«GNR ANALYTICAL INSTRUMENTS » maufactures analytical instruments and develops analytical procedures for various applications. We supply the appropriate instrument for the analytical requirement and provide training, consultancy, Service, and Customer support.

SOLARIS-CCD NF

OFFER N.
CUSTOMER :
Address :
Tel.:
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Att. Mr.

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Specifications of SOLARIS-CCD NF

The optical emission spectrometer SOLARIS-CCD NF **is an optic multi - channels spectrometer suitable for the analysis of solid metallic samples, alloys in muti-matrices.**

The proposed SOLARIS-CCD NF is equipped with:

1. **Optical system**
2. **Optical lines**
3. **Control, Acquisition Electronics and read out system**
4. **Spark Source**
5. **Spark Stand**
6. **Software**
7. **Control station : computer**

DESCRIPTION OF THE COMPONENTS:

1. OPTICAL SYSTEM

- **Multi High Resolution CCD Multi detectors (Charge Coupled Device) system with up to 16 CCD solid state detectors depending on the application.**
- **Each CCD has 3,648 active elements (pixels equivalent)**
- **High luminosity holographic grating with 3600 grooves per mm.**
- **Stabilized against fluctuations in temperature**
- **Special material for drift free**
- **Focal length 300 mm for all optical systems**
- **Spectral optical wavelength 190 - 900 nm depending on selected diffraction grating. Grating selection is made by manufacturer depending on analytical programs and elements.**
- **Automatic profiling full optical system**
- **Air tight optical chamber sealed against light and dust.**

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2. OPTICAL LINES

- **SOLARIS-CCD NF can be equipped with all the needed spectral lines basing on analytical programs requested.**
- **Optical system includes full range multi-chanel CCDs solid state detectors able to measure the whole optical spectra emitted by all elements in the samples.**
- **It's always possible to integrate new spectral lines (elements) for future upgrade**
- **Possible on site addition of analytical programs.**

3. CONTROL, ACQUISITION ELECTRONICS and READ OUT

- **Electronic system with integrators multi-channels and Data System Acquisition PC controlled by microprocessor.**
- **High speed 16 Bit ADC**
- **Mixed Signal ISP Flash MCU 100 MHz**
- **Serial Source Interface**
- **High speed readout with high speed interface USB for fast data processing and controlling the system**
- **Up to 16 input for CCD modules. CCD modules selected by manufacturer.**

4. SPARK SOURCE

- **Full automatic controlled source**
- **Solid state spark source semiconductor controlled.**
- **Plasma current from 1 to 100 A**
- **The discharge parameters are protected by password.**
- **Variable discharge parameters for individual analytical tasks**
- **The spark source is stabilized against variations of the power supply.**
- **Excitation parameters configurated and controlled according to excitation lines and analytical programs.**
- **Spark source with variable parameters.**
- **Spark Frequency: 1 up to 1000 Hz (controllable)**
- **Spark time 10-10000 us (controllable)**

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5. SPARK STAND

- **The open universal spark stand allows to analyse samples up to 20 Kg and suitable for samples in different forms.**
- **The electrode is easily removable for maintenance.**
- **Argon flushed spark stand with minimum consumption of Argon.**
- **Quick change with simple designed sample clamp for fast sample throughput.**
- **Small adapters for different samples are also available for various kind of samples(options).**

6. SOFTWARES : ANALYTICAL SOFTWARE, CALIBRATION SOFTWARE AND STATISTIC FUNCTION

for calculation of calibration curves for each elements into consideration of various matrixes (references) available for the calculation of analytical results.

Software allows for:

ANALYTICAL AND CALIBRATION SOFTWARE:

- **SMARTCAL : standardisation using a single sample**
- **Easy GUI (Graphic Interface User) system**
- **Creation or modification analytical programs**
- **Function keys for routine operations**
- **Output unit selectable (intensities, intensities ratios, uncorrected concentrations, corrected concentrations etc)**
- **Selectable concentrations units (ppm, %)**
- **Global recalibration**
- **Mini calibration (Type recalibration)**
- **Correction of inter elemental interferences.**
- **Automatic standardisation.**
- **Standard deviation and relative standard deviation functions.**
- **Repeat or reject one or more discharges.**
- **Determination type of alloy (quality name) according to the requested norm (UNI, ISO, DIN, EN, ASTM, JIS, BS, etc.)**
- **Standards library**
- **International norms library**
- **Quality identification**

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- **Calculation of Carbon equivalence or any other parameter consequent to the analysis.**
- **Signalling of out prefixed range elements.**
- **Possibility of automatic signal for recalibration depending on time or on spark number**

STATISTIC SOFTWARE functions:

