

SUGGESTED SPECIFICATIONS FOR MODEL FG-BH FLIP-UP FLOOD GATE

Part 1 – General

- 1.01 **Description:** Provide floodgate(s) factory assembled with frame(s) and all operating components in accordance with contract specifications and approved drawings.
- 1.02 **Acceptable Manufacturers:** Floodgate shall be as manufactured by Walz & Krenzer, Inc. or approved equal.
- 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
 - D. ASME Structural Welding Code Section IX
 - E. FEMA Bulletin 3-93, #102 & #114
- 1.04 **Submittals:**
- A. Manufactures Data: Submit installation and maintenance manuals for flood barriers.
 - B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for floodgate including dimensional plans and elevations, sections and details for all mountings and connections, and parts list.
 - C. Calculations (optional for critical applications): Submit calculations approved by licensed Professional Engineer verifying the floodgates ability to withstand the design pressure loading.
 - D. QA Submittals: Submit test/inspection reports showing compliance with specified quality assurance requirements.
- 1.04 **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: Side hinged floodgate shall be Model FG-BH as manufactured by Walz & Krenzer, Inc.

2.02 Materials:

- A. Panel – 6061-T6 aluminum diamond plate (steel and stainless steel available).
- B. Frame – A-36 steel (stainless steel available).
- C. Gasket – depends on size and application. Options include WK neoprene lip seal gasket (60 duro), EPDM inflatable gasket, or ASTM

D2000 GR DE 25 duro neoprene gasket. Contact WK for a recommendation.

- D. Dogs/drop bolts – utilize stainless steel/bronze dogs or drop bolts when compression gasket is used.
- E. Latches – stainless steel sliding latch bolts for when inflatable or lip seal gaskets are used.
- F. Hinges – hinges to include bronze oil-impregnated thrust bearing and stainless steel hinge pins. Hinges to have slotted hinge blades for compression gasket gates.
- G. Finish – aluminum panel painted with INSL-X CheckRust acrylic paint. Mild steel frame blast clean per SSPC-SP7, primed with inorganic zinc primer. Other finishes, including powder coating and anodizing available.
- H. For large/heavy floodgates – mechanical assist is required. Options include manual winch or hydraulic lift system.
- I. Inflatable gasket systems require an air source. Options include compressed air tanks, portable air compressors, and hand or foot pumps.
- J. Optional control systems include PLC (Programmable Logic Controller), push bottom actuation, and customized key switch controls for raising & lowering the gate, locking it in place, and seal inflation and deflation (for inflatable gaskets).

2.03 Design

- A. When flood barrier is down the panel becomes part of the ground or road surface. Diamond tread plates (where available) shall be used for traction. Non-skid grooves shall be cut into the bottom plate in cases when diamond tread plates are not available.
- B. Side frames are angles for mounting on the exterior face of the wall surface or flatbars for mounting inside doorjamb.
- C. Bottom frame shall be in the form of a pan to contain the lowered panel. Bolt holes for anchor bolts or welded anchors shall be used to secure the bottom frame. Pipe nipples shall be located at the low point for drain connections (by others).
- D. For panels located in roadways, appropriate live loads may be specified such as AASHTO H-20.
- E. Flood gate shall be designed to withstand flood waters up to its full height with allowable stresses in accordance with the Aluminum Association “Aluminum Design Manual” and AISC.

2.04 Quality Assurance

- A. Perform shop operational test
- B. Perform shop chalk test for compression and inflatable gasket gates; shop hose test for lip seal gate.
- C. Perform air inflation test for inflatable gasket gates.

- 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

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. For inflatable gasket gate, sealing surface shall be finished to 63 micro inches to maximize sealing, uninterrupted by steps greater than .015 inches, free of cracks, with finish lay parallel to seal.

3.02 Installation: Install floodgate in accordance with manufacture’s instructions and approved shop drawings.

3.03 Warranty: Floodgate 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.