

# Calpipe Security Bollards™



**The Bollard Specialists**

[Calpipebollards.com](http://Calpipebollards.com)



# CALPIPE SECURITY BOLLARDS



## **BOLLARDS MADE IN THE USA — IT'S ALL WE DO**

With the industry's broadest range and largest selection of bollards, Calpipe Security Bollards meets the aesthetic and functional requirements for a wide range of security, architectural, and landscaping installations. Select from lighted, retractable, removable, or embedded styles in multiple versions, and our bollard experts will work with you to determine the exact bollard needed for your application.

## **PARTNERS FROM THE START**

Calpipe Security Bollards collaborates with project managers and national architectural firms from conceptualization to installation and provides custom-designed bollards to fit your needs. No matter what style, size, color, material, finish, or decorative element your project requires, we're committed to configuring the right bollard for your project. Because bollards are our business, we provide the highest level of support and service, making us the most responsive bollards supplier in the industry.

## **MARKETS WE SERVE**

Our impact-certified product lines and architectural aesthetics have been put to the test in commercial, industrial, high-security, and retail environments. With 13,000 bollards installed to date, we offer experience and expertise from the early stages of design and specification through final installation.

## **DURABILITY**

Calpipe's stainless steel and carbon steel bollards withstand harsh outdoor environments while retaining an unblemished appearance. Stainless steel bollards are rust resistant and never need to be repainted, so they look new for the life of the bollard, meaning stainless steel bollards provide the lowest cost of ownership.

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# BOLLARD STYLES

<p><b>FIXED BOLLARD</b></p>  <p>Fixed post bollards are the most commonly used bollards. By creating a physical barrier, they protect pedestrians and buildings from oncoming vehicles, yet still allow free movement in between the bollards.</p>	<p><b>FIXED BASE PLATE BOLLARD</b></p>  <p>Fixed base plate bollards are primarily used in multi-level parking structures, warehouses or distribution centers to protect structures and equipment from fork lifts and pallet jacks. <b>FIXED BASE PLATE BOLLARDS ARE VISUAL DETERRANTS ONLY.</b></p>	<p><b>INTERNAL LOCKING REMOVABLE BOLLARD</b></p>  <p>Internal locking removable bollards are the most versatile bollard. Incorporating a tamper-resistant lock, the internal locking bollard delivers unmatched security with the flexibility of a removable bollard. Each bollard comes with an embedment sleeve for easy installation.</p>	
<p><b>EXTERNAL PADLOCK REMOVABLE BOLLARD</b></p>  <p>Removable bollards with external padlocks are ideal for restricting access to alleyways, bike trails and parking lots, as well as protecting property and people from oncoming traffic. Each bollard comes with an embedment sleeve for easy installation.</p>	<p><b>MANUALLY OPERATED RETRACTABLE BOLLARD</b></p>  <p>Manually operated bollards are used for a wide range of applications from parking and traffic control to protecting walkways. The bollard lifts easily and locks into place. It retracts with a turn of the lock. The locking stainless steel lid provides extra security and covers the bollard to prevent pedestrian injuries.</p>	<p><b>ASSISTED LIFT RETRACTABLE BOLLARD</b></p>  <p>The assisted lift bollards incorporate an industrial grade gas strut that raises and lowers the bollard into place with the turn of a key. The assisted lift mechanism allows for a heavier bollard, with easier lift and higher security.</p>	
<p><b>AUTO PNEUMATIC RETRACTABLE BOLLARD</b></p>  <p>Designed for repetitive cycles, the auto pneumatic retractable bollard system is ideal for restricted parking lots, access control gates, commercial building entrances, or military bases. Operation of these bollards can be integrated with most existing access control systems.</p>	<p><b>LIGHTED BOLLARDS</b></p>  <p>This lighted bollard has been designed to withstand vehicle impacts to match our existing line of bollards. Manufactured from Type 304 stainless steel, these bollards are not only strong, they also look great while giving off much needed lighting along pathways and sidewalks.</p>	<p><b>SPECIALITY BOLLARDS</b></p>  <p>Camera bollards incorporate surveillance cameras and other security equipment in the hardscape while providing full stopping power. Capture license plates of vehicles entering your facilities.</p> <p>Utility bollards provide full stopping power while enabling you to run electricity or water for a variety of applications with locking security access. *Applies to embedded models only</p>	
<p><b>HIGH SECURITY BOLLARDS</b></p>			 <p>Calpipe Security Bollard's K4-Engineered and K12-rated bollards meet specific safety and security requirements, and provide the flexibility and versatility for any structural and environmental need. Calpipe Security Bollard's K4-Engineered and K12-Rated products are available in a variety of types, sizes and styles – including retractable removable and fixed versions.</p>





## BOLLARD MAKES AND FINISHES

### Carbon Steel





Calpipe Security Bollards are manufactured from the highest quality ASTM A53 carbon steel. The bollards can be galvanized, primed for painting, or choose from over 180 powder coat colors. For durability, strength and cost, carbon steel bollards from Calpipe Security Bollards will fit most of your perimeter security needs.

### Stainless Steel

Stainless Steel has always been regarded as top of the line for looks and durability. Calpipe Security Bollards uses Type 304 grade stainless steel or Type 316 for harsh environments on request. The stainless steel is polished to a #4 finish. Choose from a variety of architectural details.

