



Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



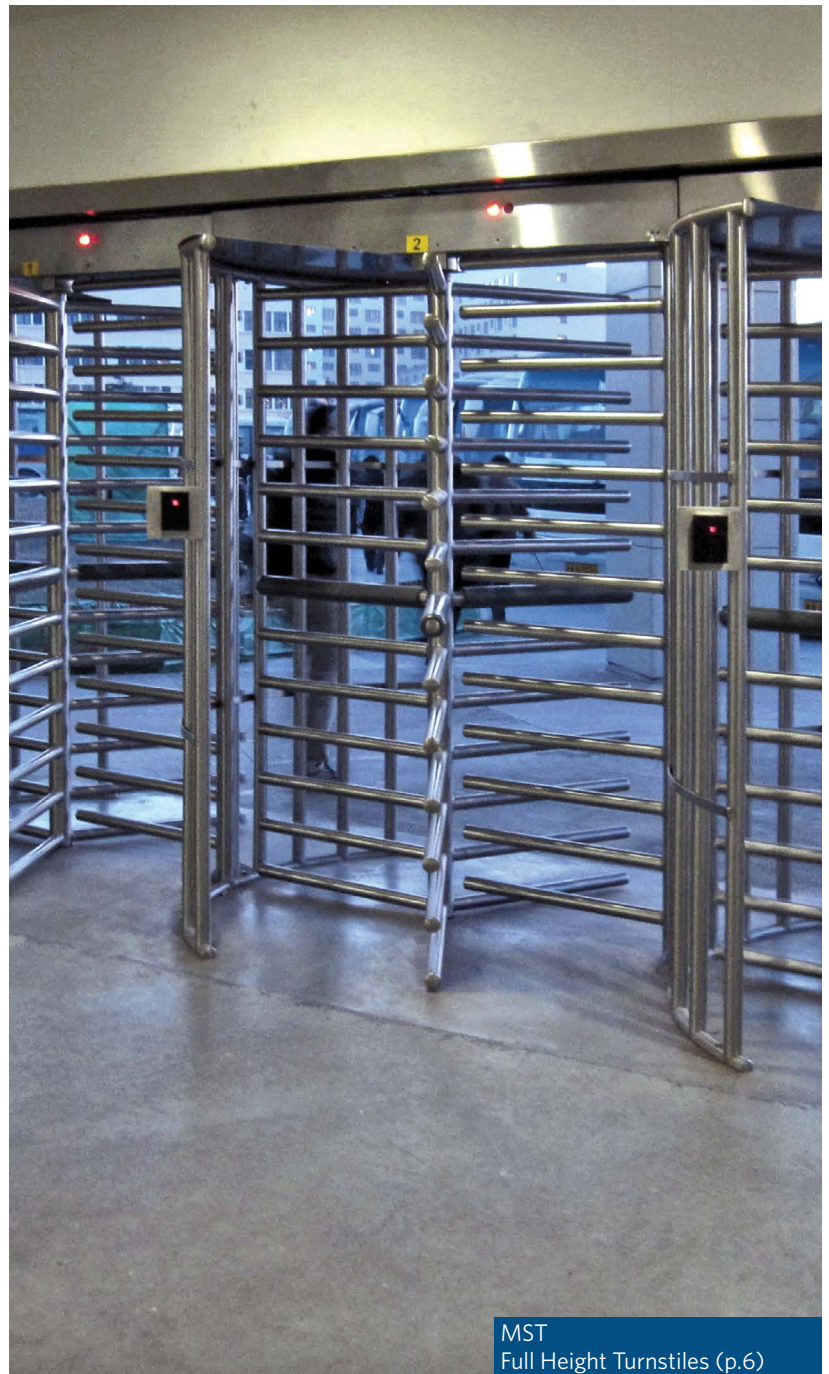
SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

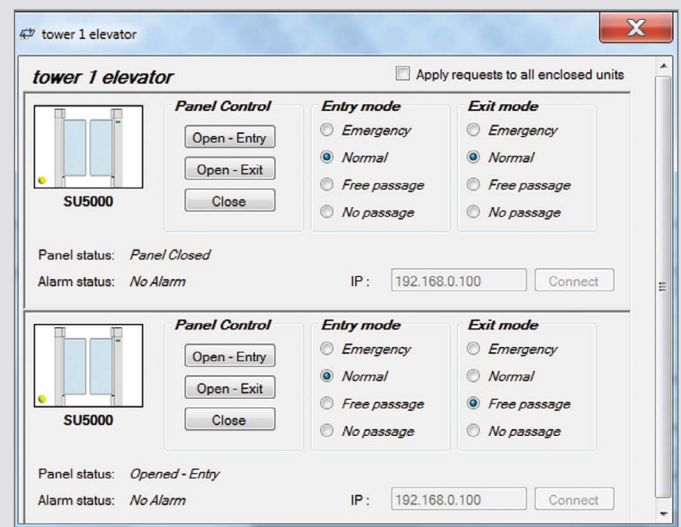


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

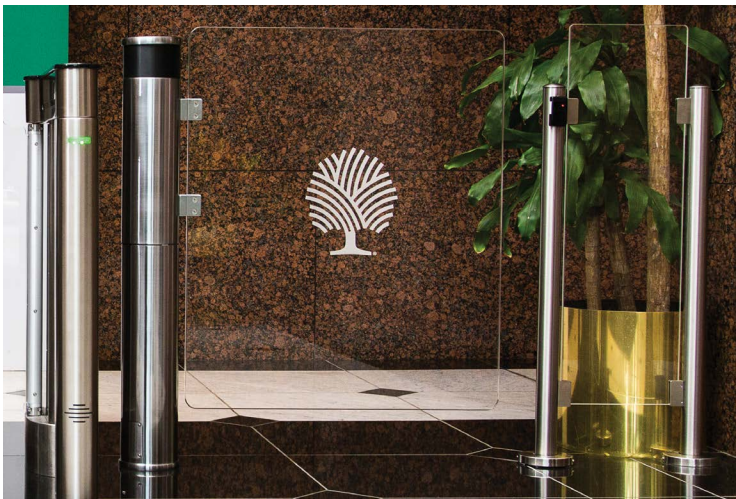
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

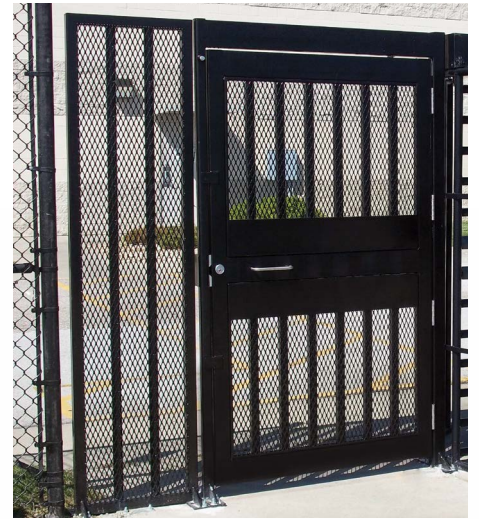
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



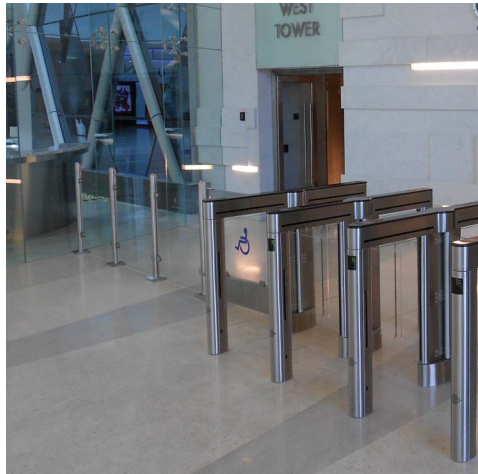
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

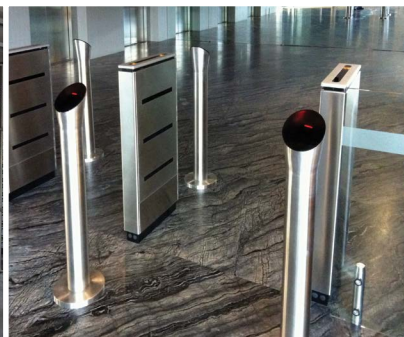
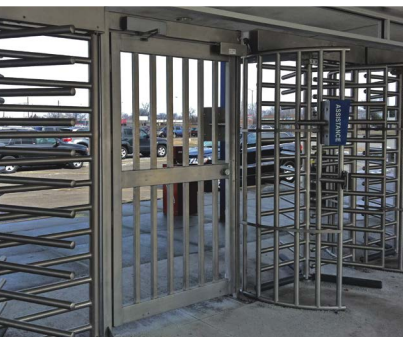


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

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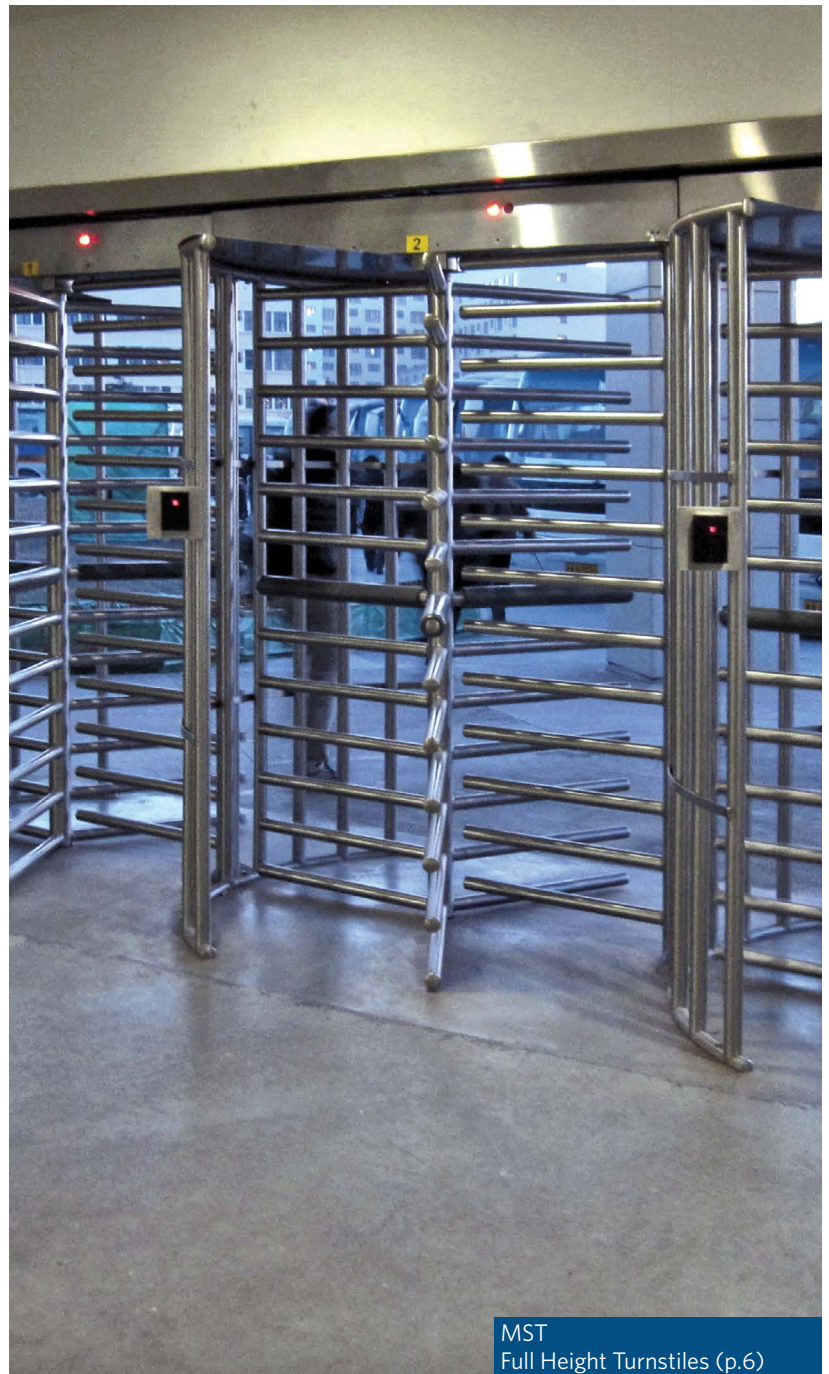
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SU5000

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Barrier Height Options

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Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

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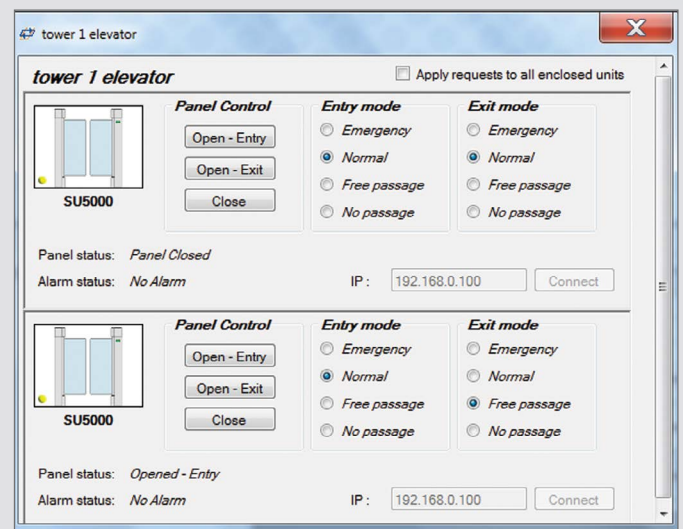


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All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

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FMST

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MST47

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WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

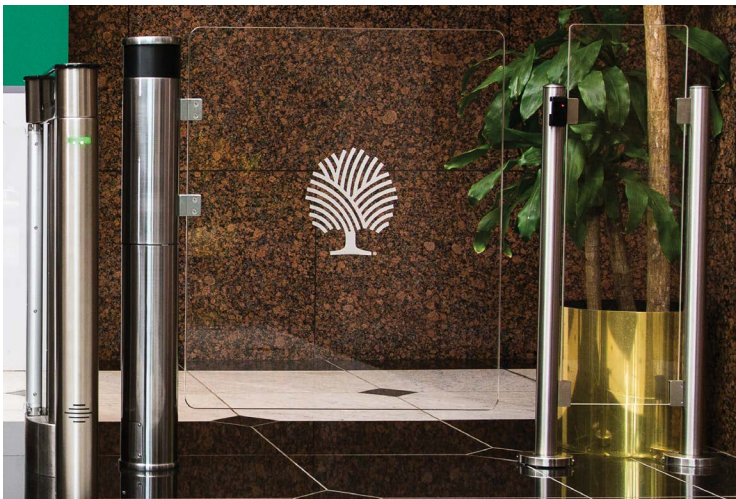
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SW1000 Motorized Gate

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A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

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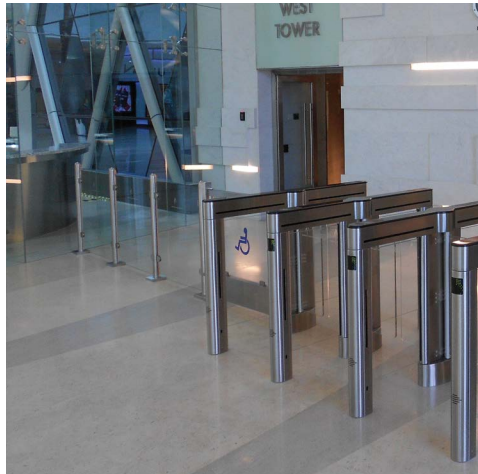
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Alternate Materials

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MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

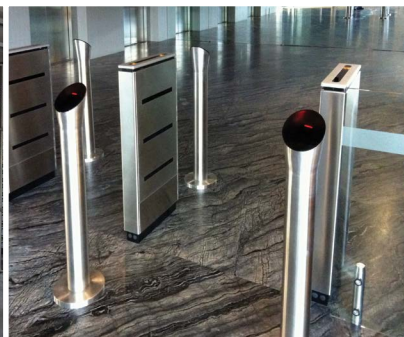
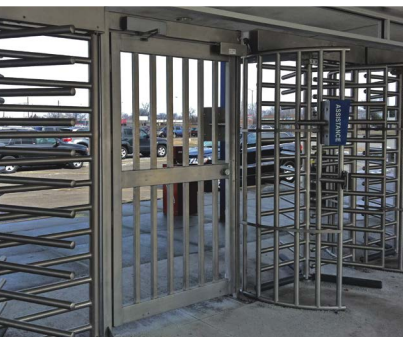


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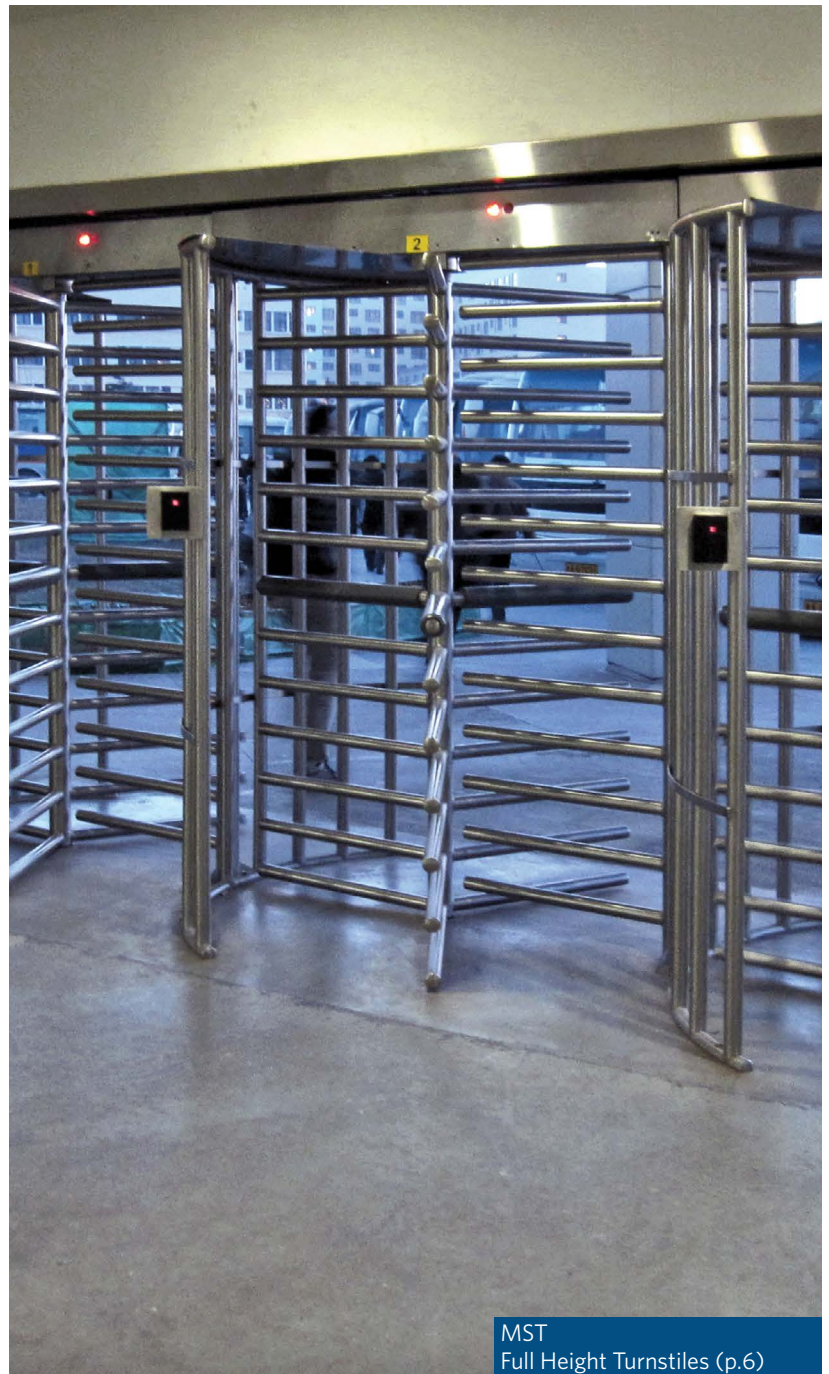
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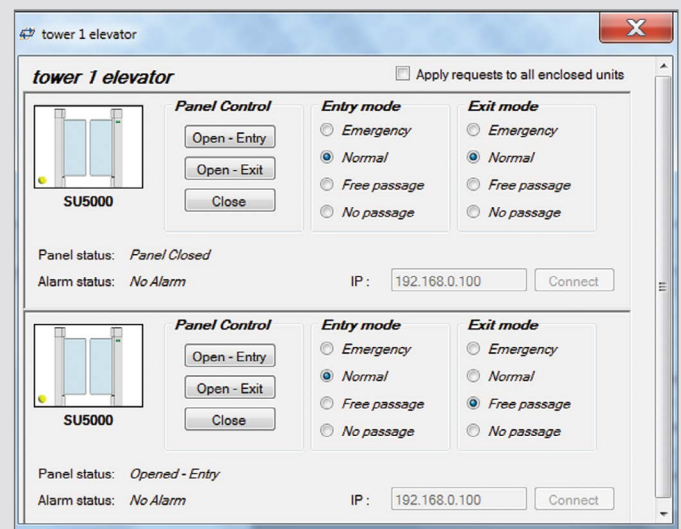


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PEDESTRIAN SECURITY GATES

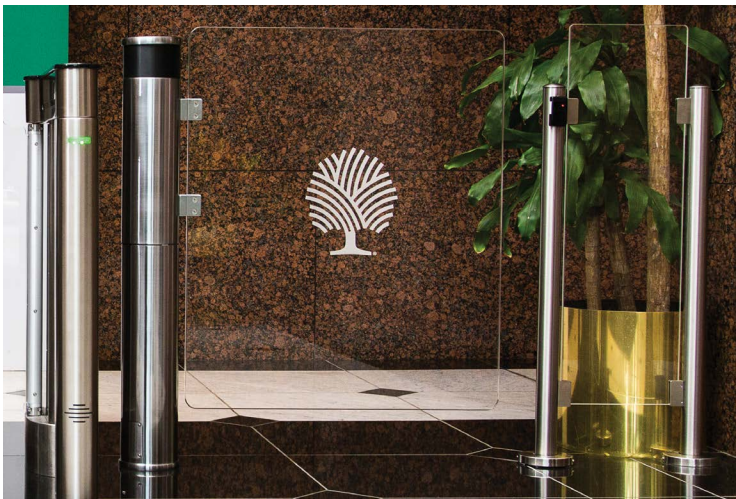
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

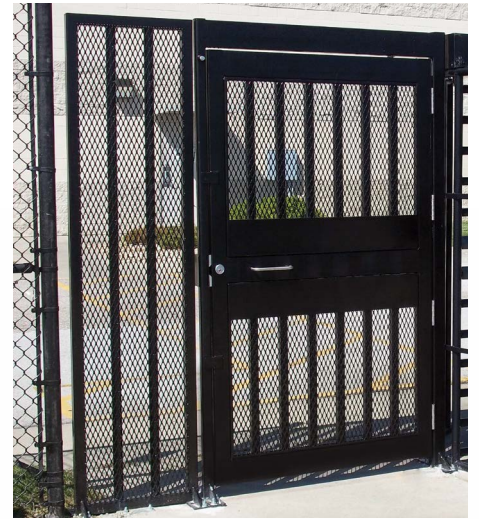
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



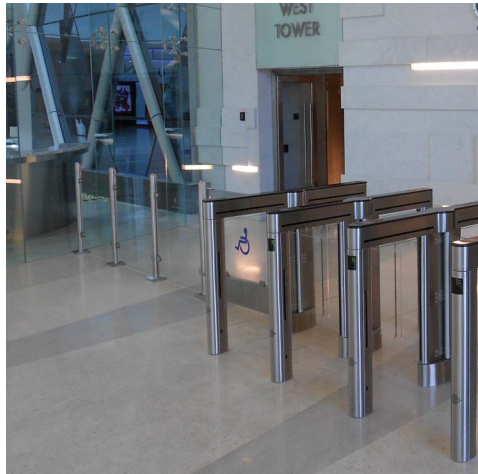
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

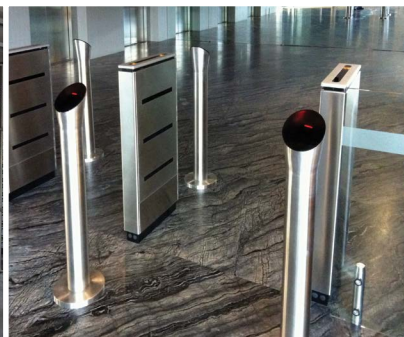
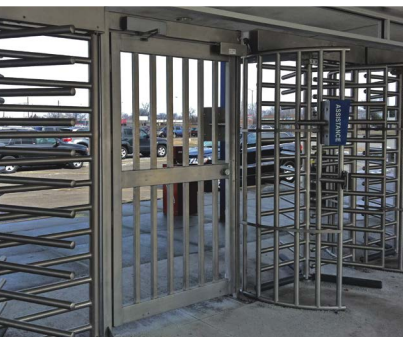


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

Alvarado products and solutions can be found globally. Our knowledgeable staff can assist with product selection, layouts and can direct you to local installers, integrators and service technicians. Installation images and detailed specifications can be found on our website, www.alvaradomfg.com.





model VSG

DESCRIPTIVE SPECIFICATIONS



(VSGX-1 model shown with acrylic panel and with steel infill bars)

VSG gates are ideal for use in providing special needs access or material delivery. Gates can be installed alone or used in conjunction with turnstiles and/or railing.

COMMON APPLICATIONS

- Entry/Exit Control
- Wheelchair/Disabled Access
- Deliveries

TYPICAL INSTALLATION SITES

- Corporate Facilities
- Sports Parks, Arenas & Stadiums
- Zoos & Amusement Parks

FUNCTION

The VSG is a self-closing gate that is an ideal product for use in applications where waist high or optical turnstiles are installed. The gate is suitable for special needs access and also provides a convenient method of facilitating material delivery or large group passage.

The VSG is available in electric locking and non-locking versions. Both versions are available with infill bars or a clear panel infill.

VSG gates open in a single direction and have a heavy duty hydraulic closure that closes the gate smoothly without banging. Electric lock versions integrate with access control systems and can be activated by entry control devices such as a push button installed at a guard or entry desk. Post outlets can be added to either the hinge or latch post to incorporate Alvarado post and railing.

AVAILABLE CONFIGURATIONS

VSG-1 (manual)

No locking hardware.

VSGX-1 (electric)

This electric gate has an electro-magnetic lock with a holding force of 600 lbs.

AVAILABLE FINISHES

SATIN STAINLESS STEEL

All external materials are polished to a satin (#4) finish.

MATERIALS

GATE

The Gate is a fully welded assembly consisting of 2" x 2" square stainless steel tubing with an 8" high kickplate on both sides of the gate. The gate is ordered with square infill bars, evenly spaced across the width of the gate, or a clear acrylic interior panel held in place with glass clips.

HINGE POST AND LATCH POST

The hinge and latch post are fabricated from 2.5" square stainless steel tubing and each contains a square base plate for anchoring and stainless steel base covers to hide anchoring bolts.

GATE CLOSURE

All VSG gates include a hydraulic self-closing closure mechanism.

ELECTRIC COMPONENTS & FUNCTIONALITY (ELECTRIC MODELS)

MAGNETIC LOCK (VSGX-1)

The electro-magnetic lock is fail safe, and has a current of draw of 250 mA @ 12VDC, and a holding force of 600 lbs.

ACTIVATION

VSGX-1

The VSGX-1 requires a sustained dry contact switch input to unlock the gate. The gate lock will not re-engage until the gate is closed and the switch is released.

OPTIONS

PUSH BAR

A switch activated push bar is wired into the magnetic lock and when depressed, unlocks the magnetic lock.

MAGNETIC DOOR STATUS SWITCH

When magnetic contacts are broken, output signal indicates that door is open. The switch is a SPST contact supplied with two lead in wires for field connection.

PUSH BUTTON ASSEMBLY

A 3.15" square switch box assembly constructed of stainless steel with a push button switch. Includes zinc plated mounting plate for attachment to wall, desk or other fixed item. The switch is field wired into the strike or magnetic lock power cable to unlock the gate from a remote position such as a guard or attendant desk.

RAILING OUTLETS

Railing outlets can be added to the hinge or latch post to accept Alvarado 1.75" railing.

SHIPPING & SITE PREPARATION

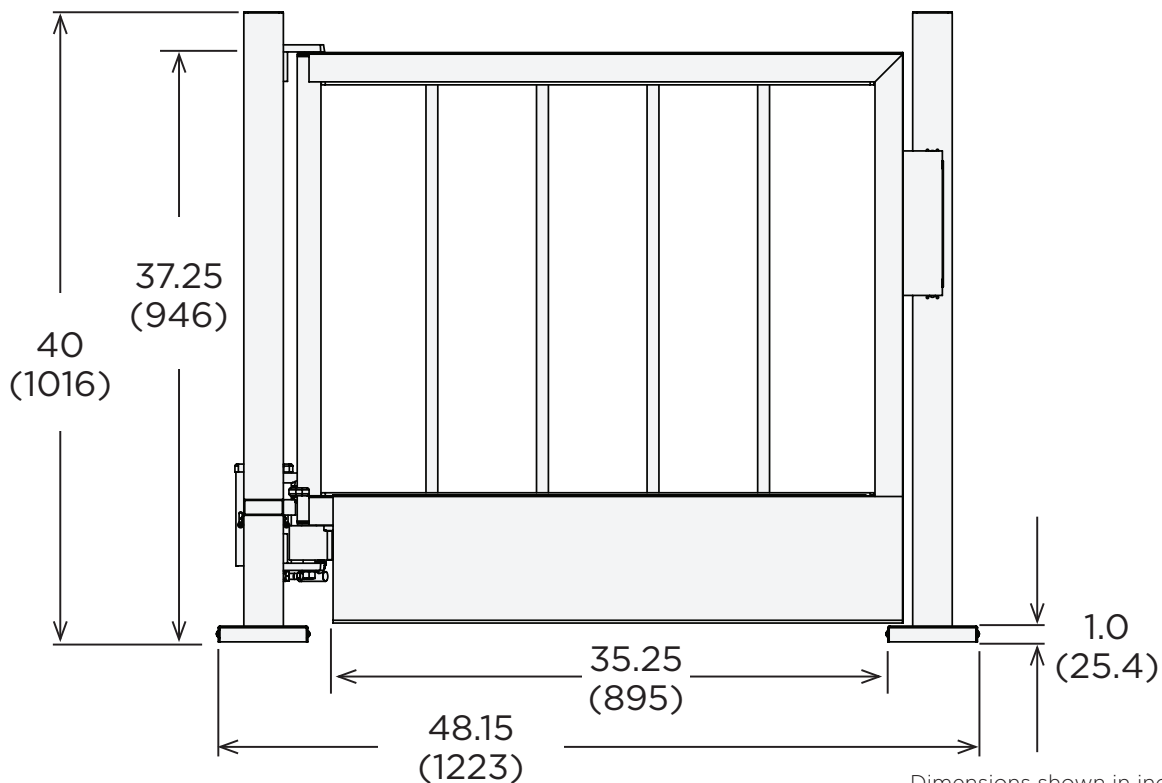
SHIPPING

VSG gates are shipped fully assembled and ready for installation.

SITE PREPARATION

All gates must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the unit. The recommended slab platform should be 4" deep, level concrete. Concrete anchors, bolts and washers are included with each gate. Installation should be performed by a skilled installer following Alvarado's directions and instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm).

WEIGHT, DIMENSIONS, ENVIRONMENT

	STANDARD	METRIC
PRODUCT WEIGHT	50 lbs.	23 kg
SHIPPING WEIGHT	165 lbs.	75 kg
HEIGHT	40"	1016mm
WIDTH	48.15"	1223mm
DEPTH	6"	152mm

Includes weight of shipping crate.

WARRANTY

For a period of one year from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



model **MSG**

DESCRIPTIVE SPECIFICATIONS



Our MSG full height security gates look and function much better than an on site or custom fabricated gate. With several models to choose from, the MSG can meet almost any application or requirement.

COMMON APPLICATIONS

- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control

TYPICAL INSTALLATION SITES

- Warehouse Facilities
- Petrol & Chemical Facilities
- Distribution Centers

FUNCTION

The MSG gate is a self-closing full height security gate. Various models are available, including electric locking versions that can be integrated with an access control system. All MSG models are self-closing and include a heavy duty hydraulic closure mechanism. All gates are ordered with either a right or left hand swing. MSG gates are often installed in conjunction with Alvarado's full height turnstiles.

AVAILABLE CONFIGURATIONS

MSG (no locking hardware)

Features a pull handle on the entry side.

MSG1 (manual lock control)

Features key lock control on the entry side, and a mechanical push bar on the exit side. A mesh infill is included to prevent reach-through activation of the push bar.

MSGX (magnetic lock control)

Features a magnetic lock (fail-safe) and pull handle on the entry side.

MSGXPX (magnetic lock control)

Features a magnetic lock (fail-safe) and pull handle on the entry side, and a microswitch push bar on the exit side. A mesh infill is included to prevent reach-through activation of the push bar.

MSGXS (electric lock control)

Features an electric strike lock (fail-lock) and pull handle on the entry side.

MSGXE (electric lock control)

Features an electric strike lock (fail-lock), key lock control and pull handle on the entry side, and a mechanical push bar on the exit side. A mesh infill is included to prevent reach-through activation of the push bar.

AVAILABLE FINISHES

GALVANIZED

All exterior steel materials are hot-dip galvanized to ASTM Standards A123 / A153.

STAINLESS STEEL

Gate and frame are fabricated from #304 stainless steel with a satin finish.

POWDER COATED OVER GALVANIZED FINISH

All exterior tubing and sheet metal surfaces receive an underlying coating of hot molten zinc. Sub-assemblies are treated to allow for the application of powder coat over the galvanized finish.

MATERIALS

GATE

The Gate is a fully welded assembly consisting of 2" x 3" vertical and 2" x 5" horizontal structural steel tubing. Vertical infill bars of 1.5" square tubing are spaced evenly across the width of the gate.

GATE FRAME

The Gate Frame is a fully welded assembly consisting of 2" square vertical and 2" x 5" horizontal structural steel tubing. The frame includes two welded 1/4" thick base plates for mounting to a concrete slab.

INFILL MESH

Infill Mesh is included on certain models. Infill mesh is a diamond mesh pattern and is added to the upper and lower portions of the gate.

HYDRAULIC CLOSURE

The hydraulic gate closure mechanism installed on all gates is a Norton Model # 7500.

MECHANICAL COMPONENTS & FUNCTIONALITY**MANUAL DEADBOLT LOCK (MSG1)**

Manual key lock control in the entry direction.

MECHANICAL PUSH BAR (MSG1 & MSGXE)

The Von Duprin Model 98E0US28 is a mechanical push bar that unlocks the gate when depressed.

MICROSWITCH PUSH BAR (MSGXPX)

The Gianni Model PBA-840 is a microswitch push bar that interrupts electrical contact with the magnetic lock to unlock the gate and allow exit.

ELECTRIC COMPONENTS & FUNCTIONALITY (ELECTRIC MODELS)**MAGNETIC LOCK (MSGX & MSGXPX)**

Gianni Model GL-1200 is a magnetic lock. It is fail-safe, and has a current of draw of 250 mA @ 12VDC, and a holding force of 1200 lbs.

ELECTRIC STRIKE LOCK (MSGXE)

Von Duprin Model 6111 is an electric strike lock that allows for key & push bar override. It is fail-lock and has a current draw of .57 A @ 12VDC.

ELECTRIC STRIKE LOCK (MSGXS)

Gianni Model GK-300 is an electric strike lock. It is fail-lock and has a current draw of 250 mA @ 12VDC

ACTIVATION**MSGX AND MSGXPX**

MSGX and MSGXPX models require a sustained dry contact to unlock the gate. The gate lock will not re-engage until the switch is released and the gate is closed. The MSGXPX includes a microswitch push bar which, when depressed, provides a contact to the magnetic lock to unlock the gate and allow exit.

MSGXS & MSGXE

MSGXS and MSGXE requires a sustained normally open switch input to unlock the electric strike lock. The gate lock will not reengage until the switch is released and the gate door is closed. Model MSGXE includes a mechanical push bar which, when depressed, mechanically unlocks the gate and allows exit. This model also includes a mechanical key override of the lock to allow access in the entry direction.

OPTIONS

INFILL MESH

Infill Mesh is included on certain models and is available as an option on others. Infill mesh is a diamond mesh pattern and is added to the upper and lower portions of the gate.

DEAD BOLT LOCK; DOUBLE CYLINDER

Key operation on both sides of the gate. Available on the MSG1 and MSGX.

DEAD BOLT LOCK; SINGLE CYLINDER

Key operation on one side; a thumb turn knob (also known as a thumb latch) is installed on the opposite side. Available on the MSG1 and MSGX. Consider mesh infill if this option is utilized.

CARD READER UNIVERSAL ATTACHMENT ASSEMBLY

The Card Reader Universal Attachment Assembly is added to the gate frame on the entry side, the exit side or both sides of the gate. The assembly accepts an additional plate designed to fit the reader used in the installation. This option is available on the MSGX, MSGXPX, MSGXE and MSGXS models.

MAGNETIC DOOR STATUS SWITCH

When magnetic contacts are broken, output signal indicates that door is open. The switch is a SPST contact supplied with two lead in wires for field connection. This option is available on all models.

PUSH BUTTON ASSEMBLY

A 3.15" square switch box assembly constructed of stainless steel with a DPDT push button switch. Includes zinc plated mounting plate for attachment to wall, desk or other fixed item. The switch is field wired into the strike or magnetic lock power cable to unlock the gate from a remote position such as a guard shack. This option is available for the MSGX, MSGXPX, MSGXE and MSGXS models.

SHIPPING & SITE PREPARATION

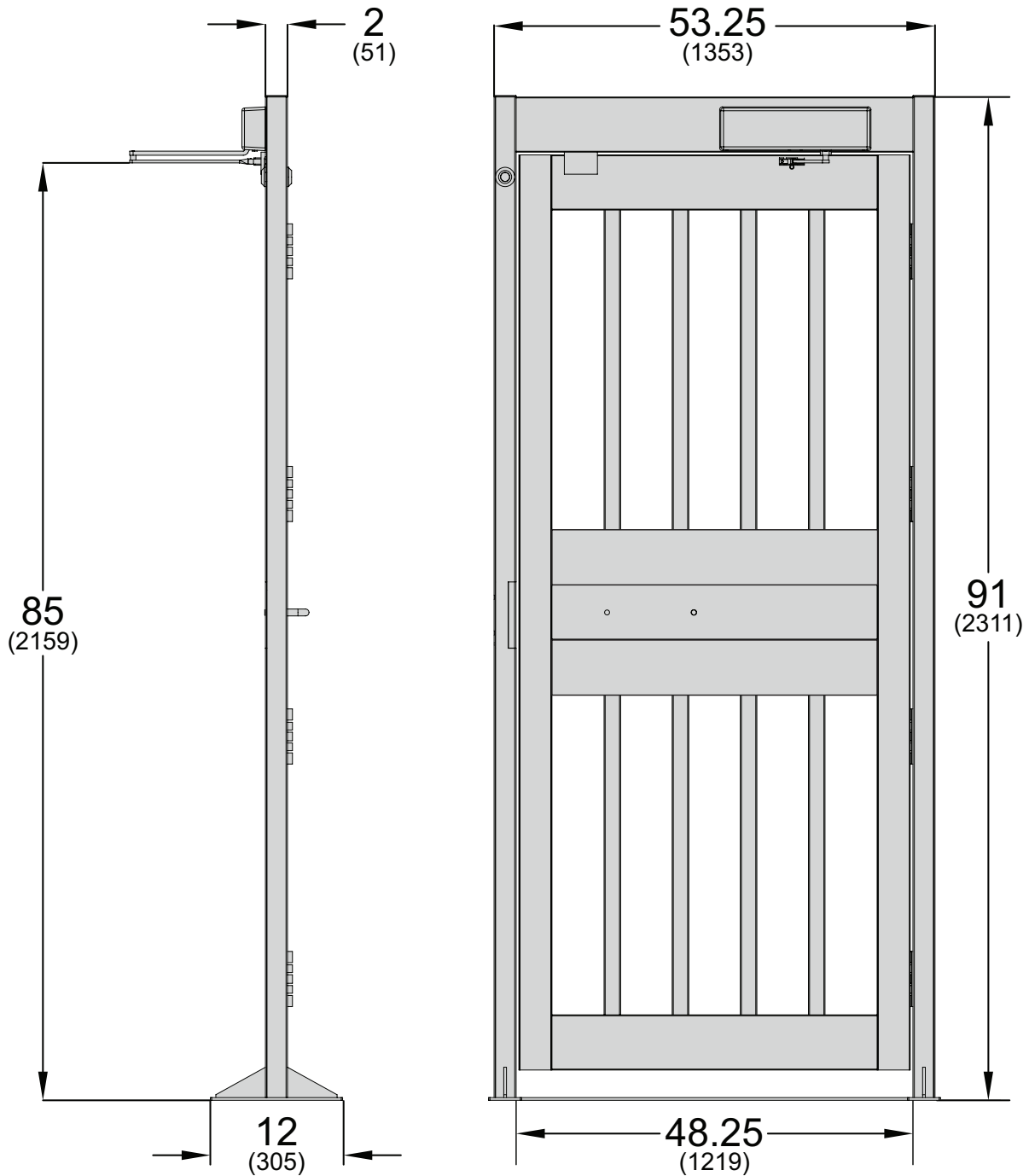
SHIPPING

MSG gates are shipped fully assembled and ready for installation.

