



www.sabacaucho.com
www.x-last.com



Certified by:

Applus⁺ **ENAC**
Entidad Nacional de Acreditación



Stiffness tests

X-last®, the safest and most durable bollard



Resistance testing

After several years of research, Sabacaucho presents a new concept in bollards: the X-last® bollard.

Made of a new material, with exclusive properties, the **X-last® bollards have maximum resistance and flexibility**, which convert them into the safest and most durable bollards.

Thanks to their stiffness, they fully comply with the function of preventing vehicles from entering prohibited zones; but it is their flexibility which make them virtually impossible to be broken, and after being knocked down, **they return to their original position and form.**

These bollards cannot be broken or dented and are not affected by rust... and we can make them in attractive customised designs in record time, as shown with our LookArT® proposals.

X-last® bollards are guaranteed to last practically a lifetime and do not need to be replaced. That flexibility makes them **extra safe compared to other metal bollards** that are anchored to the ground and can cause serious harm to vehicles and people.

Our objective is to help you to redesign your streets with X-last® and make them safer, more practical and more modern and attractive.

Accessibility

Our products are in **accordance with the requirements for the accessibility of the public road network** (garbage dump) and the public places. We conceive the bollards geometry which (Heights and Diameters) is in compliance with the current abacuses and there design integrates reagent covers allowing the contrast of the product in its environment in order to increase their visibility. Information in conventional writing and/or Braille can be integrated during the molding on the said tactile parts of the bollards to facilitate the accessibility to all in our environment.

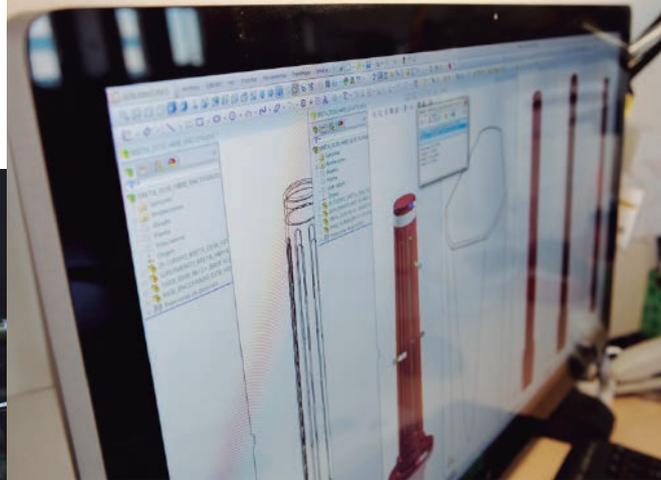


Access to the emergency vehicles

The shape memory bollard X-last® minimizes the damages caused in the human body during impacts while performing perfectly the function to prevent a vehicle of tourism from parking on a restricted zone. Due to their flexibility and resistance, they also allow the fire trucks to pass above without being obliged to remove them before or to change them after intervention.

The X-last® bollard is the safest, the most sustainable, the most flexible and most resistant bollard of the market.

Arplus⁺
IDIADA



Safety



X-Last[®] bollards save lives

The Applied research automotive center (**IDIADA Automotive Technology**) has realized impacts test with X-last[®] bollards and metallic ones.

At a speed of 40 Km/h, which is a most common speed limit in cities centers, metallic bollards cause irreversible injuries on persons.

There is an international criterion which is used to evaluate injuries caused on the head of a person after impacts. This criterion is called **HIC** (Head Injury Criterion).

The maximum value beyond which there are irreversible injuries is **1000**.

At 40 km/h, the test made in IDIADA research center have proved that the HIC criterion obtained after the impact of a human head on a metallic bollard is 4600.

This is almost 5 times the international limit.

At the same impact speed, the results with the X-Last[®] bollard are spectacular, because the HIC criterion obtained after the impact of a human head is 460.

This is less than half of the international limit and **10 times less than the results on the metallic bollards.**

Designs

We offer you all models with different surface finishes.

Being the producers, we can realize customized bollards, with specific designs, such as with the coat of arms of your city or company. Special finishes are available or, if you prefer, we can produce your own custom exclusive type.

