Stop Logs
With more than 100 years of experience in gate design, Hydro Gate has built a long-standing reputation of providing superior quality water control gates for a variety of industries. Our manufacturing expertise revolves around making big, heavy-duty gates that are 100% custom-built to match specific applications.

Commitment to You... Our Customer
At Hydro Gate, customer satisfaction is our top priority. Bring your special requirements to our engineers who have years of experience in gate design. Our dedicated customer service staff is accustomed to custom requests, because that is what we do best. From your first contact through final delivery, our team of engineers and service experts are here to make sure you have the right gates to suit your needs.
# Stop Logs

## Table of Contents

**Stop Logs:**
- Description ................................................................. 2
- Features ........................................................................ 2
- Channel Mounting ......................................................... 3
- Specifications .............................................................. 4

**Bulk Head Gates:**
- Description ................................................................. 5
- Features ........................................................................ 5
Stop Logs

Aluminum Stop Logs with Lifting Beam

Description

Stop logs are used for level control in open channels. Logs are beams inserted in grooves cast in a channel wall. Aluminum is now the material of choice for stop log and slot construction. Typical nominal height of a stop log is in 6 inch increments, i.e., the log can be 6, 12, 18 inches in height, etc. Hydro Gate aluminum stop logs have rubber lip type seals one each side (end) to seal at the wall and across the bottom to seal at the sill or with the next log. The preferred sill is an embedded metal sill. Aluminum is a strong lightweight material allowing some logs to be “manhandled”. The typical aluminum stop log is equipped with lifting lugs for use with a stop-lifting beam. The beam is a self-engaging log handling device for underwater retrieval and manual lanyard release of the log. The lifting beam is wheel guided by the stop log slot. An overhead crane, davit crane, or mobile crane is needed to lift and install/remove most stop logs.

Stop logs cannot be installed in high flowing water. They can be removed against low flowing water and against very low heads (some over flow). Stop logs can be stacked and used for equipment isolation, however, there may be considerable leakage due to the greater amount of sealing perimeter compared to a single bulk head type arrangement. Stop logs are directional sealing. The log should be installed with the rubber seal downstream.

Aluminum Stop Logs – Product Features

- Stackable: Log heights in 6” increments
- Practical widths up to 16 feet
- Alum slots, embedded or side wall surface mounted
- Flush bottom resilient seat
- Soft neoprene seals for practical water tightness (pumpable leakage)
- Directional pressure sealing. Bi-directional design is available to control flow in either direction.
- UHMW polyethylene wear and guide bars
- Slot guided lift beam, lanyard line release/gravity engage with lanyard assist
- Lift rods or hand rings for small lightweight logs
- Open channel service: equipment isolation, water level regulation, interchangeable locations (same width required)
- Insert and remove at zero or balanced head

Other materials of construction are available using similar design concepts with steel (painted or galvanized) or stainless steel.
Stop Log Channel Mounting

Adjustable embedded sill, Alum stop log shown

Alum stop log, side wall surface mounted slot

Alum stop log, embedded slot
Aluminum Stop Logs
Typical Specifications

Manufacturer
Hydro Gate or approved equal.

General
Aluminum stop logs including lifting beams shall be of the size and mounting type shown on the drawings and specified herein. Log and lifting beam design shall be such that the flexural stresses do not exceed 1/5 of ultimate strength or 1/3 of yield strength. Design flexural stress of aluminum shall not exceed 8,400 psi.

Materials of Construction
Stop Log and Slot Extrusions
Aluminum (6061-T6)

Lifting Beam
ASTM A36 Hot Dip Galvanized per ASTM A444

Seals
Neoprene D2000 grade 1BE625

Guide Bars
Ultra-High Molecular Weight (UHMW) Polyethylene

Hooks & Fasteners
Stainless steel, ASTM A276, Type 304

Guide Wheels
Phenolic or polyolefin

Stop Log Panels
Stop log panels shall be of height shown on the drawings and in height increments of 6 in. Panels made of two or more extrusions shall be securely welded together to form a unit and joints shall be made watertight with neoprene seals or seal welding. Each panel shall have two stainless steel hooks to engage the lifting beam. Panel surface shall be mill finish. Adequate drainage shall be provided for each log. Stop log panels shall be furnished with UHMW guide bars to eliminate metal-to-metal contact with slots during insertion and removal.

Seals
Seals shall be permanently attached to sides and bottom of each panel. Seal shall be formed all around the waterway channel and between each stop log panel.

Sill
Sill constructed from stainless steel plate shall be provided. It shall be adjustable-mounted to provide flat level seal surface prior to grouting. Finish will be mill finish. Alternatively, flat level concrete invert surface may be provided. Flatness shall be within 1/8 in. in 10 ft of length.

Slots
Slots shall be one-piece extrusion suitable for embedment or mounting on channel wall surfaces. Surface shall be mill finish.

Lifting Beam
Lifting beam shall be gravity-engage and lanyard-release type suitable for inserting, retrieving and handling stop log panels. The beam shall be furnished with non-metallic wheels to guide the beam in the stop log slot. The lifting beam may, at the manufacturer’s option, be adjustable in widths to accommodate several widths of stop log openings. Beam shall be complete with large center lifting eye and polyethylene, lanyard-release rope.
Bulk Head Gates

Description

Bulk head gates are fabricated from steel or stainless steel. They are designed to be placed in slots or grooved channel walls and are lifted and lowered with overhead or mobile cranes. The gate has lifting lugs for handling. The slots or grooves are lined or fabricated from steel or stainless steel for ease of insertion and good fit with rubber seals on the bulkhead gate. The sill surface may be formed by flat and level concrete invert or with an embedded sill plate.

Bulk head gates are used for equipment isolation such as pumps, screens and service gates. When equipped with a lintel seal, the gate can seal off heads greater than the gate height. Rubber seals around the perimeter of the gate control leakage effectively and are hydrostatically energized. Bulk head gates seal in one direction.

Bulk head gates can be used in multiple locations (slots) and can be removed completely for storage. They cannot be inserted when significant flows or heads are present since the only closing force is gravity. Removal against high differential heads is not practical or possible. A small fill or balancing gate or valve can be installed on the bulk head gate to facilitate head balancing and gate removal.

Variations in mounting such as surface (face) mounting are possible. Bulk heads may also be stacked like stop logs. Specialized lifting beams can be designed for retrieval of under water bulk heads. Contact Hydro Gate Engineering/Sales Department for other application information.

Product Features

- Steel, stainless steel, or aluminum
- Large sizes and high heads: Contract Hydro Gate Engineering Department for information
- Embedded or face mounted guide slots
- Flush bottom, resilient seat
- Open channel or aperture design. Lintel (breast wall) seal for full perimeter sealing.
- Directional pressure sealing.
- Rubber seals: Neoprene or EDPM
- UHMW polyethylene wear and guide blocks
- Tight leakage control: near zero in most seating conditions. Pressure engaged sealing.
- Insert and remove at zero or balanced head. Head balancing gates or valves are available.

Fabricated stainless steel bulk head, embedded slot
Our mission is to be the leading water control gate manufacturer in the world, through continuous development of an organization which promotes extraordinary customer service, superior engineering, quality products and on-time delivery.