



INSTALLATION GUIDE

SEMI AUTOMATIC RETRACTABLE BOLLARDS

Ø 5", Ø 8", Ø 10"

WARRANTY :

The construction and engineering company works under its own liability. Contractor shall check and be responsible for all local codes adherence (the geological and architectonic situation at each site to adapt the recommendations herein).

The warranty by URBACO can be applied only if the entirety of the installation guidelines is respected, and within the limit of our sales terms and conditions.

In case of disagreement, an engineering company, competent in the concrete and construction industry, will intervene to verify that our recommendations were followed, that the installation was made correctly, and the quality of the concrete by analysing samples.

If the conclusions of the reports reveal discrepancies between the specifications and the installation, warranty would be cancelled immediately and the customer informed of the situation and risks for the future of the installation and/or products. There would be an obligation to redo partially or totally the work for a global installation according to the state of the art.

The cost of the inspections remaining at the construction company's charge.

IMPORTANT : the identification form delivered along with your bollard must be returned within 8 days of installing the products, or within 30 days of shipping, to validate the warranty. By not respecting this, no claim will be accepted by URBACO.

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1 SITE WORKS

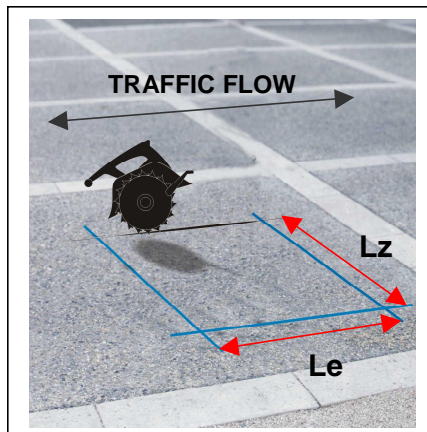
1.1 Marking the ground surface

The place chosen must be out of the usual wheel-tracks.

Mark the surface according to the measurements shown on the plan (measurements of the casing plus 6 to 8").

CAUTION: if the marking is rectangular, draw it so as to be narrow sides parallel of traffic flow.

1.2 Ground surface preparation



Depending on the nature of the ground surface, saw-cut (asphalt, concrete...) or remove the paving stones.

Please refer to the spread sheet, p9,10,& 11 to read the **Lz** and **Le** measurements depending on model of bollard.

In the case of several bollards in a row, we suggest digging out a trench rather than several holes.

1.3 Excavation

With a chip hammer or else, excavate following the dimensions in the spread sheet (**Le**, **Lz**, **He**). Evacuate the debris (32,5" x 32,5" x H46" approx 1 cubic yard for a bollard Ø 10" H 20,5" for example).



1.4 Drain

Create a French drain which size will depend on the type of subsoil on the site (measurements of the casing plus 8 to 12"). At the bottom of the hole, DOT approved geotextile may be extended, then pour washed river stones or rocks about 10" thick; the drain must be able to "absorb" 5 US gallons approx. in 5 mn.

If the subsoil is not permeable enough, connect the drain to the rainwater network or to a sump pump, or else depending on availability and local codes.

1.5 Base



For all bollards except Tradition (current) Ø 10", the lost casing (rectangular) shall be positioned so that the side holes be parallel to the traffic flow line.

For « Tradition » bollards Ø 10", the lost casing (square) shall be positioned so that the side holes will be oriented at right angles to the traffic flow line.

This allows to install the drain, a diam. 4" PVC pipe, so that the casing can sit on top with corresponding hole in front at the bottom of the primary casing.

Cover the top of the hole with thin mesh so that no debris can enter.

SPECIFICATIONS OF THE CONCRETE

Binders : artificial cements with CPA 325 components.

Granulates : with 10-20mm/. 5-.8" granularity. The granulates are limestone or silica, without salts or clays.

Concentration of concrete : 350Kg/m³
22 Lbs/cubic ft or 3000 ft concrete or 4000 PSI.

SPECIFICATIONS OF THE STEEL RE-BARS

The steel bars must be a minimum of #4 rebar on 12" center and set in a minimum of 2" of concrete.

Re-bars shall be

INSTALLATION OF RE-BARS

The installation will have to comply with the specifications in their spec. sheet.

The bars have to be installed so that they can receive a thickness of 2" as compared with the internal part of the casing.

