BOLLARDS AND ROAD BLOCKERS

NEW. Plug & play bollards, mobile Road Blocker M30 (fully certified)

HÖRMANN

Contents

Brand quality

The family-owned company Hörmann offers all important construction components for building and renovating projects from a single source. We manufacture in highly specialised factories using state-of-the-art production technologies. Our employees work intensively on new products, continual further developments and improvements to details. The results are patents and unique products on the market.










WE THINK AND ACT GREEN. As a family business, we are very conscious of our responsibility to future generations and will offer all products for construction projects as CO_2-neutral versions upon customer request. In this way, customers have the option to offset remaining emissions and make a contribution to climate protection when purchasing our products. The Hörmann sustainability strategy aims to reduce and avoid emissions. We cover 100% of our electrical power needs at all European production sites with genuine green electricity from renewable sources. We also apply many other measures to reduce our consumption and save more than 75000 tonnes of CO_2 each year. We work with ClimatePartner to offset the remaining emissions by supporting certified climate protection projects.

You can find further information at
www.hoermann.com/sustainability

ClimatePartner certified product
climate-id.com/FYZNUF

CO_2 measure reduce contribute

Sustainable planning and competent advice

Experienced specialists within our customer-oriented sales organisation accompany you from the planning stage, through technical clarification up to the final building inspection. Complete working documentation, such as technical manuals, is always accessible and up-to-date at www.hoermann.com

A STRONG PARTNER FOR PERIMETER PROTECTION SYSTEMS. At Hörmann, innovation is produced in-house – highly qualified employees of the development departments are in charge of product optimisation and new developments. This results in market-ready, high-quality products that are very popular around the globe. All major system components are developed and manufactured by Hörmann, guaranteeing high compatibility, full functionality and optimal safety. Our wide range of bollards for different applications, road blockers, tyre killers and complete control concepts makes us a strong partner for security solutions.

PRODUCT PORTAL FOR ARCHITECTS AND PLANNERS. Clearly structured navigation and a search function provide faster access to texts for invitations to tender, technical data, certificates, CAD drawings and much more. In addition, BIM data can be provided for many products for the Building Information Modelling process, enabling efficient planning, drafting, construction and management of buildings. Photos and photo-realistic presentations provide additional information on many products.

PRODUCTS
FOR BIM

We are a member of the professional association for digital building products in the Federal Association of Building Systems e.V.

COVER PAGE. Automatic Security Line bollards H with hydraulic operator and fixed Security Line bollards

PAGE 2. Automatic High Security Line bollards with electromechanical operator

Easy to fit and service

All functional components of our bollards are fitted in an assembly-friendly way and enable a very quick and easy initial start-up. In addition, the new generation of perimeter protection systems can also be integrated into digital service and remote maintenance concepts. This lowers the maintenance and service costs, making Hörmann perimeter protection systems economical and sustainable.

Round-the-clock service

FAST SERVICE. We recommend a semi-annual maintenance cycle for our perimeter protection systems. Hörmann offers consulting, maintenance and repairs in many countries. Our extensive service network means that we are always nearby and at your service around the clock. Our customers can rely on us.

10-year guaranteed availability

HÖRMANN SPARE PARTS. It goes without saying that spare parts for all our components are original Hörmann parts that come with a 10-year guaranteed availability.

Only from Hörmann

High Security bollards with brushless electromechanical operator

ENVIRONMENTALLY-FRIENDLY AND FLEXIBLY FITTED. For bollards with an integrated hydraulic operator, all the functional components are installed in the bollard unit. The integrated hydraulic system requires only a small amount of oil, reducing the environmental risk significantly. As standard, we use biodegradable oil to virtually rule out environmental risks. Security and High Security bollards with an integrated electromechanical operator are particularly environmentally-friendly and low maintenance. Because they do not require hydraulic oil, they even meet the most stringent environmental regulations. An Environmental Product Declaration (EPD) was created for the automatic bollards M50, which reflects the environmentally relevant properties in the form of objective data over the entire life cycle of the bollard.

Only from Hörmann

Environmental Product Declaration for automatic bollards M50

EPD ITALY

Reg. EPDITALY0412 Valid. 25.05.2028
www.epditaly.it

Another advantage of both versions:
The control can be fitted up to 80 metres away from hydraulic bollards or up to 50 metres away from electromechanical bollards using a power / connection cable.

Secure technology and attractive design

Our extensive range of bollards includes automatic, semi-automatic, fixed and removable versions (see pages 21 and 22) for security and traffic control in inner-city areas, public spaces and company premises. The intelligent designs combine an attractive appearance with secure technology.

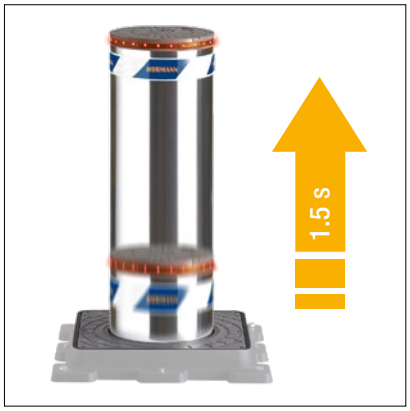
Automatic bollard
A 220-600 H

Semi-automatic bollard
S 220-600 G

Fixed bollard
F 220-600 CF

Matching appearance

MATCHING BOLLARD APPEARANCES. The cylinders of all bollards in the individual systems have a matching appearance, allowing for a customised combination of Security and High Security Line bollards. In addition, fixed, semi-automatic and automatic bollards can be combined perfectly thanks to the matching bottom plate. The result is a harmonious overall look.



SECURITY FAST IN CASE OF EMERGENCY. An open driveway does not have to pose a security threat. Thanks to the EFO emergency function (Emergency Fast Operation), the lowered bollards and road blockers as well as tyre killers are extended very quickly, in only about 1.5 seconds. Wherever the EFO emergency function has to be integrated into a security concept on site, e.g. in high-security facilities such as prisons or military installations, our High Security bollards meet these requirements. They offer fast security in emergency situations.

LEFT. Hydraulic Security Line bollard with pavement frame

Customised Control concepts

Complete control concepts comprising multiple bollards can be operated using a flexible control. The concept also allows master and slave relationships to be configured between the bollards.

SIMPLE FITTING AND MAINTENANCE. The control is connected via service-friendly quick-connect terminals. These simplify fitting and make subsequent maintenance easier. The control can also be extended with control elements (such as code switches) and / or other activating kits, e.g. for induction loops.

Only from Hörmann
BiSecur radio system

BiSecur

MAXIMUM SECURITY THANKS TO BISECUR. The perimeter protection systems can also be conveniently operated using the BiSecur radio system. The extremely secure encryption protocol, as developed by Hörmann, ensures that no one can copy your radio signal.

HÖRMANN ACCESS CONTROL (HAC). Using Hörmann Access Control (HAC), our proprietary online management system developed in-house, bollards can be conveniently and safely operated and managed remotely to control entry and exit. The flexible solution allows individual access authorisation and optional assignment of up to 2000 ID card media.

➔ Further information can be found starting on page 70.

LEFT. Hydraulic Security Line bollard with post

Maximum security and function

The security provided by a bollard is measured based on different impact energies. The energy caused by a colliding vehicle depends on the vehicle type, weight and speed. The impact energy is crucial when it comes to damage and the function of the bollards.

HIGH SECURITY

Real crash tests with high loads allow us to optimally prepare our innovations for the official inspections by authorised test centres for official approvals. In this test, a 7.5 tonne lorry (remote-controlled) crashes into a road blocker at a speed of 80 km/h, for example. The various certifications from the USA and Europe are recognised as being equivalent internationally, provided they meet the same requirements.

Certified according to DOS SD-SDT – 02.01
Certification by the Texas Transportation Institute,
The Texas A&M University System, Texas U.S.A.

Crash Test – K12 Rating
Vehicle weight: 6.8 t
Speed: 80 km/h
Impact energy: 1679012 joules (J)

Crash Test – K4 Rating
Vehicle weight: 6.8 t
Speed: 50 km/h
Impact energy: 655864 joules (J)

Certified according to PAS68:2013
Certification by Aisico srl
Crash Test Center, Pereto (Aq) – Italy

Crash Test – PAS68:2013 Rating
Vehicle weight: 7.5 t
Speed: 80 km/h
Impact energy: 1851852 joules (J)

Crash Test – PAS68:2013 Rating
Vehicle weight: 7.5 t
Speed: 50 km/h
Impact energy: 723380 joules (J)

Certified according to ASTM F2656-07
Certification by Karco Engineering, LLC.
Automotive Research Center, Adelanto CA, U.S.A.

Crash Test – M50 Rating
Vehicle weight: 6.8 t
Speed: 80 km/h
Impact energy: 1679012 joules (J)

Crash Test – M30 Rating
Vehicle weight: 6.8 t
Speed: 50 km/h
Impact energy: 655864 joules (J)

Certified according to IWA14-1:2013
Certification by Aisico srl
Crash Test Center, Pereto (Aq) – Italy

Crash Test – IWA14-1:2013 Rating
Vehicle weight: 7.2 t
Speed: 80 km/h
Impact energy: 1777778 joules (J)

Crash Test – IWA14-1:2013 Rating
Vehicle weight: 7.2 t
Speed: 50 km/h
Impact energy: 694444 joules (J)

Certified according to DIN SPEC 91414-1:2021
Certification by CTS GmbH
crashtest-service.com, Munster – Germany

Crash Test – IWA14-1:2013 Rating
Vehicle weight: 7.4 t
Speed: 50 km/h
Impact energy: 723000 joules (J)

Displacement test
Tampering test

Certified according to ISO 22343-1:2023
Certification by CTS GmbH
crashtest-service.com, Münster – Germany

Crash Test – ISO 22343-1:2023 Rating
Vehicle weight: 7.2 t
Speed: 48 km/h
Impact energy: 689000 joules (J)

Previous US testing procedure	Current US testing procedure	Current testing procedure in Great Britain	Previous international testing procedures	Current international testing procedures[1]
K4	M30	PAS68	IWA14-1	ISO 22343-1
K12	M50	PAS68	IWA14-1	ISO 22343-1

Comparison of the certificates from the USA, Great Britain and international certificates

[1]The ISO standard supersedes the IWA standard. All future crash tests will be performed in accordance with ISO.

Quality and security testing

New and further developments in the Security Line and High Security Line are tested in both internal and external tests, examining their resistance to collisions with different loads, as well as their function depending on temperature and weather.

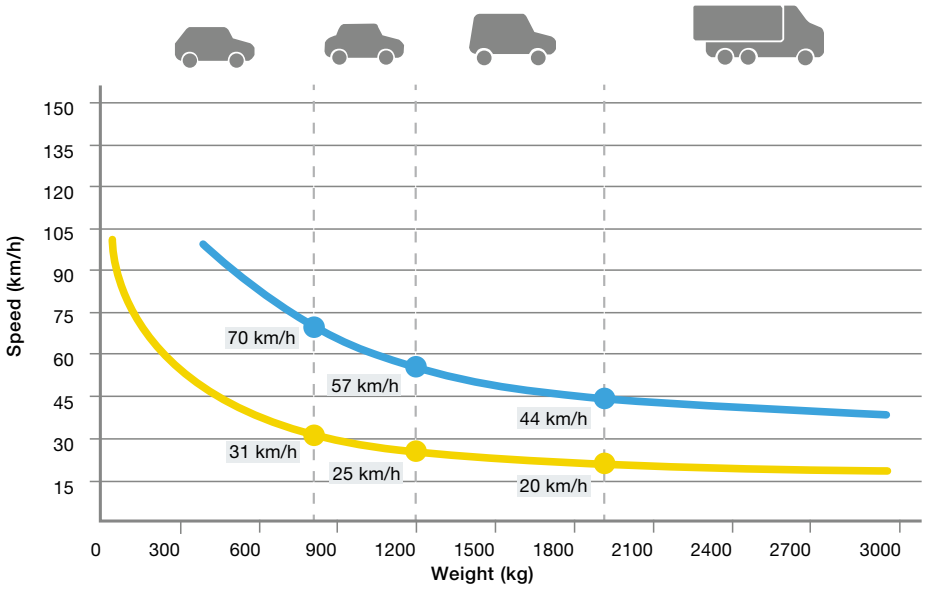
CLIMATIC TEST. Functional safety is ensured in various climatic conditions through special climatic tests. Different temperatures (from –40°C to +70°C), weather conditions and humidities are simulated in climatic test chambers. These tests have high demands and guarantee the reliable function and long service life of our perimeter protection systems.

PENDULUM IMPACT TEST. The impact resistance without destruction of the Security Line bollards is examined in special pendulum impact tests. A steel ball on a pendulum simulates the loads resulting during an impact with different speeds and vehicle types. The impact height is also tested individually. This allows us to ensure and even improve upon the high security of our bollards.

Only from Hörmann

Impact energy without destruction for Security Line bollard 275 approved by TÜV Rheinland

UNCOMPROMISING FUNCTIONAL SAFETY. All perimeter protection systems are tested to ensure full functionality before delivery. All fine mechanical and hydraulic adjustments and the electric and control settings of each individual system component are tested. For systems with multiple components, the compatibility of all interfaces and functions is ensured. With this process, we can guarantee the fastest possible fitting as well as the reliable operation of our perimeter protection systems.



The values in the diagram below indicate at which speed and which vehicle weight a certain impact energy is generated.

Impact energy with destruction
The passage of the vehicle is prevented, but the crash causes permanent damage to the mechanics and construction of the bollard. The bollard must be replaced.

Impact energy without destruction
The passage of the vehicle is prevented and the function and safety of the bollard are still guaranteed.

Vehicle types

- Small vehicles with a total weight of up to 800 kg
- Passenger cars with a weight of up to 1200 kg
- Vans with a weight of up to 1900 kg
- Lorries with a weight over 1900 kg

Impact energy with destruction[1]
150000 joules (J)

Impact energy without destruction[1]
40000 joules (J)

[1] using the example of bollard F 220-600 / 800 CF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Application areas

Automatic bollards

Automatic bollards are available in two versions: one version with an integrated electromechanical operator for average use frequencies and a variant with an integrated hydraulic operator for very frequent use. The RI-H automatic bollard offers a particularly high level of protection with reinforced cylinder material.

➔ For further information on the Security Line automatic bollards, see from page 34
➔ For further information on the equipment options for bollards, see from page 58.

TOP. Automatic bollards with hydraulic operator

LEFT. Ready-to-fit automatic plug & play bollards with electromechanical operator

Automatic plug & play bollards

The ready-to-fit electromechanical bollard A 114-600 / 800 E is particularly quick and easy to install in around 1 hour and is ideal for applications in private residential construction. The plug & play bollard can be optimally combined with the fixed Design bollards. Its low power consumption also makes it particularly environmentally friendly. The bollard A 114-600 / 800 E has an integrated BiSecur radio receiver and can be controlled and managed securely and conveniently with the BiSecur app or the Hörmann Cloud Unit.

➔ Further information on the automatic plug & play bollard can be found on page 32
➔ Further information on the BiSecur can be found on page 72
➔ Further information on the Cloud Unit can be found on page 73

TOP. Fixed and automatic bollards with bottom plate

BOTTOM RIGHT. Fixed bollard with stone mantle

Bollard with stone mantle

For unique design possibilities, we offer fixed and automatic bollards with a diameter of 275 mm in many stone types and colours as well as individual cylinder covers.

➔ For further information on the Security Line fixed bollards, see from page 42.
➔ For further information on the equipment options for bollards, see from page 58.

Fixed bollards

The fixed bollards with bottom plate have a matching appearance with automatic and semi-automatic bollards. If damaged, the cylinders can be removed. The fixed bollards with ground anchor make a good introductory model featuring an excellent price-performance ratio. Fixed bollards RI-FF with reinforced cylinder material and reinforced ground fitting are ideal for particularly high protection.

Semi-automatic bollards

Semi-automatic bollards with integrated gas springs are suitable for less frequent use. Installation does not require a power connection.

Removable bollards

Removable bollards, which can be detached without any tools, are recommended for very infrequent use of approximately two cycles per day.

Design bollards

The new Design bollards are a simple, elegant and cost-effective solution for separating pavements, pedestrian areas or public spaces from road traffic. They are primarily arranged in a row to prevent cars from parking or driving between them, for example. Pedestrians and cyclists still have barrier-free access.

➔ For further information on the Security Line semi-automatic and removable bollards, see from page 39.
➔ For further information on the Design bollards, see from page 45.

TOP. Removable bollard with closed cover

BOTTOM LEFT. Semi-automatic bollard with pavement frame

BOTTOM RIGHT. Design bollard LH with lock receptacle for bicycles

High Security bollards

High Security Line bollards are perfect for protecting sensitive areas. They are available in automatic, semi-automatic, removable and fixed versions, are certified to international crash tests and meet the relevant security requirements.

➔ For further information on the crash test conditions, see page 15.

