

# CAL PIPE

SECURITY BOLLARDS



BOLLARD HANDBOOK



## CAL PIPE STORY

### ABOUT US

Cal Pipe Security Bollards is a premier manufacturer and distributor of vehicle stopping bollards. Our company is also a UL-listed manufacturer of metallic and non-metallic electrical conduit and conduit fittings, industrial piping products, and custom pipe and tube bending services. We take pride in our ability to bring our customers quality products and fast, reliable service at competitive prices. You can request a quote on our web site or contact us today with your inquiries and orders.

### OUR HISTORY

Cal Pipe Manufacturing began in 1986 with 3 employees in a 2,500 sq. foot facility, serving local and regional wholesalers. Today our company serves customers internationally from 3 manufacturing and distributing facilities in Los Angeles and Downey, California and Hammond, Indiana from facilities with over 96,000 square feet of manufacturing and inventory space.

### OUR COMMITMENT

We are committed to providing quality products and services that consistently meet or exceed our customers expectation and industry standards.

### OUR MISSION

Our mission at Cal Pipe Security Bollards is to consistently improve as a manufacturer by continuously improving our products and processes to better satisfy the needs of our customers.

### OUR PHILOSOPHY

Two words, "Service & Quality." Cal Pipe Security Bollards is dedicated to serving our customer's needs. We offer quality products to our customers, and we aggressively pursue faster and more efficient techniques to improve the cost and quality of our products. We recognize that to serve our customers best, and to be productive and profitable, we must adopt new technologies and innovations beyond the traditional methods common to our industry.

### CAL PIPE SECURITY BOLLARDS PRODUCTS QUALITY ASSURANCE

Our policy is to conform to our customer's purchase orders, design specifications and requirements without exception. Any flaw in materials or workmanship will be made right through our extensive warranty and customer service and support programs.



*Downey, CA*



*Hammond, IN*



*Los Angeles, CA*

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# BOLLARD STYLES

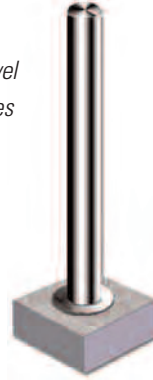
## FIXED

Fixed post bollards are the most commonly used bollards. The bollards create a physical barrier to protect pedestrians and buildings from oncoming vehicles, yet still allow free movement in between the bollards.



## FIXED BASEPLATE

Fixed base plate bollards are primarily used in multi-level parking structures, warehouses or distribution centers. They protect structures and equipment from forklifts, pallet jacks and low speed vehicles. **NOT APPROPRIATE FOR HIGH IMPACT LOCATIONS**



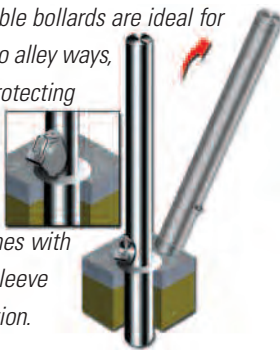
## INTERNAL LOCKING/ REMOVABLE BOLLARD

Internal Locking/Removable bollards are the most flexible bollard. With the tamper resistant lock, the internal locking security bollard delivers unmatched security from a removable bollard. Each bollard comes with an embedment sleeve for easy installation.



## EXTERNAL PADLOCK/ REMOVABLE BOLLARD

Padlock/Removable bollards are ideal for blocking access to alley ways, bike trails and protecting property and people from oncoming traffic. Each bollard comes with an embedment sleeve for easy installation.



## MANUALLY OPERATED RETRACTABLE BOLLARD

Manually operated bollards are used for many applications from parking and traffic control to protecting walkways. The bollard lifts easily and locks into place. The bollard retracts with a turn of the lock and a stainless steel lid covers the bollard to prevent pedestrian injuries. The lid also locks for extra security.



## ASSISTED LIFT RETRACTABLE BOLLARD

With a turn of the key, the bollard floats up into place and locks. Another turn of the key and the bollard floats down into the resting position. The manual assisted lift mechanism allows for a heavier bollard, easier lift and higher security.



## AUTO PNEUMATIC RETRACTABLE BOLLARD

Designed for numerous cycles, the Automatic Pneumatic Retractable bollard system is ideal for restricted parking lots, access control gates, commercial building entrances or military bases. This system can be integrated with most access control systems already in place.



