



PRODUCT CATALOGUE

TURNSTILES | ROAD BLOCKERS | FIRE DOORS





Contents

Pedestrian access control

SPEED GATES

Sweeper-S-HG	11
Speedblade	12
Sweeper	13
Sweeper-S	14
Slide	15
Sweeper-HG	16
Sweeper-G	17
Sweeper-W	18
Sweeper-WP	19
Jetpan	20
Phantom-S	21

TRIPOD TURNSTILES

Onyx-XS/S/M	27
Centurion-M	28
Bastion-M	29
Skull	30
Twix-M	31
Twix-All-in-one-M	32
Onyx-XL	33
Galaxy-M	34

SWING GATES

XGate-GS/TS	39
Onyx-TS/GS	40
Gate-GS/GSH/Slim	41
Gate-TS/TTS/SPR	42
Cyclone-L	43

FULL-HEIGHT TURNSTILES

HighWay-G/NG	49
Sesame	50
Sesame Basic	51
Sesame-L	52
Sesame Basic-L	53
Sesame-S	54
Sesame Basic-S	55
Sesame Twin-L	56
Bicyclone-L	57
GlassGO	58
GlassGO-S	59
Additional equipment	60

Vehicle access control

BOLLARDS

High security fixed/ removable bollards	66
ASTM F2656/IWA14-1	
High-security automatic bollards	67
ASTM F2656	
Traffic automatic bollards	68
Removable bollards	69
Semi-automatic bollards	70

ROAD BLOCKERS

Ultra shallow road blocker	73
PAS68/IWA14-1	
High security road blocker	74
ASTM F2656	
High security Speedbump	75
ASTM F2656/IWA14-1	
High security Mobile Speedbumps	76
ASTM F2656/IWA14-1	
Mobile Mechanical Road Blocker	77
ASTM F2656/IWA14-1	
High security Cyclope	78
ASTM F2656/IWA14-1	
City-light Cyclope	79
City-light Speedbump	80
Automatic Tire-killer	81
Mechanical Tire-killer	82
Boom barrier	83
Accessories	84
Reference list	85



TiSO started out in business in 1996 in a modest manner and have come a very long way. From humble beginnings as a small metal processing factory which specialised in the fabrication of custom-made glass and steel architectural structures, to becoming a world renowned manufacturer of Turnstiles, Road Blockers and Fire Resistant Doors. We currently have four main international offices, based in Kiev, London, Dubai and Singapore with twenty three official representatives of the TiSO brand worldwide who between them have achieved more than thirty thousand projects in more than one hundred countries around the world.

"LET'S MAKE LIFE SAFER" – is our motto at TiSO, it's the mindset that encapsulates the beliefs of the entire TiSO team, and sums up in four simple words the secret of our success.

OUR MISSION

"LET'S MAKE LIFE SAFER" is our mission statement. We promote this ideology at every stage of the process from first introduction of the TiSO range to our partners, through manufacture, to installation and maintenance of our products on site. The successful delivery of our mission is ensured thanks to the quality of the products that we manufacture and distribute internationally. Our manufacturing processes and all of the products in the TiSO range, **(from turnstiles through road blocking systems to fire-resistant doors)** have been certified in accordance with the highest international standards for health, safety and environment by leading international laboratories. This proves and ensures the high standards of our manufacturing procedures in conjunction with the quality and reliability of the finished products that we distribute. Recognition of our success in implementing our mission is proven by the positive feedback that we regularly receive from our partners and end users alike, after the successful delivery of projects. This we hope makes our mission statement "Let's Make Life Safer" a reality for our many customers around the globe.

OUR VALUES



Personalisation. Despite our busy manufacturing program, we always treat each customer as an individual, and we will always go the extra mile to create a product that fully satisfies their needs and aspirations.



Safety and security. These are the key values which have enabled us to achieve our mission.



Team. Each person in the TiSO team makes an invaluable contribution to production and distribution of our products. The impressive team at TiSO is not limited to our full-time employees. All of our partners, customers and end users are equally important and vital to TiSO, so "Let's Make Life Safer" together.



Flexibility and adaptability. Willingness to create a product that fully complies with our customers requirements is a fundamental part of our company's mindset.



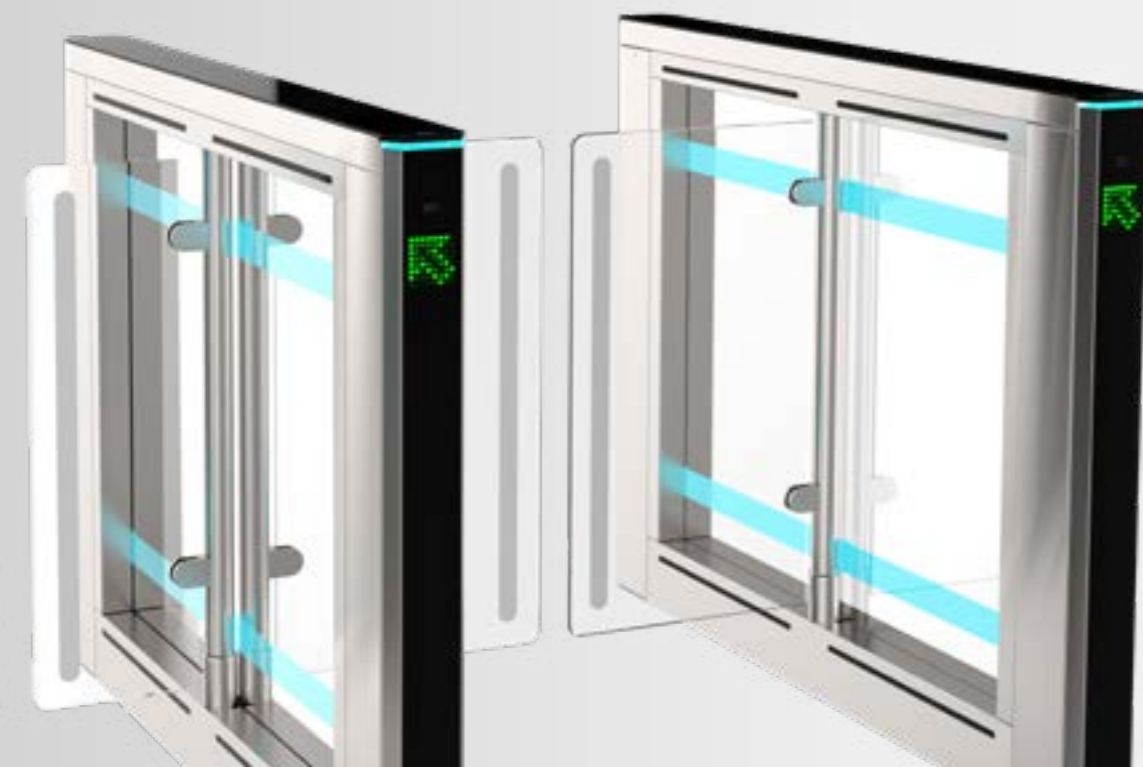
Research and innovation. Our products set the latest standards in design and engineering. Our innovations are not just a fashion statement in a fast-paced world. These are developed primarily to enable user friendly operation and end user satisfaction.

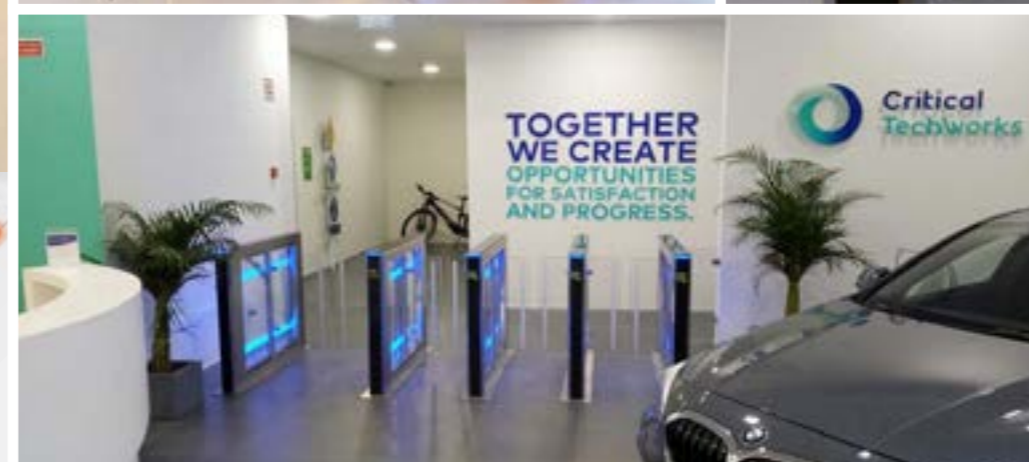


Eco-responsibility. During production, all the requirements of our Environmental Policy are at the forefront of the processes adopted by our company.

Speed Gates

- The speed gates have an ultra-modern futuristic design. Our speed gates of this series are ideal for stylish lobby interiors in hotels, banks, office centers, etc.
- BMDrive® Reliable mechanism with powerful BLDC gear motor ensures long term maintenance-free operation;
- The smart self-diagnosing system of mechanism BMDrive® automatically analyzes the system, detects critical malfunctions, and records error log and warnings;
- The BMDrive® mechanism controller is equipped with an OLED display for easy setup and configuration without special programmers, also a full configuration and diagnostics is possible via a USB connector by using a service software for Windows OS;
- Digital control of force and leaf speed in combination with safety sensors prevent a passing person from being struck by a leaf, even in case of an unauthorized passage;
- By use of artificial intelligence algorithms and large number of high-precision infrared passage sensors, the speed gates detects and alarms when two people try to pass by one card, pass in the wrong direction and pass without authorization;
- Sensor system allows detecting the passage of person with luggage, arranging a free exit without the need for identification.





Touchless Access

that means even more safer than ever

Global pandemic situation influenced all areas of life. New trends force organizations adapt workers space according to new norms. We help companies to choose the right entrance solutions, taking into account new requirements.

Ideal solution for contactless access are our speed gate series. Such speed gates open automatically without impact at gate. Thus, the norms are observed safety during a global pandemic. Speed gates by TiSO are adapted for the installation of any contactless readers (**face recognition system, temperature or mask detection system etc**). Such access control systems allow supporting the idea of contactless secure access to the territory.



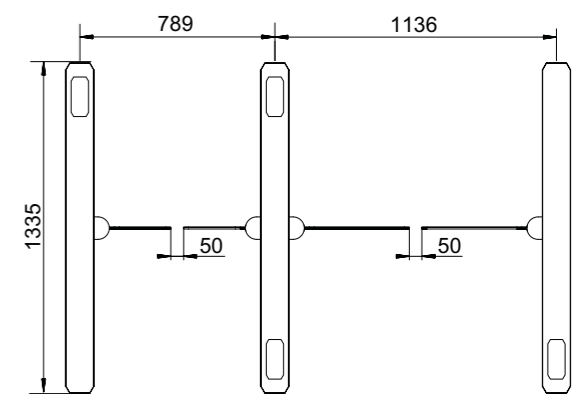
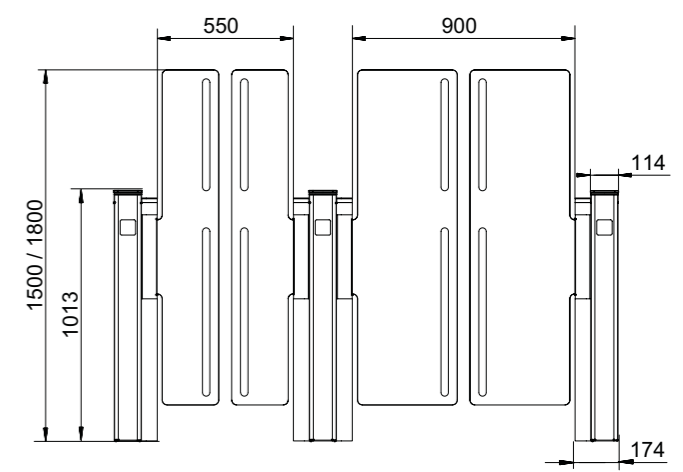
Sweeper-S-HG

- BMDrive® - Reliable mechanism with powerful BLDC gear motor
- The safety function of locking system FoldEmLock®
- The smart self-diagnosing system of mechanism BMDrive® automatically analyzes the system

Sweeper-S-HG



Model	Sweeper-S-HG
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V





Speedblade

 **550-900** mm
 PASSAGE WIDTH

 **40-25** pers/min
 SINGLE ACCESS

 **60** pers/min
 FREE ACCESS

 **0,5-0,8** sec
 OPENING/CLOSING

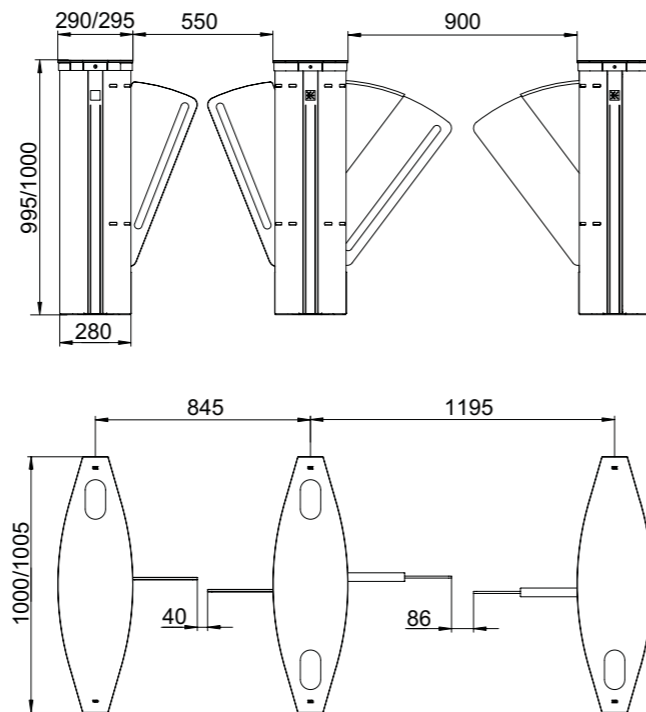
 **IP 41-54***
 PROTECTION LEVEL

 **ANTI-TAILGATING**

 **BI-DIRECTIONAL**

*Available upon request

Model	Speedblade
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	DeadLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Stainless steel top (with glass inserts) Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Sweeper

 **550-900** mm
 PASSAGE WIDTH

 **40-30** pers/min
 SINGLE ACCESS

 **60** pers/min
 FREE ACCESS

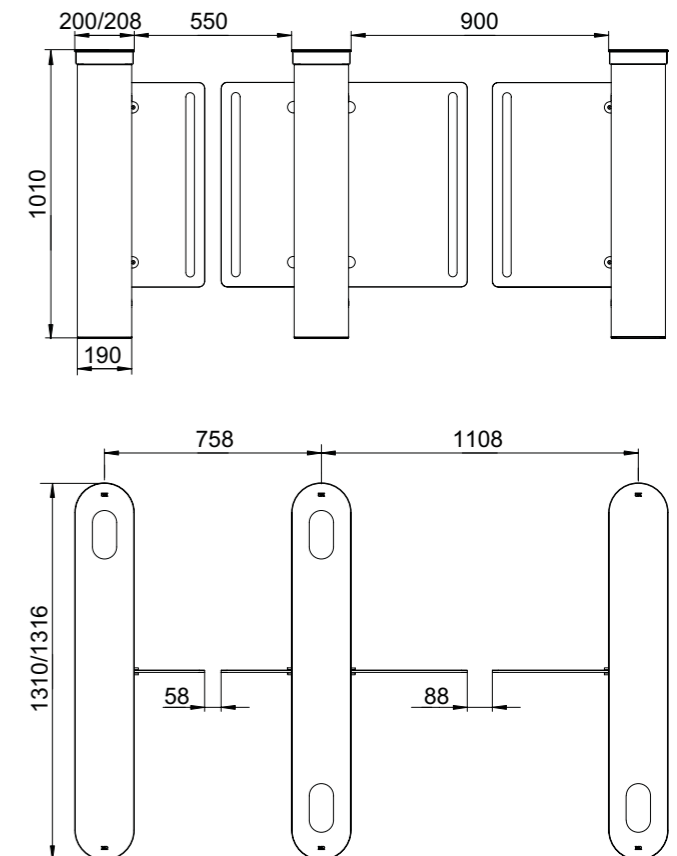
 **0,3-0,6** sec
 OPENING/CLOSING

 **IP 41**
 PROTECTION LEVEL

 **ANTI-TAILGATING**

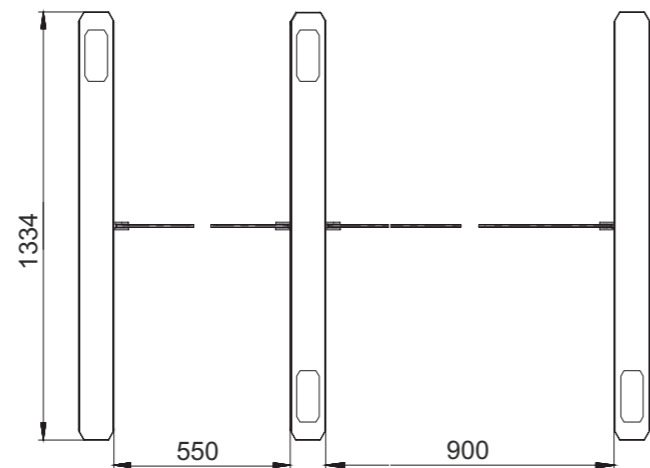
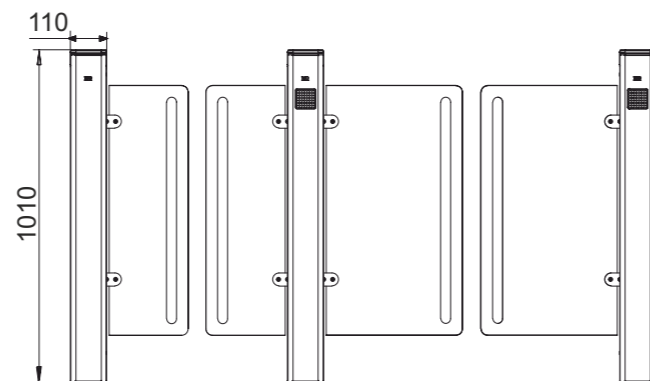
 **BI-DIRECTIONAL**

Model	Sweeper
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Stainless steel top (with glass inserts) Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



