

# HMA

**INSTRUMENTATION**



**SINCE 1966**



# Introduction

**HMA Instrumentation is a division of the HMA Group and initially comprised of two companies. Process Oil & Gas Controls (POGC) and Measurement Resources were integrated to offer a complete range of industrial instrumentation.**

We supply to the oil, gas, refining and petrochemical industries, all process and manufacturing industries, including power generation, mining, minerals, marine, food and pharmaceutical. Our instrumentation, measurement and control solutions are suitable for greenfield developments, plant upgrades, plant extensions or process improvements.

The Instrumentation team pride ourselves on our technical knowledge, flexibility and responsiveness to clients. HMA Instrumentation's objective is to provide cost effective solutions for all industries by supplying the most advanced technology available in the world.

Today's plants must optimise operations for maximum safety, product quality and production efficiency, if they are to remain competitive. Modern computerised process control systems cannot perform unless they receive reliable and accurate signals from their primary sensors.

We regard quality customer service as our prime objective. Our markets extend from Australasia through the Pacific Rim, to Asia and Africa. We have local offices in Australia, New Zealand, Indonesia and South Africa.

## AREAS OF EXPERTISE

- Level Gauges, Transmitters & Switches and complete tank farm monitoring solutions
- Equipment for fire & gas detection systems
- Industrial analysers, including system integration
- Oil in / on water and water in oil detection systems
- Overpressure protection technology
- Pressure & temperature instruments
- 2D/3D inventory management for conveyors, stockpiles and large silos
- Flow meters, indicators and switches
- Flame scanners, igniters and controls for boiler management
- Nucleonic level & density measurement, weighing and material composition
- Engineered solutions for thermal expansion joints, offshore sewage treatment, onsite hydrogen generation and sodium hypochlorite generation
- Alarm annunciators and alarm management solutions
- Nuclear source disposals, surveys and audits of all fixed radiation gauges

Some process control requirements cannot be met by standard catalogue products. For such needs, our experience, together with our manufacturing and calibration facilities allow us to precisely engineer an innovative application specific solution. Our facilities incorporate a quality management system to ISO 9001 and NATA accredited calibration laboratory for pressure measurement in accordance with ISO/IEC 17025.

We can design and manufacture standard or customised products and offer complete packages covering all instrumentation and measurement requirements through our exclusive portfolio of innovative international brands.

Through our team of locally certified and factory trained technicians we provide lifetime support on all products. Our service team provide in-house repair, onsite commissioning and calibration, as well as long term service contracts.





# Industries

Whatever the size of your operation or your safety and environmental issues, HMA Instrumentation has a solution to help. Our expertise can assist in generating, producing or extracting it more efficiently, safely and in a more environmentally friendly manner.

We provide instrumentation and safety solutions across the entire range of industries. Our team of engineers and service technicians are factory trained, making them experts in their field. Our focus is on providing solutions that protect your people, assets and environmental reputation.

- OIL & GAS
- POWER GENERATION
- PROCESS INDUSTRY
- MARINE & OFFSHORE
- MINING & MINERALS
- CEMENT & QUARRY
- WASTE & WATER
- PULP & PAPER
- CIVIL & INFRASTRUCTURE
- RAIL & TRANSPORT
- PHARMACEUTICAL, FOOD & BEVERAGE
- ENVIRONMENTAL





# Fire & Gas

## Flame Detection

Specifically designed for areas where the risk to personnel is high and where fire might result in a catastrophic loss of assets.

Det-Tronics are the market leader when it comes to Flame Detection. Possessing industry leading false alarm rejection, fast response times and a wider cone of vision, the X Series provides a reduced cost of coverage.



## Fixed Gas Detection

Hazardous area flammable Gas Detection, with multiple layers of protection. Point, Line of Sight (Open Path) & Acoustic Gas Detectors; offering multiple detection technologies from Catalytic to Infrared for Hydrocarbons and Electrochemical for measuring Toxic Gases.

With a range of Transmitter options, from a simple faceplate display, to a Gas Control Panel.



## Ancillary Warning Devices

Extensive range of manual, visual and audible alarms, as well as loudspeakers have been developed in close collaboration with customers to deliver the best combination of performance and safety. Manual Alarm Call Points, Status Lights, Beacons/Strobes and Speakers.



## Fire Protection

High quality fire fighting equipment and systems for high-value asset protection that can be relied upon whenever danger strikes. Foam Proportioner, Monitors, Hydrant Valves, Mobile & Fixed Foam Skids, Deluge Valves.



