

## Desalter Interface Measurement

For all Electrostatic Separators



**Maximize throughput of oil/water separators with reliable, no maintenance, level transmitters.**

A typical separator contains four phases: Oil on the top (electrically insulating), water and sediment at the bottom (electrically conductive), and a two-part emulsion phase in-between. The upper part of the emulsion phase consists of wet oil (water particles surrounded by oil which is electrically insulating). The lower part is oily water (oil particles surrounded by water which is electrically conducting.) There is an electrical interface in the emulsion where the wet oil meets the oily water.

### Maximize Throughput

- Reduces water content in crude oil

### Reduces Maintenance Costs

- No moving parts.

### Measures close to the grids

### Measurement Independent of density, temperature, and pressure changes

### Worldwide Approvals

The electrostatic field operates at maximum efficiency when this electrical interface is close to the electrostatic grid. If this electrical interface is too far away from the grids, coalescing efficiency is significantly reduced. If it touches the grid, it draws huge currents.

AMETEK Drexelbrook's RF Interface Transmitters accurately measure the electrical interface in the emulsion even in upset conditions. The transmitter allows operators to keep this electrical interface close (but not too close) to the grids, to maximize throughput. The AMETEK Drexelbrook instrument also ignores build-up on the sensing element, and is unaffected by density changes

It is also applicable for thermoelectric treaters and other electrostatic coalescers.

Continuous Level Measurement



# Continuous Level Measurement

## Desalter Interface Measurement

### Specifications

	Honeywell® Protocol 509-56-718	HART® Protocol 509-76-718	Two-Wire Analog 508-46-718
Span (min/max)	6 inches (152 mm) to full active section	6 inches (152 mm) to full active section	6 inches (152 mm) to full active section
Supply Voltage	24 Vdc nominal (works with 17 to 50 Vdc)	24 Vdc nominal (works with 12 to 50 Vdc)	24 Vdc nominal (works with 11.5 to 50 Vdc)
Load Resistance	600 ohm @ 24 Vdc	750 ohm @ 24 Vdc	625 ohm @ 24 Vdc
Output	4-20 mA / R100/R200 / DE protocol	4-20 mA / HART protocol	4-20 mA, current limit to 28 mA
Ambient Temp Limits	-40 to +185° F (-40 to +85° C)	-40 to +185° F (-40 to +85° C)	-40 to +170° F (-40 to +75°C)
Approvals	CSA Approved Class I, Zone 0	FM/CSA Class I, Div I	FM/CSA Class I, Div I
DC Voltage Isolation	3500 VDC to ground	3500 VDC to ground	3500 VDC to ground
Sensor Maximum Temperature and Pressure	450°F @ 500 PSI (232°C @ 35 BAR)	450°F @ 500 PSI (232°C @ 35 BAR)	450°F @ 500 PSI (232°C @ 35 BAR)
Sensor Mounting	1-inch NPT of Flange as Specified	1-inch NPT of Flange as Specified	1-inch NPT of Flange as Specified
Sensor Wetted Parts	316 SS and TFE	316 SS and TFE	316 SS and TFE

#### All systems include:

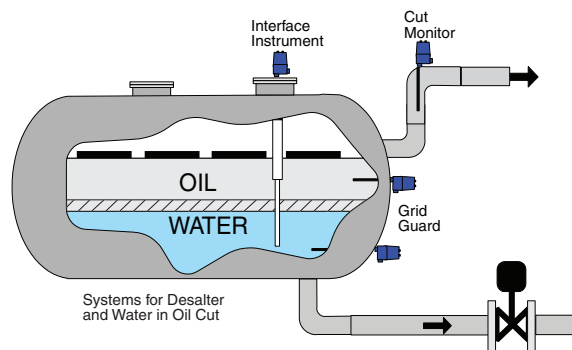
1. Electronic Unit for mounting remotely from sensing element.
2. Cable between electronic unit and sensing element. Std. length is 25' (8m); options up to 100' (30m).
3. Sensing Element with cooling extension, inactive, all metal wetted parts 316 SS standard.

**Note:** Specify inactive length to extend from face of mounting to approximately 2 inches (51 mm) below bottom of the grids.

4. Surge/transient/lightning and electrostatic grid protection.

#### Other Instruments

- Water Guard (Don't Dump Oil): Alarm if oil gets too low in separator. Dumpstar data sheet 506-6900-19-A.
- Cut Monitor: Measure % water in product oil. See data sheet 420-8-8.
- Interface Point Level Measurement: see data sheet 506-6900-19-A.
- Continuous Interface for other separation vessels and for any Continuous Liquid Level Transmitter Application.



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