SITE PREPARATION

All gates must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the unit. The recommended slab platform should be 4" deep, level concrete. Concrete anchors, bolts and washers are included with each gate. Installation should be performed by a skilled installer following Alvarado's directions and instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm).

ELECTRICAL		
	DESCRIPTION	
TRANSFORMER	120VAC to 12 VDC.	
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 12VDC operation.	
WEIGHT, DIMENSIONS, ENVIRONMENT		
	STANDARD	METRIC
PRODUCT WEIGHT	350 lbs.	159 kg
SHIPPING WEIGHT	500 lbs.	227 kg Includes weight of shipping crate.
HEIGHT	91.0"	2311mm
WIDTH	53.25"	1353mm
BASE WIDTH	12"	305mm

WARRANTY

For a period of one year from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.

MOTORIZED GATE

SW1000

DESCRIPTIVE SPECIFICATIONS



The SW1000 is a stylish motorized gate that provides single direction or bi-directional access control.

COMMON APPLICATIONS

- Employee / Visitor Access Control
- Wheelchair / Disabled Access Control
- Bulky Item Delivery

TYPICAL INSTALLATION SITES

- Corporate Lobbies
- Health Clubs / Recreation Centers
- Entertainment Venues

FUNCTION

The SW1000 provides single direction or bi-directional access control. The SW1000 is an ideal product to provide disabled or delivery access in conjunction with our waist high or optical turnstiles. In closed or home position, the barrier is held in place by motor force and an electromechanical locking device. Upon receipt of a dry contact input from an access control system or input device such as a push button, the locking device disengages and the motorized barrier will open 90 degrees away from the signal direction.

The SW1000 is microprocessor controlled. Programmable features are factory set at appropriate levels for most applications, but various features of the product are PC programmable (see Functionality – User Customizable Features, below).

Access control readers or push buttons for patron use attach to pedestals located on either side of the gate. Activation by attendant or guard personnel can be accomplished by installing a push button or key activation device at the guard or attendant station.

An input is available for fire alarm systems. When received, the gate opens in the exit direction and remains open until the input is removed.

In the event that power to the unit is removed, the barrier can be manually moved to the open position with less than 2 lbs. of force.

The SW1000 is available as a tandem gate set – the SW1000T.

AVAILABLE CONFIGURATIONS

SW1000

The SW1000 consists of a single gate.

SW1000T

The SW1000T consists of two gates that operate in tandem. Posts are on either end with panels facing inward. The SW1000T provides approximately double the passage opening as the single gate SW1000.

AVAILABLE FINISHES

SATIN CHROME & POWDER COATED

Post cladding has a satin chrome finish (similar in appearance to satin stainless steel). Powder coating and custom plated finishes are available - see Options.

MATERIALS

POST

The gate post is fabricated from plated steel.

MOVING BARRIER

The barrier is fabricated from 0.5" (13mm) thick acrylic with abrasion resistant coating.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL

The precise movement of the SW1000's barrier is controlled through a DC brushless motor working in conjunction with a position encoder and motor controller. Motor control software provides closed loop position control for precise movement and operational control.

Third party access systems interface to the SW1000 using voltage free dry contacts. An I/O board for connection is located inside the gate.

PASSAGE MODES

The SW1000 offers the following passage modes:

Bi-Directional Controlled Passage - In this mode, the barrier is in the closed or home position. Upon receipt of an authorization signal from either an access system or dry contact emitting control device, the barrier moves away from the signal direction to the open position (approximately 90 degrees from home). The barrier remains open for a defined dwell time, then returns to the closed position.

If an authorization signal is received while the barrier is closing, the barrier stops and returns to the open position.

Single Direction Passage - In this mode, the barrier is in the closed or home position. Upon receipt of an authorization signal from either an access system or dry contact emitting control device, the barrier moves away from the signal direction to the open position (approximately 90 degrees from home). The barrier remains open for a defined dwell time, then returns to the closed position. In this mode, the barrier opens in one direction only.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES

Prior to shipping, gates are configured with settings that are appropriate for most facilities. A summary of software configurable features is listed below:

BARRIER BREAKAWAY

The SW1000 utilizes motor force and an electromechanical brake to provide resistance against a user pushing or pulling the barrier open. When the barrier is forced, an alarm sounds, the barrier "breaks away" and then can be moved manually. After a defined time the gate resets and resumes normal operation. The force it takes to push or pull the barrier open is adjustable, up to the product maximum.

BARRIER CYCLE AND DWELL TIME

This is an adjustable feature. Opening / closing speed and dwell time is factory set. Adjustments can be made within set limits appropriate for the installation application.

BARRIER IMPACT

Should the barrier encounter an obstruction while opening or closing, the barrier will stop moving and an alarm will sound. After a defined period, the barrier resets and the gate resumes normal operation.

EMERGENCY OVERRIDE / FIRE ALARM

Activation to open the barriers in conjunction with a fire alarm system is achieved by supplying a sustained dry contact to the appropriate input point. When received, the gate opens in the exit direction and remains open until the input is removed. Upon removal, normal operation resumes.

POWER FAILURE

When power is removed from the unit, the barrier of the SW1000 can be freely moved in either direction. When pushed or pulled to the open position, the barrier remains open. When power is restored, the gate resumes normal operation.

CARD READERS

Alvarado provides an optional pedestal to mount card readers and activation devices (see Options). Devices can also be installed on existing walls, cabinetry or equipment. There is no space to attach readers or activation devices directly to the gate.

INTERFACE TO ACCESS CONTROL SYSTEM

The SW1000 is activated (opened) by supplying an isolated, voltage free, momentary dry contact at the appropriate location on the product I/O control board. Two inputs, which signal the gate to open, are available for each direction of operation.

OPTIONS

ALTERNATE FINISHES

The Post can be plated with an alternate plated finish such as bright chrome or brass. Powder coating in one of Alvarado's many colors is also available.

ALTERNATE POWER SUPPLY

A 220-240VAC, 50 Hz power supply and appropriately rated key switch are utilized.

BARRIER HEIGHT

The standard barrier height is 39" from the floor. An optional "mid" barrier height, which is 46" from the floor, is available.

BARRIER ETCHING

Customer's choice of logo/artwork may be etched on the barrier. Contact Alvarado for artwork requirements.

CONDUIT REQUIREMENTS

SW1000

PRIMARY (AC) POWER CONDUIT

.5" conduit for primary power is run up and into the Post. 110-120VAC is standard.

ACTIVATION SIGNAL CONDUIT

.5" conduit for activation signal(s) and fire alarm input. Also used for outputs, if applicable.

SW1000T

PRIMARY (AC) POWER CONDUIT

.5" conduit for primary power is run up and into the Master Gate.

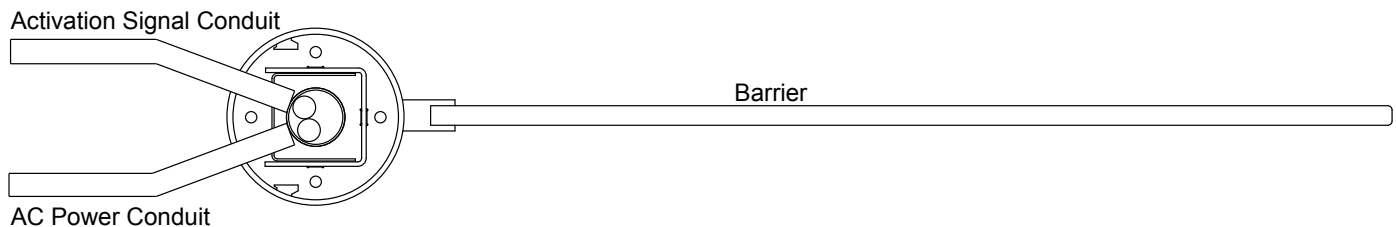
LOW VOLTAGE (DC) POWER CONDUIT

.5" conduit for DC power is run from the Master Gate to the Slave Gate.

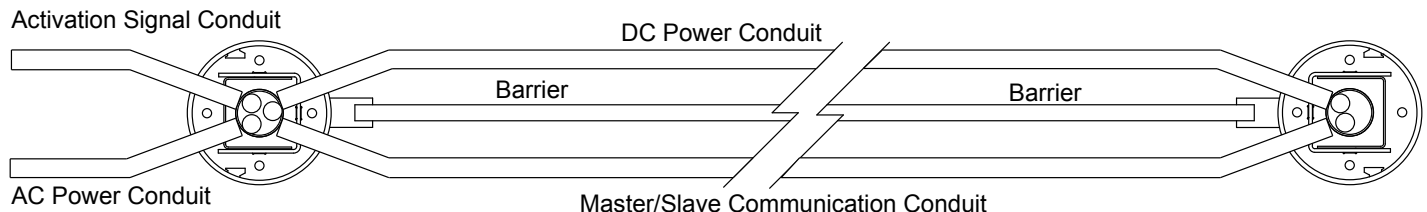
MASTER/SLAVE COMMUNICATION CONDUIT

.5" conduit that tee's off the Activation Signal Conduit at the Master Gate. This conduit is used to run communication signal wire between the Master Gate and Slave Gate. The communication signal wire synchronizes barrier opening and closing between the Master and Slave Gate.

SW1000 CONDUIT



SW1000T CONDUIT



DESCRIPTIVE SPECIFICATIONS

MOTORIZED GATE

SW1000

SHIPPING & SITE PREPARATION

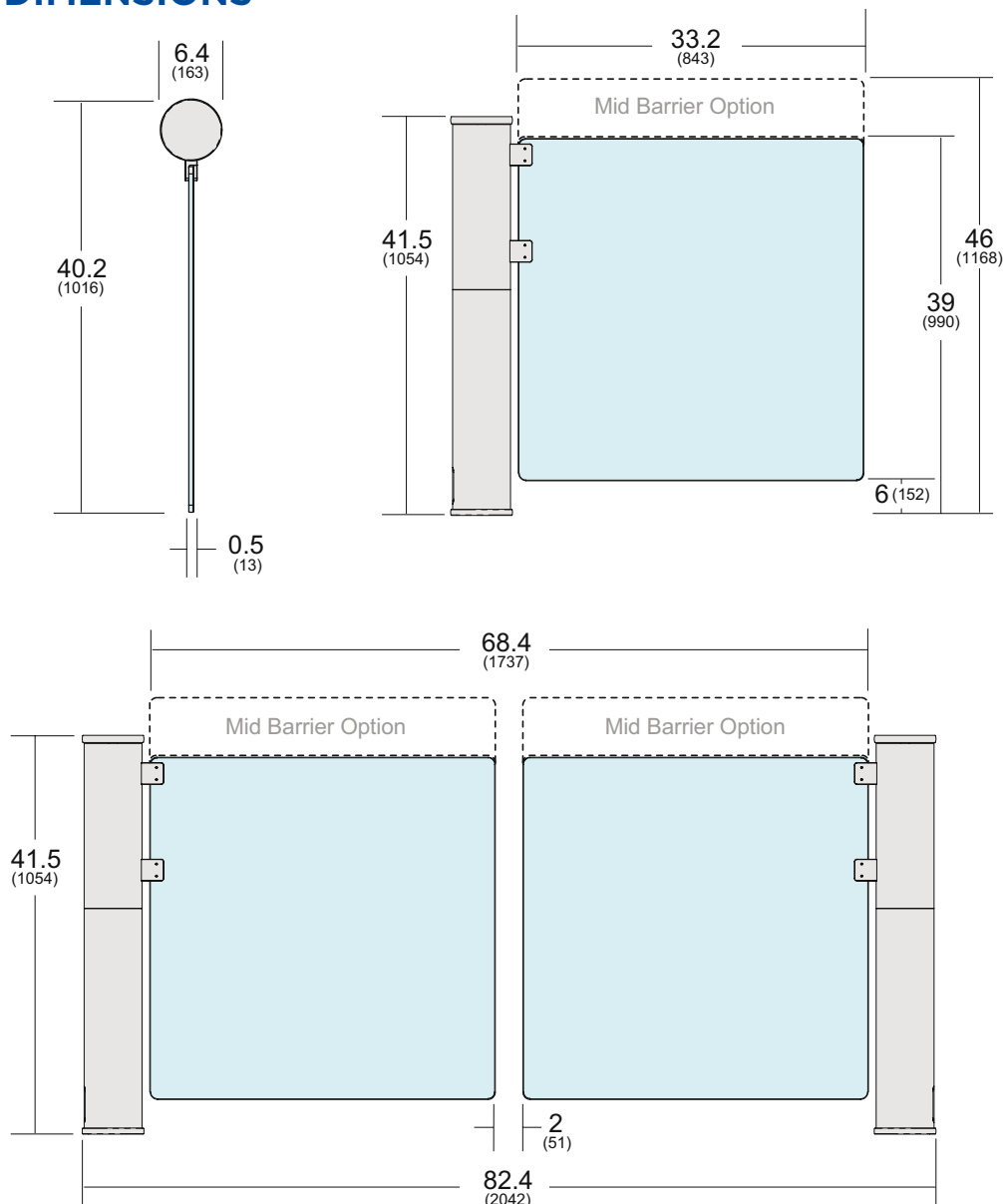
SHIPPING

The SW1000 is shipped with mounting hardware and assembly and operational instructions.

SITE PREPARATION

The SW1000 must be installed on a firm foundation in a manner that allows the required power and signal cabling to be pulled into the cylindrical tower. The slab platform should be a minimum of 4" deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



DESCRIPTIVE SPECIFICATIONS

MOTORIZED GATE

SW1000

ELECTRICAL		
	DESCRIPTION	
POWER SUPPLY	100 - 240 VAC, 6.0 A, 50/60 Hz	
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 24 VDC, 12 VDC & 5 VDC operation	
ON/OFF KEY SWITCH	An on/off key switch is located on each gate	
FUSE PROTECTION	A 2.5 amp (slo-blo) fuse is installed on each gate	
SURGE PROTECTION	Alvarado suggests use of surge protection equipment in connection with the installation to protect electronics.	
DRIVE MOTOR	24V BLDC	
WEIGHT, DIMENSIONS, ENVIRONMENT		
	STANDARD	METRIC
PRODUCT WEIGHT*	105 lbs	48 kg *Weight for a standard gate
SHIPPING WEIGHT**	280 lbs	127 kg **Includes weight of shipping crate(s)
HEIGHT	41.5"	1054 mm
WIDTH	40.4"	1026 mm
DEPTH	6.4"	163 mm
OPERATING TEMP. RANGE	14° F to 140° F	-10° C to 60° C
STORAGE TEMP. RANGE	14° F to 140° F	-10° C to 60° C
RELATIVE HUMIDITY	20% - 90% (non-condensing)	

WARRANTY

For a period of 12 months from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

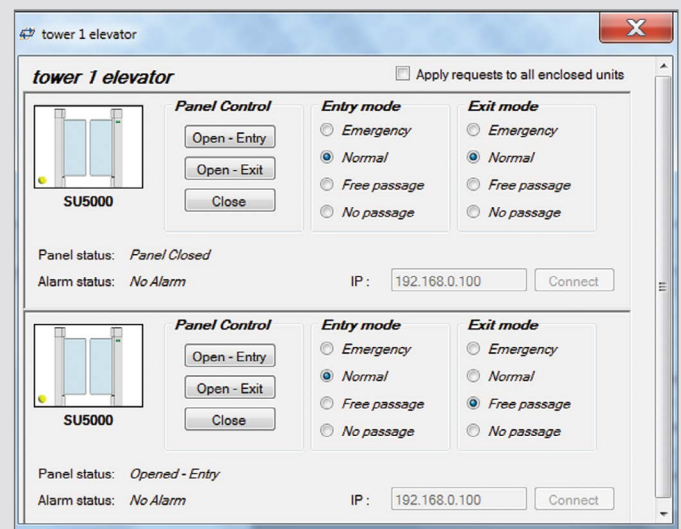


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

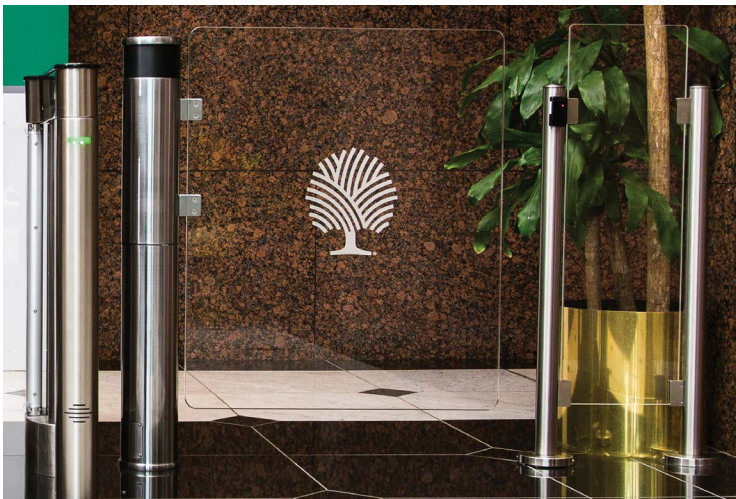
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

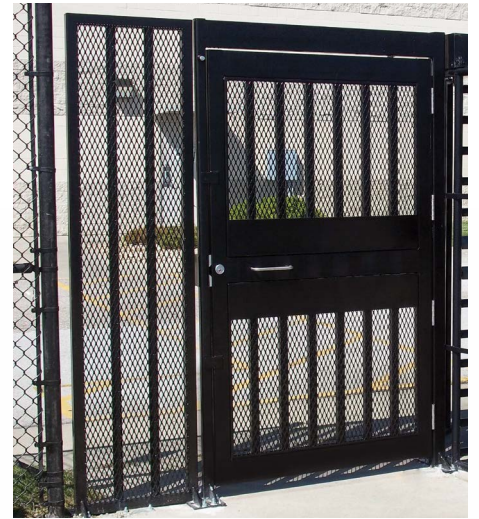
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



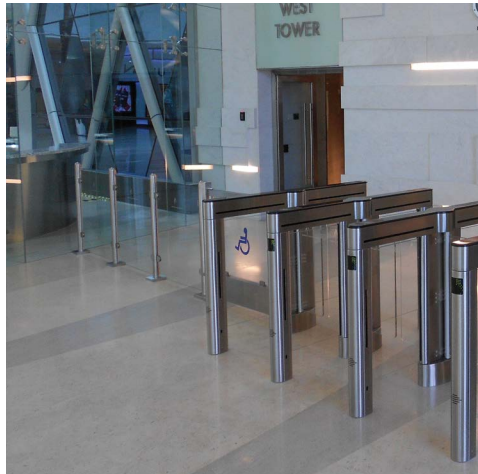
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

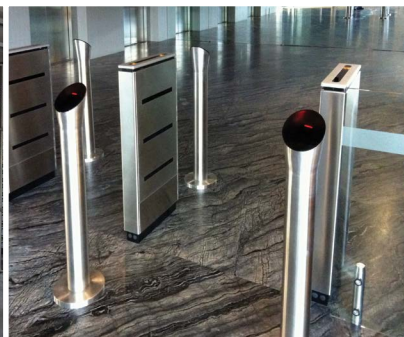
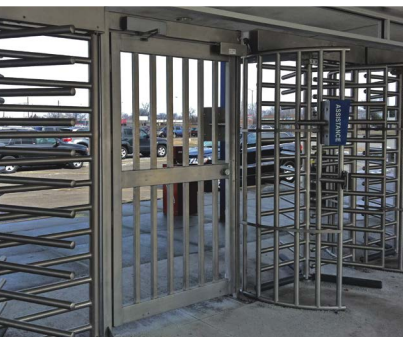


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

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Secured Entry Control

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WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



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Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

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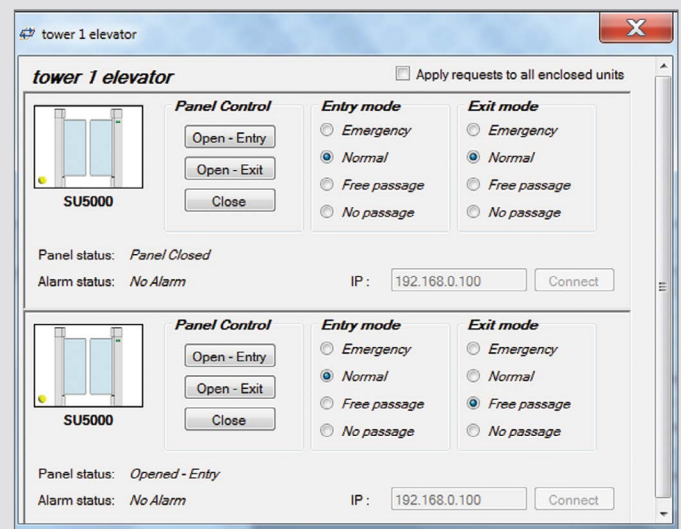


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MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





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FMST

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MST47

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WAIST HIGH TURNSTILES

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Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

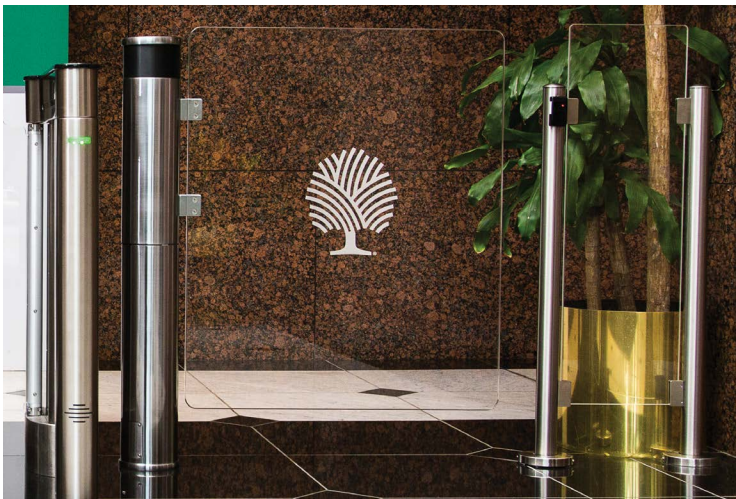
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Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

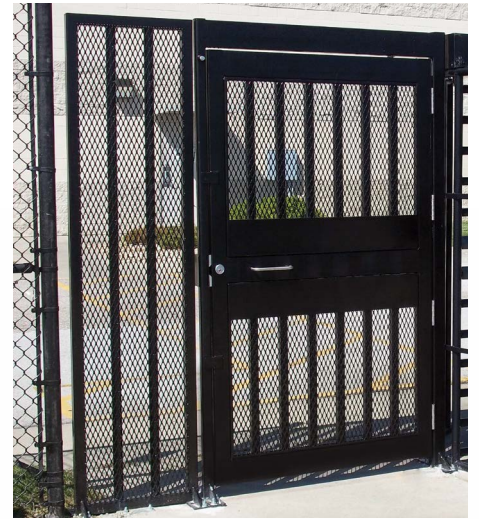
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

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Side Panel Illumination

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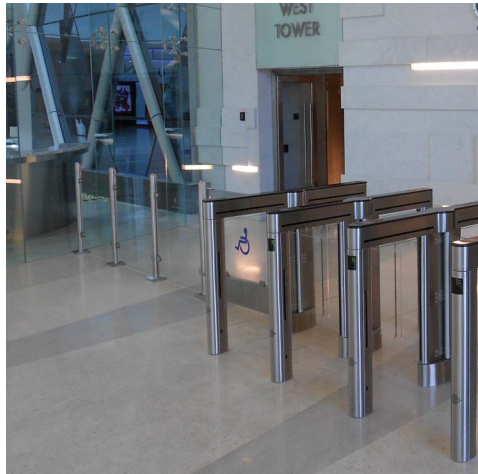
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Infill and Barrier Sections

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Alternate Materials

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MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

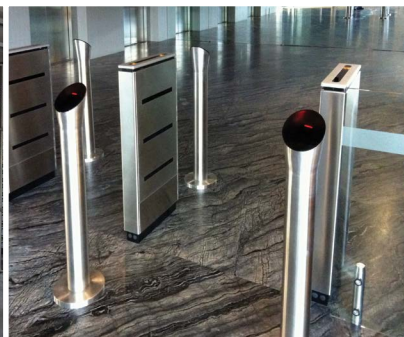
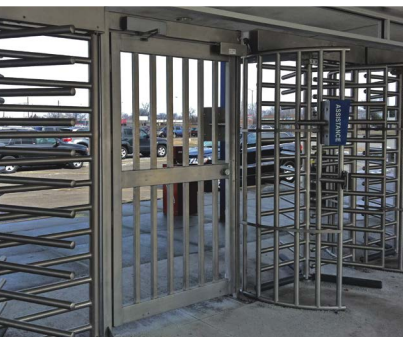


SU3500
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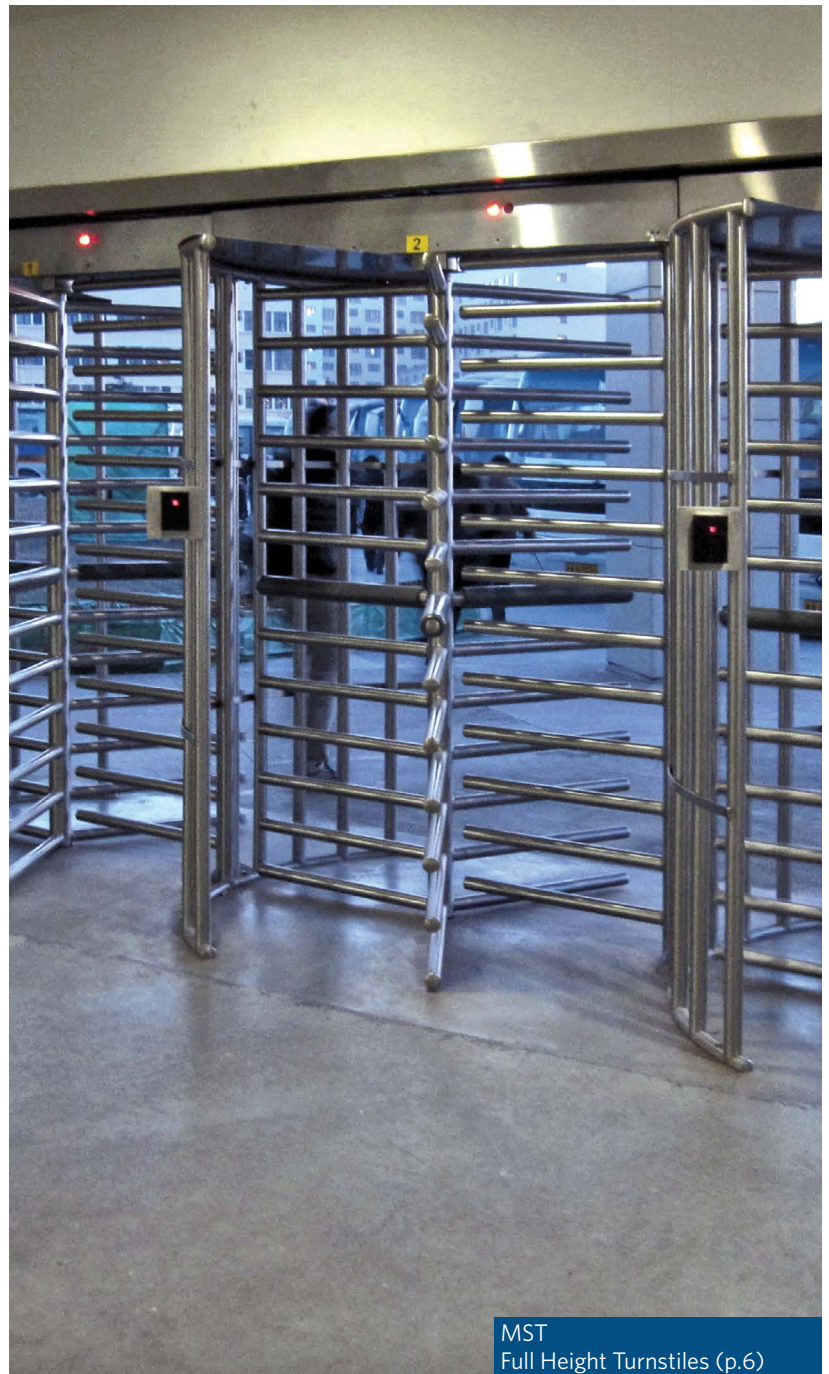
SU5000
Optical Turnstiles (p.2-3)



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MSG
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MST
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SU5000

Aesthetic Options

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- Alternative finishes



SU5000

Barrier Height Options

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Low Height



Mid Height



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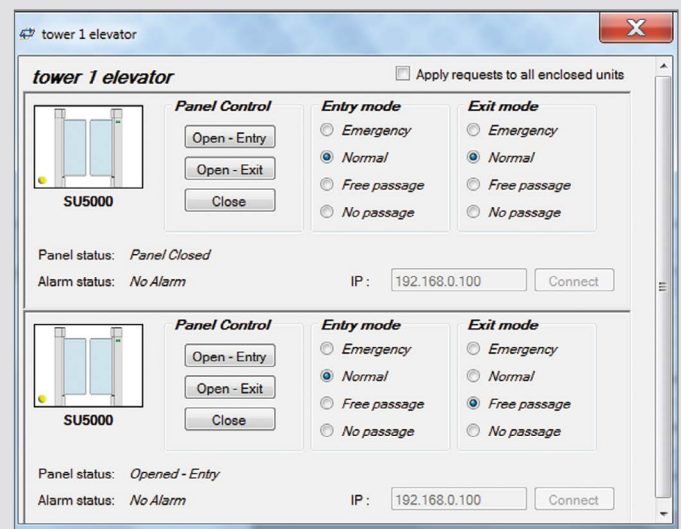


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MST

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PEDESTRIAN SECURITY GATES

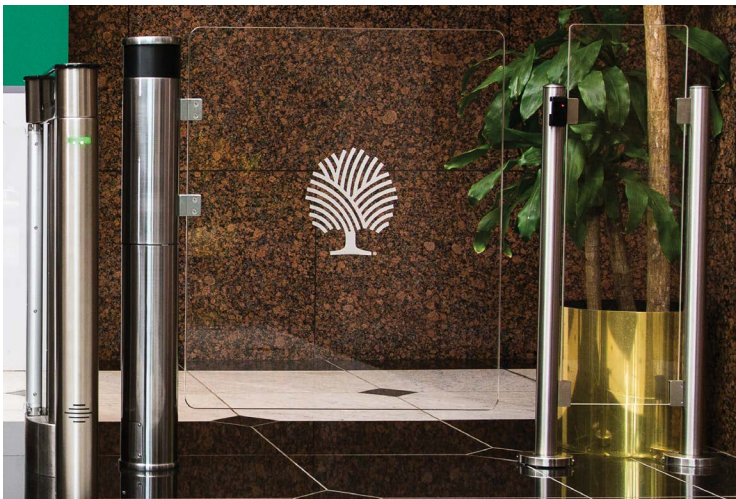
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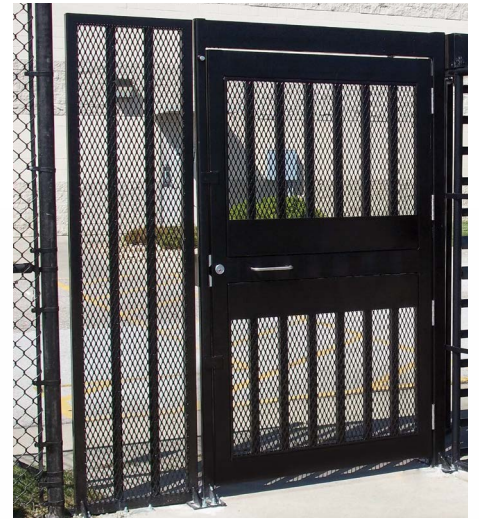
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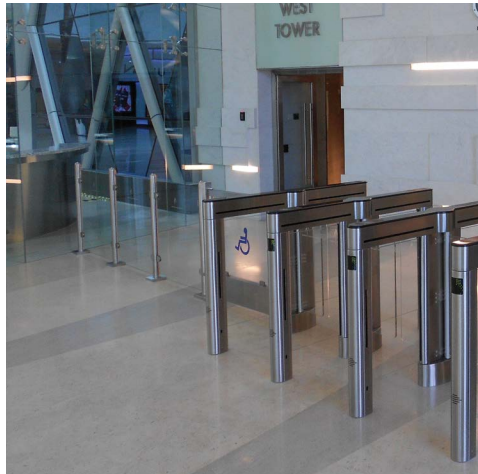
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MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

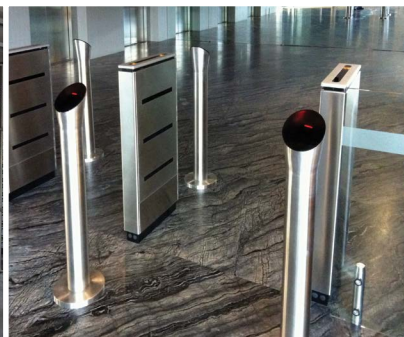
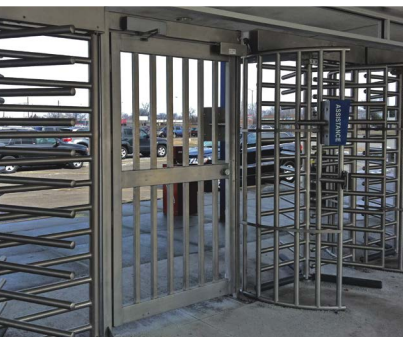


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

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Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

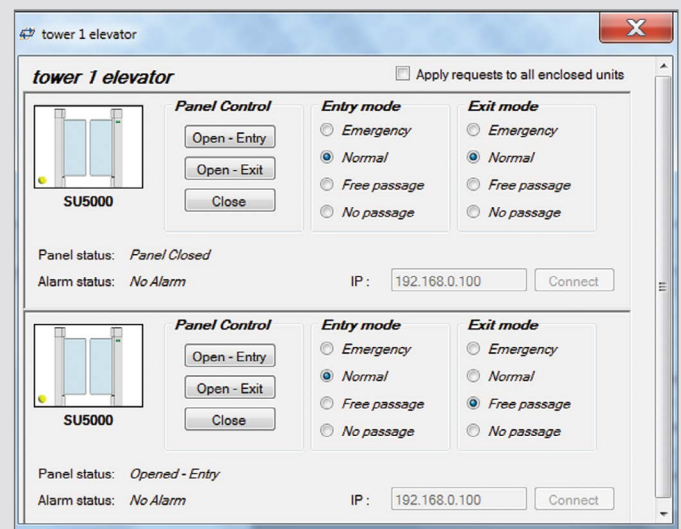


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

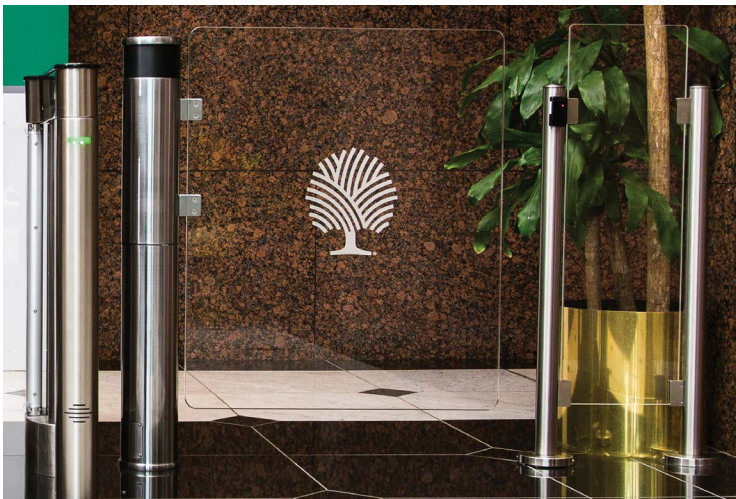
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Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

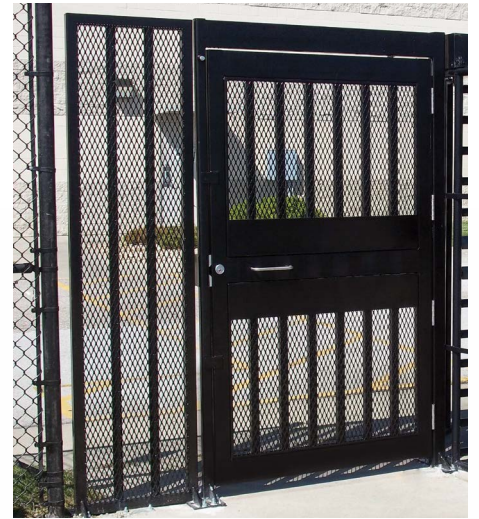
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



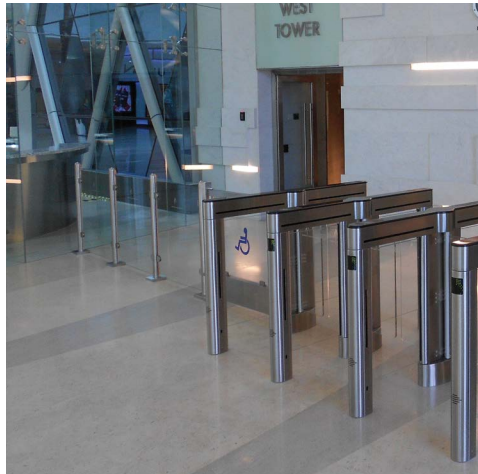
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



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Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

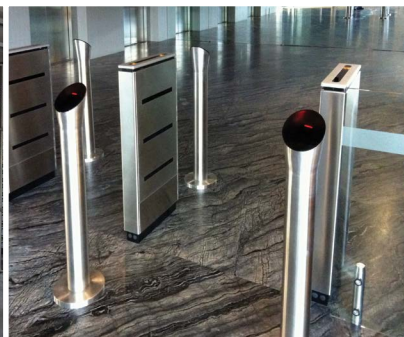
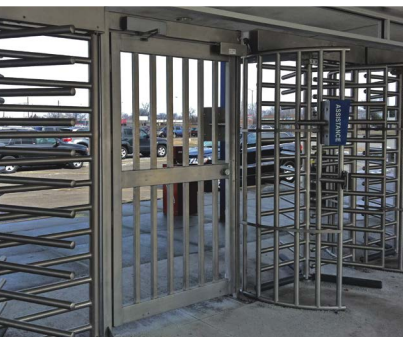


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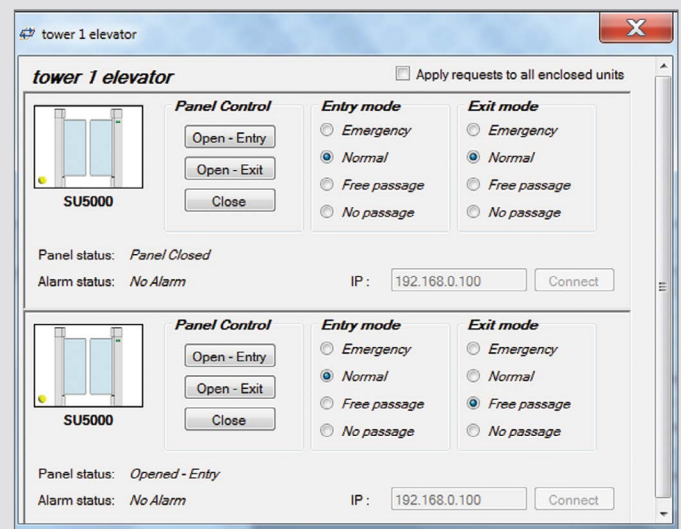


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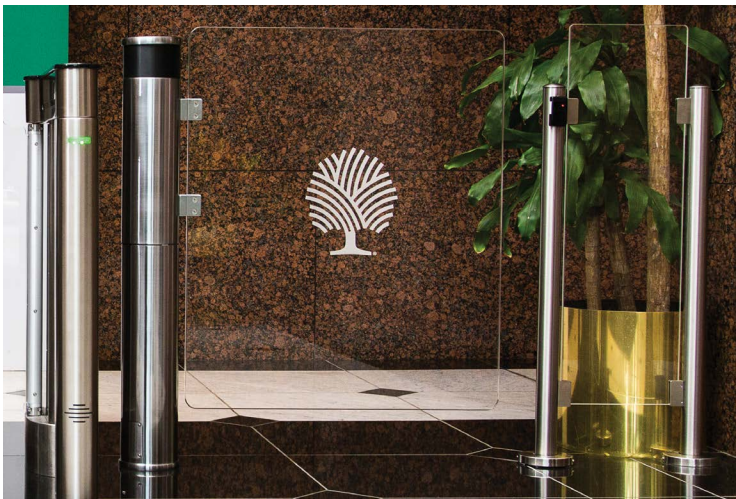
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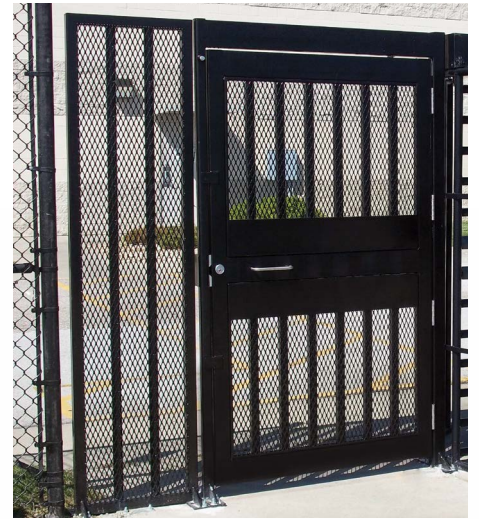
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MSG

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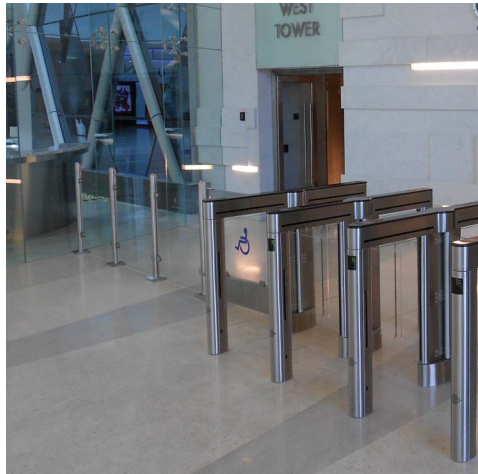
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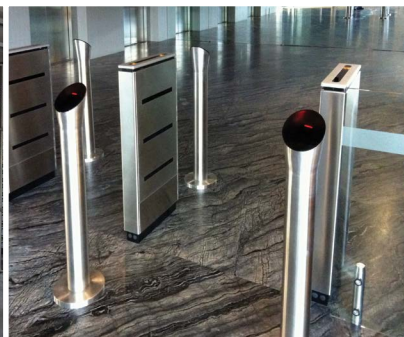
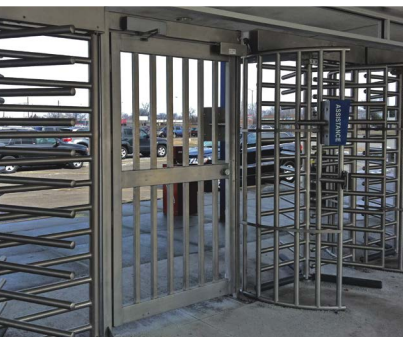


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MST

DESCRIPTIVE SPECIFICATIONS



The MST is the most trusted, secure and reliable full height turnstile available. It is installed in thousands of locations around the world and offers key product features and benefits only provided by Alvarado. Electrically controlled MST models integrate with any access control system.

