



## Hinged Security Gates Bi-folding Gates

PAS 68 & Security Ranges



## Product Brochures



FP2  
Security Sliding Gates

Also available:

Corporate Brochure

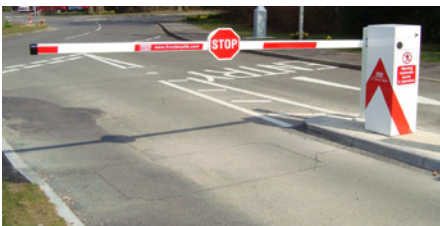
Your Guide to PAS 68



FP2.1  
Barricade Beams



FP3  
Hinged/Swing Security Gates



FP4  
Automatic Drop/Rising Arm Barriers



FP5  
Road Blockers & Rising Kerbs



FP5.1  
Rising & Static Bollards



FP6  
Manual Perimeter Security



FP7  
Pedestrian Gates & Turnstiles

# Contents for the Hinged Security Gates & Bi-fold Speed Gates Product Guide



Why Use Frontier Pitts Ltd?	4
Hinged Gates Summary	6

Hinged Vehicle Gates	8
Single leaf maximum aperture 10m	
Double leaf maximum aperture 20m	
Heights up to 6m	

Bi-folding Speed Gates	10
Available in apertures up to 12m,	
Heights up to 6m.	

Actuators	12
-----------	----

PAS 68 Terra Swing Gates	16
(Previously known as the Terra Road Closer)	
Available in apertures up to 6m	

Terra Hinged Gates	18
Available in apertures up to 6m	
& heights of 3m	

PAS 68 Terra V Gate	20
Available in apertures up to 6m	
& heights of 3m	

Hinged Gate Accessories & Safety	22
Hinged Gate Systems	24



## Why Use Frontier Pitts?



From our UK HQ  
in Crawley, West Sussex



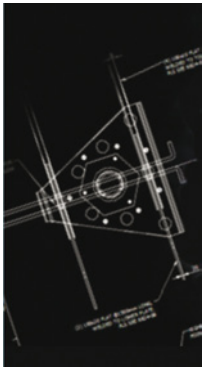
Frontier Pitts is more than just a Manufacturer:

90 years experience & accredited to BSi ISO 9001

National & International. Installations in over 90 countries

95 directly employed personnel, including multi-lingual staff  
& personnel that have been Frontier Pitts for 30+ years

Technical Consultants based at regional offices will visit  
any site within the British Isles, without charge or obligation,  
offering technical advice on the most appropriate & effective  
perimeter security solutions. Including BSi PAS 68 & CEN CWA  
16221 standards.



Directly employed sales & support staff

Large product portfolio to suit all budgets & requirements

Standard product specifications are complimented by our  
bespoke design service. Previous accomplishments include a  
sliding gate system which secures a 70 metre aperture



Full 3D CAD Design. Site specific drawings issued to clients

British Engineering - Designed & built to last

Mechanical & Electrical Engineering Research & Development  
Programs



Comprehensive Training Program; ensures the client always  
receives the very best of our technical expertise

Dedicated Project Manager for each project. All work is  
executed under the strict control of our specially trained PMs

Fleet of vehicles including HGV's to ensure the equipment is  
safely delivered to site, with full ID tracking for security







## Accreditations



### Secured by Design



Highly skilled, dedicated Mechanical & Electrical Field Engineers

Installation, Commissioning, Service & Maintenance

24hr / 7days a week manned UK Call Centre &  
Nationwide Breakdown Service

A range of Maintenance Contracts available to suit individual  
site requirements

Maintenance Contracts with response times in as little as 4 hours  
Comprehensive Customer Service

Highly skilled, directly employed engineers located nationally.  
Frontier Pitts do not use Sub Contractors

Full Installation & Commissioning Service

Civil, Electrical & Ground Works Team

BSi ISO 9001 Accredited and LPCB approved to LPS 1175

Verified and Founder member of the PSSA - Perimeter Security  
Suppliers Association - with the aim to raise the standards of the  
industry.

In house resources & skills - IT, Engineering, Fabricating,  
Maintenance & Installation - to overcome any possible obstacle

Spares Department, holding on average £200K of stock

Frontier Pitts is highly recommended by our existing & previous  
customers

Extra Fast Repair & Refurbishment for existing customers.

Total customer care for your peace of mind

In house secure IT servers, latest software and hardware

Experience of 'List X' regulations and data security.

Frontier Pitts manufacture a large portfolio of Security Hinged (Swing) Gates and Bi-folding Gates. Whether the requirement is for a simple, manually operated hinged swing gate, only used a few times a day, or a completely automated bi-folding speed gate system used continuously, Frontier Pitts will design and manufacture a system to meet the sites exact needs. There are various options to consider when specifying your hinged gate:-

1. Which product range? PAS 68 Impact Tested HVM Anti Terra Range  
Security Range
2. Width of road that the gate needs to secure
3. Swing area of gate
4. How many times per day will the gate be operated? Automatic or Manual?
5. Hinged/Swing Gate Safety
6. Style of fenceline & other accessory requirements
7. Conditions on site (weather, usage, etc)

Frontier Pitts Single Leaf Hinged Gates are available up to 10m, and Double Leaf Hinged Gates up to 20m.