Our objective is to help you to redesign our streets with X-last[®] and make them safer, more practical and more modern and attractive.

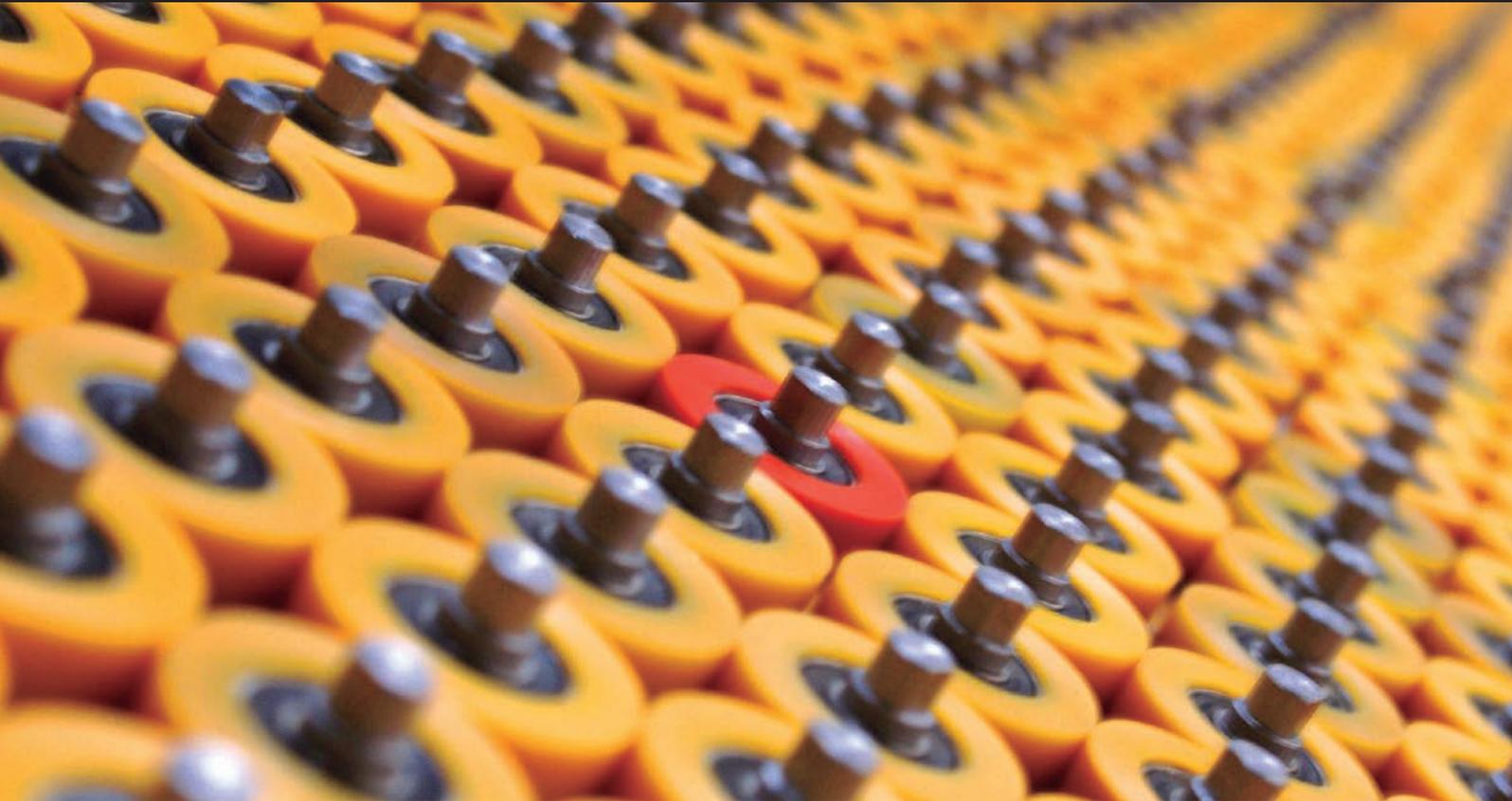
Colours: The whole RAL colour range.

