

## ARL 9900 X-Ray Spectrometer

2500W – Rh anode X-ray tube

### PRECISION FOR SLAGS APPLICATION

Samples prepared in the form of pressed powders.

Analysis on goniometer

Compound	Measured Element	Range (%)		Typical Precision (%) in 20s		Guaranteed Precision (%) in 20s		Limit of detection ppm In 40 sec.
		Low level	High level	Low level 1 sigma 20 sec.	High level 1 sigma 20 sec.	Low level 1 sigma 20 sec.	High level 1 sigma 20 sec.	
CaO	Ca	15	66	0.032	0.07	0.064	0.14	N.A.
SiO <sub>2</sub>	Si	5	50	0.015	0.045	0.03	0.09	143
MgO	Mg	1	30	0.009	0.042	0.018	0.084	129
Al <sub>2</sub> O <sub>3</sub>	Al	0.5	25	0.009	0.042	0.018	0.084	179
Na <sub>2</sub> O	Na	0.3	1.4	0.001	0.008	0.002	0.016	200
K <sub>2</sub> O	K	0.01	2	0.0005	0.0025	0.001	0.005	N.A.
FeO	Fe	0.2	40	0.007	0.053	0.014	0.11	143
MnO	Mn	1.0	4	0.007	0.011	0.014	0.022	N.A.
P <sub>2</sub> O <sub>5</sub>	P	0.05	1	0.001	0.0013	0.002	0.0026	14
Cr <sub>2</sub> O <sub>5</sub>	Cr	0.015	2	0.002	0.011	0.004	0.022	36
V <sub>2</sub> O <sub>5</sub>	V	0.02	1	0.001	0.007	0.002	0.014	29
TiO <sub>2</sub>	Ti	0.3	3	0.006	0.018	0.012	0.036	21
CaF <sub>2</sub>	F	0.02	3.6	0.027	0.07	0.054	0.14	250
SO <sub>3</sub>	S	0.1	1.5	0.0012	0.003	0.0024	0.006	57
ZnO	Zn		0.02		0.0012		0.0025	18

Note: - Precision is repeatability (1 sigma) for 10 consecutive analyses of the same pressed pellet.

- Pressed pellets with binder (30:1 dilution)

- N.A. not applicable due to the high concentration range considered

- Above precision data are expressed as 1 sigma. For 2 sigma data, just multiply them by factor 2.

- Precision for fixed channels will be equal or better to the goniometer

- We do not guarantee accuracy as it is too dependant on the sample preparation