Frontier Pitts Bi-folding Gates are available in widths up to 12m and heights up to 6m.

Bi-folding speed gates are available in various models including overhead track, bottom track or trackless. Operational options include electro-mechanical and hydraulic drive systems.

A range of actuators are available to automate the Hinged Gate and Bi-folding Gate leaves.

Depending on the actuator, power is supplied from either a single or three phase supply.

The benefits of hinged & bi-folding gates are:

- Alternative to sliding gates if room for runback is not available.
- Ease of installation




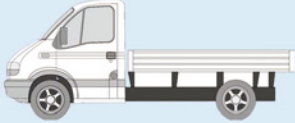
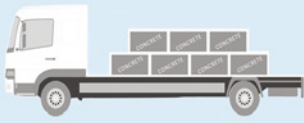

Hinged (Swing) Gates



Bi-folding Gates

Terra Swing Gate (previously known as Terra Road Closer),  
the Terra Hinged Gate & the Terra V Gate

The Anti Terra range includes equipment successfully impact tested to the BSi PAS 68 specification. The different category ratings are all designed to illustrate how the perimeter security equipment will arrest an energy created by various masses and speeds, as illustrated below:

Vehicle & Vehicle Mass			
M1	N1	N2	N3
			
1500kg	3500kg	7500kg laden	7500kg empty 18000kg
Speeds			
	30mph / 48kph	40mph / 64kph	50mph / 80kph

When specifying your PAS 68 equipment, first establish what speed the different types of vehicles could reach on site before approaching the barrier & therefore how much energy the barrier may need to stop.

For further information please see Frontier Pitts “Your Guide to PAS 68” or contact the PAS 68 Specialist Technical Consultant on 01293 422800



Terra Swing Gate  
7500kg (N3) @ 50mph  
1852kj



Terra Hinged Gate  
enhanced version of the  
Terra Swing Gate



Terra V Gate  
7500kg (N3) @ 50mph  
1852kj

Terra Swing Gate

7500kg	N3	80	90	0.0	25.0
--------	----	----	----	-----	------

Terra V Gate

7500kg	N3	80	90	0.0	0.0
--------	----	----	----	-----	-----





## Hinged/Swing Gates

Single leaf width up to 10m  
Double leaves width up to 20m  
Bespoke available.



Single Leaf Hinged Gates

Hinged/Swing Security Gates from Frontier Pitts are designed to provide a high degree of security within a fenceline where the runback required for a sliding gate installation is not available.

Hinged gates are available in a wide range of styles to compliment both contemporary and traditional architectural designs. They can also be custom-designed to match a company's specific requirements.

Manual or Automatic.

Automatic Hinged Gates are powered by actuators. For our full range of actuators, please see page 12

For Automated Hinged Gates please also see:  
Safety control systems on page 24.  
Access controls systems on page 26.

Finish. Various options available, including:  
Shotblasted, hot zinc sprayed, primed & finished with a final coat of polyurethane paint. Client to advise RAL paint number. This process provides a 20-year corrosion protection system for exterior, industrial polluted inland sites to BS5493, 1977 (Revised 1984). Alternatively, acid dipped then hot galvanized.

Various infills available including bar, weldmesh, sheet, and bespoke such as wood and ornate.



Double Leaf Hinged Gates with adjacent pedestrian gates



Applications: Banks | Depots | Cargo parks | Ports |  
Airports | Car Park | Warehouses | Delivery entrances |  
Utility | Heavy Industrial & Commercial Premises |

For sites where runback for a sliding gate is not available



Double Leaf Hinged Gates with special hard wood infill

#### Construction

The gate leaf is a fully welded construction of rectangular hollow section, low carbon steel to BS4848 Pt.2.

Infill - various infills available, including bar, solid sheet, weldmesh, etc. Standard bar infill: Vertical 50mm x 25mm ERW bar infill at approximately 180mm centres, backed by 8 gauge x 50mm square galvanised weld mesh, painted to match

#### CIVIL REQUIREMENTS

##### Gate Post Foundations

L:1000mm x W:1000mm x D:300mm

For Automatic Hinged Gates, foundations dependent on automation. (Note: Power and control wiring ducts to be incorporated into foundations). Please contact Technical Sales Department for more information







## Bi-folding Gate

Secures a maximum aperture of 10m, heights up to 6m. Bespoke available.



The popular bi-folding speed gate is a fast acting security gate which is ideal for sites where there is a limited area for the gate to open and close.

Bi-folding speed gates are available in various models including overhead track, bottom track or trackless.

Manual or Automatic.

For Automatic Bi-folding Speed Gates operation options include electro-mechanical and hydraulic drive systems. For our full range of actuators, please see page 12.

For Automated Bi-folding Speed Gates please also see:

Safety control systems on page 24.

Access controls systems on page 26.

Finish. Various options available, including: Shotblasted, hot zinc sprayed, primed & finished with a final coat of polyurethane paint. Client to advise RAL paint number. This process provides a 20-year corrosion protection system for exterior, industrial polluted inland sites to BS5493, 1977 (Revised 1984). Alternatively, acid dipped then hot galvanized.

Various infills available including bar, weldmesh, sheet, and bespoke such as hard wood and ornate.





