Measurement Solutions
FOR THE OIL AND GAS INDUSTRIES

- Overfill Protection
- Water Cut
- Mud Pit Level
- Total Level
- Interface Measurement
- Static Grounding
- Pressure
- Temperature
The Products You Need for the Oil & Gas Industry

**BS&W Water Cut**

**UNIVERSAL IV CUT MONITOR**
- Durable: Offered in either a direct pipe mount which reduces installation costs or an integral spool piece
- Measurement capability of 0-50% in light oil and 0-80% in heavy oil
- Low maintenance
- Temperature compensated
- Suitable for all size LACT units (down to 1”)

**APPLICATIONS:** Automatic well testing, LACT units, basic sediment and water, separation vessels, pipeline slug detection, truck unloading

**Oil/Water Interface Level Control**

**DUMPSTAR**
- Prevent dumping of valuable oil with water draw-off
- Install directly into existing vessel as retractive sensor will fit through a minimum opening of 7/8 in
- Time Delay: 0-90 seconds, standard

**APPLICATIONS:** Desalter/dehydrator, heater treater, stock tank, low level alarm, automatic well testing, free water knockout

**Overfill Protection for Floating Roofs**

**INTELLIPOINT**
- Ideal for SIL2 certifications
- No calibration or setpoint adjustments
- Automatically recognizes and ignores coating to prevent false alarms
- Universal power supply automatically detects input power source
- AutoVerify continuously checks electronics and sensing elements for faults
- ManualCertify checks that AutoVerify circuits are functioning
- Cote-Shield circuitry eliminates maintenance required with traditional mechanical switches

**APPLICATIONS:** Overfill/high level alarms, floating roof tank

**Interface Measurement**

**UNIVERSAL IV**
- Fourth generation RF Continuous system with Pro and Lite models available
- Pro model is applicable for: conductive, insulating, and heavy/light coating
- Measurement span as short as 1 in (25 cm) to 800 ft (244 m) with no dead zone areas
- Immune to tank obstructions such as nozzles, ladders, pipes and agitators

**APPLICATIONS:** Interface, desalter/dehydrators, electrostatic separators, heater treater, free water knockout

**Level Transmitter**

**USONIC**
- Two-wire loop powered, HART
- Display is menu driven and easily configured without detailed procedures
- Units designed for either Intrinsically Safe or Explosion Proof in Class 1 Div 1, Zone 0 environments
- Response time: 300 milliseconds
- Range: up to 30 ft

**APPLICATIONS:** Mud tanks, logging, frac fluids

**TDR Level Transmitter**

**IMPULSE GUIDED WAVE RADAR**
- 2-wire, HART or Modbus communication
- Accuracy to ±3 mm and resolution to 1 mm
- Hazardous approvals, Intrinsically Safe, Explosion Proof and Non-Incendive approvals

**APPLICATIONS:** Brine storage, frac trucks, oil storage

**Open Air Radar**

**DR5200/DR7000**
- 2-wire, loop powered device with easy navigation display and touch screen interface
- Class I, Div 1, Zone 0 installation
- 2 GHz bandwidth determine the true level in the tank even with agitated surfaces
- Process seal ensures vessel integrity
- Antenna types and materials for all applications

**APPLICATIONS:** Coker

**Guided Wave Radar**

**DR2000 (Product Level Only)**
**DR7100 (Product Level and Interface)**
- 2-wire level gauge with an easy 3-step setup process
- Class I, Div 1, Zone 0 installation
- Special process separator for the most extreme conditions
- Stable measurement through agitated surfaces, foam, and fine dust in the tank
- Probe types and materials for all applications

**APPLICATIONS:** LNG storage, oil storage, chemical tanks
The Products You Need for the Oil & Gas Industry

Total Tank Level System
Multi Variable Liquid Level Sensor

- High Accuracy: 0.01% of measured span - less than 2 mm absolute, over full measurement range (longest lengths)
- The stainless steel probe meets FM approvals for Class 1 Div. 1, Zone 1 Explosion Proof hazardous area installations
- The Kynar flexible probe meets FM approvals for Class 1 Div. 1, Zone 1 Intrinsically Safe hazardous area installations
- Modbus RTU digital output for total level, interface level, temperature, system diagnostics
- No calibration; easy to install

APPLICATIONS: Total level, interface level, temperature (5 sensors over active range)

Sta-Kool Cooling Element

- Designed for pressure measurement in extreme temperatures
- Laboratory tested—reduces 400° F process temperature down to 100° F
- Max. operating temperature of 750° F and max. pressure of 5,000 psi
- 316L stainless steel material
- 1/2-14 NPT male x 1/2-14 NPT female connection

APPLICATIONS: Distillation separation, fractioning columns, cokers, gas plants

XR Series
Gauges and Diaphragm Seal

- Leak Proof, tamper resistant gauge and seal
- Model 1981: 316L stainless steel socket and 316L stainless steel seamless bourdon tube
- Model 1986: MONEL socket and MONEL seamless bourdon tube
- Range: 0-15 psi to 0-3,000 psi
- Seal fill fluid: DC 200 silicone standard; other options available

