



# PRODUCT CATALOGUE





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Product specifications and complete sets may differ from that shown on the photo. Drawings in the catalogue are placed for reference. Dimensions may vary depending on configuration.



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.



# 25 YEARS

## 1996-2000

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TiSO was originally founded by ambitious entrepreneurs from engineering backgrounds. They began their journey by the production of small high quality architectural constructions. Within a couple of years, most of Kiev's shopping and trade centres, office buildings and hotels were equipped with TiSO steel staircases and fences. While working on large scale construction projects, the founders of TiSO realised that there was a need for quality and reliable security and access control equipment – such as turnstiles. This led to the creation of a new product line for TiSO, the design and installation of security systems. The first turnstile designed by TiSO engineers was the DN6 half-height turnstile. This type of turnstile became the first prototype of today's contemporary range of tripod turnstiles still manufactured by TiSO. The first large scale project with turnstiles, which defined the future of our company, was a project for the Chernobyl nuclear power plant, where there was a need for a safe and secure access and egress strategy to and from the plant. We have pride in the fact that all Nuclear Power Plants in the Ukraine are still equipped with TiSO full-height turnstiles, some of which were installed in the late 90's and are still fully functional and effective.

## 2001-2005

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During this period our company's development involved manufacturing growth and building up of our distribution network. It was during this time that TiSO created a strong distribution family for internal market within the Ukraine. We always respect loyalty, and are flattered that companies with whom we established relationships during this developing stage, remain our partners to this day.

Since the inception of TiSO, and to this current day we have always worked hard to provide our partners and customers with the best physical security solutions available. A key factor enabling us to achieve the highest standards of quality and design that is valued by TiSO customers worldwide, were introduced and implemented by the adoption of the international quality management system - ISO 9001.

## 2006-2010

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A radical change of course was initiated during the mid-00's, when TiSO realised the need to become a global manufacturer of security equipment. In order to establish the TiSO brand now known throughout the international security community, we have invested heavily in international trade shows, and first presented our products at IFSEC security exhibition in Great Britain.

Partnering with other international businesses in the industry greatly accelerated the expansion of the TiSO turnstiles product range. During this time, our best-sellers were born, including our Sweeper & Speedblade speedgate turnstiles and the Twix and Bastion tripod range.

## 2011-2015

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Having now entered the international market place, our efforts to establish the "TiSO" brand became a real challenge. It took all of our experience, many years of hard work and considerable financial investment to establish the TiSO brand among the leading brands for physical security products. Presenting and displaying TiSO products at international exhibitions in the UAE, UK, China and Germany generated a great demand, and helped us to build up many strong partnerships with top international companies. Since then, TiSO has established itself as a major international player in the field of security and access management, and as a result our company has gained extensive experience in this market place. Soon it became clear that traffic management systems and road blockers should be the next area of the global security market in which TiSO should invest its extensive know-how and manufacturing capabilities in.

## 2016-2021

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We continue to maintain our strong position by investing in the latest digital control systems, implementing new and innovative systems of working, continuously improving the skills of our employees and influencing changes in the industry. Expanding our global presence as well as increasing sales of our products has enabled us to expand our production capacity by the construction of new workshops and the acquisition of the latest production equipment. Today our production complex, which is located in Kiev, Ukraine, is situated on a 21,000 m<sup>2</sup> site. At present we run 4 international offices (Kiev, London, Dubai, Singapore), have 23 official brand representatives around the world and 30,000+ completed projects in more than 100 countries around the world.

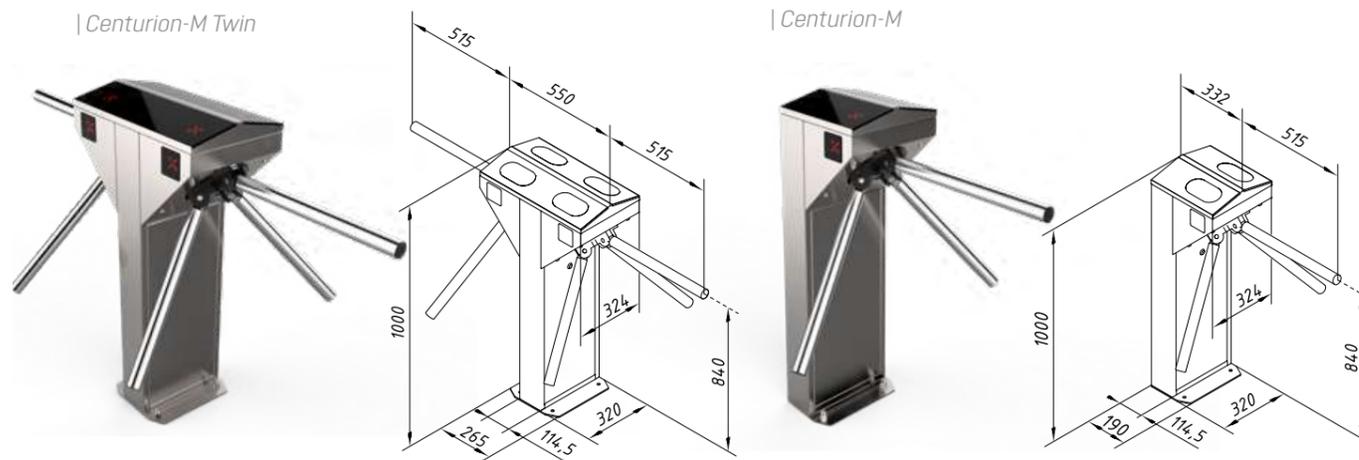


# TURNSTILES

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# Centurion-M



Centurion-M turnstile access control solution featured with the most space-saving dimensions in combination with affordable price level.

### Advantages:

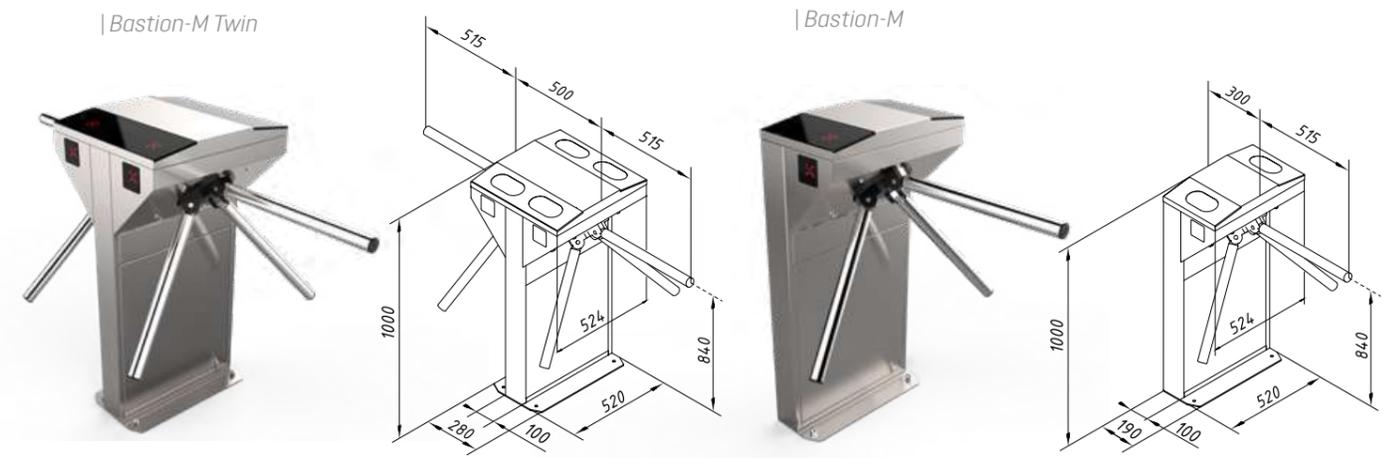
- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- Integration with any type of access control and ID systems
- Low power consumption
- Panic / bar drop function with automatic reset
- Whisper quiet, low noise operation
- Optional indoor 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)

### Product specifications:

	Centurion-M	Centurion-M Twin
Crossing capacity in free access mode, person/min	60	120
Crossing capacity in single access mode, person/min	25	50
Passage width, mm	600	600 (each pass)
Mechanism	Servodrive (Triservo-M)	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode (when power goes off)	Arm drops when power goes off	
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off	
Fail safe	+ (drop arm)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	110 W
Enclosure rating	IP 41 – 54	
MCBF, cycles	1 500 000	



# Bastion-M



Bastion-M is one leg base tripod turnstile gate. Enlarged housing allows getting extra strength and robust benefits which are enough to keep pedestrian traffics of high intensity.

### Advantages:

- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- 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)

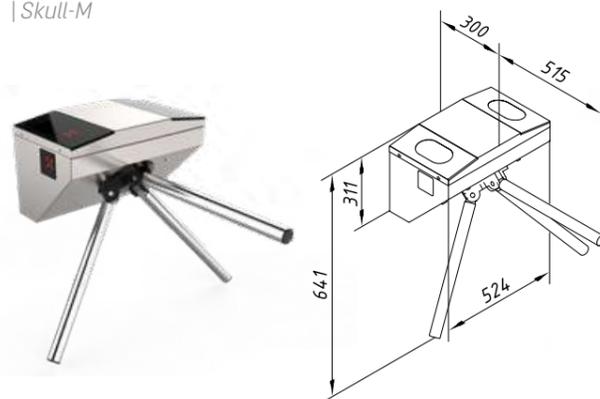
### Product specifications:

	Bastion-M	Bastion-M Twin
Crossing capacity in free access mode, person/min	60	120
Crossing capacity in single access mode, person/min	25	50
Passage width, mm	600	600 (each pass)
Mechanism	Servodrive (Triservo-M)	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode (when power goes off)	Arm drops when power goes off	
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off	
Fail safe	+ (drop arm)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	110 W
Enclosure rating	IP 41 – 54	
MCBF, cycles	1 500 000	

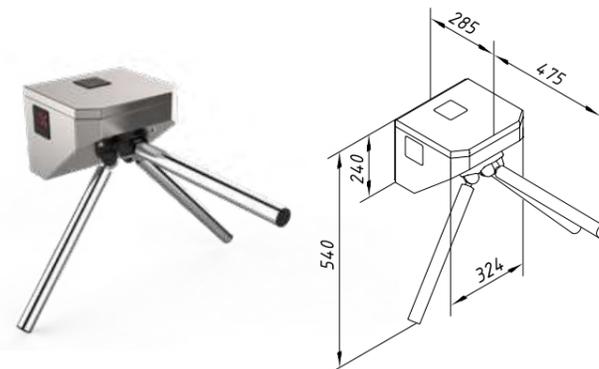


# Skull-M

| Skull-M



| Skull-BUS



Skull-M is a gate barrier with a special wall-mounting design. Special fastening principle gives the option of fitting to upstanding surfaces. Widely used as public transport turnstile entry.

