



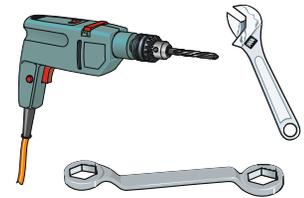
## *The A-Z guide to:*



*Measuring for a gate*



*Choosing your gate hardware*



*and installing your gate*

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**This booklet should be considered as a guide only, it cannot account for many of the installation variables which may affect part placements, measurements, sizing etc.**

**Please always use your own discretion as an installer to double check, temporarily fix and test prior to final fitting.**

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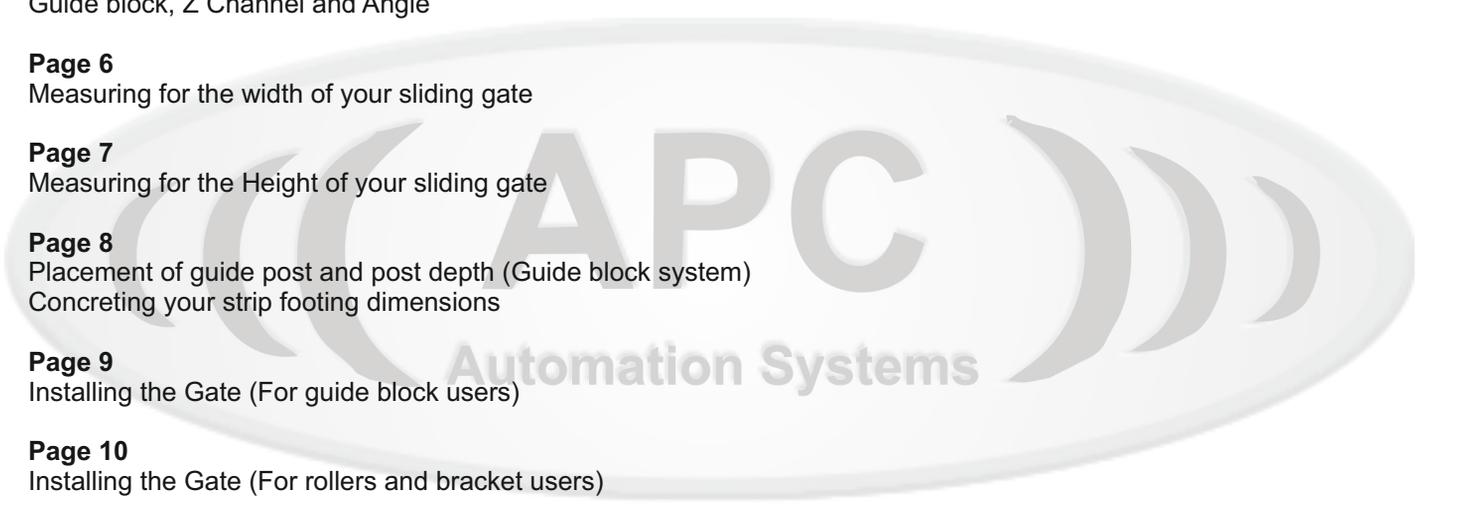
Installing the Gate (For guide block users)

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Installing the Gate (For rollers and bracket users)

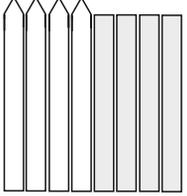
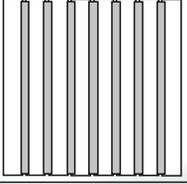
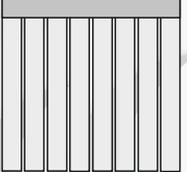
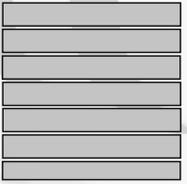
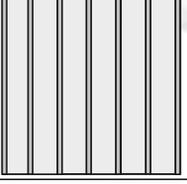
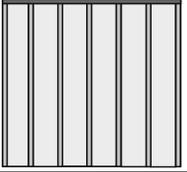
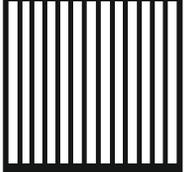
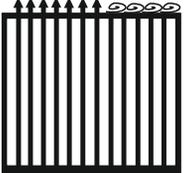
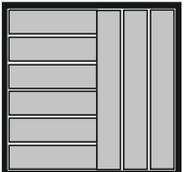
### **Page 11**

Installing the U guide, common problems and solutions

A large, light gray watermark logo for APC Automation Systems is centered on the page. The logo consists of the letters 'APC' in a large, bold, sans-serif font, with the words 'Automation Systems' in a smaller font below it. The text is flanked by several curved, crescent-like shapes that resemble stylized parentheses or brackets, all contained within a faint oval border.

