

ACU-DRUM Pivoting Drum

The Clear Solution



Application

The **ACU-DRUM** pivoting drum is a sediment flushing system designed to remove settled debris from reservoir floors, as well as sewer inverts, using a single flush. Although similar to a tipping bucket in design, the **ACU-DRUM** pivoting drum differs in that it fills by using the in-system combined water. The system operates by releasing this water sending a flushing wave down the entire length of the flushway pushing the settled debris ahead of it.

The **ACU-DRUM** does not require a fresh water supply and uses no external energy. Consequently, no additional burden is added to the treatment plant. This flexible system can be adapted to a wide range of basin designs and inlet and discharge conditions. This ensures optimal cleaning performance for any type of application. The compact design can significantly reduce costs especially when retrofitting into existing structures.

Features

- Special **ACU-DRUM** design ensures effective cleaning of CSO basins and sewage equalization systems.
- **ACU-DRUM** design ensures an immediate and powerful flushing wave
- Operates without external energy.
- No fresh water supply is needed
- Flushing with in-situ water eliminates additional burden on sewage treatment plant
- Will flush even if only partially filled
- Flexible system can accommodate a variety of installation designs.
- Can be easily adapted to existing structures.
- Simple, cost-saving design of structures possible
- Heightening of structure walls is not required to accommodate equipment.



Printed in Canada



Operation

The **ACU-DRUM** pivoting drum consists of a watertight, eccentrically mounted, helical drum made of stainless steel. It is mounted on two self-aligning stainless-steel bearings with fiber-reinforced bushings.

There are two options used for filling the drum with in-situ water.

Type I: Self Filling

When the stormwater overflow basin is empty, the **ACU-DRUM** housing is in the discharge position with the opening facing downward towards the floor. When a storm event occurs and the water level in the overflow basin begins to rise, the water enters the **ACU-DRUM** through the opening. As the drum begins to fill, it is rotated upward by two integral side floats. The flushing water is thus “bucketed” into the drum. As the drum fills it is latched in position.

Type II: Filled

When the stormwater overflow basin is empty, the **ACU-DRUM** housing is in the filling position with the opening facing upward. The **ACU-DRUM** is locked in this position

by means of a latch (which is controlled by a float mechanism). The flushing water is introduced into the drum through a pipe which may originate from a separate structure or chamber.

The flushing process is initiated following a storm event. When the water level in the overflow storage basin empties, it triggers a float mechanism located in the sump which un-locks the **ACU-DRUM** causing it to pivot forward sending a torrent of water down the entire length of the flushway scouring all of the settled debris from the tank floor. If required, the flushing sequence can also be triggered electronically or hydraulically.

The main difference between the **ACU-DRUM** pivoting drum and tipping buckets in general is its special discharge geometry as well as the greater flush water volume held within the drum. These features require lower discharge heights which eliminate the need for higher structure walls typical of tipping bucket installations. Also, since the **ACU-DRUM** uses in-situ water to create the flushing wave, the need for a fresh water supply is eliminated, resulting in substantial cost savings.

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