



**BIG SPAN**  
STRUCTURES

## ABOUT US

Big Span Structures offers concept-to-completion, highly customized: design, engineering, manufacturing, fabrication, and installation solutions for: tensile cable, frame supported, and air supported fabric-clad structures with a customer-focused service model. Big Span's Executive Management Team brings over a century of combined, highly-specialized knowledge & experience to the table. With a diverse skill set and collaborative, service-driven management style, Big Span Structures is uniquely positioned to outpace its competitors in the design and development of lightweight spanning structures, from the most basic to the highest levels of complexity.

In our 40-year history, Big Span has successfully installed over 500,000,000 ft<sup>2</sup> of structures globally. These range from sports complexes and stadiums to: cultural venues, hangars, amphitheaters, containment facilities, industrial complexes, shopping centers, hotels, commercial buildings, and a wide variety of architectural accents and upgrades such as facades, umbrellas, and walkways.

In appreciation of the fact that the best business investments are made in human capital and capabilities, Big Span employs a mixed staff of full-time employees and independent contractors, about 200 strong, with backgrounds, educations, and experiences from a multitude of different fields. We understand that experts must also be perpetual students in our field, therefore Big Span's concept and design team are constantly researching the latest market trends and familiarizing ourselves with cutting-edge techniques. As a result, Big Span's creative capability and state-of-the-art materials and techniques assure that we are completely unbound by conventional rules of geometry for self-supporting structures. What this means for Big Span's customers is that, as we often say, "If you can imagine it, we can bring it to life."

# AIR SUPPORTED STRUCTURES

Air-supported structures offer significant cost savings and drastic reductions in production and installation periods versus traditional construction methods. Far from "tents," these amazing buildings can be engineered to meet or exceed any wind or snow loads required by U.S. code. Additional flexibility in the air-supported design is found in its ability to be made into either permanent or movable / re-deployable structures. Big Span's proprietary technology in this sector allows us to produce air-supported structures in less time, with superior structural capabilities than our competitors.

## Exhibition Halls and Conventions

Big Span air-supported structures are a natural fit for mobile or permanent exhibition, trade, and convention center facilities. There truly is no more cost-effective or time-efficient means of enclosing a large area and keeping hundreds or even thousands of people comfortable and engaged than a Big Span air-supported structure.

## Sports Facilities

The first installation of an air supported multi-sports facility took place at Harvard University in 1968. The size of the structure demanded the incorporation of a basic stress-relief strap system to add strength and flexibility to both the fabric and membrane. Polyester straps were eventually replaced with steel aircraft cables; and the configuration was re-designed into various degrees of bias grid patterns. This provides total encapsulation of the fabric membrane, eliminates the potential for tear propagation, and exponentially increases load-bearing capacity. With these and many other design advancements, the groundwork was set for air-supported structures as we know them today. Currently, Big Span utilizes state-of-the-art materials and mechanical components for levels of safety and structural integrity that are unmatched by any of our competitors.

## Construction Domes

Perhaps no one can better appreciate the costly nature of weather-related interruption and shutdowns on a working jobsite than a contractor. Whether pouring a residential concrete foundation or managing a large-scale commercial construction project, shut-downs erode profits quickly, create dissent among workers, contribute to late completion penalties, and are (thanks to Big Span's air-supported structures) completely unnecessary and 100% avoidable now and for the future. Perhaps no one can better appreciate the costly nature of weather-related interruption and shutdowns on a working jobsite than a contractor.

Our air supported structures have become the product of choice and preferred solution for a growing number of construction and project management companies in a host of different countries. The savings generated by continuous operation more than off-set the investment in a Big Span construction dome, usually by the end of the first project.



