

High-Security Barriers

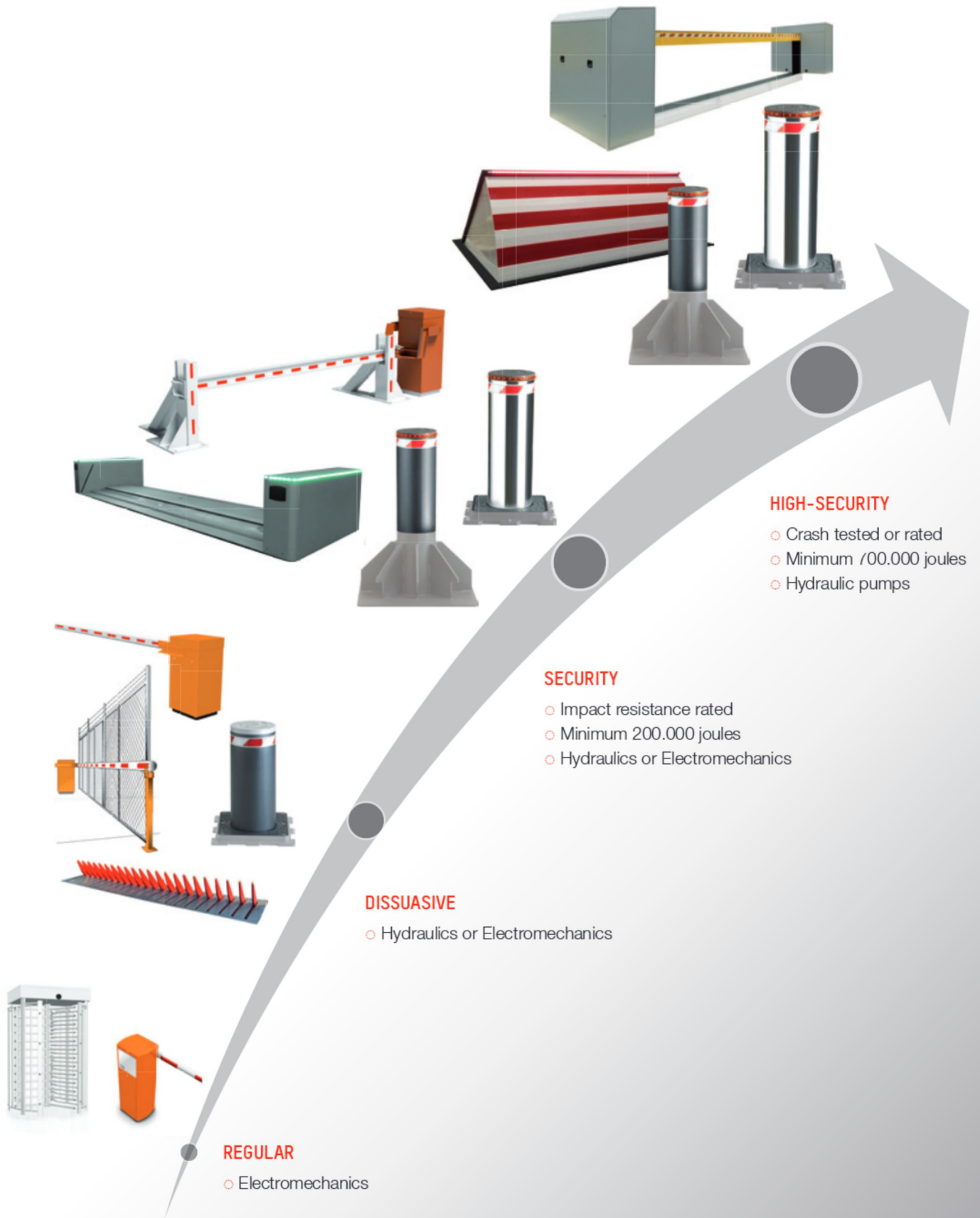
Portfolio



AS **AUTOMATIC**
SYSTEMS

Access controlled...
Future secured

Vehicle barriers by Automatic Systems



Our security and our high-security products

Ongoing current global terrorist activity threats continue to drive demand for anti-terror measures. HIGH-SECURITY products (also known as HVM products) protect the infrastructure against vehicle-borne threats, creating blast stand-off distance.

