



## Dust Tight Inspection Door

### Installation Manual



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**! IMPORTANT !**

**BENETECH, INC. HEREBY DISCLAIMS ANY LIABILITY FOR, BUT NOT LIMITED TO:**

- IMPROPER INSTALLATION OF EQUIPMENT
- IMPROPER SIZING OF EQUIPMENT
- DAMAGE DUE TO CONTAMINATION OF MATERIAL
- USER'S FAILURE TO INSPECT EQUIPMENT
- USER'S FAILURE TO MAINTAIN EQUIPMENT
- USER'S FAILURE TO TAKE REASONABLE CARE OF THE EQUIPMENT
- INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN.

**BENETECH, INC.'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.**

**! SAFETY !**

Review and understand all safety rules given herein along with local and Governmental standards and regulations. Know and understand the American National Standards Institute (ANSI) z244.1-1982 lockout/tagout procedures, the American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements and the Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, Control of Hazardous Energy Source (Lockout/Tagout); Final Rule.

Also observe all local and Governmental regulations concerning entry into confined spaces, welding, cutting, grinding, wash-down procedures and all Personal Protective Equipment (PPE) regulations.

*The following notations are used throughout in this manual.*

**! DANGER !**

**Danger:** Denotes immediate hazards that will result in severe personal injury or death.

**! WARNING !**

**Warning:** Denotes hazards or unsafe practices that could result in personal injury.

**! CAUTION !**

**Caution:** Denotes hazards or unsafe practices that could result in product or property damages.

**! IMPORTANT !**

**Important:** Denotes instructions that must be followed for proper installation and/or operation of equipment.

**! NOTE !**

**Note:** Denotes general items to assist the reader/ installer/ operator.

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***Please pay close attention to all of these items and warnings.***  
***They have been included here for your safety and for ease of installation.***

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# Introduction

Benetech's patent-pending inspection doors are the latest in innovative design. They include the following features:

- Self-contained dust control door, well tested in numerous North American coal-fired generating stations (using PRB coal and various other coals).
- Groove and tongue seal design to optimize dust sealing.
- Unique door panel design to ensure product is deflected out of door sill.
- Resilient door seals hidden in groove to ensure long lasting service. Seal is inexpensive and easy to replace, if required.
- Optional heavy-duty door design is available for high abrasion applications such as crushers.
- Greasable heavy-duty hinges.
- Ergonomic cam-action never seized closing latch(es), adjustable tension to suit operation requirement.
- Available in single right hand or left hand opening action.
- Optional double opening action is available.
- Available in Stainless Steel.
- Easy to install with simple cut and weld or bolt-on method

## Standard Sizes

- 7x14"      • 18x18"
- 12x12"     • 18x24"
- 12x18"     • 24x18"
- 24x24"

# References

The following documents are referenced in this manual:

- American National Standards Institute (ANSI) z244.1-1982, American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements, American National Standards Institute Inc., 1430 Broadway, New York, NY 10018.
- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, Control of Hazardous Energy Source (Lockout/Tagout); Final Rule, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.

# Materials Required For Installation

## Welded Installation Method:

- Cutting or burning equipment
- Welding equipment
- Soap stone or marking instrument
- Tape measure
- Level or framing square
- Touch up paint
- Hand grinder

## Bolted Installation Method:

- Cutting or burning equipment
- Drill
- Soap stone or marking instrument
- Tape measure
- Level or framing square
- Silicone Room Temperature Vulcanizing (RTV)
- Hand grinder

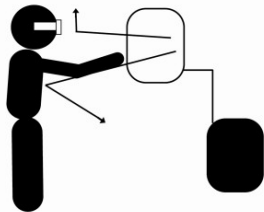
# Before Installing Inspection Doors

## **! DANGER !**

- 1. Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Your body or clothing can get caught and you can be pulled into the conveyor, resulting in severe injury or death.*
- 2. If equipment will be installed in an enclosed area, the atmosphere in the structure/area must be tested for gas levels and dust content levels before using a cutting torch, welding equipment, grinding equipment or electric powered tools. Using a cutting torch, welding, drilling or grinding in an area with gas or dust may cause an explosion.*
- 3. Before using a cutting torch, welders, or grinding equipment, cover the conveyor belt with a fire retardant/resistant cover. Make sure a water source/fire hose is readily available AND OPERATIONAL. Failure to do so can allow the belt to catch fire.*

## **! WARNING !**

- 1. Inspection Doors are heavy and may require two people to lift. Attempting to lift the Inspection Door without assistance could result in injuries or damage to the equipment.*



Flying debris hazard. Lock out/tagout all energy sources of conveyor and loading systems before opening Benetech® Inspection Door. Failure to do so could result in serious injury or death.