Finishes: Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings: With formwork base (removable), in formwork and attached directly to the ground or using screws with a metal or chemical plug.



FLEXIBLE & SAFETY BOLLARDS



Technology



In SABACAUCHO we invest in Research Development & Innovation, developing innovative solutions. Founded in 1979, we solve problems related with flexibility, strength, sliding, abrasion, grip, elasticity, etc.

We create and provide solutions with the very highest resistance against tear, compression, breakage, abrasion, impact, humidity, water, dissolvent's, ageing, high temperatures, hydrocarbons, etc., in accordance with orders and/or specifications.

We make your problem our problem, and we solve it. Result of this philosophy, SABACAUCHO has designed an exclusive formula, X-last®, a polymer composite including reinforcing nanoparticles, spectacular.

The X-last® formula obtains rigidity as high as that of a rigimer but with enough flexibility to be able to tolerate the impact of a car without breaking.

The quality and environmental management system of SABACAUCHO S.A.U, is certified in accordance with the ISO 9001:2008 and ISO 14001:2004 standards.

If a solution is possible, SABACAUCHO will find it. With agility. Guaranteed results.

The ecologic option

The X-last® bollard has 50% less impact on environment than the traditional metallic bollards.

For several years Sabacaucho, integrate as additional technical criterion **the sustainable development** and this from the phase of development of every product.

In our trial of development of product, besides the functional, aesthetic criteria, legal and specific characteristics imposed by every customer, we analyze the concept, the materials, the manufacturing process, and the evolution of the characteristics during its useful life expectancy. Also we investigate the alternatives of elimination of this product **while looking for the best compromise between cost, services(performances) and protection on the environment.**

The fruit of this work, brought to us to the realization of the X-last® Bollard which generates 50 % less impact on the environment than the conventional metallic bollards, according to the study of the **ACV (Analysis of the Life Cycle)** realized by the European foundation **INASMET-Tecnalia.**



DESIGNS



Lookart[®] Diamond

Colors The whole RAL color range.



real image

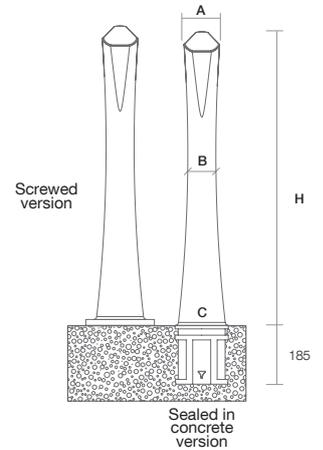
A	B
110	90
C	H
150	900

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.



Boule

Colors The whole RAL color range.



real image

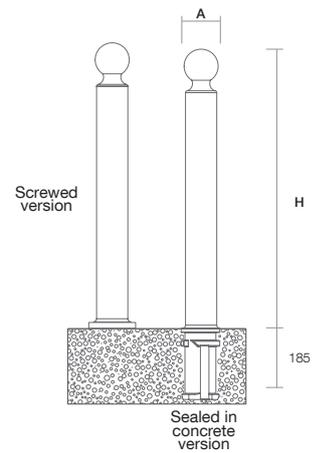
A	H
100	800
100	900
100	1050
100	1200

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.



Boule D80

Colors The whole RAL color range.



real image

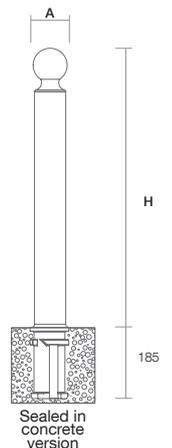
A	H
80	800
80	900
80	1050
80	1100
80	1200

Dimensions in mm

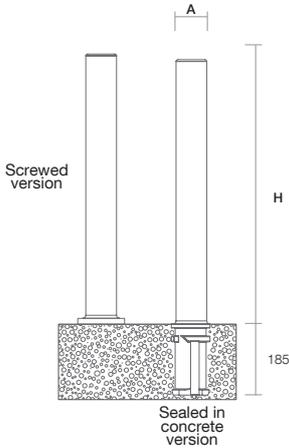
Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 80 mm.



