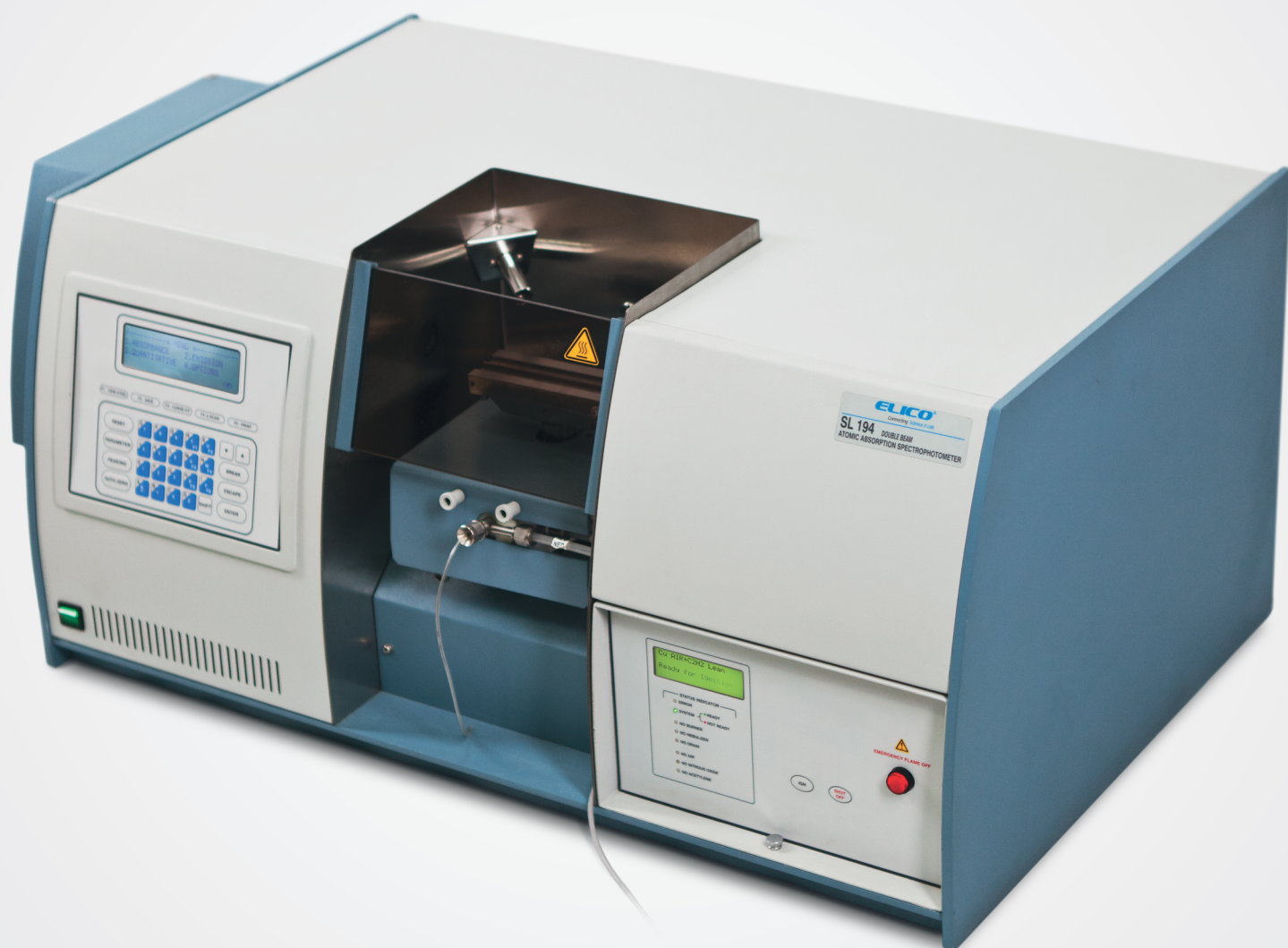


SL 194

PRODUCT SPECIFICATION SHEET

True Double Beam Atomic Absorption Spectrophotometer





Burner Alignment



Double Beam



LCD Display



Auto Ignition



PC

Fully Computer Controlled.

High Energy True Double Beam Optics with Narrow Beam, fully sealed and Quartz over coated mirrors.

Automated Six/Eight lamp turret compatible to coded & non-coded Hollow Cathode Lamps with independent Power Supply and Alignment for each Lamp.

Integral Micro Controller based Auto Flame control with all safety features.

SALIENT FEATURES

- Standalone Operation in case of PC failure.
- Microcontroller based user friendly, Menu driven with printer interface and optional PC attachment through USB interface.
- Modes of operation include Absorbance, Emission and Concentration.
- Background correction with D₂ lamp source.
- Auto Saving of all parameters & Auto-Bandwidth Selection.
- Self Diagnosis, Automatic Wavelength Selection and Auto scan for Peak Searching.
- Burner Movement through Computer and Manual in all three directions - height, rotation and lateral.
- The Software has facilities to repeat the result of the sample and data treatment.
- Automatic calculation of percentage and ppm in base material.
- Optimization of flame conditions for each element with detachable burner.
- Automatic Setting of Parameters by selecting the Element (including Hollow Cathode Lamp).