1. Inspect ALL shipping containers for damage and correct number of items (skids, pallets, cartons, boxes, etc.) being delivered. Report damage and/or shortages to delivery service immediately and fill out delivery service's claim form. Keep ALL damaged goods for examination. Benetech, Inc. is NOT responsible for damage occurring during transit.
2. All Benetech, Inc. Inspection Doors are shipped from our facilities fully assembled. Care should be taken if disassembling the units to ensure no parts are lost or damaged as the equipment is moved to its desired location. Dispose of shipping containers in approved manner.
3. Thoroughly review the Installation Manual prior to commencement of work. If questions arise during the review of the Installation Manual, IMMEDIATELY contact BENETECH, INC. or an authorized representative.
4. All work should be performed by qualified workmen with appropriate tools and personal protective equipment.
5. Lock out and tag out all associated equipment in the work area.
6. Hot work will be required, follow all established hot work procedures to include but not limited to:
  - o Completion and approval of hot work permit
  - o Thoroughly clean the area of combustible materials, outside and inside associated equipment
  - o Assure ventilation requirements are met
  - o Use welding mats and curtains to protect personnel and associated equipment
  - o Have fire suppression equipment in place
7. If using a cutting torch or welding, test atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover. Verify locations of fire extinguishers and operational water hoses prior to begin cutting/welding operations.
8. Have all necessary tools and installation equipment at the work area and arranged leaving the work area free of hazards.

## **Locating and Installing Inspection Doors**

**! IMPORTANT !**

**Read entire section before beginning work.**

**To install the Inspection Door, follow the steps detailed in this section.**

- 1. Determine the desired location of the Inspection Door.**
- 2. Mark the rough opening for the Inspection Door on the equipment.**
- 3. Cut the rough opening for the Inspection Door.**
- 4. Install the Inspection Door ~ Welded Method**
- 5. Install the Inspection Door ~ Bolted Method**
- 6. Finish Work and Touch Up Paint**

1. Determine the desired location of the Inspection Door (See Figure 1)

**! IMPORTANT !**

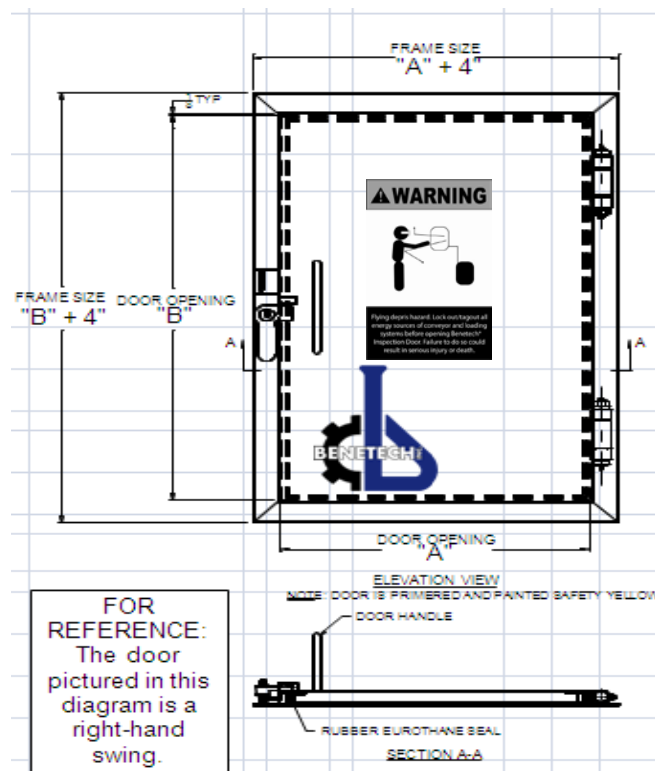
Benetech Inspection Doors are not recommended for use in material transfer chute applications where the material flow path may directly impact the door. In addition, the lined doors are not intended for use in hopper applications, where the depth of collected material may exceed the installed elevation of the door opening. And in NO instances should these doors be installed in any part of a potentially pressurized containment vessel.

a) Select a suitable location for the Inspection Door.