Baliza



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.

A	H
100	660
100	770
100	900
100	1050
100	1200

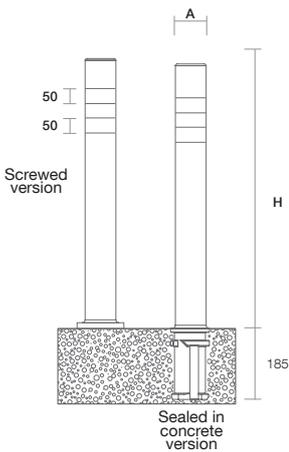
Dimensions in mm

Colors The whole RAL color range.



real image

Baliza Ref



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.

A	H
100	660
100	770
100	900
100	1050
100	1200

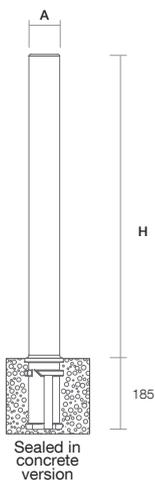
Dimensions in mm

Colors The whole RAL color range.



real image

Baliza D80



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 80 mm.

A	H
80	800
80	900
80	1000
80	1100
80	1200

Dimensions in mm

Colors The whole RAL color range.



real image

Baliza D150

Colors The whole RAL color range.



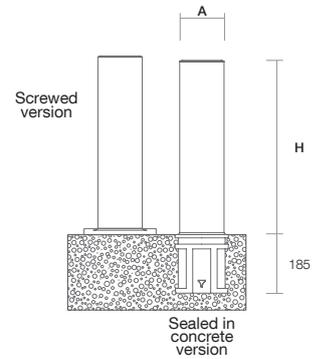
photomontage

A	H
150	550
150	600

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.



Baliza Ref D150

Colors The whole RAL color range.



photomontage

A	H
150	550*
150	800**

Dimensions in mm

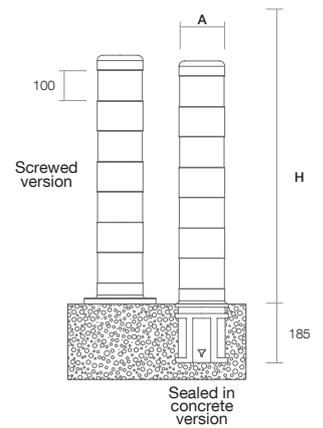
* 3 reflective tapes

** 4 reflective tapes

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.



Baliza Sign D150

Colors The whole RAL color range.



real image

A	H
400	1050*
400	1330**

Dimensions in mm

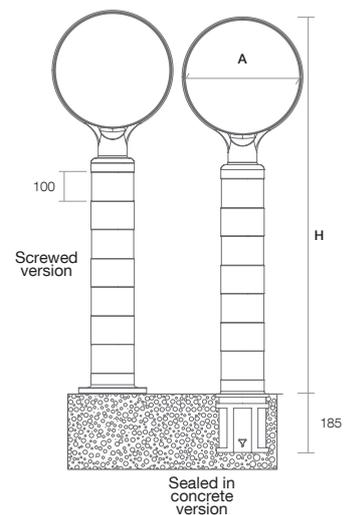
* 3 reflective tapes

** 4 reflective tapes

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

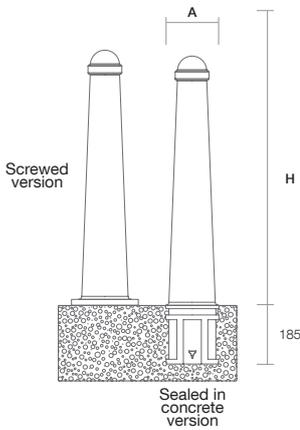
Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.



