

# Beta Plus basis weight sensor



State-of-the-art design for superior  
web measurement and control

# Committed to providing total solutions

## Beta gauge basics

The measurement principle of the Beta Plus basis weight sensor is based on the absorption of beta particles emitted either from a Kr-85 or Sr-90 source (depending on the application) by the web to determine the resulting basis weight of the web. For the best measurement and therefore the best control, there are a number of design elements that are critical to delivering superior sensor performance.

As with any measurement technique, the highest signal-to-noise ratio provides the best results.

Strong predictable signal greatly depends upon:

- Source strength (number of beta particles emitted)
- Detector geometry to electrically count the particles to create the measurement signal

- Physical geometry of the source
- Alignment of the source to the detector
- Web movement or 'flutter' between the source and the detector
- Measurement impact from operating temperature and pressure variation
- Full range calibration

## Features and benefits

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### Product features

- Simple, reliable, rugged design
- Low cost of ownership
- Quick change windows
- Low radiation profile
- Strong signal/low noise measurement
- True slot source geometry with Krypton

- Temperature and pressure compensation
- High-speed digital electronics
- High efficiency optics
- Maximum ambient operating temperature up to 60 °C

### Benefits

- Raw material savings
- Scrap reduction
- Improved yield
- Higher quality products
- Superior control
- Streak detection
- No external cooling

# Beta Plus basis weight transmission sensor

## Our history of beta gauges

The Thermo Scientific™ Beta Plus™ basis weight sensor is one of the most versatile and accurate measurement solutions within the range of Thermo Scientific web gauging products. Building off a legacy that started in the 1940s as Tracer Labs, to products brought to the market under the former LFE, Aronic, EGS, Eberline, FAG and Radiometrie brands, over 10,000 Thermo Scientific measurement and control solutions have been shipped throughout the world. Each solution provides material savings and increased line utilization over a vast array of applications.

Headquartered in Erlangen, Germany with sales and service resources regionally located throughout the world, we have a complete suite of

product and services to support the customers' gauging measurement and control requirements. Whether it is extending the life of a legacy platform, meeting traditional web gauging needs, or adapting our building blocks to address a new application, we are your gauging partner.

### Applications

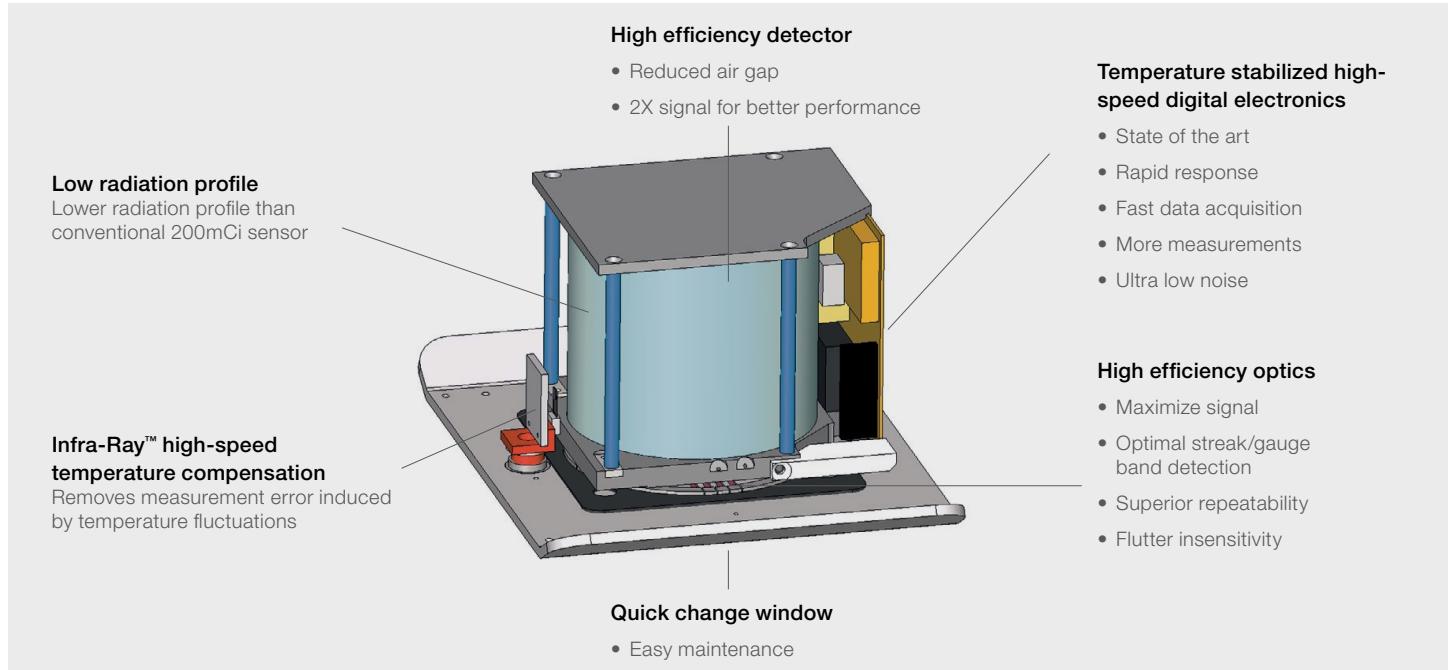
- Film and sheet extrusion
- Extrusion coating
- Non-wovens
- Roofing
- Building products
- Vinyl calendering
- Battery electrode coatings