### BOLLARD CAP CHOICES

Choose from a variety of styles to top off your bollard

DOME	STANDARD FLAT	VIKING	KNIGHT
			

# PEDESTRIAN SAFETY SCALE

In July 2003, tragedy struck when an 86 year-old man drove his car through hundreds of pedestrians shopping at the Santa Monica Farmer's Market. By the time the car finally came to a stop THREE BLOCKS LATER, ten people were killed and 63 injured. The National Transportation Safety Board issued a comprehensive report one year later. The NTSB can be found at: <http://www.nts.gov/publicctn/2004/HAR0404.pdf>. The report states on Page 49 this recommendation:

**“Had Santa Monica installed a temporary rigid barrier system, SUCH AS BOLLARDS...the barrier system might have arrested or reduced the forward motion of the accident vehicle...eliminating or greatly reducing the number of casualties”**

Other than the Department of State “K-Rating system” for anti-terrorist and high security government installations, no generally accepted building codes or safety standards exist that can be commonly applied to the placement of bollards in commercial or public locations. There is no guidance for where to place bollards, how strong they need to be, what kind of footing to install them in, and what specifications a manufacturer must adhere to on the products he sells. Such basic standards are necessary to promote day-to-day protection for people and property in shopping areas, parking lots, walking on or near sidewalks and building entrances, or simply enjoying private and public spaces.

## ABOUT THE PEDESTRIAN SAFETY SCALE

Initial steps have been taken to submit The Pedestrian Safety Scale framework to state federal, and national code authorities. The Pedestrian Safety Scale is featured as a function of two variables: the speed of an impacting vehicle, and the weight of an impacting vehicle. Until standards are set, two assumed weights of vehicles are references 4,000 pounds and 5,500 pounds. This guide is for informational purposes only. Always consult a qualified engineer or other specifying professional to review assumptions regarding vehicular threats before construction.

## PEDESTRIAN SAFETY SCALE (PSS)

Bollard models listed below are carbon steel. All retractable bollards and lighted bollard outer sleeves are manufactured from stainless steel.

Non retractable bollards also available in stainless steel (SS models). Base plate bollards should be used as a visual deterrent only.

4000 LB. VEHICLE TWO BOLLARDS									
VEHICLE SPEED	MAX FPS	MAX FT LBS	PSS LEVEL	FIXED MODEL	REMOVABLE MODEL	LIGHTED BOLLARDS	MANUAL RETRACTABLE	ASSISTED LIFT	AUTOMATIC RETRACT
0-5 MPH	7.3	3340.2	1	IBF03040* IBF03080*	IBR/IBP03040* IBR/IBP03080*	N/A	N/A	N/A	N/A
5-15 MPH	22.0	30062.1	2	IBF04040* IBF04080*	IBR/IBP04040* IBR/IBP04080*	N/A	LBMR04000** LBMR04040** LBMR04080**	N/A	N/A
15-25 MPH	36.7	83505.9	3	IBF06040* IBF06080*	IBR/IBP06040* IBR/IBP06080*	SSLS06050** SSLS06750**	LBMR06000** LBMR06040**	N/A	LBPA06040 LBPA06080
25-35 MPH	51.3	163671.5	4	IBF08040* IBF08080*	IBR/IBP08040* IBR/IBP08080*	SSLS08050** SSLS08750**	N/A	LBMA08000 LBMA08040 LBMA08080	LBPA08040 LBPA08080
35-45 MPH	66.0	270559.0	5	IBF10040* IBF10080*	IBR/IBP10040* IBR/IBP10080*	SSLS12050*	N/A	LBMA10000 LBMA10040 LBMA10080	LBPA10040 LBPA10080
45-55 MPH	80.7	404168.4	6	IBF12040* IBF12080*	IBR/IBP12040* IBR/IBP12080*	SSLS12100*	N/A	LBMA12000 LBMA12040 LBMA12080	LBPA12040 LBPA12080

## AVAILABLE IN

\* Carbon steel, stainless steel.

\*\* These bollards are non-security and have no PSS rating.

Disclaimer: These charts and the information provided are offered for general use and are not intended, designed, or appropriate to be the sole source of specifications or engineering documentation. The calculations provided are indicators of probable values and outcomes. Calpipe Security Bollards makes no warranty, expressed or implied, and the use of this information should not be used as a basis for legal contracts for goods or services. Always consult a professional engineer.

## SAMPLE FOOTINGS

To ensure that bollards utilize their full impact capabilities, it is extremely important to combine the bollard with a properly engineered footing. In most installations, a strip footing is the best and strongest to use. If a strip footing is not practical for your site, individual bollard footings would have to be utilized.

Calpipe Security Bollards always recommends that a local engineer be consulted on installations as soil conditions, water tables, and frost lines will vary from region to region.

Strip Footing



Individual Footing



## INSTALLATION

As a very rough guide, installation costs can run from 25-50% of product costs. There are a number of variables and Calpipe Security Bollards recommends you source 2-3 quotes from local contractors to complete the work.

## PEDESTRIAN SAFETY SCALE (PSS)

Bollard models listed below are carbon steel. All retractable bollards and lighted bollard outer sleeves are manufactured from stainless steel. Non retractable bollards also available in stainless steel (SS models). Base plate bollards should be used as a visual deterrent only.

This guide is for informational purposes only. Always consult a qualified engineer or other specifying professional to review assumptions regarding vehicular threats before construction.

