

BROSIS FORCE B4 is K4 crash rated retractable hydraulic bollard duly tested and certified at HORIBA MIRA, UK according to IWA 14-1: 2013 std

Our **Single Bollard** can stop 7.2 ton vehicle travelling at the speed of 30mph (48km/h).

We have achieved **zero static penetration**.

FORCE B4 remained **operational post-test** (video available).

Performance Rating: **IWA 14-1:2013 Bollard V/7200[N2A]/48/90:0.1**

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Technical Specifications

MODEL	FORCE B4 (HORIBA MIRA U.K certified)
Anti-Ram class / Crash rating	IWA 14-1:2013 Bollard V/7200[N2A]/48/90:0.1
Impact load	7.2 ton @ 80 km/h with zero penetration
Drive unit (External)	B4 - H (Hydraulic) , B4 - P (Pneumatic)
Rising height	1000 mm
Diameter of bollard	350 mm
Material	High tensile structural steel

Cylinder top plate	Anti-slip Plate
Input Voltage	440 VAC ± 10%, 50/60 Hz, 3 phase
Rising time	4-6 sec
Lowering time	3-4 sec
Oil tank	100 lt. - 250 lt. (depend on number of bollards to operate at a time)
Protection class	IP 67
Finish	RAL painted or SS chrome finish or Stainless Steel Sleeve
Blocking in raised position	Hydraulic lock/Pneumatic lock
Power Failure	Manual hand pump
Manual	Mechanical manual release device/Pressure relief valve
Impact Energy	6,40,000 J
Duty cycle	100%
Operating temperatures	-20°C to +70°C

SAFETY SUPPLEMENTS

Safety against vehicles	Loop detector
Safety against humans	Photo sensors
Control unit	PLC/microprocessor based control unit with readily available integration with all access control devices
Visual & Sound	Embedded LED lights on the top & buzzer for operational alert with Red/Yellow radium reflective strips

OPTIONAL ACCESSORIES

Accumulator	Accumulator for 03 cycles up/down operations in case of emergency
Driver alert	Traffic light (Red/Green)



MEMORANDUM OF PERFORMANCE

Manufacturer:	Brosis International : www.brosisint.com / www.brosis.in
Product Reference:	FORCE B4
Product Description:	Rising Bollard 350mm Diameter, 1000mm High
Test Standard:	IWA14-1:2013 Impact Test Specification for Vehicle Security Barriers
Test Class:	N2A
Target Speed (Km/h):	48
Target Impact Energy (kJ):	640.0
Target Impact Angle (°)	90
Impact Point:	Target impact point was centreline of the vehicle to centreline of the Bollard
Test Date:	13/05/2021
Test House Ref:	1223787-001/Y0029



Performance Rating:	IWA 14-1:2013 Bollard V/7200[N2A]/48/90:0.1	
Vehicle Penetration (m):	0.1	
Approved By:	Dave Johnstone	
Date: 17/05/2021	Consultant – HSPI Test Centre	

BROSIS FORCE B12 is K12 crash rated retractable hydraulic bollard duly tested and certified at HORIBA MIRA, UK according to IWA 14-1: 2013 std and achieved Penetration P1.

Our **Single Bollard** can stop 7.2 ton vehicle traveling at the speed of 50mph (80km/h).

FORCE B12 remained **operational post-test** (video available).

Performance Rating: IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7.



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MEMORANDUM OF PERFORMANCE

Manufacturer:	Brosis International : www.brosisint.com / www.brosis.in
Product Reference:	FORCE B12
Product Description:	Rising Bollard B12 355mm Diameter 1210mm High
Test Standard:	IWA14-1:2013 Impact Test Specification for Vehicle Security Barriers
Test Class:	N2A
Target Speed (Km/h):	80
Target Impact Energy (kJ):	1777.8
Target Impact Angle (°)	90
Impact Point:	Target impact point was centreline of the truck to centreline of the product.
Test Date:	14/05/2021
Test House Ref:	1223787-002/Y0030