COMMON APPLICATIONS

- Perimeter Control/Fence Line Security
- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control
- Unmanned Point of Entry
- Single Direction Traffic Control / One-Way Exiting

TYPICAL INSTALLATION SITES

- Military Installations
- Refineries & Power Distribution Centers
- Ports, Harbors & Airports
- Construction Sites
- Correctional Institutions
- Manufacturing & Distribution Centers
- City Parks & Recreation Sites
- Sports Parks, Arenas & Stadiums
- Zoos & Amusement Parks

FUNCTION

MST turnstiles are designed to control access into and out of facilities. Among its many attributes, the MST comes with self-adjusting, self-centering, speed control. This unique feature ensures a consistently even rotation, and smoothly self-centers the turnstile under all conditions. The MST is suitable for indoor or outdoor use. Contact Alvarado for recommendations on finishes and specific weatherization options for harsh environments.

AVAILABLE CONFIGURATIONS

MST-3 (MANUAL CONTROL)

Using key lock control, the MST-3 can be configured to provide free passage in both directions; free passage in one direction and restricted passage (locked) in the opposite direction; or restricted passage (locked) in both directions.

MST-6X (ELECTRIC LOCK CONTROL)

Provides separate electric lock controls for both directions. The key lock override controls described in the manual control unit above are included. The MST-6X interfaces with virtually any access control system.

AVAILABLE FINISHES

GALVANIZED

All exterior steel materials are hot-dip galvanized to ASTM Standards A123 / A153. Galvanized units, like all Alvarado MST's, have stainless steel top channel covers.

POWDER COATED

All exterior steel materials are powder coated. Powder coating is available in a variety of colors.

STAINLESS STEEL

All external materials are fabricated from #304 stainless steel polished to a #4 satin finish. Exterior welds are electro-polished.

POWDER COATED OVER GALVANIZED OR STAINLESS STEEL

External galvanized or stainless steel materials are powder coated. Powder coating is available in a variety of colors.

MATERIALS

TOP CHANNEL

The exterior housing is fabricated from 16-gauge #304 stainless steel, regardless of finish. The interior top channel frame is a 7" wide U-frame fabricated from 4-gauge powder-coated steel. The top channel houses the control mechanism and electrical components.

YOKE GUARD PLATE (COVER)

A 16-gauge steel (or #304 stainless steel) sheet securely fastens to the top channel & yoke.

YOKE (CURVED SECTION)

The yoke is a fully welded single assembly consisting of 10 vertical tubes notched and welded to two upper and lower horizontal tubes. Two 3/16 x 1" steel straps are welded to the vertical tubes for support. Vertical tubes and upper and lower horizontal tubes are 1.75" OD x 16-gauge steel (or #304 stainless steel) tubing. Electrically controlled models come with card reader plate receivers welded to the outside vertical yoke tube. Card reader attachment plates attach to the receivers to allow easy attachment of access control devices to the turnstile. No external fasteners are used in the construction of the yoke.

ROTO (ROTATING SECTION)

The roto is a fully welded single assembly consisting of 13 arms per section (total of 39 arms per roto) notched and welded to a vertical tube. Arms are 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing. The vertical tube is 3" OD x 6-gauge steel (or #304 stainless steel) tubing. Arms have either a welded metal cap (powder coated or stainless steel models) or a ribbed, force-fit plastic cap (galvanized models). No external fasteners are used in the construction of the roto.

OV (BARRIER SECTION)

The OV is a fully welded single assembly consisting of 13 arms notched and welded to a vertical tube. Arms are 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing. The vertical tube is 3" OD x 6-gauge steel (or #304 stainless steel) tubing. Arms have either a welded metal cap (powder coated or stainless steel models) or a ribbed, force fit plastic cap (galvanized models). No external fasteners are used in the construction of the OV.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

Turnstile Control Board - The turnstile control board (TCB) is a conformal-coated controller that controls activation and turnstile functions. Activation for either direction of operation is achieved by supplying a momentary dry contact to the TCB. Terminal strips on the board provide access to the available I/O. Communication between the turnstile and access control system is in the form of dry contact inputs and outputs. A primary power to low voltage, UL Listed transformer located in the turnstile top channel provides appropriate low voltage power to the TCB. The transformer may be bypassed by providing either 10VAC or 13.5VDC directly to the TCB.

Locking Control - The locking and unlocking of the turnstile is controlled with hardened-steel lock arms that are moved into the appropriate locked or unlocked position by continuous duty rated solenoids and spring assemblies. There is independent control of each rotational direction.

Opto-Interruptor Detection Assembly - Rotation of the turnstile is detected by an internal opto-interruptor assembly. No mechanical microswitches are used.

Speed Control & Self-Centering Mechanism - Turnstiles have Alvarado's speed control system that self-adjusts to the pushing force of the user. This ensures a safe, controlled, turnstile rotation and safely and smoothly returns the rotating turnstile section to the home position.

Cam Shaft Assembly, Splined Connection - The cam and shaft assembly consists of a stainless steel, investment cast lobed cam welded to a splined shaft. The splined shaft fits into a reciprocal splined coupling in the top of the roto, creating a solid non-slip connection that ensures very precise movement and reduces mechanism wear. The design makes it mechanically impossible to improperly install the roto of the turnstile.

Enclosed Bearing Assemblies - The cam and shaft assembly housed in the top channel rotates in a bearing assembly consisting of two outdoor-rated precision bearings. The upper visible bearing is protected by a sheet metal cover. The roto is installed on an outdoor-rated lower bearing assembly also protected by a sheet metal cover.

Card Reader Plate Receivers - All 6X models come with card reader plate receivers on both entry and exit sides of the yoke. Optional card reader attachment plates attach to the receivers to allow easy attachment of access control devices to the turnstile. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

PASSAGE MODES - ELECTRIC LOCK CONTROL MODELS

Electrically controlled turnstiles offer the following user configurable passage modes:

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user-defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bidirectional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the Top Channel.

Remote Key Override (Optional) - A 3-position key switch used to control passage modes. Turning the key to one of three positions overrides all existing settings, placing the turnstile in Controlled Passage mode, Free Passage mode, or No Passage mode. A separate key override can be installed for each direction of travel. (see Options).

PASSAGE MODES - MANUAL (NO ELECTRIC LOCK CONTROL)

Manual turnstiles offer the following user configurable passage modes:

Free Passage / No Passage - Each rotation direction can be either locked or free passage through the use of the key locks located on the underside of the turnstile Top Channel.

FUNCTIONALITY - OTHER FEATURES AND TOOLS

Operational Configuration - The standard configuration is fail-lock (CCW) / fail-safe (CW). Other configurations are available including fail-lock in both directions or fail-safe in both directions.

Field Configuration Changes - Our turnstile design makes it very easy to change configurations in the field. Competitor turnstiles require removing and returning the entire top channel to the factory for configuration changes.

Automatic Turnstile Relock - This feature adjusts the time a user is allowed to pass through the turnstile, after activation, before the turnstile automatically relocks. The turnstile ships with a default setting of 20 seconds. Additional settings include 5, 10, and 15 seconds.

Independent Turnstile Testing - The turnstile control board includes test activation buttons, which allow the unlocking function to be tested independent of the access control system. This is an excellent tool for troubleshooting.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST

Junction Box - The transformer assembly in the turnstile top channel includes a fused junction box with UL Listed transformer.

CARD READERS / PHYSICAL ACCESS DEVICES

Electrically controlled models come with card reader plate receivers welded to the outside vertical yoke tube. Alvarado offers optional card reader attachment plates that attach to the receivers. The card reader / physical access devices attach directly to the card reader attachment plates. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

Alvarado can also custom fabricate large plates and enclosures that are welded to the turnstile yoke to accommodate large devices or custom applications.

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the turnstile:

DRY CONTACT

Single passage activation is achieved by supplying an isolated, voltage-free, momentary dry contact (between .5 and 2 seconds in duration) to the appropriate location on the turnstile control board. An output is also available to provide information on operational status and activity. A description of available input and output signals is provided below.

SERIAL

Alvarado offers an optional serial interface device that converts an RS-232 computer output to a momentary dry contact. Contact Alvarado for information (see Options).

A description of the available input and output signals from the turnstile control board is provided below:

Input Signal	Entry / Exit
Direction Closed	√
Good Card	√
Bad Card	√
Free Passage	√
No Passage	√

Output Signal	Entry / Exit
Rotational Signal (dry contact)	√

OPTIONS

EXPEDITED MANUFACTURING TIMES

Expedited manufacturing times are available. Contact customer service for current availability.

CARD READER ATTACHMENT PLATES

6" x 6" card reader attachment plates allow the attachment of the majority of card readers used.

USER NOTIFICATION ACTIVATION LIGHTS (JS-2 LIGHTS)

Available for use with 6X models, an LED array in a weatherized housing is located on the turnstile yoke slightly above and behind the card reader plated receiver area. The JS-2 option allows the user to select one of two signal arrays: red/ green or red / green / yellow. The user selection is made via a jumper on the turnstile control board.

The light arrays function in one of the following manners:

RED / GREEN SELECTION*

Red Light - An illuminated red light indicates the turnstile is locked and ready for card presentation.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

RED / GREEN / YELLOW SELECTION*

Red Light - An illuminated red light indicates the access system has provided the TCB with an activation indicating that an “unauthorized” card has been presented. The turnstile will remain locked.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

Yellow Light - An illuminated yellow light indicates the turnstile is locked and ready for card presentation.

OPEN / CLOSED STATUS LIGHTS

Red and green LEDs are available to indicate whether the turnstile is open or closed. LEDs are installed in the top channel for easy visibility. This option is used in conjunction with remote unlocking (see electrical functionality).

FAIL-SAFE / FAIL-SAFE OPERATION

Both sides of the turnstile will unlock upon loss of power and provide free passage in both directions. The MST-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

FAIL-LOCK / FAIL-LOCK OPERATION

Both sides of the turnstile will remain locked upon loss of power. Key overrides (which are standard) can still be used to unlock the turnstile. The MST-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

OUT OF SERVICE LOCK BRACKET

Enables the turnstile to be secured with a padlock when the turnstile is out of service.

PADDED HEEL / ARM PROTECTIVE SLEEVES

Padded sleeves for arms at pushing level or for lower roto arms. Heel / Arm guards are packaged three to a set.

*Photos depicting light options may be found at www.alvaradomfg.com

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST

ELECTRIC LOCK CONTROL UPGRADE (MODEL MST-3 UNITS ONLY)

All model MST-3 units are convertible to electric-lock control. MST-3 top channel frames include brackets and insertion holes to allow for easy field retrofit by a qualified technician.

220VAC

A 220VAC, 50 - 60 Hz transformer is substituted for the standard 110VAC transformer. 220VAC units bear CE marking, except for battery backup capability which is not available on CE marked units.

RKO-3 (REMOTE TURNSTILE MODE KEYSWITCH)

A loose three-position key switch is provided that allows the turnstile to be placed in one of three operational modes. A key switch is required for each direction of operation.

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bi-directional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

No Passage (Direction Closed) - No passage is allowed. The roto is locked in place. Valid electronic credentials are ignored and passage is not allowed.

PUSH BUTTON ASSEMBLY

Unlocks the turnstile for one passage with a stainless steel push button assembly.

BATTERY BACKUP

A trickle charge battery system is installed in the top channel to provide limited duration operation if primary power to the turnstile is lost. Not available on CE marked units.

TOP CHANNEL STABILIZER

A top channel stabilizer can be provided to increase rigidity between the OV and the top channel.

READER PLATE RECEIVER COVER

A small aluminum plate used to cover an unused reader plate receiver.

INTERFACE COMMUNICATION OPTIONS

Contact Alvarado for more information.

LOCK ARM MONITOR

Provides an output when either lock arm is engaged. Monitors required for each direction of operation.

CHANNEL COVER MONITOR

Provides an output when the top channel cover is removed.

DUST PROTECTION

Additional protection measures are added to the top channel for extremely dusty installation environments. Contact Alvarado for more information.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST

SHIPPING & SITE PREPARATION

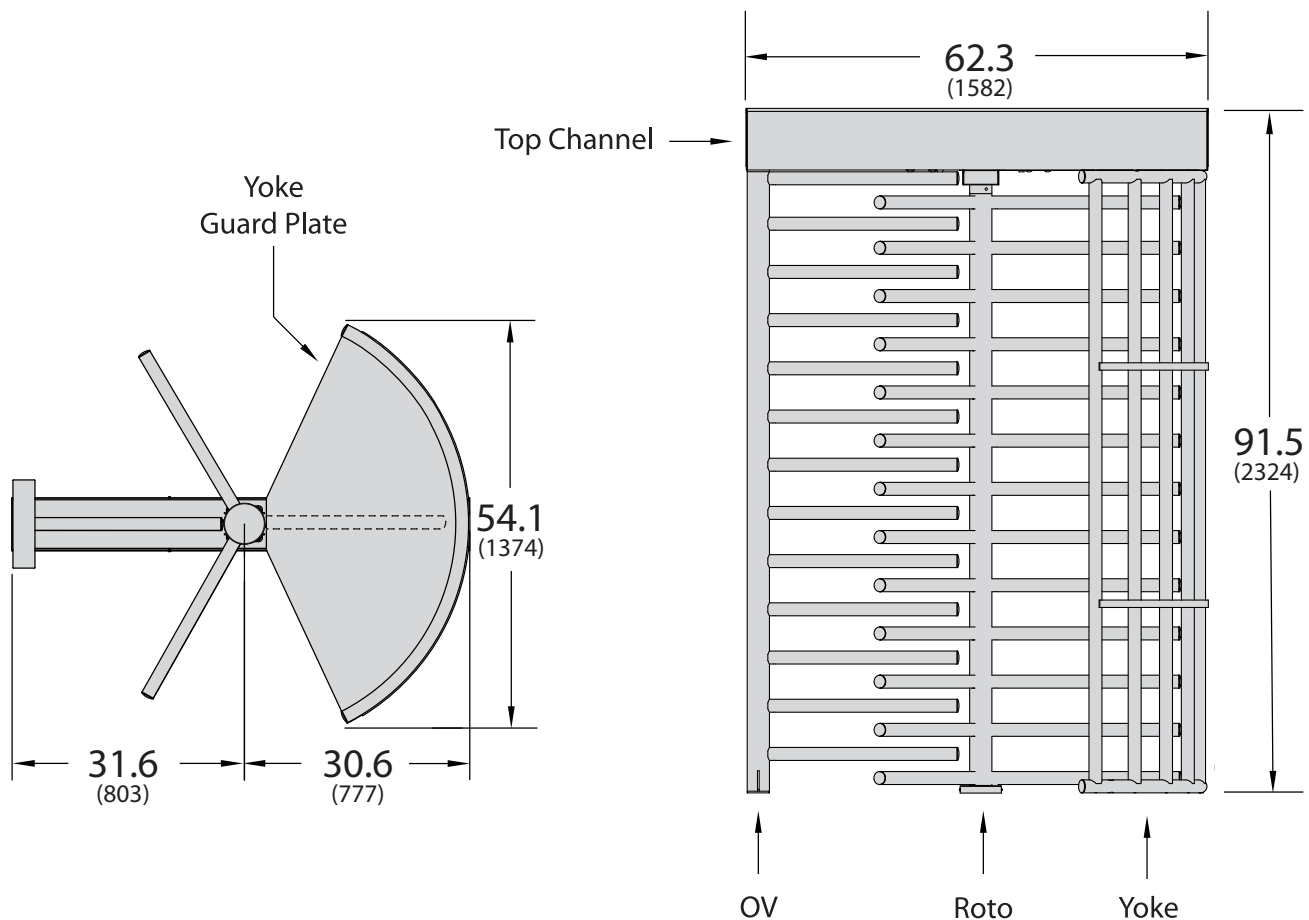
SHIPPING

MST turnstiles are shipped in five main sections: the top channel, the yoke, the roto, the OV and the yoke guard plate. Each section is fabricated as a subassembly for easy installation.

SITE PREPARATION

All turnstiles must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the top channel. Optional conduit may be run through the OV base. The recommended slab platform is 72" square by 4" deep, level concrete. Concrete anchors, bolts and washers are included with each turnstile. Installation should be performed by a skilled installer following the manufacturer's directions and instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm). All measurements are approximate.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST

ELECTRICAL		
	DESCRIPTION	
TRANSFORMER	110-120VAC, 50-60 Hz, or 220-240VAC, 50 Hz (optional)	
POWER REQUIREMENTS	Max power consumption is 65W per turnstile with all available electrical options.	
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 12VDC / 5VDC operation.	
ON/OFF SWITCH	An on/off switch is located on each power junction box inside the MST-6X top channel. A visible green LED is illuminated on the TCB when the power is “on.”	
SURGE PROTECTION	The TBC uses Transient Voltage Suppressor (TVS) devices to provide superior lightning and surge protection. The TCB is rated to 500A (6kV) for lightning and industrial surges (per IEC 61000-4-5). Protection against ESD is provided (per IEC 61000-4-4). Control signal lines are protected by bi-directional TVS devices up to 600W per input.	
BI-DIRECTIONAL SOLENOID DRIVERS	Each TCB provides one solenoid driver per rotation direction.	
WEIGHT, DIMENSIONS, ENVIRONMENT		
	STANDARD	METRIC
PRODUCT WEIGHT	550 lbs.	250 kg
SHIPPING WEIGHT*	750 lbs.	341 kg *Includes weight of shipping crate(s)
HEIGHT	91.5”	2324 mm
WIDTH	62.3”	1582 mm
DEPTH	54.1”	1374 mm
OPERATING TEMP. RANGE	-20° to 150° F	-29 to 66° C
STORAGE TEMP. RANGE	-30° to 160° F	-34 to 71° C
RH	0-90% (non-condensing)	--

WARRANTY

For a period of one year from the date of shipping, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In NO event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



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MSTT

DESCRIPTIVE SPECIFICATIONS



The MSTT is the most trusted, secure and reliable full height tandem turnstile available. It is installed in thousands of locations throughout the world and offers key features and benefits only provided by Alvarado. The MSTT uses substantially less installation space when compared to two individual turnstiles. Electrically controlled models integrate with any access control system.

COMMON APPLICATIONS

- Perimeter Control / Fence Line Security
- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control
- Unmanned Point of Entry
- Single Direction Traffic Control / One-Way Exiting

TYPICAL INSTALLATION SITES

- Military Installations
- Refineries & Power Distribution Centers
- Ports, Harbors & Airports
- Construction Sites
- Correctional Institutions
- Manufacturing & Distribution Centers
- City Parks & Recreation Sites
- Sports Parks, Arenas & Stadiums
- Zoos & Amusement Parks

FUNCTION

MSTT full height tandem turnstiles are designed to provide controlled access in and out of facilities in locations where two turnstiles are required, but space for two separate units is not available. All turnstiles feature self-adjusting, self-centering, speed control. This unique feature ensures a consistently even rotation, and smoothly self-centers the turnstile under all conditions. The MSTT is suitable for indoor or outdoor use. Contact Alvarado for recommendations on finishes and specific weatherization options for harsh environments.

AVAILABLE CONFIGURATIONS

MSTT-3 (MANUAL CONTROL)

Using key lock control, the MSTT-3 can be configured to provide free passage in both directions; free passage in one direction and restricted passage (locked) in the opposite direction; or restricted passage (locked) in both directions.

MSTT-6X (ELECTRIC LOCK CONTROL)

Provides separate electric lock controls for both directions. The key lock override controls described in the manual control unit above are included. The MSTT-6X interfaces with virtually any access control system.

AVAILABLE FINISHES

GALVANIZED

All exterior steel materials are hot-dip galvanized to ASTM Standards A123 / A153. Galvanized units, like all Alvarado MSTT's, have stainless steel top channel covers.

POWDER COATED

All exterior steel materials are powder coated. Powder coating is available in a variety of colors.

STAINLESS STEEL

All external materials are fabricated from #304 stainless steel polished to a #4 satin finish. Welds are electro-polished to ASTM Standard E1558.

POWDER COATED OVER GALVANIZED OR STAINLESS STEEL

External galvanized or stainless steel materials are powder coated. Powder coating is available in a variety of colors.

MATERIALS

TOP CHANNEL

The exterior housing is fabricated from 16-gauge #304 stainless steel, regardless of finish. The interior top channel frame is a 7" wide U-frame fabricated from 4-gauge powder coated steel. The top channel houses the control mechanism and electrical components.

YOKE GUARD PLATES (COVERS)

A 16-gauge steel (or #304 stainless steel) sheet securely fastens to the top channel above each yoke. There are two yoke guard plates for each tandem turnstile.

YOKES (CURVED SECTIONS)

Each yoke is a fully welded single assembly consisting of 10 vertical tubes notched and welded to two upper and lower horizontal tubes. Two 0.1875" x 1" steel straps are welded to the vertical tubes for support. Vertical and horizontal tubes are fabricated from 1.75" OD x 16-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the yoke. There are two yokes for each tandem turnstile.

ROTOS (ROTATING SECTIONS)

Each roto is a fully welded single assembly consisting of 13 arms per section (total of 39 arms per roto) notched and welded to a vertical tube. Arms are fabricated from 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing. Arms have either a welded metal cap (powder coated or stainless steel models) or a ribbed, force-fit plastic cap (galvanized models). The vertical tube is 3" OD x 6-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the rotos. There are two rotos for each tandem turnstile.

OV (BARRIER SECTION)

The OV is a fully welded single assembly consisting of 25 arms notched and welded to two vertical tubes. Arms are fabricated from 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing. The vertical tubes are fabricated from 2.25" OD x 11-gauge steel (or #304 stainless steel) tubing. The OV arms are offset to provide rotation clearance for the respective rotos. No external fasteners are used in the construction of the OV.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

Turnstile Control Board - The turnstile control board (TCB) is a conformal coated controller that controls activation and turnstile functions. Activation for either direction of operation is achieved by supplying a momentary dry contact to the TCB. Terminal strips on the board provide access to the available I/O. Communication between the turnstile and access control system is in the form of dry contact inputs and outputs. A primary power to low voltage, UL Listed transformer located in the turnstile top channel provides appropriate low voltage power to the TCB. The transformer may be bypassed by providing either 10VAC or 13.5VDC directly to the TCB.

Locking Control - The locking and unlocking of the turnstile is controlled with hardened steel lock arms that are moved into the appropriate locked or unlocked position by continuous duty rated solenoids and spring assemblies. There is independent control of each rotational direction.

Opto-Interruptor Detection Assembly - Rotation of the turnstile is detected by an internal opto-interruptor assembly. No mechanical microswitches are used.

Speed Control & Self-Centering Mechanism - Turnstiles have Alvarado's speed control system that self-adjusts to the pushing force of the user. This ensures a safe, controlled, turnstile rotation and safely and smoothly returns the rotating turnstile section to the home position.

Cam Shaft Assembly, Splined Connection - The cam and shaft assembly consists of a stainless steel, investment cast lobed cam welded to a splined shaft. The splined shaft fits into a reciprocal splined coupling in the top of the roto, creating a solid non-slip connection that ensures very precise movement and reduces mechanism wear. The design makes it mechanically impossible to improperly install the roto of the turnstile.

Enclosed Bearing Assemblies - The cam and shaft assembly housed in the top channel rotates in a bearing assembly consisting of two outdoor rated precision bearings. The upper visible bearing is protected by a sheet metal cover. The roto is installed on an outdoor rated lower bearing assembly also protected by a sheet metal cover.

Card Reader Plate Receivers - All 6X models come with card reader plate receivers on both entry and exit sides of the yoke. Optional card reader attachment plates attach to the receivers to allow easy attachment of access control devices to the turnstile. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

PASSAGE MODES - ELECTRIC LOCK CONTROL MODELS

Electrically controlled turnstiles offer the following user configurable passage modes:

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bidirectional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

Remote Key Override (Optional) - A 3-position key switch used to control passage modes. Turning the key to one of three positions overrides all existing settings, placing the turnstile in Controlled Passage mode, Free Passage mode, or No Passage mode. A separate key override can be installed for each direction of travel. (see Options).

PASSAGE MODES - MANUAL (NO ELECTRIC LOCK CONTROL)

Manual turnstiles offer the following user configurable passage modes:

Free Passage / No Passage - Each rotation direction can be either locked or free passage through the use of the key locks located on the underside of the turnstile top channel.

FUNCTIONALITY - OTHER FEATURES AND TOOLS

Operational Configuration - The standard configuration is fail-lock (CCW) / fail-safe (CW). Other configurations are available including fail-lock in both directions or fail-safe in both directions.

Field Configuration Changes - Our turnstile design makes it very easy to change configurations in the field. Competitor turnstiles require removing and returning the entire top channel to the factory for configuration changes.

Automatic Turnstile Relock - This feature adjusts the time a user is allowed to pass through the turnstile, after activation, before the turnstile automatically relocks. The turnstile ships with a default setting of 20 seconds. Additional settings include 5, 10, and 15 seconds.

Independent Turnstile Testing - The turnstile control board includes test activation buttons, which allow the unlocking function to be tested independent of the access control system. This is an excellent tool for troubleshooting.

Junction Box - The transformer assembly in the turnstile top channel includes a fused junction box with UL Listed transformer.

CARD READERS / PHYSICAL ACCESS DEVICES

Electrically controlled models come with card reader plate receivers welded to the outside vertical yoke tube. Alvarado offers optional card reader attachment plates that attach to the receivers. The card reader / physical access devices attach directly to the card reader attachment plates. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

Alvarado can also custom fabricate large plates and enclosures that are welded to the turnstile yoke to accommodate large devices or custom applications.

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the turnstile:

DRY CONTACT

Single passage activation is achieved by supplying an isolated, voltage-free, momentary dry contact (between .5 and 2 seconds in duration) to the appropriate location on the turnstile control board. Various outputs are also available to provide information on operational status and activity. A description of available input and output signals is provided below.

SERIAL

Alvarado offers an optional serial interface device that converts an RS-232 computer output to a momentary dry contact. Contact Alvarado for information (see Options).

A description of the available input and output signals from the turnstile control board is provided below:

Input Signal	Entry / Exit
Direction Closed	√
Good Card	√
Bad Card	√
Free Passage	√
No Passage	√

Output Signal	Entry / Exit
Rotational Signal (dry contact)	√

OPTIONS

EXPEDITED MANUFACTURING TIMES

Expedited manufacturing times are available. Contact customer service for current availability.

CARD READER ATTACHMENT PLATES

6" x 6" card reader attachment plates allow the attachment of the majority of card readers used.

USER NOTIFICATION ACTIVATION LIGHTS (JS-2 LIGHTS)

Available for use with 6X models, an LED array in a weatherized housing is located on the turnstile yoke slightly above and behind the card reader plated receiver area. The JS-2 option allows the user to select one of two signal arrays: red/ green or red / green / yellow. The user selection is made via a jumper on the turnstile control board.

The light arrays function in one of the following manners:

RED / GREEN SELECTION*

Red Light - An illuminated red light indicates the turnstile is locked and ready for card presentation.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

RED / GREEN / YELLOW SELECTION*

Red Light - An illuminated red light indicates the access system has provided the TCB with an activation indicating that an “unauthorized” card has been presented. The turnstile will remain locked.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

Yellow Light - An illuminated yellow light indicates the turnstile is locked and ready for card presentation.

OPEN / CLOSED STATUS LIGHTS

Red and green LEDs are available to indicate whether the turnstile is open or closed. LEDs are installed in the top channel for easy visibility. This option is used in conjunction with remote unlocking (see electrical functionality).

FAIL-SAFE / FAIL-SAFE OPERATION

Both sides of the turnstile will unlock upon loss of power and provide free passage in both directions. The MSTT-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

FAIL-LOCK / FAIL-LOCK OPERATION

Both sides of the turnstile will remain locked upon loss of power. Key overrides (which are standard) can still be used to unlock the turnstile. The MSTT-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

OUT OF SERVICE LOCK BRACKET

Enables the turnstile to be secured with a padlock when the turnstile is out of service.

PADDED HEEL / ARM PROTECTIVE SLEEVES

Padded sleeves for arms at pushing level or for lower roto arms. Heel / Arm guards are packaged three to a set.

*Photos depicting light options may be found at www.alvaradomfg.com

ELECTRIC LOCK CONTROL UPGRADE (MODEL MSTT-3 UNITS ONLY)

All model MSTT-3 units are convertible to electric lock control. MSTT-3 top channel frames include brackets and insertion holes to allow for easy field retrofit by a qualified technician.

220VAC

A 220VAC, 50 - 60 Hz transformer is substituted for the standard 110VAC transformer. 220VAC units bear CE marking, except for battery backup capability which is not available on CE marked units.

RKO-3 (REMOTE TURNSTILE MODE KEYSWITCH)

A loose three-position key switch is provided that allows the turnstile to be placed in one of three operational modes. A key switch is required for each direction of operation.

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user-defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bi-directional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

No Passage (Direction Closed) - No passage is allowed. The roto is locked in place. Valid electronic credentials are ignored and passage is not allowed.

PUSH BUTTON ASSEMBLY

Unlocks the turnstile for one passage with a stainless steel push button assembly.

BATTERY BACKUP

A trickle charge battery system is installed in the top channel to provide limited duration operation if primary power to the turnstile is lost. Not available on CE marked units.

TOP CHANNEL STABILIZER

A top channel stabilizer can be provided to increase rigidity between the OV and the top channel.

READER PLATE RECEIVER COVER

A small aluminum plate used to cover an unused reader plate receiver.

INTERFACE COMMUNICATION OPTIONS

Contact Alvarado for more information.

LOCK ARM MONITOR

Provides an output when either lock arm is engaged. Monitors required for each direction of operation.

CHANNEL COVER MONITOR

Provides an output when the top channel cover is removed.

DUST PROTECTION

Additional protection measures are added to the top channel for extremely dusty installation environments. Contact Alvarado for more information.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MSTT

SHIPPING & SITE PREPARATION

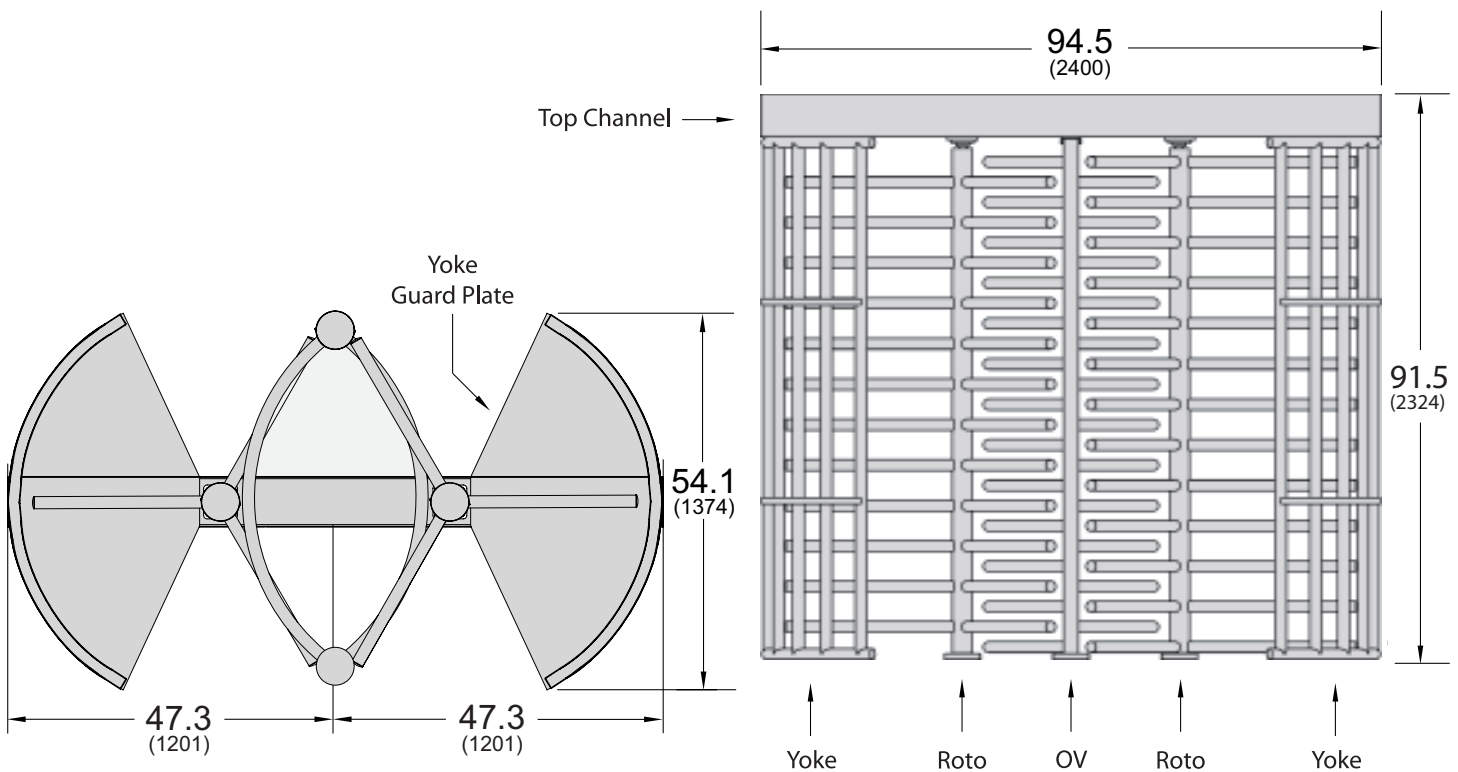
SHIPPING

MSTT turnstiles are shipped in eight main sections: (1) top channel, (2) yokes, (2) rotos, (1) OV and (2) yoke guard plates. Each section is fabricated as a sub-assembly for easy installation.