5500 LB. VEHICLE TWO BOLLARDS									
VEHICLE SPEED	MAX FPS	MAX FT LBS	PSS LEVEL	FIXED MODEL	REMOVABLE MODEL	LIGHTED BOLLARDS	MANUAL RETRACTABLE	ASSISTED LIFT	AUTOMATIC RETRACT
0-5 MPH	7.3	4592.8	1	IBF04040*	IBR/IBP04040*	N/A	LBMR04000** LBMR04040**	N/A	N/A
5-15 MPH	22	41335.4	2	IBF04080*	IBR/IBP04080*	N/A	LBMR04080** LBMR06000**	N/A	N/A
15-25 MPH	36.7	114820.6	3	IBF06040* IBF06080*	IBR/IBP06040* IBR/IBP06080*	SSLS06050* SSLS06750*	LBMR06040	LBMA06040 LBMA06080 LBMA08000	LBPA06040 LBPA06080 LBPA08000
25-35 MPH	51.3	225048.3	4	IBF08040* IBF08080*	IBR/IBP08040* IBR/IBP08080*	SSLS08050* SSLS08750*	N/A	LBMA08040 LBMA08080 LBMA10000	LBPA08040 LBPA08080 LBPA10000
35-45 MPH	66	372018.6	5	IBF10040* IBF10080*	IBR/IBP10040* IBR/IBP10080*	SSLS12050*	N/A	LBMA10040 LBMA10080 LBMA12000	LBPA10040 LBPA10080 LBPA12000
45-55 MPH	80.7	555.731.5	6	IBF12040* IBF12080*	IBR/IBP12040* IBR/IBP12080*	SSLS12100*	N/A	LBMA12040 LBMA12080	LBPA12040 LBPA12080

## AVAILABLE IN

\* Carbon steel, stainless steel.

\*\* These bollards are non-security and have no PSS rating.

Disclaimer: These charts and the information provided are offered for general use and are not intended, designed, or appropriate to be the sole source of specifications or engineering documentation. The calculations provided are indicators of probable values and outcomes. Calpipe Security Bollards makes no warranty, expressed or implied, and the use of this information should not be used as a basis for legal contracts for goods or services. Always consult a professional engineer.

# LIGHTED BOLLARDS



## LIGHTING STYLE OPTIONS

Corrosion-resistant stainless steel (brushed finish flat or dome top)  
Steel security inner core

## LIGHTING TYPES

Fluorescent  
HID  
Eco-friendly LED  
Incandescent  
Induction

## LED ENVIRONMENTAL BENEFITS/LEED CERTIFICATION

Eco-friendly LED-lit bollards contribute to attaining LEED certification/points for your project. LED is an energy-efficient, mercury-free lighting, with a direct positive impact on our global environment.

## LENS MATERIAL

Vandal-resistant polycarbonate (opaque or clear)

## OPTICS

Patterned borosilicate glass refractor, type III, 180° or type V, 360°

## STANDARD SIZES

6", 8", or 12" nominal diameters, 36" or 42" above grade

## STANDARD MOUNTING

Embedded galvanized anchor bolt system or surface-mount

## SECURITY MOUNTING (DBS®)

Direct burial as duo-bolted system

## WEATHER-RESISTANT

Sealed at all points of material transition to exclude the intrusion of rain, insects, dust and contaminants.

## CUSTOM CAPABILITIES

Custom designs and colors available. Please contact our custom project specialist for detailed information.

### LIGHTED BOLLARDS

#### SECURITY LIGHTED BOLLARDS

SSLS06050

SSLS06750

SSLS08050

SSLS08750

SSLS12050

SSLS12100

### LIGHTED BOLLARDS

#### ARCHITECTURAL LIGHTED BOLLARDS

SSLA06000

SSLA08000

ETL-Certified Pending



There is more to security than simply adding a light to the top of a bollard for better visibility. Calpipe Security Bollards' expanded lighted product line combines a sleek architectural design with long-life LED lighting and the unmatched strength of stainless steel to provide superior durability, form, and safety.

## WINDOWS OF THE WORLD

Lighted Security Bollard

Stainless Steel

Dome Top

Flat Top

### Shown with Opaque Lens LED



## MOMENTUM

Lighted Security Bollard

Stainless Steel

Dome Top

### Shown with HID lamp (Metal Halide)



## PANORAMA

Lighted Security Bollard

Stainless Steel

Dome Top

Flat Top

### Shown with Opaque Lens LED



# FIXED POST BOLLARD





For most installations, fixed post security bollards provide solid, uncompromising protection against vehicle incursion. Embedded bollards with an engineered footing offer the most dependable protection and come in carbon steel and stainless steel. For locations where surface penetration is impractical or impossible, plate-mounted bollards, in carbon steel or stainless steel create a visual deterrent to protect property and pedestrians

## FIXED CARBON STEEL

The fixed bollard is ideal for nearly any application, from simple traffic control to the toughest of perimeter defense needs. Also available in High Security wall thickness. Longer bollard lengths available. Call for details and quote.

FIXED BOLLARDS RECOMMENDED USAGE		
NON-SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Parking Garage/Lots	Hospitals	Government Facilities
Car Dealerships	Malls	Oil Refineries
Utility Boxes	Retail/Lifestyle Centers	Financial Institutions
Driveways	Stadiums/Arenas	Chemical Plants
	College/Universities	Water Treatment Plant
	Industrial/Commercial	Military Facilities

AVAILABLE MATERIALS	
Carbon Steel	Stainless Steel
	
IBF SERIES	SSF SERIES

AVAILABLE DIAMETERS				
Item Number	Diameter	Above	Depth	Length
03040	3"	36"	12"	48"
03080	3"	36"	12"	48"
04040	4"	36"	12"	48"
04080	4"	36"	12"	48"
05040	5"	36"	12"	48"
05080	5"	36"	12"	48"
06040	6"	36"	12"	48"
06080	6"	36"	12"	48"
08040	8"	36"	12"	48"
08080	8"	36"	12"	48"
10040	10"	36"	18"	54"
10080	10"	36"	18"	54"
12040	12"	36"	18"	54"
12080	12"	36"	18"	54"

## FIXED BOLLARD

Fixed bollards have many applications. From protecting stationary objects such as building entrances, store windows, gas pumps, or high voltage electrical junction boxes to being used as a barrier to protect pedestrians from cars on busy streets. Fixed bollards are simple to install and unlike concrete barriers, they allow free movement in between the bollards.

