

## ACU-GATE Flushing Gate

The  
Clear  
Solution



### Application

The **ACU-GATE** flushing gate is designed to remove settled debris from retention tank and reservoir floors, as well as sewer inverts, using a single flush. This is accomplished by the sudden release of the in-system water stored behind the flushing gate, released as a single powerful flushing wave. The flushing wave progresses down the entire length of the flushway, pushing the settled debris ahead of it. The re-suspended debris is carried by the flush water to the treatment plant for disposal. The maximum flushing distance is limited only by the amount of water stored behind the gate and the slope of the flushway.

The **ACU-GATE** is normally in the closed or latched position. It is only pressurized or opened when flushing is required. The **ACU-GATE** cylinder is housed completely within the gate frame limits, thereby not requiring additional side clearance and reducing the likelihood of debris accumulation.

The **ACU-GATE** operates using a single acting hydraulic cylinder controlled by a low pressure ( $\leq 200$  psi) hydraulic power unit. The **ACU-GATE** can also be operated using an optional pneumatic cylinder ( $< 85$  psi) where compressed air is available or preferred.

### Features

- No fresh water supply required
- Stainless Steel 316 construction
- Uses simple single acting cylinder
- Low pressure hydraulic operation
- Optional pneumatic operation
- Low operating pressure
- Requires little to no maintenance
- The **ACU-GATE** system is guaranteed for a period of five years.



*Typical Sewer Installation*

The **ACU-GATE** system includes:

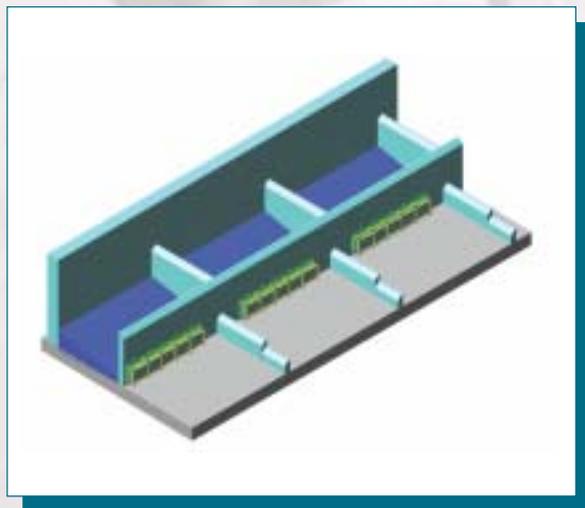
- the flushing gate
- the gate anchoring system
- the hydraulic tubing, the tubing connectors and the tubing support system
- the hydraulic power unit
- the control panel (where specified)

Located below the gate frame, the **ACU-GATE** latches are completely protected from debris accumulation. When unlatching, the mechanism rotates upwards so that additional clearance is not required below the gate. The cylinder may be installed on either the left or the right hand side of the gate.

The **ACU-GATE** is constructed entirely of rugged stainless steel. It has few moving parts, thereby insuring a long and virtually maintenance free product life.



*ACU-GATE  
cylinder*



*Typical ACU-GATE installation tank*

## System Operation

During a storm event the tank or sewer fills with excess water. This excess water also fills the storage area (or flushing chamber) behind the **ACU-GATE**. After the event subsides and the tank or sewer is drained, the **ACU-GATE** is ready to operate. Using electronic signals, activated by the water level, the hydraulic power unit pressurizes the gate cylinder, thereby causing the latches to rotate to the open position. When the flushing chamber behind the gate is filled with water, the resulting hydrostatic pressure causes the **ACU-GATE** to open. This results in the release of a torrent of water which runs down the length of the flushway scouring all settled debris from the tank floor or sewer invert. Once the flushing chamber behind the **ACU-GATE** has emptied, the gate then returns to its normal vertical position. At this point the hydraulic power unit is shut off and the single acting cylinder returns to its latched position thereby securing the gate shut. The **ACU-GATE** is now ready for the next event.

The **ACU-GATE** can also be operated using the water levels within the system with the use of a float, thereby requiring no external energy supply.

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