Gola

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
110	150
H	
800	

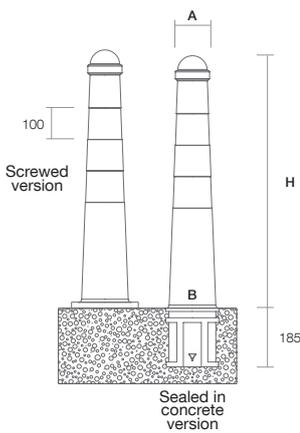
Dimensions in mm



real image

Gola Ref

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
110	150
H	
800	

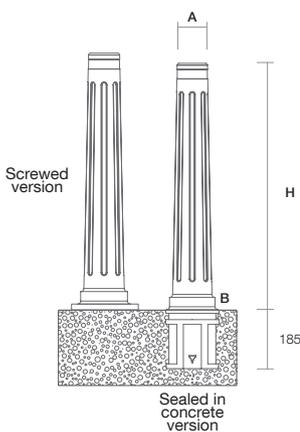
Dimensions in mm



real image

Kreta

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
100	150
H	
800	

Dimensions in mm



real image

Gorge

Colors The whole RAL color range.



real image

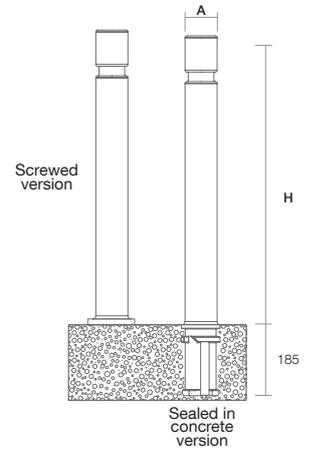
A	H
100	800
100	900
100	1050
100	1200

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.



Gorge D80

Colors The whole RAL color range.



photomontage

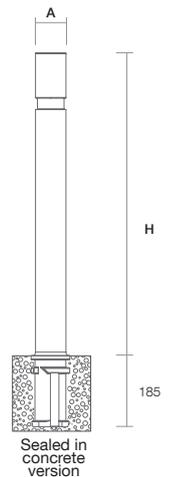
A	H
80	800
80	900
80	1050
80	1100
80	1200

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 80 mm.



O-Bus

Colors The whole RAL color range.



photomontage

A	B
110	150

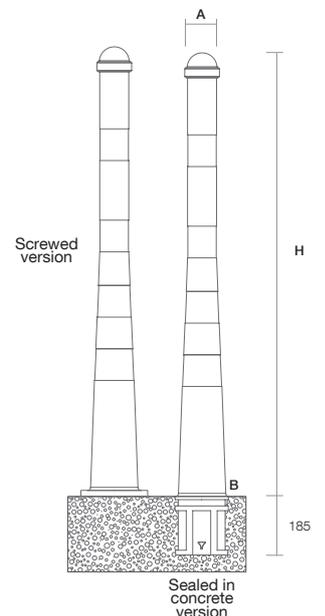
H
1400

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

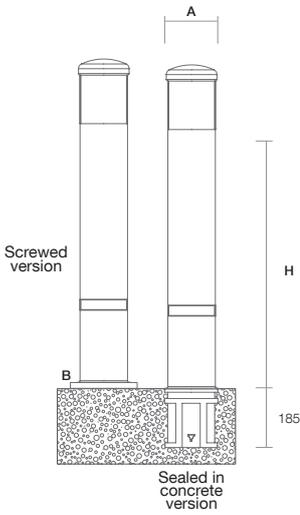
Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.