## LIGHTED BOLLARD

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.



## SPECIALITY BOLLARDS

Camera bollards – surveillance and other security applications in the hardscape with full stopping power. Capture license plates of vehicles entering your facilities  
Utility bollards - Run electricity or water out to the bollard for a variety of applications with locking security and full stopping power.



## BOLLARD MAKES AND FINISHES

### CARBON STEEL

Cal Pipe 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 Cal Pipe 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. Cal Pipe 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.







### ALUMINUM

Aluminum is for architectural bollards only. Aluminum bollards are lightweight and durable. Aluminum can be used for most basic bollards, whether fixed or locking/removable. Choose from over 180 Powder coat colors or keep the natural finish by specifying a clear coating for extra durability.



## BOLLARD CAP CHOICES

CHOOSE FROM A VARIETY OF STYLES TO TOP OFF YOUR BOLLARD

Half-Dome	Full Dome	Standard Flat	Viking	Knight	Matador
					

## 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/publicn/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

Beginning as preliminary discussions in Spring 2006, the idea of the Pedestrian Safety Scale has begun to gain momentum. A basic industry framework and test protocol is being put together, and the very first steps have been taken to put these out to the community for comment and development prior to submission to state, federal, and national code authorities. In the impact charts below, 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 listed, 4,000 pounds and 5,500 pounds. A qualified engineer or other specifying professional should review any assumptions made about vehicular threats before construction.

To participate in the drafting of standards, or to offer engineering or security input for public comment, or just for additional information, please visit [www.pedestriansafetyscale.org](http://www.pedestriansafetyscale.org).



Scene of Santa Monica's  
3rd Street Promenade Tragedy - 2004

## 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) and aluminum (AL models). To meet Pedestrian Safety Scale criteria, lighted security bollards must be embedded type.

### 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	3,340.2	<b>1</b>	IBF3000* IBF3040* IBF3080*	IBR / IBP3000* IBR / IBP3040* IBR / IBP3080*	N/A	N/A	N/A	N/A
5 - 15 MPH	22.0	30,062.1	<b>2</b>	IBF4000* IBF4040* IBF4080*	IBR / IBP4000* IBR / IBP4040* IBR / IBP4080*	N/A	LBMR4000** LBMR4040** LBMR4080**	LBMA4000** LBMA4040** LBMA4080**	N/A
15 - 25 MPH	36.7	83,505.9	<b>3</b>	IBF6000* IBF6040* IBF6080*	IBR / IBP6000* IBR / IBP6040* IBR / IBP6080*	SSL6000** SSL6040** SSL6080**	LBMR6000** LBMR6040** LBMR6080**	LBMA6000** LBMA6040** LBMA6080**	LBPA6000** LBPA6040** LBPA6080**
25 - 35 MPH	51.3	163,671.5	<b>4</b>	IBF8000* IBF8040* IBF8080*	IBR / IBP8000* IBR / IBP8040* IBR / IBP8080*	SSL8000** SSL8040** SSL8080**	N/A	LBMA8000** LBMA8040** LBMA8080**	LBPA8000** LBPA8040** LBPA8080**
35 - 45 MPH	66.0	270,559.0	<b>5</b>	IBF10000* IBF10040* IBF10080*	IBR / IBP10000* IBR / IBP10040* IBR / IBP10080*	SSL10000** SSL10040** SSL10080**	N/A	LBMA10000** LBMA10040** LBMA10080**	LBPA10000** LBPA10040** LBPA10080**
45 - 55 MPH	80.7	404,168.4	<b>6</b>	IBF12000* IBF12040* IBF12080*	IBR / IBP12000* IBR / IBP12040* IBR / IBP12080*	SSL12000** SSL12040** SSL12080**	N/A	LBMA12000** LBMA12040** LBMA12080**	LBPA12000** LBPA12040** LBPA12080**

### AVAILABLE IN

\* Carbon Steel, stainless steel, aluminum Bollards manufactured from aluminum are for architectural use only.

\*\* Stainless steel only Base Plate bollards are manufactured in carbon steel only 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. Cal Pipe 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 the bollards are utilizing 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.

Cal Pipe 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.