Performance Rating:	IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7
Vehicle Penetration (m):	0.7

Approved By:	Dave Johnstone
Date: 17/05/2021	Consultant – HSPI Test Centre

Technical Specifications

MODEL	FORCE B12 (HORIBA MIRA U.K certified)
Anti-Ram class / Crash rating	IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7
Impact load	7.2 ton @ 80 km/h with penetration (P1).
Drive unit (External)	B12 - H (Hydraulic) , B12 - P (Pneumatic)
Rising height	1200 mm
Diameter of bollard	355 mm
Material	Superior quality high tensile structural steel

Cylinder top plate	Anti-slip Plate
Input Voltage	440 VAC ± 10%, 50/60 Hz, 3 phase
Rising time	4-6 sec
Lowering time	3-4 sec
Oil tank	100 lt. - 350 lt. (depend on number of bollards to operate at a time)
Protection class	IP 67
Finish	RAL painted or SS chrome finish or Stainless Steel Sleeve
Blocking in raised position	Hydraulic lock/Pneumatic lock
Power Failure	Manual hand pump
Manual	Mechanical manual release device/Pressure relief valve
Impact Energy	17,78,000 J
Duty cycle	100%
Operating temperatures	-20°C to +70°C

SAFETY SUPPLEMENTS

Safety against vehicles	Loop detector
Safety against humans	Photo sensors
Control unit	PLC/microprocessor based control unit with readily available integration with all access control devices
Visual & Sound	Embedded LED lights on the top & buzzer for operational alert with Red/Yellow radium reflective strips

OPTIONAL ACCESSORIES

Accumulator	Accumulator for 03 cycles up/down operations in case of emergency
Driver alert	Traffic light (Red/Green)





BROSIS FORCE B12 is physically K12 crash tested retractable hydraulic bollard at HORIBA MIRA, UK according to IWA 14-1: 2013 std.

Our **Single Bollard** can stop 7.2 ton vehicle travelling at the speed of 50mph (80km/h).

We have achieved **zero static penetration** and **0.7 m dynamic penetration (P1)**.

FORCE B4 remained **operational post-test** (video available).

Performance Rating: **IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7.**



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MEMORANDUM OF PERFORMANCE

Manufacturer:	Brosis International : www.brosisint.com / www.brosis.in
Product Reference:	FORCE B12
Product Description:	Rising Bollard B12 355mm Diameter 1210mm High
Test Standard:	IWA14-1:2013 Impact Test Specification for Vehicle Security Barriers
Test Class:	N2A
Target Speed (Km/h):	80
Target Impact Energy (kJ):	1777.8
Target Impact Angle (°)	90
Impact Point:	Target impact point was centreline of the truck to centreline of the product.
Test Date:	14/05/2021
Test House Ref:	1223787-002/Y0030



Performance Rating:	IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7
Vehicle Penetration (m):	0.7

Approved By:	Dave Johnstone	
Date: 17/05/2021	Consultant – HSPI Test Centre	

Technical Specifications

MODEL	FORCE B12 (HORIBA MIRA U.K certified)
Anti-Ram class / Crash rating	IWA 14-1:2013 Bollard V/7200[N2A]/80/90:0.7
Impact load	7.2 ton @ 80 km/h with zero penetration and 0.7 m dynamic penetration (P1).
Drive unit (Internal)	B12 - I (Hydraulic)
Rising height	1200 mm
Diameter of bollard	355 mm
Material	Superior quality high tensile structural steel
Cylinder thickness	25 mm
Cylinder top plate	Anti-slip die cast aluminum
Input Voltage	230 VAC ± 10%, 50/60 Hz, 1 phase / 440 VAC ± 10%, 50/60 Hz, 3 phase
Rising time	5-8 sec
Lowering time	4-6 sec
Hydraulic Pump	inbuilt in each bollard
Protection class	IP 68
Finish	SS chrome finish or SS 316 Stainless Steel Sleeve or custom RAL colour options
Blocking in raised position	Hydraulic lock
Manual	Mechanical manual release device
Impact Energy	17,78,000 J
Duty cycle	100%
Operating temperatures	-20°C to +70°C
MTBF	60,00,000

