

# AVECTOR

## *bollard*



The Avector bollard is the latest addition to Funitubes range of Traffic Control bollards.

Conventional bollards are often overturned or damaged by vehicles that drift onto the pavement, especially on the corner of roads.

The **Avector** bollard is designed to enable the deflection of a vehicle's wheels. Its sleek modern form is designed for contemporary locations. For sites which require a more traditional design our Bell bollard range is ideal.



- PEDESTRIAN SAFETY
- PROTECTION OF PROPERTY
- WIDTH RESTRICTOR
- PROTECTION OF ROAD SIGNS & STREET FURNITURE

▲ AVECTOR

### TECHNICAL



#### Material

Funitubes cast iron Avector bollard is 100% recyclable.

#### Finish

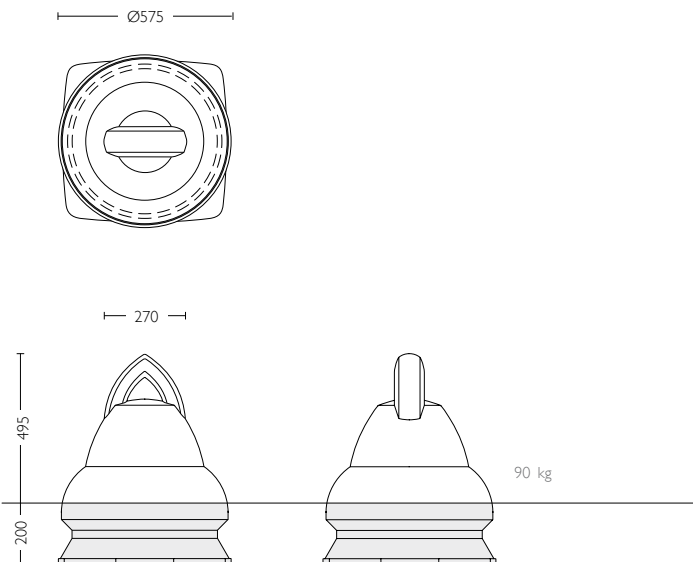
Standard finish is primer. We recommend that top coats are applied on site after installation.

#### Name Identification

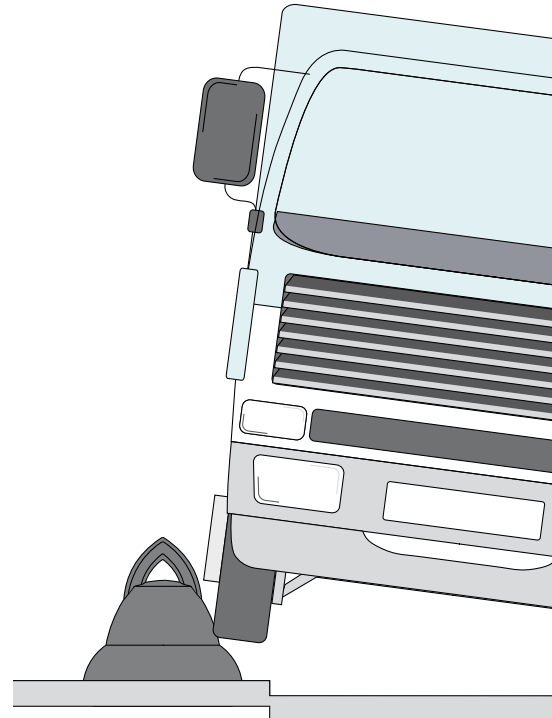
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Product Codes are in **bold type**. Dimensions are in mm, are approximate and do not form any part of the contract.

We reserve the right to change the design and specification on any item offered and, where possible, notification will be made.