CONCRETING

After installing the re-bars, pour concrete for the base. Ensure perfect horizontality and flatness. Do not forget to protect the drain opening. It is important to respect the measurements quoted in the document bedding plan.

Every load of concrete poured will need some vibrating.

The sole will have a thickness of 150mm/6" for regular traffic (remember that the mechanical or semi-automatic bollards should not be installed in the usual wheel tracks).

1.6 Lost casing

The lost casing is a form used to dimension the hole in the concrete block. It will house the casing of the bollard.

- Position the casing so that the hole at the bottom hole is in front of the drainpipe in the concrete sole (drain pipe shall not extend in the casing for more than 1/8").
- Block off the two holes on the sides of the casing with duct tape for example. They are used for the automatic bollards only.

- To preserve the dimensional characteristics, the square ness and withstand the pressure of concrete, maintain the inside of the casing with wooden planks.

- **Verify the perfect vertical and horizontal square ness, as well as the dimensions of the casing before and after concreting** to ensure that the bollard casing will fit in it with the necessary tolerances and allow removal easily for maintenance for example.
- The primary casing is shorter than the casing and should be installed lower than finished grade (check installation cut sheet).

Pour concrete around the casing with a thickness of 6" approx and pour concrete in the trench from bollards to the City 3.

Top dimensions are critical: Elevation of concrete depends on the kind of surface (asphalt, pavement stones, concrete). **Check local codes.**

Let cure after checking the levels.

Verifications before installation of the casing:

- 1) Control the width of the casing from bottom to top. It must be according to what is shown on the installation cut sheet. Ensure that there is no void under the casing.
- 2). Ensure that the drain is functional (able to absorb 5 US gallons in 5 mn).
- 3) Ensure the bottom of the casing is clean (no concrete).
- 4) Control the depth of the casing. It must be according to what is shown on the installation cut sheet.
 - A casing installed too deep keeps the casing from sitting properly on the bottom of the casing and makes it hang from the cover, which must be avoided.
 - A casing installed too high makes the bollard stick out of the ground which may be dangerous to pedestrians and "raising" the ground is not always easy.
- 5) Clean the surroundings of the hole from sand and gravel that could damage the paint of the bollards.

1.7 Bollard casing

Caution before unpacking:

BEFORE CUTTING THE STRAPS, ENSURE THE PRODUCTS ARE SITTING PROPERLY ON THE PALLET AND THAT THE PALLET IS IN GOOD SHAPE (THE BOLLARDS ARE HEAVY!)

Put two tape-bands on the plastic wrap, around the casing at the top and at the bottom to maintain it better. Cut the top of the plastic wrap off with a blade.

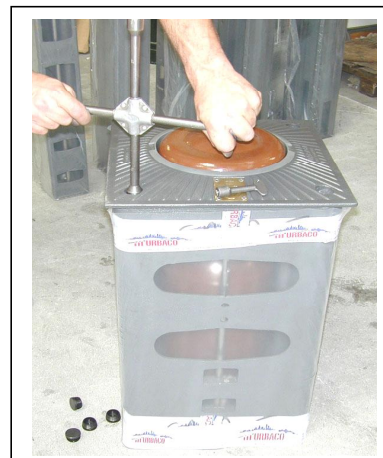


Cut off the bottom of the plastic wrap (to allow evacuation of the water through the drain). During the operation, an assistant maintains the bollards tilted on one side and then on the other.



THE PLASTIC WRAP MUST BE LEFT IN PLACE TO EASE FIXING OF THE BOLLARD WITH POLYURETHANE FOAM

On the cover, remove the plastic caps with a screwdriver and undo the 4 bolts. Remove the cover. Caution it is heavy! Remember the sense as it has a direction to be put back in place (check the key hole, over the lock bar).



1.8 Installing



In view of the weight of the bollard (up to lbs 450), and of the risks during installation, the staff in charge must be cautious with all following procedures and respect the safety of the people (safety shoes for example). Traffic must also be interrupted and signs be placed in view (securization installed at the beginning of site works).

The bollard will be put in place with the appropriate equipment (crane or equivalent) whose strength is over lbs 1200.

Two cover bolts diametrically opposed will be replaced by diam. 12mm/3" "pig tail" hooks with check nuts and washers.