Nuvo

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
160	150
H	
1000	

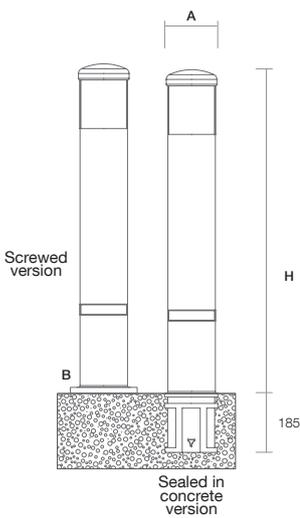
Dimensions in mm



real image

Nuvo Ref

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
160	150
H	
1000	

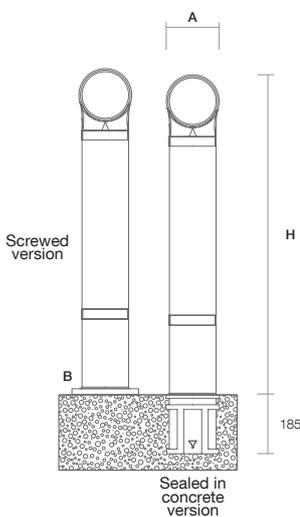
Dimensions in mm



photomontage

Nuvo Sign

Colors The whole RAL color range.



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 150 mm.

A	B
170	150
H	
1030	

Dimensions in mm



photomontage

Kuay

Colors The whole RAL color range.



photomontage

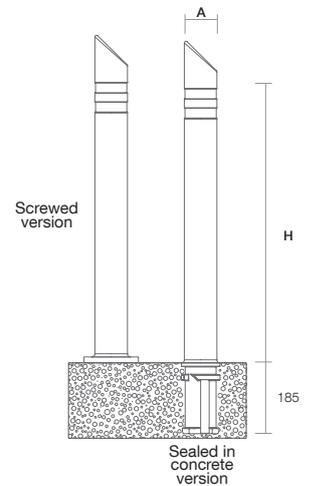
A	H
100	1000

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.



Babyk

Colors The whole RAL color range.



real image

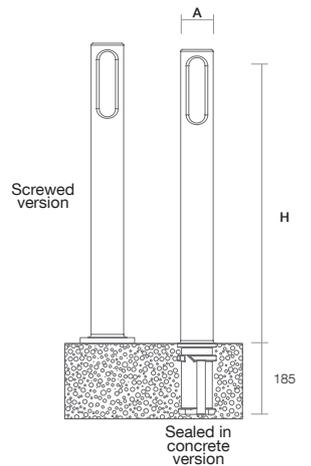
A	H
100	900

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.



Babyk Pro

Colors The whole RAL color range.



photomontage

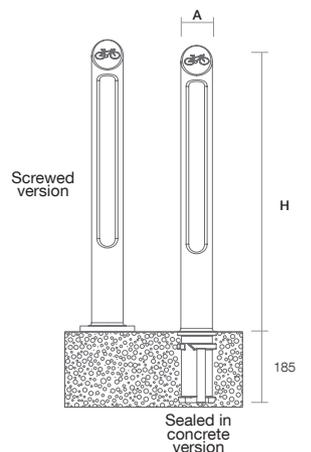
A	H
100	900

Dimensions in mm

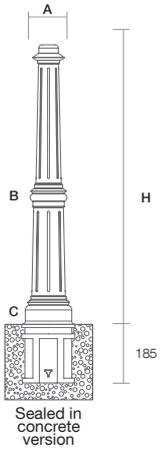
Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable), attached directly to the ground or using screws with a metal or chemical plug.

Compatible with removable bollard base ø 100 mm.



Class



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 150 mm.

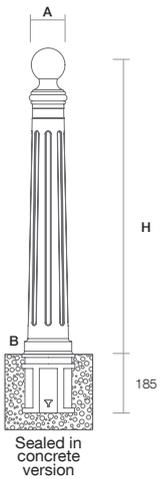
A	B
100	115
C	H
150	900

Dimensions in mm

Colors The whole RAL color range.



real image



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 150 mm.

A	B
110	150
H	
970	

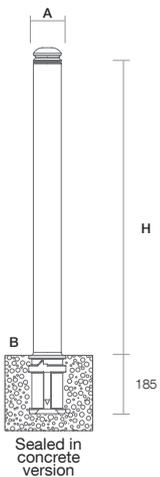
Dimensions in mm

Colors The whole RAL color range.



photomontage

Wat



Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 100 mm.

A	B
90	100
H	
980	

Dimensions in mm

Colors The whole RAL color range.



photomontage

Ret

Colors The whole RAL color range.



