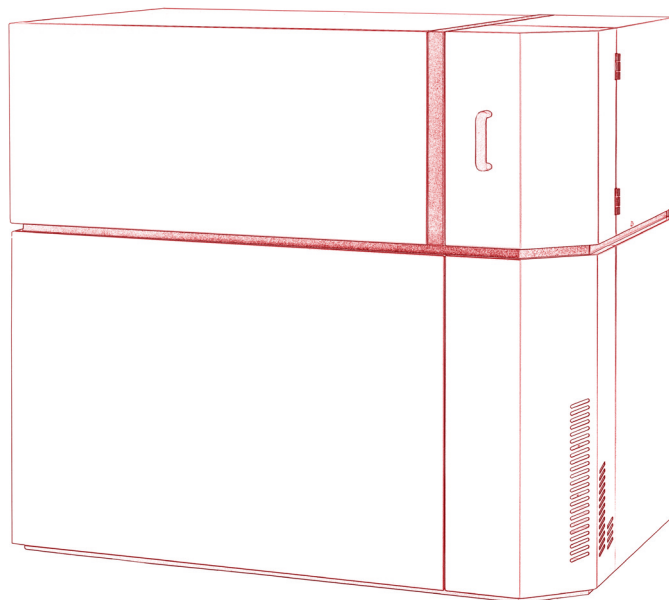


# GDA 750 HR

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The GDA 750 HR is an extremely sensitive high-performance spectrometer to determine the chemical composition of surfaces and coatings. With up to 79 analytical element channels, using photomultiplier tubes, the GDA 750 HR glow discharge spectrometer is perfect for demanding applications requiring flexibility, high resolution, and analytical precision.

SPECTRUMA developed this optional high resolution CCD optics that extend the analytical capabilities of the GDA 750 HR into unparallel dimensions. Due to the unique function of the CCD detector one can add almost an unlimited amount of analytical CCD channels to any given method. This flexibility permits the fast determination of the composition and thickness of technical coatings. All elements including the light ones as H, O, N, Cl, C and even deuterium may be determined quantitatively.

Primarily designed to analyse coatings up to a depth of 200  $\mu\text{m}$ , with a resolution of one nanometre on the surface and 5 % relative in deeper regions, the GDA 750 HR is also capable of bulk analysis (chemical composition of materials) providing superior linearity of calibration

curves for complex matrices. The detection limits at most are 0.1 ppm.

The GDA 750 HR is equipped with a newly developed glow discharge excitation source allowing sputtering diameters of 8 mm to 1 mm. Due to the small sealing ring of only 5 mm in diameter, the analysis of small and geometrically complicated samples is possible.

The universal sample unit (USU) can be used optionally for the analysis of non-flat or very small samples which would not seal with the normal O-ring.

The instrument is also equipped with a radio frequency (RF) excitation source to analyse non-conductive materials. Using this RF glow discharge lamp, the GDA 750 HR is unsurpassed in analysing non-conductive materials such as ceramics, glass and paint layers, using the standard lamp set or a specially designed version of the universal sample unit.

The GDA 750 HR can additionally be upgraded with a newly developed external plasma ignition that enables extremely low excitation conditions. The range of applications in the material analysis is extended again.

# GDA 750 HR

	MODEL	GDA 750 HR
<b>Optics</b>	Polychromator/ Focal length (mm)	750
	PMTs (photomultiplier tubes)	x
	Max. channels	63
	CCD (charge-coupled device)	-
	Wavelength range (nm)	120 - 800
<b>GD Source</b>	Direct current source (DC)	x
	Radio frequency source (RF)	x
	Standard anode diameter : 2.5 mm or 4 mm	x
<b>Vacuum</b>	Vacuum chamber	Rotary vane pump
	Glow discharge lamp	Scroll vacuum pump
	Number of vacuum pumps	2
<b>Cooling</b>	Closed sample cooler	x
<b>Options</b>	CCD (400 mm)/ Wavelength range (200 - 800 nm)	x
	CCD- extension	-
	PMT- extension (400 mm) for max. 16 PMTs	x
	Monochromator/ PMT wavelength range (200 - 1200 nm)	x
	External plasma ignition	x
	Universal sample unit (DC)	x
	Universal sample unit (RF)	x
	Universal sample unit for wires	x
	Scroll vacuum pump	x
	Turbomolecular pump	x
	Automatic sampling unit	x
	Transfer chamber	x
	External cooling (type Julabo)	x
	Open sample cooler	x
	Gas switcher for alternative plasma gases 2/ 3 gases	x
Anode diameter (additional) : 1 mm, 2.5 mm, 4 mm, 8 mm	x	
Molecular spectroscopic database	x	
<b>Dimensions</b>	Length/ Width/ Height (mm)	1445/ 890/ 1380
	Weight (kg)	580