**AVECTOR**  
**AVE 100**  
Cast Iron Bollard



▲ The Avector Bollard deflects the wheels of a vehicle, protecting the pavement, pedestrians and property



# BELL<sup>®</sup> bollards

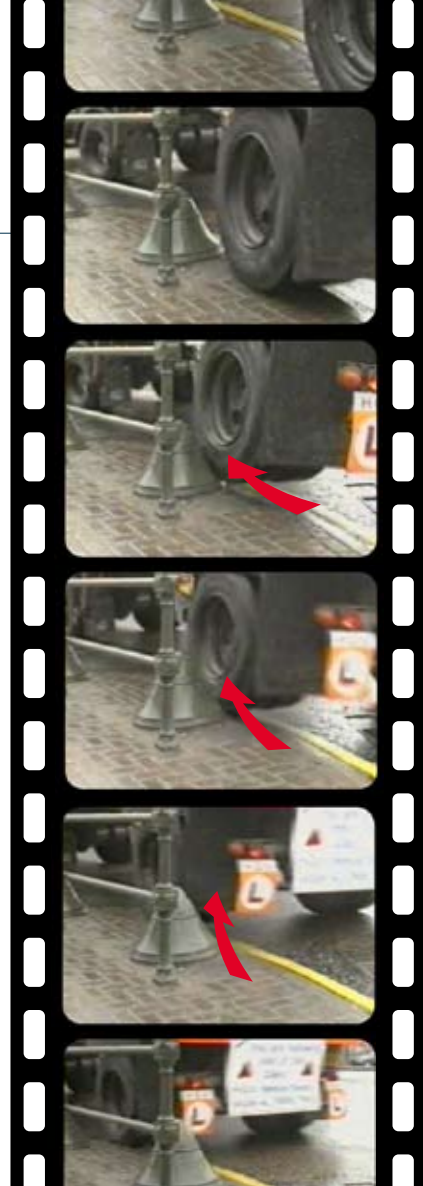
- PEDESTRIAN SAFETY
- PROTECTION OF PROPERTY
- WIDTH RESTRICTOR
- TRAFFIC CALMING MEASURES
- PRACTICAL & COST EFFECTIVE

Modern, heavy-duty commercial vehicles can carry large and heavy payloads, often weighing up to 38 tonnes. These huge beasts may be efficient and profitable to their owners, but to pedestrians, roadside structures, and street furniture they can present a constant source of damage and danger. Less obvious structures like overhanging or historic buildings are also at risk and in need of protection.

Unnecessary damage means costly repairs and does nothing to enhance the appearance of our environment that we're now trying so hard to improve and preserve.



◀▲ Damage to bollards & buildings



The Bell Bollard is available on video CD-ROM

Please contact our sales office for your copy



▲ BELL 100 installed in Hitchin Town Centre, Herts

Until now, the only answer has been to place conventional bollards close to the areas that need protection, but these are often easily overturned, causing damage to the vehicle involved, pavement, bollard and resulting in an even greater hazard to the pedestrian, as shown.

## THE SOLUTION

The revolutionary **Bell 100 Bollard**, manufactured by FURNITUBES, is a simple yet effective solution. Following an extensive study of lorry wheels and undercarriages, a design was created to enable the deflection of a vehicle's wheels, whilst itself remaining firmly in place and undamaged. The bollard's profile is designed to encourage a vehicle's tyres initially to mount its lower curve. By increasing the slope-angle of the bollard above this point, any attempt by the vehicle to rise further is prevented by deflecting the tyre sharply away.

The video footage above shows the bell in action.



# BELL® BOLLARD

## TECHNICAL



### Material

Furnitubes cast iron and aluminium Bell bollards are 100% recyclable.

### Finish

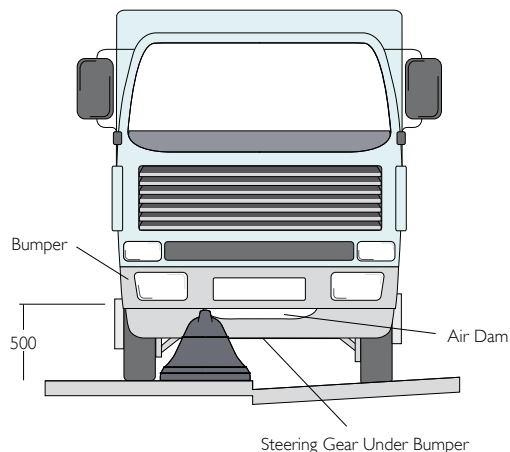
Standard finish is primer. We recommend that top coats are applied on site after installation.

