

# Productivity Tools for the Coal Industry



**AshScanDuo<sup>®</sup>** is typically more accurate than conventional laboratory analysis of samples. Why?

- ▶ Discrete sampling only provides a "snapshot" of coal quality, and does not show any short term variations
- ▶ Recent advances in technology pioneered by RTI have significantly improved the performance of dual energy Ash Analysers

**AshScanDuo<sup>®</sup>**'s many practical design features make it by far the simplest Online Ash Analyser to install, calibrate and operate.

## **AshScanDuo<sup>®</sup>** Online Coal Ash, Moisture and Energy Analyser

Continuous real-time analysis  
of all coal, not just a sample

- ▶ Real-time data means REAL control
- ▶ Reliable, accurate data
- ▶ Low cost of ownership
- ▶ Reduced analysis costs



a division of

**Realtime**

Group Limited

*Solutions  
for today  
and tomorrow*

## Features and Benefits.

AshScanDuo® provides instantaneous, continuous measurement of ash, moisture and energy for real-time control of plant operations.

- ▶ **Rapid Return on Investment** through reduced laboratory analysis, and optimisation of plant operation in real time
- ▶ **SAFE:** Source can be switched ON/OFF, and source holder removed, all from the walkway while the belt is running. **Belt shut down not required**
- ▶ Suited for **most coal types**
- ▶ Multiple stored Calibrations for **multi-seam operations**
- ▶ **Fast response**
- ▶ **Automatic bed depth correction**
- ▶ **3G interface** for comprehensive remote diagnostics by RTI engineers, independent of client IT infrastructure. **RTI engineers can remotely calibrate the AshScanDuo® for you**
- ▶ **Rugged and reliable** for harsh mining conditions, with **low ongoing maintenance**
- ▶ All standard communications protocols supported. **Seamless, hassle-free plant integration**

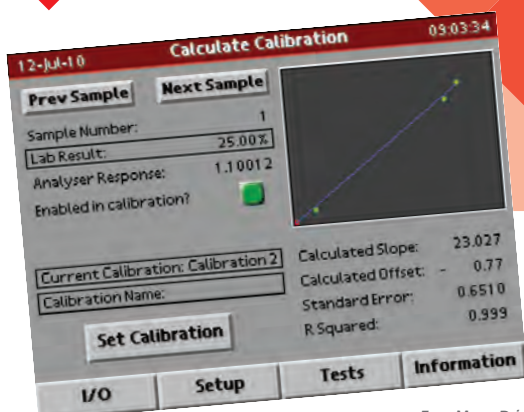
- ▶ Easy **menu driven touchscreen** HMI for setup, calibration, and viewing results
  - **Can be fully calibrated at the HMI**
  - No laptop connection required
  - Step by step setup virtually eliminates "set up error" - a major reason for poor performance in other Analysers
  - Automatic diagnosis software for verification of instrument setup and stability as well as static calibration verification



## Is AshScanDuo® the best choice for my application?

RTI manufacture a range of Analysers to cover most operational needs, including the **AshScan®**, **AshScanDuo®**, **GammaScan®** and **AllScan®**.

**The right choice depends on your application**, so contact us now to discuss your Ash Analysis needs.



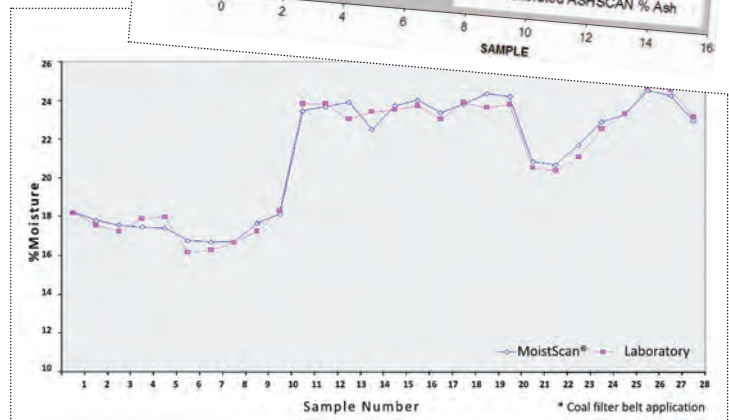
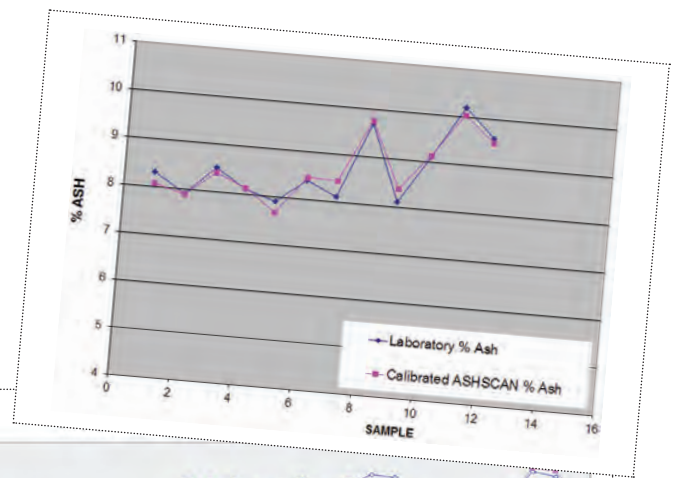
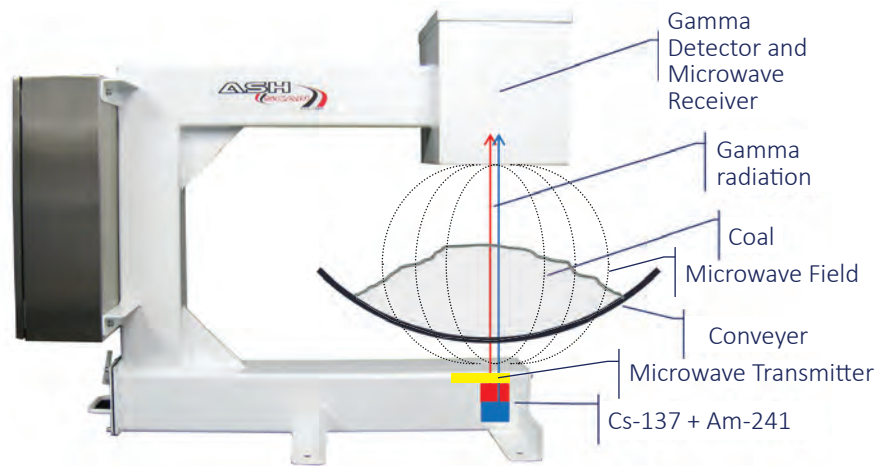
Easy Menu Driven Touchscreen

