

Watertight Door with Inflatable Gasket (WK Model# WT-FD-ID)

Specifications

Part 1 – General

- 1.01 Description:** Provide inflatable gasket watertight/airtight door(s) factory assembled with frame(s) and all operating components in accordance with contract specifications and approved drawings.
- 1.02 Acceptable Manufacturers:** Watertight/airtight door shall be as manufactured by Walz & Krenzer, Inc (203-267-5712; sales@wkdoors.com).
- 1.03 Standards:** Comply with the provisions of the following (as applicable):
- A. AISC “Specifications for Design, Fabrication, and Erection of Structural Steel for Buildings”.
 - B. The Aluminum Assoc. “Aluminum Design Manual”.
 - C. AWS Structural Welding Code D1, D1.2, D1.3, D1.6.
 - D. ASME Structural Welding Code Section IX.
 - E. FEMA Bulletin 3-93, #102 & #114.
 - F. ASTM A36, D2000.
 - G. American Iron and Steel Institute (AISI) CL 304, 316, 316L.
- 1.04 Submittals:**
- A. Manufacturers Data: Submit installation and maintenance manuals for watertight/airtight door.
 - B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for watertight/airtight door including dimensional plans, elevations, sections, details for all mountings/connections, and parts list.
 - C. Calculations (optional for critical applications): Submit calculations approved by licensed Professional Engineer verifying the watertight/airtight door’s ability to withstand the design pressure loading.
 - D. QA Submittals: Submit test reports showing compliance with specified performance characteristics.
- 1.05 Qualifications:** Manufacturer shall present evidence attesting to at least five years successful experience in the design and manufacture of similar closures.

Part 2 – Products

- 2.01 Product Description:** Watertight/airtight door shall be Model WT- FD-ID as manufactured by Walz & Krenzer, Inc.
- 2.02 Materials:**
- A. Panel: A-36 steel (aluminum and stainless steel available).

- B. Frame: A-36 steel (aluminum and stainless steel available).
- C. Latches: Stainless steel sliding latch bolts
- D. Gasket: EPDM or neoprene inflatable gasket supplied with standard automotive style valve stem and 0-60 psi pressure gauge. Fabric reinforced inflatable gasket used for his pressure applications or large size doors.
- E. Finish: Aluminum panel painted with INSL-X CheckRust acrylic paint. Frame blast clean per SSPC-SP7 and primed with inorganic zinc primer. Other finishes, including powder coating and anodizing available.
- F. Grab Handle and Panel Stops: 6061-T6 aluminum.
- G. Hinges: to include bronze oil-impregnated thrust bearing and stainless steel hinge pins.

2.03 Design:

- A. Design Pressure: # (in feet of water). Specify seating (pushing door closed) or unseating direction (pushing door open).
- B. Side frames are available as angles for mounting on the exterior face of the wall surface, or as flatbars for mounting inside door jambs.
- C. Bottom frame is a ½” flatbar, which can be recessed ½” into floor surface to achieve a flush bottom sill.
- D. Corners of watertight/airtight door to have a minimum 7” radius at frame.
- E. Optional air sources: compressed air tank, hand and foot pump.
- F. Frame(s) shall have mounting holes for expansion anchors (options include masonry subframe with welded anchors for embedment in concrete).
- G. Sealing surfaces shall be finished to 63 micro inches to maximize sealing, uninterrupted by steps greater than 0.015”, free of cracks, with finish lay parallel to seal.
- H. Options include power operation, viewing windows, locks, and remote indication/control/monitoring.
- I. Door size and design pressure direction shall determine the quantity and type of latches.

2.04 Quality Assurance:

- A. Perform shop operational test.
- B. Perform shop chalk test.
- C. Air leakage test: inflate gasket(s) and confirm no loss of pressure over ½ hour period.
- D. Liquid Penetrant Test (for critical applications): Welds in the “potential” leak path shall be liquid penetrant inspected in accordance with Appendix VIII of Section VIII of ASME Code Div. 1.
- E. Hydrostatic Test (optional for critical application): Provide hydrostatic test data certifying that the closure furnished, or a closure

of similar design, has been satisfactorily tested to verify that it will withstand the designed hydrostatic pressure with no visible leakage.

Part 3 – Execution

3.01 Fabrication:

- A. The finished product shall be rigid, neat in appearance, and free from all defects, warps, and buckles. All exposed joints and corners shall be well rounded.
- B. The panel and frame shall be flat within 1/8” in any 6’ length.
- C. All butt welds in frame to be full penetration welds.

3.02 Installation:

- A. Install watertight/airtight door in accordance with manufacturer’s instructions and approved shop drawings.
- B. After installation, perform field operational and chalk test per manufacturer’s instructions to verify seal.
- C. Finish paint (if applicable) after installation.

3.03 Warranty: Watertight/airtight door shall operate satisfactorily and be free of defects in material and workmanship for a period of not less than one year from the date of delivery