SITE PREPARATION

All turnstiles must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the top channel. The recommended slab platform is a 102" x 72" rectangle by 4" deep, level concrete. Concrete anchors, bolts and washers are included with each turnstile. Installation should be performed by a skilled installer following Alvarado's directions and instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm). All measurements are approximate.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MSTT

ELECTRICAL		
	DESCRIPTION	
TRANSFORMER	110-120VAC, 50-60 Hz, or 220-240VAC, 50 Hz (optional)	
POWER REQUIREMENTS	Max power consumption is 130W per turnstile with all available electrical options.	
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 12VDC / 5VDC operation.	
ON / OFF SWITCH	An on / off switch is located on each power junction box inside the MSTT-6X top channel. A visible green LED is illuminated on the TCB when the power is “on.”	
SURGE PROTECTION	The TBC uses Transient Voltage Suppressor (TVS) devices to provide superior lightning and surge protection. The TCB is rated to 500A (6kV) for lightning and industrial surges (per IEC 61000-4-5). Protection against ESD is provided (per IEC 61000-4-4). Control signal lines are protected by bi-directional TVS devices up to 600W per input.	
BI-DIRECTIONAL SOLENOID DRIVERS	Each TCB provides one solenoid driver per rotation direction.	
WEIGHT, DIMENSIONS, ENVIRONMENT		
	STANDARD	METRIC
PRODUCT WEIGHT	1050 lbs.	477 kg
SHIPPING WEIGHT*	1650 lbs.	750 kg *Includes weight of shipping crate(s)
HEIGHT	91.5”	2324 mm
WIDTH	94.5”	2400 mm
DEPTH	54.1”	1374 mm
OPERATING TEMP. RANGE	-20° to 150° F	-29 to 66° C
STORAGE TEMP. RANGE	-30° to 160° F	-34 to 71° C
RH	0-90% (non-condensing)	--

WARRANTY

For a period of one year from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

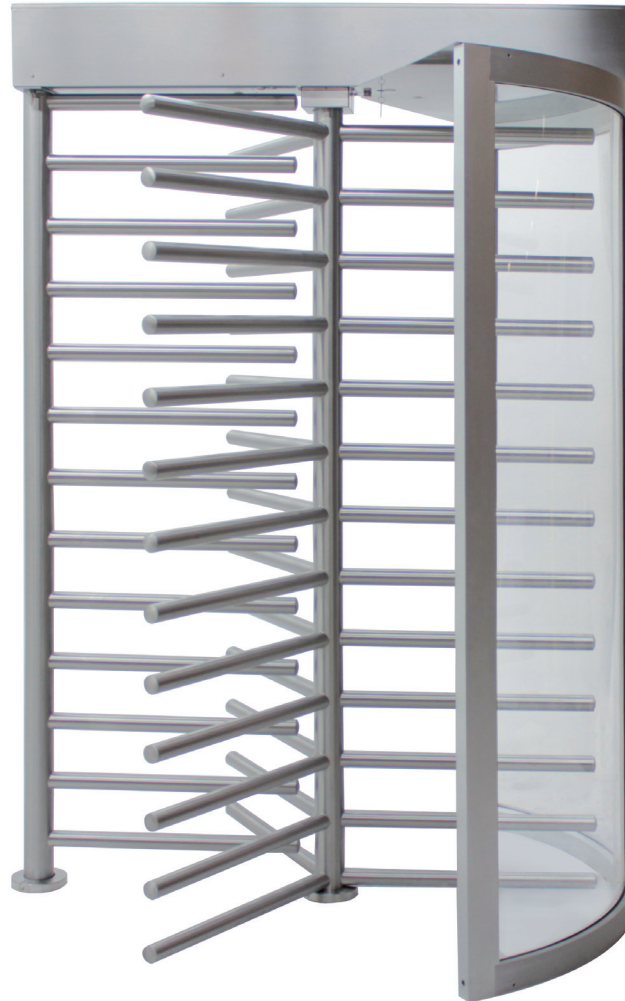
This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In NO event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



FULL HEIGHT TURNSTILES

CLST

DESCRIPTIVE SPECIFICATIONS



The CLST has all the key features of our industry standard MST turnstile, plus a clear side panel that provides a less industrial look.

COMMON APPLICATIONS

- Perimeter Control/Fence Line Security
- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control
- Unmanned Point of Entry
- Single Direction Traffic Control / One-Way Exiting

TYPICAL INSTALLATION SITES

- Military Installations
- Refineries & Power Distribution Centers
- Ports, Harbors & Airports
- Correctional Institutions
- Manufacturing & Distribution Centers
- Sports Parks, Arenas & Stadiums

FUNCTION

CLST turnstiles are designed to control access into and out of facilities. Among its many attributes, the CLST comes with self-adjusting, self-centering, speed control. This highly unique feature ensures a consistently even rotation, and smoothly self-centers the turnstile under all conditions. The CLST is suitable for indoor or outdoor use. Contact Alvarado for recommendations on finishes and specific weatherization options for harsh environments.

AVAILABLE CONFIGURATIONS

CLST-3 (MANUAL CONTROL)

Using key lock control, the CLST-3 can be configured to provide free passage in both directions; free passage in one direction and restricted passage (locked) in the opposite direction; or restricted passage (locked) in both directions.

CLST-6X (ELECTRIC LOCK CONTROL)

Provides separate electric lock controls for both directions. The key lock override controls described in the manual control unit above are included. The CLST-6X interfaces with virtually any access control system.

AVAILABLE FINISHES

POWDER COATED

All exterior steel and aluminum materials are powder coated. Powder coating is available in a variety of colors.

STAINLESS STEEL / ALUMINUM

Materials fabricated from #304 stainless steel are polished to a #4 satin finish. Stainless steel welds are electro-polished to ASTM Standard E1558. Materials fabricated from aluminum receive a smooth milled finish.

MATERIALS

TOP CHANNEL

The exterior housing is fabricated from 16-gauge #304 stainless steel, regardless of finish. The interior top channel frame is a 7" wide U-frame fabricated from 4-gauge powder-coated steel. The top channel houses the control mechanism and electrical components.

YOKE GUARD PLATE (COVER)

A 16-gauge steel (or #304 stainless steel) sheet securely fastens to the top channel & yoke.

YOKE (CURVED SECTION)

The yoke is a two piece assembly consisting of a .177" (4.5mm) thick, clear panel fabricated from Spartech Polycast® SAR™ secured within an extruded aluminum frame.

ROTO (ROTATING SECTION)

The roto is a fully welded single assembly consisting of 13 arms per section (total of 39 arms per roto) notched and welded to a vertical tube. Arms are fabricated from 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing closed with a metal welded cap. The vertical tube is fabricated from 3" OD x 6-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the roto.

OV (BARRIER SECTION)

The OV is a fully welded single assembly consisting of 13 arms notched and welded to a vertical tube. Arms are fabricated from 1.75" OD x 14-gauge steel (or 16-gauge #304 stainless steel) tubing closed with a welded metal cap. The vertical tube is fabricated from 3" OD x 6-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the OV.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

Turnstile Control Board - The turnstile control board (TCB) is a conformal-coated controller that controls activation and turnstile functions. Activation for either direction of operation is achieved by supplying a momentary dry contact to the TCB. Terminal strips on the board provide access to the available I/O. Communication between the turnstile and access control system is in the form of dry contact inputs and outputs. A primary power to low voltage, UL Listed transformer located in the turnstile top channel provides appropriate low voltage power to the TCB. The transformer may be bypassed by providing either 10VAC or 13.5VDC directly to the TCB.

Locking Control - The locking and unlocking of the turnstile is controlled with hardened steel lock arms that are moved into the appropriate locked or unlocked position by continuous duty rated solenoids and spring assemblies. There is independent control of each rotational direction.

Opto-Interruptor Detection Assembly - Rotation of the turnstile is detected by an internal opto-interruptor assembly. No mechanical microswitches are used.

Speed Control & Self-Centering Mechanism - Turnstiles have Alvarado's speed control system that self-adjusts to the pushing force of the user. This ensures a safe, controlled, turnstile rotation and safely and smoothly returns the rotating turnstile section to the home position.

Cam Shaft Assembly, Splined Connection - The cam and shaft assembly consists of a stainless steel, investment cast lobed cam welded to a splined shaft. The splined shaft fits into a reciprocal splined coupling in the top of the roto, creating a solid non-slip connection that ensures very precise movement and reduces mechanism wear. The design makes it mechanically impossible to improperly install the roto of the turnstile.

Enclosed Bearing Assemblies - The cam and shaft assembly housed in the top channel rotates in a bearing assembly consisting of two outdoor rated precision bearings. The upper visible bearing is protected by a sheet metal cover. The roto is installed on an outdoor rated lower bearing assembly also protected by a sheet metal cover.

Card Reader Plate Receivers - All 6X models come with card reader plate receivers on both entry and exit sides of the yoke. Optional card reader attachment plates attach to the receivers to allow easy attachment of access control devices to the turnstile. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

CLST

PASSAGE MODES - ELECTRIC LOCK CONTROL MODELS

Electrically controlled turnstiles offer the following user configurable passage modes:

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bidirectional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

Remote Key Override (Optional) - A 3-position key switch used to control passage modes. Turning the key to one of three positions overrides all existing settings, placing the turnstile in Controlled Passage mode, Free Passage mode, or No Passage mode. A separate key override can be installed for each direction of travel. (see Options).

PASSAGE MODES - MANUAL (NO ELECTRIC LOCK CONTROL)

Manual turnstiles offer the following user configurable passage modes:

Free Passage / No Passage - Each rotation direction can be either locked or free passage through the use of the key locks located on the underside of the turnstile top channel.

FUNCTIONALITY - OTHER FEATURES AND TOOLS

Operational Configuration - The standard configuration is fail-lock (CCW) / fail-safe (CW). Other configurations are available including fail-lock in both directions or fail-safe in both directions.

Field Configuration Changes - Our turnstile design makes it very easy to change configurations in the field. Competitor turnstiles require removing and returning the entire top channel to the factory for configuration changes.

Automatic Turnstile Relock - This feature adjusts the time a user is allowed to pass through the turnstile, after activation, before the turnstile automatically relocks. The turnstile ships with a default setting of 20 seconds. Additional settings include 5, 10, and 15 seconds.

Independent Turnstile Testing - The turnstile control board includes test activation buttons, which allow the unlocking function to be tested independent of the access control system. This is an excellent tool for troubleshooting.

Junction Box - The transformer assembly in the turnstile top channel includes a fused junction box with UL Listed transformer.

CARD READERS / PHYSICAL ACCESS DEVICES

Electrically controlled models come with card reader plate receivers welded to the outside vertical yoke tube. Alvarado offers optional card reader attachment plates that attach to the receivers. The card reader / physical access devices attach directly to the card reader attachment plates. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel. Alvarado can also custom fabricate large plates and enclosures that are welded to the turnstile yoke to accommodate large devices or custom applications.

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the turnstile:

DRY CONTACT

Single passage activation is achieved by supplying an isolated, voltage-free, momentary dry contact (between .5 and 2 seconds in duration) to the appropriate location on the turnstile control board. Various outputs are also available to provide information on operational status and activity. A description of available input and output signals is provided below.

SERIAL

Alvarado offers an optional serial interface device that converts an RS-232 computer output to a momentary dry contact. Contact Alvarado for information (see Options).

A description of the available input and output signals from the turnstile control board is provided below:

Input Signal	Entry / Exit
Direction Closed	√
Good Card	√
Bad Card	√
Free Passage	√
No Passage	√

Output Signal	Entry / Exit
Rotational Signal (dry contact)	√

OPTIONS

EXPEDITED MANUFACTURING TIMES

Expedited manufacturing times are available. Contact customer service for current availability.

CARD READER ATTACHMENT PLATES

6" x 6" card reader attachment plates allow the attachment of the majority of card readers used.

USER NOTIFICATION ACTIVATION LIGHTS (JS-2 LIGHTS)

Available for use with 6X models, an LED array in a weatherized housing is located on the turnstile yoke slightly above and behind the card reader plated receiver area. The JS-2 option allows the user to select one of two signal arrays: red/ green or red / green / yellow. The user selection is made via a jumper on the turnstile control board.

The light arrays function in one of the following manners:

RED / GREEN SELECTION*

Red Light - An illuminated red light indicates the turnstile is locked and ready for card presentation.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an "authorized" card has been presented. When the green light illuminates, the turnstile will unlock.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

CLST

RED / GREEN / YELLOW SELECTION*

Red Light - An illuminated red light indicates the access system has provided the TCB with an activation indicating that an “unauthorized” card has been presented. The turnstile will remain locked.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

Yellow Light - An illuminated yellow light indicates the turnstile is locked and ready for card presentation.

OPEN / CLOSED STATUS LIGHTS

Red and green LEDs are available to indicate whether the turnstile is open or closed. LEDs are installed in the top channel for easy visibility. This option is used in conjunction with remote unlocking (see electrical functionality).

FAIL-SAFE / FAIL-SAFE OPERATION

Both sides of the turnstile will unlock upon loss of power and provide free passage in both directions. The CLST-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

FAIL-LOCK / FAIL-LOCK OPERATION

Both sides of the turnstile will remain locked upon loss of power. Key overrides (which are standard) can still be used to unlock the turnstile. The CLST-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

OUT OF SERVICE LOCK BRACKET

Enables the turnstile to be secured with a padlock when the turnstile is out of service.

PADDED HEEL / ARM PROTECTIVE SLEEVES

Padded sleeves for arms at pushing level or for lower roto arms. Heel / Arm guards are packaged three to a set.

ELECTRIC LOCK CONTROL UPGRADE (MODEL CLST-3 UNITS ONLY)

All model CLST-3 units are convertible to electric lock control. CLST-3 top channel frames include brackets and insertion holes to allow for easy field retrofit by a qualified technician.

220VAC

A 220VAC, 50 - 60 Hz transformer is substituted for the standard 110VAC transformer. 220VAC units bear CE marking, except for battery backup capability which is not available on CE marked units.

RKO-3 (REMOTE TURNSTILE MODE KEYSWITCH)

A loose three-position key switch is provided that allows the turnstile to be placed in one of three operational modes. A key switch is required for each direction of operation.

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bi-directional.

*Photos depicting light options may be found at www.alvaradomfg.com

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

CLST

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

No Passage (Direction Closed) - No passage is allowed. The roto is locked in place. Valid electronic credentials are ignored and passage is not allowed.

PUSH BUTTON ASSEMBLY

Unlocks the turnstile for one passage with a stainless steel push button assembly.

BATTERY BACKUP

A trickle charge battery system is installed in the top channel to provide limited duration operation if primary power to the turnstile is lost. Not available on CE marked units.

TOP CHANNEL STABILIZER

A top channel stabilizer can be provided to increase rigidity between the OV and the top channel.

READER PLATE RECEIVER COVER

A small aluminum plate used to cover an unused reader plate receiver.

INTERFACE COMMUNICATION OPTIONS

Contact Alvarado for more information.

LOCK ARM MONITOR

Provides an output when either lock arm is engaged. Monitors required for each direction of operation.

CHANNEL COVER MONITOR

Provides an output when the top channel cover is removed.

DUST PROTECTION

Additional protection measures are added to the top channel for extremely dusty installation environments. Contact Alvarado for more information.

SHIPPING & SITE PREPARATION

SHIPPING

CLST turnstiles are shipped in five main sections: the top channel, the yoke, the roto, the OV and the yoke guard plate. Each section is fabricated as a sub-assembly for easy installation.

SITE PREPARATION

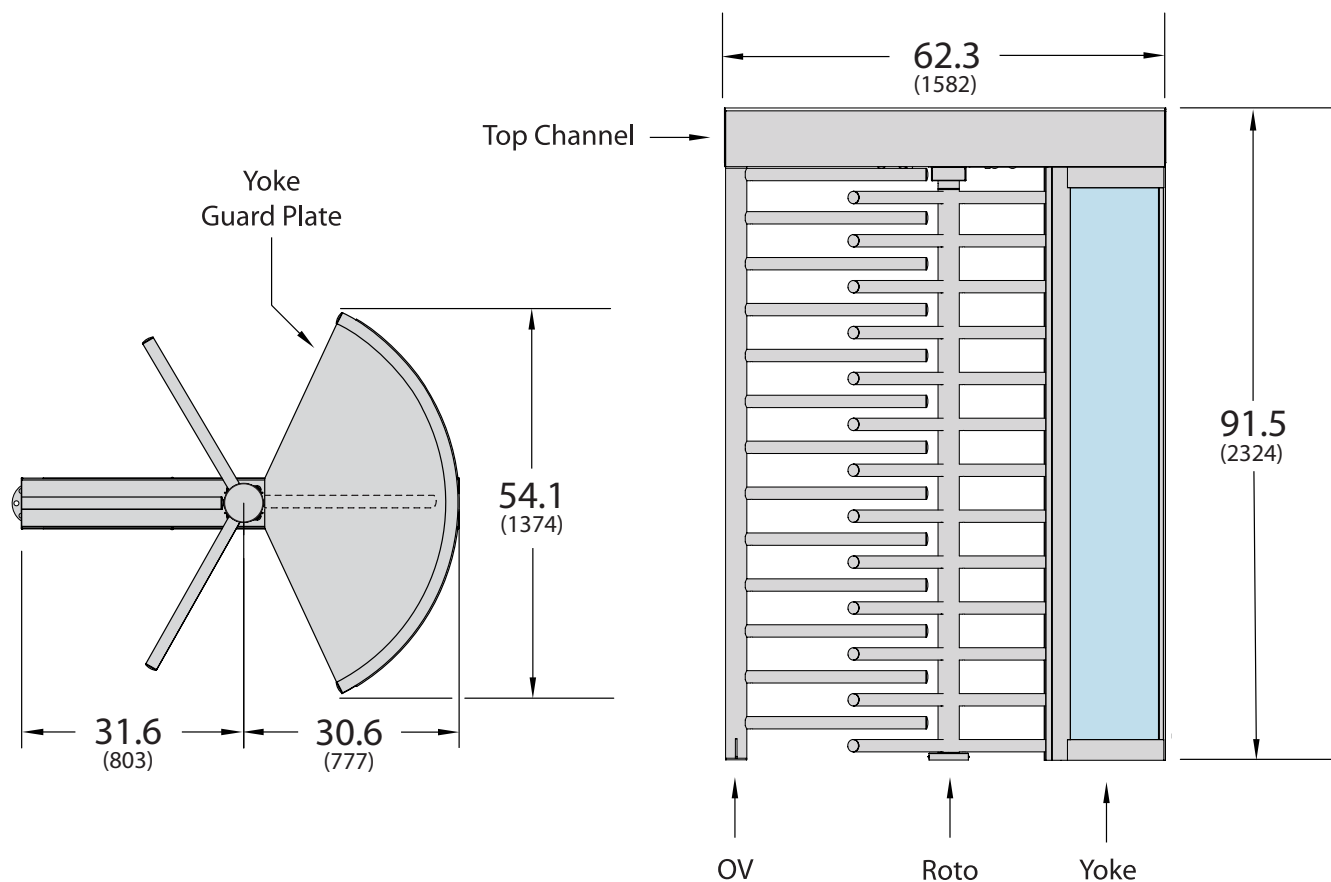
All turnstiles must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the top channel. Optional conduit may be run through the OV base. The recommended slab platform is 72" square by 4" deep, level concrete. Concrete anchors, bolts and washers are included with each turnstile. Installation should be performed by a skilled installer following the manufacturer's directions and instructions. Detailed drawings and installation manuals are available online.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

CLST

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm). All measurements are approximate.

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DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

CLST

ELECTRICAL		
	DESCRIPTION	
TRANSFORMER	110-120VAC, 50-60 Hz, or 220-240VAC, 50 Hz (optional)	
POWER REQUIREMENTS	Max power consumption is 65W per turnstile with all available electrical options.	
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 12VDC / 5VDC operation.	
ON/OFF SWITCH	An on/off switch is located on each power junction box inside the CLST-6X top channel. A visible green LED is illuminated on the TCB when the power is “on.”	
SURGE PROTECTION	The TBC uses Transient Voltage Suppressor (TVS) devices to provide superior lightning and surge protection. The TCB is rated to 500A (6kV) for lightning and industrial surges (per IEC 61000-4-5). Protection against ESD is provided (per IEC 61000-4-4). Control signal lines are protected by bi-directional TVS devices up to 600W per input.	
BI-DIRECTIONAL SOLENOID DRIVERS	Each TCB provides one solenoid driver per rotation direction.	
WEIGHT, DIMENSIONS, ENVIRONMENT		
	STANDARD	METRIC
PRODUCT WEIGHT	520 lbs.	236 kg
SHIPPING WEIGHT*	720 lbs.	327 kg *Includes weight of shipping crate(s)
HEIGHT	91.5”	2324 mm
WIDTH	62.3”	1582 mm
DEPTH	54.1”	1374 mm
OPERATING TEMP. RANGE	-20° to 150° F	-29 to 66° C
STORAGE TEMP. RANGE	-30° to 160° F	-34 to 71° C
RELATIVE HUMIDITY	0-90% (non-condensing)	--

WARRANTY

For a period of one year from the date of shipping, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In NO event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



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CPSTT



Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot: provide directional control of each passage and limit access to one person per activation. A turnstile does not sleep, take breaks, play favorites or require a paycheck, it simply provides a secure, unmanned point of entry that significantly increases facility security.

The CPSTT is our most stylish full height turnstile. The CPSTT's clear arms and side panels provide a less industrial look than a traditional all-metal turnstile. It serves as a good alternative to expensive revolving doors. The tandem design requires a substantially smaller installation footprint than two individual turnstiles.



COMMON APPLICATIONS

- Alternative to an Expensive Revolving Door
- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control
- Unmanned Point of Entry
- Single Direction Traffic Control/One-Way Exiting

Why Alvarado?

Alvarado is the leading manufacturer of full height turnstiles. Since its founding in 1956, Alvarado equipment has been installed in thousands of locations throughout the world.

Our superior product quality, integration expertise and industry leading service and support are just a few reasons that many of the world's most respected companies use our products again and again.

KEY FEATURES

Clear Side Panel

Hydraulic Speed Control/Self-Centering

Rugged Cast Acrylic Arms

Full Featured Control Board
(electric models)

Pull Out Top Channel Cover

Space Saving Design

FULL HEIGHT TURNSTILES

BENEFITS

Clear side panel (Yoke) **looks great and improves visual sightlines.**

Self-adjusting user pushing tension eliminates slamming and smoothly self-centers the Rotos, **increasing user safety and extending equipment life.**

Roto arms are cast from 1" thick clear abrasion resistant acrylic to **provide superior protection against forced entry.**

Works with any access control or card reader without added relays, electronics or programming for an **effortless integration.**

Stainless Top Channel Cover may be removed horizontally, **reducing the clear overhead space required for removal.**

Tandem design **uses 30% less space** than two individual turnstiles.



AVAILABLE MODELS

CPSTT-6X (Electrically controlled)

OPTIONS

Dozens of options and a selection of materials and finishes are available.

COMPLEMENTARY PRODUCTS

MSG pedestrian security gates often accompany full height turnstiles to facilitate delivery of material or bulky items.

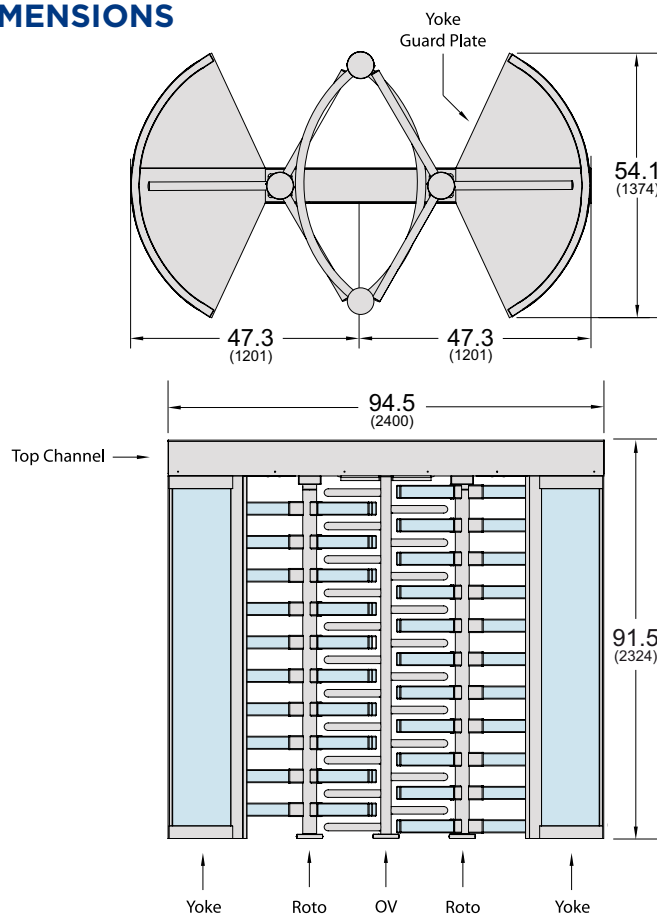


RESOURCES

Alvarado's knowledgeable staff understands that many customers do not deal with turnstiles on a regular basis. We offer expert assistance and technical expertise to ensure the best solution is selected for your facility.

Additional information, including detailed specifications, installation manuals, CAD drawings, application images and throughput considerations can be found online.

DIMENSIONS



Dimensions shown in inches (mm). All measurements are approximate.

MST47

DESCRIPTIVE SPECIFICATIONS



The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide the flexibility of a wider passage area.

COMMON APPLICATIONS

- Perimeter Control/Fence Line Security
- Time & Attendance Integration
- Loss Prevention
- Employee and Visitor Access Control
- Unmanned Point of Entry
- Single Direction Traffic Control / One-Way Exiting

TYPICAL INSTALLATION SITES

- Military Installations
- Refineries & Power Distribution Centers
- Ports, Harbors & Airports
- Construction Sites
- Correctional Institutions
- Manufacturing & Distribution Centers
- City Parks & Recreation Sites
- Sports Parks, Arenas & Stadiums
- Zoos & Amusement Parks

FUNCTION

MST47 turnstiles are designed to control access into and out of facilities. Among its many attributes, the MST47 comes with self-adjusting, self-centering, speed control. This highly unique feature ensures a consistently even rotation, and smoothly self-centers the turnstile under all conditions. The MST47 is suitable for indoor or outdoor use. Contact Alvarado for recommendations on finishes and specific weatherization options for harsh environments.

AVAILABLE CONFIGURATIONS

MST47-3 (manual control)

Using key lock control, the MST47-3 can be configured to provide free passage in both directions; free passage in one direction and restricted passage (locked) in the opposite direction; or restricted passage (locked) in both directions.

MST47-6X (electric lock control)

Provides separate electric lock controls for both directions. The key lock override controls described in the manual control unit above are included. The MST47-6X interfaces with virtually any access control system.

AVAILABLE FINISHES

GALVANIZED

All exterior steel materials are hot-dip galvanized to ASTM Standards A123 / A153. Galvanized units, like all Alvarado MST47's, have stainless steel top channel covers.

POWDER COATED

All exterior steel materials are powder coated. Powder coating is available in a variety of colors.

STAINLESS STEEL

All external materials are fabricated from #304 stainless steel polished to a #4 satin finish. Welds are electro-polished to ASTM Standard E1558.

POWDER COATED OVER GALVANIZED OR STAINLESS STEEL

External galvanized or stainless steel materials are powder coated. Powder coating is available in a variety of colors.

MATERIALS

TOP CHANNEL

The exterior housing is fabricated from 16-gauge #304 stainless steel, regardless of finish. The interior top channel frame is a 7" wide U-frame fabricated from 4-gauge powder-coated steel. The top channel houses the control mechanism and electrical components.

YOKE GUARD PLATE (COVER)

A 16-gauge steel (or #304 stainless steel) sheet securely fastens to the top channel & yoke.

YOKE (CURVED SECTION)

The yoke is a fully welded single assembly consisting of 16 vertical tubes notched and welded to two upper and lower horizontal tubes. Two 3/16" x 1" steel straps are welded to the vertical tubes for support. Vertical and horizontal tubes are fabricated from 1.75" OD x 16-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the yoke.

ROTO (ROTATING SECTION)

The roto is a fully welded single assembly consisting of 13 arms per section (total of 39 arms per roto) notched and welded to a vertical tube. Arms are fabricated from 1.75" OD x 11-gauge steel (or #304 stainless steel) tubing. Arms have either a welded metal cap (powder coated or stainless steel models) or a ribbed, force-fit plastic cap (galvanized models). The vertical tube is fabricated from 3" OD x 6-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the roto.

OV (BARRIER SECTION)

The OV is a fully welded single assembly consisting of 13 arms notched and welded to a vertical tube. Arms are fabricated from 1.75" OD x 11-gauge steel (or #304 stainless steel) tubing. Arms have either a welded metal cap (powder coated or stainless steel models) or a ribbed, force-fit plastic cap (galvanized models). The vertical tube is fabricated from 3" OD x 6-gauge steel (or #304 stainless steel) tubing. No external fasteners are used in the construction of the OV.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

Turnstile Control Board - The turnstile control board (TCB) is a conformal-coated controller that controls activation and turnstile functions. Activation for either direction of operation is achieved by supplying a momentary dry contact to the TCB. Terminal strips on the board provide access to the available I/O. Communication between the turnstile and access control system is in the form of dry contact inputs and outputs. A primary power to low voltage, UL Listed transformer located in the turnstile top channel provides appropriate low voltage power to the TCB. The transformer may be bypassed by providing either 10VAC or 13.5VDC directly to the TCB.

Locking Control - The locking and unlocking of the turnstile is controlled with hardened steel lock arms that are moved into the appropriate locked or unlocked position by continuous duty rated solenoids and spring assemblies. There is independent control of each rotational direction.

Opto-Interruptor Detection Assembly - Rotation of the turnstile is detected by an internal opto-interruptor assembly. No mechanical microswitches are used.

Speed Control & Self-Centering Mechanism - Turnstiles have Alvarado's speed control system that self-adjusts to the pushing force of the user. This ensures a safe, controlled, turnstile rotation and safely and smoothly returns the rotating turnstile section to the home position.

Cam Shaft Assembly, Splined Connection - The cam and shaft assembly consists of a stainless steel, investment cast lobed cam welded to a splined shaft. The splined shaft fits into a reciprocal splined coupling in the top of the roto, creating a solid non-slip connection that ensures very precise movement and reduces mechanism wear. The design makes it mechanically impossible to improperly install the roto of the turnstile.

Enclosed Bearing Assemblies - The cam and shaft assembly housed in the top channel rotates in a bearing assembly consisting of two outdoor rated precision bearings. The upper visible bearing is protected by a sheet metal cover. The roto is installed on an outdoor rated lower bearing assembly also protected by a sheet metal cover.

Card Reader Plate Receivers - All 6X models come with card reader plate receivers on both entry and exit sides of the yoke. Optional card reader attachment plates attach to the receivers to allow easy attachment of access control devices to the turnstile. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

PASSAGE MODES - ELECTRIC LOCK CONTROL MODELS

Electrically controlled turnstiles offer the following user configurable passage modes:

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bidirectional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

Remote Key Override (Optional) - A 3-position key switch used to control passage modes. Turning the key to one of three positions overrides all existing settings, placing the turnstile in Controlled Passage mode, Free Passage mode, or No Passage mode. A separate key override can be installed for each direction of travel. (see Options).

PASSAGE MODES - MANUAL (NO ELECTRIC LOCK CONTROL)

Manual turnstiles offer the following user configurable passage modes:

Free Passage / No Passage - Each rotation direction can be either locked or free passage through the use of the key locks located on the underside of the turnstile top channel.

FUNCTIONALITY - OTHER FEATURES AND TOOLS

Operational Configuration - The standard configuration is fail-lock (CCW) / fail-safe (CW). Other configurations are available including fail-lock in both directions or fail-safe in both directions.

Field Configuration Changes - Our turnstile design makes it very easy to change configurations in the field. Competitor turnstiles require removing and returning the entire top channel to the factory for configuration changes.

Automatic Turnstile Relock - This feature adjusts the time a user is allowed to pass through the turnstile, after activation, before the turnstile automatically relocks. The turnstile ships with a default setting of 20 seconds. Additional settings include 5, 10, and 15 seconds.

Independent Turnstile Testing - The turnstile control board includes test activation buttons, which allow the unlocking function to be tested independent of the access control system. This is an excellent tool for troubleshooting.

Junction Box - The transformer assembly in the turnstile top channel includes a fused junction box with UL Listed transformer.

CARD READERS / PHYSICAL ACCESS DEVICES

Electrically controlled models come with card reader plate receivers welded to the outside vertical yoke tube. Alvarado offers optional card reader attachment plates that attach to the receivers. The card reader / physical access devices attach directly to the card reader attachment plates. Feeder wires are provided to simplify the process of running cable through the turnstile yoke up into the turnstile top channel.

Alvarado can also custom fabricate large plates and enclosures that are welded to the turnstile yoke to accommodate large devices or custom applications.

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the turnstile:

DRY CONTACT

Single passage activation is achieved by supplying an isolated, voltage-free, momentary dry contact (between .5 and 2 seconds in duration) to the appropriate location on the turnstile control board. Various outputs are also available to provide information on operational status and activity. A description of available input and output signals is provided below.

SERIAL

Alvarado offers an optional serial interface device that converts an RS-232 computer output to a momentary dry contact. Contact Alvarado for information (see Options).

A description of the available input and output signals from the turnstile control board is provided below:

Input Signal	Entry / Exit
Direction Closed	√
Good Card	√
Bad Card	√
Free Passage	√
No Passage	√

Output Signal	Entry / Exit
Rotational Signal (dry contact)	√

OPTIONS

EXPEDITED MANUFACTURING TIMES

Expedited manufacturing times are available. Contact customer service for current availability.

CARD READER ATTACHMENT PLATES

6" x 6" card reader attachment plates allow the attachment of the majority of card readers used.

USER NOTIFICATION ACTIVATION LIGHTS (JS-2 LIGHTS)

Available for use with 6X models, an LED array in a weatherized housing is located on the turnstile yoke slightly above and behind the card reader plated receiver area. The JS-2 option allows the user to select one of two signal arrays: red/ green or red / green / yellow. The user selection is made via a jumper on the turnstile control board.

The light arrays function in one of the following manners:

RED / GREEN SELECTION*

Red Light - An illuminated red light indicates the turnstile is locked and ready for card presentation.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

RED / GREEN / YELLOW SELECTION*

Red Light - An illuminated red light indicates the access system has provided the TCB with an activation indicating that an “unauthorized” card has been presented. The turnstile will remain locked.

Green Light - An illuminated green light indicates the access system has provided the TCB with an activation indicating an “authorized” card has been presented. When the green light illuminates, the turnstile will unlock.

Yellow Light - An illuminated yellow light indicates the turnstile is locked and ready for card presentation.

OPEN / CLOSED STATUS LIGHTS

Red and green LEDs are available to indicate whether the turnstile is open or closed. LEDs are installed in the top channel for easy visibility. This option is used in conjunction with remote unlocking (see electrical functionality).

FAIL-SAFE / FAIL-SAFE OPERATION

Both sides of the turnstile will unlock upon loss of power and provide free passage in both directions. The MST47-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

FAIL-LOCK / FAIL-LOCK OPERATION

Both sides of the turnstile will remain locked upon loss of power. Key overrides (which are standard) can still be used to unlock the turnstile. The MST47-6X unit is supplied in a fail-lock (entry) / fail-safe (exit) mode as default.

OUT OF SERVICE LOCK BRACKET

Enables the turnstile to be secured with a padlock when the turnstile is out of service.

PADDED HEEL / ARM PROTECTIVE SLEEVES

Padded sleeves for arms at pushing level or for lower roto arms. Heel / Arm guards are packaged three to a set.

*Photos depicting light options may be found at www.alvaradomfg.com

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST47

ELECTRIC LOCK CONTROL UPGRADE (MODEL MST47-3 UNITS ONLY)

All model MST47-3 units are convertible to electric lock control. MST-3 top channel frames include brackets and insertion holes to allow for easy field retrofit by a qualified technician.

220VAC

A 220VAC, 50 - 60 Hz transformer is substituted for the standard 110VAC transformer. 220VAC units bear CE marking, except for battery backup capability which is not available on CE marked units.

RKO-3 (REMOTE TURNSTILE MODE KEYSWITCH)

A loose three-position key switch is provided that allows the turnstile to be placed in one of three operational modes. A key switch is required for each direction of operation.

Controlled Passage - The roto is locked in place in the home position. Upon receipt of an authorization signal from an access control system, the turnstile unlocks in the appropriate direction, allowing a single passage in the authorized direction. The roto returns to the closed position after the user has passed through the turnstile or the user defined time frame allowed for an entry to occur expires. Controlled passage can be either single direction or bi-directional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Either rotation direction can be set to free passage using the key locks located on the underside of the top channel.

No Passage (Direction Closed) - No passage is allowed. The roto is locked in place. Valid electronic credentials are ignored and passage is not allowed.

PUSH BUTTON ASSEMBLY

Unlocks the turnstile for one passage with a stainless steel push button assembly.

BATTERY BACKUP

A trickle charge battery system is installed in the top channel to provide limited duration operation if primary power to the turnstile is lost. Not available on CE marked units.

TOP CHANNEL STABILIZER

A top channel stabilizer can be provided to increase rigidity between the OV and the top channel.

READER PLATE RECEIVER COVER

A small aluminum plate used to cover an unused reader plate receiver.

INTERFACE COMMUNICATION OPTIONS

Contact Alvarado for more information.

LOCK ARM MONITOR

Provides an output when either lock arm is engaged. Monitors required for each direction of operation.

CHANNEL COVER MONITOR

Provides an output when the top channel cover is removed.

DUST PROTECTION

Additional protection measures are added to the top channel for extremely dusty installation environments. Contact Alvarado for more information.

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST47

SHIPPING & SITE PREPARATION

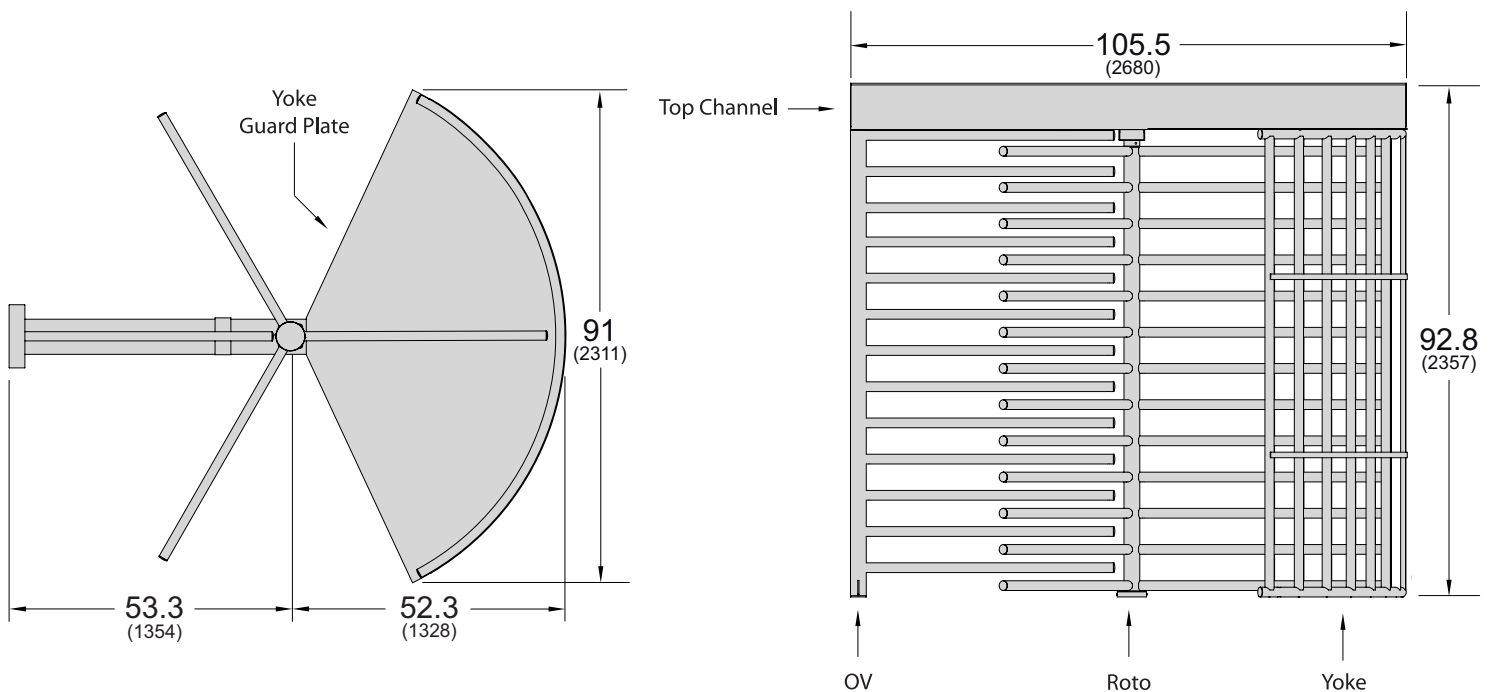
SHIPPING

MST47 turnstiles are shipped in five main sections: the top channel, the yoke, the roto, the OV and the yoke guard plate. Each section is fabricated as a sub-assembly for easy installation.