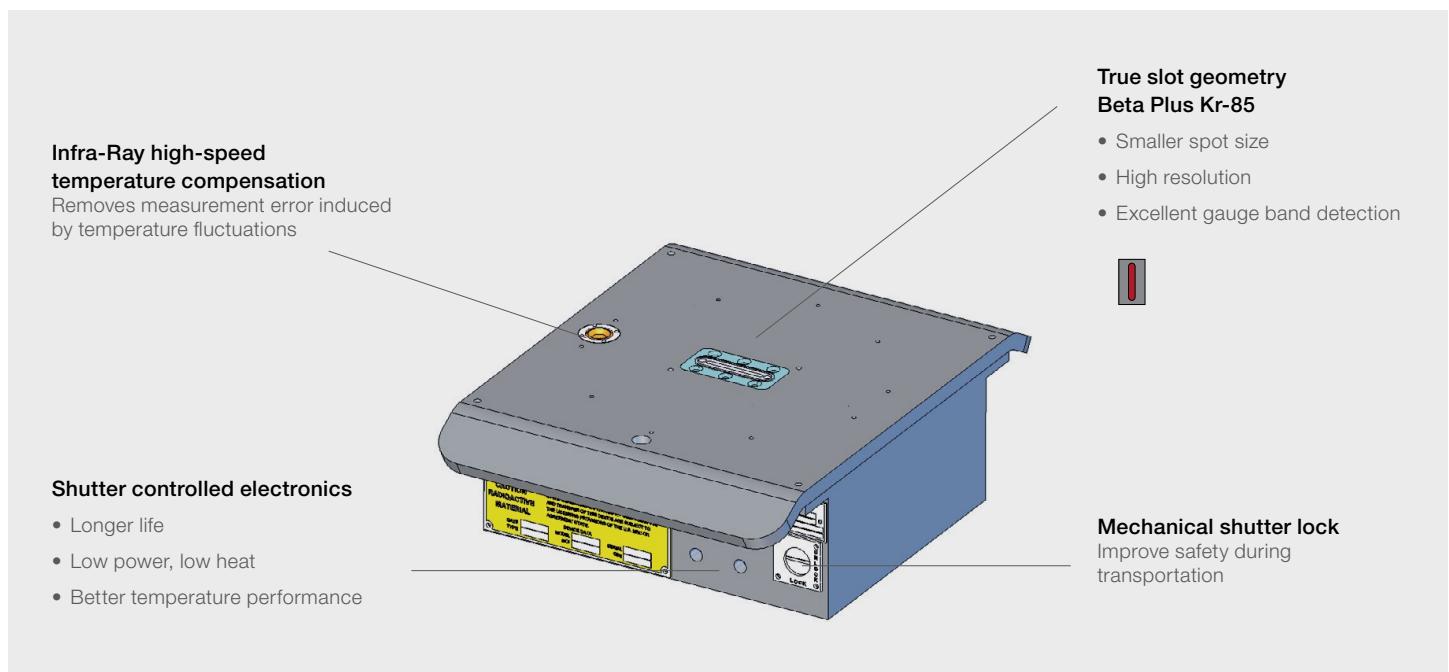
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# Design

## Detector assembly



## Source assembly



# Support you can depend on

Thermo Scientific products are supported by our extensive network of qualified application engineers who will work closely with you to understand and evaluate your specific production parameters. Our experts will help you choose the right instruments for your application, then keep them performing to spec. Their goal is to optimize your process today, and also lay the foundation for easy upgrades in the future.

## Product maintenance

Our comprehensive service offering is based on corrective and preventative maintenance that not only reduces downtime, but also helps you improve your process. We offer multiple levels of support agreements, with varying degrees of access and response, including:

- System commissioning
- System calibration
- Preventative maintenance
- On-site repair
- Depot repair

Some options feature complete cost predictability, with all travel, labor, spare parts, and consumables included.

## Education and training

We offer multiple training options to help you increase productivity by optimizing the use of your instruments and expanding the skills of your operators. You can receive hands-on instruction in your plant or at one of our training facilities in the USA, Europe and Asia. Our range of courses covers:

- Basic operation
- Calibration
- Routine maintenance
- Troubleshooting
- Certification

We will also work with you to develop a custom program that meets your specific training objectives, often incorporating your own operating procedures.

## Professional services

Our certified engineers are available to review your process, perform benefit analysis and recommend improvements to help you meet your best-practice goals. We will develop an implementation plan that integrates all Thermo Scientific systems, as well as third-party components including:

- System layout and connectivity
- Software implementation, configuration and support
- Site modifications



You can rely on us to manage the entire installation and start-up if you choose, including serving as a liaison with licensing agencies where necessary.

## Parts and upgrades

Our spare parts are designed specifically for your Thermo Scientific system, and we make it easy for you to secure high-quality, low-cost replacements by maintaining offices around the world that respond quickly to your phone or online requests. You can also extend the lifetime of your older instruments with our add-on system enhancement and retrofit packages, which adapt your instruments for new uses and eliminate the time and cost to retrain operators on new equipment.

## State-of-the-art design for superior web measurement and control



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Find out more at [thermofisher.com/gauging](http://thermofisher.com/gauging)

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