Applications: Banks | Depots | Cargo Parks | Ports |  
Airports | Car Park | Warehouses | Delivery Entrances |  
Industrial & Commercial Premises



Bi-folding Speed Gates securing an aperture of 9000mm with a height of 6000mm

#### Construction

The gate leaf is a fully welded construction of rectangular hollow section, low carbon steel to BS4848 Pt.2.

Infill - various infills available, including bar, solid sheet, weldmesh, etc. Standard bar infill: Vertical 50mm x 25mm ERW bar infill at approximately 180mm centres, backed by 8 gauge x 50mm square galvanised weld mesh, painted to match.

#### CIVIL REQUIREMENTS

Gate Post Foundations - dependent on automation

L: 1600mm x W: 1300mm x D: 1000mm

(Note: Power and control wiring ducts to be incorporated into foundations)

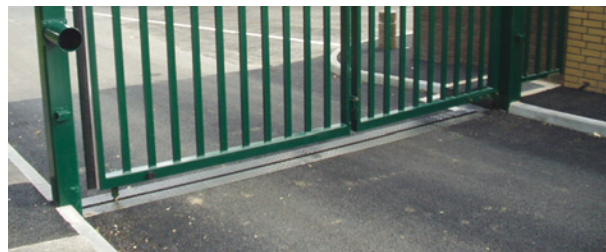
Please contact Technical Sales Department for more information

#### ELECTRICAL REQUIREMENTS

Dependent on automation.



Trackless Bi-folding Speed Gate with Trojan Underground Actuators



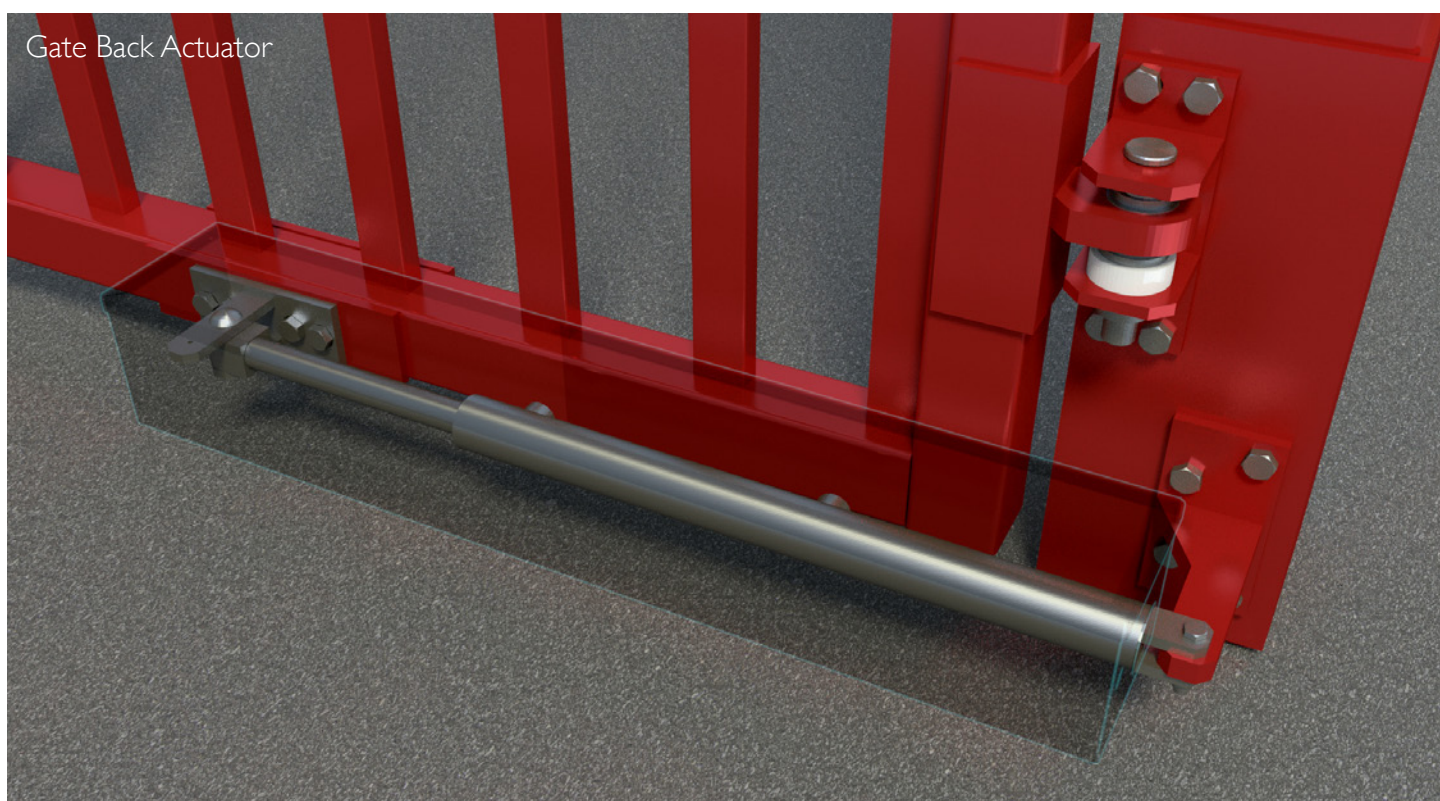
Tracked Bi-folding Speed Gate with Trojan Underground Actuators



