

DF-410 Full Spectrum OES



Introduction

- 1) Czerny-Turner optical system is applied for a better plane CCD collection for all elemental wavelength that falls into 140-750nm.
- 2) Self-developed DF-IV collection device is able to collect all elemental wavelength between 140nm and 750nm.
- 3) Several matrices can be analyzed such as Fe, Cu, Al, Zn, Ni, Sn, Ti, Mg, etc.
- 4) Module design for independent light collection, data processing and data optimization. With the help of high-performance ARM processor and real-time operational system, analytical time is largely shortened and accuracy is further improved.
- 5) A highly-precise thermostatic system improves the energy efficiency to a great extent. The temperature fluctuation range of $\pm 0.2^{\circ}\text{C}$ makes the DF-410 perform more stable.
- 6) The DF II-E digital-controlled light source broadens the elemental analytical range which covers trace elements, macro elements and elements with super high content.

- 7) Plane grating allows smaller number of CCD, further improving the accuracy and stability. It also occupies smaller space and makes set-up and movement a lot easier.
- 8) A whole new gas way; spark stand with cleaning function; adjustable master-slave gas ways equipped with a sealing device which prevents argon leakage; Quicker argon fulfillment.
- 9) The multipurpose operational software can meet various needs by displaying elemental data in a flexible way and supporting various printing formats.

Specifications

optical system	structure	Czerny-Turner
	curvature radius	400mm
	IV holographic original grating with aberration correction function	2400 ruled lines/mm
	wavelength range	140-750nm
	pixel resolution	@200nm:7pm
	vacuum optical chamber with auto thermostatic system	30±0.2°C vacuum range: 1.2-2.5 Pa
light source system	light source	digital controlled spark pulse
	control technique	PWM
	discharge current	10-400A
	excitation frequency	100-800Hz
	discharge duration	10-10000µs
spark stand	excitation chamber with minimum argon use	
	easily-changeable foundation(lid)	
	mobile fixing pin	
data collection and control system	CCD detector with high resolution	
	linear CCD: Toshiba	
	high-speed 16-bit A/D conversion	
	resolution: 3648 pixel	
	real-time control on temperature and vacuum state	
others	ethernet	
	matrices	Fe, Cu, Al, Ni, Zn, Sn, Ti, Mg, etc.
	channel configuration	multiple matrices and channels
	dimensions(mm)	970*415*640
	environmental requirement	T 10°C-35°C

DFAIC[®]
S p e c t r o m e t e r

		H 20%-80%
	weight	130Kg (net weight), 180Kg (gross weight)
	V/F	AC220V±10%/50Hz
	power	max 800VA standby 100VA
	argon	purity≥99.994%, press≥0.3MPa