TOP RIGHT. Electromechanical High Security bollards made of steel

BOTTOM LEFT. Electromechanical High Security bollards made of steel

Only from Hörmann

High-security bollards with electromechanical operator

Electromechanical High Security bollards

The High Security bollards with brushless electromechanical operator are the optimum solution in case of particularly strict environmental protection requirements, since they do not require hydraulic oil. They are very easy to maintain and service. The soft start and soft stop function makes cylinder movements very gentle.

➔ For further information on the High Security bollards, see from page 47.

TOP LEFT. Tyre killer M

TOP RIGHT. Road Blocker 1000 with hydraulic operator

BOTTOM LEFT. Mobile vehicle barrier OktaBlock

BOTTOM RIGHT. Mobile Road Blocker M30

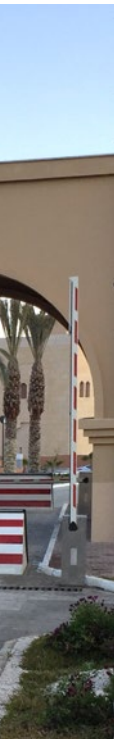
Road blockers

For optimised security for entrances and exits up to six metres wide, road blockers are recommended. They are available in the Road Blocker 500 variant with a barrier height of 500 mm or in the Road Blocker 1000 version with a barrier height of 1000 mm. Road Blockers 500 SF and 1000 SF can easily and quickly be fitted on any suitable floor covering as they do not require excavation work.

Tyre killers

Tyre killers enable controlled, unidirectional passage while preventing passage in the other direction. While the variant Tyre Killer M can always be traversed in one direction, Tyre Killer H is lowered to allow vehicle passage.

➔ For further information on road blockers and tyre killers, see from page 62.



Mobile vehicle barriers

HIGH SECURITY

The Hörmann OktaBlock secures driveways and access to open-air events such as city festivals or Christmas markets and effectively prevents vehicles from smashing through. Its design is inconspicuous, and is therefore not perceived to be threatening.

The mobile Road Blocker M30 is the ideal complement to the Hörmann OktaBlock when it comes to securing passageways. While large areas can be secured quickly and economically with the OktaBlock, the mobile Road Blocker M30 is deployed at vehicle passage points.
Our two mobile vehicle barriers allow you to secure events in a location-independent and cost-efficient way at flexible times.

➔ For further information on the OktaBlock, see from page 66.
➔ For further information on the mobile Road Blocker M30, see from page 68.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Versions Accessories Technology

Automatic plug & play bollards

With integrated electromechanical operator

SECURITY

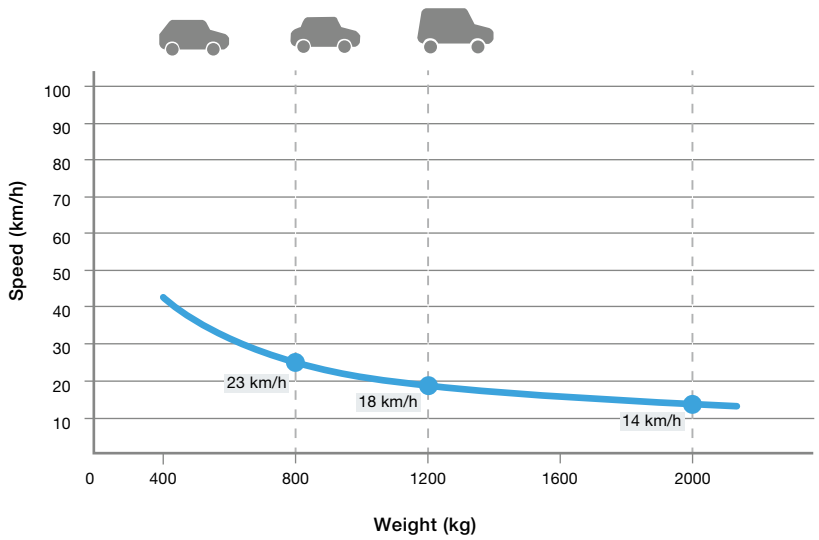
- For average use frequencies (approx. 100 cycles / day)
- Introductory model featuring an excellent price-performance ratio
- Bollard made of brushed stainless steel V2A (AISI 304), with integrated foundation box and electromechanical operator
- Compliance with strict environmental regulations, as no hydraulic oil is used
- Environmentally friendly thanks to low power consumption
- MINIMUM MAINTENANCE
- Quick and easy to fit (< 1 hour/unit)
- Optimally combinable with the fixed Design bollards
- BiSecur radio receiver integrated as standard for secure and convenient operation of up to 2 bollards
- Control via the BlueSecur app, cloud unit as an option
- Distance between bollard and control unit of up to 30 m

	A 114-600 E	A 114-800 E
Diameter (mm)	114	114
Height (mm)	600	800
Technical data		
Speed, lifting (cm/s)	8	8
Speed, lowering (cm/s)	11	11
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)
Manual lowering in case of power failure	●	●
Integrated electromechanical operator	●	●
Emergency power supply	○	○
Cycles (approx. per day)	100	100
Overall cycles (max. service life)	200000	200000
Temperature range	–20°C to +60°C[1]	–20°C to +60°C[1]

● = Standard equipment ○ = Optional equipment

[1] For temperatures below 0°C, we recommend an optional heater

Equipment options: radio control, LED lighting, heating element, remote access CloudUnit W5-B. For further information, see from page 58.



Impact energy with destruction

16000 joules (J)

Optional equipment

LED lighting 1

- Better visibility at night

Heating element 3

- Reliable operation in areas at risk of snow and ice

Range of control options 4

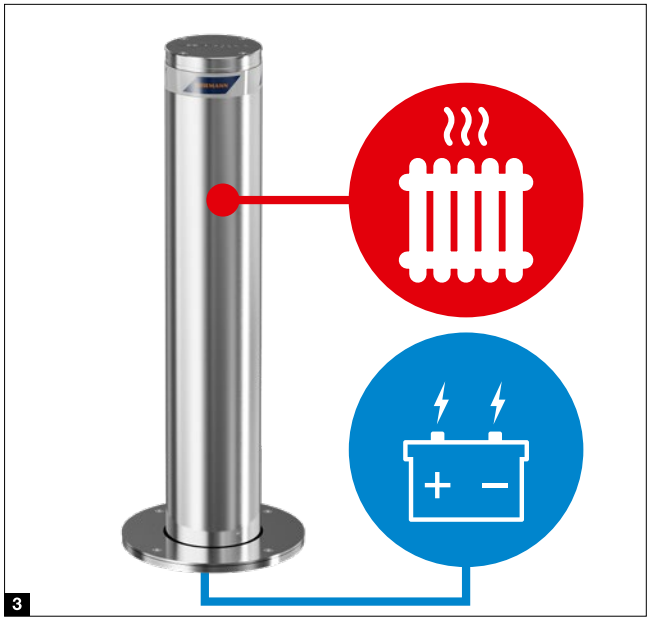
- BiSecur hand transmitter and other BiSecur control elements
- Remote control via BlueSecur app (Bluetooth)
- Remote control via Hörmann Cloud Unit

Custom logo on cylinder cover 2

- Custom logo possible
- Enhanced advertising effect

Emergency power supply 3

- For bridging power failures



Automatic bollards E

With integrated electromechanical operator

SECURITY

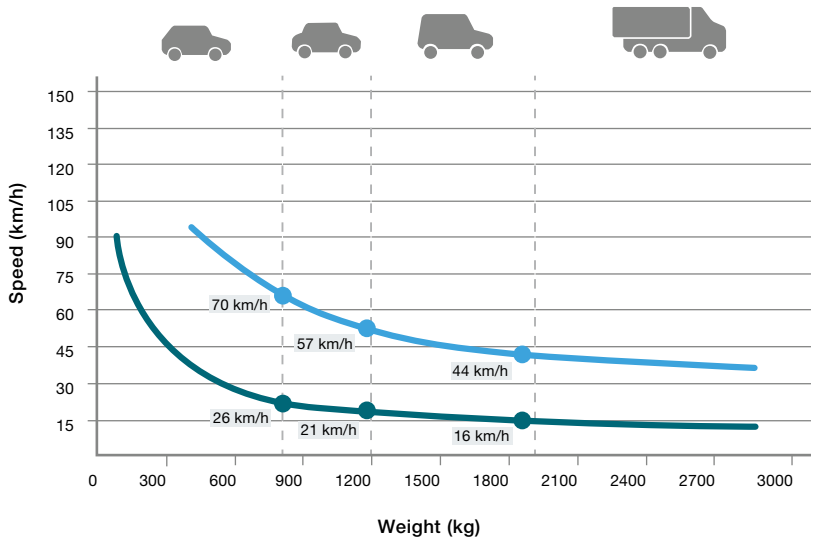
- For average use frequencies (approx. 100 cycles/day) – A-127) or high use frequencies (approx. 1000 cycles/day – A-220 / A-275)
- A-127: Introductory model featuring an excellent price-performance ratio
- Control unit for simultaneous control of up to 3 (A-127), or 3, 6 and 9 (A-220 / A-275) bollards
- Compliance with strict environmental regulations, as no hydraulic oil is used
- Easy replacement without further construction work of hydraulic bollards with 220 mm and 275 mm diameter by fitting in the existing foundation box
- Distance between bollard and control unit of up to 30 m

	A 127-600 E	A 127-800 E
Diameter (mm)	127	127
Height (mm)	600	800
Technical data		
Speed, lifting (cm/s)	9,5	11
Speed, lowering (cm/s)	12	14
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)
Automatic lowering in case of power failure (via battery)	●	●
Automatic safety cut-out (can be deactivated)	●	●
Integrated electromechanical operator	●	●
Cycles (approx. per day)	100	100
Overall cycles (max. service life)	200000	200000
Impact energy with destruction (J)	150000	150000
Impact energy without destruction (J)	20000	20000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available

[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.



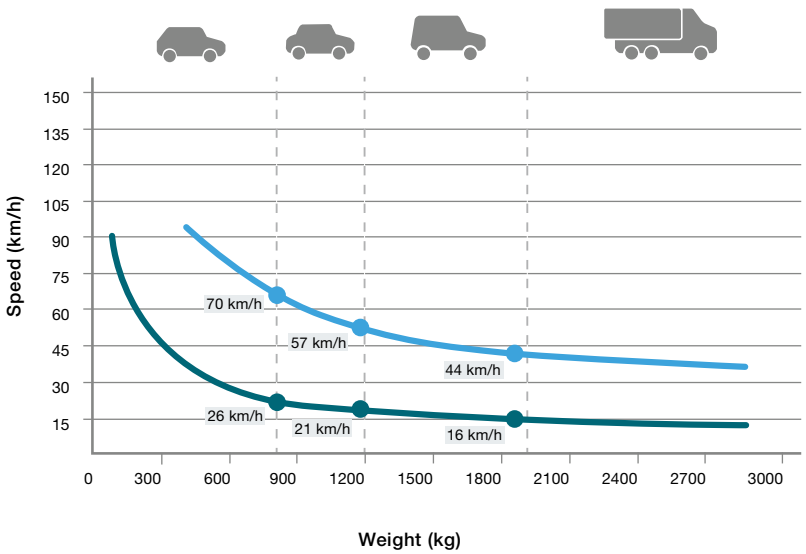
Impact energy with destruction
150000 joules (J)

Impact energy without destruction
20000 joules (J)

	A 220-600 E	A 220-800 E	A 275-600 E	A 275-800 E
Diameter (mm)	220	220	275	275
Height (mm)	600	800	600	800
Technical data				
Speed, lifting (cm/s)	9,5	11	9,5	11
Speed, lowering (cm/s)	12	14	12	14
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Automatic lowering in case of power failure (via battery)	●	●	●	●
Automatic safety cut-out (can be deactivated)	●	●	●	●
Integrated electromechanical operator	●	●	●	●
Cycles (approx. per day)	1000	1000	1000	1000
Overall cycles (max. service life)	1500000	1500000	1500000	1500000
Impact energy with destruction (J)	150000	150000	150000	150000
Impact energy without destruction (J)	20000	20000	20000	20000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]

●=Standard equipment ○=Optional equipment
–=Not available
[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.



Impact energy with destruction
150000 joules (J)

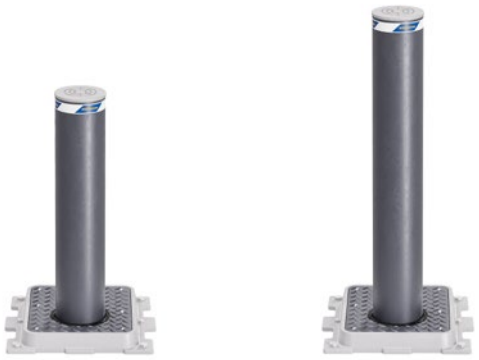
Impact energy without destruction
20000 joules (J)

Automatic bollards H

With integrated hydraulic operator

SECURITY

- For high use frequencies (approx. 2000 cycles/day)
- Automatic lifting and lowering by integrated hydraulic operator
- Control unit can be extended to control multiple bollards simultaneously
- Distance between bollard and control unit of up to 80 m

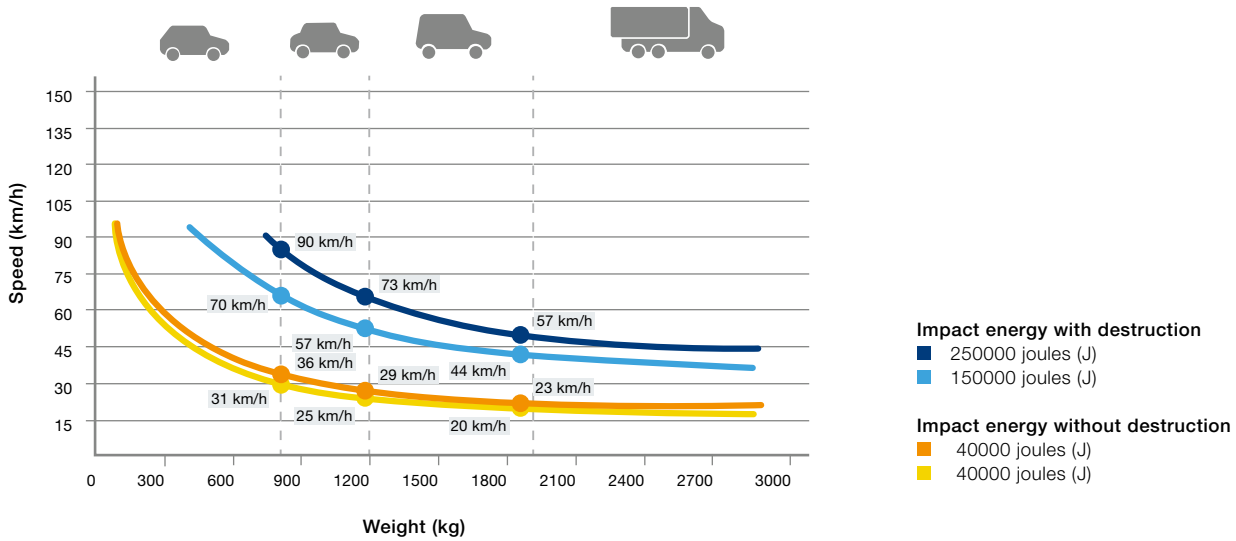


	A 127-600 H	A 127-800 H
Diameter (mm)	127	127
Height (mm)	600	800
Technical data		
Speed, lifting (cm/s)	15	15
Speed, lowering (cm/s)	25	25
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)
Manual emergency lowering in case of power failure	●	●
Automatic lowering in case of power failure	○	○
Automatic safety cut-out (can be deactivated)	●	●
Integrated hydraulic operator	●	●
Cycles (approx. per day)	2000	2000
Overall cycles (max. service life)	3000000	3000000
Impact energy with destruction (J)	150000	150000
Impact energy without destruction (J)	30000	30000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available

[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.