State of the art, sling raising with the appropriate equipment.



Place the casing in the lost casing

- **When rectangular, 2 options, at 180°.**

To choose: position of key and/or place of coat of arms.

- **When square, 2 options at 180°** to respect the traffic flow signs on casing as well as possible passage of wires.

To choose, mind the key (the bronze flap must match the top of the lock bar in bollard's casing) or possible coat of arms on bollard.

Make adequate hook-ups.

"Secure" casing with polyurethane foam (not incl.) in the 4 corners (between casing and primary casing). Cut off the extra foam when dry.

1.9 Finishing

Before repositioning the cover, arrange the surrounding surface finish (asphalt, paving stones...) and carry out the controls detailed in §2.1 next page.

2 LAUNCHING

2.1 Controls of the bollard

Carry out the control operations described in detail in the specific document: "Maintenance"

- Locking,
- Plastic ring,
- Sliding rails,
- Gas jack,
- Efficiency of the drain (except is done as in 1.6).

Replace the cover on the casing respecting the orientation (the key hole must match the top of the lock bar in bollard's casing). After tightening the 4 bolts, replace the plastic caps with a rubber mallet.

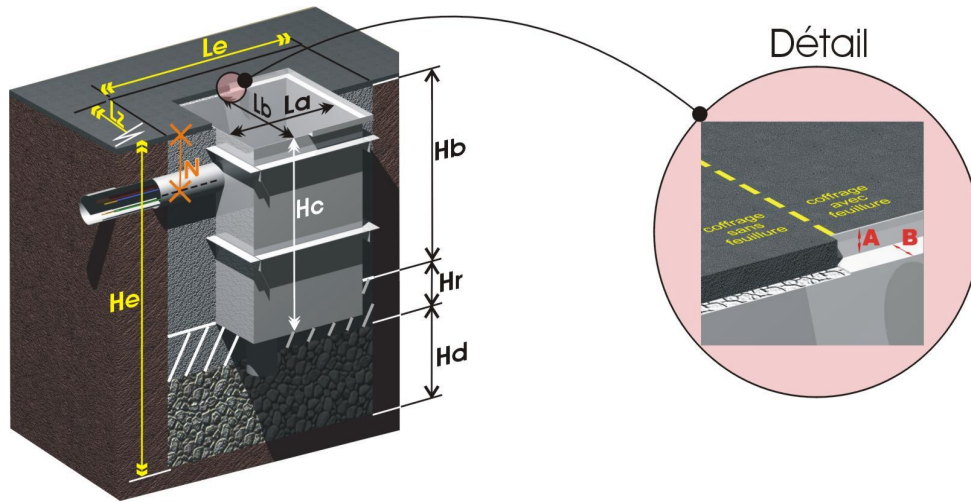
2.2 Tests of operation

- 1) To raise the bollard, turn the key counter-clockwise (the captive key is freed).
- 2) To lower the bollard, turn the key clockwise (the captive key is now "captive"), push on the top of the bollard until it clicks locked in the lower position.
For the tall bollards, first push for your hands until the intermediary locked, then turn one more ¼ turn and lower with foot.
- 3) Repeat the operation three times.

Installation is over. You can remove the safety protections.

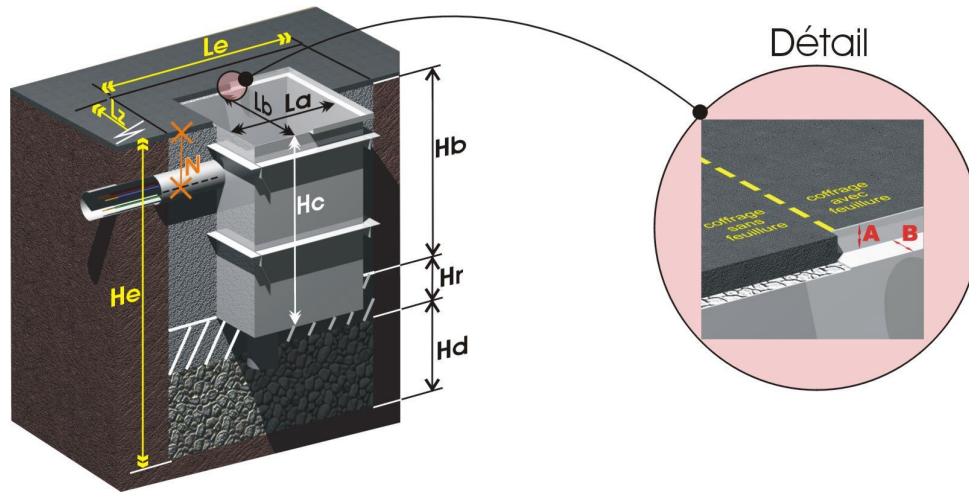
3 SITE WORKS MEASUREMENTS IN INCHES

NOTA : all measurements in the following tables are in inches.



