

Dionex Corporation - ICS-5000 Ion Chromatography System



GENERAL DESCRIPTION:

Dionex Corporation develops, manufactures, sells, and services chromatography and extraction systems for separating, isolating, and identifying the components of chemical mixtures. Our continuing leadership in chromatography helps us create powerful solutions to increase productivity for the industries that shape the world. Our solutions are used by the environmental, life sciences, pharmaceutical, food and beverage, chemicals, power generation, and electronics industries.



TECHNICAL DESCRIPTION:

Eluent Regeneration was developed for systems dedicated to high-throughput analyses of samples with low- to moderate-concentration matrices. Reagent-Free IC systems with Eluent Regeneration (RFIC-ER systems) are designed to use carbonate, carbonate/bicarbonate, or MSA eluents for isocratic separations. Eluent Regeneration is available as an optional configuration or upgrade for ICS-1100, -1600, -2100, and -5000 systems.

CONTACT INFORMATION

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 408-737-0700
 www.dionex.com

COST

- \$35,000-\$50,000/system
- \$1-\$2/analysis

Tier Selection

Final tier assignment is based on overall product score.

- Top Tier
- Second Tier
- Third Tier
- ◐ Fourth Tier
- Bottom Tier

RANKINGS

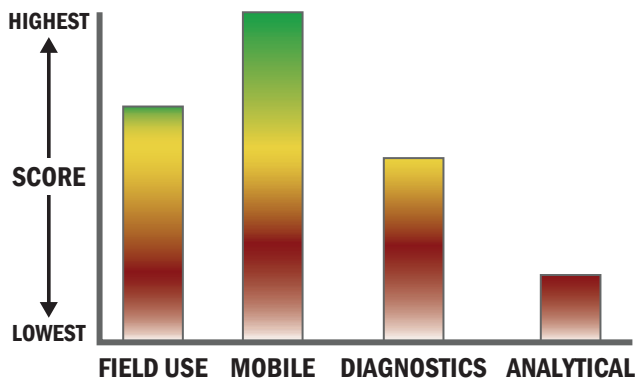
	Biological	Chemical	Radiological
FIELD USE System	● Bottom Tier	● Bottom Tier	N/A
MOBILE Laboratory	● Bottom Tier	● Bottom Tier	N/A
DIAGNOSTIC Laboratory	● Bottom Tier	◐ Fourth Tier	N/A
ANALYTICAL Laboratory	● Bottom Tier	○ Third Tier	N/A

Survey Source

Vendor Supplied Information

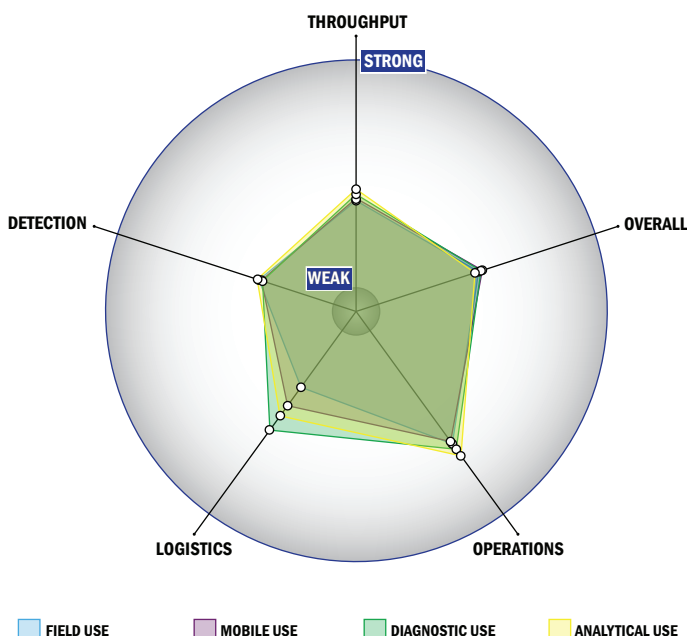
Scoring Analysis

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.



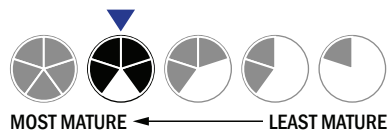
Evaluation Criteria

Throughput:

- Between 15 and 30 minutes for detection
- Multiple samples, single tests/sample per run
- Less than 32 samples every 2 hours
- The system or device is currently semi-automated
- Device or system is intended for multiple detection assays
- 0-1 solutions, buffer, eluents, and/or reagents
- 5 or more components
- Greater than 20 minutes is required for set-up
- 1-2 steps are required for detection

Logistics:

- More than a day of training and significant technical skills are required
- Approximately the size of a home dishwasher
- More than 50 kg
- Wired connections are available
- System or device has 110V electrical requirement



Operations:

- Can be used from 4 °C to 41 °C
- Components must be stored at room temperature (27 °C)
- Device must be used in a temperature stable, dry environment for optimum performance
- Between 1 to 3 years shelf life
- 5-10 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 open but modification requires licensing
- The system hardware is open but modification requires licensing

Detection:

- Possible the system could receive FDA approval, no current efforts at this time
- Less than 250 µL
- Excellent specificity. System has occasional false alarms (<2%)
- 10-100 ng per mL
- System does not detect spores
- 3×10^{-5} - 1×10^{-4} mg/m³
- 1 ppb - 1 ppm
- Possible system could identify aerosolized chemical agent
- Possible system could identify liquid chemical agent

