

## **The Electric Gate Shop**

[www.theelectricgateshop.co.uk](http://www.theelectricgateshop.co.uk)

[info@theelectricgateshop.co.uk](mailto:info@theelectricgateshop.co.uk)

01405-785656 / 01226-370549

### **Ask The Experts - Sliding Gates**

What do I need to know about sliding gates?

#### **How long does the gate need to be?**

If you are using floor track the gate size on the opening + 350 – 400mm extra. With cantilever equipment the gate needs to be the opening + 30% to account for the counterbalance.

\*Remember the overhang does not need to be decorative gate; it can be just a steel frame. In terms of aesthetics a gate looks best from the road side when you can see part of the gate frame at both sides\*

#### **How do I choose between a cantilever system and a traditional floor track?**

If the ground is level or the drive can be re-graded to make it level I would always use floor track, the weight is on the floor and it will last a lifetime. A common myth is that leaves or stones will get stuck the track. This will not be a problem as there is no groove to fill just ½ of a 20mm round rod showing that in practice will push small obstacles out of the way. We can supply cantilever if you wish but costs and maintenance are substantially higher. In floor track there is concrete in or bolt down available.

#### **How should I hold the gate up?**

Generally on domestic gates there is no side force when the gate is stood straight up (except in windy conditions). You can sandwich the gate between two rollers at the top (if the top is flat), or use a C Channel system. This has a support post at the opening side, level with the edge of the opening it is usually a 100mm x 100mm 4mm box section or similar. C channel is attached to the gate and the roller runs up inside this supported from a bracket on both sides of the 100mm x 10mm box section post. Height depends on gate design.

\*Remember if you use C Channel, because the roller runs inside there is no marking or rub marks on the gate\*

## Which gate rollers should I use?

Although you can buy bridge type gate rollers that bolt to the underside of the frame, I would always use the countersunk type. With a countersunk roller it is inset into the wood or box section and there is only around 30mm gap at the bottom of the gate which looks good. If making the gate, use a 80mm deep box section at the bottom, with an existing gate consider attaching another piece of box to the bottom. I would use a 80mm for up to 12ft/3.6m a 90mm for most other gates except very large or industrial and then use a 120mm roller. Unless the gate is very long above 5m only use two rollers, a third roller can work against the others if the track is not perfectly straight.

*\*Don't save money on track and rollers, a good floor track and matched roller will move your gate with ease. You should be able to move your gate using just two fingers\**

## Where do the rollers fit on the gate?

The rule is take the gate size including overhang divide it by four and take off another 10 – 15%. E.g. a 4m gate / 4 = 1m -10% = 90cm. The result is the distance from the each end of the gate to the centre of the roller. This formula allows almost even weight on both rollers with bios on each end to stop the rocking effect

## How far does the track sit from the gate post or pillars?

Assuming you are using the C channel system. Use a straight edge and spirit level on the gate post to determine if the post is straight from top to the bottom. Use the widest part as your starting point. The centre of the floor track should be 25mm from this point +  $\frac{1}{2}$  the width of the gate. E.g. If your gate frame is 40mm wide the centre of the track should be a minimum of 45mm from the edge of the pillar.

*\*Remember because your rollers are set in from each end of the gate, it is not necessary to put the track all the way across the drive. In fact it is always better to leave it short to allow surface water to get out\**

## Where does the support post for the C Channel need to be?

The post will sit level with the edge of the gate pillar on the side the gate opens back to. The distance from the post is determined as follows: - Use a straight edge and spirit level on the main gate post or pillar to determine if the post is straight from top to the bottom. Use the widest part as your starting point.

The edge of the support post should as follows - 25mm from this point + the width of the gate + 50mm (C Channel) + 25mm (Clearance). e.g. If your gate frame is 40mm wide, the edge of the support post should be a minimum of 140mm from the main gate post or pillar. If you prefer to work to the centre of your post simply add  $\frac{1}{2}$  the width of your support post to this figure.

\*To keep things simple concrete in the box section with the track and leave it longer than you will need, the support plates for the C channel rollers will attach to the post when the gate is on, this will ensure correct positioning. To tidy up the post cut the excess off with an angle grinder and attach knock on post cap (Available from us)\*

### **Where does the rack fasten on the gate?**

On a wooden gate it is easier to use a nylon gate as it has its own fastening brackets (we can supply these if you wish). On steel gates we use the stronger 30mm x 12mm x 1m rack it fastens usually a minimum of 80mm from the bottom of the gate frame. If you use a 80mm deep box section at the bottom of the gate your rack spacers will fit along the top edge of the box section. They are generally welded to the frame when the gate is in manufacture.

\*The rack sections do not but up tight together, to ensure the correct spacing for the teeth lay two sections on the gate and use a third section as a guide, place it upside down between the other two to mesh and correctly align the teeth\*

### **How do I concrete in the floor track?**

Cut out and remove a strip about 150mm wide. Level the area with stone and compress. Lay the floor track in the trench and join the lengths with the joining pins provided. Level with a long straight edge and spirit level (Aim to keep the bubble of the level, within the lines. On a loose substrate hammer pins or small angle to either side of the track every 450mm / 18" when it goes tight weld it to the rack and cut off the excess. Backfill with concrete leaving the top 13 - 15mm of the 20mm bar showing.

\*For added strength or if used for heavy vehicles, Slide a 12mm round steel dowel down the inside of the round section\*

### **Where do I need conduit for the electrics?**

When laying the floor track put in the conduit for the electrics. Firstly you need a conduit from the power source to the motor position. For reference the hole in the motor is usually around the same position as the middle of the support post. Secondly a conduit from one side to the other at the house side of the gate, and finally two pieces passing under the track at both sides behind the posts.

\*Without a conduit under the track it is hard to add wired components in the future.\*

### **What are the wire and cable sizes?**

The system is fed from 5 amp fused RCD spur. The mains cable is a 3 core SWA armoured (size depends on distance). The photocell beams, keypad, key switch use Cat 5 network or alarm cable. The aerial is pre wired.

### **How do I choose the correct motor?**

The motor choice is determined by the weight of the gate. If two people can lift the gate it won't weigh more than 250kg. The 600kg kit we have on offer is a good option. This kit has slowdown on open and close, pedestrian opening via second button on the remote, hold open and auto-closing, pillar lighting timed output. The motor has a semi industrial gear and gearbox and stainless limit spring. If you want trouble free operation steer clear of the cheap domestic motors using light gears, plastic limits without slow down, and anything that will not move at least 600kg.

\*Remember a 400kg motor is rated at moving 400kg on correct floor track on roller bearings, the actual dead pull power of the motor is only about 25kg\*

### **Where can I buy the equipment from?**

I think we know the answer to that one!

Please don't hesitate to contact me should you have any further questions.

Simon

Director – The Electric Gate Shop Ltd.

**The Electric Gate Shop**