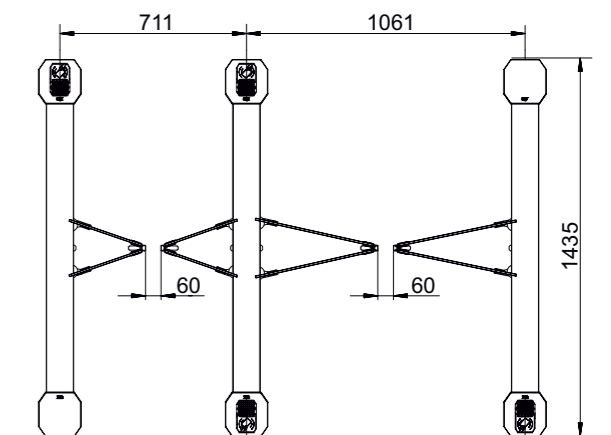
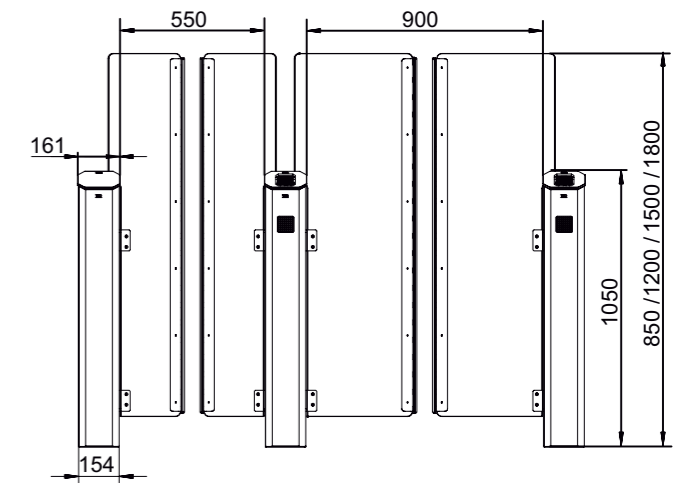


Sweeper-S



Model	Sweeper-S
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	PinLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Stainless steel top (with glass inserts) Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

Slide



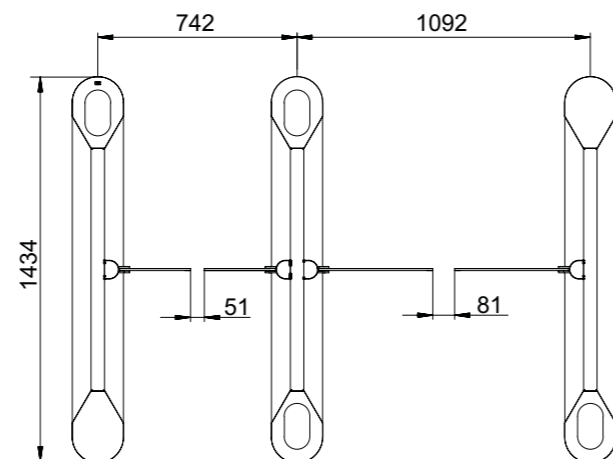
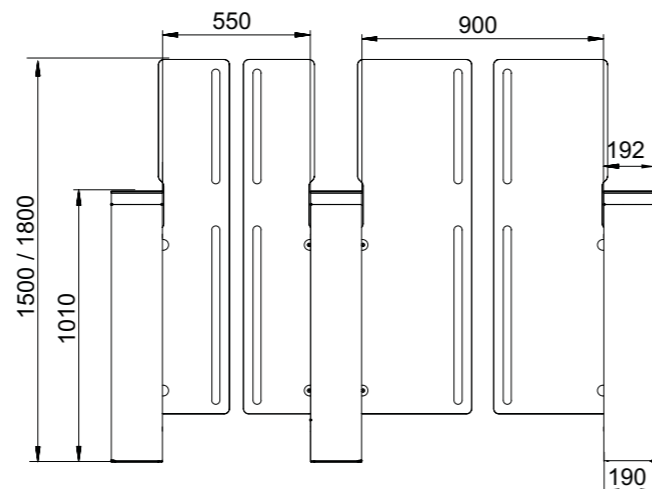
Model	Slide
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	FoldEmLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – (standard)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Sweeper-HG



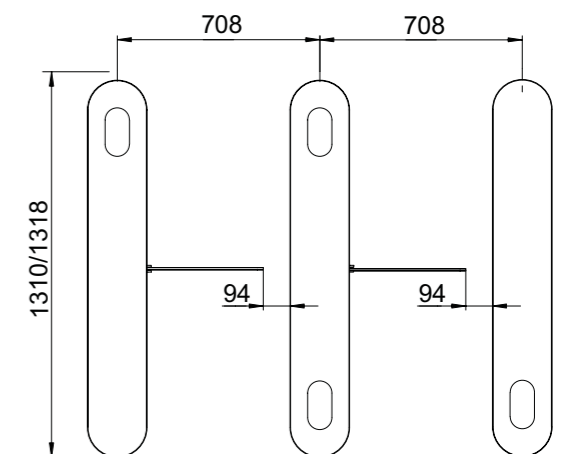
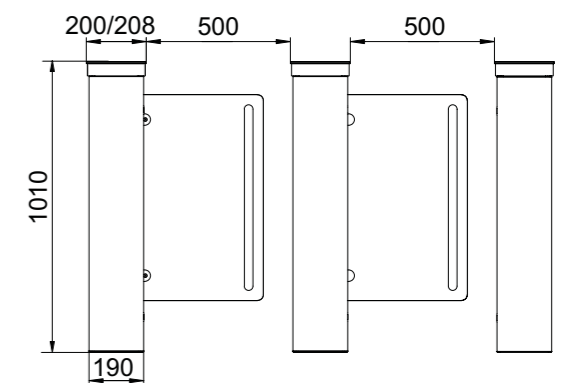
Model	Sweeper-HG
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Stainless steel top (with glass inserts)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Sweeper-G



Model	Sweeper-G
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (leaves are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

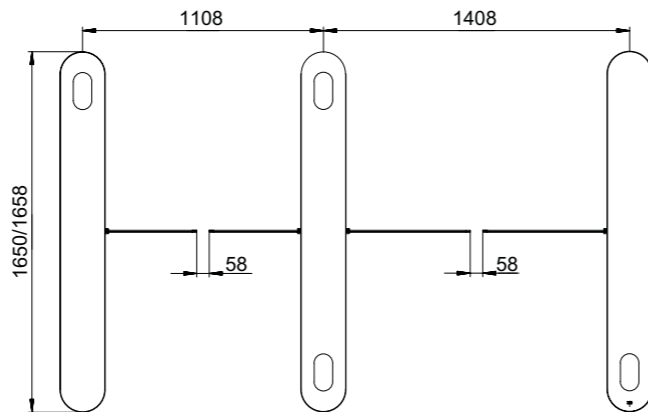
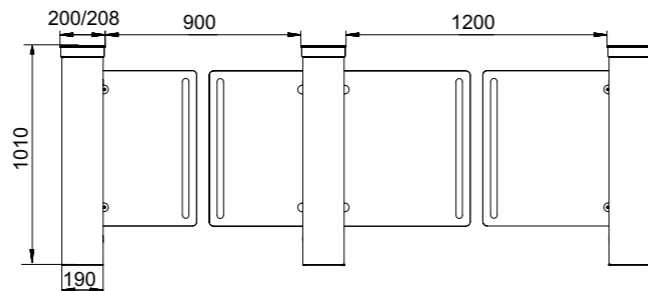




Sweeper-W



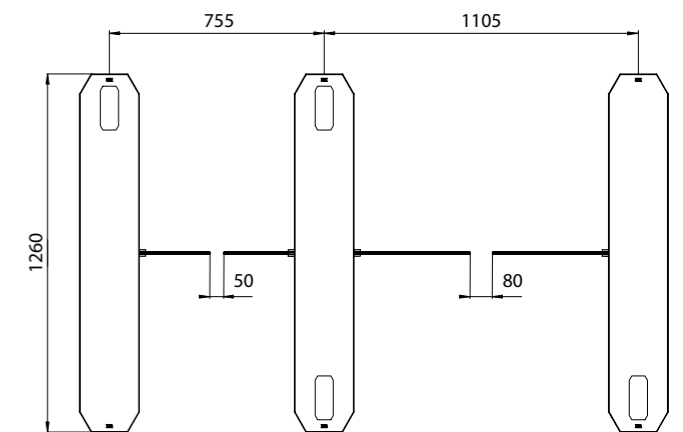
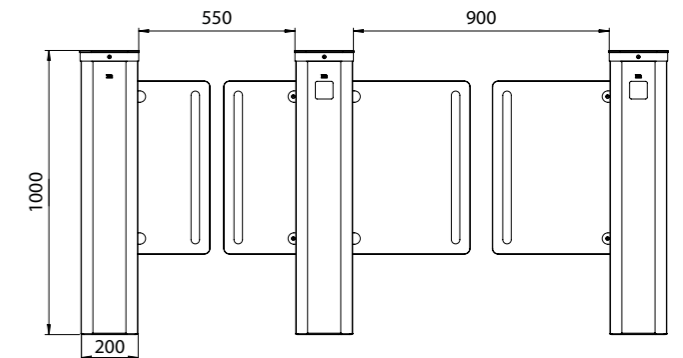
Model	Sweeper-W
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Stainless steel top (with glass inserts) Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Sweeper-WP

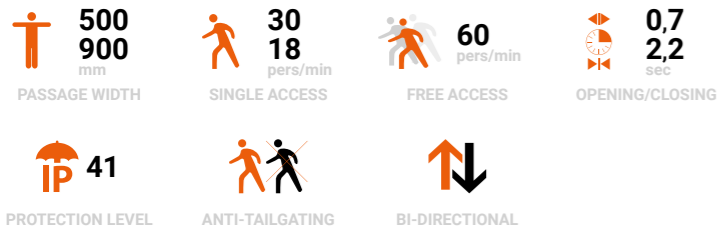


Model	Sweeper-WP
Mechanism	BMDrive® servo-drive (BLDC)
Anti-tailgating function	+
Blocking mechanism	ToothLock®
Emergency mode	Free entry/exit (gates are opened automatically)
Power fail	Fail safe (gates could be opened manually – standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

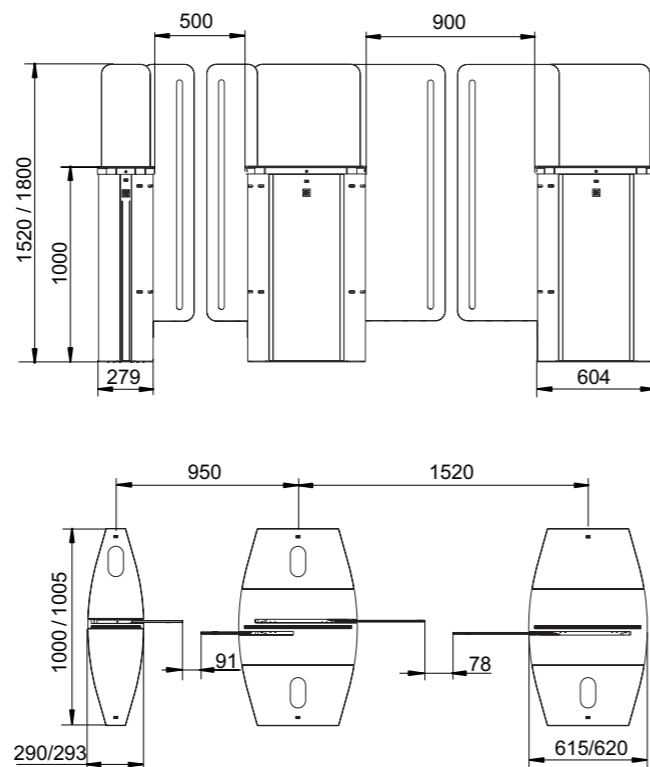




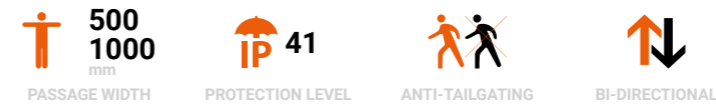
Jetpan



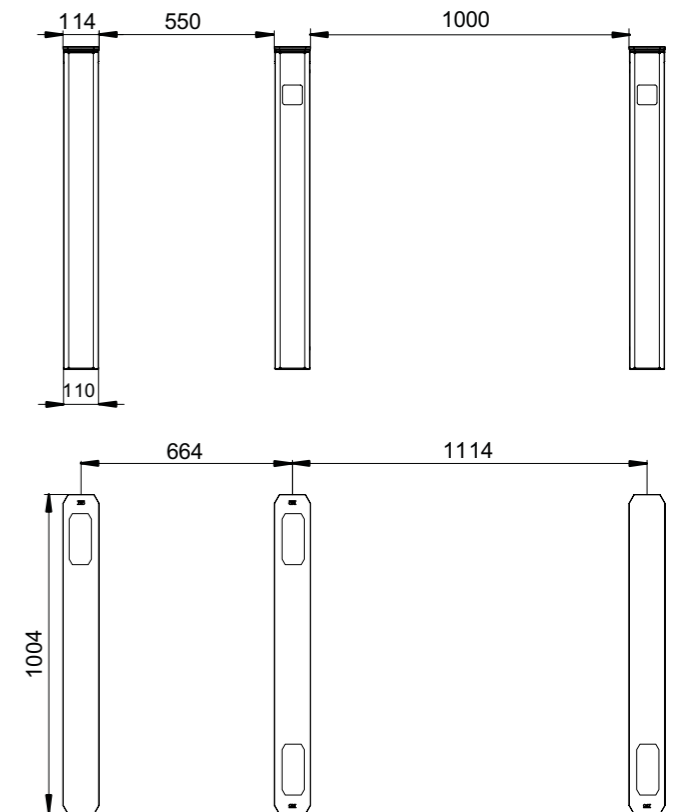
Model	Jetpan	Jetpan-900
Mechanism	BMDrive® servo-drive (BLDC)	Servo-drive
Anti-tailgating function	+	
Blocking mechanism	DeadLock®	Electromagnetic brake
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually – (standard) Automatically open – super capacitor (option))	
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)	
Top lid	Stainless steel top (with glass inserts) Solid glass top	Stainless steel top (with glass inserts)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	



Phantom-S



Model	Phantom-S
Anti-tailgating function	+
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Top lid	Solid glass top
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V
Principle	Detection of unauthorized access and generation of alarm



Tripods turnstiles

- Bi-directional motorized tripod turnstile
- Integration with any type of access control and ID systems
- Low power consumption
- Panic / bar drop function with automatic reset
- Whisper quiet, low noise operation
- Optional indoor or outdoor housing types
- Wide range of accessories
- Availability of a backup battery connection
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader)



Functionality and Availability

Tripod turnstiles by TiSO company are appropriate solution for access control for high traffic area. The mechanism of our tripod turnstiles will withstand the most intense loads and will make access quick and safe.

Our tripods have anti-panic function (standard), which makes these turnstiles safe users. In case of emergency, the turnstile leashes are automatically lowered, so people can quickly leave the dangerous area.

The range of tripod turnstiles has very stylish models that are suitable for installation in stylish interiors and will definitely be an excellent addition to great design solutions.








Onyx Series

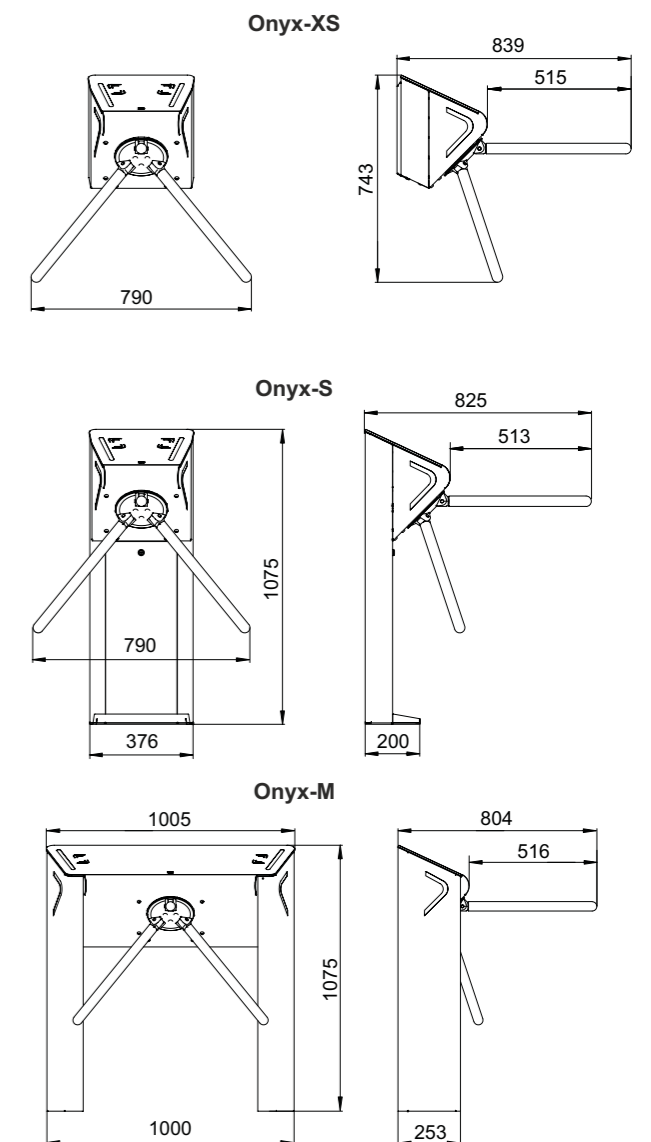
These turnstiles are equipped with an automatic bi-directional servo drive mechanism with a robust locking system and are able to operate reliably and efficiently in high traffic flow locations. This model has a robust hub with stainless steel pods and a fully automatic anti-panic system, where in the case of an emergency, the arms are automatically lowered and users can freely pass through unhindered.