Since September 11th 2001, several international accreditation standards have defined essential impact performance requirements for a vehicle security barrier (VSB) and a test method for rating its performance.

There are essentially 2 standard families:

- US standards with the precursor DOS K-rating which has been replaced and extended by the ASTM F2656-07 standard;
- UK created PAS68 standard which has been replaced and extended by international standard IWA14-1 (ISO).



Impact resistance equivalences between these standards do not officially exist but all those rating are using the same calculation method, that of the kinetic energy:

$$E = \frac{1}{2} (m \cdot U^2). \text{ Resulting in conclusion:}$$

- M50 <> K12 <> PAS 68 V/7500/80 <> IWA14 V/7200/80 <> 2.000.000 joules
- M40 <> K8 <> PAS 68 V/7500/64 <> IWA14 V/7200/64 <> 1.200.000 joules
- M30 <> K4 <> PAS 68 V/7500/48 <> IWA14 V/7200/48 <> 750.000 joules

Impact resistance will be certified by a crash-test, a computer simulation or an engineer calculation.

SECURITY products are also defined by US, UK and ISO standards. Then, for those very products, the impact resistance are between 200.000 joules and 700.000 joules.

HIGH-SECURITY and SECURITY products differentiate also themselves by several features such as: passage width, obstacle height, foundation depth, rising/ lowering speed and also the Emergency Fast Operation (E.F.O) which is mandatory for high-security installations.

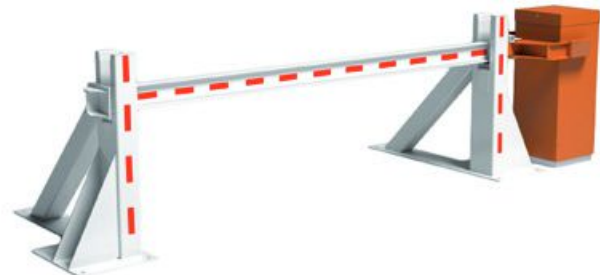
| | Products | Impact resistance | Beam Barriers | Road Blockers | Fixed/Removable Bollards | Automatic Bollards | Tyre Killers |
|-----------------|------------|---|---------------|---------------|--------------------------|--------------------|--------------|
| SECURITY | C50 series | 1,5 T at 64 Km/h 3,5 T at 32 Km/h 250.000 joules | | | | | |
| | C60 series | 1,5 T at 80 Km/h 3,5 T at 48 Km/h 400.000 joules | | | | | |
| HIGH - SECURITY | M30 series | 3,5 T at 80 Km/h 7,2 T at 48 Km/h 750.000 joules | | | | | |
| | M40 series | 3,5 T at 96 Km/h 7,2 T at 64 Km/h 1.200.000 joules | | | | | |
| | M50 series | 3,5 T at 112 Km/h 7,2 T at 80 Km/h 2.000.000 joules | | | | | |

Beam barriers



BL43 C50M1

Rising barrier
Impact resistance: 250.000 joules
Height: 770 mm
Length: 3 m
Shallow mounted
Electromechanical actuator
2 directions of obstacle
For type M1 vehicle (car)



BL43 C50N1

Rising barrier
Impact resistance: 250.000 joules
Height: 1030 mm
Length: 3 m
Shallow mounted
Electromechanical actuator
2 directions of obstacle
For type N1 vehicle (flat bed)

HIGH SECURITY



BL M50

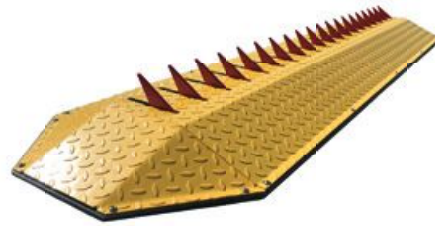
Lift Barrier
Impact resistance: 2.000.000 joules
Height: 1100 mm
Length: from 3 to 10 m
Shallow mounted
2 hydraulic pumps
2 directions of obstacle