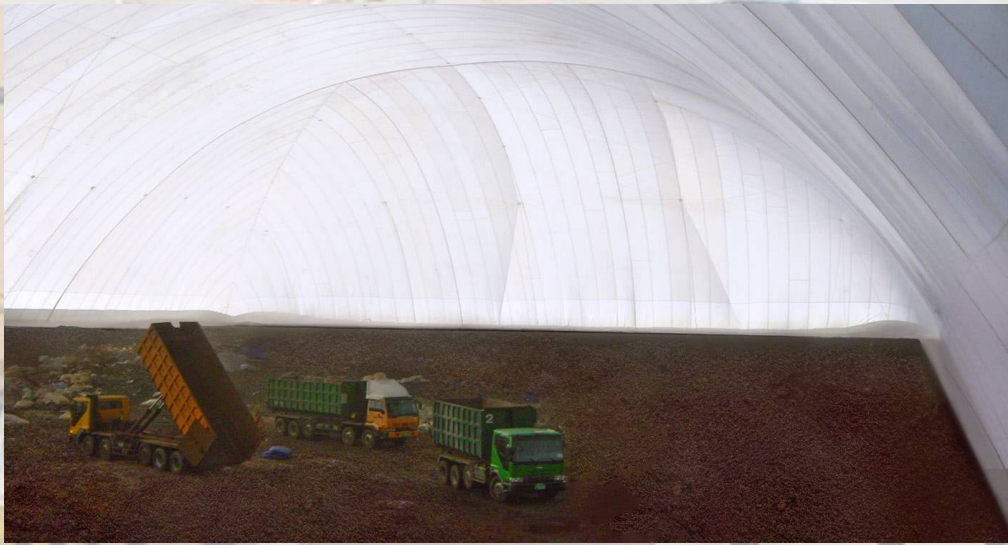
GALLERY



GALLERY



GALLERY



GALLERY

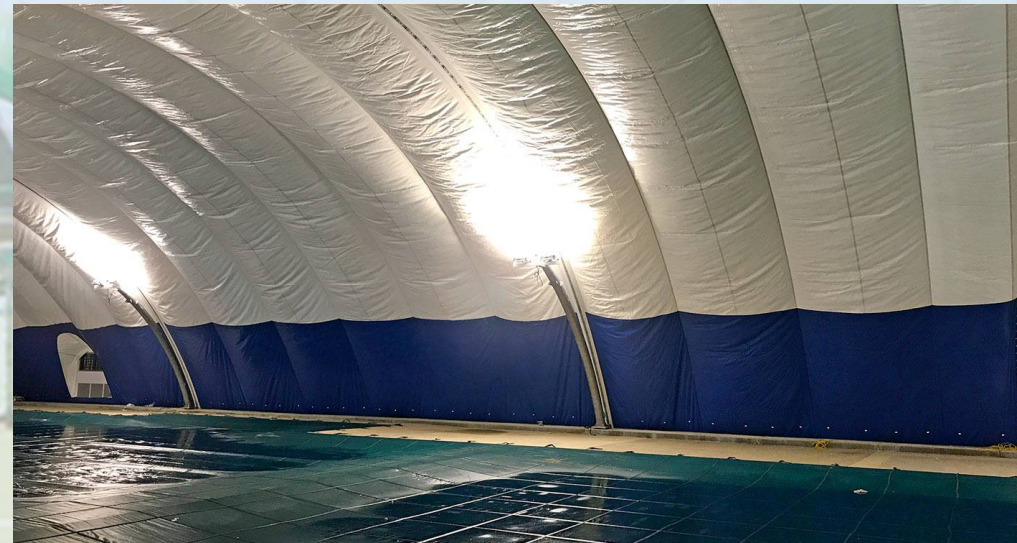


GALLERY





# GALLERY



### DESCRIPTION / DESIGN CRITERIA

The fully operational entry is designed to meet the unique demands of and air supported structure.

The design allows for the highest volume of traffic with minimal air loss.

The three leaf configuration provides ample walking area even while equipment is being carried.

The material and finishes used in the door result durability and an appearance that is esthetically appealing.

Unit is designed to for use in structures operating at pressures up to 2.5 wc.

Door is NOT to be used a part of the structure anchorage

### FEATURES

Doors leafs constructed from heavy gauge aluminum extrusion of our own desing.

The significant feature of its design being the ability to replace the air seals and or glazing panels should they be damaged.

Door leaves are painted, white or the color of your choice.

Door section rotates on 1 diameter four bolt flanged bearings.

These bearing are equipped with grease fittings and are accesible by way of the removable service panel.

Brush type air seals offer minimal air loose without excessive drag.

Perimeter fabric clamps for connection to canopy.

Lexan windows afford safety with durability.

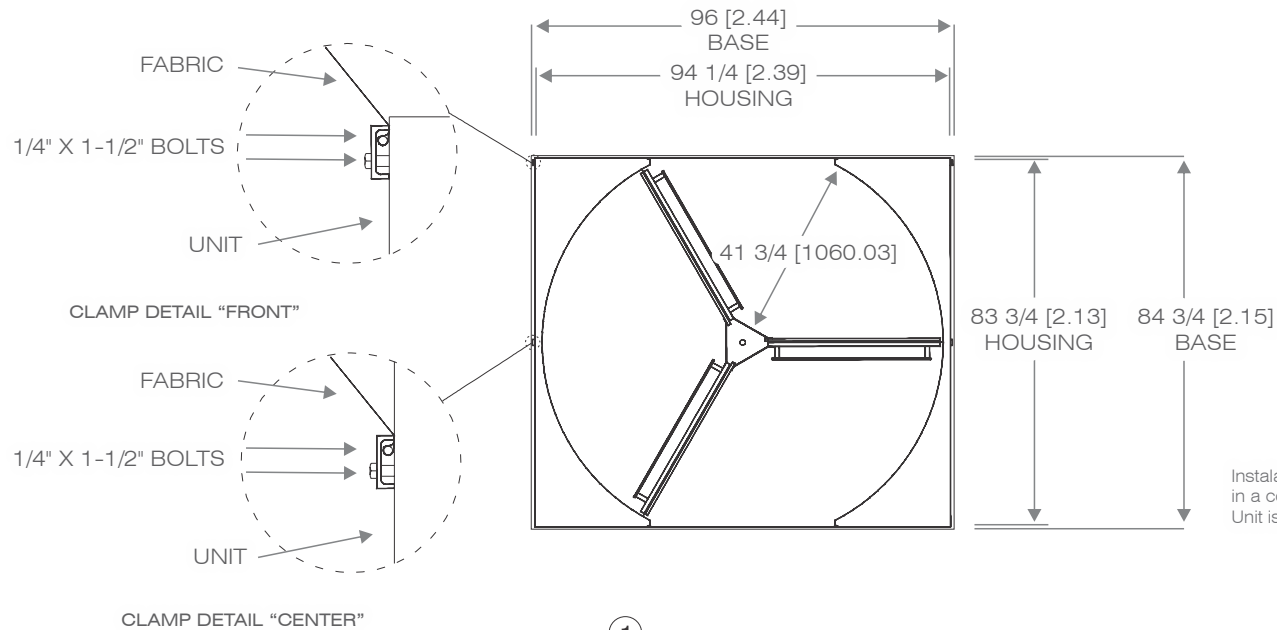
Roof structure: Outer skin (weather shield) mill finish aluminium channel frame. Inner skin (ceiling) is 10 mill finish aluminum.

