

Omega Xpress Series

Advanced Handheld/Portable Alloy Analyzers



Ultimate XRF Performance with Silicon Drift Detector (SDD) Technology

The Innov-X Omega Xpress and Omega Xpress Vacuum Alloy Analyzers utilize the latest in detector technology - an innovative, large area Silicon Drift Detector (SDD), commonly used and tested extensively in high end, laboratory based instrumentation. In comparison to a traditional Si PiN Diode detector, the SDD provides:

- > 10x improvement in signal to background ratio
- > Marked resolution improvement, from 195eV to 165eV
- > The capacity to handle 10x more counts

Key benefits to the user:

- > >3x improvement in reading speed.
- > Light element (Mg, Al, Si, P, S) analysis in air
- > 3x better limits of detection for sensitive tramp elements

Superior Aluminum Analysis

Rechargeable Vacuum for Convenient & Best Mg Analysis

The Omega Xpress Vac with exclusive SDD + Vacuum Purge provides **unrivaled Mg in Al performance** compared to any portable XRF available on the market today.

- > Separate challenging aluminum grades such as, 3003/3004, 1100/6063, 2014/2024, many more...

Magnesium LOD in Aluminum Alloys	
Model	60 sec LOD
Omega Xpress (Air)	1.00%
Omega Xpress Vacuum	0.25%



Focus

- Handheld XRF
- Metal/Alloy Sorting/ID
- Silicon Drift Detector
- Rechargeable Vacuum
- Light Element Analysis
- Best Aluminum Analysis



Omega Xpress Series Key Advantages

- > **Exclusive!** High power 4W X-ray tube for maximum count rates with no compromise on radiation safety
- > Ultrafast - simple sorting in as little as 1 second
- > **Exclusive!** Superior Mg and other light element performance with no compromise on transition and heavy metals
- > **Exclusive!** Revolutionary dual vacuum/air operation with the Omega Xpress Vacuum for unparalleled flexibility. Use air mode for typical analyses situations, and use vacuum mode for challenging Mg measurement

Greater Speed = More Tests = Improved Bottom Line

With an advanced Innov-X Xpress Series analyzer, testing times can be dramatically reduced to reach the necessary precision for confident alloy identifications or quality control specification ranges. What used to require a 5-10 second test with a Si PiN based analyzer only requires 1-2 seconds with an SDD based Innov-X analyzer! From a customer standpoint, this could translate into hundreds of additional tests per day. From metal sorting and ID in the scrap recycling industry to PMI applications in the petrochemical/refining and power industries, to quality assurance within the automotive, aerospace and general manufacturing industries, the Omega Xpress Series' superior performance can improve your bottom line.

PRODUCT BRIEF

Omega Xpress Performance Data

The data in Table 1. shows accuracy and precision for the Omega Xpress Alloy Analyzer (in air), testing three different low alloy steels. Results (averages) are calculated using ten, 5 second tests on each material. The Omega Xpress analyzer shows exceptional accuracy and precision.

Standard		Ti	Cr	Mn	Ni	Cu	Mo	W
CKD 163e	Certified %	0.090	0.070	0.220	0.070	0.170	0.020	
	Measured %	0.124	0.069	0.201	0.090	0.157	0.026	
	+/-	0.030	0.010	0.020	0.023	0.018	0.001	
CKD 168d	Certified %		0.130	0.810	2.760	0.100	0.560	0.580
	Measured %		0.118	0.721	2.550	0.115	0.526	0.528
	+/-		0.010	0.030	0.080	0.020	0.010	0.050
CKD 165d	Certified %		0.170	1.630	0.150	0.090	0.050	
	Measured %		0.164	1.527	0.135	0.087	0.054	
	+/-		0.010	0.040	0.030	0.011	0.001	

Table 1. Omega Xpress Alloy Analyzer (air) accuracy and precision - average of ten, 5 second analyses

Table 2 shows results on a low alloy steel sample, comparing accuracy and precision for 5 second and 20 second long tests. The accuracy and precision reached with the 20 second tests - a longer than normal test for this type of application using an Xpress analyzer - is excellent and may meet QC testing goals in many manufacturing environments.

Test Time	CKD 163e	Ti	Cr	Mn	Ni	Cu	Mo
5 seconds	Certified %	0.090	0.070	0.220	0.070	0.170	0.020
	Measured %	0.124	0.069	0.201	0.090	0.157	0.026
	+/-	0.030	0.010	0.020	0.023	0.018	0.001
20 seconds	Certified %	0.090	0.070	0.220	0.070	0.170	0.020
	Measured %	0.083	0.074	0.202	0.064	0.156	0.024
	+/-	0.020	0.006	0.010	0.010	0.010	0.001

Table 2. Omega Xpress Alloy Analyzer (air) accuracy and precision results on low alloy steel - average of ten, 5 second and 20 second analyses

Magnesium in Aluminum Performance

Figures 1. and 2. show a comparison of Mg performance for the air-based Omega Xpress Alloy Analyzer and vacuum-based Omega Xpress Alloy Vacuum Analyzer, respectively. These graphs demonstrate the incremental precision improvement in using the Vacuum system for Mg analysis.

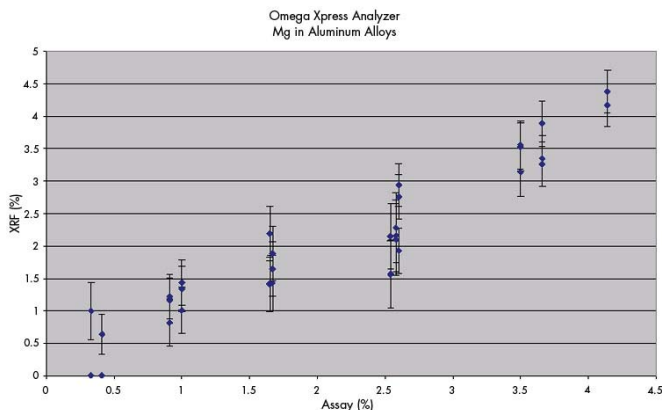
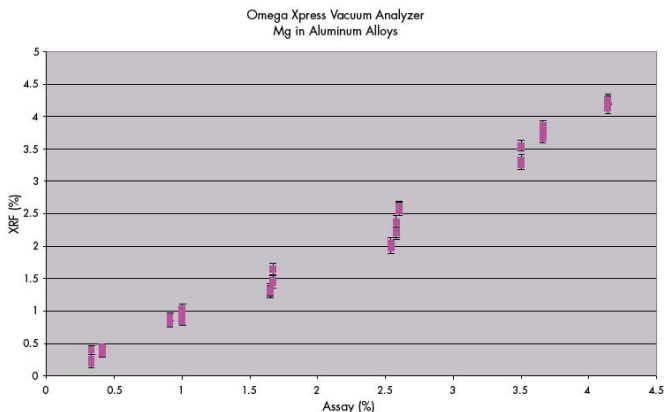


Figure 1. (above) Mg in Al Performance - Omega Xpress (air)

Figure 2. (above right) Mg in Al Performance - Omega Xpress Vac



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