## Certified Fire & Gas Detection Systems

Addressable and point-to-point systems allow complete design and configuration to meet your safety system requirements. Approved by Exida as a SIL 2 certified Safety Instrumented System (SIS), the Eagle Quantum Premier (EQP) network meets both NFPA & FM standards as a Fire & Gas Control system.





# Pressure & Temperature

## Rupture Discs

BS&B is the originator and industry leader for reverse buckling, tension loaded, graphite and custom engineered rupture disc devices.

BS&B, since inventing the first rupture disc in 1934, has been at the forefront of the industry. With over 70 registered patents covering reverse buckling, tension loaded, graphite, sanitary and custom engineered rupture disc devices you can be assured BS&B has the right rupture disc to suit your application.

Our standard range covers sizes from 1/8" (3mm) to 72" (1,828mm) and pressures from 4" WC (10 mBarg) to 100,000 psi (6,900 Barg).



## Flame Arrestors & Tank Vents

BS&B FlameSaf (formerly RMG by Honeywell) manufacture inline and end of line flame arresters for deflagration, detonation and endurance burning applications, as well as pressure/vacuum breather vents with and without flame arrester elements.



## Explosion Vents

BS&B's range of explosion vents offer an economic solution for protecting your plant from dust explosions. BS&B's VSP vent has been tested to over 1,000,000 pressure cycles from vacuum to light positive pressure, while retaining its burst accuracy.



## Explosion Suppression

BS&B's chemical explosion suppression systems are the best way to protect your plant and equipment by suppressing a dust explosion before it happens. We can offer a complete protection and prevention solution consisting of chemical suppression, chemical and mechanical isolation, venting and flameless venting.



## Relief Valves

Nacional BS&B offer a comprehensive range of Pressure Relief Valves for the petrochemical, chemical and refining, oil and gas, and water industries. The valves are designed and manufactured according to most recognised international standards: ASME, API, ASTM and the European directives 97/23 & 94/9 CE.



## Buckling Pin Valves

BS&B's buckling pin valves have been designed as a fast acting non-reclosing pressure relief device. After activation the valve can be easily reset in minutes without the need to remove the valve from service. Buckling pin valves are available as inline or angle type, with sizes ranging from 2" (50mm) to 60" (1,500mm).



## Temperature Instruments

- Temperature Gauges - Bi-metal and Gas Filled
- Exhaust Gas Thermometers
- Temperature Switches
- Temperature Transmitters
- Temperature Recorders & Controllers
- RTD's & Thermocouples
- Thermowells
- Temperature Calibrators



## Pressure Instruments

- Pressure Gauges - Gauge, Absolute, Differential
- Pressure Switches
- Pressure Transmitters - OEM & DP Type
- Pressure Recorders & Controllers
- Fit and manufacture of Isolating Diaphragm Seals
- NATA Calibration





# Level

## Level Gauges

Local and remote tank gauging solutions via Hydrostatic, Float, Magnetic Bypass or Glass level gauge technologies. Self Powered Contents Gauges manufactured locally in Australia. Level solutions for hazardous areas, marine environments and safety or pressure related approvals.



## Level Switches

Solutions for both liquids and solids, we have the following technologies for pump control, alarm duties, and overflow prevention;

- Float Level Switches (Vertical & Horizontal)
- Capacitance Level Switches
- Conductivity Level for conductive fluids
- Vibrating fork and rod
- Rotary paddle and tilt switches for solids.



## Bulk Material Level Measurement

Solid Material Level Measurement Radar Level Transmitter designed for medium/long range measurement of powders, particles and bulk solids including applications such as flyash and cement.

This can be integrated into an IMS that can profile usage and send alerts when product levels reach set points.



## Liquid Level Transmitters

Whether your application is for a mobile tank, marine tanks, has foaming, high temperature or even interface level, we have the right solution from our extensive suite of level technologies.

- Hydrostatic
- Float Level
- Ultrasonic
- Radar
- Capacitance
- Magnetostrictive



## Tank Gauge Solutions

Complete tank monitoring solutions available from our range of level transmitters and process indicators.

- Float switches for tank high and low alarms or bilge / flood warning
- Local self powered contents gauges and sight glasses
- Submersible electronic level transmitters
- Local indicators for one or more tanks
- Centralised display systems for multiple tanks
- Complete networked solutions with multiple displays and output data to platform management systems.





## Ultrasonic Flow Meters

A complete range of transit time and doppler flow technologies for clean fluids and slurries in full and partially filled pipes through to open channels.