SITE PREPARATION

All turnstiles must be installed on a firm foundation in a manner that allows the required power and activation signal cabling to be pulled into the top channel. Optional conduit may be run through the OV base. The recommended slab platform is 120" x 102" x 4" deep, level concrete. Concrete anchors, bolts and washers are included with each turnstile. Installation should be performed by a skilled installer following Alvarado's directions and instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm)

DESCRIPTIVE SPECIFICATIONS

FULL HEIGHT TURNSTILES

MST47

ELECTRICAL

	DESCRIPTION
TRANSFORMER	110-120VAC, 50-60 Hz, or 220-240VAC, 50 Hz (optional)
POWER REQUIREMENTS	Max power consumption is 65W per turnstile with all available electrical options.
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low-voltage 12VDC / 5VDC operation.
ON/OFF SWITCH	An on/off switch is located on each power junction box inside the MST47-6X top channel. A visible green LED is illuminated on the TCB when the power is "on."
SURGE PROTECTION	The TBC uses Transient Voltage Suppressor (TVS) devices to provide superior lightning and surge protection. The TCB is rated to 500A (6kV) for lightning and industrial surges (per IEC 61000-4-5). Protection against ESD is provided (per IEC 61000-4-4). Control signal lines are protected by bi-directional TVS devices up to 600W per input
BI-DIRECTIONAL SOLENOID DRIVERS	Each TCB provides one solenoid driver per rotation direction.

WEIGHT, DIMENSIONS, ENVIRONMENT

	STANDARD	METRIC
PRODUCT WEIGHT	900 lbs.	410 kg
SHIPPING WEIGHT*	1300 lbs.	591 kg *Includes weight of shipping crate(s)
HEIGHT	92.8"	2357 mm
WIDTH	105.5"	2680 mm
DEPTH	91"	2311 mm
OPERATING TEMP. RANGE	-20° to 150° F	-29 to 66° C
STORAGE TEMP. RANGE	-30° to 160° F	-34 to 71° C
RH	0-90% (non-condensing)	--

WARRANTY

For a period of one year from the date of shipping, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In NO event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



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Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



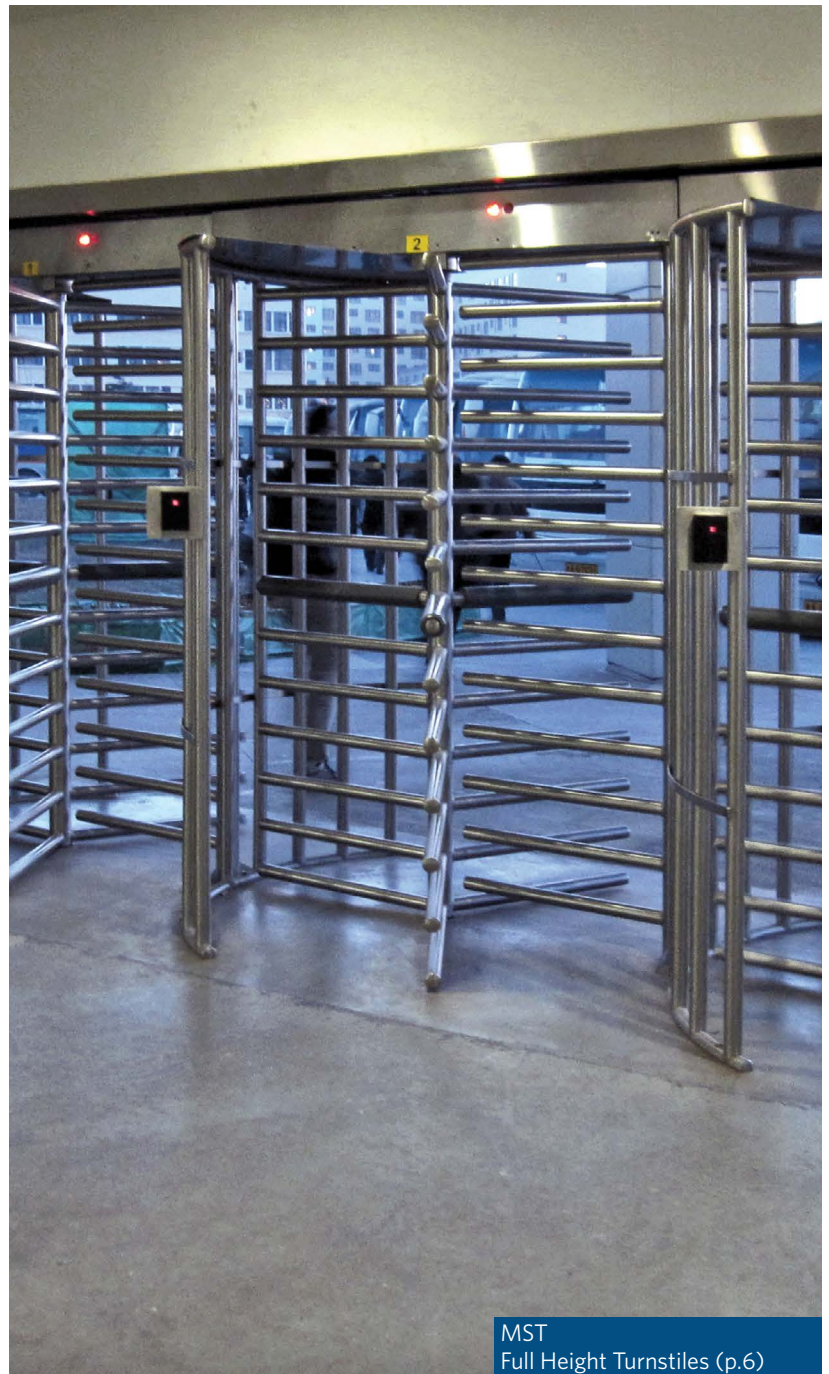
SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

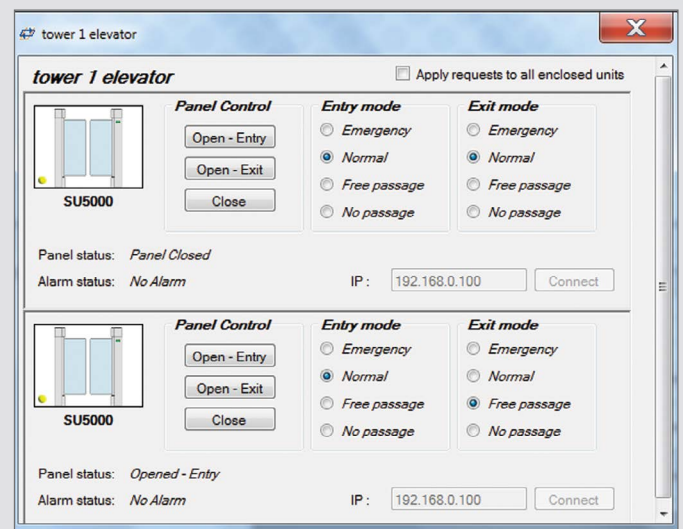


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

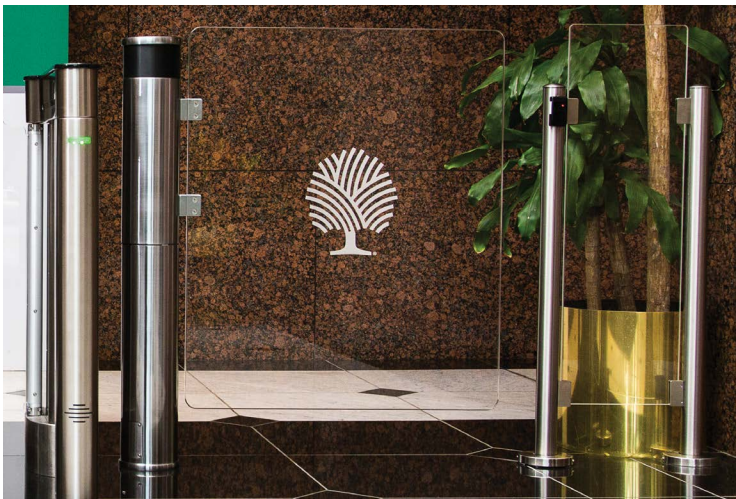
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

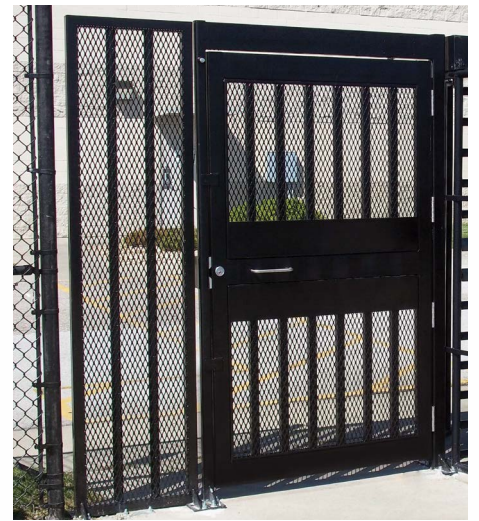
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



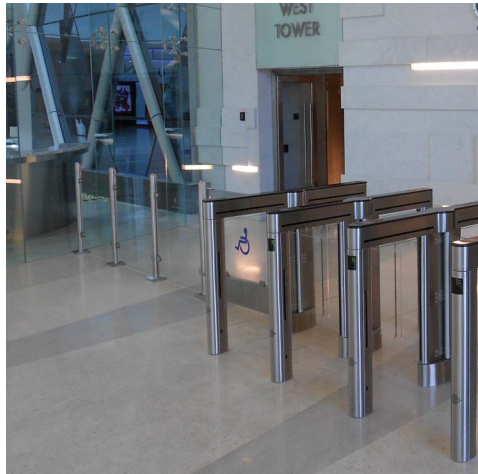
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

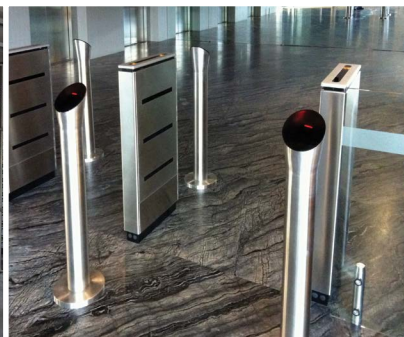
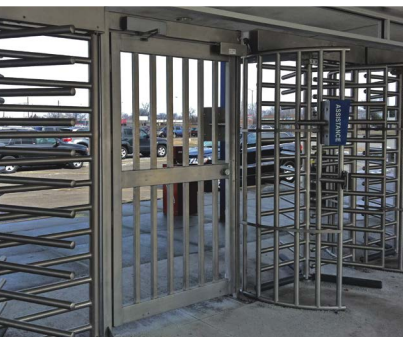


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

Alvarado products and solutions can be found globally. Our knowledgeable staff can assist with product selection, layouts and can direct you to local installers, integrators and service technicians. Installation images and detailed specifications can be found on our website, www.alvaradomfg.com.





Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



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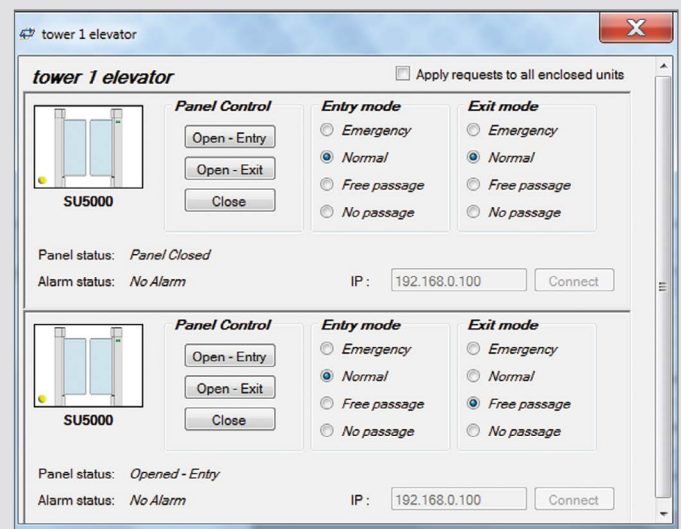


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SLT

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PEDESTRIAN SECURITY GATES

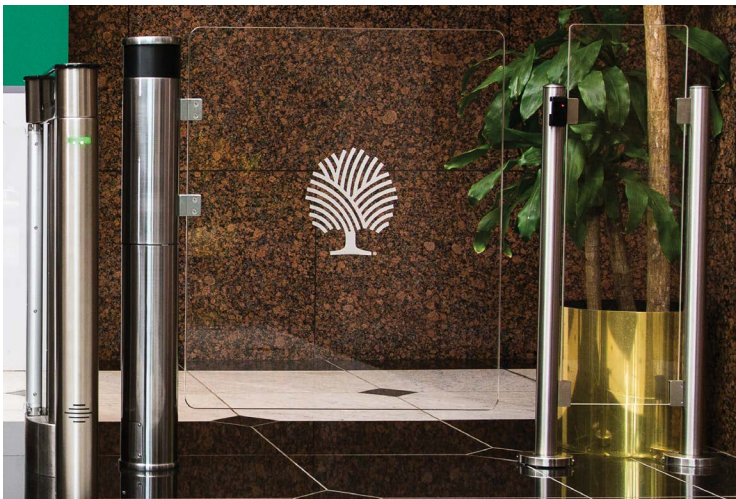
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SW1000 Motorized Gate

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A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

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This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



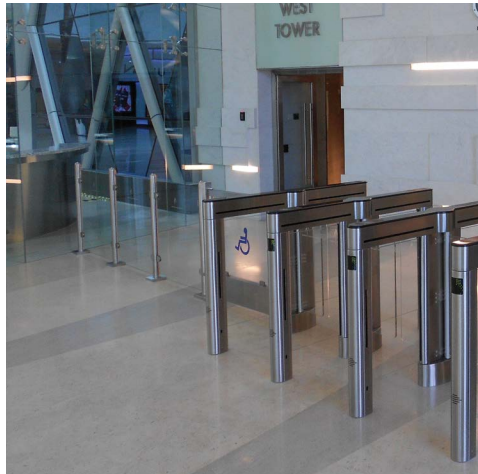
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

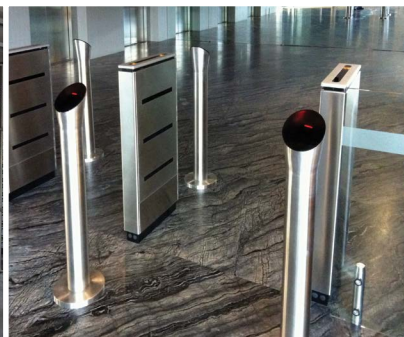
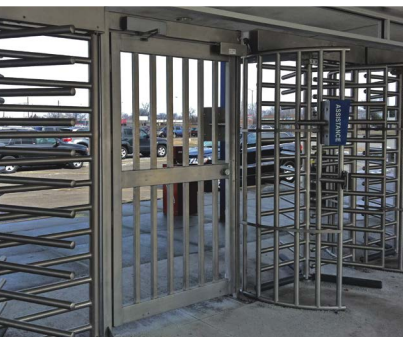


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

Alvarado products and solutions can be found globally. Our knowledgeable staff can assist with product selection, layouts and can direct you to local installers, integrators and service technicians. Installation images and detailed specifications can be found on our website, www.alvaradomfg.com.





Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

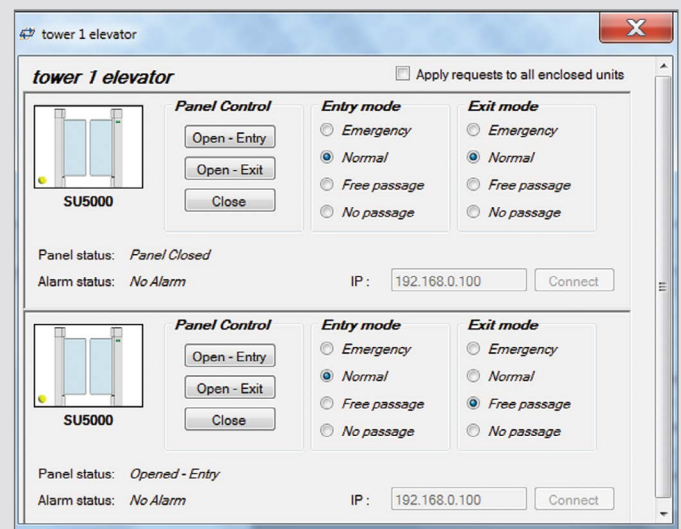


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

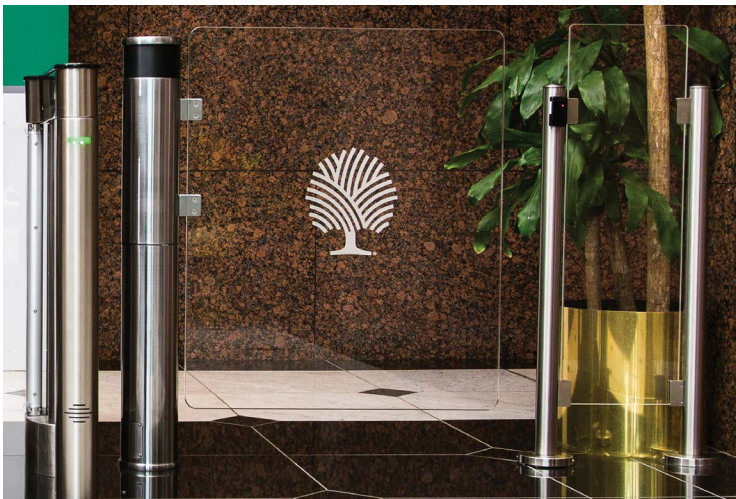
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

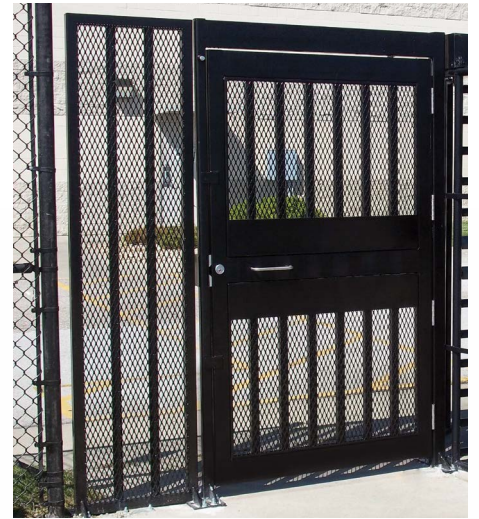
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



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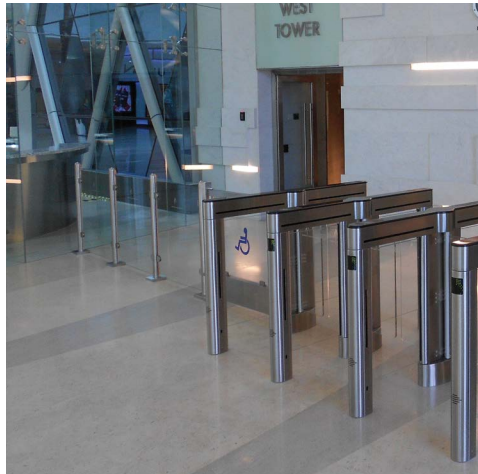
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Infill and Barrier Sections

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Alternate Materials

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MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

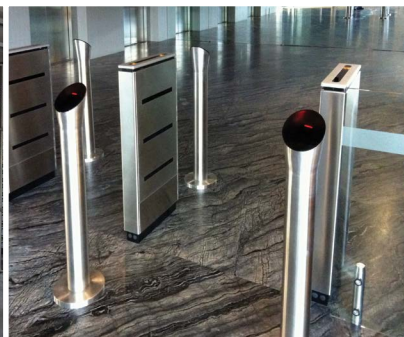
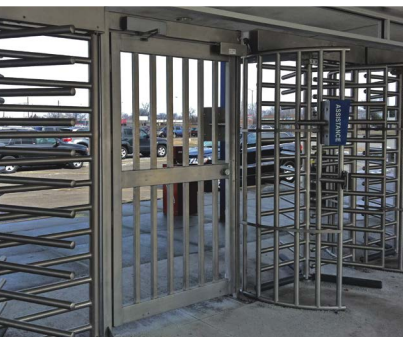


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

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model SU2000

Optical turnstiles from Alvarado provide secure bi-directional entry control, while blending beautifully with high end environments. Ideal for use in supervised lobbies, optical turnstiles use integrated sensors to control access, detect unauthorized entry attempts, and “tailgating” on allowed entries. Sounds and lights alert when an unauthorized passage is attempted.

The Supervisor 2000 is our thinnest barrier-free turnstile. Its compact form is well suited for applications where space is at a premium.



COMMON APPLICATIONS

- Interior Entry/Exit Control
- Time & Attendance Integration
- People Counting

Why Alvarado?

Alvarado is the leading manufacturer of optical turnstiles. Since its founding in 1956, Alvarado equipment has been installed in thousands of locations throughout the world.

Our superior product quality, integration expertise and industry leading service and support are just a few reasons that many of the world's most respected companies use our products again and again.

KEY FEATURES

No Barriers

Stylish Design, Small Footprint

Superior Optical Detection

Clear Direction to Users

Alarm Contact Outputs

Easy Systems Integration

BENEFITS

Barrier-free design utilizes optical sensors to monitor passage through the lane resulting in **very high throughput rates**

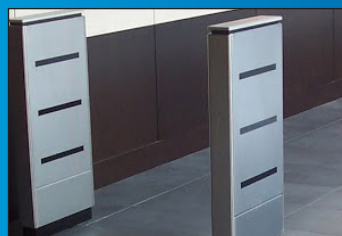
Compact cabinets look great, are unobtrusive and **provide access control where space is at a premium.**

Integrated sensors monitor passage, **detecting unauthorized access and "tailgating" behind an authorized user.**

Illuminated status lights on top of the cabinet and audible alerts **convey lane status and alarm conditions.**

Alarm contacts may be **integrated with remote systems to provide alarm notifications.**

Easily integrates with most access control and safety systems.



AVAILABLE MODELS

SU2000 - Single Lane (2 cabinets) - 28" and 36" lane widths

OPTIONS

A number of options and a selection of materials and finishes are available.

COMPLEMENTARY PRODUCTS

Custom barriers are ideal companions to our optical turnstiles. They can fill gaps in your installation, direct pedestrians and provide an integrated appearance.

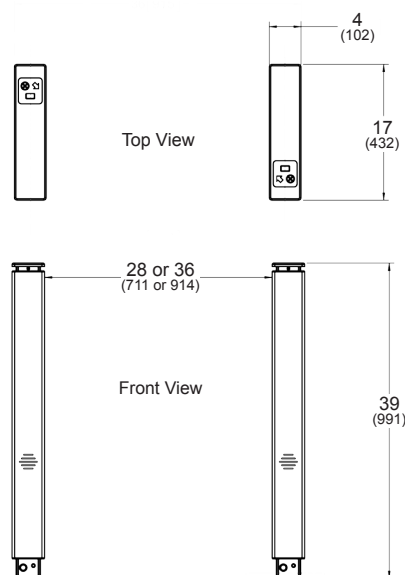


RESOURCES

Alvarado's knowledgeable staff understands that many customers do not deal with turnstiles on a regular basis. We offer expert assistance and technical expertise to ensure the best solution is selected for your facility.

Additional information, including detailed specifications, installation manuals, CAD drawings, application images and throughput considerations can be found online.

DIMENSIONS



Dimensions shown in inches (mm).

SU5000

DESCRIPTIVE SPECIFICATIONS



The Supervisor 5000 is the thinnest optical turnstile available. It has clear, bi-directional motorized barrier panels and a stylish, architectural design that enhances any access control installation.

COMMON APPLICATIONS

- Employee and Visitor Access Control
- Time & Attendance Integration

TYPICAL INSTALLATION SITES

- Government Facilities
- Corporate Lobbies
- Health / Recreation Centers

FUNCTION

The Supervisor 5000 provides bi-directional access control and other operational and passage modes (described below). In controlled passage mode, upon receipt of a valid card signal from an access control system, the motorized barriers of the turnstile open away from the user, and integrated sensors allow a single user to pass through the turnstile in the requested direction. If an unauthorized user attempts to tailgate on the entry, the unit will recognize the illegal passage, a violation alarm (with user-configurable sounds) will sound and red notification lights will flash.

The SU5000 utilizes tandem motorized barriers, distributed processing and integrated optical sensors to control access. The optical sensors detect patrons, determine the direction of patron movement and (in conjunction with the facility access system) detect unauthorized users. In addition to detecting “piggybacking” or “tailgating” on allowed entries, the SU5000’s sensors prevent barriers from closing on users. If the barriers do encounter an obstruction on either opening or closing, the SU5000’s software detects the obstruction and takes corrective action, precisely controlling the motors to minimize impact.

While access control throughput will depend on the access control system and readers used, the SU5000 supports extremely rapid throughput. It will “stack” valid scans and process patrons as fast as they can walk through the turnstile.

IP-based communication and configuration functionality is included in all SU5000 optical turnstiles, making it possible to adjust core turnstile settings via a local and/or remote TCP/IP network session. The numerous configurable features of the SU5000 are set in the field using an application (which is included) called LaneConfig. This application allows core configurable features – such as alarm sounds, motor settings, optical settings, detection settings, tailgating, safety sensor settings, barrier speed, alarm timer settings, etc. – to be changed over a TCP/IP network. If the turnstiles are not networked, adjustable features are configured by loading LaneConfig on a laptop and plugging directly into an Ethernet port in the turnstile.

The IP-based functionality of the SU5000 allows advanced configuration and troubleshooting without an actual physical presence at the turnstile, and Alvarado has an ongoing program to update the capabilities of its IP-capable devices.

Alvarado also offers a monitoring and scheduling application (optional) called GateKeeper. This application provides a virtual desktop of installed turnstiles, providing an attendant a convenient method to view and control day-to-day operational functions such as alarm notifications, implementing one-time passages, and changing turnstile operational modes.

GateKeeper also includes a scheduling function that allows a facility to automate changes in turnstile operational modes. This convenient functionality allows facilities to automatically implement desired turnstile operational changes at preset times such as at the beginning and end of shifts, lunch times, Saturdays, holidays, etc. GateKeeper provides a complete log of turnstile activity, for such items as activations, alarm conditions, and operational mode changes. Activities of attendants using GateKeeper are tracked as well.

More information about LaneConfig and GateKeeper is available in the Available Related Applications section of this document. Additional detailed information can be obtained by contacting Alvarado technical support.

AVAILABLE CONFIGURATIONS

SU5000 & SU5000E

The SU5000 consists of a pair of end cabinets with moving barriers that create a single 28" wide passageway. The SU5000E is an extension center cabinet, with the same dimensions as an end cabinet, used to create additional turnstile passage lanes with the addition of a single cabinet. For example, one SU5000 and one SU5000E would be used to create two turnstile lanes. Additional extension center cabinets are used to create additional turnstile lanes; e.g., one SU5000 and two SU5000Es create three turnstile lanes. An unlimited number of center cabinets can be added.



28" passage width -
mid-height barriers.

SU5000-A & SU5000E-A

The SU5000-A consists of a pair of end cabinets with moving barriers that create a single 36" wide passageway. The SU5000E-A is an extension center cabinet with wider barriers to allow an additional 36" turnstile passage lane to be created with the addition of a single cabinet as described in the section above. An unlimited number of center cabinets can be added.

COMBINING TURNSTILE LANES WITH DIFFERENT SIZED PANELS

Center cabinets that have a 28" passage barrier on one side and 36" wide barrier, or different height barrier, on the other side are available.



AVAILABLE FINISHES

STAINLESS STEEL, POWDER-COATED & PLATED

External cabinet materials are fabricated from #304 stainless steel polished to a #4 satin finish. Powder-coated cabinets are available (see Options).

A multi-lane configuration with 36" passage width on left and 28" passage width on right - mid-height barriers.

MATERIALS

CABINET

Cabinets are fabricated from #304 stainless steel.

CABINET LIDS

Cabinet lids are fabricated from 100% acrylic resin (Color: Starry Night Black). Alternate acrylic resin colors and alternate materials can be provided (see Options).

INTERNAL FRAME

A powder-coated internal steel frame houses electronics, sensors, motors, and mechanical components.

MOVING BARRIERS

Clear moving barriers are fabricated from 0.5" (13mm) thick acrylic with abrasion resistant coating. Barriers come in widths to create 28" or 36" passage openings. Barriers come in three heights: 35" (low); 46" (mid); and 69" (high). High (69") barriers are fabricated from 0.75" (19mm) thick acrylic. Moving barriers can be etched with a customer supplied design (see Options).

SIDE PANELS

Clear side panels are fabricated from 0.375" (9mm) thick acrylic with abrasion resistant coating. Side panels can be etched with a customer supplied design and / or illuminated (see Options).

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

The precise movement of the SU5000's motorized barriers is accomplished through DC brushless motors working in conjunction with position encoders and motor controllers. A main turnstile controller runs the operational application and interfaces to the motor controllers and optics over an internal, high-speed serial network. The turnstile controller also interfaces to outside configuration and administrative applications, LaneConfig and / or GateKeeper via TCP/IP - see Available Related Applications.

PASSAGE MODES

The SU5000 offers the following user-configurable passage modes:

Controlled Passage - The barriers are closed, securing the turnstile. Upon receipt of an authorization signal from an access control system, the barriers move away from the user to the open position, allowing a single passage in the authorized direction. The barriers return to the closed position after the user has passed through the turnstile or the time frame allowed for an entry to occur has expired. Controlled Passage can be either single direction or directional.

Free Passage - An authorization signal is not required for a user to pass through the turnstile. Barriers are closed until a user enters the turnstile at which time the barriers automatically open in the direction of travel. Barriers close behind the user when it is safe to do so. Free Passage can be either single direction or bi-directional.

No Passage (Direction Closed) - No passage is allowed. The barriers are closed and remain closed. Valid electronic credentials are ignored and passage is not allowed. The barrier will still open in the "exit" direction if a fire alarm or life safety input is received. No Passage can be either single direction or bi-directional.

Visitor - Allows visitors and groups without credentials access through the turnstile. When placed in visitor mode, the barriers open and the turnstile is placed in Free Passage mode. The barriers remain open until the input signal is removed. Passages in either direction are monitored and an I/O output is provided for each passage.

USER STATUS DISPLAY

An illuminated status icon display that is visible to users is flush mounted within the cabinet lid and is configured to function in the following manner:

Yellow Icon - An illuminated yellow card means the turnstile is ready for card presentation.



Green Arrow Icon - An illuminated green arrow indicates passage is allowed in the direction of the arrow and / or valid credentials have been presented. A flashing green arrow indicates the turnstile is in Free Passage mode in the direction of the arrow.



Red Stop Icon - An illuminated red X indicates passage is prohibited in the direction of the arrow. A flashing red X indicates the turnstile has an alarm condition and / or invalid credentials have been presented.



OPEN / CLOSED STATUS LIGHTS

An opaque end piece is mounted to the upper end “leg” on each side of the turnstile diffusing green and red signal lights. The lights function similar to toll booth lights, and perform in the following manner:

Green - An illuminated green bar indicates the turnstile is open for use. The bar remains green when a valid card input is received.



Red - An illuminated red bar indicates the turnstile is closed for use. The barrier will not open in the direction of travel unless the direction is “exit” and a fire alarm or life safety input is received.



Red Flashing - A flashing red bar indicates the turnstile has an alarm condition. The duration of the alarm condition and flashing is user definable through LaneConfig software.

FUNCTIONALITY - USER-CUSTOMIZABLE FEATURES & AVAILABLE TOOLS

In addition to the available passage and operating modes, the SU5000 has a number of additional user-customizable features. These features allow turnstiles to be “tuned” to the operational requirements of an application and allow users to associate individual audio sounds with operational states and alarm conditions. SU5000 turnstiles also have several tools to assist service personnel with setup, diagnostics and troubleshooting.

Customizable features and custom sounds are downloaded to turnstiles over a TCP/IP network using the included LaneConfig application. The product ships with standard sounds. Users may create and install their own audio sounds in the form of .wav files.

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU5000

Prior to shipping, turnstiles are configured with settings that are appropriate for most facilities, and default sound files are loaded. A summary of configurable features and setup / diagnostic tools is listed below.

Operational Tuning Adjustments	Description
Barrier Breakaway	Controls barrier breakaway force if manually forced
Barrier Impact	Controls barrier operation if moving barriers encounter an object during operational cycle
Access Timeout	Valid credential presented but user does not pass through turnstile; controls time before barriers close and turnstile resets
Object	Controls object detection size
Tailgating	Controls tailgating sensitivity
Unauthorized Entry	Controls number of entry sensors a user can block before triggering alarm
Blocked Sensor	Controls time before alarm is generated if sensors are blocked

Operational Sounds / Alarms	Description	Configurable Sounds
Access Granted*	Good card	√
Access Denied*	Bad card	√
Unauthorized Presence*	User enters turnstile without presenting card	√
Tailgating / Unauthorized Passage*	Tailgating / unauthorized passage detected	√
Blocked Sensor	Sensors not cleared	√
Unsafe to Open/Close*	Doors are not opening/closing due to unsafe condition	√
Barrier Breakaway	Barriers have been forced open	√
Barrier Impact	Barriers encounter an object when moving	√

* Configurable for both entry and exit direction.

Setup / Diagnostic Tools	Description	Configurable Sounds
Barrier Position (Home)	Barrier home position setting	N/A
Barrier Position (Open)	Barrier opening position setting	N/A
Startup	Appropriate startup engaged	√
Barrier Lingers	Barriers have stayed open past the allotted time to close	√
Debug	General debug application for troubleshooting	N/A
Optic Debug	Debug application for optics	N/A
Motor I/O Debug	Debug application for motor communication	N/A
Electromechanical Brake	Controls whether brake is used or not	N/A
Emergency Override Direction	Allows installer to set emergency override direction	N/A

ALARM CONDITIONS

In the event of an alarm condition, the designated alarm sound is played (see previous chart) and both the status icon display and open / closed status lights will illuminate red for the defined time. An I/O output is also provided for most alarm conditions - see Turnstile Interface To Access Control System.

BARRIER BREAKAWAY

All SU5000 turnstiles utilize motor force and if enabled, an electromechanical brake to provide adjustable resistance against a user pushing or pulling the barriers open. The force it takes to push or pull barriers open is an adjustable setting, up to the product maximum. Approximate maximum holding force measurements are available from Alvarado. When the set or maximum holding force is reached, the barriers “break away” and can be moved manually. The barriers automatically reset to the home (closed) position.

BARRIER CYCLE TIME

This is an adjustable feature. Factory set, and recommended, opening speeds are 1.0 seconds for low- and mid-barriers and 1.5 seconds for high-barriers (69”).

BARRIER IMPACT

In the event that the barriers encounter resistance while opening or closing, barriers will stop moving, an alarm will sound, and the user status display and open / closed status lights will illuminate red to indicate an alarm condition. At this point, barriers can be moved manually. The barriers will automatically reset to the closed position once the obstruction is cleared. The barrier impact setting is adjustable.

EMERGENCY OVERRIDE / FIRE ALARM

Activation to open the barriers in conjunction with a fire alarm or other life safety system is achieved by supplying a sustained dry contact to the SU5000. During emergencies the SU5000 barriers will open in the exit direction and remain open. Status lights and alarm notifications will turn off.

POWER FAILURE

In the event of a loss of power to the unit, the barriers of the SU5000 can be freely moved in either direction. When pushed or pulled to the open position the barriers will remain open.

CARD READERS

SPACE FOR INTERNAL INSTALLATION OF CARD READERS

Slim style proximity readers can be mounted on either side of the turnstile underneath the cabinet lid. The internal space available is 1.0” H x 1.9” W x 6.5” D (25mm x 48mm x 165mm). Larger readers are typically mounted on Adjustable Reader Mounting Attachment (see Options).

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the SU5000:

DRY CONTACT - Single passage activation, and other functionality, is achieved by supplying an isolated, voltage-free, momentary dry contact at the appropriate location on the I/O control board. Various outputs are also available to provide information on turnstile operational status and activity. A description of available input and output signals is provided below.

Input Signal	Entry / Exit
Direction Closed	√
Good Card (Activation)	√
Bad Card	√
Passage - Free Pass Mode	√
Single Entry Override	√
Life Safety Input	√

Output Signal	Entry / Exit
Authorized Passage	√
Unauthorized Passage	√
Unauthorized Presence	√
Sensor Blocked	√
Lingering Barrier	√

TCP/IP - For large projects a TCP/IP interface is available. This method allows a third party access system to control turnstile operation similar to the dry contact method, through the use of TCP/IP commands and responses. There is an additional charge for this interface method and implementation requires a programming effort on the part of the access system provider. Contact Alvarado for pre-evaluation of project requirements.

AVAILABLE RELATED APPLICATIONS

There are two additional applications that are available with the SU5000.

LANECONFIG - LaneConfig is a web-based application that comes standard with all SU5000's. The application allows configurable features of the SU5000 and updated software to be installed over a network. Use of LaneConfig in a networked setting eliminates the need to physically plug into individual turnstiles to change turnstile configurations or update software. LaneConfig is installed on a PC or tablet that is networked to installed SU5000 units and communicates to turnstiles via TCP/IP.

In installations where SU5000 turnstiles are not networked, LaneConfig is loaded on a laptop which is temporarily plugged into the Ethernet port of individual turnstiles when turnstile configurations are changed or software is updated.

GATEKEEPER - GateKeeper is an optional desktop application that allows all Alvarado optical turnstiles installed at a site to be monitored and controlled from a single PC. GateKeeper allows control of virtually all day-to-day operating functions including designating a turnstile as entry or exit, opening or closing a turnstile, and allowing single passage overrides for guests or personnel that have forgotten their access card. The application also includes various other functions; these include an emergency "open all turnstiles" capability that is in addition to the emergency override / fire alarm capabilities described earlier in this document. The application has tiered login levels with three levels of security (User, Supervisor and Administrator). The higher permission levels enable various additional features and settings.

GateKeeper has an intuitive graphic interface that gives desk attendants a current “status” of all installed turnstiles. In addition, when alarm conditions occur, the application provides both visual and audio notification of what happened. All actions (such as passage overrides), and turnstile alarms, are logged. Logs may be printed or saved for recordkeeping or diagnostic purposes.

GateKeeper also includes a built in Event Scheduler. This extremely useful tool allows day-to-day operational changes that are often implemented at sites to be scheduled and automatically implemented without the need for a guard or attendant to “remember” to change settings. Event Scheduler allows operation templates to be saved and then automatically implemented at user-defined times. Examples include changing the entry status of turnstiles (entry, exit, bi-directional control or free passage) at set times of the day. Similarly, a facility may want barriers activated or disabled at select times and / or only specific lanes operational on weekends and holidays. This flexibility allows turnstiles to be used more efficiently, can decrease the number of turnstiles that may be needed and allows Alvarado’s optical turnstiles to seamlessly integrate into a customer’s operational requirements.

A single license of GateKeeper allows users to control all turnstiles installed at a single licensed site.

OPTIONS

ALTERNATE LID COLORS AND MATERIALS

Cabinet lids may be ordered in alternate colors and materials.