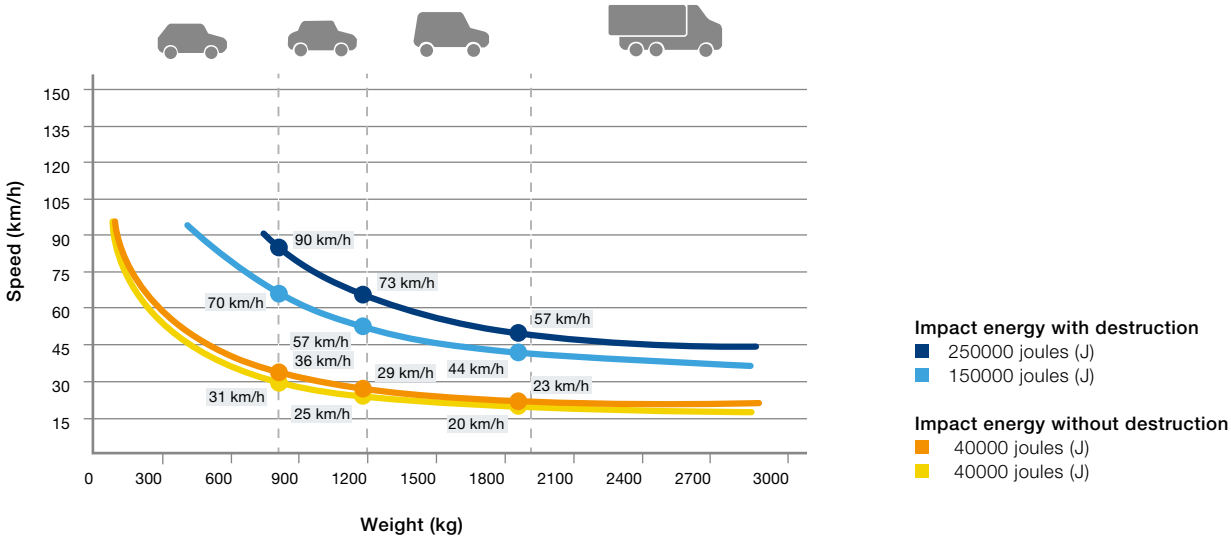


- For high use frequencies (approx. 2000 cycles/day)
- Automatic lifting and lowering by integrated hydraulic operator
- A 275-600 / A 275-800 H: Optional: all major components made of stainless steel
- Control unit can be extended to control multiple bollards simultaneously
- Distance between bollard and control unit of up to 80 m

	A 220-600 H	A 220-800 H	A 275-600 H	A 275-800 H
Diameter (mm)	220	220	273	273
Height (mm)	600	800	600	800
Technical data				
Speed, lifting (cm/s)	15	15	16	17
Speed, lowering (cm/s)	30	25	30	32
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Manual emergency lowering in case of power failure	●	●	●	●
Automatic lowering in case of power failure	○	○	○	○
Automatic safety cut-out (can be deactivated)	●	●	●	●
Integrated hydraulic operator	●	●	●	●
Cycles (approx. per day)	2000	2000	2000	2000
Overall cycles (max. service life)	3000000	3000000	3000000	3000000
Impact energy with destruction (J)	150000	150000	250000	250000
Impact energy without destruction (J)	30000	30000	40000	40000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available
[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.



Automatic bollards RI-H

With integrated hydraulic operator

SECURITY

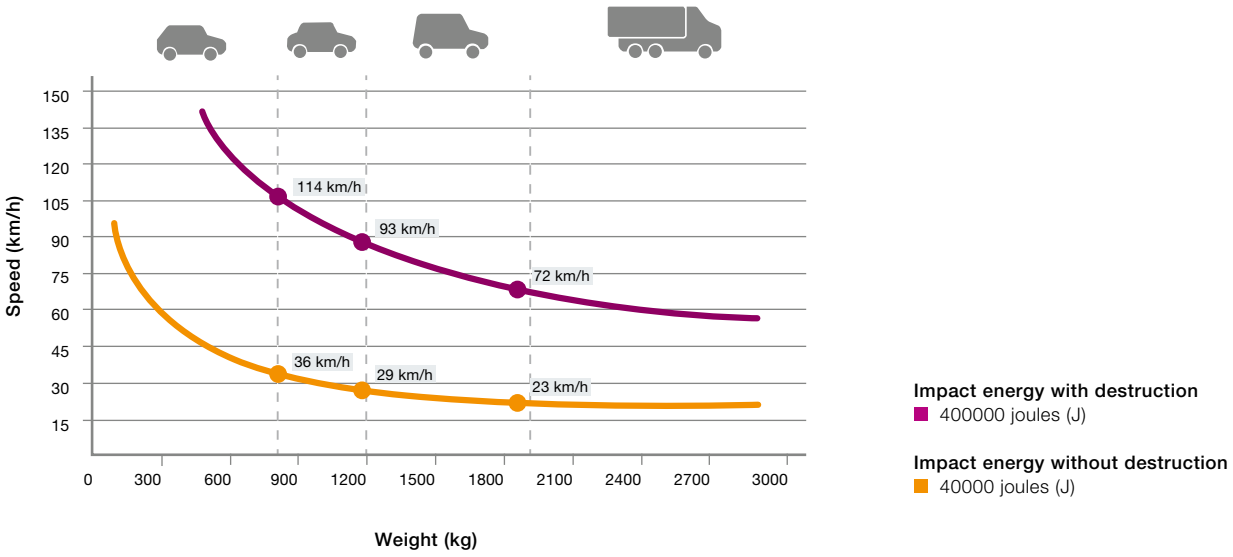
- For high use frequencies (approx. 2000 cycles/day)
- Especially high protection level thanks to reinforced cylinder material
- Automatic lifting and lowering by integrated hydraulic operator
- Optionally with EFO emergency function (Emergency Fast Operation)
- Control unit can be extended to control multiple bollards simultaneously
- Distance between bollard and control unit of up to 80 m

	A 275-RI-600 H	A 275-RI-800 H
Diameter (mm)	273	273
Height (mm)	600	800
Technical data		
Speed, lifting (cm/s)	15	16
Speed, lowering (cm/s)	30	32
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)
Manual emergency lowering in case of power failure	●	●
Automatic lowering in case of power failure	○	○
EFO emergency function	○	○
Automatic safety cut-out (can be deactivated)	●	●
Integrated hydraulic operator	●	●
Cycles (approx. per day)	2000	2000
Overall cycles (max. service life)	3000000	3000000
Impact energy with destruction (J)	400000	400000
Impact energy without destruction (J)	40000	40000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available

[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.



Impact energy with destruction
400000 joules (J)

Impact energy without destruction
40000 joules (J)

SA SECURITY

Semi-automatic bollards G

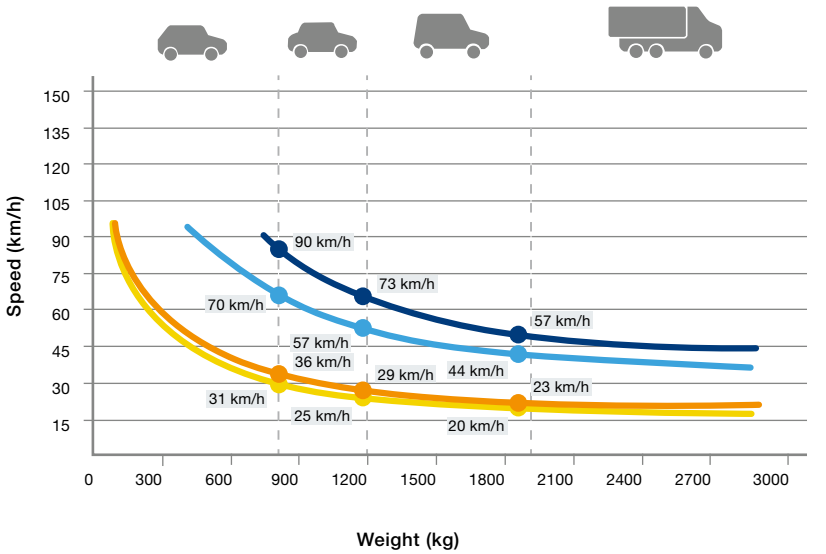
With integrated gas spring

- For less frequent use (approx. five cycles / day)
- No power supply required
- Manual lowering of bollard by depressing it, automatic lifting by integrated gas spring
- Distance between bollard and control unit of up to 80 m

	S 127-600 G	S 220-600 G	S 220-800 G	S 275-600 G	S 275-800 G
Diameter (mm)	127	220	220	273	273
Height (mm)	600	600	800	600	800
Technical data					
Speed, lifting (cm/s)	20	20	20	20	20
Speed, lowering	Manual	Manual	Manual	Manual	Manual
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Integrated gas spring	●	●	●	●	●
Standard lock	–	●	●	●	●
Triangular lock (11 mm)	●	○	○	○	○
Additional EU lock according to DIN 18252	–	○	○	○	○
Impact energy with destruction (J)	150000	150000	150000	250000	250000
Impact energy without destruction (J)	30000	30000	30000	30000	30000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available
[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see from page 58.



Impact energy with destruction
- 250000 joules (J)
- 150000 joules (J)

Impact energy without destruction
- 40000 joules (J)
- 30000 joules (J)

Removable bollards

With closed bottom section

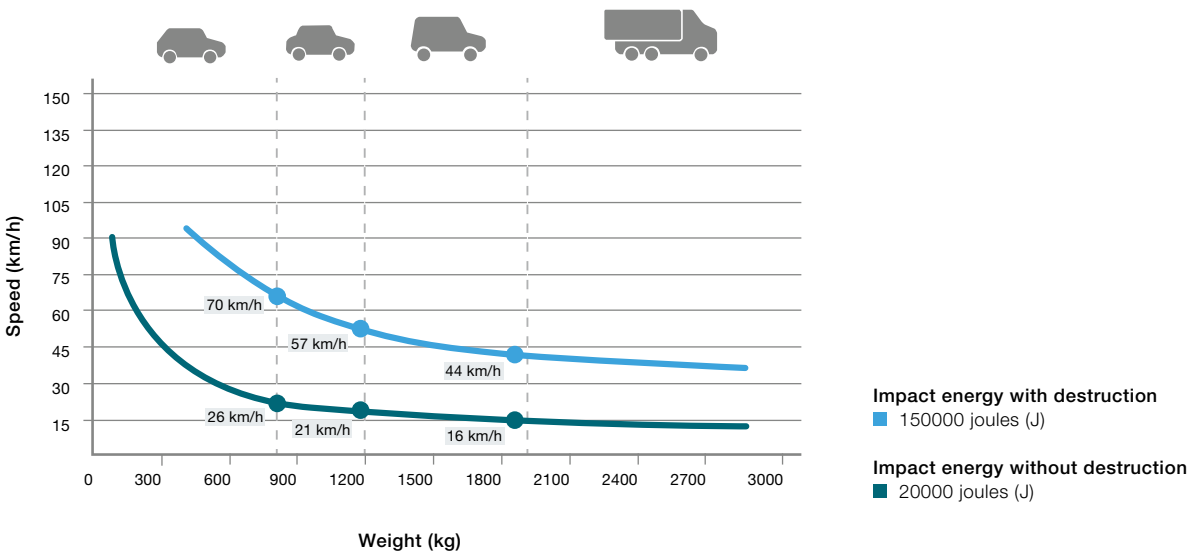
SECURITY

- For very infrequent use (approx. two cycles/ day)
- Can be detached without tools
- Fitting retractable to ground level
- No floor opening when bollard is removed
- Standard EU lock according to DIN 18252

	R 127-600	R 127-800	R 220-600	R 220-800
Diameter (mm)	127	127	220	220
Height (mm)	600	600	600	800
Weight (kg)	14	18	19	23
Technical data				
Load class acc. to EN 124	C250 (25 tonnes)	C250 (25 tonnes)	C250 (25 tonnes)	C250 (25 tonnes)
Standard lock	●	●	●	●
Impact energy with destruction (J)	150000	150000	150000	150000
Impact energy without destruction (J)	20000	20000	20000	20000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.

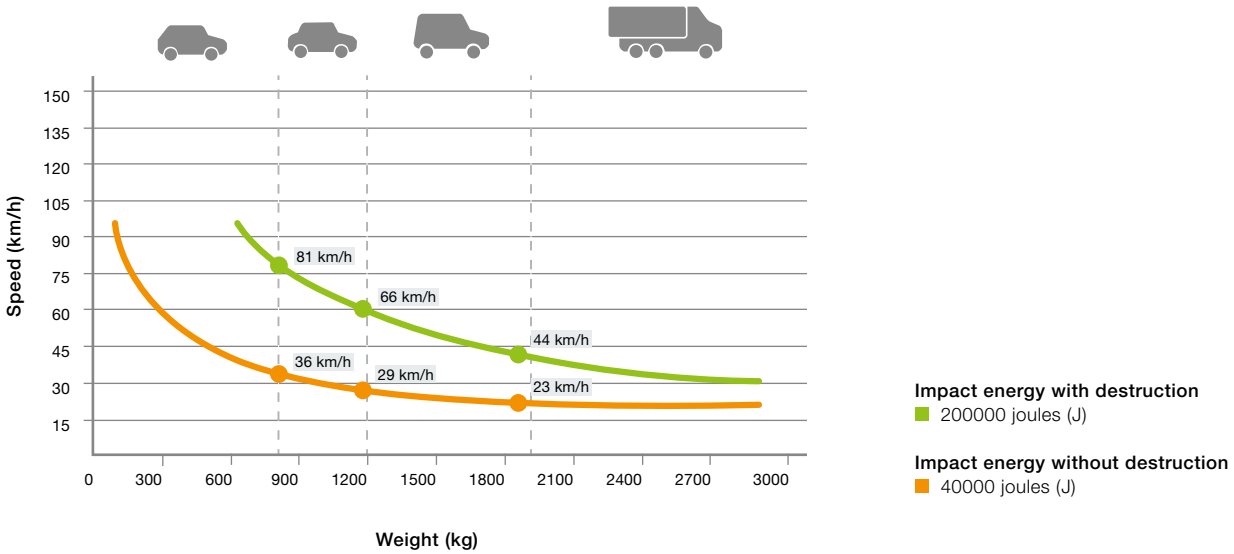


- For very infrequent use (approx. two cycles / day)
- Can be detached without tools
- Fitting retractable to ground level
- Standard EU lock according to DIN 18252
- No floor opening when bollard is removed

	R 275-600	R 275-800
Diameter (mm)	273	273
Height (mm)	600	800
Weight (kg)	22	28
Technical data		
Load class acc. to EN 124	C250 (25 tonnes)	C250 (25 tonnes)
Standard lock	●	●
Impact energy with destruction (J)	200000	200000
Impact energy without destruction (J)	40000	40000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Fixed bollards CF

With bottom plate

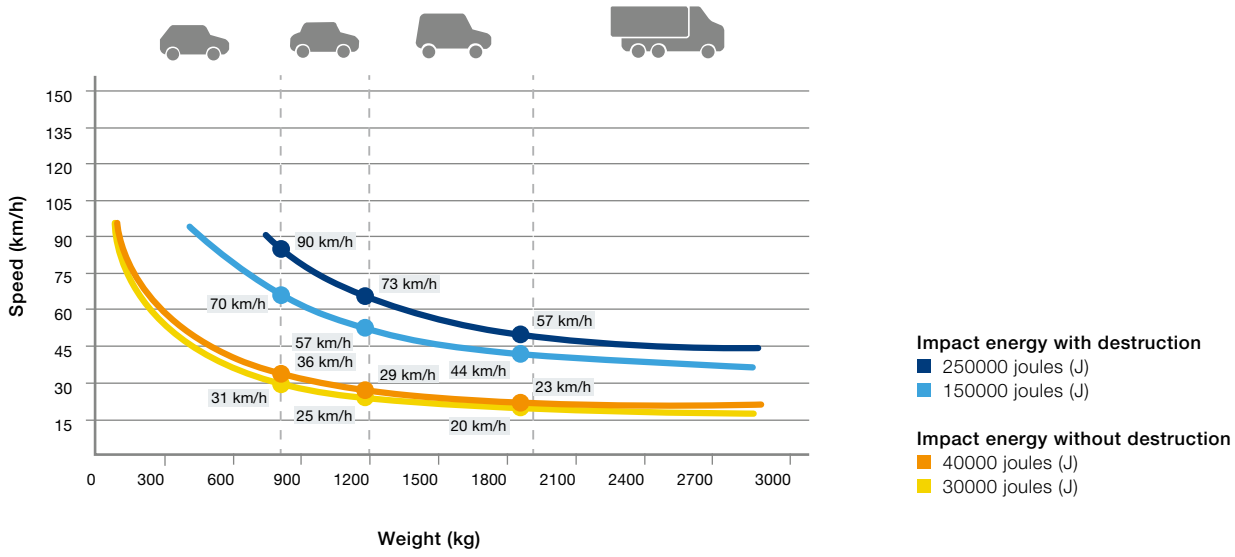
SECURITY

- Harmonious look in combination with automatic and semi-automatic bollards thanks to matching bottom plate
- Simple cylinder removal in case of damage or special events
- Optionally with LED lighting strip for improved visibility

	F 127-600 CF	F 127-800 CF	F 220-600 CF	F 220-800 CF	F 275-600 CF	F 275-800 CF
Diameter (mm)	127	127	220	220	275	275
Height (mm)	600	800	600	800	600	800
Technical data						
Impact energy with destruction (J)	150000	150000	150000	150000	250000	250000
Impact energy without destruction (J)	30000	30000	30000	30000	40000	40000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Fixed bollards BR