### Furnitubes Identification

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▲ BELL 100 Bollard will deflect the largest lorries



Bell Bollards can provide a stable vehicular barrier, as even high axled lorries would not be able to drive over an obstruction of this height, without causing irreparable damage to its drive train and steering mechanisms

Positioned and aligned at appropriate distances across the road, Bell Bollards can also act as effective width restrictors, preventing oversized vehicles from passing through.



▲ BELL 100 installed as width restrictors supplied to the London Borough of Wandsworth

### Bell Bollards

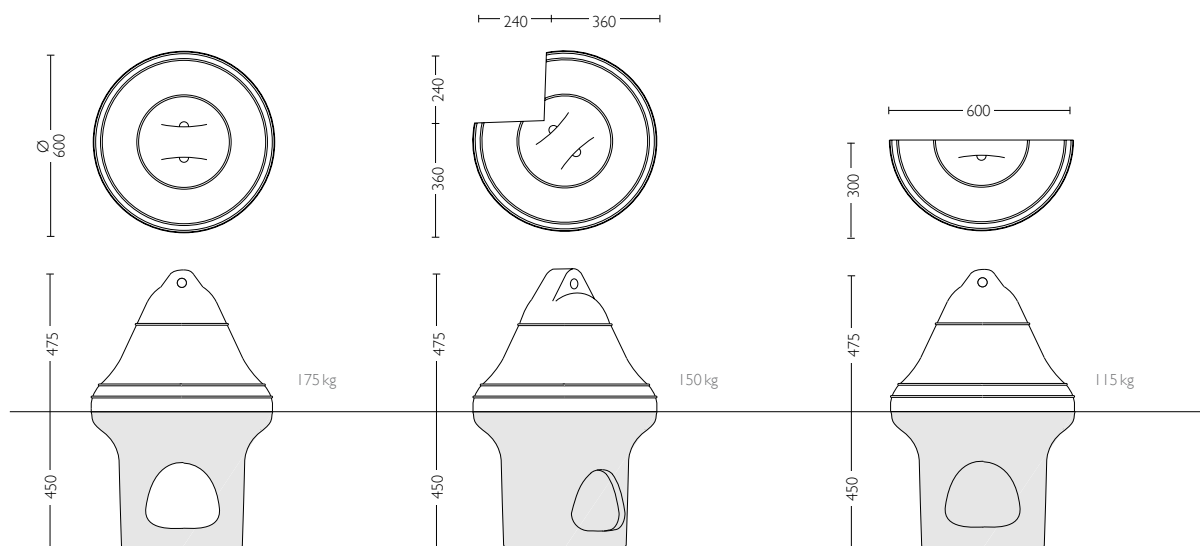
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**BELL**  
**BELL 100**  
Cast Iron Bollard

**BELL 3/4**  
**BELL 340**  
Cast Iron Bollard

**BELL 1/2**  
**BELL 120**  
Cast Iron Bollard



# BELL® BOLLARD

## VARIATIONS

For protection to corners of buildings and exposed brickwork the **Bell 340** is an ideal solution. The shape is the same as a standard bell, but with a segment removed, to allow for easy installation without having to disturb the fabric of the corner.



◀ **BELL 120**  
1/2 Bell Bollard

▼ **BELL 340**  
3/4 Bell Bollard



Decorative use of the Bell can be made using the **Bell 500** version. It is the same size as the standard bollard, but instead of the deep root, there are four shallow flanges. With proper foundations it is ideal for use on bridges and areas where it is not possible to install the Bell 100.