Drum Construction: Inner and outer skin of .060 clear anodized aluminum over skeleton of 1-1/2 x 1-1/2 x 3/16 aluminum angle connecting laser cut bulkheads top, bottom and center.

Floor: 3/8 6061 Ta-6 luminum covered by 1/8 slip resistant aluminum floor

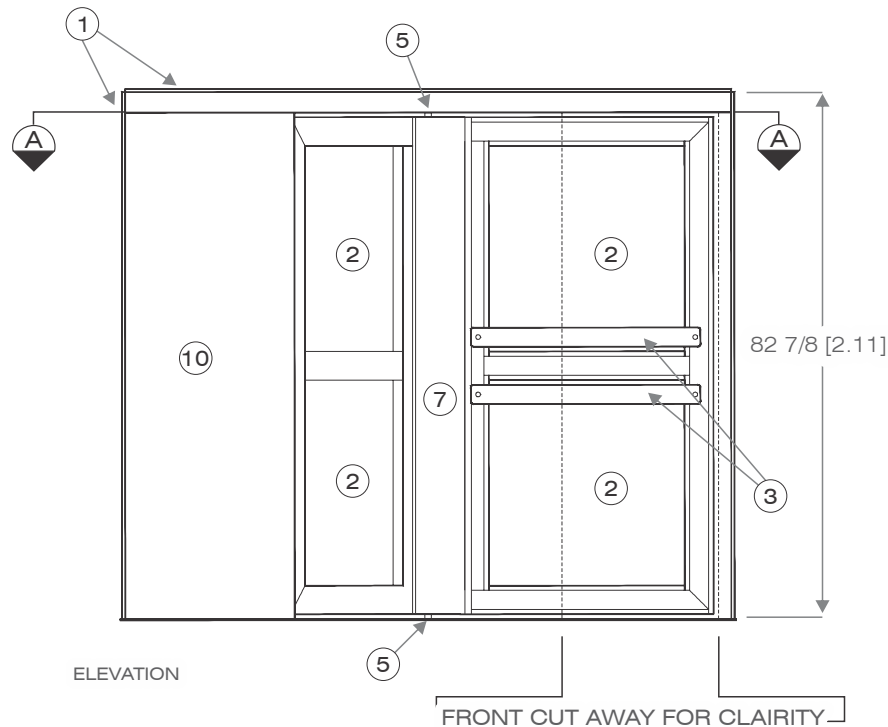


# 3 LEAF DOOR



Installation: Unit must be set on a FLAT pad, in a common plane.  
Unit is not to be used as a structural member.

- ① FABRIC LAMP
- ② FULL LENGTH GLAZING PANEL
- ③ PUSH BARS
- ④ KEY OPERATED DEAD BOLT
- ⑤ 4-BOLT FLANGED BEARINGS WITH GREASE FITTINGS
- ⑥ LOW DRAG AIR SEALS
- ⑦ REMOVABLE SERVICE PANEL
- ⑧ REMOVABLE LIFTING EYES
- ⑨ NON-SLIP RUBBER FLOORING
- ⑩ CLEAR ANODIZED SKIN



### DESCRIPTION / DESIGN CRITERIA

The fully operational entry is designed to meet the unique demands of an air supported structure.

The design allows for the highest volume of traffic with minimal air loss.

The four leaf configuration provides easy access.

The materials and finishes used in the door result in durability and an appearance that is esthetically appealing.

### FEATURES

Doors leafs constructed from heavy gauge aluminum extrusion of our own desing.

The significant feature of its design being the ability to replace the air seals and or glazing panels should they be damaged.

Door section rotates on tapered roller bearings. These bearing are equipped with grease fittings and are accesible by way of the removable service panel. Brush type air seals offer minimal air loose without excessive drag.