Tyre killers



TK AUTO

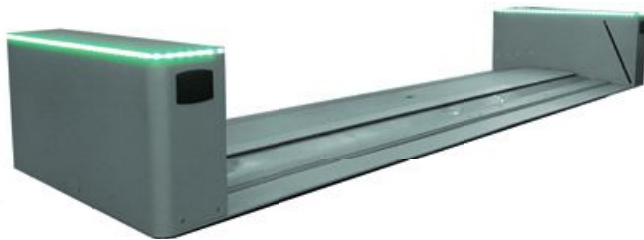
Immobilization of a vehicle by puncturing its tires
Height : 500 mm
Length : from 2 to 6 m
Spikes 20 mm
Automatic lift with remote hydraulic pump



TK MAN

Immobilization of a vehicle by puncturing its tires
Height : 60 mm
Length : from 2 to 6 m
Spikes : 10 mm
Mechanical lift by counterweight
Free exit

Road blockers



RSB C60SM

Impact resistance: 400.000 joules
Height : 500 mm
Length : 3,5 m / 4,5 m / 5,5 m
Surface or shallow mounted depending of the nature of the soil
Local hydraulic pump

HIGH SECURITY



RSB M30 (ex RSB77)

Impact resistance: 750.000 joules
Height : 500 mm
Length : from 2 to 6 m
Shallow mounted
Remote hydraulic pump



RSB M50 (ex RSB79)

Impact resistance: 2.000.000 joules
Height : 1000 mm
Length : from 2 to 6 m
Shallow mounted
Remote hydraulic pump
Crash-test:
PAS68 :2013 V/7500(N3)/80/90:0.2/10

Automatic security bollards

with built-in hydraulic pump

RB C50



RB C50_800 (ex RB80)

Impact resistance: 250.000 joules

Height: 800 mm

Diameter/Thickness: $\varnothing \pm 275/6$ mm

Also available in 127 mm diameter (150.000 joules)



RB C50_600 (ex RB60)

Impact resistance: 250.000 joules

Height: 600 mm

Diameter/Thickness: $\varnothing \pm 275/6$ mm

Also available in 127 mm diameter (150.000 joules)

RB C60



RB C60_800

Impact resistance: 400.000 joules

Height: 800 mm

Diameter/Thickness: $\varnothing \pm 275/10$ mm



RB C60_600

Impact resistance: 400.000 joules

Height: 600 mm

Diameter/Thickness: $\varnothing \pm 275/10$ mm

Automatic high-security bollards

with built-in hydraulic pump

HIGH SECURITY

RB M30/M40



RB M30_700 (ex RB70S)

Impact resistance: 750.000 joules
 Height: 700 mm
 Diameter/Thickness: $\varnothing \pm 275/10$ mm

RB M30_900 (ex RB90S)

Impact resistance: 750.000 joules
 Height: 900 mm
 Diameter/Thickness: $\varnothing \pm 275/10$ mm

Crash-test:

IWA 14-1: 2013 V/7200(N3C)/48/90:1.0
 PAS68:2013 V/7500(N3)/48/90:1.0/2.5

Also available as RB M40

RB M40_1200

Impact resistance: 1.200.000 joules
 Height: 1200 mm
 Diameter/Thickness: $\varnothing \pm 275/15$ mm

Crash-test:

ASTM: M30/P1

RB M50



RB M50_900 (ex RB90HS)

Impact resistance: 2.000.000 joules
 Height: 900 mm
 Diameter/Thickness: $\varnothing \pm 275/25$ mm

Crash-test:

DOS: K12/L1

RB M50_1200 (ex RB120HS)

Impact resistance: 2.000.000 joules
 Height: 1200 mm
 Diameter/Thickness: $\varnothing \pm 275/25$ mm

Crash-test:

PAS68:2013 V/7500(N3)/80/90:1.4/8.0

ASTM: M50/P3

Fixed security bollards

fixed into the ground or unscrewable

FB C50/C60

FIXED INTO
THE GROUND



FB C50_800

Impact resistance: 250.000 joules
Height: 800 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
*Also available in 127 mm diameter
(150.000 joules)*



FB C50_600

Impact resistance: 250.000 joules
Height: 600 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
*Also available in 127 mm diameter
(150.000 joules)*