ALTERNATE POWER SUPPLY

A 220-240 VAC, 50 Hz power supply and appropriately rated key switch are utilized.

BARCODE READER FOR VISITOR IDENTIFICATION

A 1D / 2D barcode reader can be installed on either or both sides of the turnstile. The barcode reader is recessed into the right-hand leg of the turnstile with scan opening located below the Open / Closed Status Light. Barcode readers are generally used for visitor identification and work with most access control or visitor management solutions.



Barcode Reader

BARRIER HEIGHTS

Moving barriers are available in low (35”), mid (46”) and high (69”) heights. Low and mid-height barriers are 0.5” (13mm) thick. High (69”) barriers are 0.75” (19mm) thick. See Technical Dimensions.

BARRIER / SIDE PANEL ETCHING

Customer’s choice of logo / artwork may be etched on the moving barriers and / or side panels. Contact Alvarado for space limitations.



Barrier / Side Panel Etching

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

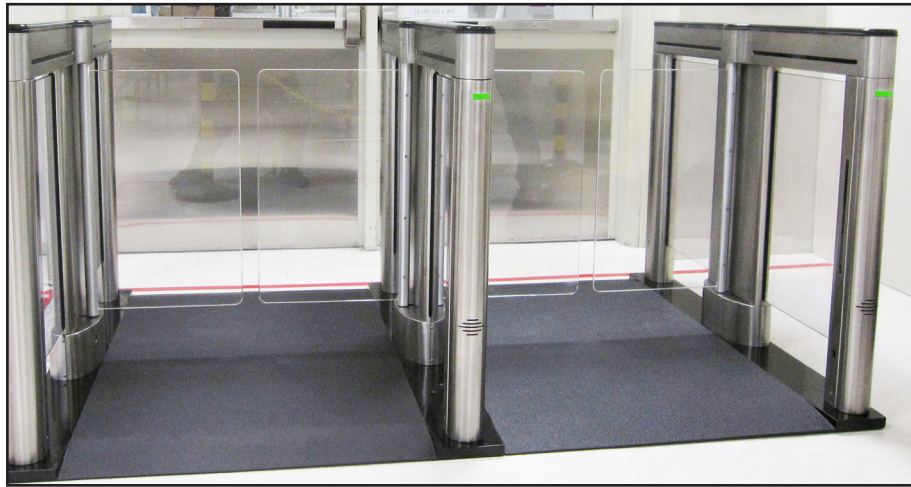
SU5000

BARRIER WIDTHS

Moving barrier widths may be customized to meet unique installation requirements.

BASEPLATE

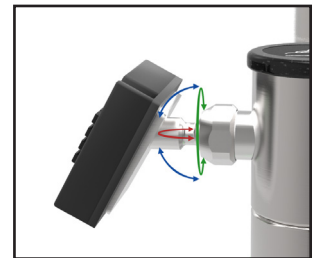
A baseplate for either single turnstile or multi-turnstile configurations is available. The baseplate is powder-coated black with a black non-slip coating in the passageway area. The baseplate includes enclosed cable runs and eliminates the need for trenching or stubbing up conduit from floor.



Multi-Turnstile Baseplate

CARD READERS / OTHER ACCESS DEVICES - ADJUSTABLE READER MOUNTING ATTACHMENT

Due to the extremely slim architectural profile of the SU5000, generally only mullion-sized readers can be housed inside the cabinet. To accommodate larger readers and similar user interface devices, Alvarado offers an optional Adjustable Reader Mounting Attachment, which is factory installed on one or both ends of the turnstile. When ordering this option, provide the reader manufacturer and model number, as well as a physical sample of the device to Alvarado.



Adjustable Reader Mounting Attachment

CUSTOM CABINETS

External cabinet materials may be powder coated in a variety of colors. Cabinet materials can also be plated in a variety of finishes.

LONGER INTERCONNECT CABLES

Longer interconnect cables are available to accommodate installations where standard conduit runs are not available. The standard interconnect cable length is 8'. Custom cables are available in 20' or 40' lengths.

SIDE PANEL ILLUMINATION (DYNAMIC)

Dynamic Side Panel Illumination combines Static Side Panel Illumination with dynamic changes to the lighting of the side panel on the right hand side of the turnstile (directly underneath the User Status Display). Depending on turnstile status, the side panel changes color in coordination with the User Status Display. The Dynamic Side Panel Illumination option allows an attendant to visually identify the status of installed turnstiles and quickly identify a turnstile with an alarm condition. Colors used with Dynamic Side Panel Illumination are blue, green and red.

Blue Illuminated Panel – A constantly illuminated blue panel corresponds with the yellow icon on the User Status Display and means that the turnstile is ready for presentation.

Green Illuminated Panel – An illuminated green panel corresponds with the green arrow icon on the User Status Display and means that a valid credential has been presented or the turnstile is in “free passage” mode.

Red Illuminated Panel – An illuminated red panel corresponds with the solidly illuminated red stop icon on the User Status Display and means that an invalid credential has been presented.

Red Illuminated (Flashing) Panel – A flashing red panel corresponds with the flashing red stop icon on the User Status Display and means that the turnstile has an alarm condition.

SIDE PANEL ILLUMINATION (STATIC)

Side panels may be illuminated via low-voltage LEDs in the following colors: white; green; blue; red. The panels are constantly illuminated with the selected color when the turnstile is powered.

TCP/IP

See the description under Turnstile Interface to Access Control System.

TCP/IP (GATEKEEPER)

GateKeeper communicates with SU5000 turnstiles over a wired TCP/IP network. The program runs on current Windows operating systems.



Side Panel Illumination (Static)

TURNSTILE KEY CONTROLS

Two 3-position key switches are installed on the turnstile to control passage modes for both directions of travel. Turning the key to one of three positions overrides all existing settings placing the turnstile in Controlled Passage mode, Free Passage mode or No Passage mode depending on the orientation of the key.

EXTERNAL DC POWER SUPPLY ENCLOSURE

A portable enclosure is provided for remote installation of the Supervisor primary power supply. The enclosure houses up to three power supplies (one power supply is required per Supervisor turnstile). Conduit entry / exit ports are provided for connecting 110/220VAC primary power to the power supplies and running 24VDC power to the turnstiles. The low-voltage wire run should not exceed 100' using the specified wire gauge.

CONDUIT REQUIREMENTS

PRIMARY POWER CONDUIT

.75" power conduit for primary power must be run to each master controller cabinet.

Note: The product standard is 110-120VAC (use of 220-240VAC is an option).

LOW-VOLTAGE & COMMUNICATION CONDUIT

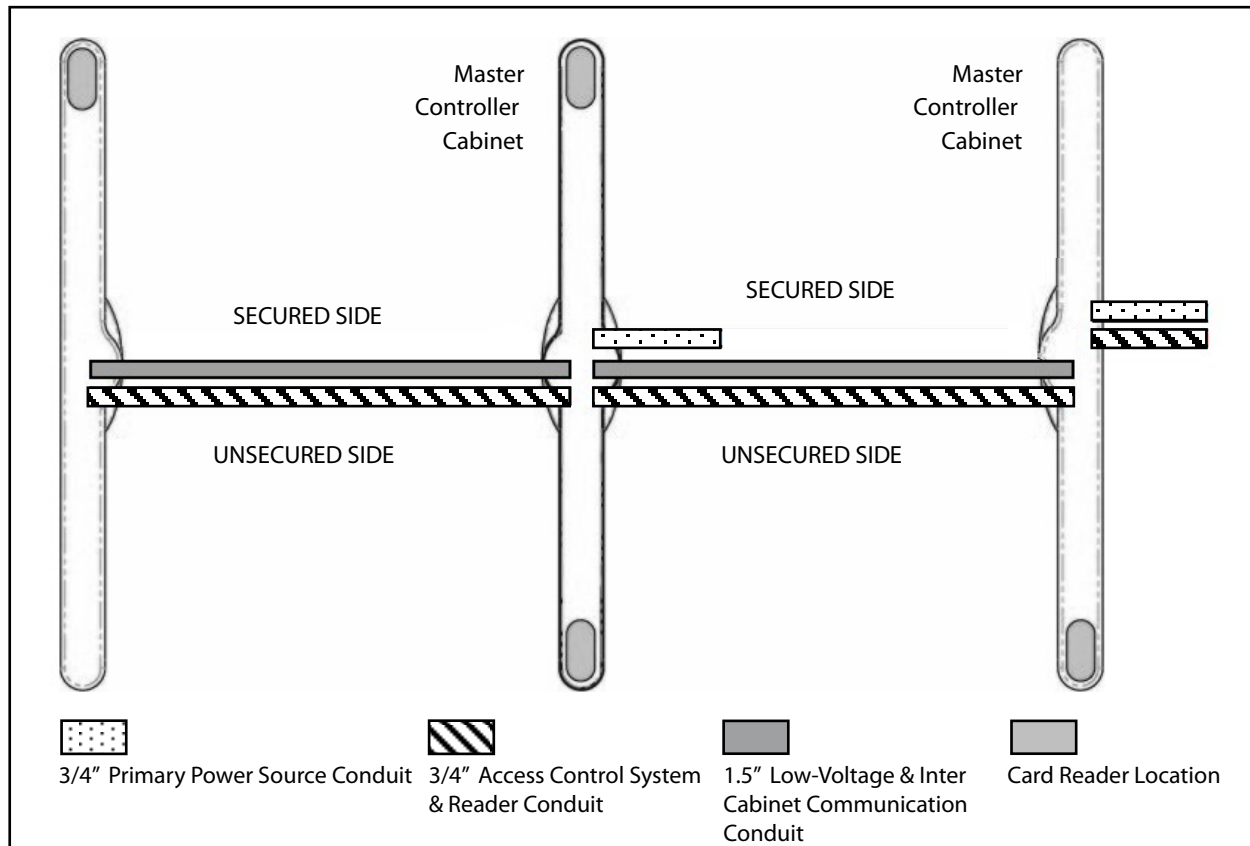
1.5" conduit must be run to allow passage of the interconnect cable between cabinet sets. 8' interconnect cables are included. 20' and 40' interconnect cables are available options.

ACCESS CONTROL SYSTEM & READER CONDUIT

The SU5000 has space for the acceptance of a .75" conduit for access control and reader cabling. Alvarado does not provide cables for access control systems.

TCP/IP CONDUIT

Use of TCP/IP communication with LaneConfig, GateKeeper or GateConnect requires the running of an Ethernet cable to each master controller cabinet. Do not run cable in the same conduit as AC Power.



SHIPPING & SITE PREPARATION

SHIPPING

SU5000 cabinets are shipped assembled for easy installation. Each cabinet includes mounting hardware (anchors, bolts, washers, etc.) to mount the unit to a standard, level concrete floor.

SITE PREPARATION

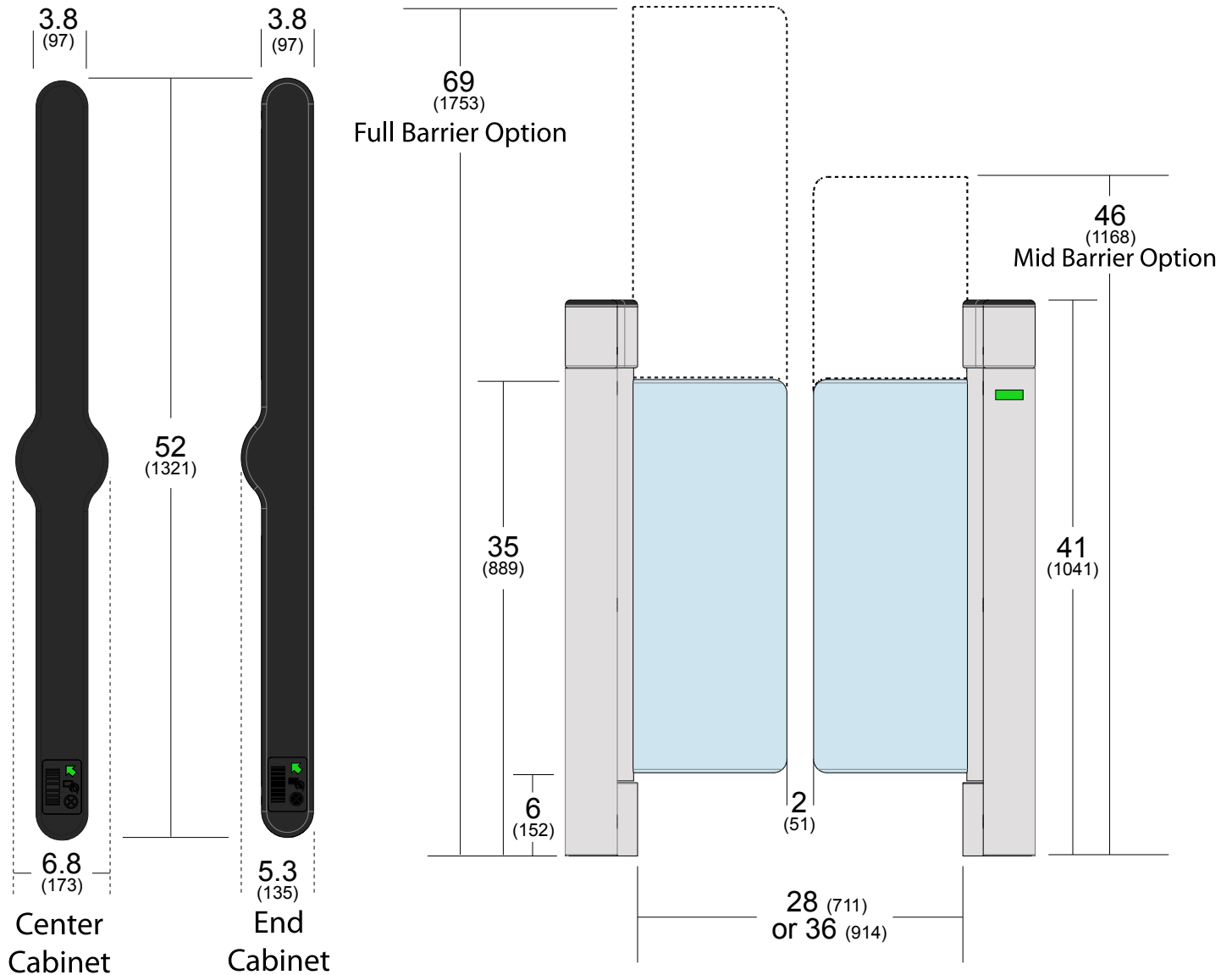
Turnstiles must be installed on a firm foundation in a manner that allows the required power and access control cabling to be pulled into the turnstile cabinet. The slab platform should be a minimum of 4" deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Detailed drawings and installation manuals are available online.

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU5000

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm). All measurements are approximate.

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU5000

THROUGHPUT RATES

CARD READER TYPE*	USERS PER MINUTE**
PROXIMITY	40
MAGNETIC STRIPE	25
MAGNETIC STRIPE WITH NUMERIC KEYPAD	20
BARCODE SCANNER	40
*Access control system response is assumed to be instantaneous	**Approximate. Rates may increase with user familiarity.

ELECTRICAL

	DESCRIPTION
TRANSFORMER	110-120VAC, 60 Hz. or 220-240VAC, 50 Hz. (optional)
POWER REQUIREMENTS	Maximum power consumption is 300W per lane with all options installed.
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low voltage 24 VDC, 12 VDC, and 5 VDC operation.
ON/OFF KEY SWITCH	An on/off key switch is located on each master cabinet.
FUSE PROTECTION	A 2.5 amp fuse (slo-blo) is installed in each master cabinet.
SURGE PROTECTION	Alvarado suggests use of surge protection equipment in connection with the installation to protect electronics.
DRIVE MOTOR	24V BLDC

WEIGHT, DIMENSIONS, ENVIRONMENT

	STANDARD	METRIC	
PRODUCT WEIGHT*	200 lbs.	91 kg	*Weight for a standard 28" lane (two cabinets)
SHIPPING WEIGHT**	275 lbs.	125 kg	**Includes weight of shipping crate(s)
HEIGHT	41"	1041mm	
WIDTH	3.8"	97mm	
DEPTH	52"	1321mm	
OPERATING TEMPERATURE	50° to 90° F	10 to 32° C	
STORAGE TEMPERATURE	32° to 104° F	0 to 40° C	
RELATIVE HUMIDITY	15-85% (non-condensing)	--	

WARRANTY

For a period of 18 months from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.

SU3500

DESCRIPTIVE SPECIFICATIONS



The Supervisor 3500 has stylish, clear “barrier wings” that move quickly out of the way to provide high throughput rates in either direction.

COMMON APPLICATIONS

- Employee and Visitor Access Control
- Time & Attendance Integration
- Loss Prevention

TYPICAL INSTALLATION SITES

- Government Facilities
- Corporate Lobbies
- Recreation Centers

FUNCTION

The Supervisor 3500 provides bi-directional access control and other operational and passage modes (described below). In access control mode, upon receipt of a valid card signal from an access control system, the motorized barrier wings of the turnstile quickly retract into the cabinet, and the integrated sensors allow a single user to pass through the turnstile in the requested direction. If an unauthorized user attempts to tailgate on the entry, the unit will recognize the illegal passage, a violation alarm (with user configurable sounds) will sound, and red notification lights will flash.

The SU3500 utilizes tandem motorized barrier wings and integrated optical sensors to control access. The optical sensors detect patrons, determine the direction of patron movement, and (in conjunction with the facility access system) detect unauthorized users. In addition to detecting “piggybacking” or “tailgating” on allowed entries, the SU3500’s sensors prevent the barrier wings from closing on users. If the barrier wings do encounter an obstruction on either opening or closing, the SU3500’s software detects the obstruction and takes corrective action, precisely controlling the motors to minimize impact.

While access control throughput will depend on the access control system and readers used, the SU3500 supports extremely rapid throughput. It will “stack” valid scans and process patrons as fast as they can walk through the turnstile.

Configurable features of the SU3500 are set in the field using an application (included) called LaneConfig. This application allows core configurable features – such as alarm sounds, motor settings, optical settings, detection settings, tailgating, safety sensor settings, barrier speed, alarm timer settings, etc. – to be changed and uploaded over a TCP/IP network at the installation site. Turnstiles can also be configured by loading LaneConfig on a laptop and plugging directly into an Ethernet port in the turnstile. More information about LaneConfig and the many configurable features of the SU3500 are described further in this document.

Embedded IP-based communication and configuration functionality is included in all SU3500 optical turnstiles, making it possible to adjust core turnstile settings via a local and/or remote TCP/IP network session. LaneConfig allows authorized security personnel and technicians to load software updates and set individual turnstile parameters including:

- Alarm sounds and alarm timer settings
- Optical settings for detection of lane passage, tailgating
- Motor settings, barrier breakaway, sensitivity and speed settings

More information about LaneConfig and various SU3500 communication and configuration options are described elsewhere in this document.

The embedded IP-based functionality of SU3500 optical turnstiles also allows a number of other methods of advanced configuration/control using a secure web page that can be viewed in a standard Web browser. This includes setup of IP addresses, network adapter and other settings. Additional remote desktop tools allow troubleshooting and diagnostics without an actual physical presence at the turnstile.

AVAILABLE CONFIGURATIONS

SU3500 & SU3500E

The SU3500 consists of a pair of end cabinets with barrier wings that create a single 22" (559mm) wide passageway. The SU3500E is an extension center cabinet, with the same dimensions as an end cabinet, used to create additional turnstile passage lanes with the addition of a single cabinet. For example, one SU3500 and one SU3500E would be used to create two turnstile lanes. Additional extension center cabinets are used to create additional turnstile lanes; e.g., one SU3500 and two SU3500E's create three turnstile lanes. An unlimited number of center cabinets can be added.

SU3500-A & SU3500E-A

The SU3500-A consists of a pair of end cabinets with barrier wings that create a single 36" (914mm) wide passageway. The SU3500E-A is an extension center cabinet with barrier wings on both sides of the cabinet, to allow an additional 36" turnstile passage lane to be created with the addition of a single cabinet as described in the section above. An unlimited number of center cabinets can be added.

AVAILABLE FINISHES

STAINLESS STEEL, POWDER COATED & PLATED

External cabinet materials are fabricated from #304 stainless steel polished to a #4 satin finish. Powder coated and plated cabinets are available (see Options).

MATERIALS

CABINET

Cabinets are fabricated from #304 stainless steel. Powder coated and plated cabinets are available (see Options). The cabinet base is fabricated from formed and welded carbon steel which is powder coated black.

INTERNAL FRAME

A powder coated steel internal frame houses electronics, motors and other internal components.

CABINET LIDS

Cabinet lids are fabricated from 100% acrylic resin (Color: Starry Night Black). Alternate acrylic resin colors and alternate materials can be provided (see Options).

MOVING BARRIER WINGS

Moving barrier wings are fabricated from 0.5" (13mm) acrylic with abrasion resistant (AR2) coating. Barrier wings come in widths to create 22" or 36" passage openings.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

The precise movement of the SU3500's motorized barrier wings is accomplished through DC brushless motors working in conjunction with position encoders and motor controllers. A main turnstile controller runs the operational application and interfaces to the motor controllers and optics over an internal high speed serial network. The turnstile controller also interfaces to outside configuration and administrative applications, LaneConfig and / or GateKeeper, via TCP/IP – see Available Related Applications.

PASSAGE MODES

The following user-configurable passage modes are available:

Controlled Passage - Note: Controlled Passage is provided in three operating modes: normally closed; normally open; or barrier disabled (see below). Normally closed operating mode is described here. The wings are extended, securing the turnstile. Upon receipt of an authorization signal from an access control system the wings retract to the open position, allowing a single passage in the authorized direction. The wings return to the closed position after the user has passed through the turnstile or the time frame allowed for an entry to occur has expired. Controlled Passage mode can be implemented either in a single direction or bi-directionally.

Free Passage - An authorization signal is not required for a user to pass through the lane. Free passage works in both Normally Closed mode (wings up until pedestrian enters the lane) or Normally Open mode (wings remain down at all times). Free Passage mode can be implemented either in a single direction or bi-directionally.

No Passage (Lane Closed) - No passage is allowed. The wings are up, securing the turnstile. Valid electronic credentials are ignored. No Passage mode can be implemented either in a single direction or bi-directionally.

OPERATING MODES

The SU3500 offers the following user-configurable operational modes:

Normally Closed - See Controlled Passage mode description above.

Normally Open - The wings are retracted, providing a barrier-free passageway. The wings will not extend and secure the turnstile unless tailgating or unauthorized passage is attempted. Normally Open mode should be used only in select applications. Contact Alvarado for recommendations.

Barrier Disabled - The wings are retracted at all times allowing the SU3500 to function as an optical (barrier free) access control turnstile.

*Photos depicting icons and status lights may be found at www.alvaradomfg.com

USER STATUS DISPLAY

An illuminated status icon display, visible to users, is flush mounted within the cabinet lid and is configured to function in the following manner:



Yellow Icon - An illuminated yellow card means the turnstile is ready for card presentation.



Green Arrow Icon - An illuminated green arrow indicates passage is allowed in the direction of the arrow and / or valid credentials have been presented. A flashing green arrow indicates the turnstile is in Free Passage mode in the direction of the arrow.



Red Stop Icon - An illuminated red X indicates passage is prohibited in the direction of the arrow. A flashing red X indicates the turnstile has an alarm condition and / or invalid credentials have been presented.

OPEN / CLOSED STATUS LIGHTS

An opaque end piece is mounted to the upper end “leg” on each side of the turnstile, diffusing green and red signal lights. The lights function similar to toll booth lights, and perform in the following manner:



Green - An illuminated green bar indicates the turnstile is open for use. The bar remains green when a valid card input is received.



Red - An illuminated red bar indicates the turnstile is closed for use. The barrier arms will not open in the direction of travel unless the direction is “exit” and fire alarm or life safety input is received.

Red Flashing - A flashing red bar indicates the turnstile has an alarm condition. The duration of the alarm condition and flashing is user definable through LaneConfig software.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES & AVAILABLE TOOLS

In addition to the available passage and operating modes, the SU3500 has a number of additional user customizable features. These features allow turnstiles to be “tuned” to the operational requirements of an application and allow users to associate individual audio sounds with operational states and alarm conditions. SU3500 turnstiles also come with tools to assist service personnel with setup, diagnostics and troubleshooting.

Customizable features and custom sounds are downloaded to turnstiles over a TCP/IP network using the included LaneConfig application. The product ships with standard sounds. Users may create and install their own audio sounds in the form of .wav files.

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU3500

Prior to shipping, turnstiles are configured with settings that are appropriate for most facilities and default sound files are loaded. A summary of configurable features, and setup and diagnostic tools, is listed below.

Operational Tuning Adjustments	Description
Barrier Breakaway	Controls barrier arm breakaway force if arms are manually pushed down.
Barrier Impact	Controls barrier arm operation if the arms encounter an object during operational cycle.
Access Timeout	Valid credential presented but user does not pass through turnstile; controls time before arms close and turnstile resets.
Object	Controls object detection size.
Tailgating	Controls tailgating sensitivity.
Unauthorized Entry	Controls number of entry sensors user can block before triggering alarm.
Blocked Sensor	Controls time before alarm is generated if sensors are blocked.

Operational Sounds / Alarms*	Description	Configurable Sounds
Access Granted	Access card is good.	√
Access Denied	Access card is bad.	√
Unauthorized Presence	User enters turnstile without presenting card.	√
Tailgating / Unauthorized Passage	Tailgating / unauthorized passage detected.	√
Blocked Sensor	Sensor was not cleared.	√
Blocked Sensor (wings closed)	Wings are not closing due to unsafe condition.	√
Blocked Sensor (wings open)	Wings are not opening due to unsafe condition.	√
Barrier Breakaway (universal sound)	Wings have been forced open.	√
Barrier Impact (universal sound)	Wings encountered an object when moving.	√

* Unless noted, sounds are configurable for both entry and exit direction.

Setup / Diagnostic Tools	Description	Configurable Sounds
Barrier Position (Home)	Barrier wing home position setting.	N/A
Barrier Position (Open)	Barrier wing opening position setting.	N/A
Startup	Appropriate startup engaged.	√
Barrier Lingers	Wings have stayed open past the allotted time to close.	√
Debug	General debug application for troubleshooting.	N/A
Optic Debug	Debug application for optics.	N/A
Motor I/O Debug	Debug application for motor communication.	N/A
Electromechanical Brake	Controls whether brake is used or not.	N/A
Emergency Override Direction	Allows installer to set emergency override direction.	N/A

*Photos depicting etching may be found at www.alvaradomfg.com

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ALARM CONDITIONS

In the event of an alarm condition, the designated alarm sound is played (see chart on previous page) and both the status icon display and open / closed status lights will illuminate red for the defined time. An I/O output is also provided for most alarm conditions - see Turnstile Interface To Access Control System.

BARRIER BREAKAWAY

All SU3500 turnstiles utilize motor force and if enabled, an electromechanical brake to provide adjustable resistance against a user pushing the barrier wings open. The force it takes to push the wings open is an adjustable setting, up to the product maximum. Approximate maximum holding force measurements are available from Alvarado. When the set or maximum holding force is reached, the wings "break away" and can be moved manually. The wings automatically reset to the home (closed) position when the user exits the lane.

BARRIER CYCLE TIME

This is an adjustable feature. Factory set opening, and recommended, speed is approximately 500ms for 22" lanes and 800ms for 36" lanes.

BARRIER IMPACT

In the event that the barrier wings encounter resistance while opening or closing, the wings will stop moving, an alarm will sound and the status icon display and open / closed status lights will illuminate red to indicate an alarm condition. At this point, the wings can be moved manually. The wings will automatically reset to the closed position once the obstruction is cleared from the lane. The barrier impact setting is adjustable.

EMERGENCY OVERRIDE / FIRE ALARM

Activation to open the wings in conjunction with a fire alarm or other life safety system is achieved by supplying a sustained dry contact to the SU3500. During emergencies the SU3500 wings will open in the exit direction and remain open. Status lights and alarm notifications will turn off.

POWER FAILURE

In the event of a loss of power to the unit, the wings of the SU3500 can be freely moved in either direction. When pushed to the open position the wings will remain open.

CARD READERS

SPACE FOR INTERNAL INSTALLATION OF CARD READERS

Internal space is available for mounting of slim style proximity card readers. The internal space available is 1.0" H x 2.75" W x 6.25" D (25mm x 70mm x 159mm). Use of larger readers is accomplished through custom solutions (see Options).

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the SU3500:

DRY CONTACT - Single passage activation, and other functionality, is achieved by supplying an isolated, voltage free, momentary dry contact at the appropriate location on the I/O control board. Various outputs are also available to provide information on turnstile operational status and activity. A description of available input and output signals is provided below.

Input Signal	Entry / Exit
Direction Closed	√
Good Card (Activation)	√
Bad Card	√
Passage - Free Pass Mode	√
Single Entry Override	√
Life Safety Input	√

Output Signal	Entry / Exit
Authorized Passage	√
Unauthorized Passage	√
Unauthorized Presence	√
Sensor Blocked	√
Lingering Barrier	√

GATECONNECT - For large projects a TCP/IP interface is available through use of Alvarado's optional GateConnect application. This application allows a third party access system to control turnstile operation similar to the dry contact method, through the use of TCP/IP commands and responses. There is an additional charge for GateConnect and implementation requires a one-time programming effort on the part of the access system provider. Contact Alvarado for pre-evaluation of project requirements.

AVAILABLE RELATED APPLICATIONS

There are two additional applications that are available with the SU3500.

LANECONFIG - LaneConfig is a desktop application that comes standard with all SU3500's. The application allows configurable features of the SU3500 and updated software to be installed over a network. Use of LaneConfig in a networked setting eliminates the need to physically plug into individual turnstiles to change turnstile configurations or update software. LaneConfig is installed on a PC that is networked to installed SU3500 units and communicates to turnstiles via TCP/IP.

In installations where SU3500 turnstiles are not networked, LaneConfig is loaded on a laptop which is temporarily plugged into the Ethernet port of individual turnstiles when turnstile configurations are changed or software is updated.

GATEKEEPER - GateKeeper is an optional desktop application that allows all Alvarado optical turnstiles installed at a site to be monitored and controlled from a single PC. GateKeeper allows control of virtually all day-to-day operating functions, including designating a turnstile as entry or exit, opening or closing a turnstile, and allowing single passage overrides for guests or personnel that have forgotten their access card. The application also includes various other functions; these include an emergency "open all turnstiles" capability that is in addition to the emergency override / fire alarm capabilities described earlier in this document. The application has tiered login levels with three levels of security (User, Supervisor and Administrator). The higher permission levels enable various additional features and settings.

GateKeeper has an intuitive graphic interface that gives desk attendants a current “status” of all installed turnstiles. In addition, when alarm conditions occur, the application provides both visual and audio notification of what happened. All actions (such as passage overrides) and turnstile alarms are logged. Logs may be printed or saved for recordkeeping or diagnostic purposes.

GateKeeper also includes a built in Event Scheduler. This extremely useful tool allows day-to-day operational changes that are often implemented at sites to be scheduled and automatically implemented without the need for a guard or attendant to “remember” to change settings. Event Scheduler allows operation templates to be saved and then automatically implemented at user defined times. Examples include changing the entry status of turnstiles (entry, exit, bi-directional control or free passage) at set times of the day. Similarly, a facility may want barriers activated or disabled at select times and / or only specific lanes operational on weekends and holidays. This flexibility allows turnstiles to be used more efficiently, can decrease the number of turnstiles that may be needed, and allows Alvarado’s optical turnstiles to seamlessly integrate into a customer’s operational requirements.

A single license of GateKeeper allows users to control all turnstiles installed at a single licensed site.

OPTIONS

ALTERNATE LID COLORS AND MATERIALS

Cabinet lids may be ordered in alternate colors and materials.

ALTERNATE POWER SUPPLY

A 220-240 VAC, 50 Hz power supply and appropriately rated key switch are utilized.

BASEPLATE

A baseplate for either single turnstile or multi-turnstile configurations is available. The baseplate is powder coated black with a black non-slip coating in the passageway area. The baseplate includes enclosed cable runs and eliminates the need for trenching or stubbing up conduit from floor.

CARD READERS / PHYSICAL ACCESS DEVICES

Due to the slim architectural profile of the SU3500, generally only mullion sized readers can be housed inside the cabinet. Custom fabricated solutions, including pedestals, are used to house alternative readers. When requesting use of readers other than mullion size, provide the manufacturer and model number to Alvarado for evaluation. Custom reader integration generally requires providing a sample of the actual reader to be used to Alvarado for design purposes.

CUSTOM CABINETS

External cabinet materials may be powder coated in a variety of colors. Cabinet materials can also be plated in a variety of finishes.

LONGER INTERCONNECT CABLES

Longer interconnect cables are available to accommodate installations where standard conduit runs are unavailable. The standard interconnect cable length is 8’ (244cm). Custom cables are available in 20’ (610cm) or 40’ (1220cm) lengths.

EXTERNAL DC POWER SUPPLY ENCLOSURE

A portable enclosure is provided for remote installation of the Supervisor primary power supply. The enclosure houses up to three power supplies (one power supply is required per Supervisor turnstile). Conduit entry / exit ports are provided for connecting 110/220VAC primary power to the power supplies and running 24VDC power to the turnstiles. The low-voltage wire run should not exceed 100’ using the specified wire gauge.

TCP/IP (GATECONNECT)

See the description under Available Related Applications.

TCP/IP (GATEKEEPER)

GateKeeper communicates with SU3500 turnstiles over a wired TCP/IP network. The program runs on current Windows operating systems. Wireless communication is available. See the full description under Available Related Applications or online at <http://www.alvaradomfg.com/gateKeeper.htm>.

TURNSTILE KEY CONTROLS

Two 3-position key switches are installed on the turnstile to control passage modes for each direction of travel. Turning the key to one of three positions overrides current settings and places the turnstile in Controlled Passage, Free Passage or No Passage modes.

CONDUIT REQUIREMENTS

PRIMARY POWER SOURCE CONDUIT

.75" (19mm) power conduit for primary power must be run to each master controller cabinet. Note: The product standard is 110-120VAC (use of 220-240VAC is an option).

LOW-VOLTAGE & INTERCABINET COMMUNICATION CONDUIT

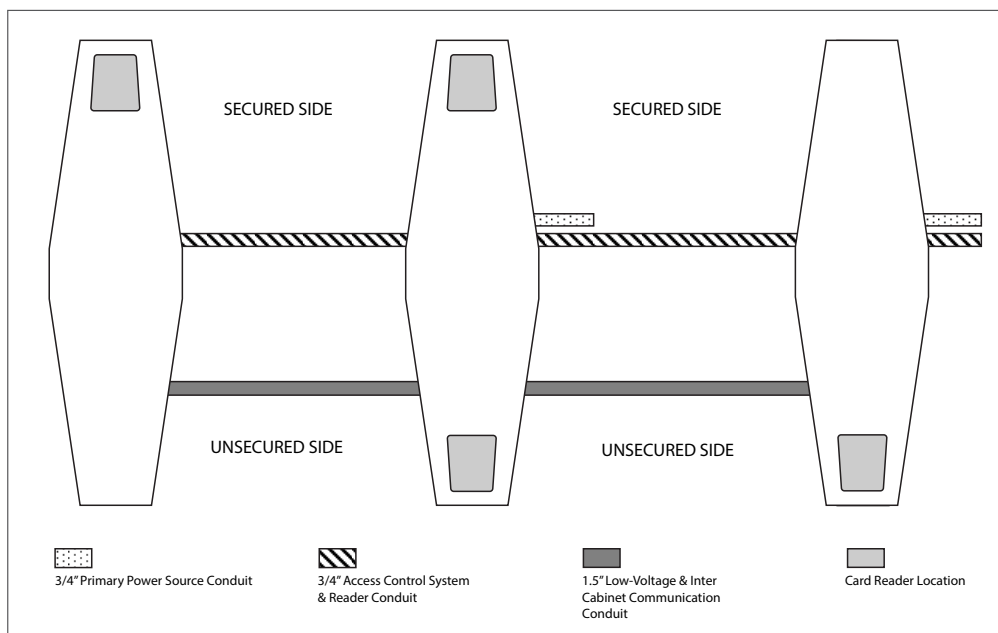
1.5" (38mm) conduit must be run to allow passage of the interconnect cable between cabinet sets. 8' interconnect cables are included. 20' and 40' interconnect cables are available options.

ACCESS CONTROL SYSTEM & READER CONDUIT

The SU3500 has space for the acceptance of a .75" conduit for access control and reader cabling. Alvarado does not provide cables for access control systems.

TCP/IP CONDUIT

Use of TCP/IP communication with LaneConfig, GateKeeper or GateConnect requires the running of an ethernet cable to each master controller cabinet. Do not run cable in the same conduit as AC Power. Wireless communication is available.



SHIPPING & SITE PREPARATION

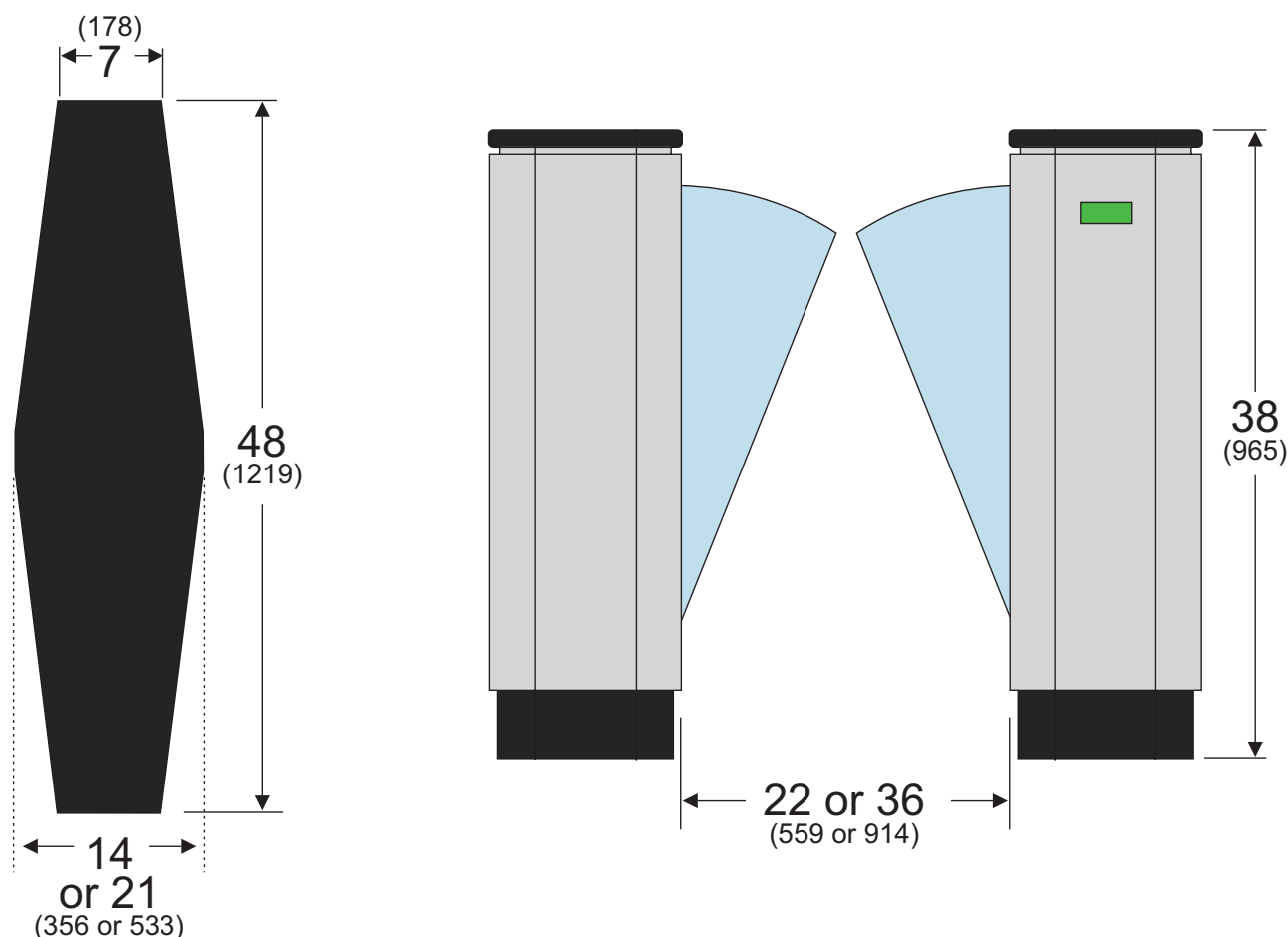
SHIPPING

SU3500 cabinets are shipped fully assembled for easy installation. Each cabinet includes mounting hardware (anchors, bolts, washers, etc.) to mount the unit to a standard, level concrete floor.