SAFETY SUPPLEMENTS

Safety against vehicles	Loop detector
Safety against humans	Photo sensors
Control unit	PLC/microprocessor based control unit with readily available integration with all access control devices
Visual & Sound	Embedded LED lights on the top of aluminum head & buzzer for operational alert with Red/Yellow radium reflective strips

OPTIONAL ACCESSORIES

Accumulator (optional)	Accumulator for up/down operations in case of emergency
Driver alert	Traffic light (Red/Green) - optional



Anti-Ram Fixed Bollards

FORCE B4-125



Tested & Certified By



Technical Specification

MODEL	FORCE B4-125
Type of bollard	Fixed/Static
Anti-Ram Class/rating	IWA 14-1:2013 & PAS 68 Certified, Penetration P1
Diameter of cylinder	170 MM
Height of cylinder	900 MM
Foundation depth of bollard	125 MM
Material	Heavy duty structural steel
Structure & finish	Hot dip galvanized against resist to corrosion followed by epoxy powder paint or SS 304 / 316 sleeve.
Power requirement	No power required
SAFETY	
Reflective radium strips	1 nos, on the top of cylinder of 75 mm each



Anti-Ram Fixed Bollards

FORCE B12-250



Tested & Certified By



Technical Specification

MODEL	FORCE B12-250
Type of bollard	Fixed / Static
Anti-Ram Class/rating	IWA 14-1:2013 Certified, Penetration P1
Diameter of cylinder	273 MM
Height of cylinder	1200 MM
Foundation depth of bollard	250 MM
Material	Heavy duty structural steel
Structure & finish	Hot dip galvanized against resist to corrosion followed by epoxy powder paint or SS 304 / 316 sleeve.
Power requirement	No power required
SAFETY	
Reflective radium strips	1 nos, on the top of cylinder of 75 mm each



