

Haverthwaite WWTW - Upgrade inlet works inc. inline spiral screen and raked bar screen.

Haverthwaite WWTW, Cumbria

Application: Municipal

Effluent: Urban Sewage

Effluent Feed: Pumped

Location: Outdoor

Spiral Screen Model: FCP/C-50

Maximum Flow: 80.00 l/s



Description	Value
Current Status:	Operational (Commissioned 2013)
Client:	United Utilities
Flow:	80 L/S
Screen Aperture:	6 mm
Incline Angle:	35°
Brief Description:	<p>Modification of the existing inlet works by constructing a new channel bypass pipeline complete with an inline automated spiral sieve screen (mounted within a tank) returning screened flows back into inlet channel. A new manual raked bar screen was also installed within the existing inlet channel (in parallel to the spiral screen).</p> <p>In addition a washwater booster set was installed for screen washing.</p>

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The spiral screen is installed within a by-pass pipeline, mounted within a fabricated stainless steel tank (grade 304L) at an angle of thirty five degrees. The supporting member of the machine forms a hinge. This feature permits the whole of the machine to be removed from the tank during periods of maintenance. The screen can be laid horizontal and locked for safety purposes if required. At the lower end, which is the screening section, the fabrication is arranged to provide within the tank.

Flow enters the screen through and around the open spiral. The screen-able solids are retained on the perforated plate screen.

Cleaning is effected by the rotation of the spiral. Brushes attached to the edges of the spiral efficiently clean the screen and convey the screenings into the conveyor section of the machine.

The machine comes fitted with an integral dewatering chamber allowing it to operate as standalone plant equipment.

The spiral screen is for capacities up to 80.00 litres per second.

The spiral screen is composed of two sections that can be categorised into four different zones:

A) Screen Zone:

The screen consists of a perforated stainless steel basket with 6mm apertures. The basket is cleaned by brushes fixed on the circumference of a drum. The

brushes are made in sections which are bolted to the external spiral by means of self-locking nuts. The spiral/screw is reinforced and of a thick section shaftless type. The external spiral, in contact with the transported solids, is smaller thickness and made in S.S. AISI 304.

B) Transport Zone:

The same shaftless spiral lifts the screenings out from the effluent. The spiral runs inside the stainless steel tube on S.S. AISI 304 liner bars.

C) Compacting / Dewatering Zone:

Using the same shaftless spiral, the screenings are compacted and dewatered before discharge. In this zone there is one manual washing system as standard to clean the compacting drum. A cover, with proximity switch, allows the compacting drum to be accessed for maintenance.

D) Screen Tank:

The self-supporting tank is complete with:

- Hinged upper cover with proximity switch.
- Air vent
- 1" BSP connection for installation of ultrasonic level transducer.
- Inlet flange: DN300 PN16 all in 304 stainless steel.
- Outlet flange: DN300 PN16 all in 304 stainless steel.