FIXED CARBON STEEL					
NON-SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
Item Number	Diameter	Item Number	Diameter	Item Number	Diameter
IBF03040	3"	IBF04080	4"	IBF08040	8"
IBF03080	3"	IBF05040	5"	IBF08080	8"
IBF04040	4"	IBF05080	5"	IBF10040	10"
		IBF06040	6"	IBF10080	10"
		IBF06080	6"	IBF12040	12"
				IBF12080	12"

FIXED STAINLESS STEEL					
NON-SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
Item Number	Diameter	Item Number	Diameter	Item Number	Diameter
SSF03000	3"	SSF04080	4"	SSF08040	8"
SSF03040	3"	SSF05040	5"	SSF08080	8"
SSF03080	3"	SSF05080	5"	SSF10040	10"
SSF04000	4"	SSF06040	6"	SSF10080	10"
SSF04040	4"	SSF06080	6"	SSF12040	12"
SSF05000	5"	SSF08000	8"	SS12080	12"
SSF06000	6"				



## BASE PLATE BOLLARD

Fixed base plate bollards are primarily used when the slab that they are being mounted on is too shallow for a deeper, more secure concrete footing. Base plate bollards should not be used for stopping vehicles or as a perimeter security application.

BASE PLATE CARBON STEEL	
NON-SECURITY	
Item Number	Diameter
IBB03040	3"
IBB04040	4"
IBB05040	5"
IBB06040	6"
IBB08040	8"
IBB10040	10"
IBB12040	12"

BASE PLATE STAINLESS STEEL	
NON-SECURITY	
Item Number	Diameter
SSB03000	3"
SSB04000	4"
SSB05000	5"
SSB06000	6"
SSB08000	8"
SSB10000	10"
SSB12000	12"







# INTERNAL LOCKING REMOVABLE BOLLARD



The internal locking removable bollard is our most flexible bollard. Turning the key locks the bollard into its embedment sleeve, and it can only be removed by unlocking at the conveniently located, tamper-proof lock. When the bollard is removed, the flip top lid on the embedment sleeve will fall down and cover the hole that was left by removing the bollard. Internal locking removable bollards used in conjunction with fixed bollards creates a flexible barrier system that can allow large objects or vehicles to move through the opening when necessary, while maintaining superior stopping strength when needed.

INTERNAL LOCKING REMOVABLE BOLLARDS RECOMMENDED USAGE		
NON-SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Car Dealerships	Malls	Government Facilities
Utility Boxes	Retail/Lifestyle Centers	Oil Refineries
Driveways	Farmers Markets	Water Treatment Plants
Schools	College/Universities	Chemical Plants
Traffic Flow Control	Stadiums/Arenas	Military Facilities
Parking Lots	Roll-up Doors	Financial Institutions

AVAILABLE MATERIALS	
Carbon Steel	Stainless Steel
	
IBR SERIES	SSR SERIES

AVAILABLE DIAMETERS:				
Item Number	Diameter	Above	Below	Length
03040	3"	36"	12"	48"
03080	3"	36"	12"	48"
04040	4"	36"	12"	48"
04080	4"	36"	12"	48"
05040	5"	36"	12"	48"
05080	5"	36"	12"	48"
06040	6"	36"	12"	48"
06080	6"	36"	12"	48"
08040	8"	36"	12"	48"
08080	8"	36"	12"	48"
10040	10"	36"	18"	54"
10080	10"	36"	18"	54"
12040	12"	36"	18"	54"
12080	12"	36"	18"	54"

## INTERNAL LOCKING REMOVABLE BOLLARD

Manufactured from carbon steel and stainless steel for a variety of strengths and options. Powder coat available in 180+ colors. Bollards can also be galvanized or primed only.

For extra vehicle stopping power, these bollards are also available in high security wall thickness. To avoid possible trip and liability hazards, the embedment sleeve has a stainless steel flip top lid that locks down when the bollard is removed. Longer bollard lengths are available. Call for details and quote.

The internal locking removable bollard is ideal for any application that requires the strength of a fixed bollard with the flexibility to remove the bollard when moving in and out large items or equipment.



### INTERNAL LOCKING REMOVABLE BOLLARD CARBON STEEL

NON-SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
Item Number	Diameter	Item Number	Diameter	Item Number	Diameter
IBR03040	3"	IBR04080	4"	IBR08040	8"
IBR03080	3"	IBR05040	5"	IBR08080	8"
IBR04040	4"	IBR05080	5"	IBR10040	10"
		IBR06040	6"	IBR10080	10"
		IBR06080	6"	IBR12040	12"
				IBR12080	12"

### INTERNAL LOCKING REMOVABLE BOLLARD STAINLESS STEEL



NON-SECURITY		MEDIUM SECURITY		HIGH SECURITY	
Item Number	Diameter	Item Number	Diameter	Item Number	Diameter
SSR03000	3"	SSR04080	4"	SSR08040	8"
SSR03040	3"	SSR05040	5"	SSR08080	8"
SSR03080	3"	SSR05080	5"	SSR10040	10"
SSR04000	4"	SSR06040	6"	SSR10080	10"
SSR04040	4"	SSR06080	6"	SSR12040	12"
SSR05000	5"	SSR08000	8"	SSR12080	12"
SSR06000	6"	SSR10000	10"		
		SSR12000	12"		

# EXTERNAL PADLOCK REMOVABLE BOLLARD



The external padlocking removable bollard is commonly used in industrial applications. The external padlock on the bollard allows relatively easy access to public service vehicles, as well as emergency access for fire or police departments into restricted areas. The external padlocking removable bollard offers the same versatility as the internal locking removable bollard in a mixed barrier application of fixed and removable bollards to quickly and easily allow movement of large objects through the barrier.

