



## **IN-LINE FLUID DETECTOR TYPICAL SPECIFICATIONS FOR PUMP PROTECTION**

Provide pump protection system for ash slurry and thickened waste lime slurry pumps, to prevent them running dry.

The system must be capable of ignoring errors caused by coating "build-up" on the sensing element. System shall continue to operate with up to 10% of pipe diameter coating on the sensor. Coating could be wet or dry or a series of wet and dry layers. System shall not create obstruction to slurry flow.

The system shall consist of 3 components; a rugged flange mounted non-intrusive sensing element, a 120 VAC 50/60 Hz powered electronic unit and interconnecting cable.

The sensing element shall be of a non-intrusive design with no moving parts. Flange mounting shall mate with 150# flat faced flanges per ANSI B16.5. The sensing element shall be a 3 terminal type with exposed metal active and shield elements. The sensing element shall be installed in a (vertical) (horizontal) line and mounted on the suction port of the pump. Flange and pipe size to be as specified. Wetted metal parts to be 316 or 316L stainless steel.

Sensing Element and cable shall be intrinsically safe for Class 1, Groups A, B, C and D or Class II, Groups E, F and G (Div. 1 and 2).

The electronic unit shall be a solid state, radio frequency admittance type, with circuitry designed to ignore errors generated by coating build-up on the sensing element. The electronic unit shall be mounted in a weatherproof & explosion proof housing. The housing shall meet Nema 1 to 5 and 12; explosionproof for: Class I, Groups A, B, C and D or Class II, Groups E, F and G (Div. 1 and 2). An optional Nema 4 enclosure with red and green status lights shall be available. The unit shall be factory calibrated. A sealed single calibration control shall be accessible if required. No start-up calibration adjustments shall normally be required. The unit shall be furnished with empty pipe fail safe to alarm in the event of a malfunction or power loss. The unit shall have as standard an adjustable 0 to 90 second time delay circuit for pump priming and for preventing premature pump shutdown caused by momentary air pockets.

Ambient temperature limits of the electronic unit shall be -40° to 140°F. Output shall be DPDT contacts rated 120 VAC: 5A non-inductive, 3A inductive: 240 VAC: 5A non-inductive, 2A inductive.

The connecting cable shall be 4 conductor driven shield type and shall be used to connect the sensing element to the electronic unit. Standard cable length shall be 10 ft, (maximum optional length of 20 ft.).

Supplier must have proven installations in service for 2 years or longer. The system shall be Drexelbrook Engineering Company model 506-7032 Series In-Line Fluid Detector, or engineer approved equal.



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