### COSTING

As a very rough guide, installation costs can run from 25-50% of product costs. There are a number of variables and Cal Pipe 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) and aluminum (AL models). To meet Pedestrian Safety Scale criteria, lighted security bollards must be embedded type.

### 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	4,592.8	<b>1</b>	IBF4000* IBF4040*	IBR / IBP4000* IBR / IBP4040*	N/A	LBMR4000** LBMR4040	LBMA4000** LBMA4040**	N/A N/A
5 - 15 MPH	22.0	41,335.4	<b>2</b>	IBF4080* IBF6000*	IBR / IBP4080* IBR / IBP6000*	SSL6000**	LBMR4080** LBMR6000**	LBMA4080** LBMA6000**	N/A LBPA6000**
15 - 25 MPH	36.7	114,820.6	<b>3</b>	IBF6040* IBF6080* IBF8000*	IBR / IBP6040* IBR / IBP6080* IBR / IBP8000*	SSL6040** SSL6080** SSL8000**	LBMR6040** LBMR6080** N/A	LBMA6040** LBMA6080** LBMA8000**	LBPA6040** LBPA6080** LBPA8000**
25 - 35 MPH	51.3	225,048.3	<b>4</b>	IBF8040* IBF8080* IBF10000*	IBR / IBP8040* IBR / IBP8080* IBR / IBP10000*	SSL8040** SSL8080** SSL10000**	N/A N/A N/A	LBMA8040** LBMA8080** LBMA10000**	LBPA8040** LBPA8080** LBPA10000**
35 - 45 MPH	66.0	372,018.6	<b>5</b>	IBF10040* IBF10080* IBF12000*	IBR / IBP10040* IBR / IBP10080* IBR / IBP12000*	SSL10040** SSL10080** SSL12000**	N/A N/A N/A	LBMA10040** LBMA10080** LBMA12000**	LBPA10040** LBPA10080** LBPA12000**
45 - 55 MPH	80.7	555,731.5	<b>6</b>	IBF12040* IBF12080*	IBR / IBP12040* IBR / IBP12080*	SSL12040** SSL12080**	N/A N/A	LBMA12040** LBMA12080**	LBPA12040** LBPA12080**

### AVAILABLE IN

\* Carbon Steel, stainless steel, aluminum Bollards manufactured from aluminum are for architectural use only.

\*\* Stainless steel only Base Plate bollards are manufactured in carbon steel only and have no PSS rating.

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## 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, stainless steel and aluminum. For locations where surface penetration is impractical or impossible, plate-mounted bollards, in carbon steel or stainless steel keep property and pedestrians safe from most vehicle impacts.



**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.

### AVAILABLE MATERIALS

CARBON STEEL	STAINLESS STEEL	ALUMINUM
IBF Series	SSF Series	ALF Series
		

### AVAILABLE DIAMETERS:

Model	Diameter	Above	Depth	Length
3000	3	36	12	48
3040	3	36	12	48
3080	3	36	12	48
4000	4	36	12	48
4040	4	36	12	48
4080	4	36	12	48
5000	5	36	12	48
5040	5	36	12	48
5080	5	36	12	48
6000	6	36	12	48
6040	6	36	12	48
6080	6	36	12	48
8000	8	36	12	48
8040	8	36	12	48
8080	8	36	12	48
10000	10	36	12	48
10040	10	36	12	48
10080	10	36	12	48
12040	12	36	12	48
12000	12	36	12	48
12080	12	36	12	48

### FIXED BOLLARDS RECOMMENDED USAGE

LIGHT SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Parking Garage/Lots	Hospitals	Gov't Facilities
Car Dealerships	Malls	Oil Refineries
Utility Boxes	Retail/Lifestyle Centers	Financial Institutions
Driveways	Stadiums/Arenas	Chemical Plants
Schools	College/Universities	Water Treatment Plant
Pedestrian Safety	Industrial/Commercial	Military Facilities





### 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

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
IBF3000	3"	IBF4080	4"	IBF8040	8"
IBF3040	3"	IBF5040	5"	IBF8080	8"
IBF3080	3"	IBF5080	5"	IBF10040	10"
IBF4000	4"	IBF6040	6"	IBF10080	10"
IBF4040	4"	IBF6080	6"	IBF12040	12"
IBF5000	5"	IBF8000	8"	IBF12080	12"
IBF6000	6"	IBF10000	10"		
		IBF12000	12"		