Onyx-XS/S/M

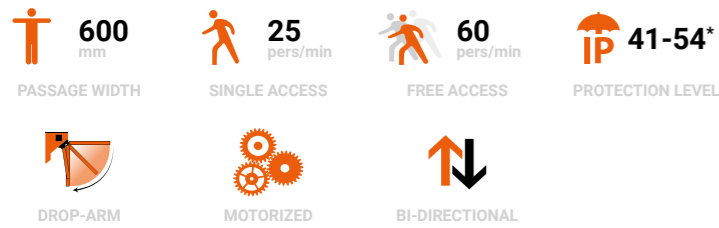
- 
600
mm
PASSAGE WIDTH
- 
25
pers/min
SINGLE ACCESS
- 
60
pers/min
FREE ACCESS
- 
IP 41
PROTECTION LEVEL
- 
DROP-ARM
- 
SERVO-DRIVEN
- 
BI-DIRECTIONAL

Model	Onyx-XS/S/M
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



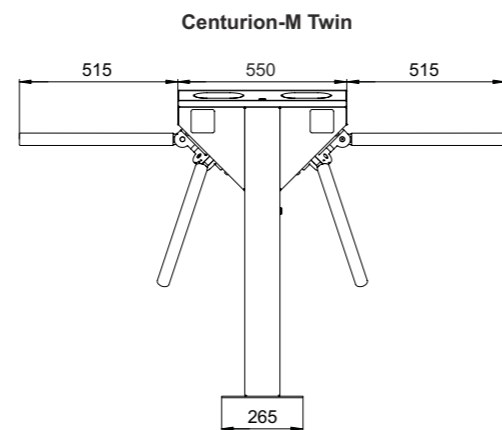
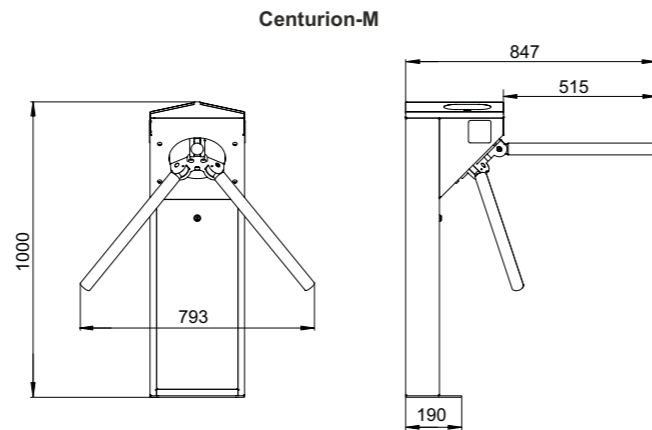


Centurion-M

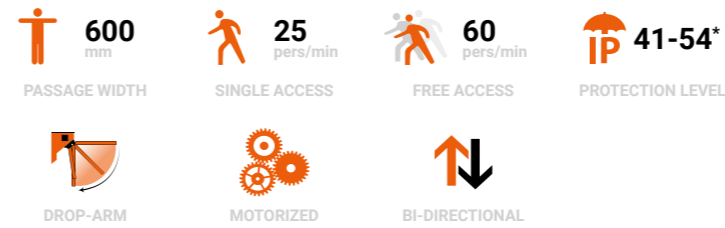


*Available upon request

Model	Centurion-M/M Twin
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

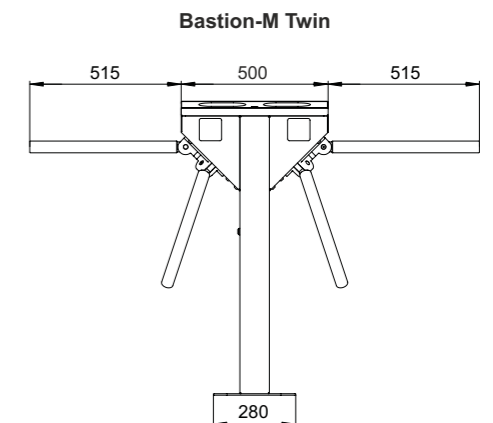
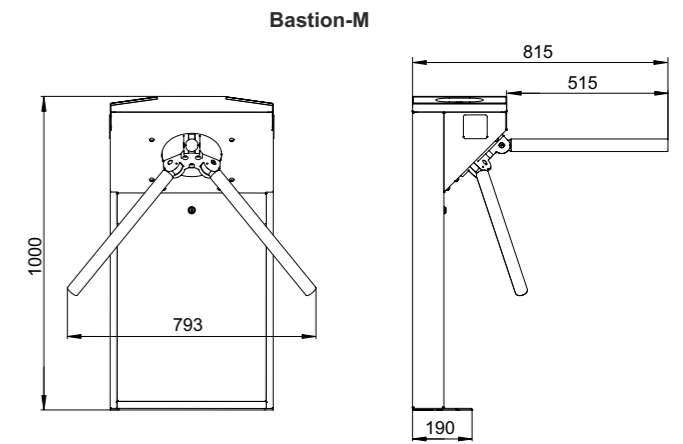


Bastion-M



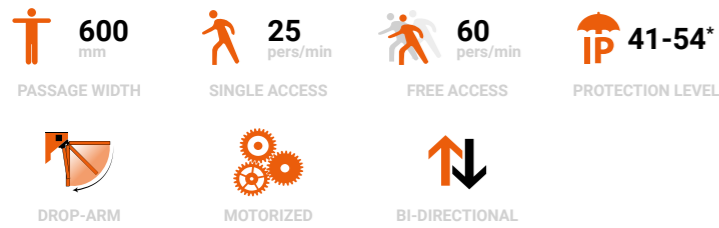
*Available upon request

Model	Bastion-M/M Twin
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (lowering the leash)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

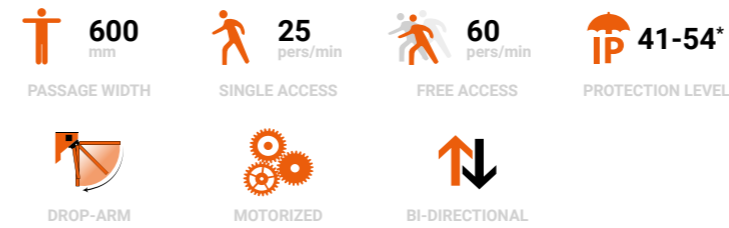




Skull



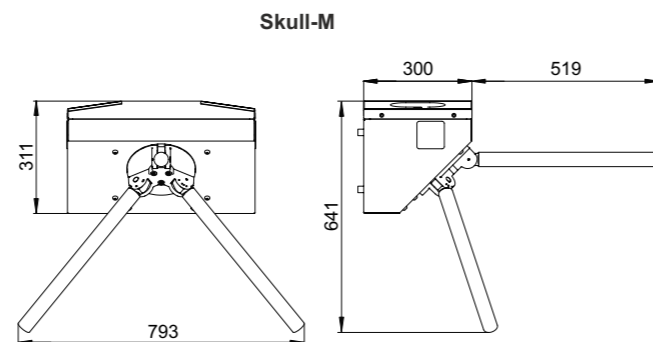
Twix-M



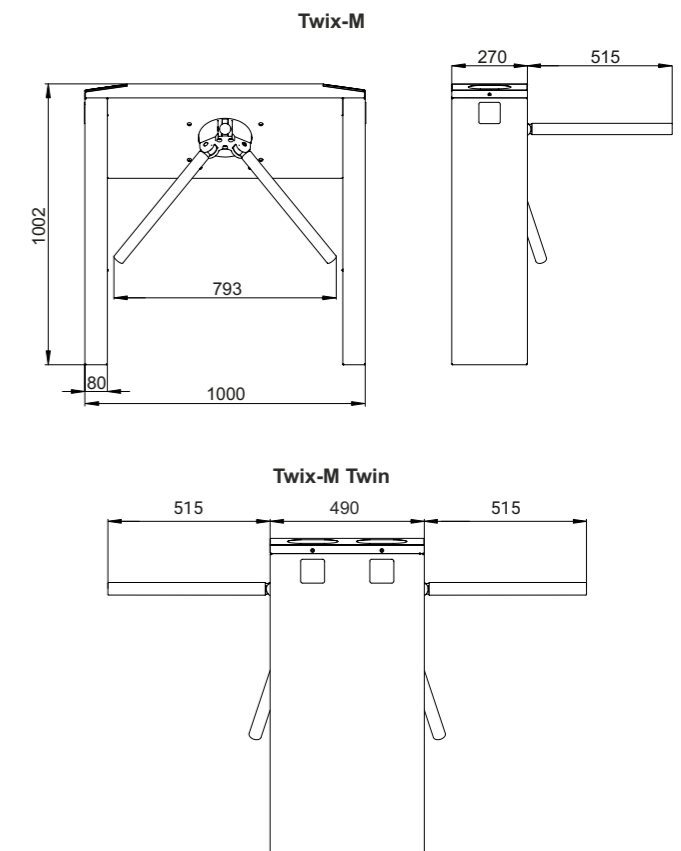
*Available upon request

*Available upon request

Model	Skull-M
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Model	Twix-M/M Twin
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



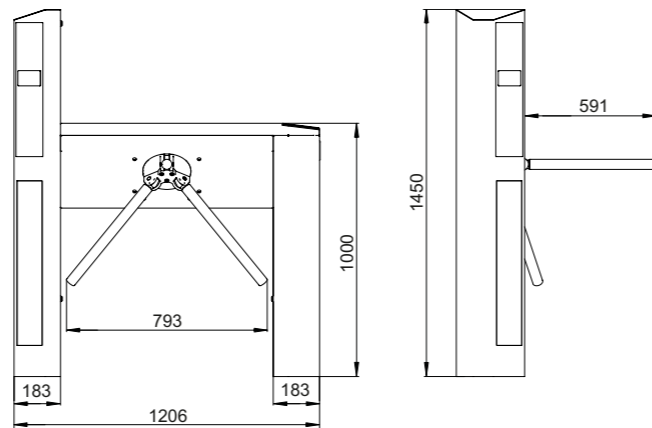


Twix All-in-one-M

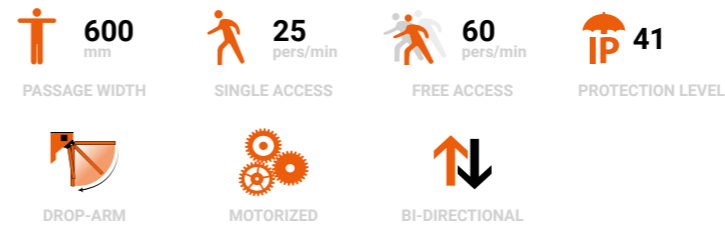


*Available upon request

Model	Twix All-in-one-M
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

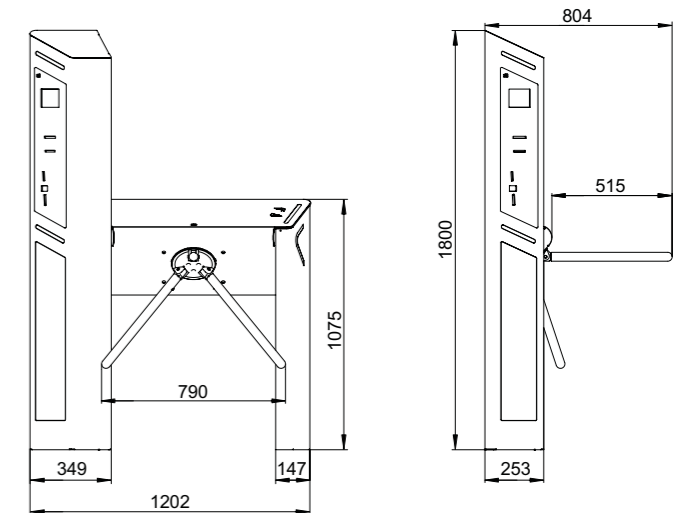


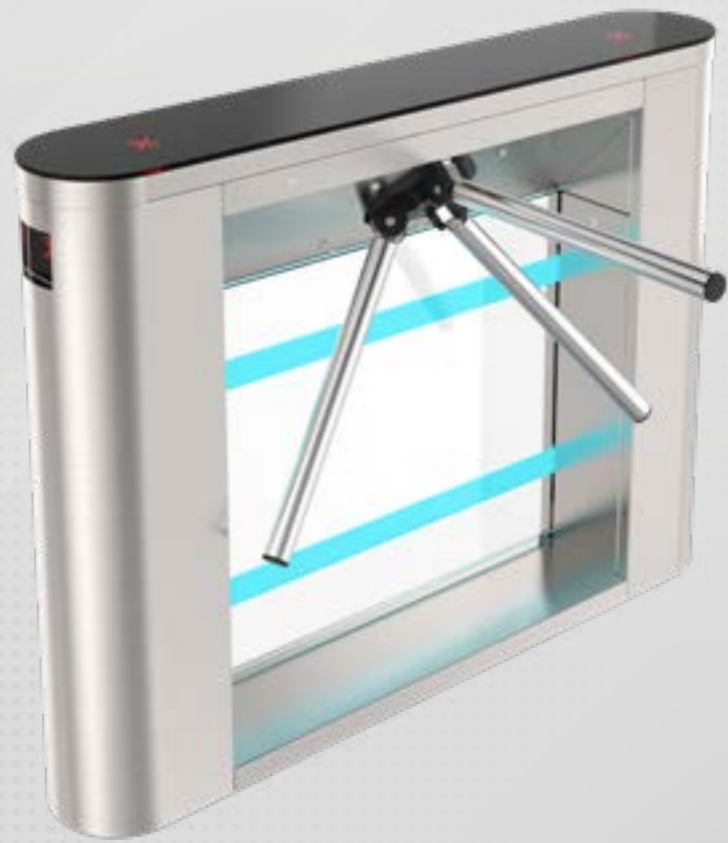
Onyx-XL






*Available upon request

Model	Onyx-XL
Mechanism	Servo-driven (Triservo-M)
Blocking mechanism	Two electromagnetic stoppers (separate locking system)
Emergency mode (when the power goes off)	Fail-safe (Arm drops)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

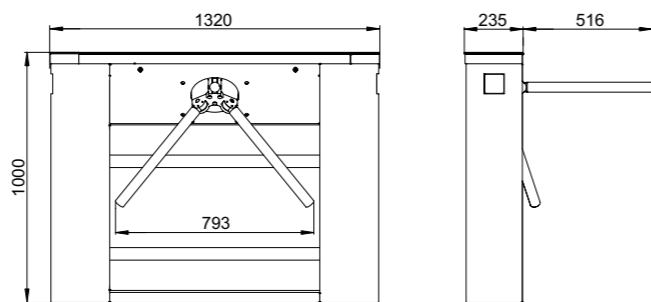




Galaxy-M

-  **600**
mm
PASSAGE WIDTH
-  **25**
pers/min
SINGLE ACCESS
-  **60**
pers/min
FREE ACCESS
-  **IP 41**
PROTECTION LEVEL
-  **DROP-ARM**
-  **MOTORIZED**
-  **BI-DIRECTIONAL**

Model	Galaxy-M
Mechanism	Servo-driven (<i>Triservo-M</i>)
Blocking mechanism	Two electromagnetic stoppers (<i>separate locking system</i>)
Emergency mode (<i>when the power goes off</i>)	Fail-safe (<i>lowering the leash</i>)
Drop arm function	Activates manually by push button/ fire alarm system; Activates automatically when power goes off; The arm returns automatically in locking position after the power on.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (<i>any RAL upon request</i>)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

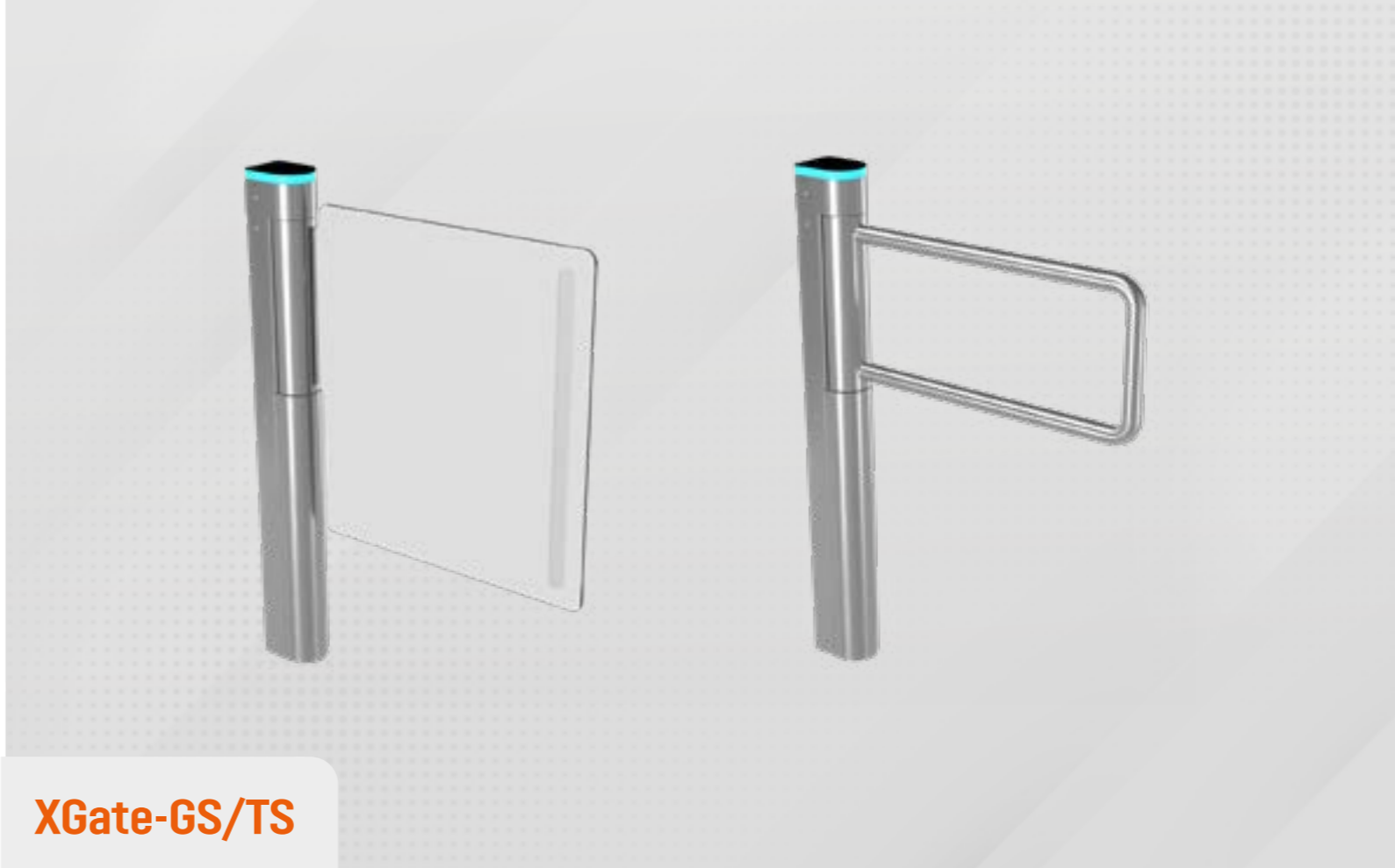


Swing Gates







- Motorized;
- Bi-directional;
- Integration with any type of access control and ID systems;
- Low power consumption;
- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Complete supply set as a standard.