Semi automatic high security bollards

BOLLARD				LOST CASING				Excavation			Base	Drain	Pipe	Détail
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N	A-B
Cylinder	9,84	19,7	BMCLDF50H	BOCOFF0820	16,7	16,7	32,3	32,5	32,5	52	7,874	11,8	13,2	0,8-1
Cylinder	9,84	27,6	BMCLDF70H	BOCOFF1300	16,7	16,7	51,2	32,5	32,5	70,9	7,874	11,8	15,4	1-1
Sénat	9,84	27,6	BMSNTFA1	BOCOFF0880	16,7	16,7	34,6	32,5	32,5	54,3	7,874	11,8	8,27	1-1



BOLLARD				LOST CASING			Excavation			BASE	Drain	Pipe	Détail	
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N	A-B
Acropole	9,8	20,5	BMACEF50A	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Acropole	9,8	23,6	BMACEF60	BOCOFF0855	16,7	16,7	33,7	32,5	32,5	53,3	7,9	11,8	6,5	s.o.
Acropole	9,8	27,6	BMACEF70	BOCOFF0855	16,7	16,7	33,7	32,5	32,5	53,3	7,9	11,8	6,5	s.o.
Cabestan	9,8	11,8	BMCBTF30	BOCOFF0475	16,7	16,7	18,7	32,5	32,5	38,4	7,9	11,8	6,5	s.o.
Cabestan	9,8	16,5	BMCBTF42	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Cabestan	9,8	20,5	BMCBTF52	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Catalane	9,8	19,7	BMATNF	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Cylinder	9,8	19,7	BMCLPF50T	BOCOFF0700	16,7	16,7	27,6	32,5	32,5	47,2	7,9	11,8	7,1	0,6-1
Cylinder	9,8	23,6	BMCLPF60	BOCOFF0880	16,7	16,7	34,6	32,5	32,5	54,3	7,9	11,8	8,3	1-1
Cylinder	9,8	27,6	BMCLPF70	BOCOFF0880	16,7	16,7	34,6	32,5	32,5	54,3	7,9	11,8	8,3	1-1
Cylinder	9,8	20,5	BMCLPF50TB	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Cylinder	9,8	24,0	BMCLPF60B	BOCOFF0855	16,7	16,7	33,7	32,5	32,5	53,3	7,9	11,8	6,5	s.o.
Grand Lyon	9,8	11,8	BMGRLF30	BOCOFF0475	16,7	16,7	18,7	32,5	32,5	38,4	7,9	11,8	6,5	s.o.
Grand Lyon	9,8	20,5	BMGRLF50	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Narbonne	9,8	19,7	BMNRBF	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Ovalie	400x200	500,0	BMOVLH50B	BOCOFF0700	16,7	16,7	27,6	32,5	32,5	47,2	7,9	11,8	7,1	0,6-1
Ovalie	400x200	500,0	BMOVLH50G	BOCOFF0700	16,7	16,7	27,6	32,5	32,5	47,2	7,9	11,8	7,1	0,6-1
Ovalie	120x80	500,0	BMOVLD50G	BOCOFD0670										
Ovalie	120x80	750,0	BMOVLD75G	BOCOFD0960										
Vendôme	9,8	19,7	BMVDMF50IA	BOCOFF0700	16,7	16,7	27,6	32,5	32,5	47,2	7,9	11,8	7,1	0,6-1
Vendôme	9,8	23,6	BMVDMF60I	BOCOFF0880	16,7	16,7	34,6	32,5	32,5	54,3	7,9	11,8	8,3	1-1
Villeneuve	9,8	11,8	BMVNVF30	BOCOFF0475	16,7	16,7	18,7	32,5	32,5	38,4	7,9	11,8	6,5	s.o.
Villeneuve	9,8	21,7	BMVNVF55	BOCOFF0665	16,7	16,7	26,2	32,5	32,5	45,9	7,9	11,8	6,5	s.o.
Villeneuve	9,8	25,6	BMVNVF65	BOCOFF0855	16,7	16,7	33,7	32,5	32,5	53,3	7,9	11,8	6,5	s.o.