### FIXED STAINLESS STEEL

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
SSF3000	3"	SSF4080	4"	SSF8040	8"
SSF3040	3"	SSF5040	5"	SSF8080	8"
SSF3080	3"	SSF5080	5"	SSF10040	10"
SSF4000	4"	SSF6040	6"	SSF10080	10"
SSF4040	4"	SSF6080	6"	SSF12040	12"
SSF5000	5"	SSF8000	8"	SSF12080	12"
SSF6000	6"	SSF10000	10"		
		SSF12000	12"		



### 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

LIGHT SECURITY	
ITEM #	DIAMETER
IBB3000	3"
IBB4000	4"
IBB5000	5"
IBB6000	6"
IBB8000	8"
IBB10000	10"
IBB12000	12"

### BASE PLATE STAINLESS STEEL

LIGHT SECURITY	
ITEM #	DIAMETER
SSB3000	3"
SSB4000	4"
SSB5000	5"
SSB6000	6"
SSB8000	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 from time to time, while maintaining superior stopping strength the rest of the time.



### INTERNAL LOCKING REMOVABLE

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

### AVAILABLE DIAMETERS:

Model	Diameter	Above	Below	Length
3000	3	36	12	48
3040	3	36	12	48
3080	3	36	12	48
4000	4	36	12	48
4040	4	36	12	48
4080	4	36	12	48
5000	5	36	12	48
5040	5	36	12	48
5080	5	36	12	48
6000	6	36	12	48
6040	6	36	12	48
6080	6	36	12	48
8000	8	36	12	48
8040	8	36	12	48
8080	8	36	12	48
10000	10	36	12	48
10040	10	36	12	48
10080	10	36	12	48
12000	12	36	12	48
12040	12	36	12	48
12080	12	36	12	48

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.

### AVAILABLE MATERIALS

CARBON STEEL	STAINLESS STEEL	ALUMINUM
IBR Series	SSR Series	ALR Series
		

### INTERNAL LOCKING REMOVABLE BOLLARDS RECOMMENDED USAGE

LIGHT SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Car Dealerships	Malls	Gov't 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



**INTERNAL LOCKING REMOVABLE BOLLARD**

The internal locking/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.

**INTERNAL LOCKING/REMOVABLE BOLLARD CARBON STEEL**

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
IBR3000	3"	IBR4080	4"	IBR8040	8"
IBR3040	3"	IBR5040	5"	IBR8080	8"
IBR3080	3"	IBR5080	5"	IBR10040	10"
IBR4000	4"	IBR6040	6"	IBR10080	10"
IBR4040	4"	IBR6080	6"	IBR12040	12"
IBR5000	5"	IBR8000	8"	IBR12080	12"
IBR6000	6"	IBR10000	10"		
		IBR12000	12"		

**INTERNAL LOCKING/REMOVABLE BOLLARD STAINLESS STEEL**

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
SSR3000	3"	SSR4080	4"	SSR8040	8"
SSR3040	3"	SSR5040	5"	SSR8080	8"
SSR3080	3"	SSR5080	5"	SSR10040	10"
SSR4000	4"	SSR6040	6"	SSR10080	10"
SSR4040	4"	SSR6080	6"	SSR12040	12"
SSR5000	5"	SSR8000	8"	SSR12080	12"
SSR6000	6"	SSR10000	10"		
		SSR12000	12"		



**ALUMINUM**

**LIGHT SECURITY**

**ITEM # DIAMETER**

ALR3000	3"
ALR4000	4"
ALR5000	5"
ALR6000	6"
ALR8000	8"
ALR10000	10"
ALR12000	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 BOLLARD

Cal Pipe 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.

### AVAILABLE MATERIALS

#### CARBON STEEL

IBP series



### FIXED BOLLARD RECOMMENDED USAGE

LIGHT SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Car Dealerships	Malls	Gov't 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 DIAMETERS:

Model	Diameter	Above	Below	Length
IBP3000	3	36	12	48
IBP3040	3	36	12	48
IBP3080	3	36	12	48
IBP4000	4	36	12	48
IBP4040	4	36	12	48
IBP4080	4	36	12	48
IBP5000	5	36	12	48
IBP5040	5	36	12	48
IBP5080	5	36	12	48
IBP6000	6	36	12	48
IBP6040	6	36	12	48
IBP6080	6	36	12	48
IBP8000	8	36	12	48
IBP8040	8	36	12	48
IBP8080	8	36	12	48
IBP10000	10	36	12	48
IBP10040	10	36	12	48
IBP10080	10	36	12	48
IBP12000	12	36	12	48
IBP12040	12	36	12	48
IBP12080	12	36	12	48

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/LOCKING  
REMOVABLE**

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.