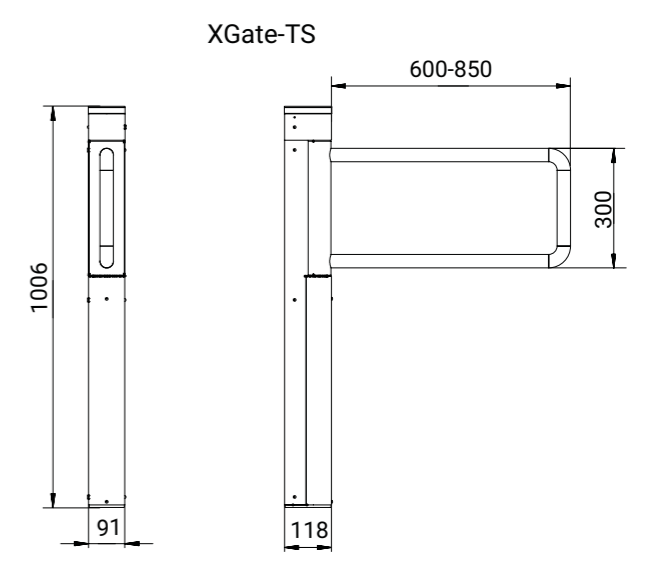
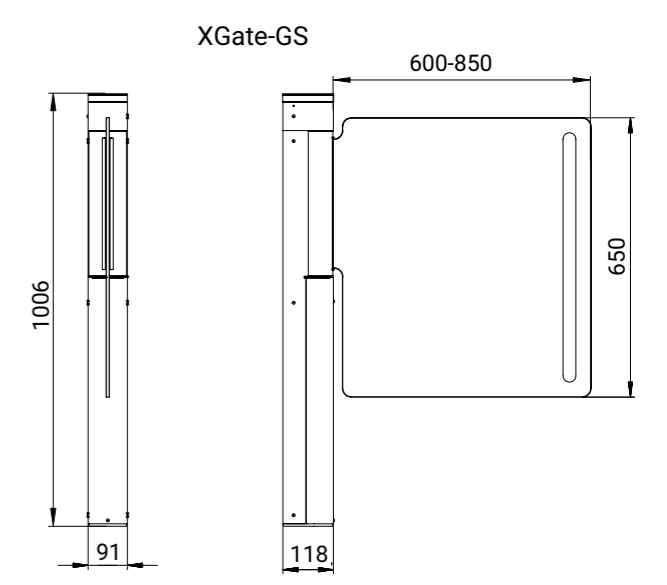
**Inalienable part of
the entrance group of turnstiles**



XGate-GS/TS

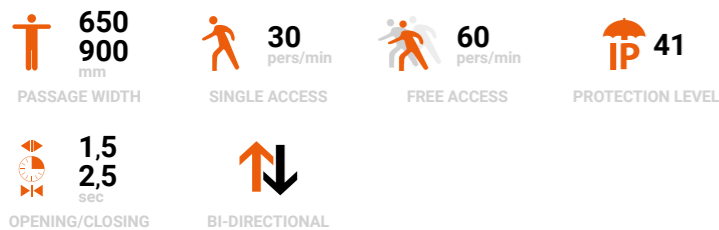
- 
**650
900**
mm
PASSAGE WIDTH
- 
30
pers/min
SINGLE ACCESS
- 
60
pers/min
FREE ACCESS
- 
IP 41
PROTECTION LEVEL
- 
**2,5
3**
sec
OPENING/CLOSING
- 
BI-DIRECTIONAL

Model	XGate-GS/TS
Mechanism	BMDrive® servo-drive (BLDC)
Operation mode	CW (90°) and CCW (90°)
Blocking mechanism	ToothLock®
Emergency mode	Free exit/entry (gate is opening automatically)
Power fail	Fail-safe – leaf could be opened manually Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

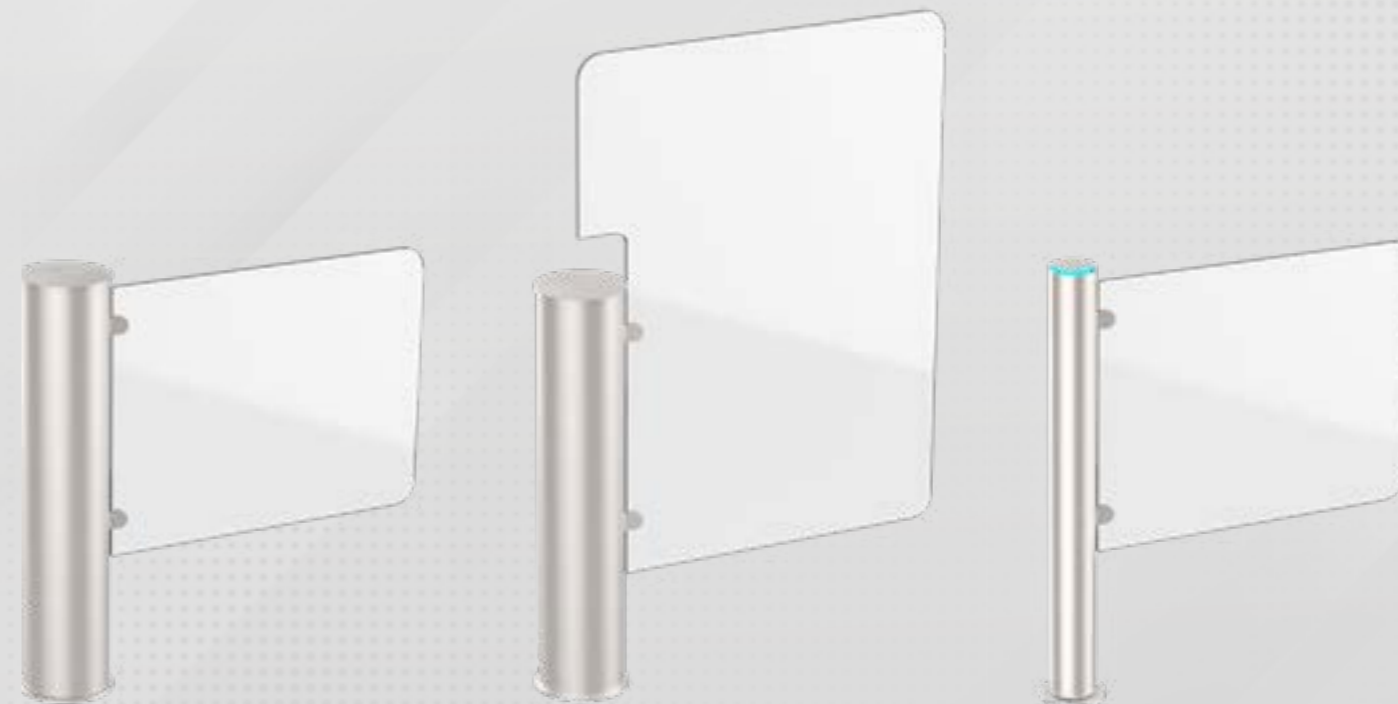
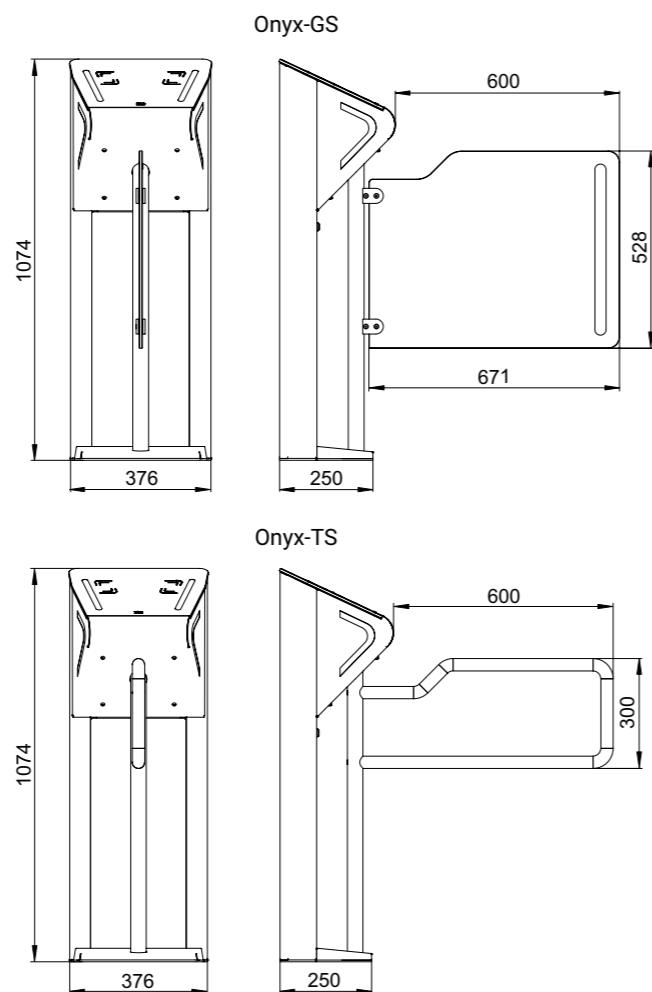




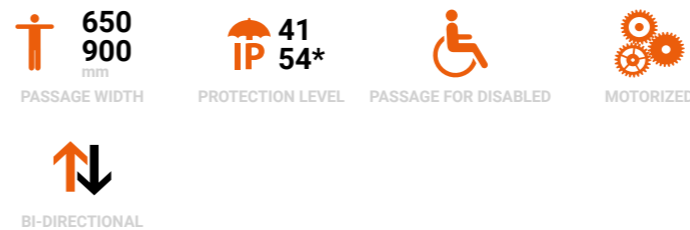
Onyx-TS/GS



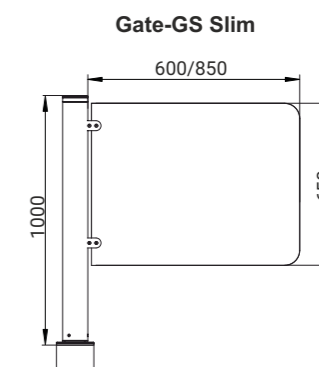
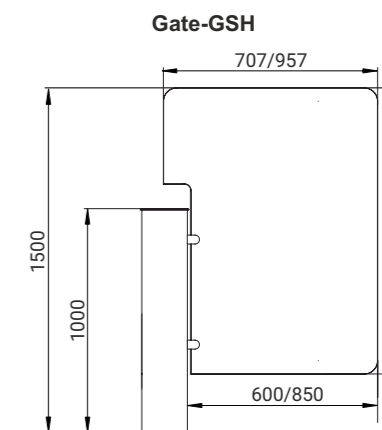
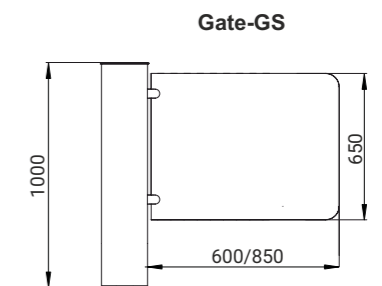
Model	Onyx-GS/TS
Mechanism	BMDrive® servo-drive (BLDC)
Operation mode	CW (90°) and CCW (90°)
Blocking mechanism	ToothLock®
Emergency mode	Free exit/entry (gate is opening automatically)
Power fail	Fail-safe – leaf could be opened manually Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Gate-GS/GSH/Slim



Model	Gate-GS/GSH/Slim
Mechanism	Servo-driven
Operation mode	CW (100°) and CCW (100°)
Blocking mechanism	Single electromagnetic brake
Emergency mode	Free exit/entry (gate is opening automatically)
Power fail	Fail-safe – can be rotated manually (standard) Automatically open – super capacitor (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



* only for Gate-GS and Gate-GSH.



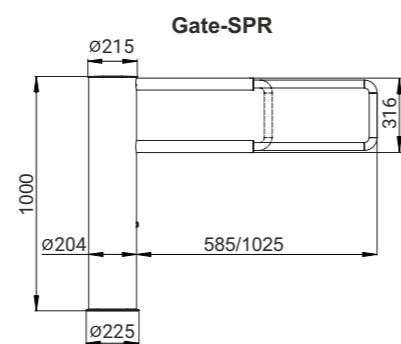
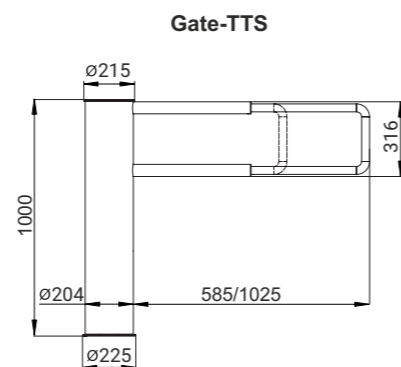
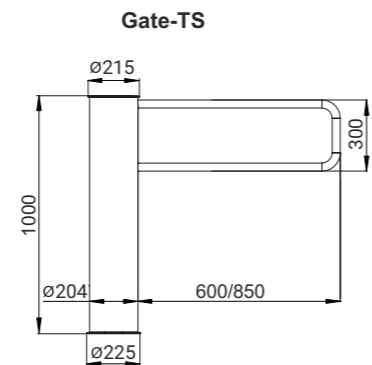
Gate-TS/TTS/SPR

Cyclone-L

-  **650**
1050
mm
PASSAGE WIDTH
-  **IP 41**
54
PROTECTION LEVEL
-  **PASSAGE FOR DISABLED**
-  **MOTORIZED**



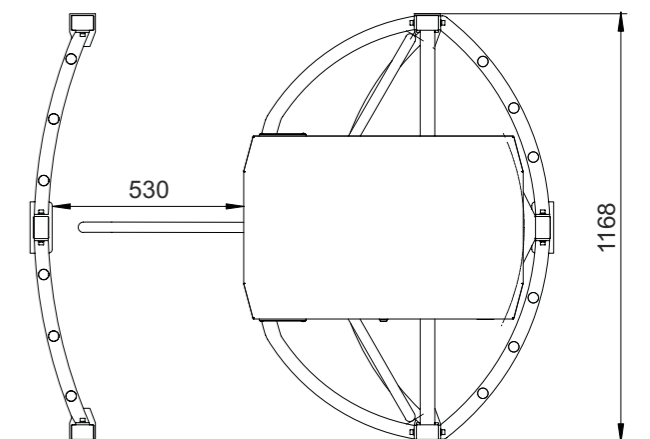
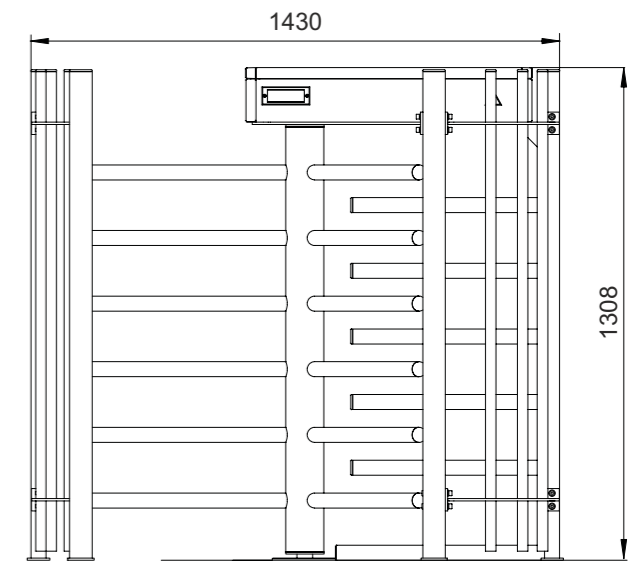
Model	Gate-TS/TTS	Gate-SPR
Mechanism	Servo-driven	Mechanical
Operation mode	CW (100°) and CCW (100°)	
Blocking mechanism	Single electromagnetic brake	Can be locked manually by key
Emergency mode	Gate is open	Can be unlocked manually by key
Drop arm function	Fail-safe – free rotation (standard) Automatically open – super capacitor (option)	–
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	–



-  **530**
mm
PASSAGE WIDTH
-  **20**
pers/min
SINGLE ACCESS
-  **IP 41**
65
PROTECTION LEVEL
-  **MOTORIZED**



Model	Cyclone-L
Mechanism	Servo-drive (Triservo-M)
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail safe (standard) Fail secure (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Full-height turnstiles

- Can be supplied as fully welded or in disassembled condition which has perfect effect to transportation cost;
- Turnstile is Bi-directional;
- Depending on installation place conditions and Customer`s requirements can be produced of different types of material;
- Y-type or X-type of rotor for your choice available;
- Easy integration with any type of ACS;
- Low power consumption as well as low noise operation;
- Possibility of customization;
- Fail safe or fail secure for your choice;
- Indoor/outdoor application.



TOTAL SECURITY OF THE SITE

TISO full-height turnstiles ensures vandal proof security level to large variety of possible applications: stadiums, factories, parks, premises with highest security requirements etc. Strength and durability is granted by robust fully welded design. On the other hand, attractive for shipment assembly modification of automatic barrier gate is also available.













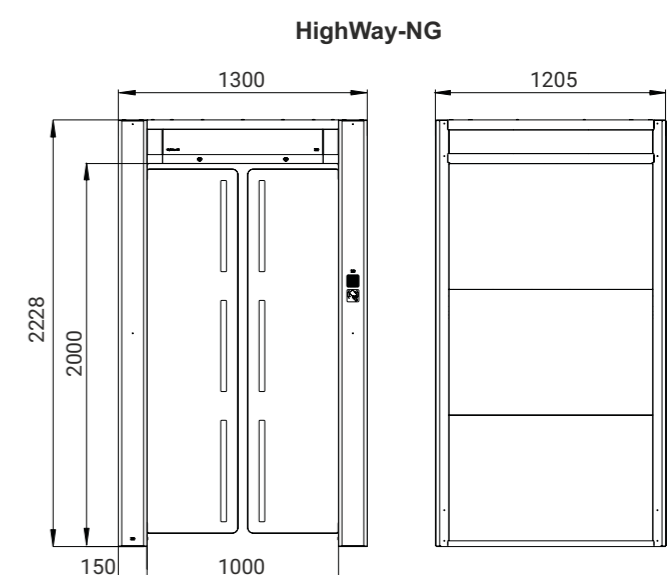
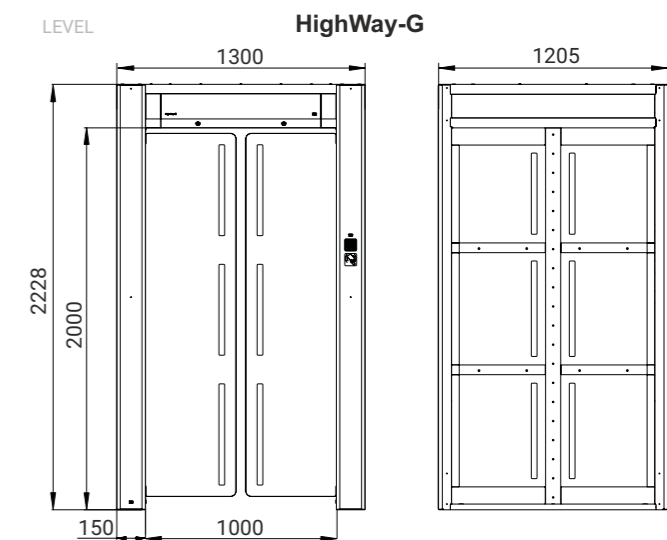
HighWay-G/NG

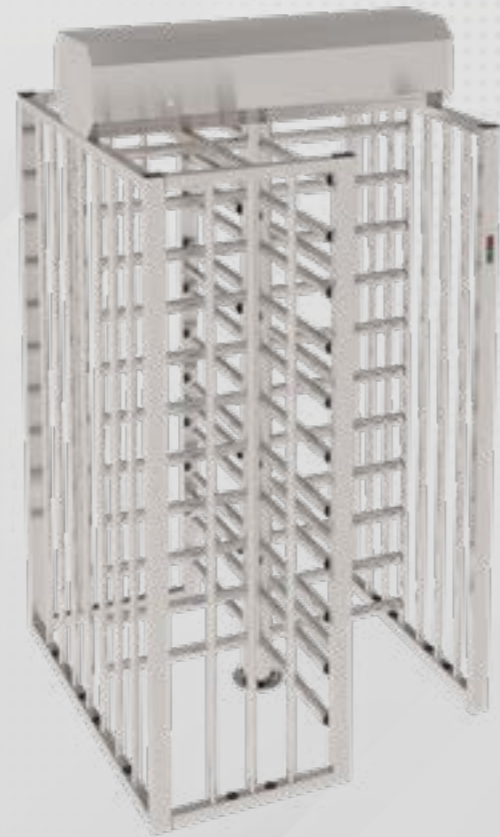
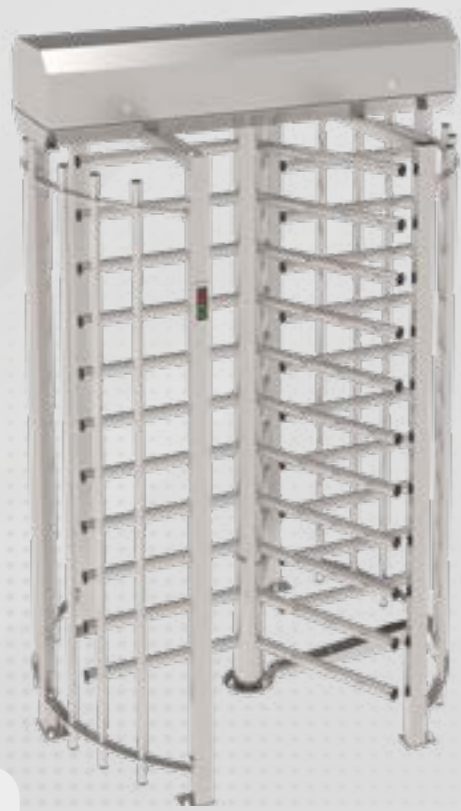
HighWay-G/NG combining different technologies to achieve state of the art performances, passage detection algorithms constantly monitor the flow of persons through the monitored area until they exit.