APC  
Automation Systems

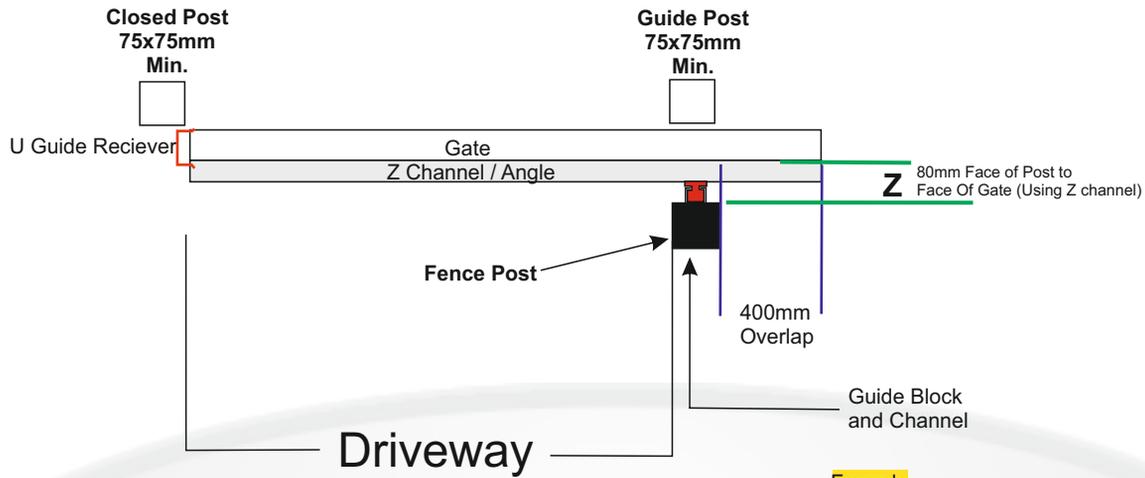
## Determining if using Rollers & Bracket or Guide Block system

				
		Guide Block System	Rollers & Bracket System	Notes
Vertical Picket		✓	✗	Cannot use rollers as there is no smooth horizontal surface at the top of the gate.
Pailings		✓	✗	Cannot use rollers as there is no smooth horizontal surface at the top of the gate.
Vertical Picket with capping		✓	✓	Can use rollers OR Guide Block as there is a smooth horizontal surface at the top of the gate.
Horizontal Slats		✓	✓	Can use rollers OR Guide Block as there is a smooth horizontal surface at the top of the gate.
Colorbond		✓	✗	Cannot use rollers as there is no smooth horizontal surface at the top of the gate.
Colorbond with Capping		✓	✓	Can use rollers because of top capping. 60mm or 100mm options
Square / Rectangular Tubing		✓	✓	Can use rollers OR Guide Block as there is a smooth horizontal surface at the top of the gate.
Tubing with obstruction		✓	✓	Can use rollers as they are available in 150mm/250mm to clear obstruction and work on the smooth horizontal surface..
Tubing Frame Cladding set inside		✓	✓	Can use rollers OR Guide Block as there is a smooth horizontal surface at the top of the gate.

## Typical Sliding Gate Layout

### Guiding using an Angle OR Z Channel

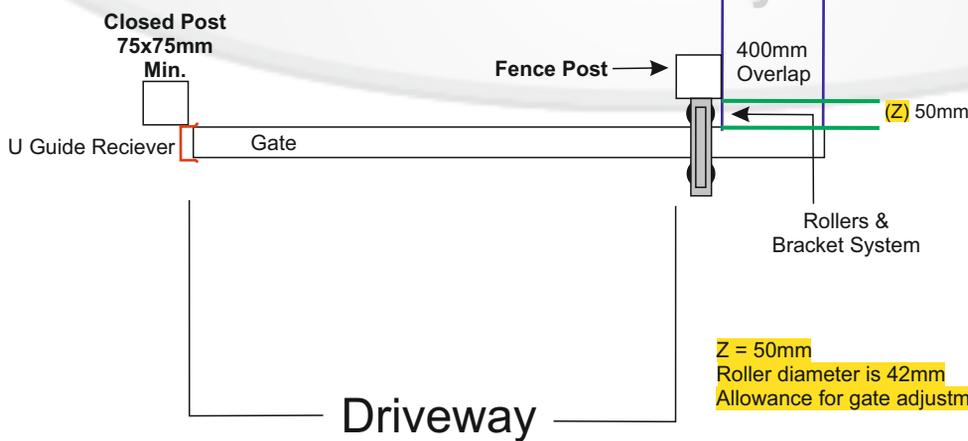
Posts layout when using "Z" Channels for upright retaining of the gates or have welded angles to the rear of the gate.



Formula  
 $Z = 50\text{mm} + \text{angle size}$   
 eg,  $(50\text{mm}) + 40\text{mm angle} = 90\text{mm Face to Face}$

### Guiding using Roller & Bracket Sets

Posts layout when using a Rollers and Brackets for upright retaining of the gates.