**! NOTE !**

**Note: The Inspection Door frame equals door opening plus four inches (See Figure 1)**

When selecting the location, be sure adequate space is available for the Inspection Door plus the frame.



**Figure 1**

b) Confirm the direction of door swing (right or left hand). In selecting a suitable location, confirm there are no area obstructions which will prevent full movement of the Inspection Door.

## 2. Mark the rough opening for the Inspection Door on the equipment

**! NOTE !**

**Note: The rough opening equals Inspection Door size.**

- a) With a soap stone or marking instrument, mark the rough door opening on the equipment.
- b) Take care to assure that rough opening lines are marked level and square.
- c) Check after marking is complete to assure accuracy

## 3. Cut the rough opening for the Inspection Door

**! DANGER !**

***Before using a cutting torch, welders, or grinding equipment, cover the conveyor belt with a fire retardant/resistant cover. Make sure a water source/fire hose is readily available AND OPERATIONAL. Failure to do so can allow the belt to catch fire.***

- a) With a cutting torch or similar device, cut out the rough opening for the Inspection Door. Use caution to prevent the discarded material from falling to the floor or into the equipment.
- b) Using a grinder, clean the edges of the rough opening making sure there are no sharp edges or burs.

## 4. Install the Inspection Door ~ Welded Method

- a) Separate Inspection Door from Frame by disassembling hinge pins/hinges.
- b) Lift the Inspection Door Frame into position over the rough opening.

**! DANGER !**

***Before using a cutting torch, welders, or grinding equipment, cover the conveyor belt with a fire retardant/resistant cover. Make sure a water source/fire hose is readily available AND OPERATIONAL. Failure to do so can allow the belt to catch fire.***

**! WARNING !**

***Inspection Doors are heavy and may require two people to lift. Attempting to lift the Inspection Door without assistance could result in injuries or damage to the equipment.***

- c) Use welding clamps to secure in position by clamping the door frame to the equipment. Be sure sufficient clamps are in place to secure the Inspection Door Frame in place.
- d) With level, assure the Inspection Door Frame is in a true and level position.
- e) With welding equipment, weld the Inspection Door Frame to the equipment. It is recommended that stitch welding be performed to prevent overheating of materials. In order to prevent dust leakage, either a continuous bead of weld or beads of Silicone Room Temperature Vulcanizing (RTV), between stitch welds, should be placed around the Inspection Door frame.
- f) Reinstall Inspection Door onto Inspection Door Frame.



## 5. Install the Inspection Door ~ Bolted Method

- a) Place a continuous bead of Silicone RTV on the outside of the equipment approximately one inch from the edges of the rough opening.

### **! WARNING !**

*Inspection Doors are heavy and may require two people to lift. Attempting to lift the Inspection Door without assistance could result in injuries or damage to the equipment.*

- b) Lift the Inspection Door into position over the rough opening.
- c) With the Inspection Door open, use welding clamps to secure in position by clamping the door frame to the equipment. Be sure sufficient clamps are in place to secure the Inspection Door in place.
- d) With level, assure the Inspection Door is in a true and level position.
- e) Drill Inspection Door frame holes through the equipment matching the hole pattern on the frame of the door. Oversize holes slightly.
- f) Bolt the door frame to the equipment. Take care to use proper nut and washer arrangement.
- g) Place a continuous bead of Silicone RTV around the edge of the Inspection Door frame.
- h) Perform visual inspection to ensure no bolts are protruding in areas which could cause damage to internal or external equipment or as potential snag or injury points for clothing or personnel.

## 6. Finish Work and Touch Up Paint

- a) After welding is complete, grind all welds smooth to the touch.
- b) Allow sufficient time for welded and grinded surfaces to cool, then paint all damaged paint areas with a rust preventative primer followed by a top coat of appropriate color.
- c) Clean up work area and properly dispose of refuse materials.

# Maintenance of Inspection Doors

Benetech Inc's Inspection Doors are designed for years of trouble free and low maintenance service. The following maintenance procedures can be followed to assure continued performance.