### Advantages:

- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- 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)

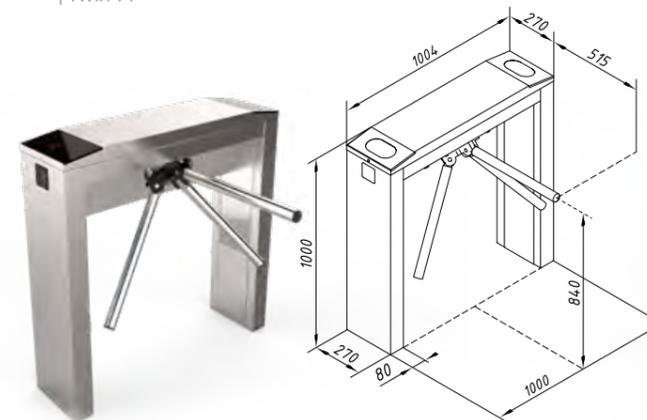
### Product specifications:

	Skull -M	Skull-BUS
Crossing capacity in free access mode, person/min	60	
Crossing capacity in single access mode, person/min	25	
Passage width, mm	600	550
Mechanism	Servodrive (Triservo-M)	Servodrive
Blocking mechanism	Two electromechanical stop catches (separate locking system)	Single electromagnetic brake (general locking system)
Emergency mode (when power goes off)	Arm drops when power goes off	Free rotation in both directions when power goes off
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off	Drop arm function can be activated when power is available only (or within using super capacitor module)
Fail safe	+ (drop arm)	+ (free rotation)
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316; Polished SS AISI 304; Polished SS AISI 316; Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	55 W
Enclosure rating	IP 41 – 54	
MCBF, cycles	1 500 000	

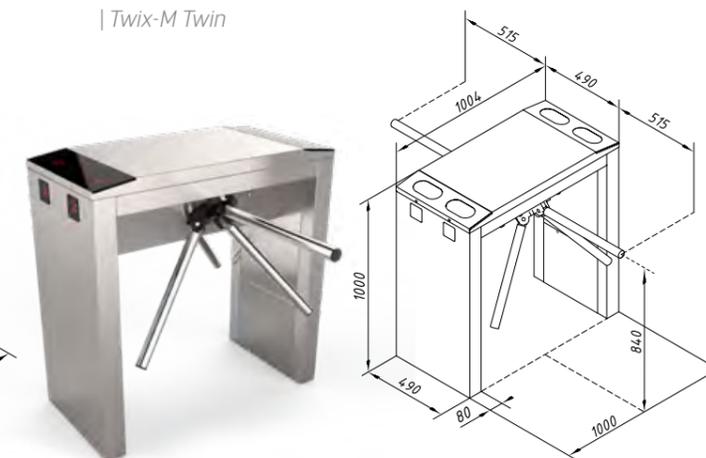


# Twix-M

| Twix-M



| Twix-M Twin



Twix-M is a two legs based modification of tripod access system. Extra rigidity and additional space for ID solutions integration are the main characteristics which make this type different from one leg turnstile entry systems.

### Advantages:

- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- 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)

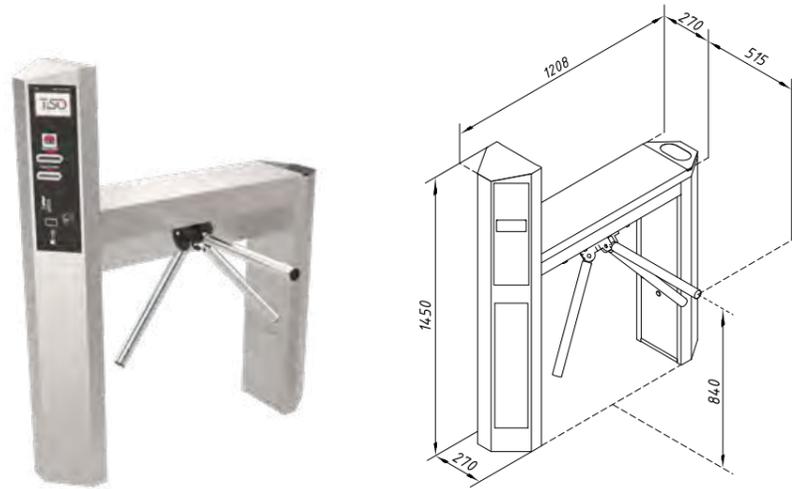
### Product specifications:

	Twix-M	Twix-M Twin
Crossing capacity in free access mode, person/min	60	120
Crossing capacity in single access mode, person/min	25	50
Passage width, mm	600	600 (each pass)
Mechanism	Servodrive (Triservo-M)	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode (when power goes off)	Arm drops when power goes off	
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off	
Fail safe	+ (drop arm)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	110 W
Enclosure rating	IP 41 – 54	
MCBF, cycles	1 500 000	



# Twix All-in-one-M

| Twix All-in-one-M



Twix All-in-One-M is a two legs based turnstile. The main idea is devoted to availability of additional metal case within standard housing. It meets the demand of projects which require turnstiles to be integrated with coin acceptors, ticket printers and other large-sized types of validation equipment.

### Advantages:

- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- 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)

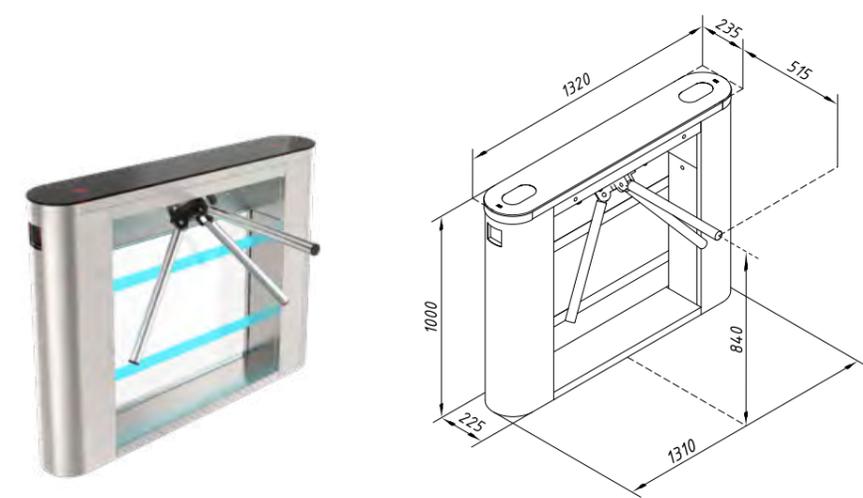
### Product specifications:

	Twix All-in-one -M
Crossing capacity in free access mode, person/min	60
Crossing capacity in single access mode, person/min	25
Passage width, mm	600
Mechanism	Servodrive (Triservo-M)
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode (when power goes off)	Arm drops when power goes off
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off
Fail safe	+ (drop arm)
Standard housing	Brushed SS AISI 304
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V
Maximum power consumption	55 W 115 W (with a block for advertising)
Enclosure rating	IP 41 – 54
MCBF, cycles	1 500 000



# Galaxy-M

| Galaxy-M



Galaxy-M is a turnstile access solution that intends to combine advantages of regular motorized tripod with the requirement of elegant appearance. LED lighted glass panel and special design benefits you with sophisticated look at affordable price.

### Advantages:

- Bi-directional motorized tripod turnstile with panic / bar drop function
- High quality at a cost-effective price
- 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)

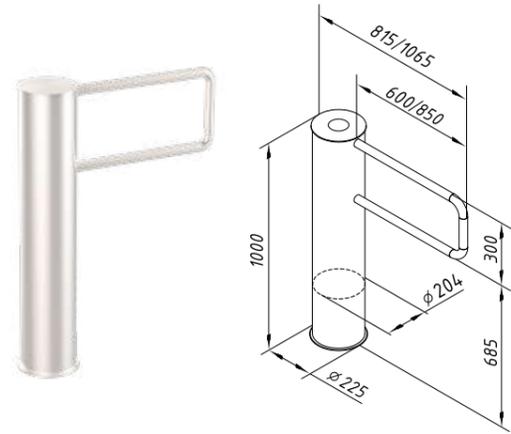
### Product specifications:

	Galaxy -M
Crossing capacity in free access mode, person/min	60
Crossing capacity in single access mode, person/min	20
Passage width, mm	600
Mechanism	Servodrive (Triservo-M)
Blocking mechanism	Two electromechanical stop catches (separate locking system)
Emergency mode (when power goes off)	Arm drops when power goes off
Drop arm function	Drop arm function can be activated when power is on Drop arm function activates automatically when power goes off
Fail safe	+ (drop arm)
Standard housing	Brushed SS AISI 304
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V
Maximum power consumption	55
Enclosure rating	IP 41 – 54
MCBF, cycles	1 500 000

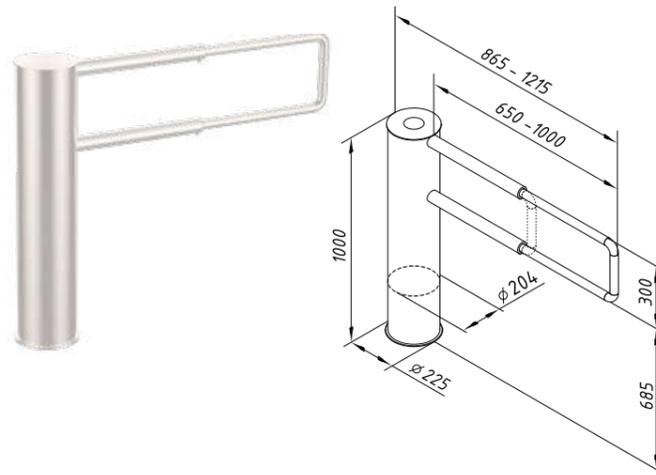


# Gate-TS, TTS, SPR

| Gate-TS



| Gate-TTS



### Advantages of motorized gates:

- Motorized;
- Bi-directional;
- High quality at a cost-effective price;
- Integration with any type of access control and ID systems;
- Low power consumption;

- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Wide range of accessories;
- Complete supply set as a standard;
- Fail safe.

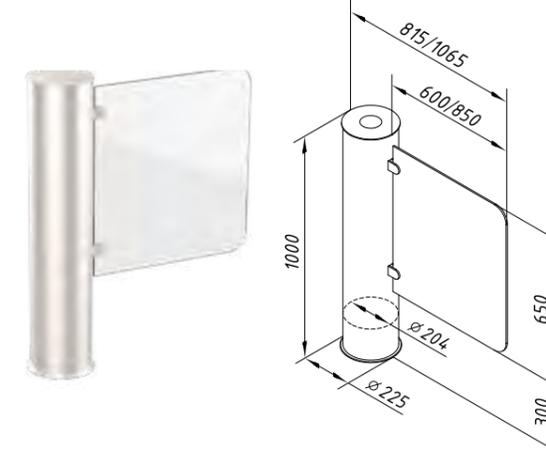
### Product specifications:

	Gate-TS	Gate-TTS	Gate-SPR
Crossing capacity in free access mode, person/min	60		
Passage width, mm	650/900	700-1050	700-1050
Mechanism	Servodrive		Mechanical
Operation mode	CW (100 °) and CCW (100 °)		CW (100 °) or CCW (100 °)
Blocking mechanism	Single electromagnetic brake		Can be locked manually by key
Emergency mode	Gate is open		Can be unlocked manually by key
Power fail	Fail safe – free rotation (standard) Automatically open - super capacitor (option)		—
Standard housing	Brushed SS AISI 304		
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated RAL		
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V		—
Maximum power consumption	55 W		—
Enclosure rating	IP41-54		—
MCBF, cycles	1 500 000		

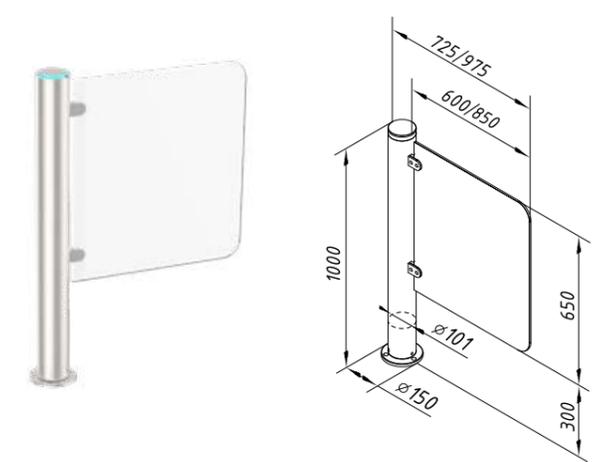


# Gate-GS, GSH, GS Slim

| Gate-GS



| Gate-GS Slim



### Advantages:

- Motorized;
- Bi-directional;
- High quality at a cost-effective price;
- Integration with any type of access control and ID systems;
- Low power consumption;