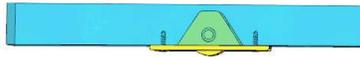
$Z = 50\text{mm}$   
 Roller diameter is 42mm  
 Allowance for gate adjustment back to plumb is 8mm towards street

## Acceptable Gradients

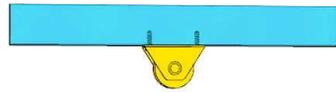
<p><b>Level Gradient</b>                      This is the ideal gradient</p>	
<p><b>Out of Level BUT consistent gradient</b>                      Its fine but will affect your choice of gate automation</p>	
<p><b>Two Different levels</b>                      Not acceptable</p>	
<p><b>Inconsistent Grade</b>                      Will need packers to achieve track at one plane                      Recommended to re-pour if possible</p>	

1. GATE WHEELS

Recess Wheels



Flat Mount Wheels



Recess Wheels

Part Number	Diameter	Cut Out Size	Increased Height (Including Track)	Minimum Tube Height
GWRM-68	68mm	70x35mm	30mm	50mm
GWRM-78	78mm	80x35mm	40mm	75mm
GWRM-98	98mm	100x35mm	40mm	75mm



Flat Mount Wheels

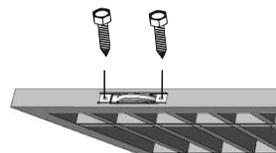
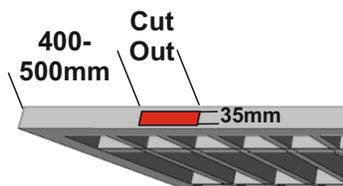
Part Number	Diameter	Increased Height (Including Track)
GWFM-68	68mm	87mm
GWFM-78	78mm	92mm



Positioning & Cutout

If Recess mount wheels are used; Make two wheels cut outs at the listed size below in the bottom rail approx. 400- 500mm away from the ends of the gate. Slot the wheel in place and fix using 6mm Tek screws.

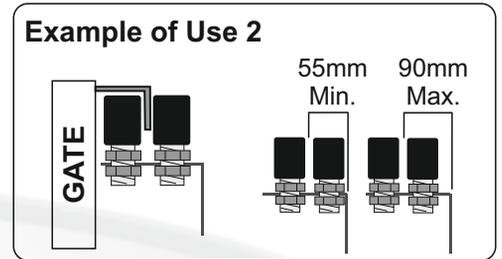
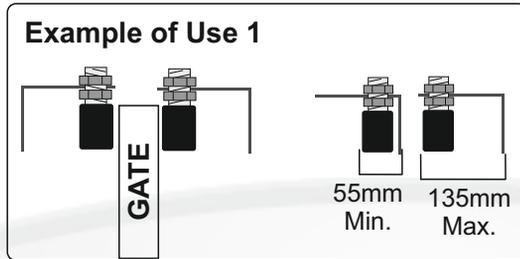
To install the Flat mount wheels are used then there is no need for the wheel cut out and they will screw in place using 6mm Tek screws on the bottom rail approx.400- 500mm away from the ends of the gate.



2. Rollers and Bracket

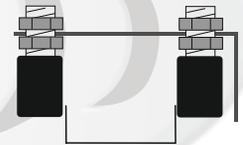
**Bracket 130mm Long, 115mm High**

1. Used in a one roller per bracket application, There would be one roller and bracket on each side of the gate. Handy for large clearance between two guiding posts or there is not enough height in the posts to allow a typical bracket to go overhead.
2. Can be used for larger angle guiding from the rear side of the gate. Adjustable distance unlike a guide block system.



**Bracket 165mm Long, 110mm High**

75mm Clear area between rollers with rollers adjusted out to there extremes, ideally gate thickness should not be greater than 50mm total including any covering or cladding to allow for gate adjustment to plumb.



75mm Max. Clear Area

**Bracket 200mm Long, 165mm High**

110mm Clear area between rollers with rollers adjusted out to there extremes, ideally gate thickness should not be greater than 85mm total including any covering or cladding to allow for gate adjustment to plumb.



110mm Max. Clear Area

All nylon rollers listed work with all bracket sets above.

**60mm Rollers:** Ideal for gates with only top rail and minimal clearance height between top of the gate and top of the bracket.

**100mm Rollers:** Ideal for gates with double top rail, horizontal cladding boards 90-100mm or a greater clearance height between top of the gate and top of the bracket.

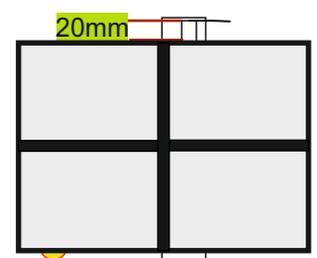
**150mm Rollers:** Ideal for gates with a greater clearance between top of gate and top of bracket. Also use when scroll work is fixed to the top of the gate and a greater clearance is required.