EXTERNAL PADLOCKING REMOVABLE		
NON-SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Car Dealerships	Malls	Government Facilities
Utility Boxes	Retail/Lifestyle Centers	Oil Refineries
Driveways	Farmers Markets	Water Treatment Plants
Schools	College/Universities	Chemical Plants
Traffic Flow Control	Stadiums/Arenas	Military Facilities
Parking Lots	Industrial Applications	Financial Institutions

AVAILABLE MATERIALS	
Carbon Steel	Stainless Steel
	
IBP SERIES	SSP SERIES

AVAILABLE DIAMETERS:				
Item Number	Diameter	Above	Below	Length
03040	3"	36"	12"	48"
03080	3"	36"	12"	48"
04040	4"	36"	12"	48"
04080	4"	36"	12"	48"
05040	5"	36"	12"	48"
05080	5"	36"	12"	48"
06040	6"	36"	12"	48"
06080	6"	36"	12"	48"
08040	8"	36"	12"	48"
08080	8"	36"	12"	48"
10040	10"	36"	18"	54"
10080	10"	36"	18"	54"
12040	12"	36"	18"	54"
12080	12"	36"	18"	54"



## EXTERNAL PADLOCKING REMOVABLE BOLLARD

Calpipe Security Bollards manufactures the IBP series of removable bollards from carbon steel for a variety of strengths and options. Powder coat available in 180+ colors. Bollards can also be galvanized or primed only.

Also available in high security wall thickness for extra vehicle stopping power. To avoid possible trip and liability hazards, the embedment sleeve has a stainless steel flip top lid that locks down when the bollard is removed. Longer bollard lengths are available. Call for details and quote.

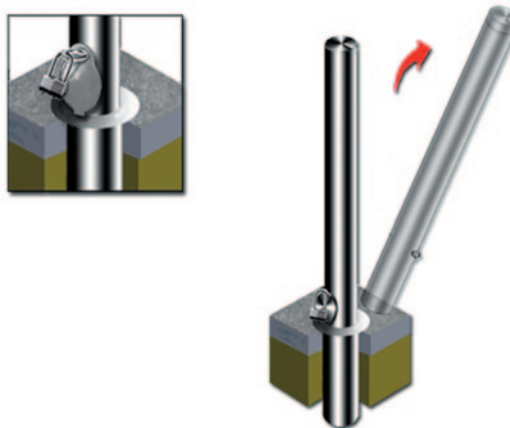
EXTERNAL LOCKING REMOVABLE CARBON STEEL					
NON-SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
Item Number	Diameter	Item Number	Diameter	Item Number	Diameter
IBP03040	3"	IBP04080	4"	IBP08040	8"
IBP03080	3"	IBP05040	5"	IBP08080	8"
IBP04040	4"	IBP05080	5"	IBP10040	10"
		IBP06040	6"	IBP10080	10"
		IBP06080	6"	IBP12040	12"
				IBP12080	12"

AVAILABLE DIAMETERS:				
Item Number	Diameter	Above	Below	Length
SSP03040	3"	36"	12"	48"
SSP03080	3"	36"	12"	48"
SSP04040	4"	36"	12"	48"
SSP04080	4"	36"	12"	48"
SSP05040	5"	36"	12"	48"
SSP05080	5"	36"	12"	48"
SSP06040	6"	36"	12"	48"
SSP06080	6"	36"	12"	48"
SSP08040	8"	36"	12"	48"
SSP08080	8"	36"	12"	48"
SSP10040	10"	36"	18"	54"
SSP10080	10"	36"	18"	54"
SSP12040	12"	36"	18"	54"
SSP12080	12"	36"	18"	54"

## EXTERNAL LOCKING REMOVABLE BOLLARD

The primary advantage of the external padlocking removable bollard is its flexibility. Leave them in for security or traffic flow, and take them out when they are not needed. Mix and match the fixed bollards and removable bollards to fit nearly any application.

The external padlocking removable bollard is ideal for any application that requires the strength of a fixed bollard along with the flexibility to remove the bollard when moving in and out large items or equipment.



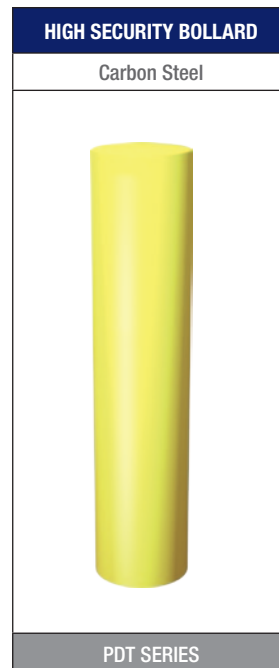
# HIGH SECURITY BOLLARDS



When the highest level of safety and security is required, bollard designs still require flexibility and versatility to meet the needs of a structure's purpose and environment. For that reason, Calpipe Security Bollards' K4-engineered and K12-rated product lines are available in the same wide variety of types, sizes and styles—including retractable, removable and fixed versions.

