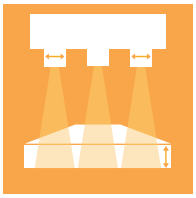


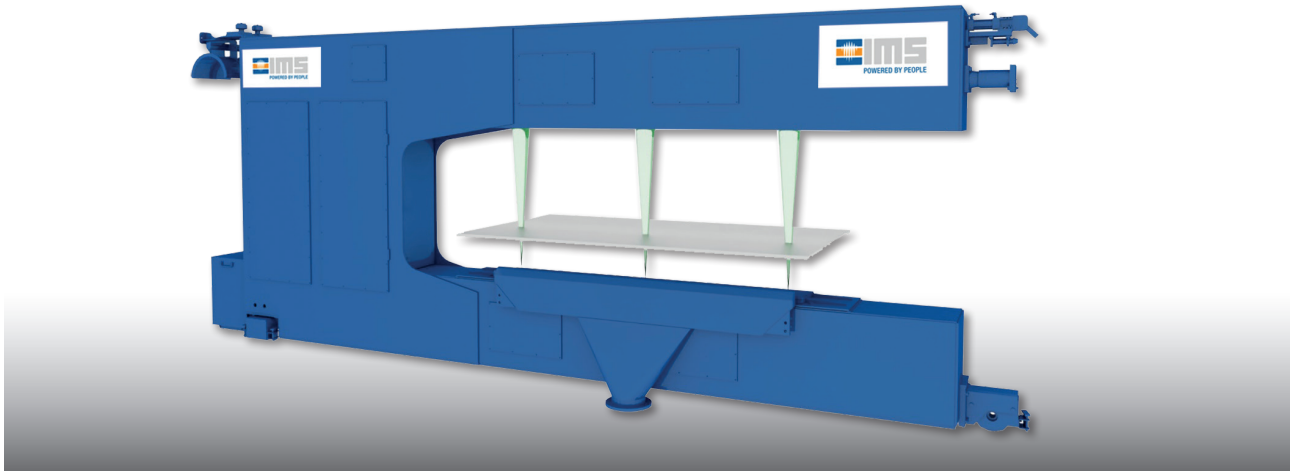
XR Triple-Head

Thickness Profile Measuring System

The XR triple-head thickness profile measuring system measures strip thickness and the thickness profile continuously and in real time.

The upper beam of the C-frame contains a task-based number of ionisation chambers to receive the radiation from the x-ray tubes installed in the lower beam. The ionisation chambers convert the thickness-dependent quantity of x-rays that pass through the material into electrical signals, which are then used to calculate the exact thickness of the material.

The centre measuring head of the system supplies the data for control (AGC) of the mill stand. The traversing outer measuring heads determine the thickness at the edges of the material for calculation of the important wedge and crown values.



Measurement Task

- continuous thickness measurement in the centre of the roller table
- continuous measurement of the strip thickness profile by counter or synchronous traverse of the edge measuring heads
- measurement of width and centreline deviation
- calculation of wedge and crown values
- faster cross-profile acquisition compared to an XR Twinset measuring system
- permanent guarantee of centreline thickness measurement with the option to select the measuring head at will

Special Features

- c-frame with customisable dimensions
- optionally with integrated temperature measurement
- x-ray high voltage generator:
  - made by IMS Messsysteme GmbH, Germany
  - compact system, easy installation
  - no or reduced maintenance intervals for the connectors of the high voltage cable
  - constant x-ray high voltage, no standard magazine required
- ionisation chambers (detectors):
  - made by IMS Messsysteme GmbH, Germany
  - pluggable design
  - no separate cooling necessary
  - mechanically highly resilient
  - very long service life
  - excellent stability (drift behaviour)
  - redundancy when using multiple detectors

Material Data

Typical thickness range:	> 0 mm up to max. 180 mm
Speed:	> 0 - 12 m/s
Width:	up to 4,300 mm

Measuring System Data

Gauge type:	movable c-frame
Radiation source:	X-ray tube (approx. 180 kV/ 2.5 mA, depending on the measuring task)

Measuring Dynamics

Analogue time constant:	approx. 10 ms
Cycle time data processing:	10 ms
Cycle time data output CL:	10 ms
Cycle time data output profile:	after full cross profile scan (depending on strip width)

Measuring Accuracy

Reproducibility:	≤ 0.07%
Linearity:	≤ 0.05 %
Long term drift (10 hrs):	≤ 0.1 %
Statistical noise (10 ms):	≤ 0.1 %, not better than ±10 µm (for the max. thickness range)