Perimeter fabric clamps for connection to canopy.

Lexan windows afford safety with durability.

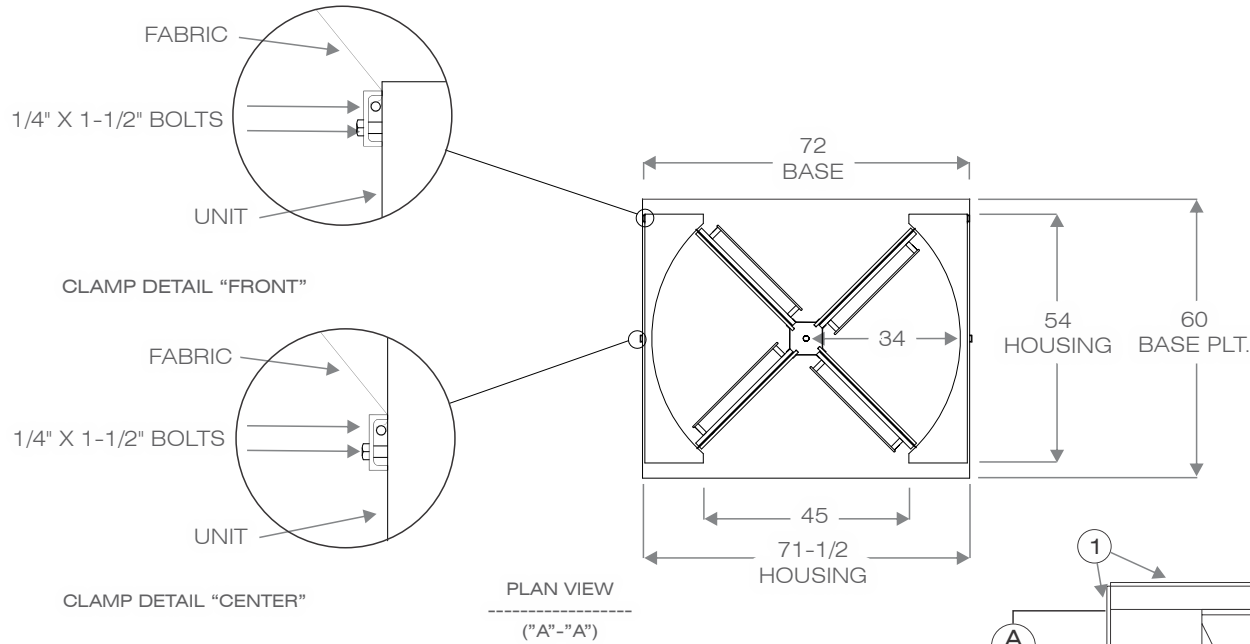
Inner and outer skin of clear anodized aluminum.

Slip resistant rubber floor.

Special application: We offer special adaptations and or designs to meet your specific requirements.

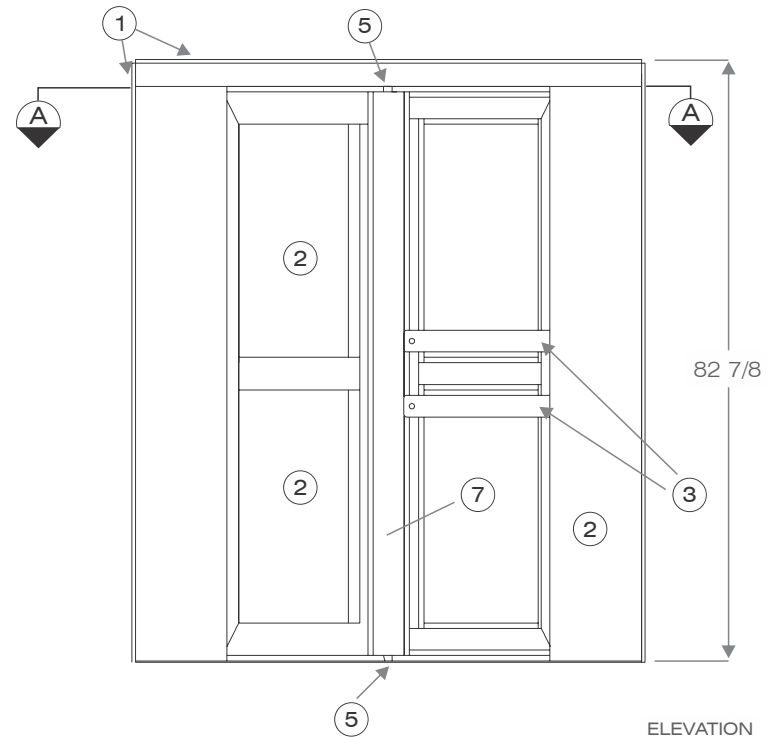


# 4 LEAF DOOR



Installation: Unit must be set on a FLAT pad, on a common plane.  
Unit is not to be used as a structural support