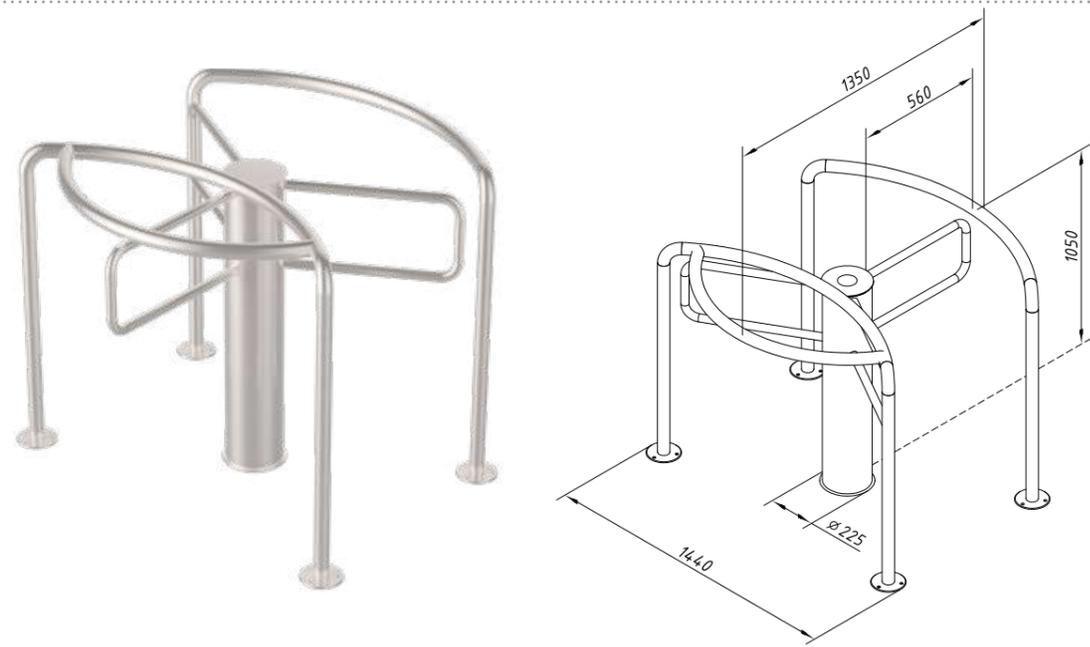
- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Wide range of accessories;
- Complete supply set as a standard;
- Fail safe.

### Product specifications:

	Gate-GS	Gate-GSH	Gate-GS Slim
Crossing capacity in free access mode, person/min	60		
Passage width, mm	650/900		
Mechanism	Servodrive		
Operation mode	CW (100 °) and CCW (100 °)		
Blocking mechanism	Single electromagnetic brake		
Emergency mode	Gate is open		
Power fail	Fail safe – free rotation (standard) Automatically open - super capacitor (option)		
Standard housing	Brushed SS AISI 304		
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated RAL		
Voltage	from the AC (100–240) V, 50/60 Hz from a DC source 12 V		
Maximum power consumption	55 W		
Enclosure rating	IP41-54		
MCBF, cycles	1 500 000		



# Star-TS



Star-TS is a half height product with metal type of wings. Elegant design makes it suitable for installation at entrances with the requirements of sophisticated product appearance. The range of modifications includes three and four wing types as well as different type of metal finishing. Indoor application by default.

### Advantages:

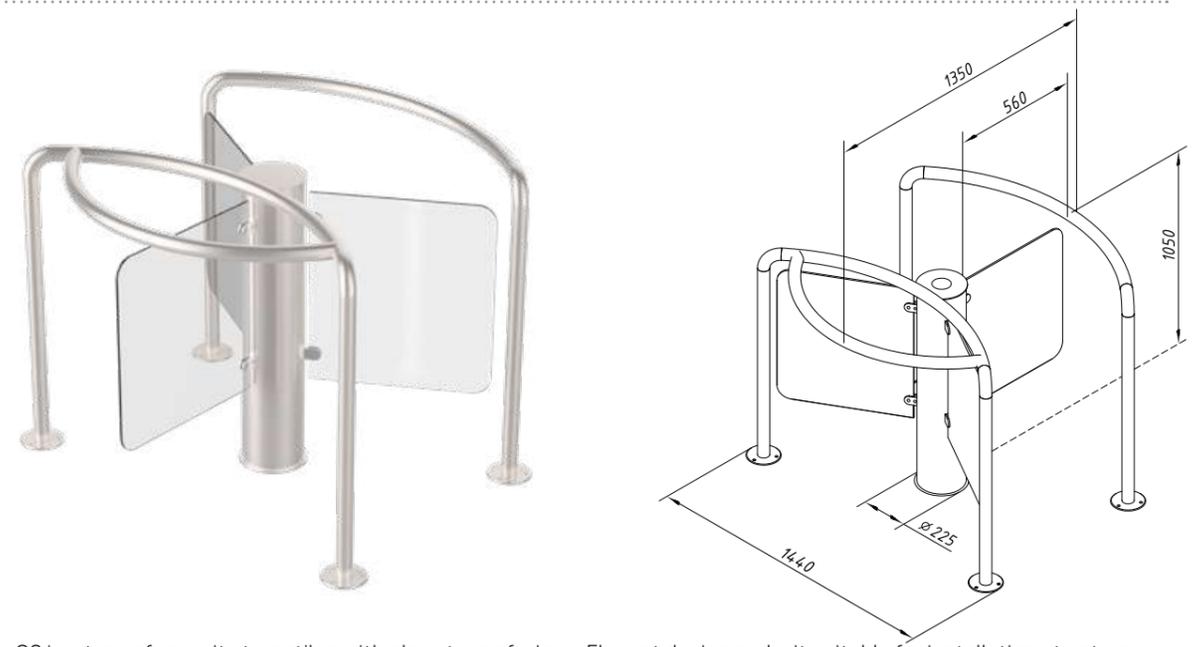
- Servodrive;
- Bi-directional;
- High quality at a cost-effective price;
- Integration with any type of access control and ID systems;
- Low power consumption;
- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Wide range of accessories;
- Complete supply set as a standard;
- Fail safe;
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

### Product specifications:

	Star-TS
Crossing capacity in free access mode, person/min	60
Crossing capacity in single access mode, person/min	20
Passage width, mm	560
Mechanism	Servodrive
Blocking mechanism	Single electromagnetic brake (general locking system)
Emergency mode	Free pass in both directions
Fail safe	Fail safe (free rotation)
Standard housing	Brushed SS AISI 304
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V
Maximum power consumption	55 W
Enclosure rating	IP41-54
MCBF, cycles	1 500 000



# Star-GS



Star-GS is a type of security turnstiles with glass type of wings. Elegant design make it suitable for installation at entrances with the requirements of sophisticated product appearance. The range of modifications includes three and four wing types as well as different type of metal finishing. Indoor application by default.

### Advantages:

- Servodrive;
- Bi-directional;
- High quality at a cost-effective price;
- Integration with any type of access control and ID systems;
- Low power consumption;
- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Wide range of accessories;
- Complete supply set as a standard;
- Fail safe;
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

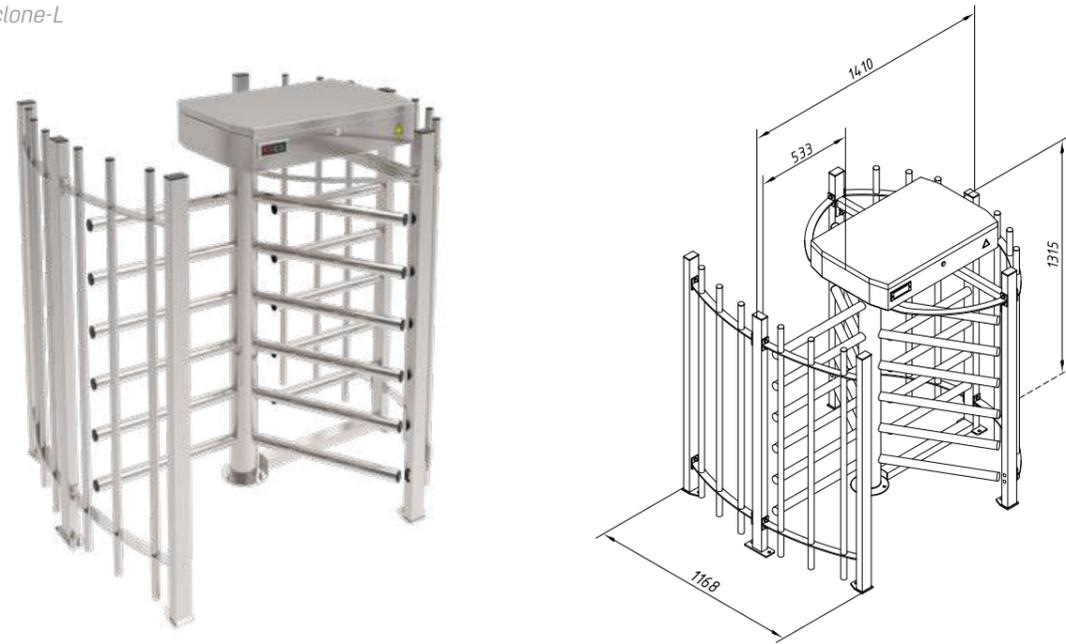
### Product specifications:

	Star-GS
Crossing capacity in free access mode, person/min	60
Crossing capacity in single access mode, person/min	20
Passage width, mm	560
Mechanism	Servodrive
Blocking mechanism	Single electromagnetic brake (general locking system)
Emergency mode	Free pass in both directions
Fail safe	Fail safe (free rotation)
Standard housing	Brushed SS AISI 304
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V
Maximum power consumption	55 W
Enclosure rating	IP41-54
MCBF, cycles	1 500 000



# Cyclone-L

| Cyclone-L



Cyclone-L is a type of outdoor half height turnstile with metal wings. Wings' design may be straight as well as U-shaped. By default it has electromechanical drive. The range of modifications includes three and four wing types as well as different type of metal finishing.

### Advantages:

- Servodrive;
- Bi-directional;
- High quality at a cost-effective price;
- Integration with any type of access control and ID systems;
- Low power consumption;
- Whisper quiet, low noise operation;
- Possibility of a barrier gate customization;
- Wide range of accessories;
- Complete supply set as a standard;
- Fail safe;
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

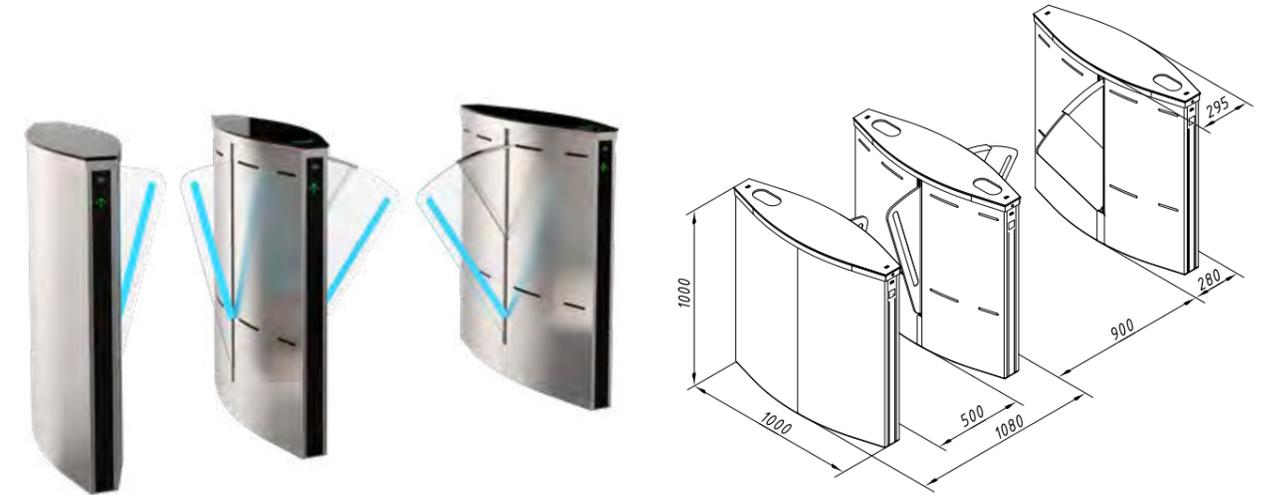
### Product specifications:

	Cyclone-L	Cyclone-L Twin
Crossing capacity in free access mode, person/min	60	120
Crossing capacity in single access mode, person/min	20	40
Passage width, mm	530	530 (for each passage)
Mechanism	Servodrive	
Rotor types	Y-type – 120° X-type – 90°	
Blocking mechanism	Two electromechanical stop catches (separate locking system)	
Emergency mode	Free pass in both directions	
Fail safe	Fail safe (free rotation)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	110 W
Enclosure rating	IP41-54	
MCBF, cycles	1 500 000	



# Speedblade

| Speedblade + Speedblade 900



Speedblade is a type of motorized turnstile featured with sliding flaps operation principle. Housing materials and light weight cabinets' shape make Speedblade turnstile universal for large variety of facilities with heightened requirements to esthetic equipment appearance.

### Advantages:

- Speedblade equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TiSO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

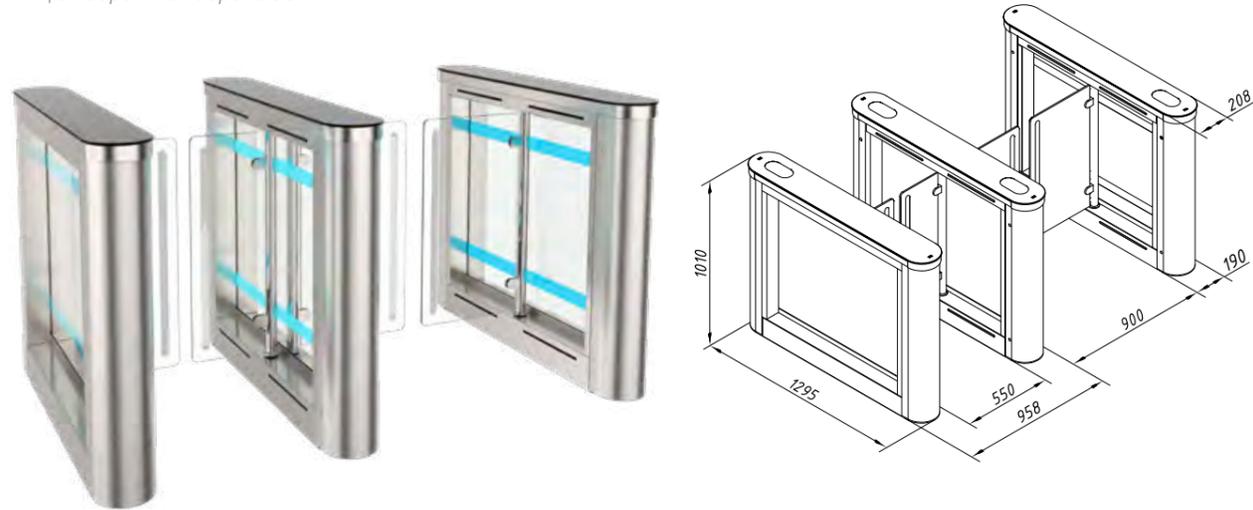
### Product specifications:

	Speedblade	Speedblade 900
Crossing capacity in single access mode, person/min	37	31
Opening/closing time	0,6	0,9
Passage width, mm	500	900
Mechanism	Servodrive	
Tailgating function	+	
Blocking mechanism	Locked by motor	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Top lid	Stainless steel top (with plastic inserts) Solid glass top	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 W	
Maximum power consumption	155 W	
Enclosure rating	IP41-54	
MCBF, cycles	1 500 000	



# Sweeper

| Sweeper + Sweeper 900



Sweeper speed gate is a perfect solution where contemporary aesthetics and functionality are required. The glass top and side panels provide a feeling of transparency and make it ideal for the most demanding building entrances.

### Advantages:

- Sweeper equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TiSO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

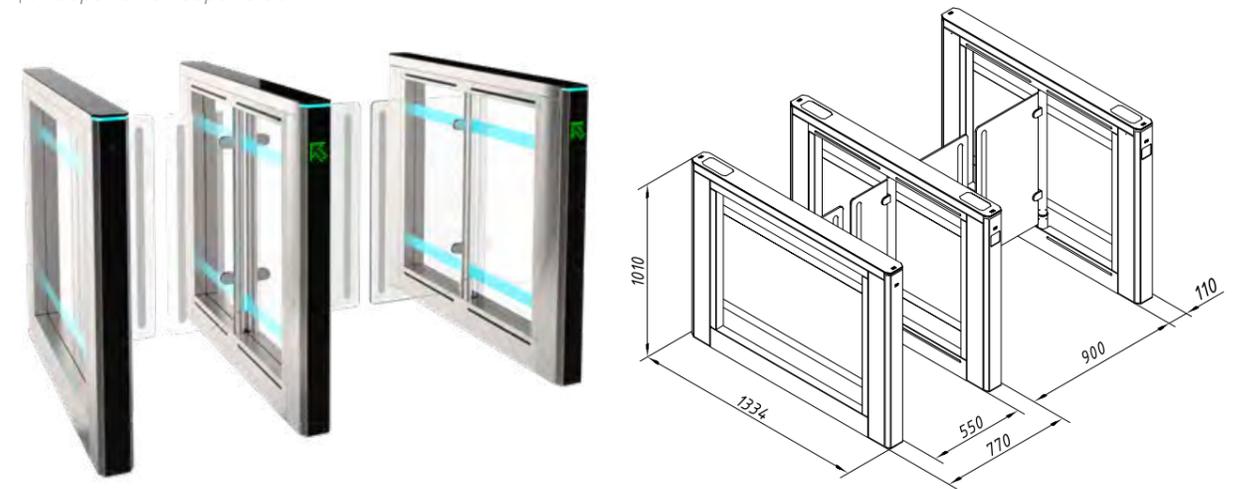
### Product specifications:

	Sweeper	Sweeper 900
Crossing capacity in single access mode, person/min	33	23
Opening/closing time	0,8	1,6
Passage width, mm	550	900
Mechanism	Servodrive	
Tailgating function	+	
Blocking mechanism	Electromechanical locking pin	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS 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	
Maximum power consumption,	155 W	
Enclosure rating	IP41	
MCBF, cycles	1 500 000	



# Sweeper-S

| Sweeper-S+ Sweeper-S 900



Sweeper-S fuses together all advantages of Sweeper model and new engineering solutions. Redesigned housing is huge advantage among other turnstiles in speed gates series. The width of one side housing is just 110 mm.

### Advantages:

- The width of Sweeper-S cabin is only 110 mm;
- Sweeper-S equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TiSO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

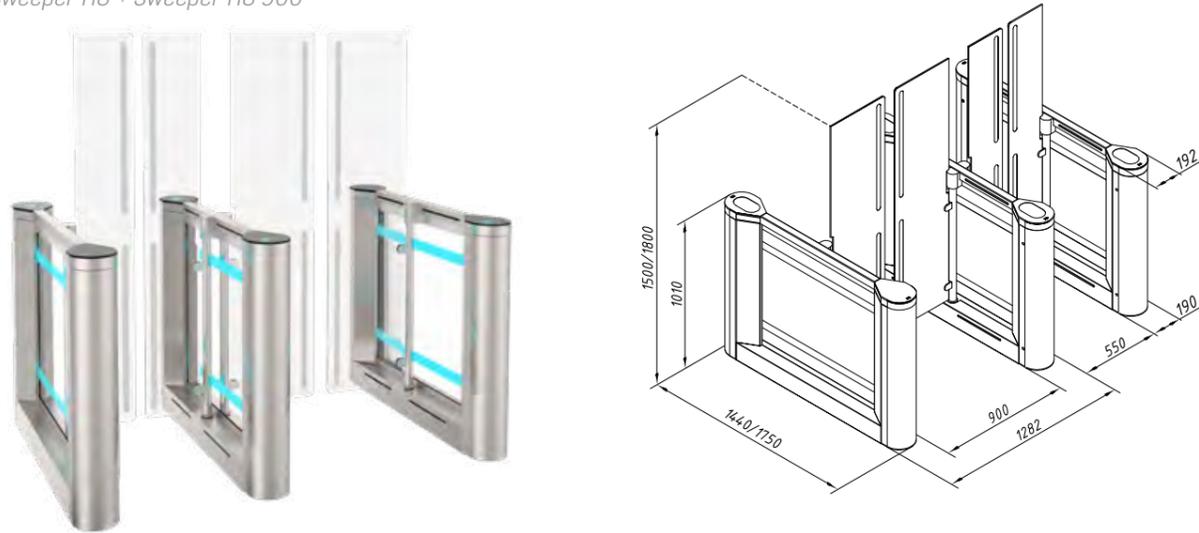
### Product specifications:

	Sweeper-S	Sweeper-S 900
Crossing capacity in single access mode, person/min	33	23
Opening/closing time	0,8	1,6
Passage width, mm	550	900
Mechanism	Servodrive	
Tailgating function	+	
Blocking mechanism	Electromechanical locking pin	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS 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	
Maximum power consumption	155 W	
Enclosure rating	IP41	
MCBF, cycles	1 500 000	



# Sweeper-HG

| Sweeper-HG + Sweeper-HG 900



Sweeper-HG is a special version of Sweeper, with high glasses available up to 1800 mm from the floor. It helps to avoid transfer of anything above the turnstile, as well as over-jumping it. Special design allows to arrange even 900 mm passage which can be used for people with special needs.

### Advantages:

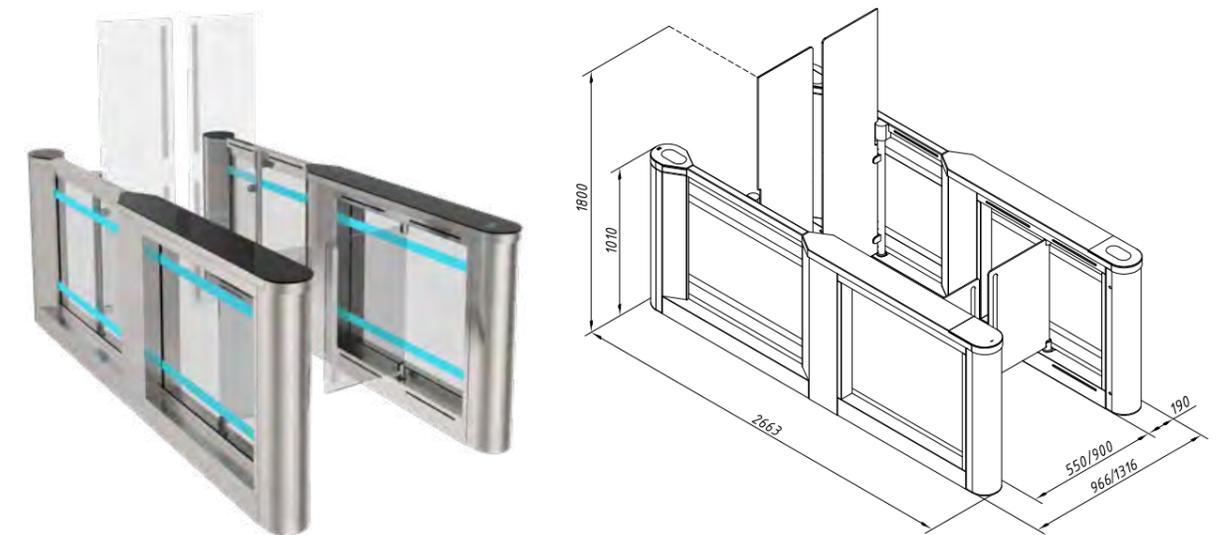
- Sweeper-HG equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TiSO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

### Product specifications:

	Sweeper-HG	Sweeper-HG 900	Sweeper-HGW
Crossing capacity in single access mode, person/min	27	21	21
Opening/closing time	1,2	1,8	1,8
Passage width, mm	550	900	1200
Mechanism	Servodrive		
Tailgating function	+		
Blocking mechanism	Electromechanical locking pin		
Emergency mode	Free entry/exit (gates are opened automatically)		
Power fail	Fail safe (gates could be opened manually)		
Standard housing	Brushed SS AISI 304		
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS 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		
Maximum power consumption	155 W		
Enclosure rating	IP41		
MCBF, cycles	1 500 000		



# Sweeper-AL



This is a “double-identification stage” or “migration” system. Based on Sweeper and Sweeper-HG models. It is like “constructor” so you can order system you need: with both waist-height glasses; with both full-height glasses; with one waist-height and one full-height glasses.

