Golden Harvest, Inc.
Golden Gates™

Model GH-11000 Overshot (Tilting Weir) Gates

General

This section covers Fabricated Overshot Gates. The equipment provided under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the drawings, specifications, engineering data, instructions and recommendations of the equipment manufacturer.

Gates and operators shall be supplied with all the necessary parts and accessories indicated on the drawings, as specified, or otherwise required for a complete, properly operating installation, and shall be the latest standard product of a manufacturer regularly engaged in the production of fabricated gates.

Approved Manufacturers

Gates supplied under this section shall be Model GH-11000 Overshot gates as manufactured by Golden Harvest Inc. (800-338-6238) or engineer approved equal.

Governing Standards

Except as modified or supplemented herein, all gates and operators shall conform to the applicable requirements of AWWA standards.

Quality Assurance

The manufacturer shall have 5 years experience in the production of substantially similar equipment. The manufacturer's shop welds, welding procedures and welders shall be qualified and certified in accordance with the requirement of the latest edition of AWS Sections D1.1, 1.2 and 1.6.

The fully assembled gates shall be shop inspected, tested for operation and adjusted before shipping. There shall be no assembling or adjusting on the job sites other than for the lifting mechanism.

Submittals

1. The manufacturer shall submit for approval by the purchaser drawings showing the principal dimensions, general construction and materials used in the gate.

Materials and Construction

General

The overshot gate shall offer an infinite overflow adjustment with its full open and full closed range. The gate shall consist of a hoist mechanism, gate leaf and mounting hinge.

Design Criteria

The leaf gate and operator system shall be designed based on the hydraulic loads acting on the gate though it's full operating range

The gate hinge shall be designed such that the load to be transferred from the gate to the concrete sill is evenly distributed across the structure.

Gate operator supports and wire rope connections to the gate shall be designed with a minimum safety factor of five (5) based on the ultimate strength or a safety factor of three (3) based on the yield strength of the materials used.

Leaf

The gate leaf shall lie flat in the full open (down) position and shall be mechanically stopped at 60 deg from the horizontal when in the closed position. The gate shall open under its own weight. Gate leaf shall be stainless steel plate adequately reinforced for the maximum head requirements specified with a minimum material thickness of ¼".

Mounting Angle

The mounting angle shall include stud anchors for embedment in the concrete sill and threaded bolts for bolting the gate hinges to the mounting angle.

Seals

Resilient neoprene J-seal or double flat wiper seal with stainless steel retainer bar. Bars shall be held in place with stainless steel fasteners. Seals shall be field replaceable without removing gate. Invert seal shall be neoprene and attached to both frame and leaf.

The hinge or invert seal shall be a neoprene flap attached on one edge to cover and seal the hinge area.

Seal Plates

Embedded or in-channel mounted stainless steel rub plate shall be supplied and installed on each side of the channel acting as the seal contact surface material through the full range of gate travel.

Cable Drum Hoist

Cable drum hoist is to consist of a self-locking worm and worm gear, with reduction spur gears as required, totally enclosed in a cast iron or cast steel housing. Hoist assembly shall be self locking at all positions of gate swing to prevent gate drift.

The hoist shall be furnished with a fabricated steel or stainless-steel drum with attachments for wire rope allowing for 3 wraps plus the normal hoisting length requirements. Support bearing to be self-aligning grease lubricated pillow block bearing assembly.

Materials

Part	***Material***
Gate Leaf	Steel ASTM A-36 or Stainless-Steel Type 304L or 316L ASTM A-276 or Aluminum 6061
Mounting Angle, Hinges, Seal plates	Stainless Steel Type 304L or 316L ASTM A-276 / 312
Hoist Assembly & Drums	Steel ASTM A-53 or Stainless-Steel Type 304L or 316L ASTM A-312
Seal	Neoprene ASTM D-2000
Fasteners and Anchor bolts	Stainless steel Type 304 or 316 ASTM F593/594
Cable	Stainless Steel Type 304 or 316