

# Your first choice for Radiometric Measurement in Mining Applications

Endress+Hauser offers a full-range of radiometric measurement devices and provides support over the entire lifecycle – from engineering and logistic processes through to commissioning and field services.

## Product Basket

### DETECTOR/COMPACT TRANSMITTER

The compact transmitter consists of a detector unit and an integrated transmitter. We offer both Scintillator and Geiger Müller tube technology. The different materials and measuring ranges permit the compact transmitters to be adapted to any measuring task.

#### Sensor length

- Point level: PVT 200 mm
- Continuous level: PVT 400 to 2,000 mm (extension with cascading)
- Density: NaI 50 mm /PVT 200 to 400 mm
- For Point level: 1, 2, or 3 Geiger Müller tubes

Unique features include high sensitivity for backward integration with older sources and increased safety due to less radiation needed. Endress+Hauser detectors have the highest long-term temperature and aging stability in the market. Applications include continuous level measurement, density, density profiling, interface and limit detection.



### GAMMA SOURCES

- **Caesium 137Cs** – Ideal for continuous level, point level detection and density measurements. The half-life of 30 years permits long usage. Activity: 18.5MBq (0.5 mCi) to 740GBq (2000 mCi)
- **Cobalt 60Co** – Used in applications involving thick container walls because of its high penetrating capabilities. Activity: 3.7 MBq (0.1 mCi) to 74 GBq (2000 mCi)



### SOURCE CONTAINER

Source containers are available in different sizes to guarantee optimum screening in relation to the activity of the radioactive isotope. Unique features include light stainless steel models and approval as Type A packaging to reduce shipping costs.



### GAMMA MODULATOR

Radiography of welds or radiating media may impair radiometric measurements. The Gamma Modulator isolates the source radiation to compensate for such external radiation.



# Your first choice for Radiometric Measurement in Mining Applications

## Endress+Hauser Nuclear Services

### CNSC Licence Application Support

- Provide the end user with a site specific radiation safety program, training and equipment that meets the requirements of the CNSC
- CNSC application assistance to get the necessary approvals quickly and efficiently.
- Provide Radiation support service for initial year and beyond as required

### Installation, Mounting, Commissioning and Training Services

- Mounting which includes alignment of the instruments and safe handling of source material, servicing, and disposal of old sources if applicable
- Commissioning which includes verifying the installation and wiring of detectors, carrying out loop checks
- 10 full-time associates fully trained and licensed as Radiation Safety Officers
- 28 full-time service technicians trained and authorized to work on fixed nuclear gauges

### Storage and Transportation

- Storage of sealed gauge sources
- Two full-time associates fully trained and licensed to handle, receive and transport fixed gauges (TDG7)

### Calibration Services

- Calibration support for Survey meters
- Calibration support for level measurement, density measurement, density profile and level switch.

### Leak Testing

- Leak testing kit and swab analysis

### Logistics Services

- Arrange for importing nuclear sources and delivering them to customer premises including air cargo, customs clearance as well as local transportation

## Contact

**Endress+Hauser  
Canada Ltd**  
1075 Sutton Drive  
Burlington, ON L7L 5Z8  
Tel: 905 681 9292  
1 800 668 3199  
Fax: 905 681 9444

**Endress+Hauser  
Canada Ltée**  
6800 Côte de Liesse  
Suite 100  
St-Laurent, QC H4T 2A7  
Tél: 514 733 0254  
Télé.: 514 733 2924

**Endress+Hauser  
Canada Ltd**  
4th floor, 805 - 10th Avenue SW  
Calgary, AB T2R 0B4  
Tel: 403 777 2252  
1 888 918 5049  
Fax: 403 777 2253

**Endress+Hauser  
Canada Ltd**  
Edmonton, AB  
Tel: 780 486 3222  
1 888 918 5049  
Fax: 780 486 3466  
**Vancouver, BC**  
Tel: 604 925 7600  
Fax: 604 925 7601