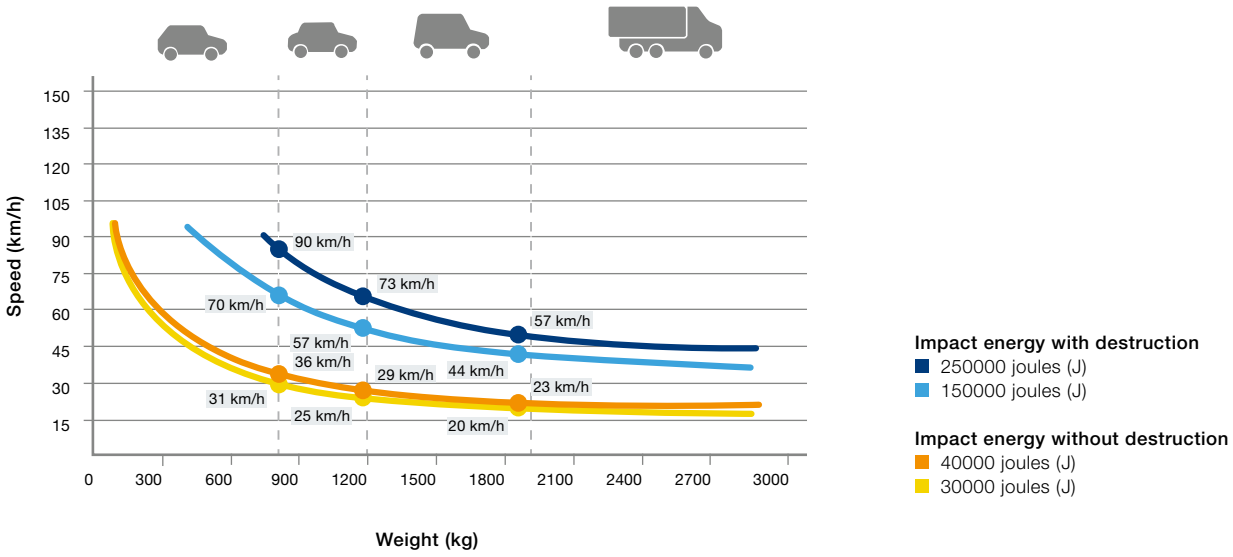
With ground anchor

- Introductory model featuring a good price-performance ratio
- To secure buildings or areas without requiring a driveway
- For combination with automatic and removable Security bollards using cylinders with matching appearance

	F 127-600 BR	F 127-800 BR	F 220-600 BR	F 220-800 BR	F 275-600 BR	F 275-800 BR
Diameter (mm)	127	127	220	220	273	273
Height (mm)	600	800	600	800	600	800
Technical data						
Impact energy with destruction (J)	150000	150000	150000	150000	250000	250000
Impact energy without destruction (J)	30000	30000	30000	30000	40000	40000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Fixed bollards RI-FF

With reinforced ground fitting

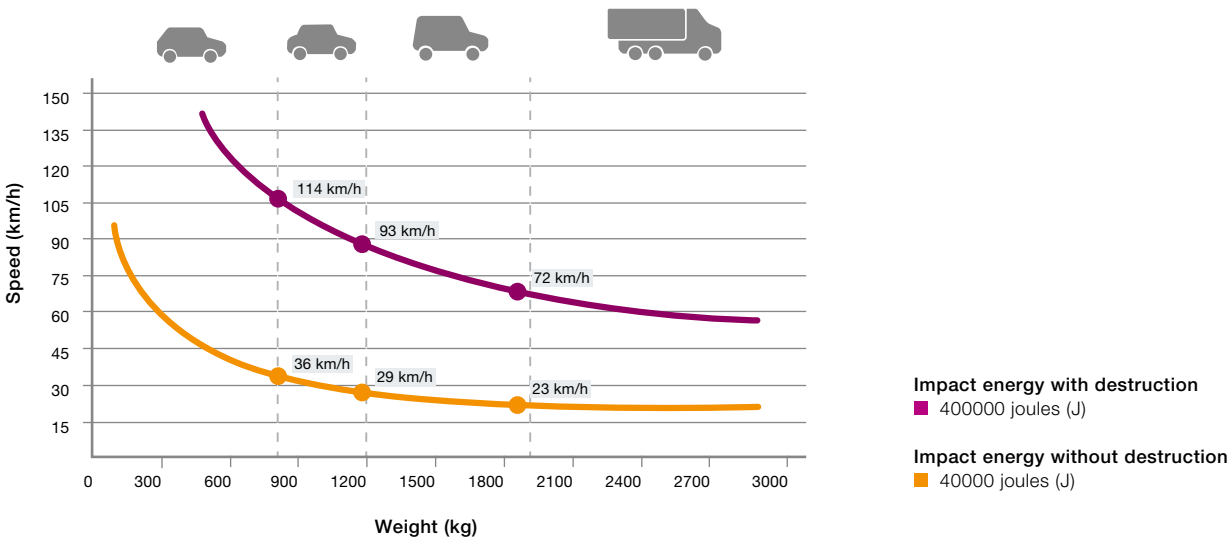
SECURITY

- Especially high protection level thanks to reinforced cylinder material and reinforced ground fitting
- To secure buildings or areas without requiring a driveway
- For combination with automatic and removable Security bollards using cylinders with matching appearance

	F 275-RI-600 FF	F 275-RI-800 FF
Diameter (mm)	273	273
Height (mm)	600	800
Technical data		
Impact energy with destruction (J)	400000	400000
Impact energy without destruction (J)	40000	40000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Impact energy with destruction
400000 joules (J)

Impact energy without destruction
40000 joules (J)

Design bollards

In five elegant versions

- Distinguished Design bollards optionally in a coated steel version or with an elegant stainless steel surface
- 5 attractive designs and 3 different diameters for design flexibility
- Available in heights of 900 mm, 1000 mm, 1100 mm and 1200 mm
- Available in RAL to choose
- Simple fitting by setting in concrete or version with screw-on flange for bolt fastening

Design bollard with straight cover and ground fitting for setting in concrete

	F 102-900	F 140-900	F 168-900
Diameter (mm)	102	140	168
Height (mm)	900	900	900
Steel, coated in Anthracite grey	●	●	●
Brushed stainless steel, V2A (AISI 304)	○	○	○
Coating in RAL to choose (for steel version)	○	○	○
Construction			
With straight cover	●	●	●
With concave cover	○	○	○
With chamfered cover	○	○	○
With wide ring	○	○	○
With quadruple ring	○	○	○
Ground fitting for setting in concrete, fitting depth 150 mm (F 102-900, F 140-900), 250 mm (F 168-900)	●	●	●
Cylinder extension in 100 mm intervals up to max. 1200 mm	○	○	○
Reinforced cylinder and reinforced ground fitting	○	○	○
Screw-on flange for bolt fastening	○	○	○
Impact energy with destruction[1] (J)	200000	200000	200000

● = Standard equipment ○ = Optional equipment – = Not available

[1] Applies only to bollards with reinforced cylinder and reinforced ground fitting

Optional equipment

- Version with concave cover 1
- Version with chamfered cover 2
- Version with wide ring (only in stainless steel version) 3
- Version with quadruple ring (only in stainless steel version) 4
- Version with screw-on flange for bolt fastening 5

Design bollards

Elegant with additional functions

SECURITY

- R 140-900: removable bollard with tappet lock and weight of only 7 kg
- F 140-900 LH: With lock receptacle for bicycles

	R 140-900	F 140-900 LH
Diameter (mm)	140	140
Height (mm)	900	900
Weight (kg)	7	
Steel, coated in Anthracite grey	●	●
Brushed stainless steel, V2A (AISI 304)	●	●
Technical data		
With concave cover (see figure above)	●	●
With straight cover	○	–
With chamfered cover	○	–
Cam lock	●	–
Ground fitting for setting in concrete, fitting depth 150 mm (F 140-900) or 200 mm (R 140-900)	●	●
Cylinder extension in 100 mm intervals up to max. 1200 mm	○	○
Reinforced cylinder and reinforced ground fitting	–	○
Impact energy with destruction[1] (J)	–	200000

● = Standard equipment ○ = Optional equipment – = Not available

[1] Applies only to bollards with reinforced cylinder and reinforced ground fitting

Automatic bollards E

With brushless electromechanical operator

- For high use frequencies (approx. 2000 cycles/day)
- Low maintenance, as no inspection of the hydraulics components, oil pressure and oil level is required
- Environmentally friendly, can also be used in case of strict environmental requirements
- Service-friendly thanks to virtually wear-free brushless drive units (230 V AC) and few operator components
- Low-vibration and low-noise cylinder movement with soft start and soft stop
- Optionally with EFO emergency function (Emergency Fast Operation)

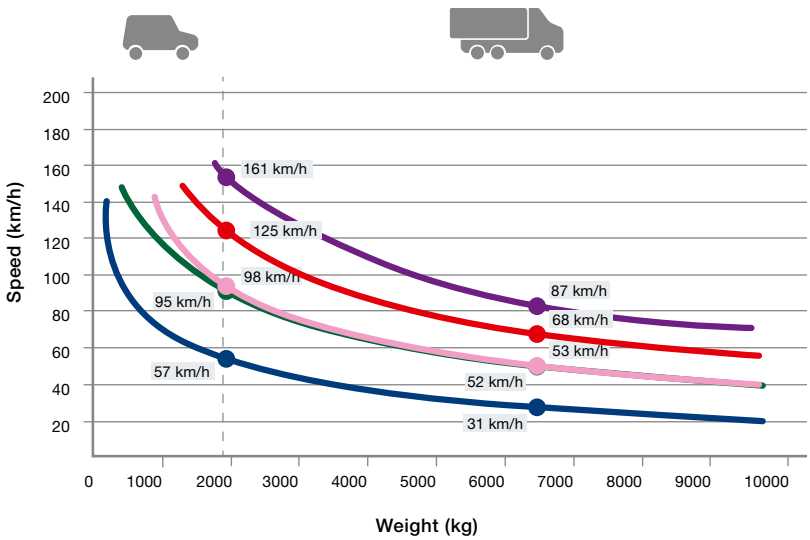
	A 275-M30-900 E	A 275-M30-1200 E	A 275-M50-900 E	A 275-M50-1200 E
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Technical data				
Speed, lifting (cm/s)	22	22	22	22
Speed, lowering (cm/s)	22	22	22	22
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Manual lowering in case of power failure	●	●	●	●
Automatic lowering in case of power failure (via battery)	○	○	○	○
EFO emergency function	○	○	○	○
Brushless electromechanical drive	●	●	●	●
Cycles (approx. per day)	2000	2000	2000	2000
Overall cycles (max. service life)	3000000	3000000	3000000	3000000
Certified acc. to	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M50, K12**	**M50, K12, PAS 68**
Compliant with	**–**	**PAS 68, IWA 14-1, M40, K8**	**–**	**IWA14-1**
Impact energy with destruction (J)	750000	750000 (1200000[1])	2000000	2000000
Impact energy without destruction (J)	250000	700000	700000	700000
Temperature range	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.

[1] Numerical calculation

[2] For temperatures below 0°C, we recommend an optional heater



Impact energy with destruction
- 2000000 joules (J)
- 1200000 joules (J)
- 750000 joules (J)

Impact energy without destruction
- 700000 joules (J)
- 250000 joules (J)

Automatic bollards H

With integrated hydraulic operator

HIGH SECURITY

- For high use frequencies (approx. 2000 cycles/day)
- Automatic lifting and lowering by integrated hydraulic operator
- Optionally with EFO emergency function (Emergency Fast Operation)
- Control unit can be extended to control multiple bollards simultaneously
- Distance between bollard and control unit of up to 80 m

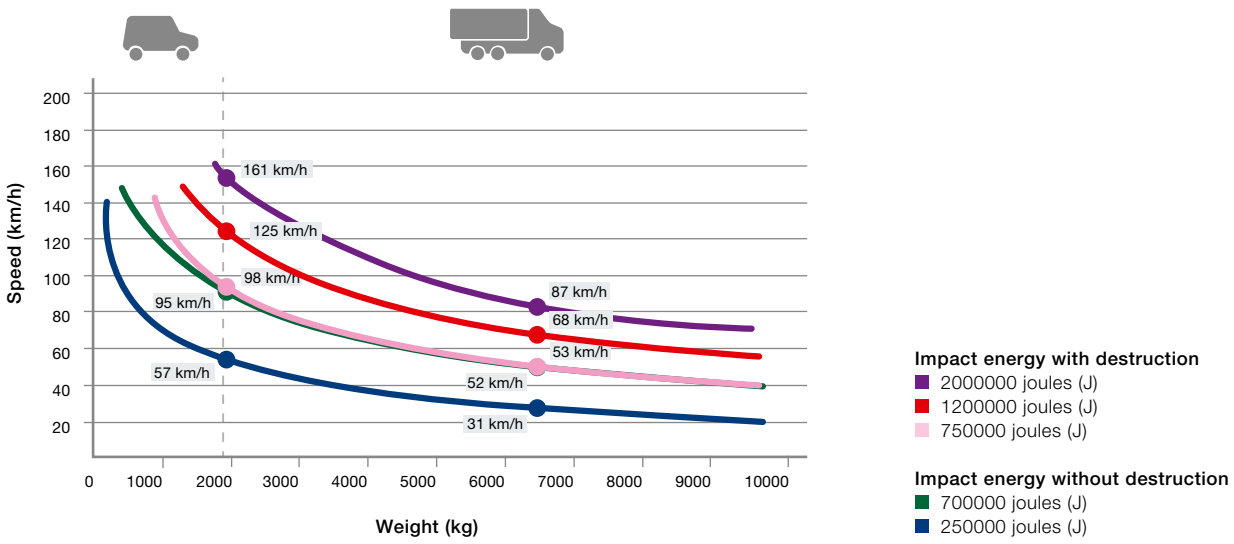
	A 275-M30-900 H	A 275-M30-1200 H	A 275-M50-900 H	A 275-M50-1200 H
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Technical data				
Speed, lifting (cm/s)	10	22	22	22
Speed, lowering (cm/s)	26	30	22	30
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Manual lowering in case of power failure	●	●	●	●
EFO emergency function	○	○	○	○
Integrated hydraulic operator	●	●	●	●
Cycles (approx. per day)	2000	2000	2000	2000
Overall cycles (max. service life)	3000000	3000000	3000000	3000000
Certified acc. to	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M50, K12**	**M50, K12, PAS68**
Compliant with	**–**	**PAS 68, IWA 14-1, M40, K8**	**–**	**IWA14-1**
Impact energy with destruction (J)	750000	750000 (1200000[1])	2000000	2000000
Impact energy without destruction (J)	250000	700000	700000	700000
Temperature range	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.

[1] Numerical calculation

[2] For temperatures below 0°C, we recommend an optional heater



SA
HIGH SECURITY

Semi-automatic bollards H

With integrated hydraulic pump

- For less frequent use (approx. five cycles / day)
- No power supply required
- Manual lifting with electric screwdriver using supplied special insert
- Manual lowering by opening the hydraulic valve

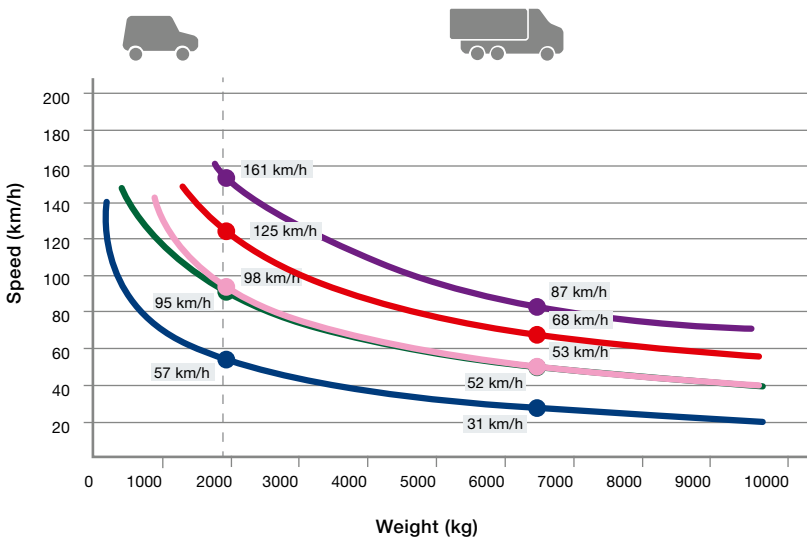
	S 275-M30-900 H	S 275-M30-1200 H	S 275-M50-900 H	S 275-M50-1200 H
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Technical data				
Speed, lifting (cm/s)	8	8	8	8
Speed, lowering (cm/s)	20	20	20	20
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)	D400 (40 tonnes)
Integrated hydraulic operator	●	●	●	●
Cycles (approx. per day)	5	5	5	5
Overall cycles (max. service life)	3000000	3000000	3000000	3000000
Certified acc. to	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M30, K4**	**PAS 68, IWA 14-1, M50, K12**	**M50, K12, PAS 68**
Compliant with	**–**	**PAS 68, IWA 14-1, M40, K8**	**–**	**IWA14-1**
Impact energy with destruction (J)	750000	750000 (1200000[1])	2000000	2000000
Impact energy without destruction (J)	250000	700000	700000	700000
Temperature range	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]	–40°C to +70°C[2]

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.

