










STREET FURNITURE

2018-2019



STANDARD RAL AND DB COLOURS

No surcharge. RAL colours with matte microstructure.

	RAL 3020 Traffic red		RAL 9005 Jet black
	RAL 6005 Moss green		RAL 9006 White aluminium
	RAL 6009 Fir green		RAL 9016 Traffic white
	RAL 7016 Anthracite grey		
	RAL 7035 Light grey		DB 703 Glimmer grey

FURTHER 184 RAL AND 13 DB COLOURS

possible with a surcharge (no surcharge with supply of at least 10 pieces)

							
RAL 1000	RAL 1001	RAL 1002	RAL 1003	RAL 1004	RAL 1005	RAL 1006	RAL 1007
							
RAL 1011	RAL 1012	RAL 1013	RAL 1014	RAL 1015	RAL 1016	RAL 1017	RAL 1018
							
RAL 1019	RAL 1020	RAL 1021	RAL 1023	RAL 1024	RAL 1027	RAL 1028	RAL 1032
							
RAL 1033	RAL 1034	RAL 1037	RAL 2000	RAL 2001	RAL 2002	RAL 2003	RAL 2004
							
RAL 2008	RAL 2009	RAL 2010	RAL 2011	RAL 2012	RAL 3000	RAL 3001	RAL 3002
							
RAL 3003	RAL 3004	RAL 3005	RAL 3007	RAL 3009	RAL 3011	RAL 3012	RAL 3013
							
RAL 3014	RAL 3015	RAL 3016	RAL 3017	RAL 3018	RAL 3022	RAL 3027	RAL 3031
							
RAL 4001	RAL 4002	RAL 4003	RAL 4004	RAL 4005	RAL 4006	RAL 4007	RAL 4008
							
RAL 4009	RAL 4010	RAL 5000	RAL 5001	RAL 5002	RAL 5003	RAL 5004	RAL 5005
							
RAL 5007	RAL 5008	RAL 5009	RAL 5010	RAL 5011	RAL 5012	RAL 5013	RAL 5014
							
RAL 5015	RAL 5017	RAL 5018	RAL 5019	RAL 5020	RAL 5021	RAL 5022	RAL 5023
							
RAL 5024	RAL 6000	RAL 6001	RAL 6002	RAL 6003	RAL 6004	RAL 6006	RAL 6007
							
RAL 6008	RAL 6010	RAL 6011	RAL 6012	RAL 6013	RAL 6014	RAL 6015	RAL 6016
							
RAL 6017	RAL 6018	RAL 6019	RAL 6020	RAL 6021	RAL 6022	RAL 6024	RAL 6025
							
RAL 6026	RAL 6027	RAL 6028	RAL 6029	RAL 6032	RAL 6033	RAL 6034	RAL 7000
							
RAL 7001	RAL 7002	RAL 7003	RAL 7004	RAL 7005	RAL 7006	RAL 7008	RAL 7009
							
RAL 7010	RAL 7011	RAL 7012	RAL 7013	RAL 7015	RAL 7021	RAL 7022	RAL 7023
							
RAL 7024	RAL 7026	RAL 7030	RAL 7031	RAL 7032	RAL 7033	RAL 7034	RAL 7036
							
RAL 7037	RAL 7038	RAL 7039	RAL 7040	RAL 7042	RAL 7043	RAL 7044	RAL 7045
							
RAL 7046	RAL 7047	RAL 8000	RAL 8001	RAL 8002	RAL 8003	RAL 8004	RAL 8007
							
RAL 8008	RAL 8011	RAL 8012	RAL 8014	RAL 8015	RAL 8016	RAL 8017	RAL 8019
							
RAL 8022	RAL 8023	RAL 8024	RAL 8025	RAL 8028	RAL 9001	RAL 9002	RAL 9003
							
RAL 9004	RAL 9007	RAL 9010	RAL 9011	RAL 9018			
							
DB 301	DB 310	DB 501	DB 502	DB 503	DB 510	DB 601	DB 602
							
DB 603	DB 610	DB 701	DB 702	DB 704			

Colour presentation is not binding

All presentations and descriptions in the brochure, as well as the product models and properties, including the 3p-Technology, are given for information purposes only.

Due to the unpredictability of daily usage, no guarantee can be given for the described product properties. All products have been carefully developed for a tough everyday use and are built accordingly robust.

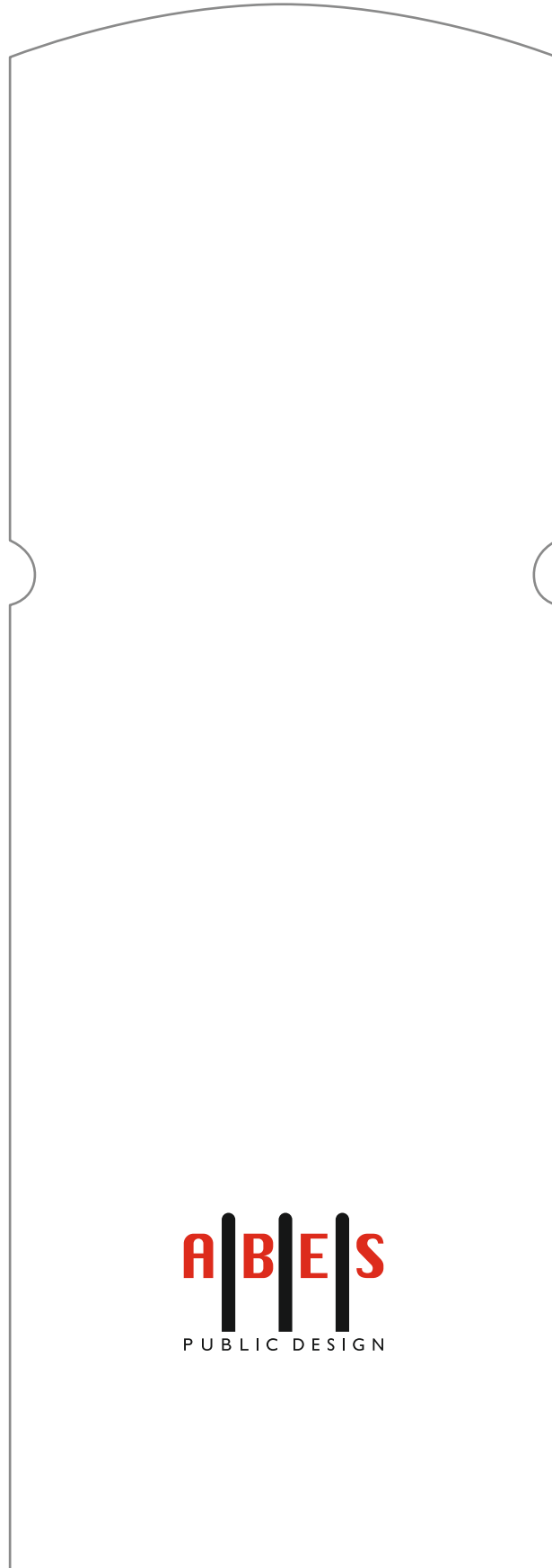
We reserve the right to make technical or optical amendments without prior notice at any given time or when we believe this serves the further development and improvement of our products.

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Catalogue design: Doris Schäfer

Photography: Kai Funk, Sebastian Gross, Guy Wolff and ABES

Printed: March 2018





Project: Vianden, Luxembourg | Bench 100

Innovative technology combined with unique design

Founded in 1994, ABES focuses on the design of urban furniture and elements for public space since 1999.

ABES' extraordinary, patented 3p-Technology system was developed with the customer's needs in mind. This advanced technology allows easy, time-saving and low-cost repair of public furniture. The main idea is to connect bollards with a junction piece having a predetermined breaking point. If damaged, object and foundation stay intact, and only the junction piece has to be replaced on site.

ABES offers unique products with an individual character. They attract attention, inspire people, and encourage viewers to engage in a variety of opinions and discussions, which creates their uniqueness. This has been confirmed by the "Design Centre North Rhine-Westphalia" by giving the red dot award to the Bicycle-Stand 450-1 (formerly Signum I) and the Bollard 001-1 (formerly Metropol 520 5RK), which are built using 3p-Technology. We use a

variety of first-class materials for ABES products.

Apart from galvanised or stainless steel and selected woods, ABES is increasingly using cast iron or cast aluminium. These materials, which have been somewhat forgotten, have special characteristics so that regular welding techniques cannot be used for them.

Last but not least, cast technology is extraordinarily environmentally friendly because 95% of the materials originate from recycled resources, and the products themselves can be almost completely recycled. When choosing these raw materials, you are helping our environment by saving scarce resources and avoiding waste production.

Discover the aesthetically and technically innovative ABES products for yourself.



reddot

Bicycle-Stand 450-1



The ABES Online-Shop

The following options are available for the realisation of your plannings:

- Search easily the right furniture for your project and then order it conveniently online.
- You can summarize your selection including all prices in a PDF file and then print them out as an offer.
- If you want an offer from us, please fill out the corresponding form.
- Important: Payment is always due against invoice. We do not provide prepayment or credit card payment.

On the individual product pages, you will find all the tender specifications and the most important drawings, including installation instructions for the 3p-Technology for download.



ABES ONLINE-SHOP:
WWW.ABES-ONLINE.COM

Advantages at a glance

- A classic shopping cart to hold all your items
- Price requests
- Wish list
- Feedback options
- Purchases on account
- Interactive 3p-Technology cost comparison
- Assembly instructions (e. g. for 3p-Technology)
- Tender texts

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Project: Orscholz-Cloef, Germany | Bench 144

04

WASTE CONTAINERS

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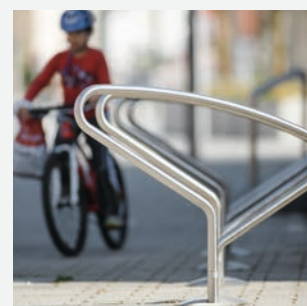


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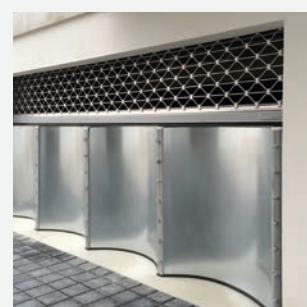


07

HWS-MOBIL

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Flood prevention



**NEW
RELEASES
2018**

BOLLARD 069
Cast aluminium

054



BOLLARD 070
Cast aluminium

054



BOLLARD 071
Cast aluminium

055



BOLLARD 076
Steel

062



BOLLARD 089
Steel | Stainless steel

058



BOLLARD 074
Steel | Stainless steel

058



BOLLARD 059
Steel

060



LIGHTING-BOLLARD 265 LED
Steel

074



LIGHTING-BOLLARD 266 LED
Steel

075



TREE-STAND 936
Steel

125



BICYCLE-STAND 470

Steel | Stainless steel

120


BICYCLE-STAND 471

Steel | Stainless steel

121


BICYCLE-STAND 472

Steel | Stainless steel

119


BICYCLE-STAND 453 LED

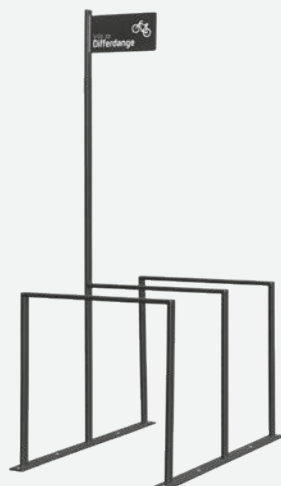
Steel | Stainless steel

116


BICYCLE-STAND 473

Steel | Stainless steel

118


**JUNCTION PIECE
WITHOUT PREDETERMINED
BREAKING POINT**

3p-Technologie

011/013



3p-Technologie

- Bollard/Waste container/Bench is removable
- Does not give way to force
- Provides solid protection

BENCH 146-1 AND 146-2

Cast aluminium

081


Screw with special head
**ABES BOLT -
TEARDROP SHAPED**

3p-Technologie

013



3p-Technologie

- Screws can only be loosened with a special tool
- Unauthorised removal is very time-consuming



What is the ABES 3p-Technology?

Help through ABES 3p-Technology A complete repairs system

ABES has developed a system enabling defective bollards to be replaced very quickly in just a few steps. The patented 3p-Technology revolves around the junction piece with predetermined breaking point. Conventional bollards and their foundations suffer extreme damage or are totally destroyed when hit with force.

It's an entirely different story for bollards equipped with 3p-Technology: The junction piece gives way and breaks at the predetermined breaking point. Apart from a few scratches, all parts – including foundation and pavement – remain intact. The junction piece is replaced, and the bollard is ready to use again within minutes – without losing any of its stability.

It's not just bollards offering flexibility and easy assembly

While the 3p-Technology was originally developed for bollards, it is today also used in other street furniture, such as bench systems, bins and LED illuminated bollards, all of which enable the same easy assembly and maintenance.

In addition to simple maintenance, the system also offers further advantage:

Objects featuring the 3p-Technology are removable, giving you lots of freedom when it comes to design and layout. Bollards or benches can be easily removed during large events like Christmas markets or public gatherings, and reassembled afterwards in the blink of an eye.

All 3p-Technology products can similarly replace each other: the junction piece can be fitted onto any base, meaning you can easily replace a bin with a bollard if necessary.

Only the 3p-Technology can offer such design freedom!

The problem

Defective bollards on the street

Crooked or broken bollards can be seen in every city. These pictures are certainly quite familiar. The exchange of conventional bollards is laborious, it takes a lot of manpower and time. This results in high costs.



Enter your repair costs and compare:

<https://abes-online.com/en/3p-technology/3p-cost-comparison/>

The solution

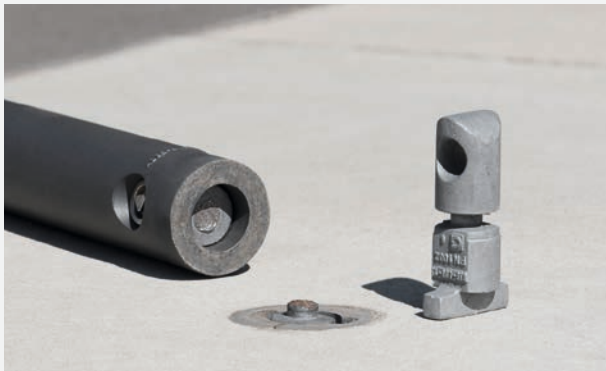


Bollards with patented 3p-Technology

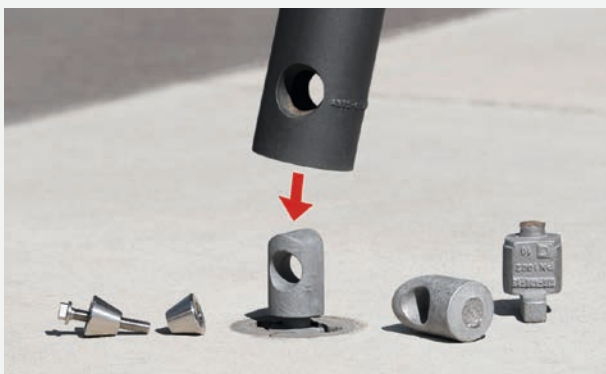
The patented ABES 3p-Technology is the solution. If the bollard has been rammed or knocked over by a vehicle, the junction piece with predetermined breaking point gives way.



Bollard hit by a car.



The replaceable junction piece breaks at the predetermined breaking point. The bollard and foundation with base generally remain intact.



The broken junction piece is replaced by a new one, and the bollard can be immediately reassembled.



More informations and videos:
<https://abes-online.com/en/3p-technologie/>

Advantages at a glance

Cost advantages in case of damage

- EUR 29.40 for a replaceable junction piece with breaking point
- Less than 3 minutes working time
- Bollards, foundations with floor sleeves and plaster usually remain intact
- Costs reduced by up to 90 %

Mounting advantages

- Quick exchange with simple tools on site
- Removable
- Absolutely accurate and firm

Simplified storage (same parts)

One single ground shell for all products with 3p-Technology

- Easy stockpiling
- Less storage space
- Lower storage costs



All ABES bollards, lighting bollards, waste containers, etc. can be mounted alternately on the same ground shell.







For firefighters


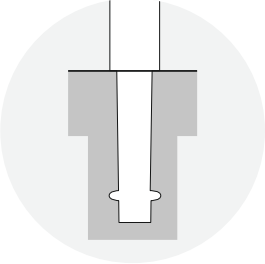


3p-High

For many bollard models, the 3p-Technology aperture can be moved further upwards. This way it is possible to open and close the locking mechanism with long fire brigade triangular keys without offsets. This version requires an extended junction piece.

At small diameters the clamping bolts may protrude slightly. In case of doubts, please contact us.



	With 3p-Technology		
	with predetermined breaking point		
	<p>Junction piece <u>without</u> anti-roll device 000.008 (Standard)</p> 	<p>Junction piece <u>with</u> anti-roll device 000.013</p> 	<p>Junction piece <u>with steel spring (3p-Flex)</u> 000.015</p> 
Properties when hit by a vehicle	<ul style="list-style-type: none"> Breaks at the predetermined breaking point 	<ul style="list-style-type: none"> Breaks at the predetermined breaking point Metal rod prevents the bollard from rolling away (e.g. on slopes) 	<ul style="list-style-type: none"> 8–10° flexure, bollard returns to original position after impact The predetermined breaking point yields if the spring is overexpanded
Recommended areas of application	<ul style="list-style-type: none"> Parked cars/Stationary traffic Inner-city traffic Parking places 	<ul style="list-style-type: none"> On slopes Parked cars/Stationary traffic Inner-city traffic Parking places 	<ul style="list-style-type: none"> Parked cars/Stationary traffic Delivery traffic Parking places
Advantages	<ul style="list-style-type: none"> Flexible, as removable (with predetermined breaking point) Cheap to repair after impacts 		
Disadvantages	None		
Removable	Yes		
Repair costs	Minor		
Vehicle damage	Minor to medium		
			

With 3p-Technology	Fixed installation
without predetermined breaking point	
Junction piece <u>without</u> predetermined breaking point 000.034 	Fixed mounting (concrete embedment) 
<ul style="list-style-type: none"> ▪ High resistance to impacts (suitable for protecting objects and people) 	<ul style="list-style-type: none"> ▪ High resistance to impacts
<ul style="list-style-type: none"> ▪ <u>Protecting people/objects</u> ▪ May be used to protect against terror attacks when placed in several rows behind one another 	-
<ul style="list-style-type: none"> ▪ Flexible, as removable (with predetermined breaking point) ▪ High resistance to impacts 	-
None	<ul style="list-style-type: none"> ▪ <u>Expensive to repair: Bollard, foundation/pavement damage, patched spots</u> ▪ Not flexible, as fixed installation
Yes	No
High	High
High	High
	

An overview of the 3p-Technology

Street furniture with 3p-Technology comes in all kinds of versions, with each offering specific advantages depending the purpose.

(LED) bollards and bins with predetermined breaking point are very cheap to repair. If they get damaged, the junction piece breaks at the predetermined breaking point, and can be very quickly replaced. The pavement does not generally require any work.

Street-furniture objects with predetermined breaking point are also very flexible to replace. If necessary, they can be quickly and easily removed or replaced with other street furniture.

If you are looking to provide particular protection for certain areas, we recommend bollards without predetermined breaking points. Not only are they flexible and cheap to buy, they are also highly robust. Unlike bollards with predetermined breaking points, the junction piece does not break. This makes the bollard a stable obstacle. This version – especially if two or three rows of bollards are set up behind one another – is particularly useful for protecting people and objects, e.g. to prevent vehicles from driving into pedestrian zones or areas close to pedestrians. Please keep in mind, however, that the foundations, bollards, ground pods and paving stones are very likely to be severely damaged or destroyed.

As you can see, the options offered by 3p-Technology are as varied as the requirements placed on street furniture. In addition to the versions with and without predetermined breaking points, there are also 3p-Technology products with flexible steel springs and with or without anti-rollaway features. Standard fixed installation is of course also possible.

Contact us; we'll be glad to advise you on the various 3p-Technology options.

The 3p-Technology and its individual parts



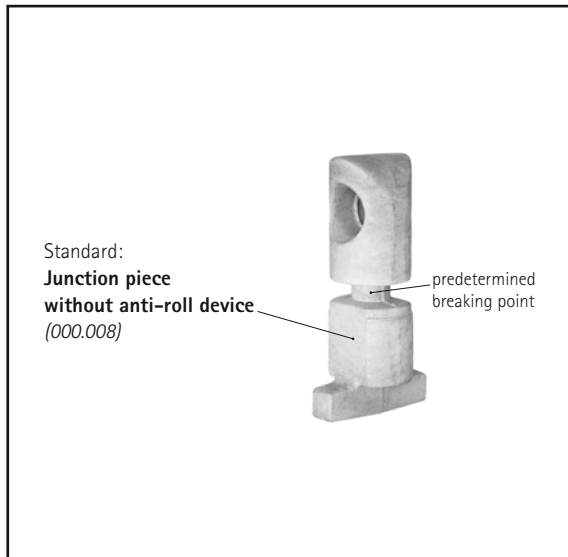
CLAMPING CONE SET with hex head screw

- Tightens the system firmly

Consisting of: M12 hexagonal head screw, N1 clamping cone without internal thread, N2 clamping cone with internal thread or N1 with M12 nut

Material: stainless steel 1.4301

Before installation, it's recommended to grease hex head screw and nut with a special ceramic paste. Please inquire! We will be happy to advise you.



JUNCTION PIECE WITH PREDETERMINED BREAKING POINT

without anti-roll device

- Links bollard to the ground shell
- Breaks at the predetermined breaking point when damaged by a vehicle
- Can be instantly replaced if damaged

Material: cast iron, galvanised



GROUND SHELL 300 mm

- Extremely robust component for long-lasting concrete embedment

Material: cast iron, galvanised

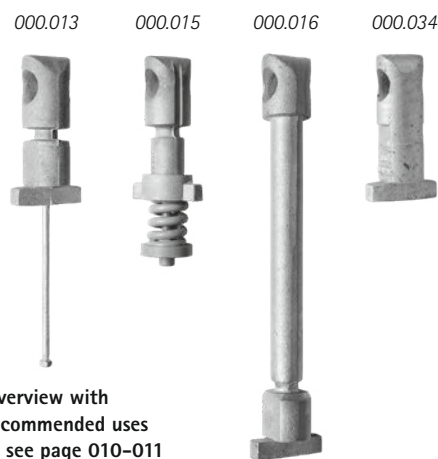
Note: In order to prevent the interruption of the construction process, the ground shells can be delivered in advance, if requested.

Options:

- 000.010 Clamping cone set with triangular head screw**
- 000.021 Clamping cone set with lengthened clamping cone (N5)**
Additional protection by a padlock in order to prevent unauthorised removal (e.g. locking with padlock provided with a B „firefighter“ key), possible use with triangular head screw or with hex head screw
- 000.035 ABES Bolt – Teardrop shaped (NEW 2018)**
Screw with special head, with droplet-shaped hole
Can only be opened with optional special tool so as to prevent it from being opened without authorisation using standard tools (Utility model protection)

**Options:**

- 000.013 Junction piece with anti-roll device**
The metal rod prevents the rolling away of the bollard
- 000.015 Junction piece with steel spring (3p-Flex)**
The bollard returns to its initial position after impact (8-10° tilt), and only breaks if the breaking load is exceeded
- 000.016 Junction piece with extended connection (3p-High)**
Allows to open and close the locking mechanism with long fire brigade triangular keys without offsets (Details see page 009)
- 000.034 Junction piece without predetermined breaking point (NEW 2018)**
Solid protection for people and objects

**Options:**

- 000.003 Ground shell 500 mm**
For additional stability with unstabilised subsoil, cobblestone pavement etc.
- 000.007 Ground shell 100 mm II**
As special solution in case of small mounting depth, e.g. car parks, bridges etc.
- 000.002/000.050 Ground shell cover**
Reduces risk of stumbling, prevents soiling
Material: cast aluminium or ST37 Steel with spring, hot-dip galvanized



PROJECTS AND REFERENCES

A Selection



Project: Grevenmacher, Police, Luxembourg | Bollard 013

Germany

Place	Project	Products	Last
Fraport	Airport	Bollards, bicycle stands, benches	2017
City of Hamburg	Metropolitan area, Hafencity, Nikolaiquartier, Airport, Überseering, Gänsemarkt, Osterstraße a. o.	Bollards, bicycle stands	2017
Municipality of Eichwalde	Town area	Bollards	2017
Municipality of Mettlach	Orscholz, Cloefstraße	Bollards, benches	2017
City of Lübeck	Metropolitan area, Hanseschule, Untertrave	Bollards	2017
City of Sigmaringen	Metropolitan area	Bollards	2017
City of Bayreuth	Metropolitan area, Opernstraße, Marktplatz a. o.	Bollards, bicycle stands	2017
City of Berlin	Metropolitan area	Bollards, bicycle stands	2017
City of Cuxhaven	Brockeswalder Chaussee, Grodener Ortsmitte	Bollards, waste containers	2017
City of Dillingen	Lokschuppen	Bollards	2017
City of Frankfurt am Main	Theodor-Heuss-Allee	Bicycle stands	2017
City of Gelsenkirchen	Horster Straße, urban development	Bollards	2017
City of Heidelberg	Metropolitan area	Bollards	2017
City of Cologne	Metropolitan area (since 2007)	Bollards, lighting bollards, custom socket-bollards for waste containers	2017
City of Königslutter am Elm	Am Markt, Marktstraße, Amtsgasse and An der Stadtkirche	Bollards	2017
City of Königswinter	Metropolitan area	Bollards	2017
City of Regensburg	Metropolitan area, Zuckerfabrik, Soccer stadium (Arena Regensburg), Nibelungenkaserne	Bollards	2017
City of Saarbrücken	Metropolitan area (since 2004) a. o.	Bollards, bicycle stands	2017
City of Schmalkalden	Cityplatz, Grüngürtel, Kirchhof, Pfaffenwiese, Stadtpark, Westendpark a. o.	Bollards	2017
City of Stuttgart	Metropolitan area and outskirts, Staatsministerium	Bollards	2017
City of Tuttlingen	Metropolitan area	Bollards	2017
City of Tübingen	Metropolitan area, Max Planck Institute	Bollards	2017
Sylt	Hörnum, Rantum, Westerland a. o.	Bollards, bicycle stands, benches	2016
City of Marburg	Metropolitan area	Bollards, waste containers	2016
City of Mosbach	Metropolitan area	Bollards	2016
City of Munich	Metropolitan area, Messe Riem, Balanstr., Schwere-Reiter-Str., Hirschgarten a. o.	Bollards, bicycle stands, lighting bollards	2014

Luxembourg

Place	Project	Products	Last
Cactus S. A.	Belle Etoile, Bettendorf, Echternach, Mersch, Kayl, Redange, Remich, Windhof a. o.	Bollards	2017
Commune de Consdorf	Town area	Bollards, bicycle stands	2016
Commune de Diekirch	Domaines des Rives, Herrenberg	Bollards, planters	2017
Commune de Echternach	Town area	Bollards	2017
Commune de Frisange	Town area	Bollards	2017
Commune de Kayl	Town area	Bollards with city logo, feeder bollards, waste containers	2016
Commune de Mersch	Town area	Bollards, feeder bollards, benches	2017
Commune de Schifflange	Town area	Bollards, bicycle stands	2017
Commune de Vianden	Town area, Promenade de l'Our	Benches	2017
Ville de Differdange	Metropolitan area	Bollards, bicycle stands	2017
Ville de Luxembourg	Kirchberg, Metropolitan area and Luxexpo	Bollards, bicycle stands, waste containers	2017

Sales through resellers

Europe

Country	Project	Products	Since
Belgium	Beringen, Baurignet, Deinze a. o.	Bollards	2002
Denmark	Various cities	Bollards, bicycle stands	2004
Finland	Helsinki, Vantaa, Kuusisto, Pori, Espoo, Lappeenranta, Mikkeli a. o.	Bollards, bicycle stands, benches	2005
France	Cannes, Nicolas les Arras, Roanne, Geneston, Bouchain, Paris, Bows, Côte d'Azur, Lyon, Metz, Toulouse a. o.	Complete product range	2004
Great Britain	London, St. Peter's Square, Dalmeir Square a. o.	Bollards, benches	2005
Italy	Various cities in South Tyrol	Bollards, bicycle stands	2006
Netherlands	Various cities	Bollards, bicycle stands, waste containers	2002
Austria	Hagenbrunn, Katzelsdorf, Zirl, Kitz, Mattighofen, Salzburg, Wien, Wolfsberg a. o.	Complete product range	2003
Portugal	Lissabon a. o.	Complete product range	2008
Switzerland	Neuchâtel, Rapperswil, Erlen, Yvesdon, Zürich, Laufenburg, Maienfeld a. o.	Complete product range	2006
Spain	Various cities	Bicycle stands, benches	2010

Worldwide

Country	Project	Products	Since
Australia	Bunbury, Darwin, Ellenbrook, Leighton Beach, Perth, Port Hedland, Scarborough	Complete product range	2005
Hong Kong	Various cities	Bollards	2008
New Zealand	Auckland a. o.	Bollards, lighting bollards and benches	2007
Singapore	Various cities	Bollards and benches	2009
USA	Washington D. C., L'Enfant Plaza	Bollards and bicycle stands, planters	2015
V. A. E.	Al Bustan	Benches and waste containers	2010

Ask for references in your area!