ANTI-RAM ROAD BLOCKERS

SHIELD B12



ANTI-RAM ROAD BLOCKERS

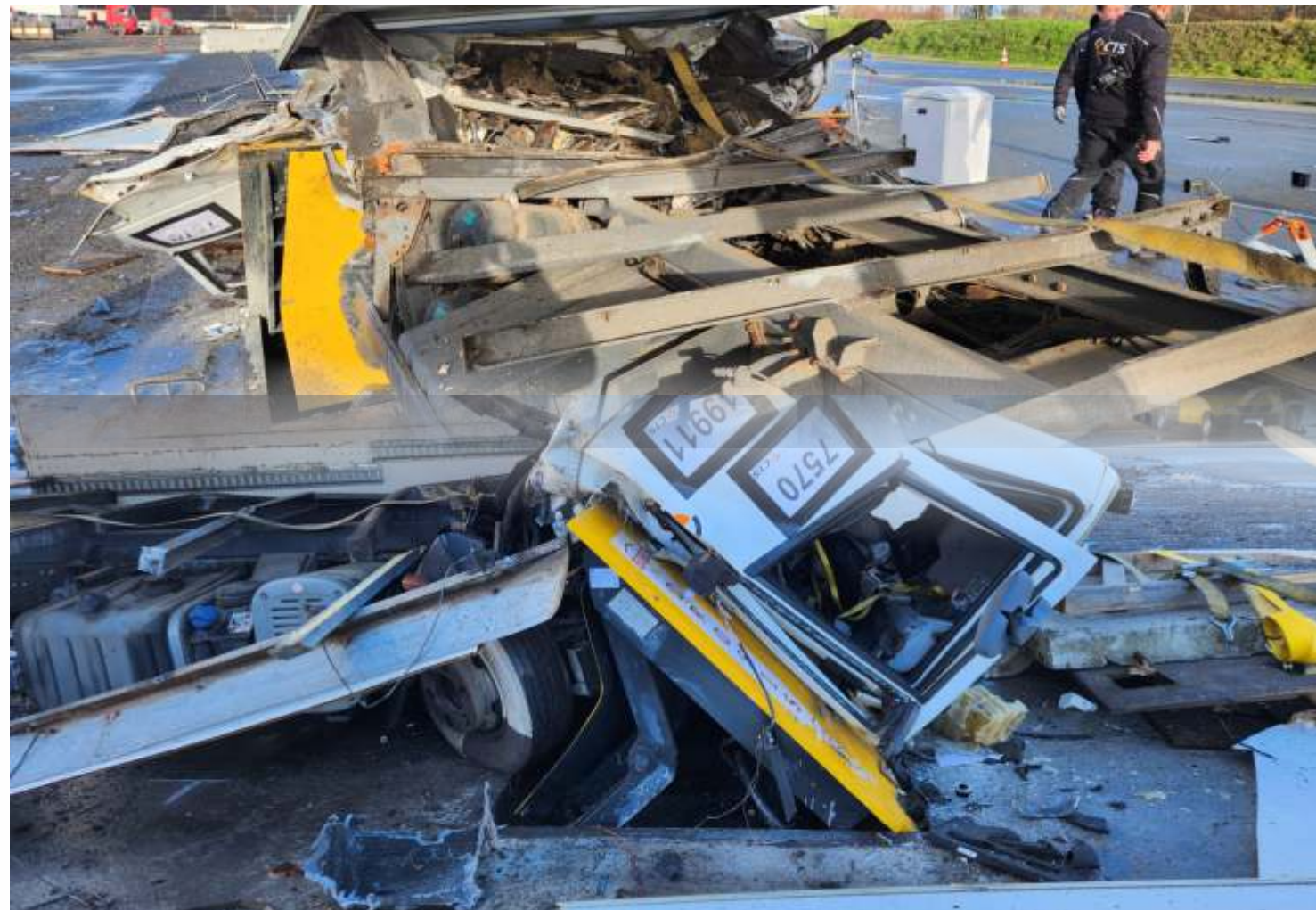
SHIELD B12



Brosis Shield B12 is hydraulically operated Road Blocker that has been physically crash tested & certified according to IWA 2014-1:2013 from CTS, Germany. It is able to stop vehicle travelling at speed of 80km/hr carrying weight upto 7200 Kgs .It has achieved **ZERO PENETRATION** & fully **operational** post test.

Sizes available :

Blocking Width :**2000-6000MM** | Blocking Height : **1000MM** | Underground Depth :**300-1000MM**



Technical Specification

MODEL	SHIELD B12
Anti-Ram class / Crash rating	IWA 14-1:2013 Zero Penetration
Drive unit	B12-H (Hydraulic - external)
Rising height	1000 mm
Width of blocked driveway	2000 - 6000 mm
Depth of unit	300 - 1000 mm
Material	Superior quality high tensile structural steel
Axle Load	50 Tons
Top plate	Anti-slip
Hinges	Heavy duty hardened steel
Input Voltage	440 VAC ± 10%, 50/60 Hz, 3 phase or 220 VAC ± 10%, 50/60 Hz, 1 phase
Raise /lower time	3 - 6 sec
Oil tank	100 lt. - 350 lt.
Protection class	IP 67
Finish	Signal yellow-black/yellow-red or customize color options available
Manual	Mechanical manual release device
Power Failure	Manual hand pump
Blocking in raised position	Hydraulic lock
Duty Cycle	100%
Breakout resistance	16,80,000 J
Operating temperatures	-20°C to + 70°C
MTBF	50,00,000

SAFETY SUPPLEMENTS

Safety against vehicles	Loop detector
Safety against humans	Photo sensors
Control unit	PLC/microprocessor based control unit with readily available integration with all access control devices
Visual & Sound	4 nos. of LED lights on front face & buzzer for operational alert
Driver alert	Traffic light (Red/Green) - optional

OPTIONAL ACCESSORIES

Accumulator (optional)	Accumulator for 03 cycles up/down operations in case of emergency
Driver alert	Traffic light (Red/Green) - optional