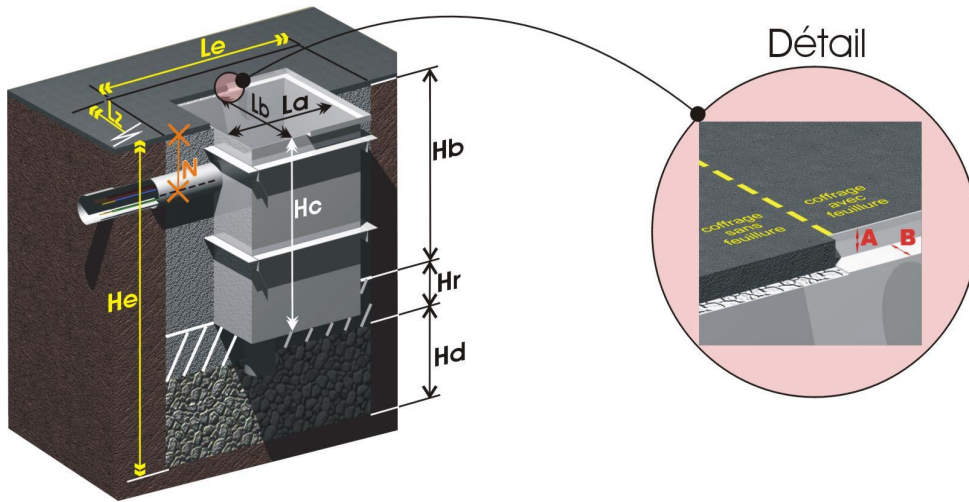
☞ Semi automatic « Tradition » bollards

Semi automatic « Monobloc » bollards

BOLLARD				LOST CASING			Excavation			Base	Drain	Pipe	
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N
Acropole	9,8	19,7	BMACEF50	BOCOFF0671	14,1	16,7	26,5	29,8	32,4	46,2	7,9	11,8	6,8
Acropole	9,8	29,5	BMACEF75	BOCOFF0954	14,1	16,7	37,6	29,8	32,4	57,3	7,9	11,8	6,8
Acropole	7,9	19,7	BMACEE50	BOCOFE0664	11,3	14,1	26,2	27,1	29,8	45,9	7,9	11,8	6,0
Acropole	7,9	29,5	BMACEE75	BOCOFE00959	11,3	14,1	37,8	27,1	29,8	57,5	7,9	11,8	6,0
Acropole	4,7	19,7	BMACED50	BOCOFD0667	8,2	10,8	26,3	23,9	26,6	46,0	7,9	11,8	7,1
Acropole	4,7	29,5	BMACED75	BOCOFD0960	8,2	10,8	37,9	23,9	26,6	57,5	7,9	11,8	7,1
Athéna	9,8	19,7	BMATNF50	BOCOFF0671	14,1	16,7	26,5	29,8	32,4	46,2	7,9	11,8	6,8
Athéna	9,8	29,5	BMATNF75	BOCOFF0954	14,1	16,7	37,6	29,8	32,4	57,3	7,9	11,8	6,8
Athéna	7,9	19,7	BMATPE50	BOCOFE0664	11,3	14,1	26,2	27,1	29,8	45,9	7,9	11,8	6,0
Athéna	7,9	29,5	BMATPE75	BOCOFE0959	11,3	14,1	37,8	27,1	29,8	57,5	7,9	11,8	6,0
Athéna	4,7	19,7	BMATPD50	BOCOFD0667	8,2	10,8	26,3	23,9	26,6	46,0	7,9	11,8	7,1
Athéna	4,7	29,5	BMATPD75	BOCOFD0960	8,2	10,8	37,9	23,9	26,6	57,5	7,9	11,8	7,1
Chateauneuf	9,8	19,7	BMCHPF50	BOCOFF0671	14,1	16,7	26,5	29,8	32,4	46,2	7,9	11,8	6,8
Chateauneuf	9,8	29,5	BMCHPF75	BOCOFF0954	14,1	16,7	37,6	29,8	32,4	57,3	7,9	11,8	6,8
Chateauneuf	7,9	19,7	BMCHPE50	BOCOFE0664	11,3	14,1	26,2	27,1	29,8	45,9	7,9	11,8	6,0
Chateauneuf	7,9	29,5	BMCHPE75	BOCOFE0959	11,3	14,1	37,8	27,1	29,8	57,5	7,9	11,8	6,0