[1] Numerical calculation

[2] For temperatures below 0°C, we recommend an optional heater



Impact energy with destruction
- 2000000 joules (J)
- 1200000 joules (J)
- 750000 joules (J)

Impact energy without destruction
- 700000 joules (J)
- 250000 joules (J)

Removable bollards

With reinforced bottom section

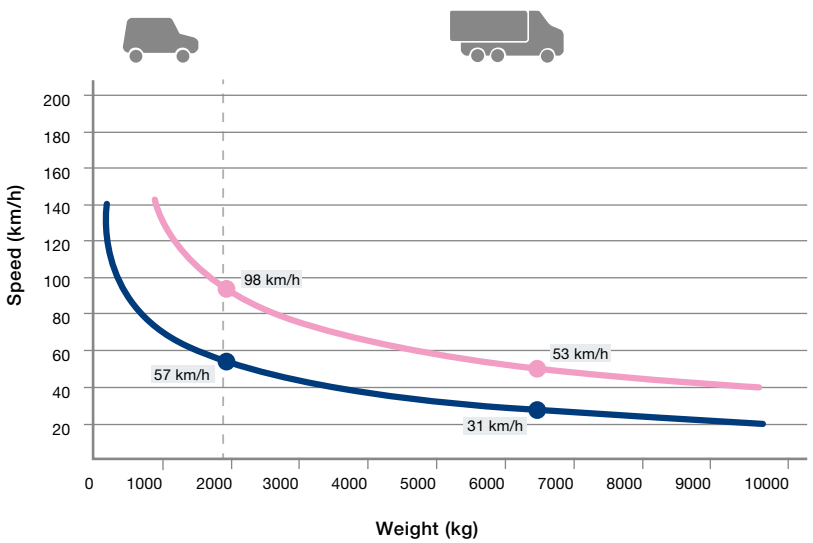
HIGH SECURITY

- For very infrequent use
- Removable using special tool
- Locking with standard EU lock according to DIN 18252
- Can be combined with fixed High Security bollards using cylinders with matching appearance

	R 275-M30-900	R 275-M30-1200	R 275-M50-900	R 275-M50-1200
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Weight (kg)	92	166	199	243
Technical data				
Standard lock	●	●	●	●
Certified acc. to	**PAS68, IWA14-1, M30, K4**	–	–	–
Compliant with	–	**PAS68, IWA14-1, M30, K4**	**PAS68, IWA14-1, M50, K12**	**PAS68, IWA14-1, M50, K12**
Impact energy with destruction (J)	750000	750000	2000000	2000000
Impact energy without destruction (J)	100000	100000	250000	250000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Impact energy with destruction
750000 joules (J)

Impact energy without destruction
250000 joules (J)

HIGH SECURITY

Fixed bollards FF

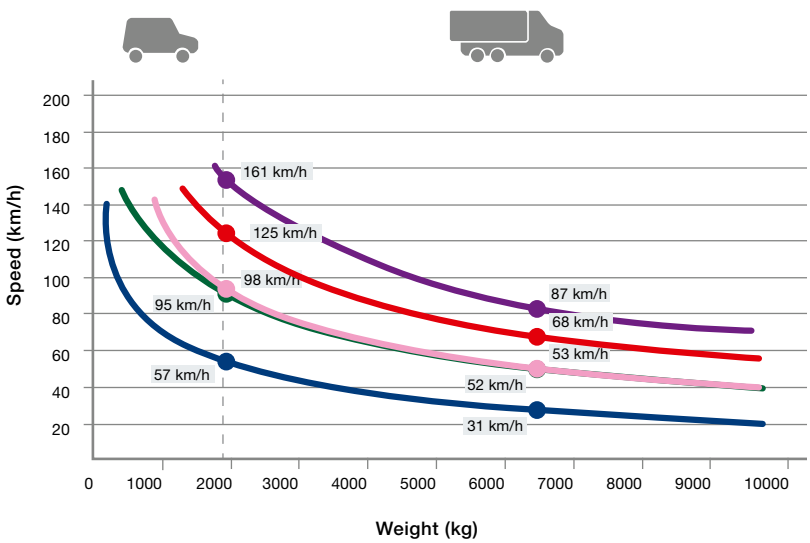
With reinforced ground fitting

- Reinforced ground fitting for setting in concrete
- To secure buildings or areas without requiring a driveway
- For combination with automatic and removable High Security bollards using cylinders with matching appearance
- Rectangular bottom plate for combining with automatic bollards
- **NEW.** Steel cylinder with exchangeable stainless steel sleeve as an alternative to the full stainless steel cylinder version

	F 275-M30-900 FF	F 275-M30-1200 FF	F 275-M50-900 FF	F 275-M50-1200 FF
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Technical data				
Certified acc. to	**M30, K4, PAS68, IWA14-1**	**M30, K4, PAS68, IWA14-1**	**M50, K12, PAS68, IWA14-1**	**M50, K12, PAS68, IWA14-1**
Compliant with		**PAS 68, IWA 14-1, M40, K8**		
Impact energy with destruction (J)	750000	750000 (1200000[1])	2000000	2000000
Impact energy without destruction (J)	250000	700000	700000	700000

● = Standard equipment ○ = Optional equipment – = Not available [1] Numerical calculation

For information about the equipment options, see from page 58.



Impact energy with destruction
- 2000000 joules (J)
- 1200000 joules (J)
- 750000 joules (J)

Impact energy without destruction
- 700000 joules (J)
- 250000 joules (J)

Fixed bollards ST

For cost-effective safeguarding of large premises

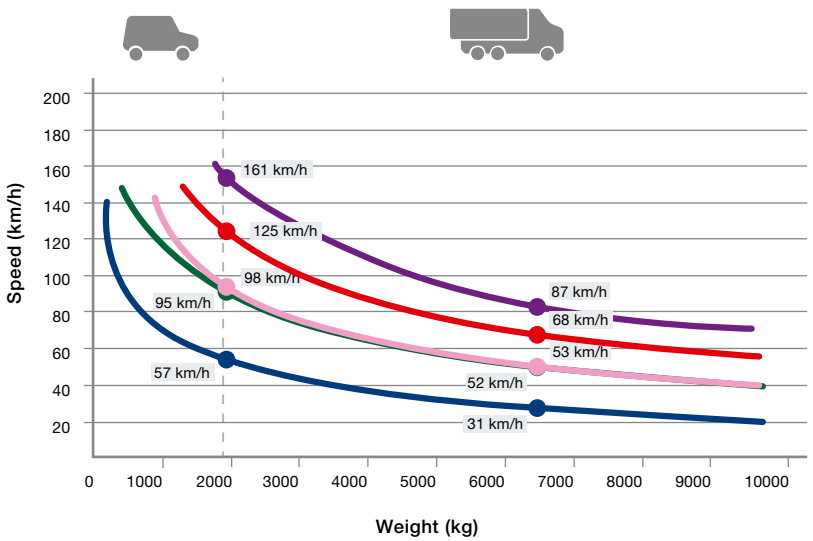
HIGH SECURITY

- Certified protection with optimum price-performance ratio
- For securing large surface areas
- For combination with automatic and removable High Security bollards using cylinders with matching appearance or alternatively with bollard head with welded cover
- Optionally with LED lighting strip for improved visibility
- Rectangular bottom plate for combining with automatic bollards
- Steel cylinder with exchangeable stainless steel sleeve

	F 275-M30-900 ST	F 275-M30-1200 ST	R 275-M50-900 ST	R 275-M50-1200 ST
Diameter (mm)	273	273	271	271
Height (mm)	900	1200	900	1200
Technical data				
Certified acc. to	**PAS68**	**PAS68**	**–**	**–**
Compliant with	**IWA 14-1, M30, K4**	**IWA 14-1, M30, K4**	**IWA 14-1, M50, K12**	**IWA 14-1, M50, K12**
Impact energy with destruction (J)	750000	750000	2000000	2000000
Impact energy without destruction (J)	250000	250000	700000	700000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



Impact energy with destruction
- 2000000 joules (J)
- 1200000 joules (J)
- 750000 joules (J)

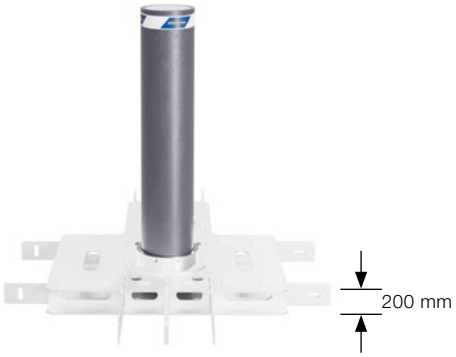
Impact energy without destruction
- 700000 joules (J)
- 250000 joules (J)

HIGH SECURITY

Fixed and removable bollards SF

3MJ flat foundation bollard with only 200 mm fitting depth

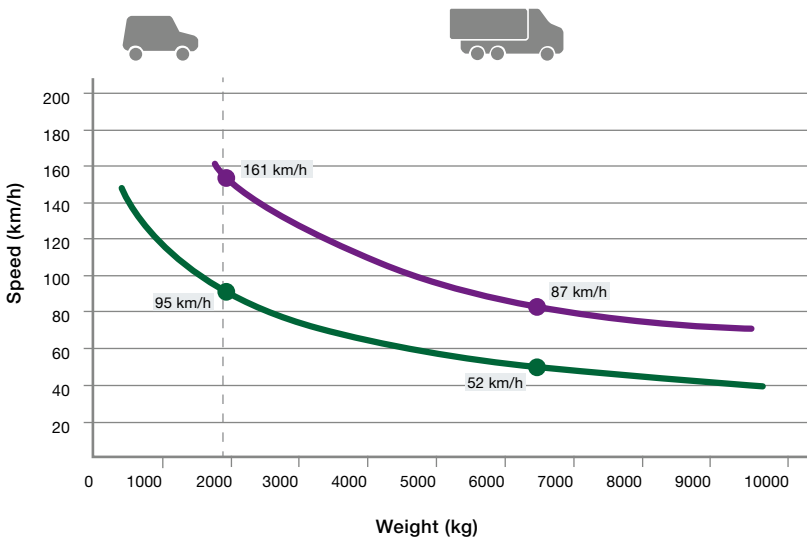
- High level of protection with small fitting depth
- Impact energy 3MJ (12 tonne lorry at 80 km/h)
- Fitting depth of only 200 mm
- Optional: 300 mm fitting depth for road surfaces e.g. with paving stones
- Individual arrangement by combining several modules
- Optionally also available as removable variant on request
- Flexible, individual angled arrangements possible
- Optionally with LED lighting strip for improved visibility
- Steel cylinder with exchangeable stainless steel sleeve as an alternative to the full stainless steel cylinder version
- Removable bollard locked using a standard EU lock in accordance with DIN 18252



	F 275-3MJ-900 SF	F 275-3MJ-1200 SF
Diameter (mm)	275	275
Height (mm)	900	1200
Fitting depth for combination with asphalt (standard)	200	200
Fitting depth e.g. for combination with paving stones (optional)	300	300
Technical data		
Compliant with (prerequisite: standard ground fitting for three cylinders)	**IWA 14-1, ISO 22343-1**	**IWA 14-1, ISO 22343-1**
Impact energy with destruction (J)	3000000	3000000
Impact energy without destruction (J)	700000	700000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.



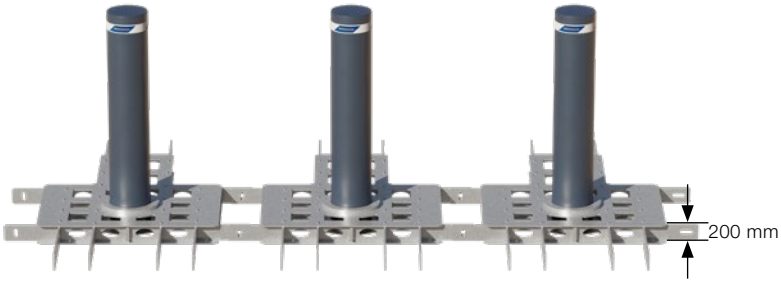
Impact energy with destruction
3000000 joules (J)

Impact energy without destruction
700000 joules (J)

Fixed and removable bollards SF

M50 flat foundation bollard with only 200 mm fitting depth

- High level of protection with small fitting depth
- Fitting depth of only 200 mm
- Optional: 300 mm fitting depth for road surfaces e.g. with paving stones
- Individual arrangement by combining several modules
- Also available in a removable version (R 275-M50-900 SF | R 275-M50-1200 SF)
- Flexible, individual angled arrangements possible
- Optionally with LED lighting strip for improved visibility
- **NEW.** Steel cylinder with exchangeable stainless steel sleeve as an alternative to the full stainless steel cylinder version
- Removable bollard locked using a standard EU lock in accordance with DIN 18252

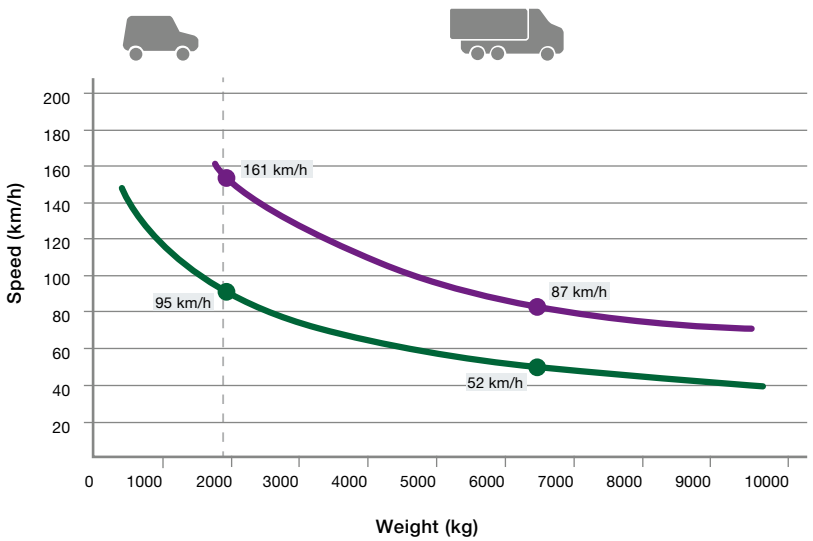


Standard ground fitting with**three fixed cylinders**

	F 275-M50-900 SF	F 275-M50-1200 SF	R 275-M50-900 SF	R 275-M50-1200 SF
Diameter (mm)	271	271	271	271
Height (mm)	900	1200	900	1200
Weight (kg)			170	220
Fitting depth for combination with asphalt (standard)	200	200	300	300
Fitting depth e.g. for combination with paving stones (optional)	300	300	300	300
Technical data				
Standard lock	–	–	●	●
Certified to (prerequisite: standard ground fitting for three cylinders)	**PAS 68, IWA 14-1, M 50, K 12**	**PAS 68, IWA 14-1, M 50, K 12**		
Compliant with			**PAS 68, IWA 14-1, M 50, K 12**	**PAS 68, IWA 14-1, M 50, K 12**
Impact energy with destruction (J)	2000000	2000000	2000000	2000000
Impact energy without destruction (J)	700000	700000	700000	700000

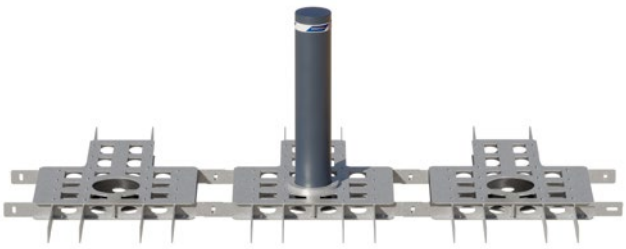
● = Standard equipment ○ = Optional equipment
– = Not available

For information about the equipment options, see from page 58.

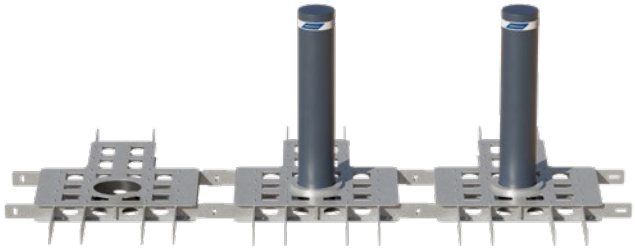


Impact energy with destruction
2000000 joules (J)

Impact energy without destruction
700000 joules (J)



Configuration with **one fixed cylinder**



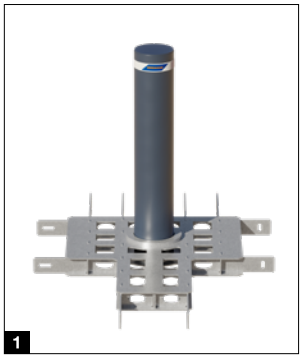
Configuration with **two fixed cylinders**

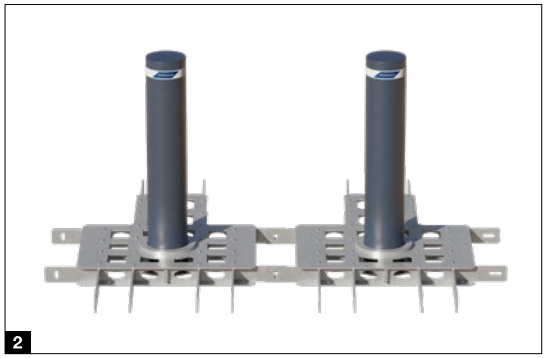
Extensions and arrangements

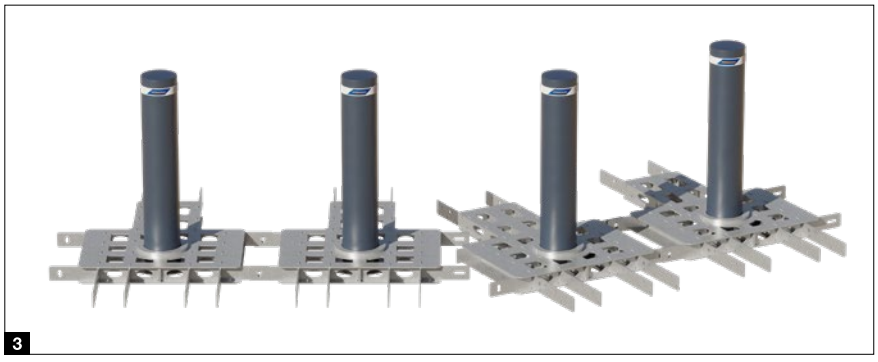
Modules with one or two bollards
Ground fitting with one bollard 1 or two bollards 2 to extend the standard ground fitting

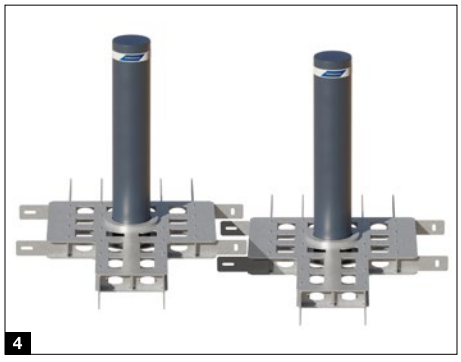
Angle arrangements 3
Flexible, individual angled arrangements possible in all degree gradations.