**250mm Rollers:** Ideal for gates with spear on the top.



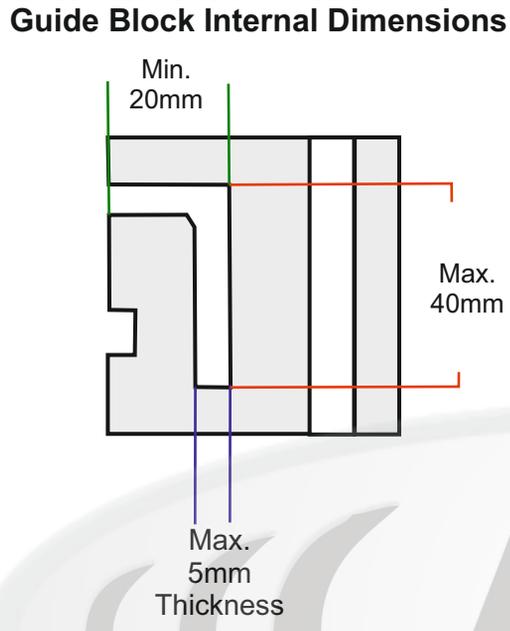
**Important !**

It is important that the open position post which will have the roller bracket system installed on it is at least 20mm higher in the sliding gate installation. If it is not **and the post has already been cut** remove a further 20mm of height from your final sizing of the gate otherwise the bracket will protrude above the fence post.

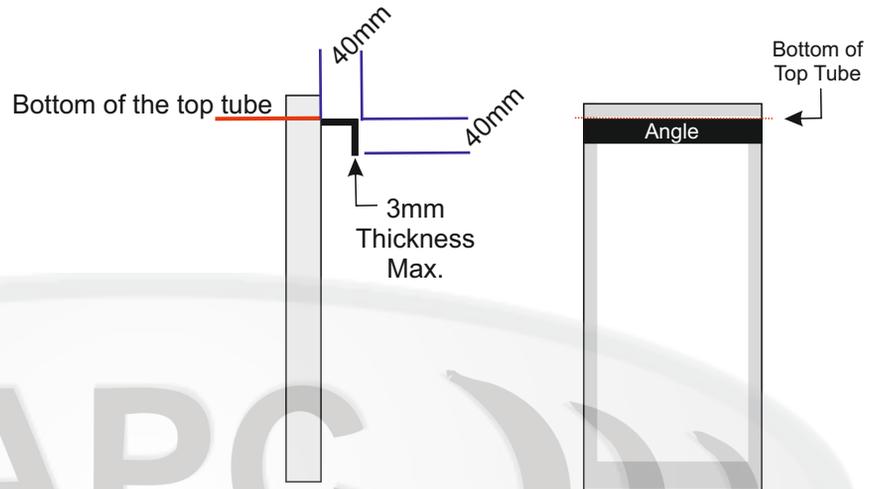


3. Guide Block / Z Channel / Angle

Angle



If you are welding an angle to the back of the gate the ideal size is 40x40mm, up to 3mm thickness. Placement should be at the bottom of the top tube to avoid the block being seen from the outside.



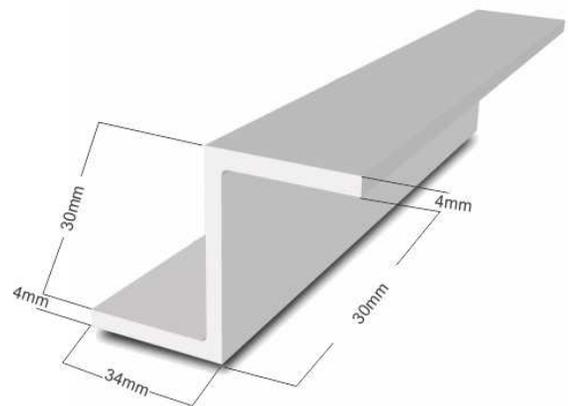
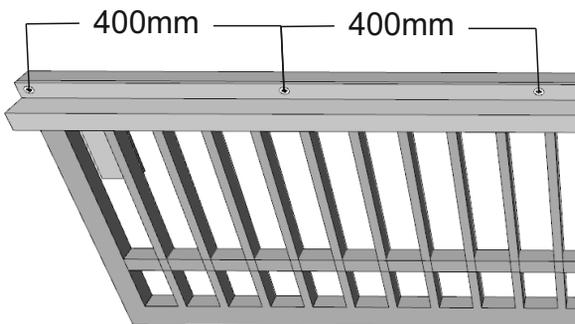
Z Channel Fitting

Install the Z Channel to the inside face of the top rail of the gate, use 6mm wafer head screws.

Do not use Tek screws or screws with a larger head as they will touch on the guide block system.

The Z Channel should be installed to the entire width of the gate.

