AshScanDuo® 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®’s many practical design features make it by far the simplest Online Ash Analyser to install, calibrate and operate.

AshScanDuo® 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
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.
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).
### Operational

**Principle of Operation**
“Dual Energy Transmission”. Also referred to as “Low Energy Transmission” (or “LET”) Microwave Attenuation and Phase Shift

**Sources**
Cs-137 and Am-241

**Conveyor width**
Up to 1400mm as standard (larger belts accommodated depending on application)

**Belt Speed**
No Limit

**Bed Depth Range**
Best suited to 50 – 350 mm (application dependent)

**Ash Range**
0 – 100%

**Weight**
typically 90kg, fully assembled

**Measurement time**
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.

<table>
<thead>
<tr>
<th>Ash in typical raw coal</th>
<th>typically ± 0.9% (1SD) dependant on range.</th>
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</thead>
<tbody>
<tr>
<td>Ash in typical washed coal</td>
<td>typically ± 0.6% (1SD) dependant on range.</td>
</tr>
<tr>
<td>Ash in pulverised coal (single seam)</td>
<td>typically ± 0.3% (1SD) dependant on range.</td>
</tr>
</tbody>
</table>

**Moisture in all coal types typically 0.3% at 1SD (application dependent)**

### Environmental

**Humidity**
5% – 95% RH non condensing

**Operating temperature**
0 – 45°C

**IP Protection Rating**
IP66 Stainless steel. Optional Sunshade for Control Cabinet

### Control and Communications

**At-Instrument Control**
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.

**Outputs (Standard)**
- 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

**Inputs (Standard)**
- Conveyor Running (digital)
- Tons weight reset (digital)

**Data Storage**
Removable CF card can store typically up to 3 months of data

**Remote 3G Diagnostics**
3G modem supplied (optional). Access is via a secure web page and allows complete diagnostics by RTI Engineers.

### Utility Requirements

**Power**
110-240 VAC 50/60Hz single phase, 500W

**Communications Cabling**
Standard cabling depending on choice of protocol (no specialised cabling required)

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**Locations.**

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