

Hinged Lip Seal Flood Gate (WK Model# FG-LS) Specifications

Part 1 – General

- 1.01 **Description:** Provide flood gate(s) factory assembled with frame(s) and all operating components in accordance with contract specifications and approved drawings.
- 1.02 **Acceptable Manufacturers:** Flood gate 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.
- 1.04 **Submittals:**
 - A. Manufacturers Data: Submit installation and maintenance manuals for flood gate.
 - B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for flood gate 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 gate’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:** Side hinged flood gate shall be Model FG-LS as manufactured by Walz & Krenzer, Inc.
- 2.02 **Materials:**
 - A. Panel: 5051-H32 aluminum plate with 6061-T6 aluminum stiffeners.
 - B. Frame: 304 stainless steel (options include aluminum and 316 stainless steel).
 - C. Latches: stainless steel sliding latch bolts.

- D. Gasket: Walz & Krenzer EPDM lip seal gasket, 60 duro with fully molded corners.
- E. Finish: aluminum panel painted with INSL-X CheckRust acrylic paint. Stainless steel frame to be abrasively cleaned only.
- 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 gate closed) or unseating direction (pushing gate 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 flood gates have small (2”) radius.
- E. Roller assembly is provided on gates wider than 4’, or for gates with flush bottom sills.
- F. Opening device for latching gate provided.
- G. Frame(s) shall have mounting holes for expansion anchors (options include masonry subframe with welded anchors for embedment in concrete).
- H. Dual panel hinged flood gates available with diagonal brace for support at center seam. Alternative bracing configurations are available.
- I. In cases where the radius corner creates an interference problem, or at the junction of panels in multi-panel flood gates, square corners can be utilized. Very slight leakage may occur at the square corners. However, this leakage rate is typically well under the allowable FEMA leakage rate for the protected area.
- J. Additional requirements such as hydrodynamic loads, impact loads and breaking wave loads shall be added as required by the specific application.

2.04 Quality Assurance:

- A. Perform shop operational test.
- B. Perform shop hose test.
- C. 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. All butt welds in frame to be full penetration welds.

3.02 Installation:

- A. Install flood gate in accordance with manufacturer's instructions and approved shop drawings.
- B. After installation, perform field operational test per manufacturer's instructions to verify seal.
- C. Finish paint (if applicable) after installation.

3.03 Warranty: Flood gate 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.