SITE PREPARATION

Turnstiles must be installed on a firm foundation in a manner that allows the required power and access control cabling to be pulled into the turnstile cabinet. The recommended slab platform should be a minimum of 4" deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Detailed drawings and installation manuals are available online

TECHNICAL DIMENSIONS*



DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU3500

Throughput Rates		
Card Reader Type*	User Per Minute**	
Proximity	40	
Magnetic Stripe	25	
Magnetic Stripe With Numeric Keypad	20	
*Access control system response is assumed to be instantaneous	**Approximate rates may increase with user familiarity	
Electrical		
	Description	
Transformer	110-120VAC, 60 Hz. or 220-240VAC, 50 Hz. (optional)	
Power Requirements	Maximum power consumption is 300W per lane with all options installed.	
Operational Voltage	Primary power is stepped down and rectified for low-voltage 24 VDC, 12 VDC, and 5 VDC operation.	
On/Off Key Switch	An on/off key switch is located on each master cabinet.	
Fuse Protection	A 2.5 amp fuse (slo-blo) is installed in each master cabinet.	
Surge Protection	Alvarado suggests use of surge protection equipment in connection with the installation to protect electronics.	
Drive Motor	24V BLDC	
Weight, Dimensions, Environment		
	Standard	Metric
Product Weight*	510 lbs.	231 kg *Weight for a standard 22" lane (two cabinets)
Shipping Weight**	810 lbs	367 kg *Includes weight for shipping crate(s)
Height	38.4"	975.36mm
Width	14" or 21"	356mm or 533mm
Depth	48.3"	1226.82mm
Operating Temperature	50° to 90° F	10 to 32° C
Storage Temperature	32° to 104° F	0 to 40° C
Relative Humidity	15-85% (non-condensing)	--

*Dimensions shown in inches (mm). All measurements are approximate.

WARRANTY

For a period of 18 months from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.

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OPTICAL TURNSTILES

SU3000

DESCRIPTIVE SPECIFICATIONS



The Supervisor 3000 optical turnstile has a slim profile and stylish, architectural design that enhances any access control installation. The SU3000 has motorized barrier arms that quickly move down and into the cabinet to provide high throughput in both passage directions.

COMMON APPLICATIONS

- Employee and Visitor Access Control
- Time & Attendance Integration
- Loss Prevention

TYPICAL INSTALLATION SITES

- Government Facilities
- Corporate Lobbies
- Recreation Centers

FUNCTION

The Supervisor 3000 provides bi-directional access control and other operational and passage modes (described below). In access control mode, upon receipt of a valid card signal from an access control system, the motorized barrier arms of the turnstile quickly retract down and into the cabinet, and the integrated sensors allow a single user to pass through the turnstile in the requested direction. If an unauthorized user attempts to tailgate on the entry, the unit will recognize the illegal passage, a violation alarm (with user configurable sounds) will sound, and red notification lights will flash.

The SU3000 utilizes tandem motorized arms and integrated optical sensors to control access. The optical sensors detect patrons, determine the direction of patron movement, and (in conjunction with the facility access system) detect unauthorized users. In addition to detecting “piggybacking” or “tailgating” on allowed entries, the SU3000’s sensors prevent the barrier arms from closing on users. If the barrier arms do encounter an obstruction on either opening or closing, the SU3000’s software detects the obstruction and takes corrective action, precisely controlling the motors to minimize impact.

While access control throughput will depend on the access control system and readers used, the SU3000 supports extremely rapid throughput. It will “stack” valid scans and process patrons as fast as they can walk through the turnstile.

Configurable features of the SU3000 are set in the field using an application (included) called LaneConfig. This application allows core configurable features – such as alarm sounds, motor settings, optical settings, detection settings, tailgating, safety sensor settings, barrier speed, alarm timer settings, etc. – to be changed and uploaded over a TCP/IP network at the installation site. Turnstiles can also be configured by loading LaneConfig on a laptop and plugging directly into an Ethernet port in the turnstile. More information about LaneConfig and the many configurable features of the SU3000 are described further in this document.

Embedded IP-based communication and configuration functionality is included in all SU3000 optical turnstiles, making it possible to adjust core turnstile settings via a local and/or remote TCP/IP network session. LaneConfig allows authorized security personnel and technicians to load software updates and set individual turnstile parameters including:

- Alarm sounds and alarm timer settings
- Optical settings for detection of lane passage, tailgating
- Motor settings, barrier breakaway, sensitivity and speed settings

More information about LaneConfig and various SU3000 communication and configuration options are described elsewhere in this document.

The embedded IP-based functionality of SU3000 optical turnstiles also allows a number of other methods of advanced configuration/control using a secure web page that can be viewed in a standard Web browser. This includes setup of IP addresses, network adapter and other settings. Additional remote desktop tools allow troubleshooting and diagnostics without an actual physical presence at the turnstile.

AVAILABLE CONFIGURATIONS

SU3000 & SU3000E

The SU3000 consists of a pair of end cabinets with barrier arms that create a single 28" (711mm) wide passageway. The SU3000E is an extension center cabinet, with the same dimensions as an end cabinet, used to create additional turnstile passage lanes with the addition of a single cabinet. For example, one SU3000 and one SU3000E would be used to create two turnstile lanes. Additional extension center cabinets are used to create additional turnstile lanes; e.g., one SU3000 and two SU3000E's create three turnstile lanes. An unlimited number of center cabinets can be added.

SU3000-A & SU3000E-A

The SU3000-A consists of a pair of end cabinets with barrier arms that create a single 36" (914mm) wide passageway. The SU3000E-A is an extension center cabinet with barrier arms on both sides of the cabinet, to allow an additional 36" turnstile passage lane to be created with the addition of a single cabinet as described in the section above. An unlimited number of center cabinets can be added.

AVAILABLE FINISHES

STAINLESS STEEL, POWDER COATED & PLATED

External cabinet materials are fabricated from #304 stainless steel polished to a #4 satin finish. Powder coated and plated cabinets are available (see Options).

MATERIALS

CABINET

Cabinets are fabricated from #304 stainless steel. Powder coated and plated cabinets are available (see Options). The cabinet base is fabricated from formed and welded carbon steel which is powder coated black.

INTERNAL FRAME

A powder coated steel internal frame houses electronics, motors and other internal components.

CABINET LIDS

Cabinet lids are fabricated from 100% acrylic resin (Color: Starry Night Black). Alternate acrylic resin colors and alternate materials can be provided (see Options).

BARRIER ARMS

Barrier arms are fabricated from 1.75" (44mm) diameter aluminum tubing with a clear anodized finish.

CONTROL, OPERATIONAL MODES & FUNCTIONALITY

CONTROL MECHANISMS

The precise movement of the SU3000's motorized barrier arms is accomplished through DC brushless motors working in conjunction with position encoders and motor controllers. A main turnstile controller runs the operational application and interfaces to the motor controllers and optics over an internal high speed serial network. The turnstile controller also interfaces to outside configuration and administrative applications, LaneConfig and / or GateKeeper, via TCP/IP – see Available Related Applications.

PASSAGE MODES

The following user-configurable passage modes are available:

Controlled Passage - Note: Controlled Passage is provided in three operating modes: normally closed; normally open; or barrier disabled (see below). Normally closed operating mode is described here. The arms are up, securing the turnstile. Upon receipt of an authorization signal from an access control system the arms move down to the open position, allowing a single passage in the authorized direction. The arms return to the closed position after the user has passed through the turnstile or the time frame allowed for an entry to occur has expired. Controlled Passage mode can be implemented either in a single direction or bi-directionally.

Free Passage - An authorization signal is not required for a user to pass through the lane. Free passage works in both Normally Closed mode (arms up until pedestrian enters the lane) or Normally Open mode (arms remain down at all times). Free Passage mode can be implemented either in a single direction or bi-directionally.

No Passage (Lane Closed) - No passage is allowed. The arms are up, securing the turnstile. Valid electronic credentials are ignored. No Passage mode can be implemented either in a single direction or bi-directionally.

OPERATING MODES

The SU3000 offers the following user-configurable operational modes:

Normally Closed - See Controlled Passage mode description above.

Normally Open - The arms are down, providing a barrier-free passageway. The arms will not raise and secure the turnstile unless tailgating or unauthorized passage is attempted. Normally Open mode should be used only in select applications. Contact Alvarado for recommendations.

Barrier Disabled - The arms remain down at all times allowing the SU3000 to function as an optical (barrier free) access control turnstile.

*Photos depicting icons and status lights may be found at www.alvaradomfg.com

USER STATUS DISPLAY

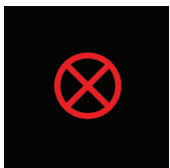
An illuminated status icon display, visible to users, is flush mounted within the cabinet lid and is configured to function in the following manner:



Yellow Icon - An illuminated yellow card means the turnstile is ready for card presentation.



Green Arrow Icon - An illuminated green arrow indicates passage is allowed in the direction of the arrow and / or valid credentials have been presented. A flashing green arrow indicates the turnstile is in Free Passage mode in the direction of the arrow.



Red Stop Icon - An illuminated red X indicates passage is prohibited in the direction of the arrow. A flashing red X indicates the turnstile has an alarm condition and / or invalid credentials have been presented.

OPEN / CLOSED STATUS LIGHTS

An opaque end piece is mounted to the upper end “leg” on each side of the turnstile, diffusing green and red signal lights. The lights function similar to toll booth lights, and perform in the following manner:



Green - An illuminated green bar indicates the turnstile is open for use. The bar remains green when a valid card input is received.



Red - An illuminated red bar indicates the turnstile is closed for use. The barrier arms will not open in the direction of travel unless the direction is “exit” and fire alarm or life safety input is received.

Red Flashing - A flashing red bar indicates the turnstile has an alarm condition. The duration of the alarm condition and flashing is user definable through LaneConfig software.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES & AVAILABLE TOOLS

In addition to the available passage and operating modes, the SU3000 has a number of additional user customizable features. These features allow turnstiles to be “tuned” to the operational requirements of an application and allow users to associate individual audio sounds with operational states and alarm conditions. SU3000 turnstiles also come with tools to assist service personnel with setup, diagnostics and troubleshooting.

Customizable features and custom sounds are downloaded to turnstiles over a TCP/IP network using the included LaneConfig application. The product ships with standard sounds. Users may create and install their own audio sounds in the form of .wav files.

Prior to shipping, turnstiles are configured with settings that are appropriate for most facilities and default sound files are loaded. A summary of configurable features, and setup and diagnostic tools, is listed below.

Operational Tuning Adjustments	Description
Barrier Breakaway	Controls barrier arm breakaway force if arms are manually pushed down.
Barrier Impact	Controls barrier arm operation if the arms encounter an object during operational cycle.
Access Timeout	Valid credential presented but user does not pass through turnstile; controls time before arms close and turnstile resets.
Object	Controls object detection size.
Tailgating	Controls tailgating sensitivity.
Unauthorized Entry	Controls number of entry sensors user can block before triggering alarm.
Blocked Sensor	Controls time before alarm is generated if sensors are blocked.

Operational Sounds / Alarms*	Description	Configurable Sounds
Access Granted	Access card is good.	√
Access Denied	Access card is bad.	√
Unauthorized Presence	User enters turnstile without presenting card.	√
Tailgating / Unauthorized Passage	Tailgating / unauthorized passage detected.	√
Blocked Sensor	Sensor was not cleared.	√
Blocked Sensor (arms closed)	Arms are not closing due to unsafe condition.	√
Blocked Sensor (arms open)	Arms are not opening due to unsafe condition.	√
Barrier Breakaway (universal sound)	Arms have been forced open.	√
Barrier Impact (universal sound)	Arms encountered an object when moving.	√

* Unless noted, sounds are configurable for both entry and exit direction.

Setup / Diagnostic Tools	Description	Configurable Sounds
Barrier Position (Home)	Barrier arm home position setting.	N/A
Barrier Position (Open)	Barrier arm opening position setting.	N/A
Startup	Appropriate startup engaged.	√
Barrier Lingers	Arms have stayed open past the allotted time to close.	√
Debug	General debug application for troubleshooting.	N/A
Optic Debug	Debug application for optics.	N/A
Motor I/O Debug	Debug application for motor communication.	N/A
Electromechanical Brake	Controls whether brake is used or not.	N/A
Emergency Override Direction	Allows installer to set emergency override direction.	N/A

ALARM CONDITIONS

In the event of an alarm condition, the designated alarm sound is played (see chart on previous page) and both the status icon display and open / closed status lights will illuminate red for the defined time. An I/O output is also provided for most alarm conditions - see Turnstile Interface To Access Control System.

BARRIER BREAKAWAY

All SU3000 turnstiles utilize motor force and if enabled, an electromechanical brake to provide adjustable resistance against a user pushing the barrier arms open. The force it takes to push the arms open is an adjustable setting, up to the product maximum. Approximate maximum holding force measurements are available from Alvarado. When the set or maximum holding force is reached, the arms “break away” and can be moved manually. The arms automatically reset to the home (closed) position when the user exits the lane.

BARRIER CYCLE TIME

This is an adjustable feature. Factory set opening, and recommended, speed is approximately 500ms.

BARRIER IMPACT

In the event that the barrier arms encounter resistance while opening or closing, the arms will stop moving, an alarm will sound and the status icon display and open / closed status lights will illuminate red to indicate an alarm condition. At this point, the arms can be moved manually. The arms will automatically reset to the closed position once the obstruction is cleared from the lane. The barrier impact setting is adjustable.

EMERGENCY OVERRIDE / FIRE ALARM

Activation to open the arms in conjunction with a fire alarm or other life safety system is achieved by supplying a sustained dry contact to the SU3000. During emergencies the SU3000 arms will open in the exit direction and remain open. Status lights and alarm notifications will turn off.

POWER FAILURE

In the event of a loss of power to the unit, the arms of the SU3000 can be freely moved in either direction. When pushed to the open position the arms will remain open.

CARD READERS

SPACE FOR INTERNAL INSTALLATION OF CARD READERS

Internal space is available for mounting of slim style proximity card readers. The internal space available is 1.0” H x 1.9” W x 6.5” D (25mm x 48mm x 165mm). Use of larger readers is accomplished through custom solutions (see Options).

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There are two types of interfaces to allow an access control system to operate with the SU3000:

DRY CONTACT - Single passage activation, and other functionality, is achieved by supplying an isolated, voltage free, momentary dry contact at the appropriate location on the I/O control board. Various outputs are also available to provide information on turnstile operational status and activity. A description of available input and output signals is provided below.

Input Signal	Entry / Exit
Direction Closed	√
Good Card (Activation)	√
Bad Card	√
Passage – Free Pass Mode	√
Single Entry Override	√
Life Safety Input	√

Output Signal	Entry / Exit
Authorized Passage	√
Unauthorized Passage	√
Unauthorized Presence	√
Sensor Blocked	√
Lingering Barrier	√

GATECONNECT - For large projects a TCP/IP interface is available through use of Alvarado's optional GateConnect application. This application allows a third party access system to control turnstile operation similar to the dry contact method, through the use of TCP/IP commands and responses. There is an additional charge for GateConnect and implementation requires a one-time programming effort on the part of the access system provider. Contact Alvarado for pre-evaluation of project requirements.

AVAILABLE RELATED APPLICATIONS

There are two additional applications that are available with the SU3000.

LANECONFIG - LaneConfig is a desktop application that comes standard with all SU3000's. The application allows configurable features of the SU3000 and updated software to be installed over a network. Use of LaneConfig in a networked setting eliminates the need to physically plug into individual turnstiles to change turnstile configurations or update software. LaneConfig is installed on a PC that is networked to installed SU3000 units and communicates to turnstiles via TCP/IP.

In installations where SU3000 turnstiles are not networked, LaneConfig is loaded on a laptop which is temporarily plugged into the Ethernet port of individual turnstiles when turnstile configurations are changed or software is updated.

GATEKEEPER - GateKeeper is an optional desktop application that allows all Alvarado optical turnstiles installed at a site to be monitored and controlled from a single PC. GateKeeper allows control of virtually all day-to-day operating functions, including designating a turnstile as entry or exit, opening or closing a turnstile, and allowing single passage overrides for guests or personnel that have forgotten their access card. The application also includes various other functions; these include an emergency "open all turnstiles" capability that is in addition to the emergency override / fire alarm capabilities described earlier in this document. The application has tiered login levels with three levels of security (User, Supervisor and Administrator). The higher permission levels enable various additional features and settings.

GateKeeper has an intuitive graphic interface that gives desk attendants a current “status” of all installed turnstiles. In addition, when alarm conditions occur, the application provides both visual and audio notification of what happened. All actions (such as passage overrides) and turnstile alarms are logged. Logs may be printed or saved for recordkeeping or diagnostic purposes.

GateKeeper also includes a built in Event Scheduler. This extremely useful tool allows day-to-day operational changes that are often implemented at sites to be scheduled and automatically implemented without the need for a guard or attendant to “remember” to change settings. Event Scheduler allows operation templates to be saved and then automatically implemented at user defined times. Examples include changing the entry status of turnstiles (entry, exit, bi-directional control or free passage) at set times of the day. Similarly, a facility may want barriers activated or disabled at select times and / or only specific lanes operational on weekends and holidays. This flexibility allows turnstiles to be used more efficiently, can decrease the number of turnstiles that may be needed, and allows Alvarado’s optical turnstiles to seamlessly integrate into a customer’s operational requirements. A single license of GateKeeper allows users to control all turnstiles installed at a single licensed site.

OPTIONS

ALTERNATE LID COLORS AND MATERIALS

Cabinet lids may be ordered in alternate colors and materials.

ALTERNATE POWER SUPPLY

A 220-240 VAC, 50 Hz power supply and appropriately rated key switch are utilized.

BASEPLATE

A baseplate for either single turnstile or multi-turnstile configurations is available. The baseplate is powder coated black with a black non-slip coating in the passageway area. The baseplate includes enclosed cable runs and eliminates the need for trenching or stubbing up conduit from floor.

CARD READERS / PHYSICAL ACCESS DEVICES

Due to the slim architectural profile of the SU3000, generally only mullion sized readers can be housed inside the cabinet. Custom fabricated solutions, including pedestals, are used to house alternative readers. When requesting use of readers other than mullion size, provide the manufacturer and model number to Alvarado for evaluation. Custom reader integration generally requires providing a sample of the actual reader to be used to Alvarado for design purposes.

CUSTOM CABINETS

External cabinet materials may be powder coated in a variety of colors. Cabinet materials can also be plated in a variety of finishes.

BREAKAWAY ARMS

The SU3000 arms can be broken away horizontally in the direction of travel.

LONGER INTERCONNECT CABLES

Longer interconnect cables are available to accommodate installations where standard conduit runs are unavailable. The standard interconnect cable length is 8’ (244cm). Custom cables are available in 20’ (610cm) or 40’ (1220cm) lengths.

EXTERNAL DC POWER SUPPLY ENCLOSURE

A portable enclosure is provided for remote installation of the Supervisor primary power supply. The enclosure houses up to three power supplies (one power supply is required per Supervisor turnstile). Conduit entry / exit ports are provided for connecting 110/220VAC primary power to the power supplies and running 24VDC power to the turnstiles. The low-voltage wire run should not exceed 100’ using the specified wire gauge.

TCP/IP (GATECONNECT)

See the description under Available Related Applications.

TCP/IP (GATEKEEPER)

GateKeeper communicates with SU3000 turnstiles over a wired TCP/IP network. The program runs on current Windows operating systems. Wireless communication is available. See the full description under Available Related Applications or online at <http://www.alvaradomfg.com/gateKeeper.htm>.

TURNSTILE KEY CONTROLS

Two 3-position key switches are installed on the turnstile to control passage modes for each direction of travel. Turning the key to one of three positions overrides current settings and places the turnstile in Controlled Passage, Free Passage or No Passage modes.

CONDUIT REQUIREMENTS

PRIMARY POWER SOURCE CONDUIT

.75" (19mm) power conduit for primary power must be run to each master controller cabinet. Note: The product standard is 110-120VAC (use of 220-240VAC is an option).

LOW-VOLTAGE & INTERCABINET COMMUNICATION CONDUIT

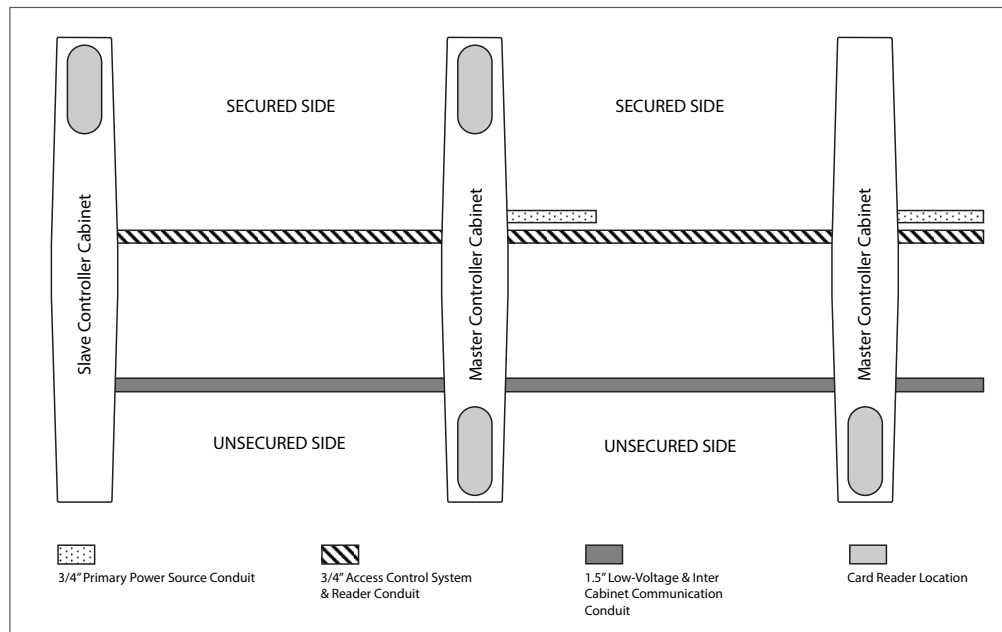
1.5" (38mm) conduit must be run to allow passage of the interconnect cable between cabinet sets. 8' interconnect cables are included. 20' and 40' interconnect cables are available options.

ACCESS CONTROL SYSTEM & READER CONDUIT

The SU3000 has space for the acceptance of a .75" conduit for access control and reader cabling. Alvarado does not provide cables for access control systems.

TCP/IP CONDUIT

Use of TCP/IP communication with LaneConfig, GateKeeper or GateConnect requires the running of an ethernet cable to each master controller cabinet. Do not run cable in the same conduit as AC Power. Wireless communication is available.



SHIPPING & SITE PREPARATION

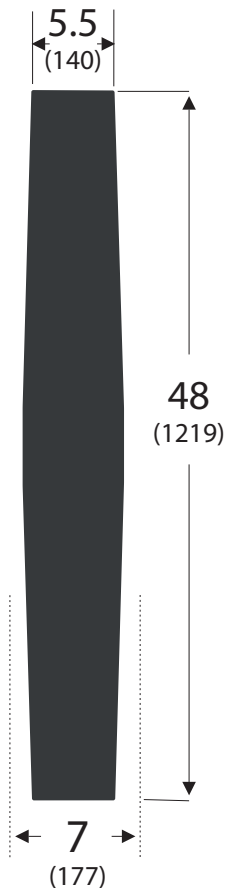
SHIPPING

SU3000 cabinets are shipped fully assembled for easy installation. Each cabinet includes mounting hardware (anchors, bolts, washers, etc.) to mount the unit to a standard, level concrete floor.

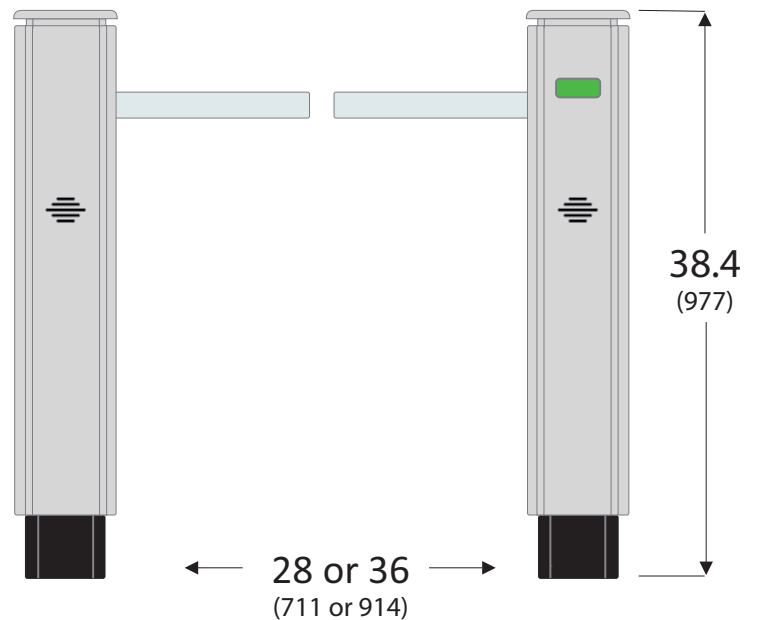
SITE PREPARATION

Turnstiles must be installed on a firm foundation in a manner that allows the required power and access control cabling to be pulled into the turnstile cabinet. The recommended slab platform should be a minimum of 4" (102mm) deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS*



Same width for
28" & 36" lanes



*Dimensions shown in inches (mm). All measurements are approximate.

Throughput Rates			
Card Reader Type*		User Per Minute**	
Proximity		40	
Magnetic Stripe		25	
Magnetic Stripe With Numeric Keypad		20	
*Access control system response is assumed to be instantaneous		**Approximate rates may increase with user familiarity	
Electrical			
	Description		
Transformer	110-120VAC, 60 Hz. or 220-240VAC, 50 Hz. (optional)		
Power Requirements	Maximum power consumption is 300W per lane with all options installed.		
Operational Voltage	Primary power is stepped down and rectified for low voltage 24 VDC, 12 VDC, and 5 VDC operation.		
On/Off Key Switch	An on/off key switch is located on each master cabinet.		
Fuse Protection	A 2.5 amp fuse (slo-blo) is installed in each master cabinet.		
Surge Protection	Alvarado suggests use of surge protection equipment in connection with the installation to protect electronics.		
Drive Motor	24V BLDC		
Weight, Dimensions, Environment			
	Standard	Metric	
Product Weight*	370 lbs.	168 kg	*Weight for a standard 28” lane (two cabinets)
Shipping Weight**	660 lbs	299 kg	**Includes weight of shipping create (s)
Height	38.4”	977mm	
Width	7”	177mm	
Depth	48”	1219mm	
Operating Temperature	50° to 90° F	10 to 32° C	
Storage Temperature	32° to 104° F	0 to 40° C	
Relative Humidity	15-85% (non-condensing)	--	

WARRANTY

For a period of 18 months from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.

SU2000

DESCRIPTIVE SPECIFICATIONS



The Supervisor 2000 is our thinnest barrier-free turnstile. Its compact form is well suited for applications where space is at a premium.

COMMON APPLICATIONS

- Employee and Visitor Access Control
- Time & Attendance Integration

TYPICAL INSTALLATION SITES

- Government Facilities
- Corporate Lobbies
- Recreation Centers

FUNCTION

The Supervisor 2000 is a barrier-free, optical turnstile that provides bi-directional access control and other passage modes (described below). In access control mode, upon receipt of a valid card signal from an access control system, or GateKeeper turnstile control software (see Options), the integrated sensors allow a single user to pass through the turnstile in the requested direction. If an unauthorized user attempts to tailgate on the entry, the unit will recognize the illegal passage, a violation alarm will sound and red notification lights will flash.

The SU2000 utilizes integrated optical sensors to control access. The optical sensors detect patrons, determine the direction of patron movement and (in conjunction with the facility access system) detect unauthorized users as well as “piggybacking” or “tailgating” on allowed entries.

While access control throughput will depend on the access control system and readers used, the SU2000 supports extremely rapid entry and throughput. It will “stack” valid scans and process patrons as fast as they can walk through the turnstile.

AVAILABLE CONFIGURATIONS

SU2000

The SU2000 consists of a pair of end cabinets that create a single lane with a 28”-36” wide passageway. Center cabinets (that are the same dimensions as end cabinets) may be added to create multi-lane configurations; i.e. two end cabinets and two center cabinets create three lanes.

AVAILABLE FINISHES

STAINLESS STEEL, POWDER COATED & PLATED

External cabinet materials are fabricated from #304 stainless steel polished to a #4 satin finish. Powder coated and plated cabinets are available (see Options).

MATERIALS

CABINET

The cabinet is fabricated from formed and welded #304 stainless steel. See Options for details on cabinet construction using alternate materials. The cabinet base is fabricated from formed and welded carbon steel and powder coated black.

INTERNAL FRAME

A powder coated steel internal frame houses electronics and other internal components.

CABINET LIDS

Cabinet lids are fabricated from 100% acrylic resin (Color: Starry Night Black). Alternate acrylic resin colors and alternate materials can be provided (see Options).

OPERATIONAL MODES & FUNCTIONALITY

PASSAGE MODES

The following user-configurable passage modes are available:

Controlled Passage - Upon receipt of an authorization signal from an access control system, a single passage in the authorized direction is allowed. Controlled Passage can be either single direction or bi-directional.

Free Passage - An authorization signal is not required for a user to pass through the lane. Free Passage can be either single direction or bi-directional.

No Passage (Lane Closed) - No passage is allowed. Valid electronic credentials are ignored. Any passage will set off violation alarms. No Passage can be either single direction or bi-directional.

USER STATUS DISPLAY

An illuminated status icon display, visible to users, is flush mounted within the cabinet lid and is configured to function in the following manner:



Yellow Card Icon - An illuminated yellow card means the turnstile is ready for card presentation.



Green Arrow Icon - An illuminated green arrow indicates passage is allowed in the direction of the arrow and / or valid credentials have been presented. A flashing green arrow indicates the turnstile is in Free Passage mode in the direction of the arrow.



Red Stop Icon - An illuminated red X indicates passage is prohibited in the direction of the arrow. A flashing red X indicates the turnstile has an alarm condition and / or invalid credentials have been presented.

FUNCTIONALITY - USER CUSTOMIZABLE FEATURES & AVAILABLE TOOLS

In addition to the available passage and operating modes, the SU2000 has a number of additional user customizable features. These features allow turnstiles to be “tuned” to the operational requirements of an application and allow users to associate individual audio sounds with operational states and alarm conditions. SU2000 turnstiles also come with tools to assist service personnel with setup, diagnostics and troubleshooting.

Customizable features and custom sounds are downloaded to turnstiles over a TCP/IP network using the included LaneConfig application. The product ships with standard sounds. Users may create and install their own audio sounds in the form of .wav files.

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU2000

Prior to shipping, turnstiles are configured with settings that are appropriate for most facilities and default sound files are loaded. A summary of configurable features, and setup and diagnostic tools, is listed below.

Operational Tuning Adjustments	Description
Access Timeout	Valid credential presented but user does not pass through turnstile; controls time before barriers close and turnstile resets
Object	Controls object detection size
Blocked Sensor	Controls time before alarm is generated if sensors are blocked

Operational Sounds / Alarms*	Description	Configurable Sounds
Access Granted*	Good card	√
Access Denied*	Bad card	√
Tailgating / Unauthorized Passage*	Tailgating / unauthorized passage detected	√
Blocked Sensor	Sensors not cleared	√
Loitering	Loitering detected in the lane	√
Crawl Sensor	Object detected by the crawl sensor	√

* Configurable for both entry and exit direction.

CARD READERS

INSTALLATION OF CARD READERS

Space is available on the end cabinets for mounting of slim style proximity card readers. Use of larger readers is accomplished through custom solutions (see Options).

TURNSTILE INTERFACE TO ACCESS CONTROL SYSTEM

There is a single interface available to allow an access control system to operate with the SU2000:

DRY CONTACT - Single passage activation, and other functionality, is achieved by supplying an isolated, voltage-free, momentary dry contact at the appropriate location on the I/O control board. Various outputs are also available to provide information on turnstile operational status and activity. A description of available input and output signals is provided below.

Input Signal	Entry / Exit
Direction Closed*	√
Good Card (Activation)	√
Bad Card	√
Passage - Free Pass Mode*	√
Single Entry Override	√
Life Safety Input**	√

Output Signal	Entry / Exit
Authorized Passage	√
Unauthorized Passage	√
Sensor Blocked	√
Lingering Barrier	√

* Sustained dry contact

** Configurable for normally open or normally closed signals

AVAILABLE RELATED APPLICATIONS

There are two additional applications that are available with the SU2000.

LANECONFIG – LaneConfig is a desktop application that comes standard with all SU2000s. The application allows configurable features of the SU2000 and updated software to be installed over a network. Use of LaneConfig in a networked setting eliminates the need to physically plug into individual turnstiles to change turnstile configurations or update software. LaneConfig is installed on a PC that is networked to installed SU2000 units and communicates to turnstiles via TCP/IP.

In installations where SU2000 turnstiles are not networked, LaneConfig is loaded on a laptop which is temporarily plugged into the Ethernet port of individual turnstiles when turnstile configurations are changed or software is updated.

GATEKEEPER – GateKeeper is an optional desktop application that allows all Alvarado optical turnstiles installed at a site to be monitored and controlled from a single PC. GateKeeper allows control of virtually all day-to-day operating functions, including designating a turnstile as entry or exit, opening or closing a turnstile, and allowing single passage overrides for guests or personnel that have forgotten their access card. The application also includes various other functions; these include an emergency “open all turnstiles” capability that is in addition to the emergency override / fire alarm capabilities. The application has tiered login levels with three levels of security (User, Supervisor and Administrator). The higher permission levels enable various additional features and settings.

GateKeeper has an intuitive graphic interface that gives desk attendants a current “status” of all installed turnstiles. In addition, when alarm conditions occur, the application provides both visual and audio notification of what happened. All actions (such as passage overrides) and turnstile alarms are logged. Logs may be printed or saved for record keeping or diagnostic purposes.

GateKeeper also includes a built in Event Scheduler. This extremely useful tool allows day-to-day operational changes that are often implemented at sites to be scheduled and automatically implemented without the need for a guard or attendant to “remember” to change settings. Event Scheduler allows operation templates to be saved and then automatically implemented at user defined times. Examples include changing the entry status of turnstiles (entry, exit, bi-directional control or free passage) at set times of the day. This flexibility allows turnstiles to be used more efficiently, can decrease the number of turnstiles that may be needed, and allows Alvarado’s optical turnstiles to seamlessly integrate into a customer’s operational requirements.

A single license of GateKeeper allows users to control all turnstiles installed at a single licensed site.

OPTIONS

ALTERNATE LID COLORS AND MATERIALS

Cabinet lids may be ordered in alternate colors and materials.

ALTERNATE POWER SUPPLY

A 220-240 VAC, 50 Hz power supply and appropriately rated key switch are utilized.

BASEPLATE

A baseplate for either single turnstile or multi-turnstile configurations is available. The baseplate is powder coated black with a black non-slip coating in the passageway area. The baseplate includes enclosed cable runs and eliminates the need for trenching or stubbing up conduit from floor.

CARD READERS / PHYSICAL ACCESS DEVICES

Due to the slim architectural profile of the SU2000, generally only mullion sized readers can be installed to the end cabinet. Custom fabricated solutions, including pedestals, are used to house alternative readers. When requesting use of readers other than mullion size, provide the manufacturer and model number to Alvarado for evaluation. Custom reader integration generally requires providing a sample of the actual reader to be used to Alvarado for design purposes.

CUSTOM CABINETS

External cabinet materials may be powder coated in a variety of colors. Cabinet materials can also be plated in a variety of finishes.

LONGER INTERCONNECT CABLES

Longer interconnect cables are available to accommodate installations where standard conduit runs are unavailable. The standard interconnect cable length is 13' (396cm). Custom cables are available in 20' (610cm) or 40' (1220cm) lengths.

TCP/IP (GATECONNECT)

See the description under Available Related Applications.

TCP/IP (GATEKEEPER)

GateKeeper communicates with SU2000 turnstiles over a wired TCP/IP network. The program runs on current Windows operating systems. See the full description under Available Related Applications or online at <http://alvaradomfg.com/download/gatekeeper-datasheet/>.

TURNSTILE KEY CONTROLS

Two 3-position key switches are installed on the turnstile to control passage modes for each direction of travel. Turning the key to one of three positions overrides current settings and places the turnstile in Controlled Passage, Free Passage or No Passage modes.

CONDUIT REQUIREMENTS

PRIMARY POWER SOURCE CONDUIT

.75" (19mm) power conduit for primary power must be run to each master controller cabinet.

Note: The product standard is 110-120VAC (use of 220-240VAC is an option).

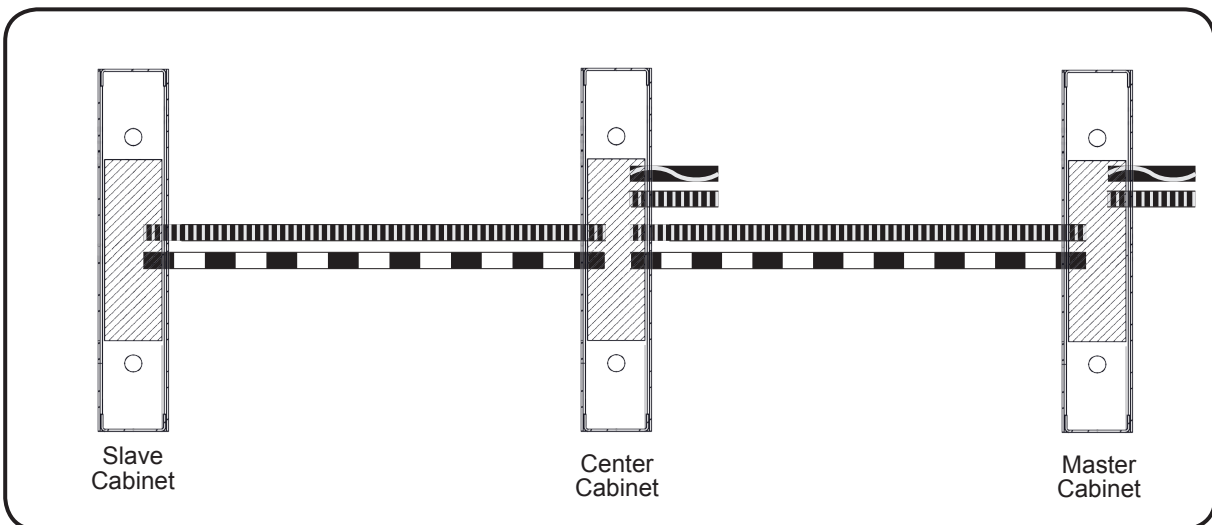
LOW-VOLTAGE & INTERCABINET COMMUNICATION CONDUIT

1.5" (38mm) conduit must be run to allow passage of the interconnect cable between cabinet sets. 13' interconnect cables are included. 20' and 40' interconnect cables are available options.