- ① FABRIC LAMP
- ② FULL LENGTH GLAZING PANEL
- ③ PUSH BARS
- ④ KEY OPERATED DEAD BOLT
- ⑤ 4-BOLT FLANGED BEARINGS WITH GREASE FITTINGS
- ⑥ LOW DRAG AIR SEALS
- ⑦ REMOVABLE SERVICE PANEL
- ⑧ REMOVABLE LIFTING EYES
- ⑨ NON-SLIP RUBBER FLOORING
- ⑩ CLEAR ANODIZED SKIN
- ⑪ ACRYLIC WINDOW
- ⑫ POWDER COAT DOORS



### APPLICATION

This unit is typically used in applications where there is a need to bring objects into the structures that cannot pass through a revolving door.

### FEATURES

Pressure compensating door design, negates the effect of the internal structure pressure while insuring proper door closure.  
Top to bottom vision panel with Lexan glazing.  
Perimeter fabric clamps for connection to the structure.  
High performance air seals minimize air loss.  
Shipped as a completed unit, no assembly required.

### DESCRIPTION

An aluminum frame work configured to create a vestibule between two pressure compensating doors. Top and sides are covered with .060 aluminum.

### OPTIONS

Special lengths and or widths to meet your specific requirements.  
Emergency exit lighting and signage package.  
Threshold ramps.

### COMMENTS

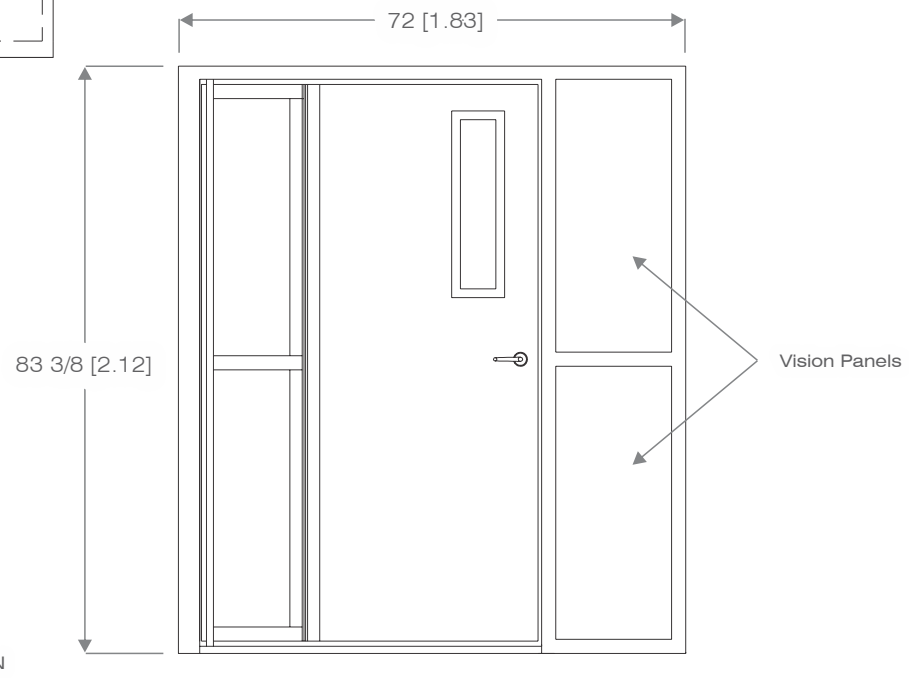
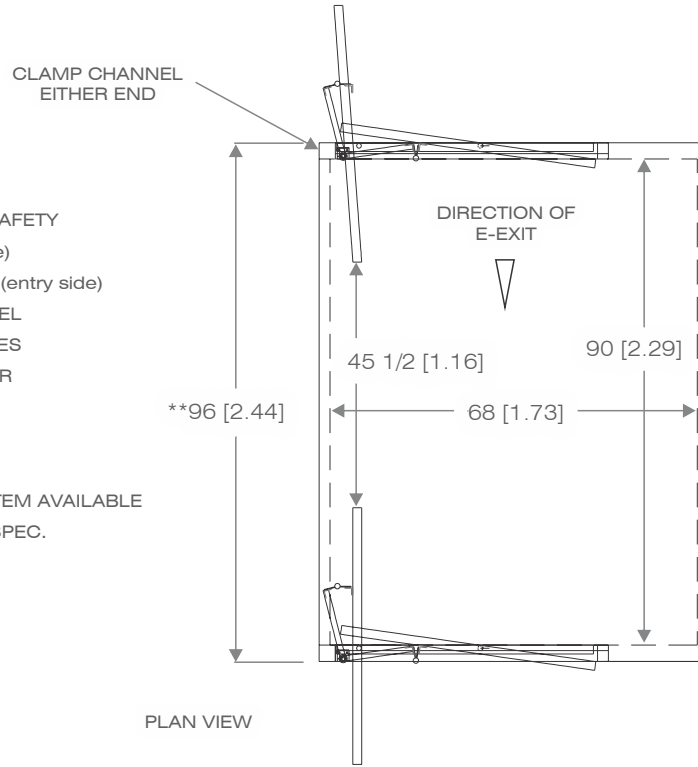
When considering any entry to be installed in an air structure application one should consider the surface force seen by a door is approximately five pounds per square foot of surface area when the structure pressure reaches 1" wc.  
In our opinion, this level of loading and the inherent life safety considerations make conventional doors an inappropriate choice.  
Unit is designed to use in structures operating at pressures up to 2 wc.  
Unit is NOT to be used as a part of the structure anchorage.



