Choosing the Right Optical Emission Spectrometer: ARTUS 8 vs MERLIN 4

At ARUN Technology, our Optical Emission Spectrometers (OES) set the benchmark for precise and reliable metal alloy analysis. Both the **ARTUS 8** and **MERLIN 4** are designed to deliver fast, accurate results with intuitive software, bespoke calibrations, and extensive grade libraries. But how do you decide which model is right for your needs?

Let's break it down.

Understanding the Key Differences

Both the ARTUS 8 and MERLIN 4 use advanced detector technology to analyse metal compositions, but they differ in the number and configuration of their detectors.

- **MERLIN 4 Series**:
    - Available in **Visible** and **Ultra** models
    - Equipped with **11 or 12 detectors**
    - Wavelength detection range: **205-521nm (Visible) or 175-521nm (Ultra)**
    - Best for non-ferrous applications where far UV detection is not required
- **ARTUS 8 Series**:
    - Available in **Standard** and **Ultimate** models
    - Features a **dual optic system** for separate visible and UV wavelength processing
    - Equipped with **14 (Standard) or 15 (Ultimate) detectors**
    - Wavelength detection range: **170-680nm (Standard) or 140-680nm (Ultimate)**
    - Ideal for ferrous applications and elements requiring far UV detection, such as Nitrogen

Which Model is Right for You?

Choosing between the ARTUS 8 and MERLIN 4 depends on your specific analytical requirements. Here's a quick guide:

Application	**Best Model**
Non-ferrous applications where UV elements are not required	**MERLIN 4 Visible**
Applications requiring some UV element detection (e.g. C, P, S, As, Sn, B)	**MERLIN 4 Ultra**
Ferrous applications with important elements in the UV range (e.g. C, P, S, As, Sn, B)	**ARTUS 8 Standard**
Advanced applications requiring far UV element detection (e.g. Nitrogen)	**ARTUS 8 Ultimate**

Performance & Efficiency

The ARTUS 8 models provide a broader detection range, making them better suited for applications requiring far UV element analysis. Meanwhile, the MERLIN 4 models offer excellent performance for non-ferrous metals and applications where far UV detection isn't necessary.

Both spectrometers ensure **low operating costs**, efficient **argon consumption**, and compact designs for laboratory and industrial use.

Making Your Decision

If your work demands comprehensive element detection, including far UV elements like Nitrogen, the **ARTUS 8 Ultimate** is the best choice. However, if your needs are more focused on non-ferrous metals and standard UV range detection, the **MERLIN 4 Ultra** provides a cost-effective solution.

Need further guidance?
Contact our team at sales@aruntechnology.com for expert advice on selecting the right OES for your needs!

Unit 16, The Brunel Centre, Newton Road, Crawley, West Sussex, RH10 9TU
01293 513 123
www.aruntechnology.com