Chateauneuf	4,7	19,7	BMCHPD50	BOCOFD0667	8,2	10,8	26,3	23,9	26,6	46,0	7,9	11,8	7,1
Chateauneuf	4,7	29,5	BMCHPD75	BOCOFD0960	8,2	10,8	37,9	23,9	26,6	57,5	7,9	11,8	7,1
Chateauneuf	4,7	21,7	BMCHTD50	BOCOFD0630	8,2	10,8	24,9	23,9	26,6	44,6	7,9	11,8	7,1
Chateauneuf	4,7	31,5	BMCHTD75	BOCOFD0920	8,2	10,8	36,3	23,9	26,6	56,0	7,9	11,8	7,1
Cylinder	9,8	19,7	BMCLPF50	BOCOFF0671	14,1	16,7	26,5	29,8	32,4	46,2	7,9	11,8	6,8
Cylinder	9,8	29,5	BMCLPF75	BOCOFF0954	14,1	16,7	37,6	29,8	32,4	57,3	7,9	11,8	6,8
Cylinder	7,9	19,7	BMCLPE50	BOCOFE0664	11,3	14,1	26,2	27,1	29,8	45,9	7,9	11,8	6,0
Cylinder	7,9	29,5	BMCLPE75	BOCOFE0959	11,3	14,1	37,8	27,1	29,8	57,5	7,9	11,8	6,0
Cylinder	4,7	19,7	BMCLPD50	BOCOFD0667	8,2	10,8	26,3	23,9	26,6	46,0	7,9	11,8	7,1
Cylinder	4,7	29,5	BMCLPD75	BOCOFD0960	8,2	10,8	37,9	23,9	26,6	57,5	7,9	11,8	7,1
Vendôme	9,8	19,7	BMVDMF50I	BOCOFF0671	14,1	16,7	26,5	29,8	32,4	46,2	7,9	11,8	6,8
Vendôme	9,8	29,5	BMVDMF75I	BOCOFF0954	14,1	16,7	37,6	29,8	32,4	57,3	7,9	11,8	6,8
Vendôme	7,9	19,7	BMVDME50I	BOCOFE0664	11,3	14,1	26,2	27,1	29,8	45,9	7,9	11,8	6,0
Vendôme	7,9	29,5	BMVDME75I	BOCOFE0959	11,3	14,1	37,8	27,1	29,8	57,5	7,9	11,8	6,0
Vendôme	4,7	19,7	BMVDMD50I	BOCOFD0667	8,2	10,8	26,3	23,9	26,6	46,0	7,9	11,8	7,1
Vendôme	4,7	29,5	BMVDMD75I	BOCOFD0960	8,2	10,8	37,9	23,9	26,6	57,5	7,9	11,8	7,1

4 SITE WORKS MEASUREMENTS IN MILLIMETERS

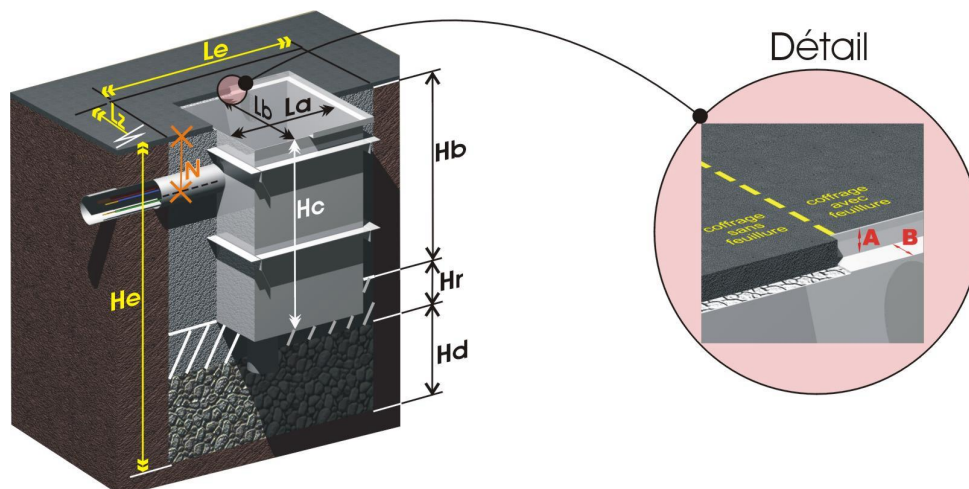
NOTA : all measurements in the following tables are in millimeters.