Inclining or sloping arrangement 4
Height offsets are feasible. Number, dimensions and steps can be realised in accordance with local conditions and after consultation


1


2

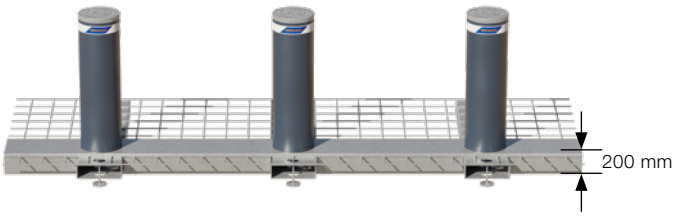

3


4

Fixed bollards SF

M30 with flat ground fitting and a fitting depth of only 200 mm

- For fitting over supply lines laid in the ground or, for example, over underground garages
- Very low fitting depth of only 200 mm for road surfaces with asphalt
- Optional: 300 mm fitting depth for road surfaces e.g. with paving stones
- An arrangement with any number of rows, with multiple bollards
- Custom angle arrangements at 90°, 45° and 30° angles
- Can also be used with gradients
- Harmonious appearance in combination with other High Security bollards thanks to matching cylinders
- Little earthworks and reduced assembly required thanks to ready-to-fit modules, including steel reinforcement
- **NEW.** Certified removable version available on request

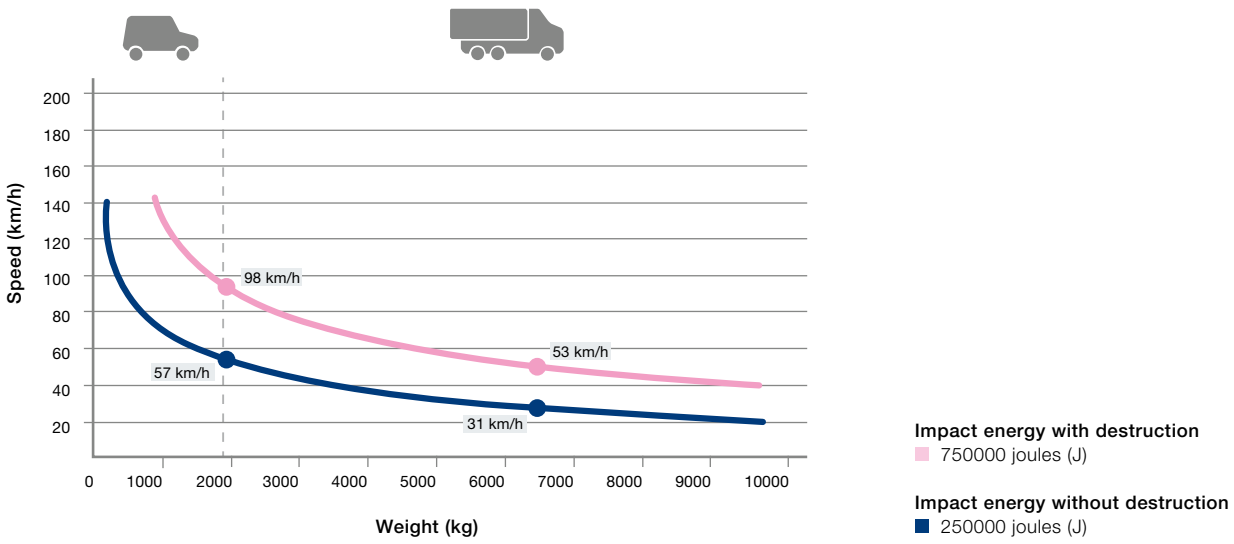


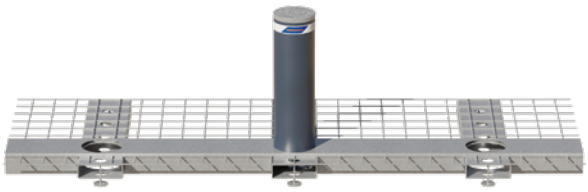
Standard ground fitting with **three fixed cylinders**

	F 275-M30-900 SF	R 275-M30-900 SF
Diameter (mm)	273	273
Height (mm)	900	900
Weight (kg)		85
Fitting depth for combination with asphalt (standard)	200	300
Fitting depth e.g. for combination with paving stones (optional)	300	300
Technical data		
Standard lock	–	●
Certified to (prerequisite: standard ground fitting for three cylinders)	**PAS 68, IWA 14-1, M 30, K 4**	**PAS 68, IWA 14-1, M 30, K 4**
Impact energy with destruction (J)	750000	750000
Impact energy without destruction (J)	250000	250000

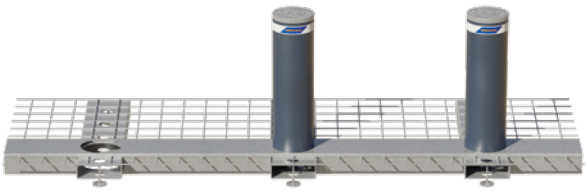
● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see from page 58.





Standard ground fitting with **one fixed cylinder** (arrangement in direction of travel to centre), optionally on right or on left



Standard ground fitting with **two fixed cylinders**, (arrangement in direction of travel to centre / right), arrangement in direction of travel to centre / left also possible

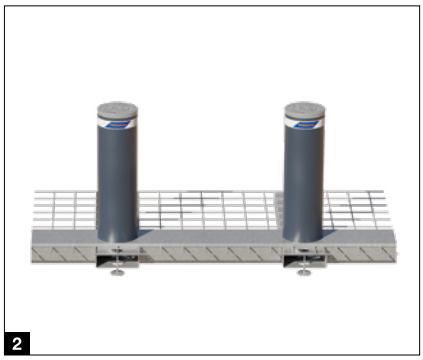
Extensions and arrangements

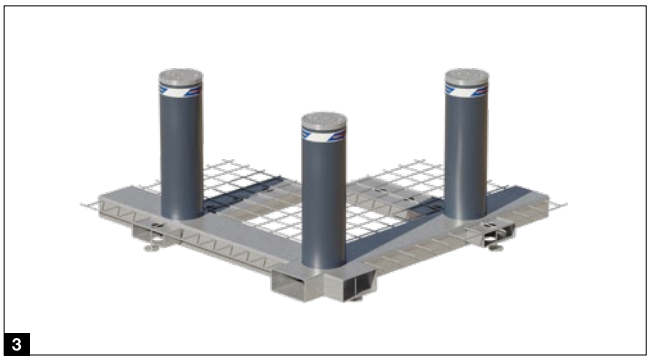
Modules with one or two bollards
Ground fitting with one bollard 1 or two bollards 2 to extend the standard ground fitting

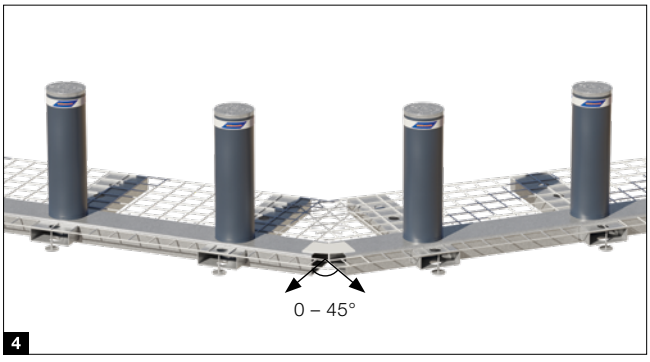
Module with three bollards in 90° arrangement 3
Ground fitting in 90° angle arrangement with three fixed bollards

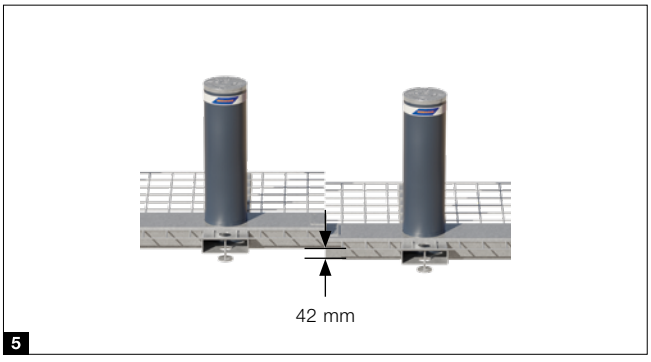
Angle arrangements 4
Fitting set 0° / 30° / 45° to join ground fittings in case of an even surface

Inclining or sloping arrangement 5
Fitting set to join ground fittings in case of surfaces with a gradient (also possible in combination with angle arrangement). The maximum possible gradient is approx. 2.4° (approx. 42 mm at a length of 1 m).









Equipment

For Security Line and High Security Line bollards

Standard equipment

Cylinder cover 1

- ABS plastic (Security Line)
- Aluminium with protection against corrosion (High Security Line)

Reflecting strips 2

- Better visibility at night
- All-round

Cylinder surface 3

- Steel coated in Anthracite grey

Automatic safety cut-out 4

- Stops lifting of automatic bollards in case of obstacles (Security Line)
- Can be deactivated (under responsibility of the customer, depending on local legislation)

Optional equipment

Steel surface finishes 1

- Protection against corrosion
- Coating in RAL to choose

Stainless steel surfaces 3

- V2 A or V4 A
- K 180 (polished)
- Coating in RAL to choose
- Exchangeable stainless steel sleeve as an attractively priced alternative to solid material (V2A)[1]

LED lighting 2

- Better visibility at night
- Warning light when bollard is lifted and lowered
- All-round

Plain bollard head[2] 4

- Attractively priced variant with welded cover

Additional equipment variants and options on request
[1]Only for fixed High Security Line bollards (except M30 SF)
[2]Only for bollards with exchangeable stainless steel sleeve and bollard ST

1

2

3

4

Equipment

For Security Line and High Security Line bollards

Heating element 5

- Reliable operation in areas at risk of snow and ice

UPS uninterruptible power supply 5

- To bridge power failures for up to ten cycles
- Recharges during normal operation

NEW. Removable hydraulic unit[1] 7

- Hydraulic unit separately removable
- for easy, substantially faster maintenence

Individually designed cylinder cover 6

- Optional for bollards with stone mantle
- Design according to customer requirements

Full Inox kit (not shown)

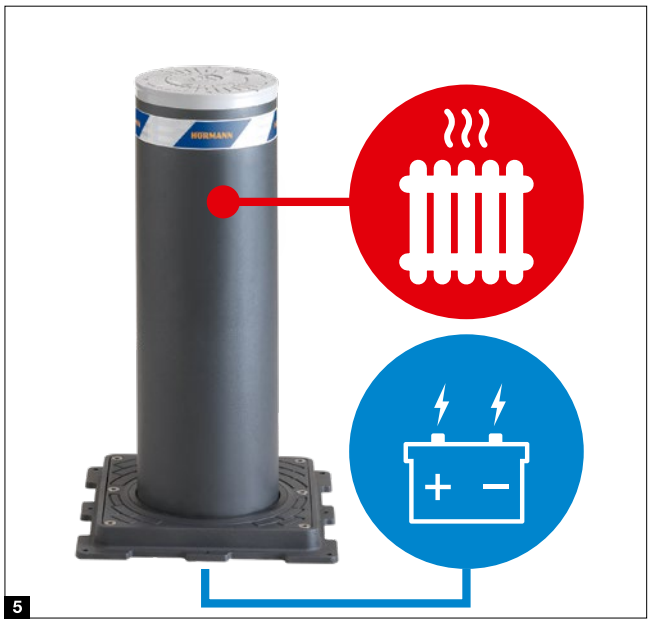
- Main components made of stainless steel for higher corrosion resistance[2]

EFO emergency function 8

- Fast extension within approx. 1.5 seconds in emergency situations for automatic bollards

[1] For automatic bollards 275 H, RI-H, M30-H

[2] only available for automatic bollards A 275-600 / 800 H



Reaction in case of power failure 9
- Automatic lowering of automatic bollards
- Emergency manual operation for lifting and lowering

Stone mantle 11
- Available for fixed and automatic bollards with 275 mm diameter, in heights of 600 and 800 mm[1]
- Also available in natural stone types
- Unique design possibility due to matching appearance of fixed and automatic bollards

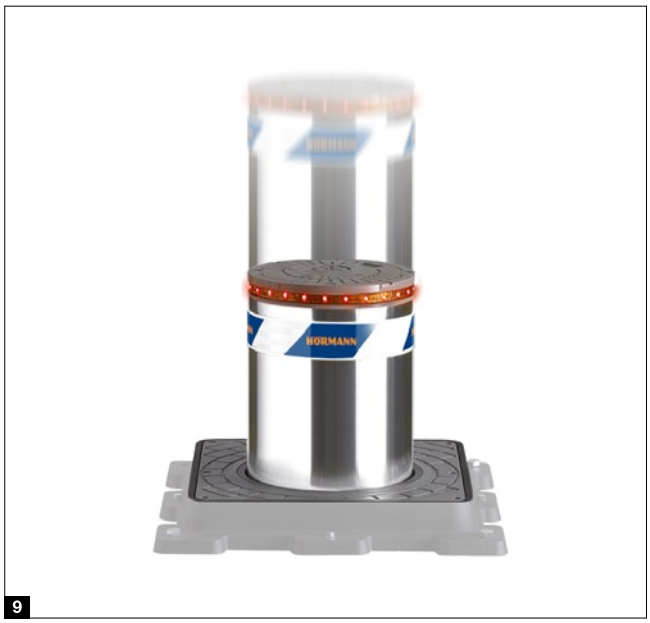
Pavement frame 10
- For laying paving stones

Foundation box (not shown)
- Either made of stainless steel, closed or with an immersion pump

Acoustic warning signal 12
- Warning signal when lifting and lowering bollard

Bollard can be adjusted to the inclination of the road
- Between 0.5° and 15°, depending on the bollard type

Additional equipment variants and options on request
[1] Except for RI version and bollards with electromechanical operator



9

10


11

12

Road blockers

To secure passages up to 6 m wide

HIGH SECURITY

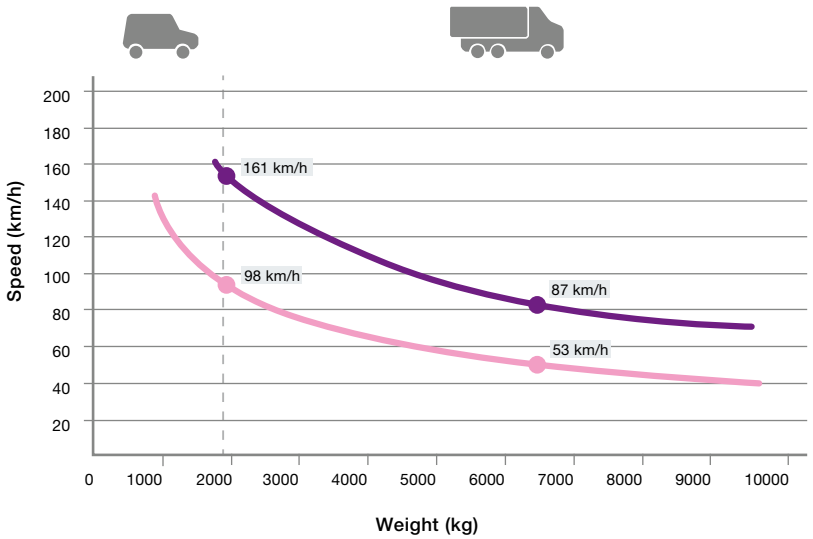
- For high use frequencies (approx. 2000 cycles/day)
- Road Blocker 500: barrier height 500 mm
- Road Blocker 1000: barrier height 1000 mm
- Flush-fitting in the ground
- External hydraulic operator (max. distance 30 m)
- Optionally with EFO emergency function (Emergency Fast Operation)

	Road Blocker 500	Road Blocker 1000
Ramp height above ground level (mm)	500	1000
Standard length (m)	2 / 3 / 4 / 5 / 6	2 / 3 / 4 / 5 / 6
Depth of road blocker (mm)	300	300
Technical data		
External hydraulic operator	●	●
Speed, lifting (cm/s)	11	14,2
Speed, lowering (cm/s)	11	14,2
EFO emergency function	○	○
Manual operation	○	○
LED lighting strips	○	○
Protective sections	●	●
Load class acc. to EN 124	D400 (40 tonnes)	D400 (40 tonnes)
Cycles (approx. per day)	2000	2000
Overall cycles (max. service life)	3000000	3000000
Certified acc. to	**–**	**PAS68**
Compliant with	**M30, K4, PAS68, IWA14-1**	**M50, K12, IWA14-1**
Impact energy with destruction (J)	750000	2000000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available

[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see page 65.