## Working Principle.

The **AshScanDuo**® utilises two radioactive sources and a microwave signal.

1. The absorption of Am-241 low energy gamma rays.
2. The absorption of Cs-137 high energy gamma rays.
3. The absorption of the microwave signal occurs due to the presence of moisture in the coal.

The above three parameters form the basis of a regression equation that generates instantaneous values for ash, moisture and energy (calorific value).



## Specifications.

### Operational

<b>Principle of Operation</b>	"Dual Energy Transmission". Also referred to as "Low Energy Transmission" (or "LET") Microwave Attenuation and Phase Shift
<b>Sources</b>	Cs-137 and Am-241
<b>Conveyer width</b>	Up to 1400mm as standard (larger belts accomodated depending on application)
<b>Belt Speed</b>	No Limit
<b>Bed Depth Range</b>	Best suited to 50 – 350 mm (application dependant)
<b>Ash Range</b>	0 – 100%
<b>Weight</b>	typically 90kg, fully assembled
<b>Measurement time</b>	Continuous instantaneous readout of rolling average over "x" seconds, where "x" is typically 10, but adjustable up/down for higher precision or faster response, respectively

### Expected Precision

Note: Precision may be affected by steel cord belts.

<b>Ash in typical raw coal</b>	typically $\pm 0.9\%$ (1SD) dependant on range.
<b>Ash in typical washed coal</b>	typically $\pm 0.6\%$ (1SD) dependant on range.
<b>Ash in pulverised coal (single seam)</b>	typically $\pm 0.3\%$ (1SD) dependant on range.
<b>Moisture in all coal types typically 0.3% at 1SD (application dependant)</b>	

### Environmental

<b>Humidity</b>	5% – 95% RH non condensing
<b>Operating temperature</b>	0 – 45°C
<b>IP Protection Rating</b>	IP66 Stainless steel. Optional Sunshade for Control Cabinet

### Control and Communications

<b>At-Instrument Control</b>	Touchscreen HMI, no laptop connection required. HMI provides access to all functions via a simple menu structure. Includes diagnostics, setup, calibration, instantaneous ash, moisture and calorific value, trend data in graphical and tabular format.
<b>Outputs (Standard)</b>	4-20mA instantaneous/tons-weighted ash 4-20mA instantaneous/tons-weighted moisture 4-20mA instantaneous/time averaged energy High and Low Ash Alarm Relay AshScanDuo® can be supplied with any standard communication protocol such as Ethernet, Modbus, and others
<b>Inputs (Standard)</b>	Conveyer Running (digital) Tons weighted reset (digital)
<b>Data Storage</b>	Removable CF card can store typically up to 3 months of data
<b>Remote 3G Diagnostics</b>	3G modem supplied (optional). Access is via a secure web page and allows complete diagnostics by RTI Engineers.
<b>Utility Requirements</b>	
<b>Power</b>	110-240 VAC 50/60Hz single phase, 500W
<b>Communications Cabling</b>	Standard cabling depending on choice of protocol (no specialised cabling required)

## Locations.

AMERICAS | ASIA | EUROPE | OCEANIA | AFRICA | MIDDLE EAST

South Africa Namibia Zimbabwe Botswana Mozambique

### Local Representative

#### Johannesburg

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