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.

**EXTERNAL LOCKING/LOCKING REMOVABLE CARBON STEEL**

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
IBP3000	3"	IBP4080	4"	IBP8040	8"
IBP3040	3"	IBP5040	5"	IBP8080	8"
IBP3080	3"	IBP5080	5"	IBP10000	10"
IBP4000	4"	IBP6040	6"	IBP10080	10"
IBP4040	4"	IBP8000	8"	IBP12040	12"
IBP5000	5"	IBP10000	10"	IBP12080	12"
IBP6000	6"	IBP12000	12"		



## MANUALLY OPERATED RETRACTABLE BOLLARD

Sometimes retractable or telescoping bollards are required for a specific site. Our entry level model is manually 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.

### MANUAL LIFT BOLLARD

#### STAINLESS STEEL

LBMR Series



### MANUAL OPERATED RETRACTABLE RECOMMENDED USES

#### LIGHT SECURITY

Parking Garages

Traffic Control

Car Dealerships

Schools

### AVAILABLE DIAMETERS:

Model	Diameter	Height	Above	Grade
LBMR4000	4	24	30	36
LBMR4040	4	24	30	36
LBMR4080	4	24	30	36
LBMR6000	6	24	30	36
LBMR6040	6	24	30	36

Choose from 3 different heights – 24" , 30" or 36". 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 BOLLARD

#### LIGHT SECURITY

ITEM #	DIAMETER	LENGTH ABOVE GRADE		
LBMR4000	4"	24"	30"	36"
LBMR4040	4"	24"	30"	36"
LBMR4080	4"	24"	30"	36"
LBMR6000	6"	24"	30"	36"
LBMR6040	6"	24"	30"	36"

## ASSISTED LIFT RETRACTABLE BOLLARD

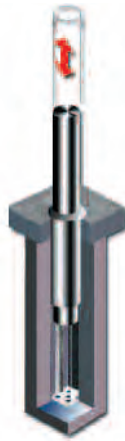
When your site requires heavy security AND flexibility, manual bollards become too heavy to be moved. When this is the case, the next option is to install retractable bollards which do not require manual lifting. The Cal Pipe manually assisted retractable bollard was designed for these higher security 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 are 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.



### AVAILABLE MATERIALS

#### STAINLESS STEEL

series



### MANUAL ASSISTED LIFT RECOMMENDED USAGE

MEDIUM SECURITY	HEAVY SECURITY
Malls	Government Facilities
Farmers' Markets	Oil Refineries
Stadium/Arena	Chemical Plants
College/Universities	Military Facilities

### MANUAL ASSISTED LIFT BOLLARD STAINLESS STEEL

MEDIUM SECURITY			HEAVY SECURITY		
ITEM #	DIAMETER	LENGTH ABOVE	ITEM #	DIAMETER	LENGTH ABOVE
LBMR6080	6"	36"	LBMR8080	8"	36"
LBMR8000	8"	36"	LBMR10040	10"	36"
LBMR8040	8"	36"	LBMR10080	10"	36"
LBMR10000	10"	36"	LBMR12040	12"	36"
LBMR12000	12"	36"	LBMR12080	12"	36"



### 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 floats up and locks into position.

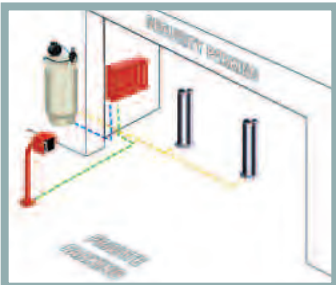
### AVAILABLE DIAMETERS:

Model	Diameter	Above	Below	Length
LBMA6000	6	36	12	48
LBMA6040	6	36	12	48
LBMA6080	6	36	12	48
LBMA8000	8	36	12	48
LBMA8040	8	36	12	48
LBMA8080	8	36	12	48
LBMA10000	10	36	12	48
LBMA10040	10	36	12	48
LBMA10080	10	36	12	48
LBMA12000	12	36	12	48
LBMA12040	12	36	12	48
LBMA12080	12	36	12	48

The LBMA series is designed to last for years, and can operate under very cold conditions and climates. It can also be raised and lowered any number of times per day or per week, from very occasional to very frequent.