### Advantages:

- Sweeper-AL equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TiSO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

### Product specifications:

	Sweeper-AL	Sweeper-AL 900
Crossing capacity in single access mode, person/min	18	12
Opening/closing time	1,2	1,8
Passage width, mm	550	900
Mechanism	Servodrive	
Tailgating function	+	
Blocking mechanism	Electromechanical locking pin	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS 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	
Maximum power consumption	310 W	
Enclosure rating	IP41	
MCBF, cycles	1 500 000	



# Jetpan

| Jetpan + Jetpan 900



Jetpan is ideally suited for areas with unmanned security, as higher wings prevent vaulting over the turnstile. The Jetpan is also fitted with optical sensors to prevent tailgating. The contemporary design, appearance and functionality makes the Jetpan suitable for a variety of building entrances, such as banks, utility companies and high end commercial buildings. Access can be controlled by a variety of measures including card readers, biometrics or the manual control panel. Optional customisation includes modification for lift designation screens, card collectors and bar code readers.

### Advantages:

- Jetpan equipped with sensors that allow to detect tailgating;
- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be integrated with any type of access control systems;
- Low power consumption;
- Low noise system operation;
- Can be mounted on a mobile platform (TISO Frame-M);
- Any additional devices could be integrated (e.g. passage counter, RFID/Proximity/BioMetric readers, coin acceptor, push-button, barcode and QR-code reader).

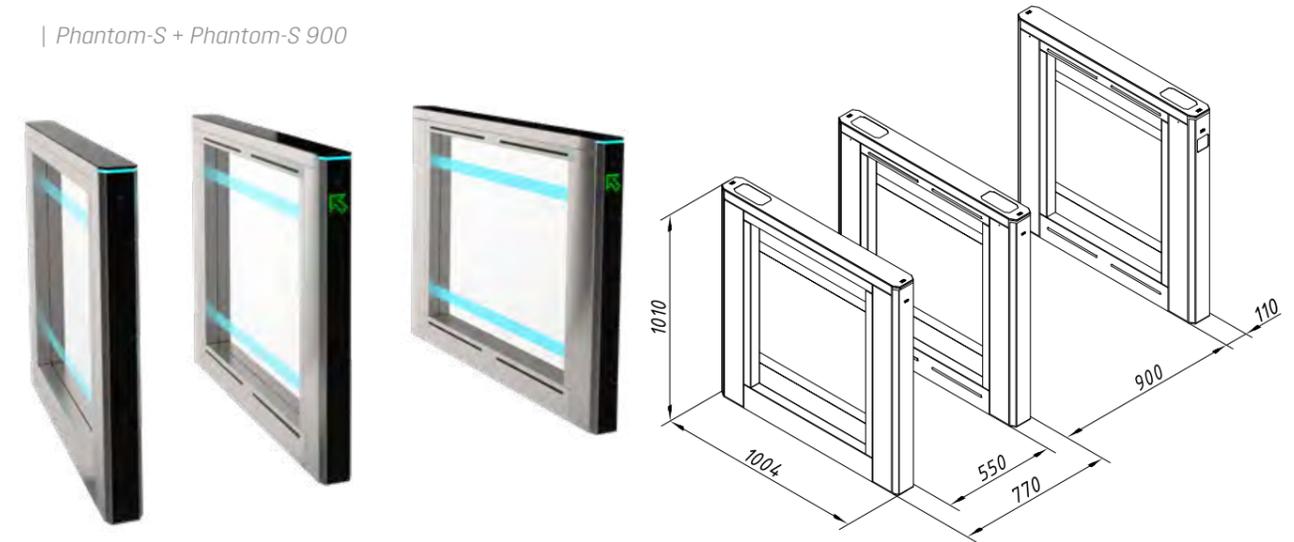
### Product specifications:

	Jetpan	Jetpan 900
Crossing capacity in single access mode, person/min	30	18
Opening/closing time	1,0	2,2
Passage width, mm	500	900
Mechanism	Servodrive	
Tailgating function	+	
Blocking mechanism	Electromagnetic brake	
Emergency mode	Free entry/exit (gates are opened automatically)	
Power fail	Fail safe (gates could be opened manually)	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS 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	
Maximum power consumption	155 W	360 W
Enclosure rating	IP41	
MCBF, cycles	1 500 000	



# Phantom-S

| Phantom-S + Phantom-S 900



Phantom-S is an optical turnstile designed to create a seamless transition from external to internal space. The housing is equipped with a card reader, LED display and access sensors that allow controlled access. In case of unauthorised access, the mounted alarm function will sound an audible alarm. The turnstile body is made from stainless steel that makes this model reliable and suitable for every environmental condition. These speed gates are perfect for elegant and impressive entrance solutions such as museums, offices, entertainment centres, administrative facilities, shops etc.

### Advantages:

- Successful combination of affordable price and high quality;
- Customized surface finish and top lid;
- Steadfast housing suitable for high traffic areas;
- Solution for disabled and trolley access;
- Can be mounted on a mobile platform (TISO Frame-M).

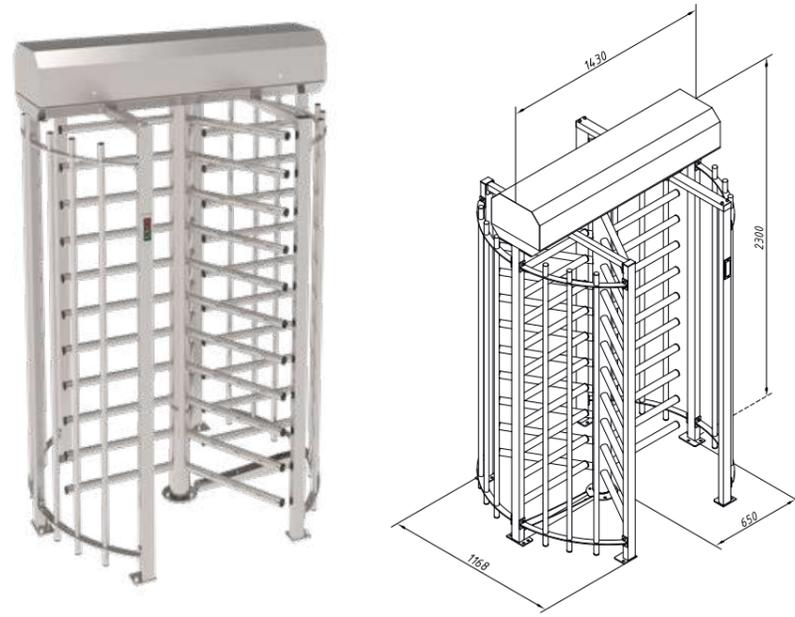
### Product specifications:

	Phantom-S	Phantom-S 900
Crossing capacity in single access mode, person/min	60	
Passage width, mm	500	900
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	
Top lid	Stainless steel top Solid glass top	
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V	
Maximum power consumption	55 W	
Enclosure rating	IP41	



# Sesame

| Sesame Y type



Sesame is a one-lane type of full height turnstile gate. It 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.

### Advantages:

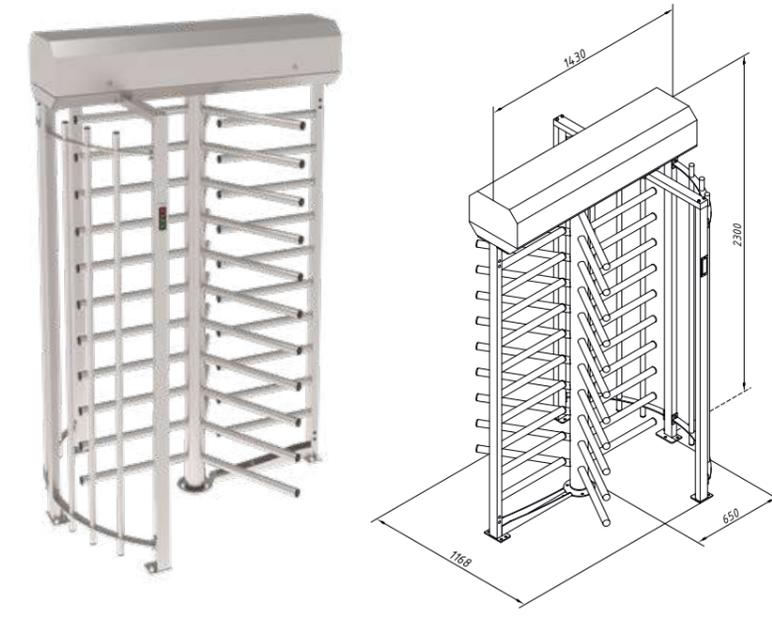
- Can be supplied as fully welded or in disassembled condition which has perfect effect to transportation cost;
- Turnstile is Bi-directional;
- Depending on installation place conditions and Customer's requirements can be produced of different types of material;
- Y-type or X-type of rotor for your 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.

### Product specifications:

	Sesame Y type	Sesame X type	Sesame-L Y type	Sesame-L X type
Crossing capacity in single access mode, person/min	20			
Passage width, mm	650	535	650	535
Rotor type	angle between arms 120°	angle between arms 90°	angle between arms 120°	angle between arms 90°
Mechanism	Electromechanical (standard) Servo-drive (option)		Servo-drive (standard)	
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)	
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.			
Standard housing	Brushed SS AISI 304			
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)			
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V			
Maximum power consumption	For electromechanical – 155 W For servo-drive – 155 W		For servo-drive – 55W	
Enclosure rating	IP 41 (for indoor installation) IP54/IP65 (for outdoor installation)			
MCBF, cycles	10 000 000 – for electromechanical 1 500 000 – for servo-drive		1 500 000 – for servo-drive	

# Sesame Basic

| Sesame Basic Y type



Sesame Basic is a lighter version of Sesame pedestrian turnstile gate. Less metal capacity allows significant cost reducing. At the same time, all core functions and features are available. Gate barrier will be a perfect fit for applications like temporary construction sites. Can be supplied both in fully welded or assembly (attractive for transportation) design.