## Actuators

A range of powerful motive units to automate hinged gates

### GATE BACK ACTUATORS

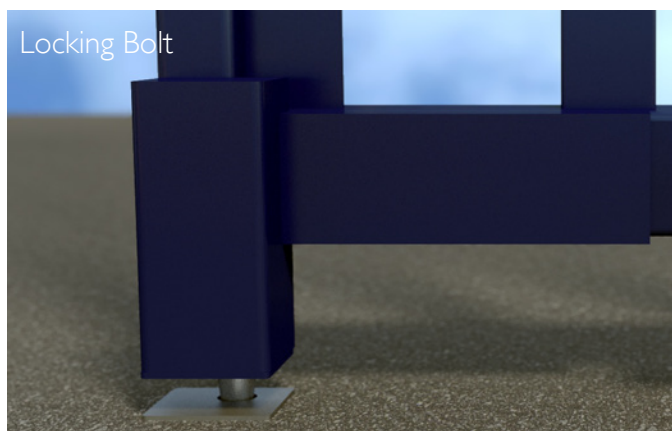


#### GATE BACK ACTUATOR

A small but powerful motive unit, which provides a solution for powering single leaf hinged gates (up to 5m). The power pack driven hydraulic ram offers huge reliability and 100% duty rating. The hydraulic ram is mounted between the gate-leaf and the gate hinge-post. A hinge-post mounting bracket is bolted to the gate post and offsets the rear of the ram to produce the correct operating geometry.

Standard operating speeds= 10-18 seconds\*

*\*This is subject to a risk assessment to ensure the automatic equipment complies to BS EN 12453. Faster operating speeds can be achieved.*



#### ELECTRICAL LOCKING BOLT

Not like anything on the market, this locking bolt offers substantial locking capability using a 25mm stainless steel pin rather than a conventional 200N of force from a maglock.

When the gate leaf reaches the locking position the mechanical design allows the drop-bolt to engage automatically. This locking device is very popular with clients requiring the extra security and physical deterrent.

## DUTYMAN MKII - THE ELECTRO-MECHANICAL SURFACE MOUNTED ACTUATORS



### TROJAN ACTUATORS



Dutyman MkII Actuator

### DUTYMAN ACTUATOR

A surface mounted, self contained electro-mechanical drive mechanism. The design of the actuator makes it practically invisible when installed and therefore is ideally suited for architectural and decorative styles of new and existing gates.

- Fully self contained.
- Designed for ease of installation and maintenance
- Electrical panel and mechanical elements are at accessible levels.

The actuator will operate single leaf gates up to 6m, double leaf widths up to 12m and heights up to 6m\*.

Standard operating speeds = 10-18 seconds\*

*\*This is subject to a risk assessment to ensure the automatic equipment complies to BS EN 12453. Faster operating speeds can be achieved.*

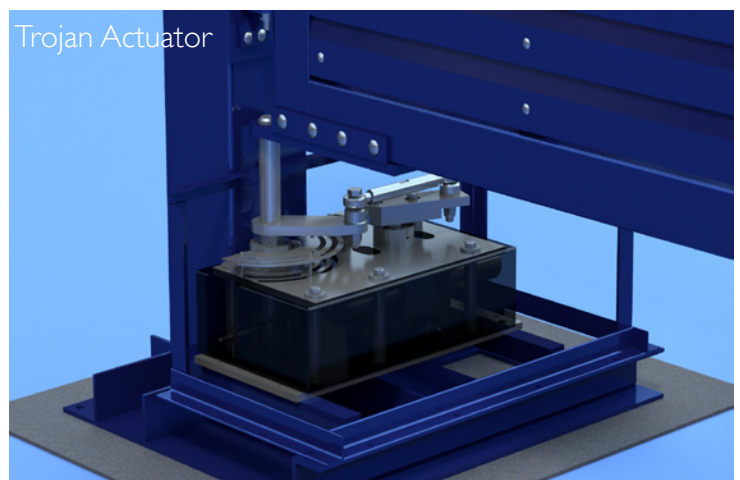
### TROJAN ACTUATOR

A range of powerful motive units for large, heavy gates. Originally designed to automate large prison and cash centre gates. 100% duty cycle designed for continuous operation. Underground and surface mounted models available of the Trojan actuator. The Trojan underground actuator is completely contained below the surface directly under the gate leaf hinge-point creating minimal visual impact.

The actuator is housed within an underground cavity formed in the gatepost foundation immediately underneath the pivot point of the gate-leaf. A sturdy 10mm steel cover plate is fitted which protects the actuator from the elements and allows service access. The actuator cavity is fully coated and fitted with a 100mm drain to prevent the accumulation of rainwater.

Standard operating speeds = 10-18 seconds\*

*\*This is subject to a risk assessment to ensure the automatic equipment complies to BS EN 12453. Faster operating speeds can be achieved.*



Trojan Actuator





## Security Hinged/Swing Gate Systems



Double leaf Hinged Gates installed next to a pedestrian hinged gate



Double leaf Hinged Gates designed & manufactured to look like a pair of bi-folding gates



## Bi-fold Gate Systems



Bi-folding Speed Gate systems securing airports and army bases



The PAS 68 manual swing arm gate from Frontier Pitts, which can also be automated



## PAS 68 Terra Swing Gate (previously known as the Terra Road Closer)

V Swing Barrier 7500[N3]/80/90:0.0/25.0

Tested dimensions : width 3500mm

Maximum width: 6000mm

crash beam height : 720mm



Successfully impact tested in accordance to BSi PAS 68 specification stopping a 7500kg vehicle travelling at 50mph (80kph) which equates to 1852kJ.