## PNEUMATIC AUTOMATIC RETRACTABLE BOLLARD

Series LBPA 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.



### AVAILABLE MATERIALS

#### STAINLESS STEEL

LBPA Series



### AUTOMATIC RETRACTABLE BOLLARD RECOMMENDED USAGE

LIGHT SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Employee Parking	Loading Dock	Financial Institutions
Restricted Access Area	Stadium/Arena	Government Facilities
Parking Structures	Corporate HQ	Military Facilities
Street Closures	Farmers' Markets	Water Treatment Plants

### STAINLESS STEEL PNEUMATIC BOLLARD

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
LBPA6000	6"	LBPA6040	6"	LBPA8040	8"
		LBPA6080	6"	LBPA8080	8"
		LBPA8000	8"	LBPA10040	10"
		LBPA10000	10"	LBPA10080	10"
		LBPA12000	12"	LBPA12040	12"
				LBPA12080	12"

### 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.

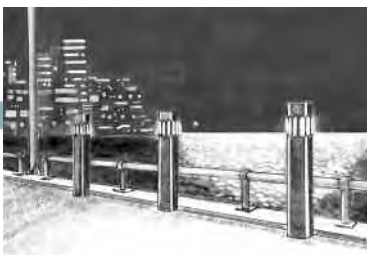
### AVAILABLE DIAMETERS:

Model	Diameter	Above grade
LBPA6000	6"	36"
LBPA6040	6"	36"
LBPA6080	6"	36"
LBPA8000	8"	36"
LBPA8040	8"	36"
LBPA8080	8"	36"
LBPA10000	10"	36"
LBPA10040	10"	36"
LBPA10080	10"	36"
LBPA12000	12"	36"
LBPA12040	12"	36"
LBPA12080	12"	36"

All of Cal Pipe 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 elements.

## LIGHTED SECURITY BOLLARDS

Cal Pipe Security Bollards newest addition - The Lighted Security Bollard. The unique design of the lighted security bollard makes it as strong as your security or safety requirement needs it to be. We build our lighted bollards in two pieces; a carbon steel bollard designed to withstand even high speed impacts forms the inner core, and the outer sleeve is manufactured from Type 304 stainless steel for long lasting durability. The polished look of the stainless steel finish makes the bollard as beautiful as it is strong. Choose from fixed/embedded or baseplate mounted. Choose from a 15w to 42w lamp.



### AVAILABLE MATERIALS

#### STAINLESS STEEL

SSL Series



### LIGHTED SECURITY RECOMMENDED USAGE

LIGHT SECURITY	MEDIUM SECURITY	HEAVY SECURITY
Parking lots	Streets	Government Facilities
Walkways	Lifestyle Centers	Corporate Campuses
Car lots	Colleges/Universities	Office Buildings
Condo/Apt. Buildings	Malls	Stadiums/Arenas

### FIXED STAINLESS STEEL

LIGHT SECURITY		MEDIUM SECURITY		HEAVY SECURITY	
ITEM #	DIAMETER	ITEM #	DIAMETER	ITEM #	DIAMETER
SSL6000	6"	SSL6040	6"	SSL8040	8"
		SSL6080	6"	SSL8080	8"
		SSL8000	8"	SSL10040	10"
		SSL10000	10"	SSL10080	10"
		SSL12000	12"	SSL12040	12"
				SSL12080	12"



### LIGHTED SECURITY BOLLARDS

The stainless steel outer sleeve is polished to a #4 finish, The outer sleeve is connected to the inside mounting post with tamper proof bolts. Once attached, the bollard will have the look and function of a lighted bollard and the vehicle stopping abilities of our strongest industrial bollard.