### Advantages:

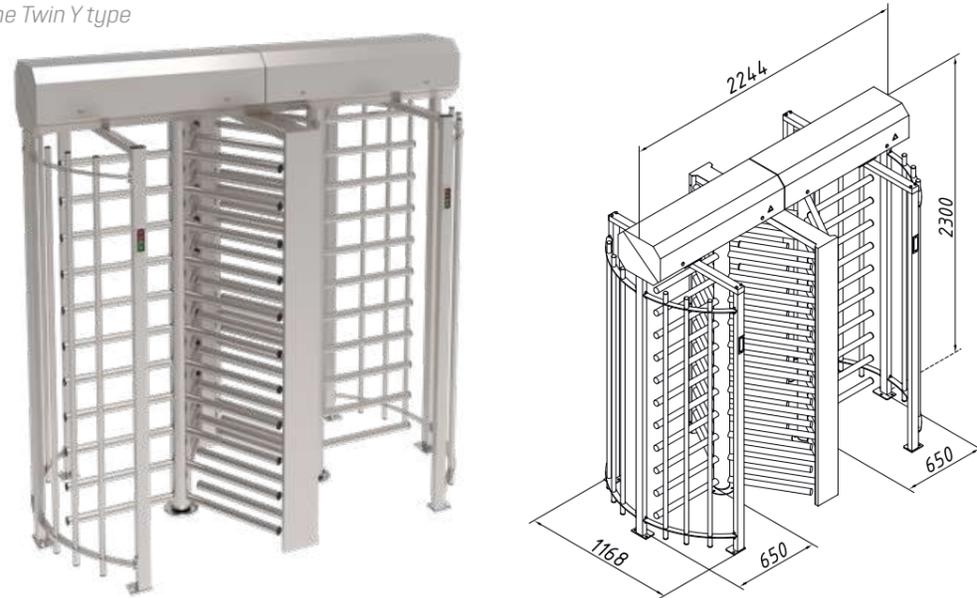
- Can be supplied as fully welded or in disassembled condition which has perfect effect to transportation cost;
- Turnstile is Bi-directional;
- Depending on installation place conditions and Customer's requirements can be produced of different types of material;
- Y-type or X-type of rotor for your 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.

### Product specifications:

	Sesame Basic Y type	Sesame Basic X type	Sesame Basic -L Y type	Sesame Basic -L X type
Crossing capacity in single access mode, person/min	20			
Passage width, mm	650	510	650	510
Rotor type	angle between arms 120°	angle between arms 90°	angle between arms 120°	angle between arms 90°
Mechanism	Electromechanical (standard) Servo-drive (option)		Servo-drive (standard)	
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)	
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.			
Standard housing	Brushed SS AISI 304			
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)			
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V			
Maximum power consumption	For electromechanical – 155 W For servo-drive – 155 W		For servo-drive – 55W	
Enclosure rating	IP 41 (for indoor installation) IP54/IP65 (for outdoor installation)			
MCBF, cycles	10 000 000 – for electromechanical 1 500 000 – for servo-drive		1 500 000 – for servo-drive	

# Sesame Twin

| Sesame Twin Y type



Sesame Twin is a so-called double turnstile. This pedestrian security gate benefits with significant space and cost saving in comparison to two single turnstiles installed one near another. It is a perfect fit for applications with highest intensity of pedestrian traffic, like stadiums or large factories. Can be supplied both in fully welded or assembly (attractive for transportation) design.

### Advantages:

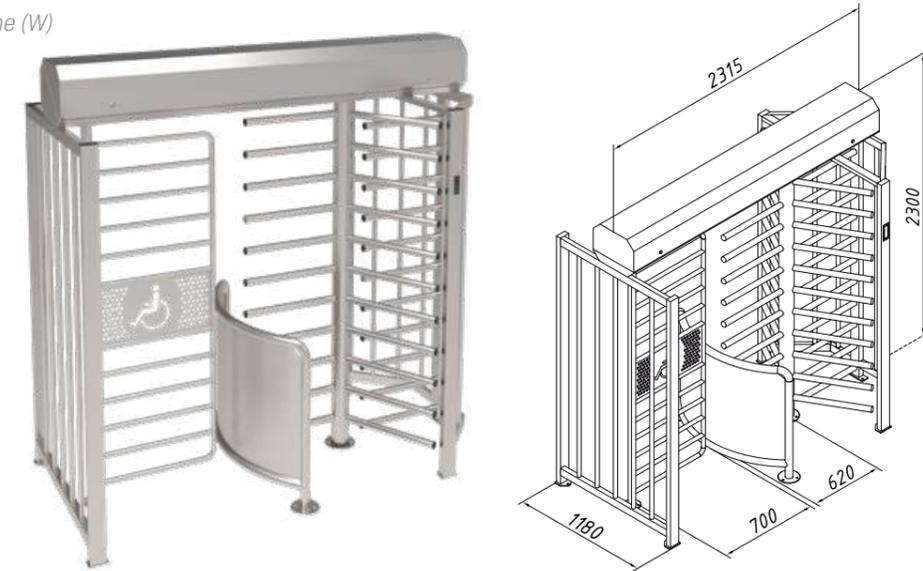
- Can be supplied as fully welded or in disassembled condition which has perfect effect to transportation cost;
- Turnstile is Bi-directional;
- Depending on installation place conditions and Customer`s requirements can be produced of different types of material;
- Y-type or X-type of rotor for your 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.

### Product specifications:

	Sesame Twin Y type	Sesame Twin X type	Sesame Twin -L Y type	Sesame Twin -L X type
Crossing capacity in single access mode, person/min	20			
Passage width, mm	650	570	650	570
Rotor type	angle between arms 120°	angle between arms 90°	angle between arms 120°	angle between arms 90°
Mechanism	Electromechanical (standard) Servo-drive (option)		Servo-drive (standard)	
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)	
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.			
Standard housing	Brushed SS AISI 304			
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)			
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V			
Maximum power consumption	For electromechanical – 155 W For servo-drive – 155 W		For servo-drive – 55W	
Enclosure rating	IP 41 (for indoor installation) IP54/IP65 (for outdoor installation)			
MCBF, cycles	10 000 000 – for electromechanical 1 500 000 – for servo-drive		1 500 000 – for servo-drive	

# Bicyclone

| Bicyclone (W)



Bicyclone turnstile barrier gate designed as a combination extended passage with regular single pedestrian entry point within one full height turnstile. Extended passage ensures smoothness entry of bicycles, wheelchairs, large volume belongings and materials. Can be supplied both in fully welded or assembly (attractive for transportation) design.

### Advantages:

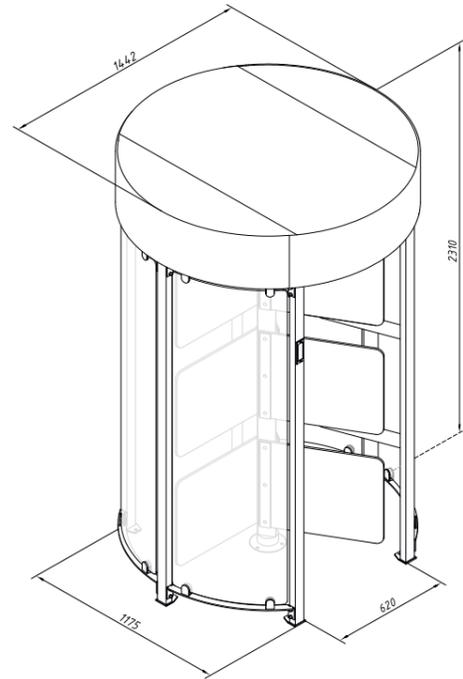
- Can be supplied as fully welded or in disassembled condition which has perfect effect to transportation cost;
- Turnstile is Bi-directional;
- Depending on installation place conditions and Customer`s requirements can be produced of different types of material;
- Y-type or X-type of rotor for your 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.

### Product specifications:

	Bicyclone 700	Bicyclone 900	Bicyclone-L 700	Bicyclone-L 900
Crossing capacity in single access mode, person/min	20			
Passage width, mm	For rotor 650 For gate 700	For rotor 650 For gate 900	For rotor 650 For gate 700	For rotor 650 For gate 900
Rotor type	angle between arms 120°			
Gate type	For wheelchairs For bicycles			
Rotor mechanism	Electromechanical (standard) / Servo-drive (option)		Servo-drive (standard)	
Gate Mechanism	Servo-drive (standard)		Servo-drive (standard)	
Blocking mechanism	Two electromechanical stop catches (separate locking system)			
Emergency mode	Free pass in both directions			
Power fail for rotor	Fail secure (standard) / Fail safe (option)		Fail safe (standard)	
Power fail for gate	Fail safe (standard)			
Construction features	Disassembled (standard) Full welded (option). Could be installed by a crane.			
Standard housing	Brushed SS AISI 304			
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)			
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V			
Maximum power consumption	For electromechanical – 155 W For servo-drive – 155 W		For servo-drive – 55W	
Enclosure rating	IP 41 (for indoor installation) IP54/IP65 (for outdoor installation)			
MCBF, cycles	10 000 000 – for electromechanical 1 500 000 – for servo-drive		1 500 000 – for servo-drive	

# GlassGO

| GlassGO (A)



GlassGO is a glass turnstile intended for inside applications with the requirement of access control system integration. This motorized pedestrian gate combined of glass and stainless steel design elements. As an outcome, we have space and cost saving product of aesthetic performance. This type can be a perfect alternative to revolving doors.

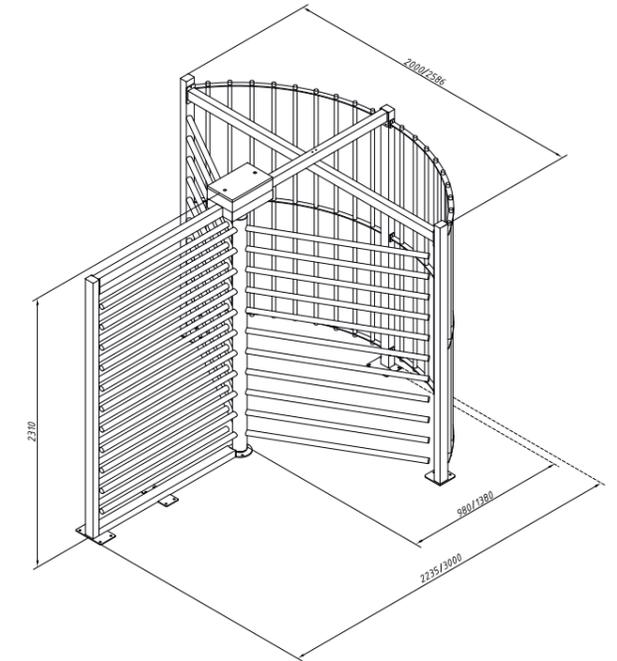
### Advantages:

- 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;
- 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.

### Product specifications:

	GlassGO (A)	GlassGO (B)	GlassGO-S
Crossing capacity in single access mode , person/min	20		
Passage width, mm	630		
Rotor type	Nine glass leaves angle between arms 120°	Tree shaped glass leaves angle between arms 120°	Three solid glass leaves angle between arms 120°
Wrong way prevention	Fencing		Motion sensors (with sound alarm)
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 SS AISI 304		
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)		
Voltage	AC (100-240)V, 50/60Hz; DC source 12 V		
Maximum power consumption	155W		
Enclosure rating	IP41		
MCBF, cycles	1 500 000		

# Push&GO



Push&Go is fully mechanical type of a full height turnstile. This type of security barriers mostly applied at installations for one direction pedestrian access management. Cost effective solution which does not require any power supply. Can be supplied both in fully welded or assembly (attractive for transportation) design.

### Advantages:

- Robust construction;
- Fully mechanical;
- One directional or Bi-directional;
- High quality at a cost-effective price;
- Whisper quiet, low noise operation.