## Thermal Mass Flow

Kurz thermal mass flowmeters incorporate advanced microprocessor electronics technology and constant delta T mode of operation to provide accurate and real time flow measurement. Response time is critical with this type of device with Kurz offering one of the fastest response times available, especially when compared against Constant Power technologies. Ideally suited to aeration, combustion air, flare gas and digester gas applications the following solutions are available to meet your needs:

- Single Point insertion flowmeters
- Multipoint insertion flowmeters
- Chlorine Meter
- World first Wet Gas Flow Meter using this technology



## Flow Switches, Meters & Indicators

For liquids, gases and slurries we have technologies from simple paddle flow switches through to thermal mass and doppler/microphone devices.

In addition to our suite of Magflow products we offer Vortex, Oval Gear, Turbine and Coriolis Flow Solutions.

Variable Area (Rotameter) flowmeters with optional flow alarms and transmitters, offer a clear local indications of fluid flow.



## Magnetic Flow Meters (Includes Slurries)

HMA Specialises in the manufacture and supply of magnetic flowmeter tubes with ceramic/basalt liners for simple integration into our Wear Solutions piping solutions. In addition we can manufacture tubes with custom ID's and lay lengths using traditional rubber and PFA liners. Flexibility in our design allows flowtubes to be supplied so that they are compatible with the majority of electronics on the market.

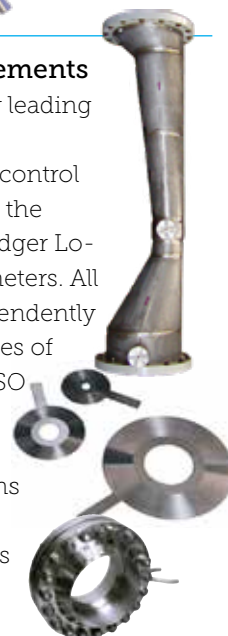


## Primary Flow Elements

We supply industry leading differential flow measurement and control products including the highly regarded Badger Lo-Loss and Venturi meters. All products are independently verified to accuracies of or better than the ISO standard.

Key solutions are;

- Orifice Meter Runs
- Venturi's
- Insertion Venturis
- Flow Nozzles
- Pitot Tubes





# Boiler Management

## Flame Scanners

UV and IR flame scanners for detecting presence or absence of flame in a combustion chamber. Scanners include advanced sensors and algorithms for discrimination of the target burner in multi-burner applications. Used with all fuel types and burner configurations.

## Integrated Scanners

Detections and amplification in one compact unit.

Models: Insight, Insight II, Phoenix, Paragon & Simplicity

## Discrete Scanners

Used with flame safeguard controls or separate amplifier.

Models: 45UV5, 55UV5, UV90L, UV1A & 48PT2



## Ignition & Pilot Equipment

- Surefire Igniter - High Energy Spark Igniters (HESI) for direct spark ignition of oil or gas burners.
- Surefire Gas Pilot - Gas pilot with 15KW to 30KW capacity available in natural draught or force draught.



## Burner Controls & Flame SafeGuard

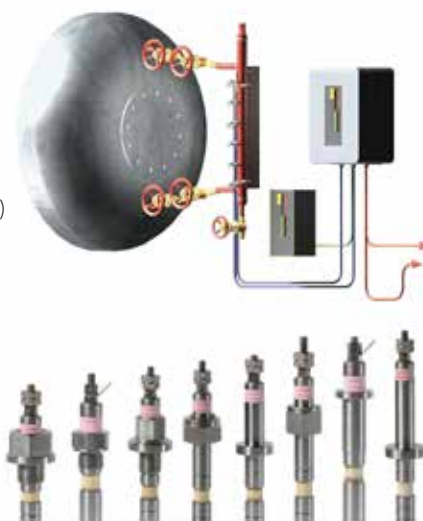
- BurnerPRO - LFL backward compatible replacement
- BurnerLogix - Latest Flame Monitor
- Nexus - Parallel positioning system for liquid or gas fuel fired combustion
- NXM2G - Non-intrusive prevention of boiler dry cycling.



## Boiler Drum Level & Replacement OEM Probes

A range of products to meet regulatory, safety and boiler control requirements offering complete redundancy and fault tolerance.

- Electronic Drum Level Indicators (EDLI)
- Electronic Level Switches
- Gauge Glasses
- Magnetic Level Gauges
- Bypass Gauges
- Replacement electrodes/conductivity probes 100% compatible with Hydrastep, Clark Reliance, Narvik, Yarway, Fossil, Bonetti, Levelstate, Diamond Power, Emerson/Solartron.