The K12-rated products offer the highest security rating available today and can stop a 15,000-pound vehicle at a speed of 50 miles per hour, while the K4-engineered products can stop the same vehicle at 30 miles per hour. Even with the added flexibility of retractable and moveable configurations, these high-security bollards offer the highest level of vehicle incursion available.

K-RATED AND ENGINEERED BOLLARDS	
<b>K-4 ENGINEERED BOLLARDS</b>	
PDT08080F	Fixed
PDT08080FSM	Fixed shallow mount
PDT08080R	Removable
<b>K-12 RATED BOLLARDS</b>	
PDT1200M	Manual retractable
PDT1200P	Pneumatic Automatic retractable
PDT1200F	Fixed 39" on center
PDTDS22	Fixed 48" on center
PDT22DSR	Removable 48" on center



# MANUALLY OPERATED RETRACTABLE BOLLARD

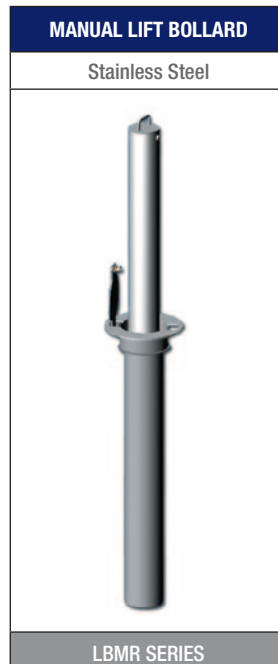


Sometimes retractable or telescoping bollards are required for a specific site. Our entry level model is manual operated and lifts easily and locks into place. When the bollard retracts, the stainless steel lid locks with a tamper resistant key for extra security. The LBMR Manual Lift bollard is manufactured from Type 304 stainless steel for long-lasting durability, low maintenance and ease of installation and operation. It is our most economical retractable bollard.

## MANUAL LIFT BOLLARD

The new manual lifting bollard is perfect for all of your light security needs. From traffic control to limited access pathways, this bollard is the obvious choice for ease of use and economical, maintenance-free operation. The same key can be used to unlock and lower the bollard as well as the locking cover plate when the bollard is in the retracted position. Stainless steel is polished to a #4 finish.

MANUAL OPERATED RETRACTABLE RECOMMENDED USES
NON-SECURITY
Parking Garages
Traffic Control
Car Dealerships
Schools



MANUAL OPERATED RETRACTABLE BOLLARD		
NON-SECURITY		
Item Number	Diameter	Length Above Grade
LBMRO4000	4"	36"
LBMRO4040	4"	36"
LBMRO4080	4"	36"
LBMRO6000	6"	36"
LBMRO6080	6"	36"



# ASSISTED LIFT RETRACTABLE BOLLARD

## MANUAL ASSISTED LIFT

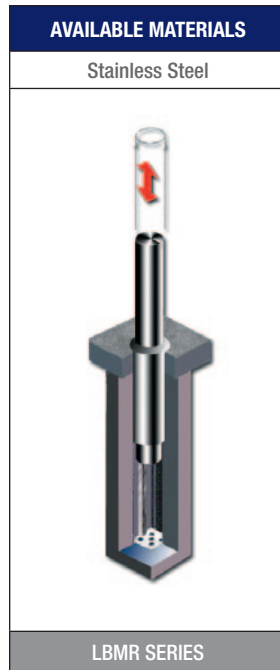
The manual assisted lift bollard is best utilized in areas with restricted access and high security needs.

The bollard operates with very little effort on the users' part. With the turn of a key, the bollard rises up and locks into position.

The LBMA series is designed to last for years, and can operate under very cold conditions and climates.

It can withstand frequent operation.

When your site requires heavy security and flexibility, manual bollards become too heavy to be moved. When this is the case, the next option is to install retractable bollards which do not require manual lifting. The Calpipe manually assisted retractable bollard was designed for these higher security applications. We manufacture these bollards with a heavy industrial grade gas strut which has the capability to lift hundreds of pounds with just the twist of a key. The LBMA series of assisted lift retractable bollard is manufactured from Type 304 stainless steel for years of dependable service. Security levels range from low to high, based on the diameter and wall thickness of the bollard, starting from 6" and progressing to the 12" heaviest duty bollard.



MANUAL ASSISTED LIFT RECOMMENDED USAGE	
MEDIUM SECURITY	HEAVY SECURITY
Malls	Government Facilities
Farmer's Markets	Oil Refineries
Stadiums/Arenas	Chemical Plants
College/Universities	Military Facilities

AVAILABLE DIAMETERS:		
Item Number	Diameter	Above
LBMA06040	6"	36"
LBMA06080	6"	36"
LBMA08040	8"	36"
LBMA08080	8"	36"
LBMA10040	10"	36"
LBMA10080	10"	36"
LBMA12040	12"	36"
LBMA12080	12"	36"

MANUAL ASSISTED LIFT BOLLARD STAINLESS STEEL					
MEDIUM SECURITY			HEAVY SECURITY		
Item Number	Diameter	Length Above	Item Number	Diameter	Length Above
LBMA08040	8"	36"	LBMA08080	8"	36"
LBMA06040	6"	36"	LBMA10040	10"	36"
LBMA06080	6"	36"	LBMA10080	10"	36"
			LBMA12040	12"	36"
			LBMA12080	12"	36"

# PNEUMATIC AUTOMATIC RETRACTABLE BOLLARD

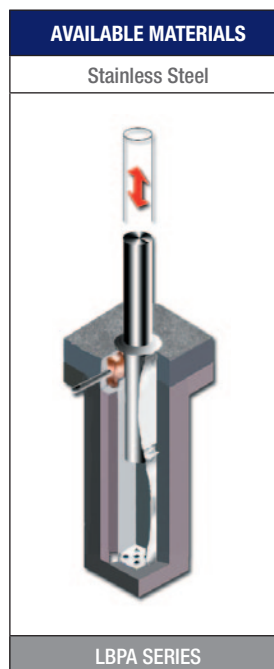


LBPA Series pneumatically driven automatic bollards provide an environmentally friendly system that provides the very high level of security you would expect from an automatic system. Manufactured completely from stainless steel, the applications for the bollards are endless. Such systems are used to control entrances and exits or used for high level traffic control. Customers include sports facilities, corporate campuses, industrial installations, and high security government and military facilities.

