AshScan™ 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

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

**AshScan™ Online Coal Ash 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.

AshScan™ provides instantaneous, continuous, on-belt Ash-in-coal data 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 **all 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 AshScan™ 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 AshScan™ the best choice for my application?

RTI manufacture a range of Analysers to cover most operational needs, including the AshScan™ Duo Ash + Moisture Analyser, GammaScan™ natural gamma Ash Analyser, and the AllScan™ Elemental Analyser. The right choice depends on your application, so contact us now to discuss your Ash Analysis needs.
Working Principle.

DUAL Energy Transmission ("DUET", also called “LET” = Low Energy Transmission) is a proven technology for measuring Coal Ash.

Ash consists mainly of oxides of metallic elements like Si, Fe, Al and Ca. AshScan™ measures the combined total of these elements present in the coal, and this correlates directly to the total Ash.

Two radioactive sources are used:

1. **Am-241**: low energy gamma radiation.
   Absorption of Am-241 gamma rays selectively occurs due to the presence of the major ash-forming elements (Si, Fe, Al, Ca) and the bed depth of the coal.

2. **Cs-137**: high energy gamma radiation.
   Absorption of Cs-137 gamma rays will be due only to the bed depth of the coal. This allows the Am-241 measurement to be normalised for bed depth.

The normalised Am-241 absorption is then correlated to total Ash content by calibrating against laboratory reported ash sample results.
Operational

Principle of Operation
"Dual Energy Transmission". Also referred to as "Low Energy Transmission" (or "LET")

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 dependant)

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.

Ash in typical raw coal
typically ± 0.9% (1SD) dependant on range.

Ash in typical washed coal
typically ± 0.6% (1SD) dependant on range.

Ash in pulverised coal (single seam)
typically ± 0.3% (1SD) dependant on range.

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 readout, Ash trend data in graphical and tabular format.

Outputs (Standard)
4-20mA Instantaneous Ash
4-20mA Tons-weighted Ash
High and Low Ash Alarm Relay
AshScan can be supplied with any standard communication protocol such as Ethernet, Modbus, and others

Inputs (Standard)
Conveyor Running (digital)
Tons weighted reset (digital)

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

Remote 3G Diagnostics
3G modem supplied standard.
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)