ACCESS CONTROL SYSTEM, READER & ETHERNET CONDUIT

The SU2000 has space for the acceptance of a .75" conduit for access control, reader, and Ethernet cabling. Alvarado does not provide cables for access control systems.

Use of TCP/IP communication with LaneConfig or GateKeeper requires the running of an Ethernet cable to each master controller cabinet. Do not run cable in the same conduit as AC power.



-  3/4" Primary Power Source Conduit
-  3/4" Access Control System, Reader & Ethernet Conduit
-  Low-Voltage & Intercabinet Communication Conduit

SHIPPING & SITE PREPARATION

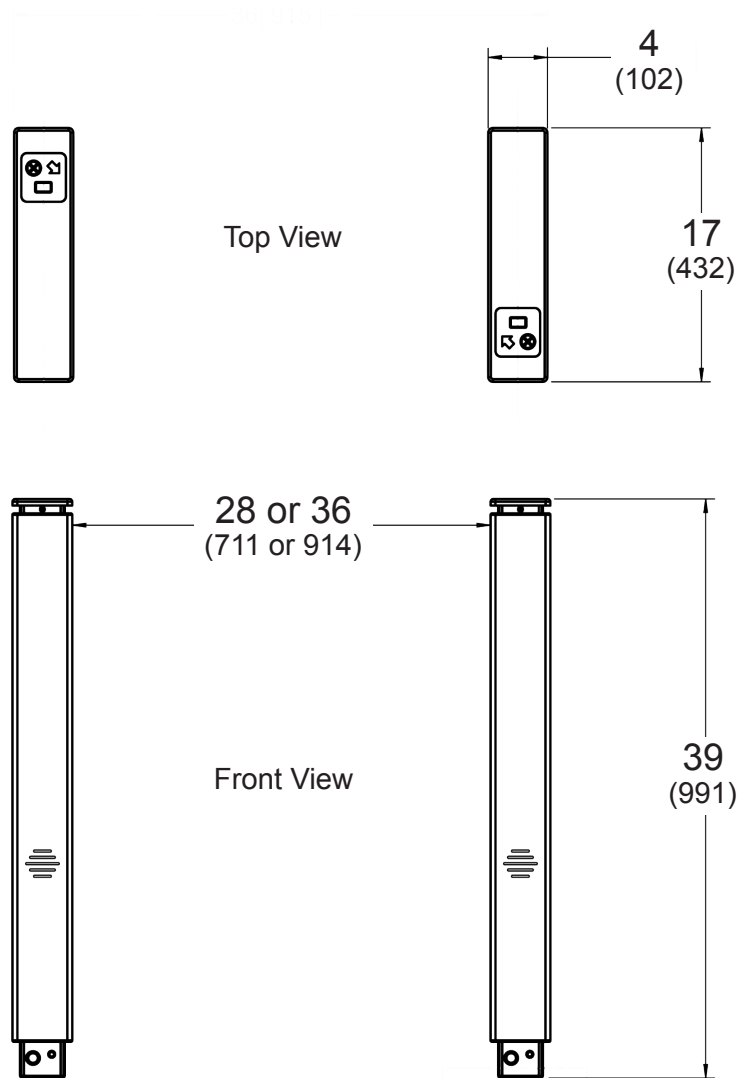
SHIPPING

SU2000 cabinets are shipped fully assembled for easy installation. Each cabinet includes mounting hardware (anchors, bolts, washers, etc.) to mount the unit to a standard, level concrete floor.

SITE PREPARATION

Turnstiles must be installed on a firm foundation in a manner that allows the required power and access control cabling to be pulled into the turnstile cabinet. The recommended slab platform should be a minimum of 4" (102mm) deep, level concrete. Installation should be performed by a skilled installer following Alvarado's instructions. Detailed drawings and installation manuals are available online.

TECHNICAL DIMENSIONS



Dimensions shown in inches (mm).

DESCRIPTIVE SPECIFICATIONS

OPTICAL TURNSTILES

SU2000

THROUGHPUT RATES

CARD READER TYPE*	USERS PER MINUTE**
PROXIMITY	40
MAGNETIC SWIPE	25
MAGNETIC SWIPE WITH NUMERIC KEYPAD	20
OMNI-DIRECTIONAL BARCODE SCANNER	40
*Access control system response is assumed to be instantaneous	
**Approximate. Rates may increase with user familiarity.	

ELECTRICAL

	DESCRIPTION
POWER SUPPLY	120VAC, 60 Hz.
POWER REQUIREMENTS	Maximum power consumption is 60W per lane with all options installed.
OPERATIONAL VOLTAGE	Primary power is stepped down and rectified for low-voltage 12 VDC, and 5 VDC operation.
ON/OFF POWER BUTTON	A recessed on/off power button is located in the base of each master cabinet.

WEIGHT, DIMENSIONS, ENVIRONMENT

	STANDARD	METRIC	
PRODUCT WEIGHT*	50 lbs.	23 kg	*Per cabinet weight
SHIPPING WEIGHT**	100 lbs.	45 kg	**Includes weight of shipping crate(s)
HEIGHT	39"	991mm	
WIDTH	4"	102mm	
DEPTH	17"	432mm	
OPERATING TEMP. RANGE	50° to 90° F	10 to 32° C	
STORAGE TEMP. RANGE	0° to 104° F	-4 to 40° C	
RH	15-85% (non condensing)	--	

WARRANTY

For a period of 18 months from the date of purchase, Alvarado will replace or repair, at Alvarado's option, any products or parts which are defective in materials or workmanship, provided recommended installation and maintenance procedures are followed. This warranty is void if damage is due to improper installation, maintenance or use. This warranty is limited to parts only, and does not cover labor or shipping charges incurred in connection with the removal or replacement of warranted products or parts.

This warranty is expressly made in lieu of any and all other warranties, expressed or implied, including, but not limited to implied warranties of merchantability and fitness for a particular purpose. Alvarado shall not be liable for any loss or damage, directly or indirectly, arising from the use of purchased products. In no event shall Alvarado be liable to buyer for consequential damages, special damages, incidental damages, loss of use, business interruption, loss of profits, or damages of any kind arising out of the use or inability to use a purchased product. In no event shall Alvarado be liable for damages which exceed the purchase price of a covered product.



Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



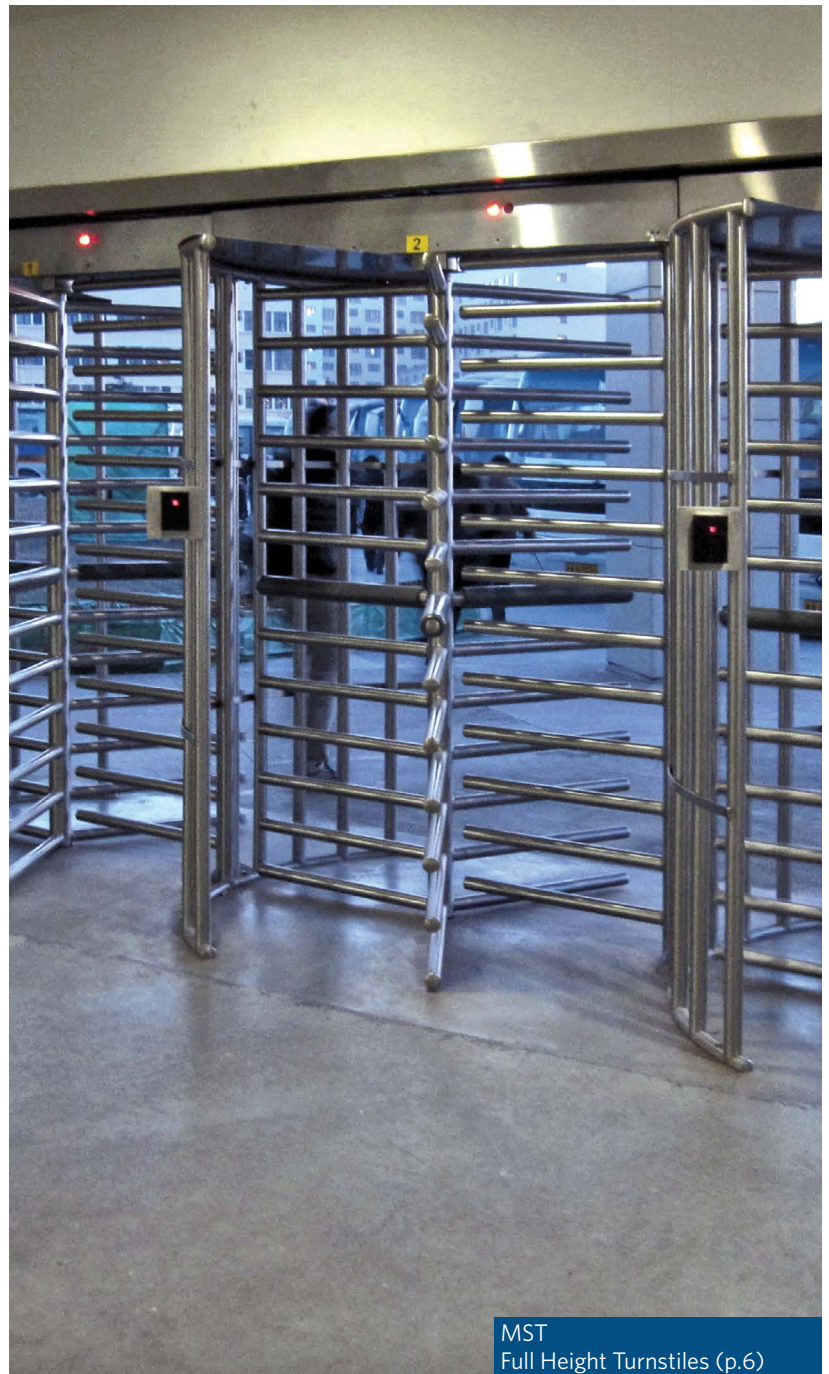
SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

No one knows turnstiles and gates like Alvarado. We’ve been designing and manufacturing turnstiles for lobbies and perimeter applications since 1956. In that time, our blueprint for success has remained simple and unchanged, which is to offer high quality products that provide years of trouble-free service.

We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

Architects and specifiers choose Alvarado because we are the actual manufacturer of a wide selection of products that look great and work flawlessly. We have readily accessible CAD files and specifications and our products can be customized to blend with installation environments.

Integrators and dealers choose Alvarado because we’re a good partner with easy to install products. Our sales and technical support teams meet tight deadlines while providing responsible and knowledgeable service.

End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

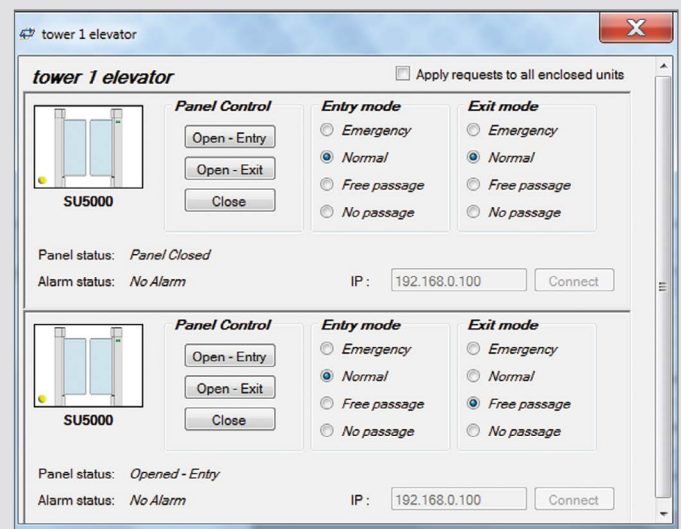


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

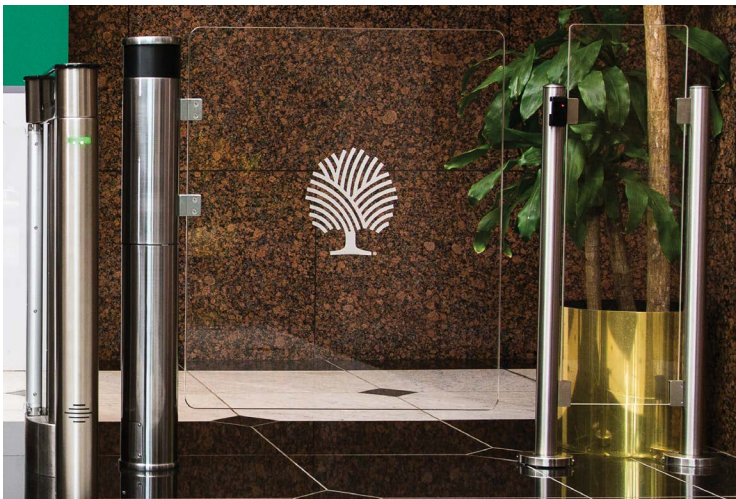
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



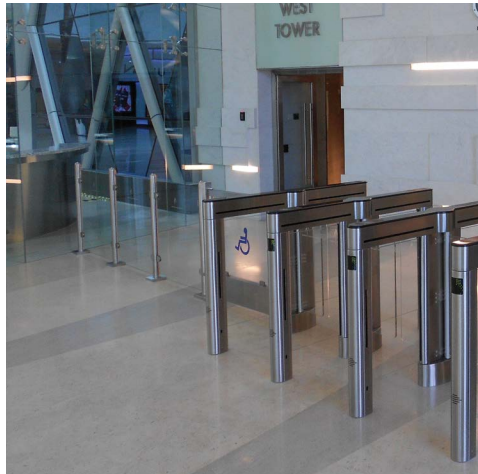
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

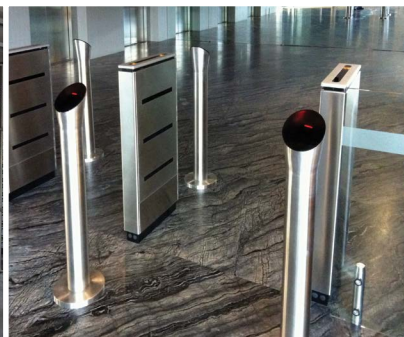
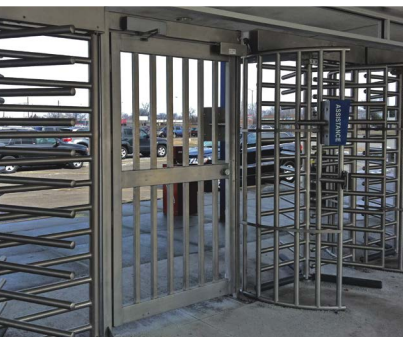


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

Alvarado products and solutions can be found globally. Our knowledgeable staff can assist with product selection, layouts and can direct you to local installers, integrators and service technicians. Installation images and detailed specifications can be found on our website, www.alvaradomfg.com.





Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



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Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



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OPTICAL TURNSTILES

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SU5000 Optical Turnstile with Barrier Panels

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SU5000

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Low Height



Mid Height



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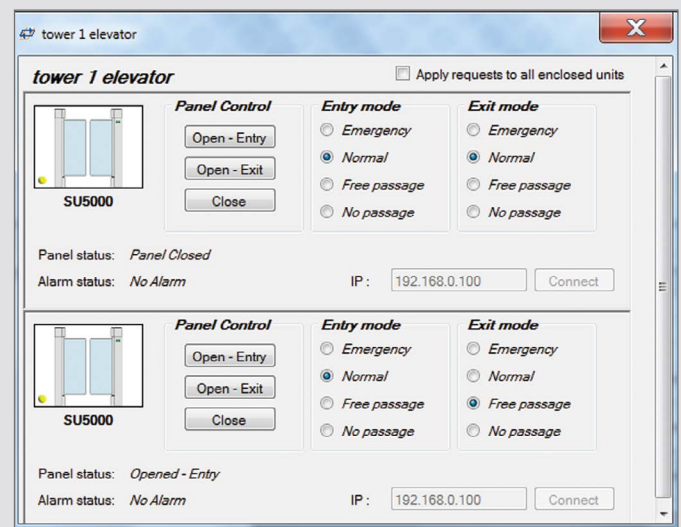


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EDC

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The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

The EDC is designed for years of trouble-free operation and includes more standard features than competitors. Extended length models are also available.



EDC Bullnose

The EDC Bullnose offers the performance of Alvarado's popular EDC turnstile in an attractive "bullnose" style cabinet suitable for even the most upscale installations. Extended length models are also available.



SLT

The SLT turnstile is economical, effective and ideal for manual (non-electric) direction control and pedestrian counting applications.

The SLT has many of the same features found in more expensive models, including stainless steel internal components, hydraulic self-centering arm rotation and a comfortable patron passage width.



PEDESTRIAN SECURITY GATES

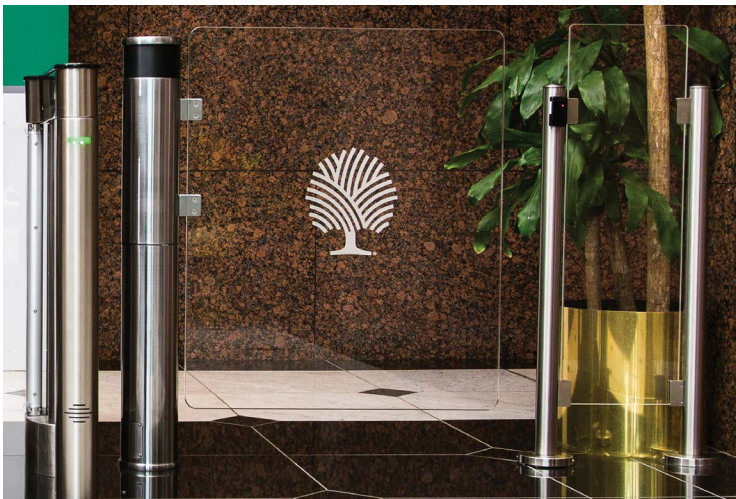
Alvarado offers several security gates for various entry control applications. Pedestrian gates are often used in conjunction with turnstiles to provide access for disabled persons and material delivery.

Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

The SW1000 pedestrian gate is designed to operate through an access control system or push-button activation. When combined with our waist high or optical turnstiles, it is an ideal product to provide access for disabled persons or material delivery.

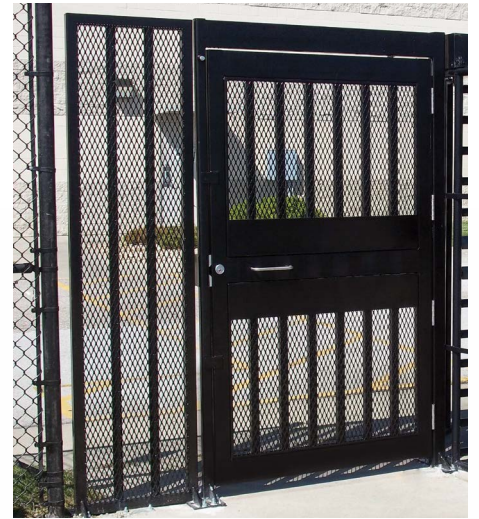
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



PRODUCT OPTIONS

Alvarado offers a number of product options and customizations. Below are some of the more popular custom solutions we provide. Contact your sales representative to discuss your particular installation needs.



Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



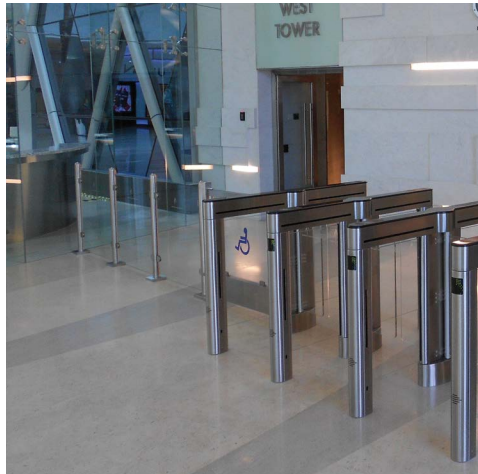
Etched Panels

Panels can be etched with your company logo, text or artwork to provide a unique branding opportunity.



Powder Coating

Any of our products can be powder coated. We offer a variety of standard and custom colors.



Infill and Barrier Sections

With various height options available, our custom built barriers blend seamlessly with all Alvarado turnstiles and gates. They can be used to fill gaps in your installation and direct pedestrians.



Alternate Materials

Optical turnstile cabinets can be plated brass or bronze and some models can be made from woods or laminates. Alternate lid colors and materials can be used to match floors and furniture.



MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

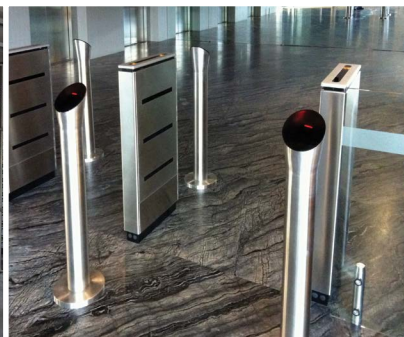
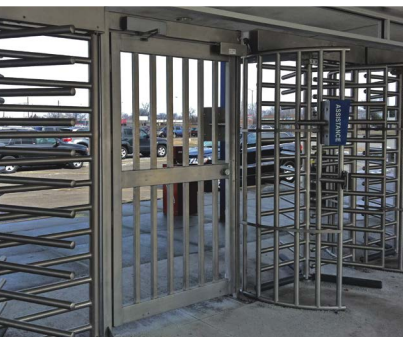


SU3500
Optical Turnstiles (p.4)



CLSTT
Full Height Turnstiles (p.7)

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Secured Entry Control

OPTICAL TURNSTILES • FULL HEIGHT TURNSTILES
WAIST HIGH TURNSTILES • PEDESTRIAN SECURITY GATES



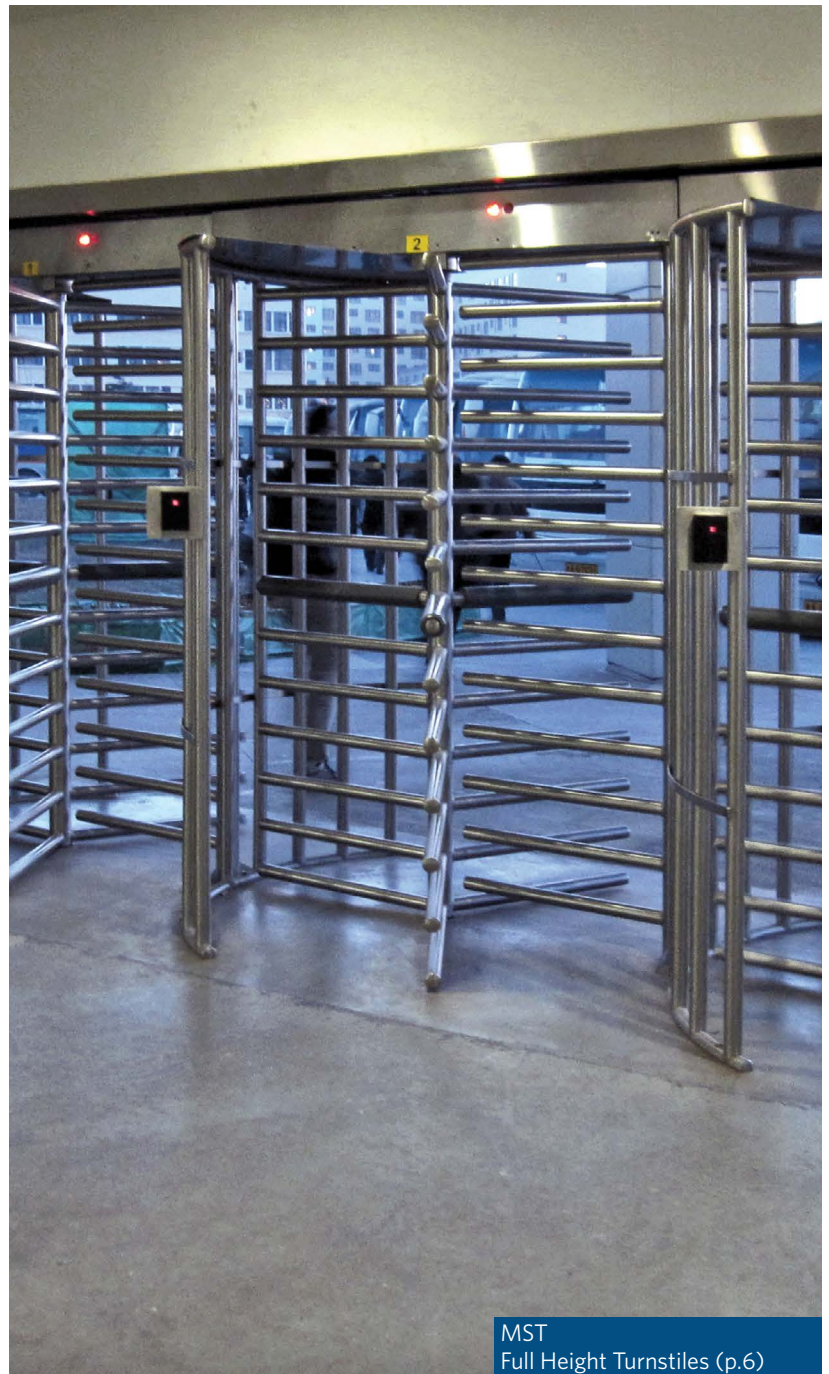
SU5000
Optical Turnstiles (p.2-3)



SU3000
Optical Turnstiles (p.4)



MSG
Security Gates (p.11)



MST
Full Height Turnstiles (p.6)



“When it comes to security, don’t compromise on quality.”

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We have an in-depth understanding of the challenges involved in designing a safe and reliable physical security system. Our knowledgeable personnel are ready to assist our customers to find the best product for their entrance security needs. We understand customers may not deal with our products often, so our staff routinely assists with operational questions, product selection, plan review and on-site job walks.

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End users love our long history of expertise and business longevity along with our commitment to customer service. We’re here today, and we’ll be here tomorrow.



OPTICAL TURNSTILES

Alvarado optical turnstiles provide secure bi-directional entry control while blending beautifully with high-end environments. Optical turnstiles increase facility security, organize the entry process and reduce the staff required to monitor facility access.

Our optical turnstiles combine integrated sensors and motorized barriers to control access and detect non-credentialed entries. All models integrate with access control systems and are available in ADA compliant widths. Graphics, sounds, lights and alerts are intuitive for users and staff.

SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
- Static or dynamic LED illumination of side panels
- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

Optical Turnstile with Barrier Arms

The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



SU3500

Optical Turnstile with Barrier Wings

The SU3500 has stylish, clear motorized barrier wings that retract into the cabinet, providing high throughput rates in either direction. Both 22" and 36" (ADA) passage widths are available.



SU2000

Barrier Free Optical Turnstile

The SU2000 barrier free turnstile's compact form is well suited for applications where space is at a premium.

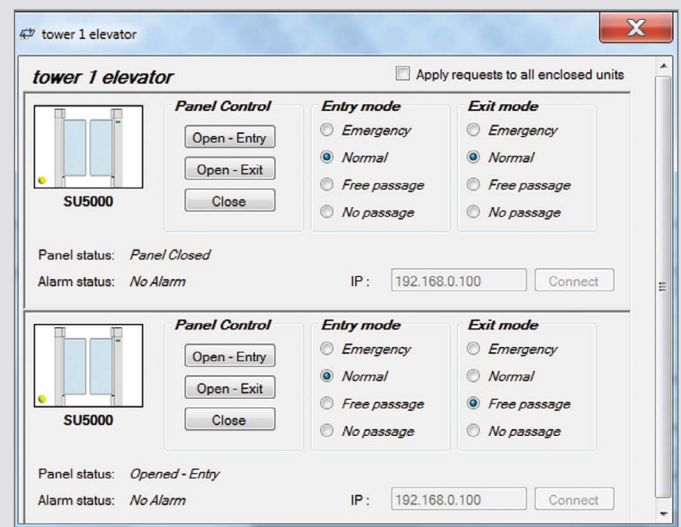


GATEKEEPER

GateKeeper is the real-time configuration and monitoring software solution for Alvarado optical turnstiles. GateKeeper provides a virtual control panel, allowing control of day-to-day operating functions. It also includes a built-in scheduling application that allows operational changes to be scheduled and automatically implemented at user defined times.

Key Features

- TCP/IP communication
- Immediate visibility of alarm conditions
- Automated configuration changes/event management
- Database log of all turnstile activity
- PC-based software can run on desktops or laptops and can be accessed by tablets



FULL HEIGHT TURNSTILES

Full height turnstiles from Alvarado secure sensitive and restricted areas and provide entry control for all kinds of applications. Turnstiles do what a gate or door cannot; provide directional control of each passage and limit access to one person per activation. Turnstiles do not sleep, take breaks, play favorites or require a paycheck. They simply provide a secure, unmanned point of entry that significantly increases facility security.

All full height turnstiles feature Alvarado's revolutionary speed control that adjusts to the pushing force of the user. This ensures a safe, controlled, rotation with automatic centering for improved security. Electrically controlled models integrate easily with nearly any access control system. Most models are available in galvanized, powder coat, powder coat over galvanized and stainless steel finishes.



MST

The MST is the most trusted, secure and reliable full height turnstile available. The turnstile arms are welded, not bolted together, eliminating visible bolts and fasteners and increasing stability. The MST is installed in thousands of locations throughout the world. Tandem units are also available.

Tandem Turnstiles

Tandem full height turnstiles provide directional control in areas that need two full height turnstiles, but require a smaller installation footprint. Our tandem turnstiles use 30% less space than two individual turnstiles. Models available as tandem include: MST, CLST & CPST (MSTT pictured at right).





CLST

The CLST combines a fully welded rotating section with a clear side panel. The clear side panel improves visual sight lines and provides greater aesthetics. Tandem units are also available.



CPST

The CPST is our most stylish full height turnstile. Highly secure, the CPST's clear arms and side panel provide a less industrial look than a traditional all-metal turnstile. Tandem units are also available.



FMST

The FMST is a four arm, full height turnstile. Four arm turnstiles have a smaller patron passage area, making it more difficult to piggyback in access control applications.

MST47

The MST47 is the extended arm version of our trusted and reliable full height MST. Its 47" arms provide a substantially wider passage area.



WAIST HIGH TURNSTILES

Waist high turnstiles from Alvarado provide safe, reliable, bi-directional access control. All of our turnstiles are designed for years of smooth, trouble-free operation and are available in manual and electrically controlled models.

Our waist high turnstiles feature hydraulically dampened arm rotation with automatic self-centering. All models ship fully assembled for quick and easy installation. Turnstiles are available in a stainless steel or powder coat finish. Electrically controlled models work with nearly any access control system.

EDC

Alvarado's EDC is the perfect choice for both security and pedestrian counting applications.

The EDC's attractive design enhances any facility. Unlike competitor models that may have dozens of fasteners visible on the cabinet and around the turnstile head, EDC fasteners and anchoring hardware are completely hidden. Even the head and arms of our turnstile attach internally.

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EDC Bullnose

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SLT

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PEDESTRIAN SECURITY GATES

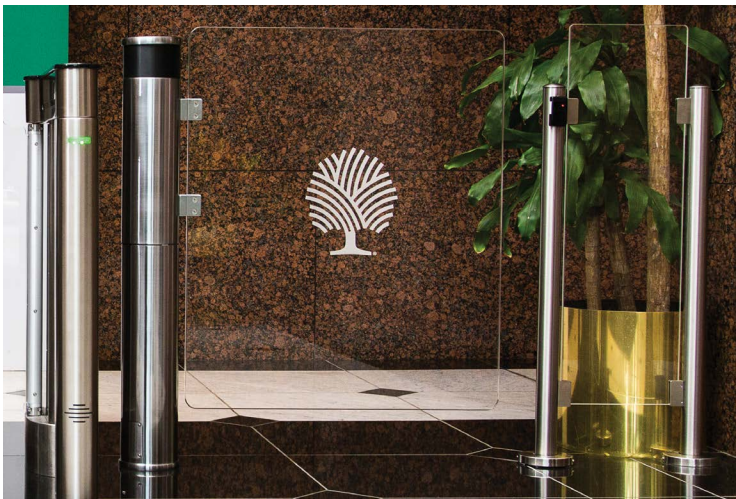
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Electrically controlled gates easily integrate with access control systems and can be activated by entry control devices, such as a push button installed at a guard or entry desk.

SW1000 Motorized Gate

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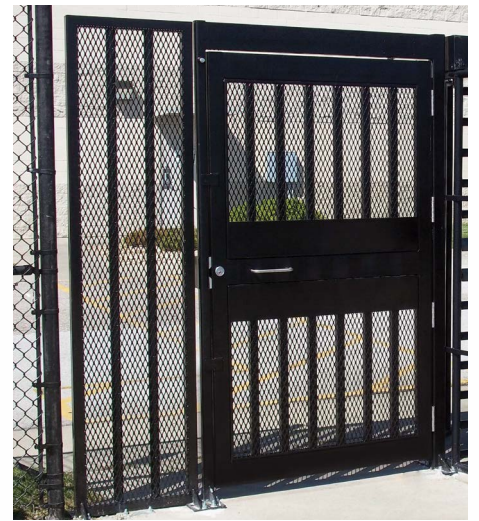
A powerful brushless DC motor opens and closes the barrier smoothly. Upon activation, the barrier opens away from the user in the direction of travel. Barrier movement is controlled through closed loop position control that monitors barrier position every 1/1000 of a second, providing quick, precise and quiet movement.





MSG

Available in a variety of configurations, our full height MSG gates ship fully assembled, ready for installation. Gates have a heavy duty hydraulic closer and provide 48" of passage width. Electric lock control, push or panic hardware, key locks and card reader attachment plates are available. Models come in stainless steel, galvanized or powder coated over galvanized finishes.



VSG

This self-closing, single-direction stainless steel gate features a fail-safe magnetic lock and is an ideal complement to our waist high and optical turnstiles. Acrylic panels or infill bars are available.



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Side Panel Illumination

SU5000 side panels can be illuminated to enhance aesthetics and provide visual notification of credential status.



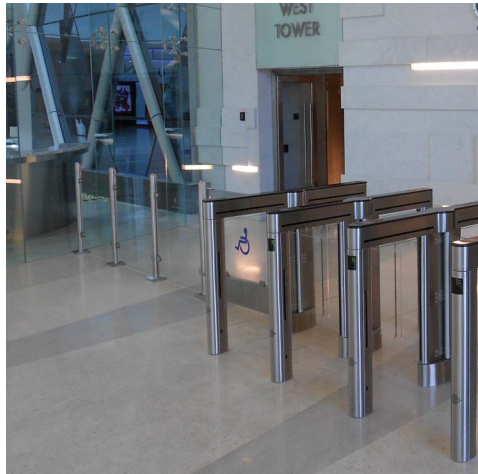
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MST Full Height Turnstiles (p.6) & MSG Security Gates (p.11)

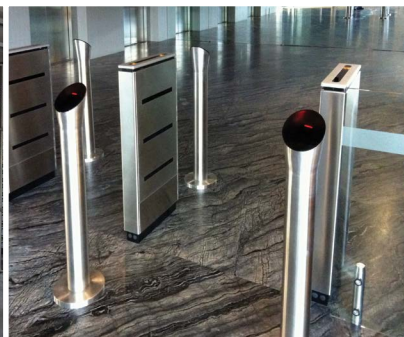
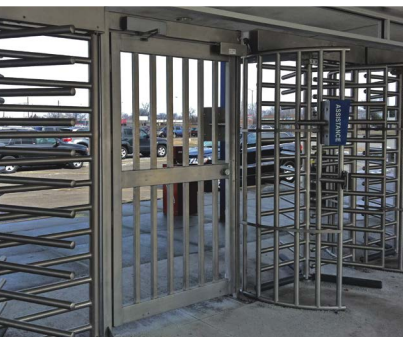


SU3500
Optical Turnstiles (p.4)



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SU5000
Optical Turnstiles (p.2-3)



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SU5000 Optical Turnstile with Barrier Panels

The beautiful SU5000 is the thinnest motorized barrier optical turnstile available. Cabinets are only 3.8" wide, even when providing ADA passage widths.

The SU5000 provides highly effective access control and extremely fast throughput rates. Upon activation, the moving barriers open away from the user. Panel movement is quick, precise and quiet.



SU5000

Aesthetic Options

A number of aesthetic options are available with the SU5000:

- Corporate logos etched on side and barrier panels
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- Custom lid materials
- Alternative finishes



SU5000

Barrier Height Options

Barrier panels for the SU5000 are available in low, mid and full heights, as well as 28" and 36" passage widths.



Low Height



Mid Height



Full Height

SU3000

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The SU3000 has motorized barrier arms that quickly move down and into the cabinet. Its slim profile and stylish architectural design enhance any access control installation.



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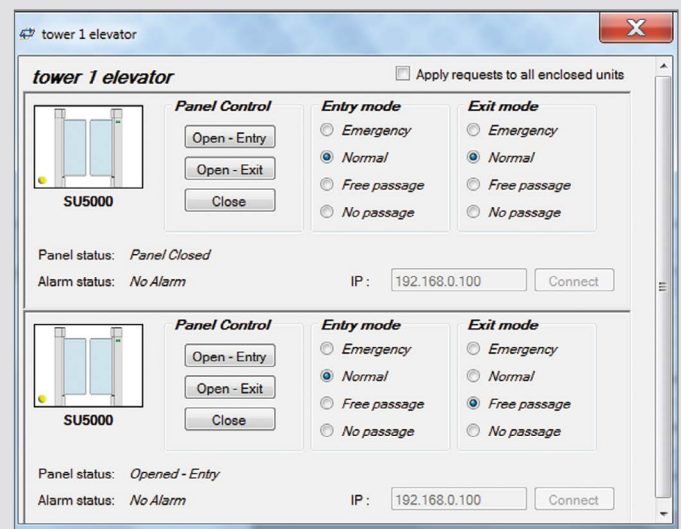


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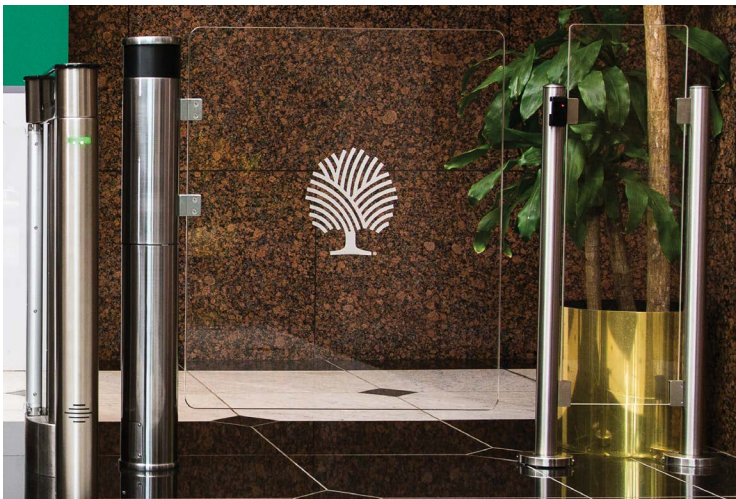
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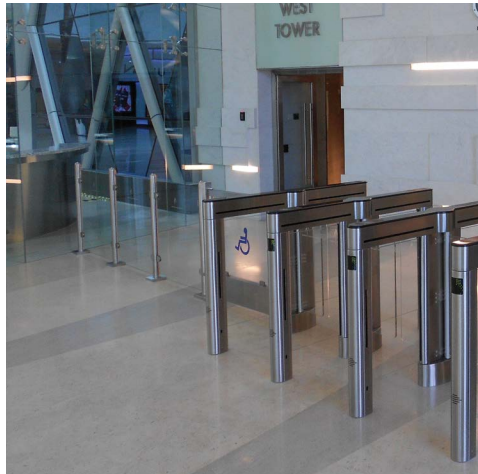
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