### Product specifications:

	Push&Go	
Crossing capacity, person/min	60	
Passage width, mm	980	1380
Operation mode	CW or CCW	
Blocking mechanism	One way clutch	
Standard housing	Brushed SS AISI 304	
Available housing	Brushed SS AISI 316 / Polished SS AISI 304 / Polished SS AISI 316 / Powder coated (any RAL upon request)	

## 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.

### 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

### Product specifications:

Type of liquid	Non-viscous liquid				
Type of control	Automatic touchless				
Volume	2 000 ml				
Sensing distance	<= 150 mm				
Average liquid supply	Adjusted				
- liquid dispensing time	0,5 s	1 s	2,5 s	4 s	6 s
- liquid dosage	0,33 ml	0,66 ml	1,66 ml	2,6 ml	4 ml
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 in RAL colour				
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				

## Additional equipment



### 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

# Additional equipment

## 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.



## 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.



## 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.



## 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.



# Additional equipment

## 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.



## 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.



## 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

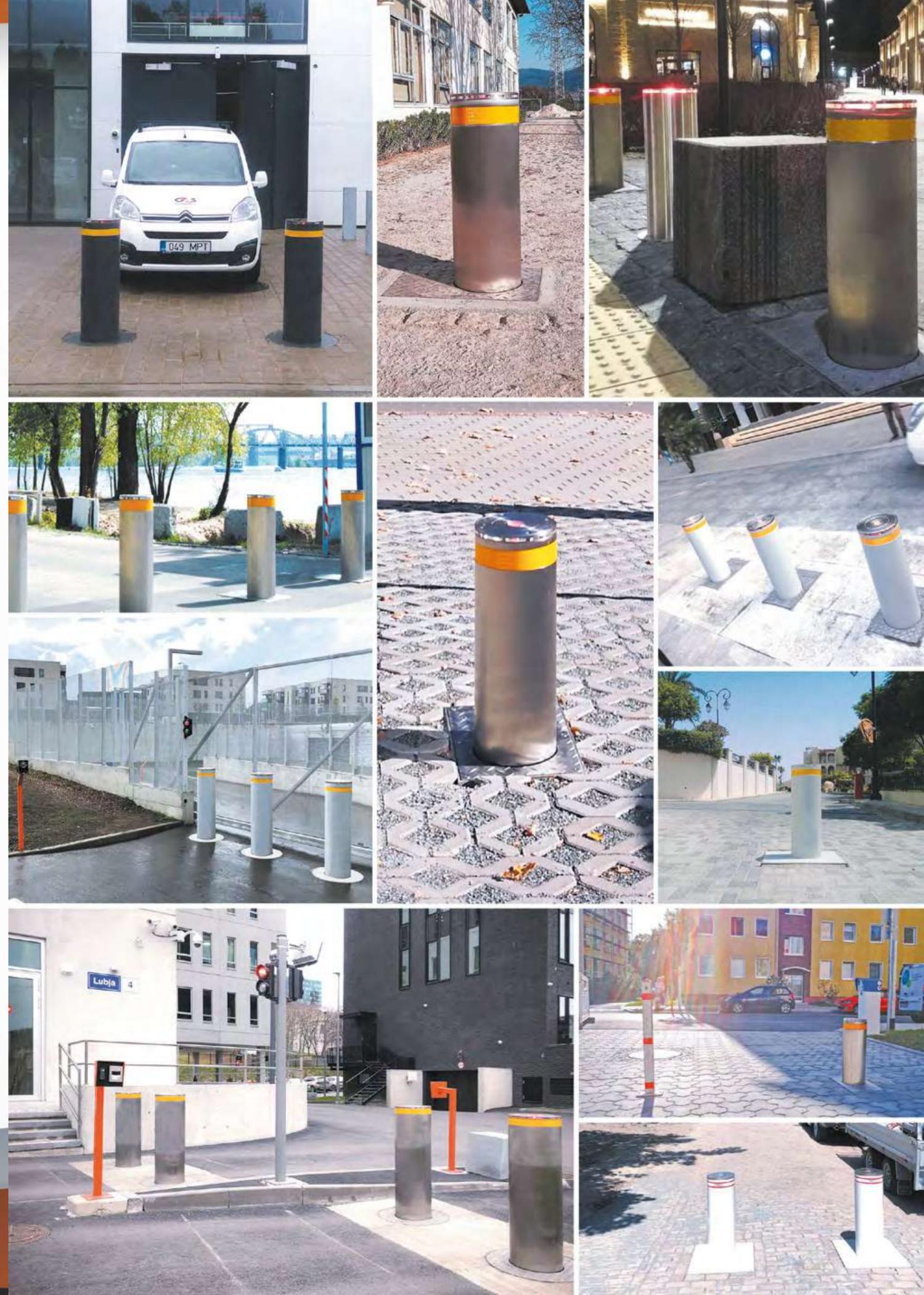
Systems to detect symptoms of virus is special solution for authorizing access depending on persons state of health. More specifically, such system enables to limit access of people with suspected disease symptoms such as high temperature. TiSO speed gates with special integrated authorization system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





# BOLLARDS

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# ASTM F2656/IWA14-1 Fixed/Removable bollards



## Traffic fixed bollards

TiSO fixed and removable traffic bollards are widely used as static barriers in order to provide vehicle access control and parking management of secured areas. Due to bollards' design and wide variety of available models, this type of solution becomes a good addition to different urban architectural concepts.

### Product specifications:

	RB344-36	RB344-39	RB344-37	RB344-40
Type	Traffic fixed bollards			
Tube diameter, mm	220	273	220	273
Tube height, mm	600		800	
Installation depth, mm	300			
Tube materials	Brushed stainless steel AISI 304 Brushed stainless steel AISI316 Galvanized and powder coated tube (any RAL upon request)			



## 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.

### Product specifications:

	RB343-68	RB345-09-S-035
Type	High security fixed / removable bollards	
Security class	ASTM F2656/F2656 M-15, M50, P2 (-3.8m) IWA 14-1:2013, Bollard V/7200[N2B]/80/90:4.1	ASTM F2656/2656M-20, M50 (K12), P1; IWA 14-1:2013, Bollard V/7200[N2B]/80/90:0.7
Tube diameter, mm	325	355
Tube height, mm	100	1200
Wall thickness, mm	20	30
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.

### Product specifications:

	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.

### Product specifications:

	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	880		1080	
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.

### Product specifications:

	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	10			
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.

### Product specifications:

	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			
Axle load, t	10			
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.

### Product specifications:

	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)							

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

# 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.).

### Product specifications:

	RB348	RB342
Type	High security hydraulic bollards	
Security class	ASTM F2656-07, M30, P1(-1.2m)	ASTM F2656-07, M50, P1(-0.6m)
Tube diameter, mm	325	325
Tube height, mm	1000	1200
Wall thickness, mm	20	30
Impact resistance, J	679 900	1845 000
Axle load, t	15	
Rising/Lowering time, s (+/- 1s)	4,0/3,5	
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	

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

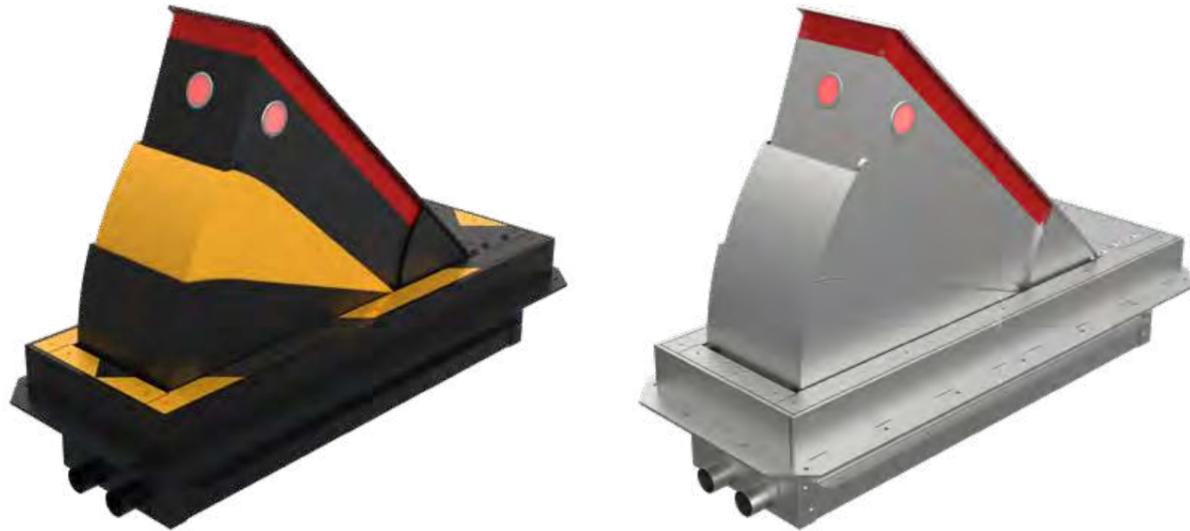


# ROAD BLOCKERS



# City-light Cyclopes

# ASTM F2656/IWA14-1 High security 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.

### Product specifications:

	RB319-01
Installation type	Shallow mounted
Drive	Hydraulic
Width (W), mm	265
Height (H), mm	605
Axle load, t	15
Rising time, s (+/- 1s)	5,0
Lowering time, s (+/- 1s)	4,0
Operating temperatures*, °C	-40/ +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)

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

High security Cyclopes ensure highest level of anti-terrorism protection. As far as it was certified according to ASTM F2656/F2656-15, M40, P1(-1,7) & 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 and power/oil hoses.

### Product specifications:

	RB320-01	RB320-02	RB320-03
Security class	Designed to keep ASTM F2656, M30 (K4) standard	ASTM F2656/F2656 M-15, M40, P1(-1.7m) 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 (W), mm	500		
Height (H), 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)		

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

# 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.

### Product specifications:

	RB357-02	RB357-03	RB357-04
Installation type	Shallow mounted / Above the ground (with ramps)		
Drive	Hydraulic (HPU)		
Width (W), 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		

\*for temperatures lower than -10 °C use the heating device. or 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(-0.67m) & 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.

### Product specifications:

	RB359-02	RB359-03	RB359-04
Security class	ASTM F2656/F2656 M-15, M30, P1(-0.67m) 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 (W), mm	2000	3000	4000
Height (H), 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		

\*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 Mobile Speedbumps



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.).

### Product specifications:

	RB358-06	RB358-07	RB358-08
Security class	ASTM F2656/F2656M-18a, M30, P2 (4.6 m) IWA 14-1:2013, Blocker V/7200[N2B]/48/90:5.3		
Installation type	Above the ground		
Drive	Hydraulic (build-in)		
Width, mm	2000	3000	4000
Height, mm	570		
Impact resistance, J	673 000		
Axle load, t	15		
Rising time, s (+/- 1s)	2,6		
Lowering time, s (+/- 1s)	2,0		
Operating temperatures*, °C	-40 / +40		
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)		

\*for temperatures lower than -10 °C use the heating 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 (-2,4m) and ASTM F2656-07, M30, P1 (-2,1m). 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.

### Product specifications:

	RB312	RB313	RB314	RB322	RB323	RB324	RB332	RB333	RB334
Security class	Certified ASTM F2656-07, M30, P1(-2.1m)			Designed to keep ASTM F2656 M40 standard			Certified ASTM F2656-07, M50, P1(-2.4m)		
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								
Rising time, s (+/- 1s)	3,5 (1,5 with EFO)			3,5 (1,5 with EFO)			3,5 (1,8 with EFO)		
Lowering time, s (+/- 1s)	3,5			2,0			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)								

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

# 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.

### Product specifications:

	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								
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)								

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

\*\*Hot dip galvanization is available as an option

# 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.

### Product specifications:

	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)					

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

## Mechanical Tire-killers



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.

### Product specifications:

	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			
Material	Structural steel C22 (powder coated)			

## Automatic Boom Barriers



Automatic boom barrier is equipped with a operator of opening and closing blocks. Housing is available in different RAL colors. High speed of operation makes arm barriers providing high territory security. It should be installed nearby exit /entrance gates and operates in complex with a parking system devices to provide high security access.

### Product specifications:

	Optimus 40	Optimus 60
Drive	Electro-mechanical	
Arm length* , mm	2000-4000	5000-6000
Operation mode	Left/right version	
Raising/lowering time, sec	4 s (+- 1s)	6s (+-1)
Weight, kg (not more)	82	87
Power supply	1phase 230V, 50/60Hz	
Mechanism	Geared AC motor	
Protection class	IP 54	
Operation temperature,°C	-40 / +60	
Standard housing	Powder coated AISI 430	
Available housing	Brushed SS AISI 316	

\*Other arm length is available up on request

# 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.



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

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



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

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



## Manual hydraulic pump (for external hydraulic station)

Manual pump use for hydraulic operation in power failure conditions.