Further references can be found on:
<https://abes-online.com/en/projects/>



PROJECTS
AND
REFERENCES

A Selection



Vianden | Luxembourg



Washington D. C. | U. S. A.



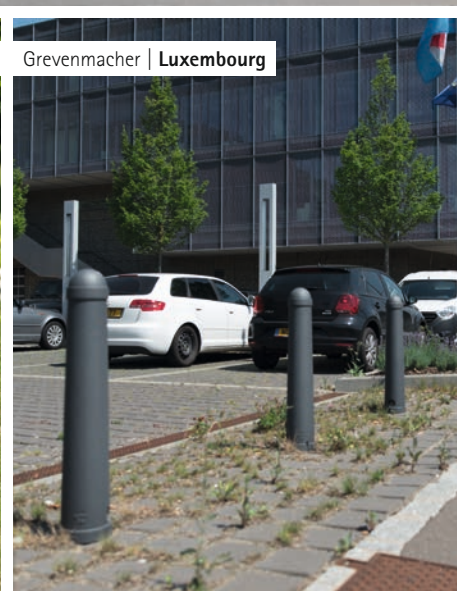
Grevenmacher | Luxembourg



Kleinwalsertal | Austria



Findel | Luxembourg



Grevenmacher | Luxembourg



Bitburg | Germany



Daun | Germany



Diekirch | Luxembourg



Orscholz-Cloef | Germany



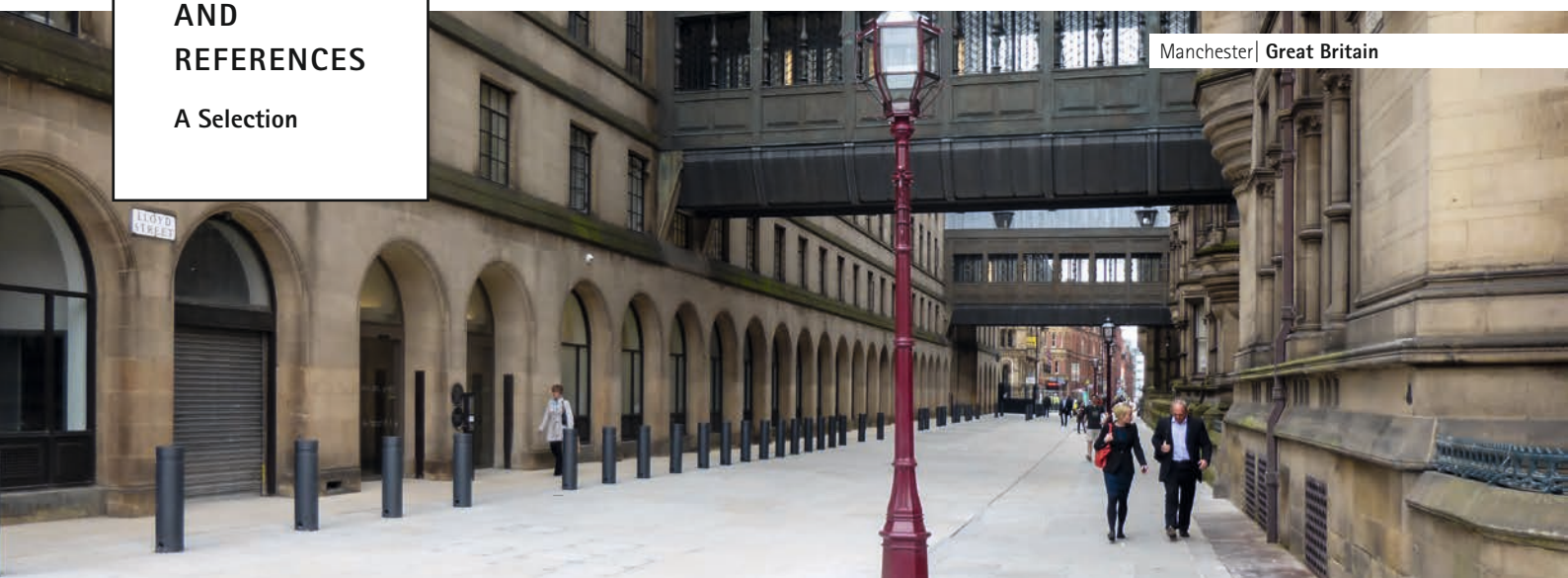
Kehlen | Luxembourg



Orscholz-Cloef | Germany

PROJECTS
AND
REFERENCES

A Selection



Manchester | Great Britain



Mersch | Luxembourg



Grevenmacher | Luxembourg



Mersch | Luxembourg



Saint Papoul | France



Garnich | Luxembourg



Rotondes | Luxembourg



Differdange | Luxembourg



Singapore



Perth | Australia

02

BOLLARDS

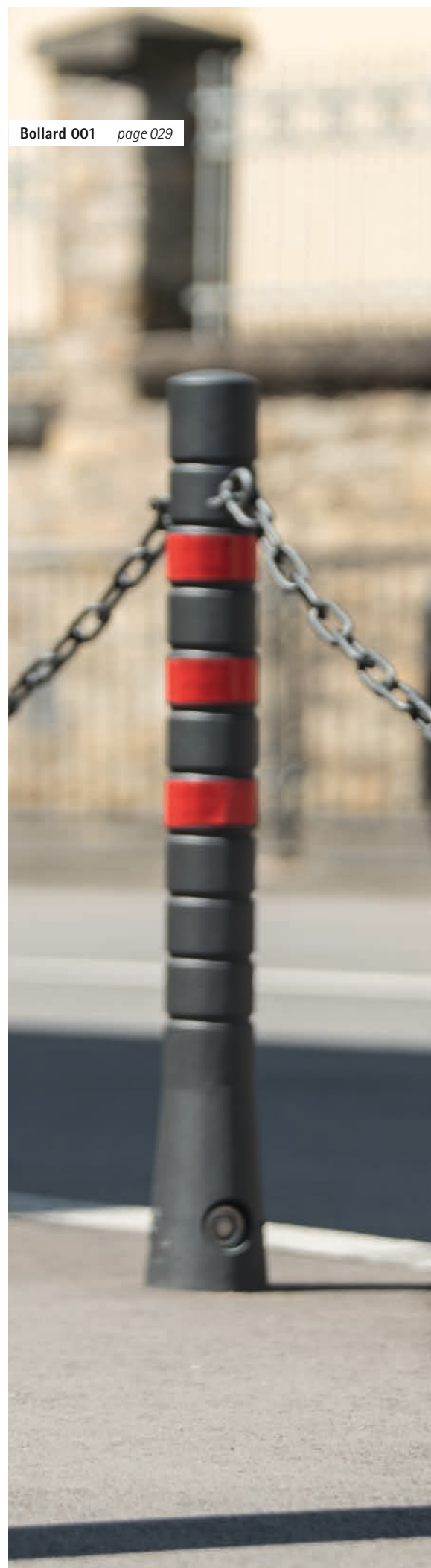
Barrier posts or bollards are natural parts of our cityscapes. Elegant boundaries or driveway and walkway markings are just a few of their many applicabilities. The various ABES designs, ranging from classic to modern, allow the harmonic integration of bollards in any environment.

These objects are permanently exposed to the risk of being knocked over by cars pulling in and out of parking bays. To counteract this risk, ABES has developed the 3p-Technology for bollard fastening as an alternative to fixed mounting. This is an easy and low-cost way to replace damaged bollards.














1: Bollard 055-2 page 059 | 2: Bollard 005-2 page 044 | 3: Bollard 001 page 029











Bollard 001 page 029



















02 BOLLARDS Overview






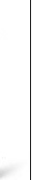









												
	001	001-1	002	003	004	005-1	005-2	006-1	006-2	007	008	
Page in catalogue	029	029	035	050	047	044	044	036	037	043	029	
NEW 2018												
Material	Cast aluminium (w. powder coating)	■	■	■	■	■	■	■	■	■	■	
	Steel ST37 (galvanised)	-	-	-	-	-	-	-	-	-	-	
	Steel ST37 (galvanised w. powder coating)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (pickled and smoothed)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (pickled/glass-bead blasted)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (w. powder coating)	-	-	-	-	-	-	-	-	-	-	
	Rubber granulate	-	-	-	-	-	-	-	-	-	-	
Mounting	Fixed mounting (concrete embedment)	001.001	001.011	002.001	003.001	004.001	005.001	005.201	006.001	006.201	007.001	008.001
	Removable with 3p-Technology	001.020	001.040	002.020	003.020	004.020	005.020	005.220	006.020	006.220	007.020	008.020
	Removable with 3p-Technology for (LED-)lighting bollards	-	-	-	-	-	-	-	-	-	-	-
	Removable with 3p-High	○	-	○	○	004.030	○	○	○	○	007.030	○
	Option: Fold-down	-	-	-	-	-	-	-	-	-	-	-
	Option: With flanges to enable screwing	-	-	-	-	-	-	-	-	-	-	-
	Ground rosette included with 3p-Technologie	-	-	-	-	-	-	-	-	-	-	-
	Ground rosette as an option	-	-	-	-	-	-	-	-	-	-	-
Measurements	Height above ground level (mm)	870	520	820	738	820	890	900	870	870	905	870
	Diameter (top/bottom, mm)	85/120	85/120	140	144/120	112/180	70/170	80/140	95/120	95/120	84/98	85/120
	Works with 3p-Groundshells: 100 mm/300 mm (standard)/500 mm	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○
	Weight (approx. in kg, for fixed mounting + 1.5 kg)	11	7	15,5	10	11,8	10,5	13	11	11	10	11
	Design	hrd ¹⁾	hrd ¹⁾	hrd ¹⁾	hrd ¹⁾				hrd ¹⁾	hrd ¹⁾		hrd ¹⁾


												
	020	021-1	021-2	022	023	024	025	027-1	027-2	028	029	
		600 mm	900 mm					600 mm	870 mm			
Page in catalogue	049	039		049	043	039	045	028		046	041	
NEW 2018												
Material	Cast aluminium (w. powder coating)	■	■	■	■	■	■	■	■	■	■	
	Steel ST37 (galvanised)	-	-	-	-	-	-	-	-	-	-	
	Steel ST37 (galvanised w. powder coating)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (pickled and smoothed)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (pickled/glass-bead blasted)	-	-	-	-	-	-	-	-	-	-	
	Stainless steel 1.4301 (w. powder coating)	-	-	-	-	-	-	-	-	-	-	
	Rubber granulate	-	-	-	-	-	-	-	-	-	-	
Mounting	Fixed mounting (concrete embedment)	020.001	021.001.060	021.001.090	022.001	023.001	024.001	025.001	027.001.060	027.001	028.001	029.001
	Removable with 3p-Technology	020.020	021.020.060	021.020.090	022.020	023.020	024.020	025.020	027.001.060	027.020	028.020	029.020
	Removable with 3p-Technology for (LED-)lighting bollards	-	-	-	-	-	-	-	-	-	-	-
	Removable with 3p-High	○	○	○	023.030	○	○	-	027.030	○	○	○
	Option: Fold-down	-	-	-	-	-	-	-	027.005	-	-	-
	Option: With flanges to enable screwing	-	-	-	-	-	-	-	-	-	-	-
	Ground rosette included with 3p-Technologie	-	-	-	-	-	-	-	-	-	-	-
Measurements	Ground rosette as an option	-	-	-	-	-	-	-	-	-	-	-
	Height above ground level (mm)	895	600	900	935	910	870	850	600	870	900	900
	Diameter (top/bottom, mm)	74/102	86/100	140	85/100	80/100	85/140	85/98	90	80/100	80/100	80/100
	Works with 3p-Groundshells: 100 mm/300 mm (standard)/500 mm	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○
	Weight (approx. in kg, for fixed mounting + 1.5 kg)	10	7,8	10,9	12	10,5	10,7	10,7	7	10	12,5	10,4
	Design						tw ²⁾		hrd ¹⁾			

■ = Material | ● = Standard | ○ = Option (with a surcharge) | - = Not available | ¹⁾ hammer.runge.design | ²⁾ Thomas Wüsten | ³⁾ Nico Thurm

													
009-1	009-2	010	011	012	013	014-1	014-2	014-3	015	016	017	018	019
870 mm	1200 mm					850 mm	1000 mm	1300 mm	Flat top	Domed top	Flat top	Domed top	
029	028	048	035	047		041			038	028	038	042	051

■	■	■	■	■		■			■	■		■	■		
-	-	-	-	-		-			-	-	-	-	-		
-	-	-	-	-		-			-	-	-	-	-		
-	-	-	-	-		-			-	-	-	-	-		
-	-	-	-	-		-			-	-	-	-	-		
-	-	-	-	-		-			-	-	-	-	-		
-	-	-	-	-		-			-	-	-	-	-		
009.001	009.001.120	010.001	011.001	012.001	013.001	014.001	014.001.100	014.001.130	015.001	015.101	016.001	017.001	017.101	018.001	019.001
009.020	009.020.120	010.020	011.020	012.020	013.020	014.020	014.020.100	014.020.130	015.020	015.120	016.020	017.020	017.120	018.020	019.020
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
○	○	○	012.030	013.030		○			○	○	○	○	○	○	○
-	010.005	-	-	-	-	-	-	-	-	016.005	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	000.030	-	-	-	-	-	-	-	-	-
870	1200	870	860	820	820	850	1000	1300	950	870	750	850	850		
85/120	85/98	102 x 96/108	140	125/160		85/98			105	85/98	105	90/130	160		
○/●/○	○/●/○	○/●/○	○/●/○	○/●/○		○/●/○			○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○
11	13	10	11,5	15,5	11,9	10	11,5	14	14	10	12	12,9	11,5		
hrd ¹⁾	hrd ¹⁾	hrd ¹⁾	hrd ¹⁾							hrd ¹⁾					

														
031-1	031-2	032	034	037-1	038	039	040	041	043	055-1	057	058	060	061
870 mm	1200 mm													
032	034	038	053	040	046	040	048	029	053	052	052	034	033	
■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
031.001	031.001.120	032.001	034.001	037.001	038.001	039.001	040.001	041.001	043.001	055.001	057.001	058.001	060.001	061.001
031.020	031.020.120	032.020	034.020	037.020	038.020	039.020	040.020	041.020	043.020	055.020	057.020	058.020	060.020	061.020
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
031.030	○	○	○	-	○	○	○	○	○	-	-	-	-	061.030
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	●	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
870	1200	860	780	720	830	870	900	925	870	600	1000	1000	750	870
98	96 × 100	90/100	220	80/100	61/80/170	82/100	185	85/120	180	150	250	102/140	98	
○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○
15,8	21	8	7,4	22	8,5	11	10,5	15	11	13,5	30	29	11	15,5
									hrd ¹⁾				nt ³⁾	

												
<div>062064068069070071037-2055-2059</div>												
Fixed mount. I Fixed mount. II Fixed mount. I Fixed mount. II												
Page in catalogue		042	055	045	054	054	055	059		059		060
NEW 2018					2018	2018	2018					2018
Material	Cast aluminium (w. powder coating)	■	■	■	■	■	■	-		-		-
	Steel ST37 (galvanised)	-	-	-	-	-	-	-		-		■
	Steel ST37 (galvanised w. powder coating)	-	-	-	-	-	-	■	■		■	
	Stainless steel 1.4301 (pickled and smoothed)	-	-	-	-	-	-	-		-		-
	Stainless steel 1.4301 (pickled/glass-bead blasted)	-	-	-	-	-	-	-		-		-
	Stainless steel 1.4301 (w. powder coating)	-	-	-	-	-	-	-		-		-
	Rubber granulate	-	-	-	-	-	-	-		-		-
Mounting	Fixed mounting (concrete embedment)	062.001	064.001	068.001	069.001	070.001	071.001	037.101	037.102	055.101	055.102	059.001 059.101
	Removable with 3p-Technology	062.020	064.020	068.020	069.020	070.020	071.020	037.120		055.120		059.020 059.120
	Removable with 3p-Technology for (LED-)lighting bollards	-	-	-	-	-	-	-		-		-
	Removable with 3p-High	○	○	○	○	○	○	-		-		-
	Option: Fold-down	-	-	-	-	-	-	-		-		-
	Option: With flanges to enable screwing	-	-	-	-	-	-	-		-		-
	Ground rosette included with 3p-Technologie	-	●	-	-	-	●	-		-		●
Measurements	Ground rosette as an option	-	-	-	-	-	-	-		-		-
	Individual height	-	-	-	-	-	-	○	○		○	
	Height above ground level (mm)	910	1200	950	800	880	937	720		600		900
	Diameter (top/bottom, mm)	104/115	100 × 100	82/97	85/120	83/98	90 × 90	220		180		80 × 80
	Works with 3p-Groundshells: 100 mm/300 mm (standard)/500 mm	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○	○/●/○		○/●/○		○/●/○
	Weight (approx. in kg, for fixed mounting + 1.5 kg)	10	25	8,2	9	10	14	22		13,5		13,5
	Design											

Mounting variants

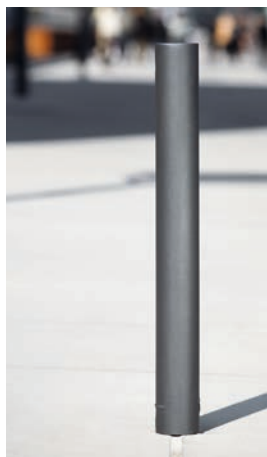
*3p-Technology is by far the most frequently ordered type of mounting.
It is used in more than 85% of cases, because it significantly reduces costs.*



3p-Technology (Standard)



3p-High
(see page 009 and 013)



Fixed mounting



Screw-on



Door stopper



Fold-down*

*The embeddable fold-down version is currently available for the following bollards: Bollard 001, 010, 016, 027-1/-2, 032, 010, 059

Special models (Optional deliveries)

Paintwork, reflective tapes, finishings, eyelets, chains etc. are available on request.



1 ring — reflective tape



3 rings — reflective tape



1 ring — powder-coated



5 rings — powder-coated



With eyelets & chain



Stainless steel:
pickled and smoothed (standard)



Stainless steel:
electropolished/high-gloss
(optional, no surcharge)

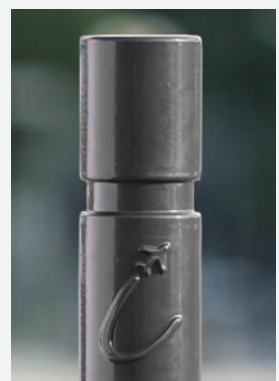


Cat's eye reflectors



**Small additional charge –
a strong sense of identity**

*Give your bollard some character and personalise
it with your city's coat of arms or your company logo! **



* Available for all products made of cast aluminium

THE ABES CLASSICS

Special models

Cat's eye reflectors, one powder-coated ring or one ring of reflective tape (*f.l.t.r.*)



Also available for other models (see pages 026 and 135).

With cylindrical base



016

027

010



BOLLARD 016 | 027 | 010

Cast aluminium

Specifications

Cylindrical cast aluminium bollard with a slightly domed top and a cylindrical base. Smooth or with one or three circumferential groove(s). (See online shop for product-related texts)

Mounting

Removable with 3p-Technologie
Alternative: concrete embedment

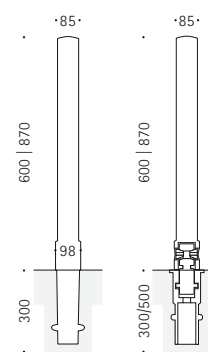
Finish

Powder coating in standard RAL colours or DB 703

			Fixed mounting	3p-Technologie	3p-High	Fold-down
Bollard 016	870 mm	0 grooves	016.001	016.020	-	016.005
Bollard 027-1	600 mm	1 groove	027.001.060	027.020.060	-	-
Bollard 027-2	870 mm	1 groove	027.001	027.020	027.030	027.005
Bollard 010	870 mm	3 grooves	010.001	010.020	-	010.005



3p-Technologie



With conical base



009



043



008



001



reddot



001-1

BOLLARD 009 | 043 | 008 | 001 | 001-1

Cast aluminium

Specifications

Cylindrical cast aluminium bollard with a slightly domed top and a conical base.
Smooth or with one, three or ten circumferential groove(s).
(See online shop for product-related texts)

Mounting

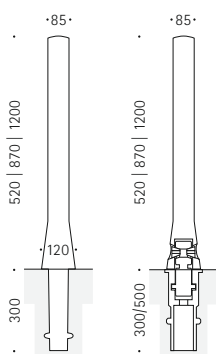
Removable with 3p-Technologie
Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



Bollard 008 also available as a lighting bollard (see p. 073: *Lighting Bollard 240 LED*)



			Fixed mounting	3p-Technologie
Bollard 009-1	870 mm	0 grooves	009.001	009.020
Bollard 009-2	1200 mm	0 grooves	009.001.120	009.020.120
Bollard 043	870 mm	1 groove	043.001	043.020
Bollard 008	870 mm	3 grooves	008.001	008.020
Bollard 001	870 mm	10 grooves	001.001	001.020
Bollard 001-1	520 mm	5 grooves	001.011	001.040



3p-Technologie



1

- | | | |
|---|---------------|--|
| 1 | BOLLARD 008 | Mersch <i>Luxembourg</i> |
| 2 | BOLLARD 027-2 | Saarbrücken <i>Germany</i> |
| 3 | BOLLARD 027-2 | Daun <i>Germany</i> |
| 4 | BOLLARD 001 | Grevenmacher <i>Luxembourg</i> |
| 5 | BOLLARD 001 | Luxembourg-Kirchberg <i>Luxembourg</i> |
| 6 | BOLLARD 001 | Grevenmacher <i>Luxembourg</i> |



2



3



THE ABES CLASSICS



4



5



6



BOLLARD 031

031-1 | *Cast aluminium* | 870 mm

031-2 | *Cast aluminium* | 1200 mm

Specifications

Cylindrical bollard made from cast aluminium, with a flat top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703

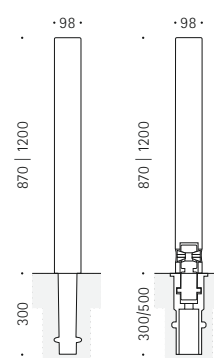
		Fixed mounting	3p-Technologie	3p-High
Bollard 031-1	870 mm	031.001	031.020	031.030
Bollard 031-2	1200 mm	031.001.120	031.020.120	-



3p Technologie



Bollard 031 also available as a lighting bollard (see p. 070: *Lighting Bollard 210 LED*)





BOLLARD 061

Cast aluminium | 870 mm

Specifications

Cylindrical cast aluminium bollard with a flat top and a cast-in circumferential groove.

Mounting

Removable with 3p-Technology

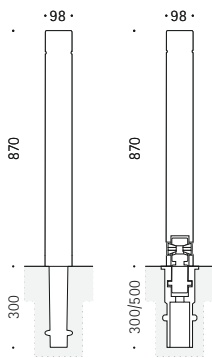
Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703

Note

Identical with Bollard 031, additionally: cast-in circumferential groove



	Fixed mounting	3p-Technology	3p-High
Bollard 061 870 mm	061.001	061.020	061.030



1



2



3

1 BOLLARD 031-1
with 3p-Technology
DB 703, 870 mm
Art. N° 031.020
Sandweiler Luxembourg

2-3 BOLLARD 031-1
with 3p-Technology
DB 703, 870 mm
Art. N° 031.020
Rotondes Luxembourg



BOLLARD 060

Cast aluminium | 750 mm

Specifications

Cylindrical bollard made from cast aluminium with a flat top and a narrowed upper part with four intermitting, protruding rings.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

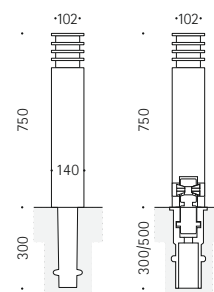
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 060	060.001	060.020

CA



3p Technologie



BOLLARD 032

Cast aluminium | 860 mm

Specifications

Rectangular cast aluminium bollard fitted flush with the top, with inward vertical walls.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technologie)

Rosette 135 x 135 mm. Completely covers the ground shell

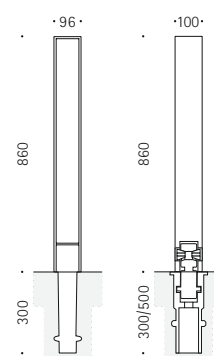
Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

	Fixed mounting	3p-Technologie
Bollard 032	032.001	032.020

CA



3p Technologie





BOLLARD 012

Cast aluminium | 820 mm

Specifications

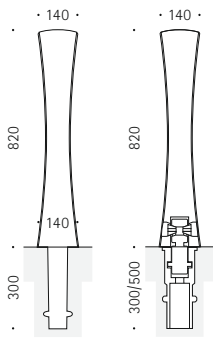
Cast aluminium bollard with a triangular base shape and a slightly domed top. The bollard tapers towards the middle.

Mounting

Removable with 3p-Technology
Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology	3p-High
Bollard 012	012.001	012.020	012.030



BOLLARD 002

Cast aluminium | 820 mm

Specifications

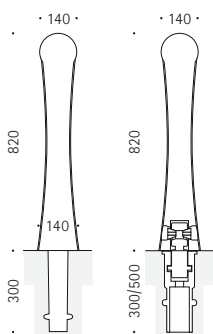
Bollard made from cast aluminium with a triangular base and a sphere set on top. The bollard tapers towards its centre.