## Thermal Expansion Joints

Bespoke fabric and metal joints for boilers, turbines and ducts on gas fire plants and coal fired plants.





## Level Measurement for Harsh Environments

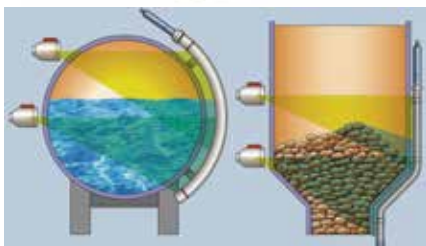
Radiometric solutions for continuous or point level control solids and liquids applications.

Ideally suited to the most difficult of applications and not affected by;

- Internal obstructions such as agitators
- Extreme process temperatures
- Highly Alkaline or Acidic processes
- Sticky applications

In addition the microprocessor based technology provides automatic compensation for;

- Vapour density changes
- Foam and Gases
- Process Buildup



## Process Density Measurement

Suited for liquid processes where traditional contact technologies cannot be used.

Density measurement solutions for use in;

- Extreme process temperatures
- Highly Alkaline or Acidic processes
- Abrasive applications such as slurries
- Violent and/or erratic product flow



## Non-Contact Material Weighing

Externally mounting to the conveyor with no modifications required.

Works on flat or trough belt, bucket and screw. Can be mounted to inclined conveyors and suitable for variable or fixed speed conveyors.



## Service, Commissioning, and Disposal

Nucleonic source life calculations, start-up commissioning, troubleshooting and documentation service. End of life source disposal back to approved facilities in USA or Europe.



## Engineered Products

### Sodium Hypochlorite Generation

SEACLOR® & SANILEC® - On-site generation of sodium hypochlorite from seawater via electrolysis.

Combining three common consumables, salt, water and electricity to generate a disinfecting agent for industrial bio-fouling control.



### Offshore & Marine Sewage Treatment Systems

Omnipure offers effective electrolytic treatment of both black and gray water. Omnipure treatment systems produce effluent quality that easily meets IMO 64 requirements.





# Analytical

## Gas Analysers

Multi-technology safe and hazardous area process analysers to measure common gases such as oxygen, hydrogen, methane, CO, CO<sub>2</sub>, H<sub>2</sub>S and natural gas composition.



## Moisture/Dew Point Analysers

Single/multi-channel and portable measurements in gas/liquid applications in industrial, petrochemical and natural gas industries. Proven technologies include aluminium oxide and tunable diode laser (TDL).



## Physical Property Analysers

Physical property analysers typically used in refineries and gas/condensate processing facilities. Parameters include vapour pressure, cloud/freeze/flash/pour points, distillation, viscosity and colour.



## Sample Panels & System Integration

Sample handling systems are the key to ensuring your analyser operates accurately and reliably for the life of the analyser. Our customised sample handling systems (probe/transport line/sample conditioning/recovery) can be designed and supplied along with stands or shelters to meet specific environmental requirements. When combining our sample handling systems with our integration, commissioning and maintenance service it can help to reduce and minimize problems with analytical units.





## Density & Viscosity

Online measurement to laboratory accuracies for liquids and gases utilising either vibrating element principle or nucleonics (no moving parts). Insertion, bypass and skid-mounted solutions, with HART, hazardous area, high temperature and pressure options available.



## Tunnel Monitoring

Stand-alone or net-workable Air Quality Monitors and Flow sensors offering the essential measurements necessary to monitor and control the tunnel atmosphere.



## Emission Monitoring

A wide range of instrumentation from low cost dust monitors through to fully automated and integrated emissions monitoring systems for all industries.



## Oil in Water Detection

Oil in Water Detection  
Hydrocarbon analysers for oil detection monitoring using fluorescence technology when sensitivity and reliability counts. Complete range includes Portable Grab Sample Analyser, Laboratory Fluorometer and Online Oil in Water Monitor.



## Oil on Water Detection

Floating oil on water detectors provide an easy to install, low maintenance solution to the detection of oil and hydrocarbon pollutants in retention pits and ponds.



## Water in Oil Detection

Providing an accurate measurement to reduce the loss of product to Slops. Agar's patented energy absorption technology can measure in Oil-Continuous or Water-Continuous phases, including multi-phase where your process has a mixture of Oil/Water/Gas. These measurements are provided through Interface Detectors, Watercut Meters, Wet Gas Meters and Multi-Phase Flow Meters.







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**HMA GROUP**

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