HighWay-G/NG

 1000 mm	 20 pers/min	 60 pers/min	 IP 41
PASSAGE WIDTH	SINGLE ACCESS	FREE ACCESS	PROTECTION LEVEL
 BI-DIRECTIONAL	 1,5 sec	 ANTI-TAILGATING	 MOTORIZED
	OPENING/CLOSING		

Model	HighWay-G	HighWay-NG
Mechanism	BMDrive® servo-driven (BLDC)	
Blocking mechanism	Option - ToothLock+PinLock	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail-secure - option	
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 304 and tempered glass	Brushed stainless steel AISI 304
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	



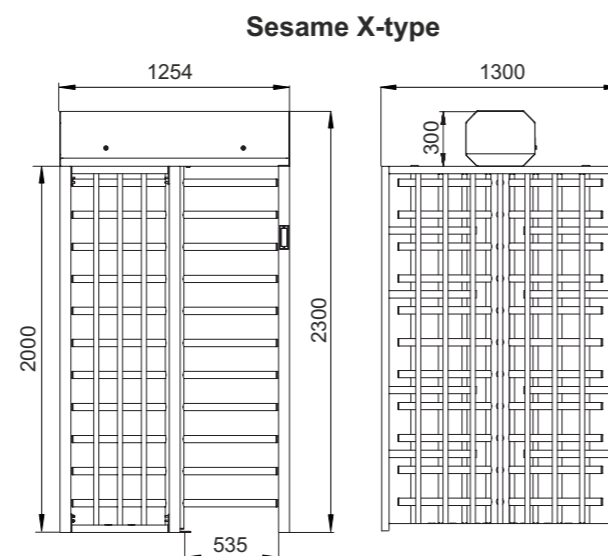
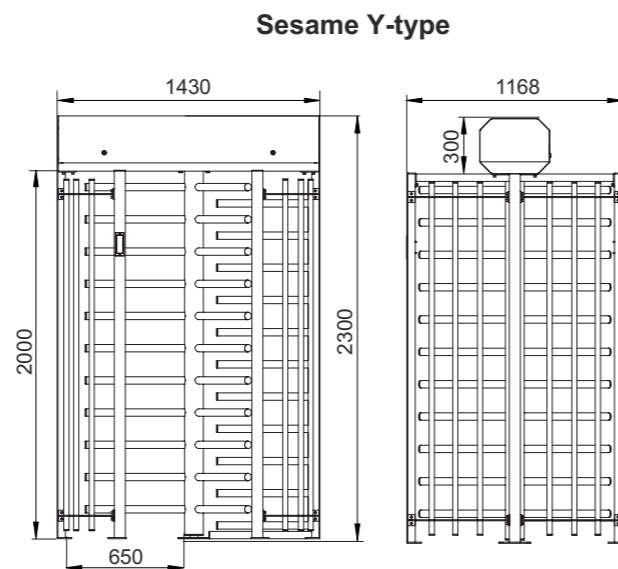


Sesame

- Y: 650**
X: 535
mm
- PASSAGE WIDTH**
- 20**
pers/min
- SINGLE ACCESS**
- 30**
pers/min
- FREE ACCESS**
- IP 41-65***
- PROTECTION LEVEL**
- BI-DIRECTIONAL**

*Available upon request

Model	Sesame
Mechanism	StrongLock-EM (standard) StrongLock-Servo (option)
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail secure (standard) Fail safe (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

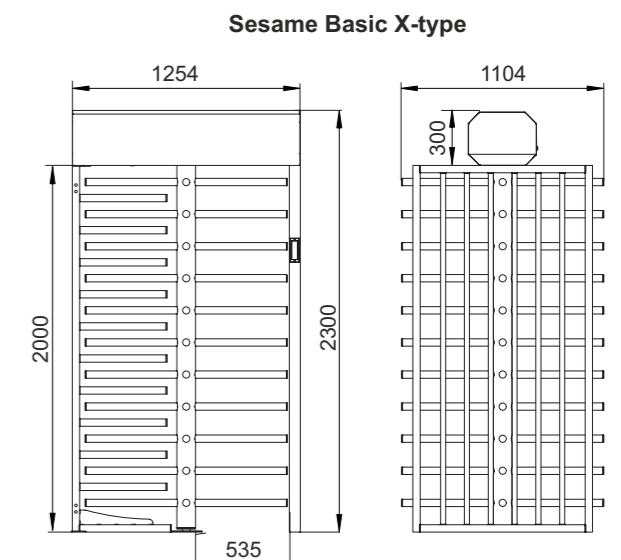
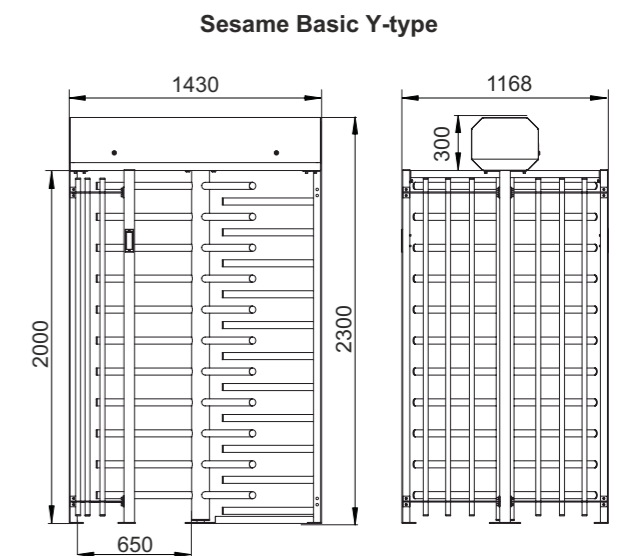


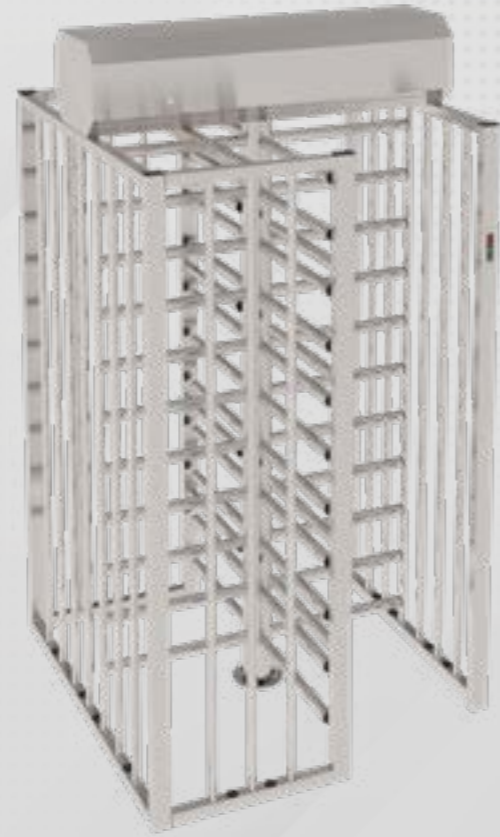
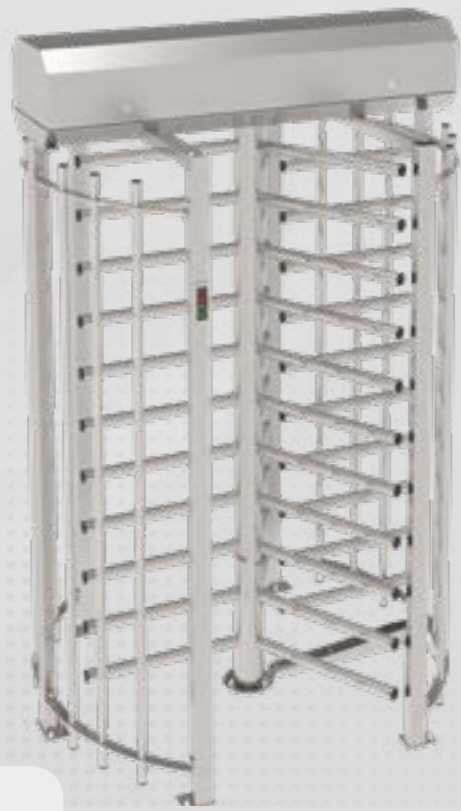
Sesame Basic

- Y: 650**
X: 535
mm
- PASSAGE WIDTH**
- 20**
pers/min
- SINGLE ACCESS**
- 30**
pers/min
- FREE ACCESS**
- IP 41-65***
- PROTECTION LEVEL**
- BI-DIRECTIONAL**

*Available upon request

Model	Sesame Basic
Mechanism	SafeLock-EM (standard) StrongLock-Servo (option)
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail secure (standard) Fail safe (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V







Sesame-L

 **Y: 650**
X: 535
mm
 PASSAGE WIDTH

 **20**
pers/min
 SINGLE ACCESS

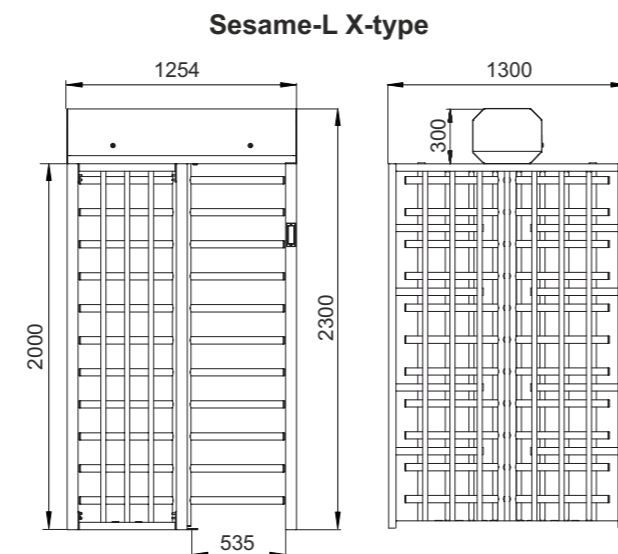
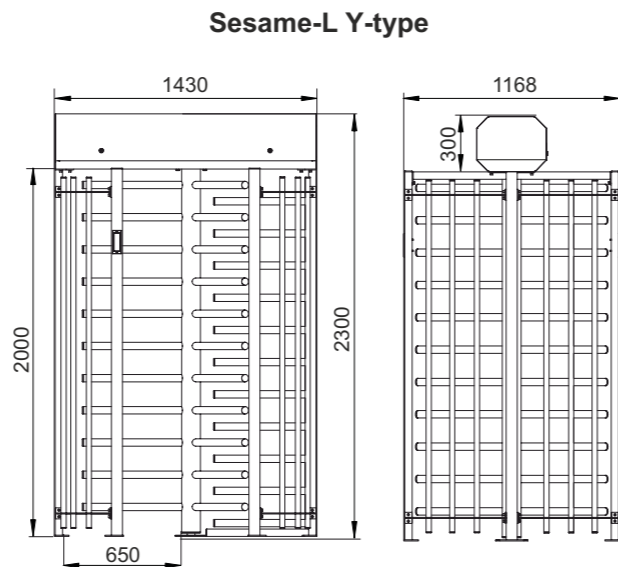
 **30**
pers/min
 FREE ACCESS

 **IP 41-65***
 PROTECTION LEVEL

 **BI-DIRECTIONAL**

*Available upon request

Model	Sesame-L
Mechanism	TriServo
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail safe (standard) Fail secure (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V





Sesame Basic-L

 **Y: 650**
X: 535
mm
 PASSAGE WIDTH

 **20**
pers/min
 SINGLE ACCESS

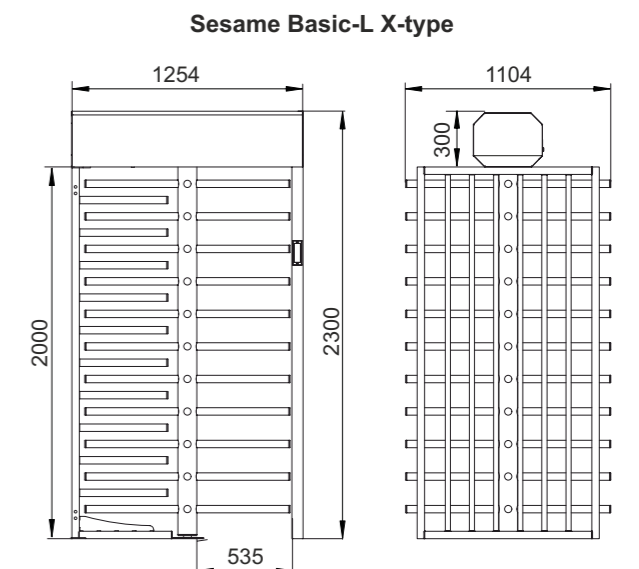
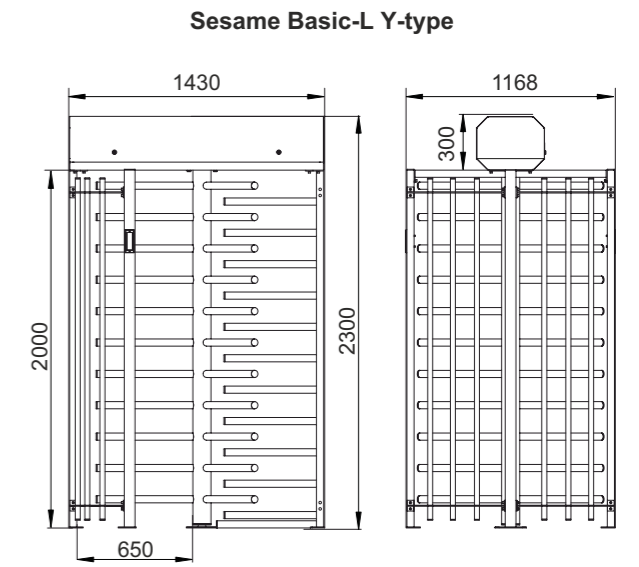
 **30**
pers/min
 FREE ACCESS

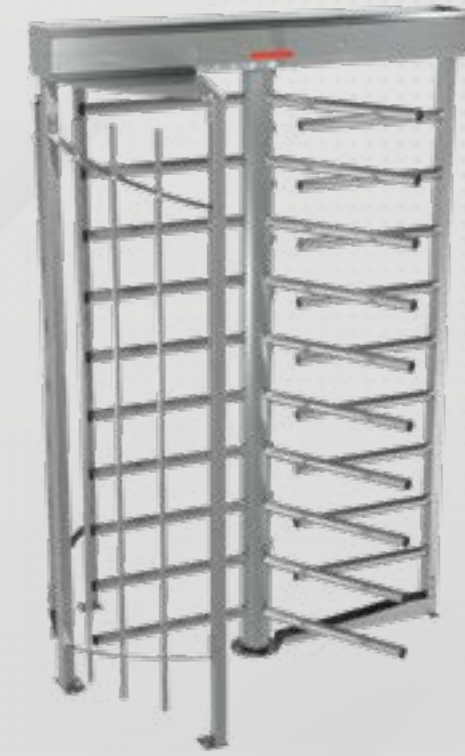
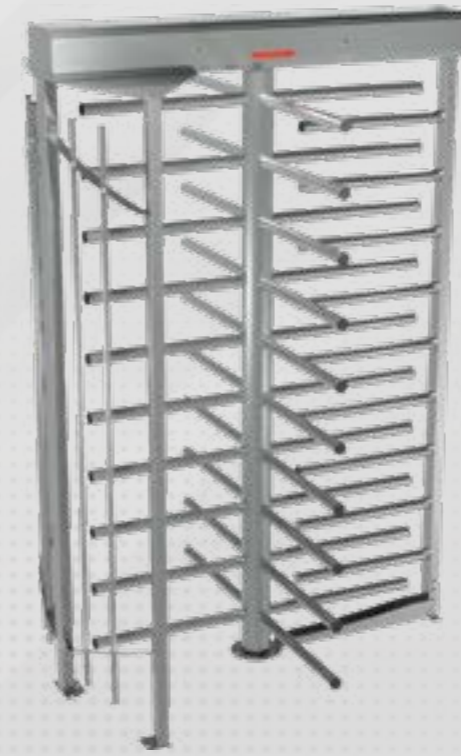
 **IP 41-65***
 PROTECTION LEVEL

 **BI-DIRECTIONAL**

*Available upon request

Model	Sesame Basic-L
Mechanism	TriServo
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail safe (standard) Fail secure (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V





