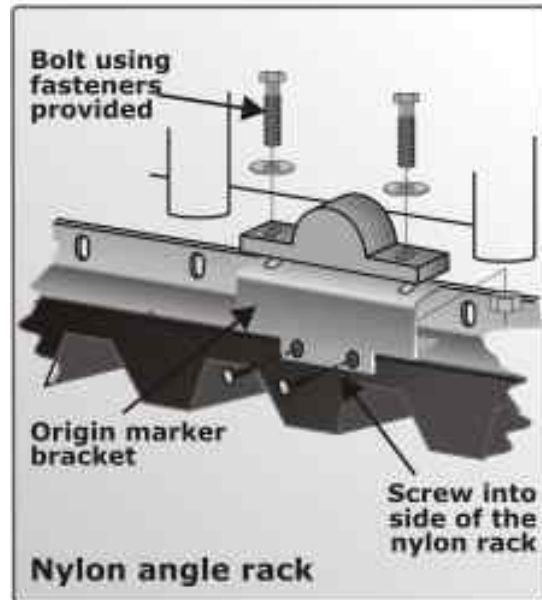
RAZ rack

6. With RAZ rack the origin marker mounts directly on top of the rack without a bracket.
7. Drill mounting holes directly into the rack and bolt into position.
8. File away the front lip of the rack if you need to move the origin marker closer to the operator as the gate slides past.



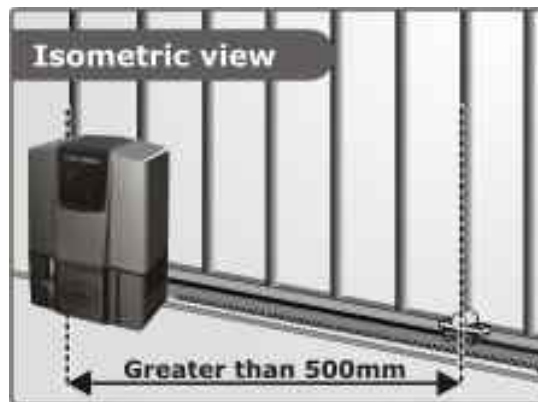
Nylon angle rack

9. With nylon angle rack it is necessary to use the bracket provided.
10. It is preferable to use self tapping fasteners to secure the bracket into the side of the nylon rack as shown.
11. Make a small tack weld to secure the back of the bracket onto the angle iron section of the rack.
12. Bolt the origin marker onto the bracket using the fasteners provided.




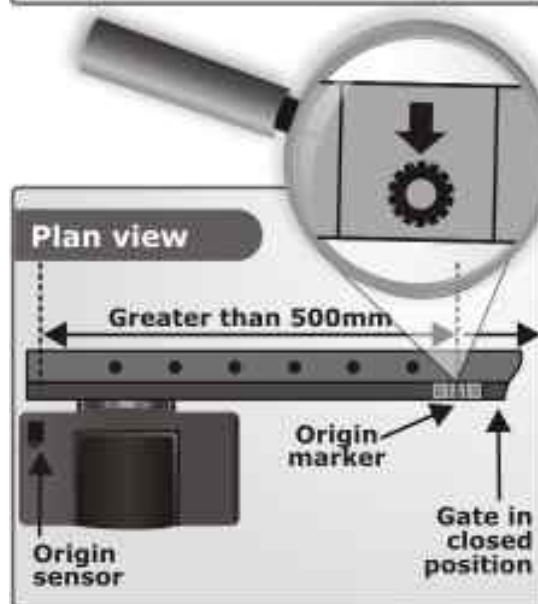
Mounting the origin marker (continued)

13. Manually slide the gate OPEN until the origin marker is in line with the origin sensor.




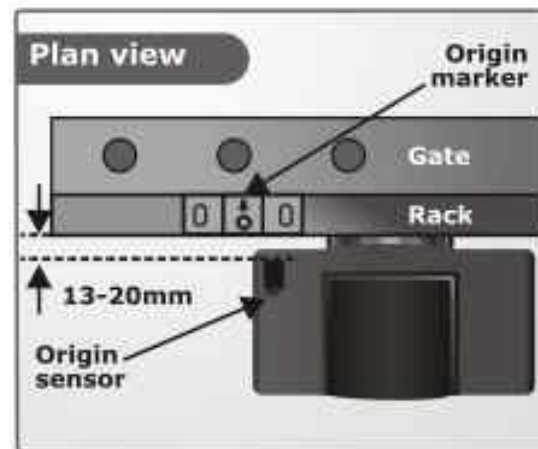
14. Ensure distance between face of marker and front face of sensor is between 13 and 20mm.


 Take care with the orientation of the arrow on the origin marker. This arrow must face the operator



15. Adjust distance by sliding the origin marker along the slotted mounting holes until the specified distance is achieved.

 For best results keep gap between marker and sensor as small as possible



 It is possible to make the distance between the marker and the sensor much greater than 500mm. However, if using the pedestrian opening facility, although the position of the marker will not affect the width of the pedestrian opening, it is preferable to have the marker mounted inside of the pedestrian opening point

Apply warning decal/signage

Apply the supplied Warning! decals/signage to the gate





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