# PERSONAL AIRLOCK

## FEATURES

- SHIPPED READY FOR USE
- EXTRA WIDE FOR ADDED SAFETY
- PANIC HARDWARE (exit side)
- LOCKABLE LEVER HANDLE (entry side)
- UNBREAKABLE VISION PANEL
- ADJUSTABLE SPRING HINGES
- BRUSH AIR SEALS AT FLOOR
- VINYL AIR SEALS
- PRE-FINISHED INTERIOR
- ALUMINIUM SIDE & TOP
- OPP. RAMPS & FLOOR SYSTEM AVAILABLE
- \*\*LENGTH TO CUSTOMER SPEC.  
(check local codes)



### DESCRIPTION

Essentially two of our extra with emergency exits mounted in a common frame.

### FEATURES

Shipped fully assembled, ready for installation.  
All aluminum construction.  
Center pivot mechanism with spring loaded hinges, negates the effect of the internal structure pressure while insuring proper door closure.  
Panic hardware as required for an emergency exit.  
Vertical vision panel with Lexan glazing.  
Pre-wired for emergency signage and lighting.  
Adjustable knee braces allow for ease of installation.  
Perimeter fabric clamps for connection to the canopy.  
High performance air seals minimize air loss.

### SPECIAL APPLICATIONS

We offer special adaptations and or designs to meet your specific requirements

### COMMENTS

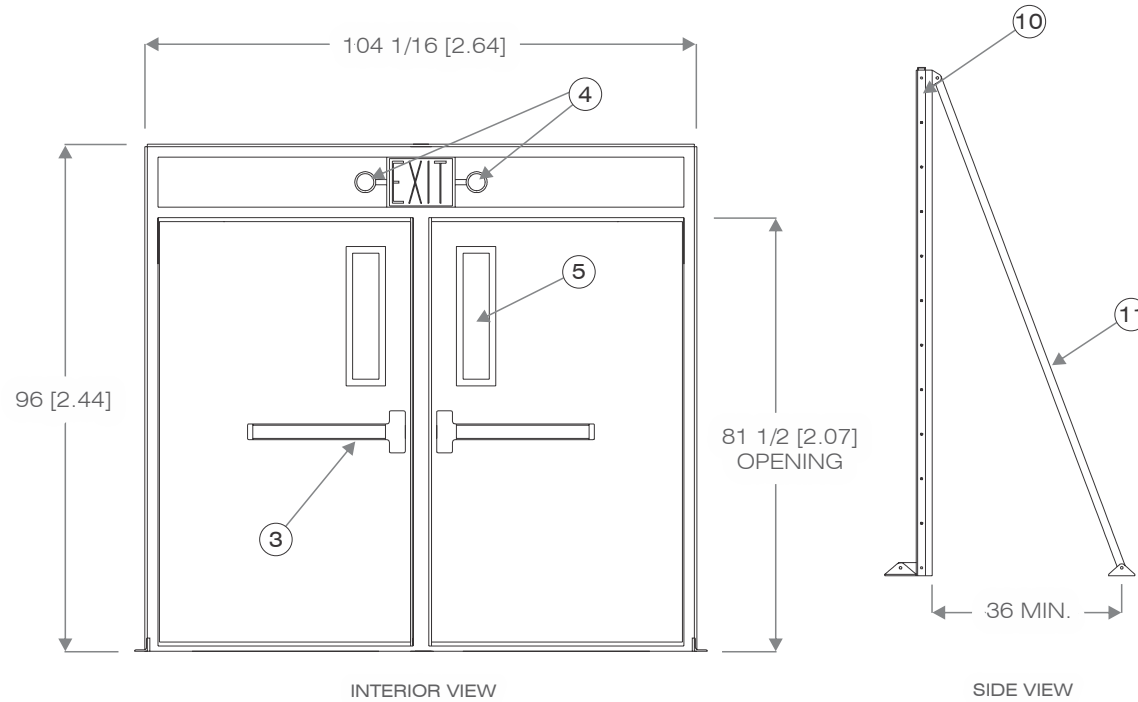
When considering any entry to be installed in an air structure application one should consider the surface force seen by a door is approximately five pounds per square foot of surface area when the structure pressure reaches 1" wc.

In our opinion, this level of loading and the inherent life safety considerations make conventional doors an inappropriate choice.

