

# JERGUSON® SOLUTIONS

## Differential Screen Level Measurement

### Application Issue

Power Plants, and other facilities that consume natural water, typically use a mechanical system to filter debris and large contaminants when they draw water from a river or lake. One common system is referred to as a Rotating Screen. These screens are configured along the outside of a rotating drum and serve as the primary protection to keep large debris, such as logs, fish, boots, etc., from entering the water handling system. As these screens become dirty, the level on the clean side of the screen will drop due to reduced flow through the screen. (This is similar to a rising differential pressure on an air filter.) In an extreme case, if the screens are not cleaned, the water flow could stop.

Original methods for monitoring the level on either side of the screens include capacitance level transmitters and bubbler systems. These systems provide discrete outputs that must be further manipulated in a PLC or DCS to determine the differential between the levels. A capacitance transmitter can fail once a high degree of debris is accumulated on the probe. A bubbler system, or other contact pressure device, can become a maintenance issue because of plugging or dirt accumulation in and around the pressure sensing mechanism. These issues are typically on the inlet side of the screen.



Differential screen drive and lift station



Water source

Rotation  
Screens



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## Differential Screen Level Measurement

### Jerguson<sup>®</sup> Solution

The Jerguson/Magne-Sonics ultrasonic level transmitter (JMST-900) and controller (JMSC-900W) system provides reliable, maintenance-free measurement in this application, at an economic price compared to other non-contact technologies. The JMSC-900W controller accepts two inputs and allows the user to configure up to five relays for alarm or control action based on the actual levels. The wall-mount indicator directly displays level differential and the system also provides a 4-20mA output that can be configured for primary, secondary, or differential level indication.



Model JMSC-900W Controllers



Model JMST-900 Ultrasonic Level Transmitters

*Contact your Jerguson Representative or Applications Engineer for additional information!*



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