### AVAILABLE DIAMETERS:

Model	Diameter	Above grade
SSL6000	6"	36"
SSL6040	6"	36"
SSL6080	6"	36"
SSL8000	8"	36"
SSL8040	8"	36"
SSL8080	8"	36"
SSL10000	10"	36"
SSL10040	10"	36"
SSL10080	10"	36"
SSL12000	12"	36"
SSL12040	12"	36"
SSL12080	12"	36"

The Cal Pipe Lighted Bollard is manufactured to be either embedded or base plate mounted. The stainless steel outside sleeve is polished to a #4 finish.



## SPECIALITY BOLLARDS

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### CAMERA BOLLARD

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



### UTILITY BOLLARD

Cal Pipe 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.

### SPECIALITY BOLLARDS

Cal Pipe 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

## CHAIN EYES



## EXTRA KEYS



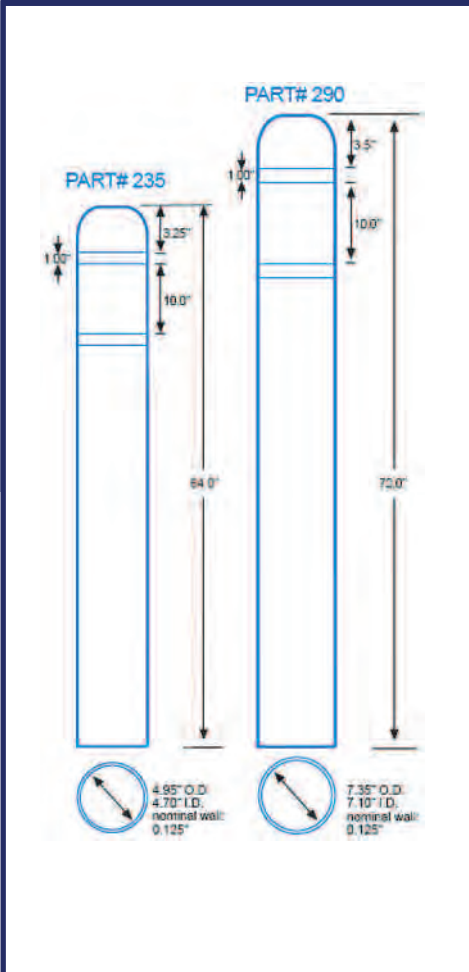
## LIFTING HANDLES



## PLASTIC BOLLARD COVERS

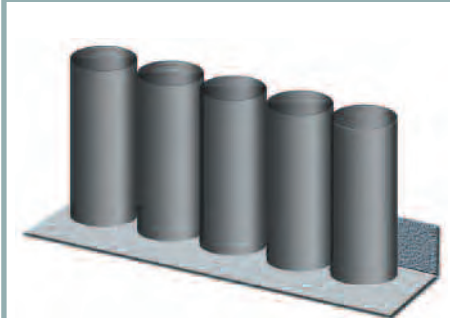


Diameter	Standard Flat
4"	52"
4"	60"
4"	72"
6"	52"
6"	60"
6"	72"
8" (yellow only)	72"



*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.*

## BOLLARD STORAGE SLEEVE FOR 1-6 BOLLARDS



## FREQUENTLY ASKED QUESTIONS

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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 choosing 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?** *Cal Pipe 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?** *Cal Pipe 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?** *Cal Pipe 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 5)*

**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?** *Cal Pipe Security Bollards manufactures bollards in carbon steel, 304 stainless steel, 316 stainless steel for highly corrosive areas, and for architectural uses only, aluminum.*

**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 or aluminum bollards with your choice of either safety yellow or black as standard colors. We also have available over 180 custom 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?** *Cal Pipe Security Bollards are manufactured entirely in the United States. We currently have three manufacturing facilities, two in Southern California and one in Indiana.*

**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. Cal Pipe 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 depending on our back log at the time of order. 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.*

**LOCATIONS:**

**California - Los Angeles**  
515 E. 88th Pl.  
Los Angeles, CA 90003

**California - Downey**  
Corporate Headquarters  
9650 Washburn Rd.  
Downey, CA 90241

**Indiana - Hammond**  
2207 165th St.  
Hammond, IN 46320

**Phone: 877-283-8518**  
**Fax: 562-803-9885**  
**e-mail: [sales@calpipebollards.com](mailto:sales@calpipebollards.com)**





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9650 WASHBURN ROAD, DOWNEY, CA 90241 • TEL 877-283-8518 • WWW.CALPIPEBOLLARDS.COM