## AUTOMATIC RETRACTABLE BOLLARDS

Pneumatic bollards can be integrated with any access control option, whether a key system, guard operated, proximity card, or any other system or software. The system is geared for both high operation cycles or minimal use. All of Calpipe Security Bollards Retractable Bollards are manufactured entirely from stainless steel. Bollards that retract into the ground need to be stainless steel to avoid corrosion from snow, sand, salt, rain and other harsh environments.

AUTOMATIC RETRACTABLE BOLLARD RECOMMENDED USAGE		
NON-SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Employee Parking	Loading Dock	Financial Institutions
Restricted Access Area	Stadiums/Arenas	Gov't Facilities
Parking Structures	Corporate HQ	Military Facilities
Street Closures	Farmer's Markets	Water Treatment Plants



AVAILABLE DIAMETERS:		
Item Number	Diameter	Above Grade
LBPA06040	6"	36"
LBPA06080	6"	36"
LBPA08040	8"	36"
LBPA08080	8"	36"
LBPA10040	10"	36"
LBPA10080	10"	36"
LBPA12040	12"	36"
LBPA12080	12"	36"

STAINLESS STEEL PNEUMATIC BOLLARD			
MEDIUM SECURITY		HEAVY SECURITY	
Item Number	Diameter	Item Number	Diameter
LBPA06040	6"	LBPA10040	10"
LBPA06080	6"	LBPA10080	10"
LBPA08080	8"	LBPA12040	12"
		LBPA12080	12"

# SPECIALITY BOLLARDS

## CAMERA BOLLARD



Camera Bollards are designed to house a camera or other security devices or sensors. Calpipe Security Bollards manufactures to specifications for CCTV integration in either stainless steel or carbon steel. Powder coat from a variety of colors. The camera bollard can be either fixed/embedded or baseplate mounted.

## UTILITY BOLLARD



Calpipe Security Bollards has designed a utility bollard for a variety of applications. Water and electrical outlets are the most common, but the shape, structure, and locking door can be adapted as a secure housing for any application your site might require. The utility bollard can be either fixed/embedded or baseplate mounted. Manufactured in carbon or stainless steel, or choose from a variety of powder coat finishes.

## SPECIALTY BOLLARD



Calpipe Security Bollards has the skill and experience to manufacture bollards for any application. Let our design and production team turn your idea into reality.



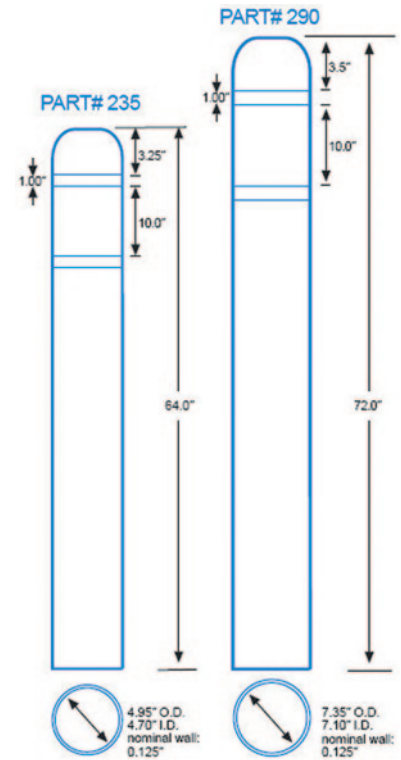


# BOLLARD ACCESSORIES

## PLASTIC BOLLARD COVERS

Protect your bollards for years with plastic bollard covers. The covers come in a variety of colors with optional reflective tape for easy visibility. Manufactured from 1/8" thick high density polyethylene. The covers are UV protected so colors will not fade over time.

PLASTIC BOLLARD COVERS	
DIAMETER	STANDARD CUT
4"	52"
4"	60"
4"	72"
6"	52"
6"	60"
6"	72"
8" (Yellow Only)	72"



CHAIN EYES	EXTRA KEYS
	
LIFTING HANDLES	BOLLARD STORAGE SLEEVE FOR 1-6 BOLLARDS
	

# FREQUENTLY ASKED QUESTIONS

Bollards come in many different shapes and sizes. Deciding what type of bollard is needed for your application can be a difficult task. The following FAQ's should clear up most questions concerning the types of bollards that we manufacture as well as the use and application of the bollards.

## 1. What type of bollard should I use?

Many factors go into the decision of what type of bollards should be used for a particular application. A few things to consider before choosing a particular bollard would be, what is it I'm trying to accomplish? What is it that I need to stop? Is it a traffic deterrent or a security issue? If it is a security issue, how big a vehicle do I want to stop and how fast could it be traveling when it makes impact? These are the basic questions you need to ask yourself before starting the bollard selection process.