Impact energy with destruction
- 2000000 joules (J)
- 750000 joules (J)

HIGH SECURITY

Road blockers

For fast and easy fitting on suitable floor covering

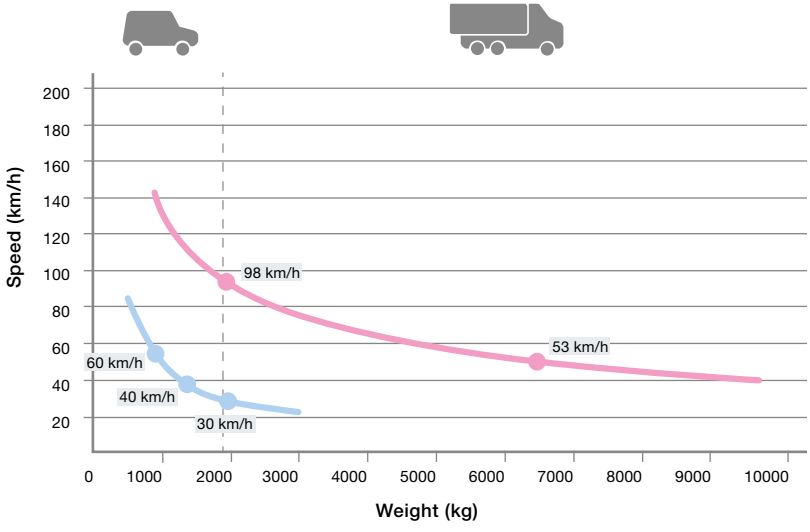
- For high use frequencies (approx. 2000 cycles/day)
- Road Blocker 500 SF: barrier height 500 mm
- Road Blocker 1000 SF: barrier height 1000 mm
- Integrated hydraulic operator
- Simple, fast fitting on the finished floor covering
- Variant with press-and-hold control
- Variant with manual operation by electric screwdriver

	Road Blocker 500 SF	Road Blocker 1000 SF
Height (mm)	500	1000
Standard length (m)	4 / 5 / 6	4 / 5 / 6
Passage width (m)	3.5 / 4.5 / 5.5	3.5 / 4.5 / 5.5
Fitting depth (mm)	0	0
Technical data		
Integrated hydraulic pump	●	●
Speed, lifting (cm/s)	9,1	14,2
Speed, lowering (cm/s)	7,1	14,2
Emergency operation	○	○
NEW. Variant with press-and-hold control	–	○
NEW. Variant with manual operation by electric screwdriver	–	○
EFO emergency function (only with fully automatic variant)	–	○
Manual operation (only with fully automatic and press-and-hold variants)	○	○
Photocell (only with fully automatic variant)	●	●
Warning light on two sides for passage control (only with fully automatic and press-and-hold variants)	●	●
Acoustic warning signal (only with fully automatic and press-and-hold variants)	●	●
Load class acc. to EN 124	D 400	D 400
Cycles (approx. per day)	2000	2000
Overall cycles (max. service life)	3000000	3000000
Certified acc. to	**PAS 68, IWA14-1**	**M30, PAS68, IWA14-1**
Impact energy with destruction (J)	140000	750000
Impact energy without destruction (J)		250000
Temperature range	–40°C to +70°C[1]	–40°C to +70°C[1]

● = Standard equipment ○ = Optional equipment – = Not available

[1] For temperatures below 0°C, we recommend an optional heater

For information about the equipment options, see page 65.



Impact energy with destruction
- 750000 joules (J)
- 140000 joules (J)

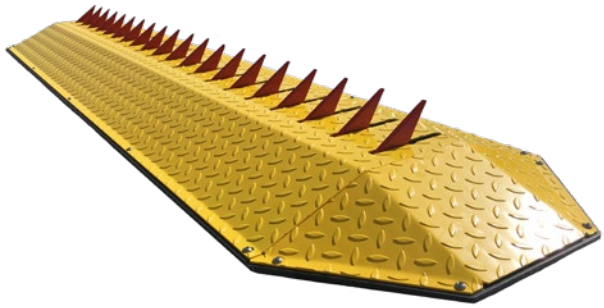
Tyre killers

To secure passages in one direction

HIGH SECURITY

Tyre Killer M

- For average use frequencies (approx. 100 cycles / day)
- Fitting on finished floor covering, no groundwork required
- Optional manual lowering for passage in both directions



Tyre Killer H

- For high use frequencies (approx. 2000 cycles/day)
- Flush-fitting in the ground
- External hydraulic operator (max. distance 30 m)
- Optionally with EFO emergency function (Emergency Fast Operation)
- Manual lowering for passage in both directions

	Tyre Killer M	Tyre Killer H
Height of spikes above ground level (mm)	61	500
Length (m)	2 / 3 / 4 / 5 / 6	2 / 3 / 4 / 5 / 6
Spike width (mm)	10	20
Spike spacing (mm)	105	200
Fitting depth (mm)	–	710
Technical data		
Speed, lifting (cm/s)	11	11
Speed, lowering (cm/s)	11	11
Extension via counter weight	●	–
Extension via integrated hydraulic operator	–	●
Manual lowering for passage in both directions	○	●
EFO emergency function	–	○
Locking device	○	○
Load class acc. to EN 124	C250	D 400
Cycles (approx. per day)	100	2000
Overall cycles (max. service life)	200000	3000000

● = Standard equipment ○ = Optional equipment – = Not available

For information about the equipment options, see page 65.

Optional equipment

For road blockers and tyre killers

LED lighting strips 1
- Better visibility at night
- Warning light when bollard is lifted and lowered
- For road blockers

EFO emergency function 2
- Fast extension within approx. 1.5 seconds in emergency situations

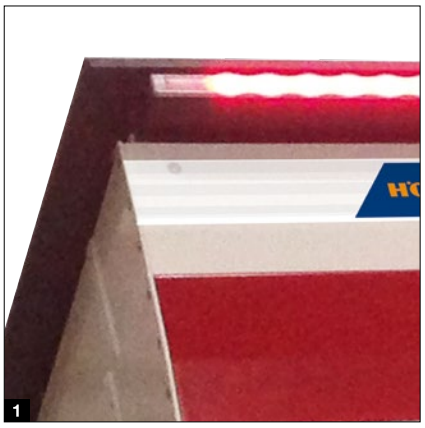
Reaction in case of power failure 3
- Manual emergency operation

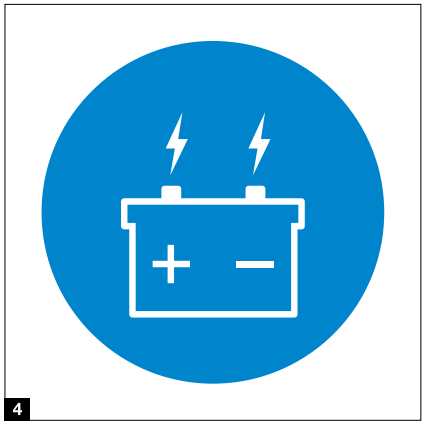
UPS uninterruptible power supply 4
- To bridge power failures for up to ten cycles
- Recharges during normal operation

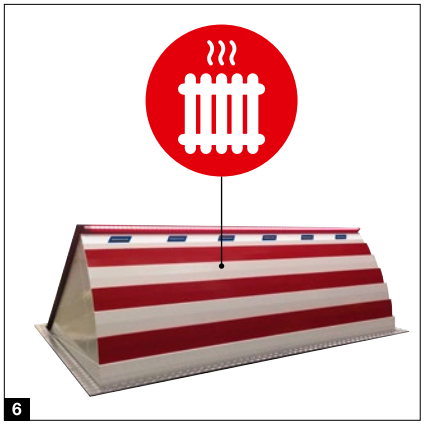
Acoustic warning signal 5
- Warning signal when lifting and lowering

Heating element 6
- Reliable operation in areas at risk of snow and ice
- For road blockers

Additional equipment variants and options on request







Mobile vehicle barrier OktaBlock

For flexible safeguarding of events

HIGH SECURITY

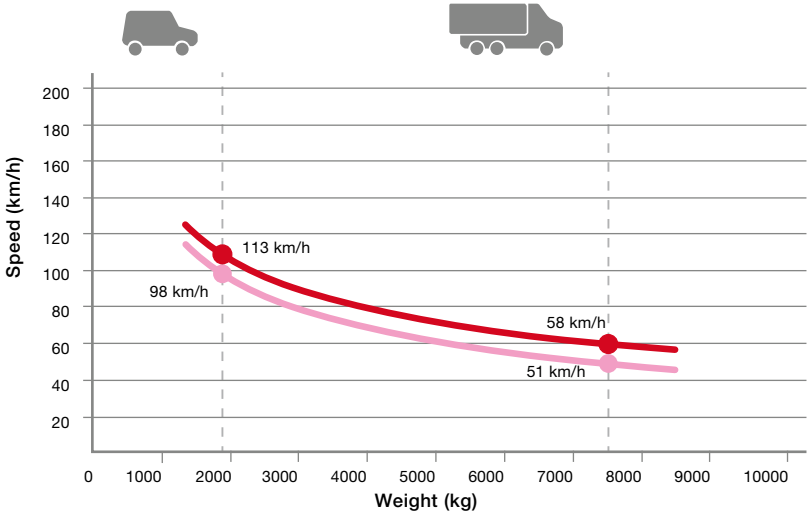
OktaBlock

- Completely assembled single barriers for easy installation without on-site structural work
- Certified as a single module according to BSI PAS68:2013 and IWA-14-1:2013 (M30 High Security)
- Version TR certified according to the technical guidelines of the German police for mobile vehicle barriers
- Version TR: meets the requirements of DIN SPEC 91414-1 by means of a retrofit kit
- PAS / IWA version: meets the requirements of the British VADS standard by means of a retrofit kit
- Flexible, location-independent, cost-efficient, maintenance-free
- Can be used as a notice or advertising space on request

	OktaBlock	OktaBlock TR
Base plate dimensions (mm)	800 × 800	800 × 800
Bollard height (mm)	1250	1250
Base plate height, chamfered (mm)	5 – 33	18 – 43
Bollard diameter (mm)	273	273
Colour	Anthracite grey[1]	Anthracite grey[1]
Weight (kg)	Approx. 350	Approx. 450
Optional extras		
Coating in RAL to choose [1]	○	○
DIN SPEC straps [2]	–	○
LED warning lights	○	○
Technical data		
Impact energy (J)	750000	986000
Certified acc. to	**M30, K4, PAS68, IWA14-1, VADS**	**SK1B, TR Pol [3], DIN SPEC 91414-1 [2]**

○ = Optional equipment – = Not available

[1] Optionally in RAL to choose at a surcharge
[2] With optionally available retrofit kit in a 3-way combination with DIN SPEC straps
[3] According to the technical guidelines of the German police for mobile vehicle blockers, version 0.8



Impact energy with destruction

The values indicate at which speed and which vehicle weight a certain impact energy is generated in which passage is prevented with destruction of the OktaBlock.

Impact energy with destruction
- 986000 joules (J)
- 750000 joules (J)

HIGH SECURITY

Mobile vehicle barrier OktaBlock

Certified to the latest standard
Mobile road blockers DIN SPEC 91414-1

TOP. OktaBlock mobile vehicle barriers for the safeguarding of events

Only from Hörmann

Protection against vehicle impacts from any direction due to the axisymmetric design

BSI IMPACT TESTED PAS 68 2013

gemäß Technischer Richtlinie Voll-zertifikat Schutzklasse SK1B der deutschen Polizei

IMPACT TESTED IWA 14-1 2013

gemäß DIN SPEC 91414-1:2021 Voll-zertifikat für mobile Fahrzeugsicherheitsbarrieren

The **OktaBlock mobile vehicle barrier** secures driveways and access to open-air events and effectively prevents vehicles from smashing through. The design of the Hörmann OktaBlock is inconspicuous, and is therefore not perceived to be threatening. Whether it's a city festival in springtime, a summer festival or a Christmas market in winter – mobile vehicle barriers allow different events to be secured in a location-independent and cost-efficient way at flexible times.

Certified personal safety. The vehicle barrier is certified as a single module. Therefore it is not necessary to connect multiple modules, unlike with many competing products. This guarantees maximum flexibility and ensures escape routes.

The OktaBlock is certified according to international standards **BSI PAS 68:2013 and IWA-14-1:2013 standardised crash test "N2 / N2A".** In this standardised crash test, an unmanned N2 / N2A category lorry with a test weight of 7.5 tonnes and a speed of 50 km/h drives against a barrier. The resulting impact energy is around 750000 joules.
The OktaBlock TR is certified to both the technical guidelines of the German police and the highest standard **DIN SPEC 91414-1.**In addition, the OktaBlock meets the requirements of the British VADS standard (CPNI).

Mobile road blocker Road Blocker M30

For flexible and certified safeguarding of events.

HIGH SECURITY

- **NEW.** Various certified installation variants for flexible combinations
- For average use frequencies (approx. 150 cycles / day)
- Certified to the latest standard for mobile access barriers DIN SPEC 91414-1
- Barrier height: approx. 800 mm
- Modules with retractable barrier element
- Modules for pedestrian passage
- Simple connection and free combination of the individual modules
- Can be ideally combined with the OktaBlock mobile vehicle barrier

Only from Hörmann

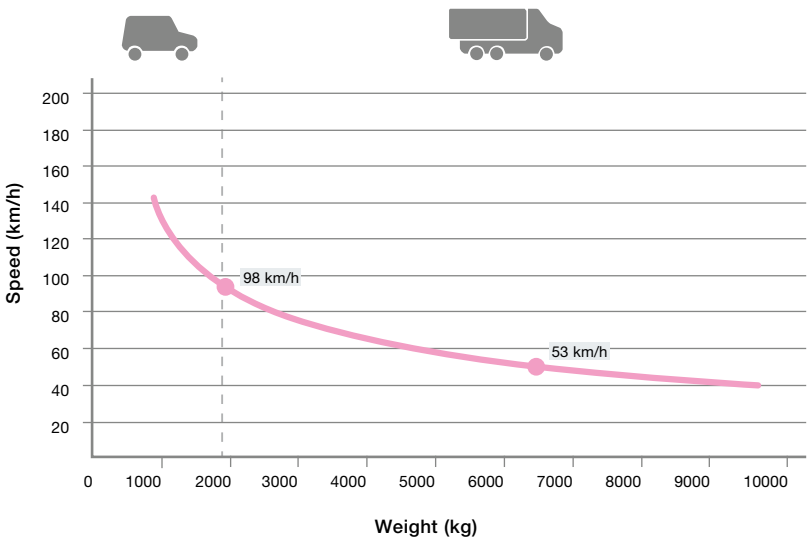
Mobile Road Blocker M30 fully certified in accordance with DIN SPEC 91414-1

TOP. Left and right: Pedestrian passage, centre: alarm contact element

	Mobile Road Blocker M30
Ramp height above ground level (mm)	100
Barrier element module width (mm)	1000
Pedestrian passage module width (mm)	800
Module width, with ramps (mm)	2740
Height of barrier element above ground level (mm)	800
Optional extras	
Coating in RAL to choose	○
Maritime protection against corrosion	○
NEW. ProGrip anti-slip coating	○
MK2 anti-tampering kit[1]	○
LED warning lights	○
NEW. Special storage pallet	○
Technical data	
Manual operation	●
Load class acc. to EN 124	D400 (40 tonnes)
Cycles (approx. per day)	150
Certified acc. to	**DIN SPEC 91414-1 (MK 2; 0.1 / 0.0 m) IWA14-1 / ISO 22343-1, M30, K4**
Impact energy with destruction (J)	750000
Temperature range	–40°C to +70°C

