

Vanta iX IMR Model Alloy LODs

Vanta™ iX In-Line XRF Analyzer

Keep Your Process Up to Speed

The Vanta™ XRF series has a reputation for durability, quality, and accuracy. Vanta iX in-line XRF analyzers incorporate Axon Technology™ to deliver higher X-ray counts per second and fast calculations to identify alloys in as little as 1–2 seconds. These results are delivered in real time to automate material analysis and alloy identification on the manufacturing line.

The Vanta iX IMR model can measure elements from concentrations as low as several parts per million (ppm) all the way up to 100%.

The limits of detection (LODs) represent the calculated value using a three sigma 99.7% confidence level. The LOD for each element is a function of the testing time. Please contact your local sales representative for more information. The LODs reported here are based on automatically selected beam conditions (kV, μ A, and filter settings) and a measurement time of 60 seconds per beam:

- Several certified alloy standards were used for each base material.
- The iron (Fe) category contains both low alloy steels and stainless steels.
- LODs are, in general, lower for low alloy steels than with stainless steel.
- Actual working samples may contain interfering elements, so the actual working LODs for some 'real-world' samples may be higher than those presented here.
- The commonly accepted level for the limit of quantification (LOQ), or ability to quantify the concentration of an element, is 10 times the statistical noise.
- Only commonly occurring elements in each base material are listed. Vanta iX analyzers can measure many other elements.

Vanta iX IMR Model Alloy LODs (ppm)

Element	Fe Base	Cu Base	Al Base
Mg	—	—	780
Al	340	470	—
Si	100	145	65
P	45	35	—
S	50	100	—
Ti	100	—	100
V	45	—	25
Cr	30	25	30
Mn	45	15	20
Fe	—	35	7
Co	200	25	—
Ni	40	30	9
Cu	25	—	10
Zn	10	80	8
W	20	—	—
Pb	50	15	5
Bi	65	60	5
Zr	8	—	3
Nb	5	—	—
Mo	6	—	—
Sn	35	40	15
Sb	50	40	10