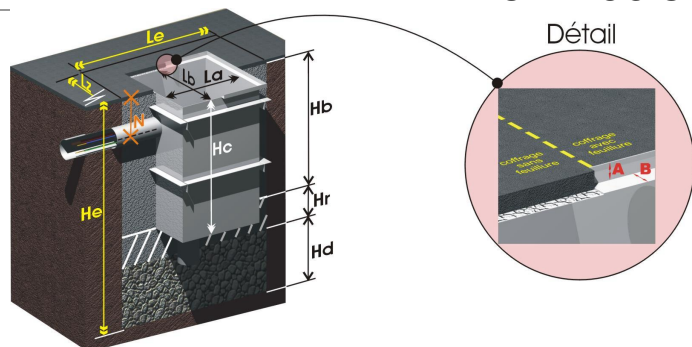
Semi automatic high security bollards

BOLLARD				LOST CASING			Excavation			Base	Drain	Pipe	Détail	
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N	A-B
Cylinder	250	500	BMCLDF50H	BOCOFF0820	425	425	820	825	825	1320	200	300	335	20-25
Cylinder	250	700	BMCLDF70H	BOCOFF1300	425	425	1300	825	825	1800	200	300	390	25-25
Sénat	250	700	BMSNTFA1	BOCOFF0880	425	425	880	825	825	1380	200	300	210	25-25

Semi automatic « Tradition » bollards =>



BOLLARD				LOST CASING			Excavation			Base	Drain	Pipe	Détail	
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N	A-B
Acropole	250	520	BMACEF50A	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Acropole	250	600	BMACEF60	BOCOFF0855	425	425	855	825	825	1355	200	300	165	s.o.
Acropole	250	700	BMACEF70	BOCOFF0855	425	425	855	825	825	1355	200	300	165	s.o.
Cabestan	250	300	BMCBTF30	BOCOFF0475	425	425	475	825	825	975	200	300	165	s.o.
Cabestan	250	420	BMCBTF42	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Cabestan	250	520	BMCBTF52	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Catalane	250	500	BMATNF	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Cylinder	250	500	BMCLPF50T	BOCOFF0700	425	425	700	825	825	1200	200	300	180	15-25
Cylinder	250	600	BMCLPF60	BOCOFF0880	425	425	880	825	825	1380	200	300	210	25-25
Cylinder	250	700	BMCLPF70	BOCOFF0880	425	425	880	825	825	1380	200	300	210	25-25
Cylinder	250	520	BMCLPF50TB	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Cylinder	250	610	BMCLPF60B	BOCOFF0855	425	425	855	825	825	1355	200	300	165	s.o.
Grand Lyon	250	300	BMGRLF30	BOCOFF0475	425	425	475	825	825	975	200	300	165	s.o.
Grand Lyon	250	520	BMGRLF50	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Narbonne	250	500	BMNRBF	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Ovalie	400x200	500	BMOVLH50B	BOCOFF0700	425	425	700	825	825	1200	200	300	180	15-25
Ovalie	400x200	500	BMOVLH50G	BOCOFF0700	425	425	700	825	825	1200	200	300	180	15-25
Ovalie	120x80	500	BMOVLD50G	BOCOFD0670										
Ovalie	120x80	750	BMOVLD75G	BOCOFD0960										
Vendôme	250	500	BMVDMF50IA	BOCOFF0700	425	425	700	825	825	1200	200	300	180	15-25
Vendôme	250	600	BMVDMF60I	BOCOFF0880	425	425	880	825	825	1380	200	300	210	25-25
Villeneuve	250	300	BMVNVF30	BOCOFF0475	425	425	475	825	825	975	200	300	165	s.o.
Villeneuve	250	550	BMVNVF55	BOCOFF0665	425	425	665	825	825	1165	200	300	165	s.o.
Villeneuve	250	650	BMVNVF65	BOCOFF0855	425	425	855	825	825	1355	200	300	165	s.o.



