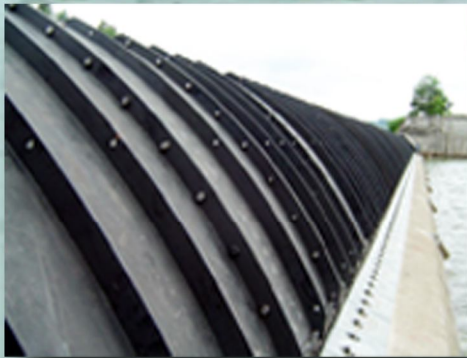


Sam McCoy



OBERMEYER
SPILLWAY GATES

Obermeyer Spillway Gates



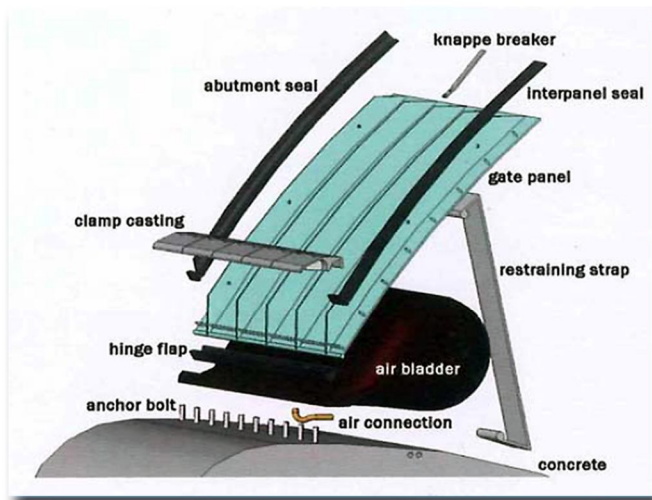
Introduction

Obermeyer Hydro, Inc. designs, builds and supplies the patented Obermeyer Spillway Gate. In Southeast Asia, Obermeyer spillway gates is solely represented by Sam McCoy. We design and fabricate the gates locally in our well-equipped factory, providing a competitive advantage for an efficient local support and services.

With over 400+ installations of all sizes throughout the globe, there is definitely no doubt that the Obermeyer spillway gates is the right solution for water level control. Obermeyer spillway gates prove to be a great investment due to increased revenue, decreased maintenance, and low cost of installation.



Obermeyer Spillway Gates



Design Basics

Obermeyer Spillway Gates are most simply described as a row of steel gate panels supported on their downstream side by inflatable air bladders. By controlling the pressure in the bladders, the water elevation maintained by the gates can be infinitely adjusted within the system control range (fully closed to fully open).

Hydraulic Characteristics

Obermeyer Spillway Gates provide excellent controllability over a full range of flow rates, water elevations, and gate positions. Individual gate segments operating on the same air supply line maintain a uniform crest height relative to each other.

Vibration due to von Karmen vortex shedding does not occur with Obermeyer Spillway Gates. The shape of the system when raised or partially raised causes flow separation to occur only at the downstream edge of the gate panels.

Obermeyer Spillway Gates provide very repeatable positioning relative to inflation pressure. Headwater level can be used to precisely measure and control flow.

Obermeyer Spillway Gates can be operated over a full range of gate positions, headwater elevations and tail water elevations.

Unique Attributes

- ♦ Accurate water level control
- ♦ Modular design reduces installation and maintenance costs
- ♦ Simple foundation. No superstructure or intermediate piers are required
- ♦ Thin profile maintains existing hydraulic profile and efficiently passes flood flows, ice and debris
- ♦ Steel gate panels overhang the air bladder in all positions, protecting the bladder from floating logs, debris, ice etc
- ♦ Obermeyer Spillway Gates is a great investment due to increased revenue, decreased maintenance and low cost of installation

Obermeyer Spillway Gates



Gate Materials

Gate panels are constructed from high strength steel plate that is epoxy coated or hot dip galvanized. Stainless steel and composite gate panels are also available for highly corrosive or abrasive environment. Stiffening ribs running parallel to the direction of flow provide strength without obstructing flow. Torsional rigidity is not required because the gate panels are uniformly supported by the air bladders. Gate panels incorporate a row of threaded studs or tapped holes along the pivot edge and along the left and right edges for connection to the hinge flap, interpanel seals and abutment seals.

Air bladders are designed and constructed by methods similar to those used in the manufacture of automotive tires. A butyl rubber inner liner provides excellent air retention characteristics. An intermediate layer of high tensile strength rubber compound containing multiple plies of bias ply polyester provides the mechanical strength needed to contain internal air bladder pressure with a nominal safety factor of eight. A cover compound utilizing aging and ozone resistant polymers such as EPDM or Exxon Exxpro is used to protect the bladder from wear and weathering.



Obermeyer Spillway Gates can be attached to existing concrete structures using epoxy style anchor bolts or to new structures using anchor bolts embedded in new concrete. Depending on the gate design, the air bladder and hinge mechanism are constrained by a hot dip galvanized ductile iron casting or by a high strength steel clamp bar.

Obermeyer Spillway Gates

Control Systems

Obermeyer Spillway Gates are supplied with control systems in accordance with customer requirements. Control systems are typically designed to provide constant upstream water level management, constant downstream flow control, or a combination of two. Upstream water elevation is normally measured using a submersible depth transmitter and gate position is measured using an Obermeyer branded gate position sensor.

Control system logic is most often provided by Programmable Logic Controller (PLC). Obermeyer engineers are well versed with different PLCs including Siemens, Allen Bradley and Square D brand names. A standalone PLC can be provided for gate control only or Obermeyer Hydro Inc can assist with programming an owner-supplied PLC or with integrating the gate system into a SCADA package.

An all-pneumatic water level controller that automatically regulates air bladder pressure in inverse proportion to upstream water level is available as mechanical backup to an electrical control system or as an alternative means of primary control. This control system is particularly effective at hydroelectric projects where a turbine load rejection is often associated with loss of electric power or at safety critical flood control projects where flood conditions and loss of electrical power can occur simultaneously.

Obermeyer Hydro Inc normally supplies the air supply equipment as part of the control system package. Equipment includes an air compressor (reciprocating or rotary screw) receiver tank, air dryer and filtration system. Projects located in freezing environments are outfitted with a desiccant-type air dryer system while projects in warmer climates utilize refrigerated air dryers. At larger installations, redundant air compressors are often utilized to facilitate long-term maintenance and to provide an extra degree of safety. Gates with wetted area of fewer than 120 square feet (11 square meters) can be effectively powered using solar powered air supply and control equipment.



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About Sam McCoy

Incorporated in 1988, Sam McCoy delivers innovative technology and products for the water and wastewater industry. In recent years, we have diversified into providing products and solutions for other industries such as palm oil, pulp and paper, food processing etc.

Since our establishment, we have helped our customers stay ahead of the demands for more advance and effective technology and solutions. Today, Sam McCoy remains uniquely positioned to maintain industry leadership based on our core competencies in engineering, design, fabrication and services. We are committed to having an exclusive focus on providing solutions that solve the toughest and most complex problems for our customers – delivering on the promise of ensuring total customer satisfaction.

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