Maximum crash beam length 6000mm

The Terra Swing Gate is a manual swing barrier, with integrated crash beam. Designed for ease of installation and maintenance.

### BENEFITS & FEATURES

- Shallow foundation depths of only 350mm required
  - Heavy Duty Crash Impact Beam with Heavy duty post supports.
  - Manual operation.
- Ideal for remote locations on sites where there is no power supply available.



Secured by Design



Official Police Security Initiative



Applications: High Security sites which require PAS 68 equipment at a location with no power supply, height restriction or lack of runback area for sliding gate.

High Security | Anti Terrorist | Government | Military | Airports | Industrial



Terra Swing Gate secured in the open position



Locking Pin securing crash beam into closed position

## CIVIL REQUIREMENTS

Posts Foundation  
L:4000mm x W:1750mm x D:350mm

Adding a weldmesh infill to the PAS 68 Terra Swing Gate creates the Terra Hinged Gate



## Terra Hinged Gate

PAS 68 Terra Swing Gate classification code  
V Swing Gate 7500[N3]/80/90:0.0/25.0  
*Tested dimensions : width 3500mm,  
Maximum width 6000mm  
crash beam height 1000mm*



The Terra Hinged Gate is the enhanced version of the Terra Swing Gate which has been successfully impact tested in accordance to the BSi PAS 68 specification stopping a 7500kg N3 vehicle travelling at 50mph (80kph), at a width of 3500mm. Maximum crash beam length 6000mm.

The Terra Hinged Gate is a manual swing gate, with integrated crash beam and weldmesh infill, which can be automated. Please contact the Technical Sales Department on 01293 422800 for more information. Designed for easy installation and maintenance.

### BENEFITS & FEATURES

- Shallow foundation depths of only 350mm required
- Heavy Duty Crash Impact Beam with Heavy duty post supports and high security infill.
- Range of security infills available.
- Manual operation as standard. Ideal for remote locations on sites where there is no power supply available.
- Can easily be automated using a wide range of Actuators. Please contact the Technical Sales Department on 01293 422800





Applications: High Security sites which require PAS 68 equipment at a location with no power supply, height restriction or lack of runback area for sliding gate.

High Security | Anti Terrorist | Government | Military | Airports | Industrial



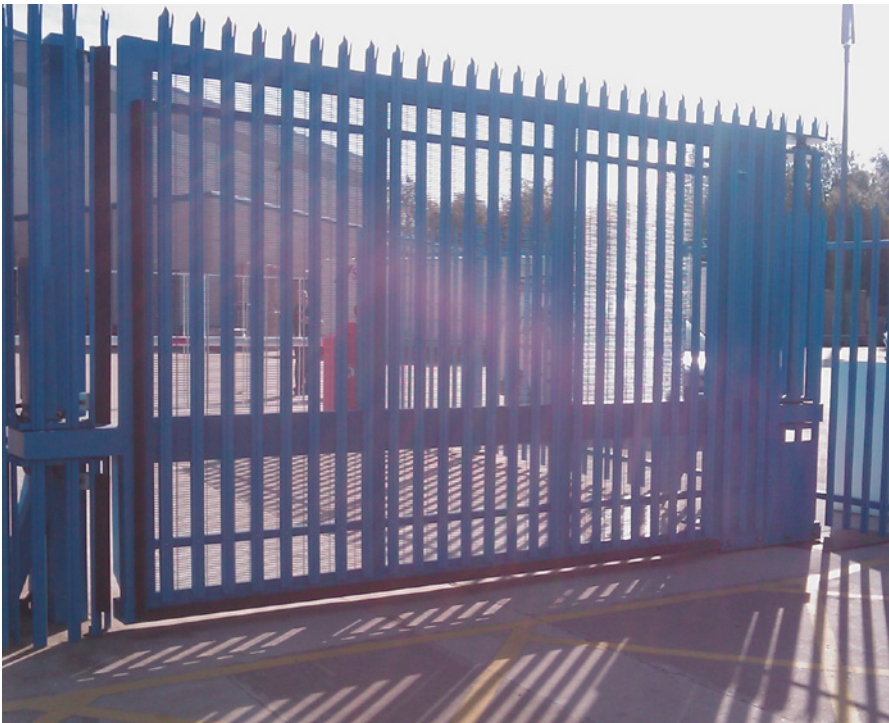
#### CIVIL REQUIREMENTS

Posts Foundation

L:4000mm x W:1800mm x D:500mm

Similarly to the Terra Swing Gate, the Terra Hinged Gate can be automated.

Please contact the Technical Sales Department on 01293 422800 for more information.



Terra Hinged Gate opening



The PAS 68 Terra V Gate is a pair of bi-parting hinged gate leaves that secure in a shallow 'V' shape.



## PAS 68 Terra V Gate

(previously known as Terra Lock Gate)

V Bi-parting Hinged Gate 7500[N3]/80/90:0.0/0.0  
Tested dimensions : width 4000mm, height 3000mm  
Maximum width: 9000mm



Successfully impact tested in accordance to the BSi PAS 68 specification stopping a 7500kg N3 vehicle travelling at 50mph (80kph) which equates to 1852kJ

Maximum width 9000mm

The Terra V Gate is a manual swing gate, with integrated crash beam, which can be automated.