● = Standard equipment ○ = Optional equipment – = Not available

[1]Optionally for the DIN SPEC version

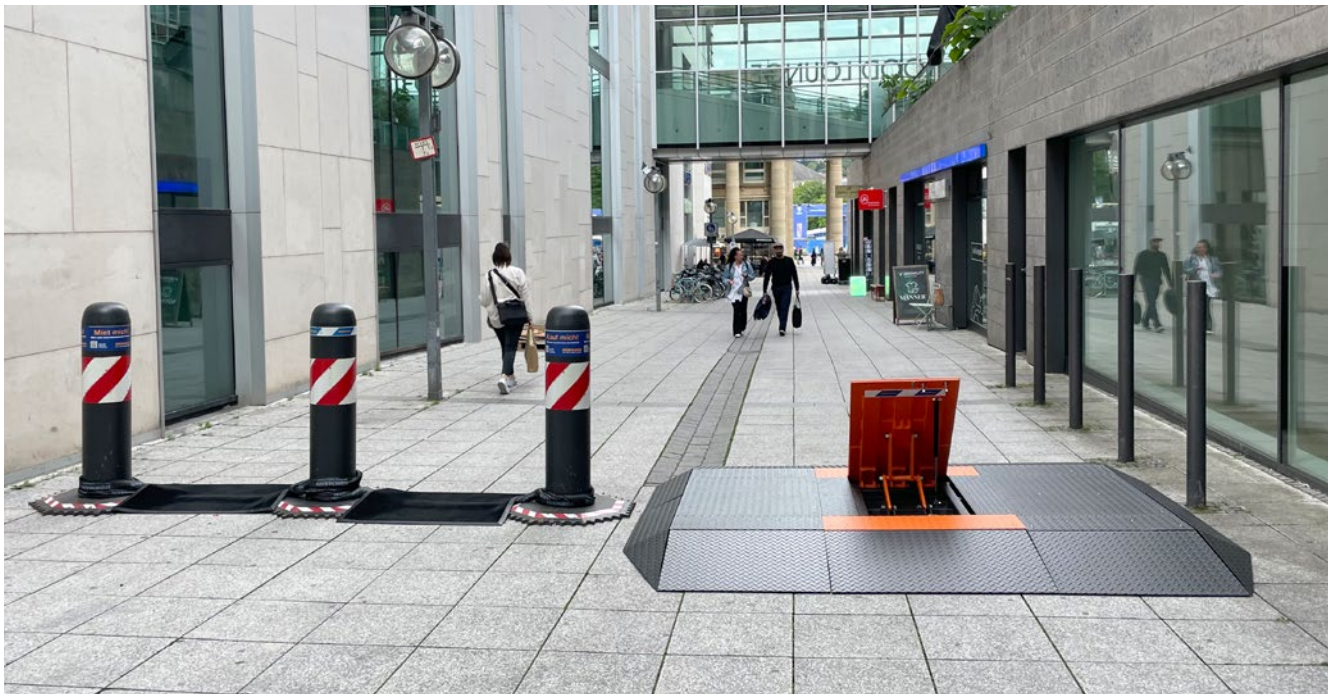


Impact energy with destruction
750000 joules (J)

HIGH SECURITY

Mobile road blocker Road Blocker M30

NEW. Fully certified according to the latest standard for Mobile road blockers DIN SPEC 91414-1



TOP. mobile Road Blocker M30 in combination with OktaBlocks according to DIN SPEC 91414-1 for securing passage points

Only from Hörmann

Mobile road blocker with a maximum displacement of 0.1 m and tamper resistance class MK2

Voll-zertifikat – gemäß DIN SPEC 91414-1:2021 – für mobile Fahrzeugsicherheitsbarrieren

IMPACT TESTED IWA 14-1 2013

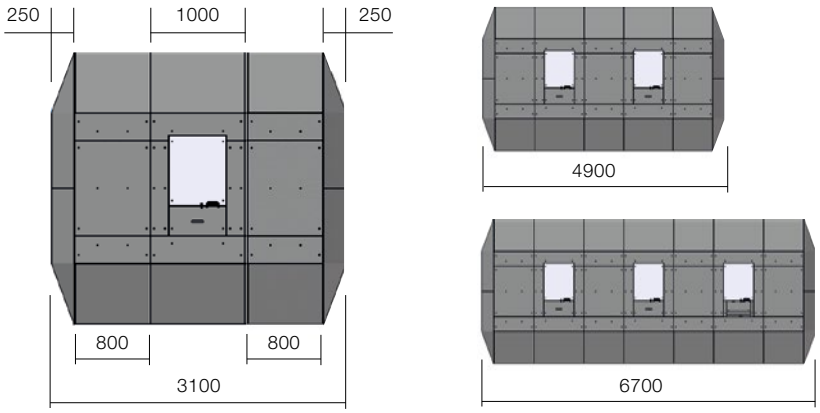
IMPACT TESTED ISO 22343-1 2024

The mobile Road Blocker M30 can be easily and quickly positioned and installed without fixing in the ground in just 25 minutes. No groundwork and power connections are required.

NEW. Following the successful certification of further installation variants, modules with a lowerable alarm contact element can now be combined with modules for pedestrian passage as required by the customer. The Road Blocker M30 offers maximum certified flexibility for the temporary safeguarding of public events!

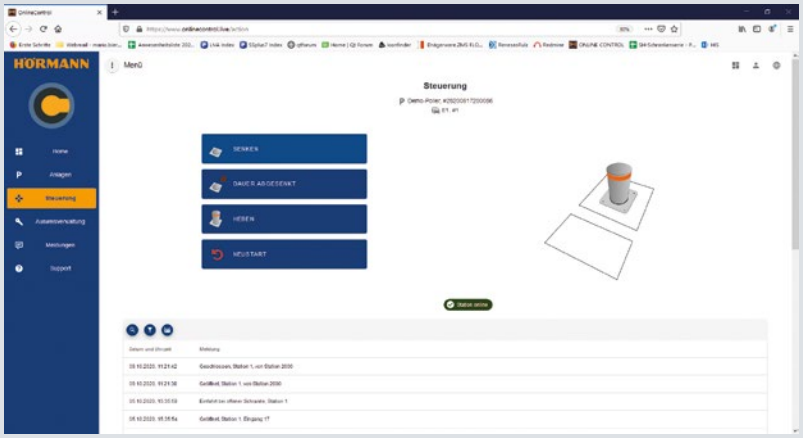
The mobile Road Blocker M30 and the mobile vehicle barrier OktaBlock complement each other to perfection. While large areas can be secured quickly and economically with the OktaBlock, the mobile Road Blocker M30 is deployed at vehicle passage points.

Examples of combined installation variants for mobile Road Blocker M30
(width in mm)

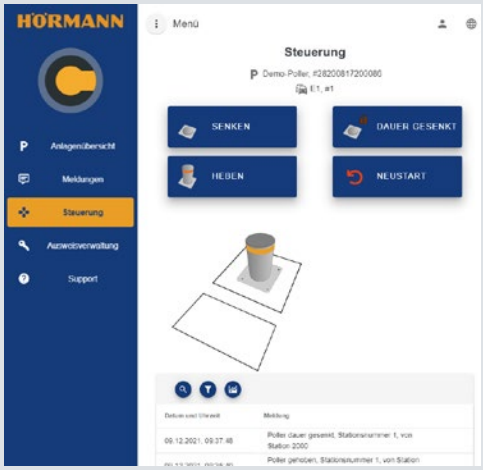


Hörmann Access Control HAC

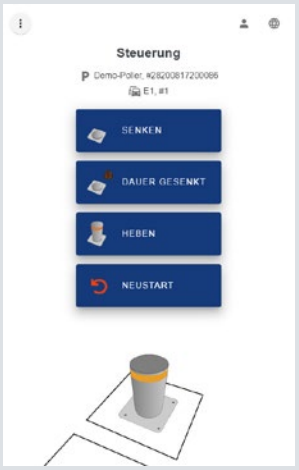
Online perimeter protection and access regulation



Web view in browser



Web view on tablet



Web view on smartphone

Functions at a glance

- System developed in-house for automatic bollards, barrier systems and gates
- Optional management of up to 2000 ID card media for regulating passages
- Simple operation via web browser on mobile and stationary devices
- Utilisable both online and offline
- Convenient user administration
- Allocation of individual access authorisations right through to “guest authorisations” using QR codes sent by email
- Flexible entry and exit management
- Convenient malfunction recognition
- Message memory for traceability
- Can be ideally combined with optional number plate or RFID wide-range recognition

Vehicle number plate recognition

A camera scans the number plate of the vehicle and allows entry or exit with the correct authorisation. A separate ID medium is not required.

Posts

For perimeter protection and access regulation

Stainless steel 170 post

- Operation of automatic bollards directly at the bollard
- Perimeter protection using key switches, transponder key switches and code switches
- Access regulation using one-sided or two-sided traffic lights (red / green)
- To accommodate up to max. two bollard controls (only for variant that opens to the top)

Stainless steel 275 post

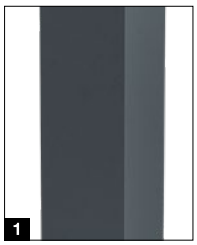
- Operation of automatic bollards directly at the bollard
- Harmonious appearance in combination with bollards with diameters of 275 mm
- Accommodates control for up to four bollards
- Perimeter protection using key switches, transponder key switches and code switches
- Access regulation using one-sided or two-sided traffic lights (red / green)
- Maintenance flap with cam lock

Steel, rectangular post

- Inexpensive alternative to stainless steel posts
- Adequate space for up to 5 controls and control elements

	Stainless steel 170 post	Stainless steel 275 post	Steel, rectangular post
Width × depth (mm)			300 × 200
Diameter (mm)	170	275	
Heights (mm)	1500, 1800	1500, 1800	2000
Technical data			
Fixed	●	●	●
Fitting base	●	●	●
Cam lock	–	●	●
Lockable maintenance flap	●	●	●
Protection category	IP 55	IP 55	IP 55

● = Standard equipment – = Not available



Steel surface, coated in Anthracite grey (as standard), coating in RAL to choose (optional)

Stainless steel surface, coated in Anthracite grey (as standard), coating in RAL to choose (optional)

Brushed stainless steel surface

Maintenance flap (for stainless steel post 275)

Perimeter protection using key switches, transponder key switches and code switches

Access regulation using one-sided or two-sided traffic lights (red / green)

Accessories

Control via radio, receiver

BiSecur

HS 5 BS
4 button functions
plus query button, high-gloss surface
black or white

HS 5 BS
4 button functions
plus query button,
textured surface
matt black

HS 4 BS
4 button functions, textured surface
matt black

HS 1 BS
1 button function, textured surface
matt black

HSE 1 BS
1 button function, including eyelet for key ring, textured surface
matt black

HSE 4 BS
4 button functions, incl. eyelet for key ring, textured surface matt black with chrome or plastic caps

HSS 4 BS
4-button security hand transmitter,
Additional function: copy protection for hand transmitter coding, with chrome caps

BiSecur

Only from Hörmann

Modern radio system

The bi-directional radio system BiSecur is based on future-oriented technology for convenient and secure operation. The extremely secure BiSecur encryption protocol makes sure that no-one can copy your radio signal. It was tested and certified by security experts at Bochum university.

Your advantages

- 128-bit encryption with the same high security level as online banking
- Interference-resistant radio signal with a stable range
- Compatible with Hörmann door control and perimeter protection systems
- Backwards compatible, i.e. radio receivers with the frequency 868 MHz (2005 to June 2012) can also be operated with BiSecur control elements

industrial hand transmitters
HSI BS
To control up to 1000 receivers, with a display and extra-large quick selection buttons for easier operation with work gloves, transferring of hand transmitter coding to other devices possible

NEW. industrial hand transmitters
HSI 3 BS
For controlling up to 3 receivers, with extra-large buttons, impact-resistant housing
Protection category: IP 65

industrial hand transmitters
HSI 6 BS, HSI 15 BS
To control up to 6 / 15 receivers, with extra-large buttons for easier operation with work gloves, impact-resistant housing
Protection category: IP 65

Radio code switch
FCT 3 BS
3 functions, with illuminated buttons, recessed or surface-mounted fitting possible, plastic housing in Light grey RAL 7040 (also available with ten functions and hinged cover, painted in White aluminium RAL 9006)

Radio code switch
FCT 10 BS
10 functions, with illuminated buttons and hinged cover, recessed or surface-mounted fitting possible, plastic housing painted in White aluminium RAL 9006

Radio finger-scan
FFL 25 BS
2 functions and up to 25 fingerprints, with hinged cover, recessed and surface-mounted fitting possible, plastic housing painted in White aluminium RAL 9006

2-channel relay receiver
HET-E2 SL BS
With 2 volt-free relay outputs for choosing the direction, one 2-pin input for volt-free Open / Close limit switch reporting, external antenna

Hörmann homee Brain
Basic cube with BiSecur radio system for operating Hörmann garage door and entrance gate operators, entrance door locks, electric devices and perimeter protection systems via the Hörmann homee app

Cloud Unit W5-B
Mobile control via cloud or app, call or text message, integrated yearly timer, management of up to 1024 parking IDs (telephone numbers, accounts), freely programmable push notifications (e.g. malfunctions), two volt-free outputs and eight inputs, integrated SIM card, simple initial start-up via QR code. The module is prepared for hat rail assembly and is operated with 9 – 24 V / DC
Dimensions of additional housing:
202 × 164 × 130 mm (W × H × D);
protection category: IP 65

Accessories

Code switches, finger-scans, transponder key switches, key switches

Code switch CTR 1b-1, CTR 3b-1
For one (CTR 1b-1) or three (CTR 3b-1) functions, with illuminated buttons

Dimensions:
80 × 80 × 15 mm (W × H × D)

Code switch CTV 3-1
For three functions, with particularly robust metal keypad

Dimensions:
80 × 80 × 15 mm (W × H × D)

Code switch CTP 3
For three functions, with illuminated lettering and touch-sensitive surface

Dimensions:
80 × 80 × 15 mm (W × H × D)

Decoder housing
For code switches CTR 1b-1, CTR 3b-1, CTV 3-1, CTP 3

Dimensions:
140 × 130 × 50 mm (W × H × D)
Switching capacity:
2.5 A / 30 V DC
500 W / 250 V AC

Finger-scan FL 150
For two functions, up to 150 fingerprints can be saved

Dimensions: 80 × 80 × 13 mm (W × H × D);
decoder housing: 70 × 275 × 50 mm (W × H × D),
switching capacity: 2.0 A / 30 V DC

Transponder key switch TTR 1000-1
For one function via transponder key or transponder card, up to 1000 keys or cards can be saved

Dimensions: 80 × 80 × 15 mm (W × H × D);
decoder housing: 140 × 130 × 50 mm (W × H × D),
Switching capacity: 2.5 A / 30 V DC; 500 W / 250 V AC

Key switch ESU 30 with three keys, recessed version, Impulse or Open / Close functions selectable; dimensions of switch box:
60 mm (d), 58 mm (D),
dimensions of the panel:
90 × 100 mm (W × H),
brickwork recess:
65 mm (d), 60 mm (D),
protection category: IP 54

Surface-mounted version ESA 30
Dimensions:
73 × 73 × 50 mm (W × H × D)

Key switch STAP 50 with three keys, surface-mounted version, dimensions: 80 × 80 × 63 mm (B × H × D); protection category: IP 54

Key switch STUP 50
with three keys, recessed version, dimensions:
80 × 80 mm (W × H);
protection category: IP 54

DI 1 induction loop in a separate additional housing
Suitable for one induction loop, induction loop detector with a normally open contact and a change-over contact

DI 2 induction loop (not shown) in a separate additional housing
Suitable for two separate induction loops, induction loop detector with two volt-free normally open contacts, can be set for impulse or permanent contact, directional recognition possible

Dimensions of additional housing:
202 × 164 × 130 mm (W × H × D),
Switching capacity:
DI 1: low voltage 2 A, 125 V A / 60 W,
DI 2: 250 V AC, 4 A, 1000 VA
(resistive load AC); supplied without loop cable

Loop cable for induction loop:
50 m roll, cable designation: SIAF, cross-section: 1.5 mm², colour: brown

Digital weekly timer in a separate additional housing
The timer can switch command units on and off via a volt-free contact; extension unit for controls (for fitting in existing housing); switching capacity: 230 V AC 2.5 A / 500 W, can be switched over to summer / winter time, manual switching: automatic operation, switching pre-selection permanently ON / OFF

Dimensions of additional housing:
202 × 164 × 130 mm (W × H × D),
protection category: IP 65

Summer / winter activating kit in additional housing
Function for full door opening and individually programmable intermediate travel limit, extension unit for controls

Dimensions of additional housing:
202 × 164 × 130 mm (W × H × D),
protection category: IP 65
Not for control 445 / 545

Warning lights red / green
As a visual indicator of authorised or blocked passage, not in combination with stainless steel posts

Dimensions:
170 × 467 × 200 mm (W × H × D);
contact load:
250 V AC: 2.5 A / 500 W,
protection category: IP 65

Hörmann.
For Life.

Thanks to their superior quality, Hörmann products ensure that industrial buildings as well as construction projects function sustainably, reliably and economically. They are a crucial part of your building – and will remain so for life.

INDUSTRIAL DOORS. LOADING TECHNOLOGY. SLIDING DOORS. CONSTRUCTION PROJECT DOORS. PERIMETER PROTECTION SYSTEMS.

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