



PLANET RANGE OF

TERRA BOLLARDS

Frontier Pitts manufacture a portfolio of IWA 14 & PAS 68 bollards, each proven to stop the different energy ratings of the HVM (Hostile Vehicle Mitigation) specification.

CLASS PAS 68 (Speed in mph)

EMBEDMENT

MODEL Bollard diameter in mm		CLASS PAS 68 (Speed in mph)			EMBEDMENT			
		30 (48kph)	40 (64kph)	50 (80kph)	Shallow Mount < 250mm	Ultra Shallow < 300mm	Shallow < 500mm	Standard < 900mm
TERRA UNIVERSAL 245mm	Automatic Rising (to compliment Venus & Jupiter)			•				•
TERRA QUANTUM 219mm	Rising (side folding)	•				•		
	Shallow Static	•				•		
TERRA VENUS 219mm	Shallow Static	•				•		
	Static	•					•	
	Removable Static	•					•	
TERRA MARS 219-245mm	Shallow Mount Static	•	•		•			
	Static	•	•				•	
	Removable Static		•				•	
TERRA JUPITER 273mm	Static			•			•	
	Removable Static			•			•	
TERRA NEPTUNE 273mm	Shallow Mount Static (Standalone)		•		•			
	Static		•				•	
	Removable Static		•				•	
TERRA SATURN 354mm	Automatic Rising			•				•
	Static			•				•

All IWA14 testing performed with 7.2t vehicle All PAS68 testing performed with 7.5t vehicle US rating: K12 / K8 / K4 L3

RISING HVM BOLLARDS

Rising & Retractable Bollards



Universal Bollards : Hydraulically Driven Automation or Manually Retractable



Universal Bollards in action



Quantum Bollards, rising



Saturn Bollards



Terra Universal Bollard

- IWA 14 Retractable/Rising Terra Universal Bollards
7.2t @80kph
- PAS 68 Retractable/Rising Terra Quantum Bollards
7.5t @ 30mph – Side Folding, Shallow Depth
- PAS 68 Retractable/Rising Terra Bollards
7.5t @ 50mph

SLEEVE ACCESSORIES

For Sleeve Accessories please see the Options page

STATIC HVM BOLLARDS

Static & Fixed Bollards



Neptune Bollard pictured here with Polyester Powder Coated Sleeves and recessed banding

- **PAS 68 Static Terra Jupiter Bollards**
7.5t @50mph
- **PAS 68 Static Terra Neptune Bollards**
7.5t @ 40mph
- **PAS 68 Static Terra Mars Bollards**
7.5t @ 40mph
- **PAS 68 Static Terra Venus Bollards**
7.5t @ 30mph



REBAR (short for reinforcing bar)

Standard Static HVM Bollards require rebar within their installation.

Rebar is also known as reinforcing steel. The rebar is installed as a mesh to reinforce the concrete and provide a tension device to position the bollards.



Venus Bollards



Jupiter Bollards



Polyester Powder Coating

Standard Finish Polyester Powder Coated as standard to client's choice of RAL

Optional Finish Polyester Powder Coated and Stainless Steel Sleeves

SHALLOW BOLLARDS

Shallow and Removable Static HVM Bollards



Removable bollards



Example of Removable Bollard



Biscuit Foundation

SHALLOW STATIC HVM BOLLARDS

- PAS 68 Static Terra Neptune Bollards *
7.5t @ 40mph
- PAS 68 Static Terra Mars Bollards *
7.5t @ 40mph
- PAS 68 Static Terra Venus Bollards
7.5t @ 30mph

REMOVABLE STATIC HVM BOLLARDS

- PAS 68 Static Terra Jupiter Bollards
7.5t @ 50mph
- PAS 68 Static Terra Neptune Bollards
7.5t @ 40mph
- PAS 68 Static Terra Mars Bollards
7.5t @ 40mph
- PAS 68 Static Terra Venus Bollards
7.5t @ 30mph

BISCUIT FOUNDATION

Two plates of steel form a 'biscuit' foundation to provide shallow mount static bollards with reinforcement within the concrete.

OPTIONS

Range of Options for all PAS 68 Bollards



Standard
Painted Finish



Optional
Stainless Steel Sleeves



Optional
Polyester Powder
Coated Sleeves



Optional
Planters

STAINLESS STEEL SLEEVE OPTIONS

1 Steel Finish:

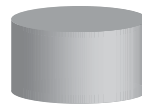


Satin-polished



Bead-blasted

2 Bollard Topping:



Flat

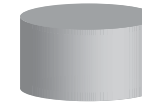


Mitre



Semi-domed

3 Top Bandings:



None



Single



Double



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