Individually-Dogged Watertight Door with Compression Gasket (WK Model# WT-FD-I) Specifications

Part 1 – General

1.01 Description: Provide watertight door(s) factory assembled with frame and all operating components in accordance with contract specifications and approved drawings.

1.02 Acceptable Manufacturers: Watertight 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 D1.1, 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 door.
B. Shop Drawings: Submit shop drawings approved by licensed Professional Engineer for watertight 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 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 ten years successful experience in the design and manufacture of similar closures.

Part 2 – Products

2.01 Product Description: Watertight door shall be Model WT- FD-I 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. Gasket: neoprene gasket, 25 duro with fully molded corners. For pressures exceeding 22 psi, 40 duro gasket is used. Optional gasket material for unusual environmental conditions including viton, silicone, hypalon and others.
D. Securing dogs: xylan-coated steel dogs. Other options available upon request (stainless steel, bronze).
    a. For low pressure or seating applications, stainless steel dogging mechanism recommended.
    b. In some cases where operation is from outside only, stainless steel/bronze drop bolts may be used for reduced maintenance and lower cost.
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. Hinges: to include bronze oil-impregnated thrust bearing and stainless steel hinge pins.

2.03 Design:

A. Design Pressure: # (in feet of water or psi). Specify seating (pushing door closed) or unseating direction (pushing door open).
B. Side frames are angles for mounting on the exterior face of the wall surface.
C. Bottom frame is a flatbar with raised machined knife-edge. Standard bottom sill is raised 1-1/2” from floor surface.
D. Recessed sill option or removable flush bottom sill option are available when flush sill is required.
E. 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).
F. Frame knife-edge shall be rounded and smooth to maximize sealing.
G. Removable ramp (optional) is placed over the raised bottom sill for vehicular traffic or to prevent tripping hazard.
H. Options include viewing windows, locks, and remote indication/control/monitoring.
I. Door size and design pressure direction shall determine the quantity and type of dog. Dogs are designed to adjust gasket compression in the field.

2.04 Quality Assurance:

A. Perform shop dimensional & flatness tests.
B. Perform shop operational test.
C. Perform shop chalk test.
D. All welding shall be performed in accordance with the requirements of the applicable AWS or ASME standards.
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 knife edge 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 watertight 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 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