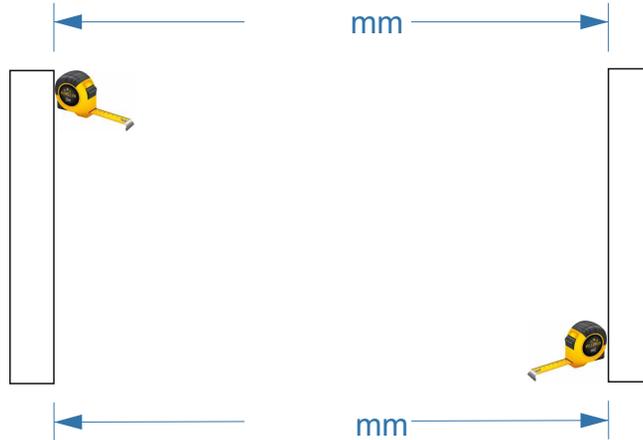
There are no holes pre-drilled in the Z channel so please drill according to your screw placement, one screw every 400mm would be recommended 15mm from the top of the section.



## Measuring for a sliding gate

### Width of the gate

1. Measure the distance between the gate posts both at the top and at the bottom.

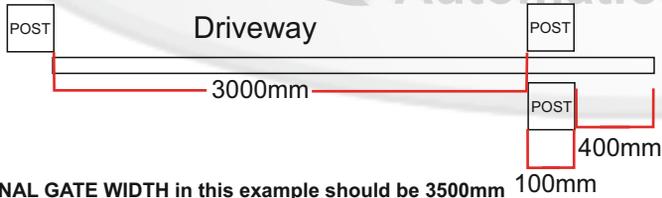


2. Take the narrower of the two measurements, ( \_\_\_\_\_ mm ) this will be the CLEARANCE WIDTH size.

#### Guide Block

3A. If using a **guiding post** from the inside of the property to support the gate to support the gate

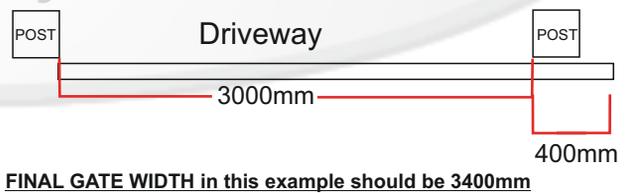
Take the clearance width size + the post width in mm + 400mm = Final gate width ( \_\_\_\_\_ mm )



#### Rollers and Bracket

3B. If using the **fence post** as the guiding post to support the gate.

Take the clearance width size + 400mm = Final gate width ( \_\_\_\_\_ mm )



## Measuring for a sliding gate

1. Measure the height from driveway to top of ideal height of the gate at the closed position post and 400mm after the open position post.

If it is a new fencing installation you should take into consideration the following:

- Your preferred height
- Your existing fencing
- Council regulations on fencing height, or if a permit is required.
- A 20mm Clearance above gate if using a roller and bracket set see page 4.

Gate to be made at the shorter height

mm

Closed Post

Open Post

mm

400mm

Inside of property

2. Take the lower of the two measurements ( \_\_\_\_\_ mm ) then take 40mm from this measurement and this is the final gate height taking into account the track and wheels (78mm recess). ( FINAL HEIGHT \_\_\_\_\_ mm )

**Note: If using rollers and bracket you MAY need to reduce 20mm from the height of the gate, see page 4**

Gate to be made at the taller height

mm

Closed Post

Open Post

mm

400mm

Inside of property

2. Take the higher of the two measurements ( \_\_\_\_\_ mm ) then take 40mm from this measurement and this is the final gate height taking into account the track and wheels (78mm recess). ( FINAL HEIGHT \_\_\_\_\_ mm )

**Note: If using rollers and bracket you MAY need to reduce 20mm from the height of the gate, see page 4**

Gate to be made at a tapered height

mm

Closed Post

Left Side

Open Post

Right Side

mm

400mm

Inside of property

2. Take both of the measurements  
**Left Side** ( \_\_\_\_\_ mm ) then take 400mm from this measurement and this is the final gate ON THIS SIDE height taking into account the track and wheels (78mm recess)  
**Right Side** ( \_\_\_\_\_ mm ) then take 40mm from this measurement and this is the final gate ON THIS SIDE height taking into account the track and wheels (78mm recess)

**Note: If using rollers and bracket you MAY need to reduce 20mm from the height of the gate, see page 4**

Measuring from the back face of the fence post we need to take into account the following:

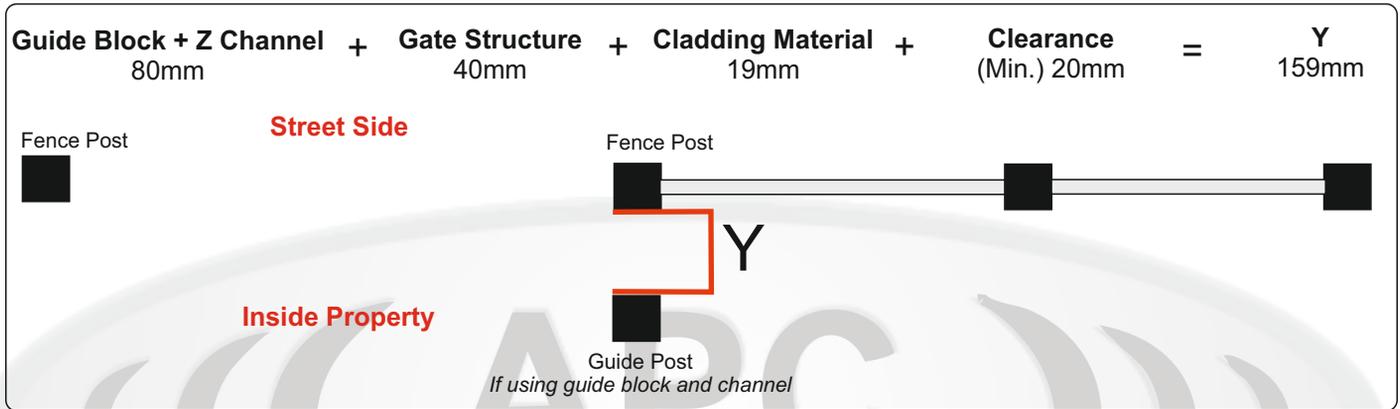
**Clearance** to fence post in front of the gate of 20mm MINIMUM