- **Statistic calculation.**
- **Printing of all discharges or only the average of up more than 100 discharges, standard deviation and relative standard deviation.**
- **Printing in different languages. (English, French, Italian, German, Spanish, Portuguese, Czech, Polish). % Languages at customer choice alteady pre-configured.**
- **Possibility of Chinese, Japanese, Russian Softwares (Optional Upon request)**
- **Filing on Hard Disk of all data with possibility of researching various keys.**
- **Connection to external computers or central/server system.**

- ***General properties:***

  *** Software with 32bit application**

  *** Fonts, font-sized setup up to setting on screen**

  *** Date/time formats compatible with Windows setup**

  *** Various icons for quick access to output functions or dialogues**

  *** Drop lists for File, Filter, View**

  *** unlimited number of elements**

  *** unlimited number of sample id fields**

  *** Help task**

  *** Manual as MS-Word file or PDF (Acrobat Reader)**

  *** Fully automatic control and automatic diagnostic function**

- ***Database:***

  *** Import, Export**

  *** Communication & Instrument interfacing**

  *** File for sharing, transfering…**

  *** Export to files, statistic programs…**

- ***Documentation:***

  *** Standard print, page set-up with logo or letter head functions**

  *** Printer set-up, Print Preview**

  *** Data printing, curves printing…**

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- ***Analyses management:***

  *** Database management and controller**

  *** Multiwindows for multi tasks working**

  *** Unlimited number of views for analyses table**

  *** Search function for all data fields in view**

  *** Edit function for analyses**

  *** Click'n'mark analyses selection**

  *** Display formats with elements, forms, dimensions, decimals**

  *** Copy function**

  *** Units & dimensions (unlimited number)**

  *** Manual analysis input and sample identification**

  *** Optional sample code imput using bar code reader**

  *** Transparent access thru all sample-ids & element fields**

  *** Applicable for all analyses views and outputs**

  *** Quality database**

  *** Quality control function**

  *** Quality identification**

  *** Display of quality control in the analyses table**

  *** Automatically check of received qualities for existence**

  *** Formula editor with extended possibilities**

  *** Formula calculation**

  *** Numeric statistics (no., sum, average, abs./rel std dev., min, max, range)**

  *** Macro programs, with asynchronous execution**

  *** Macro sequences, with asynchronous execution**

  *** Job server for automatic event, or scheduled macro execution**

7. CONTROL STATION : PERSONAL COMPUTER

Thanks to the high speed USB connection is possible to connect any kind of computer. Able to use laptop or desktop PC for operation

State of art computer to be supplied with the instrument (OPTIONAL):

Computer : Laptop Or Desktop (Selectable) installed and prechecked compatible with the software

Pentium Dual-Core, RAM 2048MB

HDD >160 GB at 7.200 rpm , DVD—CD-DVDRW-CDRW

LCD 17" or 19" TFT display

Windows XP with license

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Ethernet, VGA, USBs… interfaces

Keyboard, Mouse

Printer : Color HP Deskjet printer or equivalent

GNR also recommends to purchase the PC and printer locally. The control system will be checked and installed the software by our technicians or trained technicians from distributors.

(Specifications of PC may be better at the time of purchasing upon the market)

8. DIMENSIONS (table excluded)

Dimension : P45 x L60 x H50 cm

Weight: aprox. 50 Kg

9. POWER SUPPLY :

110/220V +/- 10%, single phase, 50/60 Hz

16 A, < 1.0 KVA

10. OTHER CONDITIONS :

Working temperature range : +10°C - +35°C

Working humidity : 15 – 85%

Argon upstream pressure : ~200 bar

Argon inlet pressure : ~3,5 bar

Argon quality (min.) : 5.0 (99.999% Ar)

Argon flow rates

*** Stand-by : 0.001l/h**

*** Constant flow : 0.5 l/h**

*** Analytical flow : 180l/h (3lt/analysis)**

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GENERAL CONDITIONS OF SALE

Prices shown in our offer are ex-works GNR
Transport charges: at customer charges
Packing: included (suitable for airfreight shipment)
Delivery: 40-60 working days from L/C opening
Payment conditions: 100% irrevocable L/C payable at sigh against shipping documents
Guarantee: 12 months from signature of minutes of end of installation, however not over 18 months from G.N.R communication of goods ready for delivery, should the installation be delayed for causes not depending by G.N.R.. Consumable are not subject to guarantee .
Interventions: Every intervention carried out under the guarantee clause is rendered subordinate to the Client having complied with the payment conditions. Every intervention carried out outside G.N.R. Italy location is subjects to the payment by the customer of travel and board expenses borne by G.N.R. technician. Such expenses will be invoiced at cost.
The Seller will keep the property until full payment of instrument
Technical specifications can be changed at any time if necessary due to technical progress

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