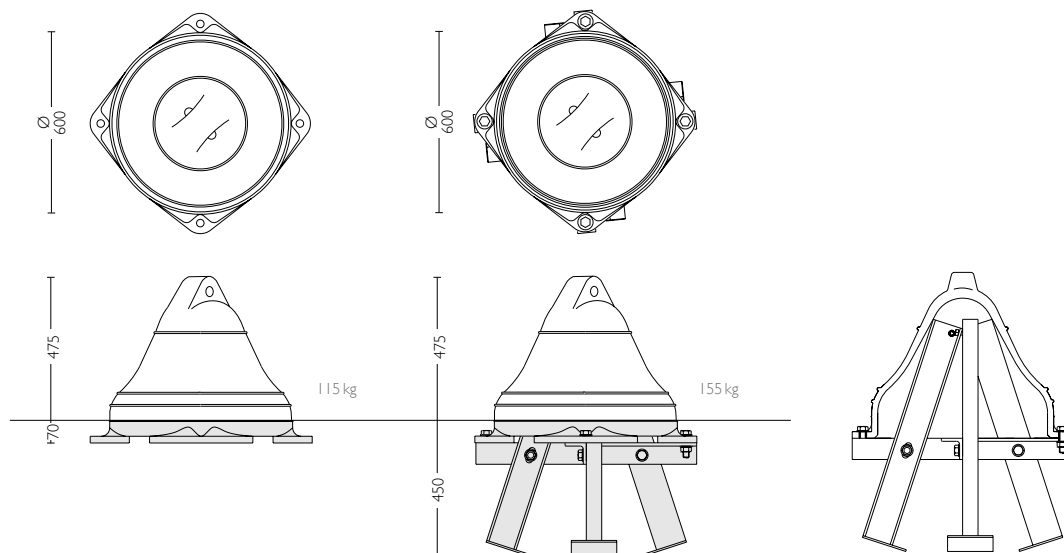


▲ **BELL 500**  
used at the Royal Festival Hall on London's South Bank as movable traffic control bollards

Furnitubes' new **Bell 500 X** has a unique steel subframe that performs as well as the Bell 100 in situations where underground services make installation difficult, whilst also being easier to transport and handle.



**BELL 500 X** ▶



**BELL DECORATIVE**

**BELL 500**  
Cast Iron Bollard

**BELL X**

**BELL 500X**  
Cast Iron Bollard with Steel Subframe

**BELL X INTERNAL ASSEMBLY**

All items shown are supplied loose for on-site assembly.

See Note 1

## TECHNICAL



**Material**

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**Finish**

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**Furnitubes Identification**

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Note 1

**Installation**

The Bell X is particularly suitable for sites where underground services might impede installation of the standard Bell 100.

**Bell Bollards**

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# Bell Bollard®

## new additions



### BELL 115

The **Bell 115** has been designed to allow the installation of a Bell Bollard and a 115mm diameter post or bollard within the same footings. The combination will deflect vehicles and protect structures from damage, whilst also acting as a high visibility post.

The ability of the Bell 115 to act as a pedestrian barrier is further enhanced by incorporating the Bell Bollard into the **Linx 100 railing system**. By combining the two products it is possible to design an integrated, cost effective vehicular and pedestrian barrier, with the Bell Bollard protecting any corner post from damage by passing vehicles.

▲ BELL 115 & LINX RAILING

When the **BELL 115** is installed with a bollard or post of 1000mm height or greater, the Bell Bollard will conform to disability discrimination guidelines for partially sighted pedestrians.



▲ BELL 138 housing the CITY Bollard  
Tyre marks prove that they are used



▲ Hi-visibility ZEN 701 & BELL 115 shown here on Kensington High Street



▲ Special Aluminium BELL 115 in High Street Kensington, London (signpost by others)

### BELL 138

Furnitubes new **Bell 138** is a variation of the popular Bell Bollard range. The Bell 138 variation has a recess designed specifically to house a **CIT 538 City Bollard**. In addition to providing improved visibility, it also enables the Bell to blend seamlessly within locations where City bollards are used.

