Agilent Technologies, Inc. - Agilent 700 Series Inductively Coupled Plasma Optical Emission Spectrometers (ICP-OES)

GENERAL DESCRIPTION:

The Agilent 700 Series ICP-OES Inductively Coupled Plasma Optical Emission Spectrometers are compact, bench mounted elemental analyzers for use in the laboratory. They are used for the simultaneous determination of trace to % levels of elements in a wide range of matrix types.

The Agilent 700 Series ICP-OES are the world's most productive high-performance simultaneous ICP-OES.

- Continuous wavelength coverage provides extended dynamic range and reduced interferences, giving you maximum confidence in your results
- Robust plasma ensures reliable and reproducible results — even with the most complex matrices
- One view, one step measurement of major, minor, and trace elements, plus the fastest warm-up, increases throughput and productivity
- Choice of optimized axial or radial configurations to suit your application needs
- Superior software features providing enhanced productivity and outstanding ease-of-use

TECHNICAL DESCRIPTION:

A robust, argon based plasma is used to excite the elements of interest. The resultant emissions are directed through a thermostated, simultaneous echelle based optical system to a custom designed Peltier cooled CCD detector, allowing for fast simultaneous detection of elemental concentrations. Quantitative or semi-quantitative survey analysis modes are available. These instruments include a free-running, air-cooled 40 MHz RF generator with solid state HV power supply, purged echelle polychromator and full PC control of plasma viewing positioning and plasma gas flows. Fully web-integrated ICP Expert II software uses Agilent's worksheet concept for ease of use, rapid operator training, and commonality with other Agilent spectroscopy products.

CONTACT INFORMATION

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COST

N/A

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

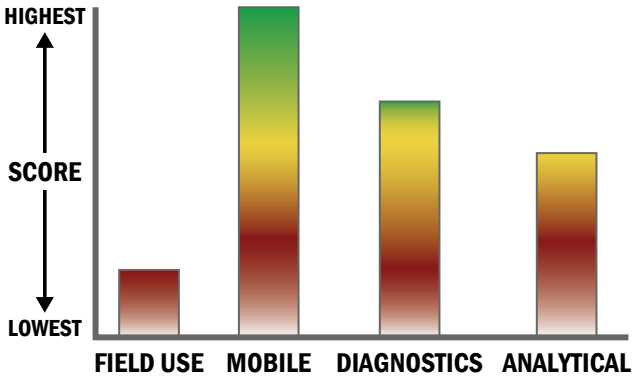
	Biological	Chemical	Radiological
FIELD USE System	N/A		N/A
MOBILE Laboratory	N/A		N/A
DIAGNOSTIC Laboratory	N/A		N/A
ANALYTICAL Laboratory	N/A		N/A

Survey Source

Vendor Supplied Information

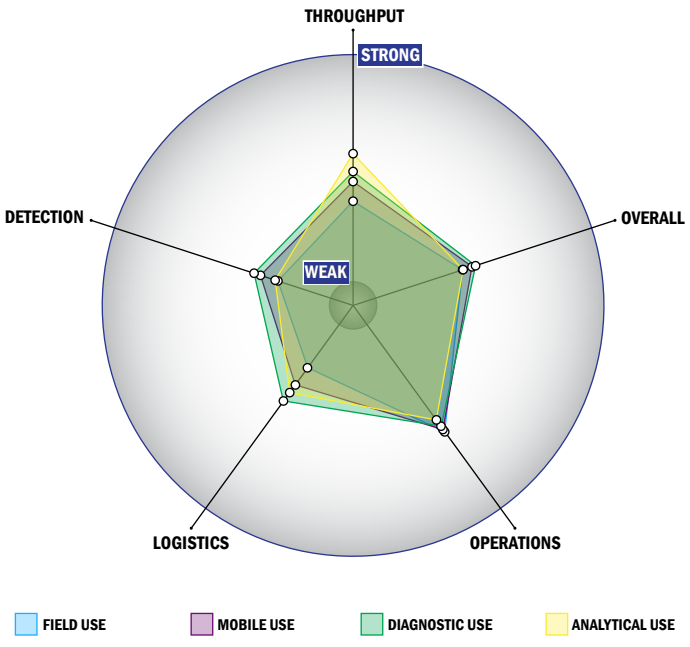
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



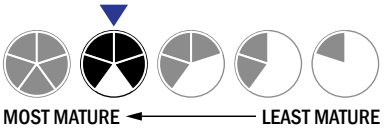
Evaluation Criteria

Throughput:

- Between 2 and 15 minutes for detection
- Multiple samples, multiple tests/sample per run
- 95-32 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 2 solutions, buffer, eluents, and/or reagents
- 5 or more components
- 10-20 minutes is required for setup
- Almost instantaneous detection

Logistics:

- More than a day of training and significant technical skills are required
- Larger than a home dishwasher
- More than 50 kg
- Wired connections are available
- System or device has 220V electrical requirement



Operations:

- Can be used from 25 °C to 37 °C
- Components must be stored at room temperature (27 °C)
- Performance is not influenced by relative humidity
- Between 1 to 3 years shelf life
- Greater than 10 years expected life
- Results can be viewed in real-time
- The system could be adapted to a fully autonomous system with some effort
- The system software is closed and not available for modification
- The system hardware is closed and not available for modification

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Less than 250 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)