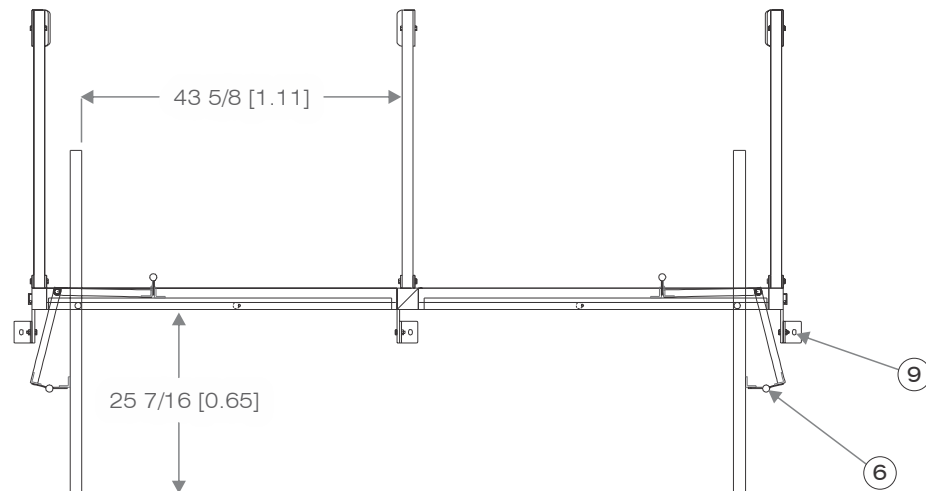




# DOUBLE EXIT DOOR



- ① SHIPPED READY FOR USE
- ② EXTRA WIDE FOR ADDED SAFETY
- ③ PANIC HARDWARE
- ④ ILLUMINATED EMERGENCY EXIT SIGN & LIGHTS
- ⑤ UNBREAKABLE VISION PANEL
- ⑥ ADJUSTABLE SPRING HINGES
- ⑦ KEY LOCK & PULL
- ⑧ VINYL AIR SEALS
- ⑨ MOUNTING BRACKETS
- ⑩ FABRIC CLAMP CHANNEL
- ⑪ ADJUSTABLE SUPPORT LEGS



### DESCRIPTION

A unit specially designed to meet the unique criteria of an air supported structure.

Unit is designed to for use in structures operating at pressures up to 2.5" wc.

### FEATURES

Shipped fully assembled, ready for installation.

All aluminum construction.

Center pivot mechanism with spring loaded hinges, negates the effect of the internal structure pressure while insuring proper door closure.

Panic hardware as required for an emergency exit.

Vertical vision panel with Lexan glazing.

Pre-wired for emergency signage and lighting.

Adjustable knee braces allow for ease of installation.

Perimeter fabric clamps for connection to the canopy.

High performance air seals minimize air loss.

### SPECIAL APPLICATIONS

We offer special adaptations and or designs to meet your specific requirements

### COMMENTS

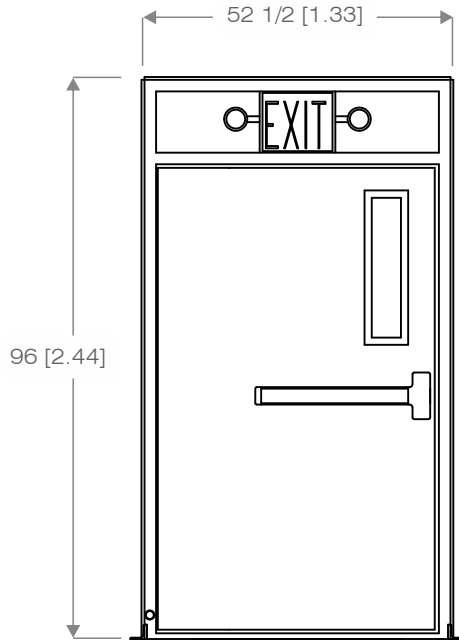
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One should consider the surface force seen by a door is approximately five pounds per square foot of surface area when the structure pressure reaches 1" wc.