Semi automatic « Monobloc » bollards

BOLLARD				LOST CASING			Excavation			Base	Drain	Pipe	
Modèle	Ø	Haut.	Réf.	Réf.	La	Lb	Hc	Le	Lz	He	Hr	Hd	N
Acropole	250	500	BMACEF50	BOCOFF0671	357	423	673	757	823	1173	200	300	172
Acropole	250	750	BMACEF75	BOCOFF0954	357	423	956	757	823	1456	200	300	172
Acropole	200	500	BMACEE50	BOCOFE0664	288	358	666	688	758	1166	200	300	154
Acropole	200	750	BMACEE75	BOCOFE00959	288	358	961	688	758	1461	200	300	154
Acropole	120	500	BMACED50	BOCOFD0667	208	275	669	608	675	1169	200	300	180
Acropole	120	750	BMACED75	BOCOFD0960	208	275	962	608	675	1462	200	300	180
Athéna	250	500	BMATNF50	BOCOFF0671	357	423	673	757	823	1173	200	300	172
Athéna	250	750	BMATNF75	BOCOFF0954	357	423	956	757	823	1456	200	300	172
Athéna	200	500	BMATPE50	BOCOFE0664	288	358	666	688	758	1166	200	300	154
Athéna	200	750	BMATPE75	BOCOFE0959	288	358	961	688	758	1461	200	300	154
Athéna	120	500	BMATPD50	BOCOFD0667	208	275	669	608	675	1169	200	300	180
Athéna	120	750	BMATPD75	BOCOFD0960	208	275	962	608	675	1462	200	300	180
Chateaneuf	250	500	BMCHPF50	BOCOFF0671	357	423	673	757	823	1173	200	300	172
Chateaneuf	250	750	BMCHPF75	BOCOFF0954	357	423	956	757	823	1456	200	300	172
Chateaneuf	200	500	BMCHPE50	BOCOFE0664	288	358	666	688	758	1166	200	300	154
Chateaneuf	200	750	BMCHPE75	BOCOFE0959	288	358	961	688	758	1461	200	300	154
Chateaneuf	120	500	BMCHPD50	BOCOFD0667	208	275	669	608	675	1169	200	300	180
Chateaneuf	120	750	BMCHPD75	BOCOFD0960	208	275	962	608	675	1462	200	300	180
Chateaneuf	120	550	BMCHTD50	BOCOFD0630	208	275	632	608	675	1132	200	300	180
Chateaneuf	120	800	BMCHTD75	BOCOFD0920	208	275	922	608	675	1422	200	300	180
Cylinder	250	500	BMCLPF50	BOCOFF0671	357	423	673	757	823	1173	200	300	172
Cylinder	250	750	BMCLPF75	BOCOFF0954	357	423	956	757	823	1456	200	300	172
Cylinder	200	500	BMCLPE50	BOCOFE0664	288	358	666	688	758	1166	200	300	154
Cylinder	200	750	BMCLPE75	BOCOFE0959	288	358	961	688	758	1461	200	300	154
Cylinder	120	500	BMCLPD50	BOCOFD0667	208	275	669	608	675	1169	200	300	180
Cylinder	120	750	BMCLPD75	BOCOFD0960	208	275	962	608	675	1462	200	300	180
Vendôme	250	500	BMVDMF50I	BOCOFF0671	357	423	673	757	823	1173	200	300	172
Vendôme	250	750	BMVDMF75I	BOCOFF0954	357	423	956	757	823	1456	200	300	172
Vendôme	200	500	BMVDME50I	BOCOFE0664	288	358	666	688	758	1166	200	300	154
Vendôme	200	750	BMVDME75I	BOCOFE0959	288	358	961	688	758	1461	200	300	154
Vendôme	120	500	BMVDMD50I	BOCOFD0667	208	275	669	608	675	1169	200	300	180
Vendôme	120	750	BMVDMD75I	BOCOFD0960	208	275	962	608	675	1462	200	300	180