Please contact the Technical Sales Department on 01293 422800 for more information. Designed for easy installation and maintenance.

### BENEFITS & FEATURES

- Zero site penetration
- Fully functional after impact
- Variable heights available (standard 3000mm)
- Shallow foundation depths of only 340mm required
- Bi-parting pair of hinged gate leaves with Heavy Duty Crash Impact Beam.
- Heavy duty posts support the gate leaf
- Secured at a shallow angle of only 135 degrees



Applications: Sites that require a high level of PAS 68 security

High Security | Anti Terrorist | Government | Military |  
Embassies | Banks | Utilities | Airports



## CIVIL REQUIREMENTS

Each post foundation  
L:4500mm x W:2500mm x D:340mm



Locking Pin securing gate leaves into closed position



Locking Pin



Pre PAS 68 impact test



Fully functional post PAS 68 impact test



Fully functional post PAS 68 impact test

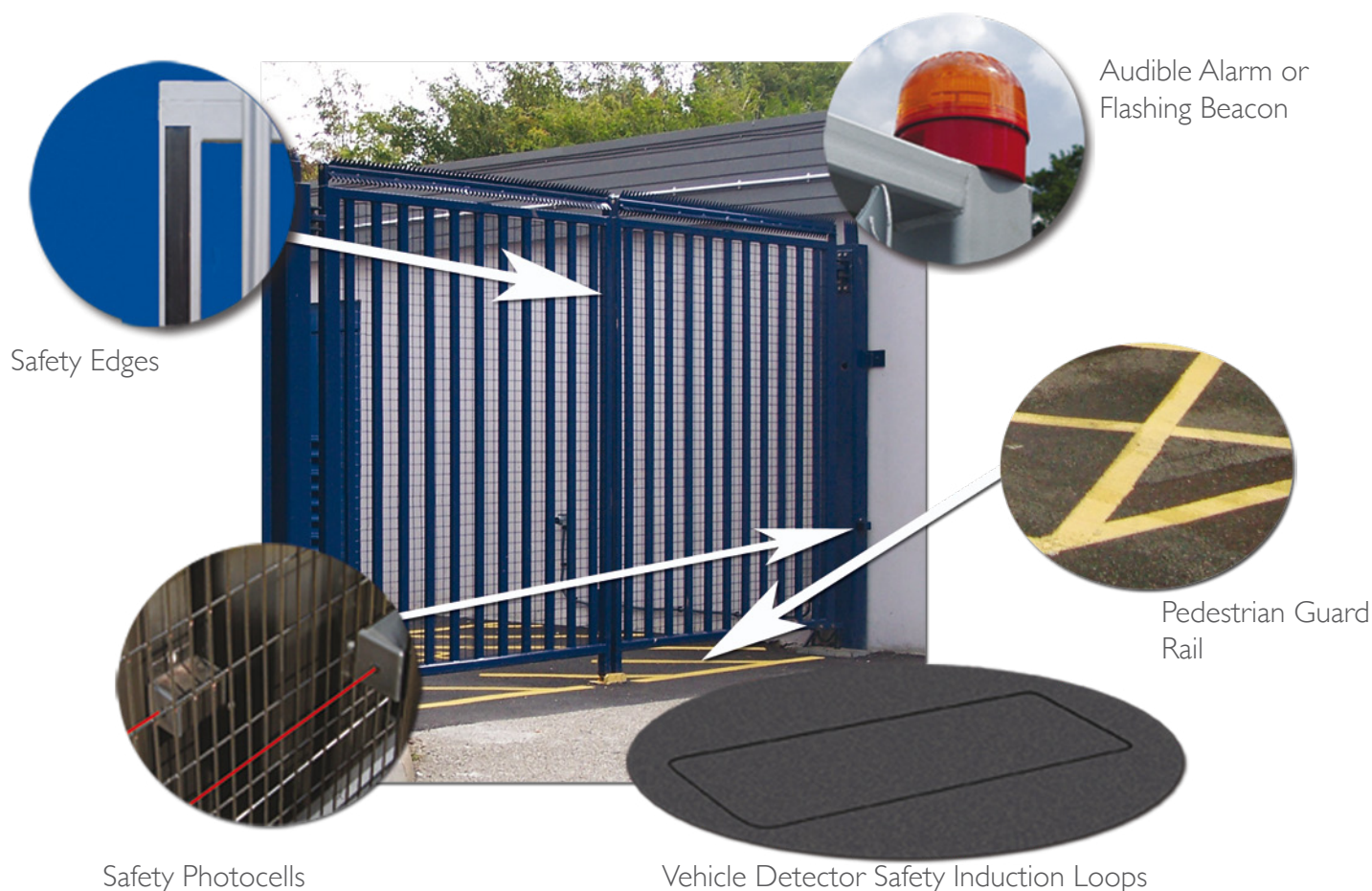




## Hinged Gate Safety

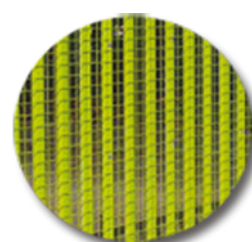
### THE SOLUTIONS

At Frontier Pitts, we highly recommend the following safety features are fitted to your hinged gate to enhance its ability to comply to safety standards and alleviate the dangers associated with automatic gates.