Mounting

Removable with 3p-Technology
Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 002	002.001	002.020





BOLLARD 006-1

Cast aluminium | 870 mm

Specifications

Conical bollard made from cast aluminium with two cast-in eyelets at the top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

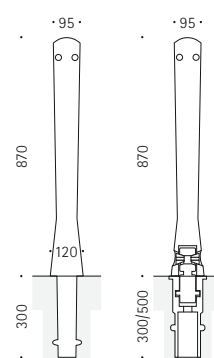
Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 006-1	006.001	006.020



3p-Technologie



- 1 BOLLARD 006-1**
with 3p-Technology
DB 703, 870 mm
Art. N° 006.020
Hörnum-Sylt Germany

- 2 BOLLARD 006-1**
with 3p-Technology
DB 703, 870 mm
Art. N° 006.020
Bunbury Australia

- 3 BOLLARD 006-2**
with 3p-Technology
DB 703, 870 mm
Art. N° 006.220
Walferdange Luxembourg





BOLLARD 006-2

Cast aluminium | 870 mm

Specifications

Bollard made from cast aluminium tapering towards its middle.

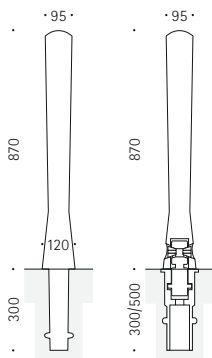
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 006-2	006.201	006.220
<div> <div>CA</div> <div> </div> </div>		





BOLLARD 034

Cast aluminium | 780 mm

Specifications

Cylindrical bollard made from cast aluminium with a cast, narrow groove that separates the slightly tapering top from the bollard and an accentuated cylindrical base.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

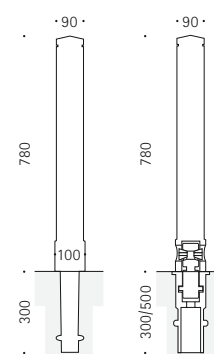
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 034	034.001	034.020

CA



3p-Technologie



BOLLARD 015 | 017

015 | *Cast aluminium | 950 mm*

017 | *Cast aluminium | 750 mm*

Specifications

Cylindrical bollard made from cast aluminium with an ornamental ring on the flat top and at the base. Optionally available with a domed top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

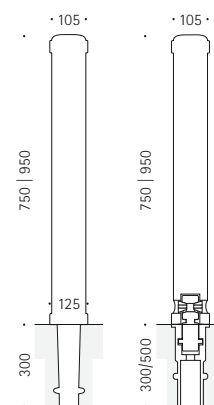
Powder coating in standard RAL colours or DB 703

			Fixed mounting	3p-Technologie
Bollard 015	950 mm	flat top	015.001	015.020
Bollard 017	750 mm	flat top	017.001	017.020
Bollard 015	950 mm	arched head	015.101	015.120
Bollard 017	750 mm	arched head	017.101	017.120

CA



3p-Technologie





BOLLARD 024

Cast aluminium | 870 mm

Specifications

Cylindrical bollard made from cast aluminium with a cast recess separating the bollard optically from its top and a distinct cylindrical base.

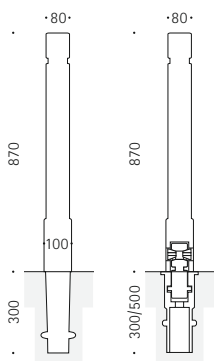
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 024	024.001	024.020



BOLLARD 021

021-1 | Cast aluminium | 600 mm

021-2 | Cast aluminium | 900 mm

Specifications

Cylindrical cast aluminium bollard with a flat top by an accentuated by an elongated recess.

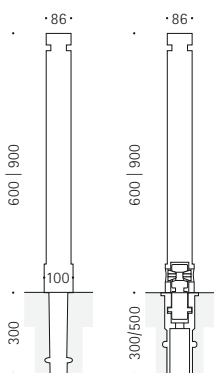
Mounting

Removable with 3p-Technology

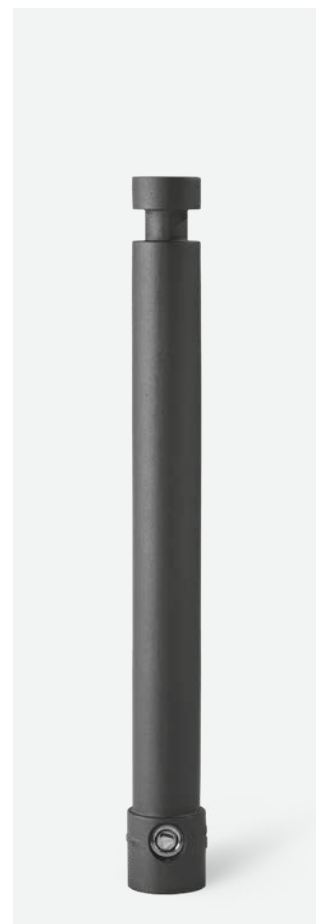
Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



		Fixed mounting	3p-Technology
Bollard 021-1	600 mm	021.001.060	021.020.060
Bollard 021-2	900 mm	021.001.090	021.020.090





BOLLARD 038

Cast aluminium | 830 mm

Specifications

Cylindrical cast aluminium bollard with a circumferential ring below the spherical top piece.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

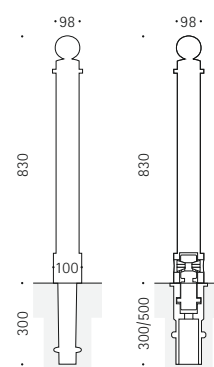
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 038	038.001	038.020

CA



3p-Technologie



BOLLARD 040

Cast aluminium | 900 mm

Specifications

Cylindrical cast aluminium bollard with a top sphere, a peripheral ring below the top, and another ring above the pedestal.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

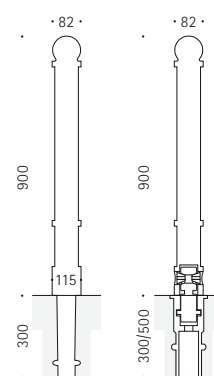
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 040	040.001	040.020

CA



3p-Technologie





BOLLARD 014

014-1 | Cast aluminium | 850 mm

014-2 | Cast aluminium | 1000 mm

014-3 | Cast aluminium | 1300 mm

Specifications

Smooth cylindrical bollard made from cast aluminium with a sphere on the top.

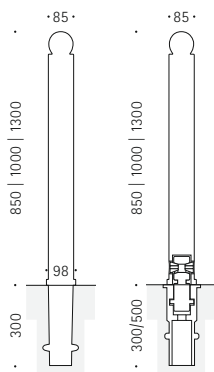
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



		Fixed mounting	3p-Technologie
Bollard 014-1	850 mm	014.001	014.020
Bollard 014-2	1000 mm	014.001.100	014.020.100
Bollard 014-3	1300 mm	014.001.130	014.020.130



BOLLARD 029

Cast aluminium | 900 mm

Specifications

Cylindrical smooth bollard made from cast aluminium with a spherical top.

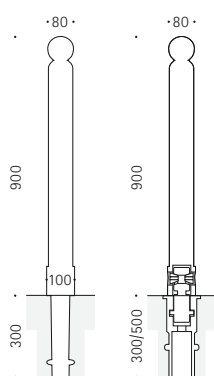
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie
Bollard 029	029.001	029.020





BOLLARD 018

Cast aluminium | 850 mm

Specifications

Bollard made from cast aluminium with a cylindrical base on a pedestal, several indentations and rings and a sphere on top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

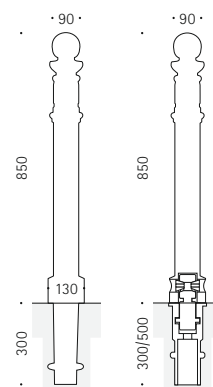
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 018	018.001	018.020

CA



3p Technologie



BOLLARD 062

Cast aluminium | 910 mm

Specifications

Cylindrical bollard made from cast aluminium with a two-part base and a protruding ring below the enlarged spherical head.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

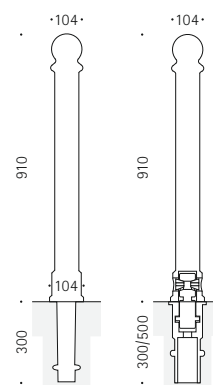
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 062	062.001	062.020

CA



3p Technologie





BOLLARD 023

Cast aluminium | 910 mm

Specifications

Cylindrical bollard made from cast aluminium with a top sphere, with a horizontal indentation, and an accentuated base.

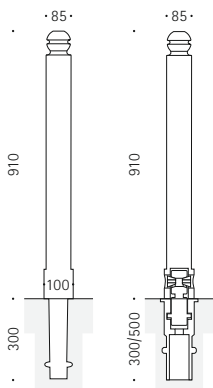
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology	3p-High
Bollard 023	023.001	023.020	023.030



BOLLARD 007

Cast aluminium | 905 mm

Specifications

Cylindrical bollard with a smooth surface, made from cast aluminium with a circumferential groove and a leveled sphere as top piece.

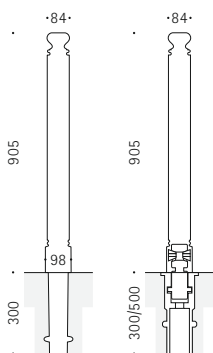
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology	3p-High
Bollard 007	007.001	007.020	007.030





BOLLARD 005-1

Cast aluminium | 890 mm

Specifications

Cylindrical bollard made from cast aluminium with three multilayered rings, as well as a spherical top piece.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

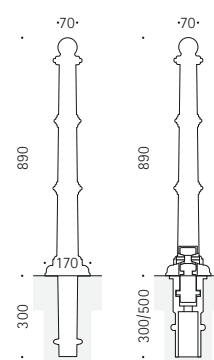
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 005-1	005.001	005.020

CA



3p Technologie



BOLLARD 005-2

Cast aluminium | 900 mm

Specifications

Cylindrical bollard made from cast aluminium with two multilayered rings, a cylindrical base about 100 mm high and a sphere as top piece.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

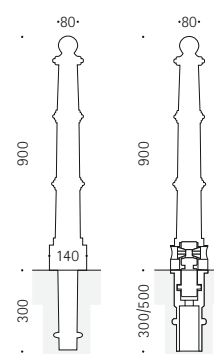
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 005-2	005.201	005.220

CA



3p Technologie





BOLLARD 068

Cast aluminium | 950 mm

Specifications

Cylindrical bollard made from cast aluminium surrounded by two multilayered rings and a tapering cone on top.

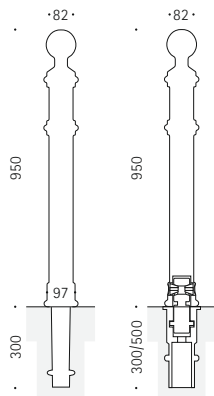
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie
Bollard 068	068.001	068.020



BOLLARD 025

Cast aluminium | 850 mm

Specifications

Cylindrical bollard made from cast aluminium with two paired rings and a ring below a flattened hemisphere at the top.

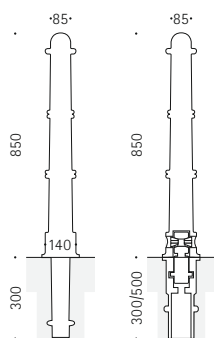
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie
Bollard 025	025.001	025.020





BOLLARD 039

Cast aluminium | 870 mm

Specifications

Cylindrical bollard made from cast aluminium, with a revolving three split ring below the hemispherical top, as well as above the base.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

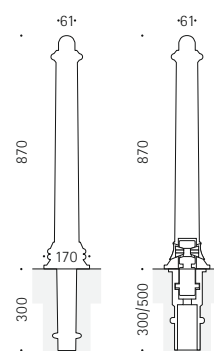
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 039	039.001	039.020

CA



3p Technologie



BOLLARD 028

Cast aluminium | 900 mm

Specifications

Cylindrical bollard made from cast aluminium with a two-part base and a hemisphere on top, separated by a ring.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

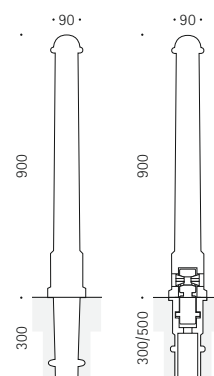
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 028	028.001	028.020

CA



3p Technologie





BOLLARD 004

Cast aluminium | 820 mm

Specifications

Cone-shaped bollard made from cast aluminium with a circumferential ring which optically separates the top from the rest of the bollard, and a second broader circumferential ring at the base.

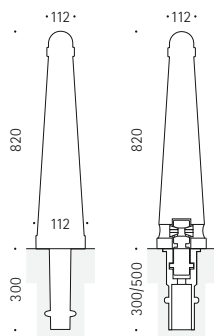
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie	3p-High
Bollard 004	004.001	004.020	004.030



BOLLARD 013

Cast aluminium | 820 mm

Specifications

Slightly cone-shaped bollard made from cast aluminium with a circumferential ring which optically separates the top from the rest of the bollard, and a second broader circumferential ring at the base.

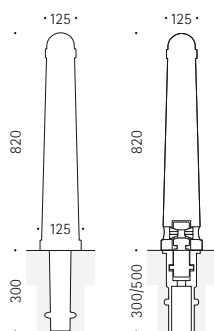
Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie	3p-High
Bollard 013	013.001	013.020	013.030





BOLLARD 011

Cast aluminium | 860 mm

Specifications

Oval bollard made from cast aluminium with a spiral-shaped head and a protruding vertical joint.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

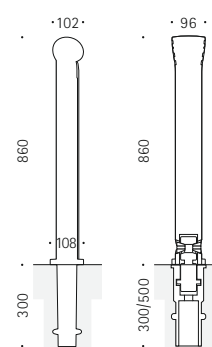
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 011	011.001	011.020

CA



3p Technologie



BOLLARD 041

Cast aluminium | 925 mm

Specifications

Subdivided cast aluminium bollard on a hexagonal base, tapering towards the top and ending in an acorn-shaped figure. The six sides show rectangular, cast-in recesses.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

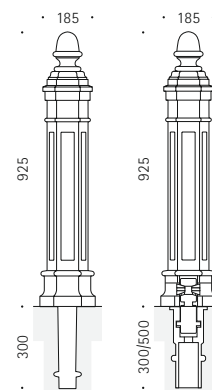
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 041	041.001	041.020

CA



3p Technologie





BOLLARD 020

Cast aluminium | 895 mm

Specifications

Cylindrical bollard made from cast aluminium with three circumferential paired rings, several vertical recesses and a flat top.

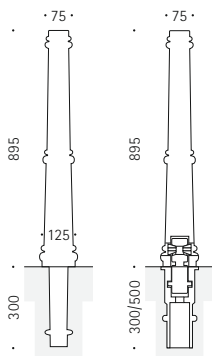
Mounting



Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 020	020.001	020.020
 		



BOLLARD 022

Cast aluminium | 935 mm

Specifications

Slightly conical bollard made from cast aluminium with several vertical recesses in the middle section. The upper section is accentuated by a circumferential ring, a smooth surface and a slightly protruding tapering top piece. The base is characterised by a smooth shell enclosed by two rings.

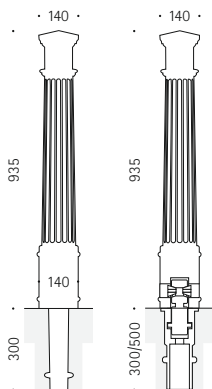
Mounting



Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 022	022.001	022.020
 		





BOLLARD 003

Cast aluminium | 738 mm

Specifications

Cylindrical bollard made from cast aluminium with twelve window-like cast indentations, a protruding top and a distinct cylindrical base.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

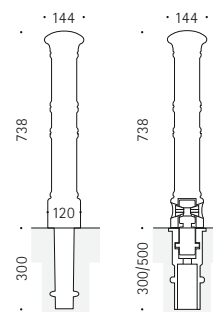
Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technologie
Bollard 003	003.001	003.020

CA

3p-Technologie



1-2 BOLLARD 003

with 3p-Technologie

RAL 7016, 738 mm

Art. N° 003.020

Echternach *Luxembourg*





BOLLARD 019

Cast aluminium | 850 mm

Specifications

Conical cast aluminium bollard with four wing-like side parts which taper further up into eyelets. The top is domed.

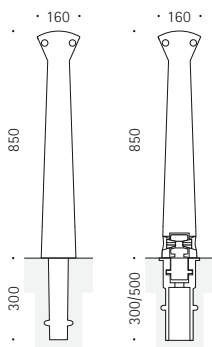
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703



	Fixed mounting	3p-Technology
Bollard 019	019.001	019.020



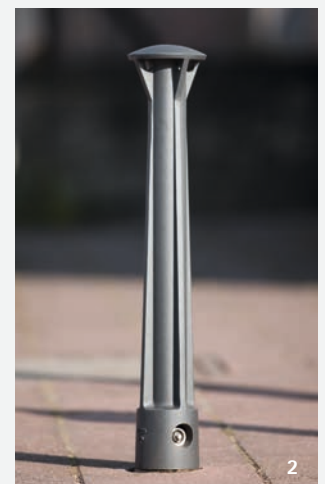
1-2 BOLLARD 019

with 3p-Technology

DB 703, 850 mm

Art. N° 019.020

Nommern Luxembourg





BOLLARD 057

Cast aluminium | 150 · 1000 mm

Specifications

Cylindrical bollard made from cast aluminium with a flat top and a broad ring-shaped recess in the upper region.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

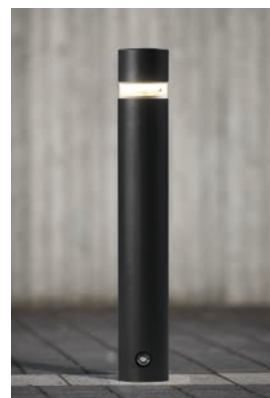
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 057	057.001	057.020

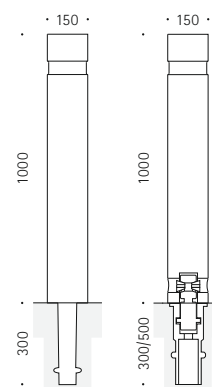
CA



3p Technologie



Bollard 057 also available as a lighting bollard (see p. 072: *Lighting Bollard 230 LED*)



BOLLARD 058

Cast aluminium | 250 · 1000 mm

Specifications

Cylindrical bollard made from cast aluminium with a flat top and a broad ring-shaped recess in the upper region.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

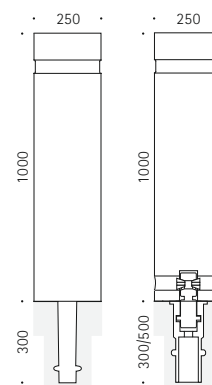
Powder coating in standard RAL colours or DB 703

	Fixed mounting	3p-Technologie
Bollard 058	058.001	058.020

CA

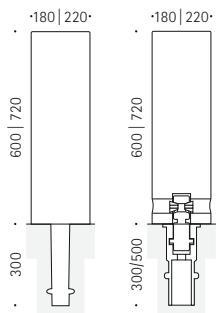


3p Technologie





Bollard 055-1 also available as a lighting bollard (see p. 071: *Lighting Bollard 220 LED*)



BOLLARD 037-1 | 055-1

037-1 | Cast aluminium | 220 · 720 mm

055-1 | Cast aluminium | 180 · 600 mm

Specifications

Cylindrical bollard made from cast aluminium with a flat top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

Powder coating in standard RAL colours or DB 703

		Fixed mounting	3p-Technology
Bollard 037-1	220 · 720 mm	037.001	037.020
Bollard 055-1	180 · 600 mm	055.001	055.020



1 BOLLARD 055-1
with 3p-Technology
DB 703, 180 · 600 mm
Art. N° 055.020
Cologne Germany

2-3 BOLLARD 058
with 3p-Technology
DB 703, 250 · 1000 mm
Art. N° 058.020
Manchester Great Britain





BOLLARD 069

Cast aluminium | 800 mm

Specifications

Cylindrical cast aluminium bollards with a wide, circular recess at the top and a tapering base.

Mounting

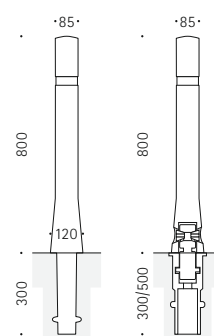
Removable with 3p-Technologie

Alternative: concrete embedment

Finish

- Powder coating in standard RAL colours or DB 703
- Reflected film protected in the recess

	Fixed mounting	3p-Technologie
Bollard 069	069.001	069.020



BOLLARD 070

Cast aluminium | 880 mm

Specifications

Cylindrical cast aluminium bollards with a wide, circular recess at the top and a cylindrical base.

Mounting

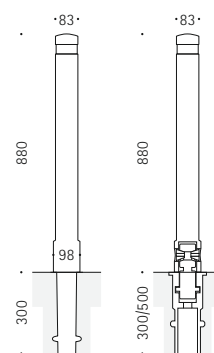
Removable with 3p-Technologie

Alternative: concrete embedment

Finish

- Powder coating in standard RAL colours or DB 703
- Reflected film protected in the recess

	Fixed mounting	3p-Technologie
Bollard 070	070.001	070.020





BOLLARD 064

Cast aluminium | 1200 mm

Specifications

Square bollard made from cast aluminium with a flat top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

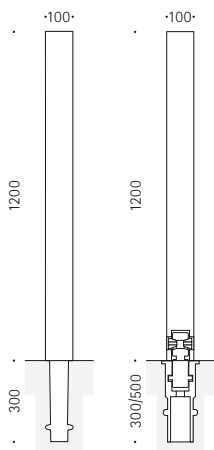
Powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

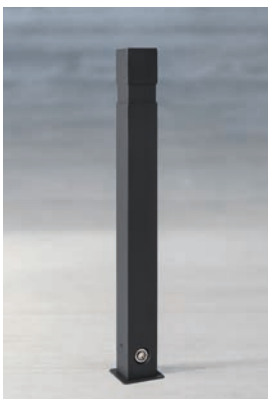
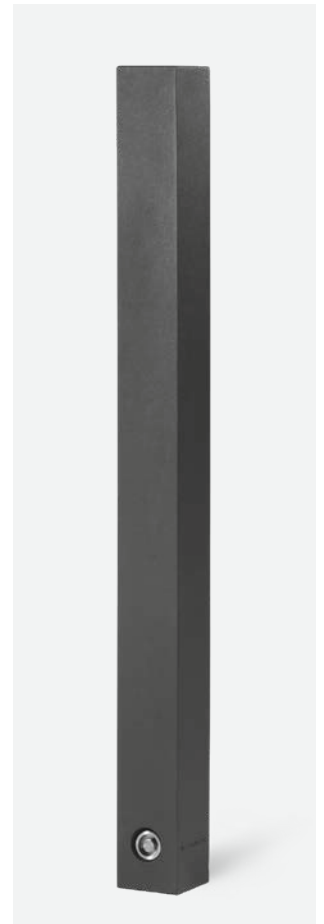
Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint



	Fixed mounting	3p-Technology
Bollard 064	064.001	064.020



3p-Technologie



BOLLARD 071

Cast aluminium | 937 mm

Specifications

Square cast aluminium bollards with rounded corners, a wide circular recess at the top, and flat head piece.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

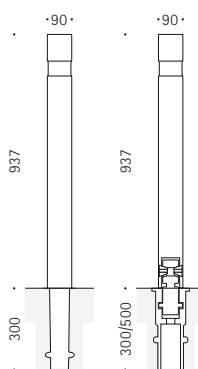
Powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

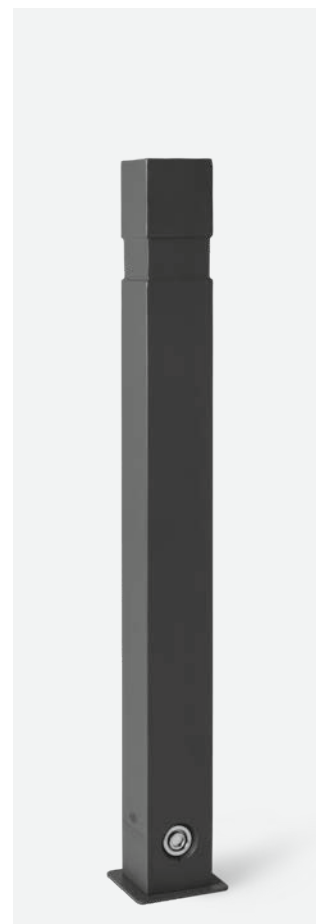


	Fixed mounting	3p-Technology
Bollard 071	071.001	071.020



2018

3p-Technologie





BOLLARD 042

042-1 | Steel + Stainless steel | 1000 mm

042-2 | Steel + Stainless steel | 1200 mm

Specifications

Cylindrical galvanised steel bollard with a slightly domed top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Optional: with flange to enable screwing

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

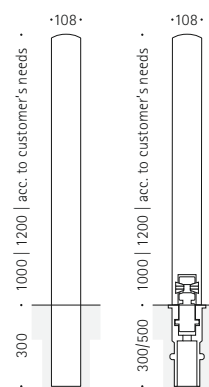
			Fixed mounting	3p-Technologie	3p-High
Bollard 042-1	1000	steel	042.001	042.020	042.030
Bollard 042-2	1200	steel	042.001.120	042.020.120	042.030.120
Bollard 042-1	1000	stainl. steel	042.101	042.120	042.130
Bollard 042-2	1200	stainl. steel	042.101.120	042.120.120	042.130.120

ST

AISI



3p-Technologie



**BOLLARD 056**

Steel + Stainless steel | 1000 mm

Specifications

Fully cylindrical bollard made from galvanised steel/stainless steel, including a circumferential groove and a slightly domed top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Optional: with flange to enable screwing

Finish

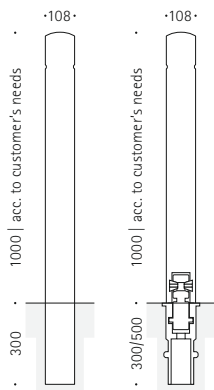
· Stainless steel 1.4301 pickled and smoothed, grain 240

Optional: electropolished/high-gloss (no surcharge)

· Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

Identical with Bollard 042, additionally: circumferential groove



		Fixed mounting	3p-Technology	3p-High
Bollard 056	steel	056.001	056.020	056.030
Bollard 056	stainless steel	056.101	056.120	056.130

**1-3 BOLLARD 042**

with 3p-Technology

RAL 7016, 1000 mm

Art. N° 042.020

Walferdange Luxembourg

**BOLLARD 089***Steel + Stainless steel | 750 mm***Specifications**

Fully cylindrical bollard made from galvanised steel/stainless steel, with a slightly curved top end.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Optional: with flange to enable screwing

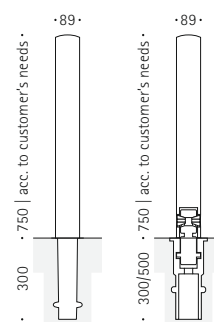
Finish

- Stainless steel 1.4301 pickled and glass-bead blasted
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

		Fixed mounting	3p-Technologie
Bollard 089	Steel	089.001	089.020
Bollard 089	Stainless steel	089.101	089.120



3p-Technologie

**BOLLARD 074***Stahl + Stainless steel | 1000 mm***Specifications**

Square steel bollard with slightly pyramidal square top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technologie)

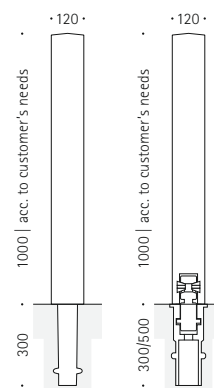
Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

		Fixed mounting	3p-Technologie
Bollard 074	Steel	074.001	074.020
Bollard 074	Stainless steel	074.101	074.120



3p-Technologie





BOLLARD 037-2 | 055-2

037-2 | Steel | 220 · 720 mm

055-2 | Steel | 180 · 600 mm

Specifications

Cylindrical bollard made from steel with a slightly domed top.

