

## **Removable Inflatable Gasket Flood Barrier (WK Model# FP-I)** **Specifications**

### **Part 1 – General**

- 1.01 Description:** Provide flood barrier(s) factory assembled with frame(s) and all operating components in accordance with contract specifications and approved drawings.
- 1.02 Acceptable Manufacturers:** Flood barrier 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 D1.1, D1.2, D1.3, D1.6.
  - D. ASME Structural Welding Code Section IX.
  - E. FEMA Bulletin 3-93, #102 & #114.
- 1.04 Submittals:**
- A. Manufacturers Data: Submit installation and maintenance manuals for flood barrier.
  - B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for flood barrier 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 flood barrier’s ability to withstand the design pressure loading.
  - D. QA Submittals: Submit test/inspection reports showing compliance with specified performance characteristics.
- 1.05 Qualifications:** Manufacturer shall present evidence attesting to at least ten years successful experience in the design and manufacture of similar closures.

### **Part 2 – Products**

- 2.01 Product Description:** Removable flood barrier shall be Model FP-I as manufactured by Walz & Krenzer, Inc.
- 2.02 Materials:**
- A. Panel: 6061-T6 aluminum plate and stiffeners (mild steel and stainless steel options are available).
  - B. Frame: ASTM A-36 steel (options include aluminum and 304 or 316 stainless steel).

- C. Latches: stainless steel sliding latch bolts.
- D. Gasket: Gasket: fabric-reinforced EPDM inflatable gasket.
- E. Finish: steel or aluminum panels and frames to be coated with (1) primer coat and (2) top coats of shop polyurethane system. Stainless steel to be uniform bead blast per SSPC-SP17 (other options available upon request).
- F. Storage brackets: ASTM A-36 steel.

### **2.03 Design:**

- A. Design Pressure: # (in feet of water or psi). Specify seating (pushing gate closed) or unseating direction (pushing gate open).
- B. Door perimeter shall be sealed by (2) independent gaskets for redundancy in case of puncture or air leak.
- C. Side frames are available as angles for mounting on the exterior face of the wall surface, or as flatbars for mounting inside door jambs.
- D. Bottom frame is a ½” flatbar, which can be recessed ½” into floor surface to achieve a flush bottom sill.
- E. Corners of flood barrier to have a minimum 7” radius at frame.
- F. Air source options (select one):
  - a. WK standard air manifold only. For use with manual air pump (e.g. bicycle pump) or portable compressed air tank supplied by others. Manifold includes standard automotive Schrader valve stems for inflation.
  - b. Rechargeable compressed air tank stored on door panel, supplied with WK standard air manifold. Does not require external air source except for re-charging tank.
  - c. Rechargeable compressed air tank stored on door panel, supplied with push-button manifold for easy operation.
  - d. All options include 0-30 psi pressure gauges.
- G. Installation:
  - a. Frame(s) shall have mounting holes for expansion or adhesive concrete anchors for installation on existing openings.
  - b. For new concrete pours, frame(s) shall have welded embedment anchors and/or a masonry subframe.
  - c. Other options included weld-on installation (field welding by installer).
- H. Multiple panel flood barriers available with a center mullion.
- I. Sealing surfaces shall be uninterrupted by steps greater than 0.015”, free of cracks, and with finish lay parallel to seal.
- J. Two (2) storage brackets per panel included.

### **2.04 Quality Assurance:**

- A. Perform shop dimensional & flatness tests.
- B. Perform shop operational test.
- C. Perform shop chalk test.
- D. Air leakage test: inflate gasket(s) and confirm no loss of pressure for 2 hours after settling period.
- E. Non-Destructive Testing (if required) options include:
  - a. Liquid Penetrant Test: Welds in the “potential” leak path shall be liquid penetrant inspected in accordance with Appendix VIII of Section VIII of ASME Code Div. 1.
  - b. Magnetic Particle Testing (MT) available for non-stainless steel.
  - c. Other tests are available upon request.
- F. Hydrostatic Test (if required): 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. Available upon request.

### **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. All welding shall be performed in accordance with the requirements of the applicable AWS or ASME standards.
- C. The panel gasket channel and frame sealing surface shall be flat within 1/8” with a maximum deviation of 1/16” in any 6’ length.
- D. All butt welds to be full penetration welds.

#### **3.02 Installation:**

- A. Install flood barrier 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:** Flood barrier 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.