## 2. What is the difference between bollards?

Basically, there are 4 different styles of bollards. Fixed/embedded, base plate/surface mount, locking removable, and retractable.

## 3. What type of footing or embedment do I need to use?

Calpipe Security Bollards recommends a strip footing. For maximum security protection, a strip footing with a rebar cage tied into the bollards will make it more secure and much stronger because the whole footing will absorb any impact as opposed to an individual footing for each bollard. Sometimes an individual footing is the most practical on a less security sensitive site. We do, however, always recommend a rebar cage for any type of footing.

## 4. What if there are utilities and underground pipes that I am not aware of?

In the course of the installation process, it is always recommended that you x-ray the area that will be excavated before installation. If you x-ray the area first, it will eliminate expensive downtime if a hidden utility line or water pipe is accidentally hit.

## 5. I have a parking structure, can I core drill into the suspended slab?

Calpipe Security Bollards never recommends core drilling into a slab. We recommend a base plate bollard in that situation. Although without the vehicle stopping capacity that an embedded or removable bollard has, it will be a visual deterrent and will protect items to some degree.

## 6. I have a need to shut down certain parts of a street at certain times for Farmer's Markets, events, parades, etc. What should I use?

Calpipe Security Bollards recommends a locking removable bollard. With this type of bollard, you have the flexibility and security of an embedded bollard. Instead of embedding the bollard itself, you install the embedment sleeve and the bollard slips into the sleeve. When the event is over, simply remove the bollard and the stainless steel flip top lid that is attached to the embedment sleeve falls into place to cover the hole. The lid has a security bolt with it so you can lock down the lid when not in use. More and more clients are seeing the benefits of the locking removable bollard and are getting more embedment sleeves than bollards for multiple locations. That way, whenever a bollard is needed in any given area, the embedment sleeve is already in place. Locking removable bollards have either an external padlock for locking into place or an internal locking system for a tamper proof solution. (See discussion of Farmer's Markets and the Pedestrian Safety Scale on Page 6)

## 7. I need a big bollard for a medium to high security application, but I also need to be able to remove it occasionally. What should I use?

This situation would probably require a retractable bollard. When a bollard is over 6" in diameter, a retractable bollard would be the most practical. Over 6", they are simply too heavy to move. With a retractable bollard you need to ask, "Do I want it to be manual or automatic?" A manual retractable bollard has an assisted lift feature built into the bollard so raising it from the ground is as simple as turning a key and watching it float and lock into position. Retracting the bollard is just as simple. Turn the key and with very gentle pressure, push the bollard down and step on it until it locks in the down position. An automatic retractable bollard should be used in high use areas such as a guard gated entrance, an entrance with numerous deliveries per day or any use where the bollards will be going up and down on a near continuous basis.

## 8. What are your bollards made from?

Calpipe Security Bollards manufactures bollards in carbon steel, 304 stainless steel, 316 stainless steel for highly corrosive areas.

## 9. What are the colors or finishes available to me?

In the case of stainless steel bollards, we polish to a #4 satin finish. We can electrostatically powder coat our carbon steel bollards with your choice of either safety yellow or black as standard colors. We also have available over 180 custom finishes to choose from as well.

## 10. What are the sizes/diameters of the bollards?

Our bollards range in size from 3" diameter to 12" diameter for the majority of our bollard models.

## 11. What is the difference or advantages of an internal locking bollard and an external locking bollard?

The most obvious difference is that an internal locking bollard is virtually tamper proof. Another feature of the internal locking bollard is that when in place, it will look the same as the embedded bollards it is most likely mixed in with. The lock is waist high, so there is no kneeling on the ground to unlock the padlock. The padlock bollard is preferred if it is an industrial application. Police or fire departments usually prefer the padlock because they have the universal key – the bolt cutter. Unfortunately, so do lots of unauthorized individuals.

## 12. Is a base plate mounted bollard as strong as a fixed/embedded or locking removable bollard?

No. The base plate bollard should be used when there is either a suspended slab or underground utilities that can't be disturbed or inside of warehouses and distribution centers. The base plate bollard is only as strong as the bolts it is mounted with.

## 13. Are the bollards manufactured in The United States?

Calpipe Security Bollards are manufactured in the United States.

## 14. Do I need to fill the bollard with cement?

That is entirely up to the specifier. While it is commonly thought that a cement filled bollard makes it stronger, it may only be that cement makes it heavier. The strength of any steel bollard comes from the strength of the steel cylinder itself, which is determined by the diameter of the bollard and the wall thickness. It is the impact resistance and inherent strength of the steel, coupled with proper installation in a proper footing, that determines how secure an installation will be. Calpipe Security Bollards always recommends that you consult your engineer as local site conditions can vary widely.

## 15. What is the expected delivery time from when I place the order?

For our fixed, base plate, and any of our locking removable lines, the delivery is usually less than 4 weeks. For most retractable bollards, the delivery time is approximately 8-12 weeks. Our goal is to turn your order around as fast as we possibly can and still maintain the highest quality standards in the industry today.

## 16. What sort of precautions should I take with removable bollards?

Safety concerns for personnel include metal safety shoe covering for the toe and top of the foot, back braces and keeping the hinged lid in the closed position except for placement and extraction of the removable parking bollards. The total weight of the removable bollards varies on the diameter, and length the customer is ordering, therefore the safety person at your company should review these considerations. It could be beneficial to a company to have two personnel extract and place the bollards. We also recommend the use of bollard storage racks. We would suggest that you speak with the designated safety person for your business before purchasing the removable traffic bollards.

# Calpipe Security Bollards™



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## The Bollard Specialists

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