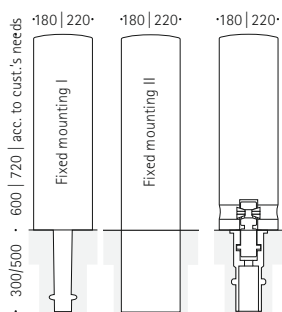
Mounting

Removable with 3p-Technology

Alternative: concrete embedment (see illustration Fixed mounting I and II)

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Stainless steel 1.4301 on request
- 2 fixed installation versions (see illustration Fixed mounting I and II)



		Fixed mounting I	Fixed mounting II	3p-Technology
Bollard 037-2	220 · 720 mm	037.101	037.102	037.120
Bollard 055-2	180 · 600 mm	055.101	055.102	055.120



1



2

1-3 BOLLARD 037-2

with 3p-Technology

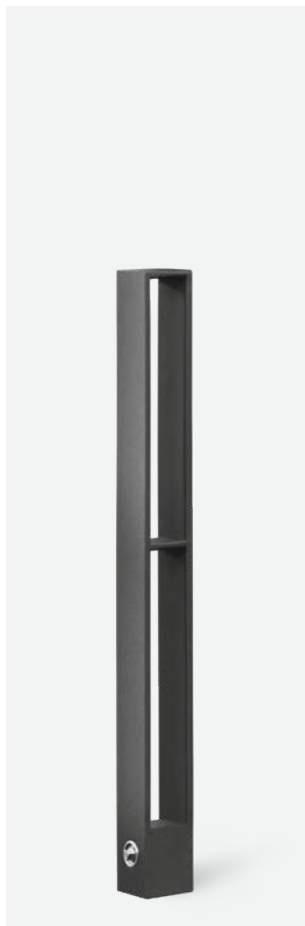
DB 703, 220 · 720 mm

Art. N° 037.120

Esch-Belval Luxembourg



3



BOLLARD 059

Steel | 900 mm

Specifications

Square bollard made from flat steel with two open sides, a horizontal divider in the middle, and a solid base.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

· Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technologie)

Completely covers the ground shell

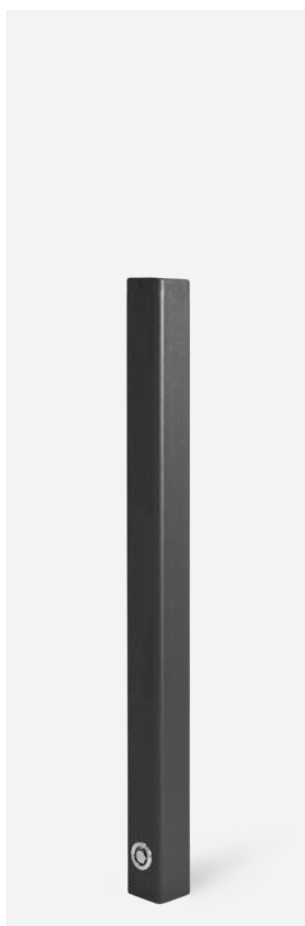
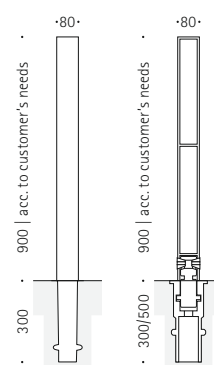
Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

		Fixed mounting	3p-Technologie
Bollard 059	galvanised	059.001	059.020
Bollard 059	powder-coated	059.101	059.120



2018

3p Technologie



BOLLARD 066

Steel | 900 mm

Specifications

Square steel bollard with slightly rounded corners and a flat, square top.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technologie)

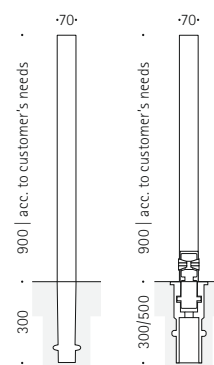
Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

		Fixed mounting	3p-Technologie
Bollard 066	galvanised	066.001	066.020
Bollard 066	powder-coated	066.101	066.120



3p Technologie





BOLLARD 065

Steel | 900 mm

Specifications

Rectangular bollard made from steel with a flat top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

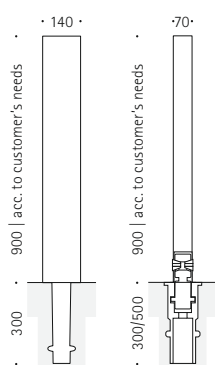
· Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint



	Fixed mounting	3p-Technology
Bollard 065	065.001	065.020



BOLLARD 063

Steel | 1200 mm

Specifications

Square bollard made from galvanised steel with rounded corners (approx. 15 mm radius) and a flat top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

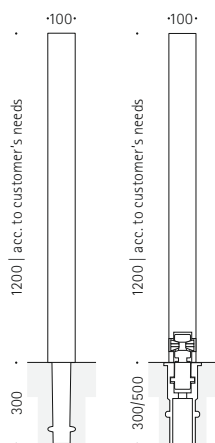
· Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

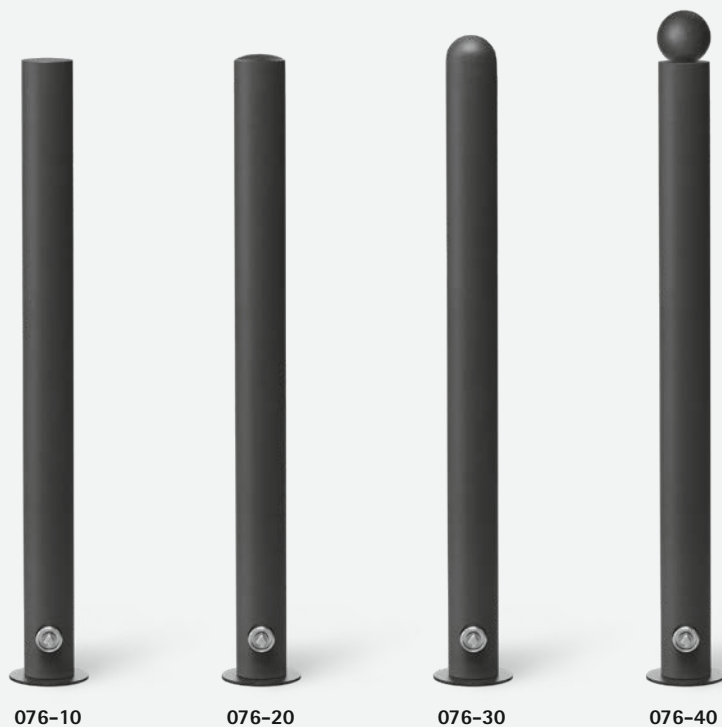


	Fixed mounting	3p-Technology
Bollard 063	063.001	063.020



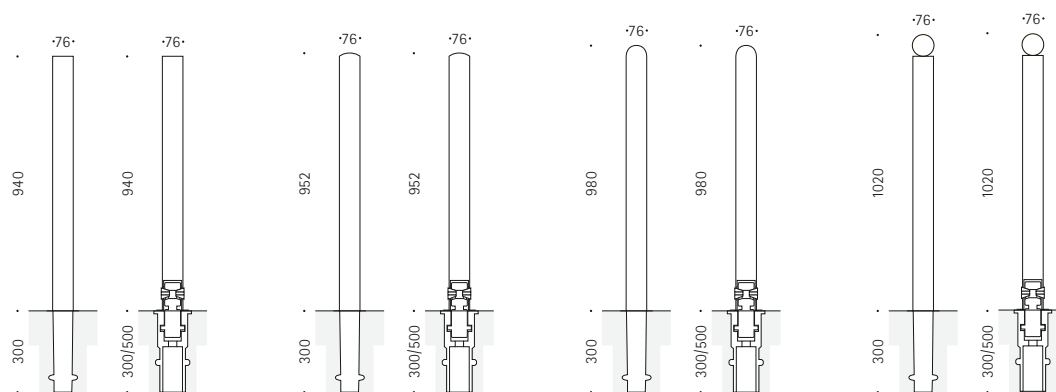
BOLLARD 076

Steel



Diameter 76 mm:

Suitable for multipurpose clips to fasten signs, bins, dog waste containers etc.



BOLLARD 076

Steel

Specifications

- 076-10** Cylindrical bollard made from galvanised steel with flat top.
- 076-20** Cylindrical bollard made from galvanised steel with slightly curved top.
- 076-30** Cylindrical bollard made from galvanised steel with round top.
- 076-40** Cylindrical bollard made from galvanised steel with a spherical top.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Optional: with flange to enable screwing

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Suitable for multipurpose clips to fasten signs, bins, dog waste containers etc.

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint



	Top shape	Material	Fixed mounting	3p-Technology
Bollard 076-10	flat	galvanised	076.201	076.220
		galvanised/powder-coated	076.301	076.320
Bollard 076-20	slightly curved	galvanised	076.001	076.020
		galvanised/powder-coated	076.101	076.120
Bollard 076-30	round	galvanised	076.401	076.420
		galvanised/powder-coated	076.501	076.520
Bollard 076-40	spherical	galvanised/powder-coated	076.701	076.720



LIGHTING BOLLARDS & FUNCTION BOLLARDS



1: Lighting-Bollard 210 LED *Page 070* | 2: Lighting-Bollard 220 LED *Page 071*
3: Feeder-Bollard 300-2 *Page 069*



- Suitable for playgrounds and sports fields
- Low risk of injury due to rubber granulate
- High stability due to internal steel tube
- Can be used as seat



BOLLARD 026

026-1 | Rubber granulate | 600 mm

026-2 | Rubber granulate | 900 mm

Specifications

Dual waisted bollard made of rubber granulate with a distinct top, middle and base section.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

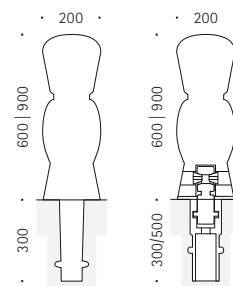
- Rubber granulate (anthracite)
- Available colours (not RAL): reddish-brown (see photo), grey, green

		Fixed mounting	3p-Technologie
Bollard 026-1	600 mm	026.001	026.020
Bollard 026-2	900 mm	026.101	026.120

RUB



3p Technologie



SEATING-BOLLARD 105

Cast aluminium | 450 mm

Specifications

One-piece seat bollard made from cast aluminium with small diamond-shaped apertures in the circular seat supported by a cylindrical leg, tapering slightly at the base.

Mounting

Removable with 3p-Technologie

Alternative: concrete embedment

Finish

- Powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge

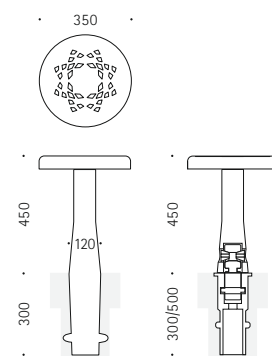


	Fixed mounting	3p-Technologie
Seating-Bollard 105	105.001	105.101

CA



3p Technologie



BOLLARD-ASHTRAY 525

Steel + Stainless steel | 1097 mm

Specifications

Fully cylindrical bollard ashtray with a sloping slot area. Labelling in the form of an outlined, laser-printed cigarette symbol.

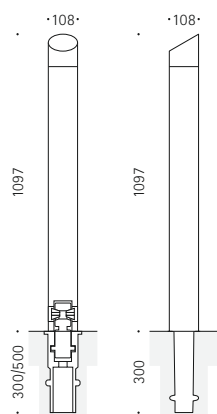
Mounting

Removable with 3p-Technology

Alternative: concrete embedment or with flange to enable screwing

Finish

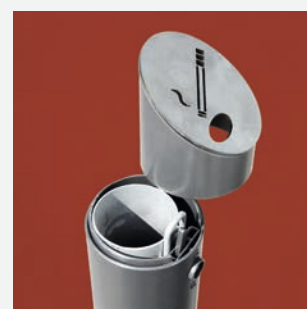
- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- May be unlocked for emptying using a triangular key
- The height can be adjusted individually (surcharge)



		Fixed mounting	3p-Technology	For Screwing
Bollard-Ashtray 525	Steel	525.001	525.020	525.040
Bollard-Ashtray 525	Stainless steel	525.011	525.022	525.140



The only bollard ashtray with predetermined breaking point





FEEDER-BOLLARD 300-1

Steel | 1335 mm

Specifications

Cylindrical tube with two grooves at the top and a flattened upper end. Access to the internal circuit via a lockable door, including cable slide. Protection type IP 44.

Mounting

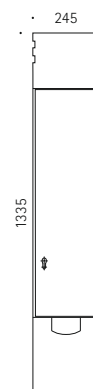
Screw-on inside the bollard

Finish

- Hot-dip galvanised steel ST 37, cast aluminium top, powder coating in standard RAL colours or DB 703
- Standard design with adapter plate without electricity and water connections
- Incl. cable slide (operation possible with the flap closed)
- Equipment to enable electricity and water connections is available on request



	Fixed mounting
Feeder-Bollard 300-1	300.010



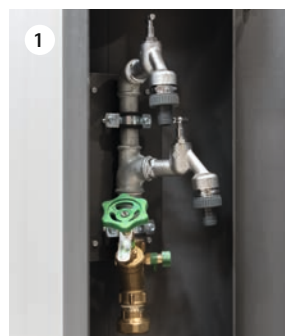
FEEDER-BOLLARD 300-1

Eli Luxembourg



1 Fittings for electrical or water connection (optional)

Example: Water connection with two 3/4" tapping points with hose coupling and an emptying facility before periods of frost.



2 Incl. cable feeder

Wires can be led out through the cable feeder, enabling operation even when the flap is closed.

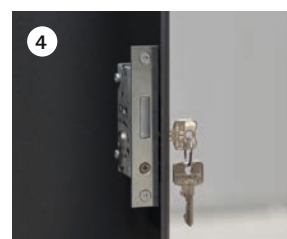


3 Lockable access panel

With profile cylinder lock



4 Delivery incl. 3 keys





FEEDER-BOLLARD 300-2

Steel | 1340 mm

Specifications

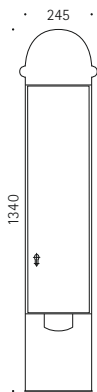
Cylindrical tube with a circumferential set-on ring in the top section as well as a hemispherical upper closure. Access to the internal circuit via a lockable door, including cable slide. Protection type IP 44.

Mounting

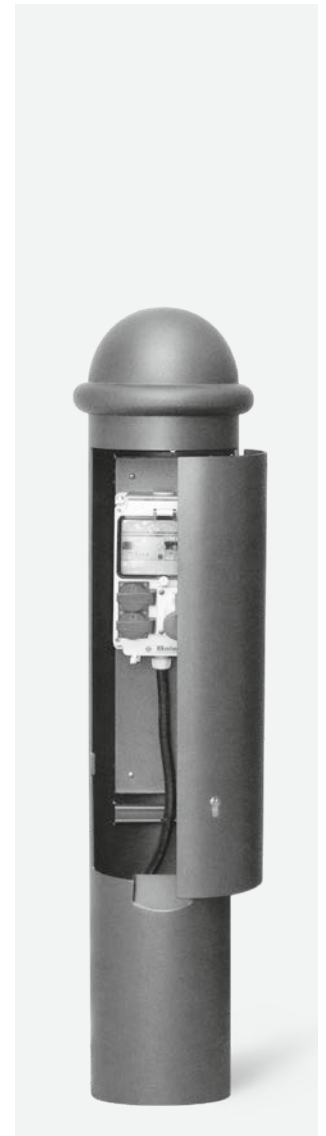
Screw-on inside the bollard

Finish

- Hot-dip galvanised steel ST 37, cast aluminium top, powder coating in standard RAL colours or DB 703
- Standard design with adapter plate without electricity and water connections
- Incl. cable slide (operation possible with the flap closed)
- Equipment to enable electricity and water connections is available on request



	Fixed mounting
Feeder-Bollard 300-2	300.020
<div> <div>ST</div> </div>	



1 FEEDER-BOLLARD 300-2
Daun Germany

2 FEEDER-BOLLARD 300-1/
FEEDER-BOLLARD 300-2
Mersch Luxembourg



LED – BLAZING ROLE MODELS

The LED lighting bollards 210, 220, 230 and 240 are setting an example in matters of energy consumption. With a power consumption of less than 4 watts per hour, they significantly reduce the urban electricity costs compared to conventional light sources.

All these models are available with 3p-Technology only.



LIGHTING-BOLLARD 210 LED

Cast aluminium | 870 mm

Specifications

Fully cylindrical lighting bollard made from cast aluminium with a flat top. With LED lighting in the head section, 2 LED strips each with 14 LEDs and Perspex diffuser (PMMA). Operated with 24 V low voltage, 2 m connector cable with plug coupling in the base. Protection type IP 67.

Mounting

Available only with 3p-Technology

Finish

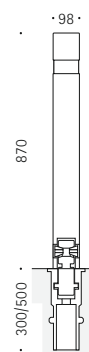
Powder coating in standard RAL colours or DB 703

Technical information

- Light unit: 2 LED strips, each with 14 LEDs
- Power supply: 24 Volt DC
- Power input: 4 W
- Luminous flux: approx. 430 lm
- Reflected beam angle: vertical 360°, horizontal approx. 120°
- Light colour: 6000 K, 4000 K or 2700 K
- Protection type: IP 67



			3p-Technology
Lighting-Bollard 210 LED	6000 K	cool white	210.020
Lighting-Bollard 210 LED	4000 K	neutral white	210.120
Lighting-Bollard 210 LED	2700 K	warm white	210.220



No risk of
electric shock
due to low 24 V
voltage

ADVANTAGES AT A GLANCE

- Significantly lower power consumption by LEDs
- Considerably longer life than conventional light sources
- LED unit is replaceable
- No risk of electric shock, since low voltage
- The junction piece can be replaced in a few minutes only
- Quick disassembly for short-term space requirements
- Ground shell can be covered, therefore no risk of tripping

LIGHTING-BOLLARD 220 LED

Cast aluminium | 180 · 600 mm

Specifications

Fully cylindrical lighting bollard made from cast aluminium with a flat top. With LED lighting in the lower section, 1 LED strip of 21 LEDs and Perspex diffuser (PMMA). Operated with 24 V low voltage, 2 m connector cable with plug coupling in the base. Protection type IP 67.

Mounting

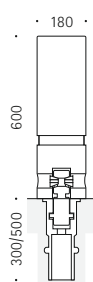
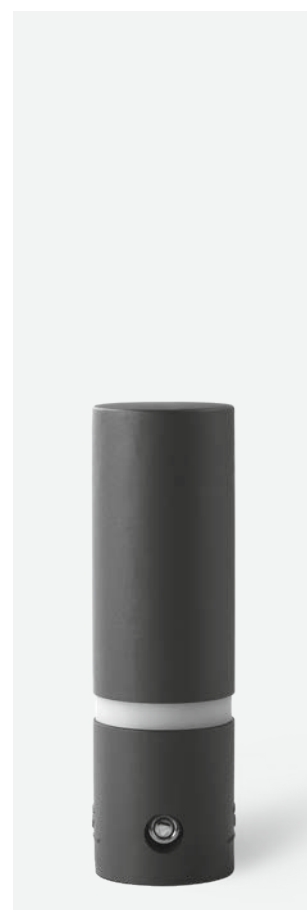
Available only with 3p-Technology

Finish

Powder coating in standard RAL colours or DB 703

Technical information

- Light unit: 1 LED strip of 21 LEDs
- Power supply: 24 Volt DC
- Power input: 3 W
- Luminous flux: approx. 320 lm
- Reflected beam angle: vertical 360°, horizontal approx. 120°
- Light colour: 6000 K, 4000 K or 2700 K
- Protection type: IP 67



			3p-Technology
Lighting-Bollard 220 LED	6000 K	cool white	220.020
Lighting-Bollard 220 LED	4000 K	neutral white	220.120
Lighting-Bollard 220 LED	2700 K	warm white	220.220



3p-Technologie



LIGHTING-BOLLARD 230 LED

Cast aluminium | 150 · 1000 mm

Specifications

Continuous cylindrical light bollard made from cast aluminium with a flat top. With LED lighting in the head section, 1 LED strip of 21 LEDs and Perspex diffuser (PMMA). Operated with 24 V low voltage, 2 m connector cable with plug coupling in the base. Protection type IP 67.

Mounting

Available only with 3p-Technologie

Finish

Powder coating in standard RAL colours or DB 703

Technical information

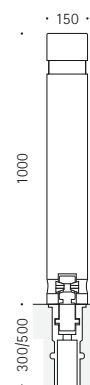
- Light unit: 1 LED strip of 21 LEDs
- Power supply: 24 Volt DC
- Power input: 3 W
- Luminous flux: approx. 320 lm
- Reflected beam angle: vertical 360°, horizontal approx. 120°
- Light colour: 6000 K, 4000 K or 2700 K
- Protection type: IP 67



			3p-Technologie
Lighting-Bollard 230 LED	6000 K	cool white	230.020
Lighting-Bollard 230 LED	4000 K	neutral white	230.120
Lighting-Bollard 230 LED	2700 K	warm white	230.220



3p-Technologie





LIGHTING-BOLLARD 240 LED

Cast aluminium | 870 mm

Specifications

Cylindrical cast aluminium bollard with three circumferential grooves and a conical base. Ring-shaped installation of six LED spotlights in V4A stainless steel casing between the first and second groove. Operated with 24 V low voltage, 2 m connector cable with plug coupling in the base. Protection type IP 67.

Mounting

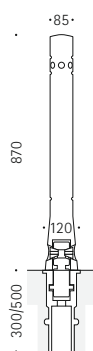
Available only with 3p-Technology

Finish

Powder coating in standard RAL colours or DB 703

Technical information

- Light unit: 6 x LED spotlights, Ø 25 mm
- Power supply: 24 Volt DC
- Luminous flux: 6 x approx. 15 lm
- Connected wattage: 1.5 W (6 x 0.25 W)
- Reflected beam angle: vertical 360°, horizontal approx. 120°
- Light colour: 6000 K (cool white), 2800 K (warm white)
- Protection type: IP 67



			3p-Technology
Lighting-Bollard 240 LED	6000 K	cool white	240.020
Lighting-Bollard 240 LED	2800 K	warm white	240.120



3p-Technologie





LIGHTING-BOLLARD 265 LED

Steel | 900 mm

Specifications

Lighting-Bollard 265 LED-A:

Rectangular steel bollard with a flat top and a vertical LED light strip (650 mm) on both narrow sides. Each with 2 LED strips, Perspex (PMMA) diffuser, operated using 24 V low voltage, 2 m connector cable with plug socket at the base of the bollard. Protection type IP 67.

Lighting-Bollard 265 LED-B:

Rectangular steel bollard with a flat top and a vertical LED light strip (550 mm) on both wide sides. Each with 2 LED strips, Perspex (PMMA) diffuser, operated using 24 V low voltage, 2 m connector cable with plug socket at the base of the bollard. Protection type IP 67.

Mounting

Available only with 3p-Technology

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- The height can be adjusted individually (surcharge or discount)

Technical information

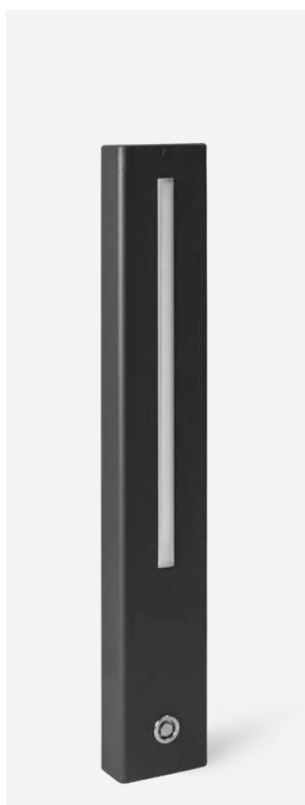
- Light unit: 2 LED strips (550 mm/650 mm)
- Power supply: 24 Volt DC
- Power input (max.): approx. 16 W (550 mm) resp. approx. 19 W (650 mm)
- Luminous flux (max.): approx. 990 lm (550 mm) resp. approx. 1170 lm (650 mm)
- Reflected beam angle: 120°
- Light colour: RGB + white (4000 K)
- Protection type: IP 67

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint

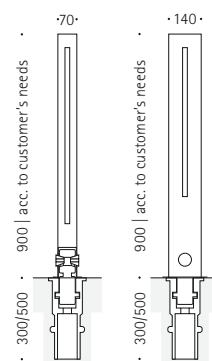


		3p-Technology
Leuchtpoller 265 LED-A	RGB + white (4000 K)	265.120
Leuchtpoller 265 LED-B	RGB + white (4000 K)	265.220



2018

3p-Technologie



LIGHTING-BOLLARD 266 LED*Steel | 900 mm***Specifications**

Square steel bollard with a flat top and a vertical LED light strip (650 mm) on two opposite sides. Each with 2 LED strips, Perspex (PMMA) diffuser, operated using 24 V low voltage, 2 m connector cable with plug socket at the base of the bollard. Protection type IP 67.

Mounting

Available only with 3p-Technology

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- The height can be adjusted individually (surcharge or discount)

Technical information

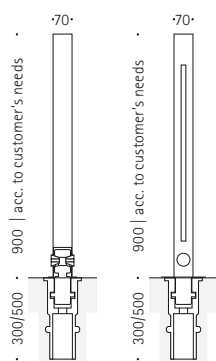
- Light unit: 2 LED strip (650 mm)
- Power supply: 24 Volt DC
- Power input (max.): approx. 19 W
- Luminous flux (max.): approx. 1170 lm
- Reflected beam angle: 120°
- Light colour: RGB + 4000 K
- Protection type: IP 67

Note

The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell

Material: ST37 steel, hot-dip galvanised and powder-coated in bollard paint



		3p-Technology
Leuchtpoller 266 LED	RGB + white (4000 K)	266.120
ST	LED	2018
		3p-Technologie



LIGHTING-BOLLARD 200

Stainless steel | 620 mm

Specifications

Fixed mounting: Cylindrical stainless-steel lighting bollard as permanent fixtures. With satined or clear acryl glass. Reflective slats surround the light unit. With standard lighting. Internal cable plus electric ballast for connection to a 230 Volt (AC) power source. Protection type IP 54.

Mounting

Screw-on (Fixed mounting)
Removable with 3p-Technology on request

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
- Stainless steel 1.4301 with powder coating in standard RAL colours or DB 703
- Available with satined or clear acryl glass
- Supplied with standard Dulux D/E 13 Watt TC-DEL lighting (26 Watt available on request with a surcharge)
- Lower fitting: hexagon shell safety screws with pin, incl. key

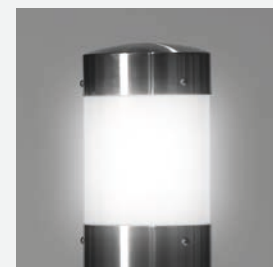
	Light unit	Acryl glass	Finish	Fixed mounting
Lighting-Bollard 200	standard	clear	pickled/smoothed	200.001
Lighting-Bollard 200	standard	satined	pickled/smoothed	200.010
Lighting-Bollard 200	standard	clear	powder coating	201.001
Lighting-Bollard 200	standard	satined	powder coating	201.010



Technical information

(Standard lighting)

- Light unit:
Osram Dulux TC-DEL 13 Watt
- Connection voltage: 230 Volt AC
- Luminous flux: 900 lm
- Light colour: 830 K (warm white)
- Protection class 1,
protection type IP 54



Stainless steel, satined acryl glass



LIGHTING-BOLLARD 200 LED

Stainless steel | 620 mm

Specifications

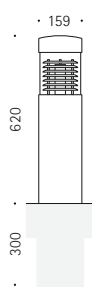
Fixed mounting: Cylindrical stainless-steel lighting bollard as permanent fixtures. With satined or clear acryl glass. Reflective slats surround the light unit. With energy efficient LED technology. Internal cable plus electric ballast for connection to a 230 Volt (AC) power source. Protection type IP 54.

Mounting

Screw-on (Fixed mounting)
Removable with 3p-Technology on request

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
- Stainless steel 1.4301 with powder coating in standard RAL colours or DB 703
- Available with satined or clear acryl glass
- Supplied with LED stick with 3 x 3 LEDs
- Lower fitting: hexagon shell safety screws with pin, incl. key



	Light unit	Acryl glass	Finish	Fixed mounting
Lighting-Bollard 200 LED	LED stick	clear	pickled/smoothed	200.101
Lighting-Bollard 200 LED	LED stick	satined	pickled/smoothed	200.110
Lighting-Bollard 200 LED	LED stick	clear	powder coating	201.101
Lighting-Bollard 200 LED	LED stick	satined	powder coating	201.110



3p-Technologie



LED, Stainless steel, clear acryl glass



Technical information

(LED stick)

- Light unit: LED stick with 3 x 3 LEDs
- Connection voltage: 230 Volt AC
- Power: 9 Watt
(incl. 11-Watt driver unit)
- Luminous flux: 1000 lm
- Max. power input: 350 mA
- Light colour: 3000 K (warm white)
- Protection class 1,
protection type IP 54

03

BENCHES & TABLES

Since park benches are meant to invite passers-by to rest and relax, they should be comfortable. Located in public parks or squares they add to the urban space with their aesthetic appearance. In public places, the bench is not only a resting place or viewpoint: meeting others, communicating with people of different ages, strangers before, symbolise the function of the bench in the urban context.

ABES benches are a tasteful composition of robust steel, stainless steel and aluminium frames, which – combined with wooden, steel and stainless steel supports – make a finely designed outdoor furniture. Weatherproof materials and solid anchoring to the ground protect the benches from vandalism and can be installed all year round.



1: Bench 100 page 089 | 2: Bench 141-1 page 082 | 3: Seating-Bollard 105 page 097

Bench + Table 144 page 085





03



	100	103	104	107-1	107-2	121-1	121-2	131	141-1	141-2	142-1	142-2
	<i>Bench</i>	<i>Bench</i>	<i>Bench</i>	<i>Bench</i>		<i>Bench</i>		<i>Bench</i>	<i>Bench</i>		<i>Bench w/o back rest</i>	<i>Bench with back rest</i>
Page in catalogue	089	087	090-091	088		094-095		092-093	082			083

NEW 2018

NEW 2018														
Model	Bench w/o back rest	-	-	■	■	■	■	■	■	■				
	Bench with back rest	■	■	-	■	■	-	■		■				
	Stool	-	-	■	-	-	-	-	■					
	Chair	-	-	-	-	-	-	-			■			
	Table	-	-	-	-	-	-	-	-	-				
Material	Cast aluminium (w. powder coating)	-	-	■	-	■	■	-	-	-	-			
	Steel ST37 (galvanised w. powder coating)	■	■	-	■	-	-	■	■	■				
	Stainless steel 1.4301 (w. powder coating)	■	■	-	■	-	-	-	-	-				
Modular configuration	-	-	■	-	■	■	-	-	-	-				
Mounting	For screwing	■	■	■	■	-	-	■	■	■	■			
	For concrete embedding	-	-	-	-	■	■	-	-	-	-			
	Free standing	■	■	■	■	-	-	-	-	-	-			
	Removable with 3p-Technology	-	-	-	-	■	■	-	-	-	-			
Options	Individual color (RAL/DB)	○	○	○	○	○	○	○	○	○	○			
	Individual length	○	-	-	-	-	-	○	○	○	○			
	Individual (seat) height	-	○	-	○	-	-	-	-	-	-			
	Individual wooden slats	○	○	-	-	-	○	○	○	○	○			
Measurements	Total width (mm)	1700	2380	modular	1585	2060	2060	2240	2002	722	2002	722		
	Total height (mm)	740	835	modular	576	840	458	820	450	453	823	550	821	
	Total depth (mm)	760	730	modular	340	522	340	528	340	430	537	440	542	
	Seat width (mm)	1700	2380	modular	1500	1500	1500	1800	1800	520	1800	520		
	Seat height (mm)	420	430	452	437	458	450	453	453		453			
	Weight (approx. in kg)	79	62,5	modular	26	46	48	61	48	22	27	22	16	27
Design	hrd ^[1]	coj ^[2]			hrd ^[1]	hrd ^[1]	sw3d ^[3]	sw3d ^[3]						

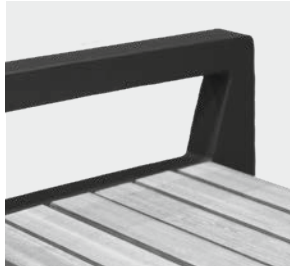


	143-1	143-2	143	144-1	144-2	144	145	146-1	146-2	105	108
	Bench w/o back rest	Bench with back rest	Table	Bench	Table	Hocker	Table	Bench	Seating bollard	Lean-on bench	
Page in catalogue	084			085			086		081	066/097	096

NEW 2018

NEW 2016										2016										
Model	Bench w/o back rest								-		-		-							
	Bench with back rest								-		-		-							
	Stool								-		-		-							
	Chair								-		-		-							
	Table								-		-		-							
Material	Cast aluminium (w. powder coating)		-		-		-		-		-		-							
	Steel ST37 (galvanised w. powder coating)		-		-		-		-		-		-							
	Stainless steel 1.4301 (w. powder coating)		-		-		-		-		-		-							
	Modular configuration		-		-		-		-		-		-							
Mounting	For screwing		-		-		-		-		-		-							
	For concrete embedding		-		-		-		-		-		-							
	Free standing		-		-		-		-		-		-							
	Removable with 3p-Technology		-		-		-		-		-		-							
Options	Individual color (RAL/DB)		○		○		○		○		○		○							
	Individual length		○		○		○		○		○		○							
	Individual (seat) height		○		○		○		○		○		○							
	Individual wooden slats		○		○		○		○		○		○							
Measurements	Total width (mm)		1590/1890 610		1590/1890 610		1587		1587		1587		401 574		2100		350 740			
	Total height (mm)		453 453		823 823		750		453 813		750		453 750		602 877		450 1250			
	Total depth (mm)		444 444		544 544		735		400 544		735		401 574		615 588		350 300			
	Seat width (mm)		1500/1800 520		1500/1800 520				1500				401		2000		350 590			
	Seat height (mm)		453		453				453				453		447		450			
	Weight (approx. in kg)		18 13		23 16		31		18 23		31		9 12		18 23		8 105			
Design			sw3d ³⁾					sw3d ³⁾			sw3d ³⁾			sw3d ³⁾			co ²⁾		jq ⁴⁾	

■ = Model | ● = Finish | ○ = Option (with a surcharge) | - = Not available | ¹⁾ hammer.runge.design | ²⁾ Charles O. Job | ³⁾ Stefan Wehrmann 3Dsign | ⁴⁾ J. P. Gillen



BENCH 146

Cast aluminium

146-1 | without back rest

146-2 | with back rest

Specifications

Bench 146-1 without back rest

Armrests and wood slatting, consisting of two cast aluminium frames, each with two legs, an inwardly inclined panel and supports for the seat.

Bench 146-2 with back rest

Armrests and wood slatting, consisting of two cast aluminium frames, each with two legs, an inwardly inclined panel and supports for the seat. The back rest and armrests merge with one another, forming an almost 90° angle to one another.

Mounting

Screw-on

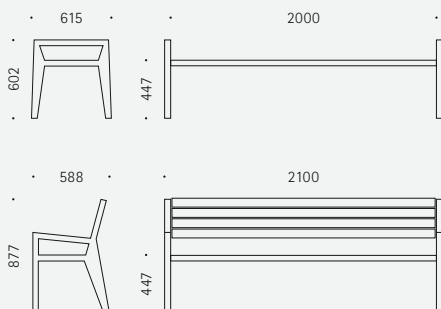
Finish

- Powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, length and wooden surface

		Seat width	Seat height	W	D	H	For screwing
Bench 146-1	Without back rest	2000	447	2100	615	602	146.101
Bench 146-2	With back rest	2000	447	2100	588	877	146.201



2018





BENCH 141

Steel

141-1 | without back rest

141-2 | with back rest

Specifications

Bench 141-1 without back rest, consisting of two semi-circular steel side parts capable of holding five wooden slats ending level with the steel frames.

Bench 141-2 with back rest

Optionally includes a back rest consisting of three wooden slats connected to steel girder.

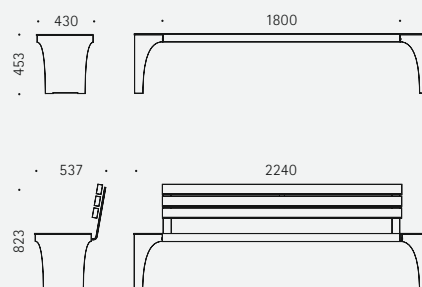
Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, length and wooden surface

Mounting

Screw-on

		Seat width	Seat height	W	D	H	For screwing
Bench 141-1	Without back rest	1800	453	2240	430	453	141.001
Bench 141-2	With back rest	1800	453	2240	537	823	141.101





BENCH 142

Steel

142-1 | without back rest

142-2 | with back rest

Specifications

Bench 142-1 without back rest, consisting of two steel side parts bent outwards at the top, capable of holding five wooden slats. The side parts are higher than the seating slats and serve as armrests.

Bench 142-2 with back rest

Optionally includes a back rest consisting of three wooden slats connected to steel girders.

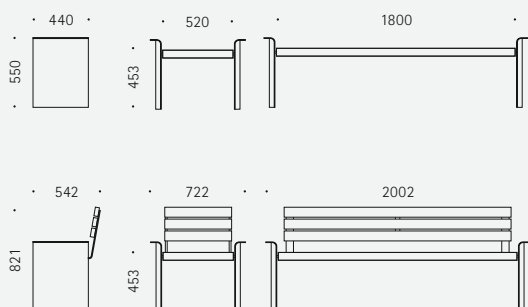
Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, length and wooden surface

Mounting

Screw-on

		Seat width	Seat height	W	D	H	For screwing
Bench 142-1	Bench without back rest	1800	453	2002	440	550	142.001
Bench 142-1	Stool	520	453	722	440	550	142.002
Bench 142-2	Bench with back rest	1800	453	2002	542	821	142.101
Bench 142-2	Chair	520	453	722	542	821	142.102





BENCH 143

Steel

143-1 | without back rest

143-2 | with back rest

Specifications

Bench 143-1 without back rest, consisting of two perpendicular side parts made from steel profiles, which hold five wooden slats.

Bench 143-2 with back rest consisting of three wooden slats connected to steel girders.

Mounting

Screw-on or concrete embedment

Finish

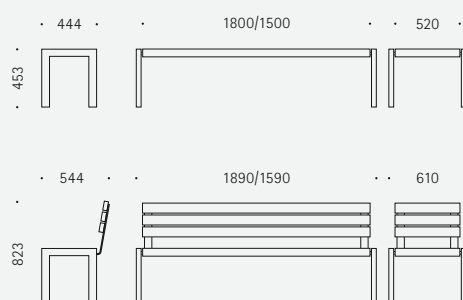
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, length and wooden surface

TABLE 143

Specifications

Table consisting of two perpendicular side parts made from steel profiles and a rectangular steel frame into which eight wooden slats are set flush. The lower areas of the side parts are stabilised lengthways and diagonally by supports.

		Seat width	Seat height	W	D	H	For concrete embedding	For screwing
Bench 143-1	Bench w/o back rest	1800	453	1890	444	453	143.051	143.001
Bench 143-1	Bench w/o back rest	1500	453	1590	444	453	143.053	143.003
Bench 143-1	Stool	520	453	610	444	453	143.052	143.002
Bench 143-2	Bench with back rest	1800	453	1890	544	823	143.151	143.101
Bench 143-2	Bench with back rest	1500	453	1590	544	823	143.153	143.103
Bench 143-2	Chair	520	453	610	544	823	143.152	143.102
Table 143		-	-	1587	735	750	143.550	143.500





BENCH 144

Steel

144-1 | without back rest

144-2 | with back rest

Specifications

Bench 144-1 without back rest, consisting of two T-shaped side parts made from steel profiles, connected to a rectangular steel frame into which four wooden slats are set flush as a seating slat.

Bench 144-2 with back rest consisting of three wooden slats connected to steel girders.

Mounting

Screw-on or concrete embedment

Finish

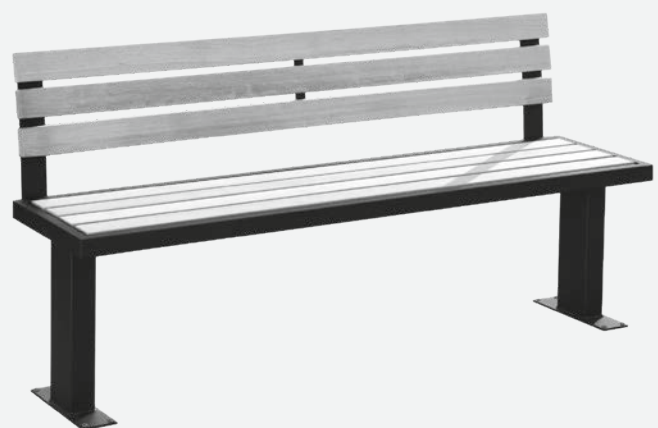
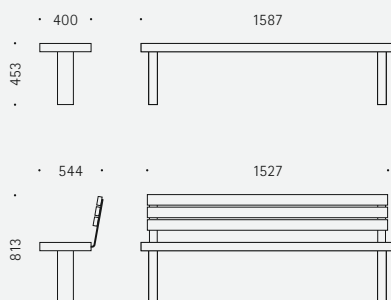
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, length and wooden surface

TABLE 144

Specifications

Table consisting of two T-shaped side parts made from steel profiles, connected to a rectangular steel frame into which eight wooden slats are set flush. The lower areas of the side parts are stabilised lengthways by a support.

		Seat width	Seat height	W	D	H	For concrete embedding	For screwing
Bench 144-1	Without back rest	1500	453	1587	400	453	144.051	144.001
Bench 144-2	With back rest	1500	453	1587	544	813	144.151	144.101
Table 144		-	-	1587	735	750	144.550	144.500





STOOL 145

Steel

Specifications

Stool consisting of a revolving square steel frame sitting on a steel profile and into which four wooden slats are set flush.

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour and wooden surface

TABLE 145

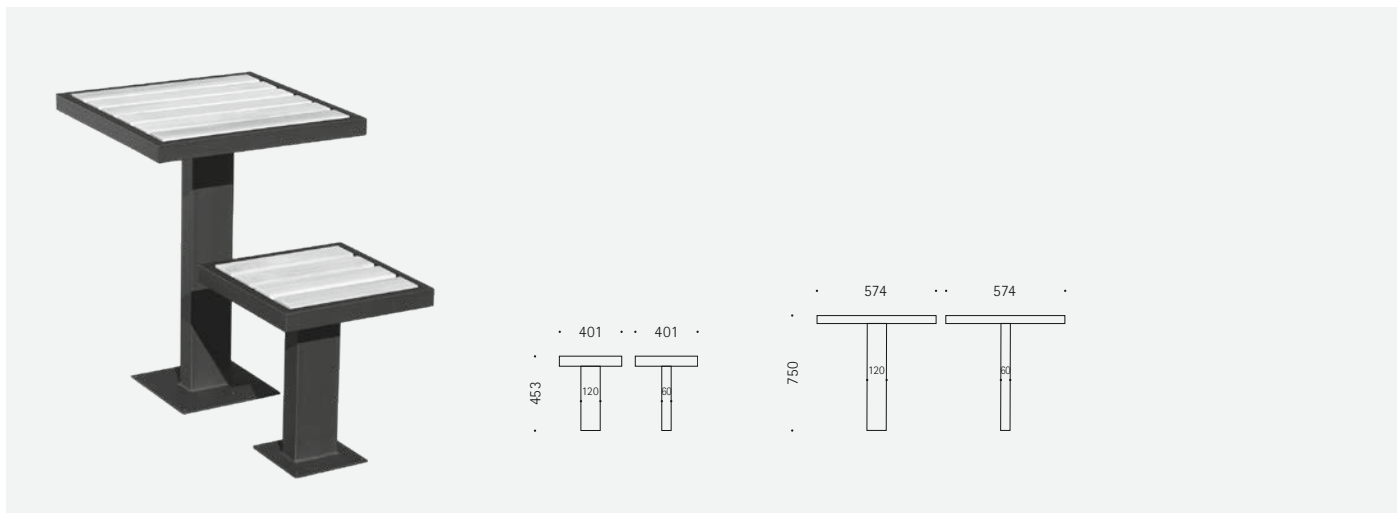
Specifications

Table consisting of an encompassing square steel frame which sits on a steel profile and into which six wooden slats are set flush.

Mounting

Screw-on or concrete embedment

	Seat width	Seat height	W	D	H	For concrete embedding	For screwing
Stool 145	401	453	401	401	453	145.051	145.001
Table 145	-	-	574	574	750	145.550	145.500





BENCH 103

with wooden support

Steel + Stainless steel

Specifications

Park bench made of bent steel tubes adjusted to miter with two diagonally opposite back rests. The steel frame is designed to accommodate seating supports and back rests made of wood.

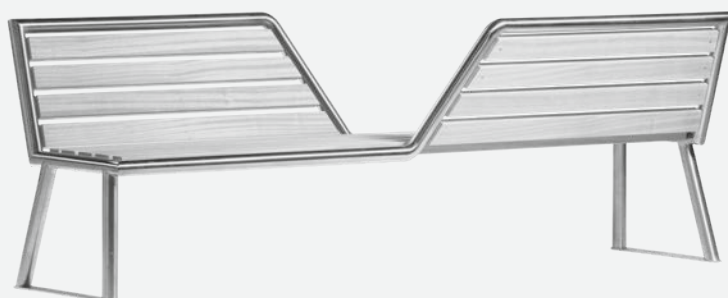
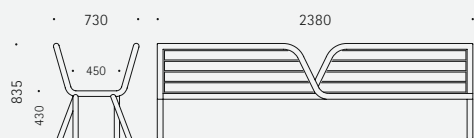
Mounting

Screw-on (recommended) or free standing

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

	Seat width	Seat height	W	D	H	ST37 steel	Stainless steel 1.4301
Bench 103	2 x approx. 900	430	2380	730	835	103.102	103.103



03 BENCHES & TABLES



► Also available as bench for senior citizen

- 10 cm higher
- Seating surface tilted slightly forward
- 10% surcharge

BENCH 107

Steel + Stainless steel

107-1 | without back rest

107-2 | with back rest

Specifications

Bench 107-1 without back rest, consisting of two U-shaped steel tube frames including mounting options for a seating slat made from several steel tube profiles.

Bench 107-2 with back rest, connected to the rear tube of the seating slat on sickle-shaped suspensions.

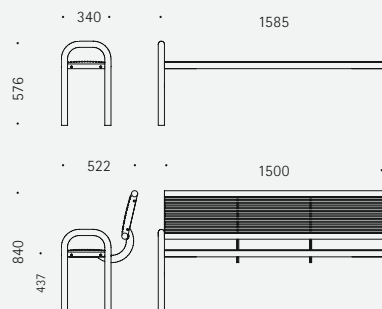
Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703 (other colours available on request at a surcharge)

Mounting

Screw-on (recommended) or free standing

		Seat width	Seat height	W	D	H	ST37 steel	Stainless steel 1.4301
Bench 107-1	Without back rest	1500	437	1585	340	576	107.001	107.003
Bench 107-2	With back rest	1500	437	1585	522	840	107.101	107.103





BENCH 100

"The Original Design"

Steel + Stainless steel

Specifications

Park bench with back rest made from 140 mm wide steel profiles to hold the wooden slats. The profiles are bent and closed at the footing. The wooden slats align with the frames.

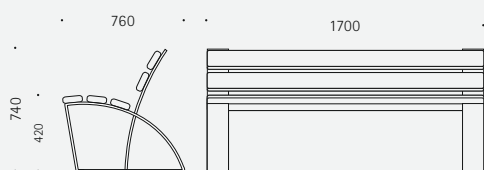
Mounting

Screw-on

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
 - Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
 - Seating slats made from hardwood
- The following changes are possible for an extra price:
colour, length and wooden surface

		Seat width	Seat height	W	D	H	ST37 steel	Stainless steel 1.4301
Bench 100	With back rest	1700	420	1700	760	740	100.002	100.003





BENCH 104

Cast aluminium

Specifications

Cast aluminium bench system without back rest, consisting of four basic units. The system has a modular construction:

- A straight seating unit
- A seating unit bent at a 45° angle
- A seating unit bent at a 90° angle
- Base with inward-facing legs, joined to a plate at the lower end, with the upper end of the plate supporting the seating units

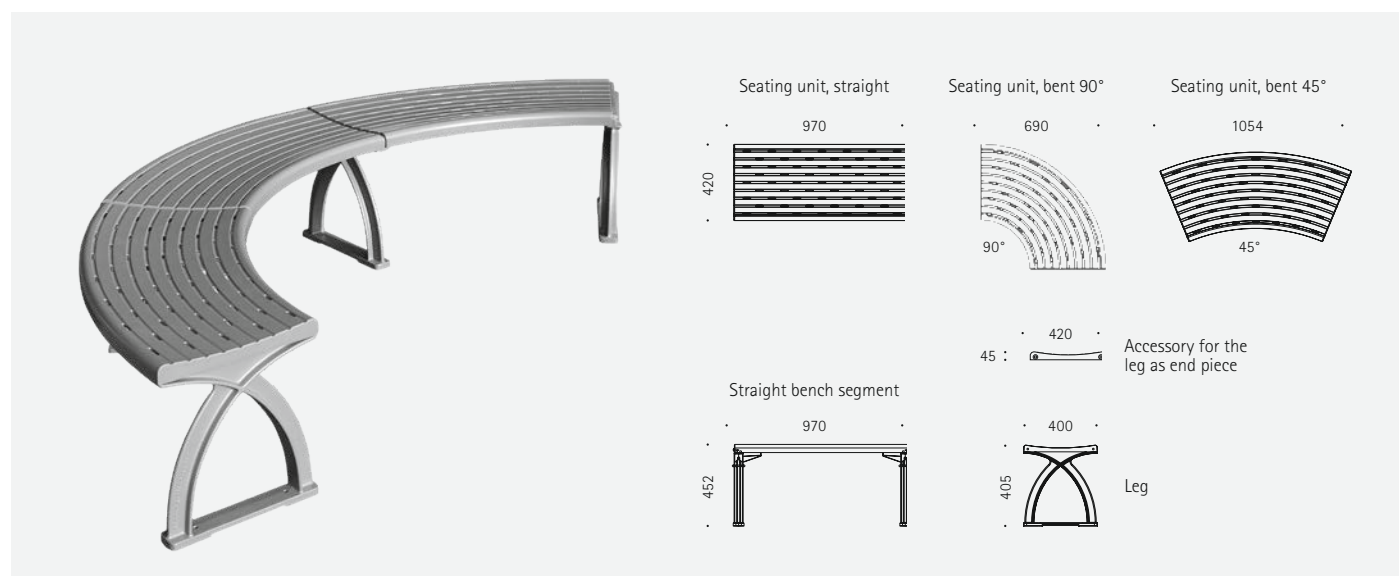
Mounting

Screw-on (recommended) or free standing

Finish

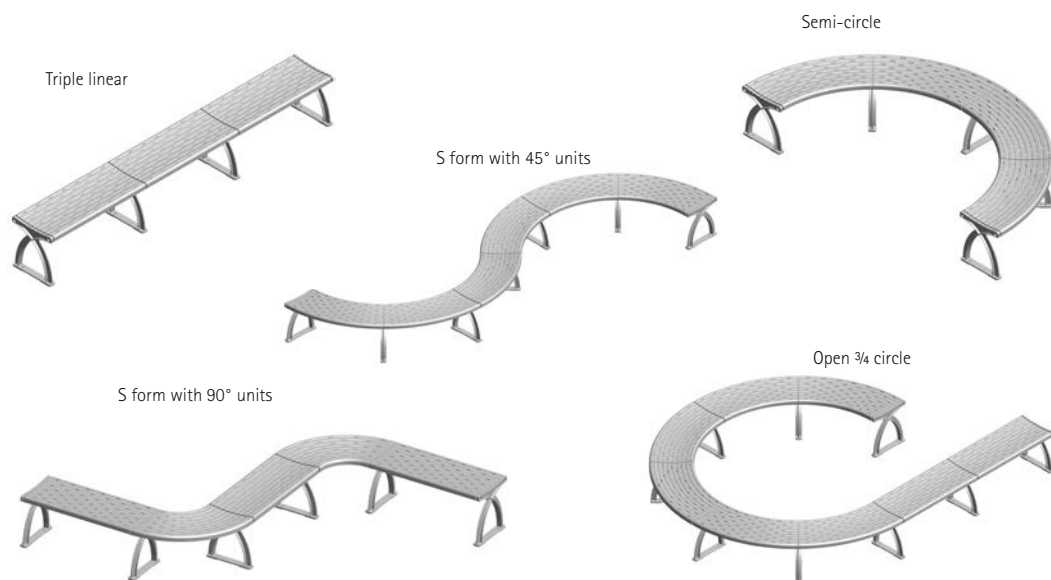
- Powder coating in standard RAL colours or DB 703 (other colours available on request at a surcharge)

		For screwing
Bench 104	Seating unit, straight	104.101
Bench 104	Seating unit, bent 45°	104.201
Bench 104	Seating unit, bent 90°	104.202
Bench 104	Leg	104.301
Bench 104	Accessory for the leg as end piece	104.350



BENCH 104

Sample configurations





BENCH 131

Cast aluminium

Specifications

Bench system without back rest, made from at least two conical cast aluminium bollards with a diameter of 220 mm at the base. The upper end serves to support three seating slats. Each bench bollard has a groove all around the top to distinguish the bollards from the seat support.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

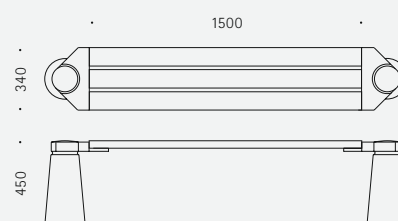
Finish

- Bench bollard: Powder coating in standard RAL colours or DB 703 (other colours available on request at a surcharge)
- Seating slats made from hardwood
- The following changes are possible for an extra price: colour, wooden surface

		Fixed mounting	Removable (3p-Technology) *
Bench 131	Bench bollard as end piece	131.004	131.005
Bench 131	90° right-angle junction	131.006	131.007
Bench 131	180° series junction	131.008	131.009
Bench 131	120° star-shaped formation	131.010	131.011
Bench 131	Set of hardwood bench seats	132.001	

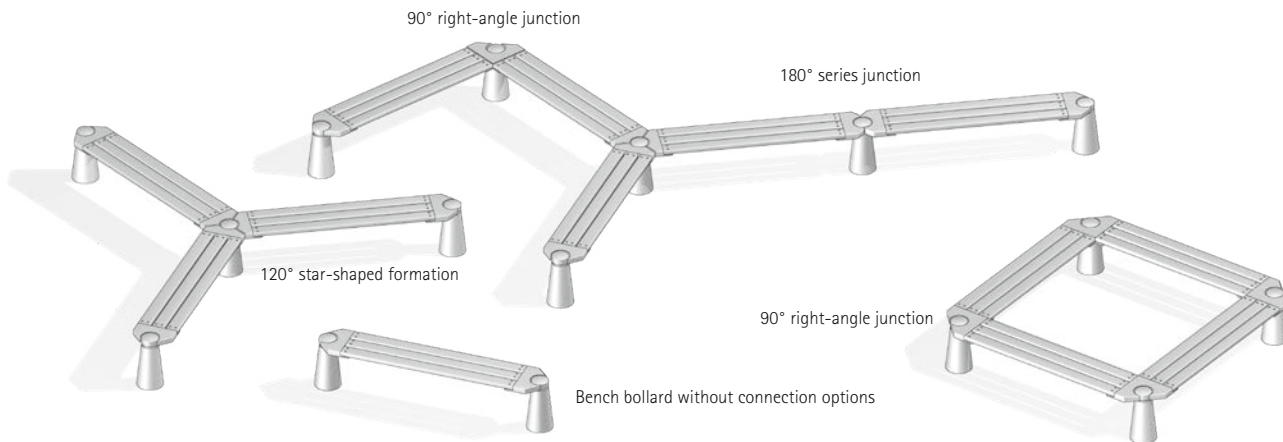


3p-Technologie



BENCH 131

Sample configurations



Example of a Bench 131

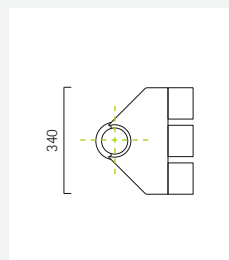
	Fixed mounting	Removable (3p-Technology)*
2 cast aluminium bench bollards	2 × 131.004	2 × 131.005
1 set of hardwood bench seats	1 × 132.001	1 × 132.001

Example of a triangular Bench 131 star-shaped

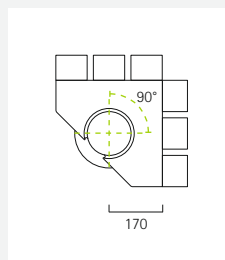
	Fixed mounting	Removable (3p-Technology)*
3 cast aluminium bench bollards	3 × 131.004	3 × 131.005
1 120° star-shaped bench bollard	1 × 131.010	1 × 131.011
3 set of hardwood bench seats	3 × 132.001	3 × 132.001

*Bench 131 equipment (removable with 3p-Technology)

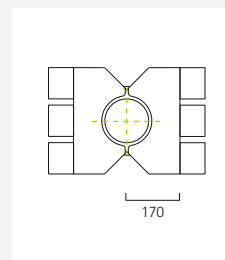
- Ground shell 300 mm (000.001)
- Junction piece (000.008)
- Clamping cone set with hex head bolt (000.004)



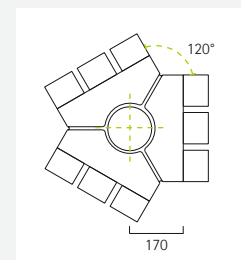
Bench bollard as end piece
without connection options



Bench bollard as right-angle
junction with an
option for a 90° connection



Bench bollard as 180°
series junction with an
extension option



Bench bollard as 120°
star-shaped junction with
extension options in
three directions



BENCH 121

Cast aluminium

121-1 | without back rest

121-2 | with back rest

Specifications

Bench 121-1 without back rest, made from two conical cast aluminium bollards with a diameter of 220 mm at the base. The upper end serves to support 14 seat strips. Each bench bollard has a groove all around the top to distinguish the bollards from the seat support.

Bench 121-2 with back rest, connected to the rear tube of the seat support on sickle-shaped suspensions.

Finish

- Bench bollard: Powder coating in standard RAL colours or DB 703 (other colours available on request at a surcharge)
- Bench seats and back rests: Stainless steel 1.4301 pickled and smoothed, grain 240
- Bench seats and back rests: Steel ST37, galvanised with powder coating in standard RAL colours or DB 703

Mounting

Removable with 3p-Technology

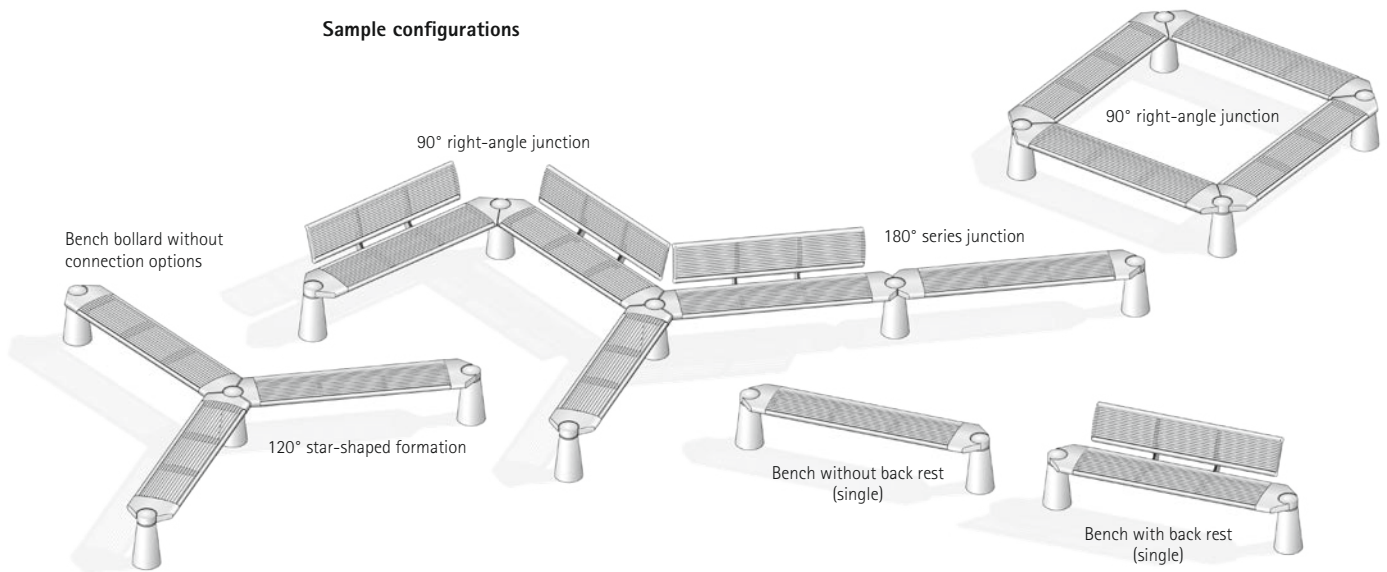
Alternative: concrete embedment

		Fixed mounting	Removable (3p-Technology) *
Bench 121	Bench bollard as end piece	121.004	121.005
Bench 121	90° right-angle junction	121.006	121.007
Bench 121	180° series junction	121.008	121.009
Bench 121	120° star-shaped formation	121.010	121.011
		ST37 steel	Stainless steel 1.4301
Bench 121	Set of bench seats	121.200	121.210
Bench 121	Back rest	121.100	121.110



BENCH 121

Sample configurations



Example of a single Bench 121 with backrest

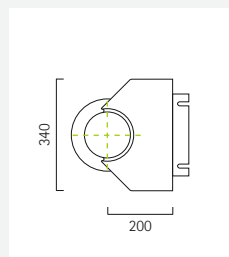
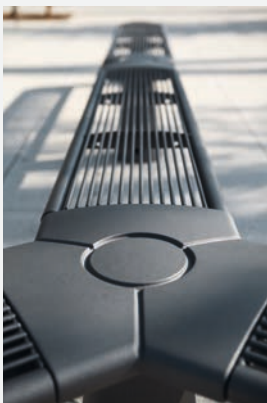
	Fixed mounting	Removable (3p-Technology) *
2 cast aluminium bench bollards	2 × 121.004	2 × 121.005
1 set of bench seats (stainless steel)	1 × 121.210	1 × 121.210
Back rest (stainless steel)	1 × 121.110	1 × 121.110

Example of a star-shaped Bench 121

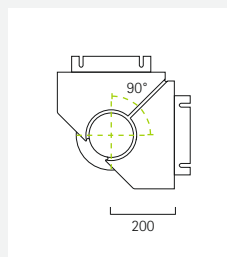
	Fixed mounting	Removable (3p-Technology) *
3 cast aluminium bench bollards	3 × 121.004	3 × 121.005
1 120° star-shaped bench bollard	1 × 121.010	1 × 121.011
3 sets of bench seats (stainless steel)	3 × 121.210	3 × 121.210

*Bench 121 equipment (removable with 3p-Technology)

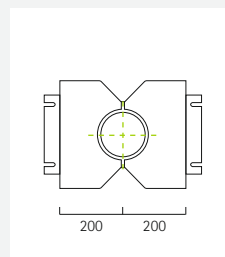
- Ground shell 300 mm (000.001)
- Junction piece (000.008)
- Clamping cone set with hex head bolt (000.004)



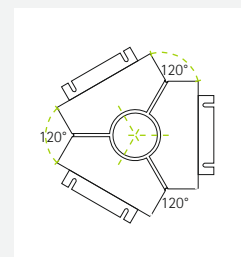
Bench bollard as end piece without connection options



Bench bollard as right-angle junction with an option for a 90° connection



Bench bollard as 180° series junction with an extension option



Bench bollard as 120° star-shaped junction with extension options in three directions.



► With the Bollard-Ashtray 525 suitable
e.g. for smoke breaks *(see photo)*

LEAN-ON-BENCH 108

Steel

Specifications

Back to top widening lean-on element with a curved profile.
The upper half is equipped with a wooden covering.

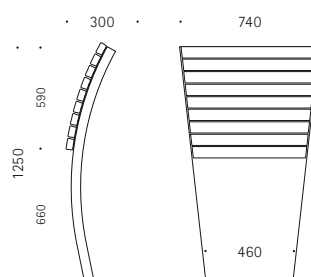
Mounting

Screw-on or concrete embedment

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Lean-on surface made of wood

	Lean-on width	Lean-on height	W	D	H	For screwing	For concrete embedding
Lean-On-Bench 108	740	590	740	300	1250	108.101	108.151





SEATING-BOLLARD 105

Cast aluminium

Specifications

One-piece seat bollard made from cast aluminium with small diamond-shaped apertures in the circular seat supported by a cylindrical leg, tapering slightly at the base.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

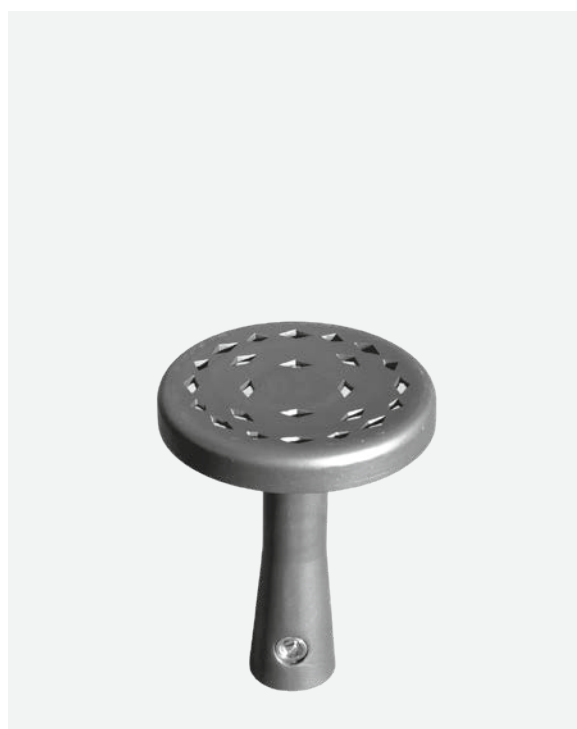
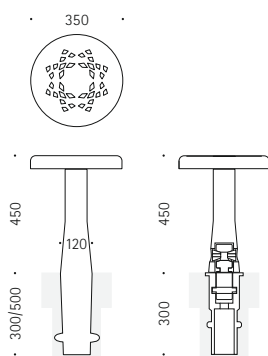
Finish

- Powder coating in standard RAL colours or DB 703 (other colours available on request at a surcharge)

	Seat width	Seat height	W	D	H	Fixed mounting	Stainless steel 1.4301
Seating-Bollard 105	ø 350	450	350	350	450	105.001	105.101



3p Technologie



04

WASTE CONTAINERS

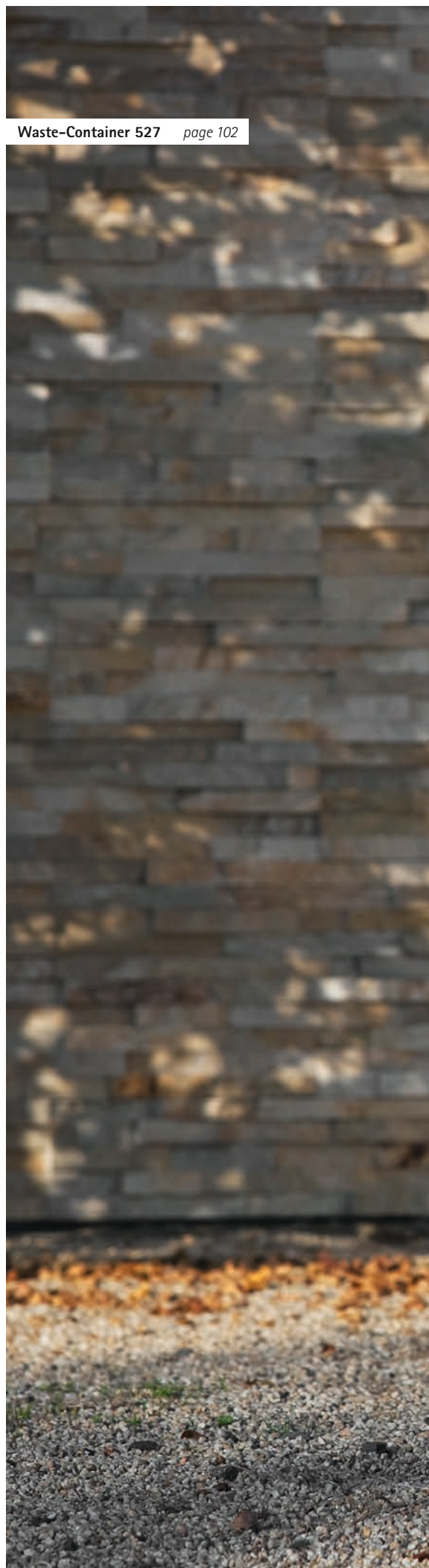
Waste containers are essential for a well-kept urban environment. ABES' models impress with their sophisticated functionality and attractive design, and fit perfectly into the cityscape.

The containers are robust and resistant to vandalism. They are supplied with a cover to prevent rainwater from leaking in, as well as from having unwanted household waste disposed of here. Separate internal containers facilitate cleaning, thereby ensuring hygienic waste disposal.













1: Bollard-Ashtray 525 *page 105* | 2: Waste-Container 523 *page 101*
3: Waste-Container 529 *page 103*

Waste-Container 527 *page 102*





											
		515	523	524	525	527	529	530	531	532	533
		Bollard ashtray									
Page in catalogue		105	101	101	067/105	102	103	103	102	104	104
NEW 2018											
Material	Steel ST37 (galvanised)	■	-	■	-	-	-	-	-	-	-
	Steel ST37 (galvanised w. powder coating)	■	■	■	■	■	■	■	■	-	■
	Stainless steel 1.4301 (pickled and smoothed)	-	-	-	■	■	■	-	-	-	-
	Stainless steel 1.4301 (w. powder coating)	-	-	-	-	-	-	-	-	■	-
Mounting	With flanges to enable screwing	-	■	-	525.040 525.140	-	-	-	-	■	-
	For concrete embedding	Optional with bollard/post	-	■	525.001 525.011	■	■	■	■	■	-
	For post/mast fixing	■	-	-	-	-	-	-	-	○	■
	For wall fixing	■	-	-	-	-	-	-	-	○	■
	Removable with groundshell	-	-	■	-	-	-	-	-	-	-
	Removable with 3p-Technology	Optional with bollard			525.020 525.022	■	■	■	■	-	-
Configuration	Incl. internal container	-	●	●	●	●	●	●	●	-	-
	Covered slot	-	●	●	-	-	-	-	-	●	-
	Unlocking/emptying using a triangular key	●	●	●	●	●	●	●	●	-	-
	Central locking	-	-	-	-	-	-	-	-	●	-
	Dispenser for dog waste bags	-	-	-	-	-	-	-	-	●	-
	Ashtray/cigarette slot	-	○	-	●	●	●	●	●	-	-
Measurements	Individual color (RAL/DB)	○	○	○	○	○	○	○	○	○	-
	Capacity (liters)	30	50	40		75	75	50	50	35	500-600 bags
	Height above ground level (mm)		975	1100	1097	1181	910	855	1027	960	-
	Container diameter (mm)	320	420	385	108	400	400	350	350	330/280	250/50
	Container height (mm)	460		620		961	690	635	807	590	400
	Weight (approx. in kg)	4,3	24	9	13,5	40	40	37	37	13,5	2,9
	Design		hrd ¹⁾								

■ = Model | ● = Configuration | ○ = Option (with a surcharge) | - = Not available | ¹⁾ hammer.runge design and Heiko Zetzsche





WASTE-CONTAINER 523

Steel | 50 liters

Specifications

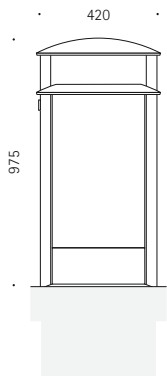
The first part of the stand-alone waste container consists of a frame made from two parallel tubes, connected by a lower and an upper rim as well as a cover, the second part consists of a cylindrical steel container to be hung into the frame. The container can be swung off the frame. The container is attached to the ground from the inside. Contents approx. 50 l.

Mounting

On the ground from the interior of the container base

Finish

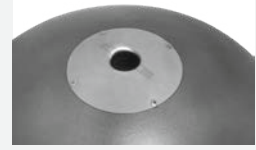
- Powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Incl. internal container or alternatively with spikes to hold bin liners
- Cover including ashtray available as an optional accessory
- May be unlocked for emptying using a triangular key



		For Screwing
Waste-Container 523	ST37 steel, powder-coated	523.002
Waste-Container 523	Ashtray, stainless steel 1.4301	500.001



Optional:
including ashtray



WASTE-CONTAINER 524

Steel | 40 liters

Specifications

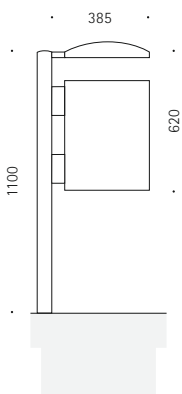
Cylindrical waste container covered with a lid and holding a capacity of approx. 40 l, affixed to a circular post. A triangular lock must be opened to empty the container.

Mounting

Concrete embedment or insertion into a standard ground shell (not 3p-Technology)

Finish

- Hot-dip galvanised steel ST37, alternatively with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Incl. internal container
- May be unlocked for emptying using a triangular key



		For concrete embedding
Waste-Container 524	ST37 steel, galvanised	524.001
Waste-Container 524	ST37 steel, powder-coated	524.002



WASTE-CONTAINER 527 | 531

527 | Steel + Stainless steel | 75 liters

531 | Steel | 50 liters

Specifications

Cylindrical steel waste container with O-shaped, sloping slot area and separate cigarette slot. The container comes with an assembled bollard.

Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Cigarette slot: Stainless steel 1.4301
- Incl. internal container
- May be unlocked for emptying using a triangular key

			Steel ST37	Stainless steel 1.4301
527	75 liters	Fixed mounting	527.001	527.011
527	75 liters	With 3p-Technology	527.020	527.022
531	50 liters	Fixed mounting	531.001	-
531	50 liters	With 3p-Technology	531.020	-

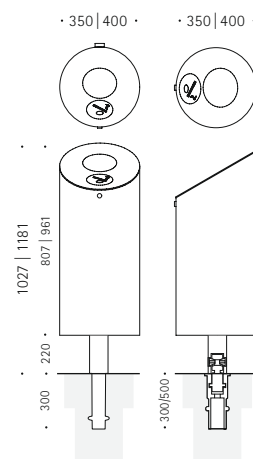
ST

AISI

3p

Technologie

3p Technologie



ADVANTAGES AT A GLANCE

- Waste container stands completely firm without moving
- Thanks to its solid shell, the container generally remains undamaged after an impact
- Over 90% cost reduction for repairs
- Junction piece can be replaced in less than 3 minutes
- Only one call-out – reduced staff and vehicle costs
- Repair work does not have to be done on site
- Quick to disassemble if more space is needed at short notice
- Ground shells can be locked to prevent risk of tripping

Waste containers with 3p-Technology – Practical but stylish

This type of waste container combines functionality with design. Its classic cylindrical shape fits into any cityscape.

Its strong outer shell is extremely damage-resistant and also provides enough space for signs or billboards. When combined with the optional 3p-Flex junction piece, the waste container is even more resistant to everyday (traffic) inconveniences.



► **ABES Waste-Containers equipped with 3p-Technology are always removable. They can easily be carried to different locations (e.g. the building yard) for cleaning or maintenance work.**



WASTE-CONTAINER 529 | 530

529 | Steel + Stainless steel | 75 liters

530 | Steel | 50 liters

Specifications

Cylindrical steel waste container with O-shaped, horizontal slot area and separate cigarette slot. The container comes with an assembled bollard.

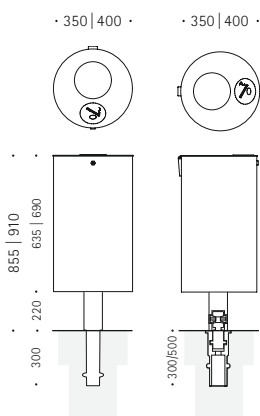
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Cigarette slot: Stainless steel 1.4301
- Incl. internal container
- May be unlocked for emptying using a triangular key



			Steel ST37	Stainless steel 1.4301
529	75 liters	Fixed mounting	529.001	529.011
529	75 liters	With 3p-Technology	529.020	529.022
530	50 liters	Fixed mounting	530.001	-
530	50 liters	With 3p-Technology	530.020	-



3p-Technologie



Patented system:

Simple disassembly and assembly thanks to 3p-Technology

Removing waste container

- 1 Unscrew
- 2 Remove junction piece
- 3 Lift waste container out
- 4 Finished

Mounting waste container

- 5 Insert junction piece
- 6 Set up waste container
- 7 Screw in tightly
- 8 Finished



BAG-DISPENSER 533

(e.g. for dog waste bags)

Specifications

Robust rectangular housing of galvanised steel, powder-coated, with lock fixed at side and a lower opening at the front. Suspension system for refill bag on the inside of the housing.

Capacity: 400-500 bags

Mounting

Post/mast or wall fixing

Finish

· Steel galvanised and powder-coated in RAL 1021 Colza yellow

	Steel
Bag-Dispenser 533 For post or mast fixing	533.060
Bag-Dispenser 533 For wall fixing	533.061



Note

The Bag-Dispenser 533 can directly be mounted next to or above the already existing waste container.



WASTE-CONTAINER 532

With bag dispenser (e.g. for dog waste bags)

Stainless steel | 35 liters

Specifications

Waste container of stainless steel, powder-coated, with rearwards-sloping cover (no depositing possible) and integrated refillable bag dispenser at the front.

Mounting

For concrete embedding on a galvanised post (Ø approx. 81 mm)

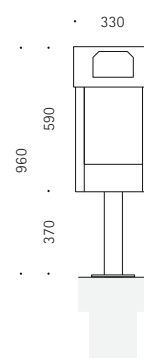
Alternatives:

- For screwing on ground
- For post/mast or wall fixing (on request)

Finish

- Container, stainless steel 1.4301, powder-coated in RAL 1021 Colza yellow and RAL 6018 Yellow green
- Other colours available on request at a surcharge
- Post, galvanised, powder coating in standard RAL colours or DB 703 with a surcharge
- Integrated refillable bag dispenser, e.g. for dog waste, see price list for bags
- Central locking

	Stainless steel 1.4301
Waste-Container 532 For concrete embedding	532.001
Waste-Container 532 With post for screwing	532.040





BOLLARD-ASHTRAY 525

Steel + Stainless steel | 1097 mm

Specifications

Fully cylindrical bollard ashtray with a sloping slot area. Labelling in the form of an outlined, laser-printed cigarette symbol.

		Fixed mounting	3p-Technologie	For screwing
525	Steel ST37	525.001	525.020	525.040
525	Stainless steel 1.4301	525.011	525.022	525.140



For more informations see: BOLLARD-ASHTRAY 525 on page 067



Alternative: Customised laser cuts available on all parts of the unit upon request and for a surcharge (example pictured: with ABES logo).

WASTE-CONTAINER 515

Steel | 30 liters

Specifications

Top-opening, cylindrical waste container with approx. 30 litres capacity, made from solid sheet steel, for post or wall-mounting. Horizontal rings along the body for visual compartmentalisation. Circular laser-cut patterns at the top, and bar-shaped recesses in the lower area. The basic shape is folded at the edges, while the area nearing the base is cambered. Uncovered opening at the top, closed base with water drains.

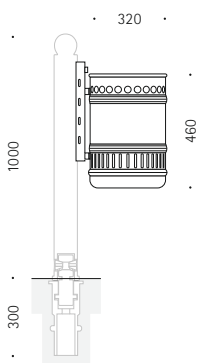
Mounting

- Container may be removed via snap lock and triangular lock on the mounting, enabling easy emptying and cleaning.
- For post/mast or wall fixing
- Waste-Container 515 may be combined with a cylindrical ABES bollard (see photo) upon request
- Option: for concrete embedment

Finish

- Powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Excl. internal container
- Without bollard
- May be unlocked for emptying using a triangular key

		Steel ST37
Waste-Container 515	Steel ST37, galvanised	515.001
Waste-Container 515	Steel ST37, powder-coated	515.101



05

BICYCLE STANDS

ABES bicycle stands are characterised by functionality and modern design, provide a firm grip and prevent the bikes from falling over, or having their wheels bent. The stands also allow bikes to be locked up securely, thereby protecting them from theft. The shape and function of the Bicycle-Stand 450-1 was given the "red dot" award by the NRW Design Centre for its high design quality.

The bicycle stands offer a wide variety of setup combinations, allowing different sized groups of stands to be combined. Their sophisticated design makes the various stands attractive objects in the urban setting. The tube constructions can be fitted with a curved cover, making it harder for the bikes to roll away, which allows them to be parked without risk to other road users.

Bicycle-Stand 450-1 page 110













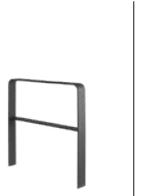

1: Bicycle-Stand 453 LED page 116 | 2: Bicycle-Stand 451 page 111
3: Bicycle-Stand 450-5 page 113



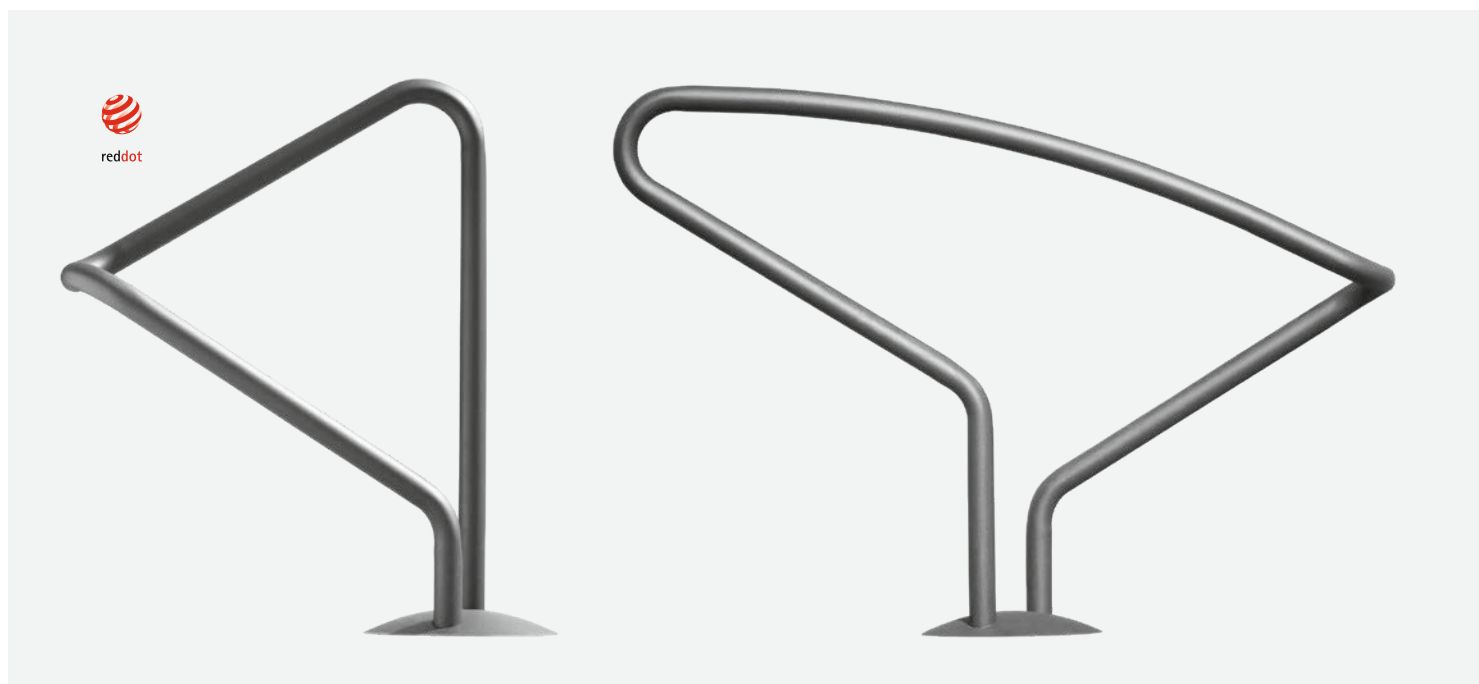


Alle Größenangaben sind in mm und alle Gewichtsangaben in kg

							
		452	453	453 LED	450-1	450-2	450-5
Page in catalogue		115	116-117	116-117	110-111	110-111	113
NEW 2018				2018			
Material	Steel ST37 (galvanised)	■	■	■	■	■	■
	Steel ST37 (galvanised w. powder coating)	■	■	■	■	■	■
	Stainless steel 1.4301 (pickled and smoothed)	■	■	■	■	■	■
Mounting	For concrete embedding	-	■	■	■	■	-
	Removable with groundshell(s)	-	■	■	■	■	-
	For screwing	■	-	-	-	-	■
	With flanges to enable screwing	-	■	■	-	-	-
	Removable with 3p-Technology	-	-	-	-	-	-
Options	With LED strip	-	-	●	-	-	-
	Individual color (RAL/DB)	○	○	○	○	○	○
	Cover plate	-	-	-	○	○	-
	Option: knee rail	-	○	○	-	-	-
	Individual dimensions	○	○	○	-	-	○
Measurements	Height above ground level (mm)	800	860	860	845	845	845
	Length (in mm)	2400	820	820	683	1240	2400
	Width (in mm)	900	50	50	224	224	approx. 700
	Weight (approx. in kg)	21	6,5	6,5	8	10	53
Design		jpg ²⁾			hrd ¹⁾	hrd ¹⁾	hrd ¹⁾

							
		451	454	470	471	472	473
Page in catalogue		111	114	120	121	119	118
NEW 2018				2018	2018	2018	2018
Material	Steel ST37 (galvanised)	■	-	■	■	■	■
	Steel ST37 (galvanised w. powder coating)	■	■	■	■	■	■
	Stainless steel 1.4301 (pickled and smoothed)	■	-	■	■	■	■
Mounting	For concrete embedding	■	Optional with bollard	■	■	■	-
	Removable with groundshell(s)	■	-	-	-	-	-
	For screwing	-	-	-	-	-	■
	With flanges to enable screwing	-	-	■	■	■	-
	Removable with 3p-Technologie	-	Optional with bollard	-	-	-	-
Options	With LED strip	-	-	-	-	-	-
	Individual color (RAL/DB)	○	○	○	○	○	○
	Cover plate	○	-	-	-	-	-
	Option: knee rail	-	-	○	○	●	○
	Individual dimensions	-	-	-	-	-	-
Measurements	Height above ground level (mm)	855	200	800	800	900	860
	Length (in mm)	340	128	1000	800	900	750 1350 1950
	Width (in mm)	290	60	48	60	80	820
	Weight (approx. in kg)	8	-	5,5	6,5	7,5	20 28 36
Design		hrd ¹⁾					

■ = Model | ● = Configuration | ○ = Option (with a surcharge) | - = Not available | ¹⁾ hammer.runge.design | ²⁾ J. P. Gillen

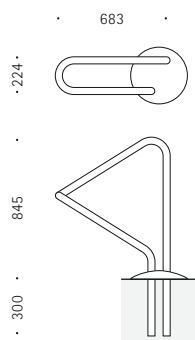


BICYCLE-STAND 450-1

Steel + Stainless steel | 845 mm

Specifications

Frame made from bent steel tubes with a 42.4 x 2.5 mm diameter, a vertical rear tube, and mutually offset tube ends.



		Bicycle stand	Cover plate (optional)
450-1	Steel ST37, galvanised	450.001	455.001
450-1	Steel ST37, powder-coated	450.011	455.011
450-1	Stainless steel 1.4301	450.002	455.002

Ground shell for removable model: **456.002**

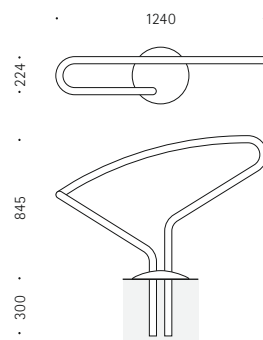


BICYCLE-STAND 450-2

Steel + Stainless steel | 845 mm

Specifications

Frame made from bent steel tubes with a 42.4 x 2.5 mm diameter, an overhanging rear tube, as well as mutually offset tube ends.



		Bicycle stand	Cover plate (optional)
450-2	Steel ST37, galvanised	450.003	455.001
450-2	Steel ST37, powder-coated	450.013	455.011
450-2	Stainless steel 1.4301	450.004	455.002

Ground shell for removable model: **456.002**



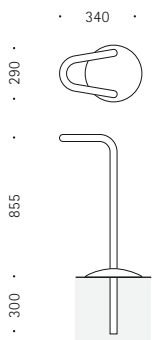


BICYCLE-STAND 451

Steel + Stainless steel | 855 mm

Specifications

Frame made from bent steel tubes with a 42.4 × 2.5 mm diameter and parallel tube ends.



		Bicycle stand	Cover plate (optional)
451	Steel ST37, galvanised	451.003	455.003
451	Steel ST37, powder-coated	451.013	455.013
451	Stainless steel 1.4301	451.004	455.004

Ground shell for removable model: **456.003**



Mounting

Concrete embedment (only one foundation required)

Alternative: removable with ground shell

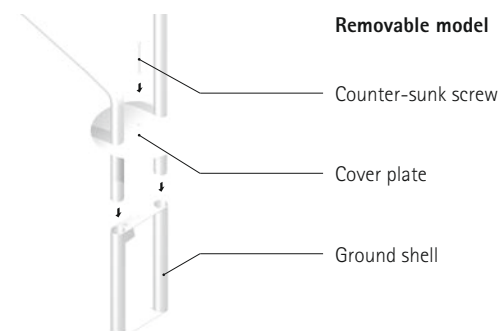
Optional: convex cover plate with a 300 mm diameter

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge

Note

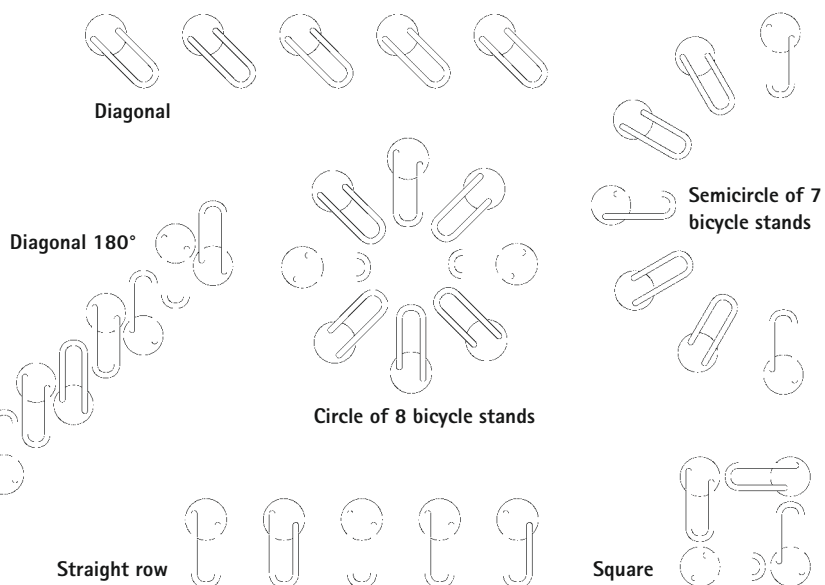
For the removable version, the cover plate is needed.



BICYCLE-STAND 450 451

Sample configurations

These examples for designing parking areas with the ABES Bicycle-Stand 450 or 451 may serve as inspiration for the variety of configuration options.



1 Bicycle-Stand 450-5

Powder-coated,
DB703 glimmer grey

2 Bicycle-Stand 450-1

Powder-coated,
DB703 glimmer grey

3 Bicycle-Stand 450-2

Powder-coated,
DB703 glimmer grey





BICYCLE-STAND 450-5

Steel + Stainless steel | 845 mm | 5 in a row

Specifications

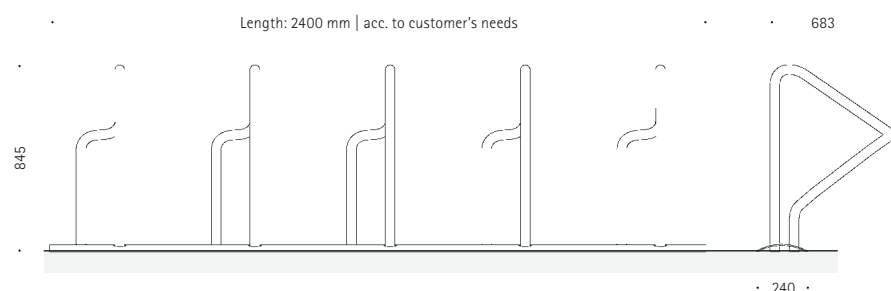
Five frames arranged next to each other at a 45° or 90° angle to the base strip. The frames are made from bent steel tubes with a 42.4 x 2.5 mm diameter, a vertical rear tube, and mutually offset tube ends; all frames are welded to a convex cover plate with a width of 300 mm. Perforations are provided for anchor bolts.

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge

Mounting

Screw-on



		For screwing
Bicycle-Stand 450-5	Steel ST37, galvanised	450.101
Bicycle-Stand 450-5	Steel ST37, powder-coated	450.111
Bicycle-Stand 450-5	Stainless steel 1.4301	450.102





BICYCLE-STAND 454

Steel | 200 mm

Specifications

Two bent U-shaped frames made from steel tubes and welded onto a steel sheet, opening out frontwards and used to hold a bicycle tyre. Cylindrical bollard can be added with or without 3p-Technology.

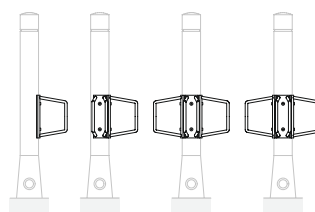
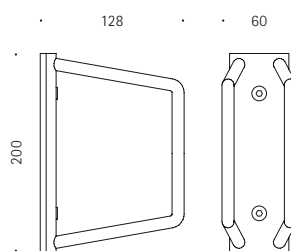
Mounting

Removable with 3p-Technology

Alternative: concrete embedment

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge



		Steel ST37
Bicycle-Stand 454	1 piece (without bollard)	454.001
Bicycle-Stand 454	2 pieces (without bollard)	454.002
Bicycle-Stand 454	3 pieces (without bollard)	454.003
Bicycle-Stand 454	4 pieces (without bollard)	454.004





BICYCLE-STAND 452

Steel + Stainless steel | 800 mm

Specifications

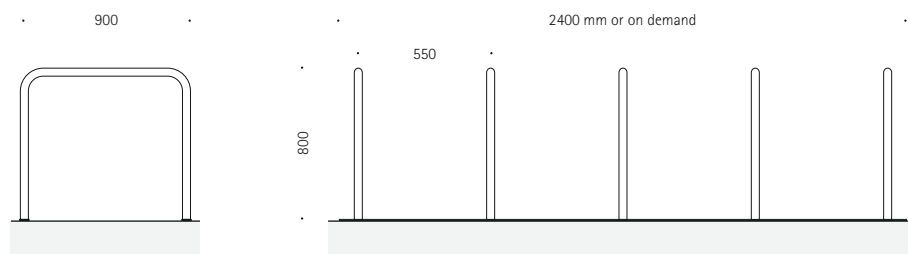
Five U-shaped bent steel tubes with a 42.4 x 2.5 mm diameter, and welded onto two 50 x 6 mm flat bars, each with a length of 3000 mm. Perforations are provided for anchor bolts.

Mounting

Screw-on

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge



		For screwing
Bicycle-Stand 452	Steel ST37, galvanised	452.001
Bicycle-Stand 452	Steel ST37, powder-coated	452.011
Bicycle-Stand 452	Stainless steel 1.4301	452.002





BICYCLE-STAND 453

Steel + Stainless steel | 860 mm

Specifications

U-rack made from perpendicular steel profiles (rectangular profile 50 × 20 mm mitre-cut). Other profile dimensions, heights and widths are available upon request at a surcharge. An assembly model is available.



BICYCLE-STAND 453 LED

Steel + Stainless steel | 860 mm

Specifications

Bike rail made from right-angled steel profiles with LED strip on the underside of the cross tube (50 × 20 mm rectangular profile, mitre-cut). Operated with 24 V low voltage, 1 m connector cable with plug socket at the base of the rail. Protection type IP 67. Other profile dimensions, heights and widths are available upon request at a surcharge. An assembly model is available.

Technical information

LED strip (approx. 24.5 × 770 mm) on the underside of the cross tube

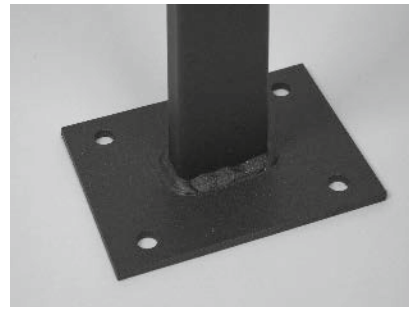
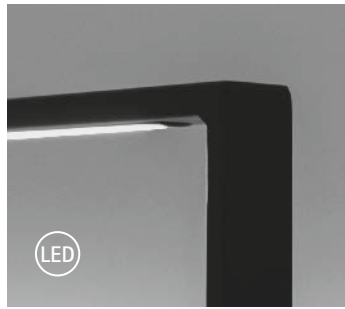
Power supply:	24 Volt DC
Power input:	ca. 6,7 W
Luminous flux:	approx. 560 lm
Reflected beam angle:	120°
Light colour:	4000 K
Light output:	CRI > 80
Protection type IP 67:	IP 67
Connector cable:	approx. 1 m with plug, IP 67

The connection, incl. all technical components, is arranged by the customer, and is not part of the delivery.

The LED unit is available as a spare part and be replaced in case of damage.



2018



► Usable side by side as a handrail or railing (see p. 125)

Mounting

Concrete embedment

Option: removable with ground shells

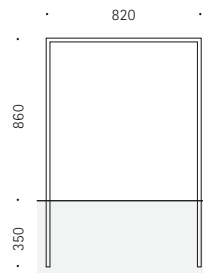
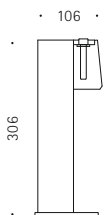
Alternative: version with two flanges to enable screwing

The 453 LED bike rails are removable to enable defective LEDs or cables to be replaced if damaged.

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Optionally with knee rail

Ground shell*
(Cross-section)



Ground shells (pair), 400 mm*

458.002

Cover plates for ground shells

458.003

Assembly model

458.004

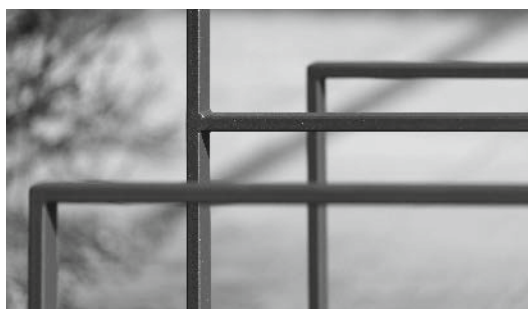
	Concrete embedding/Removable*	With flanges to enable screwing
453 Steel ST37, galvanised	453.001	453.240
453 Steel ST37, powder-coated	453.011	453.040
453 Stainless steel 1.4301	453.002	453.140

	Concrete embedding/Removable*	With flanges to enable screwing
453 LED Steel ST37, galvanised	453.101	453.540
453 LED Steel ST37, powder-coated	453.111	453.340
453 LED Stainless steel 1.4301	453.102	453.440

*For the removable version, two ground shells are needed.



2018



BICYCLE-STAND 473

Steel + Stainless steel | 860 mm

Specifications

Two, three or four adjacent 453 bike rails made from perpendicular steel profiles (50 x 20 mm), welded onto two flattened steel bars.
Other profile dimensions, heights and widths are available upon request at a surcharge.

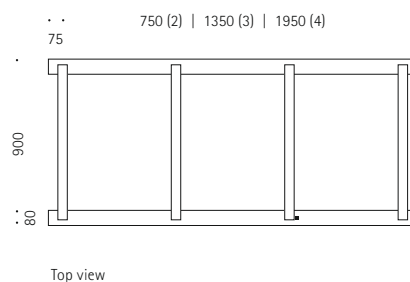
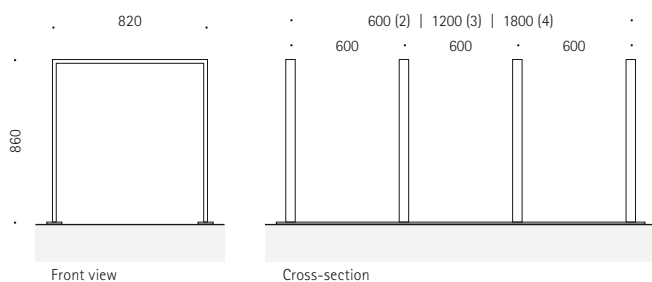
Mounting

Screw-on

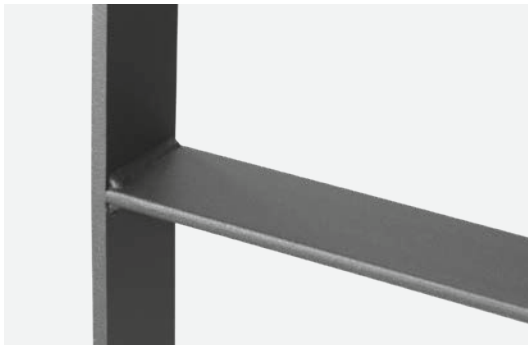
Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge

► Also available with LED strip on the underside of the cross tube or with knee rail (s. page 116)



		2 bicycle stands	3 bicycle stands	4 bicycle stands
Bicycle-Stand 473	Steel ST37, galvanised	473.201	473.301	473.401
Bicycle-Stand 473	Steel ST37, powder-coated	473.211	473.311	473.411
Bicycle-Stand 473	Stainless steel 1.4301	473.202	473.302	473.402



BICYCLE-STAND 472

Steel + Stainless steel | 900 mm

Specifications

Bike rail with knee rail and rounded edges made from 80 x 10 mm bent flat steel. Additional material thicknesses, heights and widths available upon request and at a surcharge.

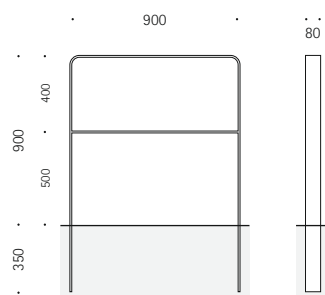
Mounting

Concrete embedment

Alternative: version with two flanges to enable screwing

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge



		Concrete embedding	With flanges to enable screwing
Bicycle-Stand 472	Steel ST37, galvanised	472.001	472.040
Bicycle-Stand 472	Steel ST37, powder-coated	472.101	472.140
Bicycle-Stand 472	Stainless steel 1.4301	472.201	472.240





BICYCLE-STAND 470

Steel + Stainless steel | 860

Specifications

Bike rail made from a bent steel tube with a tube diameter of 48 mm. A knee rail, as well as other tube dimensions, heights and widths available upon request and at a surcharge.

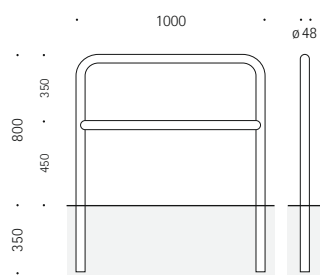
Mounting

Concrete embedment

Alternative: version with two flanges to enable screwing

Finish

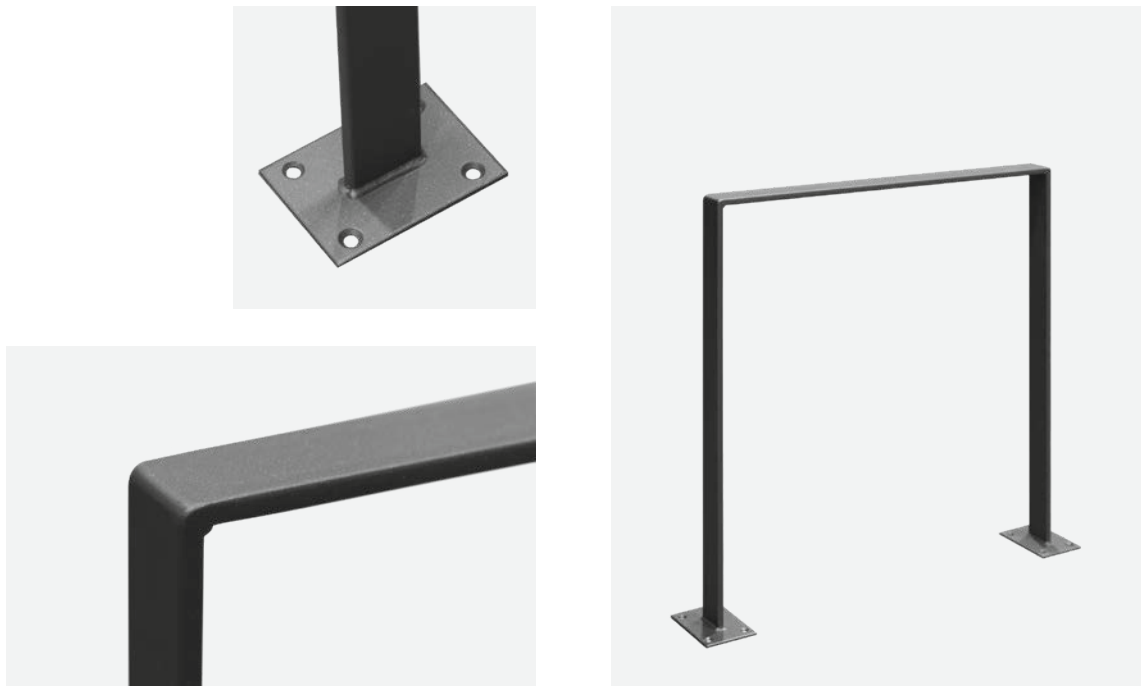
- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Optionally with knee rail



		Concrete embedment	With flanges to enable screwing
Bicycle-Stand 470	Steel ST37, galvanised	470.001	470.040
Bicycle-Stand 470	Steel ST37, powder-coated	470.101	470.140
Bicycle-Stand 470	Stainless steel 1.4301	470.201	470.240



2018



BICYCLE-STAND 471

Steel + Stainless steel | 800

Specifications

Bike rail with rounded edges made from 60 x 12 mm flat steel. A knee rail, as well as other tube dimensions, heights and widths available upon request and at a surcharge.

Mounting

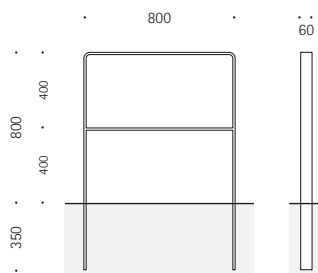
Concrete embedment

Alternative: version with two flanges to enable screwing

Option: removable with ground shells

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge
- Optionally with knee rail



		Concrete embedment	With flanges to enable screwing
Bicycle-Stand 471	Steel ST37, galvanised	471.001	471.040
Bicycle-Stand 471	Steel ST37, powder-coated	471.101	471.140
Bicycle-Stand 471	Stainless steel 1.4301	471.201	471.240



2018

06

PARKLANDS & CITY

Handrail

Attractive and safe route guidance in the city center.

Tree stand

Removable (Christmas) tree stand (with 3p-Technology) for your festive city center.

Planters

Shrubs, small trees and other plants in the city.

Tree guard

For the protection of trees or plants.

Fire basket

Pleasurable anticipation of a social gathering after work is completed.









1: Tree-Guard 662 page 128 | 2: Fire-Basket 935 page 129







Planter 720

page 127



							
		710 S	710 M	710 L	710 XL	720	721
		Planter	Planter	Planter	Planter	Planter	Planter
Page in catalogue		126	126	126	126	127	127
NEW 2018							
Material	Steel ST37 (galvanised)	-	-	-	-	-	-
	Steel ST37 (galvanised w. powder coating)	-	-	-	-	-	-
	Sheet steel (untreated)	-	-	-	-	-	-
	Stainless steel 1.4301 (pickled and smoothed)	-	-	-	-	-	-
	Stainless steel 1.4301 (w. powder coating)	■	■	■	■	■	■
Mounting	For concrete embedding	-	-	-	-	-	-
	Removable with groundshell(s)	-	-	-	-	-	-
	With flanges to enable screwing	-	-	-	-	-	-
	Free standing	■	■	■	■	■	■
	Removable with 3p-Technology	-	-	-	-	-	-
Options	With LED strip	-	-	-	-	-	-
	With knee rail	-	-	-	-	-	-
	Individual color (RAL/DB)	○	○	○	○	○	○
	Customised laser cuttings	-	-	-	-	-	-
	Individual dimensions	-	-	-	-	-	-
Measurements	Length (in mm)	1200	1500	1800	2000	700	1000
	Width (in mm)	691	650	750	801	700	700
	Height (in mm)	500	500	600	600	800	800
	Capacity (approx. in liters)	210	250	430	450	343	560
	Weight (approx. in kg)	65	68	85	87	35	45
Design		dh ¹⁾					

					
		662	935	936	453 (LED)
		Tree Guard	Fire Basket	Tree stand	Bicycle stand as handrail/railing
Page in catalogue		128	129	125	125
NEW 2018				2018	2018
Material	Steel ST37 (galvanised)	■	-	■	■
	Steel ST37 (galvanised w. powder coating)	■	-	■	■
	Sheet steel (untreated)	-	■	-	-
	Stainless steel 1.4301 (pickled and smoothed)	■	-	-	■
	Stainless steel 1.4301 (w. powder coating)	-	-	-	-
Mounting	For concrete embedding	■	-	-	■
	Removable with groundshell(s)	■	-	-	■
	With flanges to enable screwing	-	-	-	■
	Free standing	-	■	-	-
	Removable with 3p-Technology	-	-	■ (junction piece without predetermined breaking point)	-
Options	With LED strip	-	-	-	○
	With knee rail	-	-	-	○
	Individual color (RAL/DB)	○	-	○	○
	Customised laser cuttings	-	○	-	-
	Individual dimensions	○	-	○	○
Measurements	Length (in mm)	1200	Ø 355	133	820 / each stand
	Width (in mm)	1200			50
	Height (in mm)	variable	750	390	860
	Capacity		approx. 50	object-Ø max. 95 mm	
	Weight (approx. in kg)	15	5	3,8	6,5 / each stand
Design		jpg ²⁾			

■ = Model | ● = Configuration | ○ = Option (with a surcharge) | - = Not available | ¹⁾ Doris Herrmann | ²⁾ J. P. Gillen

BICYCLE-STAND 453 (LED) as handrail or railing

Steel + Stainless steel | 860 mm

Specifications

U-rack made from perpendicular steel profiles (rectangular profile 50 × 20 mm mitre-cut). Other profile dimensions, heights and widths are available upon request at a surcharge. An assembly model is available.

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703



2018

For more informations see: BICYCLE-STAND 453 (LED) page 116



TREE-STAND 936

Steel | 390 mm

Specifications

Cylindrical stand with three locking screws in the upper area to hold a tree.

Mounting

Removable with 3p-Technology (with junction piece without predetermined breaking point)

Finish

- Steel ST37, galvanised with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge



- ▶ Removable with 3p-Technology (Empty ground shell can be covered with ground shell cover) See page 013
- ▶ Other ABES products with 3p-Technology can be mounted on the same ground shell

		3p-Technology
Tree-Stand 936	Steel ST37, galvanised	936.020
Tree-Stand 936	Steel ST37, powder-coated	936.120



2018

3p-Technologie





PLANTER 710

Stainless steel

Specifications

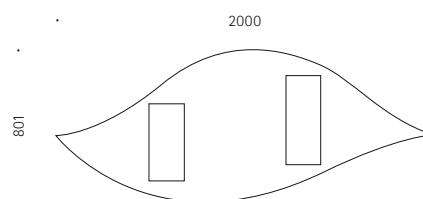
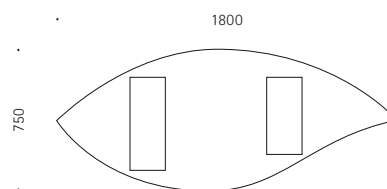
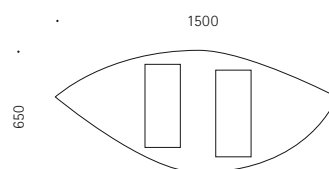
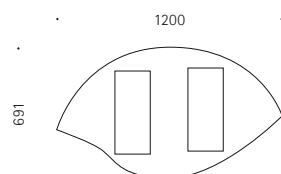
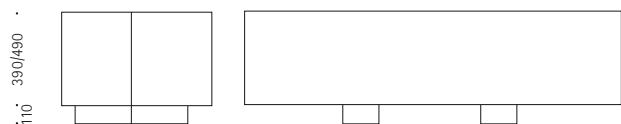
Plant pot with curved sides that taper at both ends. The base has apertures which may be sealed with a perforated plate cover. The container stands on rectangular tubes which serve as supports for hoisting equipment. The apertures of the tubes can be covered with removable caps.

Mounting

Free standing element

Finish

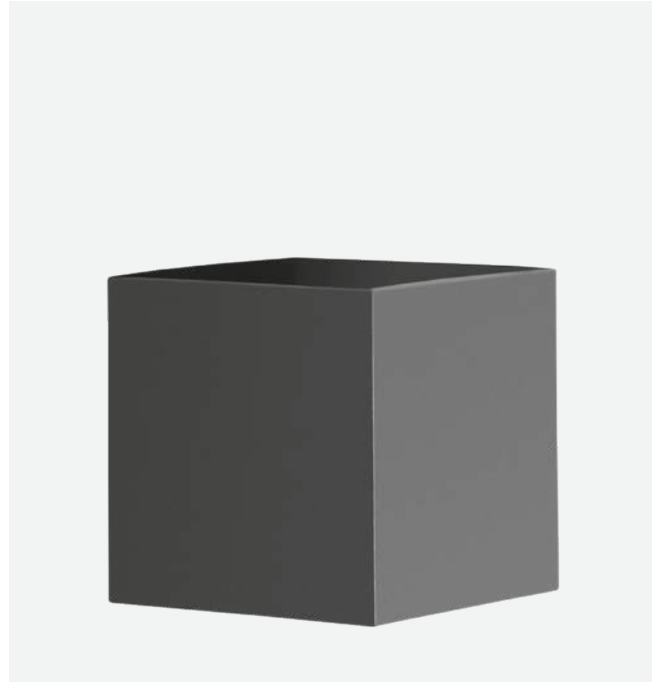
- Stainless steel 1.4301 with powder coating in standard RAL colours or DB 703
- Other colours available on request at a surcharge



Stainless steel 1.4301 powder-coated

Planter 710	S	1200 × 691 mm	710.002
Planter 710	M	1500 × 650 mm	711.002
Planter 710	L	1800 × 750 mm	712.002
Planter 710	XL	2000 × 801 mm	713.002





PLANTER 720 | 721

720 | Stainless steel | 700 × 700 mm

721 | Stainless steel | 700 × 1000 mm

Specifications

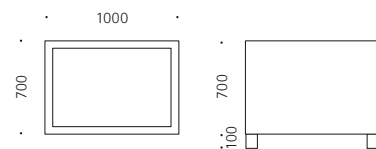
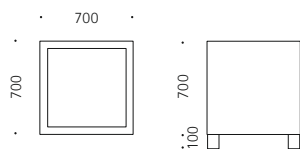
Plant pot with square or oblong basic shape and vertical side walls. Openings are countersunk in the base and closed with a perforated sheet metal cover. The container stands on four individual feet made from square tubes.

Mounting

Free standing element

Finish

- Stainless steel 1.4301 with powder coating in standard RAL colours or DB 703
- Containers are also available without legs and with welded frames for chain suspension upon request



Stainless steel 1.4301 powder-coated

Planter 720 700 mm × 700 mm **720.002**

Planter 721 700 mm × 1000 mm **721.002**





TREE-GUARD 662

Steel + Stainless steel

Specifications

A bent, U-shaped steel frame with a diameter of 48.3 x 2.6 mm.

Three foundations are required.

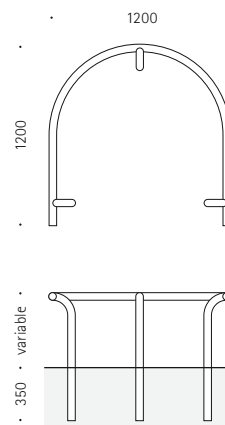
Optional: a ground shell for the removable model

Mounting

Concrete embedment or inserted into a standard ground shell
(not available with 3p-Technology)

Finish

- Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)
- Steel ST37, galvanised with powder coating in standard
RAL colours or DB 703
- Other colours available on request at a surcharge



	Tree-Guard 662
ST37 steel, galvanised	662.001
ST37 steel, powder-coated	662.011
Stainless steel 1.4301	662.002
Ground shell for removable model	600.200



FIRE-BASKET 935

Sheet steel | 50 l

Specifications

Fire basket made from non-galvanised sheet steel with three welded feet and capacity of approx. 50 liters. Suitable as a simple fireplace or grill for all kinds of occasions.

Customised laser cuts at the top, middle and base ensure diverse designs, and make the basket unique.

The holes in the upper area may be used for spits. A grate is available as an accessory.

Using non-galvanised sheet steel ensures no harmful vapours are formed as heat builds up.

Mounting

Free-standing, with three feet

Finish

- Untreated steel
- Default or customised laser cutting

Measurements

Diameter: approx. 335 mm

Height: approx. 750 mm

Weight: approx. 5,0 kg

		Sheet steel
Fire-Basket 935	without laser cutting	935.001
Fire-Basket 935	with flame	935.101
Fire-Basket 935	with flame + name	935.201
Fire-Basket 935	with 1 preferred laser cutting	935.301
Fire-Basket 935	with 2 preferred laser cuttings	935.401

Accessories

Matching grate	935.002
Soil protection	935.003

- ▶ Ask about additional accessories
- ▶ Customised laser cuttings possible





Category	Product name	Page
Accessories	COMPONENTS OF 3P-TECHN.	012-013
Benches & Tables	BENCH 100	089
	BENCH 103	087
	BENCH 104	090-091
	BENCH 107-1 -2	088
	BENCH 121-1 -2	094-095
	BENCH 131	092-093
	BENCH 141	082
	BENCH 142	083
	BENCH 143-1 -2	084
	BENCH 144-1 -2	085
	BENCH 146-1 -2	081
	LEAN-ON-BENCH 108	096
	SEATING-BOLLARD 105	066/097
	STOOL 145	086
	TABLE 143	084
	TABLE 144	085
	TABLE 145	086
Bicycle Stands	BICYCLE-STAND 452	115
	BICYCLE-STAND 453	116-117
	BICYCLE-STAND 453 LED	116-117
	BICYCLE-STAND 470	120
	BICYCLE-STAND 471	121
	BICYCLE-STAND 472	119
	BICYCLE-STAND 473	118
	BICYCLE-STAND 450-1	110-111
	BICYCLE-STAND 450-2	110-111
	BICYCLE-STAND 450-5	113
	BICYCLE-STAND 451	111
	BICYCLE-STAND 454	114
Bollards	BOLLARD 001	029
	BOLLARD 001-1	029
	BOLLARD 002	035
	BOLLARD 003	050
	BOLLARD 004	047
	BOLLARD 005-1	044
	BOLLARD 005-2	044
	BOLLARD 006-1	036
	BOLLARD 006-2	037
	BOLLARD 007	043
	BOLLARD 008	029
	BOLLARD 009-1 -2	029
	BOLLARD 010	028
	BOLLARD 011	048
	BOLLARD 012	035
	BOLLARD 013	047
	BOLLARD 014-1 -2 -3	041
	BOLLARD 015	038
	BOLLARD 016	028
	BOLLARD 017	038
	BOLLARD 018	042
	BOLLARD 019	051
	BOLLARD 020	049
	BOLLARD 021-1 -2	039
	BOLLARD 022	049
	BOLLARD 023	043
	BOLLARD 024	039
	BOLLARD 025	045
	BOLLARD 026	066

Category	Product name	Page
	BOLLARD 027-1 -2	028
	BOLLARD 028	046
	BOLLARD 029	041
	BOLLARD 031-1 -2	032
	BOLLARD 032	034
	BOLLARD 034	038
	BOLLARD 037-1	053
	BOLLARD 037-2	059
	BOLLARD 038	040
	BOLLARD 039	046
	BOLLARD 040	040
	BOLLARD 041	048
	BOLLARD 042-1 -2	056
	BOLLARD 043	029
	BOLLARD 055-1	053
	BOLLARD 055-2	059
	BOLLARD 056	057
	BOLLARD 057	052
	BOLLARD 058	052
	BOLLARD 059	060
	BOLLARD 060	034
	BOLLARD 061	033
	BOLLARD 062	042
	BOLLARD 063	061
	BOLLARD 064	055
	BOLLARD 065	061
	BOLLARD 066	060
	BOLLARD 068	045
	BOLLARD 069	054
	BOLLARD 070	054
	BOLLARD 071	055
	BOLLARD 074	058
	BOLLARD 076	062-063
	BOLLARD 089	058
	BOLLARD-ASHTRAY 525	067/105
	FEEDER-BOLLARD 300-1	068
	FEEDER-BOLLARD 300-2	069
Fire Basket	FIRE-BASKET 935	129
Lighting Bollards	LIGHTING-BOLLARD 200	076
	LIGHTING-BOLLARD 200 LED	077
	LIGHTING-BOLLARD 210 LED	070
	LIGHTING-BOLLARD 220 LED	071
	LIGHTING-BOLLARD 230 LED	072
	LIGHTING-BOLLARD 240 LED	073
	LIGHTING-BOLLARD 265 LED	074
	LIGHTING-BOLLARD 266 LED	075
Planters	PLANTER 710	126
	PLANTER 720 721	127
Tree Guard	TREE-GUARD 662	128
Tree-Stand	TREE-STAND 936	125
Waste Containers	WASTE-CONTAINER 515	105
	WASTE-CONTAINER 523	101
	WASTE-CONTAINER 524	101
	WASTE-CONTAINER 527	102
	WASTE-CONTAINER 529	103
	WASTE-CONTAINER 530	103
	WASTE-CONTAINER 531	102
	WASTE-CONTAINER 532	104
	WASTE-CONTAINER 533	104



Innovation
IN
STEEL



HWS-mobil

The mobile flood prevention system

Fierce storms and heavy rain are becoming increasingly common, resulting in millions of euros of material damage. It is to be feared that climate change will cause more and more extreme weather events.

HWS-mobil is a mobile flood prevention system developed in cooperation with the Water Management and Environmental Research Institute (fwu) at the University of Siegen. Working in an opposite way to a barrage, the baffle plates curve "away from the water" and are exposed to pressure by the rising flood waters. As sheet steel absorbs tractive forces very well, the protective walls, which are "just" 1 millimetre thick, provide reliable protection for damming heights of more than one metre.

Major characteristics of HWS-mobil:

- ✓ Lightweight = easy to transport without the need of lifting devices
- ✓ Minimum amount of seals
- ✓ Property protection
- ✓ Linear protection
- ✓ Interchangeable with ABES products

Advantages at a glance

Assembly & storage

- Quick assembly/disassembly using a single tool
- Only two people required for setup
- Easy to use (no component weighs more than 20 kg)
- Reusable and long-lasting due to hot-dip galvanising
- Compact for storage

Usage

- Very durable due to steel components
- Very good density; only two seals per field
- Effective protection against vandalism
- Personalised solutions possible

Areas of application

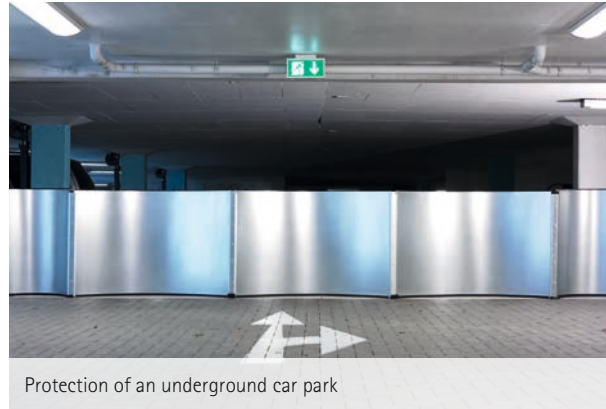
- Building projection: Protection of doors, gates and driveways
- Linear protection of company premises and private complexes
- Linear protection in the event of dyke raising

Compatibility with ABES products

Thanks to 3p-Technology, the ground shells can be used to mount benches, waste containers and other pieces of furniture, while not looking like eyesores during flood-free times.

SOLID | LIGHTWEIGHT | SECURE

Implementation of HWS-mobil



Protection of an underground car park

COMPATIBLE

HWS-mobil

3p Technologie

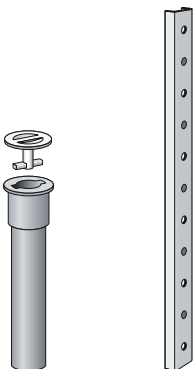
HWS-mobil is compatible with all ABES 3p Technologie products



Protection of a private house

HWS-mobil individual parts

Permanently embedded parts



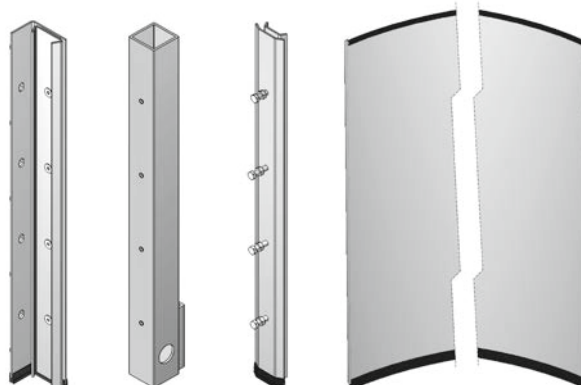
1

2

1 Ground shell

2 Wall connection profile

Temporarily fitted parts



3

4

5

6

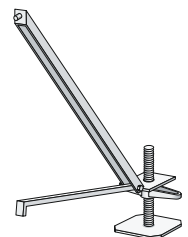
3 Wall module

4 Support module

5 Slide-in module

6 Baffle plate

Optional



7

7 Support protection

More information can be found in the installation instructions, which we will gladly send you free of charge, or visit www.howatec-online.com



3P-TECHNOLOGY



Ground shells (cast iron, galvanised)



Ground shell 300 mm*
(standard for 3p-Technology)

000.001



Ground shell 500 mm
for additional stability with unstabilised subsoil,
cobblestone pavement etc.

000.003



Ground shell 100 mm
as special solution in case of small mounting
depth, e.g. car parks, bridges etc.

000.007

Junction pieces w. predetermined breaking point (cast iron, galvanised)



Junction piece without anti-roll device*
(standard for 3p-Technology)

000.008



Junction piece with anti-roll device
After a collision with a vehicle, the metal rod
prevents the bollard to roll away.

000.013



Junction piece w. anti-roll device + cable slot
for LED lighting bollards
The metal rod prevents the rolling away of the
bollard after a collision with a vehicle

000.017



Junction piece with short anti-roll device
for ground shell 100 mm (000.005)
The metal rod prevents the rolling away of the
bollard after a collision with a vehicle

000.018



Junction piece extended version
for 3p-High
Allows to open and close the locking
mechanism with long fire brigade triangular
keys without offsets

000.016



Junction piece 3p-Flex (without cable slot)
The bollard returns to its initial position after
impact (8-10° tilt), and only breaks if the breaking
load is exceeded.

000.015



Junction piece w/o predetermined breaking point
Solid protection for people and objects.
Does not break in case of an impact.

000.034

Clamping cone sets (stainless steel 1.4301)



Clamping cone set with hex head screw*
(standard for 3p-technology)
N1 + N2 + hexagonal head screw

000.004



Clamping cone set with triangular head screw
N3 + N2 + triangular head screw

000.010



Clamping cone set w. lengthened clamping cone
N5 (75 mm) + N2 + triangular head screw
Additional protection by a padlock in order to
prevent unauthorised removal. Possible use with
triangular head screw or with hex head screw.

000.021

Screws and clamping cones (stainless steel 1.4301)



Hexagonal head screw
spare part, M12, length 80 mm

000.009



Triangular head screw
spare part, M12, length 75 mm

000.019



ABES Bolt - Teardrop shaped
special asseccory, M12, length 75 mm

000.035



Cover caps (pair), for hexagonal head screw
grey or black, *plastic*

000.006



Clamping cone N1*
spare part, without internal thread

N1.000



Clamping cone N2*
spare part, three-slotted and with internal thread
(suitable tool see next page: 000.029/000.026)

N2.001



Clamping cone N3, for triangular head screw
spare part, without internal thread

N3.000



Clamping cone N4
lengthened, for protection by a padlock

N4.000



Clamping cone N5
lengthened, for protection by a padlock

N5.000

Ground shell covers



Ground shell cover
cast aluminium, powder-coated in DB 703

000.002






Ground shell cover with ressort
steel ST37, galvanised

000.050

* Part of the standard delivery for products with 3p technology.

Tools		
	Nut for for triangular head screws M12, stainless steel 1.4571	000.027
	Nut for ABES Bolts - Teardrop shaped stainless steel 1.4571	000.037
	Nut with 3-pin adapter to tighten the clamping cone N2.001 stainless steel 1.4571	000.029
	Socket wrench for triangular head screws robust design	000.024
	Socket wrench for ABES Bolts - Teardrop shaped robust design	000.036
	Socket wrench with 3-pin adapter to tighten the clamping cone N2.001 robust design	000.026
	Triangular key simple, with short holder, M12 x 75 mm	000.011
	Triangular key simple, with long holder, M12 x 160 mm	000.014

Ground rosettes (steel ST37, galvanised, powder-coated in bollard paint)










	Ground rosette for Bollard 032 with 3p-Technology	000.032
	Ground rosette for Bollard 066 with 3p-Technology	000.066
	Ground rosette for Bollard 014 with 3p-Technology	000.030

BOLLARDS



Chains & accessories (galvanised, powder-coated in bollard paint)

	Chain 8 x 52 mm sold per meter	000.100
	Eylet	000.200
	Shackle	000.300
	Chainlink for eylet	000.303

Special models

	Bollard 001, 5 rings red painted RAL 3020/9016	000.301
	Bollard 008 + 010, 1 ring red painted RAL 3020/9016	000.302
	1 ring of reflective foil 100 mm wide; red, white or red/white	000.321
	2 rings of reflective foil 100 mm wide; red, white or red/white	000.322
	3 rings of reflective foil 100 mm wide; red, white or red/white	000.323
	Cat's eye reflectors pasted reflector	000.326
	Finished with logo individual production	000.327
	1 cutting of reflective foil 100 mm wide; red, white or red/white, self-adhesive, for manual installation	000.328
	Reflective foil sold by meter 50 mm and 100 mm wide; red, white or red/white, self-adhesive, for manual installation	on demand
	Powder coating except standard RAL colours free of charge for more than 9 bollards in the same colour	000.310

Stainless steel – surface treatments

	Pickled and smoothed e. g. grain 240 (standard)	000.410
	Electropolishing (high-gloss)	000.420

ACCESSORIES

GENERAL

Bicycle stands		
	Ground shells (pair) , 400 mm for Bicycle-Stand 453 and 453 LED (needed for removable version)	458.002
	Cover plates for ground shells (pair) for Bicycle-Stand 453 and 453 LED	458.003
	Assembly model for Bicycle-Stand 453 and 453 LED	458.004
	Ground shell for removable model for Bicycle-Stand 451 <i>galvanised</i>	456.003
	Ground shell for removable model for Bicycle-Stand 450-1 and 450-2 <i>galvanised</i>	456.002
	Cover plate for Bicycle-Stand 451 <i>steel ST37, galvanised</i>	455.003
	<i>steel ST37, galvanised, powder-coated in RAL or DB</i>	455.013
	<i>stainless steel 1.4301, pickled and smoothed</i>	455.004
	Cover plate for Bicycle-Stand 450-1 and 450-2 <i>steel ST37, galvanised</i>	455.001
	<i>steel ST37, galvanised, powder-coated in RAL or DB</i>	455.011
	<i>stainless steel 1.4301, pickled and smoothed</i>	455.002
Waste containers		
	Triangular key for waste containers standard	500.003
Ground shells (other)		
	Ground shell, ø 48 mm for standard tube with diameter 48 mm (e.g. for Tree-Guard 662)	600.200
	Ground shell, ø 60 mm for standard tube with diameter 60 mm	on demand
Clean & care products		
	Ceramic grease aerosol on demand	on demand
	Liqui Moli assembly paste on demand	on demand
	Touch-up paint (RAL or DB colour) correct small defects in the product's coating	on demand

EXPLANATION OF SYMBOLS & TENDER SPECIFICATIONS

DELIVERABLE MOUNTING VARIANTS



With 3p-Technology*



Removable with 3p-Technology, comprising a 300 mm ground shell, junction piece with predetermined breaking point (without anti-roll device), 1 clamping cone with internal thread, 1 clamping cone without internal thread and a hex head bolt as a standard.

**All bollards (except feeder bollards) can be supplied with 3p-Technology*



With 3p-Technology for LED lighting bollards



Comprising a 300 mm ground shell, junction piece with predetermined breaking point, anti-roll device and cable slot, 1 clamping cone with internal thread, 1 clamping cone without internal thread and a hex head bolt as a standard.



With 3p-Technology "3p-High"*



For the use of long fire brigade triangular keys without offsets.

**Is basically possible with all bollards.
Extended junction piece required for 3p-High*



Fixed mounting



Fold down



Screw-on (for bollards: with flange)



Removable with ground shells



Free standing (for benches)

FINISH



Products made of cast aluminium

Powder coating in standard RAL colours or DB 703



Products made of steel ST37

Steel ST37, galvanised with powder coating in standard RAL colours or DB 7033

Only for bollards: The height can be adjusted individually (except feeder bollards)



Products made from stainless steel 1.4301

Stainless steel 1.4301 pickled and smoothed, grain 240
Optional: electropolished/high-gloss (no surcharge)

Only for bollards: The height can be adjusted individually

Other colours available on request at a surcharge.

Only for bollards: Accessories and special requirements such as different colours, red and white paint, reflective film or powder coating of chains, rings, shackles, etc. in the same colour as the bollard are available on request at a surcharge (except feeder bollards and Bollard 026)



With LED Light unit



The ground rosette is part of the delivery (3p-Technology)

Completely covers the ground shell, material: ST37 steel, hot-dip galvanised and powder coated in bollard paint

For detailed product descriptions, tender texts and installation instructions for download, visit www.abes-online.com



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