## **! IMPORTANT !**

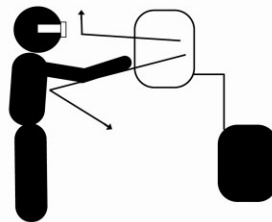
**Important:** Denotes instructions that must be followed for proper installation and/or operation of equipment.

1. It is recommended that when new Inspection Doors are added to existing equipment, plant safety procedures regarding confined space entry be refreshed to include the new inspection point. Employees should be made aware of the safety regulations governing the use of the Inspection Door.
2. Frequent use in adverse environments and exposure to outdoor conditions can over time result in weakening of the Inspection Door's internal rubber dust seal. If any accumulation of dust is observed in the vicinity of the Inspection Door, the seal should be checked. If the seal has deteriorated, contact BENETECH, INC. or an authorized representative and order a replacement seal.
3. If the hinge action of the Inspection Door becomes strained or the Inspection Door is difficult to open, apply grease to the provided fittings on the hinges. After greasing, move the door through its natural swing several times to distribute the grease.

## **! DANGER !**

***Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Your body or clothing can get caught and you can be pulled into the conveyor, resulting in severe injury or death.***

4. If over time the safety warning label detaches from the Inspection Door or becomes illegible, contact BENETECH, INC. or an authorized representative and order a replacement label.



Flying debris hazard. Lock out/tagout all energy sources of conveyor and loading systems before opening Benetech® Inspection Door. Failure to do so could result in serious injury or death.

# INSPECTION DOOR MEASURING GUIDE & ORDER FORM



Toll Free: 800-843-2625

Phone: 630-844-1300 Fax: 630-844-2559

Website: www.benetechglobal.com

QUOTATION REQUESTED

INSPECTION DOOR ORDER

Name:

Address:

City, State, Zip:

Phone:

Fax:

E-Mail:

### SHIP TO:

Name:

Date:

Address:

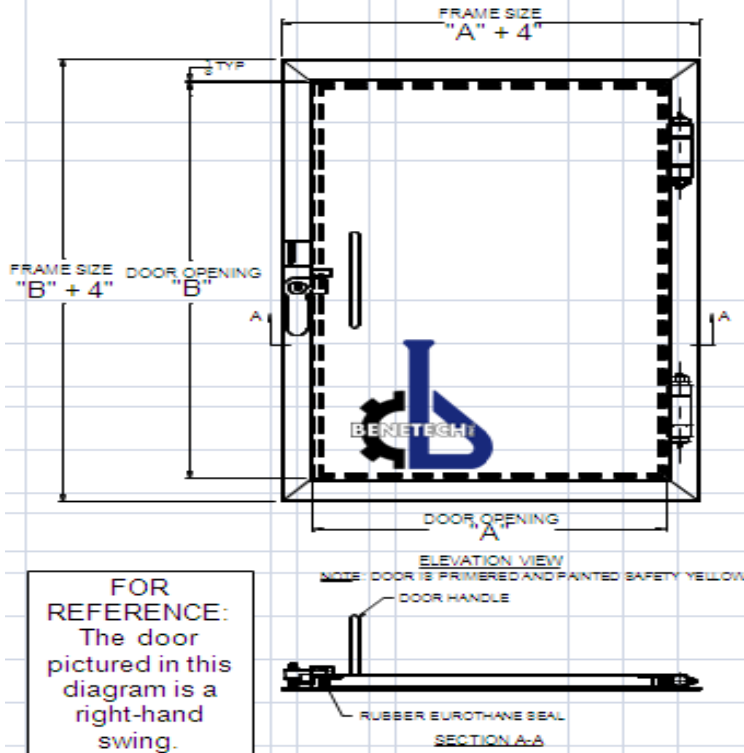
P.O. #

City, State, Zip:

TAG:

Phone:

SHIP VIA:



Door	DIM. 'A' (inches)	DIM. 'B' (inches)	Quantity
Item 1			
Item 2			
Item 3			
Item 4			

Hinge:  Left  Right

Liner:  None  Pan  Other

Other material:

Material:  Mild  Stainless

Screen:  Yes  No

Plug Sensor:  None  Pressure

### DRAWINGS FOR APPROVAL

Yes, Send Approval Drawings

No, Manufacture per provided information

Signature:

Print Name:

Date: