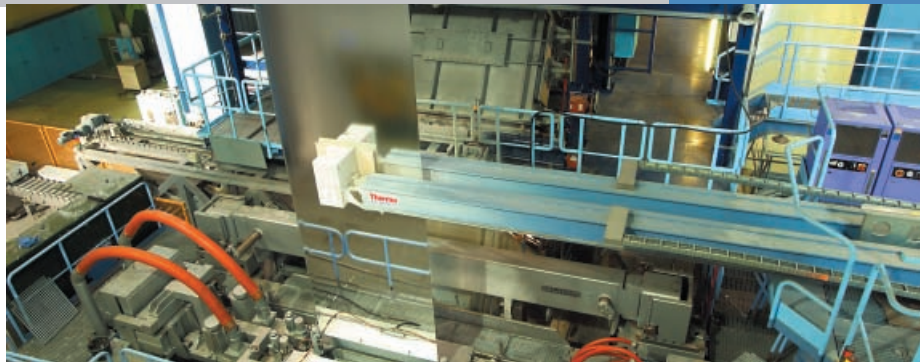


This series of Thermo Scientific gauges significantly improves coating weight control by reducing the dead time between the actuator and measurement, resulting in raw material savings and a reduction in scrap. We are the world's only supplier of hot coating weight gauges for hot dip galvanizing lines.

## Thermo Scientific RM 300 EH and RM 310 EH Hot Metal Coating Weight Gauges



### Applications

- Galvanized steel (Zn)
- Galvalume steel (Zn/Al)
- Binary coatings (Zn/Ni)
- Aluminized steel (Al)
- Tin coated steel (Sn)
- Terne coatings (Pb/Sn)
- Other metallic coatings on steel

### Features

- Very short feedback times for coating weight autocontrol (Adaptive Autocontrol)
- Measuring units for up to 100°C (373°K) ambient temperature, mounted directly above the zinc pot
- Proven technology to consider pass line change and strip flutter
- Robust mechanics, installation assistance by experienced engineers
- More than 30 years experience with this application
- User-friendly operator interface

The Thermo Scientific RM 300 EH and RM 310 EH demonstrate excellence in non-contact, online coating weight measurement. The RM 300 EH and RM 310 EH gauging systems provide the user with reliable, proven sensor technology mounted in the ideal location for the shortest feedback time for air knife positioning and pressure control.

The measuring units of the gauges are installed at the hot location of the hot dip galvanizing line, directly above the air knives. This gauge configuration is especially advantageous for autocontrol systems because the dead time between the actuator and measurement is kept to a minimum.

The RM 310 EH hot measuring heads use X-ray sources for coating weight measurement of both the top and bottom side of the strip. These sources provide fast response times with all the specific advantages of X-ray generation. The photons from the X-ray source cause X-ray Fluorescence (XRF) radiation to be generated in the coated strip. The fluorescence radiation is detected by

application specific detectors mounted within the measuring unit.

The RM 300 EH is equipped with Gamma-ray sources instead of X-ray sources.

The measuring heads of both gauges are installed in water-cooled detector housings containing additional sensors for monitoring the distance to the strip and the air and sensor temperature.

The distance between the measuring head and strip is continuously measured to follow the strip movement by a distance control loop with tracking mechanism. The influence of high frequency distance variations due to strip flutter is compensated by software.

The measuring heads are mounted on detector supports that can be driven independently to the measuring or calibration position. The detector supports are installed on a moveable base carrier for driving to the measuring position and to the maintenance position beyond the strip zone.

## RM 300 EH and RM 310 EH — Hot Metal Coating Weight Gauges

### General Specifications

Measuring range	RM 300 EH: 25 to 300 g/m <sup>2</sup> Zn per side RM 310 EH: 30 to 250 g/m <sup>2</sup> Zn per side
Sources	RM 300 EH: 2 x Am 241, 11.1 GBq RM 310 EH: 2 x X-ray, typically 12 kV
Detectors	Ionization chambers
Strip width	Typically up to 2,000 mm (78.7 in)
Number of measuring heads	Two in total (for top and bottom side of the strip)
Permissible ambient temp. for measuring heads	Up to 100°C (212°F)
Measuring gap	RM 300 EH: approximately 40 mm (1.57 in) RM 310 EH: approximately 25 mm (0.98 in)
Motion modes	Fixed position mode (length profile measurement) Maintenance position mode (off-sheet)

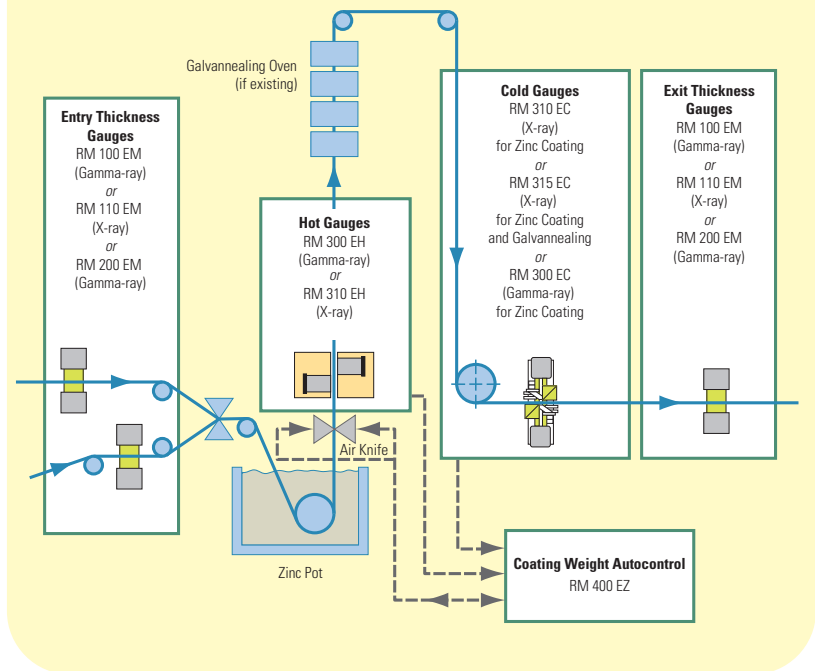
### Configuration of Gauges

The RM 300 EH and RM 310 EH hot coating weight gauges can be connected with a scanning coating weight gauge at the cold end of the galvanizing line:

- RM 310 EC or
- RM 315 EC or
- RM 300 EC

Additionally, an adaptive autocontrol system, the RM 400 EZ, for coating weight autocontrol, can be integrated into the system. For thickness measurement of the strip at the entry or exit side of the galvanizing line, the RM 100 EM, RM 110 EM and RM 200 EM gauges are available. These units offer either X-ray or Gamma-ray sources.

### Schematic View of a Hot Dip Galvanizing Line with Positions for Thickness and Coating Weight Gauges



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