- Absorbance Mode has the facility to measure sample absorbance for selected number of points and to calculate Mean, SD and RSD.
- Microsoft Windows® based software for Instrument Operation for Data Control, Data Processing, Storage, Repeat Result, Retrieval, Interpretation, etc.
- **OPTIONAL** : Autosampler Attachment, Hydride Generator.

SOFTWARE FEATURES

- **Microsoft Windows® based PC operating Software.**
- Easy User Interface.
- Linear / Quadratic curve equation to predict the sample concentrations.
- Modes of operation include Absorbance, Emission, Concentration and Standard Addition.
- Saving facility for the scanned Data.
- Print facility for all the scanned Data in Graph and Tabular formats.
- Automatic burner optimization through PC.
- Flame Control through Software.
- Energy Profile Mode to scan the energy of HC Lamp, D₂ Lamp and Flame.
- We provide Open Source Software complying International Quality norms, compatible to run on MS- Windows® Platform.
- Software is 21 CFR Part 11 compliant with password method protection, Instrument logbook etc.

APPLICATIONS

In the fields of



Soil Testing



MicroNutrients



Agriculture



Metals



Water



Mines & Geology



Fertilizer



Environmental & Pollution



Food & Beverages



Oil & Gas



Pharmaceutical



Coal



Glass



Cement



Research



Pesticide



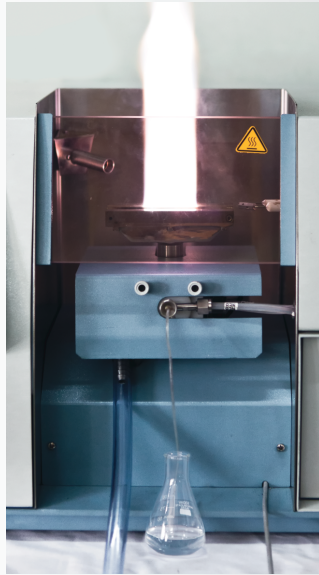
4 line Graphical Display



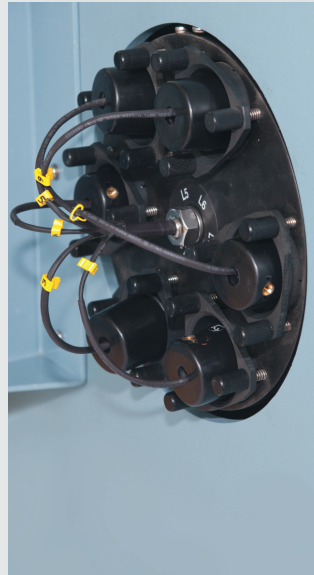
Auto Gas Box



Auto Burner Assembly with Air - Acetylene Flame

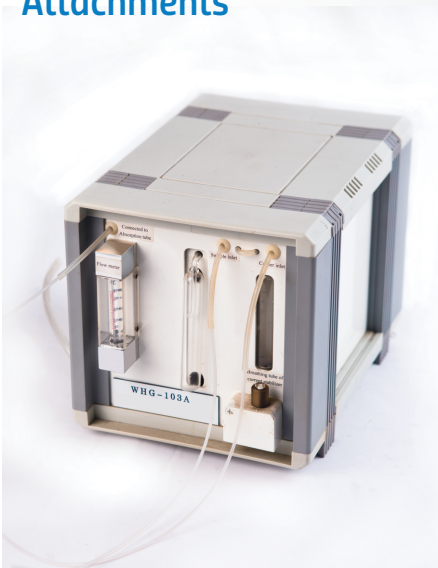


Auto Burner Assembly with Nitrous - Acetylene Flame

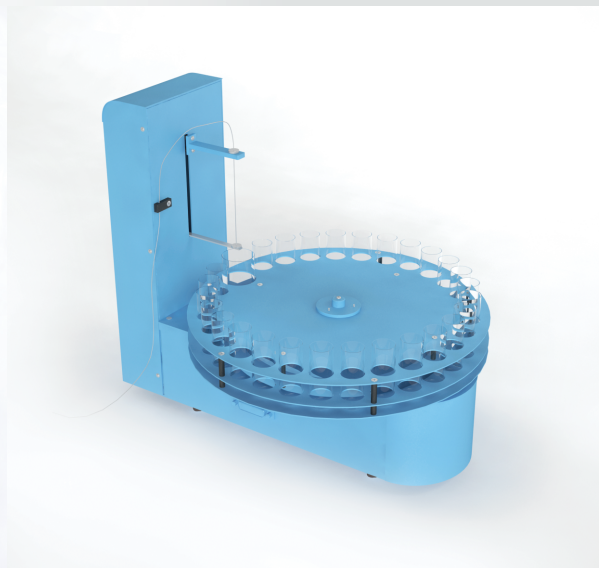


6 Lamp Turret (8 Lamp Turret Optional)

Attachments



Hydride Generator



Auto Sampler

SPECIFICATIONS

SPECTRAL

Range	185 to 900 nm
Bandwidth	Automatic variable slit from 0 to 2.5 nm continuously variable with increment of 0.1 nm
Readability	0.1 nm
Accuracy	± 0.5 nm
Repeatability	± 0.2 nm