BOLLARDS

### TECHNICAL



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#### Finish

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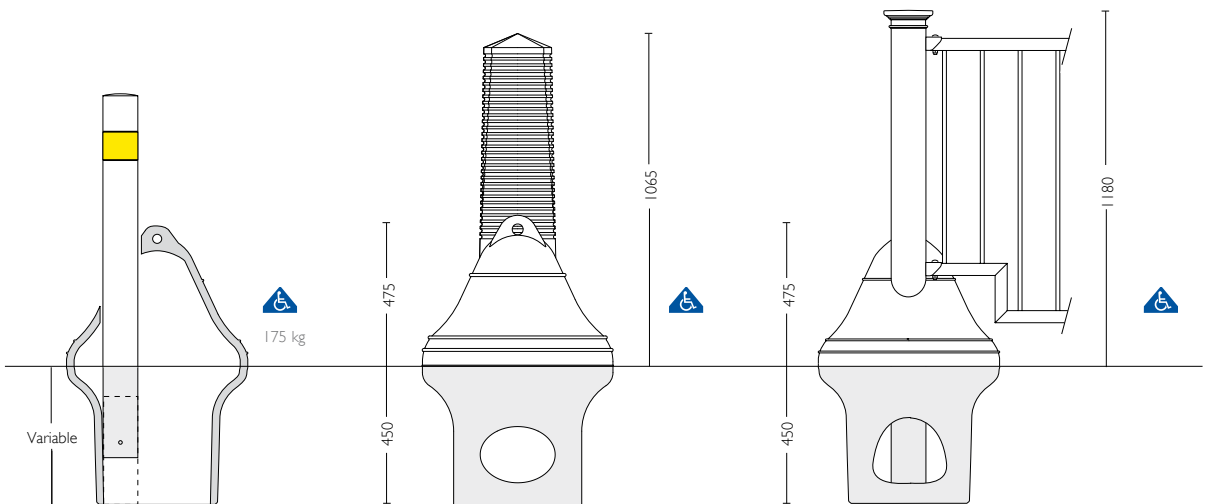
#### Disability Conscious

Bollards over 1000mm aid the visually impaired and can assist with the requirements of BS8300.



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#### BELL

##### **BELL 115**

Cast Iron Bollard shown installed with ZEN701 hi-visibility stainless steel bollard (supplied separately - see pages 50 - 53)

##### **BELL 138**

Cast Iron Bollard Designed to House a CITY 538 Bollard (supplied separately - see page 17)

##### **BELL 115**

Cast Iron Bollard shown installed with LINX railing system (supplied separately - see Railings section)