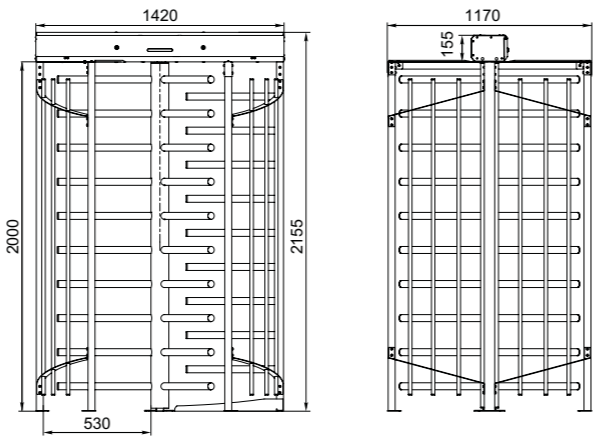
Sesame-S

- 505**
530
mm
PASSAGE WIDTH
- 20**
pers/min
SINGLE ACCESS
- 30**
pers/min
FREE ACCESS
- IP 41-65***
PROTECTION LEVEL
- BI-DIRECTIONAL**

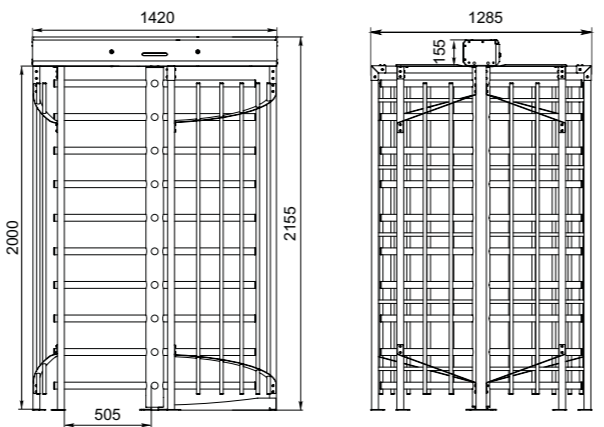
*Available upon request

Model	Sesame-S
Mechanism	SafeLock-EM
Blocking mechanism	Two electromechanical stop catches
Emergency mode	Free pass in both directions
Power fail	Fail safe (standard) Fail secure (option)
Construction features	Disassembled
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated RAL
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

Sesame-S Y-type



Sesame-S X-type



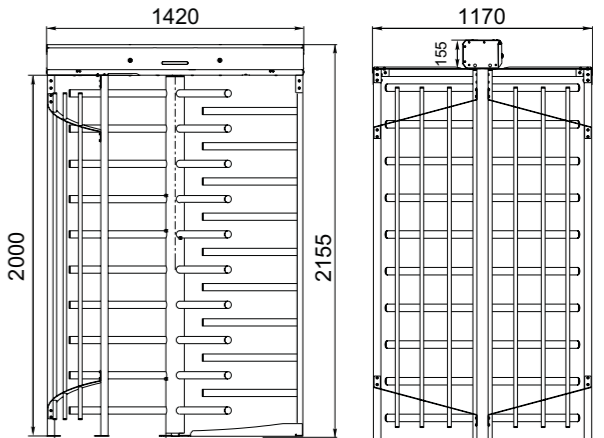
Sesame Basic-S

- 505**
530
mm
PASSAGE WIDTH
- 20**
pers/min
SINGLE ACCESS
- 30**
pers/min
FREE ACCESS
- IP 41-65***
PROTECTION LEVEL
- BI-DIRECTIONAL**

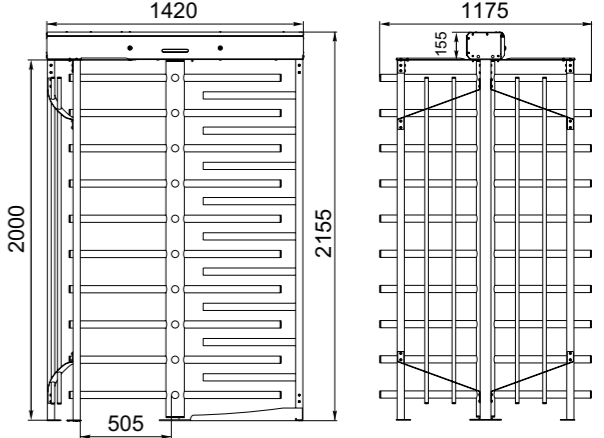
*Available upon request

Model	Sesame Basic-S
Mechanism	SafeLock-EM
Blocking mechanism	Two electromechanical stop catches
Emergency mode	Free pass in both directions
Power fail	Fail safe (standard) Fail secure (option)
Construction features	Disassembled
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated RAL
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V

Sesame Basic-S Y-type



Sesame Basic-S X-type







Sesame Twin-L

 **Y: 650**
 **X: 570**
mm
 PASSAGE WIDTH

 **40** pers/min
 SINGLE ACCESS

 **60** pers/min
 FREE ACCESS

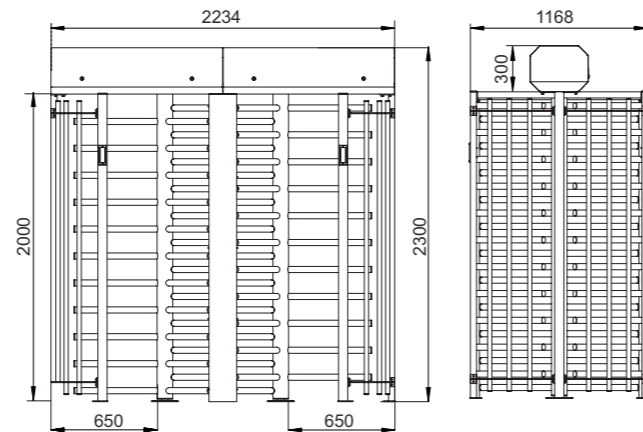
 **IP 41-65***
 PROTECTION LEVEL

 **BI-DIRECTIONAL**

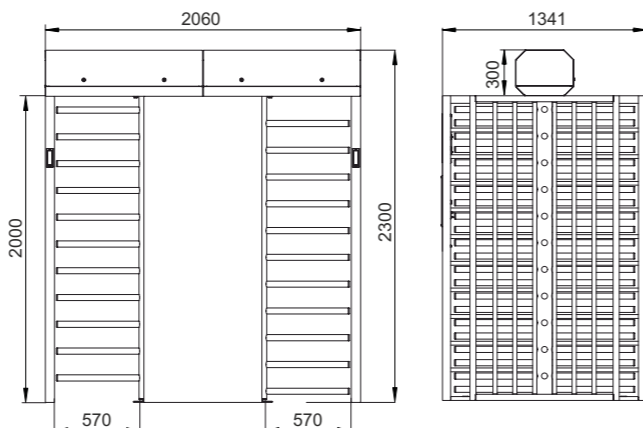
*Available upon request

Model	Sesame Twin	Sesame Twin-L
Mechanism	StrongLock-EM (standard) StrongLock-Servo (option)	TriServo
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode	Free pass in both directions	
Power fail	Fail secure (standard) Fail safe (option)	Fail safe (standard) Fail secure (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.	
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	

Sesame Twin Y-type





Sesame Twin X-type





Bicyclone-L

 **Rotor: 620**
 **Gate: 700/900**
mm
 PASSAGE WIDTH

 **20** pers/min
 SINGLE ACCESS

 **30** pers/min
 FREE ACCESS

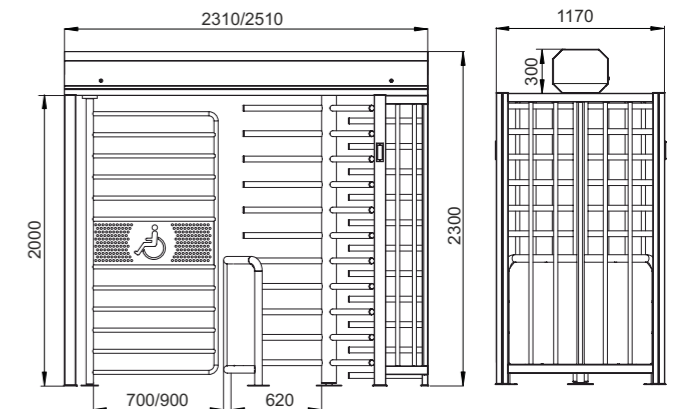
 **IP 41-65***
 PROTECTION LEVEL

 **BI-DIRECTIONAL**

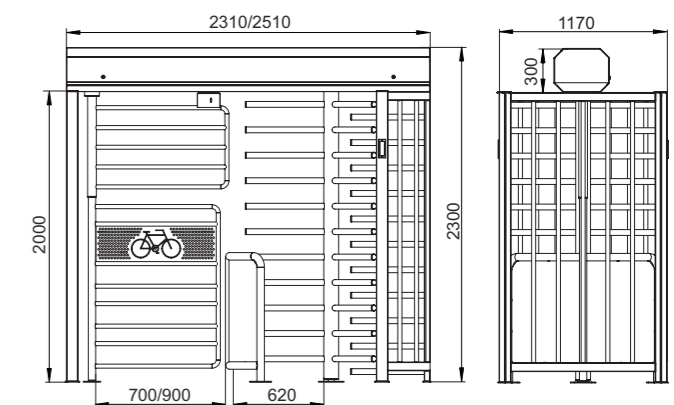
*Available upon request

Model	Bicyclone	Bicyclone-L
Mechanism rotor	StrongLock-EM (standard) StrongLock-Servo (option)	TriServo
Mechanism gate	TriServo	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode	Free pass in both directions	
Power fail	Fail secure (standard) Fail safe (option)	Fail safe (standard) Fail secure (option)
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.	
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	

Bicyclone-W



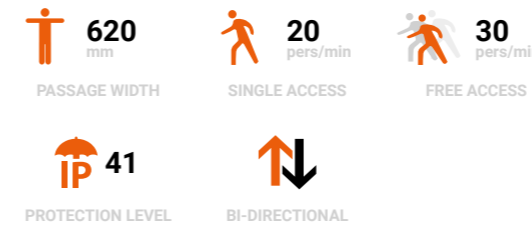
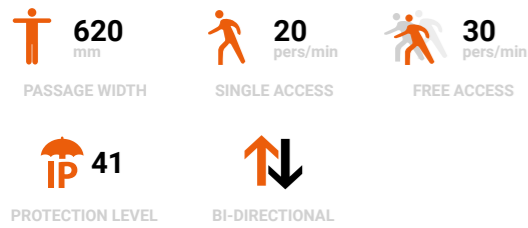
Bicyclone-B





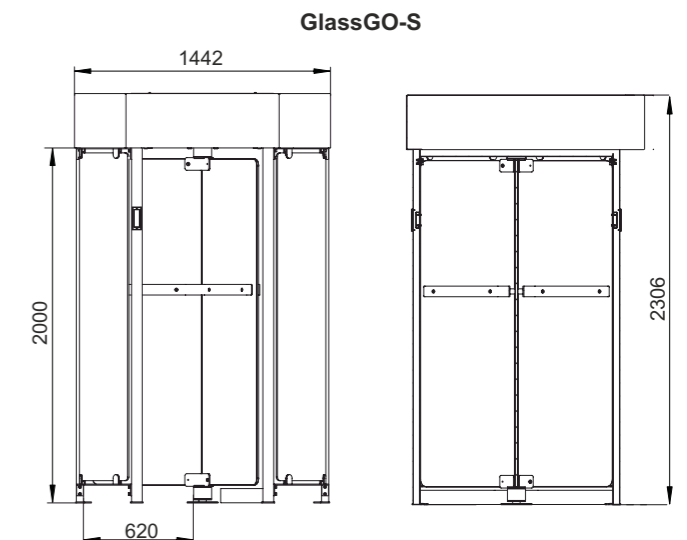
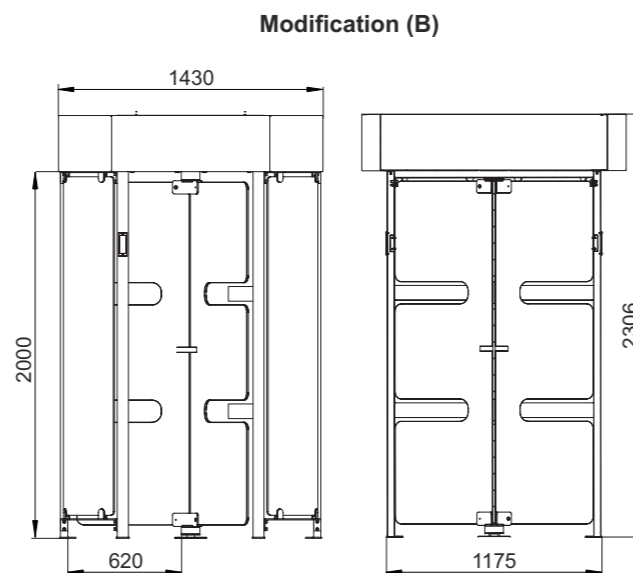
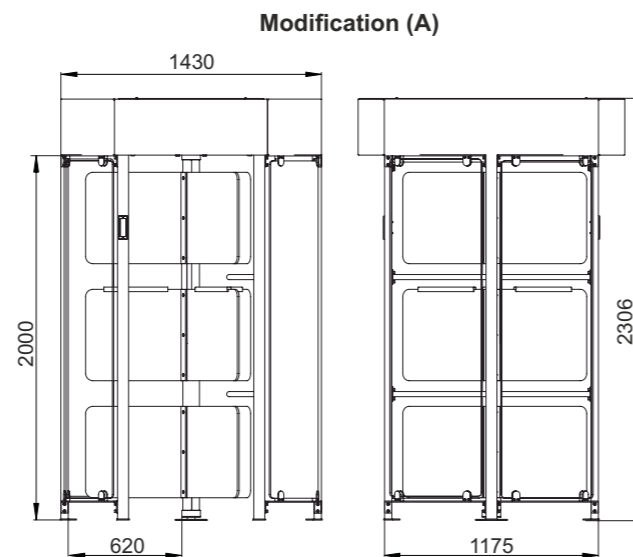
GlassGO (A)/(B)

GlassGO-S



Model	GlassGO (A)	GlassGO (B)
Rotor type	Nine glass leaves angle between arms 120°	Tree shaped glass leaves angle between arms 120°
Wrong way prevention	Fencing	
Mechanism	StrongLock-Servo	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode	Free pass in both directions	
Power fail	Fail secure (standard) Fail safe (option)	
Standard housing	Brushed stainless steel AISI 304	
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	

Model	GlassGO-S
Rotor type	Three solid glass leaves angle between arms 120°
Wrong way prevention	Motion sensors (with sound alarm)
Mechanism	StrongLock-Servo
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode	Free pass in both directions
Power fail	Fail secure (standard) Fail safe (option)
Standard housing	Brushed stainless steel AISI 304
Available housing	Brushed stainless steel AISI 316 / Polished stainless steel AISI 304 / Polished stainless steel AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V



Additional equipment



Automatic touchless liquid dispenser stand

TiSO dispenser stand is a modern solution against the spread of viruses and bacteria. The non-contact sensor activates the spray of disinfectant liquid on the hands, cleaning them. Thanks to the modern design, such stand will look appropriate in any interior. Also, the TiSO dispenser rack is easy to maintain. And the liquid in the tank can be quickly updated. The sensor registers when your hands are approaching the dispenser area and automatically activates the flow of liquid. If infrared sensor no longer detects movement, the dispenser will operate once and switch into standby mode, which is confirmed by white flashing light. The dispenser will be ready for use once the sensor detects the light gap again. This increases cost efficiency as it will not operate if any object comes into sensor area.

Type of liquid	Non-viscous liquid				
Type of control	Automatic touchless				
Volume	2 000 ml				
Sensing distance	Adjusted				
liquid dispensing time / dosage	0,5s / 0,33ml	1s / 0,66ml	2,5s / 1,66ml	4s / 2,6ml	6s / 4ml
Average liquid consumption	6000 doses				
Power supply	Input voltage (100 ~ 240 V), output voltage / current (12 V / 1 A)				
Power consumption	<=12 W				
Ingress Protection	IP41				
Light indication	RGB LED Backlighting				
Installation type of stand-dispenser	floor-mounted				
Material and housing	Brushed SS AISI 304 / Powder coated (any RAL upon request)				
Dispenser zone height	900 mm				
Item dimensions (HxLxW)	1120 x 154 x 194 mm				
Overall size of a stand basis (LxW)	400 x 400 mm				
Weight	<= 16 kg				

- TiSO dispenser stand is equipped with:**
- mechanism of dispenser;
 - contactless sensor;
 - a key for maintenance of stand;
 - built-in liquid tank;
 - drip tray made of stainless steel;
 - AC/DC power supply;
 - disinfectant is not included.



Twix-M-HD

The issue of hand disinfection is becoming essential task that requires the involvement of personnel for constant monitoring the disinfection process. To simplify this, TiSO has developed a complete TWIX-M-HD solution for automatic hand disinfection and access control. Smart system and contactless sensors control the entire disinfection cycle of both hands simultaneously. TiSO TWIX-M-HD automatic disinfection system completely excludes the possibility of a person passing through a turnstile until complete disinfection cycle of both hands. The installation of our comprehensive solution TiSO TWIX-M-HD eliminates the need for additional monitoring personnel at building entrances during a pandemic. Moreover TWIX-M-HD-TFR is absolutely all in one: disinfection hands control, wearing protective mask check, measuring temperature.

- Features of Twix-M-HD**
- Bi-directional motorized tripod turnstile with panic / bar drop-arm function (*standard*)
 - Smart system and contactless sensors control the entire disinfection cycle of both hands simultaneously
 - Integration with any type of access control and ID systems
 - Low power consumption
 - Panic / bar drop-arm function with automatic reset
 - Whisper quiet, low noise operation
 - Optional indoor or outdoor housing types
 - Wide range of accessories
 - Availability of a backup battery connection
 - Complete supply set as a standard



Emergency door

Emergency Door with Magnetic Lock is designed for installation as a part of a full-height turnstile to provide a free exit in an emergency case for evacuation or in case of unavailable power to the turnstile. Also the door is used for pulling through big-sized items.



Enclosure

Stylish enclosure (*balustrade*) from TiSO is now becomes unseparable accessory for any our turnstiles. Its design is very simple but really efficient and easy-to install. You can purchase any combination of side or middle posts with different width of glass.



TWiC

TWiC manages and controls large group of turnstiles and road blockers. The user friendly 8" touch screen display graphics requires minimal training for proficiency in navigating the various pages, remotely controlling the lanes and understanding the real time feedback such as alarm events when unauthorized access is detected.



Occupancy control and people counter system

Occupancy control and people counter system was developed to prevent the spread of the disease. In order to prevent the spread of the disease number of people who can be present in stores simultaneously should be limited. Therefore, we came up with turnstile solution which will enable you to control number of people coming in and out of stores daily.