APPLICATIONS: Well testing, mud drilling, alkylation unit

Model 1981 Gauge

- 316L stainless steel with seamless bourdon tube
- Advantage model includes dampened movement option
- Accuracy: ±0.5 of span
- Available in liquid filled or field fillable configurations
- High temperature acrylic window; laminated shatter-resistant glass options available

APPLICATIONS: Well testing, free water knockout, stock tanks, LACT, mud drilling, desalter/dehydrator, coker, field dehydration, LNG storage

Model 656 Gauge

- 304 stainless steel case and 2-1/2 inch (63mm) and 4 inch (100mm) sizes
- Filling liquid: glycerin, silicone, mineral oil
- Ideal for pumps, compressors, and machine tools

APPLICATIONS: Well testing, free water knockout, stock tanks, LACT, compression stations

Electronic Pressure Measurement
Model 831 and IDT Transmitters

- 316 stainless steel construction
- Pressure ranges from 6 psig to 5000 psig
- Differential Pressure, Standard and Low Power models available
- Cable and connection options available
- Model 831 is CSA approved, explosion proof, NACE standard for offshore applications
- Model IDT is FM approved for Intrinsically Safe operation

APPLICATIONS: Well testing, drilling mud, well head pressure

Static Grounding Reels

- 20 ft, 50 ft, 75 ft, 100 ft cable lengths
- Light Duty and Heavy Duty models
- Tested to 5,000 cycles
- 10 ohms maximum resistance between clamp and mounting base
- Multiple clamp and cable options

APPLICATIONS: Tank bodies, railcars, dock platforms
## Oil Production

### APPLICATION

1. **Automatic Well Testing**
2. **Multi-Phase Separator/Free Water Knock-Out**
3. **Heater Treater**
4. **Stock Tank**
5. **Lease Automatic Custody Transfer (LACT)**
6. **Skim Tank**

### MEASUREMENT

- Interface Control
- Interface Alarm
- Water Cut
- High Level Alarm
- Pumping Capacity
- Water Dump
- Separator Back Pressure
- Water Cut
- Heat Wellstream Oil
- Water Dump
- High Level Alarm
- Oil Storage Line Pressure
- Water Cut
- Pressure

### AMETEK SOLUTION

- Universal IV™
- IntelliPoint™
- Universal IV Cut Monitor
- XR-81/831
- Dumpstar™
- IntelliPoint™
- Universal IV Cut Monitor 1981/656
- Universal IV Cut Monitor 1981/656/ICDT
- 1981/656
- Universal IV™
- Dumpstar™
- IntelliPoint™
- Universal IV Cut Monitor 1981/656
- 1981/656/IDT

- RF Continuous Level Transmitter
- RF Point Level Transmitter
- BS&W Water Cut
- Pressure Transducer
- RF Oil/Water Interface Control
- RF Point Level Transmitter
- Pressure Gauge/Transducer
- Pressure Gauge
- Pressure Gage/Transducers

**MODBUS AND LOW POWER DEVICES AVAILABLE**
<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>MEASUREMENT</th>
<th>AMETEK SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>7  Flotation Cell</td>
<td>Interface Control</td>
<td>Universal IV™ 1981/656</td>
</tr>
<tr>
<td></td>
<td>Pump Pressure</td>
<td>– RF Continuous Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td>8  Drilling Mud</td>
<td>Pit Level Sensor</td>
<td>USonic™ XR-81/831</td>
</tr>
<tr>
<td></td>
<td>Compressor Pressure</td>
<td>– Ultrasonic Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Transducer</td>
</tr>
<tr>
<td>9  Pipeline Slug Detection</td>
<td>Water Cut</td>
<td>Universal IV Cut Monitor XR-81/831</td>
</tr>
<tr>
<td></td>
<td>Pipeline Pressure</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Transducer</td>
</tr>
<tr>
<td>10 Tank Farms</td>
<td>High Level Alarm</td>
<td>IntelliPoint™</td>
</tr>
<tr>
<td></td>
<td>Floating/Fixed Roof</td>
<td>– RF Point Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>Water Bottom</td>
<td>– RF Point Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>Water Cut</td>
<td>– RF Continuous Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>Overfill/Low Level Alarm</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Transducer</td>
</tr>
<tr>
<td>11 Desalter/Dehydrator</td>
<td>Grid-Interface Control</td>
<td>Universal IV™ Cut Monitor</td>
</tr>
<tr>
<td></td>
<td>Interface Backup Alarm</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td>Water Cut</td>
<td>– RF Oil/Water Interface Control</td>
</tr>
<tr>
<td></td>
<td>Grid Guard</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td></td>
<td>Temperature</td>
<td>– Bimetallic Thermometers</td>
</tr>
<tr>
<td>12 Atmospheric &amp; Vacuum</td>
<td>Interface Control</td>
<td>Universal IV™ 1981LS</td>
</tr>
<tr>
<td>Fractionating Columns</td>
<td>High Temperature</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td>– RF Continuous Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td>13 Alkylation Unit</td>
<td>Acid/Alkylate Interface</td>
<td>Universal IV™ Dumpstar™</td>
</tr>
<tr>
<td></td>
<td>Low Level Alarm</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td>% Acid in Alkylate</td>
<td>– RF Oil/Water Interface Control</td>
</tr>
<tr>
<td></td>
<td>Continuous Storage Level</td>
<td>– BS&amp;W Water Cut</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Bimetallic Thermometers</td>
</tr>
</tbody>
</table>
# Natural Gas Production