FURNITUBES

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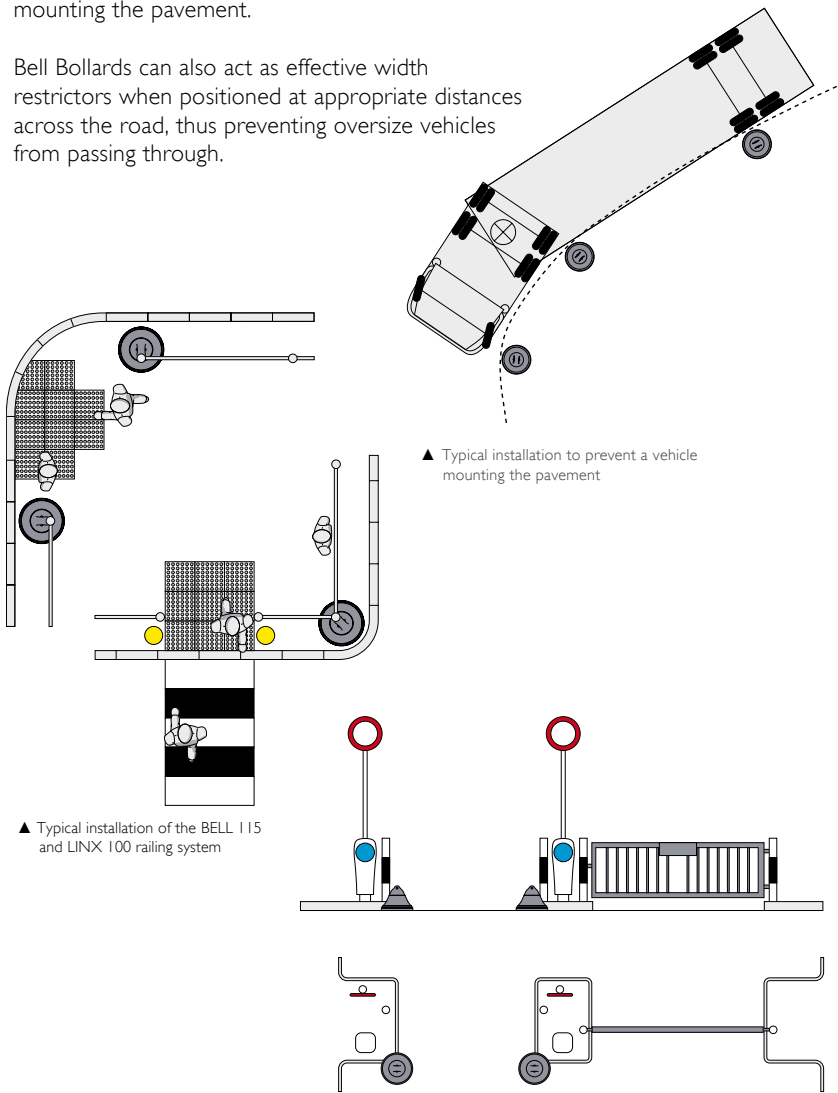
FRONT ELEVATION & GROUND LEVEL SECTION 1:25

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## TYPICAL INSTALLATIONS

The diagrams below show how Bell bollards can be installed along a kerb to prevent a vehicle from mounting the pavement.

Bell Bollards can also act as effective width restrictors when positioned at appropriate distances across the road, thus preventing oversized vehicles from passing through.



▲ BELL 100 installed as a width restrictor

## INSTALLATION

Care should be taken when preparing the foundations for the Bell Bollard. Diagrams (A) and (B) show the recommended minimum foundation size. In cases of doubt, a professional engineers' advice should be sought.

To ensure the Bell Bollard works effectively it should always be set so that the height above ground level remains the same regardless of the type of base. If the Bell Bollard is set on sloping ground the height above ground level should be determined from its centerline, not edge.

Diagram A

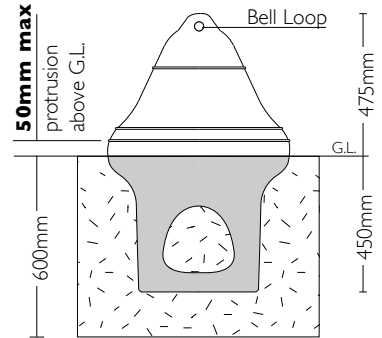
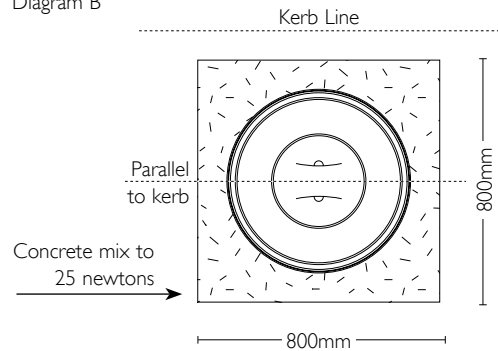


Diagram B



▲ Macau City Centre



▲ Singapore Anderson Bridge

## INTERNATIONAL APPEAL

Since its introduction over twenty years ago, the Furnitubes Bell Bollard has been installed in many locations all over the world, making it Furnitubes' most famous international product!



▲ New York City Centre

