

An offshore oil and gas platform is shown against a vibrant sunset sky with a rainbow-like gradient. The platform's complex structure, including cranes and piping, is reflected in the dark water below. The overall scene is dramatic and industrial.

OIL & GAS

PRODUCT OVERVIEW

ABLE

V-CONE

The McCrometer V-Cone Flow Meter is an advanced differential pressure instrument for use with liquid, steam or gas in harsh environments where accuracy, low maintenance and minimal pressure loss are paramount.

With built-in flow conditioning, the V-Cone is especially beneficial in tight-fit installations where long straight pipe runs required by alternate flow technologies are either impractical or unavailable.



- Primary DP Flow Meter
- Accuracy to $\pm 0.5\%$ with Wide Turndown Ratio
- Minimal Straight Run Requirement (3 OD Upstream / 1 OD Downstream)
- Negligible Pressure Loss

ULTRASONIC WIDEBEAM

ABLE offer an extensive range of clamp on, WideBeam ultrasonic liquid and gas flow meters for temporary (portable) or fixed installations. The use of non-invasive, ultrasonic flow measurement offers many advantages over intrusive flow metering. With ultrasonic transducers clamped to the outside of the process pipe, there is no downtime, disruption of flow, or requirement to modify existing pipework.



- Non-Contact Technology
- Gas & Liquid Flow
- Portable & Permanent Installations
- ATEX Approved Portable Version – Suitable for use in Hazardous Areas Without Hot Work Permit

ABLE SLUGMASTER™

The ABLE SlugMaster uses two ultrasonic flow metering technologies and a smart PLC to intelligently select which technology to use, based on the process conditions being measured. Constant metering is achieved regardless of solids and gas contamination. The changeover between the metering technologies is calculated with unique mathematical software, which enables exceptional measurement accuracy.



- Bespoke Engineered Non-Contact Flowmetering System
- Highly Aerated Liquid Flow Measurement
- Two Phase & Multiphase Versions

ABLE FLAREMASTER™

The FlareMaster Flare Metering Enhancement Tool radically improves the performance of ultrasonic flare gas flow meters (FGM) and ensures good practice in emissions monitoring requirements and legislative compliance.

FlareMaster's advanced data analytics harvests the myriad signals routinely generated by the meter that aren't normally accessible to a standard flow computer, producing a significantly reduced uncertainty and a state-of-the-art data gathering and analysis tool.



- Provides full gas density inputs to flare meter to negate density distorting compositions
- Significant reduction in flare gas measurement uncertainty
- Real-time display of mass and standard volume flow, totalized flow, velocity, process temperature and pressure

CORIOLIS

ABLE offer a wide range of Rheonik Coriolis mass flow meters capable of withstanding vibration, abrasion and corrosive media as well as full design pressure without secondary containment.

With flow rates from as low as 0.03 kg/hr and meter sizes up to 12" diameter, all mass flow applications on liquid, gas or sludge can be achieved.



- Full Design Pressure Capability up to 900Bar Without Secondary Containment
- Line Sizes up to 12" Diameter
- Direct Mass Flow Rates from 0.03 kg/hr to 1,500,000 kg/hr

ABLE MUDMASTER™

The ABLE MudMaster measures flow and density of drilling fluid (mud) using a development of established measurement techniques, diagnostically aggregated to produce reliable, accurate and repeatable real time data.

The instrument spool bolts directly into the drilling rig outlet pipe and the non-contact nature of the technologies employed provides no restriction to flow, zero pressure drop and no moving process contact parts to wear or requiring maintenance.



- Real Time Non-Contact Flow & Density Measurement of Drilling Fluids (mud)
- Full & Partially Filled Pipe Conditions
- Assists in Determination of Sweep Efficiency, Lost Circulation & Kick Detection

MAGNETIC LEVEL GAUGES

ABLE's range of magnetic level gauges offer clear indication of liquid level in any chamber configuration to suit the available process connections.

Standard chamber designs or customised configurations can be built on short delivery times to suit any requirement.

Exotic materials of construction or economic 'mini' chamber versions are also available.

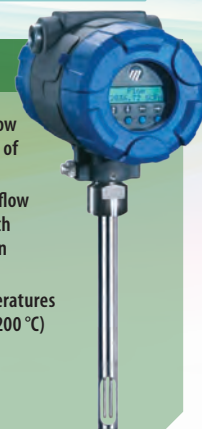


- Clear Non-Powered Visual Indication of Clean, Dirty or Translucent Liquid Level
- Made to Suit Any Measuring Range & Vessel Requirement
- Pressure up to 400Bar / Temperature up to 540C

THERMAL MASS FLOW METER

Magnetrol's Thematel® TA2 is an easy-to-use, economical, continuous gas flow meter that is often utilized to manage energy costs or to meet environmental regulations in Oil & Gas applications such as hydrocarbon gas flaring, wellstream separation and vapour recovery. Cost of ownership is reduced through ease of installation, field calibration verification and minimum maintenance. Since the measurement is based on heat transfer, the TA2 provides reliable performance at low gas flows and pressures where other technologies have difficulties.

- Direct mass flow measurement of air & gas
- Excellent low flow sensitivity with high turndown (rangeability)
- Process temperatures to $+400^{\circ}\text{F}$ ($+200^{\circ}\text{C}$)



Flow



Level



Pressure



Temperature



Gas Detection



Moisture

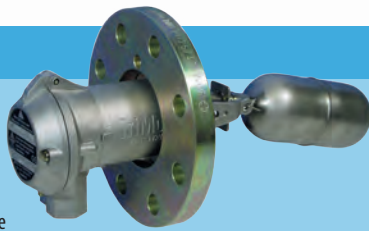


Humidity

FLOAT SWITCHES

The Besta range of float level switches offers a unique modular construction, providing solutions over many years in an extremely wide range of industries and applications. The modules – switch, flange and float – can be supplied in countless interchangeable variants with electric or pneumatic outputs.