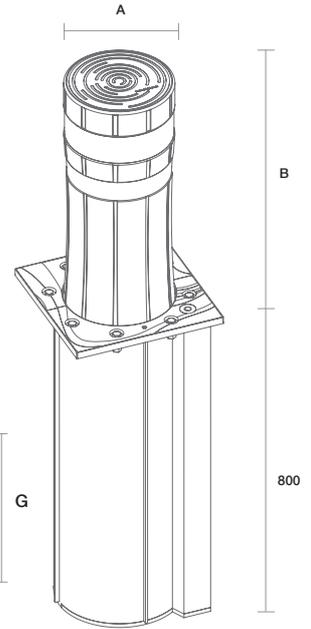
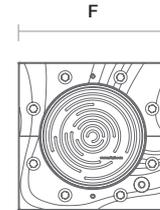
real image

A	B
245	440
245	570

F	G
350	350

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.



Nantes

Colors The whole RAL color range.



photomontage

A	B
90	100

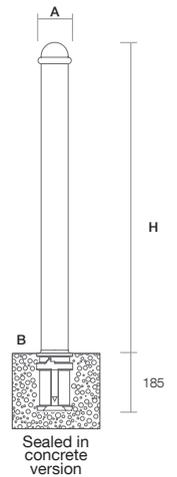
H
1000

Dimensions in mm

Finishes Please enquire (metallic, matt, glossy). Possibility of customizing them with the city's coat-of-arms. Option of applying reflective or metallic tape.

Types of Fastenings With socket (removable) or attached directly to the ground.

Compatible with removable bollard base ø 100 mm.





real image

Sockets



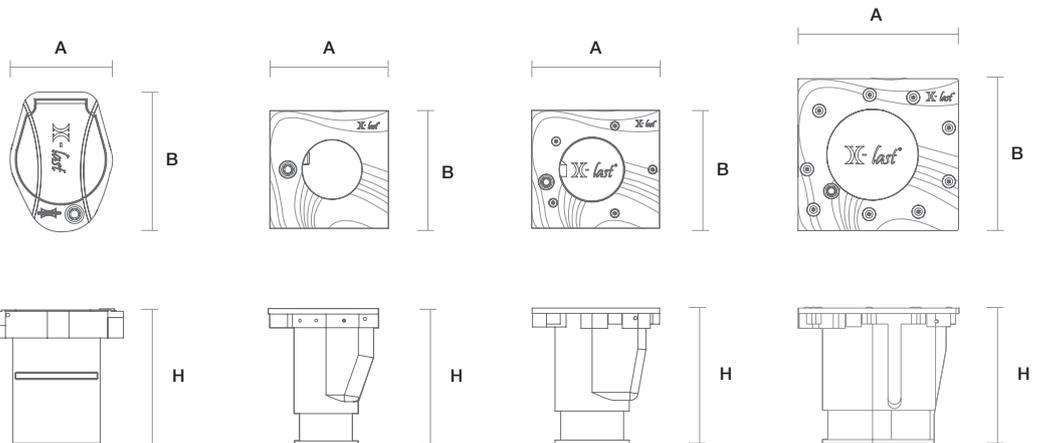
real image Base D100 TX



real image Base D80/100/150

Color: black premium
Other finishes and textures: Consult
Different locks available: Consult

Base D80/D100/D150
 New system locking lid
 and the bollard.



Base D100 TX

Removable bollard
 base with outer cover

A	B
150	210
H	
215	

Dimensions in mm

Base D80

Removable bollard
 base with inner cover

A	B
200	200
H	
250	

Dimensions in mm

Base D100

Removable bollard
 base with inner cover

A	B
237	220
H	
255	

Dimensions in mm

Base D150

Removable bollard
 base with inner cover

A	B
300	285
H	
255	

Dimensions in mm



Sabacaucho is a certified company in:



Products tested by:





P.I. Pla de la Bruguera
c. Maresme, 1
08211 Castellar del Vallès
Barcelona (Spain)

t | +34 937 143 900
f | +34 937 146 786
sabacaucho@sabacaucho.com

www.sabacaucho.com
www.x-last.com