**Cladding material** outside of gate structure (example 19mm thickness of picket) If cladding is within the gate structure this point will be irrelevant. If cladding is within the gate structure and does not protrude this is irrelevant.

**Gate Structure** (example 40x40 tubing)

**Guide Block + Z channel** to rear of gate structure (80mm)

**Guide Block + Pre welded angle** to rear of gate structure (40mm angle) (90mm)

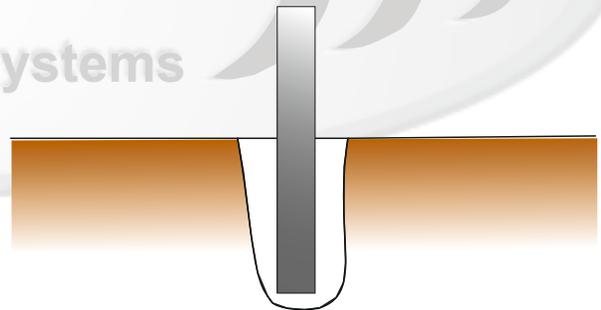


**Post Depth**

Take 1/3 of your above ground post height, this is equal to the amount you should have set into the ground at a minimum.

Example: Above ground 1500mm, in ground MINIMUM 500mm.

*This will vary based on council regulations, type of soil, size & weight of the gate etc. Refer to your working drawings at all times.*



**Concrete Strip Footing**

**Length**

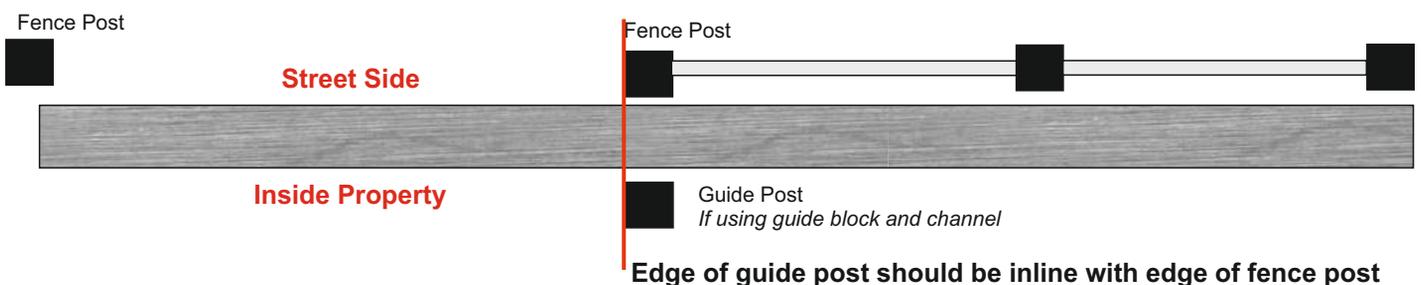
**Driveway width + Gate width + 200mm = Length of footing (Min.)**

This will allow for the gate stop also set in from edge of the stip footing.

**Width** 200mm Minimum

**Depth** 100mm Minimum

**Note:** See page 2 for acceptable gradients.

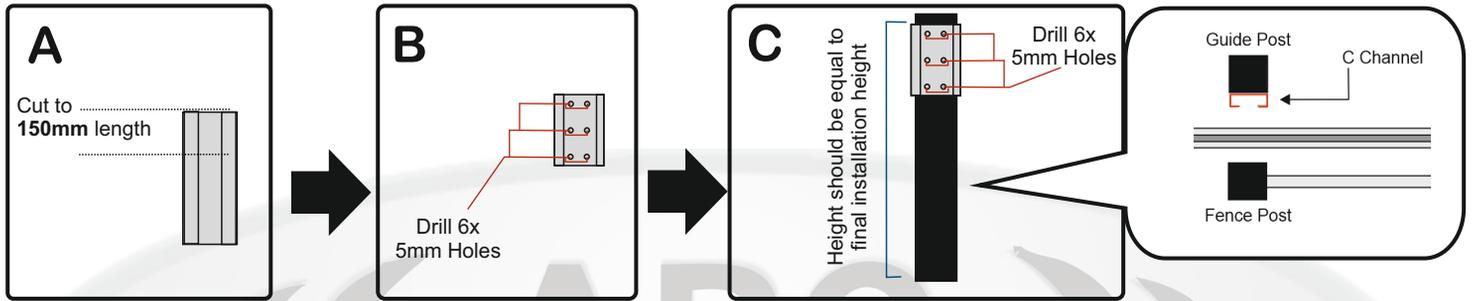


**Installing Block and Channel**

It is important to know the finished height of your gate prior to beginning these steps. If you are unsure you can use the wheel and track measurements on page 3 and measuring height of the gate on page 7.