Emergency gate

Emergency gate is designed for installation at the entry points in enterprises, administrative facilities, banks and other sites to provide a free exit in an emergency case for evacuation or for pulling through big-sized items.



Mobile Platform

Mobile Platform consists of landing, enclosure, and can have any tripod turnstile attached to it. The main purpose of the Mobile Platform is to ensure quick and easy displacement of an installed tripod turnstile to a place of temporary usage.



Card reader/Card collector

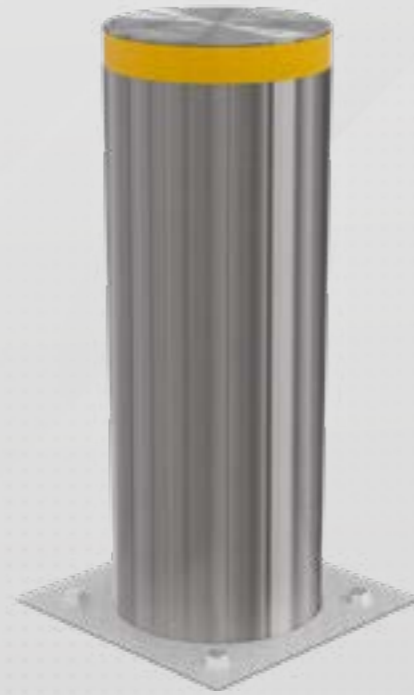
Card readers/Card collectors are designed for installation as a part of an access control system for enterprises, administrative facilities, banks and other sites. Elegance, lightness and simplicity make this model very popular as part of access control system.

Systems to detect symptoms of virus

Systems to detect symptoms of virus is special solution for authorizing access depending on persons state of health. More specifically, such system enables to limit access of people with suspected disease symptoms such as high temperature. TiSO speed gates with special integrated authorization system performs face identification and monitors body temperature. Such solution can be widely used in public places like hospitals, airports, border control zones, etc.

Bollards



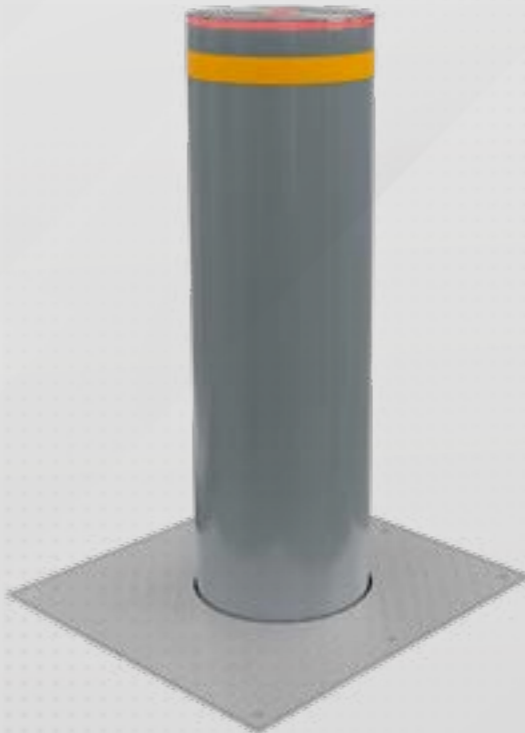


ASTM F2656/IWA14-1

High security fixed/removable bollards

TiSO high security fixed and removable bollards are the most cost effective solution for vehicle unauthorized access prevention. Being pedestrian friendly, TiSO high security bollards correspond to the requirements of anti-terroristic protection. Installation simplicity and absence of necessity in service maintenance are the main features to be outlined. On the other hand, the greatest advantage related to its mobility, when free access is required. Advanced technologies and large manufacturing experience allow TiSO high security fixed bollards to be simple, reliable, and wellfitting equipment.

Model	RB343-68	RB345-09-S-035
Type	High security fixed / removable bollards	
Security class	ASTM F2656/F2656 M-15, M50, P2; IWA 14-1:2013, Bollard V/7200[N2B]/80/90:4.1	ASTM F2656/2656M-20, C750 (K12), P1; IWA 14-1:2013, Bollard V/7200[N2B]/80/90:0.7
Tube diameter, mm	325	355
Tube height, mm	1000	1200
Wall thickness, mm	20	30
Tube materials	Galvanized and powder coated tube (any RAL upon request) Stainless steel sleeve / casing up on request	



ASTM F2656

High-security automatic bollards

TiSO automatic high security bollards intend to prevent vehicles unauthorized access to secured areas and keep the highest level of antiterrorism protection. It demanded for installation sites with high risk of heavy vehicle attack: public places (stadiums, fairgrounds), governmental institutions, or military infrastructures etc. This type of equipment can be easily connected with ACS and other vehicle access control equipment (arm barriers etc.).

Model	RB348	RB342
Type	High security hydraulic bollards	
Security class	ASTM F2656-07, M30, P1	ASTM F2656-07, M50, P1
Tube diameter, mm	325	325
Tube height, mm	1000	1200
Wall thickness, mm	20	30
Impact resistance, J	679 900	1 845 000
Axle load, t	15	
Rising/Lowering time, s (+/- 1s)	4,0/3,5 (1,5 with EFO)	
Operating temperature*, °C	-40 / +60	
Power supply	3 phase 400V, 50/60 Hz	
Protection level	IP 67 (for bollard); IP54 (for control box)	
Tube materials	Galvanized and powder coated tube (any RAL upon request) Stainless steel sleeve / casing up on request	

Removable bollards



Traffic removable bollards

TiSO removable traffic bollards is one more solution for vehicle access control management. The main difference to regular fixed/static bollards determined by mobility which provides free driveway in case of necessity. To get bollard unlocked, the only thing which has to be done is a simple turn of a key. The range of removable bollards available in different dimensions, blocking heights, tube's materials, and diameters. Intended for vehicle access control with little traffic intensity.

Model	RB345-02	RB345-01	RB345-05	RB345-04
Type	Traffic removable bollards			
Tube diameter, mm	170	220	170	220
Tube height, mm	600		800	
Wall thickness, mm	4		4	
Installation depth, mm	300			
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI 316. Galvanized and powder coated tube (any RAL upon request)			

Traffic manual retractable bollards

Manually retractable bollard intends to be used as a static obstacle in order to secure pedestrian or other areas from unauthorized vehicle traffic. Herewith these bollards can be a perfect choice for installations which require temporary free driveways during certain hours of a day, night time for instance. As for other advantages, these bollards do not need power supply.

Model	RB345-62	RB345-51	RB345-65	RB345-54
Type	Traffic manual retractable bollards			
Tube diameter, mm	140	220	140	220
Tube height, mm	600		800	
Wall thickness, mm	4			
Installation depth, mm	915		1115	
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI 316. Galvanized and powder coated tube (any RAL upon request)			



Traffic automatic bollards

TiSO automatic bollards are engineered in order to provide maximum operation durability. Traffic bollards is the perfect choice for installations at private and other areas without strict requirement to antiterrorism protection. All equipment is designed and tested for high intensity operation.

Model	RB343-21	RB343-23	RB349-11	RB349-12	RB343-24	RB343-26	RB349-14	RB349-15
Type	Traffic hydraulic bollards							
Tube diameter, mm	114	170	220	273	114	170	220	273
Tube height, mm	600				800			
Wall thickness, mm	3	5	4	8	3	5	4	8
Axle load, t	15							
Rising/Lowering time, s (+/- 1s)	7,0/5,5				9,0/8,0			
Operating temperatures*, °C	-40 / +60							
Power supply	1 phase 230V, 50/60 Hz							
Protection level	IP 67 (for bollard); IP 55 (for control box)							
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI 316. Galvanized and powder coated tube (any RAL upon request)							

Semi-automatic bollards

With gas-spring mechanism

TISO semi-automatic bollards is a perfect solution for effective vehicle access control under the circumstances of unavailable power supply. Semi-automatic bollards have gas spring mechanism which is locked at down position and rise rapidly when released. Being complete and independent solution, semi-automatic bollards require manual impact for driveway opening or closing.



Model	RB343-60	RB343-61	RB343-63	RB343-64
Drive	Gas-spring mechanism			
Tube diameter, mm	220	273	220	273
Tube height, mm	600		800	
Wall thickness, mm	4			
Axle load, t	15			
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI 316. Galvanized and powder coated tube (any RAL upon request)			

With drill drive mechanism

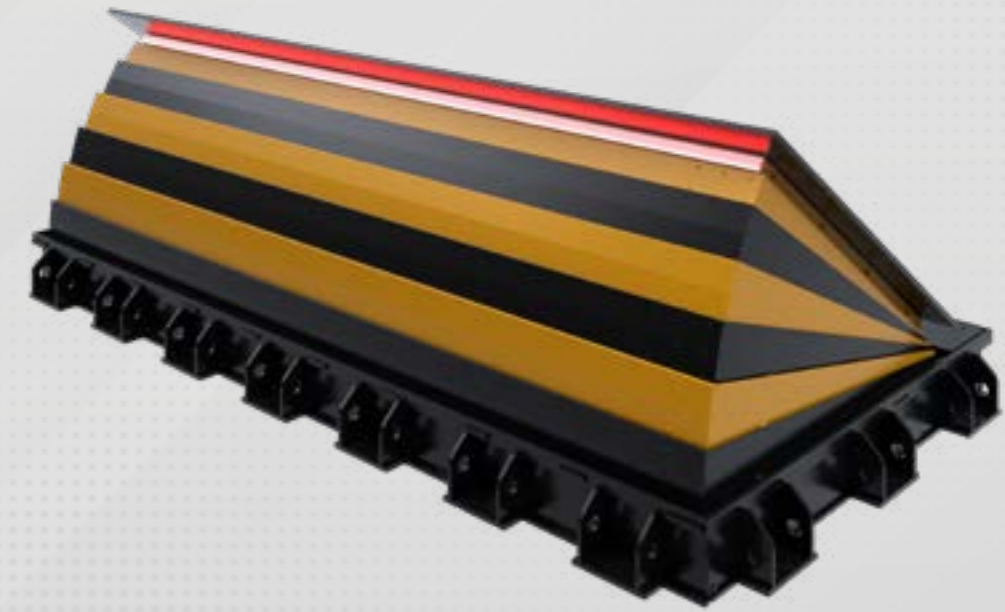
The same like semi-automatic, TISO drill drive bollards intend to fit installations without power supply availability. The operation principle determined by the drill impact, which gets blocking segment up or down according to screw direction. This solution intends to manage traffic of low intensity and featured with outstanding lifetime, due to lack of consumables in its operation and design concept.



Model	RB343-01	RB343-02	RB343-04	RB343-05
Drive	Drill drive mechanism			
Tube diameter, mm	220	273	220	273
Tube height, mm	600		800	
Wall thickness, mm	4		4	
Axle load, t	15			
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI 316 Galvanized and powder coated tube (any RAL upon request)			

Road blockers





PAS68/IWA14-1

Ultra shallow road blocker

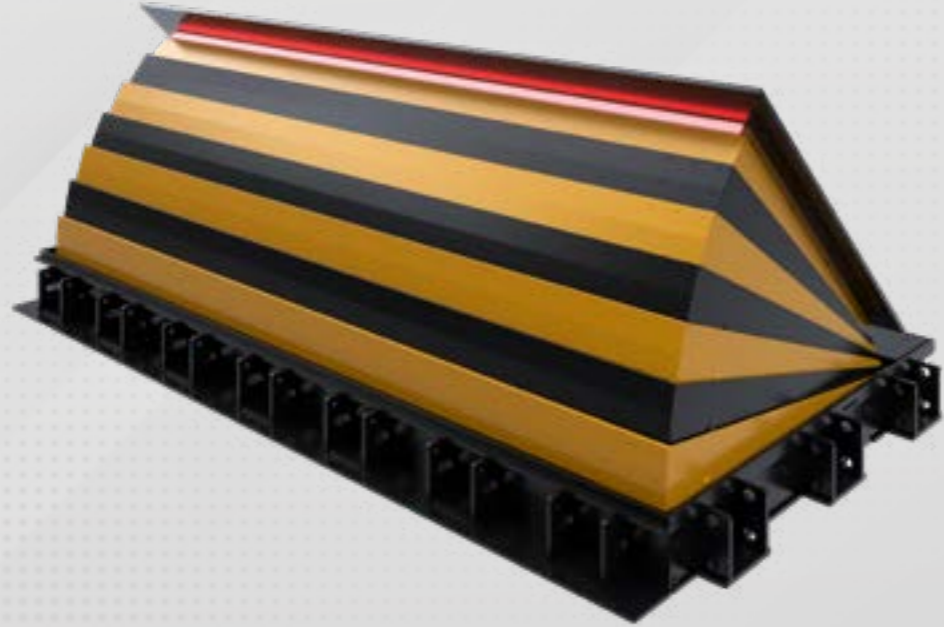
safety skirt goes as an option

Ultra shallow road blockers were designed to protect the perimeter of the protected area. This blocker can stop truck of 7 500 kg (7,5 t) mass driving at 48 kph (30 mph)/64 kph (40 mph)/80 kph (50 mph). This is confirmed by successfully passed tests BSI PAS 68:2013 and IWA 14-1:2013. Such a blocker fully meets the requirements for the protection of highly classified objects. In addition to anti-ramming properties, this blocker has another advantage - this is an minimal installation depth of 200 mm. The completely innovative design of this lock allows you to combine its main anti-ram function with the simplicity and speed of installation.

Model	RB312-01	RB313-01	RB314-01	RB322-01	RB323-01	RB324-01	RB332-01	RB333-01	RB334-0
Security class	PAS68/IWA14-1 (7,5t@48kph)			PAS68/IWA14-1 (7,5t@64kph)			PAS68/IWA14-1 (7,5t@80kph)		
Impact resistance, J	689 000			1 139 000			1 868 000		
Installation type	Shallow mounted								
Drive	Hydraulic (HPU)								
Width, mm	2000	3000	4000	2000	3000	4000	2000	3000	4000
Height, mm	800			950			950		
Installation depth, mm	200								
Axle load, t	15 (up to 50 with increased foundation depth)								
Rising time, s (+/- 1s)	3.5 (1.5 with EFO*)								
Lowering time, s (+/- 1s)	3,5								
Operating temperatures**, °C	-40 / +60								
Power supply	3 phases 400 V, 50/60 Hz (standard); 1 phase 230 V, 50/60 Hz (option)								
Protection level	IP 67 (for road blocker); IP 54 (for control box)								
Materials	Structural steel C22 (powder coated)								

*EFO - emergency fast operator

** for temperatures lower than -10 °C use the heating device
for temperatures higher than +40 °C use the cooler device



ASTM F2656

High security road blocker

High security road blockers engineered and designed to prevent unauthorized access of vehicles to a secured area and keep the standards of antiterrorism protection. This is heavy duty equipment for projects with appropriate requirements. TISO road blockers has successfully passed crash test and certified according to ASTM F2656-07, M50, P1 and ASTM F2656-07, M30, P1. Being developed by engineers with extensive background in appropriate field, this type of wedge barriers is featured with installation simplicity, easy service, reliability, durability, and multi functionality.

Model	RB312	RB313	RB314	RB322	RB323	RB324	RB332	RB333	RB334
Security class	Certified ASTM F2656-07, M30, P1			Designed to keep ASTM F2656 M40 standard			Certified ASTM F2656-07, M50, P1		
Installation type	Shallow mounted								
Drive	Hydraulic (HPU)								
Width, mm	2000	3000	4000	2000	3000	4000	2000	3000	4000
Height, mm	800			1000			1200		
Impact resistance, J	656 000			1 110 000			1 843 900		
Axle load, t	15 (up to 50 with increased foundation depth)								
Rising time, s (+/- 1s)	3,5 (1,5 with EFO*)			3,5 (1,5 with EFO*)			3,5 (1,5 with EFO*)		
Lowering time, s (+/- 1s)	3,5			3,5			3,5		
Operating temperatures*, °C	-40/ +60								
Power supply	3 phase 400V, 50/60 Hz								
Protection level	IP 67 (for road blocker) IP 54 (for control box)								
Materials	Structural steel C22 (powder coated)								

*EFO - emergency fast operator
 ** for temperatures lower than -10 °C use the heating device
 for temperatures higher than +40 °C use the cooler device

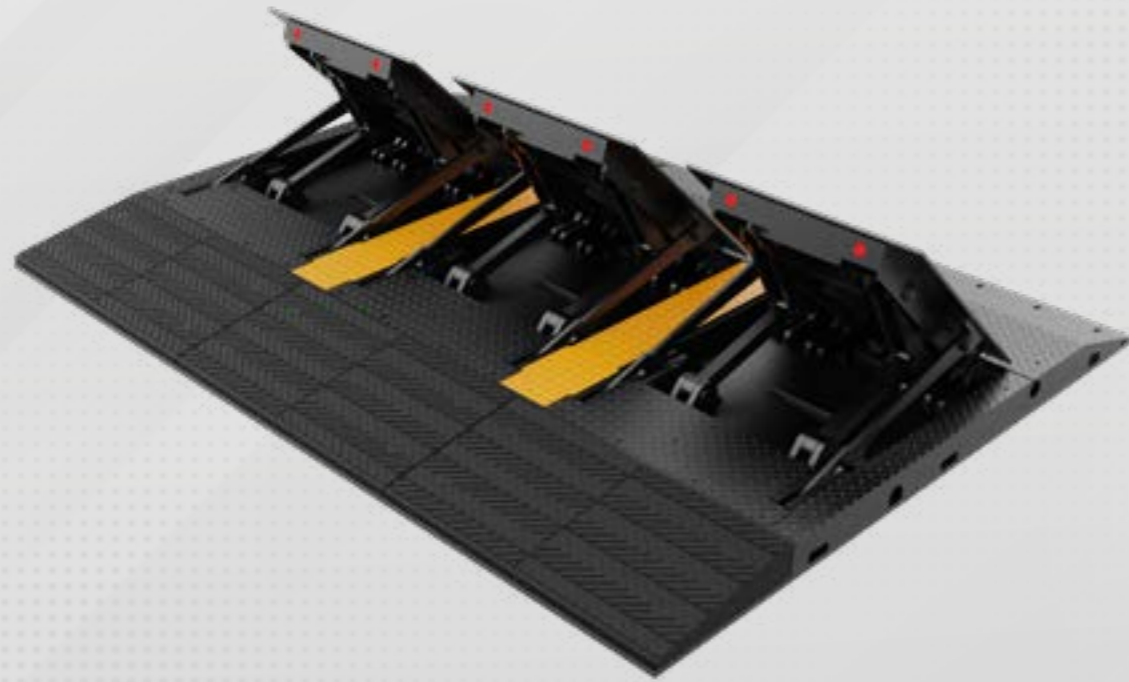


ASTM F2656/IWA14-1

High security Speedbumps

This type of equipment has the same engineering principle and optional functionality as previously described City-Light Speedbumps. However, being certified according to ASTM F2656/F2656-15, M30, P1 & IWA14-1, Blocker V/7200[N2B]/48/90:0,3 standards, this access control equipment is useful to provide anti-terroristic protection level. The standard delivery set includes blocking segment, control box with HPU and PLC, connection cable, power/oil hoses, and push-button control unit. Herewith large list of accessories enables its adapting to various severe weather and environment conditions. Well selected list of available blocking widths, together with availability of customized solutions, installation simplicity, and high security are useful to get a wide extension of successful projects.