Pedestrian Guard Rail

Safety options such as pedestrian guard rails & weldmesh infills are highly recommended with sliding gates, but not necessarily applicable for hinged gates. However this is dependent on individual site layouts and requirements.-



Weldmesh Infill





WARNING



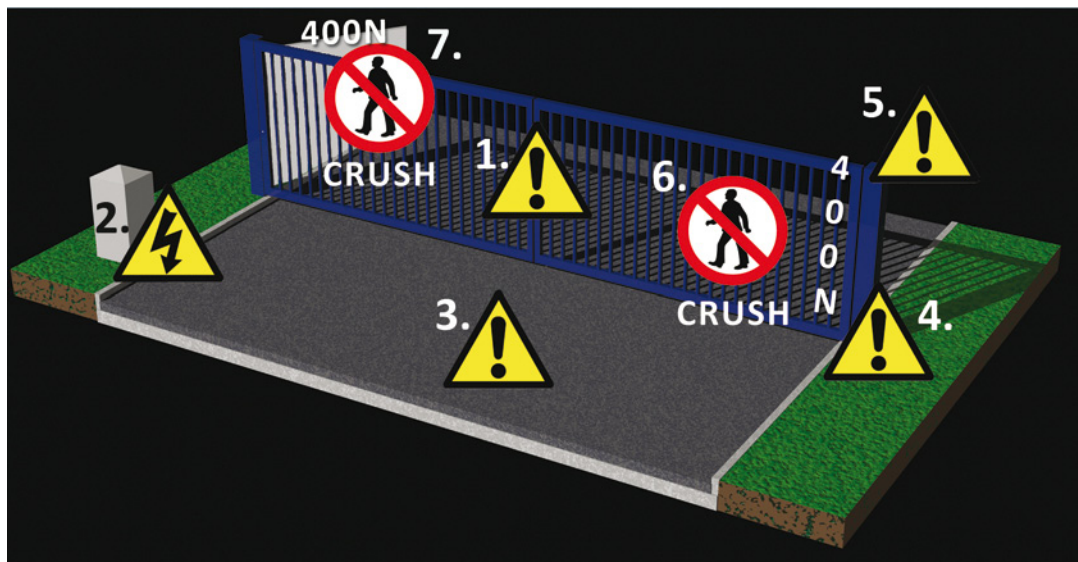
NO PEDESTRIANS



ELECTRICAL WARNING

## Hinged Gate Safety

### THE DANGERS



### THE SOLUTIONS

1. Safety Edges should be fitted to the hinged gates closing vertical leading edge of the gateleaf for closing safety. Additional safety edges can be mounted to the bottom beam for opening & closing safety. Safety edges are flexible strips which are fixed to the edge of a gate where there is a risk of a crushing or shearing hazard, preventing the gate closing on a person or vehicle in the event the gate is activated. If the safety edge is depressed a signal is sent to the power source to stop. \*
2. Awareness needs to be given to the Automatic Hinged Gate's Control Cabinet
3. Vehicle Detector Safety Induction Loops - loops cut into the road surface. This will prevent the gate from closing on a vehicle within the aperture.
4. Safety Photocells. An infra-beam which spans the aperture of the gate opening. If an object breaks this beam, the gates will stop. Photocells are fitted on the insecure side of the gate for closing safety & the secure side for opening safety.
5. Audible alarm and/or flashing beacon required to provide an audible or visible warning that the gate is in operation.
6. Pedestrians should not put their limbs through the bars of the gate. This safety feature is more applicable to sliding gates, however hinged gates may require weldmesh infill (clipped to the gates infill bars) depending on the layout and requirements of individual sites.
7. Awareness of potential trapping points - Pedestrian Guard Rail (fence panels) and/or signage can be installed to prevent/warn pedestrians accessing the area where the Hinged Gate leaf will be opening and closing.

HINGED GATES ARE NOT DESIGNED FOR PEDESTRIAN USE & ALTERNATIVE PEDESTRIAN ACCESS SHOULD ALWAYS BE PROVIDED. Other applicable BS standards:

BS EN 13241-1 2003 Industrial, commercial and garage doors and gates. Product standard. Products without fire resistance or smoke control characteristics

BS EN 12453 Industrial doors and gates; Safety in use of power operated doors - Requirements

BS EN 12445 Industrial doors and gates; Safety in use of power operated doors - Test Methods

BS EN 12604 Industrial doors and gates; Mechanical Aspects - Requirement

BS EN 12605 Industrial doors and gates; Mechanical Aspects - Test Methods

BS EN 13849-2 2008 Safety of Machinery - Safety related parts of control system. General principles for design



## Access Control Systems

Vehicle  
Detector  
Loop laid in  
the road  
surface



Access  
Control  
Pedestal

Frontier Pitts Hinged Gates & Bi-folding Speed Gates can be interfaced to a wide range of access control including Card Readers, Intercom Systems, Remote VHF Systems and Digital Keypads. The access control readers can be mounted on pedestals which are recommended to be installed a minimum of 3 metres from the hinged gate.