The top of the C Channel guide should be installed equal to the finished height of the gate.  
 If the gates angle is installed horizontal to the gate across the entire width (typically the case) the C Channel can be cut down to a minimum size equal to the block height which is 75mm. However it would be recommended to cut to around 150mm and install with additional fixings as this part will be taking the majority of the pushing load on the gate (wind and other pushing loads).

If fitting to steel/aluminum post use a self drilling metal screws, Wafer or Truss head ( 4G 16mm or equivalent).  
 If fitting to a timber post use self drilling timber screws, Wafer or Truss head ( 4G 16mm or equivalent).



**Installing The Track System**

**FORMULA FOR TRACK POSITIONING:**

If using **Z CHANNEL** the centre of track to the face of guiding post will be **80mm + half of the gate structure (not including any coverings or cladding)**. For example if using a 40mm steel frame half of this would be 20mm, so 80mm + 20mm =100mm to centre of sliding track.

At this point in a perfect environment we could double back our measurement and use the fencing as our guide but it is not always the case of the fence being perfectly parallel to the gates run so below is an alternative simpler method.

1. Sit one piece of sliding gate track In front of the guiding post using the above dimensions as a reference.
2. Sit the remaining pieces in place butting up to one another
3. Sit the gate on top of the sliding gate tracks ensuring the block enters from the top of the C Channel, in the case of a heavy gate the block can also be disassembled from the three screws in the top.
4. Slide the gate back and forth ensuring all pieces are in the correct position and that the gate is plumb. Realign the pieces if necessary.
5. Drill track holes using a 6mm masonry bit and fix in place using Ramset Shuredrive Metal Sleeved nails 6x30mm Minimum or preferably 6x50mm.  
 Ramset Part number:  
 6x30mm SDM06030  
 6x50mm SDM06050

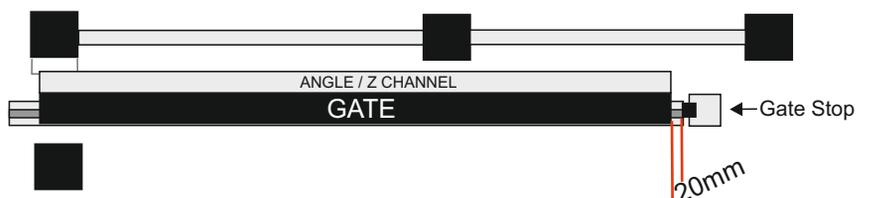
6. Install the open position gate stop for the Drive Gate/

**Installing The Gate Stop**

Open the gate to the full open position

Place the gate stops rubber pad 20mm from the back of gate

Mark all four holes and drill for 10mm Dynabolts



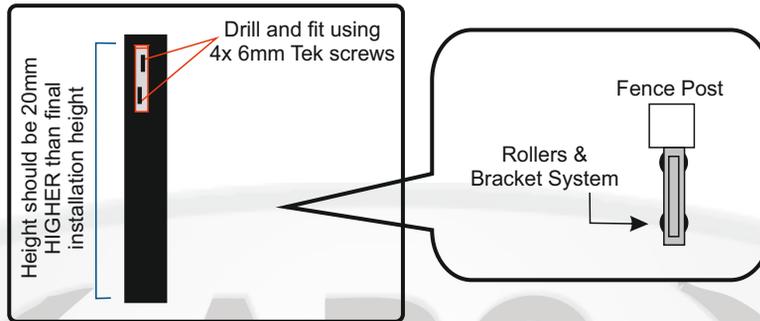
Installing Block and Channel

It is important to know the finished height of your gate prior to beginning these steps. If you are unsure you can use the wheel and track measurement calculator on page 3 and measuring height of the gate on page 7.

The top of the bracket should be installed at a minimum of 20mm higher the finished height of the gate.

After installing the bracket install only one roller (closest to the fence post). The other will be installed immediately after the gate is installed.

If fitting to steel/aluminum post use a self drilling metal screws, Wafer or Truss head ( 4G 16mm or equivalent).  
If fitting to a timber post use self drilling timber screws, Wafer or Truss head ( 4G 16mm or equivalent).