## APPLICATION

| 14 | Coker | Drum Level | Pressure | Temperature | DR7000™ | 1981 | ADJ Bimet | – Radar Level Transmitter | – Pressure Gauge | – Bimetallic Thermometers |
| 15 | Lube Oil Plant | Interface Control | Water Dump | High Level Alarm | Pressure | Universal IV™ | Dumpstar™ | IntelliPoint™ | 1981/656 | – RF Continuous Level Transmitter | – RF Oil/Water Interface Control | – RF Point Level Transmitter | – Pressure Gauge |
| 16 | Distillation Separator | High Temperature | Pressure | ADJ Bimet | 1981LS | – Bimetallic Thermometers | – Pressure Gauge |
| 17 | Drilling Mud | Pit Level Sensor | USonic™ | – Ultrasonic Level Transmitter |
| 18 | Field Dehydration | Separator | Condensate Tank | Condensate Tank | Water Storage Tank | Water Storage Tank | Pressure | Universal IV™ | IntelliPoint™ | Total Tank Level System | Impulse™ TDR | Impulse™ TDR | IntelliPoint™ | 1981 | – RF Continuous Level Transmitter | – RF Point Level Transmitter | – Magnetostrictive Level Transmitter | – TDR Level Transmitter | – TDR Level Transmitter | – RF Point Level Transmitter | – Pressure Gauge |
| 19 | Gas Plant/Gas Fractionation | Liquid/Gas and Liquid/Liquid Control | Pressure | Temperature | Universal IV™ | 1981 | ADJ Bimet | – RF Continuous Level Transmitter | – Pressure Gauge | – Bimetallic Thermometers |
| 20 | Compressor Stations | Total Level & Interface Pressure | Tank Tracker™ | 1981/IDT | – Magnetostrictive Level Transmitter | – Pressure Gauge/Transmitters |

**MODBUS AND LOW POWER DEVICES AVAILABLE**
<table>
<thead>
<tr>
<th>APPLICATION</th>
<th>MEASUREMENT</th>
<th>AMETEK SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNG Storage</td>
<td>Level Control</td>
<td>DR5200, DR7100™</td>
</tr>
<tr>
<td></td>
<td>Level Control</td>
<td>– TDR Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>High Level Alarm</td>
<td>– TDR Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>LNG Discharge Alarm</td>
<td>– RF Point Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td>– RF Point Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td>Condensate Storage</td>
<td>Total Level &amp; Interface Pressure</td>
<td>Tank Tracker™</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Magnetostrictive Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td>Water Storage/Brine Storage</td>
<td>Water Level</td>
<td>Impulse™ TDR</td>
</tr>
<tr>
<td></td>
<td>High Level Alarm</td>
<td>– TDR Level Transmitter</td>
</tr>
<tr>
<td></td>
<td>Pressure</td>
<td>– RF Point Level Transmitter</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Pressure Gauge</td>
</tr>
<tr>
<td>Drill Platform/Ship</td>
<td>Static Grounding</td>
<td>Rota-Reel™</td>
</tr>
<tr>
<td></td>
<td>Static Grounding</td>
<td>– Painted Housing</td>
</tr>
<tr>
<td></td>
<td>Static Grounding</td>
<td>– Stainless Steel Housing</td>
</tr>
<tr>
<td>Fuel Truck</td>
<td>Static Grounding</td>
<td>Rota-Reel™</td>
</tr>
<tr>
<td></td>
<td>Static Grounding</td>
<td>– Painted Housing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Stainless Steel Housing</td>
</tr>
<tr>
<td>Railcar</td>
<td>Static Grounding</td>
<td>Rota-Reel™</td>
</tr>
<tr>
<td></td>
<td>Static Grounding</td>
<td>– Painted Housing</td>
</tr>
<tr>
<td></td>
<td>Overfill Protection/High Level Alarm</td>
<td>– Stainless Steel Housing</td>
</tr>
</tbody>
</table>

Optional Spool Piece Available:
- Pressure Transducer
- Pressure Gauge

---

Lease Automatic Custody Transfer (LACT) Unit

Drexelbrook Water Cut Monitor

To Pipeline, Railcar, Truck
The Oil, Gas and Petrochemical industries are a major global market for Drexelbrook. Our RF Admittance point and continuous level instruments have met the extreme environments found in oil refineries, offshore platforms and chemical plants for over 50 years. Drexelbrook has a wide selection of products and technology offerings, and the expertise to apply them, affording Drexelbrook the unique position to provide the best possible solution to meet the instrumentation requirements specific to the Oil, Gas and Petrochemical Industries.