



A higher level of performance

Application Reference

Improving the reliability and optimizing of dense medium sumps in coal preparation plants.



Application problem:

The customer had used pressure transmitters and some low powered ultrasonics.

1. The pressure transmitters were affected by the constant density changes in the sumps and required the sump to be taken out of service to be changed. This also required scaffolding to be erected.

2. The ultrasonic chosen was affected by magnetite splash and condensation. It would not reliably measure into the deeper section of the cone in the sump during operation.

The low powered ultrasonic was also effected by vortexing and high agitation.

Solution:

Understanding the degree of difficulty in these applications allows Hawk to select the appropriate powered instrument. The dense medium sump is generally 4m to 5m deep (16ft). The degree of difficulty comes from the slurry splash including magnetite, vortexing (to improve mixing of the magnetite in water) agitation, some frothing, condensation, conical shape etc. Choosing a high powered ultrasonic transducer 15kHz (max 30m) provides high self cleaning capabilities because of the greater pressure wave effect with each pulse. Using polypropylene rubber cones also improved cleaning. The 15kHz transducer had excellent signal return under vortexing and agitation and penetration through the foam. The ultrasonic was not density affected and by holding the level in the dense medium sump improved the efficiency overall. The 15kHz transducer was used with the remote, 2 wire loop powered transmitter.

Ordering information: (complete system)

Part no: AWR2SBX + AWRT15T4XXXC15 + FA8A-4 + C08-15-8

Application guaranteed!

Hawk is a world leader in level, position and flow measurement, providing cutting edge equipment to the global industrial market. We have 30 years of experience and a record of success in a wide range of areas including mining/mineral processing, water supply/waste water, bulk material handling and chemical. Our ongoing commitment is to provide industry leading technology and cost effective solutions.



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