Installing The Track System

FORMULA FOR TRACK POSITIONING:

If using **Rollers & Bracket** the centre of track to the back face of the fence post will be **50mm + cladding material proud of the gate + half of the gate structure**. For example if using a 40mm steel frame half of this would be 20mm, so 50mm + 20mm + 19mm picket =89mm to centre of sliding track.

At this point in a perfect environment we could measure back from each of the fence posts and use the fencing as our guide but it is not always the case of the fence being perfectly parallel to the gates run so below is an alternative simpler method.

1. Sit one piece of sliding gate track In front of the guiding post using the above dimensions as a reference.
2. Sit the remaining pieces in place butting up to one another.
3. Install ONE of the guide rollers closest to the fence post on the overhead bracket.
4. Sit the gate on top of the sliding gate tracks and fit the remaining roller on the overhead bracket against the gate. The gate should be sandwiched between the two rollers.
5. Adjust the gate using the top roller guides so that the gate is level and plumb.
6. Slide the gate back and forth ensuring all pieces are in the correct position and that the gate is plumb. Realign the pieces if necessary.

5. Drill track holes using a 6mm masonry bit and fix in place using Ramset Shuredrive Metal Sleeved nails 6x30mm Minimum or preferably 6x50mm.

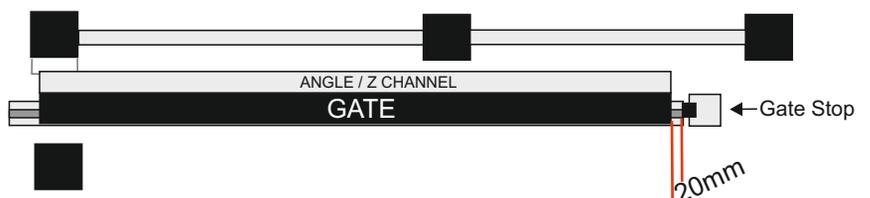
Ramset Part number:  
6x30mm SDM06030  
6x50mm SDM06050

Installing The Gate Stop

Open the gate to the full open position

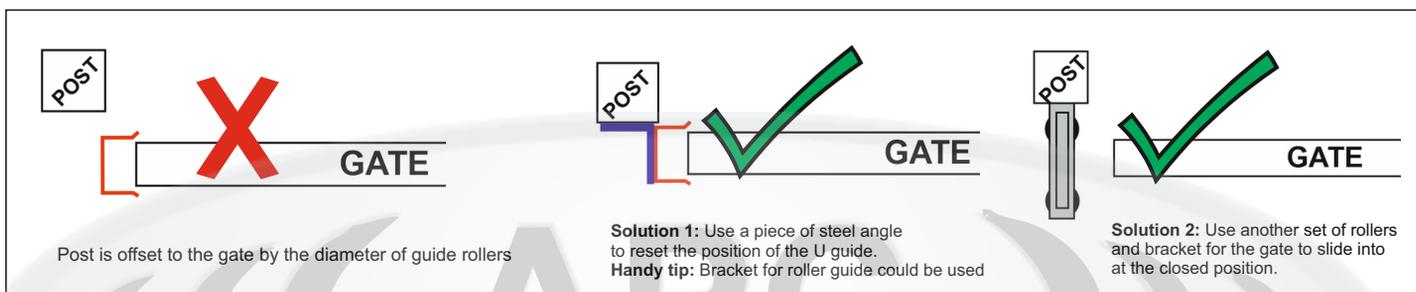
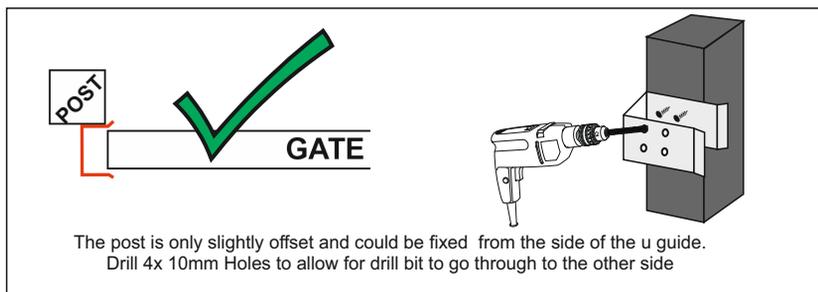
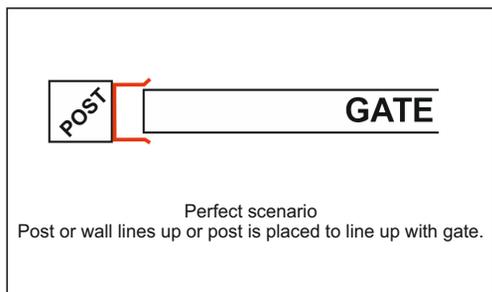
Place the gate stops rubber pad 20mm from the back of gate

Mark all four holes and drill for 10mm Dynabolts



## Solving U Guide Positioning Problem

If your gate post is offset to the gate whilst in its closed position the U guide itself will not be in alignment with the gate and the gate cannot close into it. This can easily be resolved in a variety of different options as per the illustrations below.



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