

Better Light Element Detection

The new graphene detector window in the Vanta VMR model replaces the conventional toxic beryllium window, improving the sensitivity for magnesium, aluminum, and silicon.

- Detect magnesium (Mg) faster in aluminum alloys (0.53% Mg in 3 seconds of beam 2)
- Lower limits of detection for aluminum (Al) in nickel alloys
- Better silicon (Si) detection in low-alloy steels

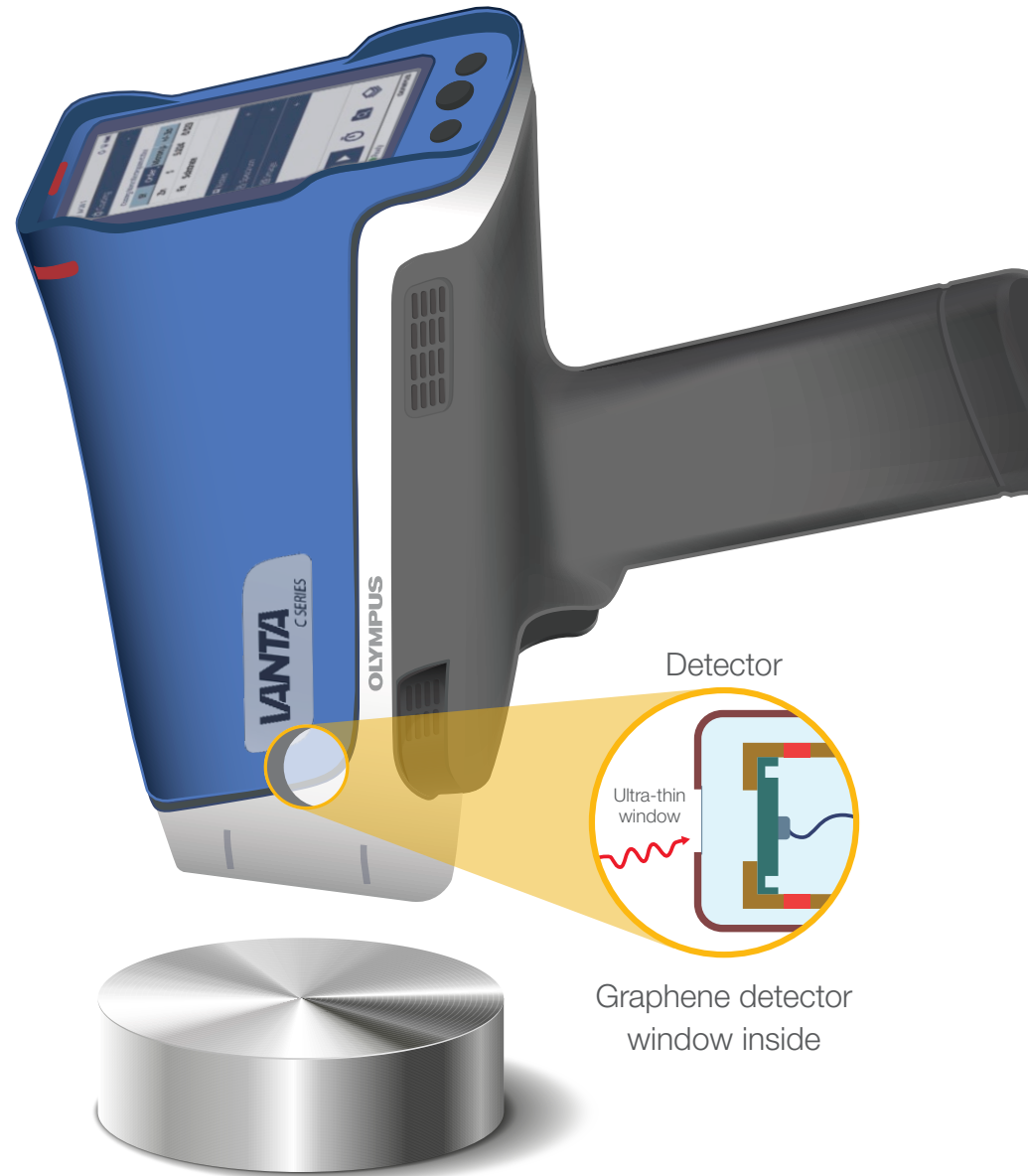
12 Mg	13 Al	14 Si
15 P	16 S	17 Cl
18 Ar	19 K	20 Ca
21 Sc	22 Ti	23 V
24 Cr	25 Mn	26 Fe
27 Co	28 Ni	29 Cu

Common elements for light element detection

El	%	+/- 3σ	2014-17
Al	92.73	0.61	90.60 - 95.70
Cu	4.39	0.20	3.50 - 5.00
Si	0.89	0.12	0.20 - 1.20
Mn	0.788	0.066	0.40 - 1.20
Mg	0.51	0.60	0.20 - 0.80
Fe	0.485	0.043	0.00 - 0.70
Zn	0.111	0.012	

X-rays on Exp. 2 of 2 (2 / 3 s) OLYMPUS

0.55% mg of Al in a 3-second test



Detector

Ultra-thin window

Graphene detector window inside