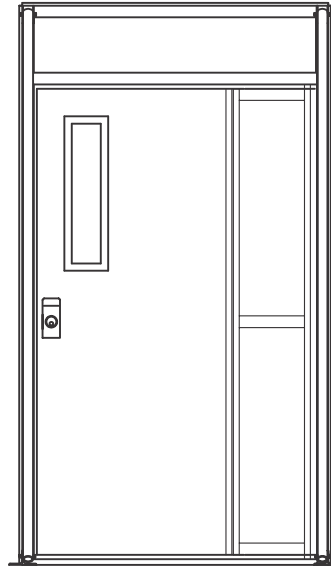
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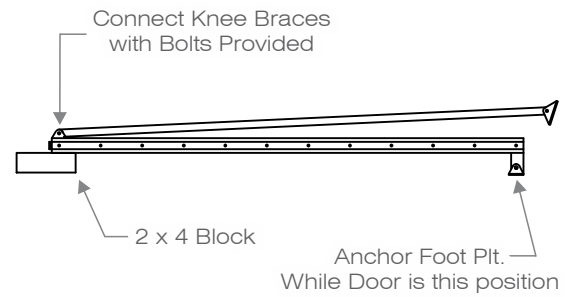
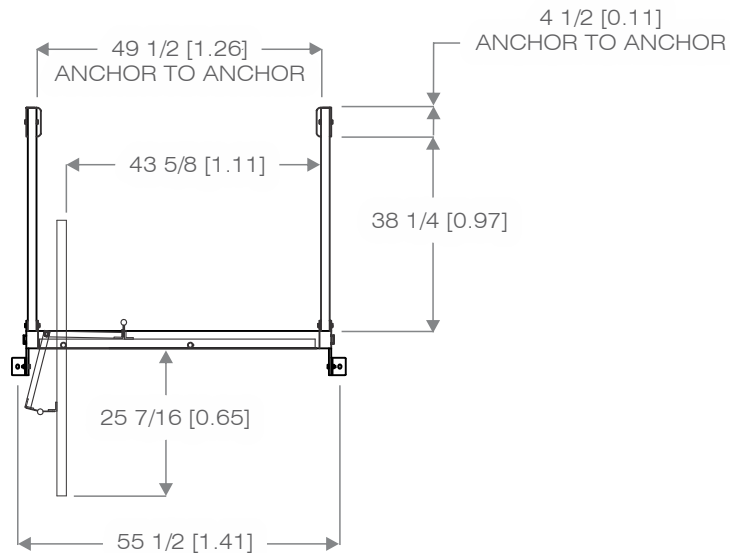
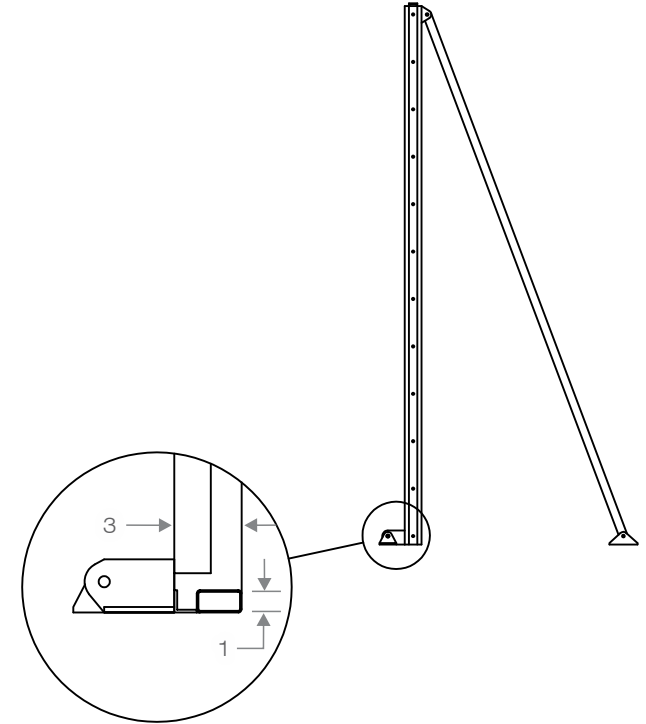
# EMERGENCY EXIT DOOR



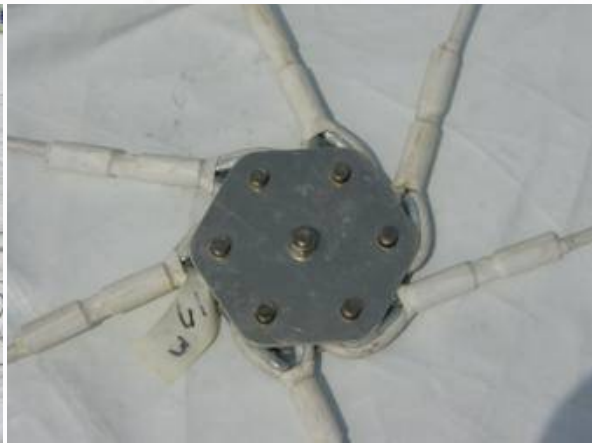
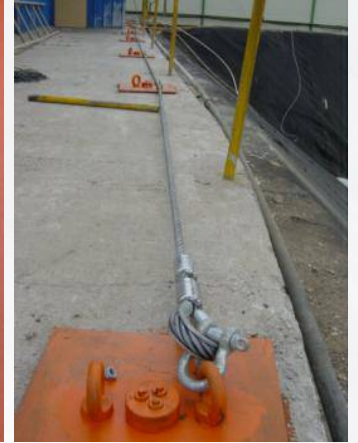
INTERIOR VIEW



EXTERIOR VIEW



# SITE PREPARATION / INSTALLATION



# SITE PREPARATION / INSTALLATION



## OUR FABRIC WORKSHOP





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STRUCTURES

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