FB C50_500

Impact resistance: 250.000 joules
Height: 500 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Fixed into the ground
*Also available in 127 mm diameter
(150.000 joules)*

FB C60_800

Impact resistance: 400.000 joules
Height: 800 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground

FB C60_600

Impact resistance: 400.000 joules
Height: 600 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/10$ mm
Fixed into the ground

FB C50

UNSCREWABLE



FB C50UN_800 (ex FB80)

Impact resistance: 250.000 joules
Height: 800 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Unscrewable with counterframe
*Also available in 127 mm diameter
(150.000 joules)*



FB C50UN_600 (ex FB60)

Impact resistance: 250.000 joules
Height: 600 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Unscrewable with counterframe
*Also available in 127 mm diameter
(150.000 joules)*



FB C50UN_500 (ex FB50)

Impact resistance: 250.000 joules
Height: 500 mm
Shallow mounted
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Unscrewable with counterframe
*Also available in 127 mm diameter
(150.000 joules)*

Fixed high-security bollards

HIGH SECURITY

FB M30/M40



FB M30UN_700 (ex FB70S)

Impact resistance :
750.000 joules
Height : 700 mm
Diameter/Thickness :
Ø ±275/10 mm
Unscrewable with
counterframe



FB M30_700

Impact resistance :
750.000 joules
Height : 700 mm
Shallow mounted
Diameter/Thickness :
Ø ±275/10 mm
Fixed into the ground



FB M30_900 (ex FB90S)

Impact resistance :
750.000 joules
Height : 900 mm
Shallow mounted
Diameter/Thickness :
Ø ±275/10 mm
Fixed into the ground
Also available as FB M40



FB M40_1200

Impact resistance :
1.200.000 joules
Height : 1200 mm
Shallow mounted
Diameter/Thickness :
Ø ±275/15 mm
Fixed into the ground

FB M50



FB M50_900 (ex FB90HS)

Impact resistance : 2.000.000 joules
Height : 900 mm
Shallow mounted
Diameter/Thickness : Ø ±275/25 mm
Fixed into the ground



FB M50_1200 (ex FB120HS)

Impact resistance : 2.000.000 joules
Height : 1200 mm
Shallow mounted
Diameter/Thickness : Ø ±275/25 mm
Fixed into the ground

Other bollards

automatic, semi-automatic or removable



RB EM_600

Automatic Rising/ Lowering
Electromechanical activator
Height: 600 mm
Diameter/Thickness: $\varnothing \pm 275/4$ mm



MB_500 (ex MB 50)

Semi-automatic bollard
Gas-embedded activator
Height: 500 mm
Diameter/Thickness: $\varnothing \pm 275/6$ mm
Also available in 600/800 mm height



FR_600

Fixed removable bollard
Height: 600 mm
Diameter/Thickness: $\varnothing \pm 275/5$ mm



FR M30_700 & FR M30_900

Fixed removable bollards
Impact resistance 750.000 joules
Heights: 700 mm & 900 mm
Diameter/Thickness: $\varnothing \pm 275/10$ mm

FR M50_900

Fixed removable bollards
Impact resistance 2.000.000 joules
Height: 900 mm
Diameter/Thickness: $\varnothing \pm 275/25$ mm

Accessories



Fixed column

For integration of traffic light, intercom or command

Height: 1500 or 1800 mm

Diameter: 170 or 275 mm



Retractable or modular column

For integration of RB control unit

For integration of traffic light, intercom or command

Sliding cover to the top

Height: 1500 or 1800 mm

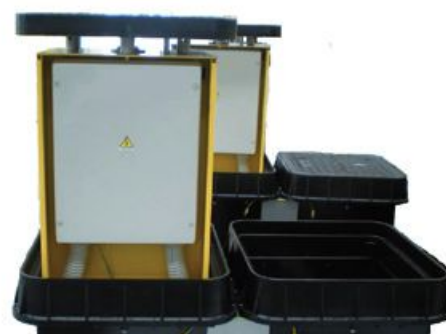
Diameter: 170 mm



Fix cabinet B0R 235

For integration of traffic light, intercom or command

Car height or truck height



Retractable cabinet

For integration of RB control unit

Retractable structure integration into the pavement

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