BioLAB

PRODUCT CATALOG

INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER

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INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER

Inductively coupled plasma atomic emission spectroscopy (ICP-AES) is very sensitive technique in emission spectroscopy that measures the mass percentage of the metals in the metal/polymer nanocomposites by exciting its metal atoms/ions by using a plasma and analyzing the emission wavelength of the electromagnetic radiation.
Used in Environmental, Metallurgical, Geological, Petrochemical, Pharmaceutical, Food safety.

BICP-701 INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER

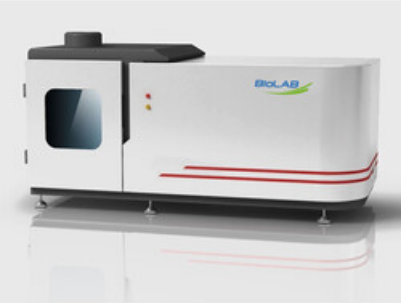
Standard. 3600 line grating: (190 nm ~ 500) nm; 2400 line grating: (190 nm ~ 800) nm

SPECIFICATIONS

Model	BICP-701
RFPower technical parameter	
Circuit type:	solid-state RF power supply, with function of automatch
Frequency:	27.12 MHz ± 0.05%
Frequency Stability	< 0.1 %
Power Output:	800 W - 1200 W
Power Output Stability:	< 0.3 %
Escaped RF radiation:	30 cm away from the instrument, electric field: E < 2V/m
Sampling System Technical Parameter	
Output working coil inner diameter:	25 mm
Torque tube:	Three concentric, external diameter 20 mm
Coaxial nebulizer:	Outer diameter 6 mm
Double barrel atomizing chamber:	Outer diameter 34 mm
Gas Flow Controls	
Plasma Argon Flowmeter:	(100-1000) L/h (1.6-16 L/min)
Auxiliary Argon Flowmeter:	(10-100) L/h (0.16-1.66 L/min)
Carrier Argon Flowmeter:	(10-100) L/h (0.16-1.66 L/min)
Pressure Maintaining Valve	0 - 0.4 MPa
Cooling Water:	Temperature: 20-25 °C, Rate of Flow >5 L/min, Hydraulic Pressure >0.1 Mpa
Spectrometer	
Optics:	Czerny-Turner type
Focal length:	1000 mm
Grating:	Ion Beam Etching Holographic Grating, 3600 L/mm or 2400 L/mm
Reciprocal linear dispersion:	0.26 nm/mm

Resolution:	≤ 0.007 nm (3600 line grating); ≤ 0.015 nm (2400 line grating)
Wavelength range:	3600 line grating: (190 nm ~ 500) nm; 2400 line grating: (190 nm ~ 800) nm
Minimum pace of stepping motor:	≤ 0.0006 nm
Exit Slit:	12 μm
Entrance Slit:	10 μm
Photoelectric Converter Performance	
Photomultiplier tube specification:	R293/R928
Negative HV on PMT:	0 - 1000 V
Stability:	< 0.05 %

BICP-702 INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER



Petrochemical. Ion Beam Etching Holographic Grating, 3600 L/mm or 2400 L/mm.

SPECIFICATIONS

Model	BICP-702
RFPower technical parameter	
Circuit type:	solid-state RF power supply, with function of automatch
Frequency:	27.12 MHz ± 0.05%
Frequency Stability	< 0.1 %
Power Output:	800 W - 1200 W
Power Output Stability:	< 0.3 %
Escaped RF radiation:	30 cm away from the instrument, electric field: E < 2V/m
Sampling System Technical Parameter	
Output working coil inner diameter:	25 mm
Torque tube:	Three concentric, external diameter 20 mm
Coaxial nebulizer:	Outer diameter 6 mm
Double barrel atomizing chamber:	Outer diameter 34 mm
Gas Flow Controls	
Plasma Argon Flowmeter:	(100-1000) L/h (1.6-16 L/min)
Auxiliary Argon Flowmeter:	(10-100) L/h (0.16-1.66 L/min)
Carrier Argon Flowmeter:	(10-100) L/h (0.16-1.66 L/min)
Pressure Maintaining Valve:	0 - 0.4 MPa
Cooling Water:	Temperature: 20-25 °C, Rate of Flow >5 L/min, Hydraulic Pressure >0.1 Mpa
Spectrometer	

Optics:	Czerny-Turner type
Focal length:	1000 mm
Grating:	Ion Beam Etching Holographic Grating, 3600 L/mm or 2400 L/mm
Reciprocal linear dispersion:	0.26 nm/mm
Resolution:	≤ 0.007 nm (3600 line grating); ≤ 0.015 nm (2400 line grating)
Wavelength range:	3600 line grating: (190 nm ~ 500) nm; 2400 line grating: (190 nm ~ 800) nm
Minimum pace of stepping motor:	≤ 0.0006 nm
Exit Slit:	12 μm
Entrance Slit:	10 μm
Photoelectric Converter Performance	
Photomultiplier tube specification:	R293/R928
Negative HV on PMT:	0 - 1000 V
Stability:	< 0.05 %

BICP-703 INDUCTIVELY COUPLED PLASMA EMISSION SPECTROMETER

Full spectrum direct reading. Precision constant temperature,35 ± 0.1 °C,Distributed nitrogen purging, normal purging 1.8 L/min, fast purging 3.8 L/min.

SPECIFICATIONS

Model	BICP-703
RFPower technical parameter	
Circuit type:	solid-state RF power supply, with function of automatch
Frequency:	27.12 MHz ± 0.05%
Frequency Stability	< 0.1 %
Power Output:	800 W - 1500 W
Power Output Stability:	< 0.3 %
Escaped RF radiation:	30 cm away from the instrument, electric field: E < 2V/m
Sampling System Technical Parameter	
Output working coil inner diameter:	25 mm
Torque tube:	Three concentric, external diameter 20 mm
Coaxial nebulizer:	Outer diameter 6 mm
Double barrel atomizing chamber:	Outer diameter 34 mm
Gas Flow Controls	
Plasma Argon Flowmeter:	(100-1000) L/h (1.6-16 L/min)
Auxiliary Argon Flowmeter:	(100-100) L/h (0.16-1.66 L/min)

Carrier Argon Flowmeter:	(100-100) L/h (0.16-1.66 L/min)
Pressure Maintaining Valve:	0 - 0.4 MPa
Cooling Water:	Temperature: 20-25 °C, Rate of Flow >5 L/min, Hydraulic Pressure >0.1 Mpa
Technical index of spectrometer	
Grating:	Middle step grating,52.67 lp/mm,64 sparkle angle
Wavelength range:	160-1000 nm
Numerical aperture:	F < 8, ultra-high luminous flux to ensure the detection limit and sensitivity of the instrument
Resolution:	< 0.0065 nm @ 200 nm
Astigmatism:	Equivalent background concentration of 10000 ppm Ca solution at As 189.042 nm <2 ppm
Light chamber:	Precision constant temperature,35 ± 0.1 °C,Distributed nitrogen purging, normal purging 1.8 L/min, fast purging 3.8 L/min
Testing device technical specifications	
Detector:	CID
Target Size:	27.6 mm x 27.6 mm, 1024 x 1024 addressing detection units
Reading mode:	Non-destructive read (NDRO), full reading (FF) and arbitrary read integral (RAI)

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