The glandless design of the flange module permits online maintenance of all dry-side components under full process conditions.



- Glandless Construction, No Leakpaths
- Horizontal & Vertical Mounting Options
- Vast Modular Combination of Switch Types, Process Connection Flanges and Floats
- SIL Rated Versions Available for Safety Overfill Protection

RADAR & GUIDED WAVE RADAR

Magnetrol's radar and guided wave radar can be used for level measurement on almost any liquid or solid. Both technologies are virtually unaffected by changes to any product or process condition and are extremely reliable with no moving parts and no recalibration requirements.

In addition the ABLE Fusion, a combination of a magnetic level gauge and guided wave radar, provides visual indication and independent level measurement from a single instrument.

- Very High Accuracy, Repeatability & Reliability
- Widest Spectrum of Applications from Storage to Reaction Process Vessels
- ABLE Fusion, Magnetic Level Gauge and GWR Combination, Provides Local Level Indication and Independent Measurement



RF ADMITTANCE

Drexelbrook RF Admittance is a measurement technology used for determining the level of liquids, granulars, slurries & interfaces in almost any containment and process environment.

RF Admittance will continue to operate in the presence of undefined and uncontrolled variables – despite coating build ups, changes in process density, pressure or temperature, level switching or measurement will continue unaffected.



- Liquid, Granular, Slurry, Sludge & Interface Measurement
- Ignores Product Coating & Build Up on the Level Sensor
- Fully Remote Electronic Options – Immune to Vibration & Temperature Extremes
- SIL Rated High Level Alarm and Self-Checking Versions Available

PRESSURE

In conjunction with our established long term relationship with United Electric Controls, ABLE supply an extensive range of high quality electronic and mechanical pressure and differential pressure switches as well as very high range pressure transmitters.

Designed for rugged, industrial environments, in safe or hazardous areas, to suit virtually all pressure and differential pressure applications the United Electric equipment is complimented by the Mid West range of DP gauges.



- Mechanical & Electronic Switches, Gauges & Transmitters
- Multiple Sensor Types, Output Arrangements & Approvals Including SIL Rating
- OEM & Application Specific Models

NUCLEONIC

A measurement technology for level and density that is typically deployed once all conventional methods have been ruled out. The non-intrusive nature of nucleonic gauges means that they can address applications involving high temperature, pressure and aggressive media with impunity whilst the lack of any moving parts ensures minimum maintenance requirements. High sensitivity scintillator detector technology facilitates the use of extremely low radiation fields.



- Completely Non-Intrusive
- Suitable for the Most Arduous Processes and Installation Conditions
- Flexible Detectors to Meet all Vessel Profiles

GAS DETECTION

Using unique, patented Gold Film technology and low dilution atomic fluorescence, Arizona Instrument's field proven Jeromes combine high specificity and accuracy with true portability. Their rugged design and low level detection capabilities (50ng/m3 Mercury) are ideally suited to applications in the oil and gas, industry. Automated sampling, on-board datalogging and USB connectivity enable simple data retrieval and analysis. Programmable auto-sampling mode facilitates unattended monitoring.



- Specialist Gold Film & AF Detector technologies for Mercury Vapour
- Extremely Low Level Concentrations
- Portable and Fixed Installation Solutions

TEMPERATURE

Our range of temperature products are available in numerous configurations to match virtually any application and include the United Electric Controls range of electronic and mechanical temperature switches. We are able to measure and control temperature in safe or hazardous areas with various outputs and offer a full range of sensors and hardware.



- Mechanical, Electronic, Switches, Gauges & Transmitters
- Multiple Sensor Types, Output Arrangements & Approvals Including SIL Rating
- Full Range of Accessories & Hardware

PROCESS VISION TECHNOLOGY

The Canty InFlow Oil in Water/Water in Oil Analyser combines the latest CCD Ethernet camera technology and process light vision systems to provide microscopic, non-destructive viewing and particle size analysis with two dimensions. Systems can measure oil droplet shape, size, colour and total PPM for produced water and separator efficiency monitoring. The InFlow offers zoom and focus ability to cover a particle size range of 0.7 microns to 20,000 microns.



The InFlow is also available as a Portable Multiphase Meter.

- PPM measurement down to 1PPM
- Oil in water analysis
- Particle size, shape, and colour



Density



Liquid Analysis



Light



Weight



Package Procurement



Training

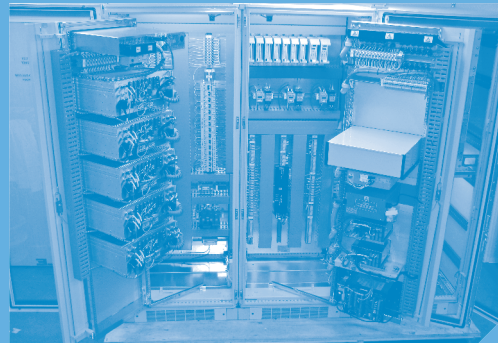


Technical Service Support

METERING SYSTEMS



CABINET DESIGN & BUILD



SPOOL DESIGN & FABRICATION



PANEL DESIGN & ASSEMBLY



Established in 1985, ABLE Instruments & Controls Ltd is a UK based independently owned instrumentation supplier headquartered in Reading.

With an emphasis and history founded on supply to the Oil & Gas Industry, ABLE has significant experience and expertise in providing measurement solutions to this sector, as well as unrivalled global support utilizing our team of fully offshore trained technical engineers.

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