Hinged Security Gates
Bi-folding Gates

PAS 68 & Security Ranges

www.frontierpitts.com
In accordance with Frontier Pitts policy of continual development, we reserve the right to make changes, improvements or amendments to any product at any time without prior notice. All items are offered subject to availability.
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

Highly skilled, dedicated Mechanical & Electrical Field Engineers

Installation, Commissioning, Service & Maintenance

24hr / 7 days 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.
Security Hinged/Swing Gates

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 site’s 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

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

<table>
<thead>
<tr>
<th>M1</th>
<th>N1</th>
<th>N2</th>
<th>N3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500kg</td>
<td>3500kg</td>
<td>7500kg laden</td>
<td>7500kg empty 18000kg</td>
</tr>
</tbody>
</table>

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 V Gate

7500kg (N3) @ 50mph 1852kJ
Hinged/Swing Gates

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

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 complement 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.

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.

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.

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.
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.

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.

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

Trackless Bi-folding Speed Gate with Trojan Underground Actuators

Tracked Bi-folding Speed Gate with Trojan Underground Actuators

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

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.
Actuators
A range of powerful motive units to automate hinged and bi-folding gates

GATE BACK ACTUATORS
A small but powerful motive unit, which provides a low cost solution for powering small hinged gates (maximum gate aperture 5 metres). Designed for continuous operation, it has a standard operating speed of 10-18 seconds*. Supplied with Frontier Pitts hinged gates or alternatively retro-fitted to existing gates.

The actuator is a powerful hydraulic ram which 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. The forces generated act directly upon the rear of the gate-leaf and produce the required rotation. The small outline of the actuator creates the minimum visual impact for decorative gate installations.

* This is subject to a risk assessment to ensure the automatic equipment complies to BS EN 12453

Applications: Banks | Depots | Cargo parks | Ports | Airports | Car Park | Warehouses | Delivery entrances | Industrial & Commercial Premises | Large road widths

TROJAN ACTUATORS
A range of powerful motive units for large, heavy gates. Originally designed by Frontier Pitts to automate large prison gates.

100% duty cycle designed for continuous operation with standard operating speeds of 9-13 seconds*. A 5 ton leaf can have an operating speed of just 3 seconds*.

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. It provides a powerful motive unit for the operation of a large, hinged gate-leaf. 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.

CIVIL REQUIREMENTS
Dependent on Automation - please contact the Technical Sales Department on 01293 422800

ELECTRICAL LOCKING BOLT
Designed for frequent and arduous operation. The bolt only requires electrical operation to release electrical operation to release the gate leaf. When the gate leaf reaches the locking position the mechanical design allows the drop-bolt to engage automatically.

ELECTRICAL REQUIREMENTS
Single phase or three phase options available. * This is subject to a risk assessment to ensure the automatic equipment complies to BS EN 12453
Security Hinged/Swing Gate Systems

Double leaf Hinged Gates installed next to a pedestrian hinged gate

Bi-fold Gate Systems

Bi-folding Speed Gate systems securing airports and army bases

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

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:1750mm x D:350mm

Locking Pin securing crash beam into closed position

Terra Swing Gate secured in the open position
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]/80/90.0/25.0
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.

**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

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

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

Successively 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

Secured by Design
Official Police Security Initiative

Locking Pin securing gate leaves into closed position

Pre PAS 68 impact test
Fully functional post PAS 68 impact test
Fully functional post PAS 68 impact test
Frontier Pitts is a member of the Door & Hardware Federation

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.

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 - Requirements
- 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

THE DANGERS
Access Control Systems

Typical Hinged Gate Systems

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.

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

Vehicle Detector Loop laid in the road surface

Controlled Entry
Controlled Entry & Free Exit System
Controlled Entry & Free Exit System
Controlled Entry & Exit System
Free Exit System
Free Exit with Safety Autoclose Loop

Manual System

Standard Car Height Pedestals, installed with bollards for protection
HGV & Dual Height Pedestals for use by cars & HGVs the road

Traffic Control Light System
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