

# Case Study:

## *Pump Action Screen (PAS) - Mechanical Screen*

**Site:** Chester the Bache

**Client:** Welsh Water

**Application:** CSO

**Completion Date:** June 2010

**Key Project Partners:**

**Client:** Welsh Water

**Consulting Engineers:** Imtech/Welsh Water

**Main Contractor:** Imtech Process



▲ Under basket of the PAS screen.

### Scope of Contract:

Supply, deliver and supervise mechanical installation and commissioning of a double PAS system.



▲ Twin screen arrangement

### Background:

Imtech Process approached CSO Group with a requirement for a mechanical CSO screen to protect the storm overflow at Chester the Bache.

The CSO chamber is located below ground in a wooded area in close proximity to the river Dee and receives raw and combined sewage from the local area of Chester.

### Operational Description:

The PAS is installed on the flow side of the overflow weir and is not operation during dry weather flow. As the water level rises to the underside of the screen, an ultrasonic head detects the level and sends a signal via the control panel to start the pump.

Once the pump has started it then drives the water passed a Venturi that entrains air into the flow. The air and water are combined in the mixing section, prior to entering the screen basket. The air/water mixture scours the underneath of the screen removing debris and preventing the screen from blinding.

The power of the scouring action transports the screening debris past the end of the screen keeping them in the continuation flow. Once the flow has subsided, a second signal from the ultrasonic unit switches the pump off.

### Project Details:

Spill Flow:	2500 l/s
Screen Size:	Double PAS500 x 6000
Pump:	Flygt
Material:	304 Stainless Steel

### NZ Distributor:



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