Standard Car Height  
Pedestals. Installed with  
bollards for protection



HGV & Dual Height  
Pedestals for use by  
cars & HGVs the road



### Hinged Gate Safety:

For Pedestrian Safety - Safety Photocells

To safely close the gate - Vehicle Detector Loops &  
Timer Systems

Safety Photocell - beams of light fitted  
across the road way to monitor vehicle  
& pedestrians

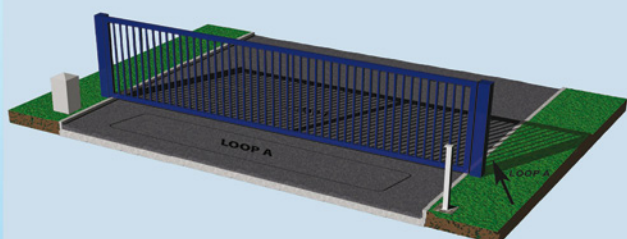


Traffic Control  
Light System

## Typical Hinged Gate Systems

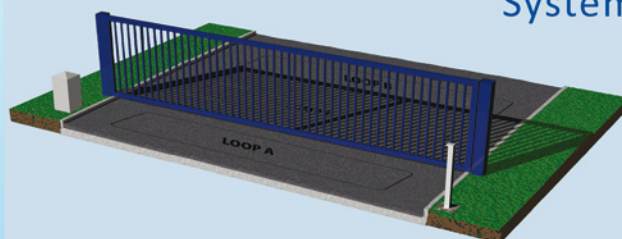
**FRONTIER  
PITTS**

### Controlled Entry



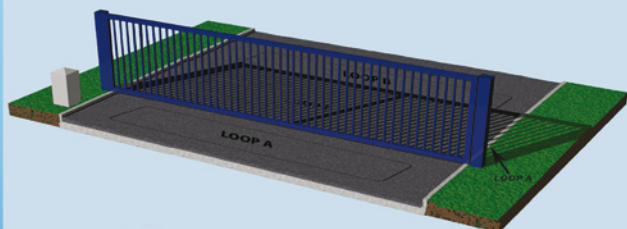
Controlled Entry  
& Safety Autoclose Loop

### Controlled Entry & Free Exit System



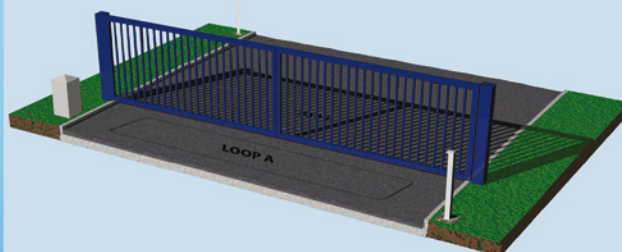
Controlled Entry  
Free Exit & Safety Autoclose Loop

### Free Exit System



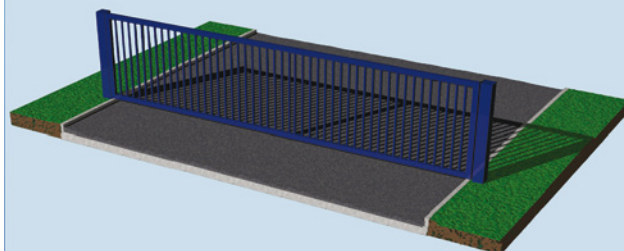
Free Exit/  
Safety Autoclose Loop

### Controlled Entry & Exit System



Controlled Entry & Exit  
with Safety Autoclose Loop

### Manual System





## FRONTIER PITTS LTD OFFICES

### UK HEAD OFFICE

Frontier Pitts Ltd  
Crompton House, Crompton Way,  
Manor Royal Industrial Estate,  
Crawley, West Sussex RH10 9QZ. UK

Tel: +44 1293 548301 Fax: +44 1293 560650  
Sales Tel: + 44 1293 422800  
Email: [sales@frontierpitts.com](mailto:sales@frontierpitts.com)  
Website: [www.frontierpitts.com](http://www.frontierpitts.com)

### EUROPEAN OFFICE

Frontier Pitts France  
Immeuble Alliance  
226 rue Georges Besse  
30000 Nimes  
FRANCE  
Tel: 00 33 466 04 29 69 Fax: 00 33 466 04 29 70  
Email: [info@frontier-pitts.fr](mailto:info@frontier-pitts.fr)  
Website: [www.frontier-pitts.fr](http://www.frontier-pitts.fr)

### HONG KONG OFFICE

Frontier Pitts Ltd  
c/o Uniforce Security Systems Ltd  
Flat C-D, 3/F, Howard Factory Building,  
66 Tsun Yip Street, Kwun Tong,  
Kowloon, Hong Kong  
Tel: + 852 2793 3800 Fax: +852 2763 4074  
Email: [sales@frontierpitts.com.hk](mailto:sales@frontierpitts.com.hk)

### ASIAN OFFICE

Frontier Pitts Ltd  
c/o Uniforce Electronic Engineering (Dongguan) Ltd  
Shop 2-13, Li Jing Xin Yuan, Tian Er Hu Road,  
Changping, Dongguan, Guangdong Province, PRC.  
China 523560  
Tel: +86 769 8391 8220  
Fax: +86 769 8391 8606  
Website: [sales@frontierpitts.com.hk](mailto:sales@frontierpitts.com.hk)

