# XR Twin Set
Centreline Thickness & Profile Measuring System

The XR Twin Set centreline thickness and profile measuring system detects both strip thickness in the centre of the roller table and the strip thickness cross profile by means of continuous, non-contact, real-time measurement. This is achieved with two separate C-frames combined constructively to form one measuring system.

The upper beam of the C-frame contains a task-based number of ionisation chambers to receive the radiation emitted by the x-ray tube installed in the lower beam and which passes through the material.

This residual radiation, which is dependent on the thickness of the material, is converted in the ionisation chambers into electrical signals, which are then used to determine and record the exact thickness of the material.
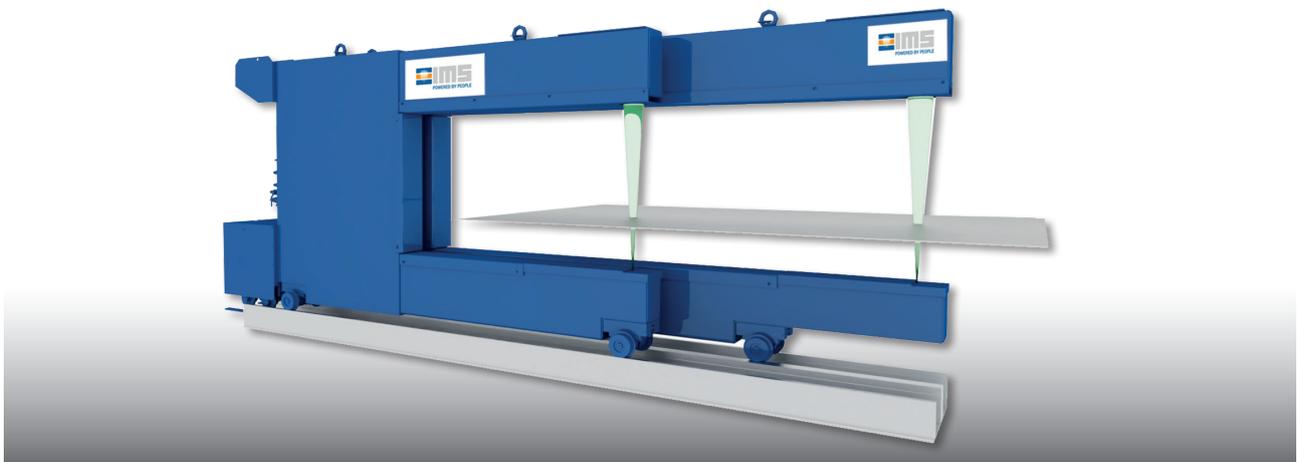
Measurement Task

- Gauge 1: Thickness measurement in the centre of the roller table
- Gauge 2: Continuous measurement of the strip thickness cross profile by traversing over the entire strip width

Special Features

- c-frame with customisable dimensions
- optionally available 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 and 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 80 mm
Speed:	> 0 - 12 m/s
Width:	up to 3,000 mm

Measuring System Data

Gauge type:	movable c-frame
Radiation source:	X-ray tube (approx. 110 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 %