## E.F.O. (emergency fast operation)

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



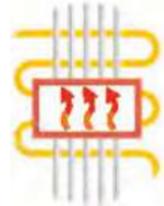
## Photocells

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



## High-pressure hydraulic hose

Hose that provide high-pressure supply of power fluids.



## Heating device

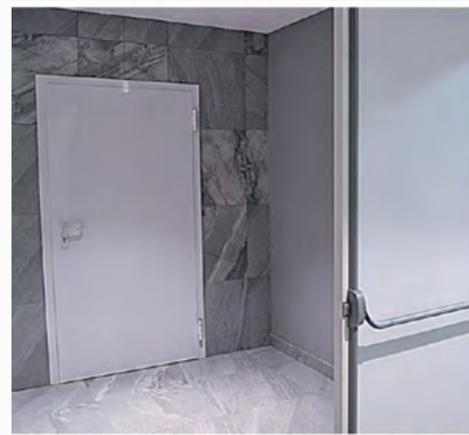
Heating device is intended to prevent the system freezing (recommended for cold climates). Use for temperatures conditions lower than -10°C.





# FIRE – RESISTANT DOORS

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# Fire – resistant doors

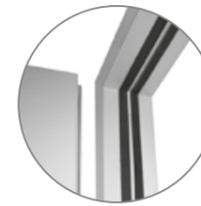


TiSO company presents metal and glass fire-resistant doors; fire-resistant curtains; metal fire-resistant gates and glass fireproof partitions with fire-resistance EI 30 – EI 120. All products are manufactured at our own high – tech facility. All products meet the international quality standards and requirements of the most European countries. The cost effective Europe made fire doors are available from TiSO at any time. That is proved by the fact of getting such certificates as Certificate of Conformity No. OSE –12-1017/02; Certificate of Conformity of Quality Control System to requirements of the standard ISO 9001:2008; SK certificate of constancy of performance of essential characteristics of product according to STN EN 16034:2015 No. SK01-ZSV-0340; Certificate UL No. 20150713-R27834; Certificate DSTU ISO 9001:2009.

# Fire – resistant doors



Door closer



Seal with a thermal expansion on the perimeter



3D - adjustable hinge

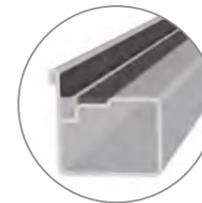


"Anti-cut" mechanism

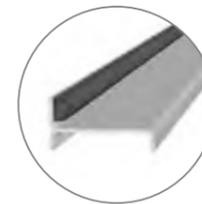


Set of handles and heat-resistant plastic plates with a lock and cylinder

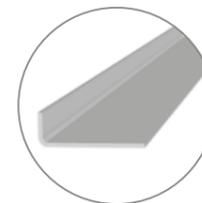
## Different profiles of doorsill



Permanent doorsill - 1



Permanent doorsill - 2



Doorsill for installation



# Accessories



**ONLY FIRE  
RATED HARDWARE**



# Accessories

TiSO fire resistant doors can be supplied with the antipanic push bar or electromagnetic lock upon the clients request. Right and left opening are available, reinforced plate for the door closer installation comes standard on each TiSO fire-resistant door. Our fire resistant doors are powder coated according to the RAL scale, which gives our customer a variety of colors to choose from. Our quality fire resistant doors meet high expectations of the most demanding clients.

TiSO produces fire-resistant doors with MDF – cover. Such doors combine high fire – resistance and attractive appearance. We guarantee fire – resistance up to 120 minutes due to the steel leaf with special filler. Customer can choose cover of different shape, color and thickness. Such door is a real combination of reliability and design.

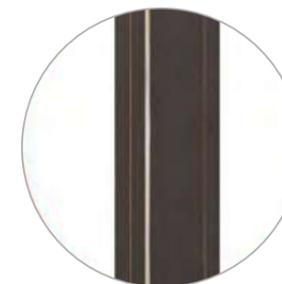
**Product specifications:**

Standart complete set	
Size*	900, 1000×2100
Fire-resistance	EI 30, EI 60
Color	RAL 8017
Dore-frame	«Corner»
Doorsill	For installation
Accessories	Handles and lock "ISE0"; Door-closer "I.B.F.M."; Seal with thermal expansion; Rubber seal

\*Other arm length is available up on request



Secure three-point lock with anti hacking protection



Thickness of cover 6 or 12 mm

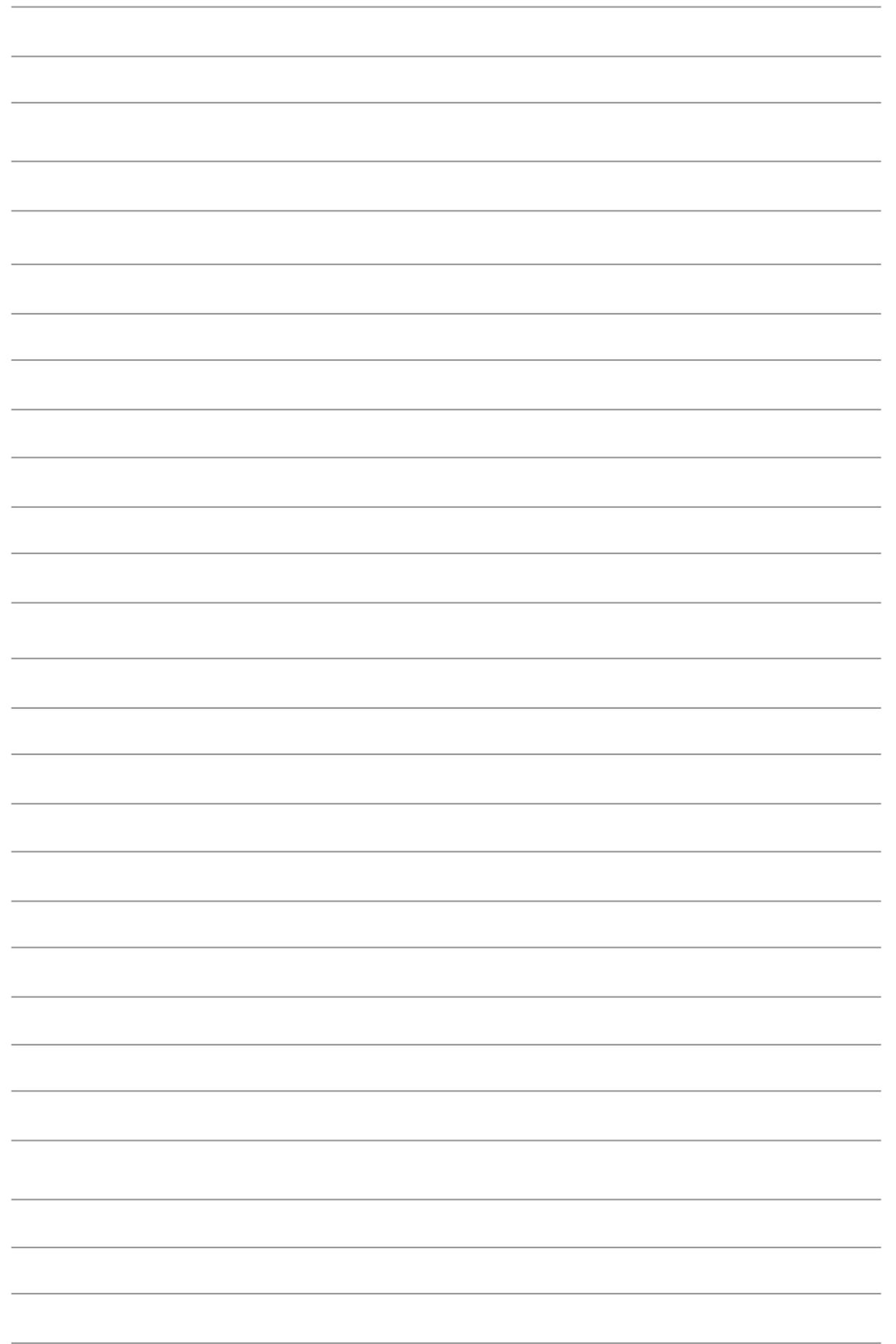
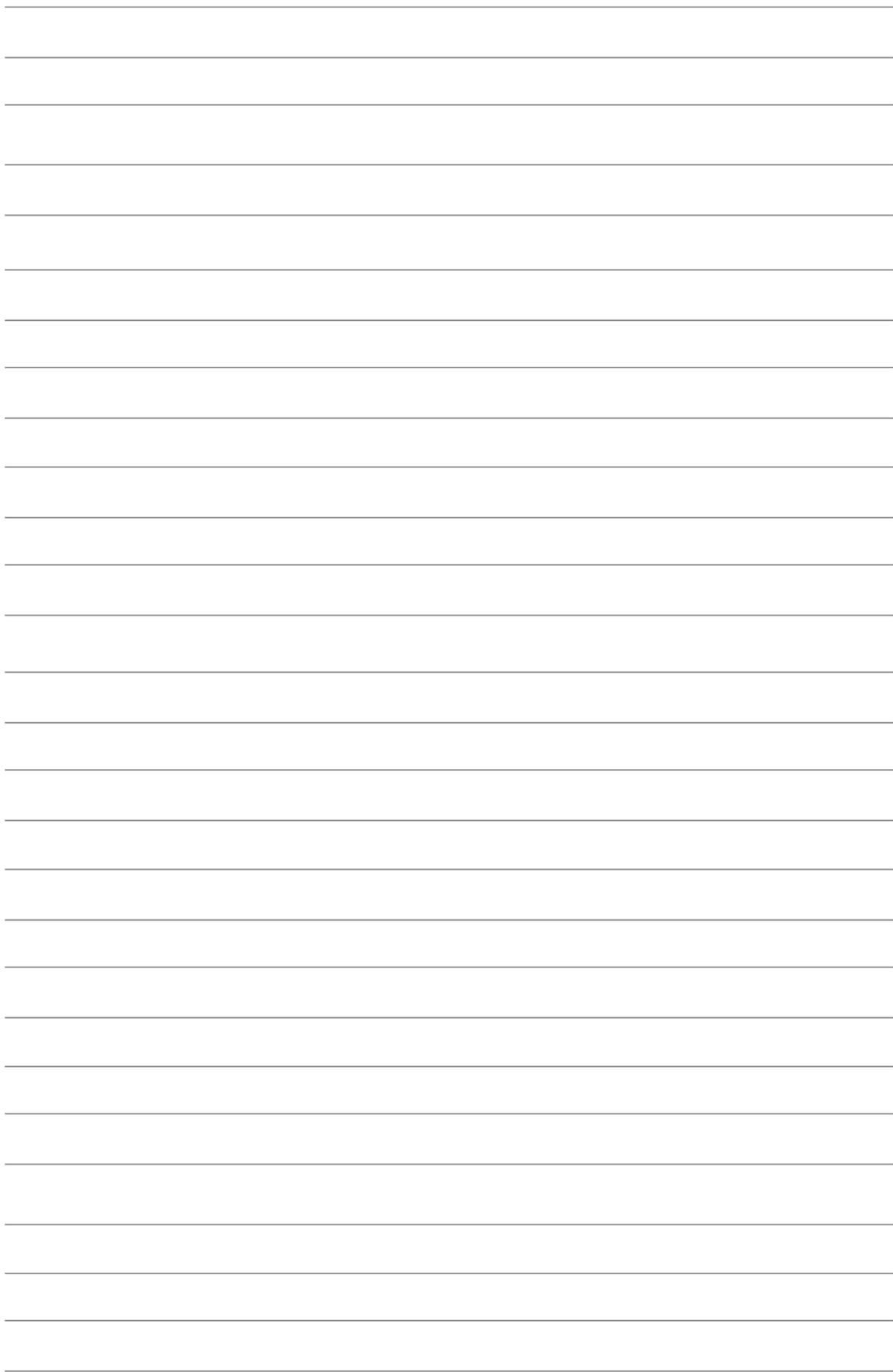


3D-adjustable hinge



Any pattern and texture of cover







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