Model	RB359-02	RB359-03	RB359-04
Security class	ASTM F2656/F2656 M-15, M30, P1; IWA 14-1:2013 Blocker V/7200 [N2B]/48/90:-0,3		
Installation type	Shallow mounted / Above the ground (with ramps)		
Drive	Hydraulic (HPU)		
Width, mm	2000	3000	4000
Height, mm	500		
Impact resistance, J	664 000		
Axle load, t	15		
Rising time, s	3,5 (1,5 with EFO)		
Lowering time, s	3,5		
Operating temperatures*, °C	-40 / +60		
Power supply	3 phase 400V, 50/60 Hz		
Protection level	IP 67 (for blocker) IP 54 (for control box)		
Materials moving part	Structural steel C22 (powder coated)		
Materials ramps	Structural rubber		



ASTM F2656/IWA14-1

PAS68/IWA14-1

High security Mobile Speedbumps

Mobile Mechanical Road blocker

TISO high security Mobile Speedbumps are reliable compact solution to provide security of your territory. It does not require any installation to the ground. High security Mobile Speedbump was tested and certified according to ASTM F2656/F2656-18a and IWA14-1:2013 standards. Key advantages of Mobile Speedbumps M30:

- full mobility of crash-rated, automatic wedge barrier;
- easy application: setting up within 10 minutes: simply by delivering to the site — unloading — plug in to the power;
- no civil works required: no anchors/no bolts.

High security Mobile Speedbump has warning LED indication and warning painting. Also can be interfaced with any ACS. Ideal for organising temporary protection of driveways during public events (fairs, festivals, weekly markets, public holidays etc.).

Model	RB358-06	RB358-07	RB358-08
Security class	ASTM F2656/F2656M-18a, M30, P2; IWA 14-1:2013, Blocker V/7200[N2B]/48/90:5.3		
Installation type	Above the ground (mobile, with no fixation)		
Drive	Hydraulic (build-in)		
Width, mm	2000	3000	4000
Height, mm	570		
Impact resistance, J	649 000		
Axle load, t	15		
Rising time, s (+/- 1s)	4		
Lowering time, s (+/- 1s)	3		
Operating temperatures*, °C	-40 / +60		
Power supply	1 phase 230**V, 50/60 Hz		
Protection level	IP 67 (for road blocker) IP 54 (for control box)		
Materials	Structural steel (galvanized and powder coated)		

Model	RB319-25-M
Security class	PAS68 / IWA14-1 7,5t@48km/h
Installation type	Above the ground
Drive	mechanical
Width, mm	4900
Height, mm	830
Impact resistance, J	689 000
Protection level	IP 67
Materials moving part	Structural steel C22 (hot galvanizing 70-110 / priming / painting)

The road blocker RB319-25-M designed to limit access / reduce the speed of cars to the territory.

The feature of the blocker is the construction of sections (the blocker and the ramp), so there are almost no restrictions on the width of the limitation of the moving part.

Also, one of the main advantages is the mobility of the blocker is that it does not need to be installed in the road surface. Such a mobile version of the blocker just needs to be installed on the road surface and it is ready for work.

Mechanical road blocker RB319-25-M was tested and certified according to PAS68 / IWA14 - 1 (7,5t@48km/h).

When unfolded, it does not interfere with the free passage of citizens.

Ideal for organising temporary protection of driveways during public events (fairs, festivals, weekly markets, public holidays etc.)



ASTM F2656/IWA14-1

High security Cyclopes

High security Cyclopes ensure highest level of anti-terrorism protection. As far as it was certified according to ASTM F2656/F2656-15, M40, P1 & IWA14-1, Blocker V/7200[N2B]/64/90:12.1 standards. The blocking segment is operated from outside control box with HPU and PLC in it. Interconnection between two elements provided via connection cable and power/oil hoses.

Model	RB320-01	RB320-02	RB320-03
Security class	Designed to keep ASTM F2656, M30 (K4) standard	ASTM F2656/F2656 M-15, M40, P1; IWA 14-1:2013 Blocker V/7200 [N2B]/64/90:-0,2	Designed to keep ASTM F2656, M50 (K12) standard
Installation type	Shallow mounted		
Drive	Hydraulic (HPU)		
Width, mm	520		
Height, mm	800	900	1100
Impact resistance, J	656 000	1 110 000	1 680 000
Axle load, t	15		
Rising time, s (+/- 1s)	3,5		
Lowering time, s (+/- 1s)	2,0		
Operating temperatures*, °C	-40/ +60		
Power supply	3 phase 400V, 50/60 Hz		
Protection level	IP 67 (for road blocker) IP 54 (for control box)		
Materials	Structural steel C22 (powder coated)		

City-light Cyclopes

City-light Cyclopes is an outstanding part of TiSO traffic barriers range. This type of equipment intends to manage pedestrian friendly vehicle access control. In difference to bollards, Cyclope does not require big installation depth. This kind of approach is a good solution to simplify installation and service maintenance procedures. All features in common make Cyclope well applicable solution to the widest range of projects with large scope of requirements.

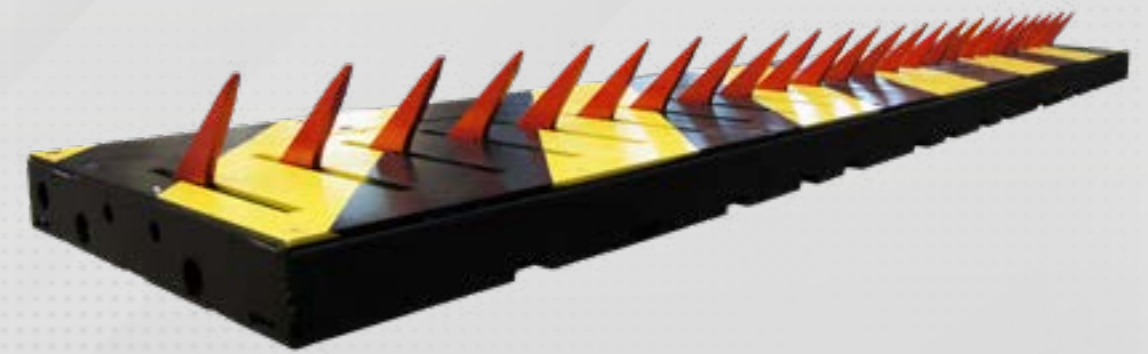
Model	RB319-01
Installation type	Shallow mounted
Drive	Hydraulic
Width, mm	270
Height, mm	600
Axle load, t	15
Rising time, s (+/- 1s)	3,5
Lowering time, s (+/- 1s)	2
Operating temperatures*, °C	-10/ +40
Power supply	1 phase 230V, 50/60 Hz
Protection level	IP 67 (for road blocker); IP 54 (for control box)
Materials	Brushed stainless steel AISI 304; Structural steel C22 (powder coated)



City-light Speedbumps

Its biggest advantage relates to installation type options, including both surface/ above the ground and shallow mounting/ground level installations, with frequent use at high intensity mode all the same. Dealing with surface / above the ground installation, at raised position TiSO serves like a regular wedge barrier. When closed, it performs the function of a speed hump. In this case, we also get the benefit of equipment mobility, as user is able to remove it from the driveway if necessary.

Model	RB357-02	RB357-03	RB357-04
Installation type	Shallow mounted / Above the ground (with ramps)		
Drive	Hydraulic (HPU)		
Width, mm	2000	3000	4000
Height, mm	350		
Axle load, t	15		
Rising time, s (+/- 1s)	4,0	5,5	7,5
Lowering time, s (+/- 1s)	2,5	3,5	4,5
Operating temperatures*, °C	-40 / +60		
Power supply	1 phase 230 V, 50/60 Hz		
Protection level	IP 67 (for road blocker) IP 54 (for control box)		
Materials moving part	Structural steel C22 (powder coated)		
Materials ramps	Structural rubber		

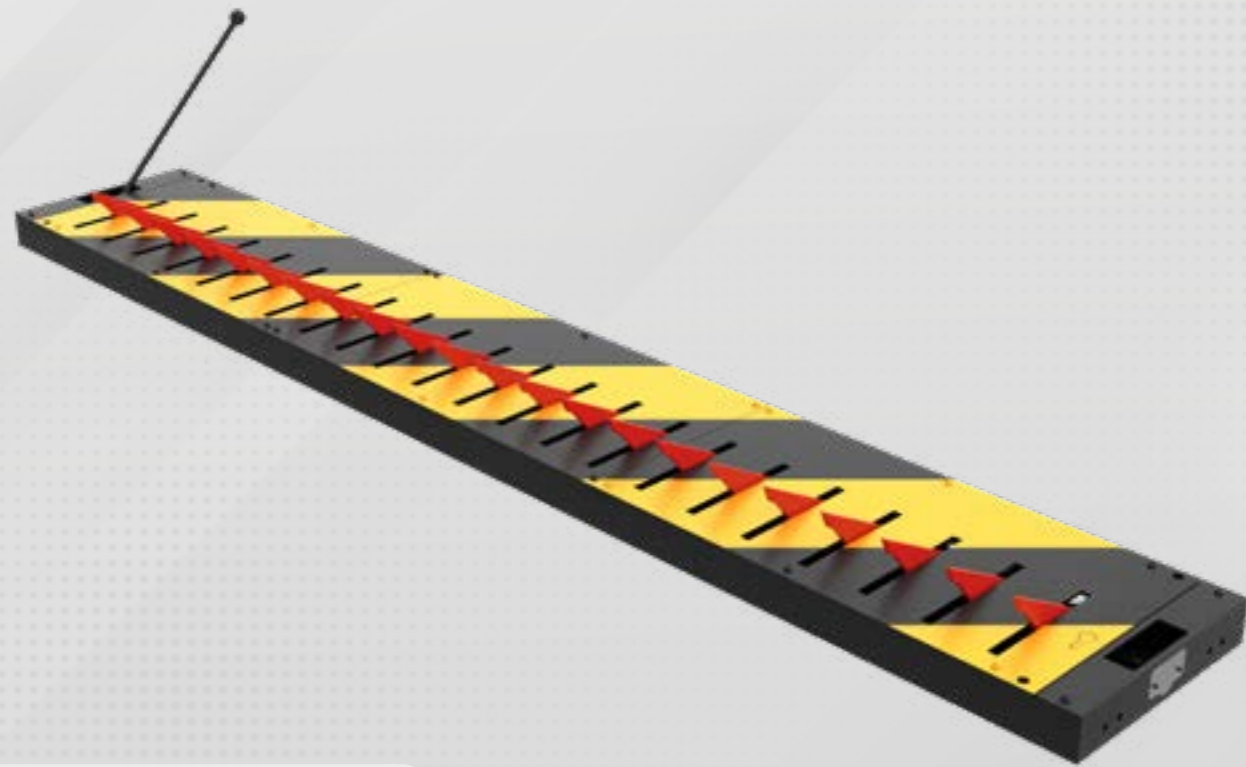


Automatic Tire-killers

TiSO Tire-Killers are affordable and at the same time efficient solution for vehicle access control management. Among available configurations, we should stress out installation type options (surface /above the ground or shallow/ground level), one or two directional driveway control, and spikes of varied lengths. The diversity of options enables this traffic barriers to be widely applicable for projects at different sorts of area. The concept of built-in hydraulic unit advances equipment to be suitable for installations under severe climate conditions, as well as for projects which require large distances between PLC and blocking segment.

Model	RB373-02	RB373-03	RB373-04	RB370-02	RB370-03	RB370-04
Installation type	Shallow mounted / Above the ground (with ramps)					
Drive	Hydraulic (HPU)					
Spikes direction	One-directional			Bi-directional		
Width, mm	2000	3000	4000	2000	3000	4000
Height, mm	170					
Axle load, t	15					
Rising time, s (+/- 1s)	2.5 (1.5 with EFO*)					
Lowering time, s (+/- 1s)	1,5					
Operating temperatures,** °C	-40 / +60					
Power supply	1 phase 230 V, 50/60 Hz					
Protection level	IP 67 (for road blocker) IP 54 (for control box)					
Material	Structural steel C22 (powder coated)					

*EFO - emergency fast operator
 ** for temperatures lower than -10 °C use the heating device
 for temperatures higher than +40 °C use the cooler device



Mechanical tire-killer

Mechanical tyre killers is a good choice for vehicle access control projects without available power supply. TiSO offers two types of such devices: springs or lever drive. In the first case, spikes always remain raised and one direction free to pass. Dealing with lever operated tyre killers, you get three operation modes: spikes up and blocked to both directions, spikes down and blocked, spikes up and free to one direction. The range is classified according to variety of blocking widths and spikes lengths. Also, we should mention optional installation configurations: surface / above the ground or submerge / ground level.

Model	RB379-06	RB379-07	RB379-16	RB379-17
Installation type	Above the ground (with ramps)		Shallow mounted	
Drive	Mechanical			
Spikes direction	One-directional			
Width, mm	2000	3000	2000	3000
Height, mm	80			
Axle load, t	15 (up to 50 with increased foundation depth)			
Material	Structural steel C22 (powder coated)			



Boom barrier

Automatic boom barrier "Optimus" is intended for arrangement and control of vehicle passageway width up to 6m. As a rule, the boom barrier is placed at exit/entry gates. It can work along with parking equipment to ensure a high level of territory protection.

The peculiarity of the model is the possibility of changeover from right side operation to left and vice versa.

Product has a high level of protection against corrosion, as the body of barrier is made of stainless steel or powder coated steel. The round aluminium arm of 90 mm perfectly withstands high wind loads.

The barrier is easy to assemble and maintain and it meets all European safety requirements. All you have to do to install a road barrier on the site, fasten it and balance arm of required length.

In cases power failure, boom barrier can be operated manually.

The high speed of barrier guarantees the security of the territory.

Model	Optimus 40	Optimus 60
Drive	electro-mechanical	
Arm length*	up to 4 m	up to 6 m
Operation mode	left / right version	
Cabinet dimensions (LxWxH)	308 x 358 x 1005 mm	
Raising/lowering time	4 s (± 1 s)	6 s (± 1 s)
Power supply	230V AC - 150 W	
Mechanism	geared AC motor	
Protection class	IP 54	
Operating temperature	from -40°C to + -60°C**	
Material of cabinet	AISI 430 Powder coated orange RAL2004, black RAL9005 (standard), AISI 316 Brushed SS (optional)	
Material of arm	powder coated aluminium RAL9010	
Signalling	RGB-indication on both sides of the cabinet (standard), arm lighting RYG (optional), reflective stickers for arm (optional)	

*other arm length is available up on request

** for temperatures below -10 °C heating system to be used / for temperatures above +40 °C cooling system to be used (option)

Accessories



Radio remote controller kit 433Mhz (one controller, two keyfobs)

Radio remote controller kit, makes it possible to remotely open and close the equipment like bollards, road blockers, tire killers, arm barriers.



One-channel induction loop (controller + 30m of cable)

Indicates the appropriate sensitivity setting the vehicle positioned on the loop.



E.F.O. (emergency fast operation)

Emergency fast operation system is intended to provide fast rising speed up to 1 sec.



Photocells

Photocells are installed in the kit to exclude the possibility blocker lifting when the vehicle is on it.



LED traffic light (section 95mm diameter Green/Red) and sound alarm

Traffic light has two lights, facing the oncoming traffic, red on top and green below that. Can be installed with support post or wall-mounted.



Manual hydraulic pump (for external hydraulic station)

Manual pump use for hydraulic operation in power failure conditions.



High-pressure hydraulic hose

Hose that provide high-pressure supply of power fluids.



Heating device

Heating device is intended to prevent the system freezing (recommended for cold climates). Use for temperatures conditions lower than -10°C.

Reference list

[See all references here](#)



TiSO company provides entrance security solutions at wide range of sites all over the the world. More than 30 000 references in 100+ countries are equipped with pedestrian and vehicle access control systems manufactured by European brand TiSO. Some of the most significant are outlined below:

FINANCIAL INSTITUTIONS

- UOA Investments, Vietnam
- Singapore Stock Exchange, Singapore
- Bank of Portugal, Portugal
- Islamic Bank, KSA
- The Headquarters of BBVA, Spain
- Deutsche Bank Head Office, Romania
- Bank of America Indian HQ, Mumbai, India
- Social Development Bank, KSA

GOVERNMENTAL INSTITUTIONS

- Ministry of National Development, Singapore
- Ministry of Interior, UAE
- Ministry of Defense, Czech Republic
- Ministry of Justice, Ukraine
- Ministry of Defense, Poland
- Ministry of Defense, Tallinn, Estonia
- NATO HQ, Kuwait
- Royal Saudi Air Forces, KSA
- Ministry of Defense, Slovakia

PRODUCTION

- Mallaghan Engineering, Northern Ireland
- GASCO, KSA
- Emirates Steel, UAE
- De La Rue - banknote printing company, Malta
- Pepsico, Poland
- LG Factory, China
- SK Battery Hungary, Hungary
- Ardagh Group production plant, Italy

AIRPORT/TRANSPORT FACILITIES

- Lisbon International Airoport, Portugal
- Jeddah King Abdulaziz airport, KSA
- Riyadh King Khalid Airport, KSA
- Chisinau Int. Airport, Moldova
- Beirut International Airport, Lebanon
- Head office of Ukraine Railways, Ukraine
- Airport Humberto Delgado, Portugal
- International airport Boryspol, Ukraine
- Avis Rent-a-Car in Orly airport, France
- Saudi Ports offices, Yanbu and Madinah, KSA

BUSINESS (OFFICE) CENTER

- Mapletree Business Centre, Vietnam
- DHL Office, Germany
- National Business Center, Moldova
- Office of company Critical Techworks, Portugal
- Erskine House business center, Northern Ireland
- Vodafone HQ, Qatar

SPORT/RECREATION

- Education City Stadium (World Cup 2022), Qatar
- Real Grupo de Cultura Covadonga, Spain
- TBS Education, Barcelona
- Andersons Town Leisure Centre, Northern Ireland
- Fitness Time, KSA
- UFC Gym, Oman
- Gold's Gym, UAE and Oman
- Stade Mayol, France

OTHERS

- Expo 2020 HQ, UAE
- Burj Al Arab Hotel, Dubai, UAE
- Birmingham library, Great Britain
- Havering college, London, Great Britain
- Tehnopol, Estonia
- National park Anyksciu, Lithuania

