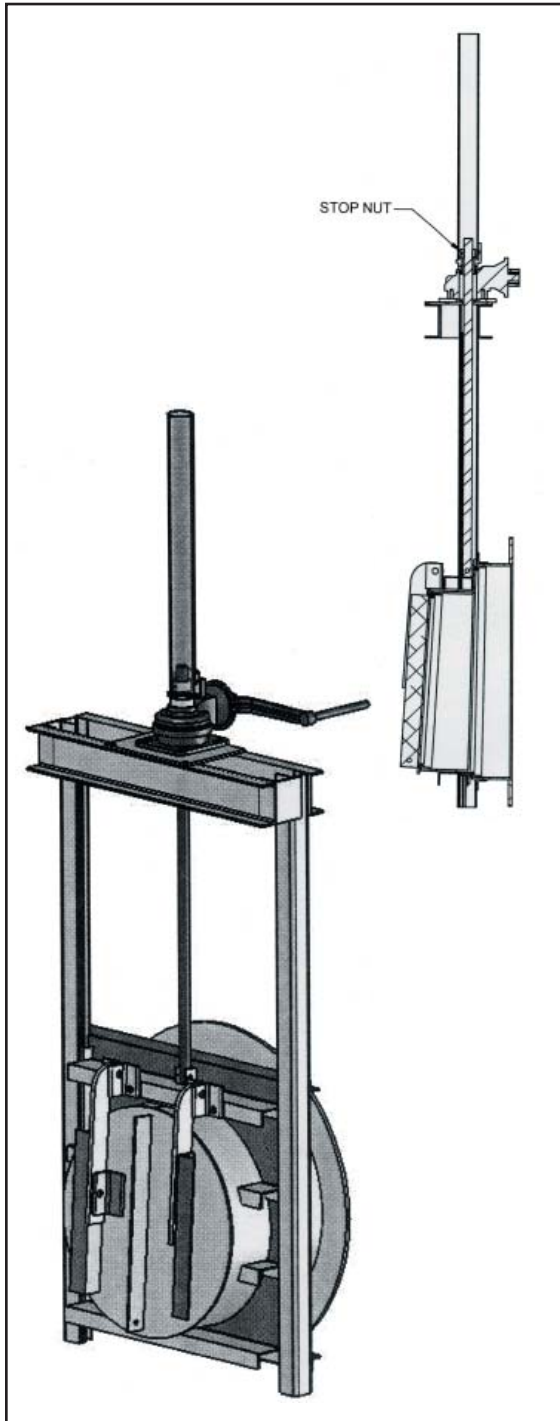




TECHNICAL DATA SHEET



Series 7700 Combination Gate

Features

- Combines the features of the Series 7600 slide gate and the Series 5900 flap gate.
- Aluminum material is light-weight and corrosion resistant.
- Available in stainless steel.
- Tapered slide and seat provide wedge-type closure.
- Easily mounts to headwalls and pipe, or can be embedded in concrete.
- J-seals provide near water tight closure.
- Smooth operating handwheel lifts are standard. Gear operated lifts and bearing lifts are optional or used when friction loads require them.
- Sizes 12" to 72".

Material Specifications

Description	Material	Specification
Frame, Slide and Reinforcements	Aluminum	ASTM B209, Alloy 6061 or ASTM B308, Alloy 6061
Stem	Stainless Steel	ASTM A276, Type 304
Fasteners	Stainless Steel	ASTM F593/F594, Alloy Group I
Rubber	Neoprene	ASTM D2000 Grade 1BEG25
Guides	Ultra High Molecular Weight (UHMW) Polymer	ASTM D4020

Recommended Maximum Seating Heads*

8" - 30"	30 Feet
36" - 42"	20 Feet
48" - 60"	15 Feet
66" - 72"	10 Feet

* These recommendations are based upon recent design studies and modifications of this gate and upon years of installation evaluations.

Application

The Series 7700 Fabricated Combination Gate is designed for use in water control applications where corrosion resistance is a primary concern.

SPECIFICATIONS

SERIES 7700 FABRICATED COMBINATION GATE

Aluminum Combination Gates, where shown on the plans or indicated in the specifications shall be Series 7700 Aluminum Combination Gates with resilient seal as manufactured by Fresno Valves and Castings or equal.

The gates will be self-contained, rising stem of the spigot back design for attaching to corrugated pipe, flat back design for attachment to head wall with anchor bolts, or flange design with drilling suitable for attachment to 25 or 125 lb. ANSI companion flange.

Guide frames shall be of extruded aluminum shape, of sufficient section to carry the operating forces of the gate, and shall have UHMW polyethylene liner on which the slide assembly travels to minimize friction. A spigot ring will be welded to the guides and have a seating surface at minimum $1\frac{1}{2}^{\circ}$ angle to which a resilient J-Bulb seal shall be attached.

Dual head rails (Yokes) shall be bolted to the guide rails so that the slide is removable from the gate. The slide shall be aluminum plate reinforced with structural shapes for the head requirements specified and will not deflect more than $\frac{1}{360}$ of the gate width under the design head. Suitable side guides will be welded to the slide, which will travel within the guides, and place the cover in an angle corresponding to the seat surface of the guide frame assembly. A rising stainless steel stem shall attach to the slide with a clevis and pin arrangement.

The stem will be designed to have a L/r of 200 or less and to withstand in compression at least twice the rated output of the lift at 40 lb. pull. A suitable handwheel or gear type operator shall be mounted on the head rails of the gate and will require a maximum 40 lb. pull on the handwheel rim or crank handle to operate the gate.

Flat back gates shall be attached to headwalls with anchor bolts or expansion anchors. Sealing between head-wall and gate flange will be by dry-pack non-shrink grout or other suitable mastic sealant.

Spigot back gates will be attached to corrugated metal pipe by field drilling the pipe and securing with stainless steel bolts. Sealing between pipe and gate will be made with a suitable mastic sealing material to assure water-tightness at this joint.

The flap gate shall be designed to allow free outflow and prevent backflow for seating heads up to 30 feet. The flap gate frame shall be aluminum with seating surface inclined from vertical at a minimum of $2\frac{1}{2}^{\circ}$ to assure positive closure. Built in stops shall be provided to prevent the cover from rotating sufficiently to become wedged in the open position. A resilient neoprene seal shall be attached to the inside of the frame opening and shall act as a seat for the cover to seal against.

The linkage system shall be of the double pivoted type, attached to fixed pivot points on cover and frame. The heavily reinforced hinge arm is fastened to the pivot lug by means of heavy stainless steel hinge pins inserted through a durable non-metallic bushing. The hinge pin is arranged in a double shear configuration at extremely close tolerances thus severely limiting lateral movement.

The gate, when installed, shall have no more than 0.01 gpm leakage per foot of sealing periphery for seating heads up to 15 feet.

Aluminum and stainless steel will be mill finish. Paint for lifts will be manufacturer's standard or prime paint as specified elsewhere.

Manufacturer

Fresno Valves & Castings, Inc., Selma, Ca., or approved equal.

Material

Aluminum Plate & Shapes - ASTM-B211 Alloy 6061-T6; Neoprene J-Bulb Seal - ASTM-CB610-625, D-2000; ASTM F593-594 Fasteners, Type 304 or 316; ASTM A-276 Stems, Type 304 or 316; Cast Iron Handwheel Lift ASTM A-126 CL B w/manganese bronze lift nut per ASTM B-584 alloy 865; Cast iron Enclosed Gear Lift ASTM A-126 CL B w/manganese bronze lift nut per ASTM B-584 alloy 865.