DETECTOR

Wide Range Photo Multiplier Tube (PMT)

POWER SUPPLY

HC Lamp	0 to 30 mA modulated
D ₂ Lamp	15 to 300 mA modulated
PMT	-200 to -1000 Volts

DATA PRESENTATION

Display	240 X 64 dots Graphic LCD Module
Hard Copy	On printer (Centronics)

FLOW CONTROL

Integral Auto Gas Control System with LCD Display, Keyboard and all Fault Indicators with all safety features

Automatic Flame Changeover, Auto Ignition and Shut Off

Optimization of Flame Conditions for each Element with programmable Flame Control

SAFETY FEATURES

Full Safety Interlocks including Pressure Sensors on both lines, Flame failure Detection, Burner Presence and Recognition, Nebulizer Presence and Drain Sensor, Power Failure Protection and Emergency Flame Shut Off Switch and Flash Back Arrester on the Cylinder

PHOTOMETRIC

Range	0 to 2 Abs
Accuracy	± 0.010 Abs at 1.0 Abs
Integration Time	0.04 to 99 sec

LIGHT SOURCE

6/8 Lamps Automatic Turret with Independent Power Supply compatible to coded and non coded HC Lamps.

BACK GROUND CORRECTION

Deuterium Lamp (D₂)

MONOCHROMATOR

Czerney Turner 1/3 m with 1800 lines/mm Holographic Grating and Hard Coded Optics.

DATA PROCESSING

Microprocessor Mode	1. Absorbance 2. Emission 3. Quantitative Curve fit (Linear and Quadratic).
PC Mode	Microsoft Windows® based PC Operating Software with following Operations. 1. Absorbance 2. Concentration (Standard Calibration and Addition), Curve fit Options - Linear and Quadratic 3. Emission 4. Energy Profile

BURNER

Titanium construction, Premix Laminar Flow 100mm burner for Air - Acetylene (C₂H₂)

Optional - 50 mm burner for Nitrous Oxide (N₂O) - Acetylene (C₂H₂)

The Spray Chamber is made of Inert Material .i.e., PTFE (Teflon) fitted with adjustable impact bead Aerosol

FUEL

Acetylene (C₂H₂)

OXIDANT

Air / Nitrous Oxide (N₂O)

NEBULIZER

Made of fully Inert Material with 90% Platinum and 10% Iridium Alloy Capillary

SAMPLE FEED RATE 3 to 8 ml/min (Adjustable)

POWER REQUIREMENT

230 V \pm 10% AC, 50 Hz, 1 ϕ , 200 VA Max.

PHYSICAL DIMENSIONS

Size (WxDxH) in mm 822 (+90) x 550 x 395

Weight (in Kg) Approx. 70

SYSTEM UPGRADATION

Instrument can be upgraded to Hydride and Cold vapour Generator

ACCESSORIES SUPPLIED

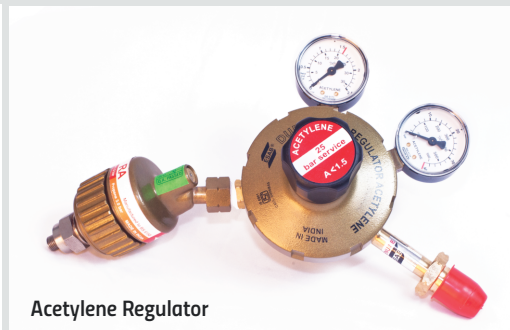
With Instrument 100 mm burner for Air - C₂H₂, Nebulizer with SS Capillary, Back Ground Correction with D₂ Lamp, Oil free Air Compressor with 100% Dustfree Air Filter, Acetylene (C₂H₂) regulator with Flashback Arrester

At extra Cost 50 mm burner for N₂O - C₂H₂, Nebulizer with Pt - Ir Capillary, N₂O Regulator, Nitrogen Regulator, HC Lamps for desired Elements coded or non coded, Hydride and Cold vapour Generator, Printer, PC Software, Computer, Exhaust Fumehood Chamber, Servo Controlled Voltage Stabilizer of suitable rating, Acetylene Gas Cylinder, Nitrous Oxide Gas Cylinder and Nitrogen Gas Cylinder

ACCESSORIES



Air Compressor



Acetylene Regulator



Nebulizer



Nitrous-Acetylene Flame Burner



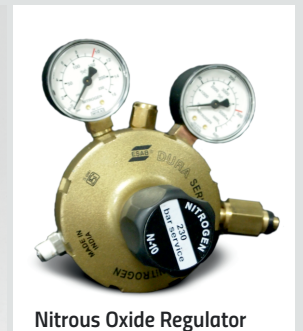
Air-Acetylene Flame Burner



HC Lamp (coded)



HC Lamp (uncoded)



Nitrous Oxide Regulator

Celebrating 60 years
of our Journey



www.elico.co/60years



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